CLIFFS

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April 29, 2021

Air and Radiation Division
US EPA Region 5 (A-18)
77 West Jackson Boulevard
Chicago, IL 60604

Re: United Taconite Quarter 1 2021 CEMS EER and SO_2 FIP Reporting

- **CEMs Excess Emissions/Downtime Report (EER) – Fairlane Plant, DRF-1 form**

To Whom It May Concern:

Attached is the quarterly air emission compliance report required by 40 CFR 52.1235 (e)(7) for United Taconite's Fairlane Plant (United) (Facility ID 13700113) covering January 1 to March 31, 2021.

Below is a summary table of Continuous Emission Monitoring Systems (CEMS). Two (2) copies of the Calibration Gas Audit conducted March 9, 2021 is included with this report.

CGAs										
Emission Unit	Monitor	Manufacturer /Model	Serial #	Pollutant	Audit Date		Results (%)	Next Test Due	Comments	Pass/ Fail
EQUI 45 EU 040 Line 1 Furnace (SV046) STRU 53	EQUI 142	Sick-Maihak/GM32	17238033	NOx	3/9/2021	Low	1.0	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	2.4			
	EQUI 143	Sick-Maihak/GM32	17238033	Low SO2	3/9/2021	Low	3.2	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	8.1			
	EQUI 143	Sick-Maihak/GM32	17238033	High SO2	3/9/2021	Low	2.1	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	0.6			
EQUI 47 EU 042 Line 2 Furnace (SV048) STRU 16	EQUI 145	Sick-Maihak/GM32	17238034	NOx	3/9/2021	Low	2.8	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	0.1			
	EQUI 146	Sick-Maihak/GM32	17238034	Low SO2	3/9/2021	Low	5.2	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	3.7			
	EQUI 146	Sick-Maihak/GM32	17238034	High SO2	3/9/2021	Low	3.2	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	5.6			
EQUI 47 EU 042 Line 2 Furnace (SV049) STRU 15	EQUI 148	Sick-Maihak/GM32	17238035	NOx	3/9/2021	Low	0.3	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	1.0			
	EQUI 149	Sick-Maihak/GM32	17238035	Low SO2	3/9/2021	Low	6.7	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	4.1			
	EQUI 149	Sick-Maihak/GM32	17238035	High SO2	3/9/2021	Low	0.4	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	0.1			

In accordance with the 529 lbs/hr aggregate SO2 limit, no periods of excess emissions were experienced during this reporting period. In addition, United also maintained compliance with the 1.5% coal sulfur limit on both furnace lines. In accordance to the FIP reporting requirements, a total of 2017 operating hours were recorded on Line 1 (EU 040) and 1838 operating hours were recorded on Line 2 (EU 042).

Downtime noted during this reporting period was a result of calibrations and small maintenance issues.

United is the subject of a US EPA Federal Implementation Plan ("FIP") addressing requirements for best available retrofit technology ("BART"). Under 40 C.F.R. § 52.1235(b)(2)(iv), UTAC became subject to an aggregate emission limit of 529.0 lbs SO2/hr as of November 12, 2016. The limit has been in place for more than four years, and UTAC has regularly submitted CEMS data no later than the end of each calendar quarter during that time period. Enclosed with this cover letter is the CEMS data for the first quarter of 2021 per 40 C.F.R. § 52.1235(b)(2)(iv).

Until March 12, 2019, UTAC has been subject to a requirement to submit CEMS data to US EPA specific to the NOx emission limit setting period for Line 1 in § 52.1235(b)(1)(iv)(A)(2) and for Line 2 in § 52.1235(b)(1)(iv)(B)(2). UTAC was able to recently stop submitting such data since the provisions contained clear end points. For example, rule language for Line 1 states: "Although CEMS data must continue to be collected, it does not need to be submitted to EPA starting 34 months after May 12, 2016 [March 12, 2019]."

However, the SO2 CEMS data submission requirements in § 52.1235(b)(2)(iv), which substantively mirror the NOx provisions, do not contain a specified end date. There is no reasoned basis in the rule-making record to terminate NOx CEMS data reporting and continue to require SO2 CEMS data reporting. We, therefore, conclude that the absence of an end date for SO2 CEMS data submission was an unintentional omission that should be corrected by inserting a reasonable end date.

