

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

B492450576

FACILITY: CARMEUSE LIME & STONE - CEDARVILLE		SRN / ID: B4924
LOCATION: 5093 E HIGHWAY M-134, CEDARVILLE		DISTRICT: Upper Peninsula
CITY: CEDARVILLE		COUNTY: MACKINAC
CONTACT:		ACTIVITY DATE: 08/28/2019
STAFF: Joe Scanlan	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Unannounced inspection to determine compliance with PTI# 366-90 and PTI# 368-07B.		
RESOLVED COMPLAINTS:		

FACILITY DESCRIPTION

Carmeuse is a producer of high calcium and dolomitic lime, chemical grade limestone and crushed limestone aggregate products used around the world in steel manufacturing, the energy sector, environmental services and construction. Carmeuse operates 28 production facilities, with headquarters in Pittsburgh, Pennsylvania, and Louvain La Neuve, Belgium.

Carmeuse Cedarville Operation is located approximately five miles west of the Village of Cedarville in Michigan's Upper Peninsula, on the northern shore of Lake Huron near the Les Cheneaux Islands. The Cedarville Operation is a dolomite quarry and process facility. The facility mines and processes approximately 4 million tons of Dolomite a year. The operating year for the facility begins in April and ends in late November or early December, depending on the weather. Limestone is stripped, blasted, and crushed into various sizes as the market demands. Processed stone is sorted and stockpiled by size for transport; the bulk of the material is shipped by lake freighters.

Carmeuse Cedarville produces:

- Chemical grade limestone--a high-purity limestone mined and sized for steel making, flue gas treatment and cement manufacturing;
- Dolomitic limestone in varying size gradations;
- Agricultural limestone; and
- Crushed limestone aggregate

Carmeuse Cedarville has two air quality permits with the State of Michigan. The facility is subject to NSPS Subpart OOO, Nonmetallic Mineral Processing. PTI# 368-07B regulates emissions from the dolomite quarry and mill as the following emission units (EU):

- EUPROCESS -- fugitive dust emissions from crushers, screens, feeders, conveyors;
- EUTRANSPORTTRAIN -- fugitive dust emissions from loading/unloading the transport train and the train itself as it travels;
- EUTRUCKTRAFFIC -- fugitive dust emissions from truck traffic in the quarry, haul roads, and unpaved surface; and
- EUSTORAGE -- fugitive dust emissions from storage piles.

On March 30, 2017, the department received a PTI application to replace existing equipment in the sand recovery system with new and more efficient equipment labeled Ultra Sand Wash Plant and a new piece of equipment labeled Ultra Fines Recovery System was installed to pull and filter material fines that was being pumped into the settling ponds as waste. These additional pieces of equipment are being used to recover saleable product that was previously being deposited as a waste product. PTI# 368-07B was approved on May 18, 2017.

PTI# 366-90 regulates emissions from a waste oil furnace located in the maintenance shop near the quarry.

INSPECTION

I arrived at the site late morning of Wednesday, August 28, 2019. Wearing appropriate PPE, I entered the

main office and made contact with Warehouse Mr. Ron Savoie. The company's environmental staff was not at the facility on the day of my visit, however Mr. Savoie offered to guide me around the facility and answer my questions to the best of his ability. We started with a walk through the processing mill where I observed the tertiary cone crusher, the Sand Recovery System, and then outside to the stockpiles of crushed stone near the ship loading dock. We then continued on to the quarry in a Carmeuse vehicle Mr. Savoie drove. The following documents the process by emission unit, from start to finish, for PTL# 368-07B.

EUPROCESS

Entrance to the quarry is north of M-134 and is approximately five miles from the ship loading dock via rail. Blasting occurs daily. Blasted stone is transported via truck then dumped into the hopper of the elevated primary jaw crusher, which is located at the north end of the quarry. After exiting the primary crusher, stone is approximately 4" x 6" or smaller in size. The stone is then conveyed to a screen, with the larger coarse material being conveyed to the secondary cone crusher. Water is supplied as necessary for the primary and secondary crushers and the crushed stone remains fairly wet throughout additional steps of transport. I did not observe any fugitive emissions from the primary or secondary crushers and conveyors, although it should be noted that it did rain prior to my arrival (SC No. I.1).

