

**Final Test Report
for**

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in this test report are true, accurate, and complete.

Permitted Facility Representative / Date

Name: Tasha Niemi
Title: Environmental Manager
Company: Hibbing Taconite Company
Sign Date: 7/1/2022

I have reviewed all testing details and results in this test report and hereby certify that the test report is authentic and accurate.

Testing Company Representative / Date

Name: Tom Kuchinski
Title: Vice President/Stack Test Services C
Company: Barr Engineering Co.
Sign Date: 7/1/2022

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Facility Information:

Hibbing Taconite Company		
4950 County Highway 5 North		
Hibbing	MN	55746-
Contact: Tasha Niemi		
Phone: (218) 262-6884		
Fax:		
Email: Tasha.Niemi@clevelandcliffs.com		

Testing Company:

Barr Engineering Co.		
4300 MarketPointe Dr.		
Suite 200		
Minneapolis	MN	55435-
Contact: Ryan Pantzke		
Phone: (952) 842-3683		
Fax:		
Email: rpantzke@barr.com		

Industry/SCC/NAIS: 212210	AFS #:	FRS #: 110008799185
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Air Permit Number:

13700061-007

Permitted Source ID/Name:

EU020	Indurating Furnace Line 1
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Permitted Maximum Process Rate: Max. Normal Operation Process Rate: Target Process Test Rate

NA	NA	384 DLTPH
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SCC / Description: 30302381	Industrial Processes - Primary Metal Production - Taconite Iron Ore Processing - Induration: Straight Grate, Gas-fired, Acid Pellets
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The following state and federal regulations that apply to the proposed testing:

Description of the source (including control equipment). Please see the attachments for source or process flow diagram:

The Pellet Indurating Furnace Line 1 is a straight grate induration furnace with four emission points: SV021, SV022, SV023, SV024. Particulate emissions are controlled prior to each exhaust stack by a venturi rod deck wet scrubber. Prior to the scrubber, windbox exhaust air is pretreated to remove the coarse particulate matter by a multiclone.

Sampling Location Information:

Location	Round Duct Diam.	Rect. Duct Length /Width	Equiv. Diam	DownStream Distance from Disturbance (Distance B):	UpStream Distance from Disturbance:	Number of Traverse Ports	Min.Travers Points
SV021/CE022	104.5			900	185	2	12
SV022/CE023	104.5			900	185	2	12
SV023/CE024	104.5			900	185	2	12

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SV024/CE025	104.5				900	185	2	12

Test Parameter Information:

Location	Target Parameter	Test Method	Number of Test Runs	Test Run Duration	Comments
SV021/CE022	Carbon Monoxide	Method 10	3	156	Concurrent with each M29 run
SV021/CE022	Hydrogen Fluoride	Method 26A	3	120	Duration dependent on 2 dcm/run
SV021/CE022	Hydrogen Chloride	Method 26A	3	120	Duration dependent on 2 dcm/run
SV021/CE022	Filterable Particulate	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Antimony	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Antimony Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Antimony Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Arsenic	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Arsenic Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Arsenic Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Beryllium	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Beryllium Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Beryllium Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Cadmium	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Cadmium Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Cadmium Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Chromium	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Chromium Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Chromium Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Cobalt	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Cobalt Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Cobalt Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Lead	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Lead Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Lead Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Manganese	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Manganese Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Manganese Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Mercury	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Mercury Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Mercury Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Nickel	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Nickel Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Nickel Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Phosphorus (yellow or white)	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Phosphorus (yellow or white) Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Phosphorus (yellow or white) Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Selenium	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Selenium Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Selenium Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV021/CE022	Carbon Dioxide	Method 3A CO2	6	156	Concurrent with each M26A and M29 run

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SV021/CE022	Oxygen	Method 3A O2	6	156	Concurrent with each M26A and M29 run
SV022/CE023	Carbon Monoxide	Method 10	3	156	Concurrent with each M29 run
SV022/CE023	Hydrogen Fluoride	Method 26A	3	120	Duration dependent on 2 dcm/run
SV022/CE023	Hydrogen Chloride	Method 26A	3	120	Duration dependent on 2 dcm/run
SV022/CE023	Filterable Particulate	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Antimony	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Antimony Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Antimony Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Arsenic	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Arsenic Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Arsenic Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Beryllium	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Beryllium Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Beryllium Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Cadmium	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Cadmium Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Cadmium Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Chromium	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Chromium Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Chromium Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Cobalt	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Cobalt Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Cobalt Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Lead	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Lead Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Lead Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Manganese	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Manganese Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Manganese Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Mercury	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Mercury Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Mercury Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Nickel	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Nickel Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Nickel Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Phosphorus (yellow or white)	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Phosphorus (yellow or white) Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Phosphorus (yellow or white) Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Selenium	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Selenium Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Selenium Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV022/CE023	Carbon Dioxide	Method 3A CO2	6	156	Concurrent with each M26A and M29 run
SV022/CE023	Oxygen	Method 3A O2	6	156	Concurrent with each M26A and M29 run
SV023/CE024	Carbon Monoxide	Method 10	3	156	Concurrent with each M29 run
SV023/CE024	Hydrogen Chloride	Method 26A	3	120	Duration dependent on 2 dcm/run
SV023/CE024	Hydrogen Fluoride	Method 26A	3	120	Duration dependent on 2 dcm/run
SV023/CE024	Filterable Particulate	Method 29	3	156	Duration dependent on 3 dcm/run

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SV023/CE024	Antimony	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Antimony Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Antimony Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Arsenic	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Arsenic Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Arsenic Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Beryllium	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Beryllium Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Beryllium Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Cadmium	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Cadmium Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Cadmium Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Chromium	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Chromium Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Chromium Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Cobalt	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Cobalt Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Cobalt Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Lead	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Lead Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Lead Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Manganese	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Manganese Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Manganese Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Mercury	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Mercury Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Mercury Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Nickel	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Nickel Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Nickel Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Phosphorus (yellow or white)	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Phosphorus (yellow or white) Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Phosphorus (yellow or white) Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Selenium	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Selenium Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Selenium Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV023/CE024	Oxygen	Method 3A O2	6	156	Concurrent with each M26A and M29 run
SV023/CE024	Carbon Dioxide	Method 3A CO2	6	156	Concurrent with each M26A and M29 run
SV024/CE025	Carbon Monoxide	Method 10	3	156	Concurrent with each M29 run
SV024/CE025	Hydrogen Chloride	Method 26A	3	120	Duration dependent on 2 dcm/run
SV024/CE025	Hydrogen Fluoride	Method 26A	3	120	Duration dependent on 2 dcm/run
SV024/CE025	Filterable Particulate	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Antimony	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Antimony Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Antimony Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Arsenic	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Arsenic Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Arsenic Front Half	Method 29	3	156	Duration dependent on 3 dcm/run

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SV024/CE025	Beryllium	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Beryllium Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Beryllium Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Cadmium	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Cadmium Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Cadmium Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Chromium	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Chromium Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Chromium Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Cobalt	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Cobalt Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Cobalt Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Lead	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Lead Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Lead Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Manganese	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Manganese Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Manganese Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Mercury	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Mercury Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Mercury Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Nickel	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Nickel Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Nickel Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Phosphorus (yellow or white)	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Phosphorus (yellow or white) Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Phosphorus (yellow or white) Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Selenium	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Selenium Back Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Selenium Front Half	Method 29	3	156	Duration dependent on 3 dcm/run
SV024/CE025	Carbon Dioxide	Method 3A CO2	6	156	Concurrent with each M26A and M29 run
SV024/CE025	Oxygen	Method 3A O2	6	156	Concurrent with each M26A and M29 run

The following describes any modifications and/or deviations to the applicable test methods. If alternative methods were requested, see the attachments for documentation of request AND approval, including dates.

Method 3A and 10 will be modified to have bias calibrations performed before and after each M29/26A test run. > 60 minutes.

Method 10 will only be run concurrently with Method 29 runs.

Method 26A will include the addition of a third impinger loaded with 0.1N sulfuric acid. This impinger will be collected and analyzed separately to monitor HF breakthrough.

Due to the difficulty in obtaining phosphorous free reagents, the back half phosphorus results are blank corrected using the entire amounts found in the back half reagent blank which deviates from Method 29 blank correction procedures.

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Sampling / Stack Data Results Summary

Location SV021/CE022 - Method 10

				<u>Average</u>
Run Number	1	2	3	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	1:31:00 PM	4:58:00 PM	8:15:00 PM	
Carbon Dioxide, %	0.4878	0.3971	0.5505	0.478
Oxygen, %	20.1872	20.2227	20.1848	20.198
Dry Volumetric Flow Rate, dry scfm	151169.9	158132.2	156951.9	155,418.000
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	7.2442	7.0476	7.0825	7.125
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

Location SV021/CE022 - Method 26A

				<u>Average</u>
Run Number	1	2	3	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	9:45:00 AM	2:48:00 PM	3:46:00 PM	
Net Run Time, minutes	120	120	120	
Dry Gas Meter Volume Sampled, dscf	88.807	87.743	87.711	88.087
Moisture Content of Stack Gas, %	7.0755	7.0066	7.0090	7.030
Moisture Saturation at Stack Gas Temperature, %	10.57	10.99	10.88	10.813
Carbon Dioxide, %	0.4625	0.4563	0.4922	0.470
Oxygen, %	20.2357	20.1893	20.2274	20.217
Average Stack Gas Temperature, °F	115.13	116.50	116.17	115.933
Square Root of Average Velocity, inches of H2O	0.9244	0.9119	0.9109	0.916
Dry Volumetric Flow Rate, dry scfm	163,017.1	160,700.2	160,561.0	161,426.100
Actual Wet Volumetric Flue Gas Flow Rate, acfm	201,265.2	198,727.9	198,442.0	199,478.367
Percent Isokinetic of Sampling Rate, %	99.7	99.9	100.0	99.867
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Fw	0	0	0	0.000
Fc	0	0	0	0.000

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Location SV021/CE022 - Method 29

				<u>Average</u>
Run Number	1	2	3	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	1:31:00 PM	4:58:00 PM	8:15:00 PM	
Net Run Time, minutes	156	156	156	
Dry Gas Meter Volume Sampled, dscf	107.594	111.951	111.541	110.362
Moisture Content of Stack Gas, %	7.2442	7.0476	7.0825	7.125
Moisture Saturation at Stack Gas Temperature, %	10.13	10.45	10.84	10.473
Carbon Dioxide, %	0.4878	0.3971	0.5505	0.478
Oxygen, %	20.1872	20.2227	20.1848	20.198
Average Stack Gas Temperature, °F	113.25	114.33	115.63	114.403
Square Root of Average Velocity, inches of H2O	0.8621	0.9009	0.8958	0.886
Dry Volumetric Flow Rate, dry scfm	151,198.6	158,132.2	156,951.9	155,427.567
Actual Wet Volumetric Flue Gas Flow Rate, acfm	188,507.4	197,119.8	196,154.9	193,927.367
Percent Isokinetic of Sampling Rate, %	100.2	99.7	100.0	99.967
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Fw	0	0	0	0.000
Fc	0	0	0	0.000

Location SV021/CE022 - Method 3A CO2

				<u>Average</u>
Run Number	1	2	3	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	1:31:00 PM	4:58:00 PM	8:15:00 PM	
Carbon Dioxide, %	0.4878	0.3971	0.5505	0.478
Oxygen, %	20.1872	20.2227	20.1848	20.198
Dry Volumetric Flow Rate, dry scfm	151198.6	158132.2	156951.9	155,427.567
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	7.2442	7.0476	7.0825	7.125
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

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Location SV021/CE022 - Method 3A CO2 3

				<u>Average</u>
Run Number	4	5	6	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	9:45:00 AM	12:48:00 PM	3:46:00 PM	
Carbon Dioxide, %	0.4625	0.4563	0.4922	0.470
Oxygen, %	20.2357	20.1893	20.2274	20.217
Dry Volumetric Flow Rate, dry scfm	163017.1	160700.2	160763.4	161,493.567
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	7.0755	7.0066	7.009	7.030
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

Location SV021/CE022 - Method 3A O2

				<u>Average</u>
Run Number	1	2	3	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	1:31:00 PM	4:58:00 PM	8:15:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	20.1872	20.2227	20.1848	20.198
Dry Volumetric Flow Rate, dry scfm	0	0	0	0.000
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	0	0	0	0.000
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

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Location SV021/CE022 - Method 3A O2 3

				<u>Average</u>
Run Number	4	5	6	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	9:45:00 AM	12:48:00 PM	3:46:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	20.2357	20.1893	20.2274	20.217
Dry Volumetric Flow Rate, dry scfm	0	0	0	0.000
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	0	0	0	0.000
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

Location SV022/CE023 - Method 10

				<u>Average</u>
Run Number	1	2	3	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	10:23:00 AM	1:25:00 PM	4:24:00 PM	
Carbon Dioxide, %	0.6662	0.6027	0.7206	0.663
Oxygen, %	19.8764	19.8975	19.9388	19.904
Dry Volumetric Flow Rate, dry scfm	166555.3	163608.8	162897.4	164,353.833
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	7.6464	7.6868	7.8483	7.727
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Location SV022/CE023 - Method 26A

				<u>Average</u>
Run Number	1	2	3	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	11:31:00 AM	4:13:00 PM	7:39:00 PM	
Net Run Time, minutes	120	120	120	
Dry Gas Meter Volume Sampled, dscf	93.766	93.674	91.811	93.084
Moisture Content of Stack Gas, %	7.5250	7.5144	7.7211	7.587
Moisture Saturation at Stack Gas Temperature, %	11.39	11.68	11.79	11.620
Carbon Dioxide, %	0.6151	0.5937	0.614	0.608
Oxygen, %	19.9406	19.9166	19.8532	19.903
Average Stack Gas Temperature, °F	117.38	118.29	118.63	118.100
Square Root of Average Velocity, inches of H2O	0.9293	0.9201	0.9080	0.919
Dry Volumetric Flow Rate, dry scfm	161,948.5	160,266.1	157,802.5	160,005.700
Actual Wet Volumetric Flue Gas Flow Rate, acfm	203,981.1	202,158.6	199,621.3	201,920.333
Percent Isokinetic of Sampling Rate, %	99.6	100.5	100.1	100.067
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Fw	0	0	0	0.000
Fc	0	0	0	0.000

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Location SV022/CE023 - Method 29

				<u>Average</u>
Run Number	1	2	3	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	10:23:00 AM	1:25:00 PM	4:24:00 PM	
Net Run Time, minutes	156	156	156	
Dry Gas Meter Volume Sampled, dscf	117.386	116.550	116.711	116.882
Moisture Content of Stack Gas, %	7.6464	7.6868	7.8483	7.727
Moisture Saturation at Stack Gas Temperature, %	11.41	11.20	12.36	11.657
Carbon Dioxide, %	0.6662	0.6027	0.7206	0.663
Oxygen, %	19.8764	19.8975	19.9388	19.904
Average Stack Gas Temperature, °F	117.83	117.17	120.71	118.570
Square Root of Average Velocity, inches of H2O	0.9522	0.9349	0.9353	0.941
Dry Volumetric Flow Rate, dry scfm	166,583.9	163,608.8	162,897.4	164,363.367
Actual Wet Volumetric Flue Gas Flow Rate, acfm	207,983.5	204,124.0	204,838.8	205,648.767
Percent Isokinetic of Sampling Rate, %	99.2	100.3	100.9	100.133
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Fw	0	0	0	0.000
Fc	0	0	0	0.000

Location SV022/CE023 - Method 3A CO2

				<u>Average</u>
Run Number	1	2	3	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	10:23:00 AM	1:25:00 PM	4:24:00 PM	
Carbon Dioxide, %	0.6713	0.6058	0.7206	0.666
Oxygen, %	19.8764	19.8975	19.9388	19.904
Dry Volumetric Flow Rate, dry scfm	166583.9	163608.8	162897.4	164,363.367
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	7.6464	7.6868	7.8483	7.727
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Location SV022/CE023 - Method 3A CO2 3

				<u>Average</u>
Run Number	4	5	6	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	11:31:00 AM	4:13:00 PM	7:39:00 PM	
Carbon Dioxide, %	0.6151	0.5937	0.614	0.608
Oxygen, %	19.9406	19.9166	19.8532	19.903
Dry Volumetric Flow Rate, dry scfm	161948.5	160266.1	157802.5	160,005.700
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	7.525	7.5144	7.7211	7.587
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

Location SV022/CE023 - Method 3A O2

				<u>Average</u>
Run Number	1	2	3	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	10:23:00 AM	1:25:00 PM	4:24:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	19.8764	19.8975	19.9388	19.904
Dry Volumetric Flow Rate, dry scfm	0	0	0	0.000
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	0	0	0	0.000
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Location SV022/CE023 - Method 3A O2 3

				<u>Average</u>
Run Number	4	5	6	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	11:31:00 AM	4:13:00 PM	7:39:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	19.9406	19.9166	19.8532	19.903
Dry Volumetric Flow Rate, dry scfm	0	0	0	0.000
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	0	0	0	0.000
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

Location SV023/CE024 - Method 10

				<u>Average</u>
Run Number	1	2	3	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	1:31:00 PM	4:58:00 PM	8:15:00 PM	
Carbon Dioxide, %	0.8942	0.8522	0.89	0.879
Oxygen, %	19.303	19.3695	19.2674	19.313
Dry Volumetric Flow Rate, dry scfm	136026	137530.5	138941	137,499.167
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	9.7261	9.8706	9.6744	9.757
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Location SV023/CE024 - Method 26A

				<u>Average</u>
Run Number	1	2	3	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	9:45:00 AM	12:48:00 PM	3:46:00 PM	
Net Run Time, minutes	120	120	120	
Dry Gas Meter Volume Sampled, dscf	82.080	80.117	81.310	81.169
Moisture Content of Stack Gas, %	9.6125	9.6041	9.0126	9.410
Moisture Saturation at Stack Gas Temperature, %	19.35	20.33	20.75	20.143
Carbon Dioxide, %	0.7887	0.7765	0.7917	0.786
Oxygen, %	19.2227	19.2334	19.27	19.242
Average Stack Gas Temperature, °F	137.46	139.38	140.17	139.003
Square Root of Average Velocity, inches of H2O	0.8386	0.8149	0.8179	0.824
Dry Volumetric Flow Rate, dry scfm	141,779.7	137,585.2	138,735.3	139,366.733
Actual Wet Volumetric Flue Gas Flow Rate, acfm	186,935.0	181,967.7	182,539.5	183,814.067
Percent Isokinetic of Sampling Rate, %	99.6	100.2	100.8	100.200
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Fw	0	0	0	0.000
Fc	0	0	0	0.000

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Location SV023/CE024 - Method 29

				<u>Average</u>
Run Number	1	2	3	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	1:31:00 PM	4:58:00 PM	8:15:00 PM	
Net Run Time, minutes	156	156	156	
Dry Gas Meter Volume Sampled, dscf	122.026	123.708	125.212	123.649
Moisture Content of Stack Gas, %	9.7261	9.8706	9.6744	9.757
Moisture Saturation at Stack Gas Temperature, %	20.63	21.74	21.01	21.127
Carbon Dioxide, %	0.8942	0.8522	0.89	0.879
Oxygen, %	19.303	19.3188	19.2674	19.296
Average Stack Gas Temperature, °F	139.50	141.54	140.21	140.417
Square Root of Average Velocity, inches of H2O	0.8116	0.8229	0.8290	0.821
Dry Volumetric Flow Rate, dry scfm	136,026.0	137,530.5	138,941.0	137,499.167
Actual Wet Volumetric Flue Gas Flow Rate, acfm	182,253.6	185,184.0	186,256.0	184,564.533
Percent Isokinetic of Sampling Rate, %	99.7	99.9	100.1	99.900
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Fw	0	0	0	0.000
Fc	0	0	0	0.000

Location SV023/CE024 - Method 3A CO2

				<u>Average</u>
Run Number	1	2	3	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	1:31:00 PM	4:58:00 PM	8:15:00 PM	
Carbon Dioxide, %	0.8942	0.8522	0.89	0.879
Oxygen, %	19.303	19.3695	19.2674	19.313
Dry Volumetric Flow Rate, dry scfm	136026	137530.5	138941	137,499.167
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	9.7261	9.8706	9.6744	9.757
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Location SV023/CE024 - Method 3A CO2 3

				<u>Average</u>
Run Number	4	5	6	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	9:45:00 AM	12:48:00 PM	3:46:00 PM	
Carbon Dioxide, %	0.7887	0.7765	0.7917	0.786
Oxygen, %	19.2227	19.2227	19.27	19.238
Dry Volumetric Flow Rate, dry scfm	141779.7	137585.2	138735.3	139,366.733
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	9.6125	9.6041	9.0126	9.410
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

Location SV023/CE024 - Method 3A O2

				<u>Average</u>
Run Number	1	2	3	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	1:31:00 PM	4:58:00 PM	8:15:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	19.303	19.3188	19.2674	19.296
Dry Volumetric Flow Rate, dry scfm	0	0	0	0.000
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	0	0	0	0.000
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Location SV023/CE024 - Method 3A O2 3

				<u>Average</u>
Run Number	4	5	6	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	9:45:00 AM	12:48:00 PM	3:46:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	19.2227	19.2334	19.27	19.242
Dry Volumetric Flow Rate, dry scfm	0	0	0	0.000
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	0	0	0	0.000
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

Location SV024/CE025 - Method 10

				<u>Average</u>
Run Number	1	2	3	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	10:23:00 AM	1:25:00 PM	4:24:00 PM	
Carbon Dioxide, %	0.9912	0.9679	0.9979	0.986
Oxygen, %	18.9688	18.9686	18.9635	18.967
Dry Volumetric Flow Rate, dry scfm	143864	137170	140497.2	140,510.400
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	10.5614	10.7017	10.773	10.679
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Location SV024/CE025 - Method 26A

	<u>Average</u>			
Run Number	1	2	3	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	11:31:00 AM	4:13:00 PM	7:39:00 PM	
Net Run Time, minutes	120	120	120	
Dry Gas Meter Volume Sampled, dscf	75.447	75.060	76.070	75.526
Moisture Content of Stack Gas, %	10.7147	10.6833	10.5175	10.639
Moisture Saturation at Stack Gas Temperature, %	19.34	20.21	19.68	19.743
Carbon Dioxide, %	0.9541	0.92	0.9358	0.937
Oxygen, %	18.9128	18.9587	18.9016	18.924
Average Stack Gas Temperature, °F	137.00	138.71	137.67	137.793
Square Root of Average Velocity, inches of H2O	0.8333	0.8288	0.8361	0.833
Dry Volumetric Flow Rate, dry scfm	138,716.1	137,811.2	139,359.2	138,628.833
Actual Wet Volumetric Flue Gas Flow Rate, acfm	187,113.7	186,363.2	187,792.7	187,089.867
Percent Isokinetic of Sampling Rate, %	99.5	99.7	99.9	99.700
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Fw	0	0	0	0.000
Fc	0	0	0	0.000

