

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

N268970611

FACILITY: VIENNA JUNCTION LANDFILL		SRN / ID: N2689
LOCATION: 6233 HAGMAN RD, ERIE		DISTRICT: Jackson
CITY: ERIE		COUNTY: MONROE
CONTACT: Ryan Baisden , Environmental Manager		ACTIVITY DATE: 12/15/2023
STAFF: Brian Merle	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: On-site, scheduled, announced compliance inspection and FCE.		
RESOLVED COMPLAINTS:		

Facility Contact

Ryan Baisden, Environmental Manager

rbaisden@republicservices.com

440-370-2764

Purpose

On Friday, December 15th, 2023, an announced scheduled inspection was conducted at Vienna Junction Industrial Sanitary Park Landfill (VJ), located at 6233 Hagman Road, in Erie, Michigan. . The purpose of the inspection was to determine the facility's compliance status with applicable federal and state air pollution regulations, particularly with the Michigan Natural Resources and Environmental Protection Act 451 of 1994, Part 55, Air Pollution Control and the administrative rules; the conditions of Renewable Operating Permit (ROP) MI-ROP-N2689-2020b; National Emission Standards for Hazardous Air Pollutants 40 CFR Part 63, Subpart AAAA; and the Federal New Source Performance Standards for Municipal solid Waste Landfills that Commenced Construction, Reconstruction or Modification After July 17th, 2014, 40 CFR Part 60 Subpart XXX.

Air Quality Division (AQD) staff present were Brian Merle, Mike Kovalchick, and Jeff Benya. Mike and Jeff were there to perform an abbreviated methane surface emission monitoring (SEM) survey. I conducted the inspection of the landfill concurrently with the SEM.

Facility Location

The facility is located on the Michigan/Ohio border near Toledo. There are residential homes to the west and southeast, farmland to the north and northeast, and commercial property to the south.

Facility Background

VJ is an active Municipal Solid Waste (MSW) landfill owned and operated by Republic Services. There are both an active and closed section of the landfill, with the closed section being under final cover. There are 7 areas defined by the landfill, with Areas 1-4 having one cell, 5 having two cells, 6 having 4 cells, and 7 having 4 active cells and a 5th cell under construction. Areas 5 and 6 are under intermediate cover, and area 7's four active areas having some intermediate cover. The only landfill gas (LFG) control currently used on site is the enclosed flare. During the last inspection, it was noted that there were issues with the flare temperature, specifically multiple instances of operating below the minimum compliant temperature, as well as failing to report

these deviations. This resulted in VJ submitting enclosed flare temperature records monthly from August 2022 to September 2023.

Regulatory Applicability

This facility operates under ROP No. MI-ROP-N2689-2020b. Additionally, it is subject to 40 CFR Part 60 Subpart XXX and 40 CFR Part 63 Subpart AAAA.

Arrival

On Thursday, December 14th, I emailed Ryan to inform him of our intent to inspect the facility, as well as to request the following records:

1. Last 4 quarters of SEM inspections
2. Last 12 months of cover integrity inspection reports
3. The latest monthly wellhead readings report. It should be in excel spreadsheet format and include the FULL suite of measured parameters. The GPS coordinates for all wellheads should also be provided.
4. Latest GCCS map with the current active area circled.
5. Cover Map of the landfill which includes names of all the cells.
6. Flare usage/flow records for the last 12 months.

I arrived at the facility at approximately 9:00 AM, not observing any odors or visible emissions. I met with Jeff in the parking lot and Mike arrived soon after. Mike and Jeff began to set up their SEM5000 units preparing for the inspection.

Pre-inspection meeting

We went inside the office and met with Ryan, who had prepared the requested records. We then went out to drive around the landfill and perform the upwind and downwind calibration for the SEM units.

Inspection

Once calibrated, we drove back towards the office stopping at the flare to take some readings. Here, I asked Ryan if they had any extra thermocouples on site, with a failed thermocouple being the likely cause of the previous temperature problems. He confirmed that they have one on site as a backup, and they have one at a nearby landfill that can be used as a backup as well. I also asked if they had any temperature issues since they stopped reporting and he confirmed that they had not. I additionally asked if they had any plans for a secondary flare in case of maintenance or emergency, which had been a concern for AQD in the past. He said they have no current plans to, the current flare has a high enough flow for the needs of the landfill, and that within the next couple of years they would be constructing a Renewable Natural Gas (RNG) plant. He then showed me where the control panel for the flare was, which showed 895 SCFM. Ryan later provided the flow average for the day of our inspection, which was 783 SCFM. Looking at the flare data provided, it appears that the usual flow is between 900 and 1800 SCFM. Ryan later explained by email the reason for this low flow, as follows: "During your visit, the flow to the flare was reduced. A temporary enclosure was constructed around sump 11 to prevent freezing

in cold temperatures. This enclosure was compromised and the sump froze, damaging the infrastructure at the sump. Once the sump was thawed, a repair was to be made as soon as practical. The facility has been working with the GCCS contractor to mitigate the risks of future events like this. The frozen sump in conjunction with the recent construction and rebalancing of the well field account for the lower flow rates in the middle of December and flows have recovered since to approximately 1250-1350 scfm.”

