

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

N603770578

FACILITY: MICHIGAN ENVIRONS, INC		SRN / ID: N6037
LOCATION: 6214 W ELMWOOD RD, MENOMINEE		DISTRICT: Marquette
CITY: MENOMINEE		COUNTY: MENOMINEE
CONTACT: Madeline Schwerinski , Environmental Engineer (2020)		ACTIVITY DATE: 11/14/2023
STAFF: Joe Scanlan	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled inspection to determine compliance with MI-ROP-N6037-2022.		
RESOLVED COMPLAINTS:		

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 is a municipal solid waste (MSW) landfill that is owned and operated by Michigan Environs, Inc. and parent company Waste Management, Inc. (WM). Menominee Landfill 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 the city of Menominee and is in a relatively flat area surrounded by forests and agricultural land. There are several residences within 0.25 miles of the closed and active portions of the landfill. The active portion of the landfill is north of Elmwood Road (Phase III), while the closed portion is south of Elmwood Road (Phase I & II).

Menominee Landfill has been accepting waste since 1995 and accepts asbestos, biosolids, demolition debris, industrial waste, municipal waste, and naturally occurring radioactive material. The facility currently has 3 phases. Phase I and II are capped and contain passive vents, while phase III is active and is designed for a total of 14 cells. At the time of inspection, Phase III had several active cells (cells 9-12), with closed cells utilizing passive flares for landfill gas management. The source is categorized as a Type II landfill and currently has a design capacity greater than 2.5 million cubic meters.

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. Menominee Landfill 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 are several passive vents and self-igniting flares at the Menominee Landfill.

EMISSIONS REPORTING

The facility 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 2022:

Pollutant	Emissions (TPY)
CO	2.42
PM10	0.37
PM2.5	0.07
NMOC	2.43
VOC	0.95

REGULATORY ANALYSIS

The facility operates under MI-ROP-N6037-2022. In May 2021, the facility became subject to the Federal Plan Requirements for Municipal Solid Waste Landfills, as promulgated in Title 40 of the Code of Federal Regulations (CFR), Part 62, Subpart OOO. 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; however, no pollution control equipment is required at this time because actual NMOC emissions are less than 34 Mg/year.

The facility is a minor source of HAP emissions because the potential to emit of any single HAP regulated by the federal Clean Air Act, Section 112, is less than 10 tons per year and the potential to emit of all HAPs combined are less than 25 tons per year.

No emissions units at the facility are currently subject to the Prevention of Significant Deterioration regulations of Part 18, Prevention of Significant Deterioration of Air Quality of Act 451, because at the time of New Source Review permitting the potential to emit of carbon monoxide was less than 100 tons per year.

The facility is subject to the asbestos regulations found in 40 CFR 61.154, because the facility accepts asbestos containing waste.

COMPLIANCE HISTORY

The facility was last inspected in January 2022 and was found to be in compliance with all applicable air quality rules and federal regulations at that time.

INSPECTION

On November 14, 2023, AQD district staff Drew Yesmut and I conducted a scheduled inspection of the Menominee Landfill. We arrived at the office/scale house building and met with WM Site Manager, Kurt Keitzer, and WM Environmental Engineer, Madeline Schwerinski. It was explained to Kurt and Madeline that the purpose of the inspection was to ensure compliance with MI-ROP-N6037-2022 and all other applicable air pollution control rules and federal regulations.

WM staff escorted us on a visible inspection of the landfill, driving atop the landfill and the access road along the east side of the landfill. Following the tour, WM staff provided an overview of the landfill, detailed maps, and the status of the current cells. Records were provided for the landfill and asbestos information.

EULANDFILL<34

SC V.1, VI.2, SC IX.1: Menominee Landfill is required to conduct Tier 2 testing for NMOC emissions. This testing is to be performed every five years.

Prior to May 2021, the facility was subject to 40 CFR, Part 60, Subpart WWW and was required to conduct NMOC testing similar to the requirements within 40 CFR, Part 62, Subpart OOO, which it is currently subject to. To preserve the 5-year NMOC emissions testing timeframe and still satisfy Subpart OOO NMOC determination requirements during this transition, the Menominee Landfill maintained the site-specific NMOC Concentration determined in 2020 using the Tier 2 sampling procedures under NSPS WWW 60.754(a)(3), which comply with the Federal Plan Subpart OOO Tier 2 sampling requirements in 40 CFR 62.16718(a)(3). The next NMOC Tier 2 testing for this facility is due November 2025.

