

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

B236258456

FACILITY: Carmeuse Lime & Stone		SRN / ID: B2362
LOCATION: PO BOX 529, DRUMMOND IS		DISTRICT: Marquette
CITY: DRUMMOND IS		COUNTY: CHIPPEWA
CONTACT: Roger Nash, Site Operations Manager		ACTIVITY DATE: 06/08/2021
STAFF: Michael Conklin	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MINOR
SUBJECT: Inspection to determine compliance with PTI No. 15-20 and complaint investigation.		
RESOLVED COMPLAINTS: C-21-00645		

**Facility: Carmeuse Lime & Stone (SRN: B2362)**

**Location: 23311 East Haul Road, Drummond Island, MI 49726**

**Contact: Roger Nash, Site Operations Manager, 906-493-5211 Ext.12**

**Chris Martin, Senior Environmental Manager, 519-535-0530**

**Regulatory Authority**

*Under the Authority of Section 5526 of Part 55 of NREPA, the Department of Environment, Great Lakes, and Energy may upon the presentation of their card, and stating the authority and purpose of the investigation, enter and inspect any property at reasonable times for the purpose of investigating either an actual or suspected source of air pollution or ascertaining compliance or noncompliance with NREPA, Rules promulgated thereunder, and the federal Clean Air Act.*

**Facility Description**

Carmeuse Lime & Stone is a dolomite lime quarry and mill located on Drummond Island, MI. The facility produces and ships out roughly 1.5 million tons of crushed dolomite limestone each year. The limestone aggregate is used in steel making, glass making, paper making, and other industries throughout the Great Lakes region.

Drummond Dolomite Incorporated began producing in the early 1940s, and by 1949 was shipping out 2.3 million tons of dolomite a year. The quarry was incorporated by Bethlehem Steel Corporation in 1968 and then by Osborne Materials Company in 1988. The quarry is now currently owned and operated by Carmeuse.

Drummond Dolomite is a 3,000-acre property composing of a quarry, mill, and haul road. Operations at the source include drilling, blasting, hauling, crushing, screening, and conveying of limestone aggregate. All crushed aggregate produced is shipped off-site by freighters.

## Emissions

Stone quarrying and processing operations can cause point and fugitive emissions of PM, PM10, and PM2.5. Emissions from process operations are considered fugitive unless the source of emissions is vented through an air pollution control device or contained and emitted through a force-air vent or stack. Fugitive sources of emissions are generated from machine movement and wind erosion. Emission sources can include hauling, crushing, screening, and transferring of material. The primary factors affecting PM emissions are wind and the moisture content of the material. Moisture on the surface of the material can cause fine particles to adhere resulting in a dust suppression effect.

## Emissions Reporting

The facility is not a major source for regulated air pollutants and was previously not subject to any federal New Source Performance Standards (NSPS), and thus did not have to report its annual emissions to MAERS. With the issuance of Permit to Install (PTI) No. 15-20, the source became subject to NSPS Subpart OOO and will be required to report its annual emissions to MAERS.

## Compliance History

The facility has not received any violation notices in the past five years. The facility was last inspected in 2019 and was found to be in compliance with all applicable Michigan Air Pollution Control Rules and federal regulations at that time.

## Regulatory Analysis

The facility replaced older conveyors and screens with new equipment. General PTI No. 15-20 was issued on 02/25/2020. The source and new equipment are also subject to NSPS Subpart OOO.

## Inspection

On 06/04/2021, the AQD received a PEAS alert (#26568) regarding fugitive dust coming from Carmeuse Lime & Stone. The complainant's location where fugitive dust was observed on property is off E Parrish Point Rd, southeast of the facility. The date of the noticeable incident occurred on 05/26/2021, but fugitive lime dust has been noticed on the property throughout the spring season. The noticeable incident was described as a white plume that made it difficult to be outside at the time. Notable weather conditions at the time were high winds out of the west and northwest. Carmeuse was notified of the complaint made on 06/04/2021.