We then drove back to the office and began the SEM (see SEM report for path). This took us around the landfill, going up Area 5 Cell 2 to the top of Area 5/6, then down and around the new construction area to below the active area on the northeast slope, around area 7-4. Along the way, I asked Ryan if they have any issues with water, H₂S, or gas migration, and he said they don't have any issues with any of them, and they have not received any odor complaints this year. When we reached the northwest slope of the active site, there was freshly seeded grass in the intermediate cover area, as well as 4 new wells that were drilled in November. Ryan explained that the grass had been planted 3 months previously. This area saw levels of surface methane just under the 500-ppm limit over most of the slope. We then walked to the other side of the active area near the haul road, where fugitive dust was observed. I asked Ryan when the roadway was last sprayed, and he called in to see what the issue was. He also said he had seen workers near the water truck, with a potential mechanical issue preventing the watering of the haul road. We walked back towards the office and completed the SEM. Overall, 45 areas with surface methane concentrations greater than 500 ppm were found.

Post inspection meeting

Mike and Jeff packed up their equipment and left the site, and I returned to the office with Ryan to collect the provided records. I thanked him for his time and left at approximately 11:00 AM.

Records Review

Last 4 quarters of SEM inspections:

Fourth Quarter 2022 SEM performed on November 28th and 29th, 2022. Two exceedances were identified and were rechecked December 9th and 29th (Attachment 1).

First Quarter 2023 SEM performed on February 23rd and 24th, 2023. One exceedance was identified and was rechecked March 6th and 24th (Attachment 2).

Second Quarter 2023 SEM performed on May 2nd and 23rd, 2023. One exceedance was identified and was rechecked June 2nd and 22nd (Attachment 3).

Third Quarter 2023 SEM performed September 26th and 27th, 2023. Four exceedances were identified and were rechecked October 6th and 26th. One exceedance required a 2nd 10 day monitoring, performed on October 16th (Attachment 4).

Over the last four quarters, 8 exceedances were identified.

Last 12 months of cover integrity inspection reports:

Between January and December 2023, nine cover integrity issues were identified. Corrective action was performed within 1 day up to 117 days (Attachment 5).

Latest monthly wellhead readings report:

The following analysis was provided by Mike: "Wellhead data was reviewed as part of this inspection. In particular, wellhead data in the vicinity of the active area was examined. 5 vertical wells are in place just outside the active area. They are 250 feet apart. Wells EW-128 & EW-129 had yet to be turned on having been drilled in November. A second set of 9 vertical wells surround the active area about 250 feet lower down the slope from the first row of wells. Finally, about 14 horizontal wells at least partially intersect the active area hill. Only minor amounts of gas are being captured by the first row of wells. Much more significant gas is collected by the second row. Generally low gas amounts are being collected by the horizontal collectors with several appearing not to be functional. Overall, only about 400 SCFM is being collected which is considered low for the size/age of the cell. The most problematic area is on the N/NW side of the active where the 2 vertical wells had yet to be turned on and existing wells in the vicinity are overloaded with gas." See Attachment 6 for provided data.

Latest GCCS map:

GCCS Map provided (Attachment 7).

Cover Map of the landfill which includes names of all the cells:

Cover map provided (Attachment 8).

Flare usage/flow records for the last 12 months:

Records were provided digitally for December 2022 to November 2023 due to the size. Additionally, Operations and Maintenance Site Reports were provided for the same period (Attachment 9). These detail downtime and recorder/monitor malfunctions. For this time period, according to the provided records, the flare was not functioning for approximately 10% of the time. Mike Kovalchick estimates that this leads to 150 SCFM of landfill gas lost as fugitives averaged over the course of the year. Currently, no backup control is available.

Additionally, the following records were requested by email following the inspection:

Current design capacity

Current amount of solid waste

Year-by-year waste acceptance rate

Max expected gas generation

Ryan answered with the following:

Current Design Capacity: 24,293,800 tons

Current amount of solid waste: 9,183,318 Mg

Year-by-year waste acceptance rate: 246,211 short tons for 2022 (See Attachment 10 for previous years).

Max expected gas generation : 2,539 cfm, based on Nov 2018 GCCS plan.


The SEM report prepared by Mike Kovalchick had the following recommendations:

1. Address/fixes all 45 SEM hits per federal requirements.
2. Install a backup landfill gas control system as soon as possible.
3. Give more attention to properly sealing surface penetrations.
4. Turn on new wells on the side slopes of the current active area as soon as possible.
5. Investigate the causes of excess methane emissions in the vicinity of the active cell and enhance the GCCS in this area as soon as possible.
6. Make sure all wellheads are clearly labeled.

Compliance Determination

Based on my inspection, the following records review, and the SEM survey, I found Vienna Junction to be in compliance with the conditions of their permit. However, AQD strongly encourages Vienna Junction to implement the recommendations listed above.

NAME



DATE 12/15/2023

SUPERVISOR

