

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

N363463558

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| FACILITY: HARLAND SANITARY LANDFILL/MANISTEE COUNTY LANDFILL | | SRN / ID: N3634 |
| LOCATION: 3890 CAMP ROAD, MANISTEE | | DISTRICT: Cadillac |
| CITY: MANISTEE | | COUNTY: MANISTEE |
| CONTACT: Justin Obermeyer , Environmental Manager | | ACTIVITY DATE: 07/06/2022 |
| STAFF: Rob Dickman | COMPLIANCE STATUS: Compliance | SOURCE CLASS: MAJOR |
| SUBJECT: Scheduled inspection of this major source, | | |
| RESOLVED COMPLAINTS: | | |

Harland's Sanitary Landfill is located at 3890 Camp Road, in Manistee, Michigan. The nearest residences are located to the north of the landfill along Lindeman Road and Camp Road. There are two lakes located approximately a mile to the southwest of the landfill, King Lake and Shingle Mill Lake.

Harland's Sanitary Landfill is classified as a Type II sanitary landfill, which is a Municipal Solid Waste (MSW) Landfill. The facility currently accepts petroleum contaminated soils, sludge, municipal household waste, and other wastes. The facility does not accept asbestos containing waste materials. The landfill opened in 1977 and has an expected closure year of 2030.

Landfill gas is collected by an active gas collection and control system (GCCS). This system consists of vertical extraction wells that are installed in the depths of the landfill refuse, and which remove landfill gas by vacuum that is applied to the well from the blower. The collected landfill gas is then routed to an open flare emissions control device.

The facility has a sulfur removal system which removes hydrogen sulfide (H₂S) from the landfill gas prior to the open flare emissions control device. The sulfur removal system reduces the amount of sulfur dioxide (SO₂) emissions from the open flare emissions control device. This control device was originally permitted in Permit to Install (PTI) Nos. 357-08, 357-08A, and 357-08B.

Testing conducted on August 13, 2019, indicated that the landfill had non-methane organic compounds (NMOC) emissions at or above 50 megagrams per year (Mg/yr). When actual NMOC emissions at Harland's Sanitary Landfill reached 50 Mg/yr, an approvable landfill gas collection and control system design plan was required under then applicable 40 CFR Part 60, Subpart WWW for MSW Landfills. Within 18 months after the design plan was submitted, the equipment specified in the approved design plan was required to be installed and operating properly. This equipment is installed and operating. In September of 2021, the facility sent notification that they are opting to comply with the provisions of 40 CFR 63 Subpart AAAA.

This facility is currently subject to the following federal standards:

- Emission Guidelines for existing Municipal Solid Waste Landfills promulgated under 40 CFR 60, Subparts A and Cf
- Federal Plan Requirements for Existing Municipal Solid Waste Landfills promulgated in 40 CFR 62, Subpart OOO. This Federal Plan will apply until a State Plan is approved or delegation of the Federal Plan is approved.
- The Maximum Achievable Control Technology Standards (MACT) for Municipal Solid Waste Landfills promulgated in 40 CFR Part 63, Subparts A and AAAA.

I conducted an inspection at this facility to determine the facility's compliance with these standards and any applicable conditions of Renewable Operating Permit (ROP) No. MI-ROP-N3634-2015. The ROP is currently in the renewal process and will be modified to reflect the abovementioned federal requirements.

EULANDFILL<50 - This emission unit is the landfill. This landfill has a design capacity greater than 2.5 million megagrams and 2.5 million cubic meters. Additionally, the landfill has received a volume expansion (increased the design capacity) permit from the Department of Environmental Quality, since May 30, 1991. Collected landfill gas is controlled by a sulfur removal system and flare.

Emissions Limits

Sulfur Dioxide (SO₂) emissions from the flare are limited to 36 tons per year based on a 12-month rolling time period. Records of the last 12-months indicate rolling averages of approximately 3.0 to 3.5 tons per year. Records regarding this were reviewed on site and appeared complete and up to date.

Material Limits

Landfill gas Hydrogen Sulfide (H₂S) concentration is limited to 400 ppm post treatment. Testing for H₂S content in the gas is performed weekly. In the last 12 months, the outlet concentration to the flare was <400 ppm except during periods of malfunction with most of the readings below 100 ppm. Records regarding this were reviewed on site and appeared complete and up to date. Malfunction events have been previously reported, reviewed, and documented by AQD staff.

