

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

N603572031

FACILITY: DELTA SOLID WASTE MANAGEMENT AUTHORITY		SRN / ID: N6035
LOCATION: 5701 19TH AVENUE N, ESCANABA		DISTRICT: Marquette
CITY: ESCANABA		COUNTY: DELTA
CONTACT: David Lundquist , Operations Manager		ACTIVITY DATE: 05/16/2024
STAFF: Lauren Luce	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MAJOR
SUBJECT: Targeted inspection for FY 24		
RESOLVED COMPLAINTS:		

Facility: Delta Solid Waste Management Authority (SRN: N6035)

Location: 5701 19th Avenue North, Escanaba, MI 49829

Contact(s): Dave Lundquist, Operations Manager; Terri Rabitoy, Administration Manager

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

Delta County Landfill is a municipal solid waste (MSW) landfill owned by Delta Solid Waste Management Authority (DSWMA) and the City of Escanaba. The landfill covers 277.9 acres and is located in Wells Township, Delta County, Michigan. The source is in a rural setting approximately 2.5 miles NW of Escanaba and is surrounded by undeveloped forests and wetlands. A sports club located to the east is the nearest developed property.

Delta County Landfill is classified as a Type II sanitary landfill. The Southern Landfill has been closed since July 26, 2016. The Northern Expansion began accepting waste May 18, 2015, and is the current active area. There are two closed Type III landfills which contain construction demolition waste and fly ash. The Type III cells are not subject to the requirements of the NSPS or NESHAP for Municipal Landfills or Part 70 permitting.

On July 9, 2009, the MDEQ Waste and Hazardous Materials Division sent DSWMA an approval for a construction expansion permit (Northern Expansion). The proposed landfill expansion increased the maximum design capacity of the landfill site from 1.65 million cubic yards to 7.85 million cubic yards. Since the landfills design capacity exceeds 2.5 million cubic meters, the

stationary source is subject to Title 40 of the Code of Federal Regulations (CFR) Part 70 requiring a Title V renewable operating permit.

Actual NMOC emissions at Delta County Landfill exceed 34 Megagrams per year, thus the landfill maintains an active gas collection control system (GCCS) with an open flare as a control device at both the North Landfill and the closed South Landfill. The South Landfill collection system and flare were completed and started on October 1, 1998. On March 26, 2020, the North Landfill gas collection system was installed and the flare was started.

Process Description

A landfill consists of an area of land or an excavation in which wastes are placed for permanent disposal. The process begins with collected waste being transported to the landfill where it is dumped into an area (cell). A synthetic liner, such as high-density polyethylene, is used at the bottom to prevent contamination of leachate and landfill gas with ground water and soil. Heavy equipment then spreads the waste, compacts it, covers the waste with soil or alternate daily cover materials (ADCM), and further compacts it on a daily basis. When a cell is full, it is covered permanently with a liner cap and compacted soil.

Emissions

Landfill gas is generated through bacterial decomposition of organic materials contained in solid waste. Initially, decomposition is aerobic until the oxygen supply is exhausted. With the solid waste being insulated from the atmosphere, decomposition then occurs anaerobically producing most of the landfill gas. Landfill gas (LFG) consists of 50% methane, 50% carbon dioxide, and less than 1% non-methane organic compounds (NMOC). The NMOC fraction consists of various organic hazardous air pollutants (HAP), greenhouse gases, and volatile organic compounds (VOC).

LFG can be collected through one of two methods: active and passive gas collection systems. Delta County Landfill has an active collection system. There are 21 wells on the south landfill and 3 at the north. 4 of the wells on the south landfill are shut off. Each landfill also has an active open flare.

Emissions Reporting

Delta County Landfill is required to report its annual emissions. The following table lists the source total emissions for the reporting year 2023.

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Pollutant	Emissions (TPY)
CO	179.4
PM 10 FLTRBL	<1
NMOC	46
NOX	9.57
SO2	1.9
VOC	1.3

Regulatory Analysis

The facility is permitted under MI-ROP-N6035-2022. The facility is subject to 40 CFR Part 62, Subpart OOO for MSW Landfills that commenced construction on or before July 17, 2014 and have not been modified or reconstructed since July 17, 2014. In addition, the stationary source is subject to Title 40 of the Code of Federal Regulations (CFR) Part 70, because its design capacity exceeds 2.5 million Mg and 2.5 million cubic meters. Actual NMOC emissions at Delta County Landfill exceed 34 Megagrams annually (Mg/yr), therefore the landfill has an active GCCS with an open flare as a control device at both the North Landfill and the closed South Landfill.

EULANDFILL, EUACTIVECOLL, and EUOPENFLARENORTH, EUOPENFLARESOUTH at the stationary source are subject to the National Emission Standard for Hazardous Air Pollutants for MSW Landfill promulgated in 40 CFR Part 63, Subparts A and AAAA.

The facility is subject to the asbestos regulations found in 40 CFR Part 61, Subparts A and M, because the facility accepts asbestos containing waste.

