

**Final Test Report  
for**

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**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:** Conor McCue  
**Title:** Operations Manager  
**Company:** Cleveland-Cliffs Minorca Mine Inc.  
**Sign Date:** 11/3/2022

**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:** Michael Norstrem  
**Title:** Senior Air Quality Technician  
**Company:** Barr Engineering Co.  
**Sign Date:** 11/2/2022

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**Facility Information:**

Minorca Mine Inc.		
5950 Old US Highway 53		
Virginia	M	55792-
<b>Contact</b>	Jaime Johnson	
<b>Phone:</b>	(218) 305-3337	
<b>Fax:</b>		
<b>Email:</b>	jaime.johnson@clevelandcliffs.com	

**Testing Company:**

Barr Engineering Co.		
3128 14th Ave East		
Hibbing	M	55746-
<b>Contact</b>	Michael Norstrem	
<b>Phone:</b>	(218) 262-8672	
<b>Fax:</b>		
<b>Email:</b>	mnorstrem@barr.com	

<b>Industry/SCC/NAIS</b>	212210	<b>AFS #:</b>		<b>FRS #:</b>	110056954808
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**Air Permit Number:**

13700062-003
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**Permitted Source ID/Name:**

EU 026	Indurating Furnace
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**Permitted Maximum Process Rate:**

400 ltpH
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**Max. Normal Operation Process Rate:**

340 ltpH
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**Target Process Test Rate**

340 ltpH
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<b>SCC / Description</b>	30302382	Industrial Processes - Primary Metal Production - Taconite Iron Ore Processing - Induration: Straight Grate, Gas-fired, Flux Pellets
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**The following state and federal regulations that apply to the proposed testing:**

Part/Sub-Part	Regulation Description	Compound	Limit	Unit
Part 63 Subpart RRRRR	Taconite Ore Processing	Filterable Particulate	0.01	gr/dscf

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

Crude ore from the mine is transferred to the 54-inch primary crusher by haul truck. The crude ore is dumped directly in the primary crusher (EU001) located in Building 002. The gravity fed crusher reduces the boulder-sized pieces of taconite to about 5 ½ - 6 inches, operating like an inverted mortar with a circular motion pestle. Dust generated by dumping and crushing of the crude ore within the Primary Crusher is controlled by a fabric filter baghouse (CE002, SV002) and the conveyor systems material transfer points dust emissions are controlled by a wet scrubber (CE001, SV001). A conveyor belt moves ore from beneath the crusher to a coarse ore stockpile. The ore drops onto a conveyor (EU002), beneath the coarse ore stockpile, for transport into the fine crusher building. These emissions are controlled with a fabric filter baghouse (CE003, SV003). Within the fine crusher, Building 4, the material is reduced to less than 5/8 inch in second-and-third stage crushers. Particulate emissions from the secondary crushers are controlled with wet scrubbers (EU003-EU005, SV004-SV005) and tertiary crushers particulate emissions are also controlled with wet scrubbers (EU007 010, SV006, SV007 and SV008). Ore crushed to the desired size is conveyed to the fine ore stockpile. A traveling conveyor deposits ore on the pile and ensures the ore is blended for increased quality and uniform plant feedstock. Conveyors beneath the fine ore stockpile move the ore to the concentrator building. Particulate emission from the various fine ore drops, underfeed and conveyor transfers in this area (EU006, EU011 and EU012) are controlled with two fabric filter baghouses (CE009-CE010, SV009-SV010) located in the Fine Ore Baghouse building. Once the ore enters the Concentrator, it enters one of the three identical processing lines. First, the ore is fed by conveyor into rod mills, where it is mixed with water to form a slurry, for ease of transport through the remainder of the grinding process. The rod mill reduces the size of the ore particles to about the consistency of sand. Ore discharged from the rod mill is fed into rotating magnetic separator drums called cobbbers, which extract the iron-bearing material from the surrounding silica and rock. This waste silica and rock, called tailings, flows by gravity to

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a classifier that separates the tailings by size. Coarse tailings are trucked to stockpiles and fine tailings are sent to a tailings thickener for partial dewatering and then pumped to the tailings basin.

Following magnetic separation, the ore moves to the ball mills which reduces the ore to a powder. The ore is then passed through a second series of magnetic separators called roughers. The rougher concentrate is size-classified by cyclone separators. The cyclone overflow moves to hydroseparators, where the ultrafine material is rinsed out of the concentrate. Concentrate from the hydroseparators is then pumped to vibrating screens, to size-classify the material to ensure the correct particle size and consistency. The oversize from these screens is fed back into the ball mill for further reduction. The undersized material is fed to the final series of magnetic separators called finishers.

The slurry concentrate moves to the final stage of processing: flotation separation. Through the use of chemicals, air and mechanical agitation, bubbles are formed in each of eight 1,000-cubic-foot flotation cells. The fine particles of silica attach to the bubbles and are removed from the concentration process. Flotation concentrate is pumped back to the concentrate thickeners and the silica from the cells is subjected to additional grinding and flotation. This recovers iron trapped in the froth, which otherwise might be lost in the process.

The flotation concentrate is fed to two concentrate thickeners where partial dewatering of the concentrate occurs. At each stage of the concentration process, waste material is pumped to a tailings thickener and partially dewatered.

Water from the process – about 70,000 gallons a minute – is cleaned and returned to the manufacturing process.

Tailings are pumped to an enclosed basin, where they settle to the bottom, and the clarified water is pumped back to the plant and reused.

Limestone and dolomite, called fluxstone, arrive at Minorca in railroad cars. The fluxstone is then crushed in a slurry much like taconite and ground to a fine powder in the flux grinding plant. The finely-ground slurry is then pumped into a 40-foot diameter slurry holding tank in the concentrator building, where it is mixed with the iron-rich concentrate at a specified rate and ratio.

The fluxed taconite concentrate now undergoes dewatering through a series of disc filters. Water is removed from the concentrate by vacuum on a series of cloth covered discs. What remains on the disc is filter cake containing about 9 percent water and more than 62 percent magnetic iron.

The dewatered filter cake is mixed with bentonite clay used as a binding agent to hold the pellet together through the baking process. Binder transfer into the storage silo (EU018) particulate emissions are controlled with a fabric filter baghouse (CE012, SV012). Particulate emissions from binder blending (EU013) are controlled with a fabric filter baghouse (EU013, SV013). The mixture is then rolled into marble-sized balls on rotating 19-foot diameter discs.

The green, unfired pellets are conveyed to a 13-foot-wide traveling grate and through the indurating furnace.

Greenballs are transferred to a roll conveyor for removal of over and undersize material before entering the furnace.

The green balls are distributed evenly across pallet cars, prior to entry into the pellet furnace. The pallet cars have a layer of fired pellets, called the hearth layer, on the bottom and sides of the car. The hearth layer acts as a buffer between the pallet car and the heat generated through the exothermic conversion of magnetite to hematite. The control device identified as the hearth layer bin scrubber (SV019) controls particulate emission from the hearth layer bin filling and conveyors.

Green balls are dried and heat-hardened at 2,450° F in six, carefully controlled heating and cooling zones in the natural gas fired furnace. The straight grate furnace (EU026) has several distinct zones. The first two stages are updraft and downdraft drying zones. The next zones are the preheat zone and firing zone. The temperature increases as the pellets pass through each zone reaching a peak in the firing zone. The pellets enter the after-firing zone, where the conversion of magnetite to hematite is completed. The last two zones are cooling zones that allow the pellets to be discharged at a temperature of around 120 degrees Fahrenheit.

Heated air discharged from the two cooling zones is recirculated to the drying, preheat and firing zones. Off-gases from the furnaces are vented primarily through two ducts, the hood exhaust that handles the drying and recirculated cooling gases, and the windbox exhaust, which handles the preheat, firing, and after-firing gases. The windbox exhaust flows through a multiclone, which protects the downstream fan, and then enters a common header shared with the hood exhaust stream. The exhaust gases are subsequently divided into four streams which lead to four venturi rod scrubbers (CE014-CE017) and exhaust from individual stacks (SV014-SV017) (EU026). Airflow, NOX and SO2 monitors are located at each of the indurating furnace exhaust stacks (SV014-SV017).

Fired pellets are discharged from the furnace onto conveyors. The particulate emissions from this operation (EU027-EU028) are controlled with a wet scrubber identified as the machine discharge scrubber (CE018, SV018). The fired pellets are conveyed to splitter bin (EU029-EU030). Particulate emissions from the splitter bin are controlled with a wet scrubber (CE021, SV021). Pellets then pass through a transfer house (EU024) and particulate emission here are controlled with a wet scrubber (CE024, SV024). Finally pellets from the transfer house and pellet stockpile are dropped onto the P3 conveyor (EU028) for rail car loading. Particulate emissions from the rail car loading activities

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are controlled with a fabric filter baghouse identified as P-3 (CE028, SV022).

**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
SV014	101.75				714	360	4	12
SV015	101.75				714	360	4	12
SV016	104				714	360	4	12
SV017	104				714	360	4	12

**Test Parameter Information:**

Location	Target Parameter	Test Method	Number of Test Runs	Test Run Duration	Comments
SV014	Carbon Monoxide	Method 10	3	156	
SV014	Hydrogen Chloride	Method 26A	3	120	
SV014	Hydrogen Fluoride	Method 26A	3	120	
SV014	Filterable Particulate	Method 29	3	156	
SV014	Antimony	Method 29	3	156	
SV014	Antimony Back Half	Method 29	3	156	
SV014	Antimony Front Half	Method 29	3	156	
SV014	Arsenic	Method 29	3	156	
SV014	Arsenic Back Half	Method 29	3	156	
SV014	Arsenic Front Half	Method 29	3	156	
SV014	Beryllium	Method 29	3	156	
SV014	Beryllium Back Half	Method 29	3	156	
SV014	Beryllium Front Half	Method 29	3	156	
SV014	Cadmium	Method 29	3	156	
SV014	Cadmium Back Half	Method 29	3	156	
SV014	Cadmium Front Half	Method 29	3	156	
SV014	Chromium	Method 29	3	156	
SV014	Chromium Back Half	Method 29	3	156	
SV014	Chromium Front Half	Method 29	3	156	
SV014	Cobalt	Method 29	3	156	
SV014	Cobalt Back Half	Method 29	3	156	
SV014	Cobalt Front Half	Method 29	3	156	
SV014	Lead	Method 29	3	156	
SV014	Lead Back Half	Method 29	3	156	
SV014	Lead Front Half	Method 29	3	156	

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SV014	Manganese	Method 29	3	156	
SV014	Manganese Back Half	Method 29	3	156	
SV014	Manganese Front Half	Method 29	3	156	
SV014	Mercury	Method 29	3	156	
SV014	Mercury Back Half	Method 29	3	156	
SV014	Mercury Front Half	Method 29	3	156	
SV014	Nickel	Method 29	3	156	
SV014	Nickel Back Half	Method 29	3	156	
SV014	Nickel Front Half	Method 29	3	156	
SV014	Phosphorus (yellow or white)	Method 29	3	156	
SV014	Phosphorus (yellow or white) Back Half	Method 29	3	156	
SV014	Phosphorus (yellow or white) Front Half	Method 29	3	156	
SV014	Selenium	Method 29	3	156	
SV014	Selenium Back Half	Method 29	3	156	
SV014	Selenium Front Half	Method 29	3	156	
SV014	Oxygen	Method 3A O2	6	156	Method 3A run concurrently with each isokinetic run
SV014	Carbon Dioxide	Method 3A CO2	6	156	Method 3A run concurrently with each isokinetic run
SV015	Carbon Monoxide	Method 10	3	156	
SV015	Hydrogen Fluoride	Method 26A	3	120	
SV015	Hydrogen Chloride	Method 26A	3	120	
SV015	Filterable Particulate	Method 29	3	156	
SV015	Antimony	Method 29	3	156	
SV015	Antimony Back Half	Method 29	3	156	
SV015	Antimony Front Half	Method 29	3	156	
SV015	Arsenic	Method 29	3	156	
SV015	Arsenic Back Half	Method 29	3	156	
SV015	Arsenic Front Half	Method 29	3	156	
SV015	Beryllium	Method 29	3	156	
SV015	Beryllium Back Half	Method 29	3	156	
SV015	Beryllium Front Half	Method 29	3	156	
SV015	Cadmium	Method 29	3	156	
SV015	Cadmium Back Half	Method 29	3	156	
SV015	Cadmium Front Half	Method 29	3	156	
SV015	Chromium	Method 29	3	156	
SV015	Chromium Back Half	Method 29	3	156	
SV015	Chromium Front Half	Method 29	3	156	
SV015	Cobalt	Method 29	3	156	
SV015	Cobalt Back Half	Method 29	3	156	
SV015	Cobalt Front Half	Method 29	3	156	
SV015	Lead	Method 29	3	156	
SV015	Lead Back Half	Method 29	3	156	
SV015	Lead Front Half	Method 29	3	156	
SV015	Manganese	Method 29	3	156	
SV015	Manganese Back Half	Method 29	3	156	
SV015	Manganese Front Half	Method 29	3	156	
SV015	Mercury	Method 29	3	156	
SV015	Mercury Back Half	Method 29	3	156	
SV015	Mercury Front Half	Method 29	3	156	

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SV015	Nickel	Method 29	3	156	
SV015	Nickel Back Half	Method 29	3	156	
SV015	Nickel Front Half	Method 29	3	156	
SV015	Phosphorus (yellow or white)	Method 29	3	156	
SV015	Phosphorus (yellow or white) Back Half	Method 29	3	156	
SV015	Phosphorus (yellow or white) Front Half	Method 29	3	156	
SV015	Selenium	Method 29	3	156	
SV015	Selenium Back Half	Method 29	3	156	
SV015	Selenium Front Half	Method 29	3	156	
SV015	Carbon Dioxide	Method 3A CO2	6	156	Method 3A run concurrently with each isokinetic run
SV015	Oxygen	Method 3A O2	6	156	Method 3A run concurrently with each isokinetic run
SV016	Carbon Monoxide	Method 10	3	156	
SV016	Hydrogen Chloride	Method 26A	3	120	
SV016	Hydrogen Fluoride	Method 26A	3	120	
SV016	Filterable Particulate	Method 29	3	156	
SV016	Antimony	Method 29	3	156	
SV016	Antimony Back Half	Method 29	3	156	
SV016	Antimony Front Half	Method 29	3	156	
SV016	Arsenic	Method 29	3	156	
SV016	Arsenic Back Half	Method 29	3	156	
SV016	Arsenic Front Half	Method 29	3	156	
SV016	Beryllium	Method 29	3	156	
SV016	Beryllium Back Half	Method 29	3	156	
SV016	Beryllium Front Half	Method 29	3	156	
SV016	Cadmium	Method 29	3	156	
SV016	Cadmium Back Half	Method 29	3	156	
SV016	Cadmium Front Half	Method 29	3	156	
SV016	Chromium	Method 29	3	156	
SV016	Chromium Back Half	Method 29	3	156	
SV016	Chromium Front Half	Method 29	3	156	
SV016	Cobalt	Method 29	3	156	
SV016	Cobalt Back Half	Method 29	3	156	
SV016	Cobalt Front Half	Method 29	3	156	
SV016	Lead	Method 29	3	156	
SV016	Lead Back Half	Method 29	3	156	
SV016	Lead Front Half	Method 29	3	156	
SV016	Manganese	Method 29	3	156	
SV016	Manganese Back Half	Method 29	3	156	
SV016	Manganese Front Half	Method 29	3	156	
SV016	Mercury	Method 29	3	156	
SV016	Mercury Back Half	Method 29	3	156	
SV016	Mercury Front Half	Method 29	3	156	
SV016	Nickel	Method 29	3	156	
SV016	Nickel Back Half	Method 29	3	156	
SV016	Nickel Front Half	Method 29	3	156	
SV016	Phosphorus (yellow or white)	Method 29	3	156	
SV016	Phosphorus (yellow or white) Back Half	Method 29	3	156	

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SV016	Phosphorus (yellow or white) Front Half	Method 29	3	156	
SV016	Selenium	Method 29	3	156	
SV016	Selenium Back Half	Method 29	3	156	
SV016	Selenium Front Half	Method 29	3	156	
SV016	Oxygen	Method 3A O2	6	156	Method 3A run concurrently with each isokinetic run
SV016	Carbon Dioxide	Method 3A CO2	6	156	Method 3A run concurrently with each isokinetic run
SV017	Carbon Monoxide	Method 10	3	156	
SV017	Hydrogen Chloride	Method 26A	3	120	
SV017	Hydrogen Fluoride	Method 26A	3	120	
SV017	Filterable Particulate	Method 29	3	156	
SV017	Antimony	Method 29	3	156	
SV017	Antimony Back Half	Method 29	3	156	
SV017	Antimony Front Half	Method 29	3	156	
SV017	Arsenic	Method 29	3	156	
SV017	Arsenic Back Half	Method 29	3	156	
SV017	Arsenic Front Half	Method 29	3	156	
SV017	Beryllium	Method 29	3	156	
SV017	Beryllium Back Half	Method 29	3	156	
SV017	Beryllium Front Half	Method 29	3	156	
SV017	Cadmium	Method 29	3	156	
SV017	Cadmium Back Half	Method 29	3	156	
SV017	Cadmium Front Half	Method 29	3	156	
SV017	Chromium	Method 29	3	156	
SV017	Chromium Back Half	Method 29	3	156	
SV017	Chromium Front Half	Method 29	3	156	
SV017	Cobalt	Method 29	3	156	
SV017	Cobalt Back Half	Method 29	3	156	
SV017	Cobalt Front Half	Method 29	3	156	
SV017	Lead	Method 29	3	156	
SV017	Lead Back Half	Method 29	3	156	
SV017	Lead Front Half	Method 29	3	156	
SV017	Manganese	Method 29	3	156	
SV017	Manganese Back Half	Method 29	3	156	
SV017	Manganese Front Half	Method 29	3	156	
SV017	Mercury	Method 29	3	156	
SV017	Mercury Back Half	Method 29	3	156	
SV017	Mercury Front Half	Method 29	3	156	
SV017	Nickel	Method 29	3	156	
SV017	Nickel Back Half	Method 29	3	156	
SV017	Nickel Front Half	Method 29	3	156	
SV017	Phosphorus (yellow or white)	Method 29	3	156	
SV017	Phosphorus (yellow or white) Back Half	Method 29	3	156	
SV017	Phosphorus (yellow or white) Front Half	Method 29	3	156	
SV017	Selenium	Method 29	3	156	
SV017	Selenium Back Half	Method 29	3	156	
SV017	Selenium Front Half	Method 29	3	156	
SV017	Oxygen	Method 3A O2	6	156	Method 3A run concurrently with each isokinetic run

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SV017	Carbon Dioxide	Method 3A CO2	6	156	Method 3A run concurrently with each isokinetic run
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**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.**

EPA Method 26A was modified to eliminate sodium hydroxide impingers (not needed as looking for HF and HCL).

Alternative post test meter calibration procedure was performed after each condition. Documentation is included in Post-Test Meter Boxes/DGMs Calibrations attachments.

At the request of EPA, a fourth 0.1N sulfuric acid impinger was added to the train to determine HF breakthrough. Breakthrough above the MDL and below RL was recovered in SV014, runs 2 and 3 and accounted for 2% (53.0 ug) and 1% (24.1 ug), respectively. These values were added to the total HF catch.

The hydrogen peroxide reagent used for the metals testing contained significant detection of phosphorus in the blank. An alternative blank correction procedure is used to subtract the total amount found in the blank from each corresponding sample. This is a deviation of Method 29 which limits individual metal blank corrections to approximately one microgram. Attempts to locate a source of hydrogen peroxide reagent without significant phosphorus prior to the test event was unsuccessful.



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**Sampling / Stack Data Results Summary**

**Location** SV014 - Method 10

				<u><b>Average</b></u>
Run Number	1	2	3	
Test Date	8/30/2022	8/30/2022	8/31/2022	
Run Start Time	9:36:00 AM	12:54:00 PM	8:15:00 AM	
Run Finish Time	12:19:00 PM	3:36:00 PM	3:09:00 PM	
Carbon Dioxide, %	1.2283	1.2299	1.1999	1.219
Oxygen, %	19.6438	19.609	19.7226	19.658
Dry Volumetric Flow Rate, dry scfm	158019.1	163026.9	151474.5	157,506.833
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	10.9833	11.1211	11.7261	11.277
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

**Location** SV014 - Method 26A

				<u><b>Average</b></u>
Run Number	1	2	3	
Test Date	9/2/2022	9/6/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:03:00 PM	4:04:00 PM	6:56:00 PM	
Net Run Time, minutes	120	120	120	
Dry Gas Meter Volume Sampled, dscf	77.469	73.468	77.099	76.012
Moisture Content of Stack Gas, %	12.0650	11.5323	12.4263	12.008
Moisture Saturation at Stack Gas Temperature, %	15.07	14.90	15.19	15.053
Carbon Dioxide, %	1.165	1.1123	1.131	1.136
Oxygen, %	19.571	19.5806	19.6493	19.600
Average Stack Gas Temperature, °F	127.75	127.50	128.08	127.777
Square Root of Average Velocity, inches of H2O	0.8814	0.8418	0.8625	0.862
Dry Volumetric Flow Rate, dry scfm	138,666.0	133,463.0	135,235.6	135,788.200
Actual Wet Volumetric Flue Gas Flow Rate, acfm	186,046.1	177,101.2	182,183.5	181,776.933
Percent Isokinetic of Sampling Rate, %	99.6	99.9	101.6	100.367
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** SV014 - Method 29

				<u><b>Average</b></u>
Run Number	1	2	3	
Test Date	8/30/2022	8/30/2022	8/31/2022	
Run Start Time	9:36:00 AM	12:54:00 PM	8:15:00 AM	
Run Finish Time	12:19:00 PM	3:37:00 PM	3:09:00 PM	
Net Run Time, minutes	156	156	156	
Dry Gas Meter Volume Sampled, dscf	108.733	116.794	106.920	110.816
Moisture Content of Stack Gas, %	10.9833	11.1211	11.7261	11.277
Moisture Saturation at Stack Gas Temperature, %	16.82	16.67	17.55	17.013
Carbon Dioxide, %	1.2283	1.2299	1.1999	1.219
Oxygen, %	19.6438	19.609	19.7226	19.658
Average Stack Gas Temperature, °F	131.83	131.50	133.50	132.277
Square Root of Average Velocity, inches of H2O	0.9986	1.0312	0.9643	0.998
Dry Volumetric Flow Rate, dry scfm	158,019.1	163,026.9	151,474.5	157,506.833
Actual Wet Volumetric Flue Gas Flow Rate, acfm	211,118.7	218,030.7	204,308.5	211,152.633
Percent Isokinetic of Sampling Rate, %	97.9	100.0	100.4	99.433
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Fw	0	0	0	0.000
Fc	0	0	0	0.000

**Location** SV014 - Method 3A CO2

				<u><b>Average</b></u>
Run Number	1	2	3	
Test Date	8/30/2022	8/30/2022	8/31/2022	
Run Start Time	9:36:00 AM	12:54:00 PM	8:14:00 AM	
Run Finish Time	12:19:00 PM	3:37:00 PM	3:09:00 PM	
Carbon Dioxide, %	1.2283	1.2299	1.1999	1.219
Oxygen, %	19.6438	19.609	19.7226	19.658
Dry Volumetric Flow Rate, dry scfm	158019.1	163026.9	151951.8	157,665.933
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	10.9833	11.1211	11.7261	11.277
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

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**Location** SV014 - Method 3A CO2 3

				<u><b>Average</b></u>
Run Number	4	5	6	
Test Date	9/2/2022	9/6/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:03:00 PM	4:04:00 PM	6:56:00 PM	
Carbon Dioxide, %	1.165	1.1123	1.131	1.136
Oxygen, %	19.571	19.5806	19.6493	19.600
Dry Volumetric Flow Rate, dry scfm	138666	133463	135235.6	135,788.200
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	12.065	11.5323	12.4263	12.008
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