In summary, UTAC is presenting the attached SO2 CEMS Hourly Data Report for the first quarter of 2021 as the final such report under the BART FIP rule. UTAC will continue to collect the data, maintain records as required under the rule, and make such records available upon request in the future in lieu of a quarterly submission.

Please contact me at (218) 744-7803 or at Michael.Bonham@clevelandcliffs.com if you have questions about this submittal or require additional information.

Sincerely,

Mike Bonham
Environmental Coordinator

Enclosures

Cc: C. Maxwell, United
C. Asgaard, United
N. Beukema, United

Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194

DRF-1

Excess Emissions Reporting Form

Air Quality Permit Program

Doc Type: Excess Emission Report

Note: Please complete, and remit only the forms. Please see the instructions to ensure proper use and understanding of definitions.
Do not print and return the instructions.

General information about deviation and compliance reporting

If your permit requires you to submit deviation reports or an annual compliance certification, you should use the Deviation Reporting Forms (DRFs) and Annual Compliance Certification Report (CR-04), unless you get Minnesota Pollution Control Agency (MPCA) approval to use another format or your facility's permit specifies otherwise. There are two separate DRF forms: DRF-1 and DRF-2.

DRF-1 is used to report direct excess stack emissions (EE) recorded by Continuous emission monitoring systems (CEMS) and Continuous opacity monitoring systems (COMS) data summary table.

DRF-2 is used to report deviations recorded by periodic monitoring systems, deviations of permitted operating conditions and surrogate parameters whether recorded periodically or continuously, or potential excess emissions identified through recordkeeping.
Some examples: flow rate, temperature, throughput, control equipment operating parameters, fuel-use records

CR-04: is used to report facility compliance status at the end of each year if required by your permit.

Email a signed and scanned PDF copy to: AQRoutineReport.PCA@state.mn.us
(see email instructions in "Routine Air Report Instructions Letter" on the MPCA website at: http://www.pca.state.mn.us/nwqh472)

Address hard copy report submittals to: Air Compliance Tracking Coordinator, Minnesota Pollution Control Agency
520 Lafayette Road North, St. Paul, Minnesota 55155-4195

1) General facility information

Facility name: United Taconite
Agency interst ID #: 140099
County: St. Louis
Air quality permit #: 13700113-007
Report covers quarter: 1
Year: 2021

2) CEMS/COMS data summary table

				Duration of monitor downtime		Duration of excess emissions (EE)			
2a)	2b)	2c)	2d)	3i)	2e)	4f)	2f)	4m)	2g)
Monitor ID (EQUI or MR)	Monitored pollutant or parameter	Monitored emission unit ID (EQUI/STRU or EU/SV)	Total operating time (TOT)	Total duration of monitor downtime	Downtime % of TOT	Cumulative duration of exempt EE	Exempt EE % of TOT	Cumulative total duration of All EE	Total EE % of TOT
MR 001	NOX	EQUI 45/STRU53	2160	17.5	0.8	---	---	0 hr.	0
MR 002	SO2	EQUI 45/STRU53	2160	17.5	0.8	---	---	0 hr.	0
MR 004	NOX	EQUI 47/STRU16	1848	15.8	0.9	---	---	0 hr.	0
MR 005	SO2	EQUI 47/STRU16	1848	15.8	0.9	---	---	0 hr.	0
MR 007	NOX	EQUI 47/STRU15	1848	15.7	0.9	---	---	0 hr.	0
MR 008	SO2	EQUI 47/STRU15	1848	15.7	0.9	---	---	0 hr.	0

3) Duration of monitor downtime:

Provide the following information regarding each period of monitor downtime. Make a separate table for each monitor, as needed.