Compliance History

The facility was last inspected in December 2022 and received a violation notice for the following violations: inadequate warning signs for asbestos (EUASBESTOS, SC III.1), asbestos was not being covered at the frequency required in SC III.1.c or daily Method 22 readings for 15 minutes were not being performed and recorded (EUASBESTOS, SC III.1), a map of the location of asbestos in cell 6 was initially not available (EUASBESTOS SC VI.2), the facility was not keeping records on all

fuels combusted in the furnace on an hourly basis or observing and recording daily visible emissions (EUFURANCE1, SC VI.2, 3), SEMS data was not being properly reviewed with exceedances documented and exceedance procedures followed (FGLANDFILL-AAAA, SC V.3, VI. 1, VII.4). The violations were addressed and considered resolved on 3/14/23.

Inspection

On May 16, 2024, AQD Staff (Lauren Luce and Drew Yesmunt) conducted an unannounced inspection of Delta County Landfill. AQD Staff arrived at the office building and met with Operations Manager, Dave Lindquist and Administration Manager, Terri Rabitoy. It was explained that the purpose of the inspection was to ensure compliance with MI-ROP-N6035-2022 and all other applicable air pollution control rules and federal regulations. The inspection began with a tour of the landfill. The inspection concluded by discussing records and operations. Some records were provided while on-site and additional records were requested via email after the inspection. Waste is currently being deposited in cells 6a and 6b. Cell 5 was the first cell in use at the North Landfill. Cell 5 is not yet capped. The South Landfill is closed and consists of cells 3a, 3b, 4a, and 4b.

FGLANDFILL-000

The landfill has an active gas collection control system (GCCS) with an open flare as a control device at both the North Landfill and the closed South Landfill (SC IV.1 and 2). As required under Special Condition VI.1, design capacity records were requested. The total current design capacity is 8,289,006 cubic yards. Delta County Landfill is also required to monitor and record the amount of waste brought in on a year-by-year basis and the current amount of waste in place. As of October 6, 2023, there was 495,811 cubic yards of waste in place in the North Landfill. The South Landfill has 1,827,458 cubic yards of waste in place. For 2023, the facility received a total of 35,278 tons of municipal solid waste. From 1/1/24-5/15/24, the facility received 11,405 tons of municipal solid waste.

The facility has been prompt in submitting their annual and semiannual certification of compliance for MI-ROP-N6035-2022. The facility also submits gas collection parameter monitoring reports, methane surface monitoring reports, SSM incident reports, flare downtime reports, and gas collection downtime reports. The facility has reported some deviations for positive pressure and for SEMS monitoring to a mechanical issue.

FGLANDFILL-AAAA

The facility is required to complete quarterly surface emissions monitoring survey (SEMS) for methane (SC V.1, SC VI.1). On July 19, 2023, AQD conducted a SEMS at Delta County Landfill. Ten areas were found on the North Landfill with surface methane concentrations greater than 500 ppm. The facility applied 8-10 inches of cover to reduce surface methane concentrations. A follow

-up SEMS was conducted by the landfill on August 2, 2023 and no exceedances were found. Quarterly SEMS were performed on 9/5/23 and 1/31/24. There were also no records of exceedances (SC V.3). The facility is using a SEM5000 to complete the surface emissions monitoring (SC V.4). A map was provided to show the area traversed during the SEMS, however, data was not provided on meteorological conditions on the day of testing (SC VI.1). Landfill cover is 6-8 inches of sand mixed with paper mill sludge if it is available. Records of cover integrity were provided showing monthly cover monitoring checks and repairs made to the cover. The most recent cover repair detailed was on July 20, 2023, in response to the July 19, 2023, SEMS performed by AQD. (SC VI.2) The facility has been prompt in submitting their annual and semiannual certification of compliance for MI-ROP-N6035-2022 (SC VII.1,2). The reports have not included any documentation of exceedances of 500ppm during the SEMS surveys (SC VII.3).

FGACTIVECOLL-000

The landfill has an active gas collection control system (GCCS) with an open flare as a control device at both the North Landfill and the closed South Landfill (SC IV.1,3). The maximum expected gas flow rate is 737 ft³/min from the North Landfill and 419 ft³/min from the South Landfill (SC IV.1). The facility provided complete landfill gas system records and as-built documents for the North Landfill and a map of the wells located at the South Landfill (SC VI.2-4).

The facility has been prompt in submitting their annual and semiannual certification of compliance for MI-ROP-N6035-2022. (SC VII.1,2)

FGACTIVECOLL-AAAA

The landfill has an active gas collection control system (GCCS) with an open flare as a control device at both the North Landfill and the closed South Landfill (SC III.1) The South Landfill collection system and flare were completed and started on October 1, 1998. On March 26, 2020, the North Landfill gas collection system was installed and the flare was started. The collection system must operate with negative pressure at each wellhead (SC III.2) The landfill reported no deviations from negative pressure in their most recent semi-annual (07/01/2023-12/31/2023) report. Monthly well monitoring records (January 2023-May 2024) were provided that show numerous readings including temperature, methane, carbon dioxide, and oxygen. All temperatures were below 145 degrees Fahrenheit (SC III.3, SC IV.3, SC VI.3, SC VI.6, SC VI.7, SC VI.8, SC VI.10, SC VI.11)

The facility has been prompt in submitting their annual and semiannual certification of compliance for MI-ROP-N6035-2022 and included periods of startup, shutdown, and malfunction within those reports (SC VI.8,9 & VII.1,2). The facility provided maps showing the collection system wells for both the North and South Landfill (SC VI. 10,11).

