

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

M189164019

FACILITY: Lafarge Presque Isle Quarry		SRN / ID: M1891
LOCATION: 11351 East Grand Lake Road, PRESQUE ISLE		DISTRICT: Cadillac
CITY: PRESQUE ISLE		COUNTY: PRESQUE ISLE
CONTACT: Vicki McCoy , Environmental Engineer		ACTIVITY DATE: 08/11/2022
STAFF: Kurt Childs	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: 2022 FCE.		
RESOLVED COMPLAINTS:		

Full Compliance Evaluation

M1891 Lafarge Presque isle Quarry

I conducted an FCE of the Lafarge Presque Isle Quarry to determine compliance with Permit to Install (PTI) 186-99B (which was modified in 2021 to clarify the applicability of emission limits to the Hazemag crusher, Symons crusher and C-3 conveyor), Federal NSPS for the Non-Metallic Mineral Industry 40 CFR 60, Subpart OOO and the Michigan Air Pollution Control Rules. At the time of the inspection the weather was fair with winds from the north around 15 mph and temperatures in the mid-60's. I met with Ms. Vicki McCoy, Chemical Quality/Environmental Specialist.

Inspection:

The quarry office is located approximately 1.5 miles down an access road (Stoneport dr.) near the screening building, secondary crushing building and loading pier. Stoneport dr. was well coated with an asphalt emulsion that prevented dust, but the plant and quarry roads are gravel. The plant and quarry roads were dry causing dust to be raised by vehicle traffic.

Ms. McCoy met me at the main office and we toured the facility by truck and foot. We drove into the quarry to observe the primary crusher and quarry operations. Blasting was about to take place so we waited in the pit and observed the blast. A small cloud of dust was raised by the blast but remained within the pit.

The plant and quarry roads were dry causing dust to be raised by vehicle traffic. There is a water truck that operates around the clock but it was parked at the time of the inspection for lunch break. The truck must travel to and from a separate quarry pit to fill up with water. Ms. McCoy stated that they are planning to install a water filling station in the main pit to reduce this inefficiency.

We observed several dump trucks charging the primary crusher which is located in the ground. The primary crusher was operating with no visible emissions from dumping or crushing operations.

We left the pit and drove along the storage piles and conveyors leading to the loading pier. One ship was in port and was being loaded. Material loaded onto the boat passed through the wash plant first and was wet so there was no dust from loading. At the time of the inspection stockpiling was also taking place. There are 14 different materials stockpiled that are blended to produce 35 different products for the steel, sugar, lime, and aggregate industries. There were no visible emissions from the drop points of the conveyors to the stockpiles which have a 10% opacity limit. All of the conveyors observed had covers on them with the exception of those immediately after the wash plant (not necessary).

We walked to the screen building which encloses the main screening processes. No visible emissions were present outside the building and there was very little dust inside. The screens appear to be enclosed well. The “mill addition” process, utilizing the “Svedala” feeder, crusher and triple deck screen, is located outdoors on the northwest side of the screen building. The mill addition is a tertiary crushing operation dedicated to aggregate production. The triple deck screen is enclosed inside an extension of the building. The feeder, crusher and associated conveyors are located outside and were operating at the time of the inspection. There were no visible emissions from the feeder, conveyors or crusher. The mill addition was installed in 1999 and is therefore subject to Subpart OOO for affected facilities installed after August 31, 1983 but before April 22, 2008. Subpart OOO testing took place on November 4-5, 1999.

We walked to the secondary crushing building that houses four crushers. There is a baghouse located on the northwest side of the building that was operating. The baghouse was replaced in-kind last year with a Donaldson Torit unit. The baghouse stack remained unchanged. The baghouse serves conveyors in the secondary crusher building and the Hazemag crusher. Ms. McCoy stated that the Hazemag crusher only operates about 10% of the time. It was not operating at the time of the inspection. There were no visible emissions from the baghouse stack.

Inside the secondary crusher building we observed the two Symons cone crushers which were operating. Stone is directed to these crushers through enclosed chutes and appeared to be well sealed there were no visible emissions inside the building from these crushers. The Hazemag crusher is also located in this building on another level on the north side of the building. We observed and confirmed that it was not operating.

The Skandik secondary crusher is located towards the northwest end of the building and receives material through an open top. There was very little dust from loading and operation of the crusher. Dust from the secondary crusher accumulates within the building and must be cleaned out. The inside of the building was much cleaner than during the previous inspection. The PTI does not allow visible emissions from the building, the Subpart OOO limit is 7% opacity. Observations from outside the building confirmed there were no visible emissions. There do not appear to be any “vents” as defined in Subpart OOO with “mechanically induced airflow”.

The Skandik crusher was installed in March of 2017 following the issuance of PTI 186-99A. It replaced an Allis Chalmers secondary crusher. Since it is a new crusher, it is subject to the Subpart OOO for affected facilities installed after April 22, 2008. Subpart OOO requires PM and visible emissions testing of affected facilities (crushers, screens, bucket elevators, conveyors at Lafarge Presque Isle Quarries). These requirements are included in the PTI which requires that PM and visible emission rates from the Sandvik crusher be evaluated in accordance with Subpart OOO.

