

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

N603566387

<b>FACILITY:</b> DELTA SOLID WASTE MANAGEMENT AUTHORITY		<b>SRN / ID:</b> N6035
<b>LOCATION:</b> 5701 19TH AVENUE N, ESCANABA		<b>DISTRICT:</b> Marquette
<b>CITY:</b> ESCANABA		<b>COUNTY:</b> DELTA
<b>CONTACT:</b> David Lundquist , Operations Manager		<b>ACTIVITY DATE:</b> 12/13/2022
<b>STAFF:</b> Lauren Luce	<b>COMPLIANCE STATUS:</b> Non Compliance	<b>SOURCE CLASS:</b> MAJOR
<b>SUBJECT:</b> Targeted Inspection FY23		
<b>RESOLVED COMPLAINTS:</b>		

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

**Location:** 5701 19<sup>th</sup> Avenue North, Escanaba, MI 49829

**Contact(s):** Dave Lundquist, Operations Manager; Terri Rabbitoy, 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**

The Delta County Landfill is a municipal solid waste (MSW) landfill that is owned by Delta Solid Waste Management Authority (DSWMA) and the City of Escanaba. It consists of 277.9 acres located in Wells Township, Delta County, Michigan. The stationary source is in a rural setting about 2.5 miles NW of the City of Escanaba and is surrounded by undeveloped areas that are primarily wooded or wetlands. A sports club located to the east is the nearest developed property.

Overall, Delta County Landfill (LF) is classified as a Type II sanitary landfill, which is a MSW landfill. The Type II Southern Landfill has been closed since July 26, 2016. The newer Type II Northern Expansion began accepting waste May 18, 2015, and is the current active area. There are two closed Type III landfills which contain only 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 (6.0 million cubic meters). Since the landfills design capacity exceeds 2.5 million Mg/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 LF exceed 34 Megagrams annually (Mg/yr), therefore 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. 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 currently 21 wells on the south landfill and 3 on the north. Each landfill also has an active open flare.

### Emissions Reporting

Delta County Landfill is required to report its annual emissions to Michigan Air Emissions Reporting System (MAERS). The following table lists the source total emissions for the reporting year 2021.

Pollutant	Emissions (TPY)
CO	94
PM 10 FLTRBL	<1
NMOC	16.7
NOX	5.03
SO2	1.02

VOC	<1
-----	----

### 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 has not received any violation notices in the past five years. The facility was last inspected in March 2021 and was found to be in compliance with all applicable air pollution control rules and federal regulations at that time.

### Inspection

On December 13, 2022, AQD Staff (Lauren Luce) 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 by discussing records and operations. Some records were provided while on-site and additional records were requested via email after the inspection. The inspection concluded with a tour of the landfill. Waste is currently being deposited in cell 5, 6a, and half of 6b. Cell 5 was the first cell in use at the North Landfill. The South Landfill is closed and consists of cells 3a, 3b, 4a, and 4b.

### *FGLANDFILL -OOO*

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 facility was unsure about the location of a design capacity report but provided a fact sheet stating that total cubic yards is 8,289,006. 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 5, 2022, there was 451,150 cubic yards of waste in place in the North Landfill. The South Landfill has 1,827,458 cubic yards of waste in place. For 2021, the facility received a total of 41,430.27 tons of waste. For 2022, the facility received 40,831.90 tons of waste.

The facility has been prompt in submitting their annual and semiannual certification of compliance for MI-ROP-N6035-2022. The facility has reported some deviations for oxygen content, positive pressure, and for lost monitoring data due to a storage issue.

#### ***FGLANDFILL -AAAA***

The facility is required to complete quarterly surface emissions monitoring survey (SEMS) for methane (SC V.1, SC VI.1). Landfill staff was initially unable to provide readings for the surveys, however, after working with the equipment's manufacturer, the data was provided. There were also no records of exceedances (SC V.3). SEMS survey data was provided via email for May 2021, September 2021, December 2021, April 2022, August 2022, and December 2022. Exceedances of 500ppm were noticed in records from September 2021 and August 2022. It is unclear from the records reviewed where the exceedances are. The facility has not documented these exceedances or taken the steps necessary to comply with the regulation, including re-monitoring the location within 10 days (SC V.3, SC VI.1). 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 (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 -OOO***

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). Based on the provided LandGEM, the maximum expected gas flow rate is 737 ft<sup>3</sup>/min from the North Landfill in 2095 and 419 ft<sup>3</sup>/min from the South Landfill in 2015(SC IV.1). The gas flow rate in 2022 provided on the LandGEM is 305 ft<sup>3</sup>/min from the South Landfill and 185 ft<sup>3</sup>/min from the North Landfill. 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 two deviations from negative pressure in their most recent semi-annual (01/01/2022-06/30/2022) report. The report states adjustments were made and pressure returned to negative on the same day (SC VI.1). Biweekly well monitoring records (February 2022-December 2022) 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). There are no nonproductive areas of the landfill currently excluded from control (SC IV.5.b).

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 -OOO***

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/ft<sup>3</sup> for the North Landfill and 291.1BTU/ft<sup>3</sup> 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 (1:19PM) the South Flare had a temperature of 1259 degrees Fahrenheit and a flow of 157 CFM. 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 on flare temp, flow, and hour meter were provided for 2020-2022 (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***

Asbestos records and procedures were discussed prior to touring the landfill. Delta Landfill staff stated that warnings signs were not present. Unless a natural barrier adequately deters access, warning signs and fencing must be installed (SC III.1). Warning signs must be displayed at all entrances and at intervals of 100 m (330 ft) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material is deposited.