Results from the November 2020 Tier 2 testing showed site specific NMOC concentration (hexane) was determined to be 46 ppmv. For 2022, the facility reported actual emissions of 2.43 tons/yr NMOC to MAERS, which equates to 2.20 Mg/yr NMOC. This is considerably lower than the NMOC emission rate of 7.13 Mg/yr as projected in the *Tier 2 Landfill Gas Sampling and Analysis Report* from December 2020. This same report offers a projected NMOC emission rate of 6.95 Mg/yr for 2023.

Due to an NMOC emission rate of less than 34 Mg/year, Menominee Landfill is not required to implement an active landfill gas control/collection system.

SC VI.1: Menominee Landfill keeps records of the design capacity for the facility. A 2016 report was provided. The total permitted capacity is 6,433,873 cubic yards. Menominee Landfill is also required to monitor and record the amount of waste brought in on a year-by-year basis:

Menominee Landfill	Tons Received	Waste in Place – End of Year (yd ³)
2022	101,894	4,538,203
2023	65,742	4,641,135

SC VII.1-6: A review of records from 2022 and 2023 show the facility has submitted timely annual NMOC emission reports with annual certifications of compliance for MI-ROP-N6037-2022.

EULANDFILL-ASBESTOS

SC III.1: Signs were observed at the office/scale house building that state “Asbestos Disposal Site” and warnings related to asbestos. The facility has adequate natural barriers to deter access by the general public. No active disposal of regulated ACM waste was taking place at the time of inspection.

SC VI.1: Menominee 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/Asbestos Manifest reports. The quantity of the asbestos-containing waste material is also recorded. Also provided on the record sheet, is the latitude, longitude, and elevation of the disposal site for asbestos material.

SC VI.2-4: WM staff provided an updated 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. Menominee Landfill requires 24-hour notice prior to acceptance of any regulated asbestos-containing material (ACM). This allows staff to prepare a disposal site in order for the ACM waste to be deposited and covered as efficiently and quickly as possible. All exposed waste at the landfill is covered at the end of each operating day and daily cover records are maintained for Part 115 Solid Waste Management requirements.

SC IV.1, VII.6: Menominee Landfill has not had to disturb placed asbestos waste for any reason, therefore no notifications for such activity have been submitted to AQD.

MISCELLANEOUS

Menominee Landfill 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. Although Menominee Landfill is not required to utilize gas collection and flaring, the facility installed a 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. The source currently does not have a fugitive dust plan. Fugitive dust on roadways is controlled with a watering truck on an as-needed-basis.

COMPLIANCE

Based on this inspection, Menominee Landfill appears to be in compliance with MI-ROP-N6037-2022 and all other applicable regulations.

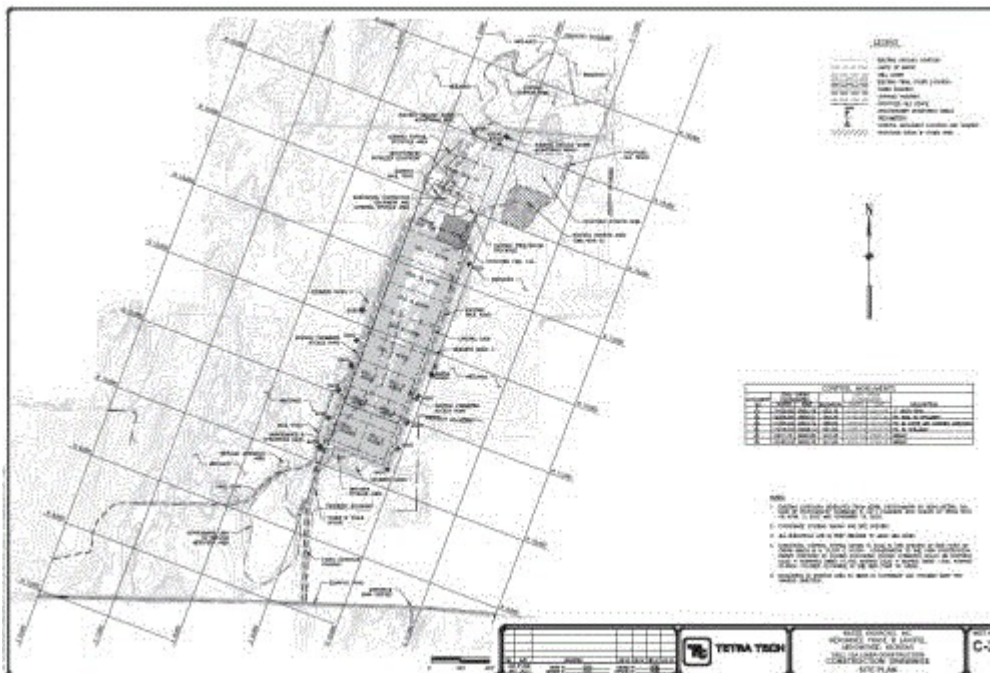


Image 1(ME1) : Site plan showing Cells 1 through 14

Table 2
Tier 2 Reporting - Projected NMOC Emission Rate
Michigan Environs, Inc. - Menominee Landfill
Menominee, Michigan
TriMedia Project Number 2020-2690