On 06/08/2021, I conducted an on-site inspection of the Carmeuse Lime & Stone facility on Drummond Island. I arrived at the facility and met with Site Operations Manager, Roger Nash. I explained to Mr. Nash the purpose of the inspection was to ensure compliance with PTI No. 15-20 and investigate a complaint made on the facility regarding fugitive dust emissions.

The inspection began by touring the mill operations and then continuing back on the haul road to the quarry. The facility typically operates from mid-April to the end of October for a given year. Much of the equipment is from the 1950s and has not been modified or reconstructed. The primary, secondary, and tertiary crushers are from the 1930s and have not been modified or reconstructed. The fourth tower and product conveyors from the tower were replaced with new equipment in 2020 with the issuance of PTI No. 15-20.

The facility utilizes a primary, secondary, and tertiary crusher to produce different product sizes. The primary crusher is a gyratory crusher and the secondary and tertiary are cone crushers. After crushing occurs, material is transported through various screens before being conveyed into storage piles. The facility has four "towers" that include screens and conveyors that route material into the next tower or into final product storage piles. PTI No. 15-20 covers the new equipment on tower #4 and the final product conveyors that route material from the tower. This equipment was installed in late fall of 2020 and began operation in April 2021. During the inspection, water sprays were observed on the new screens and the material was well saturated leaving on the conveyors to the storage piles. No visible emissions were observed from the screens, conveyors, transfer points, and stockpiles.

Method 9 visible emissions (VE) testing for compliance with NSPS Subpart OOO has not been completed yet on the new equipment. According to Mr. Martin, the company will be hiring a third party to conduct the testing. The facility must test the new equipment within 60 days after achieving maximum production rate, but no later than 180 days after initial startup. Labels were observed on the control panels of the equipment. Mr. Nash stated the plant is in the process of obtaining new labels that will be placed on the actual equipment itself.

The other crushers, screens, and conveyors at the mill are not covered under PTI No. 15-20 and NSPS Subpart OOO due to the equipment being manufactured in the 1950s or earlier. Some of the older screens had water sprays installed while the crushers did not. This is due to not wanting the material to be too saturated before entering the crushers otherwise it clumps together. No visible emissions were observed from the crushers, screens, drop points, and stockpiles. If new crushers and screens are installed, they will need to have spray bars equipped.

Next, we drove back to the quarry on the haul road. The haul road between the quarry and mill is unpaved and roughly 5 miles. The road can accommodate large haul trucks that are capable of transporting 70-75 tons of dolomite. Carmeuse Lime & Stone normally blasts between 250-280,000 tons per month in the quarry. The quarry is located west of the mill with the surrounding area forested and no residential dwellings in the immediate surrounding. Carmeuse owns much of the land surrounding the quarry. Operations in the quarry include blasting, rock drilling, and loading of aggregate into haul trucks. No visible emissions were observed in the quarry that would warrant a fugitive dust issue.

During the drive to and from the quarry, significant dust emissions were observed coming from the haul trucks. The road receives a large amount of sun exposure and can be difficult to control on warm, dry days. Weather conditions at the time of the inspection were 85 degrees Fahrenheit and clear. There was also evidence of dust emissions from haul traffic along the sides of the road with most of the vegetation covered in dust. The road at certain points closely parallels M-134, where dust emissions from the haul road could potentially reach the public roadway. A 10,000-gallon water truck was observed operating however, it was not sufficient enough to control the dust on the road. Following the inspection, a Method 9 VE test was performed from the bridge on South Humms Road that goes directly over the haul road. Readings were taken for six minutes from 3:38 PM to 3:44 PM. The six-minute average opacity came out to be 6.25%, an exceedance of the 5% opacity limit. Truck traffic at times would cause opacity readings to be in the 30% to 40% range. A higher application rate of water or dust suppressant is needed along with more surface area coverage. This could be improved by using a wider spray bar and increasing the number of nozzles to increase the gallons/min applied. Mr. Nash stated the company is trying to acquire a contractor to supply brine to the roadway to help address the fugitive dust issue.

