DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

B182729966

FACILITY: EMPIRE IRON MINING PARTNERSHIP		**SRN / ID:** B1827
LOCATION: EMPIRE MINE RD, ISHPEMING		**DISTRICT:** Upper Peninsula
CITY: ISHPEMING		**COUNTY:** MARQUETTE
CONTACT: THOMAS W O'BRIEN , ENVIRONMENTAL ENGINEER		**ACTIVITY DATE:** 06/29/2015
STAFF: Ed Lancaster	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Conducted an announced, scheduled inspection of facility.		
RESOLVED COMPLAINTS:		

On May 13-15, 2015, Empire conducted PM and SO2 stack tests to demonstrate ongoing compliance with the Taconite MACT. the results of the stack tests were received in the District Office on July 15, 2015.

On June 4, 2015, Empire's ROP Renewal (MI-ROP-B1827-2015) was issued.

On June 29, 2015, I met with Tom O'Brien, Cliffs Natural Resources, to conduct a compliance inspection of the Empire Iron Mine facility. Upon arrival Mr. O'Brien informed me the plant temporarily shut down operations the end of the previous week and the only activity occurring was shipping of finished product and maintenance operations.

Due to the temporary closure of the plant I focused my attention to the company's record keeping. Mr. O'Brien explained to me that with the lay-off of key personal he has picked up the environmental compliance for the Empire Mine and is still learning the details of the system.

Beginning with the Source-Wide conditions, the company's Fugitive Dust Plan was last revised on October 20, 2006 (Special Condition (SC) Nos. III.1 and VI.1). The company's Operation and Maintenance (O&M) Plan was last revised on July 25, 2011 (SC No. IX.1).

EU-UNIT2-FURNACE

As mentioned above the PM stack test for this unit was conducted on May 15th. The stack test result was 0.0019 pounds per 1,000 pounds of exhaust gases, in compliance with the limit of 0.15 (SC No. I.1). At the time of the test the furnace was operating at 123 million Btu per hour (SC No. III.1) and producing 240 tons of ore per hour.

EU-UNIT3-FURNACE

The PM stack test for this unit was conducted on May 14th. The stack test result was 0.0045 pounds per 1,000 pounds of exhaust gases, in compliance with the limit of 0.10 (SC No. I.1). At the time of the test the furnace was operating at 100 million Btu per hour and producing 250 tons of ore per hour. The ESP was operating properly during the test (SC No. III.1).

EU-UNIT4-FURNACE

The PM stack test for this unit was conducted on May 13th. The stack test result was 0.0043 pounds per 1,000 pounds of exhaust gases, in compliance with the limit of 0.10 (SC No. I.1). At the time of the test the furnace was operating at 212 million Btu per hour and producing 440 tons of ore per hour. SC IX.1 requires Empire Mine to operate Unit 4 Indurating Furnace in conformance with the control program for Oxides of Nitrogen. Typically this is done by burning coal, however for the stack test all units were burning natural gas.

FG-MATERIAL HANDLING

This flexible group has as its only requirement to limit PM emissions to less than 0.10 pounds per 1,000 pounds of exhaust gases (SC No.I.1). The company's MAERs reported the annual PM-10 emissions for this group to be 5,765.5 pounds in 2014. The department has not recently required the company to conduct performance tests for this group (SC No. V.1).

FG-FURNACES

The SO2 stack test results revealed each furnace within the group was meeting its pounds per day limit of 19,200 pounds (SC No. I.1). Based on the pound per hour average result the calculations for Unit2 Furnace revealed it was emitting 340.8 pounds per day, Unit3 was 247.2 pounds and Unit4 was 477.6 pounds. The combined daily emissions were 1,065.6 pounds per day below the combined limit of 28,704 pounds established in SC No. I.2. As recorded in the stack test report the ESPs were operating for each individual unit during the tests (SC No. III.1). Mr. O'Brien provided me with a Certificate of Analysis, dated January 2, 2015, for the used oil (SC Nos. VI.1 and 2), the sulfur content of the used oil was 0.366% by weight.

FG-BOILERS1-3

According to Mr. O'Brien these units did not operate in 2014.

FG-BOILERS4-5

According to Mr. O'Brien these units only burned natural gas in 2014 (SC No.II.1), 20.288 million cubic feet.

FG-BOILERS6-7

These units consumed 16 gallons of used oil (SC No. III.1 limits used oil use to 200,000 gallons per year) and 5.34 million cubic feet of natural gas in 2014 (SC No. I.1). The facility did not use No. 2 fuel oil (SC No.II.4). As mentioned above, the used oil sulfur content is 0.366%, by weight, with a BTU content of 138,700 BTU per gallon (SC Nos. II.3 and VI.1).

FG-TACONITEMACT

The PM emissions established during the stack test for each indurating furnace were 0.0010 grains per dry standard cubic foot for Unit 2, 0.0024 grains for Unit 3, and 0.0023 grains for Unit 4, all below the 0.01 grain limit (SC No. I.1). The PM emissions for the Ore Crushing and Handling emission units (SC No. I.2) and the Finished Pellet Handling emission units (SC No. I.3) have not been established per testing as required in SC Nos. V. 2 and 3.

As mentioned the plant was not operating, so I was unable to observe the performance of the control equipment as outlined in SC Nos. III, VI and IX.

At the time of the inspection it was not clear when the plant was expected to begin operations again.

NAME Ed Lancaster DATE 7/31/15 SUPERVISOR_____