**Location** SV014 - Method 3A O2

				<u><b>Average</b></u>
Run Number	1	2	3	
Test Date	8/30/2022	8/30/2022	8/31/2022	
Run Start Time	9:36:00 AM	12:54:00 PM	8:15:00 AM	
Run Finish Time	12:19:00 PM	3:37:00 PM	3:09:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	19.6438	19.609	19.7226	19.658
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

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

**Location** SV014 - Method 3A O2 3

				<u><b>Average</b></u>
Run Number	4	5	6	
Test Date	9/2/2022	9/6/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:03:00 PM	4:04:00 PM	6:56:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	19.571	19.5806	19.6493	19.600
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** SV015 - Method 10

				<u><b>Average</b></u>
Run Number	1	2	3	
Test Date	9/2/2022	9/2/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:40:00 PM	4:35:00 PM	7:32:00 PM	
Carbon Dioxide, %	1.6299	1.5036	1.5616	1.565
Oxygen, %	19.489	19.5062	19.4985	19.498
Dry Volumetric Flow Rate, dry scfm	154461.1	153550.6	149754.9	152,588.867
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	12.4865	12.7802	12.6031	12.623
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

**Location** SV015 - Method 26A

				<u><b>Average</b></u>
Run Number	1	2	3	
Test Date	8/30/2022	8/30/2022	8/31/1930	
Run Start Time	9:36:00 AM	12:54:00 PM	8:15:00 AM	
Run Finish Time	11:46:00 AM	3:02:00 PM	10:23:00 AM	
Net Run Time, minutes	120	120	120	
Dry Gas Meter Volume Sampled, dscf	78.002	76.938	84.085	79.675
Moisture Content of Stack Gas, %	12.0668	12.1572	11.8671	12.030
Moisture Saturation at Stack Gas Temperature, %	14.99	15.92	20.30	17.070
Carbon Dioxide, %	1.4184	1.4265	1.3939	1.413
Oxygen, %	19.3714	19.3676	19.3983	19.379
Average Stack Gas Temperature, °F	127.50	129.75	139.08	132.110
Square Root of Average Velocity, inches of H2O	0.8905	0.8739	0.9646	0.910
Dry Volumetric Flow Rate, dry scfm	139,950.5	136,939.0	150,541.8	142,477.100
Actual Wet Volumetric Flue Gas Flow Rate, acfm	187,977.3	184,826.3	205,358.8	192,720.800
Percent Isokinetic of Sampling Rate, %	99.4	100.2	99.6	99.733
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Fw	0	0	0	0.000
Fc	0	0	0	0.000

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

**Location** SV015 - Method 29

				<u><b>Average</b></u>
Run Number	1	2	3	
Test Date	9/2/2022	9/6/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:40:00 PM	4:35:00 PM	7:32:00 PM	
Net Run Time, minutes	156	156	156	
Dry Gas Meter Volume Sampled, dscf	112.468	117.881	109.677	113.342
Moisture Content of Stack Gas, %	12.4865	12.7802	12.6031	12.623
Moisture Saturation at Stack Gas Temperature, %	19.37	20.35	20.27	19.997
Carbon Dioxide, %	1.6299	1.5036	1.5616	1.565
Oxygen, %	19.489	19.5062	19.4985	19.498
Average Stack Gas Temperature, °F	136.92	139.33	139.17	138.473
Square Root of Average Velocity, inches of H2O	0.9989	0.9910	0.9529	0.981
Dry Volumetric Flow Rate, dry scfm	154,461.1	153,550.6	147,900.6	151,970.767
Actual Wet Volumetric Flue Gas Flow Rate, acfm	213,321.1	210,915.5	202,682.1	208,972.900
Percent Isokinetic of Sampling Rate, %	99.8	105.3	101.7	102.267
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Fw	0	0	0	0.000
Fc	0	0	0	0.000

**Location** SV015 - Method 3A CO2

				<u><b>Average</b></u>
Run Number	1	2	3	
Test Date	9/2/2022	9/6/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	4:35:00 PM	4:35:00 PM	7:32:00 PM	
Carbon Dioxide, %	1.6299	1.5036	1.5616	1.565
Oxygen, %	19.489	19.5062	19.4985	19.498
Dry Volumetric Flow Rate, dry scfm	155123.5	154142.6	149754.9	153,007.000
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	12.4865	12.7802	12.6031	12.623
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

**Location** SV015 - Method 3A CO2 3

				<u><b>Average</b></u>
Run Number	4	5	6	
Test Date	8/30/2022	8/30/2022	8/31/2022	
Run Start Time	9:36:00 AM	12:54:00 PM	8:15:00 AM	
Run Finish Time	11:46:00 AM	3:02:00 PM	10:23:00 AM	
Carbon Dioxide, %	1.4184	1.4265	1.3939	1.413
Oxygen, %	19.3714	19.3676	19.3983	19.379
Dry Volumetric Flow Rate, dry scfm	140202.8	137215.1	150815	142,744.300
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	12.0668	12.1572	11.8671	12.030
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

**Location** SV015 - Method 3A O2

				<u><b>Average</b></u>
Run Number	1	2	3	
Test Date	9/2/2022	9/6/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:40:00 PM	2:30:00 PM	7:32:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	19.489	19.5062	19.4985	19.498
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

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

**Location** SV015 - Method 3A O2 3

				<u><b>Average</b></u>
Run Number	4	5	6	
Test Date	8/30/2022	8/30/2022	8/30/2022	
Run Start Time	9:36:00 AM	12:54:00 PM	8:15:00 AM	
Run Finish Time	11:46:00 AM	3:02:00 PM	10:23:00 AM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	19.3714	19.3676	19.3983	19.379
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** SV016 - Method 10

				<u><b>Average</b></u>
Run Number	1	2	3	
Test Date	8/30/2022	8/30/2022	8/31/2022	
Run Start Time	9:36:00 AM	12:54:00 PM	8:15:00 AM	
Run Finish Time	12:19:00 PM	3:36:00 PM	3:09:00 PM	
Carbon Dioxide, %	2.1628	2.1892	2.0722	2.141
Oxygen, %	18.5563	18.4649	18.6487	18.557
Dry Volumetric Flow Rate, dry scfm	154966.1	148655	147064.1	150,228.400
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	13.4986	13.8365	13.523	13.619
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000



**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

**Location** SV016 - Method 26A

	<u>Average</u>			
Run Number	1	2	3	
Test Date	9/2/2022	9/6/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:03:00 PM	4:04:00 PM	6:56:00 PM	
Net Run Time, minutes	120	120	120	
Dry Gas Meter Volume Sampled, dscf	81.521	82.538	80.721	81.593
Moisture Content of Stack Gas, %	13.0600	13.8839	14.4361	13.793
Moisture Saturation at Stack Gas Temperature, %	15.78	16.33	15.79	15.967
Carbon Dioxide, %	2.1927	2.091	2.1685	2.151
Oxygen, %	18.3743	18.4086	18.4314	18.405
Average Stack Gas Temperature, °F	129.17	130.92	129.67	129.920
Square Root of Average Velocity, inches of H2O	0.9134	0.9037	0.8929	0.903
Dry Volumetric Flow Rate, dry scfm	147,632.8	145,694.0	143,280.3	145,535.700
Actual Wet Volumetric Flue Gas Flow Rate, acfm	202,489.1	199,763.7	197,321.6	199,858.133
Percent Isokinetic of Sampling Rate, %	99.2	101.8	101.2	100.733
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Fw	0	0	0	0.000
Fc	0	0	0	0.000

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

**Location** SV016 - Method 29

				<u><b>Average</b></u>
Run Number	1	2	3	
Test Date	8/30/2022	8/30/2022	8/31/2022	
Run Start Time	9:36:00 AM	12:35:00 PM	8:15:00 AM	
Run Finish Time	12:19:00 PM	3:37:00 PM	3:09:00 PM	
Net Run Time, minutes	156	156	156	
Dry Gas Meter Volume Sampled, dscf	112.592	109.650	107.593	109.945
Moisture Content of Stack Gas, %	13.4986	13.8365	13.5230	13.619
Moisture Saturation at Stack Gas Temperature, %	12.93	13.94	13.26	13.377
Carbon Dioxide, %	2.1628	2.1892	2.0722	2.141
Oxygen, %	18.5563	18.4649	18.6487	18.557
Average Stack Gas Temperature, °F	122.08	124.83	123.08	123.330
Square Root of Average Velocity, inches of H2O	0.9484	0.9199	0.9027	0.924
Dry Volumetric Flow Rate, dry scfm	154,966.1	148,655.0	147,064.1	150,228.400
Actual Wet Volumetric Flue Gas Flow Rate, acfm	208,187.5	202,772.2	198,312.6	203,090.767
Percent Isokinetic of Sampling Rate, %	99.5	101.0	100.2	100.233
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Fw	0	0	0	0.000
Fc	0	0	0	0.000

**Location** SV016 - Method 3A CO2

				<u><b>Average</b></u>
Run Number	1	2	3	
Test Date	8/30/2022	8/30/2022	8/31/2022	
Run Start Time	9:36:00 AM	12:54:00 PM	8:15:00 AM	
Run Finish Time	12:19:00 PM	3:39:00 PM	3:09:00 PM	
Carbon Dioxide, %	2.1628	2.1892	2.0722	2.141
Oxygen, %	18.5563	18.4649	18.6487	18.557
Dry Volumetric Flow Rate, dry scfm	154966.1	149485.3	149610.1	151,353.833
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	13.4986	13.8365	13.523	13.619
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

**Location**    SV016 - Method 3A CO2 3

				<u><b>Average</b></u>
Run Number	4	5	6	
Test Date	9/2/2022	9/6/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:03:00 PM	4:04:00 PM	6:56:00 PM	
Carbon Dioxide, %	2.1927	2.091	2.1685	2.151
Oxygen, %	18.3743	19.5806	18.4314	18.795
Dry Volumetric Flow Rate, dry scfm	148123.1	146107	142043	145,424.367
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	13.06	13.8839	14.8043	13.916
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

**Location**    SV016 - Method 3A O2

				<u><b>Average</b></u>
Run Number	1	2	3	
Test Date	8/30/2022	8/30/2022	8/31/2022	
Run Start Time	9:36:00 AM	12:54:00 PM	8:15:00 AM	
Run Finish Time	12:19:00 PM	3:37:00 PM	3:09:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	18.5563	18.4649	18.6487	18.557
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

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

**Location** SV016 - Method 3A O2 3

				<u><b>Average</b></u>
Run Number	4	5	6	
Test Date	9/2/2022	9/6/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:03:00 PM	4:04:00 PM	6:56:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	18.3743	18.4086	18.4314	18.405
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** SV017 - Method 10

				<u><b>Average</b></u>
Run Number	1	2	3	
Test Date	9/2/2022	9/2/2022	9/2/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:40:00 PM	4:35:00 PM	7:32:00 PM	
Carbon Dioxide, %	2.6761	2.6232	2.6893	2.663
Oxygen, %	18.0222	18.0972	18.1184	18.079
Dry Volumetric Flow Rate, dry scfm	149098.7	153571.8	147032.6	149,901.033
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	15.3188	15.2404	15.8187	15.459
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

**Location** SV017 - Method 26A

	<b>Average</b>			
Run Number	1	2	3	
Test Date	8/30/2022	8/30/2022	8/31/2022	
Run Start Time	9:36:00 AM	12:26:00 PM	8:15:00 AM	
Run Finish Time	11:46:00 AM	3:02:00 PM	10:23:00 AM	
Net Run Time, minutes	120	120	120	
Dry Gas Meter Volume Sampled, dscf	71.264	75.732	78.944	75.313
Moisture Content of Stack Gas, %	14.7417	15.0263	14.8043	14.857
Moisture Saturation at Stack Gas Temperature, %	20.08	20.30	24.52	21.633
Carbon Dioxide, %	2.707	2.737	2.7478	2.731
Oxygen, %	18.0415	17.9953	18.1308	18.056
Average Stack Gas Temperature, °F	138.58	139.00	146.50	141.360
Square Root of Average Velocity, inches of H2O	0.8419	0.8524	0.9000	0.865
Dry Volumetric Flow Rate, dry scfm	133,140.6	134,367.2	141,399.1	136,302.300
Actual Wet Volumetric Flue Gas Flow Rate, acfm	187,977.5	190,490.5	202,064.3	193,510.767
Percent Isokinetic of Sampling Rate, %	99.7	101.2	100.3	100.400
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Fw	0	0	0	0.000
Fc	0	0	0	0.000

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

**Location** SV017 - Method 29

				<u><b>Average</b></u>
Run Number	1	2	3	
Test Date	9/2/2022	9/6/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:40:00 PM	4:35:00 PM	7:32:00 PM	
Net Run Time, minutes	156	156	156	
Dry Gas Meter Volume Sampled, dscf	109.326	112.771	108.710	110.269
Moisture Content of Stack Gas, %	15.3188	15.2404	15.8187	15.459
Moisture Saturation at Stack Gas Temperature, %	25.05	21.62	24.74	23.803
Carbon Dioxide, %	2.6761	2.6232	2.6893	2.663
Oxygen, %	18.0222	18.0972	18.1184	18.079
Average Stack Gas Temperature, °F	147.00	141.67	147.00	145.223
Square Root of Average Velocity, inches of H2O	0.9581	0.9754	0.9436	0.959
Dry Volumetric Flow Rate, dry scfm	149,098.7	153,571.8	147,032.6	149,901.033
Actual Wet Volumetric Flue Gas Flow Rate, acfm	216,469.7	217,991.6	212,010.1	215,490.467
Percent Isokinetic of Sampling Rate, %	100.4	100.6	101.3	100.767
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Fw	0	0	0	0.000
Fc	0	0	0	0.000

**Location** SV017 - Method 3A CO2

				<u><b>Average</b></u>
Run Number	1	2	3	
Test Date	9/2/2022	9/6/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:40:00 PM	4:35:00 PM	7:32:00 PM	
Carbon Dioxide, %	2.6761	2.6232	2.6893	2.663
Oxygen, %	18.0222	18.0972	18.1184	18.079
Dry Volumetric Flow Rate, dry scfm	149098.7	153571.8	147032.6	149,901.033
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	15.3188	15.2404	15.8187	15.459
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

**Location** SV017 - Method 3A CO2 3

	<u><b>Average</b></u>			
Run Number	4	5	6	
Test Date	8/30/2022	8/30/2022	8/31/2022	
Run Start Time	9:36:00 AM	12:54:00 PM	8:15:00 AM	
Run Finish Time	11:46:00 AM	3:02:00 PM	10:23:00 AM	
Carbon Dioxide, %	2.707	2.737	2.7478	2.731
Oxygen, %	18.0415	17.9953	18.1308	18.056
Dry Volumetric Flow Rate, dry scfm	133717.1	134966.4	142043	136,908.833
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	14.7417	15.0263	14.8043	14.857
Fuel Type				
Fw	0	0	0	0.000
Fc	0	0	0	0.000

**Location** SV017 - Method 3A O2

	<u><b>Average</b></u>			
Run Number	1	2	3	
Test Date	9/2/2022	9/6/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:40:00 PM	4:35:00 PM	7:32:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	18.0222	18.0972	18.1184	18.079
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

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

**Location** SV017 - Method 3A O2 3

				<u><b>Average</b></u>
Run Number	4	5	6	
Test Date	8/30/2022	8/30/2022	8/31/2022	
Run Start Time	9:36:00 AM	12:54:00 PM	8:15:00 AM	
Run Finish Time	11:46:00 AM	3:02:00 PM	10:23:00 AM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	18.0415	17.9953	18.1308	18.056
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



11/3/2022

**Point to Point Isokenitic Calculations**

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## EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc

11/3/2022

## Emissions Summary

**Location:** SV014 - Method 10**Compound:** Carbon Monoxide

				<b>Average</b>	<b>Reg Limit</b>
Run	1	2	3		
lb/hr	7.45E-01	7.74E-01	8.56E-01	7.92E-01	
ppm	1.08E+00	1.09E+00	1.30E+00	1.16E+00	

**Location:** SV014 - Method 26A**Compound:** Hydrogen Chloride

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	5.025	9.75	10.974	8.58E+00	
lb / Long Tons of Pellets Processed	3.23E-03	6.61E-03	7.02E-03	5.62E-03	
lb/hr	1.19E+00	2.34E+00	2.55E+00	2.03E+00	
mg/dscm	2.29E+00	4.69E+00	5.03E+00	4.00E+00	

**Compound:** Hydrogen Fluoride

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	2.105	3.124	3.732	2.99E+00	
lb / Long Tons of Pellets Processed	1.35E-03	2.12E-03	2.39E-03	1.95E-03	
lb/hr	4.98E-01	7.51E-01	8.66E-01	7.05E-01	
mg/dscm	9.60E-01	1.50E+00	1.71E+00	1.39E+00	

**Location:** SV014 - Method 29**Compound:** Antimony

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.0001	0.0001	0.000215	1.38E-04	
lb / Long Tons of Pellets Processed	5.35E-08	5.12E-08	1.11E-07	7.19E-08	
lb/hr	1.92E-05	1.85E-05	4.03E-05	2.60E-05	
mg/dscm	3.25E-05	3.02E-05	7.10E-05	4.46E-05	

**Compound:** Antimony Back Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.00005	0.00005	0.000165	8.83E-05	
lb / Long Tons of Pellets Processed	2.68E-08	2.56E-08	8.54E-08	4.59E-08	
lb/hr	9.61E-06	9.23E-06	3.09E-05	1.66E-05	
mg/dscm	1.62E-05	1.51E-05	5.45E-05	2.86E-05	

**Compound:** Antimony Front Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.00005	0.00005	0.00005	5.00E-05	
lb / Long Tons of Pellets Processed	2.68E-08	2.56E-08	2.59E-08	2.61E-08	

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lb/hr	9.61E-06	9.23E-06	9.37E-06	9.40E-06
mg/dscm	1.62E-05	1.51E-05	1.65E-05	1.59E-05

**Compound:** Arsenic

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.005587	0.005593	0.00549	5.56E-03
lb / Long Tons of Pellets Processed	2.98E-06	2.85E-06	2.85E-06	2.89E-06
lb/hr	1.07E-03	1.03E-03	1.03E-03	1.04E-03
mg/dscm	1.81E-03	1.69E-03	1.81E-03	1.77E-03

**Compound:** Arsenic Back Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000097	0.000123	0.00016	1.27E-04
lb / Long Tons of Pellets Processed	5.18E-08	6.29E-08	8.29E-08	6.59E-08
lb/hr	1.86E-05	2.27E-05	3.00E-05	2.38E-05
mg/dscm	3.15E-05	3.72E-05	5.29E-05	4.05E-05

**Compound:** Arsenic Front Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.00549	0.00547	0.00533	5.43E-03
lb / Long Tons of Pellets Processed	2.95E-06	2.80E-06	2.76E-06	2.84E-06
lb/hr	1.06E-03	1.01E-03	9.99E-04	1.02E-03
mg/dscm	1.78E-03	1.65E-03	1.76E-03	1.73E-03

**Compound:** Beryllium

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000048	0.000045	0.000046	4.63E-05
lb / Long Tons of Pellets Processed	2.57E-08	2.30E-08	2.38E-08	2.42E-08
lb/hr	9.23E-06	8.31E-06	8.62E-06	8.72E-06
mg/dscm	1.56E-05	1.36E-05	1.52E-05	1.48E-05

**Compound:** Beryllium Back Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000006	0.000004	0.000004	4.67E-06
lb / Long Tons of Pellets Processed	3.20E-09	2.05E-09	2.07E-09	2.44E-09
lb/hr	1.15E-06	7.39E-07	7.50E-07	8.80E-07
mg/dscm	1.95E-06	1.21E-06	1.32E-06	1.49E-06

**Compound:** Beryllium Front Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000042	0.000041	0.000042	4.17E-05
lb / Long Tons of Pellets Processed	2.25E-08	2.10E-08	2.17E-08	2.17E-08

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lb/hr	8.07E-06	7.57E-06	7.87E-06	7.84E-06
mg/dscm	1.36E-05	1.24E-05	1.39E-05	1.33E-05
<b>Compound: Cadmium</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000348	0.000531	0.000353	4.11E-04
lb / Long Tons of Pellets Processed	1.86E-07	2.71E-07	1.83E-07	2.13E-07
lb/hr	6.69E-05	9.80E-05	6.62E-05	7.70E-05
mg/dscm	1.13E-04	1.61E-04	1.17E-04	1.30E-04
<b>Compound: Cadmium Back Half</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000021	0.000167	0.000032	7.33E-05
lb / Long Tons of Pellets Processed	1.13E-08	8.53E-08	1.66E-08	3.77E-08
lb/hr	4.04E-06	3.08E-05	6.00E-06	1.36E-05
mg/dscm	6.82E-06	5.05E-05	1.06E-05	2.26E-05
<b>Compound: Cadmium Front Half</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000327	0.000364	0.000321	3.37E-04
lb / Long Tons of Pellets Processed	1.75E-07	1.86E-07	1.66E-07	1.76E-07
lb/hr	6.29E-05	6.72E-05	6.02E-05	6.34E-05
mg/dscm	1.06E-04	1.10E-04	1.06E-04	1.07E-04
<b>Compound: Chromium</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.005401	0.005929	0.005573	5.63E-03
lb / Long Tons of Pellets Processed	2.90E-06	3.02E-06	2.87E-06	2.93E-06
lb/hr	1.04E-03	1.09E-03	1.04E-03	1.06E-03
mg/dscm	1.75E-03	1.79E-03	1.84E-03	1.79E-03
<b>Compound: Chromium Back Half</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000291	0.000249	0.000293	2.78E-04
lb / Long Tons of Pellets Processed	1.56E-07	1.27E-07	1.52E-07	1.45E-07
lb/hr	5.59E-05	4.60E-05	5.49E-05	5.23E-05
mg/dscm	9.45E-05	7.53E-05	9.68E-05	8.89E-05
<b>Compound: Chromium Front Half</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.00511	0.00568	0.00528	5.36E-03
lb / Long Tons of Pellets Processed	2.74E-06	2.91E-06	2.73E-06	2.79E-06

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

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lb/hr	9.82E-04	1.05E-03	9.89E-04	1.01E-03
mg/dscm	1.66E-03	1.72E-03	1.74E-03	1.71E-03

**Compound:** Cobalt

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000089	0.000424	0.0001	2.04E-04
lb / Long Tons of Pellets Processed	4.76E-08	2.17E-07	5.17E-08	1.05E-07
lb/hr	1.71E-05	7.83E-05	1.87E-05	3.80E-05
mg/dscm	2.89E-05	1.28E-04	3.30E-05	6.33E-05

**Compound:** Cobalt Back Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000041	0.000354	0.000042	1.46E-04
lb / Long Tons of Pellets Processed	2.19E-08	1.81E-07	2.17E-08	7.49E-08
lb/hr	7.88E-06	6.54E-05	7.87E-06	2.71E-05
mg/dscm	1.33E-05	1.07E-04	1.39E-05	4.47E-05

**Compound:** Cobalt Front Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000048	0.00007	0.000058	5.87E-05
lb / Long Tons of Pellets Processed	2.57E-08	3.57E-08	3.01E-08	3.05E-08
lb/hr	9.23E-06	1.29E-05	1.09E-05	1.10E-05
mg/dscm	1.56E-05	2.12E-05	1.92E-05	1.87E-05

**Compound:** Filterable Particulate

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	35	38.3	28.2	3.38E+01
lb / Long Tons of Pellets Processed	1.87E-02	1.96E-02	1.46E-02	1.76E-02
lb/hr	6.73E+00	7.07E+00	5.28E+00	6.36E+00
mg/dscm	1.14E+01	1.16E+01	9.32E+00	1.08E+01

**Compound:** Lead

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.128929	0.13835	0.1192	1.29E-01
lb / Long Tons of Pellets Processed	6.91E-05	7.06E-05	6.16E-05	6.71E-05
lb/hr	2.48E-02	2.55E-02	2.23E-02	2.42E-02
mg/dscm	4.19E-02	4.18E-02	3.94E-02	4.10E-02