A potential source of fugitive dust that likely caused the incident, that occurred on 5/26/21, is the storage piles of material from a pond that was dredged. The settling pond, north on the haul road from the mill, had been dredged to form a channel through it. The excess material was pulled and stacked to form a bank. The material is very fine and could easily create a dust plume on a strong wind day. The shape of the storage pile creates a perfect ramp profile to lift the material during a strong west and northwest wind. Mr. Nash and I had a discussion on how to address the dredged storage pile of sand. The first step into alleviating a potential fugitive dust issue from this material is to knock the height of the piles down or flatten them below tree line so they are unable to be picked up by the wind so easily. This area should be closely monitored on windy days and dust suppressants used if fugitive dust emissions are observed. Carmeuse stated they will put a plan together to address the storage piles from becoming a source of fugitive dust. I requested Carmeuse provide updates and pictures on the progress of addressing the dredged storage pile of sand from the pond.

After the inspection, I traveled over to Parrish Point to see if I could observe any effects of fugitive dust on the complainant's property. Lime dust was observed on west facing side of cottage. I also followed up with additional neighbors on Parrish Point to collect additional input

on the fugitive dust issue. All of the neighbors interviewed believe the fugitive dust was noticeably worse this year compared to in the past. The property owners stated there would be a coating of dust on the sides of the houses, decks, garages, and in between the windows. It would commonly occur during a west or northwest wind. The property owners of Parrish Point are concerned over the fugitive dust and seek successful resolution of the issue.

With the fugitive dust effects becoming more noticeable as of recently and from my observations during the inspection of the plant, the dredged stockpile bank needs to be addressed for fugitive dust control. In addition, I also noticed excessive dust opacity on the haul road. This will also need to be address to better control fugitive dust generated from the haul trucks. Based on these observations and complaints received, an updated fugitive dust control plan is going to be requested that includes additional monitoring of fugitive dust on the haul roads, plant yard, and stockpiles, along with recordkeeping of all fugitive dust control activities. The monitoring section should describe the frequency of checks and the recordkeeping should include a log of the date, time, area, and method of fugitive dust control.

**The updated fugitive dust control plan for the facility should identify the following:**

- All potential sources of fugitive dust emissions. This includes but not limited to each storage pile, pond, truck traffic, plant yard, crusher, screen, conveyor, and transfer points.
- Frequency of monitoring for each potential source of fugitive dust emissions.
- Method of controlling fugitive dust emissions if observed or for prevention. Specifics should be included on equipment used, application rate, availability, capacity, and frequency of application for each potential source of fugitive dust.
- Keeping and maintenance of records consistent with the various activities implemented under the control plan. This includes keeping records of monitoring checks and methods used for controlling fugitive dust.

**The updated fugitive dust control plan is subject to review and approval by the department. After approval by the department, the person who is responsible for the preparation of the control program shall begin implementation of the program pursuant to the schedule contained in the control program. Either the person who is responsible for the facility or the department may request a revision to a department-approved control program to meet changing conditions.**

Following the inspection, records of the amount of material processed for 2020 and 2021 to-date were provided. The facility maintains a daily tracking report that provides the amount of material processed at the mill on a daily, monthly, and YTD basis, along with other additional information. For 2020, an example report was provided for the date 10/28/2020. According to the facility, this was the last date of operation for 2020. The YTD total on this report shows 1,352,267 tons processed at the mill. For 2021, an example report was provided for the date 6/14/2021. Total

YTD production shows 293,514 tons processed at the mill. Based on these records, the facility is in compliance with the 2,000,000 ton per year per site limit.

Watering records were also provided that note the hours of operation the water truck was used on a daily, monthly, and annual basis. For 2021 to-date, the water truck has been used 255 hours. However, these records do not note if water was applied to storage piles, roadways, or in the plant yard. More detailed recordkeeping on fugitive dust control applications will be requested with the updated fugitive dust plan.

### Compliance

Based on the inspection performed, Carmeuse Lime & Stone is currently not in compliance with PTI No. 15-20 and all applicable Michigan Air Pollution Control Rules and federal regulations. The source was observed being in violation of Special Condition (SC) 1.2h of PTI No. 15-20 and Rule 901(b) of the Michigan Air Pollution Control Rules by causing an “unreasonable interference with the comfortable enjoyment of life and property”. The source will be requested to provide a compliance plan for addressing fugitive dust emissions from the haul road and from the dredged material stockpiles, along with an updated fugitive dust control plan.

