

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

N603752414

FACILITY: MICHIGAN ENVIRONS INC		SRN / ID: N6037
LOCATION: 6111 W ELMWOOD RD, MENOMINEE		DISTRICT: Upper Peninsula
CITY: MENOMINEE		COUNTY: MENOMINEE
CONTACT: Kurt Kietzer (2016) , Site Manager		ACTIVITY DATE: 02/12/2020
STAFF: Michael Conklin	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Targeted inspection for FY 20.		
RESOLVED COMPLAINTS:		

Facility: Menominee Landfill (SRN: N6037)
Location: W6214 Elmwood Road, Menominee, MI 49858
Contact(s): Kurt Kietzer, Site Manager, 906-863-8259

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 Menominee Landfill (ML) is a municipal solid waste landfill that is owned and operated by Waste Management, Inc. (WM). WM is a major waste and environmental services company, headquartered in Houston, Texas, that serves residential, commercial, and industrial customers through collection, disposal, recycling and other waste collection services. The company owns several landfill sites throughout the United States, Canada, and Puerto Rico.

ML is located at W6214 Elmwood Road, Menominee, Michigan, a rural area in Menominee County that is currently in attainment for all criteria pollutants. The landfill is situated approximately 4.5 miles north of Menominee and is in a relatively flat area surrounded by forests and agricultural land. There are several residences within 0.25 miles north of the closed and active portions of the landfill. The active portion of the landfill is north of Elmwood Road, while the closed portion is south of Elmwood Road.

The source is categorized as a Type II landfill and currently has a design capacity greater than 2.5 million cubic meters. ML accepts asbestos, biosolids, demolition debris, industrial waste, municipal waste, and naturally occurring radioactive material. The source receives on average 76,000 tons of waste per year. With being a Type II landfill, ML does not accept hazardous waste. ML has been accepting waste since 1995 and currently has 3 phases with a total of 14 cells. Phase I and II are capped and contain passive vents, while phase III is active and contains passive flares.

Menominee Landfill has a permitted waste capacity of 6,433,873 cubic yards. In accordance with Air Pollution Control Rule 211(1)(e), any municipal solid waste landfill that has a design capacity equal to or greater than 2.5 million megagrams and 2.5 million cubic meters must obtain and operate in compliance with a renewable operating permit (ROP). The source is subject to 40 CFR Part 60, Subpart WWW New Source Performance Standards (NSPS) for Municipal Solid Waste Landfills that also requires subject sources to obtain a Part 70 permit.

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. ML utilizes a passive system that relies on the pressure gradient created by the generation of LFG in the cells. Pipes in the cells collect the gas and move it from an area of high pressure to low pressure where it is emitted to the atmosphere through vents. There is no purification of LFG at this source.

Emissions Reporting

ML 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 2018.

Pollutant	Emissions (TPY)
CO	2.6
PM	<1
NMOC	<1
VOC	<1

Regulatory Analysis

The stationary source is subject to Title 40 of the Code of Federal Regulations (CFR) Part 70, because EULANDFILL<50 is subject to 40 CFR Part 60, Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills. ML is subject to 40 CFR Part 60, Subpart WWW because the landfill's design capacity exceeds 2.5 million cubic meters. A landfill that is subject to this subpart is also subject to Part 70 permitting requirements. The source is currently permitted under MI-ROP-N6037-2016.

EUASBESTOS at the stationary source is subject to the National Emission Standard for Hazardous Air Pollutants for Asbestos promulgated in 40 CFR Part 61, Subparts A and M. The source has been accepting both friable and non-friable asbestos waste materials.

Compliance History

The facility has not received any violation notices in the past five years. The facility was last inspected in July 2018 and was found to be in compliance with all applicable air quality rules and federal regulations at that time.

Inspection

On February 11, 2020, I conducted an unannounced inspection on Menominee Landfill. I arrived at the office building and met with Site Manager, Kurt Kietzer. I explained to Mr. Kietzer that the purpose of the inspection was to ensure compliance with MI-ROP-N6037-2016 and all other applicable air pollution control rules and federal regulations. The inspection began by Mr. Kietzer providing an overview of the landfill and the status of the current cells. Next, records were provided for the waste report and asbestos information. Mr. Kietzer then provided a tour of the landfill before departure.