3a) Monitor ID	3b) Monitored pollutant or parameter	3c) Monitored emission unit ID	3d) Beginning date and time of downtime	3e) End date and time of downtime	3f) Duration of downtime	3g) Reason for monitor downtime (clarifying comments)	3h) Corrective actiontaken (clarifying comments)
MR 001	NOx	SV 046	3/9/2021 9:00	3/9/2021 10:00	1 hr.	QA Calibration	No Corrective Action Needed
MR 001	NOx	SV 046	1/1/2021 6:05	3/31/2021 6:14	16.5 hr.	10-minute calibration (10 X 99 calibrations) 10x99= 990	No Corrective Action Needed
MR 002	SO2	SV 046	3/9/2021 9:00	3/9/2021 10:00	1 hr.	QA Calibration	No Corrective Action Needed
MR 002	SO2	SV 046	1/1/2021 6:05	3/31/2021 6:14	16.5 hr.	10-minute calibration (10 X 99 calibrations) 10x99= 990	No Corrective Action Needed
MR 004	NOx	SV 048	3/9/2021 12:00	3/9/2021 13:00	1 hr.	QA Calibration	No Corrective Action Needed
MR 004	NOx	SV 048	1/1/2021 6:05	3/31/2021 6:14	14.8 hr	10-minute calibration (10 X 89 calibrations) 10x182= 890 min	No Corrective Action Needed
MR 005	SO2	SV 048	3/9/2021 12:00	3/9/2021 13:00	1 hr.	QA Calibration	No Corrective Action Needed
MR 005	SO2	SV 048	1/1/2021 6:05	3/31/2021 6:14	14.8 hr	10-minute calibration (10 X 89 calibrations) 10x182= 890 min	No Corrective Action Needed
MR 007	NOx	SV 049	3/9/2021 11:00	3/9/2021 12:00	1 hr.	QA Calibration	No Corrective Action Needed
MR 007	NOx	SV 049	1/1/2021 6:05	3/31/2020 6:14	14.7 hr	10-minute calibration (10 X 88 calibrations) 10x88= 880 min	No Corrective Action Needed
MR 008	SO2	SV 049	3/9/2021 11:00	3/9/2021 12:00	1 hr.	QA Calibration	No Corrective Action Needed
MR 008	SO2	SV 049	1/1/2021 6:05	3/31/2020 6:14	14.7 hr	10-minute calibration (10 X 88 calibrations) 10x88= 880 min	No Corrective Action Needed

3i) Total duration of downtime (hours): 98

4) Duration of excess emissions:

Provide the following information regarding each individual excess emission identified by a monitor. Make a separate table for each monitor, as needed.

4a)	4b)	4c)	4d)	4e)	4f)	4g)	4h)	4i)
Monitored emission unit ID	Monitor ID	parameter monitored	Beginning date and time of EE	End date and time of EE	averaging period	of EE with units (example: 5	exempt EE (include these	Total duration of all EE
No deviations to report								

5) Monitor bypasses:

Provide the following information for each period in which an emission unit is operating but is not being monitored because emissions were either partially or totally diverted around the monitoring system See Minn. R. 7017.1110 subp. 2c

5a)	5b)	5c)	5d)	5e)	5f)	5g)	5h)	5i)	4j)	
Monitor ID	Monitored emission unit ID	Pollutant and Emit required to be monitored	Beginning date and time of bypass period	End date and time of bypass period	Duration of monitor bypass (minutes)	Was P.C.E. operating during bypass period?	Duration of allowable monitor bypass	Reason for monitor bypass (clarifying comments)	Cause of EE (clarifying comments)	

See attached form

5k) Total duration of allowable monitor bypass (minutes) : **19431**

6) Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

Note: The individual signing must meet the definition of "responsible official" in Minn. R. 7007.0100, subp. 21.

Responsible Official:

Signature: Date (mm/dd/yyyy): 4/29/2021

Print name: Chad Asgaard Title: General Manager

COMS audits

Subject item	Operating hours	Monitor ID	Pollutant	Last audit date	Cal error results	Pass/fail	Next test due by:	Comments
NA					Low			
					Mid			
					High			

Cylinder gas audit's (CGA)