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Location SV024/CE025 - Method 29

				<u>Average</u>
Run Number	1	2	3	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	10:23:00 AM	1:25:00 PM	4:24:00 PM	
Net Run Time, minutes	156	156	156	
Dry Gas Meter Volume Sampled, dscf	101.274	101.792	99.944	101.003
Moisture Content of Stack Gas, %	10.5614	10.7017	10.7730	10.679
Moisture Saturation at Stack Gas Temperature, %	20.25	20.51	21.06	20.607
Carbon Dioxide, %	0.9912	0.9679	0.9979	0.986
Oxygen, %	18.9688	18.9686	18.9635	18.967
Average Stack Gas Temperature, °F	139.21	139.71	140.75	139.890
Square Root of Average Velocity, inches of H2O	0.8598	0.8213	0.8425	0.841
Dry Volumetric Flow Rate, dry scfm	143,864.0	137,196.7	140,523.8	140,528.167
Actual Wet Volumetric Flue Gas Flow Rate, acfm	192,259.7	183,790.2	188,721.8	188,257.233
Percent Isokinetic of Sampling Rate, %	99.1	104.4	100.1	101.200
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Fw	0	0	0	0.000
Fc	0	0	0	0.000

Location SV024/CE025 - Method 3A CO2

				<u>Average</u>
Run Number	1	2	3	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	10:23:00 AM	1:25:00 PM	4:24:00 PM	
Carbon Dioxide, %	0.9912	0.9679	0.9979	0.986
Oxygen, %	18.9688	18.9686	18.9635	18.967
Dry Volumetric Flow Rate, dry scfm	143864	137196.7	140523.8	140,528.167
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	10.5614	10.7017	10.773	10.679
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Location SV024/CE025 - Method 3A CO2 3

				<u>Average</u>
Run Number	4	5	6	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	11:31:00 AM	4:13:00 PM	7:39:00 PM	
Carbon Dioxide, %	0.9541	0.92	0.9358	0.937
Oxygen, %	18.9128	18.9587	18.9016	18.924
Dry Volumetric Flow Rate, dry scfm	138716.1	137811.2	139359.2	138,628.833
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	10.7147	10.6833	10.5175	10.639
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

Location SV024/CE025 - Method 3A O2

				<u>Average</u>
Run Number	1	2	3	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	10:23:00 AM	1:25:00 PM	4:24:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	18.9688	18.9686	18.9635	18.967
Dry Volumetric Flow Rate, dry scfm	0	0	0	0.000
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	0	0	0	0.000
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Location SV024/CE025 - Method 3A O2 3

				<u>Average</u>
Run Number	4	5	6	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	11:31:00 AM	4:16:00 PM	7:39:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	18.9128	18.9587	18.9016	18.924
Dry Volumetric Flow Rate, dry scfm	0	0	0	0.000
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	0	0	0	0.000
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Emissions Summary

Location: SV021/CE022 - Method 10				
Compound: Carbon Monoxide				
			Average	Reg Limit
Run	1	2	3	
lb/hr	7.42E-01	7.54E-01	7.19E-01	7.38E-01
ppm	1.13E+00	1.09E+00	1.05E+00	1.09E+00
Location: SV021/CE022 - Method 26A				
Compound: Hydrogen Chloride				
			Average	Reg Limit
RunNumber	1	2	3	
Mass_mg	2.385	2.73	2.6921	2.60E+00
lb / Dry Long Tons of Pellets Processed	1.63E-03	1.86E-03	1.84E-03	1.78E-03
lb/hr	5.79E-01	6.61E-01	6.52E-01	6.31E-01
mg/dscm	9.49E-01	1.10E+00	1.08E+00	1.04E+00
Compound: Hydrogen Fluoride				
			Average	Reg Limit
RunNumber	1	2	3	
Mass_mg	5.253	6.496	5.893	5.88E+00
lb / Dry Long Tons of Pellets Processed	3.61E-03	4.42E-03	4.03E-03	4.02E-03
lb/hr	1.28E+00	1.57E+00	1.43E+00	1.43E+00
mg/dscm	2.09E+00	2.61E+00	2.37E+00	2.36E+00
Location: SV021/CE022 - Method 29				
Compound: Antimony				
			Average	Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000156	0.000151	0.000146	1.51E-04
lb / Dry Long Tons of Pellets Processed	8.33E-08	8.03E-08	7.68E-08	8.01E-08
lb/hr	2.90E-05	2.82E-05	2.72E-05	2.81E-05
mg/dscm	5.12E-05	4.76E-05	4.62E-05	4.83E-05
Compound: Antimony Back Half				
			Average	Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000052	0.000054	0.000052	5.27E-05
lb / Dry Long Tons of Pellets Processed	2.78E-08	2.88E-08	2.73E-08	2.80E-08
lb/hr	9.67E-06	1.01E-05	9.68E-06	9.82E-06
mg/dscm	1.71E-05	1.70E-05	1.65E-05	1.69E-05
Compound: Antimony Front Half				
			Average	Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000104	0.000097	0.000094	9.83E-05
lb / Dry Long Tons of Pellets Processed	5.55E-08	5.16E-08	4.94E-08	5.22E-08

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lb/hr	1.93E-05	1.81E-05	1.75E-05	1.83E-05
mg/dscm	3.41E-05	3.06E-05	2.98E-05	3.15E-05

Compound: Arsenic

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.340935	0.326935	0.365935	3.45E-01
lb / Dry Long Tons of Pellets Processed	1.82E-04	1.74E-04	1.92E-04	1.83E-04
lb/hr	6.34E-02	6.11E-02	6.81E-02	6.42E-02
mg/dscm	1.12E-01	1.03E-01	1.16E-01	1.10E-01

Compound: Arsenic Back Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.138966	0.105966	0.130966	1.25E-01
lb / Dry Long Tons of Pellets Processed	7.41E-05	5.64E-05	6.89E-05	6.65E-05
lb/hr	2.58E-02	1.98E-02	2.44E-02	2.33E-02
mg/dscm	4.56E-02	3.34E-02	4.15E-02	4.02E-02

Compound: Arsenic Front Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.201969	0.220969	0.234969	2.19E-01
lb / Dry Long Tons of Pellets Processed	1.08E-04	1.18E-04	1.23E-04	1.16E-04
lb/hr	3.75E-02	4.13E-02	4.37E-02	4.08E-02
mg/dscm	6.63E-02	6.97E-02	7.44E-02	7.01E-02

Compound: Beryllium

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000039	0.0000355	0.000041	3.85E-05
lb / Dry Long Tons of Pellets Processed	2.08E-08	1.89E-08	2.16E-08	2.04E-08
lb/hr	7.25E-06	6.63E-06	7.63E-06	7.17E-06
mg/dscm	1.28E-05	1.12E-05	1.30E-05	1.23E-05

Compound: Beryllium Back Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000002	0.000002	0.000002	2.00E-06
lb / Dry Long Tons of Pellets Processed	1.07E-09	1.07E-09	1.05E-09	1.06E-09
lb/hr	3.72E-07	3.74E-07	3.72E-07	3.73E-07
mg/dscm	6.57E-07	6.31E-07	6.33E-07	6.40E-07

Compound: Beryllium Front Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000037	0.0000335	0.000039	3.65E-05
lb / Dry Long Tons of Pellets Processed	1.98E-08	1.78E-08	2.05E-08	1.94E-08

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lb/hr	6.88E-06	6.26E-06	7.26E-06	6.80E-06
mg/dscm	1.21E-05	1.06E-05	1.23E-05	1.17E-05

Compound: Cadmium

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000176	0.000196	0.00022	1.97E-04	
lb / Dry Long Tons of Pellets Processed	9.40E-08	1.04E-07	1.16E-07	1.05E-07	
lb/hr	3.27E-05	3.66E-05	4.09E-05	3.67E-05	
mg/dscm	5.78E-05	6.18E-05	6.97E-05	6.31E-05	

Compound: Cadmium Back Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000047	0.0000535	0.000054	5.15E-05	
lb / Dry Long Tons of Pellets Processed	2.51E-08	2.85E-08	2.85E-08	2.74E-08	
lb/hr	8.74E-06	1.00E-05	1.01E-05	9.61E-06	
mg/dscm	1.54E-05	1.69E-05	1.71E-05	1.65E-05	

Compound: Cadmium Front Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000129	0.0001425	0.000166	1.46E-04	
lb / Dry Long Tons of Pellets Processed	6.90E-08	7.58E-08	8.73E-08	7.74E-08	
lb/hr	2.40E-05	2.66E-05	3.09E-05	2.72E-05	
mg/dscm	4.23E-05	4.50E-05	5.26E-05	4.66E-05	

Compound: Chromium

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.001949	0.00207	0.001874	1.96E-03	
lb / Dry Long Tons of Pellets Processed	1.04E-06	1.10E-06	9.86E-07	1.04E-06	
lb/hr	3.62E-04	3.87E-04	3.49E-04	3.66E-04	
mg/dscm	6.40E-04	6.53E-04	5.93E-04	6.29E-04	

Compound: Chromium Back Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000204	0.00022	0.000199	2.08E-04	
lb / Dry Long Tons of Pellets Processed	1.09E-07	1.17E-07	1.05E-07	1.10E-07	
lb/hr	3.79E-05	4.11E-05	3.70E-05	3.87E-05	
mg/dscm	6.70E-05	6.94E-05	6.30E-05	6.65E-05	

Compound: Chromium Front Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.001745	0.00185	0.001675	1.76E-03	
lb / Dry Long Tons of Pellets Processed	9.31E-07	9.86E-07	8.81E-07	9.33E-07	

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lb/hr	3.24E-04	3.46E-04	3.12E-04	3.27E-04
mg/dscm	5.73E-04	5.84E-04	5.30E-04	5.62E-04

Compound: Cobalt

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000365	0.001363	0.00019	6.39E-04
lb / Dry Long Tons of Pellets Processed	1.95E-07	7.26E-07	1.00E-07	3.40E-07
lb/hr	6.78E-05	2.55E-04	3.54E-05	1.19E-04
mg/dscm	1.20E-04	4.30E-04	6.02E-05	2.03E-04

Compound: Cobalt Back Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000035	0.0001265	0.000036	6.58E-05
lb / Dry Long Tons of Pellets Processed	1.87E-08	6.72E-08	1.89E-08	3.49E-08
lb/hr	6.51E-06	2.36E-05	6.70E-06	1.23E-05
mg/dscm	1.15E-05	3.99E-05	1.14E-05	2.09E-05

Compound: Cobalt Front Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.00033	0.0012365	0.000154	5.74E-04
lb / Dry Long Tons of Pellets Processed	1.76E-07	6.58E-07	8.11E-08	3.05E-07
lb/hr	6.13E-05	2.31E-04	2.87E-05	1.07E-04
mg/dscm	1.08E-04	3.90E-04	4.88E-05	1.82E-04

Compound: Filterable Particulate

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	30.4	29.1	28.6	2.94E+01
lb / Dry Long Tons of Pellets Processed	1.62E-02	1.55E-02	1.50E-02	1.56E-02
lb/hr	5.65E+00	5.44E+00	5.32E+00	5.47E+00
mg/dscm	9.98E+00	9.18E+00	9.06E+00	9.41E+00

Compound: Lead

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.017722	0.019442	0.019132	1.88E-02
lb / Dry Long Tons of Pellets Processed	9.45E-06	1.03E-05	1.01E-05	9.95E-06
lb/hr	3.29E-03	3.63E-03	3.56E-03	3.49E-03
mg/dscm	5.82E-03	6.13E-03	6.06E-03	6.00E-03

Compound: Lead Back Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.001231	0.001901	0.001541	1.56E-03
lb / Dry Long Tons of Pellets Processed	6.58E-07	1.01E-06	8.11E-07	8.26E-07

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lb/hr	2.29E-04	3.55E-04	2.87E-04	2.90E-04
mg/dscm	4.04E-04	6.00E-04	4.88E-04	4.97E-04

Compound: Lead Front Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.016491	0.017541	0.017591	1.72E-02
lb / Dry Long Tons of Pellets Processed	8.82E-06	9.34E-06	9.24E-06	9.13E-06
lb/hr	3.07E-03	3.28E-03	3.27E-03	3.21E-03
mg/dscm	5.41E-03	5.53E-03	5.57E-03	5.50E-03

Compound: Manganese

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.033204	0.025547	0.023357	2.74E-02
lb / Dry Long Tons of Pellets Processed	1.77E-05	1.36E-05	1.23E-05	1.45E-05
lb/hr	6.17E-03	4.77E-03	4.35E-03	5.10E-03
mg/dscm	1.09E-02	8.06E-03	7.40E-03	8.79E-03

Compound: Manganese Back Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000308	0.001051	0.002161	1.17E-03
lb / Dry Long Tons of Pellets Processed	1.65E-07	5.58E-07	1.14E-06	6.21E-07
lb/hr	5.73E-05	1.96E-04	4.02E-04	2.18E-04
mg/dscm	1.01E-04	3.32E-04	6.84E-04	3.72E-04

Compound: Manganese Front Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.032896	0.024496	0.021196	2.62E-02
lb / Dry Long Tons of Pellets Processed	1.76E-05	1.30E-05	1.12E-05	1.39E-05
lb/hr	6.11E-03	4.58E-03	3.95E-03	4.88E-03
mg/dscm	1.08E-02	7.73E-03	6.71E-03	8.41E-03

Compound: Mercury

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.005305	0.005213	0.00498	5.17E-03
lb / Dry Long Tons of Pellets Processed	2.83E-06	2.77E-06	2.62E-06	2.74E-06
lb/hr	9.86E-04	9.74E-04	9.27E-04	9.62E-04
mg/dscm	1.74E-03	1.64E-03	1.58E-03	1.65E-03

Compound: Mercury Back Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.005285	0.005193	0.00496	5.15E-03
lb / Dry Long Tons of Pellets Processed	2.82E-06	2.76E-06	2.61E-06	2.73E-06

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lb/hr	9.82E-04	9.70E-04	9.23E-04	9.58E-04
mg/dscm	1.73E-03	1.64E-03	1.57E-03	1.65E-03

Compound: Mercury Front Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.00002	0.00002	0.00002	2.00E-05	
lb / Dry Long Tons of Pellets Processed	1.07E-08	1.07E-08	1.05E-08	1.06E-08	
lb/hr	3.72E-06	3.74E-06	3.72E-06	3.73E-06	
mg/dscm	6.57E-06	6.31E-06	6.33E-06	6.40E-06	

Compound: Nickel

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000856	0.0009565	0.000654	8.22E-04	
lb / Dry Long Tons of Pellets Processed	4.57E-07	5.10E-07	3.45E-07	4.37E-07	
lb/hr	1.59E-04	1.79E-04	1.22E-04	1.53E-04	
mg/dscm	2.81E-04	3.02E-04	2.07E-04	2.63E-04	

Compound: Nickel Back Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.00025	0.0002655	0.000199	2.38E-04	
lb / Dry Long Tons of Pellets Processed	1.34E-07	1.41E-07	1.05E-07	1.27E-07	
lb/hr	4.65E-05	4.96E-05	3.70E-05	4.44E-05	
mg/dscm	8.21E-05	8.38E-05	6.30E-05	7.63E-05	

Compound: Nickel Front Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000606	0.000691	0.000455	5.84E-04	
lb / Dry Long Tons of Pellets Processed	3.25E-07	3.68E-07	2.39E-07	3.11E-07	
lb/hr	1.13E-04	1.29E-04	8.47E-05	1.09E-04	
mg/dscm	1.99E-04	2.18E-04	1.44E-04	1.87E-04	

Compound: Phosphorus (yellow or white)

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.00871	0.011005	0.01121	1.03E-02	
lb / Dry Long Tons of Pellets Processed	4.66E-06	5.87E-06	5.90E-06	5.48E-06	
lb/hr	1.62E-03	2.06E-03	2.09E-03	1.92E-03	
mg/dscm	2.86E-03	3.47E-03	3.55E-03	3.29E-03	

Compound: Phosphorus (yellow or white) Back

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.0011	0.004	0.0032	2.77E-03	
lb / Dry Long Tons of Pellets Processed	5.86E-07	2.13E-06	1.68E-06	1.47E-06	

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lb/hr	2.04E-04	7.47E-04	5.96E-04	5.16E-04
mg/dscm	3.61E-04	1.26E-03	1.01E-03	8.77E-04

Compound: Phosphorus (yellow or white) Front

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.00761	0.007005	0.00801	7.54E-03
lb / Dry Long Tons of Pellets Processed	4.05E-06	3.73E-06	4.21E-06	4.00E-06
lb/hr	1.41E-03	1.31E-03	1.49E-03	1.40E-03
mg/dscm	2.50E-03	2.21E-03	2.54E-03	2.42E-03

Compound: Selenium

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.039954	0.042	0.0447	4.22E-02
lb / Dry Long Tons of Pellets Processed	2.14E-05	2.24E-05	2.35E-05	2.24E-05
lb/hr	7.43E-03	7.85E-03	8.32E-03	7.87E-03
mg/dscm	1.31E-02	1.33E-02	1.42E-02	1.35E-02

Compound: Selenium Back Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.010954	0.01865	0.0184	1.60E-02
lb / Dry Long Tons of Pellets Processed	5.86E-06	9.91E-06	9.66E-06	8.48E-06
lb/hr	2.04E-03	3.48E-03	3.42E-03	2.98E-03
mg/dscm	3.60E-03	5.88E-03	5.83E-03	5.10E-03

Compound: Selenium Front Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.029	0.02335	0.0263	2.62E-02
lb / Dry Long Tons of Pellets Processed	1.55E-05	1.24E-05	1.38E-05	1.39E-05
lb/hr	5.39E-03	4.36E-03	4.90E-03	4.88E-03
mg/dscm	9.52E-03	7.37E-03	8.33E-03	8.41E-03

Location: SV021/CE022 - Method 3A CO2

Compound: Carbon Dioxide

	Average			Reg Limit
Run	1	2	3	
Percent(%)	4.88E-01	3.97E-01	5.51E-01	4.79E-01

Location: SV021/CE022 - Method 3A CO2 3

Compound: Carbon Dioxide

	Average			Reg Limit
Run	4	5	6	
Percent(%)	4.62E-01	4.56E-01	4.92E-01	4.70E-01

Location: SV021/CE022 - Method 3A O2

Compound: Oxygen

	Average			Reg Limit
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Run	1	2	3	
Percent(%)	2.02E+01	2.02E+01	2.02E+01	2.02E+01
Location: SV021/CE022 - Method 3A O2 3				
Compound: Oxygen				
			Average	Reg Limit
Run	4	5	6	
Percent(%)	2.02E+01	2.02E+01	2.02E+01	2.02E+01
Location: SV022/CE023 - Method 10				
Compound: Carbon Monoxide				
			Average	Reg Limit
Run	1	2	3	
lb/hr	1.28E+00	1.27E+00	1.30E+00	1.28E+00
ppm	1.77E+00	1.77E+00	1.83E+00	1.79E+00
Location: SV022/CE023 - Method 26A				
Compound: Hydrogen Chloride				
			Average	Reg Limit
RunNumber	1	2	3	
Mass_mg	2.799	2.761	2.91	2.82E+00
lb / Dry Long Tons of Pellets Processed	1.84E-03	1.78E-03	1.87E-03	1.83E-03
lb/hr	6.39E-01	6.25E-01	6.62E-01	6.42E-01
mg/dscm	1.05E+00	1.04E+00	1.12E+00	1.07E+00
Compound: Hydrogen Fluoride				
			Average	Reg Limit
RunNumber	1	2	3	
Mass_mg	5.796	5.96	6.082	5.95E+00
lb / Dry Long Tons of Pellets Processed	3.79E-03	3.85E-03	3.90E-03	3.85E-03
lb/hr	1.32E+00	1.35E+00	1.38E+00	1.35E+00
mg/dscm	2.18E+00	2.25E+00	2.34E+00	2.26E+00
Location: SV022/CE023 - Method 29				
Compound: Antimony				
			Average	Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000311	0.000104	0.000104	1.73E-04
lb / Dry Long Tons of Pellets Processed	1.65E-07	5.42E-08	5.41E-08	9.11E-08
lb/hr	5.84E-05	1.93E-05	1.92E-05	3.23E-05
mg/dscm	9.36E-05	3.15E-05	3.15E-05	5.22E-05
Compound: Antimony Back Half				
			Average	Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000052	0.000052	0.000052	5.20E-05
lb / Dry Long Tons of Pellets Processed	2.75E-08	2.71E-08	2.70E-08	2.72E-08
lb/hr	9.76E-06	9.66E-06	9.60E-06	9.67E-06
mg/dscm	1.56E-05	1.58E-05	1.57E-05	1.57E-05

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Compound: Antimony Front Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000259	0.000052	0.000052	1.21E-04	
lb / Dry Long Tons of Pellets Processed	1.37E-07	2.71E-08	2.70E-08	6.37E-08	
lb/hr	4.86E-05	9.66E-06	9.60E-06	2.26E-05	
mg/dscm	7.79E-05	1.58E-05	1.57E-05	3.65E-05	

Compound: Arsenic

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.308935	0.362935	0.351935	3.41E-01	
lb / Dry Long Tons of Pellets Processed	1.63E-04	1.89E-04	1.83E-04	1.78E-04	
lb/hr	5.80E-02	6.74E-02	6.50E-02	6.35E-02	
mg/dscm	9.30E-02	1.10E-01	1.07E-01	1.03E-01	

Compound: Arsenic Back Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.081966	0.132966	0.116966	1.11E-01	
lb / Dry Long Tons of Pellets Processed	4.34E-05	6.94E-05	6.08E-05	5.79E-05	
lb/hr	1.54E-02	2.47E-02	2.16E-02	2.06E-02	
mg/dscm	2.47E-02	4.03E-02	3.54E-02	3.35E-02	

Compound: Arsenic Front Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.226969	0.229969	0.234969	2.31E-01	
lb / Dry Long Tons of Pellets Processed	1.20E-04	1.20E-04	1.22E-04	1.21E-04	
lb/hr	4.26E-02	4.27E-02	4.34E-02	4.29E-02	
mg/dscm	6.83E-02	6.97E-02	7.11E-02	6.97E-02	

