M4779
MAWIM

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

M477937815

FACILITY: SIBLEY LIMESTONE QUARRY		**SRN / ID:** M4779
LOCATION: 801 FORT ST, TRENTON		**DISTRICT:** Detroit
CITY: TRENTON		**COUNTY:** WAYNE
CONTACT: Mark Nederveld , Environmental Engineer		**ACTIVITY DATE:** 12/05/2016
STAFF: Stephen Weis	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Compliance inspection of the DTE Energy Sibley Quarry site. The Sibley Quarry facility is scheduled for inspection in FY 2017.		
RESOLVED COMPLAINTS:		

Location:
DTE Energy Sibley Quarry (SRN M4779)
801 Fort Street
Trenton

Date of Activity:
Monday, December 5, 2016

Personnel Present:

Steve Weis, DEQ-AQD Detroit Office
Mark Nederveld, Environmental Engineer, DTE Energy

Purpose of Activity

A self-initiated inspection of the DTE Energy Sibley Quarry site (hereinafter "Sibley Quarry" or "quarry") was conducted on Monday, December 5, 2016. The Sibley Quarry is on my list of sources targeted for an inspection during FY 2017. The purpose of this inspection was to determine compliance of operations at the Sibley Quarry with applicable rules, regulations and standards as promulgated by Public Act 451 of 1994 (NREPA, Part 55 Air Pollution Control), applicable Federal standards, and any applicable permits and orders.

Facility Description

The Sibley Quarry property is located in Trenton, south of Sibley Road, and east of Fort Street. The quarry property is almost an entire square mile in area. The areas to the north and west of the quarry are residential, and are part of the City of Riverview. There is another residential area located to the northeast of the quarry that is adjacent to the quarry property known as North Trenton that includes a park (Hass Park) that is adjacent to the Sibley Quarry's fence line. The area directly to the east of the quarry property's eastern boundary (along both sides of Jefferson Avenue) consists of various commercial and industrial properties.

The Sibley Quarry property has traditionally hosted a limestone quarry and the associated stone handling/conveying operations. Historically, limestone quarrying operations at the site began in 1850, and continued for much of the time since with a variety of different owners/operators. The property has been owned by Detroit Edison/DTE Energy since 1951. Under DTE ownership, DTE entered into lease agreements with outside companies who would mine and process limestone from the property. The last company that entered into an agreement to quarry at the site was Great Lakes Aggregate. Great Lakes entered into a 10 year contract to quarry at the site, but they only ended up operating at the site for 8 of the 10 years. In a letter to DEQ-AQD dated February 4, 2010 to challenge the air quality fee that was assessed to them, Great Lakes provided that they did not operate at the Sibley Quarry site in 2009, that they dismantled their stone processing equipment by December 10, 2009, and they did not plan to operate at this location in the future. During my site visit, DTE informed me that there has been no quarrying activity at the Sibley Quarry since Great Lakes ceased operating at the site in 2009, and DTE does not plan to allow any quarrying at the site in the future.

DTE uses the excavated portions of the property to dispose of fly ash from some of their power plants, as well as other inert materials such as excavation soils from DTE sites that have been approved for disposal. The soils are typically mixed with the fly ash, which I was told makes for less dust. DTE holds a Type III solid waste license

(per the provisions of NREPA, Part 115 Solid Waste Management) to dispose of material at the quarry site. The portions of the quarry site in which the limestone has been removed (excavated to a depth at which the limestone layer, known as the Detroit River limestone formation, is present) were excavated to a depth of approximately 300 feet below grade. The fly ash and inert materials are placed in the excavated portion of the quarry. As the fill approaches grade, the top layer is capped with soil and vegetation.

Sulfur springs are present in the Detroit River formation, giving the groundwater a high sulfur content. Groundwater flows from the exposed walls of the remaining excavated areas of the quarry. DTE actively manages this water. Groundwater accumulates in a pond at the bottom of the quarry; the surface of the pond is currently 300 feet above sea level (ASL), while grade level is 600 feet ASL. Per the Federal Coal Combustion Residual (CCR) Rule (promulgated at 40 CFR Parts 257 and 261), the level of the accumulated groundwater must be maintained at a level lower than the fly ash (which is classified as CCR). The water in the pond at the bottom of the quarry is pumped to two ponds at the surface (grade level); here, the water is monitored for anaerobic activity and pH, and it is treated with hydrogen peroxide to address and lower the sulfur concentration. From these ponds, the water is directed to holding ponds at the east end of the property via a ditch/water course that is sloped in that direction and lined with stones; the turbulence of flowing over the stones helps to increase the dissolved oxygen content of the water. The water in the holding ponds at the east end of the property is further aerated and monitored, and eventually discharged from the property to the Detroit River. From past site visits, it was estimated that 1.5 million gallons of groundwater per day is pumped from the quarry to the surface ponds. DTE has been issued and maintains a NPDES permit for the quarry site that addresses their handling, treatment (hydrogen peroxide addition) and eventual discharge of the water from the quarry.