Emission unit	Operating hours	Monitor ID	Pollutant	Last audit date	Cal error results	Pass/fail	Next test due by:	Comments
EU 040 EQUI 45 STRU 53 SV 046		EQUI 142 MR 001	NOx	3/9/2021	Low 1.0%	Pass	6/30/2021	Next CGA due Q2 2021
					Mid 2.4%	Pass		
		EQUI 143 MR 002	Low SO2	3/9/2021	Low 3.2%	Pass	6/30/2021	Next CGA due Q2 2021
					Mid 8.1%	Pass		
		EQUI 143 MR 002	High SO2	3/9/2021	Low 2.1%	Pass	6/30/2021	Next CGA due Q2 2021
					Mid 0.6%	Pass		
EU 042 EQUI 47 STRU 16 SV 048		EQUI 145 MR 004	NOx	3/9/2021	Low 2.8%	Pass	6/30/2021	Next CGA due Q2 2021
					Mid 0.1%	Pass		
		EQUI 146 MR 005	Low SO2	3/9/2021	Low 5.2%	Pass	6/30/2021	Next CGA due Q2 2021
					Mid 3.7%	Pass		
		EQUI 146 MR 005	High SO2	3/9/2021	Low 3.2%	Pass	6/30/2021	Next CGA due Q2 2021
					Mid 5.6%	Pass		
EU 042 EQUI 47 STRU 15 SV 049		EQUI 148 MR 008	NOx	3/9/2021	Low 0.3%	Pass	6/30/2021	Next CGA due Q2 2021
					Mid 1.0%	Pass		
		EQUI 149 MR 009	Low SO2	3/9/2021	Low 6.7%	Pass	6/30/2021	Next CGA due Q2 2021
					Mid 4.1%	Pass		
		EQUI 149 MR 009	High SO2	3/9/2021	Low 0.4%	Pass	6/30/2021	Next CGA due Q2 2021
					Mid 0.1%	Pass		

Linearity

Emission unit	Operating hours	Monitor ID	Pollutant	Last audit date	Cal error results	Pass/fail	Next test due by:	Comments
NA					Low			
					Mid			
					High			

Relative accuracy test audit (RATA)

Emission unit	Operating hours	Monitor ID	Pollutant	Last audit date	Relative accuracy	Pass/fail	Next test due by:	Comments
EU 040 EQUI 45 STRU 53 SV 046		EQUI 142 MR 001	NOx	9/1/2020	7.18%	Pass	9/30/2021	Next RATA Q3 2021
		EQUI 143 MR 002	SO2	9/1/2020	9.80%	Pass	9/30/2021	Next RATA Q3 2021
EU 042 EQUI 47 STRU 16 SV 048		EQUI 145 MR 004	NOx	9/3/2020	4.87%	Pass	9/30/2021	Next RATA Q3 2021
		EQUI 146 MR 005	SO2	9/3/2020	13.00%	Pass	9/30/2021	Next RATA Q3 2021
EU 042 EQUI 47 STRU 15 SV 049		EQUI 148 MR 007	NOx	9/4/2020	7.67%	Pass	9/30/2021	Next RATA Q3 2021
		EQUI 149 MR 008	SO2	9/4/2020	8.56%	Pass	9/30/2021	Next RATA Q3 2021