Compound: Beryllium

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000049	0.0000435	0.000057	4.98E-05	
lb / Dry Long Tons of Pellets Processed	2.59E-08	2.27E-08	2.96E-08	2.61E-08	
lb/hr	9.20E-06	8.08E-06	1.05E-05	9.26E-06	
mg/dscm	1.47E-05	1.32E-05	1.72E-05	1.50E-05	

Compound: Beryllium Back Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000005	0.000002	0.000002	3.00E-06	
lb / Dry Long Tons of Pellets Processed	2.65E-09	1.04E-09	1.04E-09	1.58E-09	
lb/hr	9.39E-07	3.71E-07	3.69E-07	5.60E-07	
mg/dscm	1.50E-06	6.06E-07	6.05E-07	9.04E-07	

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Compound: Beryllium Front Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000044	0.0000415	0.000055	4.68E-05	
lb / Dry Long Tons of Pellets Processed	2.33E-08	2.17E-08	2.87E-08	2.46E-08	
lb/hr	8.26E-06	7.71E-06	1.02E-05	8.72E-06	
mg/dscm	1.32E-05	1.26E-05	1.66E-05	1.41E-05	

Compound: Cadmium

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000215	0.0001785	0.000213	2.02E-04	
lb / Dry Long Tons of Pellets Processed	1.14E-07	9.30E-08	1.11E-07	1.06E-07	
lb/hr	4.04E-05	3.31E-05	3.93E-05	3.76E-05	
mg/dscm	6.47E-05	5.41E-05	6.45E-05	6.11E-05	

Compound: Cadmium Back Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000058	0.0000265	0.000027	3.72E-05	
lb / Dry Long Tons of Pellets Processed	3.07E-08	1.38E-08	1.40E-08	1.95E-08	
lb/hr	1.09E-05	4.92E-06	4.98E-06	6.93E-06	
mg/dscm	1.75E-05	8.03E-06	8.17E-06	1.12E-05	

Compound: Cadmium Front Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000157	0.000152	0.000186	1.65E-04	
lb / Dry Long Tons of Pellets Processed	8.31E-08	7.92E-08	9.66E-08	8.63E-08	
lb/hr	2.95E-05	2.82E-05	3.43E-05	3.07E-05	
mg/dscm	4.72E-05	4.61E-05	5.63E-05	4.99E-05	

Compound: Chromium

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.001879	0.0015825	0.00225	1.90E-03	
lb / Dry Long Tons of Pellets Processed	9.94E-07	8.26E-07	1.17E-06	9.97E-07	
lb/hr	3.53E-04	2.94E-04	4.15E-04	3.54E-04	
mg/dscm	5.65E-04	4.80E-04	6.81E-04	5.75E-04	

Compound: Chromium Back Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000304	0.0001375	0.000255	2.32E-04	
lb / Dry Long Tons of Pellets Processed	1.61E-07	7.16E-08	1.33E-07	1.22E-07	
lb/hr	5.71E-05	2.55E-05	4.71E-05	4.32E-05	
mg/dscm	9.15E-05	4.17E-05	7.72E-05	7.01E-05	

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Compound: Chromium Front Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.001575	0.001445	0.001995	1.67E-03	
lb / Dry Long Tons of Pellets Processed	8.34E-07	7.53E-07	1.04E-06	8.76E-07	
lb/hr	2.96E-04	2.68E-04	3.68E-04	3.11E-04	
mg/dscm	4.74E-04	4.38E-04	6.04E-04	5.05E-04	

Compound: Cobalt

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000233	0.0001055	0.000153	1.64E-04	
lb / Dry Long Tons of Pellets Processed	1.23E-07	5.51E-08	7.94E-08	8.58E-08	
lb/hr	4.37E-05	1.96E-05	2.82E-05	3.05E-05	
mg/dscm	7.01E-05	3.20E-05	4.63E-05	4.95E-05	

Compound: Cobalt Back Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000121	0.000014	0.000036	5.70E-05	
lb / Dry Long Tons of Pellets Processed	6.39E-08	7.30E-09	1.87E-08	3.00E-08	
lb/hr	2.27E-05	2.60E-06	6.65E-06	1.07E-05	
mg/dscm	3.64E-05	4.24E-06	1.09E-05	1.72E-05	

Compound: Cobalt Front Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000112	0.0000915	0.000117	1.07E-04	
lb / Dry Long Tons of Pellets Processed	5.92E-08	4.78E-08	6.08E-08	5.59E-08	
lb/hr	2.10E-05	1.70E-05	2.16E-05	1.99E-05	
mg/dscm	3.37E-05	2.77E-05	3.54E-05	3.23E-05	

Compound: Filterable Particulate

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	31.5	30.5	30.8	3.09E+01	
lb / Dry Long Tons of Pellets Processed	1.66E-02	1.59E-02	1.60E-02	1.62E-02	
lb/hr	5.91E+00	5.66E+00	5.69E+00	5.75E+00	
mg/dscm	9.48E+00	9.24E+00	9.32E+00	9.35E+00	

Compound: Lead

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.021742	0.0219705	0.022878	2.22E-02	
lb / Dry Long Tons of Pellets Processed	1.15E-05	1.15E-05	1.19E-05	1.16E-05	
lb/hr	4.08E-03	4.08E-03	4.22E-03	4.13E-03	
mg/dscm	6.54E-03	6.66E-03	6.92E-03	6.71E-03	

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Compound: Lead Back Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000951	0.0000795	0.000387	4.73E-04	
lb / Dry Long Tons of Pellets Processed	5.04E-07	4.16E-08	2.01E-07	2.49E-07	
lb/hr	1.79E-04	1.48E-05	7.14E-05	8.84E-05	
mg/dscm	2.86E-04	2.41E-05	1.17E-04	1.42E-04	

Compound: Lead Front Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.020791	0.021891	0.022491	2.17E-02	
lb / Dry Long Tons of Pellets Processed	1.10E-05	1.14E-05	1.17E-05	1.14E-05	
lb/hr	3.90E-03	4.06E-03	4.15E-03	4.04E-03	
mg/dscm	6.26E-03	6.63E-03	6.81E-03	6.57E-03	

Compound: Manganese

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.027277	0.025464	0.025797	2.62E-02	
lb / Dry Long Tons of Pellets Processed	1.44E-05	1.33E-05	1.34E-05	1.37E-05	
lb/hr	5.12E-03	4.73E-03	4.76E-03	4.87E-03	
mg/dscm	8.21E-03	7.72E-03	7.81E-03	7.91E-03	

Compound: Manganese Back Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.002181	0.000668	0.001501	1.45E-03	
lb / Dry Long Tons of Pellets Processed	1.15E-06	3.48E-07	7.80E-07	7.59E-07	
lb/hr	4.09E-04	1.24E-04	2.77E-04	2.70E-04	
mg/dscm	6.56E-04	2.02E-04	4.54E-04	4.37E-04	

Compound: Manganese Front Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.025096	0.024796	0.024296	2.47E-02	
lb / Dry Long Tons of Pellets Processed	1.33E-05	1.29E-05	1.26E-05	1.29E-05	
lb/hr	4.71E-03	4.60E-03	4.49E-03	4.60E-03	
mg/dscm	7.55E-03	7.51E-03	7.35E-03	7.47E-03	

Compound: Mercury

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.0079495	0.0125495	0.0072755	9.26E-03	
lb / Dry Long Tons of Pellets Processed	4.20E-06	6.54E-06	3.77E-06	4.84E-06	
lb/hr	1.49E-03	2.33E-03	1.34E-03	1.72E-03	
mg/dscm	2.39E-03	3.80E-03	2.20E-03	2.80E-03	

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Compound: Mercury Back Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.0079295	0.0125295	0.0072555	9.24E-03	
lb / Dry Long Tons of Pellets Processed	4.20E-06	6.54E-06	3.77E-06	4.84E-06	
lb/hr	1.49E-03	2.33E-03	1.34E-03	1.72E-03	
mg/dscm	2.39E-03	3.80E-03	2.20E-03	2.80E-03	

Compound: Mercury Front Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.00002	0.00002	0.00002	2.00E-05	
lb / Dry Long Tons of Pellets Processed	1.06E-08	1.04E-08	1.04E-08	1.05E-08	
lb/hr	3.75E-06	3.71E-06	3.69E-06	3.72E-06	
mg/dscm	6.02E-06	6.06E-06	6.05E-06	6.04E-06	

Compound: Nickel

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.002182	0.000384	0.001008	1.19E-03	
lb / Dry Long Tons of Pellets Processed	1.15E-06	2.00E-07	5.24E-07	6.25E-07	
lb/hr	4.10E-04	7.13E-05	1.86E-04	2.22E-04	
mg/dscm	6.57E-04	1.16E-04	3.05E-04	3.59E-04	

Compound: Nickel Back Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.00177	0.000027	0.000522	7.73E-04	
lb / Dry Long Tons of Pellets Processed	9.35E-07	1.41E-08	2.72E-07	4.07E-07	
lb/hr	3.32E-04	5.01E-06	9.64E-05	1.44E-04	
mg/dscm	5.33E-04	8.18E-06	1.58E-04	2.33E-04	

Compound: Nickel Front Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000412	0.000357	0.000486	4.18E-04	
lb / Dry Long Tons of Pellets Processed	2.18E-07	1.86E-07	2.53E-07	2.19E-07	
lb/hr	7.73E-05	6.63E-05	8.97E-05	7.78E-05	
mg/dscm	1.24E-04	1.08E-04	1.47E-04	1.26E-04	

Compound: Phosphorus (yellow or white)

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.01389	0.01156	0.01221	1.26E-02	
lb / Dry Long Tons of Pellets Processed	7.35E-06	6.04E-06	6.34E-06	6.58E-06	
lb/hr	2.61E-03	2.15E-03	2.25E-03	2.34E-03	
mg/dscm	4.18E-03	3.50E-03	3.70E-03	3.79E-03	

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Compound: Phosphorus (yellow or white) Back

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.007	0.00435	0.0031	4.82E-03	
lb / Dry Long Tons of Pellets Processed	3.69E-06	2.27E-06	1.61E-06	2.52E-06	
lb/hr	1.31E-03	8.08E-04	5.72E-04	8.97E-04	
mg/dscm	2.11E-03	1.32E-03	9.38E-04	1.46E-03	

Compound: Phosphorus (yellow or white) Front

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.00689	0.00721	0.00911	7.74E-03	
lb / Dry Long Tons of Pellets Processed	3.63E-06	3.76E-06	4.73E-06	4.04E-06	
lb/hr	1.29E-03	1.34E-03	1.68E-03	1.44E-03	
mg/dscm	2.07E-03	2.18E-03	2.76E-03	2.34E-03	

Compound: Selenium

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.037	0.03555	0.036	3.62E-02	
lb / Dry Long Tons of Pellets Processed	1.96E-05	1.85E-05	1.87E-05	1.89E-05	
lb/hr	6.95E-03	6.60E-03	6.65E-03	6.73E-03	
mg/dscm	1.11E-02	1.08E-02	1.09E-02	1.09E-02	

Compound: Selenium Back Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.0147	0.01785	0.018	1.69E-02	
lb / Dry Long Tons of Pellets Processed	7.77E-06	9.30E-06	9.35E-06	8.81E-06	
lb/hr	2.76E-03	3.31E-03	3.32E-03	3.13E-03	
mg/dscm	4.42E-03	5.41E-03	5.45E-03	5.09E-03	

Compound: Selenium Front Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.0223	0.0177	0.018	1.93E-02	
lb / Dry Long Tons of Pellets Processed	1.18E-05	9.24E-06	9.35E-06	1.01E-05	
lb/hr	4.19E-03	3.29E-03	3.32E-03	3.60E-03	
mg/dscm	6.71E-03	5.36E-03	5.45E-03	5.84E-03	

Location: SV022/CE023 - Method 3A CO2

Compound: Carbon Dioxide

				Average	Reg Limit
Run	1	2	3		
Percent(%)	6.71E-01	6.06E-01	7.21E-01	6.66E-01	

Location: SV022/CE023 - Method 3A CO2 3

Compound: Carbon Dioxide

				Average	Reg Limit
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Run	4	5	6	
Percent(%)	6.15E-01	5.94E-01	6.14E-01	6.08E-01
Location: SV022/CE023 - Method 3A O2				
Compound: Oxygen				
			Average	Reg Limit
Run	1	2	3	
Percent(%)	1.99E+01	1.99E+01	1.99E+01	1.99E+01
Location: SV022/CE023 - Method 3A O2 3				
Compound: Oxygen				
			Average	Reg Limit
Run	4	5	6	
Percent(%)	1.99E+01	1.99E+01	1.99E+01	1.99E+01
Location: SV023/CE024 - Method 10				
Compound: Carbon Monoxide				
			Average	Reg Limit
Run	1	2	3	
lb/hr	1.93E+00	1.82E+00	1.90E+00	1.88E+00
ppm	3.26E+00	3.03E+00	3.14E+00	3.14E+00
Location: SV023/CE024 - Method 26A				
Compound: Hydrogen Chloride				
			Average	Reg Limit
RunNumber	1	2	3	
Mass_mg	0.821	1.981	2.221	1.67E+00
lb / Dry Long Tons of Pellets Processed	5.30E-04	1.27E-03	1.41E-03	1.07E-03
lb/hr	1.88E-01	4.50E-01	5.01E-01	3.80E-01
mg/dscm	3.53E-01	8.73E-01	9.65E-01	7.30E-01
Compound: Hydrogen Fluoride				
			Average	Reg Limit
RunNumber	1	2	3	
Mass_mg	2.955	3.794	3.906	3.55E+00
lb / Dry Long Tons of Pellets Processed	1.90E-03	2.43E-03	2.48E-03	2.27E-03
lb/hr	6.75E-01	8.62E-01	8.82E-01	8.06E-01
mg/dscm	1.27E+00	1.67E+00	1.70E+00	1.55E+00
Location: SV023/CE024 - Method 29				
Compound: Antimony				
			Average	Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000226	0.001087	0.000104	4.72E-04
lb / Dry Long Tons of Pellets Processed	9.57E-08	4.56E-07	4.32E-08	1.98E-07
lb/hr	3.33E-05	1.60E-04	1.53E-05	6.95E-05
mg/dscm	6.54E-05	3.10E-04	2.93E-05	1.35E-04
Compound: Antimony Back Half				
			Average	Reg Limit
RunNumber	1	2	3	

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Mass_mg	0.000052	0.000052	0.000052	5.20E-05
lb / Dry Long Tons of Pellets Processed	2.20E-08	2.18E-08	2.16E-08	2.18E-08
lb/hr	7.67E-06	7.65E-06	7.63E-06	7.65E-06
mg/dscm	1.51E-05	1.48E-05	1.47E-05	1.49E-05

Compound: Antimony Front Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000174	0.001035	0.000052	4.20E-04
lb / Dry Long Tons of Pellets Processed	7.39E-08	4.33E-07	2.16E-08	1.76E-07
lb/hr	2.57E-05	1.52E-04	7.63E-06	6.18E-05
mg/dscm	5.04E-05	2.96E-04	1.47E-05	1.20E-04

Compound: Arsenic

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.172255	0.162535	0.161135	1.65E-01
lb / Dry Long Tons of Pellets Processed	7.30E-05	6.81E-05	6.69E-05	6.93E-05
lb/hr	2.54E-02	2.39E-02	2.37E-02	2.43E-02
mg/dscm	4.99E-02	4.64E-02	4.55E-02	4.73E-02

Compound: Arsenic Back Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.007286	0.013566	0.012166	1.10E-02
lb / Dry Long Tons of Pellets Processed	3.07E-06	5.67E-06	5.06E-06	4.60E-06
lb/hr	1.07E-03	1.99E-03	1.79E-03	1.62E-03
mg/dscm	2.11E-03	3.87E-03	3.43E-03	3.14E-03

Compound: Arsenic Front Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.164969	0.148969	0.148969	1.54E-01
lb / Dry Long Tons of Pellets Processed	6.98E-05	6.24E-05	6.19E-05	6.47E-05
lb/hr	2.43E-02	2.19E-02	2.19E-02	2.27E-02
mg/dscm	4.77E-02	4.25E-02	4.20E-02	4.41E-02

Compound: Beryllium

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000076	0.000115	0.000067	8.60E-05
lb / Dry Long Tons of Pellets Processed	3.22E-08	4.81E-08	2.78E-08	3.60E-08
lb/hr	1.12E-05	1.69E-05	9.83E-06	1.26E-05
mg/dscm	2.20E-05	3.28E-05	1.89E-05	2.46E-05

Compound: Beryllium Back Half

	Average			Reg Limit
RunNumber	1	2	3	

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Mass_mg	0.000003	0.000002	0.000002	2.33E-06
lb / Dry Long Tons of Pellets Processed	1.27E-09	8.38E-10	8.31E-10	9.80E-10
lb/hr	4.42E-07	2.94E-07	2.94E-07	3.43E-07
mg/dscm	8.68E-07	5.71E-07	5.64E-07	6.68E-07

Compound: Beryllium Front Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000073	0.000113	0.000065	8.37E-05
lb / Dry Long Tons of Pellets Processed	3.10E-08	4.73E-08	2.69E-08	3.51E-08
lb/hr	1.08E-05	1.66E-05	9.54E-06	1.23E-05
mg/dscm	2.11E-05	3.23E-05	1.83E-05	2.39E-05

Compound: Cadmium

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000255	0.0002635	0.000261	2.60E-04
lb / Dry Long Tons of Pellets Processed	1.08E-07	1.10E-07	1.08E-07	1.09E-07
lb/hr	3.76E-05	3.87E-05	3.83E-05	3.82E-05
mg/dscm	7.38E-05	7.52E-05	7.36E-05	7.42E-05

Compound: Cadmium Back Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000051	0.000035	0.000022	3.60E-05
lb / Dry Long Tons of Pellets Processed	2.16E-08	1.47E-08	9.12E-09	1.51E-08
lb/hr	7.52E-06	5.15E-06	3.23E-06	5.30E-06
mg/dscm	1.48E-05	9.99E-06	6.21E-06	1.03E-05

Compound: Cadmium Front Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000204	0.0002295	0.000239	2.24E-04
lb / Dry Long Tons of Pellets Processed	8.65E-08	9.60E-08	9.92E-08	9.39E-08
lb/hr	3.01E-05	3.37E-05	3.51E-05	3.30E-05
mg/dscm	5.90E-05	6.55E-05	6.74E-05	6.40E-05

Compound: Chromium

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.004057	0.003442	0.002583	3.36E-03
lb / Dry Long Tons of Pellets Processed	1.72E-06	1.44E-06	1.07E-06	1.41E-06
lb/hr	5.98E-04	5.06E-04	3.79E-04	4.94E-04
mg/dscm	1.17E-03	9.83E-04	7.29E-04	9.61E-04

Compound: Chromium Back Half

	Average			Reg Limit
RunNumber	1	2	3	

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Mass_mg	0.001222	0.000117	0.000178	5.06E-04
lb / Dry Long Tons of Pellets Processed	5.17E-07	4.90E-08	7.37E-08	2.13E-07
lb/hr	1.80E-04	1.72E-05	2.61E-05	7.44E-05
mg/dscm	3.54E-04	3.34E-05	5.02E-05	1.46E-04

Compound: Chromium Front Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.002835	0.003325	0.002405	2.86E-03
lb / Dry Long Tons of Pellets Processed	1.20E-06	1.39E-06	9.97E-07	1.20E-06
lb/hr	4.18E-04	4.89E-04	3.53E-04	4.20E-04
mg/dscm	8.21E-04	9.49E-04	6.78E-04	8.16E-04

Compound: Cobalt

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000444	0.000302	0.000307	3.51E-04
lb / Dry Long Tons of Pellets Processed	1.88E-07	1.26E-07	1.27E-07	1.47E-07
lb/hr	6.55E-05	4.44E-05	4.51E-05	5.17E-05
mg/dscm	1.29E-04	8.62E-05	8.66E-05	1.01E-04

Compound: Cobalt Back Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000113	0.000063	0.000021	6.57E-05
lb / Dry Long Tons of Pellets Processed	4.80E-08	2.64E-08	8.70E-09	2.77E-08
lb/hr	1.67E-05	9.26E-06	3.08E-06	9.68E-06
mg/dscm	3.27E-05	1.80E-05	5.92E-06	1.89E-05

Compound: Cobalt Front Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000331	0.000239	0.000286	2.85E-04
lb / Dry Long Tons of Pellets Processed	1.40E-07	1.00E-07	1.19E-07	1.20E-07
lb/hr	4.88E-05	3.51E-05	4.20E-05	4.20E-05
mg/dscm	9.58E-05	6.82E-05	8.07E-05	8.16E-05

Compound: Filterable Particulate

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	54.6	49	40.7	4.81E+01
lb / Dry Long Tons of Pellets Processed	2.31E-02	2.05E-02	1.69E-02	2.02E-02
lb/hr	8.05E+00	7.21E+00	5.97E+00	7.08E+00
mg/dscm	1.58E+01	1.40E+01	1.15E+01	1.38E+01

Compound: Lead

	Average			Reg Limit
RunNumber	1	2	3	

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Mass_mg	0.027292	0.027711	0.031292	2.88E-02
lb / Dry Long Tons of Pellets Processed	1.16E-05	1.16E-05	1.30E-05	1.21E-05
lb/hr	4.02E-03	4.08E-03	4.59E-03	4.23E-03
mg/dscm	7.90E-03	7.91E-03	8.83E-03	8.21E-03

Compound: Lead Back Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.001001	0.00052	0.000801	7.74E-04	
lb / Dry Long Tons of Pellets Processed	4.25E-07	2.18E-07	3.33E-07	3.25E-07	
lb/hr	1.48E-04	7.65E-05	1.18E-04	1.14E-04	
mg/dscm	2.90E-04	1.48E-04	2.26E-04	2.21E-04	

Compound: Lead Front Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.026291	0.027191	0.030491	2.80E-02	
lb / Dry Long Tons of Pellets Processed	1.11E-05	1.14E-05	1.27E-05	1.17E-05	
lb/hr	3.88E-03	4.00E-03	4.48E-03	4.12E-03	
mg/dscm	7.61E-03	7.76E-03	8.60E-03	7.99E-03	