Facility Operations

The Sibley Quarry facility is currently used by DTE Energy as a power plant fly ash and inert material disposal site, as described in the previous section. During my visit, I was told that the facility receives 7 to 10 loads of fly ash and inert material on weekdays. The active fly ash/inert material placement portion of the property is equipped with a water supply, as well as water cannons and large rain bird-type sprinklers, to control potential dust from the dumping and placement of the fly ash/inert material. Facility staff wet the active fly ash area daily. In addition, facility staff is responsible for maintaining the paved roadways near the facility entrance to control potential fugitive dust and trackout via daily wet broom sweeping, and for maintaining the unpaved roadways on the property – those leading to and from the fly ash disposal area, and those leading to and from the bottom of the excavated portion of the quarry – via water trucks.

As described in the previous section, DTE also manages a water collection, treatment and discharge system to address the groundwater that accumulates at the bottom of the quarry.

Inspection Narrative

I arrived at the facility at 10:00am, and I was met by Mark Nederveld of DTE and Al Young, who is now a part-time contract employee. We sat inside the conference room of the facility office to discuss current facility operations, and to go over any required records. As during my last site visit, Al informed me that there had been no quarrying at the site since the last time that I visited the site. Both Al and Mark confirmed that there has been no quarrying at the site since Great Lakes Aggregate ceased operating at Sibley in 2009, and that, at this time, DTE has no future plans to allow quarrying at the site. I was told that Great Lakes handled the groundwater operations throughout the term of their 10 year contract, even after they had ceased quarrying, and that DTE has been managing the groundwater at the facility for the past 5-6 years. We discussed the landfilling operation at the facility. Mark told me that fly ash from some of their power plants, as well as other inert materials such as excavation soils from DTE sites that have been approved for disposal, are brought to the Sibley Quarry site for disposal. The soils are typically mixed with the fly ash, which I was told makes for less dust. Mark told me that 7-10 loads of fly ash or ash-soil mixture are brought to the facility each weekday.

Mark and I then discussed the fugitive dust control measures at the facility. I referenced copies that I had brought along of the two SIP Consent Orders that were entered for the facility. These Orders were drafted as part of the State of Michigan's PM-10 SIP to address a PM-10 non-attainment area designation in a portion of Wayne County; the area has been in attainment since the late 1990's, but the Orders are still in effect. SIP No. 25-1993 was entered in the name of "Michigan Foundation Company, Sibley Quarry" in October of 1994; Michigan Foundation was the entity quarrying at the site at the time. This order was put forth to address potential dust from the quarrying operations. Since there are currently no quarrying operations at the facility, the provisions of SIP No. 25-1993 are not currently in effect. There is also an active Permit to Install for the quarrying

operation – Wayne County Permits C-11516 through C-11523, which were issued to Michigan Foundation Company on July 17, 1999 and address the limestone crushing and screening plant associated with the quarry. Since there are no longer quarrying operations at the facility (including the associated limestone processing and handling operations), I discussed voiding the Wayne County permits, and looking into having SIP No. 25-1993 voided. Mark agreed with this approach.

SIP No. 10-1993 was entered in the name of "Detroit Edison Company, Sibley Quarry" in October of 1994. This order puts forth a fugitive dust control plan for "...the ash disposal operations at Sibley Quarry including haul roads, truck turnaround areas, ash embankments, and entrances to the Quarry site" (from the "Scope" provisions of Exhibit A of SIP No. 10-1993). Mark showed me the records related to the dust plan (SIP No. 10-1993). I was shown the daily logs through which facility staff note the weather conditions, and note which dust control measures were implemented that day. Mark provided me with a copy of the log from December 2, 2016, which is attached to this report for reference. The facility keeps the daily logs on site. In addition, Order SIP No. 10-1993 requires the company to submit a quarterly report that identifies each day during a calendar quarter that a requirement of the Order was not met, along with the reason that the requirement as not met and the measures taken to ensure that the requirements will be met going forward. DTE submits these quarterly reports; they used to refer to them as "Sibley Quarry Consent Order Exception Reports", and they are now referred to as "Fugitive Dust Control Certification, State Implementation Plan Number 10-1993, revised 9/4/94." These reports have stated that there have been no deviations from the requirements of the dust management plan or incidents to report for several years.