FGOPENFLARE-000

The landfill has an open flare at both the North and South Landfills. There were no visible emissions during the inspection (SC I.1). A flame was present at both flares during the inspection (SC III.2). The flares were tested in accordance with the regulation on 9/19/2022. No visible emissions were observed from either flare during the testing (SC V.3). The net heating value of gas being combusted was determined to be 476.6 BTU/ft³ for the North Landfill and 291.1BTU/ft³ for the South Landfill. The exit velocity for the North Landfill flare was determined to be 1.84 feet per second and the South Landfill flare was 6.93 feet per second (SC V.2)

FGOPENFLARE-AAAA

The landfill has an open flare at both the North and South Landfills. There were no visible emissions during the inspection (SC I.1). A flame was present at both flares during the inspection (SC III.2). Both flares are equipped with a heat sensing device and a device that records gas flow (SC IV.2, 3). At the time of the inspection (10:47AM) the north flare had a temperature of 575 degrees Fahrenheit and a flow of 62 CFM. The south flare had a temperature of 1317 degrees Fahrenheit and a flow of 157 CFM at 11:05AM on the date of inspection. As stated above, both flares were tested in accordance with the regulation on 9/19/2022 (SC V.1-4). Both flares are maintained regularly, malfunctions are recorded, and temperature and flow are recorded. Records were provided for January 2023-May 2024. (SC VI.2).

The facility has been prompt in submitting their annual and semiannual certification of compliance for MI-ROP-N6035-2022 and had included flare downtime and maintenance records with their reports (SC VII.1,2).

FGCOLDCLEANERS

There are currently no cold cleaners in use at the facility and no plans to begin using one. The cold cleaner has been empty and unused since 2018.

EUASBESTOS

During the tour of the landfill, asbestos warning signs were observed along the perimeter and at the entrances to the landfill (SC III.1) The regulation requires that, unless meeting the no visible emissions requirement, a cover of at least 6 inches shall be applied at the end of each operating day or at least once every 24-hour period while the site is in continuous operation (SC III.1). The facility received a violation notice for not meeting this requirement during the previous inspection. During the landfill tour, bags of asbestos were visible and not covered. Waste shipment records were reviewed and asbestos was last accepted on 4/27/24. This would mean the asbestos has been uncovered for a period of over two weeks. It was relayed to landfill staff

that asbestos was uncovered during the tour which is a violation. Records on the amount and type of material used to cover the asbestos were not available (SC VI.4).

Delta County Landfill keeps records of the name, address, and phone number of the waste generator and transporter for each shipment received on the *Waste Shipment Record* form. The quantity of the asbestos-containing waste material is also recorded (SC VI.1). Copies of the Waste Shipment Records and receipts were provided. Asbestos is currently disposed of at one location in Cell 6. Asbestos location maps were provided for both the North and South Landfill (SC.VI.2).

EUFURNACE1

The facility has a 250,000 Btu/hr clean burn multi-oil furnace in a shop building. Visible emissions from the furnace shall not exceed 10% opacity (SC I.1). During the inspection, the furnace was not operating. Records were provided on visible emission checks during operation of the furnace for calendar year 2023. No issues were documented (SC VI.3). The facility submits a waste oil sample for analysis annually. A waste oil analysis from February 2023 was provided and all materials were within the permitted limits. Waste oil burned in the furnace is generated both on-site and off-site (SC.III.1, SC V.1). The furnace is equipped with a flow meter to monitor usage. Records were provided on fuel usage for March 2023-May 2024. (SC VI.1,2). The furnace stack appeared to be at least 25 feet above ground (SC.VIII.1).

Compliance

Based on the inspection performed and records reviewed, Delta County Landfill does not appear to be in compliance with MI-ROP-N6035-2022. There appears to be the following violations: asbestos was not being covered at the frequency required in SC III.1.c or daily Method 22 readings for 15 minutes were not being performed and recorded (EUASBESTOS, SC III.1), and records of the amount and type of material that has been used to cover the asbestos waste and documentation that the cover material was applied in the frequency required in Special Condition III.1.c were not available (EUASBESTOS, SC VI.4.b). A violation notice will be issued in response. When conducting future quarterly SEMS, the facility will also need to include the meteorological conditions during the day of testing.



Image 1: Uncovered asbestos

NAME *Drew Yerman*

DATE 6-25-2024

SUPERVISOR *Michael Kellin*