**Compound:** Lead Back Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000929	0.00435	0.0012	2.16E-03
lb / Long Tons of Pellets Processed	4.99E-07	2.22E-06	6.22E-07	1.11E-06

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lb/hr	1.79E-04	8.03E-04	2.25E-04	4.02E-04
mg/dscm	3.02E-04	1.32E-03	3.96E-04	6.73E-04

**Compound:** Lead Front Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.128	0.134	0.118	1.27E-01
lb / Long Tons of Pellets Processed	6.85E-05	6.84E-05	6.10E-05	6.60E-05
lb/hr	2.46E-02	2.47E-02	2.21E-02	2.38E-02
mg/dscm	4.16E-02	4.05E-02	3.90E-02	4.04E-02

**Compound:** Manganese

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.011378	0.0142	0.0279	1.78E-02
lb / Long Tons of Pellets Processed	6.10E-06	7.26E-06	1.44E-05	9.25E-06
lb/hr	2.19E-03	2.62E-03	5.23E-03	3.35E-03
mg/dscm	3.70E-03	4.29E-03	9.22E-03	5.74E-03

**Compound:** Manganese Back Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000678	0.0014	0.0178	6.63E-03
lb / Long Tons of Pellets Processed	3.62E-07	7.15E-07	9.23E-06	3.44E-06
lb/hr	1.30E-04	2.58E-04	3.34E-03	1.24E-03
mg/dscm	2.20E-04	4.23E-04	5.88E-03	2.17E-03

**Compound:** Manganese Front Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.0107	0.0128	0.0101	1.12E-02
lb / Long Tons of Pellets Processed	5.74E-06	6.54E-06	5.22E-06	5.83E-06
lb/hr	2.06E-03	2.36E-03	1.89E-03	2.10E-03
mg/dscm	3.48E-03	3.87E-03	3.34E-03	3.56E-03

**Compound:** Mercury

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.003114	0.003737	0.003751	3.53E-03
lb / Long Tons of Pellets Processed	1.67E-06	1.91E-06	1.94E-06	1.84E-06
lb/hr	5.99E-04	6.90E-04	7.03E-04	6.64E-04
mg/dscm	1.01E-03	1.13E-03	1.24E-03	1.13E-03

**Compound:** Mercury Back Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.00293	0.00363	0.00369	3.42E-03
lb / Long Tons of Pellets Processed	1.57E-06	1.86E-06	1.91E-06	1.78E-06

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

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lb/hr	5.63E-04	6.70E-04	6.92E-04	6.42E-04
mg/dscm	9.52E-04	1.10E-03	1.22E-03	1.09E-03

**Compound:** Mercury Front Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000184	0.000107	0.000061	1.17E-04
lb / Long Tons of Pellets Processed	9.86E-08	5.48E-08	3.15E-08	6.16E-08
lb/hr	3.54E-05	1.98E-05	1.14E-05	2.22E-05
mg/dscm	5.98E-05	3.24E-05	2.02E-05	3.75E-05

**Compound:** Nickel

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.001416	0.004896	0.00215	2.82E-03
lb / Long Tons of Pellets Processed	7.58E-07	2.50E-06	1.11E-06	1.46E-06
lb/hr	2.72E-04	9.04E-04	4.03E-04	5.26E-04
mg/dscm	4.60E-04	1.48E-03	7.10E-04	8.83E-04

**Compound:** Nickel Back Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000216	0.000696	0.0004	4.37E-04
lb / Long Tons of Pellets Processed	1.16E-07	3.57E-07	2.07E-07	2.27E-07
lb/hr	4.15E-05	1.29E-04	7.50E-05	8.18E-05
mg/dscm	7.02E-05	2.10E-04	1.32E-04	1.37E-04

**Compound:** Nickel Front Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.0012	0.0042	0.00175	2.38E-03
lb / Long Tons of Pellets Processed	6.43E-07	2.15E-06	9.06E-07	1.23E-06
lb/hr	2.31E-04	7.75E-04	3.28E-04	4.45E-04
mg/dscm	3.90E-04	1.27E-03	5.78E-04	7.46E-04

**Compound:** Phosphorus (yellow or white)

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.00396	0.00459	0.00331	3.95E-03
lb / Long Tons of Pellets Processed	2.12E-06	2.35E-06	1.71E-06	2.06E-06
lb/hr	7.61E-04	8.47E-04	6.20E-04	7.43E-04
mg/dscm	1.29E-03	1.39E-03	1.09E-03	1.26E-03

**Compound:** Phosphorus (yellow or white) Back

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.00247	0.00311	0.00256	2.71E-03
lb / Long Tons of Pellets Processed	1.32E-06	1.59E-06	1.33E-06	1.41E-06

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lb/hr	4.75E-04	5.74E-04	4.80E-04	5.10E-04
mg/dscm	8.02E-04	9.41E-04	8.46E-04	8.63E-04

**Compound:** Phosphorus (yellow or white) Front

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.00149	0.00148	0.00075	1.24E-03
lb / Long Tons of Pellets Processed	7.97E-07	7.56E-07	3.90E-07	6.48E-07
lb/hr	2.86E-04	2.73E-04	1.41E-04	2.33E-04
mg/dscm	4.84E-04	4.48E-04	2.48E-04	3.93E-04

**Compound:** Selenium

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.017338	0.017777	0.014712	1.66E-02
lb / Long Tons of Pellets Processed	9.28E-06	9.09E-06	7.62E-06	8.66E-06
lb/hr	3.33E-03	3.28E-03	2.76E-03	3.12E-03
mg/dscm	5.63E-03	5.38E-03	4.86E-03	5.29E-03

**Compound:** Selenium Back Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000738	0.000777	0.000612	7.09E-04
lb / Long Tons of Pellets Processed	3.96E-07	3.96E-07	3.18E-07	3.70E-07
lb/hr	1.42E-04	1.43E-04	1.15E-04	1.33E-04
mg/dscm	2.40E-04	2.35E-04	2.02E-04	2.26E-04

**Compound:** Selenium Front Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.0166	0.017	0.0141	1.59E-02
lb / Long Tons of Pellets Processed	8.89E-06	8.70E-06	7.29E-06	8.29E-06
lb/hr	3.19E-03	3.14E-03	2.64E-03	2.99E-03
mg/dscm	5.39E-03	5.14E-03	4.66E-03	5.06E-03

**Location:** SV014 - Method 3A CO2

**Compound:** Carbon Dioxide

	<b>Average</b>			<b>Reg Limit</b>
Run	1	2	3	
Percent(%)	1.23E+00	1.23E+00	1.20E+00	1.22E+00

**Location:** SV014 - Method 3A CO2 3

**Compound:** Carbon Dioxide

	<b>Average</b>			<b>Reg Limit</b>
Run	4	5	6	
Percent(%)	1.17E+00	1.11E+00	1.13E+00	1.14E+00

**Location:** SV014 - Method 3A O2

**Compound:** Oxygen

	<b>Average</b>			<b>Reg Limit</b>
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Run	1	2	3	
Percent(%)	1.96E+01	1.96E+01	1.97E+01	1.96E+01
<b>Location: SV014 - Method 3A O2 3</b>				
<b>Compound: Oxygen</b>				
			<b>Average</b>	<b>Reg Limit</b>
Run	4	5	6	
Percent(%)	1.96E+01	1.96E+01	1.96E+01	1.96E+01
<b>Location: SV015 - Method 10</b>				
<b>Compound: Carbon Monoxide</b>				
			<b>Average</b>	<b>Reg Limit</b>
Run	1	2	3	
lb/hr	1.59E+00	2.50E+00	2.48E+00	2.19E+00
ppm	2.35E+00	3.74E+00	3.80E+00	3.30E+00
<b>Location: SV015 - Method 26A</b>				
<b>Compound: Hydrogen Chloride</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	3.424	6.551	14.991	8.32E+00
lb / Long Tons of Pellets Processed	2.26E-03	4.27E-03	9.94E-03	5.49E-03
lb/hr	8.13E-01	1.54E+00	3.55E+00	1.97E+00
mg/dscm	1.55E+00	3.01E+00	6.30E+00	3.62E+00
<b>Compound: Hydrogen Fluoride</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	1.781	1.953	3.171	2.30E+00
lb / Long Tons of Pellets Processed	1.18E-03	1.27E-03	2.10E-03	1.52E-03
lb/hr	4.23E-01	4.60E-01	7.51E-01	5.45E-01
mg/dscm	8.06E-01	8.97E-01	1.33E+00	1.01E+00
<b>Location: SV015 - Method 29</b>				
<b>Compound: Antimony</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.0001	0.000154	0.0001	1.18E-04
lb / Long Tons of Pellets Processed	4.91E-08	7.46E-08	4.90E-08	5.76E-08
lb/hr	1.82E-05	2.65E-05	1.78E-05	2.08E-05
mg/dscm	3.14E-05	4.61E-05	3.22E-05	3.66E-05
<b>Compound: Antimony Back Half</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.00005	0.000121	0.00005	7.37E-05
lb / Long Tons of Pellets Processed	2.45E-08	5.86E-08	2.46E-08	3.59E-08
lb/hr	9.08E-06	2.08E-05	8.92E-06	1.29E-05
mg/dscm	1.57E-05	3.63E-05	1.61E-05	2.27E-05

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**Compound:** Antimony Front Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.00005	0.000033	0.00005	4.43E-05	
lb / Long Tons of Pellets Processed	2.45E-08	1.60E-08	2.46E-08	2.17E-08	
lb/hr	9.08E-06	5.69E-06	8.92E-06	7.90E-06	
mg/dscm	1.57E-05	9.89E-06	1.61E-05	1.39E-05	

**Compound:** Arsenic

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.007946	0.010644	0.008119	8.90E-03	
lb / Long Tons of Pellets Processed	3.88E-06	5.15E-06	3.99E-06	4.34E-06	
lb/hr	1.44E-03	1.83E-03	1.45E-03	1.57E-03	
mg/dscm	2.50E-03	3.19E-03	2.61E-03	2.77E-03	

**Compound:** Arsenic Back Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.000106	0.000144	0.000089	1.13E-04	
lb / Long Tons of Pellets Processed	5.20E-08	6.99E-08	4.38E-08	5.52E-08	
lb/hr	1.93E-05	2.48E-05	1.59E-05	2.00E-05	
mg/dscm	3.33E-05	4.31E-05	2.87E-05	3.50E-05	

**Compound:** Arsenic Front Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.00784	0.0105	0.00803	8.79E-03	
lb / Long Tons of Pellets Processed	3.83E-06	5.10E-06	3.94E-06	4.29E-06	
lb/hr	1.42E-03	1.81E-03	1.43E-03	1.55E-03	
mg/dscm	2.46E-03	3.15E-03	2.59E-03	2.73E-03	

**Compound:** Beryllium

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.000079	0.000076	0.000076	7.70E-05	
lb / Long Tons of Pellets Processed	3.88E-08	3.69E-08	3.75E-08	3.77E-08	
lb/hr	1.44E-05	1.31E-05	1.36E-05	1.37E-05	
mg/dscm	2.48E-05	2.28E-05	2.45E-05	2.40E-05	

**Compound:** Beryllium Back Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.000006	0.000004	0.000004	4.67E-06	
lb / Long Tons of Pellets Processed	2.94E-09	1.94E-09	1.97E-09	2.28E-09	
lb/hr	1.09E-06	6.89E-07	7.14E-07	8.31E-07	
mg/dscm	1.88E-06	1.20E-06	1.29E-06	1.46E-06	

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**Compound:** Beryllium Front Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.000073	0.000072	0.000072	7.23E-05	
lb / Long Tons of Pellets Processed	3.58E-08	3.49E-08	3.53E-08	3.53E-08	
lb/hr	1.33E-05	1.24E-05	1.28E-05	1.28E-05	
mg/dscm	2.29E-05	2.16E-05	2.32E-05	2.26E-05	

**Compound:** Cadmium

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.000565	0.000534	0.00047	5.23E-04	
lb / Long Tons of Pellets Processed	2.78E-07	2.59E-07	2.31E-07	2.56E-07	
lb/hr	1.03E-04	9.20E-05	8.38E-05	9.29E-05	
mg/dscm	1.77E-04	1.60E-04	1.51E-04	1.63E-04	

**Compound:** Cadmium Back Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.000029	0.000022	0.000016	2.23E-05	
lb / Long Tons of Pellets Processed	1.42E-08	1.07E-08	7.85E-09	1.09E-08	
lb/hr	5.27E-06	3.79E-06	2.85E-06	3.97E-06	
mg/dscm	9.11E-06	6.59E-06	5.15E-06	6.95E-06	

**Compound:** Cadmium Front Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.000536	0.000512	0.000454	5.01E-04	
lb / Long Tons of Pellets Processed	2.63E-07	2.48E-07	2.23E-07	2.45E-07	
lb/hr	9.74E-05	8.82E-05	8.10E-05	8.89E-05	
mg/dscm	1.68E-04	1.53E-04	1.46E-04	1.56E-04	

**Compound:** Chromium

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.006675	0.009	0.006935	7.54E-03	
lb / Long Tons of Pellets Processed	3.26E-06	4.37E-06	3.42E-06	3.68E-06	
lb/hr	1.21E-03	1.55E-03	1.24E-03	1.33E-03	
mg/dscm	2.10E-03	2.70E-03	2.23E-03	2.34E-03	

**Compound:** Chromium Back Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.000595	0.00166	0.000475	9.10E-04	
lb / Long Tons of Pellets Processed	2.91E-07	8.06E-07	2.33E-07	4.43E-07	
lb/hr	1.08E-04	2.86E-04	8.47E-05	1.60E-04	
mg/dscm	1.87E-04	4.97E-04	1.53E-04	2.79E-04	

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**Compound:** Chromium Front Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.00608	0.00734	0.00646	6.63E-03	
lb / Long Tons of Pellets Processed	2.96E-06	3.55E-06	3.17E-06	3.23E-06	
lb/hr	1.10E-03	1.26E-03	1.15E-03	1.17E-03	
mg/dscm	1.91E-03	2.20E-03	2.08E-03	2.06E-03	

**Compound:** Cobalt

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.000232	0.000145	0.000163	1.80E-04	
lb / Long Tons of Pellets Processed	1.13E-07	7.04E-08	8.02E-08	8.79E-08	
lb/hr	4.21E-05	2.50E-05	2.91E-05	3.21E-05	
mg/dscm	7.29E-05	4.34E-05	5.25E-05	5.63E-05	

**Compound:** Cobalt Back Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.000088	0.000067	0.000066	7.37E-05	
lb / Long Tons of Pellets Processed	4.31E-08	3.24E-08	3.25E-08	3.60E-08	
lb/hr	1.60E-05	1.15E-05	1.18E-05	1.31E-05	
mg/dscm	2.76E-05	2.01E-05	2.13E-05	2.30E-05	

**Compound:** Cobalt Front Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.000144	0.000078	0.000097	1.06E-04	
lb / Long Tons of Pellets Processed	7.06E-08	3.77E-08	4.77E-08	5.20E-08	
lb/hr	2.62E-05	1.34E-05	1.73E-05	1.90E-05	
mg/dscm	4.52E-05	2.34E-05	3.12E-05	3.33E-05	

**Compound:** Filterable Particulate

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	33.1	31.5	28	3.09E+01	
lb / Long Tons of Pellets Processed	1.62E-02	1.53E-02	1.37E-02	1.51E-02	
lb/hr	6.01E+00	5.43E+00	4.99E+00	5.48E+00	
mg/dscm	1.04E+01	9.44E+00	9.02E+00	9.62E+00	

**Compound:** Lead

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.1288	0.13691	0.11264	1.26E-01	
lb / Long Tons of Pellets Processed	6.31E-05	6.65E-05	5.54E-05	6.17E-05	
lb/hr	2.34E-02	2.36E-02	2.01E-02	2.24E-02	
mg/dscm	4.04E-02	4.10E-02	3.63E-02	3.92E-02	

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**Compound:** Lead Back Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.0008	0.00091	0.00064	7.83E-04	
lb / Long Tons of Pellets Processed	3.91E-07	4.42E-07	3.14E-07	3.82E-07	
lb/hr	1.45E-04	1.57E-04	1.14E-04	1.39E-04	
mg/dscm	2.51E-04	2.73E-04	2.06E-04	2.43E-04	

**Compound:** Lead Front Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.128	0.136	0.112	1.25E-01	
lb / Long Tons of Pellets Processed	6.28E-05	6.59E-05	5.51E-05	6.13E-05	
lb/hr	2.33E-02	2.34E-02	2.00E-02	2.22E-02	
mg/dscm	4.02E-02	4.07E-02	3.61E-02	3.90E-02	

**Compound:** Manganese

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.0161	0.01808	0.01132	1.52E-02	
lb / Long Tons of Pellets Processed	7.87E-06	8.79E-06	5.56E-06	7.41E-06	
lb/hr	2.92E-03	3.12E-03	2.02E-03	2.69E-03	
mg/dscm	5.06E-03	5.42E-03	3.65E-03	4.71E-03	

**Compound:** Manganese Back Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.005	0.00768	0.00331	5.33E-03	
lb / Long Tons of Pellets Processed	2.45E-06	3.72E-06	1.63E-06	2.60E-06	
lb/hr	9.08E-04	1.32E-03	5.90E-04	9.39E-04	
mg/dscm	1.57E-03	2.30E-03	1.07E-03	1.65E-03	

**Compound:** Manganese Front Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.0111	0.0104	0.00801	9.84E-03	
lb / Long Tons of Pellets Processed	5.44E-06	5.04E-06	3.94E-06	4.81E-06	
lb/hr	2.02E-03	1.79E-03	1.43E-03	1.75E-03	
mg/dscm	3.49E-03	3.12E-03	2.58E-03	3.06E-03	

**Compound:** Mercury

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.004861	0.008282	0.007512	6.89E-03	
lb / Long Tons of Pellets Processed	2.38E-06	4.03E-06	3.69E-06	3.37E-06	
lb/hr	8.83E-04	1.43E-03	1.34E-03	1.22E-03	
mg/dscm	1.53E-03	2.48E-03	2.42E-03	2.14E-03	

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**Compound:** Mercury Back Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.00473	0.00809	0.0071	6.64E-03	
lb / Long Tons of Pellets Processed	2.32E-06	3.92E-06	3.50E-06	3.25E-06	
lb/hr	8.59E-04	1.39E-03	1.27E-03	1.17E-03	
mg/dscm	1.49E-03	2.42E-03	2.29E-03	2.07E-03	

**Compound:** Mercury Front Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.000131	0.000192	0.000412	2.45E-04	
lb / Long Tons of Pellets Processed	6.42E-08	9.32E-08	2.02E-07	1.20E-07	
lb/hr	2.38E-05	3.31E-05	7.35E-05	4.35E-05	
mg/dscm	4.11E-05	5.75E-05	1.33E-04	7.72E-05	

**Compound:** Nickel

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.002017	0.00445	0.00288	3.12E-03	
lb / Long Tons of Pellets Processed	9.87E-07	2.16E-06	1.42E-06	1.52E-06	
lb/hr	3.66E-04	7.67E-04	5.14E-04	5.49E-04	
mg/dscm	6.33E-04	1.33E-03	9.27E-04	9.63E-04	

**Compound:** Nickel Back Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.000677	0.00265	0.00101	1.45E-03	
lb / Long Tons of Pellets Processed	3.32E-07	1.29E-06	4.96E-07	7.06E-07	
lb/hr	1.23E-04	4.57E-04	1.80E-04	2.53E-04	
mg/dscm	2.13E-04	7.94E-04	3.25E-04	4.44E-04	

**Compound:** Nickel Front Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.00134	0.0018	0.00187	1.67E-03	
lb / Long Tons of Pellets Processed	6.55E-07	8.73E-07	9.20E-07	8.16E-07	
lb/hr	2.43E-04	3.10E-04	3.34E-04	2.96E-04	
mg/dscm	4.21E-04	5.39E-04	6.02E-04	5.21E-04	

**Compound:** Phosphorus (yellow or white)

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.00627	0.00629	0.00424	5.60E-03	
lb / Long Tons of Pellets Processed	3.07E-06	3.04E-06	2.08E-06	2.73E-06	
lb/hr	1.14E-03	1.08E-03	7.56E-04	9.92E-04	
mg/dscm	1.97E-03	1.88E-03	1.37E-03	1.74E-03	

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**Compound:** Phosphorus (yellow or white) Back

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.00274	0.00298	0.00243	2.72E-03	
lb / Long Tons of Pellets Processed	1.34E-06	1.45E-06	1.19E-06	1.33E-06	
lb/hr	4.98E-04	5.13E-04	4.33E-04	4.81E-04	
mg/dscm	8.60E-04	8.93E-04	7.83E-04	8.45E-04	

**Compound:** Phosphorus (yellow or white) Front

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.00353	0.00331	0.00181	2.88E-03	
lb / Long Tons of Pellets Processed	1.73E-06	1.61E-06	8.90E-07	1.41E-06	
lb/hr	6.41E-04	5.70E-04	3.23E-04	5.11E-04	
mg/dscm	1.11E-03	9.92E-04	5.83E-04	8.95E-04	

**Compound:** Selenium

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.010553	0.014331	0.01322	1.27E-02	
lb / Long Tons of Pellets Processed	5.18E-06	6.96E-06	6.50E-06	6.21E-06	
lb/hr	1.92E-03	2.47E-03	2.36E-03	2.25E-03	
mg/dscm	3.31E-03	4.29E-03	4.26E-03	3.95E-03	

**Compound:** Selenium Back Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.000253	0.000731	0.00052	5.01E-04	
lb / Long Tons of Pellets Processed	1.24E-07	3.55E-07	2.56E-07	2.45E-07	
lb/hr	4.60E-05	1.26E-04	9.28E-05	8.83E-05	
mg/dscm	7.95E-05	2.19E-04	1.67E-04	1.55E-04	

**Compound:** Selenium Front Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.0103	0.0136	0.0127	1.22E-02	
lb / Long Tons of Pellets Processed	5.04E-06	6.59E-06	6.25E-06	5.96E-06	
lb/hr	1.87E-03	2.34E-03	2.27E-03	2.16E-03	
mg/dscm	3.23E-03	4.07E-03	4.09E-03	3.80E-03	

**Location:** SV015 - Method 3A CO2

**Compound:** Carbon Dioxide

				<b>Average</b>	<b>Reg Limit</b>
Run	1	2	3		
Percent(%)	1.63E+00	1.50E+00	1.56E+00	1.56E+00	

**Location:** SV015 - Method 3A CO2 3

**Compound:** Carbon Dioxide

				<b>Average</b>	<b>Reg Limit</b>
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Run	4	5	6	
Percent(%)	1.42E+00	1.43E+00	1.39E+00	1.41E+00
<b>Location: SV015 - Method 3A O2</b>				
<b>Compound: Oxygen</b>				
			<b>Average</b>	<b>Reg Limit</b>
Run	1	2	3	
Percent(%)	1.95E+01	1.95E+01	1.95E+01	1.95E+01
<b>Location: SV015 - Method 3A O2 3</b>				
<b>Compound: Oxygen</b>				
			<b>Average</b>	<b>Reg Limit</b>
Run	4	5	6	
Percent(%)	1.94E+01	1.94E+01	1.94E+01	1.94E+01
<b>Location: SV016 - Method 10</b>				
<b>Compound: Carbon Monoxide</b>				
			<b>Average</b>	<b>Reg Limit</b>
Run	1	2	3	
lb/hr	2.25E+00	2.25E+00	2.22E+00	2.24E+00
ppm	3.32E+00	3.46E+00	3.46E+00	3.41E+00
<b>Location: SV016 - Method 26A</b>				
<b>Compound: Hydrogen Chloride</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	2.096	6.531	7.684	5.44E+00
lb / Long Tons of Pellets Processed	1.36E-03	4.29E-03	4.96E-03	3.54E-03
lb/hr	5.02E-01	1.52E+00	1.80E+00	1.27E+00
mg/dscm	9.08E-01	2.79E+00	3.36E+00	2.35E+00
<b>Compound: Hydrogen Fluoride</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	1.084	2.214	2.455	1.92E+00
lb / Long Tons of Pellets Processed	7.07E-04	1.46E-03	1.59E-03	1.25E-03
lb/hr	2.60E-01	5.17E-01	5.76E-01	4.51E-01
mg/dscm	4.70E-01	9.47E-01	1.07E+00	8.29E-01
<b>Location: SV016 - Method 29</b>				
<b>Compound: Antimony</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.0001	0.000266	0.000066	1.44E-04
lb / Long Tons of Pellets Processed	5.07E-08	1.32E-07	3.29E-08	7.19E-08
lb/hr	1.82E-05	4.77E-05	1.19E-05	2.59E-05
mg/dscm	3.14E-05	8.57E-05	2.17E-05	4.63E-05
<b>Compound: Antimony Back Half</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	