Line 1

5) Monitor Bypasses

Monitor ID Number	Emission Unit Required to be Monitored	Pollutant and Limit Required to be Monitored	Beginning Date and Time of Bypass Period	End Date and Time of Bypass Period	Limit and Averaging Period	Duration of Monitor Bypass (minutes)	Was P.C.E. Operating During Bypass Period?	Duration of Allowable Monitor Bypass	Reason For Monitor Bypass (clarifying comments)	Corrective Action Taken (clarifying comments)
MR 001/MR 002	STRU 53	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	1/5/2021 13:11	1/5/2021 13:41	hr	30.00	yes	30.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 001/MR 002	STRU 53	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	1/8/2021 4:59	1/8/2021 5:14	hr	15.00	yes	15.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 001/MR 002	STRU 53	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	1/9/2021 10:30	1/10/2021 7:55	hr	1285.00	yes	1285.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 001/MR 002	STRU 53	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	1/12/2021 9:21	1/12/2021 9:49	hr	28.00	yes	28.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 001/MR 002	STRU 53	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	1/18/2021 16:15	1/18/2021 16:38	hr	23.00	yes	23.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 001/MR 002	STRU 53	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	2/6/2021 22:48	2/6/2021 23:28	hr	40.00	yes	40.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 001/MR 002	STRU 53	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	2/13/2021 17:15	2/14/2021 13:41	hr	1226.00	yes	1226.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 001/MR 002	STRU 53	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	2/15/2021 16:04	2/17/2021 3:42	hr	2138.00	yes	2138.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 001/MR 002	STRU 53	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	2/17/2021 10:40	2/18/2021 1:35	hr	895.00	yes	895.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 001/MR 002	STRU 53	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	2/18/2021 18:47	2/19/2021 23:36	hr	1729.00	yes	1729.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 001/MR 002	STRU 53	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	2/21/2021 6:20	2/21/2021 7:20	hr	60.00	yes	60.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 001/MR 002	STRU 53	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	2/21/2021 18:30	2/21/2021 19:08	hr	38.00	yes	38.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 001/MR 002	STRU 53	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	2/26/2021 7:40	2/27/2021 7:08	hr	1408.00	yes	1408.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 001/MR 002	STRU 53	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	2/27/2021 22:16	2/27/2021 23:27	hr	71.00	yes	71.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 001/MR 003	STRU 53	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	2/28/2021 7:12	2/28/2021 7:31	hr	19.00	yes	19.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 001/MR 002	STRU 53	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	3/7/2021 7:31	3/7/2021 16:07	hr	516.00	yes	516.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 001/MR 002	STRU 53	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	3/11/2021 4:38	3/11/2021 4:46	hr	8.00	yes	8.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time

MR 001/MR 002	STRU 53	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	3/11/2021 9:36	3/11/2021 11:24	hr	108.00	yes	108.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 001/MR 002	STRU 53	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	3/19/2021 7:39	3/19/2021 7:52	hr	13.00	yes	13.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 001/MR 002	STRU 53	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	3/25/2021 22:13	3/26/2021 9:31	hr	678.00	yes	678.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 001/MR 002	STRU 53	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	3/30/2021 8:32	3/30/2021 19:43	hr	671.00	yes	671.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
5b) Total Duration of Allowable bypass (minutes):						10999				

Line 2

5) Monitor Bypass:

Monitor ID Number	Emission Unit Required to be Monitored	Pollutant and Limit Required to be Monitored	Beginning Date and Time of Bypass Period	End Date and Time of Bypass Period	Limit and Averaging Period	Duration of Monitor Bypass (minutes)	Was P.C.E. Operating During Bypass Period?	Duration of Allowable Monitor Bypass	Reason For Monitor Bypass (clarifying comments)	Corrective Action Taken (clarifying comments)
MR 004/MR 005 MR 007/MR 008	STRU15/STRU16	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	1/14/2021 3:30	1/15/2021 18:55	1 hr.	2365.00	yes	2365.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 004/MR 005 MR 007/MR 008	STRU15/STRU16	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	1/16/2021 11:11	1/16/2021 11:38	1 hr.	27.00	yes	27.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 004/MR 005 MR 007/MR 008	STRU15/STRU16	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	1/17/2021 9:54	1/17/2021 10:08	1 hr.	14.00	yes	14.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 004/MR 005 MR 007/MR 008	STRU15/STRU16	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	1/20/2021 6:44	1/20/2021 17:35	1 hr.	651.00	yes	651.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 004/MR 005 MR 007/MR 008	STRU15/STRU16	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	1/25/2021 9:11	1/25/2021 12:59	1 hr.	228.00	yes	228.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 004/MR 005 MR 007/MR 008	STRU15/STRU16	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	1/27/2021 9:31	1/27/2021 10:09	1 hr.	38.00	yes	38.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 004/MR 005 MR 007/MR 008	STRU15/STRU16	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	1/28/2021 8:49	1/28/2021 13:26	1 hr.	277.00	yes	277.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 004/MR 005 MR 007/MR 008	STRU15/STRU16	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	2/2/2021 8:56	2/2/2021 12:05	1 hr.	189.00	yes	189.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 004/MR 005 MR 007/MR 008	STRU15/STRU16	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	2/4/2021 16:22	2/4/2021 18:10	1 hr.	108.00	yes	108.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 004/MR 005 MR 007/MR 008	STRU15/STRU16	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	2/4/2021 20:25	2/4/2021 22:20	1 hr.	115.00	yes	115.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 004/MR 005 MR 007/MR 008	STRU15/STRU16	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	2/5/2021 0:34	2/5/2021 1:22	1 hr.	48.00	yes	48.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time