After completing our discussion about the fugitive dust management records, Mark and I took a driving tour of the facility. We started by driving down to the bottom of the quarry. We observed the groundwater settling pond at the bottom of the quarry. We briefly got out of the vehicle near the pond, and I could detect a consistent sulfur odor from the water. We drove out of the quarry, and traveled along the roadway that circles the quarry on the east and north sides. We drove past the maintenance building on the east side of the quarry. Mark told me that the building is occasionally used to repair equipment. When we drove by, the building was not in use. I asked how the building is heated, and Mark replied that it is heated via electric heaters, as needed. I inquired if any cold cleaners are used in the building, and Mark replied that there are not any cold cleaners in the building.

After looping around the north side of the quarry to the west side, Mark drove us to the fly ash disposal area. Mark pointed out the active area, where fly ash/soil was recently placed. He described how water is applied in this area, as well as along the access road to the landfill, to control potential fugitive dust.

We left the fly ash landfill and returned to the facility's office. After some closing remarks, I concluded the site visit and left the facility at 11:20am.

Permits/Orders/Other

As previously referenced, there are two EPA issued SIP Consent Orders related to the former PM-10 non-attainment area in effect at the facility – SIP No. 10-1993 and SIP No. 25-1993. No. 25-1993 was issued to "Michigan Foundation Company, Sibley Quarry" and it applies to quarrying operations at the Sibley Quarry facility. Since there are currently no quarrying operations at the facility and no plans to quarry at the site in the future, the provisions of this order do not need to be implemented. I discussed having SIP No. 25-1993 voided with Mark during the site visit. Upon returning to the office after the site visit, I initiated a dialogue with staff from DEQ-AQD's State Implementation Plan (SIP) Unit. Among their tasks, this unit works with staff in the EPA Regional Office to make updates to Michigan's SIP, including making changes to or removing the fugitive dust SIP Consent Orders that were issued to sources in Wayne County. I have attached the e-mail exchanges between myself and staff in the AQD's SIP Unit. Relevant information has been provided, and DEQ-AQD is awaiting a response from EPA regarding our request to void SIP No. 25-1993.

SIP No. 10-1993 was issued to "Detroit Edison Company, Sibley Quarry", and it applies to the fly ash disposal operations. The provisions of this Order address fugitive dust management requirements for the ash disposal operations at the quarry, including the ash disposal area, haul roads, truck turnaround areas, ash embankments, and the entrance to the quarry site. DTE follows a fugitive dust plan to address the potential fugitive dust associated with the ash disposal operation at the quarry site, and they keep the necessary records to demonstrate compliance with the requirements of SIP No. 10-1993. During this site visit as well as past visits, I was shown and allowed to review the dust control logs that are kept by DTE. Also, as required by the Order, DTE submits quarterly Fugitive Dust Control Certifications to update DEQ-AQD as to their compliance with the fugitive dust management provisions of SIP No. 10-1993. DTE looks to be **in compliance** with the terms of this order.

There are also Wayne County Air Quality Management Division issued permits, C-11516 through 11523, addressing limestone crushing and screening plant operations associated with the limestone quarry. The permits were issued to Michigan Foundation Company. Again, with no quarrying operations occurring at the site and no plans to allow quarrying at the facility in the future, the terms and conditions of these permits do not currently apply at the facility. As such, Wayne County Permits C-11516 through 11523 have been voided by DEQ-AQD. In the future, if quarrying operations recommence, any new entity that operates the quarry and processes limestone will need to apply to DEQ-AQD for a Permit to Install (possibly the General Permit to Install for Nonmetallic Mineral Crushing Facilities).

There are currently no Federal air regulations applicable to this facility. 40 CFR Part 60, Subpart OOO (Standards of Performance for Non-metallic Mineral Processing Plants) did not apply to the quarrying operations when the quarry was in operation, as all of the limestone crushing and processing operations occurred below grade/ground level. 40 CFR 60.670(a)(2) exempts "...plants without crushers or grinding mills above ground." With the quarrying operation no longer occurring, there is no stone processing equipment in operation anywhere at the quarry facility.

Compliance Determination

Based upon the results of the December 5, 2016 site visit and subsequent records review, the Sibley Quarry facility appears to be in compliance with all applicable rules, regulations and Orders. DTE submits quarterly reports called Sibley Quarry Fugitive Dust Control Certifications that summarize any deviations found in relation to the fugitive dust plan. These reports have stated that there have been no deviations or incidents to report for several years.

The facility has been classified by DEQ-AQD as a synthetic minor opt-out facility due to the particulate matter emission limitations that were applicable to the limestone crushing and screening plant operations that were included in Wayne County Permits C-11516 through 11523. Since this equipment has been permanently removed from the facility and these permits have accordingly been voided, the Sibley Quarry facility should be classified as a minor source by DEQ-AQD going forward.

Attachments to this report: a copy of SIP No. 10-1993; a copy of the dust control record for December 2, 2016; a print out of e-mails between myself and AQD's SIP Unit relating to the request to terminate SIP No. 25-1993.

NAME Steve LeDeis DATE 4/7/17 SUPERVISOR JK