Compound: Manganese

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.065777	0.056642	0.044523	5.56E-02	
lb / Dry Long Tons of Pellets Processed	2.79E-05	2.37E-05	1.85E-05	2.34E-05	
lb/hr	9.70E-03	8.33E-03	6.54E-03	8.19E-03	
mg/dscm	1.90E-02	1.62E-02	1.26E-02	1.59E-02	

Compound: Manganese Back Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000881	0.000896	0.000527	7.68E-04	
lb / Dry Long Tons of Pellets Processed	3.74E-07	3.76E-07	2.19E-07	3.23E-07	
lb/hr	1.30E-04	1.32E-04	7.74E-05	1.13E-04	
mg/dscm	2.55E-04	2.56E-04	1.49E-04	2.20E-04	

Compound: Manganese Front Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.064896	0.055746	0.043996	5.49E-02	
lb / Dry Long Tons of Pellets Processed	2.75E-05	2.34E-05	1.82E-05	2.30E-05	
lb/hr	9.57E-03	8.20E-03	6.46E-03	8.08E-03	
mg/dscm	1.88E-02	1.59E-02	1.24E-02	1.57E-02	

Compound: Mercury

				Average	Reg Limit
RunNumber	1	2	3		

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Mass_mg	0.0141445	0.0144595	0.0155455	1.47E-02
lb / Dry Long Tons of Pellets Processed	6.01E-06	6.07E-06	6.44E-06	6.17E-06
lb/hr	2.09E-03	2.13E-03	2.28E-03	2.17E-03
mg/dscm	4.09E-03	4.13E-03	4.39E-03	4.20E-03

Compound: Mercury Back Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.0141245	0.0144395	0.0155255	1.47E-02	
lb / Dry Long Tons of Pellets Processed	5.98E-06	6.04E-06	6.44E-06	6.15E-06	
lb/hr	2.08E-03	2.12E-03	2.28E-03	2.16E-03	
mg/dscm	4.09E-03	4.12E-03	4.38E-03	4.20E-03	

Compound: Mercury Front Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.00002	0.00002	0.00002	2.00E-05	
lb / Dry Long Tons of Pellets Processed	8.48E-09	8.38E-09	8.31E-09	8.39E-09	
lb/hr	2.95E-06	2.94E-06	2.94E-06	2.94E-06	
mg/dscm	5.79E-06	5.71E-06	5.64E-06	5.71E-06	

Compound: Nickel

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.001726	0.0011455	0.000723	1.20E-03	
lb / Dry Long Tons of Pellets Processed	7.33E-07	4.79E-07	2.99E-07	5.04E-07	
lb/hr	2.55E-04	1.68E-04	1.06E-04	1.76E-04	
mg/dscm	5.00E-04	3.27E-04	2.04E-04	3.44E-04	

Compound: Nickel Back Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.00097	0.0000745	0.000057	3.67E-04	
lb / Dry Long Tons of Pellets Processed	4.11E-07	3.13E-08	2.36E-08	1.55E-07	
lb/hr	1.43E-04	1.10E-05	8.37E-06	5.41E-05	
mg/dscm	2.81E-04	2.13E-05	1.61E-05	1.06E-04	

Compound: Nickel Front Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000756	0.001071	0.000666	8.31E-04	
lb / Dry Long Tons of Pellets Processed	3.19E-07	4.47E-07	2.76E-07	3.47E-07	
lb/hr	1.11E-04	1.57E-04	9.78E-05	1.22E-04	
mg/dscm	2.19E-04	3.06E-04	1.88E-04	2.38E-04	

Compound: Phosphorus (yellow or white)

				Average	Reg Limit
RunNumber	1	2	3		

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Mass_mg	0.01098	0.00963	0.00918	9.93E-03
lb / Dry Long Tons of Pellets Processed	4.66E-06	4.05E-06	3.81E-06	4.17E-06
lb/hr	1.62E-03	1.42E-03	1.35E-03	1.46E-03
mg/dscm	3.18E-03	2.75E-03	2.59E-03	2.84E-03

Compound: Phosphorus (yellow or white) Back

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.00027	0.00027	0.00027	2.70E-04	
lb / Dry Long Tons of Pellets Processed	1.14E-07	1.13E-07	1.12E-07	1.13E-07	
lb/hr	3.98E-05	3.97E-05	3.96E-05	3.97E-05	
mg/dscm	7.82E-05	7.71E-05	7.62E-05	7.72E-05	

Compound: Phosphorus (yellow or white) Front

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.01071	0.00936	0.00891	9.66E-03	
lb / Dry Long Tons of Pellets Processed	4.54E-06	3.93E-06	3.70E-06	4.06E-06	
lb/hr	1.58E-03	1.38E-03	1.31E-03	1.42E-03	
mg/dscm	3.10E-03	2.67E-03	2.51E-03	2.76E-03	

Compound: Selenium

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.013014	0.014179	0.014604	1.39E-02	
lb / Dry Long Tons of Pellets Processed	5.52E-06	5.95E-06	6.05E-06	5.84E-06	
lb/hr	1.92E-03	2.09E-03	2.14E-03	2.05E-03	
mg/dscm	3.77E-03	4.05E-03	4.12E-03	3.98E-03	

Compound: Selenium Back Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.005694	0.005764	0.006504	5.99E-03	
lb / Dry Long Tons of Pellets Processed	2.41E-06	2.42E-06	2.70E-06	2.51E-06	
lb/hr	8.40E-04	8.48E-04	9.55E-04	8.81E-04	
mg/dscm	1.65E-03	1.65E-03	1.83E-03	1.71E-03	

Compound: Selenium Front Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.00732	0.008415	0.0081	7.95E-03	
lb / Dry Long Tons of Pellets Processed	3.10E-06	3.53E-06	3.36E-06	3.33E-06	
lb/hr	1.08E-03	1.24E-03	1.19E-03	1.17E-03	
mg/dscm	2.12E-03	2.40E-03	2.28E-03	2.27E-03	

Location: SV023/CE024 - Method 3A CO2

Compound: Carbon Dioxide

				Average	Reg Limit
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Run	1	2	3	
Percent(%)	8.94E-01	8.52E-01	8.90E-01	8.79E-01
Location: SV023/CE024 - Method 3A CO2 3				
Compound: Carbon Dioxide				
			Average	Reg Limit
Run	4	5	6	
Percent(%)	7.89E-01	7.76E-01	7.92E-01	7.86E-01
Location: SV023/CE024 - Method 3A O2				
Compound: Oxygen				
			Average	Reg Limit
Run	1	2	3	
Percent(%)	1.93E+01	1.93E+01	1.93E+01	1.93E+01
Location: SV023/CE024 - Method 3A O2 3				
Compound: Oxygen				
			Average	Reg Limit
Run	4	5	6	
Percent(%)	1.92E+01	1.92E+01	1.93E+01	1.92E+01
Location: SV024/CE025 - Method 10				
Compound: Carbon Monoxide				
			Average	Reg Limit
Run	1	2	3	
lb/hr	2.49E+00	2.42E+00	2.46E+00	2.46E+00
ppm	3.97E+00	4.04E+00	4.01E+00	4.01E+00
Location: SV024/CE025 - Method 26A				
Compound: Hydrogen Chloride				
			Average	Reg Limit
RunNumber	1	2	3	
Mass_mg	1.985	2.493	2.357	2.28E+00
lb / Dry Long Tons of Pellets Processed	1.39E-03	1.72E-03	1.61E-03	1.57E-03
lb/hr	4.83E-01	6.05E-01	5.71E-01	5.53E-01
mg/dscm	9.29E-01	1.17E+00	1.09E+00	1.06E+00
Compound: Hydrogen Fluoride				
			Average	Reg Limit
RunNumber	1	2	3	
Mass_mg	2.132	2.877	2.705	2.57E+00
lb / Dry Long Tons of Pellets Processed	1.49E-03	1.99E-03	1.85E-03	1.78E-03
lb/hr	5.19E-01	6.99E-01	6.56E-01	6.25E-01
mg/dscm	9.98E-01	1.35E+00	1.26E+00	1.20E+00
Location: SV024/CE025 - Method 29				
Compound: Antimony				
			Average	Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000368	0.000104	0.000141	2.04E-04
lb / Dry Long Tons of Pellets Processed	1.95E-07	5.20E-08	7.38E-08	1.07E-07

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lb/hr	6.91E-05	1.85E-05	2.62E-05	3.79E-05
mg/dscm	1.28E-04	3.61E-05	4.98E-05	7.13E-05

Compound: Antimony Back Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000052	0.000052	0.000088	6.40E-05
lb / Dry Long Tons of Pellets Processed	2.75E-08	2.60E-08	4.62E-08	3.32E-08
lb/hr	9.77E-06	9.27E-06	1.64E-05	1.18E-05
mg/dscm	1.81E-05	1.80E-05	3.11E-05	2.24E-05

Compound: Antimony Front Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000316	0.000052	0.000053	1.40E-04
lb / Dry Long Tons of Pellets Processed	1.67E-07	2.60E-08	2.78E-08	7.36E-08
lb/hr	5.94E-05	9.27E-06	9.86E-06	2.62E-05
mg/dscm	1.10E-04	1.80E-05	1.87E-05	4.89E-05

Compound: Arsenic

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.077725	0.0841	0.085095	8.23E-02
lb / Dry Long Tons of Pellets Processed	4.11E-05	4.21E-05	4.45E-05	4.26E-05
lb/hr	1.46E-02	1.50E-02	1.58E-02	1.51E-02
mg/dscm	2.71E-02	2.92E-02	3.01E-02	2.88E-02

Compound: Arsenic Back Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.002356	0.003031	0.002826	2.74E-03
lb / Dry Long Tons of Pellets Processed	1.25E-06	1.52E-06	1.48E-06	1.42E-06
lb/hr	4.43E-04	5.40E-04	5.26E-04	5.03E-04
mg/dscm	8.22E-04	1.05E-03	9.99E-04	9.57E-04

Compound: Arsenic Front Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.075369	0.081069	0.082269	7.96E-02
lb / Dry Long Tons of Pellets Processed	4.00E-05	4.07E-05	4.31E-05	4.13E-05
lb/hr	1.42E-02	1.45E-02	1.53E-02	1.47E-02
mg/dscm	2.63E-02	2.81E-02	2.91E-02	2.78E-02

Compound: Beryllium

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000066	0.00006	0.000065	6.37E-05
lb / Dry Long Tons of Pellets Processed	3.49E-08	3.01E-08	3.41E-08	3.30E-08

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lb/hr	1.24E-05	1.07E-05	1.21E-05	1.17E-05
mg/dscm	2.30E-05	2.08E-05	2.30E-05	2.23E-05

Compound: Beryllium Back Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000002	0.000002	0.000002	2.00E-06
lb / Dry Long Tons of Pellets Processed	1.06E-09	1.00E-09	1.05E-09	1.04E-09
lb/hr	3.76E-07	3.57E-07	3.72E-07	3.68E-07
mg/dscm	6.98E-07	6.94E-07	7.07E-07	7.00E-07

Compound: Beryllium Front Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000064	0.000058	0.000063	6.17E-05
lb / Dry Long Tons of Pellets Processed	3.38E-08	2.89E-08	3.30E-08	3.19E-08
lb/hr	1.20E-05	1.03E-05	1.17E-05	1.13E-05
mg/dscm	2.23E-05	2.01E-05	2.23E-05	2.16E-05

Compound: Cadmium

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000284	0.000212	0.000203	2.33E-04
lb / Dry Long Tons of Pellets Processed	1.50E-07	1.06E-07	1.06E-07	1.21E-07
lb/hr	5.34E-05	3.78E-05	3.78E-05	4.30E-05
mg/dscm	9.90E-05	7.36E-05	7.17E-05	8.14E-05

Compound: Cadmium Back Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000019	0.000015	0.000019	1.77E-05
lb / Dry Long Tons of Pellets Processed	1.01E-08	7.50E-09	9.94E-09	9.18E-09
lb/hr	3.57E-06	2.67E-06	3.53E-06	3.26E-06
mg/dscm	6.63E-06	5.20E-06	6.71E-06	6.18E-06

Compound: Cadmium Front Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000265	0.000197	0.000184	2.15E-04
lb / Dry Long Tons of Pellets Processed	1.40E-07	9.86E-08	9.63E-08	1.12E-07
lb/hr	4.98E-05	3.51E-05	3.42E-05	3.97E-05
mg/dscm	9.24E-05	6.84E-05	6.50E-05	7.53E-05

Compound: Chromium

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.002218	0.002446	0.002442	2.37E-03
lb / Dry Long Tons of Pellets Processed	1.17E-06	1.22E-06	1.28E-06	1.22E-06

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lb/hr	4.17E-04	4.36E-04	4.54E-04	4.36E-04
mg/dscm	7.74E-04	8.49E-04	8.63E-04	8.29E-04

Compound: Chromium Back Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000063	0.000346	0.000257	2.22E-04	
lb / Dry Long Tons of Pellets Processed	3.32E-08	1.73E-07	1.35E-07	1.14E-07	
lb/hr	1.18E-05	6.17E-05	4.78E-05	4.04E-05	
mg/dscm	2.20E-05	1.20E-04	9.08E-05	7.76E-05	

Compound: Chromium Front Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.002155	0.0021	0.002185	2.15E-03	
lb / Dry Long Tons of Pellets Processed	1.14E-06	1.05E-06	1.14E-06	1.11E-06	
lb/hr	4.05E-04	3.74E-04	4.06E-04	3.95E-04	
mg/dscm	7.52E-04	7.29E-04	7.72E-04	7.51E-04	

Compound: Cobalt

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000342	0.000151	0.000158	2.17E-04	
lb / Dry Long Tons of Pellets Processed	1.81E-07	7.56E-08	8.28E-08	1.13E-07	
lb/hr	6.43E-05	2.69E-05	2.94E-05	4.02E-05	
mg/dscm	1.19E-04	5.24E-05	5.58E-05	7.57E-05	

Compound: Cobalt Back Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000022	0.000026	0.000024	2.40E-05	
lb / Dry Long Tons of Pellets Processed	1.16E-08	1.30E-08	1.26E-08	1.24E-08	
lb/hr	4.13E-06	4.64E-06	4.46E-06	4.41E-06	
mg/dscm	7.67E-06	9.02E-06	8.48E-06	8.39E-06	

Compound: Cobalt Front Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.00032	0.000125	0.000134	1.93E-04	
lb / Dry Long Tons of Pellets Processed	1.69E-07	6.26E-08	7.01E-08	1.01E-07	
lb/hr	6.01E-05	2.23E-05	2.49E-05	3.58E-05	
mg/dscm	1.12E-04	4.34E-05	4.74E-05	6.76E-05	

Compound: Filterable Particulate

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	37.2	34.4	36	3.59E+01	
lb / Dry Long Tons of Pellets Processed	1.97E-02	1.72E-02	1.89E-02	1.86E-02	

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lb/hr	6.99E+00	6.13E+00	6.70E+00	6.61E+00
mg/dscm	1.30E+01	1.19E+01	1.27E+01	1.25E+01

Compound: Lead

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.02769	0.029443	0.028548	2.86E-02	
lb / Dry Long Tons of Pellets Processed	1.46E-05	1.47E-05	1.50E-05	1.48E-05	
lb/hr	5.20E-03	5.25E-03	5.31E-03	5.25E-03	
mg/dscm	9.66E-03	1.02E-02	1.01E-02	9.99E-03	

Compound: Lead Back Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000199	0.000552	0.000257	3.36E-04	
lb / Dry Long Tons of Pellets Processed	1.05E-07	2.76E-07	1.35E-07	1.72E-07	
lb/hr	3.74E-05	9.84E-05	4.78E-05	6.12E-05	
mg/dscm	6.94E-05	1.92E-04	9.08E-05	1.17E-04	

Compound: Lead Front Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.027491	0.028891	0.028291	2.82E-02	
lb / Dry Long Tons of Pellets Processed	1.46E-05	1.45E-05	1.48E-05	1.46E-05	
lb/hr	5.17E-03	5.15E-03	5.26E-03	5.19E-03	
mg/dscm	9.59E-03	1.00E-02	1.00E-02	9.86E-03	

Compound: Manganese

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.036927	0.0319235	0.036197	3.50E-02	
lb / Dry Long Tons of Pellets Processed	1.95E-05	1.60E-05	1.90E-05	1.82E-05	
lb/hr	6.94E-03	5.69E-03	6.73E-03	6.45E-03	
mg/dscm	1.29E-02	1.11E-02	1.28E-02	1.23E-02	

Compound: Manganese Back Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.000831	0.0006275	0.001201	8.87E-04	
lb / Dry Long Tons of Pellets Processed	4.39E-07	3.15E-07	6.28E-07	4.61E-07	
lb/hr	1.56E-04	1.12E-04	2.23E-04	1.64E-04	
mg/dscm	2.90E-04	2.18E-04	4.24E-04	3.11E-04	

Compound: Manganese Front Half

				Average	Reg Limit
RunNumber	1	2	3		
Mass_mg	0.036096	0.031296	0.034996	3.41E-02	
lb / Dry Long Tons of Pellets Processed	1.91E-05	1.57E-05	1.83E-05	1.77E-05	

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lb/hr	6.78E-03	5.58E-03	6.51E-03	6.29E-03
mg/dscm	1.26E-02	1.09E-02	1.24E-02	1.20E-02

Compound: Mercury

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.0155465	0.0030325	0.0133895	1.07E-02
lb / Dry Long Tons of Pellets Processed	8.23E-06	1.52E-06	7.01E-06	5.59E-06
lb/hr	2.92E-03	5.41E-04	2.49E-03	1.98E-03
mg/dscm	5.42E-03	1.05E-03	4.73E-03	3.73E-03

Compound: Mercury Back Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.0155265	0.0030125	0.0133695	1.06E-02
lb / Dry Long Tons of Pellets Processed	8.23E-06	1.51E-06	7.01E-06	5.58E-06
lb/hr	2.92E-03	5.37E-04	2.49E-03	1.98E-03
mg/dscm	5.41E-03	1.05E-03	4.72E-03	3.73E-03

Compound: Mercury Front Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.00002	0.00002	0.00002	2.00E-05
lb / Dry Long Tons of Pellets Processed	1.06E-08	1.00E-08	1.05E-08	1.04E-08
lb/hr	3.76E-06	3.57E-06	3.72E-06	3.68E-06
mg/dscm	6.98E-06	6.94E-06	7.07E-06	7.00E-06

Compound: Nickel

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000579	0.001726	0.000617	9.74E-04
lb / Dry Long Tons of Pellets Processed	3.07E-07	8.65E-07	3.24E-07	4.99E-07
lb/hr	1.09E-04	3.08E-04	1.15E-04	1.77E-04
mg/dscm	2.02E-04	5.99E-04	2.18E-04	3.40E-04

Compound: Nickel Back Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000003	0.000365	0.000091	1.53E-04
lb / Dry Long Tons of Pellets Processed	1.59E-09	1.83E-07	4.76E-08	7.74E-08
lb/hr	5.64E-07	6.51E-05	1.69E-05	2.75E-05
mg/dscm	1.05E-06	1.27E-04	3.22E-05	5.34E-05

Compound: Nickel Front Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.000576	0.001361	0.000526	8.21E-04
lb / Dry Long Tons of Pellets Processed	3.04E-07	6.83E-07	2.75E-07	4.21E-07

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lb/hr	1.08E-04	2.43E-04	9.78E-05	1.50E-04
mg/dscm	2.01E-04	4.72E-04	1.86E-04	2.86E-04

Compound: Phosphorus (yellow or white)

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.00748	0.00693	0.01161	8.67E-03
lb / Dry Long Tons of Pellets Processed	3.97E-06	3.48E-06	6.08E-06	4.51E-06
lb/hr	1.41E-03	1.24E-03	2.16E-03	1.60E-03
mg/dscm	2.61E-03	2.40E-03	4.10E-03	3.04E-03

Compound: Phosphorus (yellow or white) Back

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.00027	0.00027	0.0046	1.71E-03
lb / Dry Long Tons of Pellets Processed	1.43E-07	1.35E-07	2.41E-06	8.96E-07
lb/hr	5.07E-05	4.81E-05	8.56E-04	3.18E-04
mg/dscm	9.42E-05	9.37E-05	1.63E-03	6.06E-04

Compound: Phosphorus (yellow or white) Front

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.00721	0.00666	0.00701	6.96E-03
lb / Dry Long Tons of Pellets Processed	3.80E-06	3.34E-06	3.66E-06	3.60E-06
lb/hr	1.35E-03	1.19E-03	1.30E-03	1.28E-03
mg/dscm	2.51E-03	2.31E-03	2.48E-03	2.43E-03

Compound: Selenium

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.00647	0.007015	0.00619	6.56E-03
lb / Dry Long Tons of Pellets Processed	3.44E-06	3.51E-06	3.24E-06	3.40E-06
lb/hr	1.22E-03	1.25E-03	1.15E-03	1.21E-03
mg/dscm	2.26E-03	2.43E-03	2.19E-03	2.29E-03

Compound: Selenium Back Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.003	0.003905	0.00298	3.30E-03
lb / Dry Long Tons of Pellets Processed	1.59E-06	1.96E-06	1.56E-06	1.70E-06
lb/hr	5.64E-04	6.96E-04	5.54E-04	6.05E-04
mg/dscm	1.05E-03	1.35E-03	1.05E-03	1.15E-03

Compound: Selenium Front Half

	Average			Reg Limit
RunNumber	1	2	3	
Mass_mg	0.00347	0.00311	0.00321	3.26E-03
lb / Dry Long Tons of Pellets Processed	1.84E-06	1.56E-06	1.68E-06	1.69E-06

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lb/hr	6.52E-04	5.54E-04	5.97E-04	6.01E-04
mg/dscm	1.21E-03	1.08E-03	1.13E-03	1.14E-03
Location: SV024/CE025 - Method 3A CO2				
Compound: Carbon Dioxide				
			Average	Reg Limit
Run	1	2	3	
Percent(%)	9.91E-01	9.68E-01	9.98E-01	9.86E-01
Location: SV024/CE025 - Method 3A CO2 3				
Compound: Carbon Dioxide				
			Average	Reg Limit
Run	4	5	6	
Percent(%)	9.54E-01	9.20E-01	9.36E-01	9.37E-01
Location: SV024/CE025 - Method 3A O2				
Compound: Oxygen				
			Average	Reg Limit
Run	1	2	3	
Percent(%)	1.90E+01	1.90E+01	1.90E+01	1.90E+01
Location: SV024/CE025 - Method 3A O2 3				
Compound: Oxygen				
			Average	Reg Limit
Run	4	5	6	
Percent(%)	1.89E+01	1.90E+01	1.89E+01	1.89E+01