MR 004/MR 005 MR 007/MR 008	STRU15/STRU16	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	2/6/2021 19:14	2/6/2021 19:22	1 hr.	8.00	yes	8.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 004/MR 005 MR 007/MR 008	STRU15/STRU16	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	2/7/2021 6:55	2/7/2021 7:08	1 hr.	13.00	yes	13.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 004/MR 005 MR 007/MR 008	STRU15/STRU16	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	2/17/2021 23:16	2/17/2021 23:29	1 hr.	13.00	yes	13.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 004/MR 005 MR 007/MR 008	STRU15/STRU16	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	2/18/2021 11:40	2/18/2021 13:44	1 hr.	124.00	yes	124.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 004/MR 005 MR 007/MR 008	STRU15/STRU16	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	2/21/2021 2:02	2/21/2021 4:39	1 hr.	157.00	yes	157.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 004/MR 005 MR 007/MR 008	STRU15/STRU16	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	2/23/2021 0:30	2/23/2021 11:30	1 hr.	660.00	yes	660.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 004/MR 005 MR 007/MR 008	STRU15/STRU16	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	2/25/2021 6:35	2/25/2021 7:15	1 hr.	40.00	yes	40.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 004/MR 005 MR 007/MR 008	STRU15/STRU16	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	2/25/2021 13:00	2/26/2021 21:10	1 hr.	1930.00	yes	1930.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 004/MR 005 MR 007/MR 008	STRU15/STRU16	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	3/3/2021 4:35	3/3/2021 7:36	1 hr.	181.00	yes	181.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 004/MR 005 MR 007/MR 008	STRU15/STRU16	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	3/3/2021 9:16	3/3/2021 9:31	1 hr.	15.00	yes	15.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 004/MR 005 MR 007/MR 008	STRU15/STRU16	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	3/18/2021 19:29	3/19/2021 9:14	1 hr.	825.00	yes	825.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 004/MR 005 MR 007/MR 008	STRU15/STRU16	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	3/28/2021 19:27	3/28/2021 19:33	1 hr.	6.00	yes	6.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
MR 004/MR 005 MR 007/MR 008	STRU15/STRU16	NOx,SO2 (529.0 lb/hr 30-day rolling average combined EQUI 045 and EQUI 47)	3/30/2021 8:24	3/30/2021 15:04	1 hr.	400.00	yes	400.00	Emergency stop - bypass necessary to protect worker safety and equipment.	Follow SSM Procedures to Minimize Cap Open Time
SX) Total duration of allowable bypass (minutes) - Line 2					total M-12	8432 19431				

CGAs										
Emission Unit	Monitor	Manufacturer /Model	Serial #	Pollutant	Audit Date		Results (%)	Next Test Due	Comments	Pass/ Fail
EQUI 45 EU 040 Line 1 Furnace (SV046) STRU 53	EQUI 142	Sick-Maihak/GM32	17238033	NOx	3/9/2021	Low	1.0	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	2.4			
	EQUI 143	Sick-Maihak/GM32	17238033	Low SO2	3/9/2021	Low	3.2	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	8.1			
	EQUI 143	Sick-Maihak/GM32	17238033	High SO2	3/9/2021	Low	2.1	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	0.6			
EQUI 47 EU 042 Line 2 Furnace (SV048) STRU 16	EQUI 145	Sick-Maihak/GM32	17238034	NOx	3/9/2021	Low	2.8	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	0.1			
	EQUI 146	Sick-Maihak/GM32	17238034	Low SO2	3/9/2021	Low	5.2	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	3.7			
	EQUI 146	Sick-Maihak/GM32	17238034	High SO2	3/9/2021	Low	3.2	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	5.6			
EQUI 47 EU 042 Line 2 Furnace (SV049) STRU 15	EQUI 148	Sick-Maihak/GM32	17238035	NOx	3/9/2021	Low	0.3	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	1.0			
	EQUI 149	Sick-Maihak/GM32	17238035	Low SO2	3/9/2021	Low	6.7	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	4.1			
	EQUI 149	Sick-Maihak/GM32	17238035	High SO2	3/9/2021	Low	0.4	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	0.1			