During the tour, one warning sign was present at the entrance of the South Landfill. There were no warning signs at the entrance of the North Landfill or along the perimeter of either landfill. It was relayed to Landfill Staff that additional signage would be needed to comply with the regulation. The regulation also 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). Delta Landfill

staff were unaware of this requirement and were not covering the asbestos on a regular basis or completing visible emissions checks. Asbestos was observed uncovered during the on-site tour. 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, it was previously disposed of at one location in cell 5. The facility was able to provide some maps of the asbestos disposal locations (SC.IV.2). However, initially an asbestos map of cell 6 was not available. The facility had a consultant create a map of the cell 6 disposal area after the inspection. The maps indicate the location of the asbestos disposal area and provide initial elevation data. Asbestos location maps were also provided for the South Landfill after an email request.

### ***EUFURNACE***

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, there were no visible emissions from the furnace. During operation of the furnace, the facility is required to observe and record visible emissions daily (SC VI.3). The facility is not currently doing daily visible emissions checks or keeping records on visible emissions. The facility submits a waste oil sample to analysis annually. A waste oil analysis from March 2022 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 facility tracks oil usage by tank depth in inches (SC VI.1). The facility is required to monitor and record the gallons of all fuels combusted in the furnace on an hourly basis (SC VI.2). The current system for tracking oil usage does not satisfy the permit condition. The facility is in the process of having a flow meter installed on the furnace to better track usage. 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: 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 (EUFURNACE1, 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). These violations have been conveyed to the facility at the inspection and through email correspondence. A violation notice will be issued.



*Image 1: South Landfill flare*



*Image 2: North Landfill flare*





*Image 3: Asbestos in cell 6 (uncovered)*

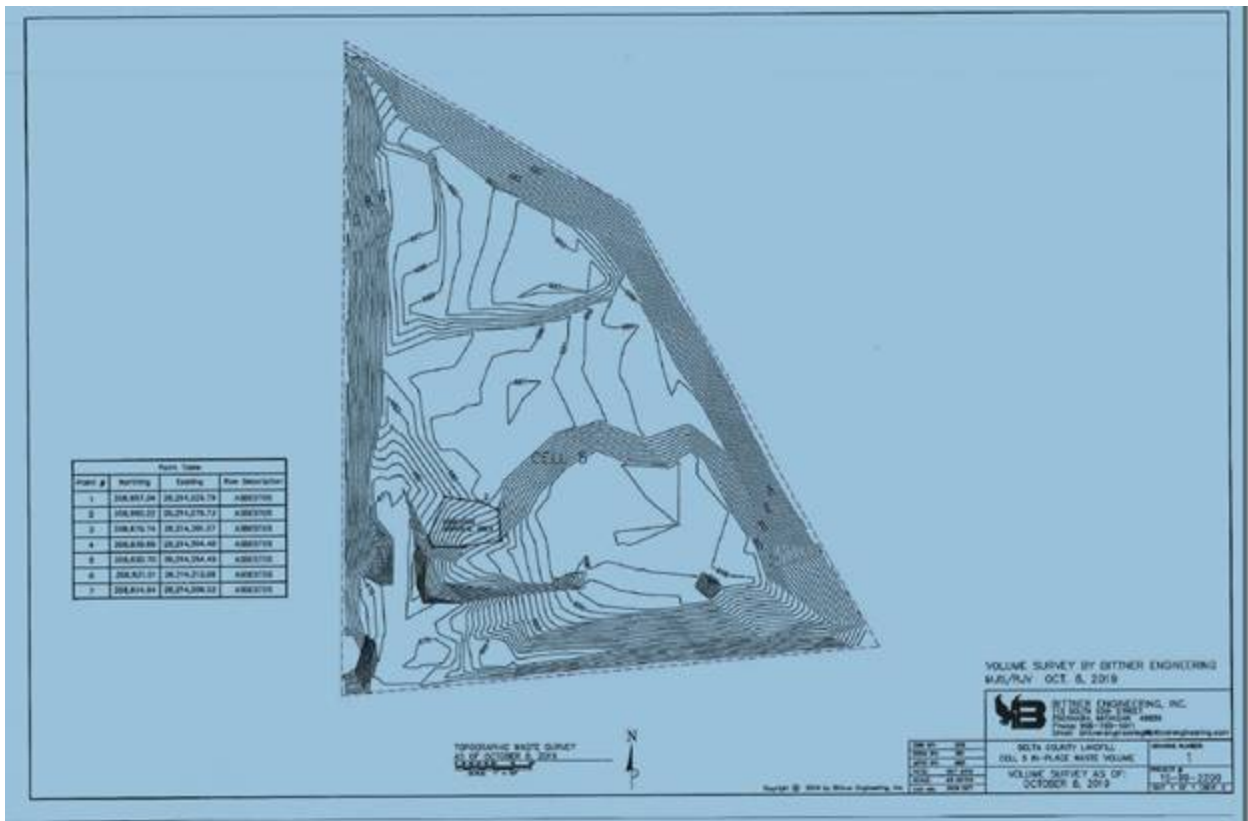


Image 4: Asbestos map (cell 5)

NAME Sam Sam

DATE 2-21-2023

SUPERVISOR Michael Kaplan