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Process Run Data

Process:	Pellets Processed				SCC:	30302381
Comment:						
Run	Value	Unit of Measure	Target Low	Target High	Comment	
1	348	Dry Long Tons/hr	0	384	SV021, SV023 M29	
2	351	Dry Long Tons/hr	0	384	SV021, SV023 M29	
3	354	Dry Long Tons/hr	0	384	SV021, SV023 M29	
4	355	Dry Long Tons/hr	0	384	SV022, SV024 M29	
5	356	Dry Long Tons/hr	0	384	SV022, SV024 M29	
6	355	Dry Long Tons/hr	0	384	SV022, SV024 M29	
7	355	Dry Long Tons/hr	0	384	SV021, SV023 M26	
8	355	Dry Long Tons/hr	0	384	SV021, SV023 M26	
9	355	Dry Long Tons/hr	0	384	SV021, SV023 M26	
10	348	Dry Long Tons/hr	0	384	SV022, SV024 M26	
11	351	Dry Long Tons/hr	0	384	SV022, SV024 M26	
12	354	Dry Long Tons/hr	0	384	SV022, SV024 M26	
Process:	Binder Added				SCC:	
Comment:	Pounds of binder (bentonite) per long ton green feed					
Run	Value	Unit of Measure	Target Low	Target High	Comment	
1	13	Pounds/hr	0	0	SV021, SV023 M29 (Pounds of binder (bentonite) per long ton green feed)	
2	13	Pounds/hr	0	0	SV021, SV023 M29 (Pounds of binder (bentonite) per long ton green feed)	
3	13	Pounds/hr	0	0	SV021, SV023 M29 (Pounds of binder (bentonite) per long ton green feed)	
4	13	Pounds/hr	0	0	SV022, SV024 M29 (Pounds of binder (bentonite) per long ton green feed)	
5	13	Pounds/hr	0	0	SV022, SV024 M29 (Pounds of binder (bentonite) per long ton green feed)	
6	13	Pounds/hr	0	0	SV022, SV024 M29 (Pounds of binder (bentonite) per long ton green feed)	
7	13	Pounds/hr	0	0	SV021, SV023 M26 (Pounds of binder (bentonite) per long ton green feed)	
8	13	Pounds/hr	0	0	SV021, SV023 M26 (Pounds of binder (bentonite) per long ton green feed)	
9	13	Pounds/hr	0	0	SV021, SV023 M26 (Pounds of binder (bentonite) per long ton green feed)	
10	13	Pounds/hr	0	0	SV022, SV024 M26 (Pounds of binder (bentonite) per long ton green feed)	
11	13	Pounds/hr	0	0	SV022, SV024 M26 (Pounds of binder (bentonite) per long ton green feed)	
12	13	Pounds/hr	0	0	SV022, SV024 M26 (Pounds of binder (bentonite) per long ton green feed)	
Process:	Natural Gas Burned				SCC:	
Comment:						
Run	Value	Unit of Measure	Target Low	Target High	Comment	
1	132	1000 Cubic Feet/hr	0	0	SV021, SV023 M29	
2	130	1000 Cubic Feet/hr	0	0	SV021, SV023 M29	

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3	129	1000 Cubic Feet/hr	0	0	SV021, SV023 M29
4	125	1000 Cubic Feet/hr	0	0	SV022, SV024 M29
5	126	1000 Cubic Feet/hr	0	0	SV022, SV024 M29
6	127	1000 Cubic Feet/hr	0	0	SV022, SV024 M29
7	125	1000 Cubic Feet/hr	0	0	SV021, SV023 M26
8	126	1000 Cubic Feet/hr	0	0	SV021, SV023 M26
9	127	1000 Cubic Feet/hr	0	0	SV021, SV023 M26
10	125	1000 Cubic Feet/hr	0	0	SV022, SV024 M26
11	130	1000 Cubic Feet/hr	0	0	SV022, SV024 M26
12	129	1000 Cubic Feet/hr	0	0	SV022, SV024 M26

APCD Run Data

APCD: SCRUBBER					
Comment:					
Run	Value	Unit of Measure	Target Value	Comment	
1	0	in H2O	3.4	NA	
1	427	gpm	399	M29 SV021	
1	419	gpm	401	M29 SV023	
1	4.4	in H2O	3.1	M29 SV023	
1	4.2	in H2O	2.7	M29 SV021	
1	0	gpm	400	NA	
1	0	in H2O	2.6	NA	
1	0	gpm	400	NA	
2	4.3	in H2O	2.7	M29 SV021	
2	414	gpm	401	M29 SV023	
2	0	gpm	400	NA	
2	0	gpm	400	NA	
2	0	in H2O	2.6	NA	
2	4.4	in H2O	3.1	M29 SV023	
2	418	gpm	399	M29 SV021	
2	0	in H2O	3.4	NA	
3	0	gpm	400	NA	
3	416	gpm	401	M29 SV023	
3	0	in H2O	2.6	NA	
3	4.4	in H2O	3.1	M29 SV023	
3	4.3	in H2O	2.7	M29 SV021	
3	414	gpm	399	M29 SV021	
3	0	in H2O	3.4	NA	
3	0	gpm	400	NA	
4	0	in H2O	3.1	NA	
4	0	in H2O	2.7	NA	
4	0	gpm	399	NA	
4	4.9	in H2O	3.4	M29 SV024	
4	0	gpm	401	NA	
4	420	gpm	400	M29 SV022	
4	430	gpm	400	M29 SV024	

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4	4.9	in H2O	2.6	M29 SV022
5	0	in H2O	2.7	NA
5	420	gpm	400	M29 SV022
5	0	gpm	401	NA
5	4.9	in H2O	2.6	M29 SV022
5	4.8	in H2O	3.4	M29 SV024
5	0	gpm	399	NA
5	432	gpm	400	M29 SV024
5	0	in H2O	3.1	NA
6	4.8	in H2O	2.6	M29 SV022
6	0	gpm	401	NA
6	432	gpm	400	M29 SV024
6	0	in H2O	2.7	NA
6	0	in H2O	3.1	NA
6	0	gpm	399	NA
6	420	gpm	400	M29 SV022
6	4.8	in H2O	3.4	M29 SV024
7	4.3	in H2O	2.7	M26 SV021
7	0	in H2O	3.4	NA
7	0	in H2O	2.6	NA
7	4.5	in H2O	3.1	M26 SV023
7	0	gpm	400	NA
7	0	gpm	400	NA
7	417	gpm	401	M26 SV023
7	414	gpm	399	M26 SV021
8	0	gpm	400	NA
8	4.3	in H2O	2.7	M26 SV021
8	413	gpm	399	M26 SV021
8	0	in H2O	3.4	NA
8	0	gpm	400	NA
8	4.4	in H2O	3.1	M26 SV023
8	0	in H2O	2.6	NA
8	416	gpm	401	M26 SV023
9	0	gpm	400	NA
9	413	gpm	399	M26 SV021
9	0	gpm	400	NA
9	0	in H2O	3.4	NA
9	0	in H2O	2.6	NA
9	417	gpm	401	M26 SV023
9	4.3	in H2O	2.7	M26 SV021
9	4.4	in H2O	3.1	M26 SV023
10	4.9	in H2O	3.4	M26 SV024
10	429	gpm	400	M26 SV024
10	0	in H2O	2.7	NA
10	0	in H2O	3.1	NA
10	0	gpm	399	NA

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10	4.9	in H2O	2.6	M26 SV022
10	414	gpm	400	M26 SV022
10	0	gpm	401	NA
11	0	gpm	399	NA
11	0	in H2O	2.7	NA
11	421	gpm	400	M26 SV022
11	4.9	in H2O	2.6	M26 SV022
11	0	gpm	401	NA
11	0	in H2O	3.1	NA
11	425	gpm	400	M26 SV024
11	4.9	in H2O	3.4	M26 SV024
12	0	in H2O	2.7	NA
12	0	gpm	399	NA
12	421	gpm	400	M26 SV022
12	4.8	in H2O	3.4	M26 SV024
12	0	gpm	401	NA
12	0	in H2O	3.1	NA
12	428	gpm	400	M26 SV024
12	4.9	in H2O	2.6	M26 SV022

Process Lab Run Data

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Sampling / Stack Data Results Detail

Location SV021/CE022 - Method 10				
				Average
Run Number	1	2	3	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	1:31:00 PM	4:58:00 PM	8:15:00 PM	
Carbon Dioxide, %	0.4878	0.3971	0.5505	0.478
Oxygen, %	20.1872	20.2227	20.1848	20.198
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	151169.9	158132.2	156951.9	155,418.000
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	7.2442	7.0476	7.0825	7.125
Analyzer Make	Thermo	Thermo	Thermo	
Analyzer Model	48i	48i	48i	
Analyzer Serial Number	1190772084	1190772084	1190772084	1,190,772,084.000
Operating Range	45.1	45.1	45.1	45.100
Operating Units	ppm	ppm	ppm	
No. Readings/Avg.	156	156	156	156.000
Calibration Set	321	321	321	321.000
Calibration Pre Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Pre Zero Cylinder Instrument Response	0.04	-0.06	-0.09	-0.037
Calibration Pre Zero Cylinder Bias	0.24	0.02	-0.04	0.073
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0098653 - CO MID	EB0098653 - CO MID	EB0098653 - CO MID	
Calibration Pre High Cylinder Instrument Response	23.01	22.9	22.73	22.880
Calibration Pre High Cylinder Bias	-0.2	-0.44	-0.82	-0.487
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Post Zero Cylinder Instrument Response	-0.06	-0.09	-0.11	-0.087
Calibration Post Zero Cylinder Bias	0.02	-0.04	-0.09	-0.037
Calibration Post Zero Cylinder Drift	0.22	0.06	0.05	0.110
Calibration Post High Cylinder ID	EB0098653 - CO MID	EB0098653 - CO MID	EB0098653 - CO MID	
Calibration Post High Cylinder Instrument Response	22.9	22.73	22.69	22.773
Calibration Post High Cylinder Bias	-0.44	-0.82	-0.91	-0.723
Calibration Post High Cylinder Drift	0.24	0.38	9.000000000000001E-02	0.237
Cavg	1.09	0.99	0.92	1.000
Cavg Units	ppmvd	ppmvd	ppmvd	

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Cgas	1.1256	1.0934	1.0509	1.090
Cgas Units	ppmvd	ppmvd	ppmvd	
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000
Cgasw	0	0	0	0.000
Cgasw Units				

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Location SV021/CE022 - Method 26A

				Average
Run Number	1	2	3	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	9:45:00 AM	2:48:00 PM	3:46:00 PM	
Net Traversing Points	24	24	24	
Net Run Time, minutes	120	120	120	
Nozzle Diameter, inches	0.223	0.223	0.223	0.223
Pitot Tube Coefficient	0.84	0.84	0.84	0.840
Dry Gas Meter Calibration Factor	0.9871	0.9871	0.9871	0.987
Barometric Pressure, inches of Mercury	28.46	28.46	28.46	28.460
Average Orifice Meter Differential, inches H2O	2.05	2.00	2.01	2.020
Dry Gas Meter Volume Sampled, cubic feet	98.720	97.800	98.460	98.327
Average Dry Gas Meter Temperature, °F	94.00	95.42	99.38	96.267
Dry Gas Meter Volume Sampled, dscf	88.807	87.743	87.711	88.087
Total Moisture Liquid collected, g	143.4	140.2	140.2	141.267
Volume of Water Vapor, standard cubic feet	6.762	6.611	6.611	6.661
Moisture Content of Stack Gas, %	7.0755	7.0066	7.0090	7.030
Moisture Saturation at Stack Gas Temperature, %	10.57	10.99	10.88	10.813
Dry Mole Fraction	0.9292	0.9299	0.9299	0.930
Carbon Dioxide, %	0.4625	0.4563	0.4922	0.470
Oxygen, %	20.2357	20.1893	20.2274	20.217
Carbon Monoxide & Nitrogen, %	79.3018	79.3544	79.2804	79.312
Fuel Factor	1.44	1.56	1.37	
Dry Molecular Weight, lb/lb-Mole	28.8834	28.8806	28.8878	28.884
Wet Molecular weight, lb/lb-Mole	28.1131	28.1183	28.1254	28.119
Flue Gas Static Pressure, inches of H2O	-0.68	-0.68	-0.68	-0.680
Absolute Flue Gas Pressure, inches of Mercury	28.41	28.41	28.41	28.410
Average Stack Gas Temperature, °F	115.13	116.50	116.17	115.933
Square Root of Average Velocity, inches of H2O	0.9244	0.9119	0.9109	0.916
Average Stack Gas Velocity, feet/second	56.32	55.61	55.53	55.820
Stack Cross-Sectional Area, square feet	59.56	59.56	59.56	59.560
Dry Volumetric Flow Rate, dry scfm	163,017.1	160,700.2	160,561.0	161,426.100
Actual Wet Volumetric Flue Gas Flow Rate, acfm	201,265.2	198,727.9	198,442.0	199,478.367
Percent Isokinetic of Sampling Rate, %	99.7	99.9	100.0	99.867
Percent Excess Air, %	Not Applicable	Not Applicable	Not Applicable	
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Round Duct Diameter, inches	104.5	104.5	104.5	
Rectangular Duct Width, inches				
Rectangular Duct Length, inches				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Fw	0	0	0	0.000
Fc	0	0	0	0.000

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Location SV021/CE022 - Method 29

				Average
Run Number	1	2	3	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	1:31:00 PM	4:58:00 PM	8:15:00 PM	
Net Traversing Points	24	24	24	
Net Run Time, minutes	156	156	156	
Nozzle Diameter, inches	0.223	0.223	0.223	0.223
Pitot Tube Coefficient	0.84	0.84	0.84	0.840
Dry Gas Meter Calibration Factor	0.9871	0.9871	0.9871	0.987
Barometric Pressure, inches of Mercury	28.14	28.14	28.14	28.140
Average Orifice Meter Differential, inches H2O	1.81	1.98	1.94	1.910
Dry Gas Meter Volume Sampled, cubic feet	120.650	127.820	126.480	124.983
Average Dry Gas Meter Temperature, °F	92.25	102.54	98.63	97.807
Dry Gas Meter Volume Sampled, dscf	107.594	111.951	111.541	110.362
Total Moisture Liquid collected, g	178.2	180.0	180.3	179.500
Volume of Water Vapor, standard cubic feet	8.403	8.488	8.502	8.464
Moisture Content of Stack Gas, %	7.2442	7.0476	7.0825	7.125
Moisture Saturation at Stack Gas Temperature, %	10.13	10.45	10.84	10.473
Dry Mole Fraction	0.9276	0.9295	0.9292	0.929
Carbon Dioxide, %	0.4878	0.3971	0.5505	0.478
Oxygen, %	20.1872	20.2227	20.1848	20.198
Carbon Monoxide & Nitrogen, %	79.325	79.3802	79.2647	79.323
Fuel Factor	1.46	1.71	1.30	
Dry Molecular Weight, lb/lb-Mole	28.8855	28.8724	28.8955	28.884
Wet Molecular weight, lb/lb-Mole	28.0992	28.1065	28.1256	28.110
Flue Gas Static Pressure, inches of H2O	-0.68	-0.68	-0.68	-0.680
Absolute Flue Gas Pressure, inches of Mercury	28.09	28.09	28.09	28.090
Average Stack Gas Temperature, °F	113.25	114.33	115.63	114.403
Square Root of Average Velocity, inches of H2O	0.8621	0.9009	0.8958	0.886
Average Stack Gas Velocity, feet/second	52.75	55.16	54.89	54.267
Stack Cross-Sectional Area, square feet	59.56	59.56	59.56	59.560
Dry Volumetric Flow Rate, dry scfm	151,198.6	158,132.2	156,951.9	155,427.567
Actual Wet Volumetric Flue Gas Flow Rate, acfm	188,507.4	197,119.8	196,154.9	193,927.367
Percent Isokinetic of Sampling Rate, %	100.2	99.7	100.0	99.967
Percent Excess Air, %	Not Applicable	Not Applicable	Not Applicable	
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Round Duct Diameter, inches	104.5	104.5	104.5	
Rectangular Duct Width, inches				
Rectangular Duct Length, inches				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Fw	0	0	0	0.000
Fc	0	0	0	0.000

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Location SV021/CE022 - Method 3A CO2

				Average
Run Number	1	2	3	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	1:31:00 PM	4:58:00 PM	8:15:00 PM	
Carbon Dioxide, %	0.4878	0.3971	0.5505	0.478
Oxygen, %	20.1872	20.2227	20.1848	20.198
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	151198.6	158132.2	156951.9	155,427.567
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	7.2442	7.0476	7.0825	7.125
Analyzer Make	Servomex	Servomex	Servomex	
Analyzer Model	1440	1440	1440	1,440.000
Analyzer Serial Number	5211	5211	5211	5,211.000
Operating Range	9.5	9.5	9.5	9.500
Operating Units	%	%	%	
No. Readings/Avg.	156	156	156	156.000
Calibration Set	221	221	221	221.000
Calibration Pre Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Pre Zero Cylinder Instrument Response	0.08	0.11	-0.06	0.043
Calibration Pre Zero Cylinder Bias	1.16	1.47	-0.32	0.770
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	
Calibration Pre High Cylinder Instrument Response	9.5	9.54	9.37	9.470
Calibration Pre High Cylinder Bias	-1.37	-0.95	-2.74	-1.687
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Post Zero Cylinder Instrument Response	0.11	-0.06	0.05	0.033
Calibration Post Zero Cylinder Bias	1.47	-0.32	0.84	0.663
Calibration Post Zero Cylinder Drift	0.31	1.79	1.16	1.087
Calibration Post High Cylinder ID	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	
Calibration Post High Cylinder Instrument Response	9.54	9.37	9.39	9.433
Calibration Post High Cylinder Bias	-0.95	-2.74	-2.53	-2.073
Calibration Post High Cylinder Drift	0.42	1.79	0.21	0.807
Cavg	0.58	0.42	0.54	0.513
Cavg Units	%vd	%vd	%vd	
Cgas	0.4878	0.3971	0.5505	0.478
Cgas Units	%vd	%vd	%vd	
Fuel Type				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Fw	0	0	0	0.000
Fc	0	0	0	0.000
Cgasw	0	0	0	0.000
Cgasw Units				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Location SV021/CE022 - Method 3A CO2 3

				Average
Run Number	4	5	6	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	9:45:00 AM	12:48:00 PM	3:46:00 PM	
Carbon Dioxide, %	0.4625	0.4563	0.4922	0.470
Oxygen, %	20.2357	20.1893	20.2274	20.217
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	163017.1	160700.2	160763.4	161,493.567
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	7.0755	7.0066	7.009	7.030
Analyzer Make	Servomex	Servomex	Servomex	
Analyzer Model	1440	1440	1440	1,440.000
Analyzer Serial Number	5211	5211	5211	5,211.000
Operating Range	9.5	9.5	9.5	9.500
Operating Units	%	%	%	
No. Readings/Avg.	120	120	120	120.000
Calibration Set	521	521	521	521.000
Calibration Pre Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Pre Zero Cylinder Instrument Response	0.02	0.08	0.03	0.043
Calibration Pre Zero Cylinder Bias	0	0.63	0.11	0.247
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	
Calibration Pre High Cylinder Instrument Response	9.39	9.32	9.28	9.330
Calibration Pre High Cylinder Bias	-0.32	-1.05	-1.47	-0.947
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Post Zero Cylinder Instrument Response	0.08	0.03	0.03	0.047
Calibration Post Zero Cylinder Bias	0.63	0.11	0.11	0.283
Calibration Post Zero Cylinder Drift	0.63	0.52	0	0.383
Calibration Post High Cylinder ID	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	
Calibration Post High Cylinder Instrument Response	9.32	9.28	9.27	9.290
Calibration Post High Cylinder Bias	-1.05	-1.47	-1.58	-1.367
Calibration Post High Cylinder Drift	0.73	0.42	0.11	0.420
Cavg	0.504	0.5	0.51	0.505
Cavg Units	%vd	%vd	%vd	
Cgas	0.4625	0.4563	0.4922	0.470
Cgas Units	%vd	%vd	%vd	
Fuel Type				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Fw	0	0	0	0.000
Fc	0	0	0	0.000
Cgasw	0	0	0	0.000
Cgasw Units				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Location SV021/CE022 - Method 3A O2

				Average
Run Number	1	2	3	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	1:31:00 PM	4:58:00 PM	8:15:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	20.1872	20.2227	20.1848	20.198
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	0	0	0	0.000
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	0	0	0	0.000
Analyzer Make	Servomex	Servomex	Servomex	
Analyzer Model	1440	1440	1440	1,440.000
Analyzer Serial Number	5211	5211	5211	5,211.000
Operating Range	22.5	22.5	22.5	22.500
Operating Units	%	%	%	
No. Readings/Avg.	156	156	156	156.000
Calibration Set	121	121	121	121.000
Calibration Pre Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Pre Zero Cylinder Instrument Response	-0.02	-0.02	0.06	0.007
Calibration Pre Zero Cylinder Bias	-0.09	-0.09	0.27	0.030
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0097773 - O2 MID	EB0097773 - O2 MID	EB0097773 - O2 MID	
Calibration Pre High Cylinder Instrument Response	9.41	9.47	9.47	9.450
Calibration Pre High Cylinder Bias	-0.31	-0.04	-0.04	-0.130
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Post Zero Cylinder Instrument Response	-0.02	0.06	-0.02	0.007
Calibration Post Zero Cylinder Bias	-0.09	0.27	-0.09	0.030
Calibration Post Zero Cylinder Drift	0	0.36	0.36	0.240
Calibration Post High Cylinder ID	EB0097773 - O2 MID	EB0097773 - O2 MID	EB0097773 - O2 MID	
Calibration Post High Cylinder Instrument Response	9.47	9.47	9.53	9.490
Calibration Post High Cylinder Bias	-0.04	-0.04	0.22	0.047
Calibration Post High Cylinder Drift	0.27	0	0.26	0.177
Cavg	20.04	20.094	20.12	20.085
Cavg Units	%vd	%vd	%vd	
Cgas	20.1872	20.2227	20.1848	20.198
Cgas Units	%vd	%vd	%vd	
Fuel Type				