CGAs										
Emission Unit	Monitor	Manufacturer /Model	Serial #	Pollutant	Audit Date		Results (%)	Next Test Due	Comments	Pass/ Fail
EQUI 45 EU 040 Line 1 Furnace (SV046) STRU 53	EQUI 142	Sick-Maihak/GM32	17238033	NOx	3/9/2021	Low	1.0	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	2.4			
	EQUI 143	Sick-Maihak/GM32	17238033	Low SO2	3/9/2021	Low	3.2	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	8.1			
	EQUI 143	Sick-Maihak/GM32	17238033	High SO2	3/9/2021	Low	2.1	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	0.6			
EQUI 47 EU 042 Line 2 Furnace (SV048) STRU 16	EQUI 145	Sick-Maihak/GM32	17238034	NOx	3/9/2021	Low	2.8	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	0.1			
	EQUI 146	Sick-Maihak/GM32	17238034	Low SO2	3/9/2021	Low	5.2	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	3.7			
	EQUI 146	Sick-Maihak/GM32	17238034	High SO2	3/9/2021	Low	3.2	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	5.6			
EQUI 47 EU 042 Line 2 Furnace (SV049) STRU 15	EQUI 148	Sick-Maihak/GM32	17238035	NOx	3/9/2021	Low	0.3	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	1.0			
	EQUI 149	Sick-Maihak/GM32	17238035	Low SO2	3/9/2021	Low	6.7	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	4.1			
	EQUI 149	Sick-Maihak/GM32	17238035	High SO2	3/9/2021	Low	0.4	6/30/2021	Next CGA in Q2 2021	Pass
						Mid	0.1			

EQUI 045; EQUI 047 30 day rolling SO2 Average Q1 2021				
Start Date	End Date	Line 1 SO2 lbs/hr 30 day rolling average	Line 2 SO2 lbs/hr 30 day rolling average	Line 1 & 2 aggregate SO2 lbs/hr 30 day rolling average (529 lb/hr aggregate emission limit)
1/1/2021	1/2/2021	11.31	155.7	167.0
1/2/2021	1/3/2021	11.88	159.3	171.2
1/3/2021	1/4/2021	12.30	163.5	175.8
1/4/2021	1/5/2021	12.84	166.0	178.8
1/5/2021	1/6/2021	13.15	166.0	179.1
1/6/2021	1/7/2021	13.60	166.0	179.6
1/7/2021	1/8/2021	13.99	166.0	180.0
1/8/2021	1/9/2021	14.24	166.0	180.2
1/9/2021	1/10/2021	14.00	171.9	185.9
1/10/2021	1/11/2021	13.92	177.8	191.7
1/11/2021	1/12/2021	14.95	179.0	194.0
1/12/2021	1/13/2021	15.54	178.0	193.5
1/13/2021	1/14/2021	16.72	155.7	172.4
1/14/2021	1/15/2021	18.01	154.4	172.4
1/15/2021	1/16/2021	18.86	152.9	171.8
1/16/2021	1/17/2021	19.82	151.9	171.7
1/17/2021	1/18/2021	20.48	153.1	173.6
1/18/2021	1/19/2021	20.77	153.3	174.1
1/19/2021	1/20/2021	21.14	149.2	170.4
1/20/2021	1/21/2021	21.79	142.9	164.7
1/21/2021	1/22/2021	22.18	137.4	159.6
1/22/2021	1/23/2021	22.44	132.8	155.3
1/23/2021	1/24/2021	22.79	128.8	151.6
1/24/2021	1/25/2021	23.20	124.0	147.2
1/25/2021	1/26/2021	23.49	118.8	142.3
1/26/2021	1/27/2021	23.90	112.5	136.4
1/27/2021	1/28/2021	24.44	105.9	130.4
1/28/2021	1/29/2021	24.81	101.5	126.3
1/29/2021	1/30/2021	25.22	105.2	130.4
1/30/2021	1/31/2021	25.35	106.1	131.5
1/31/2021	2/1/2021	25.58	107.5	133.1
2/1/2021	2/2/2021	25.49	109.1	134.6
2/2/2021	2/3/2021	26.59	105.6	132.2
2/3/2021	2/4/2021	29.74	101.0	130.8
2/4/2021	2/5/2021	30.26	96.4	126.7
2/5/2021	2/6/2021	30.64	91.8	122.5
2/6/2021	2/7/2021	30.67	90.8	121.4
2/7/2021	2/8/2021	30.42	89.3	119.7
2/8/2021	2/9/2021	30.79	86.4	117.2
2/9/2021	2/10/2021	31.37	80.9	112.2
2/10/2021	2/11/2021	30.95	77.3	108.2
2/11/2021	2/12/2021	30.92	79.4	110.3
2/12/2021	2/13/2021	31.91	83.9	115.8
2/13/2021	2/14/2021	32.92	89.4	122.3
2/14/2021	2/15/2021	31.82	95.2	127.1
2/15/2021	2/16/2021	31.00	98.9	129.9