EULANDFILL<50

ML is required to conduct Tier 2 or Tier 3 testing for NMOC emissions. This testing is to be performed every five years. The source performs Tier 2 testing and conducted the most recent test in May of 2015. The 2015 Tier 2 testing established a site-specific NMOC concentration of 7.6 parts per million by volume (ppmv) as hexane. The 2018 NMOC emission rate was calculated at 0.75 Mg/year. With ML having an annual NMOC emission rate of less than 50 Mg/year, the source is not subject to the National Emission Standards for Hazardous Air Pollutants for Municipal Solid Waste Landfills promulgated in 40 CFR Part 63, Subparts A and AAAA, and is not required to install a landfill gas collection/control system.

As required under Special Condition VI.1, ML keeps records of the design capacity for the facility. Reports were provided for fiscal years 2018 and 2019. For the periods of October 1, 2018, through September 30, 2019, the capacity at the start of the fiscal year was 2,256,446 cubic yards and the capacity at the end of

the fiscal year was 2,165,566 cubic yards. The estimated capacity used during this reporting year was 90,880 cubic yards. With a total permitted capacity of 6,433,873 cubic yards, the landfill has an occupancy of 4,268,307 cubic yards as of September 30, 2019. ML is also required to monitor and record the amount of waste brought in on a year-by-year basis. For fiscal years 2018 and 2019, the facility received 74,564 and 78,980 tons respectively.

SC VI.3 requires ML to calculate the annual NMOC emission rates using methods in Appendix 7 or the most recent version of USEPA's Landfill Gas Emissions Model. The 2018 NMOC emission rate for the source was calculated using the equation from 40 CFR 60.754(a)(1)(i).

$$M_{\text{NMOC}} = \sum_{i=1}^n 2kL_o M_i (e^{-kt}) C_{\text{NMOC}} (3.6 \times 10^{-9})$$

Where:

M_{NMOC} = mass emission rate of NMOC, megagrams per year

k = methane generation rate constant, per year

L_o = methane generation potential, cubic meters per megagram solid waste

M_i = mass of solid waste in the i^{th} section, megagrams

t = age of the i^{th} section, years

C_{NMOC} = concentration of NMOC, parts per million by volume as hexane

3.6×10^{-9} = conversion factor

Total NMOC emission rate from Menominee Landfill:

$$M_{\text{NMOC}} = 0.75 \text{ Mg/yr}$$

The facility has been prompt and complete in submitting an annual NMOC emission report with their annual certification of compliance for MI-ROP-N6037-2016. For 2018, the NMOC emission rate from the landfill was 0.75 Mg/yr.

EUASBESTOS

Upon entering the facility and during the tour, it was observed the perimeter of the landfill was completely fenced. Signs at the entrance state that the facility actively accepts asbestos material. The sign is at a location that is at least 330 ft from the first asbestos disposal site on the landfill. Mr. Kietzer showed the 2000 - 2018 Asbestos Disposal Locations map that provides information on each asbestos shipment received with the point number, date, and elevation of where that shipment is deposited in the landfill. The 2019 map has not been made yet. Before a shipment is received, a 24-hour notice is provided that asbestos material will be incoming. After depositing the material, it is covered with 2 feet of waste and then covered with soil or ADCM within a 24-hour period.

ML keeps records of the name, address, and phone number of the waste generator and transporter for each shipment received on the *Waste Shipment Record/Asbestos Manifest* reports. The quantity of the asbestos-containing waste material is also recorded in cubic yards. A receipt is provided to the generator of the waste. Also provided on the record sheet, is the latitude, longitude, and elevation of the disposal site for asbestos material. There have been no records of request to disturb placed asbestos waste.

Miscellaneous

ML has two 225,000-gallon leachate storage tanks for collected leachate prior to recirculation into the landfill or transported to a municipal wastewater treatment plant. The landfill also has 19 self-igniting flares on existing vents. Though the NSPS for landfills does not require DSL to utilize gas collection and flaring, DSL installed gas collection and flaring systems to aid in odor control. Both the leachate storage tank and the LFG flaring are considered exempt under Michigan Air Pollution Control Rule 336.1285(2) (aa).

At the time of the inspection, no fugitive dust emissions were observed due to winter conditions. The source currently does not have a fugitive dust plan. Mr. Kietzer stated that fugitive dust on roadways are controlled with a watering truck on an as-needed-basis.