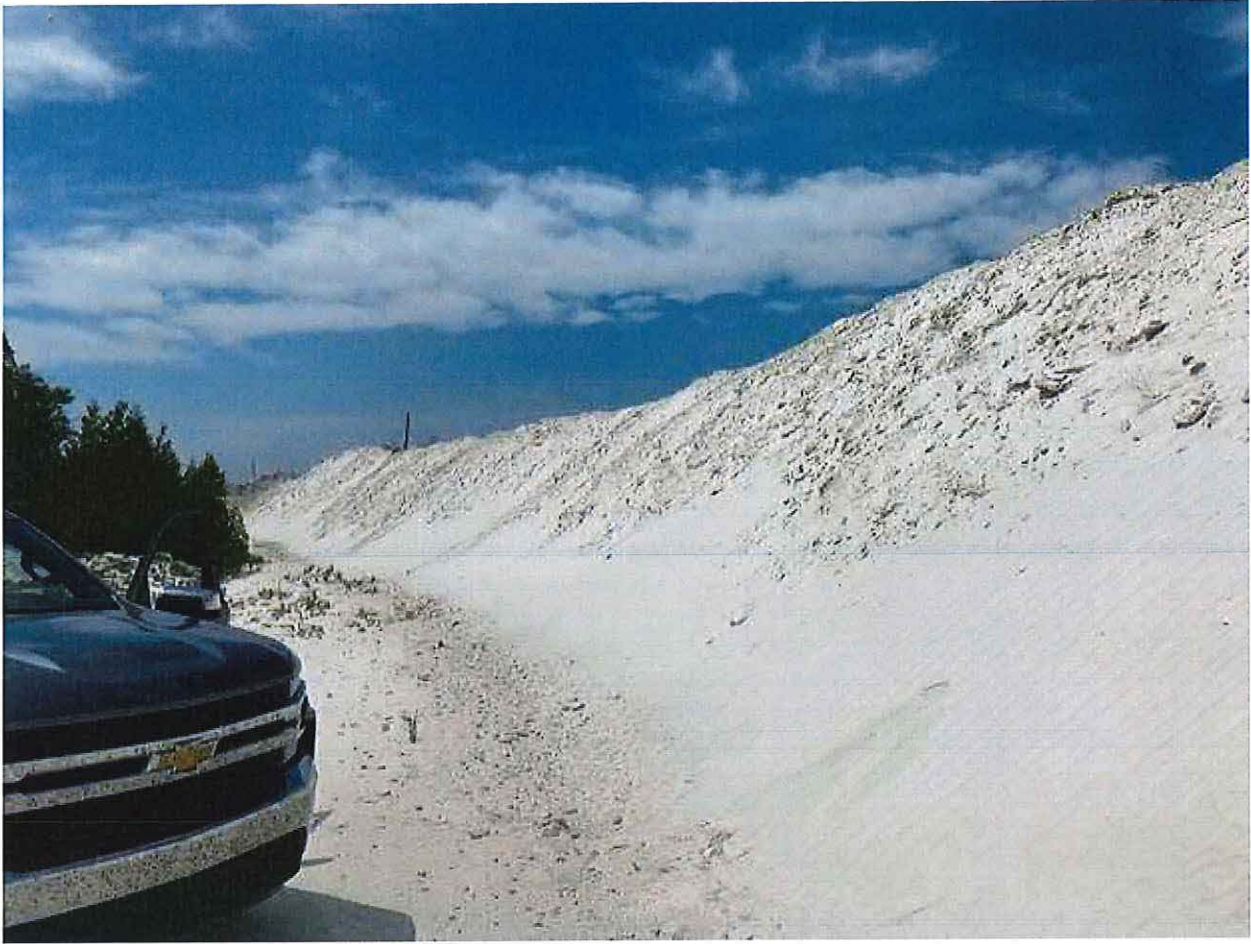














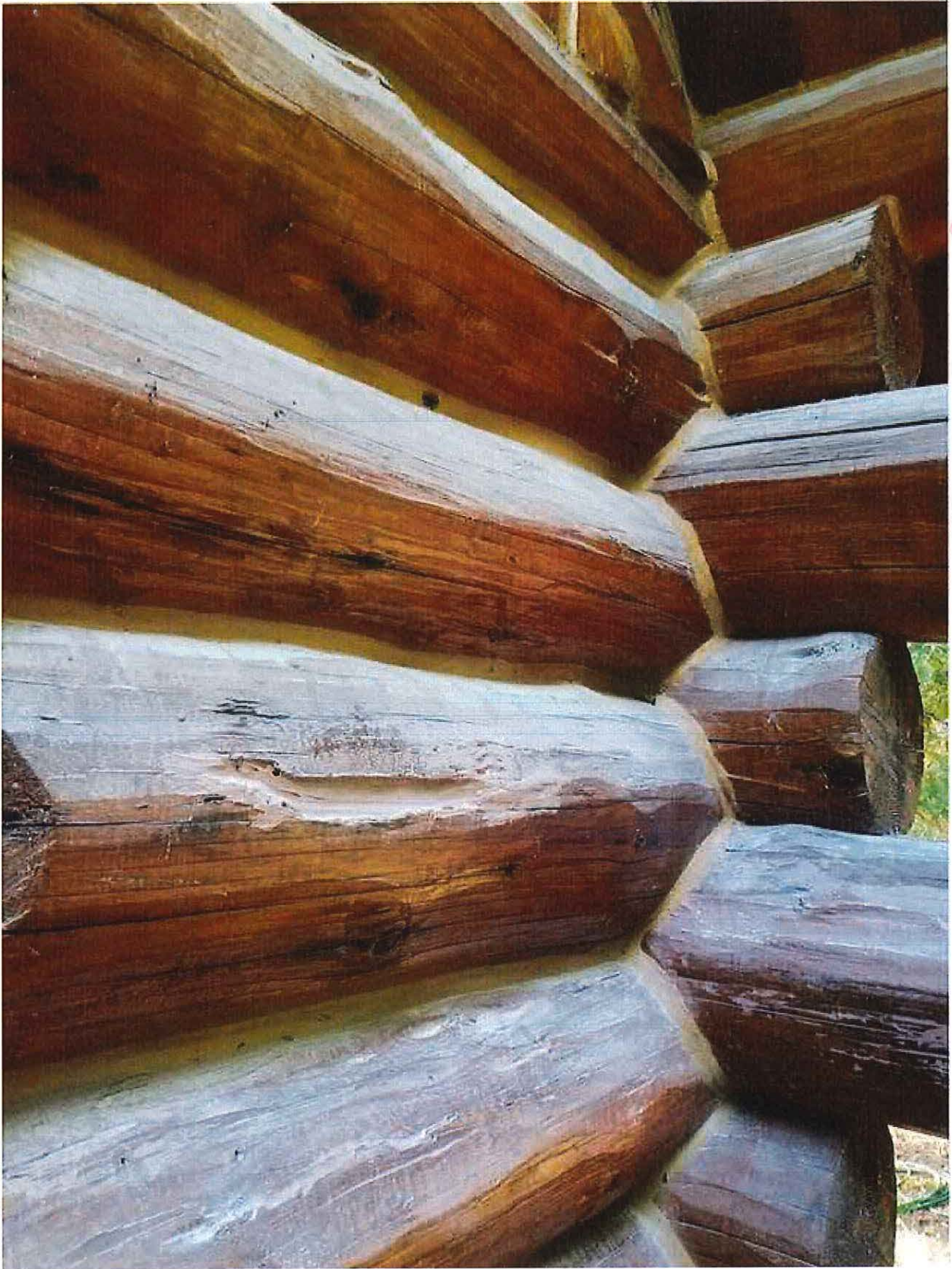


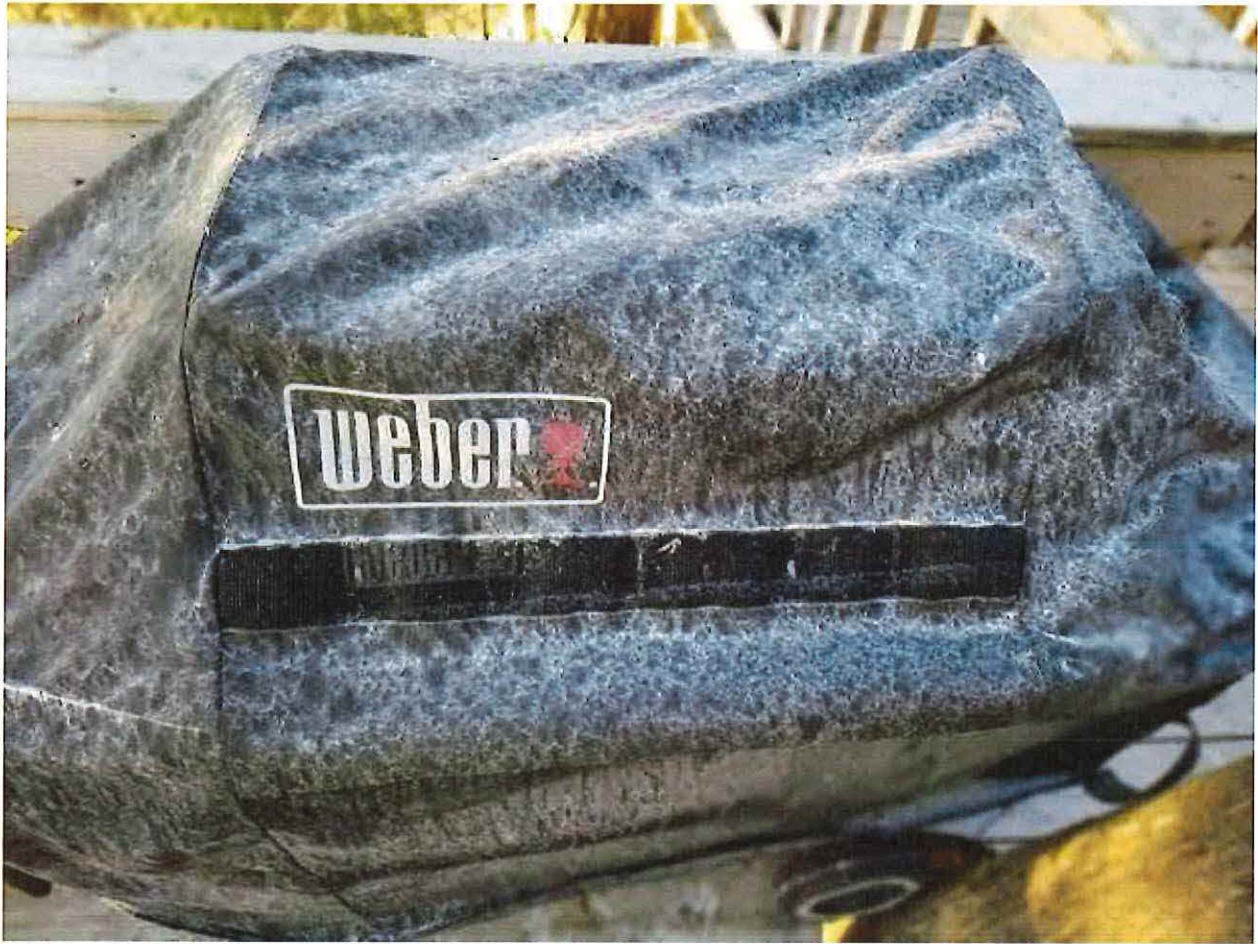












Start: 3:38 PM

Min/sec	0	15	30	45
1	30	20	10	10
2	0	0	0	0
3	5	30	40	5
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0

End: 3:47 PM

Location: Huns Rd Bldg, Plumport Island, MI

Company: Cement Lime & Stone

Process: Haul Road

Emission Point: Rear of haul trucks

Emissions: Dust from truck traffic



NAME Michael Coblin

DATE 6/16/2021

SUPERVISOR ESL