Process or Operational Restrictions

The facility is only allowed to burn treated landfill gas in the flare except as provided in the approved malfunction abatement/operation and maintenance plan. The MAP for this facility was submitted in September of 2010 and approved in November of 2010. The only time untreated gas was sent to the flare is during periods of maintenance or malfunction and shutdown of the treatment system.

The flare is to be operating at all times except during periods of maintenance and malfunction. A review of records indicated no time in the last 12 months was there an incident of this nature except during periods of maintenance and malfunction. Periods of maintenance and malfunctions are reported and have been previously reviewed and documented.

Design or Equipment Parameters

There are no design or equipment parameters associated with the landfill.

Testing or Sampling

The facility has performed Tier 2 testing to determine annual NMOC emissions. This testing is required at least once every five years. Tier 2 testing was last performed in August of 2019. NMOC emissions at that time were 49.7 Mg per year. As discussed above, it was at that time the facility submitted a GCCS Plan and began complying with the provisions for a landfill with annual NMOC emissions above the regulatory threshold of 50 Mg/yr.

Monitoring and Recordkeeping.

The facility is required to keep on-site records of the design capacity report, the current amount of solid waste in-place, and the year-by-year waste acceptance rate. Records regarding this were reviewed on site and appeared complete and up to date.

The facility is required to install, calibrate, and maintain a gas flow measuring device that shall continuously record the total actual flow of landfill gas to the flare. This device was in place and appeared to be operating correctly. An instant reading taken on site was 925.9 cfm which is typical for flow to the flare.

The facility is required to monitor and record on a monthly basis the average Btu content of the landfill gas burned in the flare. A review of records indicated flow rates to the flare of 700 to 1400 cfm with monthly averages of 14,000 to 23,000 MMBtu.

The facility is required to keep monthly and 12-month rolling SO₂ emission calculations for the flare. These calculations are being performed and were available for review. SO₂ emissions were approximately 3.0 to 3.5 tons based on a 12-month rolling time period. Records regarding this were reviewed on site and appeared complete and up to date.

The facility is required to monitor and record, on a weekly basis, the hydrogen sulfide concentration of the treated landfill gas. This testing is performed weekly. In the last 12 months, the outlet concentration to the flare was <400 ppm except during periods of malfunction with most weekly readings less than 100 ppm.

The facility is required to keep records of the date and time the sulfur removal system is not operated due to malfunctions or maintenance. These periods are reported and have been previously reviewed and documented by AQD staff.

Reporting

All semi-annual and annual deviation reporting has been reported, reviewed, and documented by AQD staff.

The facility is required to submit an annual NMOC emission rate report to the District Supervisor. This emissions rate report is through the MAERS reporting system. This reporting has been performed annually and has been previously reviewed.

The facility is required to notify the Department of any testing being performed at the facility per department guidelines. The only testing performed at the facility was completed in August of 2019. All required notifications were submitted in a timely manner.

Stack and Vent Restrictions

The stack for the sulfur treatment system appears in compliance with criteria listed in the ROP and does not appear to have been recently altered.

Other requirements

The facility is required to implement and maintain an AQD approved MAP for the sulfur treatment system and flare. Any modifications to this plan must be submitted to and approved by the District Supervisor, AQD prior to implementation or changes. The MAP for this facility was submitted in September of 2010 and approved in November of 2010. No amendments to it have been made.

If the NMOC emission rate is calculated to be equal to or greater than 50 megagrams per year, the facility is required to install a collection and control system. As of the 2019 Tier 2 testing, the facility has declared it is required to install active gas collection. An engineer certified landfill gas collection plan was received regarding this in December of 2018 and was approved by AQD and MMD staff in March of 2019. The ROP renewal application includes provisions and requirements for landfills that have NMOC emissions greater than 50 Mg per year. All applicable monitoring and reporting by this facility per these changes has been completed in a timely and correct manner.

FGCOLDCLEANERS

Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278 and Rule 281(h) or Rule 285(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979. The only cold cleaner located at this facility was replaced by an aqueous based cleaner.

At the time of the inspection, this facility was in compliance with their applicable air permitting.

NAME 

DATE _____

SUPERVISOR _____