There are no significant changes planned for the facility in the near future.

Compliance

Based on this inspection, Menominee Landfill is in compliance with MI-ROP-N6037-2016 and all other applicable regulations.

NAME Michael Klein

DATE 2/13/20

SUPERVISOR EDS

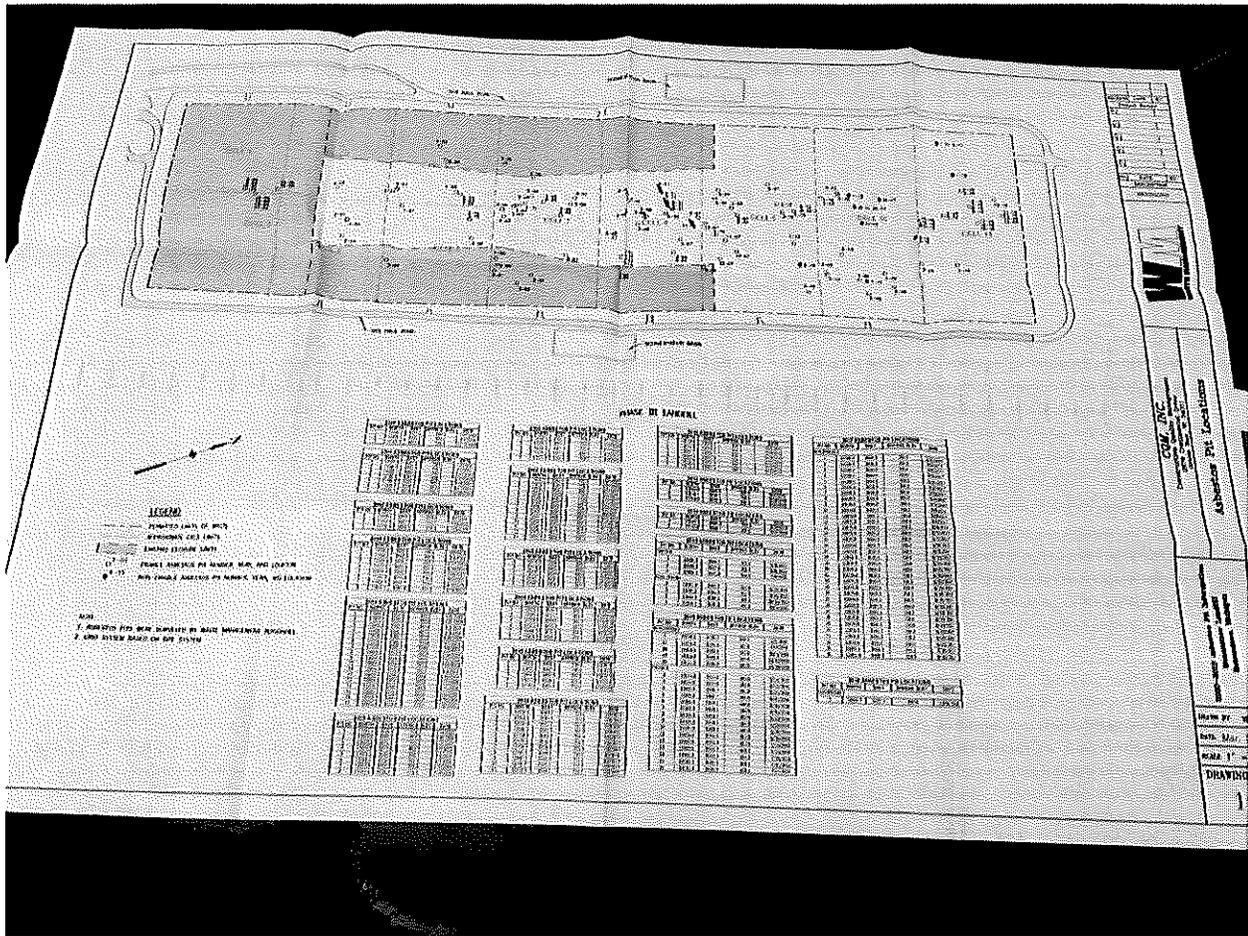


Image (1): Asbestos map information



Image (2): Asbestos sign