Processed stone is then conveyed 3800' to the south end of the quarry where it is dropped to an underground conveyor (formerly the hopper for the previous primary crusher), which then conveys the stone underground, up and out of the quarry, then drops the stone onto a large storage pile. No fugitive dust issues were observed during this part of the process (SC No. I.1).

The facility does not process any asbestos containing material (SC No. II.1) The facility generally does not process more than 25,000 tons per day (SC No. II.2). Reported throughput on the primary jaw crusher for 2018 was 2,586,688 tons, below the annual limit of 6,400,000 tons (SC No. II.2). This equates to 16,906 tons per day over 153 operating days in 2018. The facility uses three belt scales located on conveyors C3, C13, and S4 (SC No. IV.2).

EUTRANSPORTTRAIN

After exiting the quarry, the stone is deposited in a storage pile which sits atop the railcar loading station: a gravity fed loading tunnel for 100 ton capacity railcars which enter and exit at either end of the tunnel (SC No. III.1). Railcars were being loaded at the time of my inspection; I did not observe any fugitive emissions leaving the loading tunnel. Once the cars are loaded at the railcar loading station, the train then transports the stone five miles south to the mill. The rail cars are side-dump and deposit the stone onto gravity fed conveyors that feed the mill. I observed a negligible amount of fugitive dust emissions as the railcars were emptied, well below the 5% opacity limit (SC No. I.1).

EUPROCESS

In the mill, stone is further processed in the tertiary cone crusher and screened. Fines from processing stone are captured in the Sand Recovery System, which was installed in 2017 to recover saleable product and eliminate discharging the fines into settling ponds as a waste material. The Sand Recovery System consists of the Ultra Sand Wash Plant and the Ultra Fines Recovery System. I did not observe fugitive emissions from the Sand Recovery System; in fact, it is a very water intensive process and water was dripping off of all the equipment (SC No. I.2). Material processed via the Sand Recovery System is limited to 1,000,000 tons (SC No. II.3).

EUTRUCKTRAFFIC

There was minimal to negligible fugitive dust emissions in the quarry from trucks and loader traffic; observed emissions were below the opacity limit of 5% (SC No. I.1). The primary crusher operator has an elevated view of the quarry and communicates with other staff to administer water as needed if fugitive dust is visible in the quarry or from the crushers, screens and conveyors. Dust is controlled using a water truck in the quarry, on roads and on unpaved surfaces as necessary (SC No. III.1).

EUSTORAGE

Finished product is then stockpiled in the yard near the ship loading dock. No visible emissions were observed from the storage piles in the quarry, mill or dock area (SC No. I.1). The water truck has a spray cannon on top of it to maintain dust control on storage piles (SC No. III.1).

PTI# 366-90

PTI# 366-90 regulates a Clean Energy CB 85D 500,000 Btu waste oil-fired furnace that is used for heat in the maintenance building at the quarry. Mr. Savoie said he didn't think the furnace was used much as there is electric heat in the building that is more sufficient at heating the structure. The furnace was not operating at the time of my inspection. There is a tank of waste oil generated from on-site trucks and equipment outside the maintenance shop, however it is unknown how much product was inside it.

SUMMARY

PTI# 366-90 is technically eligible to be void, since the waste oil furnace is 500,000 Btu or less and is fired on waste oil generated on premises. This can be done at the request of the company.

I observed no issues with the emission units regulated under PTI# 368-07B. The facility appears to be in compliance with all permitted emission units and applicable Michigan Air Pollution Control Rules.

NAME J. Savoy

DATE 9/30/2019

SUPERVISOR EdL