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Fw	0	0	0	0.000
Fc	0	0	0	0.000
Cgasw	0	0	0	0.000
Cgasw Units				

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Location SV021/CE022 - Method 3A O2 3				
				Average
Run Number	4	5	6	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	9:45:00 AM	12:48:00 PM	3:46:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	20.2357	20.1893	20.2274	20.217
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	0	0	0	0.000
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	0	0	0	0.000
Analyzer Make	Servomex	Servomex	Servomex	
Analyzer Model	1440	1440	1440	1,440.000
Analyzer Serial Number	5211	5211	5211	5,211.000
Operating Range	22.5	22.5	22.5	22.500
Operating Units	%	%	%	
No. Readings/Avg.	120	120	120	120.000
Calibration Set	421	421	421	421.000
Calibration Pre Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Pre Zero Cylinder Instrument Response	0	0.02	0.04	0.020
Calibration Pre Zero Cylinder Bias	0.18	0.27	0.36	0.270
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0097773 - O2 MID	EB0097773 - O2 MID	EB0097773 - O2 MID	
Calibration Pre High Cylinder Instrument Response	9.39	9.42	9.36	9.390
Calibration Pre High Cylinder Bias	-0.31	-0.18	-0.44	-0.310
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Post Zero Cylinder Instrument Response	0.02	0.04	0.06	0.040
Calibration Post Zero Cylinder Bias	0.27	0.36	0.44	0.357
Calibration Post Zero Cylinder Drift	0.09	0.09	0.08	0.087
Calibration Post High Cylinder ID	EB0097773 - O2 MID	EB0097773 - O2 MID	EB0097773 - O2 MID	
Calibration Post High Cylinder Instrument Response	9.42	9.36	9.34	9.373
Calibration Post High Cylinder Bias	-0.18	-0.44	-0.53	-0.383
Calibration Post High Cylinder Drift	0.13	0.26	0.09	0.160
Cavg	19.98	19.88	19.81	19.890
Cavg Units	%vd	%vd	%vd	
Cgas	20.2357	20.1893	20.2274	20.217
Cgas Units	%vd	%vd	%vd	
Fuel Type				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Fw	0	0	0	0.000
Fc	0	0	0	0.000
Cgasw	0	0	0	0.000
Cgasw Units				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Location SV022/CE023 - Method 10

				Average
Run Number	1	2	3	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	10:23:00 AM	1:25:00 PM	4:24:00 PM	
Carbon Dioxide, %	0.6662	0.6027	0.7206	0.663
Oxygen, %	19.8764	19.8975	19.9388	19.904
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	166555.3	163608.8	162897.4	164,353.833
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	7.6464	7.6868	7.8483	7.727
Analyzer Make	Thermo	Thermo	Thermo	
Analyzer Model	48i	48i	48i	
Analyzer Serial Number	1190772084	1190772084	1190772084	1,190,772,084.000
Operating Range	45.1	45.1	45.1	45.100
Operating Units	ppm	ppm	ppm	
No. Readings/Avg.	156	156	156	156.000
Calibration Set	322	322	322	322.000
Calibration Pre Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Pre Zero Cylinder Instrument Response	0.14	0.19	0.21	0.180
Calibration Pre Zero Cylinder Bias	0.31	0.42	0.47	0.400
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0098653 - CO MID	EB0098653 - CO MID	EB0098653 - CO MID	
Calibration Pre High Cylinder Instrument Response	22.67	22.7	22.49	22.620
Calibration Pre High Cylinder Bias	-0.95	-0.89	-1.35	-1.063
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Post Zero Cylinder Instrument Response	0.19	0.21	0.25	0.217
Calibration Post Zero Cylinder Bias	0.42	0.47	0.55	0.480
Calibration Post Zero Cylinder Drift	0.11	0.05	8.000000000000001E-02	0.080
Calibration Post High Cylinder ID	EB0098653 - CO MID	EB0098653 - CO MID	EB0098653 - CO MID	
Calibration Post High Cylinder Instrument Response	22.7	22.49	22.57	22.587
Calibration Post High Cylinder Bias	-0.89	-1.35	-1.18	-1.140
Calibration Post High Cylinder Drift	5.999999999999999E-02	0.46	0.17	0.230
Cavg	1.86	1.89	1.964	1.905
Cavg Units	ppmvd	ppmvd	ppmvd	
Cgas	1.7688	1.7734	1.8273	1.790

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Cgas Units	ppmvd	ppmvd	ppmvd	
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000
Cgasw	0	0	0	0.000
Cgasw Units				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Location SV022/CE023 - Method 26A

				Average
Run Number	1	2	3	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	11:31:00 AM	4:13:00 PM	7:39:00 PM	
Net Traversing Points	24	24	24	
Net Run Time, minutes	120	120	120	
Nozzle Diameter, inches	0.23	0.23	0.23	0.230
Pitot Tube Coefficient	0.84	0.84	0.84	0.840
Dry Gas Meter Calibration Factor	1.0104	1.0104	1.0104	1.010
Barometric Pressure, inches of Mercury	28.14	28.14	28.14	28.140
Average Orifice Meter Differential, inches H2O	2.18	2.24	2.17	2.197
Dry Gas Meter Volume Sampled, cubic feet	98.410	102.380	99.770	100.187
Average Dry Gas Meter Temperature, °F	69.60	91.58	88.33	83.170
Dry Gas Meter Volume Sampled, dscf	93.766	93.674	91.811	93.084
Total Moisture Liquid collected, g	161.8	161.4	162.9	162.033
Volume of Water Vapor, standard cubic feet	7.630	7.611	7.682	7.641
Moisture Content of Stack Gas, %	7.5250	7.5144	7.7211	7.587
Moisture Saturation at Stack Gas Temperature, %	11.39	11.68	11.79	11.620
Dry Mole Fraction	0.9248	0.9249	0.9228	0.924
Carbon Dioxide, %	0.6151	0.5937	0.614	0.608
Oxygen, %	19.9406	19.9166	19.8532	19.903
Carbon Monoxide & Nitrogen, %	79.4443	79.4897	79.5328	79.489
Fuel Factor	1.56	1.66	1.70	
Dry Molecular Weight, lb/lb-Mole	28.8960	28.8917	28.8924	28.893
Wet Molecular weight, lb/lb-Mole	28.0786	28.0757	28.0529	28.069
Flue Gas Static Pressure, inches of H2O	-0.67	-0.67	-0.67	-0.670
Absolute Flue Gas Pressure, inches of Mercury	28.09	28.09	28.09	28.090
Average Stack Gas Temperature, °F	117.38	118.29	118.63	118.100
Square Root of Average Velocity, inches of H2O	0.9293	0.9201	0.9080	0.919
Average Stack Gas Velocity, feet/second	57.08	56.57	55.86	56.503
Stack Cross-Sectional Area, square feet	59.56	59.56	59.56	59.560
Dry Volumetric Flow Rate, dry scfm	161,948.5	160,266.1	157,802.5	160,005.700
Actual Wet Volumetric Flue Gas Flow Rate, acfm	203,981.1	202,158.6	199,621.3	201,920.333
Percent Isokinetic of Sampling Rate, %	99.6	100.5	100.1	100.067
Percent Excess Air, %	1,930.9	1,863.7	1,736.2	1,843.600
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Round Duct Diameter, inches	104.5	104.5	104.5	
Rectangular Duct Width, inches				
Rectangular Duct Length, inches				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Fw	0	0	0	0.000
Fc	0	0	0	0.000

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Location SV022/CE023 - Method 29

				Average
Run Number	1	2	3	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	10:23:00 AM	1:25:00 PM	4:24:00 PM	
Net Traversing Points	24	24	24	
Net Run Time, minutes	156	156	156	
Nozzle Diameter, inches	0.223	0.223	0.223	0.223
Pitot Tube Coefficient	0.84	0.84	0.84	0.840
Dry Gas Meter Calibration Factor	1.0104	1.0104	1.0104	1.010
Barometric Pressure, inches of Mercury	28.45	28.45	28.45	28.450
Average Orifice Meter Differential, inches H2O	2.01	2.00	1.98	1.997
Dry Gas Meter Volume Sampled, cubic feet	122.270	122.930	122.440	122.547
Average Dry Gas Meter Temperature, °F	71.13	77.81	74.90	74.613
Dry Gas Meter Volume Sampled, dscf	117.386	116.550	116.711	116.882
Total Moisture Liquid collected, g	206.1	205.8	210.8	207.567
Volume of Water Vapor, standard cubic feet	9.719	9.705	9.940	9.788
Moisture Content of Stack Gas, %	7.6464	7.6868	7.8483	7.727
Moisture Saturation at Stack Gas Temperature, %	11.41	11.20	12.36	11.657
Dry Mole Fraction	0.9235	0.9231	0.9215	0.923
Carbon Dioxide, %	0.6662	0.6027	0.7206	0.663
Oxygen, %	19.8764	19.8975	19.9388	19.904
Carbon Monoxide & Nitrogen, %	79.4574	79.4998	79.3406	79.433
Fuel Factor	1.54	1.66	1.33	
Dry Molecular Weight, lb/lb-Mole	28.9016	28.8923	28.9128	28.902
Wet Molecular weight, lb/lb-Mole	28.0681	28.0553	28.0570	28.060
Flue Gas Static Pressure, inches of H2O	-0.67	-0.67	-0.67	-0.670
Absolute Flue Gas Pressure, inches of Mercury	28.40	28.40	28.40	28.400
Average Stack Gas Temperature, °F	117.83	117.17	120.71	118.570
Square Root of Average Velocity, inches of H2O	0.9522	0.9349	0.9353	0.941
Average Stack Gas Velocity, feet/second	58.20	57.12	57.32	57.547
Stack Cross-Sectional Area, square feet	59.56	59.56	59.56	59.560
Dry Volumetric Flow Rate, dry scfm	166,583.9	163,608.8	162,897.4	164,363.367
Actual Wet Volumetric Flue Gas Flow Rate, acfm	207,983.5	204,124.0	204,838.8	205,648.767
Percent Isokinetic of Sampling Rate, %	99.2	100.3	100.9	100.133
Percent Excess Air, %	1,806.4	1,824.7	1,979.8	1,870.300
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Round Duct Diameter, inches	104.5	104.5	104.5	
Rectangular Duct Width, inches				
Rectangular Duct Length, inches				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Fw	0	0	0	0.000
Fc	0	0	0	0.000

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Location SV022/CE023 - Method 3A CO2

				Average
Run Number	1	2	3	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	10:23:00 AM	1:25:00 PM	4:24:00 PM	
Carbon Dioxide, %	0.6713	0.6058	0.7206	0.666
Oxygen, %	19.8764	19.8975	19.9388	19.904
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	166583.9	163608.8	162897.4	164,363.367
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	7.6464	7.6868	7.8483	7.727
Analyzer Make	Servomex	Servomex	Servomex	
Analyzer Model	1440	1440	1440	1,440.000
Analyzer Serial Number	5211	5211	5211	5,211.000
Operating Range	9.5	9.5	9.5	9.500
Operating Units	%	%	%	
No. Readings/Avg.	156	156	156	156.000
Calibration Set	222	222	222	222.000
Calibration Pre Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Pre Zero Cylinder Instrument Response	0.09	0.07	0.03	0.063
Calibration Pre Zero Cylinder Bias	-0.11	-0.32	-0.74	-0.390
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	
Calibration Pre High Cylinder Instrument Response	9.3	9.36	9.3	9.320
Calibration Pre High Cylinder Bias	-3.16	-2.53	-3.16	-2.950
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Post Zero Cylinder Instrument Response	0.07	0.03	0.06	0.053
Calibration Post Zero Cylinder Bias	-0.32	-0.74	-0.42	-0.493
Calibration Post Zero Cylinder Drift	0.21	0.42	0.32	0.317
Calibration Post High Cylinder ID	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	
Calibration Post High Cylinder Instrument Response	9.36	9.3	9.34	9.333
Calibration Post High Cylinder Bias	-2.53	-3.16	-2.74	-2.810
Calibration Post High Cylinder Drift	0.63	0.63	0.42	0.560
Cavg	0.735	0.643	0.75	0.709
Cavg Units	%vd	%vd	%vd	
Cgas	0.6713	0.6058	0.7206	0.666
Cgas Units	%vd	%vd	%vd	
Fuel Type				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Fw	0	0	0	0.000
Fc	0	0	0	0.000
Cgasw	0	0	0	0.000
Cgasw Units				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Location SV022/CE023 - Method 3A CO2 3

				Average
Run Number	4	5	6	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	11:31:00 AM	4:13:00 PM	7:39:00 PM	
Carbon Dioxide, %	0.6151	0.5937	0.614	0.608
Oxygen, %	19.9406	19.9166	19.8532	19.903
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	161948.5	160266.1	157802.5	160,005.700
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	7.525	7.5144	7.7211	7.587
Analyzer Make	Servomex	Servomex	Servomex	
Analyzer Model	1440	1440	1440	1,440.000
Analyzer Serial Number	5211	5211	5211	5,211.000
Operating Range	9.5	9.5	9.5	9.500
Operating Units	%	%	%	
No. Readings/Avg.	120	120	120	120.000
Calibration Set	522	522	522	522.000
Calibration Pre Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Pre Zero Cylinder Instrument Response	-0.02	0.08	0.02	0.027
Calibration Pre Zero Cylinder Bias	-0.21	0.84	0.21	0.280
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	
Calibration Pre High Cylinder Instrument Response	9.4	9.4	9.35	9.383
Calibration Pre High Cylinder Bias	0	0	-0.53	-0.177
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Post Zero Cylinder Instrument Response	0.1	0.02	0.04	0.053
Calibration Post Zero Cylinder Bias	1.05	0.21	0.42	0.560
Calibration Post Zero Cylinder Drift	1.26	0.63	0.21	0.700
Calibration Post High Cylinder ID	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	
Calibration Post High Cylinder Instrument Response	9.39	9.35	9.36	9.367
Calibration Post High Cylinder Bias	-0.11	-0.53	-0.42	-0.353
Calibration Post High Cylinder Drift	0.11	0.53	0.11	0.250
Cavg	0.647	0.634	0.634	0.638
Cavg Units	%vd	%vd	%vd	
Cgas	0.6151	0.5937	0.614	0.608
Cgas Units	%vd	%vd	%vd	
Fuel Type				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Fw	0	0	0	0.000
Fc	0	0	0	0.000
Cgasw	0	0	0	0.000
Cgasw Units				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Location SV022/CE023 - Method 3A O2

				Average
Run Number	1	2	3	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	10:23:00 AM	1:25:00 PM	4:24:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	19.8764	19.8975	19.9388	19.904
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	0	0	0	0.000
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	0	0	0	0.000
Analyzer Make	Servomex	Servomex	Servomex	
Analyzer Model	1440	1440	1440	1,440.000
Analyzer Serial Number	5211	5211	5211	5,211.000
Operating Range	22.5	22.5	22.5	22.500
Operating Units	%	%	%	
No. Readings/Avg.	156	156	156	156.000
Calibration Set	122	122	122	122.000
Calibration Pre Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Pre Zero Cylinder Instrument Response	0.14	0.02	0.12	0.093
Calibration Pre Zero Cylinder Bias	0.62	0.09	0.53	0.413
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0097773 - O2 MID	EB0097773 - O2 MID	EB0097773 - O2 MID	
Calibration Pre High Cylinder Instrument Response	9.33	9.27	9.3	9.300
Calibration Pre High Cylinder Bias	-0.76	-1.02	-0.89	-0.890
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Post Zero Cylinder Instrument Response	0.02	0.12	0.02	0.053
Calibration Post Zero Cylinder Bias	0.09	0.53	0.09	0.237
Calibration Post Zero Cylinder Drift	0.53	0.44	0.44	0.470
Calibration Post High Cylinder ID	EB0097773 - O2 MID	EB0097773 - O2 MID	EB0097773 - O2 MID	
Calibration Post High Cylinder Instrument Response	9.27	9.3	9.27	9.280
Calibration Post High Cylinder Bias	-1.02	-0.89	-1.02	-0.977
Calibration Post High Cylinder Drift	0.26	0.13	0.13	0.173
Cavg	19.33	19.33	19.37	19.343
Cavg Units	%vd	%vd	%vd	
Cgas	19.8764	19.8975	19.9388	19.904
Cgas Units	%vd	%vd	%vd	
Fuel Type				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Fw	0	0	0	0.000
Fc	0	0	0	0.000
Cgasw	0	0	0	0.000
Cgasw Units				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Location SV022/CE023 - Method 3A O2 3

				Average
Run Number	4	5	6	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	11:31:00 AM	4:13:00 PM	7:39:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	19.9406	19.9166	19.8532	19.903
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	0	0	0	0.000
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	0	0	0	0.000
Analyzer Make	Servomex	Servomex	Servomex	
Analyzer Model	1440	1440	1440	1,440.000
Analyzer Serial Number	5211	5211	5211	5,211.000
Operating Range	22.5	22.5	22.5	22.500
Operating Units	%	%	%	
No. Readings/Avg.	120	120	120	120.000
Calibration Set	422	422	422	422.000
Calibration Pre Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Pre Zero Cylinder Instrument Response	-0.02	0.03	-0.01	0.000
Calibration Pre Zero Cylinder Bias	-0.09	0.13	-0.04	0.000
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0097773 - O2 MID	EB0097773 - O2 MID	EB0097773 - O2 MID	
Calibration Pre High Cylinder Instrument Response	9.32	9.4	9.3	9.340
Calibration Pre High Cylinder Bias	-0.8	-0.44	-0.89	-0.710
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Post Zero Cylinder Instrument Response	0.03	-0.01	-0.07	-0.017
Calibration Post Zero Cylinder Bias	0.13	-0.04	-0.31	-0.073
Calibration Post Zero Cylinder Drift	0.22	0.17	0.27	0.220
Calibration Post High Cylinder ID	EB0097773 - O2 MID	EB0097773 - O2 MID	EB0097773 - O2 MID	
Calibration Post High Cylinder Instrument Response	9.4	9.3	9.35	9.350
Calibration Post High Cylinder Bias	-0.44	-0.89	-0.67	-0.667
Calibration Post High Cylinder Drift	0.36	0.45	0.22	0.343
Cavg	19.6	19.55	19.49	19.547
Cavg Units	%vd	%vd	%vd	
Cgas	19.9406	19.9166	19.8532	19.903
Cgas Units	%vd	%vd	%vd	
Fuel Type				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Fw	0	0	0	0.000
Fc	0	0	0	0.000
Cgasw	0	0	0	0.000
Cgasw Units				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Location SV023/CE024 - Method 10

				Average
Run Number	1	2	3	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	1:31:00 PM	4:58:00 PM	8:15:00 PM	
Carbon Dioxide, %	0.8942	0.8522	0.89	0.879
Oxygen, %	19.303	19.3695	19.2674	19.313
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	136026	137530.5	138941	137,499.167
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	9.7261	9.8706	9.6744	9.757
Analyzer Make	Thermo	Thermo	Thermo	
Analyzer Model	48i	48i	48i	
Analyzer Serial Number	CM10140019	CM10140019	CM10140019	
Operating Range	45.1	45.1	45.1	45.100
Operating Units	ppm	ppm	ppm	
No. Readings/Avg.	156	156	156	156.000
Calibration Set	323	323	323	323.000
Calibration Pre Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Pre Zero Cylinder Instrument Response	0.14	0.07	0.09	0.100
Calibration Pre Zero Cylinder Bias	0.31	0.16	0.2	0.223
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0098653 - CO MID	EB0098653 - CO MID	EB0098653 - CO MID	
Calibration Pre High Cylinder Instrument Response	23.08	22.93	22.82	22.943
Calibration Pre High Cylinder Bias	0.18	-0.16	-0.4	-0.127
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Post Zero Cylinder Instrument Response	0.07	0.09	0.05	0.070
Calibration Post Zero Cylinder Bias	0.16	0.2	0.11	0.157
Calibration Post Zero Cylinder Drift	0.15	0.04	0.09	0.093
Calibration Post High Cylinder ID	EB0098653 - CO MID	EB0098653 - CO MID	EB0098653 - CO MID	
Calibration Post High Cylinder Instrument Response	22.93	22.82	22.84	22.863
Calibration Post High Cylinder Bias	-0.16	-0.4	-0.35	-0.303
Calibration Post High Cylinder Drift	0.34	0.24	0.05	0.210
Cavg	3.28	3.02	3.11	3.137
Cavg Units	ppmvd	ppmvd	ppmvd	
Cgas	3.2582	3.0309	3.1388	3.143
Cgas Units	ppmvd	ppmvd	ppmvd	
Fuel Type				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Fw	0	0	0	0.000
Fc	0	0	0	0.000
Cgasw	0	0	0	0.000
Cgasw Units				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Location SV023/CE024 - Method 26A

				Average
Run Number	1	2	3	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	9:45:00 AM	12:48:00 PM	3:46:00 PM	
Net Traversing Points	24	24	24	
Net Run Time, minutes	120	120	120	
Nozzle Diameter, inches	0.23	0.23	0.23	0.230
Pitot Tube Coefficient	0.84	0.84	0.84	0.840
Dry Gas Meter Calibration Factor	0.9979	0.9979	0.9979	0.998
Barometric Pressure, inches of Mercury	28.46	28.46	28.46	28.460
Average Orifice Meter Differential, inches H2O	1.67	1.61	1.65	1.643
Dry Gas Meter Volume Sampled, cubic feet	87.230	86.490	87.460	87.060
Average Dry Gas Meter Temperature, °F	74.92	83.29	81.38	79.863
Dry Gas Meter Volume Sampled, dscf	82.080	80.117	81.310	81.169
Total Moisture Liquid collected, g	185.1	180.5	170.8	178.800
Volume of Water Vapor, standard cubic feet	8.729	8.512	8.054	8.432
Moisture Content of Stack Gas, %	9.6125	9.6041	9.0126	9.410
Moisture Saturation at Stack Gas Temperature, %	19.35	20.33	20.75	20.143
Dry Mole Fraction	0.9039	0.9040	0.9099	0.906
Carbon Dioxide, %	0.7887	0.7765	0.7917	0.786
Oxygen, %	19.2227	19.2334	19.27	19.242
Carbon Monoxide & Nitrogen, %	79.9886	79.9901	79.9383	79.972
Fuel Factor	2.13	2.15	2.06	
Dry Molecular Weight, lb/lb-Mole	28.8951	28.8936	28.8975	28.895
Wet Molecular weight, lb/lb-Mole	27.8500	27.8500	27.9175	27.873
Flue Gas Static Pressure, inches of H2O	-0.7	-0.7	-0.7	-0.700
Absolute Flue Gas Pressure, inches of Mercury	28.41	28.41	28.41	28.410
Average Stack Gas Temperature, °F	137.46	139.38	140.17	139.003
Square Root of Average Velocity, inches of H2O	0.8386	0.8149	0.8179	0.824
Average Stack Gas Velocity, feet/second	52.31	50.92	51.08	51.437
Stack Cross-Sectional Area, square feet	59.56	59.56	59.56	59.560
Dry Volumetric Flow Rate, dry scfm	141,779.7	137,585.2	138,735.3	139,366.733
Actual Wet Volumetric Flue Gas Flow Rate, acfm	186,935.0	181,967.7	182,539.5	183,814.067
Percent Isokinetic of Sampling Rate, %	99.6	100.2	100.8	100.200
Percent Excess Air, %	1,014.8	1,020.9	1,050.9	1,028.867
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Round Duct Diameter, inches	104.5	104.5	104.5	
Rectangular Duct Width, inches				
Rectangular Duct Length, inches				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Fw	0	0	0	0.000
Fc	0	0	0	0.000