EQUI 045; EQUI 047 30 day rolling SO2 Average Q1 2021				
Start Date	End Date	Line 1 SO2 lbs/hr 30 day rolling average	Line 2 SO2 lbs/hr 30 day rolling average	Line 1 & 2 aggregate SO2 lbs/hr 30 day rolling average (529 lb/hr aggregate emission limit)
2/16/2021	2/17/2021	29.93	101.7	131.6
2/17/2021	2/18/2021	29.42	106.1	135.5
2/18/2021	2/19/2021	28.89	110.0	138.9
2/19/2021	2/20/2021	28.04	115.3	143.4
2/20/2021	2/21/2021	29.65	120.8	150.4
2/21/2021	2/22/2021	30.21	122.8	153.0
2/22/2021	2/23/2021	30.40	124.8	155.2
2/23/2021	2/24/2021	30.40	123.9	154.3
2/24/2021	2/25/2021	30.40	123.7	154.1
2/25/2021	2/26/2021	30.40	124.0	154.4
2/26/2021	2/27/2021	29.98	123.2	153.2
2/27/2021	2/28/2021	29.38	121.6	151.0
2/28/2021	3/1/2021	29.14	115.1	144.2
3/1/2021	3/2/2021	29.37	109.7	139.0
3/2/2021	3/3/2021	30.62	105.8	136.4
3/3/2021	3/4/2021	31.60	100.8	132.4
3/4/2021	3/5/2021	32.00	99.9	131.9
3/5/2021	3/6/2021	32.06	99.9	132.0
3/6/2021	3/7/2021	31.70	98.9	130.6
3/7/2021	3/8/2021	29.62	97.3	127.0
3/8/2021	3/9/2021	25.87	92.4	118.3
3/9/2021	3/10/2021	25.27	87.7	113.0
3/10/2021	3/11/2021	24.80	84.4	109.2
3/11/2021	3/12/2021	24.29	84.1	108.4
3/12/2021	3/13/2021	23.83	83.4	107.3
3/13/2021	3/14/2021	23.41	84.6	108.0
3/14/2021	3/15/2021	22.95	85.5	108.5
3/15/2021	3/16/2021	22.60	88.0	110.7
3/16/2021	3/17/2021	21.84	89.0	110.8
3/17/2021	3/18/2021	19.75	90.2	110.0
3/18/2021	3/19/2021	17.43	90.6	108.0
3/19/2021	3/20/2021	17.76	85.2	102.9
3/20/2021	3/21/2021	17.82	82.8	100.6
3/21/2021	3/22/2021	18.84	83.6	102.5
3/22/2021	3/23/2021	21.75	83.6	105.4
3/23/2021	3/24/2021	23.17	87.1	110.3
3/24/2021	3/25/2021	23.72	86.2	109.9
3/25/2021	3/26/2021	21.50	86.5	108.0
3/26/2021	3/27/2021	20.37	86.1	106.5
3/27/2021	3/28/2021	19.78	85.4	105.1
3/28/2021	3/29/2021	19.14	85.4	104.5
3/29/2021	3/30/2021	18.55	85.0	103.6
3/30/2021	3/31/2021	17.98	84.5	102.5
3/31/2021	4/1/2021	17.79	83.2	101.0