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Mass_mg	0.00005	0.00005	0.00005	5.00E-05
lb / Long Tons of Pellets Processed	2.53E-08	2.48E-08	2.50E-08	2.50E-08
lb/hr	9.10E-06	8.97E-06	9.04E-06	9.04E-06
mg/dscm	1.57E-05	1.61E-05	1.64E-05	1.61E-05

**Compound:** Antimony Front Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.00005	0.000216	0.000016	9.40E-05
lb / Long Tons of Pellets Processed	2.53E-08	1.07E-07	7.98E-09	4.68E-08
lb/hr	9.10E-06	3.87E-05	2.89E-06	1.69E-05
mg/dscm	1.57E-05	6.96E-05	5.25E-06	3.02E-05

**Compound:** Arsenic

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.007704	0.007704	0.007476	7.63E-03
lb / Long Tons of Pellets Processed	3.90E-06	3.82E-06	3.73E-06	3.82E-06
lb/hr	1.40E-03	1.38E-03	1.35E-03	1.38E-03
mg/dscm	2.42E-03	2.48E-03	2.45E-03	2.45E-03

**Compound:** Arsenic Back Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000154	0.000114	0.000106	1.25E-04
lb / Long Tons of Pellets Processed	7.80E-08	5.65E-08	5.30E-08	6.25E-08
lb/hr	2.80E-05	2.04E-05	1.92E-05	2.25E-05
mg/dscm	4.83E-05	3.67E-05	3.48E-05	3.99E-05

**Compound:** Arsenic Front Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.00755	0.00759	0.00737	7.50E-03
lb / Long Tons of Pellets Processed	3.82E-06	3.77E-06	3.67E-06	3.75E-06
lb/hr	1.37E-03	1.36E-03	1.33E-03	1.35E-03
mg/dscm	2.37E-03	2.44E-03	2.42E-03	2.41E-03

**Compound:** Beryllium

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000051	0.00006	0.000042	5.10E-05
lb / Long Tons of Pellets Processed	2.59E-08	2.99E-08	2.10E-08	2.56E-08
lb/hr	9.29E-06	1.08E-05	7.59E-06	9.23E-06
mg/dscm	1.60E-05	1.93E-05	1.38E-05	1.64E-05

**Compound:** Beryllium Back Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	

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Mass_mg	0.000004	0.000004	0.000004	4.00E-06
lb / Long Tons of Pellets Processed	2.03E-09	1.99E-09	2.00E-09	2.01E-09
lb/hr	7.28E-07	7.17E-07	7.23E-07	7.23E-07
mg/dscm	1.25E-06	1.29E-06	1.31E-06	1.28E-06

**Compound:** Beryllium Front Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.000047	0.000056	0.000038	4.70E-05	
lb / Long Tons of Pellets Processed	2.38E-08	2.77E-08	1.90E-08	2.35E-08	
lb/hr	8.56E-06	1.00E-05	6.87E-06	8.48E-06	
mg/dscm	1.47E-05	1.80E-05	1.25E-05	1.51E-05	

**Compound:** Cadmium

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.000389	0.000435	0.000354	3.93E-04	
lb / Long Tons of Pellets Processed	1.97E-07	2.16E-07	1.77E-07	1.97E-07	
lb/hr	7.08E-05	7.80E-05	6.40E-05	7.09E-05	
mg/dscm	1.22E-04	1.40E-04	1.16E-04	1.26E-04	

**Compound:** Cadmium Back Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.000022	0.000008	0.000008	1.27E-05	
lb / Long Tons of Pellets Processed	1.12E-08	3.96E-09	4.01E-09	6.39E-09	
lb/hr	4.01E-06	1.43E-06	1.45E-06	2.30E-06	
mg/dscm	6.90E-06	2.58E-06	2.63E-06	4.04E-06	

**Compound:** Cadmium Front Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.000367	0.000427	0.000346	3.80E-04	
lb / Long Tons of Pellets Processed	1.86E-07	2.12E-07	1.73E-07	1.90E-07	
lb/hr	6.68E-05	7.66E-05	6.26E-05	6.87E-05	
mg/dscm	1.15E-04	1.38E-04	1.14E-04	1.22E-04	

**Compound:** Chromium

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.00741	0.00715	0.006072	6.88E-03	
lb / Long Tons of Pellets Processed	3.76E-06	3.55E-06	3.04E-06	3.45E-06	
lb/hr	1.35E-03	1.28E-03	1.10E-03	1.24E-03	
mg/dscm	2.32E-03	2.30E-03	1.99E-03	2.20E-03	

**Compound:** Chromium Back Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		

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Mass_mg	0.00188	0.00157	0.000282	1.24E-03
lb / Long Tons of Pellets Processed	9.53E-07	7.81E-07	1.41E-07	6.25E-07
lb/hr	3.42E-04	2.82E-04	5.10E-05	2.25E-04
mg/dscm	5.90E-04	5.06E-04	9.26E-05	3.96E-04

**Compound: Chromium Front Half**

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.00553	0.00558	0.00579	5.63E-03
lb / Long Tons of Pellets Processed	2.81E-06	2.77E-06	2.90E-06	2.83E-06
lb/hr	1.01E-03	1.00E-03	1.05E-03	1.02E-03
mg/dscm	1.73E-03	1.80E-03	1.90E-03	1.81E-03

**Compound: Cobalt**

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000114	0.000115	0.000104	1.11E-04
lb / Long Tons of Pellets Processed	5.79E-08	5.71E-08	5.19E-08	5.56E-08
lb/hr	2.08E-05	2.06E-05	1.88E-05	2.01E-05
mg/dscm	3.58E-05	3.70E-05	3.41E-05	3.56E-05

**Compound: Cobalt Back Half**

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000047	0.00003	0.000033	3.67E-05
lb / Long Tons of Pellets Processed	2.38E-08	1.49E-08	1.65E-08	1.84E-08
lb/hr	8.56E-06	5.38E-06	5.97E-06	6.64E-06
mg/dscm	1.47E-05	9.66E-06	1.08E-05	1.17E-05

**Compound: Cobalt Front Half**

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000067	0.000085	0.000071	7.43E-05
lb / Long Tons of Pellets Processed	3.40E-08	4.21E-08	3.54E-08	3.72E-08
lb/hr	1.22E-05	1.52E-05	1.28E-05	1.34E-05
mg/dscm	2.10E-05	2.74E-05	2.33E-05	2.39E-05

**Compound: Filterable Particulate**

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	41.9	42.6	35.3	3.99E+01
lb / Long Tons of Pellets Processed	2.13E-02	2.12E-02	1.76E-02	2.00E-02
lb/hr	7.63E+00	7.64E+00	6.38E+00	7.22E+00
mg/dscm	1.31E+01	1.37E+01	1.16E+01	1.28E+01

**Compound: Lead**

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	

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Mass_mg	0.12316	0.122595	0.114417	1.20E-01
lb / Long Tons of Pellets Processed	6.24E-05	6.09E-05	5.72E-05	6.02E-05
lb/hr	2.24E-02	2.20E-02	2.07E-02	2.17E-02
mg/dscm	3.86E-02	3.95E-02	3.76E-02	3.86E-02

**Compound:** Lead Back Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.00116	0.000595	0.000417	7.24E-04	
lb / Long Tons of Pellets Processed	5.88E-07	2.96E-07	2.08E-07	3.64E-07	
lb/hr	2.11E-04	1.07E-04	7.54E-05	1.31E-04	
mg/dscm	3.64E-04	1.92E-04	1.37E-04	2.31E-04	

**Compound:** Lead Front Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.122	0.122	0.114	1.19E-01	
lb / Long Tons of Pellets Processed	6.18E-05	6.07E-05	5.69E-05	5.98E-05	
lb/hr	2.22E-02	2.19E-02	2.06E-02	2.16E-02	
mg/dscm	3.83E-02	3.93E-02	3.74E-02	3.83E-02	

**Compound:** Manganese

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.01414	0.01642	0.01355	1.47E-02	
lb / Long Tons of Pellets Processed	7.16E-06	8.14E-06	6.77E-06	7.36E-06	
lb/hr	2.57E-03	2.94E-03	2.45E-03	2.65E-03	
mg/dscm	4.44E-03	5.29E-03	4.45E-03	4.73E-03	

**Compound:** Manganese Back Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.00224	0.00192	0.00315	2.44E-03	
lb / Long Tons of Pellets Processed	1.14E-06	9.53E-07	1.57E-06	1.22E-06	
lb/hr	4.08E-04	3.44E-04	5.70E-04	4.41E-04	
mg/dscm	7.03E-04	6.18E-04	1.03E-03	7.84E-04	

**Compound:** Manganese Front Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.0119	0.0145	0.0104	1.23E-02	
lb / Long Tons of Pellets Processed	6.04E-06	7.20E-06	5.19E-06	6.14E-06	
lb/hr	2.17E-03	2.60E-03	1.88E-03	2.22E-03	
mg/dscm	3.73E-03	4.67E-03	3.41E-03	3.94E-03	

**Compound:** Mercury

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		

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Mass_mg	0.009512	0.008229	0.008776	8.84E-03
lb / Long Tons of Pellets Processed	4.82E-06	4.10E-06	4.39E-06	4.44E-06
lb/hr	1.73E-03	1.48E-03	1.59E-03	1.60E-03
mg/dscm	2.98E-03	2.65E-03	2.88E-03	2.84E-03

**Compound:** Mercury Back Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.00889	0.00819	0.00853	8.54E-03	
lb / Long Tons of Pellets Processed	4.51E-06	4.07E-06	4.25E-06	4.28E-06	
lb/hr	1.62E-03	1.47E-03	1.54E-03	1.54E-03	
mg/dscm	2.79E-03	2.64E-03	2.80E-03	2.74E-03	

**Compound:** Mercury Front Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.000622	0.000039	0.000246	3.02E-04	
lb / Long Tons of Pellets Processed	3.15E-07	1.94E-08	1.23E-07	1.52E-07	
lb/hr	1.13E-04	6.99E-06	4.45E-05	5.48E-05	
mg/dscm	1.95E-04	1.26E-05	8.08E-05	9.61E-05	

**Compound:** Nickel

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.001311	0.002906	0.001923	2.05E-03	
lb / Long Tons of Pellets Processed	6.66E-07	1.44E-06	9.61E-07	1.02E-06	
lb/hr	2.39E-04	5.21E-04	3.48E-04	3.69E-04	
mg/dscm	4.11E-04	9.36E-04	6.31E-04	6.59E-04	

**Compound:** Nickel Back Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.000351	0.000166	0.000213	2.43E-04	
lb / Long Tons of Pellets Processed	1.78E-07	8.25E-08	1.06E-07	1.22E-07	
lb/hr	6.39E-05	2.98E-05	3.85E-05	4.41E-05	
mg/dscm	1.10E-04	5.35E-05	6.99E-05	7.78E-05	

**Compound:** Nickel Front Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.00096	0.00274	0.00171	1.80E-03	
lb / Long Tons of Pellets Processed	4.87E-07	1.36E-06	8.54E-07	9.00E-07	
lb/hr	1.75E-04	4.91E-04	3.09E-04	3.25E-04	
mg/dscm	3.01E-04	8.83E-04	5.61E-04	5.82E-04	

**Compound:** Phosphorus (yellow or white)

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		

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Mass_mg	0.0043	0.00493	0.00507	4.77E-03
lb / Long Tons of Pellets Processed	2.18E-06	2.45E-06	2.53E-06	2.39E-06
lb/hr	7.83E-04	8.84E-04	9.17E-04	8.61E-04
mg/dscm	1.35E-03	1.59E-03	1.66E-03	1.53E-03

**Compound:** Phosphorus (yellow or white) Back

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.00199	0.00218	0.00352	2.56E-03	
lb / Long Tons of Pellets Processed	1.01E-06	1.08E-06	1.76E-06	1.28E-06	
lb/hr	3.62E-04	3.91E-04	6.36E-04	4.63E-04	
mg/dscm	6.24E-04	7.02E-04	1.16E-03	8.29E-04	

**Compound:** Phosphorus (yellow or white) Front

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.00231	0.00275	0.00155	2.20E-03	
lb / Long Tons of Pellets Processed	1.17E-06	1.37E-06	7.73E-07	1.10E-06	
lb/hr	4.21E-04	4.93E-04	2.80E-04	3.98E-04	
mg/dscm	7.25E-04	8.86E-04	5.09E-04	7.07E-04	

**Compound:** Selenium

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.008795	0.008702	0.008656	8.72E-03	
lb / Long Tons of Pellets Processed	4.46E-06	4.32E-06	4.34E-06	4.37E-06	
lb/hr	1.60E-03	1.56E-03	1.57E-03	1.58E-03	
mg/dscm	2.76E-03	2.80E-03	2.84E-03	2.80E-03	

**Compound:** Selenium Back Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.000685	0.000532	0.000526	5.81E-04	
lb / Long Tons of Pellets Processed	3.48E-07	2.64E-07	2.63E-07	2.92E-07	
lb/hr	1.25E-04	9.54E-05	9.51E-05	1.05E-04	
mg/dscm	2.15E-04	1.71E-04	1.73E-04	1.86E-04	

**Compound:** Selenium Front Half

				<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3		
Mass_mg	0.00811	0.00817	0.00813	8.14E-03	
lb / Long Tons of Pellets Processed	4.12E-06	4.07E-06	4.06E-06	4.08E-06	
lb/hr	1.48E-03	1.47E-03	1.47E-03	1.47E-03	
mg/dscm	2.54E-03	2.63E-03	2.67E-03	2.61E-03	

**Location:** SV016 - Method 3A CO2

**Compound:** Carbon Dioxide

				<b>Average</b>	<b>Reg Limit</b>
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Run	1	2	3	
Percent(%)	2.16E+00	2.19E+00	2.07E+00	2.14E+00
<b>Location: SV016 - Method 3A CO2 3</b>				
<b>Compound: Carbon Dioxide</b>				
			<b>Average</b>	<b>Reg Limit</b>
Run	4	5	6	
Percent(%)	2.19E+00	2.09E+00	2.17E+00	2.15E+00
<b>Location: SV016 - Method 3A O2</b>				
<b>Compound: Oxygen</b>				
			<b>Average</b>	<b>Reg Limit</b>
Run	1	2	3	
Percent(%)	1.86E+01	1.85E+01	1.86E+01	1.86E+01
<b>Location: SV016 - Method 3A O2 3</b>				
<b>Compound: Oxygen</b>				
			<b>Average</b>	<b>Reg Limit</b>
Run	4	5	6	
Percent(%)	1.84E+01	1.84E+01	1.84E+01	1.84E+01
<b>Location: SV017 - Method 10</b>				
<b>Compound: Carbon Monoxide</b>				
			<b>Average</b>	<b>Reg Limit</b>
Run	1	2	3	
lb/hr	3.55E+00	6.29E+00	6.28E+00	5.37E+00
ppm	5.45E+00	9.39E+00	9.79E+00	8.21E+00
<b>Location: SV017 - Method 26A</b>				
<b>Compound: Hydrogen Chloride</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.227	1.615	3.165	1.67E+00
lb / Long Tons of Pellets Processed	1.56E-04	1.05E-03	2.10E-03	1.10E-03
lb/hr	5.61E-02	3.79E-01	7.50E-01	3.95E-01
mg/dscm	1.13E-01	7.53E-01	1.42E+00	7.62E-01
<b>Compound: Hydrogen Fluoride</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.12	0.157	0.272	1.83E-01
lb / Long Tons of Pellets Processed	8.27E-05	1.02E-04	1.80E-04	1.22E-04
lb/hr	2.97E-02	3.68E-02	6.44E-02	4.36E-02
mg/dscm	5.95E-02	7.32E-02	1.22E-01	8.49E-02
<b>Location: SV017 - Method 29</b>				
<b>Compound: Antimony</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000076	0.00008	0.000186	1.14E-04
lb / Long Tons of Pellets Processed	3.69E-08	4.06E-08	9.17E-08	5.64E-08

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lb/hr	1.37E-05	1.44E-05	3.33E-05	2.05E-05
mg/dscm	2.46E-05	2.51E-05	6.04E-05	3.67E-05

**Compound:** Antimony Back Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000051	0.00005	0.000136	7.90E-05
lb / Long Tons of Pellets Processed	2.48E-08	2.54E-08	6.69E-08	3.90E-08
lb/hr	9.20E-06	9.01E-06	2.43E-05	1.42E-05
mg/dscm	1.65E-05	1.57E-05	4.42E-05	2.55E-05

**Compound:** Antimony Front Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000025	0.00003	0.00005	3.50E-05
lb / Long Tons of Pellets Processed	1.22E-08	1.52E-08	2.47E-08	1.74E-08
lb/hr	4.51E-06	5.40E-06	8.95E-06	6.29E-06
mg/dscm	8.08E-06	9.40E-06	1.62E-05	1.12E-05

**Compound:** Arsenic

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.009278	0.011424	0.010206	1.03E-02
lb / Long Tons of Pellets Processed	4.50E-06	5.80E-06	5.04E-06	5.11E-06
lb/hr	1.67E-03	2.06E-03	1.83E-03	1.85E-03
mg/dscm	3.00E-03	3.58E-03	3.32E-03	3.30E-03

**Compound:** Arsenic Back Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000128	0.000124	0.000106	1.19E-04
lb / Long Tons of Pellets Processed	6.23E-08	6.28E-08	5.23E-08	5.91E-08
lb/hr	2.31E-05	2.23E-05	1.90E-05	2.15E-05
mg/dscm	4.14E-05	3.88E-05	3.44E-05	3.82E-05

**Compound:** Arsenic Front Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.00915	0.0113	0.0101	1.02E-02
lb / Long Tons of Pellets Processed	4.45E-06	5.75E-06	4.99E-06	5.06E-06
lb/hr	1.65E-03	2.04E-03	1.81E-03	1.83E-03
mg/dscm	2.96E-03	3.54E-03	3.28E-03	3.26E-03

**Compound:** Beryllium

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000066	0.000063	0.00006	6.30E-05
lb / Long Tons of Pellets Processed	3.21E-08	3.18E-08	2.95E-08	3.11E-08



**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

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lb/hr	1.19E-05	1.13E-05	1.07E-05	1.13E-05
mg/dscm	2.13E-05	1.97E-05	1.95E-05	2.02E-05
<b>Compound: Beryllium Back Half</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000004	0.000004	0.000004	4.00E-06
lb / Long Tons of Pellets Processed	1.95E-09	2.03E-09	1.97E-09	1.98E-09
lb/hr	7.22E-07	7.21E-07	7.16E-07	7.20E-07
mg/dscm	1.29E-06	1.25E-06	1.30E-06	1.28E-06
<b>Compound: Beryllium Front Half</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000062	0.000059	0.000056	5.90E-05
lb / Long Tons of Pellets Processed	3.02E-08	2.99E-08	2.75E-08	2.92E-08
lb/hr	1.12E-05	1.06E-05	1.00E-05	1.06E-05
mg/dscm	2.00E-05	1.85E-05	1.82E-05	1.89E-05
<b>Compound: Cadmium</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000417	0.000507	0.000412	4.45E-04
lb / Long Tons of Pellets Processed	2.03E-07	2.57E-07	2.03E-07	2.21E-07
lb/hr	7.52E-05	9.13E-05	7.37E-05	8.01E-05
mg/dscm	1.35E-04	1.59E-04	1.34E-04	1.43E-04
<b>Compound: Cadmium Back Half</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000015	0.000058	0.000041	3.80E-05
lb / Long Tons of Pellets Processed	7.30E-09	2.93E-08	2.02E-08	1.89E-08
lb/hr	2.71E-06	1.04E-05	7.34E-06	6.82E-06
mg/dscm	4.85E-06	1.82E-05	1.33E-05	1.21E-05
<b>Compound: Cadmium Front Half</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000402	0.000449	0.000371	4.07E-04
lb / Long Tons of Pellets Processed	1.95E-07	2.28E-07	1.83E-07	2.02E-07
lb/hr	7.25E-05	8.09E-05	6.64E-05	7.33E-05
mg/dscm	1.30E-04	1.41E-04	1.21E-04	1.31E-04
<b>Compound: Chromium</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.008245	0.008734	0.008528	8.50E-03
lb / Long Tons of Pellets Processed	4.02E-06	4.42E-06	4.21E-06	4.22E-06

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lb/hr	1.49E-03	1.57E-03	1.53E-03	1.53E-03
mg/dscm	2.66E-03	2.74E-03	2.77E-03	2.72E-03

**Compound:** Chromium Back Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000685	0.000574	0.000448	5.69E-04
lb / Long Tons of Pellets Processed	3.34E-07	2.90E-07	2.21E-07	2.82E-07
lb/hr	1.24E-04	1.03E-04	8.02E-05	1.02E-04
mg/dscm	2.21E-04	1.80E-04	1.46E-04	1.82E-04

**Compound:** Chromium Front Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.00756	0.00816	0.00808	7.93E-03
lb / Long Tons of Pellets Processed	3.67E-06	4.14E-06	3.99E-06	3.93E-06
lb/hr	1.36E-03	1.47E-03	1.45E-03	1.43E-03
mg/dscm	2.44E-03	2.56E-03	2.63E-03	2.54E-03

**Compound:** Cobalt

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000144	0.000111	0.000126	1.27E-04
lb / Long Tons of Pellets Processed	7.01E-08	5.63E-08	6.20E-08	6.28E-08
lb/hr	2.60E-05	2.00E-05	2.25E-05	2.28E-05
mg/dscm	4.65E-05	3.48E-05	4.09E-05	4.07E-05

**Compound:** Cobalt Back Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000039	0.000039	0.00003	3.60E-05
lb / Long Tons of Pellets Processed	1.90E-08	1.98E-08	1.48E-08	1.79E-08
lb/hr	7.04E-06	7.03E-06	5.37E-06	6.48E-06
mg/dscm	1.26E-05	1.22E-05	9.75E-06	1.15E-05

**Compound:** Cobalt Front Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000105	0.000072	0.000096	9.10E-05
lb / Long Tons of Pellets Processed	5.09E-08	3.66E-08	4.74E-08	4.50E-08
lb/hr	1.89E-05	1.30E-05	1.72E-05	1.64E-05
mg/dscm	3.39E-05	2.26E-05	3.12E-05	2.92E-05

**Compound:** Filterable Particulate

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	40.2	34.7	34.6	3.65E+01
lb / Long Tons of Pellets Processed	1.95E-02	1.76E-02	1.71E-02	1.81E-02