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022

Location SV023/CE024 - Method 29

				Average
Run Number	1	2	3	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	1:31:00 PM	4:58:00 PM	8:15:00 PM	
Net Traversing Points	24	24	24	
Net Run Time, minutes	156	156	156	
Nozzle Diameter, inches	0.251	0.251	0.251	0.251
Pitot Tube Coefficient	0.84	0.84	0.84	0.840
Dry Gas Meter Calibration Factor	0.9979	0.9979	0.9979	0.998
Barometric Pressure, inches of Mercury	28.14	28.14	28.14	28.140
Average Orifice Meter Differential, inches H2O	2.23	2.37	2.41	2.337
Dry Gas Meter Volume Sampled, cubic feet	131.690	138.270	140.100	136.687
Average Dry Gas Meter Temperature, °F	77.90	97.29	97.94	91.043
Dry Gas Meter Volume Sampled, dscf	122.026	123.708	125.212	123.649
Total Moisture Liquid collected, g	278.8	287.3	284.4	283.500
Volume of Water Vapor, standard cubic feet	13.147	13.548	13.411	13.369
Moisture Content of Stack Gas, %	9.7261	9.8706	9.6744	9.757
Moisture Saturation at Stack Gas Temperature, %	20.63	21.74	21.01	21.127
Dry Mole Fraction	0.9027	0.9013	0.9033	0.902
Carbon Dioxide, %	0.8942	0.8522	0.89	0.879
Oxygen, %	19.303	19.3188	19.2674	19.296
Carbon Monoxide & Nitrogen, %	79.8028	79.829	79.8426	79.825
Fuel Factor	1.79	1.86	1.83	
Dry Molecular Weight, lb/lb-Mole	28.9152	28.9091	28.9131	28.912
Wet Molecular weight, lb/lb-Mole	27.8539	27.8340	27.8600	27.849
Flue Gas Static Pressure, inches of H2O	-0.71	-0.71	-0.71	-0.710
Absolute Flue Gas Pressure, inches of Mercury	28.09	28.09	28.09	28.090
Average Stack Gas Temperature, °F	139.50	141.54	140.21	140.417
Square Root of Average Velocity, inches of H2O	0.8116	0.8229	0.8290	0.821
Average Stack Gas Velocity, feet/second	51.00	51.82	52.12	51.647
Stack Cross-Sectional Area, square feet	59.56	59.56	59.56	59.560
Dry Volumetric Flow Rate, dry scfm	136,026.0	137,530.5	138,941.0	137,499.167
Actual Wet Volumetric Flue Gas Flow Rate, acfm	182,253.6	185,184.0	186,256.0	184,564.533
Percent Isokinetic of Sampling Rate, %	99.7	99.9	100.1	99.900
Percent Excess Air, %	1,093.7	1,100.1	1,063.9	1,085.900
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Round Duct Diameter, inches	104.5	104.5	104.5	
Rectangular Duct Width, inches				
Rectangular Duct Length, inches				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Fw	0	0	0	0.000
Fc	0	0	0	0.000

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Location SV023/CE024 - Method 3A CO2

				Average
Run Number	1	2	3	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	1:31:00 PM	4:58:00 PM	8:15:00 PM	
Carbon Dioxide, %	0.8942	0.8522	0.89	0.879
Oxygen, %	19.303	19.3695	19.2674	19.313
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	136026	137530.5	138941	137,499.167
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	9.7261	9.8706	9.6744	9.757
Analyzer Make	Servomex	Servomex	Servomex	
Analyzer Model	1440	1440	1440	1,440.000
Analyzer Serial Number	5048	5048	5048	5,048.000
Operating Range	9.5	9.5	9.5	9.500
Operating Units	%	%	%	
No. Readings/Avg.	156	156	156	156.000
Calibration Set	223	223	223	223.000
Calibration Pre Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Pre Zero Cylinder Instrument Response	-0.05	0.05	-0.01	-0.003
Calibration Pre Zero Cylinder Bias	-0.53	0.53	-0.11	-0.037
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	
Calibration Pre High Cylinder Instrument Response	9.38	9.49	9.46	9.443
Calibration Pre High Cylinder Bias	-0.21	0.95	0.63	0.457
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Post Zero Cylinder Instrument Response	0.05	-0.01	0.01	0.017
Calibration Post Zero Cylinder Bias	0.53	-0.11	0.11	0.177
Calibration Post Zero Cylinder Drift	1.06	0.64	0.22	0.640
Calibration Post High Cylinder ID	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	
Calibration Post High Cylinder Instrument Response	9.49	9.46	9.5	9.483
Calibration Post High Cylinder Bias	0.95	0.63	1.05	0.877
Calibration Post High Cylinder Drift	1.16	0.32	0.42	0.633
Cavg	0.89	0.87	0.89	0.883
Cavg Units	%vd	%vd	%vd	
Cgas	0.8942	0.8522	0.89	0.879
Cgas Units	%vd	%vd	%vd	
Fuel Type				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Fw	0	0	0	0.000
Fc	0	0	0	0.000
Cgasw	0	0	0	0.000
Cgasw Units				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Location SV023/CE024 - Method 3A CO2 3				
				Average
Run Number	4	5	6	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	9:45:00 AM	12:48:00 PM	3:46:00 PM	
Carbon Dioxide, %	0.7887	0.7765	0.7917	0.786
Oxygen, %	19.2227	19.2227	19.27	19.238
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	141779.7	137585.2	138735.3	139,366.733
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	9.6125	9.6041	9.0126	9.410
Analyzer Make	Servomex	Servomex	Servomex	
Analyzer Model	1440	1440	1440	1,440.000
Analyzer Serial Number	5048	5048	5048	5,048.000
Operating Range	9.5	9.5	9.5	9.500
Operating Units	%	%	%	
No. Readings/Avg.	120	120	120	120.000
Calibration Set	523	523	523	523.000
Calibration Pre Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Pre Zero Cylinder Instrument Response	0	0.06	0.01	0.023
Calibration Pre Zero Cylinder Bias	0	0.63	0.11	0.247
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	
Calibration Pre High Cylinder Instrument Response	9.42	9.39	9.36	9.390
Calibration Pre High Cylinder Bias	-0.84	-1.16	-1.47	-1.157
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Post Zero Cylinder Instrument Response	0.06	0.01	0.03	0.033
Calibration Post Zero Cylinder Bias	0.63	0.11	0.32	0.353
Calibration Post Zero Cylinder Drift	0.63	0.52	0.21	0.453
Calibration Post High Cylinder ID	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	
Calibration Post High Cylinder Instrument Response	9.39	9.36	9.36	9.370
Calibration Post High Cylinder Bias	-1.16	-1.47	-1.47	-1.367
Calibration Post High Cylinder Drift	0.32	0.31	0	0.210
Cavg	0.81	0.8	0.8	0.803
Cavg Units	%vd	%vd	%vd	
Cgas	0.7887	0.7765	0.7917	0.786
Cgas Units	%vd	%vd	%vd	
Fuel Type				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Fw	0	0	0	0.000
Fc	0	0	0	0.000
Cgasw	0	0	0	0.000
Cgasw Units				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Location SV023/CE024 - Method 3A O2

				Average
Run Number	1	2	3	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	1:31:00 PM	4:58:00 PM	8:15:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	19.303	19.3188	19.2674	19.296
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	0	0	0	0.000
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	0	0	0	0.000
Analyzer Make	Servomex	Servomex	Servomex	
Analyzer Model	1440	1440	1440	1,440.000
Analyzer Serial Number	5048	5048	5048	5,048.000
Operating Range	22.5	22.5	22.5	22.500
Operating Units	%	%	%	
No. Readings/Avg.	156	156	156	156.000
Calibration Set	123	123	123	123.000
Calibration Pre Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Pre Zero Cylinder Instrument Response	0.11	0.01	0.06	0.060
Calibration Pre Zero Cylinder Bias	0.49	0.04	0.27	0.267
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0097773 - O2 MID	EB0097773 - O2 MID	EB0097773 - O2 MID	
Calibration Pre High Cylinder Instrument Response	9.51	9.43	9.42	9.453
Calibration Pre High Cylinder Bias	0.04	-0.31	-0.36	-0.210
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Post Zero Cylinder Instrument Response	0.01	0.06	-0.01	0.020
Calibration Post Zero Cylinder Bias	0.04	0.27	-0.04	0.090
Calibration Post Zero Cylinder Drift	0.45	0.23	0.31	0.330
Calibration Post High Cylinder ID	EB0097773 - O2 MID	EB0097773 - O2 MID	EB0097773 - O2 MID	
Calibration Post High Cylinder Instrument Response	9.43	9.42	9.47	9.440
Calibration Post High Cylinder Bias	-0.31	-0.36	-0.13	-0.267
Calibration Post High Cylinder Drift	0.35	0.05	0.23	0.210
Cavg	19.14	19.09	19.09	19.107
Cavg Units	%vd	%vd	%vd	
Cgas	19.303	19.3188	19.2674	19.296
Cgas Units	%vd	%vd	%vd	
Fuel Type				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Fw	0	0	0	0.000
Fc	0	0	0	0.000
Cgasw	0	0	0	0.000
Cgasw Units				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Location SV023/CE024 - Method 3A O2 3

				Average
Run Number	4	5	6	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	9:45:00 AM	12:48:00 PM	3:46:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	19.2227	19.2334	19.27	19.242
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	0	0	0	0.000
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	0	0	0	0.000
Analyzer Make	Servomex	Servomex	Servomex	
Analyzer Model	1440	1440	1440	1,440.000
Analyzer Serial Number	5048	5048	5048	5,048.000
Operating Range	22.5	22.5	22.5	22.500
Operating Units	%	%	%	
No. Readings/Avg.	120	120	120	120.000
Calibration Set	423	423	423	423.000
Calibration Pre Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Pre Zero Cylinder Instrument Response	0.06	0.04	0.04	0.047
Calibration Pre Zero Cylinder Bias	0.27	0.18	0.18	0.210
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0097773 - O2 MID	EB0097773 - O2 MID	EB0097773 - O2 MID	
Calibration Pre High Cylinder Instrument Response	9.43	9.43	9.36	9.407
Calibration Pre High Cylinder Bias	-0.31	-0.31	-0.62	-0.413
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Post Zero Cylinder Instrument Response	0.04	0.04	0.01	0.030
Calibration Post Zero Cylinder Bias	0.18	0.18	0.04	0.133
Calibration Post Zero Cylinder Drift	0.09	0	0.14	0.077
Calibration Post High Cylinder ID	EB0097773 - O2 MID	EB0097773 - O2 MID	EB0097773 - O2 MID	
Calibration Post High Cylinder Instrument Response	9.43	9.36	9.32	9.370
Calibration Post High Cylinder Bias	-0.31	-0.62	-0.8	-0.577
Calibration Post High Cylinder Drift	0	0.31	0.18	0.163
Cavg	18.99	18.94	18.88	18.937
Cavg Units	%vd	%vd	%vd	
Cgas	19.2227	19.2334	19.27	19.242
Cgas Units	%vd	%vd	%vd	
Fuel Type				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Fw	0	0	0	0.000
Fc	0	0	0	0.000
Cgasw	0	0	0	0.000
Cgasw Units				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Location SV024/CE025 - Method 10

				Average
Run Number	1	2	3	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	10:23:00 AM	1:25:00 PM	4:24:00 PM	
Carbon Dioxide, %	0.9912	0.9679	0.9979	0.986
Oxygen, %	18.9688	18.9686	18.9635	18.967
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	143864	137170	140497.2	140,510.400
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	10.5614	10.7017	10.773	10.679
Analyzer Make	Thermo	Thermo	Thermo	
Analyzer Model	48i	48i	48i	
Analyzer Serial Number	1190772084	1190772084	1190772084	1,190,772,084.000
Operating Range	45.1	45.1	45.1	45.100
Operating Units	ppm	ppm	ppm	
No. Readings/Avg.	156	156	156	156.000
Calibration Set	324	324	324	324.000
Calibration Pre Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Pre Zero Cylinder Instrument Response	0.12	0.09	0.09	0.100
Calibration Pre Zero Cylinder Bias	0.27	0.2	0.2	0.223
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0098653 - CO MID	EB0098653 - CO MID	EB0098653 - CO MID	
Calibration Pre High Cylinder Instrument Response	23.03	23.04	23	23.023
Calibration Pre High Cylinder Bias	0.07	0.09	0	0.053
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Post Zero Cylinder Instrument Response	0.09	0.09	0.32	0.167
Calibration Post Zero Cylinder Bias	0.2	0.2	0.71	0.370
Calibration Post Zero Cylinder Drift	0.07	0	0.51	0.193
Calibration Post High Cylinder ID	EB0098653 - CO MID	EB0098653 - CO MID	EB0098653 - CO MID	
Calibration Post High Cylinder Instrument Response	23.04	23	23.4	23.147
Calibration Post High Cylinder Bias	0.09	0	0.89	0.327
Calibration Post High Cylinder Drift	0.02	0.09	0.89	0.333
Cavg	3.98	4.03	4.13	4.047
Cavg Units	ppmvd	ppmvd	ppmvd	
Cgas	3.9713	4.0379	4.0112	4.007
Cgas Units	ppmvd	ppmvd	ppmvd	

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000
Cgasw	0	0	0	0.000
Cgasw Units				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Location SV024/CE025 - Method 26A

				Average
Run Number	1	2	3	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	11:31:00 AM	4:13:00 PM	7:39:00 PM	
Net Traversing Points	24	24	24	
Net Run Time, minutes	120	120	120	
Nozzle Diameter, inches	0.223	0.223	0.223	0.223
Pitot Tube Coefficient	0.84	0.84	0.84	0.840
Dry Gas Meter Calibration Factor	0.9838	0.9838	0.9838	0.984
Barometric Pressure, inches of Mercury	28.14	28.14	28.14	28.140
Average Orifice Meter Differential, inches H2O	1.48	1.49	1.52	1.497
Dry Gas Meter Volume Sampled, cubic feet	86.300	86.500	87.230	86.677
Average Dry Gas Meter Temperature, °F	100.96	105.17	102.42	102.850
Dry Gas Meter Volume Sampled, dscf	75.447	75.060	76.070	75.526
Total Moisture Liquid collected, g	192.0	190.4	189.6	190.667
Volume of Water Vapor, standard cubic feet	9.054	8.978	8.941	8.991
Moisture Content of Stack Gas, %	10.7147	10.6833	10.5175	10.639
Moisture Saturation at Stack Gas Temperature, %	19.34	20.21	19.68	19.743
Dry Mole Fraction	0.8929	0.8932	0.8948	0.894
Carbon Dioxide, %	0.9541	0.92	0.9358	0.937
Oxygen, %	18.9128	18.9587	18.9016	18.924
Carbon Monoxide & Nitrogen, %	80.1331	80.1213	80.1626	80.139
Fuel Factor	2.08	2.11	2.14	
Dry Molecular Weight, lb/lb-Mole	28.9092	28.9055	28.9058	28.907
Wet Molecular weight, lb/lb-Mole	27.7433	27.7430	27.7596	27.749
Flue Gas Static Pressure, inches of H2O	-0.7	-0.7	-0.7	-0.700
Absolute Flue Gas Pressure, inches of Mercury	28.09	28.09	28.09	28.090
Average Stack Gas Temperature, °F	137.00	138.71	137.67	137.793
Square Root of Average Velocity, inches of H2O	0.8333	0.8288	0.8361	0.833
Average Stack Gas Velocity, feet/second	52.36	52.15	52.55	52.353
Stack Cross-Sectional Area, square feet	59.56	59.56	59.56	59.560
Dry Volumetric Flow Rate, dry scfm	138,716.1	137,811.2	139,359.2	138,628.833
Actual Wet Volumetric Flue Gas Flow Rate, acfm	187,113.7	186,363.2	187,792.7	187,089.867
Percent Isokinetic of Sampling Rate, %	99.5	99.7	99.9	99.700
Percent Excess Air, %	843.4	864.4	835.9	847.900
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Round Duct Diameter, inches	104.5	104.5	104.5	
Rectangular Duct Width, inches				
Rectangular Duct Length, inches				

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Fw	0	0	0	0.000
Fc	0	0	0	0.000

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Location SV024/CE025 - Method 29

				Average
Run Number	1	2	3	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	10:23:00 AM	1:25:00 PM	4:24:00 PM	
Net Traversing Points	24	24	24	
Net Run Time, minutes	156	156	156	
Nozzle Diameter, inches	0.223	0.223	0.223	0.223
Pitot Tube Coefficient	0.84	0.84	0.84	0.840
Dry Gas Meter Calibration Factor	0.9838	0.9838	0.9838	0.984
Barometric Pressure, inches of Mercury	28.46	28.46	28.46	28.460
Average Orifice Meter Differential, inches H2O	1.54	1.44	1.51	1.497
Dry Gas Meter Volume Sampled, cubic feet	112.280	113.440	111.570	112.430
Average Dry Gas Meter Temperature, °F	89.96	92.67	93.71	92.113
Dry Gas Meter Volume Sampled, dscf	101.274	101.792	99.944	101.003
Total Moisture Liquid collected, g	253.6	258.7	255.9	256.067
Volume of Water Vapor, standard cubic feet	11.959	12.199	12.067	12.075
Moisture Content of Stack Gas, %	10.5614	10.7017	10.7730	10.679
Moisture Saturation at Stack Gas Temperature, %	20.25	20.51	21.06	20.607
Dry Mole Fraction	0.8944	0.8930	0.8923	0.893
Carbon Dioxide, %	0.9912	0.9679	0.9979	0.986
Oxygen, %	18.9688	18.9686	18.9635	18.967
Carbon Monoxide & Nitrogen, %	80.04	80.0635	80.0386	80.047
Fuel Factor	1.95	2.00	1.94	
Dry Molecular Weight, lb/lb-Mole	28.9173	28.9136	28.9182	28.916
Wet Molecular weight, lb/lb-Mole	27.7663	27.7478	27.7445	27.753
Flue Gas Static Pressure, inches of H2O	-0.7	-0.7	-0.7	-0.700
Absolute Flue Gas Pressure, inches of Mercury	28.41	28.41	28.41	28.410
Average Stack Gas Temperature, °F	139.21	139.71	140.75	139.890
Square Root of Average Velocity, inches of H2O	0.8598	0.8213	0.8425	0.841
Average Stack Gas Velocity, feet/second	53.80	51.43	52.81	52.680
Stack Cross-Sectional Area, square feet	59.56	59.56	59.56	59.560
Dry Volumetric Flow Rate, dry scfm	143,864.0	137,196.7	140,523.8	140,528.167
Actual Wet Volumetric Flue Gas Flow Rate, acfm	192,259.7	183,790.2	188,721.8	188,257.233
Percent Isokinetic of Sampling Rate, %	99.1	104.4	100.1	101.200
Percent Excess Air, %	877.5	874.9	875.2	875.867
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Round Duct Diameter, inches	104.5	104.5	104.5	
Rectangular Duct Width, inches				
Rectangular Duct Length, inches				

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Fw	0	0	0	0.000
Fc	0	0	0	0.000

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

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Location SV024/CE025 - Method 3A CO2				
				Average
Run Number	1	2	3	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	10:23:00 AM	1:25:00 PM	4:24:00 PM	
Carbon Dioxide, %	0.9912	0.9679	0.9979	0.986
Oxygen, %	18.9688	18.9686	18.9635	18.967
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	143864	137196.7	140523.8	140,528.167
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	10.5614	10.7017	10.773	10.679
Analyzer Make	Servomex	Servomex	Servomex	
Analyzer Model	1440	1440	1440	1,440.000
Analyzer Serial Number	5211	5211	5211	5,211.000
Operating Range	9.5	9.5	9.5	9.500
Operating Units	%	%	%	
No. Readings/Avg.	156	156	156	156.000
Calibration Set	224	224	224	224.000
Calibration Pre Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Pre Zero Cylinder Instrument Response	-0.02	0.03	-0.01	0.000
Calibration Pre Zero Cylinder Bias	-0.21	0.32	-0.11	0.000
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	
Calibration Pre High Cylinder Instrument Response	9.33	9.33	9.3	9.320
Calibration Pre High Cylinder Bias	-0.74	-0.74	-1.05	-0.843
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Post Zero Cylinder Instrument Response	0.03	-0.01	-0.01	0.003
Calibration Post Zero Cylinder Bias	0.32	-0.11	-0.11	0.033
Calibration Post Zero Cylinder Drift	0.53	0.43	0	0.320
Calibration Post High Cylinder ID	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	
Calibration Post High Cylinder Instrument Response	9.33	9.3	9.3	9.310
Calibration Post High Cylinder Bias	-0.74	-1.05	-1.05	-0.947
Calibration Post High Cylinder Drift	0	0.31	0	0.103
Cavg	0.98	0.96	0.97	0.970
Cavg Units	%vd	%vd	%vd	
Cgas	0.9912	0.9679	0.9979	0.986
Cgas Units	%vd	%vd	%vd	
Fuel Type				

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Fw	0	0	0	0.000
Fc	0	0	0	0.000
Cgasw	0	0	0	0.000
Cgasw Units				