Year	i	AAAR (Mg)	Projected Annual NMOC Emission Rate Mg/yr)
2020	1	63,027	7.51
2021	2	63,027	7.31
2022	3	63,027	7.13
2023	4	63,027	6.95
2024	5	63,027	6.79
2025	6	63,027	6.63
2026	7	63,027	6.48
2027	8	63,027	6.34
2028	9	63,027	6.20
2029	10	63,027	6.07
2030	11	63,027	5.95
2031	12	63,027	5.83
2032	13	63,027	5.72
2033	14	63,027	5.61
2034	15	63,027	5.51
2035	16	63,027	5.41
2036	17	63,027	5.32

AAAR = Average Annual Acceptance Rate

Image 2(ME2) : Projected (not actual) NMOC emission rates from the December 2020 Tier 2 Landfill Gas Sampling and Analysis Report

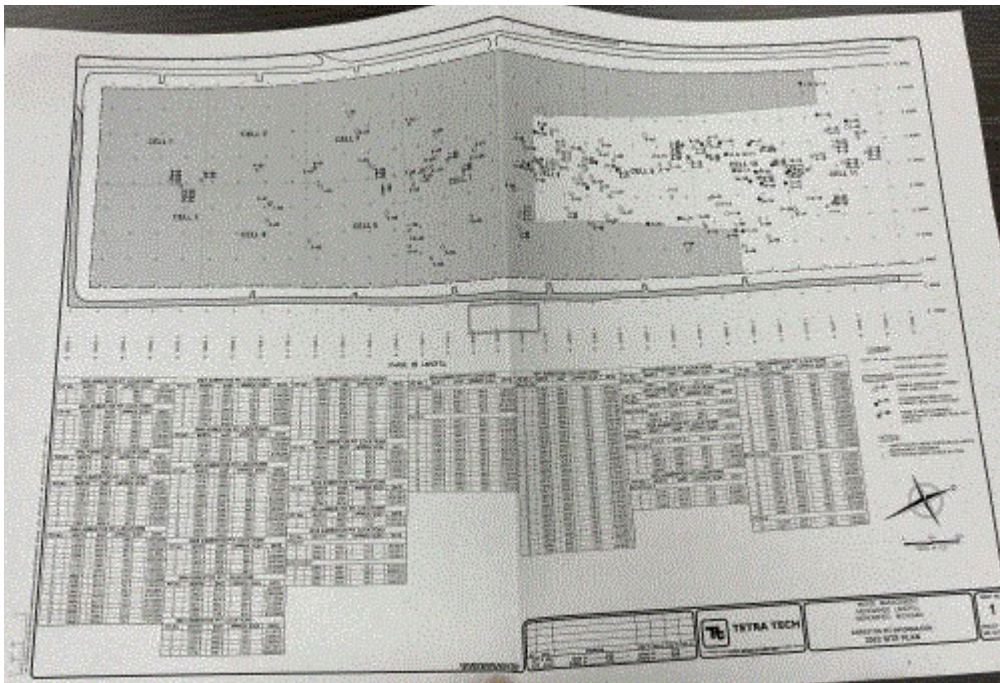


Image 3(ME3) : Asbestos waste site map

WASTE SHIPMENT RECORD/ASBESTOS MANIFEST

1. Shipper's Name: ASB13219796
 2. Shipper's Address: 2112 Maple Avenue, Milwaukee WI 53143
 3. Shipper's Phone: (414) 556-2604

4. Recipient's Name: DKS Construction Services, Inc.
 5. Recipient's Address: 2520 Wilbur St, Menasha, WI 54951
 6. Recipient's Phone: (920) 755-556

7. Material Description: Asbestos
 8. Quantity: 1
 9. Date: 7/18/2023

10. Signature: [Signature]
 11. Date: 7/18/2023

12. Signature: [Signature]
 13. Date: 7/20/2023

14. Signature: [Signature]
 15. Date: 7/20/2023

Image 4(ME4) : Asbestos waste manifest

NAME Joel Seaman

DATE 1-30-2024

SUPERVISOR Michael Kaplan