PM emissions testing of the baghouse and visible emission testing of the secondary crusher building were conducted on August 3, 2017. PM testing was not required of the Sandvik crusher since it is not controlled by the baghouse and has no other “stack”. The NSPS PM testing requirement is for affected facility “stack” emissions. The NSPS PM limit is 0.022 gr/dscf.

The test report notes that the control device is a baghouse that is associated with the Hazemag and Symons secondary crushers. This appears to be correct and, as reported, the test results indicate compliance with the Hazemag and Symons

crushers PM and PM10 emission limits (0.02 lb/1,000 lbs of gas and 1.1 lb/hr. respectively). However, testing of the Hazemag and Symons crushers is not required in the PTI. Visible emission testing was also conducted and did appear to meet the Subpart OOO requirements for the Sandvik crusher.

We also reviewed the applicable recordkeeping in Ms. McCoy's office. All of the necessary records were readily available, and copies were provided and are attached. The specific records are referenced in the permit condition review section.

Permit Condition Review:

I. Emission Limits

Pollutant	Limit	Equipment	2017 Test results
1. PM	0.02 lb/1,000 lbs gas	Combined emissions from Hazemag and (2) Symons cone crushers	0.001 lb/1,000 lbs of gas
2. PM10	1.1 pph		0.03 lb/hr
3. PM10	4.7 tpy		NA
4. PM	0.022 gr/dscf	Sandvik Secondary Crusher	NA, no stack emission point
5. Visible Emissions	5% opacity	Truck/loader traffic and storage piles	0%

II. Material Limits

1. FGLIMESTONE Limestone processed, 2,900 tons per hour, 11, 972,650 tons per calendar year. Co. Records indicate limestone processed through the primary crusher were around 1,700 tph and 5,814,778 tpy in 2021.

2. Svedala H-8000 Hydrocone crusher (mill addition), 840 tons per hour, 4,415,040 tons per year. Company records indicate 2022 mill addition material throughput was 200 -500 tph and 2,442,208 tpy in 2021.

III. Process/Operational

1. Maintain and operate a conveyor belt scale on conveyor C-1 (primary crusher). Ms. McCoy stated C-1 is equipped with a scale that has a readout in the quarry office.

2. Maintain and operate a conveyor belt scale on conveyor A-1(mill addition). Ms. McCoy stated A-1 is equipped with a scale that has a readout in the quarry office.

3. Central baghouse operating properly. The baghouse was operating at the time of the inspection and no visible emissions were observed from the stack. A new Donaldson Torit unit has replaced the Carter day baghouse which had replaced the original Sly baghouse.

4. Svedala (mill addition) triple deck screen complete enclosure. The mill addition triple deck screen is completely enclosed in a newer addition to the northwest side of the screenhouse.

5. Comply with opacity limits in Appendix A. The source was in compliance with all of the opacity limits in Appendix A of the PTI.

6. No crushing of asbestos containing materials. No asbestos materials are crushed or processed at the source, only raw materials mined on site are processed.

7. Comply with fugitive dust control program. The source appeared to be in compliance with most aspects of the fugitive dust control program the only sources of fugitive dust emission that were observed were the vehicle travel on plant road and yard areas. Records of monthly water application are maintained and were provided. The source has plans to improve road watering efficiency.

IV. Design

1. Label equipment. Each piece of equipment was labeled with a small sign containing the equipment ID.

V. Testing

1. Verify PM and PM 10 emissions from the Hazemag crusher and two Symons cone crushers (baghouse stack). Stack testing was conducted in 2017 on the baghouse serving the Hazemag, Symons crushers and conveyor C-3. None of this equipment is an affected source under NSPS since it was installed prior to 1983.

2. Visible emissions from Sandvik secondary crusher. VE testing of the Sandvik crusher (secondary crusher building) was conducted in 2017 following installation of the crusher. The results were 0% opacity.

VI. Monitoring/Recordkeeping

1. Hourly and yearly records of limestone processed. Records are maintained and were up to date, copies of the monthly records for 2021 and 2022 are attached.

2. Hourly and yearly records of limestone processed through the Svedala H-8000 crusher. Records are maintained and were up to date, copies of the monthly records for 2021 and 2022 are attached.

3. Monthly and 12-month rolling time-period emission records for Hazemag and Symons crushers. Records are maintained and were up to date, copies of the monthly records for 2021 and 2022 are attached and demonstrate compliance with the 4.7 tpy limit.

VII. Reporting

1. Written notification of construction and operation of the Sandvik secondary crusher. Notification was received by email on 1/31/2017.

VIII. Stack Parameters

1. SVBAGHOUSE01 28" x 21" and 7' high, not unobstructed vertically upwards. The stack parameters were corrected in the 2021 permit modification. The current stack meets these requirements.

IX. Other

1. Comply with Subpart 000. The mill addition equipment and Sandvik crusher at the Source appear to be in compliance with the requirements of NSPS Subpart 000.

Summary:

The source appears to be in compliance with the requirements of PTI 186-99B, NSPS 000 and the Michigan Air Pollution Control Rules at the time of the inspection.

NAME 

DATE _____

SUPERVISOR _____