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

N603762094

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| **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:** 01/21/2022 |
| **STAFF:** Joe Scanlan | **COMPLIANCE STATUS:** Compliance | **SOURCE CLASS:** MAJOR |
| **SUBJECT:** Announced inspection to determine compliance with MI-ROP-N6037-2016 for ROP renewal | | |
| **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 (ML) is a municipal solid waste (MSW) landfill that is owned and operated by Michigan Environs, Inc. and parent company 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 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).**

**ML 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 contains a total of 14 cells. At the time of inspection, Phase III had several active cells (cells 4-11), 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. The source receives on average 76,000 tons of waste per year. ML does not accept hazardous waste.**

**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).**

## 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 and further compacts it. When a cell is full, it is covered permanently with a liner cap and compacted soil.

## EMISSIONS

Landfill gas (LFG) 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. 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 is annual emissions to Michigan Air Emissions Reporting System (MAERS). The following table lists the source total emissions for the reporting year 2021:

2021 Total Source Reported Emissions

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| Carbon Monoxide (CO) | 2.44 tons |
| NMOC | 2.45 tons |
| PM10 | 0.58 tons |
| PM2.5 | 0.11 tons |
| VOC | 0.96 tons |

## REGULATORY ANALYSIS

The stationary source is subject to Title 40 of the Code of Federal Regulations (CFR) Part 70. All existing MSW landfills that commenced construction, modification, or reconstruction on or before July 17, 2014 are now subject to the new Federal Plan at 40 CFR 62, Subpart OOO starting May 21, 2021, effective on June 21, 2021.

Until June 21, 2021, EULANDFILL<50 was subject to 40 CFR Part 60, Subpart WWW Standards of Performance for Municipal Solid Waste Landfills (NSPS WWW). ML was subject to NSPS 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 and submitted an ROP renewal application on January 24, 2021.

However, on August 29, 2016, EPA issued new Emission Guidelines (EG) for existing MSW Landfills in 40 CFR Part 60, Subpart Cf. The revised EG is intended to replace requirements under NSPS WWW once implemented through revised state plans or a federal plan.

An affected source must continue to comply with the older NSPS WWW requirements until it becomes subject to the more stringent requirements in an approved and effective state or federal plan that implements NSPS Subpart Cf. In March 2020, EPA issued a notice of finding of failure to submit a state plan, identifying 42 states and territories that failed to submit for review and approval state plans to implement the 2016 EG for MSW Landfills. Michigan was included in the finding of failure to submit a state plan, or State Implementation Plan. EPA proposed a Federal Plan to implement the 2016 EG on August 22, 2019. The Federal Plan 40 CFR 62, Subpart OOO was finalized on May 21, 2021, effective on June 21, 2021.

Each landfill emission standard, both WWW and OOO, contains an NMOC generation threshold so that only facilities with larger emissions are required to purchase, install, and operate landfill gas collection and control systems. The older standard used a 50 megagram per year (Mg/yr) threshold. The revised EG uses a lower threshold of 34 Mg/yr. Submission of an initial report stating that NMOC generation is 34 Mg/yr or greater starts further timetables for construction and operation of a landfill gas collection and control system. NMOC emissions for this source are well below the 34 Mg/yr threshold, therefore no gas collection control system is required.

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 February 2020 and was found to be compliant with all applicable air quality rules and federal regulations at that time.

INSPECTION

On January 21, 2022, I conducted an announced inspection on Menominee Landfill. I arrived at the landfill and met with WM Environmental Engineer Madeline Schwerinski. I explained to Ms. Schwerinski 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 Ms. Schwerinski providing an overview of the landfill and the status of the current cells and then guided a vehicle tour of the landfill. We returned to the office where records were provided for the waste report and asbestos information. We had a brief closing conference prior to my 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 November of 2020. A total of 21 representative gas samples were collected from existing passive gas vents (labeled as GV-1, GV-2, GV-3, GV-4, GV-5, GV-6, GV-7, GV-8, GV-9, GV-10, GV-11, GV-13 GV-14, GV-15R, GV-16, GV-17, GV-18R, GV-19, GV-20, GV-22, and GV-28). Samples were

not collected from gas vents GV-12, GV-23, and GV-25 due to oxygen readings observed above five percent (5%) during field screening. The testing established a site-specific NMOC concentration of 46 parts per million by volume (ppmv) as hexane. The 2020 NMOC emission rate was calculated at 7.51 Mg/year. Based on the 2020 site specific test and using a conservative average annual acceptance rate of 63,027 Mg, projected annual NMOC emission rate for 2021 was 7.31 Mg/year (see 9/17/21 Initial Design Capacity and NMOC Emission Rate Report). However, because the actual acceptance rate of degradable waste for 2021 was lower than projected at 22,652 Mg, actual NMOC emission rates for 2021 were calculated to be 4.06 Mg/yr.

Because the landfill has an annual NMOC emission rate of less than 34 Mg/year, the source is not subject to the MSW Landfill NESHAP promulgated in 40 CFR Part 63, Subparts A and AAAA, and is not required to install a landfill gas collection/control system.

SC VI.1 requires ML to keep records of the design capacity for the facility. Reports were provided for 2021. ML is also required to monitor and record the amount of waste brought in on a year-by-year basis. In 2021 the facility received 133,355 tons of non-degradable waste and 24,969 tons (22,652 Mg) of degradable waste.

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. This landfill determined site-specific NMOC Concentration using Tier 2 sampling procedures under NSPS WWW 60.754(a)(3), which comport with the Federal Plan OOO requirements in 40 CFR 62.16718(a)(3). The Tier 2 calculation, utilizing default parameters specified by the U.S. EPA of k - 0.05 year-1, Lo – 170 m3/Mg, and site-specific NMOC Concentration from 2020 testing, resulted in a calculated 2021 NMOC emission rate of 4.06 Mg/yr. Since the landfill's NMOC emission rate is less than 34 Mg/yr, the landfill will continue to submit NMOC reports per the regulations.

The facility has been timely and accurate in submitting the annual NMOC emission report with their annual certification of compliance for MI-ROP-N6037-2016.

EUASBESTOS

The perimeter of the landfill is fenced and has adequate natural barriers. 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. Ms. Schwerinski provided waste manifest records of asbestos received during 2021. Disposal Locations on a map provide information on each asbestos shipment received with the point number, date, and elevation of where that shipment is deposited in the landfill. 24-hour notice to the landfill is required prior to receiving an asbestos waste shipment so the site of deposition can be prepped. After depositing the material, it is covered with 2 feet of waste and then covered with soil or alternative daily cover 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 EMISSIONS**

**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. 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.**

**SUMMARY**

**Based on this inspection, Menominee Landfill is in compliance with NSPS WWW subject MI-ROP-N6037-2016 and all other applicable Michigan Air Pollution Control Rules. The renewed ROP is expected to be issued during the third quarter of FY22 and will be based on the new Federal Plan, 40 CFR 62, Subpart OOO.**

NAME _____ DATE 3/24/22 SUPERVISOR _____