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lb/hr	7.25E+00	6.25E+00	6.19E+00	6.56E+00
mg/dscm	1.30E+01	1.09E+01	1.12E+01	1.17E+01
<b>Compound: Lead</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.132949	0.13091	0.1213	1.28E-01
lb / Long Tons of Pellets Processed	6.47E-05	6.65E-05	5.98E-05	6.37E-05
lb/hr	2.40E-02	2.36E-02	2.17E-02	2.31E-02
mg/dscm	4.30E-02	4.10E-02	3.94E-02	4.11E-02
<b>Compound: Lead Back Half</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000949	0.00191	0.0013	1.39E-03
lb / Long Tons of Pellets Processed	4.61E-07	9.69E-07	6.42E-07	6.91E-07
lb/hr	1.71E-04	3.44E-04	2.33E-04	2.49E-04
mg/dscm	3.07E-04	5.98E-04	4.22E-04	4.42E-04
<b>Compound: Lead Front Half</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.132	0.129	0.12	1.27E-01
lb / Long Tons of Pellets Processed	6.42E-05	6.54E-05	5.92E-05	6.29E-05
lb/hr	2.38E-02	2.32E-02	2.15E-02	2.28E-02
mg/dscm	4.26E-02	4.04E-02	3.90E-02	4.07E-02
<b>Compound: Manganese</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.01956	0.01624	0.01405	1.66E-02
lb / Long Tons of Pellets Processed	9.51E-06	8.25E-06	6.91E-06	8.22E-06
lb/hr	3.53E-03	2.93E-03	2.51E-03	2.99E-03
mg/dscm	6.32E-03	5.09E-03	4.56E-03	5.32E-03
<b>Compound: Manganese Back Half</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.00556	0.00544	0.00365	4.88E-03
lb / Long Tons of Pellets Processed	2.70E-06	2.76E-06	1.80E-06	2.42E-06
lb/hr	1.00E-03	9.80E-04	6.53E-04	8.78E-04
mg/dscm	1.80E-03	1.70E-03	1.19E-03	1.56E-03
<b>Compound: Manganese Front Half</b>				
			<b>Average</b>	<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.014	0.0108	0.0104	1.17E-02
lb / Long Tons of Pellets Processed	6.82E-06	5.49E-06	5.12E-06	5.81E-06

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lb/hr	2.53E-03	1.95E-03	1.86E-03	2.11E-03
mg/dscm	4.52E-03	3.38E-03	3.38E-03	3.76E-03

**Compound:** Mercury

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.009972	0.017204	0.018361	1.52E-02
lb / Long Tons of Pellets Processed	4.85E-06	8.73E-06	9.04E-06	7.54E-06
lb/hr	1.80E-03	3.10E-03	3.28E-03	2.73E-03
mg/dscm	3.22E-03	5.39E-03	5.97E-03	4.86E-03

**Compound:** Mercury Back Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.00988	0.0171	0.0182	1.51E-02
lb / Long Tons of Pellets Processed	4.80E-06	8.68E-06	8.98E-06	7.49E-06
lb/hr	1.78E-03	3.08E-03	3.26E-03	2.71E-03
mg/dscm	3.19E-03	5.36E-03	5.91E-03	4.82E-03

**Compound:** Mercury Front Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000092	0.000104	0.000161	1.19E-04
lb / Long Tons of Pellets Processed	4.47E-08	5.27E-08	7.93E-08	5.89E-08
lb/hr	1.66E-05	1.87E-05	2.88E-05	2.14E-05
mg/dscm	2.97E-05	3.26E-05	5.23E-05	3.82E-05

**Compound:** Nickel

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.002071	0.002656	0.00354	2.76E-03
lb / Long Tons of Pellets Processed	1.01E-06	1.35E-06	1.74E-06	1.37E-06
lb/hr	3.74E-04	4.78E-04	6.33E-04	4.95E-04
mg/dscm	6.69E-04	8.32E-04	1.15E-03	8.84E-04

**Compound:** Nickel Back Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000661	0.000846	0.00101	8.39E-04
lb / Long Tons of Pellets Processed	3.21E-07	4.28E-07	4.99E-07	4.16E-07
lb/hr	1.19E-04	1.52E-04	1.81E-04	1.51E-04
mg/dscm	2.14E-04	2.65E-04	3.28E-04	2.69E-04

**Compound:** Nickel Front Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.00141	0.00181	0.00253	1.92E-03
lb / Long Tons of Pellets Processed	6.85E-07	9.18E-07	1.25E-06	9.51E-07

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lb/hr	2.54E-04	3.26E-04	4.53E-04	3.44E-04
mg/dscm	4.56E-04	5.67E-04	8.22E-04	6.15E-04

**Compound:** Phosphorus (yellow or white)

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.00495	0.0047	0.00414	4.60E-03
lb / Long Tons of Pellets Processed	2.41E-06	2.39E-06	2.04E-06	2.28E-06
lb/hr	8.93E-04	8.47E-04	7.41E-04	8.27E-04
mg/dscm	1.60E-03	1.47E-03	1.35E-03	1.47E-03

**Compound:** Phosphorus (yellow or white) Back

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.00218	0.00177	0.00148	1.81E-03
lb / Long Tons of Pellets Processed	1.06E-06	8.99E-07	7.30E-07	8.96E-07
lb/hr	3.93E-04	3.19E-04	2.65E-04	3.26E-04
mg/dscm	7.04E-04	5.54E-04	4.81E-04	5.80E-04

**Compound:** Phosphorus (yellow or white) Front

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.00277	0.00293	0.00266	2.79E-03
lb / Long Tons of Pellets Processed	1.35E-06	1.49E-06	1.31E-06	1.38E-06
lb/hr	5.00E-04	5.28E-04	4.76E-04	5.01E-04
mg/dscm	8.95E-04	9.18E-04	8.64E-04	8.92E-04

**Compound:** Selenium

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.002885	0.003801	0.00382	3.50E-03
lb / Long Tons of Pellets Processed	1.40E-06	1.93E-06	1.88E-06	1.74E-06
lb/hr	5.20E-04	6.85E-04	6.83E-04	6.29E-04
mg/dscm	9.32E-04	1.19E-03	1.24E-03	1.12E-03

**Compound:** Selenium Back Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.000305	0.000611	0.00065	5.22E-04
lb / Long Tons of Pellets Processed	1.48E-07	3.10E-07	3.20E-07	2.59E-07
lb/hr	5.50E-05	1.10E-04	1.16E-04	9.37E-05
mg/dscm	9.85E-05	1.91E-04	2.11E-04	1.67E-04

**Compound:** Selenium Front Half

	<b>Average</b>			<b>Reg Limit</b>
RunNumber	1	2	3	
Mass_mg	0.00258	0.00319	0.00317	2.98E-03
lb / Long Tons of Pellets Processed	1.25E-06	1.62E-06	1.56E-06	1.48E-06

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lb/hr	4.65E-04	5.75E-04	5.67E-04	5.36E-04
mg/dscm	8.34E-04	9.99E-04	1.03E-03	9.54E-04
<b>Location: SV017 - Method 3A CO2</b>				
<b>Compound: Carbon Dioxide</b>				
			<b>Average</b>	<b>Reg Limit</b>
Run	1	2	3	
Percent(%)	2.68E+00	2.62E+00	2.69E+00	2.66E+00
<b>Location: SV017 - Method 3A CO2 3</b>				
<b>Compound: Carbon Dioxide</b>				
			<b>Average</b>	<b>Reg Limit</b>
Run	4	5	6	
Percent(%)	2.71E+00	2.74E+00	2.75E+00	2.73E+00
<b>Location: SV017 - Method 3A O2</b>				
<b>Compound: Oxygen</b>				
			<b>Average</b>	<b>Reg Limit</b>
Run	1	2	3	
Percent(%)	1.80E+01	1.81E+01	1.81E+01	1.81E+01
<b>Location: SV017 - Method 3A O2 3</b>				
<b>Compound: Oxygen</b>				
			<b>Average</b>	<b>Reg Limit</b>
Run	4	5	6	
Percent(%)	1.80E+01	1.80E+01	1.81E+01	1.80E+01

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

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**Process Run Data**

Process:		Pellets Processed		SCC: 30302382	
Comment:					
Run	Value	Unit of Measure	Target Low	Target High	Comment
1	359	Long Tons/hr	340	400	SV014/SV016 M29
2	361	Long Tons/hr	340	400	SV014/SV016 M29
3	362	Long Tons/hr	340	400	SV014/SV016 M29
4	371	Long Tons/hr	340	400	SV015/SV017 M29
5	355	Long Tons/hr	340	400	SV015/SV017 M29
6	363	Long Tons/hr	340	400	SV015/SV017 M29
7	368	Long Tons/hr	340	400	SV014/SV016 M26A
8	354	Long Tons/hr	340	400	SV014/SV016 M26A
9	363	Long Tons/hr	340	400	SV014/SV016 M26A
10	359	Long Tons/hr	340	400	SV015/SV017 M26A
11	361	Long Tons/hr	340	400	SV015/SV017 M26A
12	357	Long Tons/hr	340	400	SV015/SV017 M26A
Process:		Natural Gas Burned		SCC:	
Comment:					
Run	Value	Unit of Measure	Target Low	Target High	Comment
1	2E+05	Cubic Feet/hr	0	0	SV014/SV016 M29
2	2E+05	Cubic Feet/hr	0	0	SV014/SV016 M29
3	2E+05	Cubic Feet/hr	0	0	SV014/SV016 M29
4	2E+05	Cubic Feet/hr	0	0	SV015/SV017 M29
5	2E+05	Cubic Feet/hr	0	0	SV015/SV017 M29
6	2E+05	Cubic Feet/hr	0	0	SV015/SV017 M29
7	2E+05	Cubic Feet/hr	0	0	SV014/SV016 M26A
8	2E+05	Cubic Feet/hr	0	0	SV014/SV016 M26A
9	2E+05	Cubic Feet/hr	0	0	SV014/SV016 M26A
10	2E+05	Cubic Feet/hr	0	0	SV015/SV017 M26A
11	2E+05	Cubic Feet/hr	0	0	SV015/SV017 M26A
12	2E+05	Cubic Feet/hr	0	0	SV015/SV017 M26A
Process:		Binder Added		SCC:	
Comment: CBI - Pounds of bentonite per wet long ton of disk feed					
Run	Value	Unit of Measure	Target Low	Target High	Comment
1		Pounds/hr	0	0	CBI - SV014/SV016 M29
2		Pounds/hr	0	0	CBI - SV014/SV016 M29
3		Pounds/hr	0	0	CBI - SV014/SV016 M29
4		Pounds/hr	0	0	CBI - SV015/SV017 M29
5		Pounds/hr	0	0	CBI - SV015/SV017 M29
6		Pounds/hr	0	0	CBI - SV015/SV017 M29
7		Pounds/hr	0	0	CBI - SV014/SV016 M26A
8		Pounds/hr	0	0	CBI - SV014/SV016 M26A
9		Pounds/hr	0	0	CBI - SV014/SV016 M26A
10		Pounds/hr	0	0	CBI - SV015/SV017 M26A
11		Pounds/hr	0	0	CBI - SV015/SV017 M26A
12		Pounds/hr	0	0	CBI - SV015/SV017 M26A

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

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Process: Caustic Added		SCC:			
Comment: CBI					
Run	Value	Unit of Measure	Target Low	Target High	Comment
1		Gallons/day	0	0	CBI - SV014/SV016 M29
2		Gallons/day	0	0	CBI - SV014/SV016 M29
3		Gallons/day	0	0	CBI - SV014/SV016 M29
4		Gallons/day	0	0	CBI - SV015/SV017 M29
5		Gallons/day	0	0	CBI - SV015/SV017 M29
6		Gallons/day	0	0	CBI - SV015/SV017 M29
7		Gallons/day	0	0	CBI - SV014/SV016 M26A
8		Gallons/day	0	0	CBI - SV014/SV016 M26A
9		Gallons/day	0	0	CBI - SV014/SV016 M26A
10		Gallons/day	0	0	CBI - SV015/SV017 M26A
11		Gallons/day	0	0	CBI - SV015/SV017 M26A
12		Gallons/day	0	0	CBI - SV015/SV017 M26A

**APCD Run Data**

APCD: WET SCRUBBER					
Comment: SV017/CE017					
Run	Value	Unit of Measure	Target Value	Comment	
1	0	gpm	847	SV017/CE017 M29	
1	1.9	dp	1.8	SV014/CE014 M29	
1	2	dp	1.9	SV016/CE016 M29	
1	885	gpm	795	SV016/CE016 M29	
1	895	gpm	803	SV014/CE014 M29	
1	0	dp	2.2	SV017/CE017 M29	
1	0	gpm	814	SV015/CE015 M29	
1	0	dp	2.2	SV015/CE015 M29	
2	895	gpm	803	SV014/CE014 M29	
2	2	dp	1.9	SV016/CE016 M29	
2	0	dp	2.2	SV015/CE015 M29	
2	0	dp	2.2	SV017/CE017 M29	
2	0	gpm	814	SV015/CE015 M29	
2	886	gpm	795	SV016/CE016 M29	
2	1.9	dp	1.8	SV014/CE014 M29	
2	0	gpm	847	SV017/CE017 M29	
3	0	dp	2.2	SV017/CE017 M29	
3	1.9	dp	1.9	SV016/CE016 M29	
3	0	gpm	814	SV015/CE015 M29	
3	917	gpm	795	SV016/CE016 M29	
3	921	gpm	803	SV014/CE014 M29	
3	1.8	dp	1.8	SV014/CE014 M29	
3	0	gpm	847	SV017/CE017 M29	
3	0	dp	2.2	SV015/CE015 M29	
4	0	gpm	795	SV016/CE016 M29	
4	0	gpm	803	SV014/CE014 M29	



**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

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4	0	dp	1.8	SV014/CE014 M29
4	936	gpm	847	SV017/CE017 M29
4	0	dp	1.9	SV016/CE016 M29
4	2.2	dp	2.2	SV015/CE015 M29
4	2.3	dp	2.2	SV017/CE017 M29
4	936	gpm	814	SV015/CE015 M29
5	0	gpm	803	SV014/CE014 M29
5	2.1	dp	2.2	SV015/CE015 M29
5	0	dp	1.9	SV016/CE016 M29
5	947	gpm	814	SV015/CE015 M29
5	964	gpm	847	SV017/CE017 M29
5	0	dp	1.8	SV014/CE014 M29
5	2.2	dp	2.2	SV017/CE017 M29
5	0	gpm	795	SV016/CE016 M29
6	949	gpm	814	SV015/CE015 M29
6	0	dp	1.9	SV016/CE016 M29
6	2.3	dp	2.2	SV017/CE017 M29
6	0	gpm	803	SV014/CE014 M29
6	0	gpm	795	SV016/CE016 M29
6	0	dp	1.8	SV014/CE014 M29
6	2.2	dp	2.2	SV015/CE015 M29
6	966	gpm	847	SV017/CE017 M29
7	1024	gpm	803	SV014/CE014 M26A
7	0	gpm	847	SV017/CE017 M26A
7	0	gpm	814	SV015/CE015 M26A
7	1088	gpm	795	SV016/CE016 M26A
7	0	dp	2.2	SV017/CE017 M26A
7	0	dp	2.2	SV015/CE015 M26A
7	2.1	dp	1.9	SV016/CE016 M26A
7	2.9	dp	1.8	SV014/CE014 M26A
8	0	dp	2.2	SV015/CE015 M26A
8	1016	gpm	803	SV014/CE014 M26A
8	3.4	dp	1.8	SV014/CE014 M26A
8	0	gpm	847	SV017/CE017 M26A
8	0	dp	2.2	SV017/CE017 M26A
8	1079	gpm	795	SV016/CE016 M26A
8	0	gpm	814	SV015/CE015 M26A
8	2	dp	1.9	SV016/CE016 M26A
9	0	dp	2.2	SV017/CE017 M26A
9	3.5	dp	1.8	SV014/CE014 M26A
9	0	dp	2.2	SV015/CE015 M26A
9	0	gpm	847	SV017/CE017 M26A
9	0	gpm	814	SV015/CE015 M26A
9	2.1	dp	1.9	SV016/CE016 M26A
9	1015	gpm	803	SV014/CE014 M26A
9	1078	gpm	795	SV016/CE016 M26A

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

10	1032	gpm	847	SV017/CE017 M26A
10	3.2	dp	2.2	SV017/CE017 M26A
10	0	gpm	803	SV014/CE014 M26A
10	0	gpm	795	SV016/CE016 M26A
10	0	dp	1.8	SV014/CE014 M26A
10	1123	gpm	814	SV015/CE015 M26A
10	3.3	dp	2.2	SV015/CE015 M26A
10	0	dp	1.9	SV016/CE016 M26A
11	0	dp	1.8	SV014/CE014 M26A
11	0	gpm	803	SV014/CE014 M26A
11	3.3	dp	2.2	SV015/CE015 M26A
11	1124	gpm	814	SV015/CE015 M26A
11	0	dp	1.9	SV016/CE016 M26A
11	0	gpm	795	SV016/CE016 M26A
11	3.2	dp	2.2	SV017/CE017 M26A
11	1033	gpm	847	SV017/CE017 M26A
12	0	gpm	803	SV014/CE014 M26A
12	0	dp	1.8	SV014/CE014 M26A
12	2.1	dp	2.2	SV015/CE015 M26A
12	855	gpm	847	SV017/CE017 M26A
12	0	dp	1.9	SV016/CE016 M26A
12	0	gpm	795	SV016/CE016 M26A
12	2.4	dp	2.2	SV017/CE017 M26A
12	891	gpm	814	SV015/CE015 M26A

**Process Lab Run Data**

Lab Analysis: Flux mixing rate			
Comment: CBI			
Run	Value	Unit of Measure	Comment
1		CaO/SiO2	CBI - SV014/SV016 M29
2		CaO/SiO2	CBI - SV014/SV016 M29
3		CaO/SiO2	CBI - SV014/SV016 M29
4		CaO/SiO2	CBI - SV015/SV017 M29
5		CaO/SiO2	CBI - SV015/SV017 M29
6		CaO/SiO2	CBI - SV015/SV017 M29
7		CaO/SiO2	CBI - SV014/SV016 M26A
8		CaO/SiO2	CBI - SV014/SV016 M26A
9		CaO/SiO2	CBI - SV014/SV016 M26A
10		CaO/SiO2	CBI - SV015/SV017 M26A
11		CaO/SiO2	CBI - SV015/SV017 M26A
12		CaO/SiO2	CBI - SV015/SV017 M26A

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

**Sampling / Stack Data Results Detail**

Location SV014 - Method 10				
				Average
Run Number	1	2	3	
Test Date	8/30/2022	8/30/2022	8/31/2022	
Run Start Time	9:36:00 AM	12:54:00 PM	8:15:00 AM	
Run Finish Time	12:19:00 PM	3:36:00 PM	3:09:00 PM	
Carbon Dioxide, %	1.2283	1.2299	1.1999	1.219
Oxygen, %	19.6438	19.609	19.7226	19.658
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	158019.1	163026.9	151474.5	157,506.833
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	10.9833	11.1211	11.7261	11.277
Analyzer Make	Thermo	Thermo	Thermo	
Analyzer Model	48i	48i	48i	
Analyzer Serial Number	0721523322	0721523322	0721523322	721,523,322 .000
Operating Range	45.5	45.5	45.5	45.500
Operating Units	ppm	ppm	ppm	
No. Readings/Avg.	156	156	156	156.000
Calibration Set	149	149	1410	569.333
Calibration Pre Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Pre Zero Cylinder Instrument Response	0.03	0.06	0.03	0.040
Calibration Pre Zero Cylinder Bias	0.02	0.09	0	0.037
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0097780 - CO LOW	EB0097780 - CO LOW	EB0097780 - CO LOW	
Calibration Pre High Cylinder Instrument Response	23.45	23.46	23.52	23.477
Calibration Pre High Cylinder Bias	-0.15	-0.13	-0.24	-0.173
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Post Zero Cylinder Instrument Response	0.06	0.07	0.2	0.110
Calibration Post Zero Cylinder Bias	0.09	0.11	0.37	0.190
Calibration Post Zero Cylinder Drift	0.07	0.02	0.37	0.153
Calibration Post High Cylinder ID	EB0097780 - CO LOW	EB0097780 - CO LOW	EB0097780 - CO LOW	
Calibration Post High Cylinder Instrument Response	23.46	23.56	23.95	23.657
Calibration Post High Cylinder Bias	-0.13	0.09	0.7	0.220
Calibration Post High Cylinder Drift	0.02	0.22	0.94	0.393
Cavg	1.14	1.17	1.44	1.250
Cavg Units	ppmvd	ppmvd	ppmvd	
Cgas	1.0805	1.0887	1.2958	1.155

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

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				

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

<b>Location SV014 - Method 26A</b>				
				<b>Average</b>
Run Number	1	2	3	
Test Date	9/2/2022	9/6/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:03:00 PM	4:04:00 PM	6:56:00 PM	
Net Traversing Points	12	12	12	
Net Run Time, minutes	120	120	120	
Nozzle Diameter, inches	0.22	0.218	0.22	0.219
Pitot Tube Coefficient	0.84	0.84	0.84	0.840
Dry Gas Meter Calibration Factor	1.0045	1.0045	1.0045	1.005
Barometric Pressure, inches of Mercury	28.17	28.3	28.19	28.220
Average Orifice Meter Differential, inches H2O	1.47	1.29	1.44	1.400
Dry Gas Meter Volume Sampled, cubic feet	83.720	79.270	83.620	82.203
Average Dry Gas Meter Temperature, °F	81.71	83.08	84.00	82.930
Dry Gas Meter Volume Sampled, dscf	77.469	73.468	77.099	76.012
Total Moisture Liquid collected, g	225.4	203.1	232.0	220.167
Volume of Water Vapor, standard cubic feet	10.629	9.577	10.940	10.382
Moisture Content of Stack Gas, %	12.0650	11.5323	12.4263	12.008
Moisture Saturation at Stack Gas Temperature, %	15.07	14.90	15.19	15.053
Dry Mole Fraction	0.8794	0.8847	0.8757	0.880
Carbon Dioxide, %	1.165	1.1123	1.131	1.136
Oxygen, %	19.571	19.5806	19.6493	19.600
Carbon Monoxide & Nitrogen, %	79.264	79.3071	79.2197	79.264
Fuel Factor	1.14	1.19	1.11	
Dry Molecular Weight, lb/lb-Mole	28.9692	28.9612	28.9669	28.966
Wet Molecular weight, lb/lb-Mole	27.6490	27.6995	27.6049	27.651
Flue Gas Static Pressure, inches of H2O	0.83	0.83	0.83	0.830
Absolute Flue Gas Pressure, inches of Mercury	28.23	28.36	28.25	28.280
Average Stack Gas Temperature, °F	127.75	127.50	128.08	127.777
Square Root of Average Velocity, inches of H2O	0.8814	0.8418	0.8625	0.862
Average Stack Gas Velocity, feet/second	54.91	52.27	53.77	53.650
Stack Cross-Sectional Area, square feet	56.47	56.47	56.47	56.470
Dry Volumetric Flow Rate, dry scfm	138,666.0	133,463.0	135,235.6	135,788.200
Actual Wet Volumetric Flue Gas Flow Rate, acfm	186,046.1	177,101.2	182,183.5	181,776.933
Percent Isokinetic of Sampling Rate, %	99.6	99.9	101.6	100.367
Percent Excess Air, %	1,444.7	1,443.5	1,553.7	1,480.633
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Round Duct Diameter, inches	101.75	101.75	101.75	
Rectangular Duct Width, inches				
Rectangular Duct Length, inches				

## EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc

**11/3/2022**

Fw	0	0	0	0.000
Fc	0	0	0	0.000

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

<b>Location SV014 - Method 29</b>				
				<b>Average</b>
Run Number	1	2	3	
Test Date	8/30/2022	8/30/2022	8/31/2022	
Run Start Time	9:36:00 AM	12:54:00 PM	8:15:00 AM	
Run Finish Time	12:19:00 PM	3:37:00 PM	3:09:00 PM	
Net Traversing Points	12	12	12	
Net Run Time, minutes	156	156	156	
Nozzle Diameter, inches	0.216	0.218	0.216	0.217
Pitot Tube Coefficient	0.84	0.84	0.84	0.840
Dry Gas Meter Calibration Factor	1.0045	1.0045	1.0045	1.005
Barometric Pressure, inches of Mercury	28.14	28.14	28.19	28.157
Average Orifice Meter Differential, inches H2O	1.69	1.95	1.63	1.757
Dry Gas Meter Volume Sampled, cubic feet	115.430	125.640	113.970	118.347
Average Dry Gas Meter Temperature, °F	71.88	79.33	74.92	75.377
Dry Gas Meter Volume Sampled, dscf	108.733	116.794	106.920	110.816
Total Moisture Liquid collected, g	284.5	309.9	301.2	298.533
Volume of Water Vapor, standard cubic feet	13.416	14.614	14.203	14.078
Moisture Content of Stack Gas, %	10.9833	11.1211	11.7261	11.277
Moisture Saturation at Stack Gas Temperature, %	16.82	16.67	17.55	17.013
Dry Mole Fraction	0.8902	0.8888	0.8827	0.887
Carbon Dioxide, %	1.2283	1.2299	1.1999	1.219
Oxygen, %	19.6438	19.609	19.7226	19.658
Carbon Monoxide & Nitrogen, %	79.1279	79.1611	79.0775	79.122
Fuel Factor	1.02	1.05	0.98	
Dry Molecular Weight, lb/lb-Mole	28.9823	28.9811	28.9809	28.981
Wet Molecular weight, lb/lb-Mole	27.7787	27.7619	27.6939	27.745
Flue Gas Static Pressure, inches of H2O	0.83	0.83	0.83	0.830
Absolute Flue Gas Pressure, inches of Mercury	28.20	28.20	28.25	28.217
Average Stack Gas Temperature, °F	131.83	131.50	133.50	132.277
Square Root of Average Velocity, inches of H2O	0.9986	1.0312	0.9643	0.998
Average Stack Gas Velocity, feet/second	62.31	64.35	60.30	62.320
Stack Cross-Sectional Area, square feet	56.47	56.47	56.47	56.470
Dry Volumetric Flow Rate, dry scfm	158,019.1	163,026.9	151,474.5	157,506.833
Actual Wet Volumetric Flue Gas Flow Rate, acfm	211,118.7	218,030.7	204,308.5	211,152.633
Percent Isokinetic of Sampling Rate, %	97.9	100.0	100.4	99.433
Percent Excess Air, %	1,576.6	1,520.6	1,709.3	1,602.167
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Round Duct Diameter, inches	101.75	101.75	101.75	
Rectangular Duct Width, inches				
Rectangular Duct Length, inches				

## EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc

11/3/2022

Fw	0	0	0	0.000
Fc	0	0	0	0.000



**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

<b>Location SV014 - Method 3A CO2</b>				
				<b>Average</b>
Run Number	1	2	3	
Test Date	8/30/2022	8/30/2022	8/31/2022	
Run Start Time	9:36:00 AM	12:54:00 PM	8:14:00 AM	
Run Finish Time	12:19:00 PM	3:37:00 PM	3:09:00 PM	
Carbon Dioxide, %	1.2283	1.2299	1.1999	1.219
Oxygen, %	19.6438	19.609	19.7226	19.658
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	158019.1	163026.9	151951.8	157,665.933
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	10.9833	11.1211	11.7261	11.277
Analyzer Make	Servomex	Servomex	Servomex	
Analyzer Model	1440	1440	1440	1,440.000
Analyzer Serial Number	4876	4876	4876	4,876.000
Operating Range	9.5	9.5	9.5	9.500
Operating Units	%	%	%	
No. Readings/Avg.	156	156	156	156.000
Calibration Set	141	141	142	141.333
Calibration Pre Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Pre Zero Cylinder Instrument Response	0.02	0.02	0.02	0.020
Calibration Pre Zero Cylinder Bias	0	0	0.42	0.140
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	
Calibration Pre High Cylinder Instrument Response	9.18	9.16	9.3	9.213
Calibration Pre High Cylinder Bias	-3.05	-3.26	-2.11	-2.807
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Post Zero Cylinder Instrument Response	0.02	0.03	0.01	0.020
Calibration Post Zero Cylinder Bias	0	0.11	0.32	0.143
Calibration Post Zero Cylinder Drift	0	0.11	0.1	0.070
Calibration Post High Cylinder ID	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	
Calibration Post High Cylinder Instrument Response	9.16	9.15	9.32	9.210
Calibration Post High Cylinder Bias	-3.26	-3.37	-1.89	-2.840
Calibration Post High Cylinder Drift	0.21	0.11	0.22	0.180
Cavg	1.203	1.207	1.189	1.200
Cavg Units	%vd	%vd	%vd	
Cgas	1.2283	1.2299	1.1999	1.219
Cgas Units	%vd	%vd	%vd	
Fuel Type				

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

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

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

<b>Location SV014 - Method 3A CO2 3</b>				
				<b>Average</b>
Run Number	4	5	6	
Test Date	9/2/2022	9/6/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:03:00 PM	4:04:00 PM	6:56:00 PM	
Carbon Dioxide, %	1.165	1.1123	1.131	1.136
Oxygen, %	19.571	19.5806	19.6493	19.600
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	138666	133463	135235.6	135,788.200
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	12.065	11.5323	12.4263	12.008
Analyzer Make	Servomex	Servomex	Servomex	
Analyzer Model	1440	1440	1440	1,440.000
Analyzer Serial Number	4752	4752	4752	4,752.000
Operating Range	9.5	9.5	9.5	9.500
Operating Units	%	%	%	
No. Readings/Avg.	120	120	120	120.000
Calibration Set	145	146	146	145.667
Calibration Pre Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Pre Zero Cylinder Instrument Response	-0.02	0	0.02	0.000
Calibration Pre Zero Cylinder Bias	-0.11	0.21	0.42	0.173
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	
Calibration Pre High Cylinder Instrument Response	9.49	9.5	9.48	9.490
Calibration Pre High Cylinder Bias	-0.53	-0.42	-0.63	-0.527
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Post Zero Cylinder Instrument Response	0.05	0.02	0.03	0.033
Calibration Post Zero Cylinder Bias	0.63	0.42	0.53	0.527
Calibration Post Zero Cylinder Drift	0.74	0.21	0.11	0.353
Calibration Post High Cylinder ID	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	
Calibration Post High Cylinder Instrument Response	9.54	9.48	9.47	9.497
Calibration Post High Cylinder Bias	0	-0.63	-0.74	-0.457
Calibration Post High Cylinder Drift	0.53	0.21	0.11	0.283
Cavg	1.18	1.12	1.15	1.150
Cavg Units	%vd	%vd	%vd	
Cgas	1.165	1.1123	1.131	1.136
Cgas Units	%vd	%vd	%vd	
Fuel Type				

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

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

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

<b>Location SV014 - Method 3A O2</b>				
				<b>Average</b>
Run Number	1	2	3	
Test Date	8/30/2022	8/30/2022	8/31/2022	
Run Start Time	9:36:00 AM	12:54:00 PM	8:15:00 AM	
Run Finish Time	12:19:00 PM	3:37:00 PM	3:09:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	19.6438	19.609	19.7226	19.658
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	4876	4876	4876	4,876.000
Operating Range	22.5	22.5	22.5	22.500
Operating Units	%	%	%	
No. Readings/Avg.	156	156	156	156.000
Calibration Set	143	143	144	143.333
Calibration Pre Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Pre Zero Cylinder Instrument Response	-0.01	0.03	-0.02	0.000
Calibration Pre Zero Cylinder Bias	-0.04	0.13	-0.09	0.000
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0099614 - O2 LOW	EB0099614 - O2 LOW	EB0099614 - O2 LOW	
Calibration Pre High Cylinder Instrument Response	9.4	9.44	9.33	9.390
Calibration Pre High Cylinder Bias	-0.44	-0.27	-0.8	-0.503
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Post Zero Cylinder Instrument Response	0.03	0.04	0.05	0.040
Calibration Post Zero Cylinder Bias	0.13	0.18	0.22	0.177
Calibration Post Zero Cylinder Drift	0.17	0.05	0.31	0.177
Calibration Post High Cylinder ID	EB0099614 - O2 LOW	EB0099614 - O2 LOW	EB0099614 - O2 LOW	
Calibration Post High Cylinder Instrument Response	9.44	9.44	9.44	9.440
Calibration Post High Cylinder Bias	-0.27	-0.27	-0.31	-0.283
Calibration Post High Cylinder Drift	0.17	0	0.49	0.220
Cavg	19.55	19.53	19.55	19.543
Cavg Units	%vd	%vd	%vd	
Cgas	19.6438	19.609	19.7226	19.658
Cgas Units	%vd	%vd	%vd	
Fuel Type				

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

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

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

<b>Location SV014 - Method 3A O2 3</b>				
				<b>Average</b>
Run Number	4	5	6	
Test Date	9/2/2022	9/6/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:03:00 PM	4:04:00 PM	6:56:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	19.571	19.5806	19.6493	19.600
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	4752	4752	4752	4,752.000
Operating Range	22.5	22.5	22.5	22.500
Operating Units	%	%	%	
No. Readings/Avg.	120	120	120	120.000
Calibration Set	147	148	148	147.667
Calibration Pre Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Pre Zero Cylinder Instrument Response	0.01	0.15	0.1	0.087
Calibration Pre Zero Cylinder Bias	0.04	0.44	0.22	0.233
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0099614 - O2 LOW	EB0099614 - O2 LOW	EB0099614 - O2 LOW	
Calibration Pre High Cylinder Instrument Response	9.47	9.55	9.46	9.493
Calibration Pre High Cylinder Bias	-0.04	-0.04	-0.44	-0.173
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Post Zero Cylinder Instrument Response	0.05	0.1	0.16	0.103
Calibration Post Zero Cylinder Bias	0.22	0.22	0.49	0.310
Calibration Post Zero Cylinder Drift	0.18	0.22	0.27	0.223
Calibration Post High Cylinder ID	EB0099614 - O2 LOW	EB0099614 - O2 LOW	EB0099614 - O2 LOW	
Calibration Post High Cylinder Instrument Response	9.48	9.46	9.48	9.473
Calibration Post High Cylinder Bias	0	-0.44	-0.36	-0.267
Calibration Post High Cylinder Drift	0.04	0.4	0.08	0.173
Cavg	19.57	19.54	19.53	19.547
Cavg Units	%vd	%vd	%vd	
Cgas	19.571	19.5806	19.6493	19.600
Cgas Units	%vd	%vd	%vd	
Fuel Type				

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

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



**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

Location SV015 - Method 10				
				Average
Run Number	1	2	3	
Test Date	9/2/2022	9/2/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:40:00 PM	4:35:00 PM	7:32:00 PM	
Carbon Dioxide, %	1.6299	1.5036	1.5616	1.565
Oxygen, %	19.489	19.5062	19.4985	19.498
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	154461.1	153550.6	149754.9	152,588.867
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	12.4865	12.7802	12.6031	12.623
Analyzer Make	Thermo	Thermo	Thermo	
Analyzer Model	48i	48i	48i	
Analyzer Serial Number	0721523322	0721523322	0721523322	721,523,322 .000
Operating Range	45.5	45.5	45.5	45.500
Operating Units	ppm	ppm	ppm	
No. Readings/Avg.	156	156	156	156.000
Calibration Set	159	1510	1510	1,059.667
Calibration Pre Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Pre Zero Cylinder Instrument Response	0.01	0.14	0.16	0.103
Calibration Pre Zero Cylinder Bias	0	0.24	0.29	0.177
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0097780 - CO LOW	EB0097780 - CO LOW	EB0097780 - CO LOW	
Calibration Pre High Cylinder Instrument Response	23.51	23.51	23.4	23.473
Calibration Pre High Cylinder Bias	0.18	-0.31	-0.55	-0.227
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Post Zero Cylinder Instrument Response	0.61	0.16	0.07	0.280
Calibration Post Zero Cylinder Bias	1.32	0.29	0.09	0.567
Calibration Post Zero Cylinder Drift	1.32	0.05	0.2	0.523
Calibration Post High Cylinder ID	EB0097780 - CO LOW	EB0097780 - CO LOW	EB0097780 - CO LOW	
Calibration Post High Cylinder Instrument Response	24.62	23.4	23.09	23.703
Calibration Post High Cylinder Bias	2.62	-0.55	-1.23	0.280
Calibration Post High Cylinder Drift	2.44	0.24	0.68	1.120
Cavg	2.73	3.92	3.92	3.523
Cavg Units	ppmvd	ppmvd	ppmvd	
Cgas	2.3533	3.7368	3.8001	3.297
Cgas Units	ppmvd	ppmvd	ppmvd	

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

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

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

**Location** SV015 - Method 26A

	<b>Average</b>			
Run Number	1	2	3	
Test Date	8/30/2022	8/30/2022	8/31/1930	
Run Start Time	9:36:00 AM	12:54:00 PM	8:15:00 AM	
Run Finish Time	11:46:00 AM	3:02:00 PM	10:23:00 AM	
Net Traversing Points	12	12	12	
Net Run Time, minutes	120	120	120	
Nozzle Diameter, inches	0.22	0.22	0.22	0.220
Pitot Tube Coefficient	0.84	0.84	0.84	0.840
Dry Gas Meter Calibration Factor	1.0006	1.0006	1.0006	1.001
Barometric Pressure, inches of Mercury	28.14	28.14	28.19	28.157
Average Orifice Meter Differential, inches H2O	1.37	1.36	1.61	1.447
Dry Gas Meter Volume Sampled, cubic feet	83.340	83.550	90.010	85.633
Average Dry Gas Meter Temperature, °F	72.79	81.50	75.08	76.457
Dry Gas Meter Volume Sampled, dscf	78.002	76.938	84.085	79.675
Total Moisture Liquid collected, g	227.0	225.8	240.1	230.967
Volume of Water Vapor, standard cubic feet	10.704	10.648	11.322	10.891
Moisture Content of Stack Gas, %	12.0668	12.1572	11.8671	12.030
Moisture Saturation at Stack Gas Temperature, %	14.99	15.92	20.30	17.070
Dry Mole Fraction	0.8793	0.8784	0.8813	0.880
Carbon Dioxide, %	1.4184	1.4265	1.3939	1.413
Oxygen, %	19.3714	19.3676	19.3983	19.379
Carbon Monoxide & Nitrogen, %	79.2102	79.2059	79.2078	79.208
Fuel Factor	1.08	1.07	1.08	
Dry Molecular Weight, lb/lb-Mole	29.0018	29.0029	28.9990	29.001
Wet Molecular weight, lb/lb-Mole	27.6751	27.6663	27.6947	27.679
Flue Gas Static Pressure, inches of H2O	0.64	0.64	0.64	0.640
Absolute Flue Gas Pressure, inches of Mercury	28.19	28.19	28.24	28.207
Average Stack Gas Temperature, °F	127.50	129.75	139.08	132.110
Square Root of Average Velocity, inches of H2O	0.8905	0.8739	0.9646	0.910
Average Stack Gas Velocity, feet/second	55.48	54.55	60.61	56.880
Stack Cross-Sectional Area, square feet	56.47	56.47	56.47	56.470
Dry Volumetric Flow Rate, dry scfm	139,950.5	136,939.0	150,541.8	142,477.100
Actual Wet Volumetric Flue Gas Flow Rate, acfm	187,977.3	184,826.3	205,358.8	192,720.800
Percent Isokinetic of Sampling Rate, %	99.4	100.2	99.6	99.733
Percent Excess Air, %	1,257.8	1,255.4	1,282.5	1,265.233
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Round Duct Diameter, inches	101.75	101.75	101.75	
Rectangular Duct Width, inches				
Rectangular Duct Length, inches				

## EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc

11/3/2022

Fw	0	0	0	0.000
Fc	0	0	0	0.000

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

<b>Location SV015 - Method 29</b>				
				<b>Average</b>
Run Number	1	2	3	
Test Date	9/2/2022	9/6/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:40:00 PM	4:35:00 PM	7:32:00 PM	
Net Traversing Points	12	12	12	
Net Run Time, minutes	156	156	156	
Nozzle Diameter, inches	0.22	0.22	0.22	0.220
Pitot Tube Coefficient	0.84	0.84	0.84	0.840
Dry Gas Meter Calibration Factor	1.0006	1.0006	1.0006	1.001
Barometric Pressure, inches of Mercury	27.94	28.3	28.3	28.180
Average Orifice Meter Differential, inches H2O	1.75	1.73	1.64	1.707
Dry Gas Meter Volume Sampled, cubic feet	123.770	127.590	119.650	123.670
Average Dry Gas Meter Temperature, °F	85.42	83.29	87.46	85.390
Dry Gas Meter Volume Sampled, dscf	112.468	117.881	109.677	113.342
Total Moisture Liquid collected, g	340.3	366.3	335.4	347.333
Volume of Water Vapor, standard cubic feet	16.047	17.273	15.816	16.379
Moisture Content of Stack Gas, %	12.4865	12.7802	12.6031	12.623
Moisture Saturation at Stack Gas Temperature, %	19.37	20.35	20.27	19.997
Dry Mole Fraction	0.8751	0.8722	0.8740	0.874
Carbon Dioxide, %	1.6299	1.5036	1.5616	1.565
Oxygen, %	19.489	19.5062	19.4985	19.498
Carbon Monoxide & Nitrogen, %	78.8811	78.9902	78.9399	78.937
Fuel Factor	0.87	0.93	0.90	
Dry Molecular Weight, lb/lb-Mole	29.0403	29.0208	29.0298	29.030
Wet Molecular weight, lb/lb-Mole	27.6626	27.6143	27.6425	27.640
Flue Gas Static Pressure, inches of H2O	0.64	0.64	0.64	0.640
Absolute Flue Gas Pressure, inches of Mercury	27.99	28.35	28.35	28.230
Average Stack Gas Temperature, °F	136.92	139.33	139.17	138.473
Square Root of Average Velocity, inches of H2O	0.9989	0.9910	0.9529	0.981
Average Stack Gas Velocity, feet/second	62.96	62.25	59.82	61.677
Stack Cross-Sectional Area, square feet	56.47	56.47	56.47	56.470
Dry Volumetric Flow Rate, dry scfm	154,461.1	153,550.6	147,900.6	151,970.767
Actual Wet Volumetric Flue Gas Flow Rate, acfm	213,321.1	210,915.5	202,682.1	208,972.900
Percent Isokinetic of Sampling Rate, %	99.8	105.3	101.7	102.267
Percent Excess Air, %	1,459.2	1,447.9	1,453.3	1,453.467
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Round Duct Diameter, inches	101.75	101.75	101.75	
Rectangular Duct Width, inches				
Rectangular Duct Length, inches				

## EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc

**11/3/2022**

Fw	0	0	0	0.000
Fc	0	0	0	0.000

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

<b>Location SV015 - Method 3A CO2</b>				
				<b>Average</b>
Run Number	1	2	3	
Test Date	9/2/2022	9/6/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	4:35:00 PM	4:35:00 PM	7:32:00 PM	
Carbon Dioxide, %	1.6299	1.5036	1.5616	1.565
Oxygen, %	19.489	19.5062	19.4985	19.498
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	155123.5	154142.6	149754.9	153,007.000
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	12.4865	12.7802	12.6031	12.623
Analyzer Make	Servomex	Servomex	Servomex	
Analyzer Model	1440	1440	1440	1,440.000
Analyzer Serial Number	4876	4876	4876	4,876.000
Operating Range	9.5	9.5	9.5	9.500
Operating Units	%	%	%	
No. Readings/Avg.	156	156	156	156.000
Calibration Set	151	152	152	151.667
Calibration Pre Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Pre Zero Cylinder Instrument Response	0.03	0.02	0.05	0.033
Calibration Pre Zero Cylinder Bias	0.42	0	0.32	0.247
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	
Calibration Pre High Cylinder Instrument Response	9.21	9.23	9.1	9.180
Calibration Pre High Cylinder Bias	-2.84	-2.84	-4.21	-3.297
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Post Zero Cylinder Instrument Response	0.12	0.05	0.02	0.063
Calibration Post Zero Cylinder Bias	1.37	0.32	0	0.563
Calibration Post Zero Cylinder Drift	0.95	0.32	0.32	0.530
Calibration Post High Cylinder ID	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	
Calibration Post High Cylinder Instrument Response	9.3	9.1	9.16	9.187
Calibration Post High Cylinder Bias	-1.89	-4.21	-3.58	-3.227
Calibration Post High Cylinder Drift	0.95	1.37	0.63	0.983
Cavg	1.65	1.48	1.53	1.553
Cavg Units	%vd	%vd	%vd	
Cgas	1.6299	1.5036	1.5616	1.565
Cgas Units	%vd	%vd	%vd	
Fuel Type				

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

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



**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

<b>Location</b> SV015 - Method 3A CO2 3				
				<b>Average</b>
Run Number	4	5	6	
Test Date	8/30/2022	8/30/2022	8/31/2022	
Run Start Time	9:36:00 AM	12:54:00 PM	8:15:00 AM	
Run Finish Time	11:46:00 AM	3:02:00 PM	10:23:00 AM	
Carbon Dioxide, %	1.4184	1.4265	1.3939	1.413
Oxygen, %	19.3714	19.3676	19.3983	19.379
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	140202.8	137215.1	150815	142,744.300
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	12.0668	12.1572	11.8671	12.030
Analyzer Make	Servomex	Servomex	Servomex	
Analyzer Model	1440	1440	1440	1,440.000
Analyzer Serial Number	4752	4752	4752	4,752.000
Operating Range	9.5	9.5	9.5	9.500
Operating Units	%	%	%	
No. Readings/Avg.	120	120	120	120.000
Calibration Set	155	155	156	155.333
Calibration Pre Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Pre Zero Cylinder Instrument Response	0.02	0.05	0.02	0.030
Calibration Pre Zero Cylinder Bias	0.21	0.53	0.11	0.283
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	
Calibration Pre High Cylinder Instrument Response	9.44	9.45	9.45	9.447
Calibration Pre High Cylinder Bias	-0.84	-0.74	-1.05	-0.877
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Post Zero Cylinder Instrument Response	0.05	0.05	0.06	0.053
Calibration Post Zero Cylinder Bias	0.53	0.53	0.53	0.530
Calibration Post Zero Cylinder Drift	0.32	0	0.42	0.247
Calibration Post High Cylinder ID	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	
Calibration Post High Cylinder Instrument Response	9.45	9.43	9.44	9.440
Calibration Post High Cylinder Bias	-0.74	-0.95	-1.16	-0.950
Calibration Post High Cylinder Drift	0.1	0.21	0.11	0.140
Cavg	1.44	1.46	1.42	1.440
Cavg Units	%vd	%vd	%vd	
Cgas	1.4184	1.4265	1.3939	1.413
Cgas Units	%vd	%vd	%vd	
Fuel Type				

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

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

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

<b>Location SV015 - Method 3A O2</b>				
				<b>Average</b>
Run Number	1	2	3	
Test Date	9/2/2022	9/6/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:40:00 PM	2:30:00 PM	7:32:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	19.489	19.5062	19.4985	19.498
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	4876	4876	4876	4,876.000
Operating Range	22.5	22.5	22.5	22.500
Operating Units	%	%	%	
No. Readings/Avg.	156	156	156	156.000
Calibration Set	153	154	154	153.667
Calibration Pre Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Pre Zero Cylinder Instrument Response	0.1	0.07	0.2	0.123
Calibration Pre Zero Cylinder Bias	0.58	0.4	0.98	0.653
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0099614 - O2 LOW	EB0099614 - O2 LOW	EB0099614 - O2 LOW	
Calibration Pre High Cylinder Instrument Response	9.38	9.4	9.43	9.403
Calibration Pre High Cylinder Bias	-0.49	-0.4	-0.27	-0.387
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Post Zero Cylinder Instrument Response	0.24	0.2	0.19	0.210
Calibration Post Zero Cylinder Bias	1.2	0.98	0.93	1.037
Calibration Post Zero Cylinder Drift	0.62	0.58	4.999999999999999 E-02	0.417
Calibration Post High Cylinder ID	EB0099614 - O2 LOW	EB0099614 - O2 LOW	EB0099614 - O2 LOW	
Calibration Post High Cylinder Instrument Response	9.58	9.43	9.44	9.483
Calibration Post High Cylinder Bias	0.4	-0.27	-0.22	-0.030
Calibration Post High Cylinder Drift	0.89	0.13	0.05	0.357
Cavg	19.35	19.27	19.24	19.287
Cavg Units	%vd	%vd	%vd	
Cgas	19.489	19.5062	19.4985	19.498
Cgas Units	%vd	%vd	%vd	