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Location SV024/CE025 - Method 3A CO2 3

				Average
Run Number	4	5	6	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	11:31:00 AM	4:13:00 PM	7:39:00 PM	
Carbon Dioxide, %	0.9541	0.92	0.9358	0.937
Oxygen, %	18.9128	18.9587	18.9016	18.924
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	138716.1	137811.2	139359.2	138,628.833
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	10.7147	10.6833	10.5175	10.639
Analyzer Make	Servomex	Servomex	Servomex	
Analyzer Model	1440	1440	1440	1,440.000
Analyzer Serial Number	5211	5211	5211	5,211.000
Operating Range	9.5	9.5	9.5	9.500
Operating Units	%	%	%	
No. Readings/Avg.	120	120	120	120.000
Calibration Set	524	524	524	524.000
Calibration Pre Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Pre Zero Cylinder Instrument Response	0.07	0.08	0.07	0.073
Calibration Pre Zero Cylinder Bias	0.74	0.84	0.74	0.773
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	
Calibration Pre High Cylinder Instrument Response	9.32	9.41	9.39	9.373
Calibration Pre High Cylinder Bias	-0.84	0.11	-0.11	-0.280
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Post Zero Cylinder Instrument Response	0.08	0.07	0.09	0.080
Calibration Post Zero Cylinder Bias	0.84	0.74	0.95	0.843
Calibration Post Zero Cylinder Drift	0.1	0.1	0.21	0.137
Calibration Post High Cylinder ID	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	EB0097773 - CO2 HIGH	
Calibration Post High Cylinder Instrument Response	9.41	9.39	9.41	9.403
Calibration Post High Cylinder Bias	0.11	-0.11	0.11	0.037
Calibration Post High Cylinder Drift	0.95	0.22	0.22	0.463
Cavg	1.01	0.98	1	0.997
Cavg Units	%vd	%vd	%vd	
Cgas	0.9541	0.92	0.9358	0.937
Cgas Units	%vd	%vd	%vd	
Fuel Type				

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Fw	0	0	0	0.000
Fc	0	0	0	0.000
Cgasw	0	0	0	0.000
Cgasw Units				

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Location SV024/CE025 - Method 3A O2

				Average
Run Number	1	2	3	
Test Date	5/11/2022	5/11/2022	5/11/2022	
Run Start Time	7:41:00 AM	10:45:00 AM	1:45:00 PM	
Run Finish Time	10:23:00 AM	1:25:00 PM	4:24:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	18.9688	18.9686	18.9635	18.967
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	0	0	0	0.000
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	0	0	0	0.000
Analyzer Make	Thermo	Thermo	Thermo	
Analyzer Model	48i	48i	48i	
Analyzer Serial Number	1190772084	1190772084	1190772084	1,190,772,084.000
Operating Range	22.5	22.5	22.5	22.500
Operating Units	ppm	%	%	
No. Readings/Avg.	156	156	156	156.000
Calibration Set	124	124	124	124.000
Calibration Pre Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Pre Zero Cylinder Instrument Response	-0.02	0.06	0.04	0.027
Calibration Pre Zero Cylinder Bias	-0.09	0.27	0.18	0.120
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0097773 - O2 MID	EB0097773 - O2 MID	EB0097773 - O2 MID	
Calibration Pre High Cylinder Instrument Response	9.37	9.4	9.36	9.377
Calibration Pre High Cylinder Bias	-0.58	-0.44	-0.62	-0.547
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Post Zero Cylinder Instrument Response	0.06	0.04	-0.01	0.030
Calibration Post Zero Cylinder Bias	0.27	0.18	-0.04	0.137
Calibration Post Zero Cylinder Drift	0.36	0.09	0.22	0.223
Calibration Post High Cylinder ID	EB0097773 - O2 MID	EB0097773 - O2 MID	EB0097773 - O2 MID	
Calibration Post High Cylinder Instrument Response	9.4	9.36	9.33	9.363
Calibration Post High Cylinder Bias	-0.44	-0.62	-0.76	-0.607
Calibration Post High Cylinder Drift	0.14	0.18	0.14	0.153
Cavg	18.68	18.64	18.6	18.640
Cavg Units	%vd	%vd	%vd	
Cgas	18.9688	18.9686	18.9635	18.967
Cgas Units	%vd	%vd	%vd	

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Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000
Cgasw	0	0	0	0.000
Cgasw Units				

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Location SV024/CE025 - Method 3A O2 3

				Average
Run Number	4	5	6	
Test Date	5/10/2022	5/10/2022	5/10/2022	
Run Start Time	8:40:00 AM	2:08:00 PM	5:36:00 PM	
Run Finish Time	11:31:00 AM	4:16:00 PM	7:39:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	18.9128	18.9587	18.9016	18.924
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	0	0	0	0.000
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	0	0	0	0.000
Analyzer Make	Thermo	Thermo	Thermo	
Analyzer Model	48i	48i	48i	
Analyzer Serial Number	1190772084	1190772084	1190772084	1,190,772,084.000
Operating Range	22.5	22.5	22.5	22.500
Operating Units	%	%	%	
No. Readings/Avg.	120	120	120	120.000
Calibration Set	424	424	424	424.000
Calibration Pre Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Pre Zero Cylinder Instrument Response	-0.01	0.02	0	0.003
Calibration Pre Zero Cylinder Bias	-0.04	0.09	0	0.017
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0097773 - O2 MID	EB0097773 - O2 MID	EB0097773 - O2 MID	
Calibration Pre High Cylinder Instrument Response	9.32	9.4	9.35	9.357
Calibration Pre High Cylinder Bias	-0.8	-0.44	-0.67	-0.637
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	EB0098963 - N2	EB0098963 - N2	EB0098963 - N2	
Calibration Post Zero Cylinder Instrument Response	0.02	0	-0.08	-0.020
Calibration Post Zero Cylinder Bias	0.09	0	-0.36	-0.090
Calibration Post Zero Cylinder Drift	0.13	0.09	0.36	0.193
Calibration Post High Cylinder ID	EB0097773 - O2 MID	EB0097773 - O2 MID	EB0097773 - O2 MID	
Calibration Post High Cylinder Instrument Response	9.4	9.35	9.42	9.390
Calibration Post High Cylinder Bias	-0.44	-0.67	-0.36	-0.490
Calibration Post High Cylinder Drift	0.36	0.23	0.31	0.300
Cavg	18.59	18.66	18.673	18.641
Cavg Units	%vd	%vd	%vd	
Cgas	18.9128	18.9587	18.9016	18.924
Cgas Units	%vd	%vd	%vd	

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Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000
Cgasw	0	0	0	0.000
Cgasw Units				

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Included Attachments:

Attachments	
Source/Process Flow Diagram	Test Ports Furnace L1 SV021,22,23,24.pdf
EPA Method 1Location Supporting Documentation (Item 9) (optional)	Test Ports Furnace L1 SV021,22,23,24.pdf
EPA Method 1Location Supporting Documentation (Item 9) (optional)	Traverse Points Furnace L1 SV021,22,23,24.pdf
Cyclonic Flow Absence Supporting Documentation (Item 10)	SV021 Cylconic Flow.pdf
Cyclonic Flow Absence Supporting Documentation (Item 10)	SV022 Cylconic Flow.pdf
Cyclonic Flow Absence Supporting Documentation (Item 10)	SV023 Cylconic Flow.pdf
Cyclonic Flow Absence Supporting Documentation (Item 10)	SV024 Cylconic Flow.pdf
Pre-Test Meter Boxes/DGMs Calibrations	M29 SV021.pdf
Pre-Test Meter Boxes/DGMs Calibrations	M29 SV022.pdf
Pre-Test Meter Boxes/DGMs Calibrations	M29 SV023.pdf
Pre-Test Meter Boxes/DGMs Calibrations	M29 SV024.pdf
Post-Test Meter Boxes/DGMs Calibrations	M26 SV021 Post-Test.pdf
Post-Test Meter Boxes/DGMs Calibrations	M26 SV022 Post-Test.pdf
Post-Test Meter Boxes/DGMs Calibrations	M26 SV023 Post-Test.pdf
Post-Test Meter Boxes/DGMs Calibrations	M26 SV024 Post-Test.pdf
Post-Test Meter Boxes/DGMs Calibrations	M29 SV021 Post-Test.pdf
Post-Test Meter Boxes/DGMs Calibrations	M29 SV022 Post-Test.pdf
Post-Test Meter Boxes/DGMs Calibrations	M29 SV023 Post-Test.pdf
Post-Test Meter Boxes/DGMs Calibrations	M29 SV024 Post-Test.pdf
Nozzles Calibrations	M26 SV021 Nozzle.pdf
Nozzles Calibrations	M26 SV022 Nozzle.pdf
Nozzles Calibrations	M26 SV023 Nozzle.pdf
Nozzles Calibrations	M26 SV024 Nozzle.pdf
Nozzles Calibrations	M29 SV021 Nozzle.pdf
Nozzles Calibrations	M29 SV022 Nozzle.pdf
Nozzles Calibrations	M29 SV023 Nozzle.pdf
Nozzles Calibrations	M29 SV024 Nozzle.pdf

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Pitots Calibrations	10-3 Pitot.pdf
Pitots Calibrations	10-5 Pitot.pdf
Pitots Calibrations	10-6.pdf
Pitots Calibrations	10-7.pdf
Pitots Calibrations	10-8 Pitot.pdf
Pitots Calibrations	1001.pdf
Thermocouples Calibrations	10-3.pdf
Thermocouples Calibrations	10-5.pdf
Thermocouples Calibrations	10-6.pdf
Thermocouples Calibrations	10-7.pdf
Thermocouples Calibrations	10-8.pdf
Thermocouples Calibrations	AS-01 Pyro.pdf
Thermocouples Calibrations	AS-01.pdf
Thermocouples Calibrations	AS-02 Pyro.pdf
Thermocouples Calibrations	AS-02.pdf
Thermocouples Calibrations	C-8 4-12-22 Pyro.pdf
Thermocouples Calibrations	C-8-I.pdf
Thermocouples Calibrations	C-8-O.pdf
Thermocouples Calibrations	C-10 Pyro.pdf
Thermocouples Calibrations	C-10-I.pdf
Thermocouples Calibrations	C-10-O.pdf
Thermocouples Calibrations	T-89.pdf
Thermocouples Calibrations	T-108.pdf
Thermocouples Calibrations	TIO-64.pdf
Thermocouples Calibrations	TIO-1261.pdf
Thermocouples Calibrations	TIO-8062.pdf
Thermocouples Calibrations	TIO-9120.pdf
Sampling Locations Dimensions and Point Locations	Test Ports Furnace L1 SV021,22,23,24.pdf
Run Field Data Sheets (raw data sheets for field sampling)	HTC SV021 M5-29.pdf
Run Field Data Sheets (raw data sheets for field sampling)	HTC SV021 M26A.pdf
Run Field Data Sheets (raw data sheets for field sampling)	HTC SV022 M5-29.pdf

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Run Field Data Sheets (raw data sheets for field sampling)	HTC SV022 M26A.pdf
Run Field Data Sheets (raw data sheets for field sampling)	HTC SV023 M5-29.pdf
Run Field Data Sheets (raw data sheets for field sampling)	HTC SV023 M26A.pdf
Run Field Data Sheets (raw data sheets for field sampling)	HTC SV024 M5-29.pdf
Run Field Data Sheets (raw data sheets for field sampling)	HTC SV024 M26A.pdf
Run Field Data Sheets (raw data sheets for field sampling)	HTC M3A SV021-SV023.pdf
Run Field Data Sheets (raw data sheets for field sampling)	HTC M3A SV022-SV024.pdf
Run Field Data Sheets (raw data sheets for field sampling)	HTC M3A-10 SV021-SV023.pdf
Run Field Data Sheets (raw data sheets for field sampling)	HTC M3A-10 SV022-SV024.pdf
Moisture Recovery	HTC SV021 M5-29.pdf
Moisture Recovery	HTC SV021 M26A.pdf
Moisture Recovery	HTC SV022 M5-29.pdf
Moisture Recovery	HTC SV022 M26A.pdf
Moisture Recovery	HTC SV023 M5-29.pdf
Moisture Recovery	HTC SV023 M26A.pdf
Moisture Recovery	HTC SV024 M5-29.pdf
Moisture Recovery	HTC SV024 M26A.pdf
Lab Data (raw data sheets for field and laboratory analysis)	_email2_38614 Barr Engineering M5-29 Packet Rev. 06.21.22.pdf
Lab Data (raw data sheets for field and laboratory analysis)	Enthalpy 26A Report - Full.pdf
Chain-of-Custody	COC.pdf
Laboratory Accreditation Certification	Element One - LA_NELAP_Certificate_Parameter_List_2.pdf
Laboratory Accreditation Certification	Element One - NJ_NELAP_Certificate_u0026_Parameter_30_22_2_.pdf
Laboratory Accreditation Certification	Enthalpy - Durham_Louisiana-DEQ-NELA 063022.pdf
Laboratory Accreditation Certification	Enthalpy - Durham_New-Jersey-DEP-NE 063022-1.pdf
Laboratory Accreditation Certification	Element One - SOP-201 Method 29 and 1.9.pdf

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Laboratory Accreditation Certification	Enthalpy - SOP-312_R15 EPA Methods 2
Laboratory Accreditation Certification	SOP-104 Method 5 Determination of Pa Matter Emissions from Stationary Sourc
Process and APCD Monitor Calibrations	Limestone Process 15 min.pdf
Process and APCD Monitor Calibrations	Process 15 min.pdf
Process and APCD Monitor Calibrations	Process Data.pdf
Calibration Gas Certificates (Item 16)	CO 45.1 EB0099384 Exp 10-11-2029.pdf
Calibration Gas Certificates (Item 16)	CO2 O2 4.86 22.5 EB0097783 Exp 10-03
Calibration Gas Certificates (Item 16)	CO2 O2 9.48 9.52 EB0097773 Exp 02-11
Calibration Gas Certificates (Item 16)	EB0098653.20190909.PDF
Calibration Gas Certificates (Item 16)	Redball EB0098963.pdf
Stratification Test	Stratification.pdf
Example calculations for reported results	HTC M3A SV021.pdf
Example calculations for reported results	HTC M3A SV022.pdf
Example calculations for reported results	HTC M3A SV023.pdf
Example calculations for reported results	HTC M3A SV024.pdf
Example calculations for reported results	HTC M3A-10 SV021.pdf
Example calculations for reported results	HTC M3A-10 SV022.pdf
Example calculations for reported results	HTC M3A-10 SV023.pdf
Example calculations for reported results	HTC M3A-10 SV024.pdf
Example calculations for reported results	HTC M5-29 Isokinetic SV021.pdf
Example calculations for reported results	HTC M5-29 Isokinetic SV022.pdf
Example calculations for reported results	HTC M5-29 Isokinetic SV023.pdf
Example calculations for reported results	HTC M5-29 Isokinetic SV024.pdf
Example calculations for reported results	HTC M26A Isokinetic SV021.pdf
Example calculations for reported results	HTC M26A Isokinetic SV022.pdf
Example calculations for reported results	HTC M26A Isokinetic SV023.pdf
Example calculations for reported results	HTC M26A Isokinetic SV024.pdf
Example calculations for reported results	HTC SV021 M5.pdf
Example calculations for reported results	HTC SV022 M5.pdf

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Example calculations for reported results	HTC SV023 M5.pdf
Example calculations for reported results	HTC SV024 M5.pdf
Example calculations for reported results	HTC SV021 M26A.pdf
Example calculations for reported results	HTC SV022 M26A.pdf
Example calculations for reported results	HTC SV023 M26A.pdf
Example calculations for reported results	HTC SV024 M26A.pdf
Example calculations for reported results	HTC SV021 M29.pdf
Example calculations for reported results	HTC SV022 M29.pdf
Example calculations for reported results	HTC SV023 M29.pdf
Example calculations for reported results	HTC SV024 M29.pdf
Laboratory SOPs	Barr - Gravimetrics.pdf
Laboratory SOPs	Element One - SOP-201 Method 29 and 1.9.pdf
Laboratory SOPs	Enthalpy - SOP-312_R15 EPA Methods 2

Completeness Questions:

Completeness Quality Assessment Questions		
As described in ASTM D7036-12 Standard Practice for Competence of Air Emission Testing Bodies, does the testing firm meet the criteria as an AETB or is the person in charge of the field team a QI for the type of testing conducted? A certificate from an independent organization (e.g., Stack Testing Accreditation council (STAC), California Air Resources Board (CARB), National Environmental Laboratory Accreditation Program (NELAP) or self declaration provides documentation of competence as an AETB.	No	Not required for non-Part 75 testi
Is a description and drawing of test location provided?	Yes	
Has a description of deviations from published test methods been provided, or is there a statement that deviations were not required to obtain data representative of typical facility operation?	Yes	
Is a full description of the process and the unit being tested (including installed controls) provided?	Yes	
Has a detailed discussion of source operating conditions, air pollution control device operations and the representativeness of measurements made during the test been provided?	Yes	

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Were the operating parameters for the tested process unit and associated controls described and reported?	Yes	
Is there an assessment of the validity, representativeness, achievement of DQO's and usability of the data?	Yes	
Have field notes addressing issues that may influence data quality been provided?	No	No field notes provided.
Have the following been included in the report: Dry Gas Meter (DGM) calibrations, pitot tuve and nozzle inspections?	Yes	
Was the Method 1 sample point evaluation included in the report?	Yes	
Were the cyclonic flow checks included in the report?	Yes	
Were the raw sampling data and test sheets included in the report?	Yes	
Did the report include a description and flow diagram of the recovery procedures?	Yes	
Was the laboratory certified/accredited to perform these analyses?	Yes	
Did the report include a complete laboratory report and flow diagram of sample analysis?	Yes	
Were the chain-of-custody forms included in the report?	Yes	
Did the report include a complete description of the instrumental method sampling system?	Yes	
Did the report include calibration gas certifications?	Yes	
Did the report include interference tests?	No	
Were the response time tests included in the report?	No	
Were the calibration error tests included in the report?	Yes	
Did the report include drift tests?	Yes	
Did the report include system bias tests?	Yes	
Were the converter efficiency tests included in the report?	No	Converter efficiency tests not required testing.
Did the report include stratification checks?	No	See stratification check attachment
Did the report include the raw data for the instrumental method?	Yes	

Regulatory Review Questions:

Regulatory Review Quality Assessment Questions

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As described in ASTM D7036-12 Standard Practice for Competence of Air Emission Testing Bodies, does the testing firm meet the criteria as an AETB or is the person in charge of the field team a QI for the type of testing conducted? A certificate from an independent organization (e.g., STAC, CARB, NELAP) or self declaration provides documentation of competence as an AETB.		
Was a representative of the regulatory agency on site during the test?		
Is a description and drawing of test location provided?		
Is there documentation that the source or the test company sought and obtained approval for deviations from the published test method prior to conducting the test or that the tester's assertion that deviations were not required to obtain data representative of operations that are typical for the facility?		
Were all test method deviations acceptable?		
Is a full description of the process and the unit being tested (including installed controls) provided?		
Has a detailed discussion of source operating conditions, air pollution control device operations and the representativeness of measurements made during the test been provided?		
Is there documentation that the required process monitors have been calibrated and that the calibration is acceptable?		
Was the process capacity documented?		
Was the process operating within an appropriate range for the test program objective?		
Were process data concurrent with testing?		
Were data included in the report for all parameters for which limits will be set?		
Did the report discuss the representativeness of the facility operations, control device operation, and the measurements of the target pollutants, and were any changes from published test methods or process and control device monitoring protocols identified?		
Were all sampling issues handled such that data quality was not adversely affected?		
Was the DGM pre-test calibration within the criteria specified by the test method?		
Was the DGM post-test calibration within the criteria specified by the test method?		
Were thermocouple calibrations within method criteria?		
Was the pitot tube inspection acceptable?		
Were nozzle inspections acceptable?		

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Were flow meter calibrations acceptable?		
Were the appropriate number and location of sampling points used?		
Did the cyclonic flow evaluation show the presence of an acceptable average gas flow angle?		
Were all data required by the method recorded?		
Were required leak checks performed and did the checks meet method requirements?		
Was the required minimum sample volume collected?		
Did probe, filter, and impinger exit temperatures meet method criteria (as applicable)?		
Did isokinetic sampling rates meet method criteria?		
Was the sampling time at each point greater than 2 minutes and the same for each point?		
Was the recovery process consistent with the method?		
Were all required blanks collected in the field?		
Where performed, were blank corrections handled per method requirements?		
Were sample volumes clearly marked on the jar or measured and recorded?		
Was the laboratory certified/accredited to perform these analyses?		
Did the laboratory note the sample volume upon receipt?		
If sample loss occurred, was the compensation method used, documented, and approved for the method?		
Were the physical characteristics of the samples (e.g., color, volume, integrity, pH, temperature) recorded and consistent with the method?		
Were sample hold times within method requirements?		
Does the laboratory report document the analytical procedures and techniques?		
Were all laboratory QA requirements documented?		
Were analytical standards required by the method documented?		
Were required laboratory duplicates within acceptable limits?		
Were required spike recoveries within method requirements?		
Were method-specific analytical blanks analyzed?		
If problems occurred during analysis, is there sufficient documentation to conclude that the problems did not adversely affect the sample results?		

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Was the analytical detection limit specified in the test report?		
Is the reported detection limit adequate for the purposes of the test program?		
Do the chain-of-custody forms indicate acceptable management of collected samples between collection and analysis?		
Was a complete description of the sampling system provided?		
Were calibration standards used prior to the end of the expiration date?		
Did calibration standards meet method criteria?		
Did interference checks meet method requirements?		
Was a response time test performed?		
Did calibration error tests meet method requirements?		
Were drift tests performed after each run and did they meet method requirements?		
Did system bias checks meet method requirements?		
Was the NOX converter test acceptable?		
Was a stratification assessment performed?		
Was the duration of each sample run within method criteria?		
Was the appropriate traverse performed during sample collection, or was the probe placed at an appropriate center point (if allowed by the method)?		
Were sample times at each point uniform and did they meet method requirements?		
Were sample lines heated sufficiently to prevent potential adverse data quality issues?		
Was all data required by the method recorded?		

Tester's DQ Assessment:

Comment

7/1/2022

Hibbing Taconite Company Pellet Indurating Furnace Line 1 114 Request Test Results

7/1/2022