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

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

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

<b>Location SV015 - Method 3A O2 3</b>				
				<b>Average</b>
Run Number	4	5	6	
Test Date	8/30/2022	8/30/2022	8/30/2022	
Run Start Time	9:36:00 AM	12:54:00 PM	8:15:00 AM	
Run Finish Time	11:46:00 AM	3:02:00 PM	10:23:00 AM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	19.3714	19.3676	19.3983	19.379
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	4752	4752	4752	4,752.000
Operating Range	22.5	22.5	22.5	22.500
Operating Units	%	%	%	
No. Readings/Avg.	120	120	120	120.000
Calibration Set	157	157	158	157.333
Calibration Pre Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Pre Zero Cylinder Instrument Response	0.13	0.16	0.14	0.143
Calibration Pre Zero Cylinder Bias	0.53	0.67	0.22	0.473
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0099614 - O2 LOW	EB0099614 - O2 LOW	EB0099614 - O2 LOW	
Calibration Pre High Cylinder Instrument Response	9.46	9.48	9.46	9.467
Calibration Pre High Cylinder Bias	-0.4	-0.31	-0.4	-0.370
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Post Zero Cylinder Instrument Response	0.16	0.2	0.2	0.187
Calibration Post Zero Cylinder Bias	0.67	0.84	0.49	0.667
Calibration Post Zero Cylinder Drift	0.14	0.17	0.27	0.193
Calibration Post High Cylinder ID	EB0099614 - O2 LOW	EB0099614 - O2 LOW	EB0099614 - O2 LOW	
Calibration Post High Cylinder Instrument Response	9.48	9.48	9.47	9.477
Calibration Post High Cylinder Bias	-0.31	-0.31	-0.36	-0.327
Calibration Post High Cylinder Drift	0.09	0	0.04	0.043
Cavg	19.24	19.22	19.23	19.230
Cavg Units	%vd	%vd	%vd	
Cgas	19.3714	19.3676	19.3983	19.379
Cgas Units	%vd	%vd	%vd	
Fuel Type				

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

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

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

<b>Location SV016 - Method 10</b>				
				<b>Average</b>
Run Number	1	2	3	
Test Date	8/30/2022	8/30/2022	8/31/2022	
Run Start Time	9:36:00 AM	12:54:00 PM	8:15:00 AM	
Run Finish Time	12:19:00 PM	3:36:00 PM	3:09:00 PM	
Carbon Dioxide, %	2.1628	2.1892	2.0722	2.141
Oxygen, %	18.5563	18.4649	18.6487	18.557
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	154966.1	148655	147064.1	150,228.400
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	13.4986	13.8365	13.523	13.619
Analyzer Make	Thermo	Thermo	Thermo	
Analyzer Model	48i	48i	48i	
Analyzer Serial Number	CM08200039	CM08200039	CM08200039	
Operating Range	45.5	45.5	45.5	45.500
Operating Units	ppm	ppm	ppm	
No. Readings/Avg.	156	156	156	156.000
Calibration Set	169	169	1610	649.333
Calibration Pre Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Pre Zero Cylinder Instrument Response	0.07	0.05	0.06	0.060
Calibration Pre Zero Cylinder Bias	0.18	0.13	0.22	0.177
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0097780 - CO LOW	EB0097780 - CO LOW	EB0097780 - CO LOW	
Calibration Pre High Cylinder Instrument Response	22.9	22.84	22.55	22.763
Calibration Pre High Cylinder Bias	-0.42	-0.55	-0.81	-0.593
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Post Zero Cylinder Instrument Response	0.05	0.05	0.12	0.073
Calibration Post Zero Cylinder Bias	0.13	0.13	0.35	0.203
Calibration Post Zero Cylinder Drift	0.05	0	0.13	0.060
Calibration Post High Cylinder ID	EB0097780 - CO LOW	EB0097780 - CO LOW	EB0097780 - CO LOW	
Calibration Post High Cylinder Instrument Response	22.84	22.49	22.55	22.627
Calibration Post High Cylinder Bias	-0.55	-1.32	-0.81	-0.893
Calibration Post High Cylinder Drift	0.13	0.77	0	0.300
Cavg	3.34	3.44	3.45	3.410
Cavg Units	ppmvd	ppmvd	ppmvd	
Cgas	3.3217	3.4627	3.4557	3.413
Cgas Units	ppmvd	ppmvd	ppmvd	
Fuel Type				

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

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



**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

<b>Location SV016 - Method 26A</b>				
				<b>Average</b>
Run Number	1	2	3	
Test Date	9/2/2022	9/6/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:03:00 PM	4:04:00 PM	6:56:00 PM	
Net Traversing Points	12	12	12	
Net Run Time, minutes	120	120	120	
Nozzle Diameter, inches	0.224	0.224	0.224	0.224
Pitot Tube Coefficient	0.84	0.84	0.84	0.840
Dry Gas Meter Calibration Factor	1.0092	1.0092	1.0092	1.009
Barometric Pressure, inches of Mercury	27.94	28.3	28.3	28.180
Average Orifice Meter Differential, inches H2O	1.73	1.72	1.66	1.703
Dry Gas Meter Volume Sampled, cubic feet	88.150	87.980	86.760	87.630
Average Dry Gas Meter Temperature, °F	80.50	79.63	84.04	81.390
Dry Gas Meter Volume Sampled, dscf	81.521	82.538	80.721	81.593
Total Moisture Liquid collected, g	259.7	282.2	288.8	276.900
Volume of Water Vapor, standard cubic feet	12.246	13.307	13.619	13.057
Moisture Content of Stack Gas, %	13.0600	13.8839	14.4361	13.793
Moisture Saturation at Stack Gas Temperature, %	15.78	16.33	15.79	15.967
Dry Mole Fraction	0.8694	0.8612	0.8556	0.862
Carbon Dioxide, %	2.1927	2.091	2.1685	2.151
Oxygen, %	18.3743	18.4086	18.4314	18.405
Carbon Monoxide & Nitrogen, %	79.433	79.5004	79.4001	79.445
Fuel Factor	1.15	1.19	1.14	
Dry Molecular Weight, lb/lb-Mole	29.0858	29.0709	29.0842	29.080
Wet Molecular weight, lb/lb-Mole	27.6400	27.5370	27.4851	27.554
Flue Gas Static Pressure, inches of H2O	0.77	0.77	0.77	0.770
Absolute Flue Gas Pressure, inches of Mercury	28.00	28.36	28.36	28.240
Average Stack Gas Temperature, °F	129.17	130.92	129.67	129.920
Square Root of Average Velocity, inches of H2O	0.9134	0.9037	0.8929	0.903
Average Stack Gas Velocity, feet/second	57.21	56.44	55.75	56.467
Stack Cross-Sectional Area, square feet	58.99	58.99	58.99	58.990
Dry Volumetric Flow Rate, dry scfm	147,632.8	145,694.0	143,280.3	145,535.700
Actual Wet Volumetric Flue Gas Flow Rate, acfm	202,489.1	199,763.7	197,321.6	199,858.133
Percent Isokinetic of Sampling Rate, %	99.2	101.8	101.2	100.733
Percent Excess Air, %	707.8	713.6	728.4	716.600
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Round Duct Diameter, inches	104	104	104	
Rectangular Duct Width, inches				
Rectangular Duct Length, inches				

## EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc

11/3/2022

Fw	0	0	0	0.000
Fc	0	0	0	0.000

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

<b>Location SV016 - Method 29</b>				
				<b>Average</b>
Run Number	1	2	3	
Test Date	8/30/2022	8/30/2022	8/31/2022	
Run Start Time	9:36:00 AM	12:35:00 PM	8:15:00 AM	
Run Finish Time	12:19:00 PM	3:37:00 PM	3:09:00 PM	
Net Traversing Points	12	12	12	
Net Run Time, minutes	156	156	156	
Nozzle Diameter, inches	0.225	0.225	0.225	0.225
Pitot Tube Coefficient	0.84	0.84	0.84	0.840
Dry Gas Meter Calibration Factor	1.0092	1.0092	1.0092	1.009
Barometric Pressure, inches of Mercury	28.14	28.14	28.19	28.157
Average Orifice Meter Differential, inches H2O	1.89	1.83	1.73	1.817
Dry Gas Meter Volume Sampled, cubic feet	118.990	117.370	114.790	117.050
Average Dry Gas Meter Temperature, °F	72.25	79.00	78.04	76.430
Dry Gas Meter Volume Sampled, dscf	112.592	109.650	107.593	109.945
Total Moisture Liquid collected, g	372.6	373.4	356.8	367.600
Volume of Water Vapor, standard cubic feet	17.570	17.608	16.825	17.334
Moisture Content of Stack Gas, %	13.4986	13.8365	13.5230	13.619
Moisture Saturation at Stack Gas Temperature, %	12.93	13.94	13.26	13.377
Dry Mole Fraction	0.8707	0.8616	0.8674	0.867
Carbon Dioxide, %	2.1628	2.1892	2.0722	2.141
Oxygen, %	18.5563	18.4649	18.6487	18.557
Carbon Monoxide & Nitrogen, %	79.2809	79.3459	79.2791	79.302
Fuel Factor	1.08	1.11	1.09	
Dry Molecular Weight, lb/lb-Mole	29.0883	29.0889	29.0775	29.085
Wet Molecular weight, lb/lb-Mole	27.6565	27.5556	27.6106	27.608
Flue Gas Static Pressure, inches of H2O	0.77	0.77	0.77	0.770
Absolute Flue Gas Pressure, inches of Mercury	28.20	28.20	28.25	28.217
Average Stack Gas Temperature, °F	122.08	124.83	123.08	123.330
Square Root of Average Velocity, inches of H2O	0.9484	0.9199	0.9027	0.924
Average Stack Gas Velocity, feet/second	58.82	57.29	56.03	57.380
Stack Cross-Sectional Area, square feet	58.99	58.99	58.99	58.990
Dry Volumetric Flow Rate, dry scfm	154,966.1	148,655.0	147,064.1	150,228.400
Actual Wet Volumetric Flue Gas Flow Rate, acfm	208,187.5	202,772.2	198,312.6	203,090.767
Percent Isokinetic of Sampling Rate, %	99.5	101.0	100.2	100.233
Percent Excess Air, %	781.7	743.8	817.6	781.033
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Round Duct Diameter, inches	104	104	104	
Rectangular Duct Width, inches				
Rectangular Duct Length, inches				

## EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc

11/3/2022

Fw	0	0	0	0.000
Fc	0	0	0	0.000

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

<b>Location SV016 - Method 3A CO2</b>				
				<b>Average</b>
Run Number	1	2	3	
Test Date	8/30/2022	8/30/2022	8/31/2022	
Run Start Time	9:36:00 AM	12:54:00 PM	8:15:00 AM	
Run Finish Time	12:19:00 PM	3:39:00 PM	3:09:00 PM	
Carbon Dioxide, %	2.1628	2.1892	2.0722	2.141
Oxygen, %	18.5563	18.4649	18.6487	18.557
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	154966.1	149485.3	149610.1	151,353.833
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	13.4986	13.8365	13.523	13.619
Analyzer Make	Servomex	Servomex	Servomex	
Analyzer Model	1440	1440	1440	1,440.000
Analyzer Serial Number	4977	4977	4977	4,977.000
Operating Range	9.5	9.5	9.5	9.500
Operating Units	%	%	%	
No. Readings/Avg.	156	156	156	156.000
Calibration Set	161	161	162	161.333
Calibration Pre Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Pre Zero Cylinder Instrument Response	0.03	0.05	0.05	0.043
Calibration Pre Zero Cylinder Bias	0.11	0.32	0.32	0.250
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	
Calibration Pre High Cylinder Instrument Response	9.41	9.47	9.29	9.390
Calibration Pre High Cylinder Bias	-1.37	-0.74	-2.63	-1.580
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Post Zero Cylinder Instrument Response	0.05	0.05	0.05	0.050
Calibration Post Zero Cylinder Bias	0.32	0.32	0.32	0.320
Calibration Post Zero Cylinder Drift	0.21	0	0	0.070
Calibration Post High Cylinder ID	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	
Calibration Post High Cylinder Instrument Response	9.47	9.29	9.24	9.333
Calibration Post High Cylinder Bias	-0.74	-2.63	-3.16	-2.177
Calibration Post High Cylinder Drift	0.63	1.89	0.53	1.017
Cavg	2.18	2.2	2.06	2.147
Cavg Units	%vd	%vd	%vd	
Cgas	2.1628	2.1892	2.0722	2.141
Cgas Units	%vd	%vd	%vd	
Fuel Type				

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

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

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

<b>Location SV016 - Method 3A CO2 3</b>				
				<b>Average</b>
Run Number	4	5	6	
Test Date	9/2/2022	9/6/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:03:00 PM	4:04:00 PM	6:56:00 PM	
Carbon Dioxide, %	2.1927	2.091	2.1685	2.151
Oxygen, %	18.3743	19.5806	18.4314	18.795
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	148123.1	146107	142043	145,424.367
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	13.06	13.8839	14.8043	13.916
Analyzer Make	Servomex	Servomex	Servomex	
Analyzer Model	1440	1440	1440	1,440.000
Analyzer Serial Number	4977	4977	4977	4,977.000
Operating Range	9.5	9.5	9.5	9.500
Operating Units	%	%	%	
No. Readings/Avg.	120	120	120	120.000
Calibration Set	165	166	166	165.667
Calibration Pre Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Pre Zero Cylinder Instrument Response	0.03	0.03	0.06	0.040
Calibration Pre Zero Cylinder Bias	-0.11	0.11	0.42	0.140
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	
Calibration Pre High Cylinder Instrument Response	9.33	9.29	9.2	9.273
Calibration Pre High Cylinder Bias	-1.79	-2.63	-3.58	-2.667
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Post Zero Cylinder Instrument Response	0.08	0.06	0.06	0.067
Calibration Post Zero Cylinder Bias	0.42	0.42	0.42	0.420
Calibration Post Zero Cylinder Drift	0.53	0.31	0	0.280
Calibration Post High Cylinder ID	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	
Calibration Post High Cylinder Instrument Response	9.28	9.2	9.32	9.267
Calibration Post High Cylinder Bias	-2.32	-3.58	-2.32	-2.740
Calibration Post High Cylinder Drift	0.53	0.95	1.26	0.913
Cavg	2.19	2.07	2.16	2.140
Cavg Units	%vd	%vd	%vd	
Cgas	2.1927	2.091	2.1685	2.151
Cgas Units	%vd	%vd	%vd	
Fuel Type				

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

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



**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

<b>Location SV016 - Method 3A O2</b>				
				<b>Average</b>
Run Number	1	2	3	
Test Date	8/30/2022	8/30/2022	8/31/2022	
Run Start Time	9:36:00 AM	12:54:00 PM	8:15:00 AM	
Run Finish Time	12:19:00 PM	3:37:00 PM	3:09:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	18.5563	18.4649	18.6487	18.557
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	4977	4977	4977	4,977.000
Operating Range	22.5	22.5	22.5	22.500
Operating Units	%	%	%	
No. Readings/Avg.	156	156	156	156.000
Calibration Set	163	163	164	163.333
Calibration Pre Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Pre Zero Cylinder Instrument Response	0.08	0.06	0.2	0.113
Calibration Pre Zero Cylinder Bias	0.4	0.31	0.93	0.547
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0099614 - O2 LOW	EB0099614 - O2 LOW	EB0099614 - O2 LOW	
Calibration Pre High Cylinder Instrument Response	9.43	9.44	9.5	9.457
Calibration Pre High Cylinder Bias	-0.31	-0.27	0.18	-0.133
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Post Zero Cylinder Instrument Response	0.06	0.28	0.33	0.223
Calibration Post Zero Cylinder Bias	0.31	1.29	1.51	1.037
Calibration Post Zero Cylinder Drift	0.09	0.98	0.58	0.550
Calibration Post High Cylinder ID	EB0099614 - O2 LOW	EB0099614 - O2 LOW	EB0099614 - O2 LOW	
Calibration Post High Cylinder Instrument Response	9.44	9.61	9.51	9.520
Calibration Post High Cylinder Bias	-0.27	0.49	0.22	0.147
Calibration Post High Cylinder Drift	0.04	0.76	0.04	0.280
Cavg	18.44	18.43	18.48	18.450
Cavg Units	%vd	%vd	%vd	
Cgas	18.5563	18.4649	18.6487	18.557
Cgas Units	%vd	%vd	%vd	
Fuel Type				

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

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

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

<b>Location SV016 - Method 3A O2 3</b>				
				<b>Average</b>
Run Number	4	5	6	
Test Date	9/2/2022	9/6/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:03:00 PM	4:04:00 PM	6:56:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	18.3743	18.4086	18.4314	18.405
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	4977	4977	4977	4,977.000
Operating Range	22.5	22.5	22.5	22.500
Operating Units	%	%	%	
No. Readings/Avg.	120	120	120	120.000
Calibration Set	167	168	168	167.667
Calibration Pre Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Pre Zero Cylinder Instrument Response	0.13	0.23	0.15	0.170
Calibration Pre Zero Cylinder Bias	0.62	1.24	0.89	0.917
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0099614 - O2 LOW	EB0099614 - O2 LOW	EB0099614 - O2 LOW	
Calibration Pre High Cylinder Instrument Response	9.44	9.48	9.77	9.563
Calibration Pre High Cylinder Bias	-0.18	0.18	1.47	0.490
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Post Zero Cylinder Instrument Response	0.14	0.15	0.3	0.197
Calibration Post Zero Cylinder Bias	0.67	0.89	1.56	1.040
Calibration Post Zero Cylinder Drift	0.05	0.35	0.67	0.357
Calibration Post High Cylinder ID	EB0099614 - O2 LOW	EB0099614 - O2 LOW	EB0099614 - O2 LOW	
Calibration Post High Cylinder Instrument Response	9.38	9.77	9.46	9.537
Calibration Post High Cylinder Bias	-0.44	1.47	0.09	0.373
Calibration Post High Cylinder Drift	0.26	1.29	1.38	0.977
Cavg	18.15	18.55	18.52	18.407
Cavg Units	%vd	%vd	%vd	
Cgas	18.3743	18.4086	18.4314	18.405
Cgas Units	%vd	%vd	%vd	
Fuel Type				

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

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

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

<b>Location SV017 - Method 10</b>				
				<b>Average</b>
Run Number	1	2	3	
Test Date	9/2/2022	9/2/2022	9/2/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:40:00 PM	4:35:00 PM	7:32:00 PM	
Carbon Dioxide, %	2.6761	2.6232	2.6893	2.663
Oxygen, %	18.0222	18.0972	18.1184	18.079
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	149098.7	153571.8	147032.6	149,901.033
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	15.3188	15.2404	15.8187	15.459
Analyzer Make	Thermo	Thermo	Thermo	
Analyzer Model	48i	48i	48i	
Analyzer Serial Number	CM8200039	CM8200039	CM8200039	
Operating Range	45.5	45.5	45.5	45.500
Operating Units	ppm	ppm	ppm	
No. Readings/Avg.	156	156	156	156.000
Calibration Set	179	1710	1710	1,199.667
Calibration Pre Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Pre Zero Cylinder Instrument Response	0.81	0.75	0.51	0.690
Calibration Pre Zero Cylinder Bias	1.65	1.71	1.19	1.517
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0097780 - CO LOW	EB0097780 - CO LOW	EB0097780 - CO LOW	
Calibration Pre High Cylinder Instrument Response	23.32	23.4	23.23	23.317
Calibration Pre High Cylinder Bias	0.73	0.77	0.4	0.633
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Post Zero Cylinder Instrument Response	1.06	0.51	0.57	0.713
Calibration Post Zero Cylinder Bias	2.2	1.19	1.32	1.570
Calibration Post Zero Cylinder Drift	0.55	0.52	0.13	0.400
Calibration Post High Cylinder ID	EB0097780 - CO LOW	EB0097780 - CO LOW	EB0097780 - CO LOW	
Calibration Post High Cylinder Instrument Response	23.92	23.23	23.04	23.397
Calibration Post High Cylinder Bias	2.04	0.4	-0.02	0.807
Calibration Post High Cylinder Drift	1.31	0.37	0.42	0.700
Cavg	6.29	9.85	10.12	8.753
Cavg Units	ppmvd	ppmvd	ppmvd	
Cgas	5.453	9.3887	9.7941	8.212
Cgas Units	ppmvd	ppmvd	ppmvd	
Fuel Type				

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

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

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

**Location** SV017 - Method 26A

	Average			
Run Number	1	2	3	
Test Date	8/30/2022	8/30/2022	8/31/2022	
Run Start Time	9:36:00 AM	12:26:00 PM	8:15:00 AM	
Run Finish Time	11:46:00 AM	3:02:00 PM	10:23:00 AM	
Net Traversing Points	12	12	12	
Net Run Time, minutes	120	120	120	
Nozzle Diameter, inches	0.22	0.224	0.224	0.223
Pitot Tube Coefficient	0.84	0.84	0.84	0.840
Dry Gas Meter Calibration Factor	0.9944	0.9944	0.9944	0.994
Barometric Pressure, inches of Mercury	28.14	28.14	28.19	28.157
Average Orifice Meter Differential, inches H2O	1.31	1.48	1.62	1.470
Dry Gas Meter Volume Sampled, cubic feet	77.450	83.390	86.450	82.430
Average Dry Gas Meter Temperature, °F	78.50	85.83	84.00	82.777
Dry Gas Meter Volume Sampled, dscf	71.264	75.732	78.944	75.313
Total Moisture Liquid collected, g	261.3	284.0	290.9	278.733
Volume of Water Vapor, standard cubic feet	12.322	13.392	13.718	13.144
Moisture Content of Stack Gas, %	14.7417	15.0263	14.8043	14.857
Moisture Saturation at Stack Gas Temperature, %	20.08	20.30	24.52	21.633
Dry Mole Fraction	0.8526	0.8497	0.8520	0.851
Carbon Dioxide, %	2.707	2.737	2.7478	2.731
Oxygen, %	18.0415	17.9953	18.1308	18.056
Carbon Monoxide & Nitrogen, %	79.2515	79.2677	79.1214	79.214
Fuel Factor	1.06	1.06	1.01	
Dry Molecular Weight, lb/lb-Mole	29.1548	29.1577	29.1649	29.159
Wet Molecular weight, lb/lb-Mole	27.5131	27.4823	27.5155	27.504
Flue Gas Static Pressure, inches of H2O	0.59	0.59	0.59	0.590
Absolute Flue Gas Pressure, inches of Mercury	28.18	28.18	28.23	28.197
Average Stack Gas Temperature, °F	138.58	139.00	146.50	141.360
Square Root of Average Velocity, inches of H2O	0.8419	0.8524	0.9000	0.865
Average Stack Gas Velocity, feet/second	53.11	53.82	57.09	54.673
Stack Cross-Sectional Area, square feet	58.99	58.99	58.99	58.990
Dry Volumetric Flow Rate, dry scfm	133,140.6	134,367.2	141,399.1	136,302.300
Actual Wet Volumetric Flue Gas Flow Rate, acfm	187,977.5	190,490.5	202,064.3	193,510.767
Percent Isokinetic of Sampling Rate, %	99.7	101.2	100.3	100.400
Percent Excess Air, %	626.2	613.9	657.6	632.567
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Round Duct Diameter, inches	104	104	104	
Rectangular Duct Width, inches				
Rectangular Duct Length, inches				

## EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc

11/3/2022

Fw	0	0	0	0.000
Fc	0	0	0	0.000



**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

<b>Location SV017 - Method 29</b>				
				<b>Average</b>
Run Number	1	2	3	
Test Date	9/2/2022	9/6/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:40:00 PM	4:35:00 PM	7:32:00 PM	
Net Traversing Points	12	12	12	
Net Run Time, minutes	156	156	156	
Nozzle Diameter, inches	0.225	0.225	0.225	0.225
Pitot Tube Coefficient	0.84	0.84	0.84	0.840
Dry Gas Meter Calibration Factor	0.9944	0.9944	0.9944	0.994
Barometric Pressure, inches of Mercury	27.94	28.3	28.3	28.180
Average Orifice Meter Differential, inches H2O	1.88	1.96	1.84	1.893
Dry Gas Meter Volume Sampled, cubic feet	121.640	123.050	120.380	121.690
Average Dry Gas Meter Temperature, °F	88.21	84.63	92.54	88.460
Dry Gas Meter Volume Sampled, dscf	109.326	112.771	108.710	110.269
Total Moisture Liquid collected, g	419.4	430.0	433.2	427.533
Volume of Water Vapor, standard cubic feet	19.777	20.277	20.428	20.161
Moisture Content of Stack Gas, %	15.3188	15.2404	15.8187	15.459
Moisture Saturation at Stack Gas Temperature, %	25.05	21.62	24.74	23.803
Dry Mole Fraction	0.8468	0.8476	0.8418	0.845
Carbon Dioxide, %	2.6761	2.6232	2.6893	2.663
Oxygen, %	18.0222	18.0972	18.1184	18.079
Carbon Monoxide & Nitrogen, %	79.3017	79.2796	79.1923	79.258
Fuel Factor	1.08	1.07	1.03	
Dry Molecular Weight, lb/lb-Mole	29.1491	29.1436	29.1550	29.149
Wet Molecular weight, lb/lb-Mole	27.4431	27.4477	27.3924	27.428
Flue Gas Static Pressure, inches of H2O	0.59	0.59	0.59	0.590
Absolute Flue Gas Pressure, inches of Mercury	27.98	28.34	28.34	28.220
Average Stack Gas Temperature, °F	147.00	141.67	147.00	145.223
Square Root of Average Velocity, inches of H2O	0.9581	0.9754	0.9436	0.959
Average Stack Gas Velocity, feet/second	61.16	61.59	59.90	60.883
Stack Cross-Sectional Area, square feet	58.99	58.99	58.99	58.990
Dry Volumetric Flow Rate, dry scfm	149,098.7	153,571.8	147,032.6	149,901.033
Actual Wet Volumetric Flue Gas Flow Rate, acfm	216,469.7	217,991.6	212,010.1	215,490.467
Percent Isokinetic of Sampling Rate, %	100.4	100.6	101.3	100.767
Percent Excess Air, %	618.6	638.9	649.8	635.767
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Round Duct Diameter, inches	104	104	104	
Rectangular Duct Width, inches				
Rectangular Duct Length, inches				

## EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc

11/3/2022

Fw	0	0	0	0.000
Fc	0	0	0	0.000

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

<b>Location SV017 - Method 3A CO2</b>				
				<b>Average</b>
Run Number	1	2	3	
Test Date	9/2/2022	9/6/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:40:00 PM	4:35:00 PM	7:32:00 PM	
Carbon Dioxide, %	2.6761	2.6232	2.6893	2.663
Oxygen, %	18.0222	18.0972	18.1184	18.079
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	149098.7	153571.8	147032.6	149,901.033
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	15.3188	15.2404	15.8187	15.459
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	171	172	172	171.667
Calibration Pre Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Pre Zero Cylinder Instrument Response	0.01	0.05	0.05	0.037
Calibration Pre Zero Cylinder Bias	0.32	0.32	0.32	0.320
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	
Calibration Pre High Cylinder Instrument Response	9.26	9.33	9.24	9.277
Calibration Pre High Cylinder Bias	-2.32	-2	-2.95	-2.423
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Post Zero Cylinder Instrument Response	0.05	0.05	0.05	0.050
Calibration Post Zero Cylinder Bias	0.74	0.32	0.32	0.460
Calibration Post Zero Cylinder Drift	0.42	0	0	0.140
Calibration Post High Cylinder ID	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	
Calibration Post High Cylinder Instrument Response	9.26	9.24	9.3	9.267
Calibration Post High Cylinder Bias	-2.32	-2.95	-2.32	-2.530
Calibration Post High Cylinder Drift	0	0.95	0.63	0.527
Cavg	2.63	2.6	2.66	2.630
Cavg Units	%vd	%vd	%vd	
Cgas	2.6761	2.6232	2.6893	2.663
Cgas Units	%vd	%vd	%vd	
Fuel Type				

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

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

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

<b>Location SV017 - Method 3A CO2 3</b>				
				<b>Average</b>
Run Number	4	5	6	
Test Date	8/30/2022	8/30/2022	8/31/2022	
Run Start Time	9:36:00 AM	12:54:00 PM	8:15:00 AM	
Run Finish Time	11:46:00 AM	3:02:00 PM	10:23:00 AM	
Carbon Dioxide, %	2.707	2.737	2.7478	2.731
Oxygen, %	18.0415	17.9953	18.1308	18.056
Fuel Factor	0	0	0	
Dry Volumetric Flow Rate, dry scfm	133717.1	134966.4	142043	136,908.833
F-Factor, dscfm/MMBtu @ %O2	0	0	0	0.000
Moisture, %	14.7417	15.0263	14.8043	14.857
Analyzer Make	Servomex	Servomex	Servomex	
Analyzer Model	1440	1440	1440	1,440.000
Analyzer Serial Number	4977	4977	4977	4,977.000
Operating Range	9.5	9.5	9.5	9.500
Operating Units	%	%	%	
No. Readings/Avg.	120	120	120	120.000
Calibration Set	175	175	176	175.333
Calibration Pre Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Pre Zero Cylinder Instrument Response	0.05	0.05	0.05	0.050
Calibration Pre Zero Cylinder Bias	0.53	0.53	0.21	0.423
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	
Calibration Pre High Cylinder Instrument Response	9.35	9.35	9.35	9.350
Calibration Pre High Cylinder Bias	-1.58	-1.58	-2.11	-1.757
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Post Zero Cylinder Instrument Response	0.05	0.1	0.05	0.067
Calibration Post Zero Cylinder Bias	0.53	1.05	0.21	0.597
Calibration Post Zero Cylinder Drift	0	0.52	0	0.173
Calibration Post High Cylinder ID	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	EB0099614 - CO2 HIGH	
Calibration Post High Cylinder Instrument Response	9.35	9.3	9.35	9.333
Calibration Post High Cylinder Bias	-1.58	-2.11	-2.11	-1.933
Calibration Post High Cylinder Drift	0	0.53	0	0.177
Cavg	2.7	2.74	2.74	2.727
Cavg Units	%vd	%vd	%vd	
Cgas	2.707	2.737	2.7478	2.731
Cgas Units	%vd	%vd	%vd	
Fuel Type				

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

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

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

<b>Location SV017 - Method 3A O2</b>				
				<b>Average</b>
Run Number	1	2	3	
Test Date	9/2/2022	9/6/2022	9/6/2022	
Run Start Time	10:16:00 AM	1:10:00 PM	4:50:00 PM	
Run Finish Time	2:40:00 PM	4:35:00 PM	7:32:00 PM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	18.0222	18.0972	18.1184	18.079
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	173	174	174	173.667
Calibration Pre Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Pre Zero Cylinder Instrument Response	0.13	0.16	0.23	0.173
Calibration Pre Zero Cylinder Bias	0.67	0.71	1.02	0.800
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0099614 - O2 LOW	EB0099614 - O2 LOW	EB0099614 - O2 LOW	
Calibration Pre High Cylinder Instrument Response	9.44	9.44	9.46	9.447
Calibration Pre High Cylinder Bias	-0.13	-0.13	-0.04	-0.100
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Post Zero Cylinder Instrument Response	0.28	0.23	0.19	0.233
Calibration Post Zero Cylinder Bias	1.33	1.02	0.84	1.063
Calibration Post Zero Cylinder Drift	0.66	0.31	0.18	0.383
Calibration Post High Cylinder ID	EB0099614 - O2 LOW	EB0099614 - O2 LOW	EB0099614 - O2 LOW	
Calibration Post High Cylinder Instrument Response	9.62	9.46	9.37	9.483
Calibration Post High Cylinder Bias	0.67	-0.04	-0.44	0.063
Calibration Post High Cylinder Drift	0.8	0.09	0.4	0.430
Cavg	17.97	17.9	17.84	17.903
Cavg Units	%vd	%vd	%vd	
Cgas	18.0222	18.0972	18.1184	18.079
Cgas Units	%vd	%vd	%vd	
Fuel Type				

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

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



**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

<b>Location SV017 - Method 3A O2 3</b>				
				<b>Average</b>
Run Number	4	5	6	
Test Date	8/30/2022	8/30/2022	8/31/2022	
Run Start Time	9:36:00 AM	12:54:00 PM	8:15:00 AM	
Run Finish Time	11:46:00 AM	3:02:00 PM	10:23:00 AM	
Carbon Dioxide, %	0	0	0	0.000
Oxygen, %	18.0415	17.9953	18.1308	18.056
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	4977	5048	5048	5,024.333
Operating Range	22.5	22.5	22.5	22.500
Operating Units	%	%	%	
No. Readings/Avg.	120	120	120	120.000
Calibration Set	177	177	178	177.333
Calibration Pre Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Pre Zero Cylinder Instrument Response	0.17	0.18	0.11	0.153
Calibration Pre Zero Cylinder Bias	0.76	0.8	0.67	0.743
Calibration Pre Zero Cylinder Drift	0	0	0	0.000
Calibration Pre High Cylinder ID	EB0099614 - O2 LOW	EB0099614 - O2 LOW	EB0099614 - O2 LOW	
Calibration Pre High Cylinder Instrument Response	9.48	9.5	9.45	9.477
Calibration Pre High Cylinder Bias	-0.09	0	-0.22	-0.103
Calibration Pre High Cylinder Drift	0	0	0	0.000
Calibration Post Zero Cylinder ID	85002065 - ZERO	85002065 - ZERO	85002065 - ZERO	
Calibration Post Zero Cylinder Instrument Response	0.18	0.2	0.24	0.207
Calibration Post Zero Cylinder Bias	0.8	0.89	1.24	0.977
Calibration Post Zero Cylinder Drift	0.04	0.09	0.57	0.233
Calibration Post High Cylinder ID	EB0099614 - O2 LOW	EB0099614 - O2 LOW	EB0099614 - O2 LOW	
Calibration Post High Cylinder Instrument Response	9.5	9.5	9.48	9.493
Calibration Post High Cylinder Bias	0	0	-0.09	-0.030
Calibration Post High Cylinder Drift	0.09	0	0.13	0.073
Cavg	17.94	17.9	17.98	17.940
Cavg Units	%vd	%vd	%vd	
Cgas	18.0415	17.9953	18.1308	18.056
Cgas Units	%vd	%vd	%vd	
Fuel Type				

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

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

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

**Included Attachments:**

Attachments	
Source/Process Flow Diagram	Port Locations.pdf
EPA Method 1 Location Supporting Documentation (Item 9) (optional)	Port Locations.pdf
Cyclonic Flow Absence Supporting Documentation (Item 10)	Stack A M2.pdf
Cyclonic Flow Absence Supporting Documentation (Item 10)	Stack B SV015 M2.pdf
Cyclonic Flow Absence Supporting Documentation (Item 10)	Stack C M2.pdf
Cyclonic Flow Absence Supporting Documentation (Item 10)	Stack D M2.pdf
Pre-Test Meter Boxes/DGMs Calibrations	SV014 C-7 8-25-22 1.0045.pdf
Pre-Test Meter Boxes/DGMs Calibrations	SV015 C-6 8-22-2022 1.0006.pdf
Pre-Test Meter Boxes/DGMs Calibrations	SV016 C-10 8-23-2022 1.0092.pdf
Pre-Test Meter Boxes/DGMs Calibrations	SV017 C-8 8-22-2022 0.9944.pdf
Post-Test Meter Boxes/DGMs Calibrations	Stack A SV014 M5-29 Post Test.pdf
Post-Test Meter Boxes/DGMs Calibrations	Stack B SV015 M5-29 Post Test.pdf
Post-Test Meter Boxes/DGMs Calibrations	Stack C SV016 M5-29 Post Test.pdf
Post-Test Meter Boxes/DGMs Calibrations	Stack D SV017 M5-29 Post Test.pdf
Post-Test Meter Boxes/DGMs Calibrations	Stack A SV014 M26A Post Test.pdf
Post-Test Meter Boxes/DGMs Calibrations	Stack B SV015 M26A Post Test.pdf
Post-Test Meter Boxes/DGMs Calibrations	Stack C SV016 M26A Post Test.pdf
Post-Test Meter Boxes/DGMs Calibrations	Stack D SV017 M26A Post Test.pdf
Nozzles Calibrations	Stack A SV014 M5-29 8-30-2022.pdf
Nozzles Calibrations	Stack B SV015 M5-29 9-2-2022.pdf
Nozzles Calibrations	Stack C SV016 M5-29 8-30-2022.pdf
Nozzles Calibrations	Stack D SV017 M5-29 8-31-2022.pdf
Nozzles Calibrations	Stack A SV014 M26A 9-2-2022.pdf
Nozzles Calibrations	Stack B SV015 M26A 8-30-2022.pdf
Nozzles Calibrations	Stack C SV016 M26A 8-31-2022.pdf
Nozzles Calibrations	Stack D SV017 M26A 8-30-2022.pdf
Pitots Calibrations	4-3 Pitot.pdf
Pitots Calibrations	4-4 Pitot.pdf

**EPA 114 ICR Emission Testing at Cleveland-Cliffs Minorca Mine Inc**

**11/3/2022**

Pitots Calibrations	4-7 Pitot.pdf
Pitots Calibrations	4-8 Pitot.pdf
Pitots Calibrations	4-1 Pitot.pdf
Pitots Calibrations	4-6 pitot.pdf
Thermocouples Calibrations	4-1 TC.pdf
Thermocouples Calibrations	4-3 TC.pdf
Thermocouples Calibrations	4-4 TC.pdf
Thermocouples Calibrations	4-6 TC.pdf
Thermocouples Calibrations	4-7 TC.pdf
Thermocouples Calibrations	4-8 TC.pdf
Thermocouples Calibrations	C-6-I.pdf
Thermocouples Calibrations	C-6-O.pdf
Thermocouples Calibrations	C-7-I.pdf
Thermocouples Calibrations	C-7-O.pdf
Thermocouples Calibrations	C-8 IO.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-7.pdf
Thermocouples Calibrations	TIO-170.pdf
Thermocouples Calibrations	TIO-1253.pdf
Thermocouples Calibrations	TIO-8062.pdf
Sampling Locations Dimensions and Point Locations	Port Locations.pdf
Sampling Locations Dimensions and Point Locations	Traverse Points.pdf
Run Field Data Sheets (raw data sheets for field sampling)	Stack A SV014 M5-29 .pdf
Run Field Data Sheets (raw data sheets for field sampling)	Stack A SV014 M26A.pdf
Run Field Data Sheets (raw data sheets for field sampling)	Stack B SV015 M5-29 .pdf
Run Field Data Sheets (raw data sheets for field sampling)	Stack B SV015 M26A.pdf
Run Field Data Sheets (raw data sheets for field sampling)	Stack C SV016 M5-29.pdf

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Run Field Data Sheets (raw data sheets for field sampling)	Stack C SV016 M26A.pdf
Run Field Data Sheets (raw data sheets for field sampling)	Stack D SV017 M5-29.pdf
Run Field Data Sheets (raw data sheets for field sampling)	Stack D SV017 M26A.pdf
Run Field Data Sheets (raw data sheets for field sampling)	Stack A O2-CO2 9.2.22 Run 1.pdf
Run Field Data Sheets (raw data sheets for field sampling)	Stack A O2-CO2 9.6.22 Runs 2-3.pdf
Run Field Data Sheets (raw data sheets for field sampling)	Stack A O2-CO2-CO 8.30.22 Runs 1-2.pdf
Run Field Data Sheets (raw data sheets for field sampling)	Stack A O2-CO2-CO 8.31.22 Run 3.pdf
Run Field Data Sheets (raw data sheets for field sampling)	Stack B O2-CO2 8.30.22 Runs 1-2.pdf
Run Field Data Sheets (raw data sheets for field sampling)	Stack B O2-CO2 8.31.22 Run 3.pdf
Run Field Data Sheets (raw data sheets for field sampling)	Stack B O2-CO2-CO 9.2.22 Run 1.pdf
Run Field Data Sheets (raw data sheets for field sampling)	Stack B O2-CO2-CO 9.6.22 Run 2-3.pdf
Run Field Data Sheets (raw data sheets for field sampling)	Stack C CO2 - Runs 1 and 2 REVISED.pdf
Run Field Data Sheets (raw data sheets for field sampling)	Stack C CO2 Run 3 REVISED.pdf
Run Field Data Sheets (raw data sheets for field sampling)	Stack C O2-CO2 9.2.22 Run 1.pdf
Run Field Data Sheets (raw data sheets for field sampling)	Stack C O2-CO2 9.6.22 Runs 2-3.pdf
Run Field Data Sheets (raw data sheets for field sampling)	Stack D O2-CO2 8.30.22 Runs 1-2.pdf
Run Field Data Sheets (raw data sheets for field sampling)	Stack D O2-CO2 8.31.22 Run 3.pdf
Run Field Data Sheets (raw data sheets for field sampling)	Stack D O2-CO2-CO 9.2.22 Run 1.pdf
Run Field Data Sheets (raw data sheets for field sampling)	Stack D O2-CO2-CO 9.6.22 Runs 2-3.pdf
Moisture Recovery	Stack A SV014 M5-29 Moisture .pdf
Moisture Recovery	Stack B SV015 M5-29 Moisture.pdf
Moisture Recovery	Stack C SV016 M5-29 Moisture.pdf
Moisture Recovery	Stack D SV017 M5-29 Moisture.pdf
Moisture Recovery	Stack A SV014 M26A Moisture.pdf
Moisture Recovery	Stack B SV015 M26A Moisture.pdf
Moisture Recovery	Stack C SV016 M26A Moisture.pdf
Moisture Recovery	Stack D SV017 M26A Moisture.pdf
Lab Data (raw data sheets for field and laboratory analysis)	Stack A Metals Lab Sum.pdf
Lab Data (raw data sheets for field and laboratory analysis)	Stack B 26A Lab Sum.pdf
Lab Data (raw data sheets for field and laboratory analysis)	Stack B Metals Lab Sum.pdf

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Lab Data (raw data sheets for field and laboratory analysis)	Stack C 26A Lab Sum.pdf
Lab Data (raw data sheets for field and laboratory analysis)	Stack C Metals Lab Sum.pdf
Lab Data (raw data sheets for field and laboratory analysis)	Stack D 26A Lab Sum.pdf
Lab Data (raw data sheets for field and laboratory analysis)	Stack D MetalsLab Sum.pdf
Lab Data (raw data sheets for field and laboratory analysis)	Truncated E1 Report.pdf
Lab Data (raw data sheets for field and laboratory analysis)	Truncated Enthalpy Report.pdf
Lab Data (raw data sheets for field and laboratory analysis)	Stack A SV014 M5-29 Lab Summary.pdf
Lab Data (raw data sheets for field and laboratory analysis)	Stack B SV015 M5-29 Lab Summary.pdf
Lab Data (raw data sheets for field and laboratory analysis)	Stack C SV016 M5-29 Lab Summary.pdf
Lab Data (raw data sheets for field and laboratory analysis)	Stack D SV017 M5-29 Lab Summary.pdf
Lab Data (raw data sheets for field and laboratory analysis)	Stack A 26A Lab Sum.pdf
Chain-of-Custody	COC.pdf
Laboratory Accreditation Certification	SOP-104 Method 5 Determination of Particulate Matter Emissions from Stationary Sources
Laboratory Accreditation Certification	Element One - LA_NELAP_Certificate_Parameter_List_EPA_2012.pdf
Laboratory Accreditation Certification	Element One - NJ_NELAP_Certificate_u0026_Parameter_List_2013_22_2_.pdf
Laboratory Accreditation Certification	Barr - Gravimetrics.pdf
Laboratory Accreditation Certification	Element One - SOP-201 Method 29 and 30.1.9.pdf
Laboratory Accreditation Certification	Enthalpy - Durham_Louisiana-DEQ-NELAP-063022.pdf
Laboratory Accreditation Certification	Enthalpy - Durham_New-Jersey-DEP-NELAP-063022-1.pdf
Laboratory Accreditation Certification	Enthalpy - SOP-312_R15 EPA Methods 29 and 30.1.9
Interference/Response Time/Converter Efficiency/Stratification Tests	Stack A Strat test.pdf
Interference/Response Time/Converter Efficiency/Stratification Tests	Stack B Strat test.pdf
Interference/Response Time/Converter Efficiency/Stratification Tests	Stack C Strat Test.pdf

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Interference/Response Time/Converter Efficiency/Stratification Tests	Stack D Strat test.pdf
Process and APCD Monitor Calibrations	2022 Furnace MACT Process Data.pdf
Process and APCD Monitor Calibrations	Process Data - Non-CBI.pdf
Calibration Gas Certificates (Item 16)	85002065.20220518.PDF
Calibration Gas Certificates (Item 16)	CO2 O2 4.86 22.5 EB0097783 Exp 10-03-
Calibration Gas Certificates (Item 16)	CO2 O2 9.46 9.50 EB0099614 Exp 8-12-2
Calibration Gas Certificates (Item 16)	CO2 O2 9.47 9.51 EB0098390 Exp 10-21
Calibration Gas Certificates (Item 16)	CO 23.1 EB0097780.20190404.PDF
Calibration Gas Certificates (Item 16)	CO 45.5 EB0099389.20200203.pdf
Stratification Test	Stack A Strat test.pdf
Stratification Test	Stack B Strat test.pdf
Stratification Test	Stack C Strat Test.pdf
Stratification Test	Stack D Strat test.pdf
Example calculations for reported results	Analyzer Equations - revised 5-1-15.pdf
Example calculations for reported results	Stack A SV014 M5-29 PM Calc.pdf
Example calculations for reported results	Stack B SV015 M5-29 PM Calc.pdf
Example calculations for reported results	Stack D SV017 M5-29 PM Calc.pdf
Example calculations for reported results	Stack B M26A Calcs.pdf
Example calculations for reported results	Stack B SV015 M26A ISO.pdf
Example calculations for reported results	Stack C 26A Calcs.pdf
Example calculations for reported results	Stack C SV016 M26A ISO.pdf
Example calculations for reported results	Stack D 26A Calcs.pdf
Example calculations for reported results	Stack D SV017 M26A ISO.pdf
Example calculations for reported results	Stack A Metals calcs.pdf
Example calculations for reported results	Stack B Metals Calcs.pdf
Example calculations for reported results	Stack C Metals Calcs.pdf
Example calculations for reported results	Stack C PM Calc.pdf
Example calculations for reported results	Stack D Metals Calc.pdf
Example calculations for reported results	Stack A O2-CO2-CO.pdf
Example calculations for reported results	Stack B O2-CO2-CO.pdf

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Example calculations for reported results	Stack C O2-CO2-CO.pdf
Example calculations for reported results	Stack D O2-CO2-CO.pdf
Example calculations for reported results	Stack A SV014 M26A Calc.pdf
Example calculations for reported results	Stack A SV014 M26A ISO.pdf
Flow Weighted Average Calculations	Minorca MACT Flow Weighted Avgs - Fu 09-29.pdf
Flow Weighted Average Calculations	Pages from DRAFT Appendices MACT Ta

**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	
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 tube and nozzle inspections?	Yes	



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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?	Yes	
Were the response time tests included in the report?	Yes	
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?	Yes	
Did the report include stratification checks?	Yes	
Did the report include the raw data for the instrumental method?	Yes	

**Regulatory Review Questions:**

Regulatory Review 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., 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?		

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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?		
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?		

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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?		
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?		

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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
<p>EPA Method 26A was modified to eliminate sodium hydroxide impingers (not needed as looking for HF and meter calibration procedure was performed after each condition. Documentation is included in Post-Test Calibrations attachments.</p> <p>At the request of EPA, a fourth 0.1N sulfuric acid impinger was added to the train to determine HF breakthrough. The MDL and below RL was recovered in SV014, runs 2 and 3 and accounted for 2% (53.0 ug) and 1% (24.1 ug) values were added to the total HF catch.</p> <p>The hydrogen peroxide reagent used for the metals testing contained significant detection of phosphorus. The blank correction procedure is used to subtract the total amount found in the blank from each corresponding sample. EPA Method 29 which limits individual metal blank corrections to approximately one microgram. Attempts to replace the peroxide reagent without significant phosphorus prior to the test event was unsuccessful.</p>

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