



United States Environmental Protection Agency
Region 7
Enforcement and Compliance Assurance Division

**Air Branch Inspection Report
Unannounced Full Compliance Evaluation
Waste Management Pheasant Point Landfill**

13505 N 216th St.
Bennington, Nebraska 68007
FRS# 110001516351

Mailing address :
N/A

Inspection Date(s):
December 28-29, 2021

**AVERY
BOWERS**

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Avery Bowers, Inspector, ECAD, Air Branch

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Air Branch

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Attachment 1 photo log and photos (3 pages)
Attachment 2 Gas collection map (1 page)
Attachment 3 Receipt of documents (1 page)
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Attachment 5 TVA values (60 pages)

**This Contents page shows all the sections contained in this report
and provides a clear indication of the end of this report.**

INSPECTION OVERVIEW

INSPECTION OBJECTIVE

The objectives of the inspection were to perform surface emission monitoring and to determine the compliance level of the facility with the Clean Air Act section 111 New Source Performance Standards (NSPS) regulations as part of the Creating Cleaner Air for Communities National Compliance Initiative (CCAC- NCI). This report documents EPA's activities on site.

Table 1 lists the inspection team members.

Table 1. PROJECT TEAM MEMBERS		
Team Member	Organization	Project Role
Lead Inspector, Avery Bowers	EPA, Region 7, ECAD	Environmental Engineer
Joe Terriquez	EPA, Region 7, ECAD	Environmental Engineer
Matt Turco	Nebraska Department of Environment and Energy (NDEE), Inspection and Compliance Division	Air Compliance Section Supervisor
Logan Winters	NDEE, Inspection and Compliance Division	Air Compliance Inspector

FACILITY CONTACT INFORMATION

Table 2 lists the primary facility contacts.

Table 2. FACILITY CONTACT INFORMATION		
Name, Title	Phone No.	Email Address
Mitch Alday, Evaporator Operator		
Jason Boyd, Powerhouse Operator		
Jason Grimm, Gas Technician		
Scott Grubaugh, Lead Operator	402-983-7504	
Jim Jackson, Gas Plant Manager	402-238-2236	Jjacks34@wm.com
Ryle Palmer, District Manager (not present during the inspection)	402-238-3641	rpalmer@wm.com

FACILITY OVERVIEW

Pheasant Point Landfill has a Standard Industrial Classification (SIC) code 4953 categorized as refuse system and a North American Industry Classification System (NAICS) code 924110 categorized as solid waste management program. The last EPA inspection was on September 12, 2013. The three most recent NDEE activities include a partial compliance evaluation via stack test conducted on November 2, 2020, a stack test conducted on July 9, 2020, and an on-site full compliance evaluation conducted on July 2, 2020. On June 6, 2018, the facility was issued a Consent and Final Agreement Order (CAFO) by the EPA and was made to pay a \$27,500 penalty for violating 40 (Code of Federal Regulations) C.F.R § 60.753. The facility had failed to operate a gas collection and control system such that gas is collected from each area, cell, or

group of cells in the MSW landfill in which solid waste has been in place for 5 years or more if active or 2 years or more if closed. The facility corrected the violation.

The facility was subject to 40 CFR Part 60 Subpart WWW- *Standards of Performance for Municipal Solid Waste Landfills that Commenced Construction, Reconstruction, Restriction or Modification on or After May 30, 1991, but before July 18, 2014* until the federal plan for the emission guideline 40 CFR Part 62 Subpart OOO-*Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction On or Before July 17, 2014 and Have Not Been Modified or Reconstructed Since July 17, 2014*, was published in May 2021.

Pheasant Point's Title V operating permit, issued by NDEE, is subject to the following regulations and standards (**Table 3**):

Table 3. APPLICABLE REGULATIONS AND STANDARDS	
Code of Federal Regulation	Standard Name
40 CFR Part 60	Subpart A, General Provisions
40 CFR Part 61	Subpart A, General Provisions
40 CFR Part 61	Subpart M, National Emission Standards for Asbestos
40 CFR Part 62	Subpart OOO, Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction On or Before July 17, 2014 and Have Not Been Modified or Reconstructed Since July 17, 2014
40 CFR Part 63	Subpart A, General Provision
40 CFR Part 63	Subpart AAAA, National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills

FACILITY OPERATIONS SUMMARY

Pheasant Point Landfill has been owned and operated by Waste Management of Nebraska since its completion in 2003. The facility consists of two landfills: Douglas County RDF and the adjacent Pheasant Point; Pheasant Point being the only active one. The facility was allotted 290 acres of which it has only used 110 to date. There are 18 employees that help run and manage all site activities. The landfill runs Monday-Friday from 6am until 5pm and on Saturdays from 6am until 3pm. The gas system in place is a combination of 105 vertical wells and 5 horizontal collectors with connections to leachate sumps and risers with header piping. The gas moving equipment contains compressors at the gas recovery plant. The gas collected is sent to the reciprocating engines and leachate evaporator. Excess gas that is not sent to the reciprocating engines is routed to the flare for combustion. In 2019 the facility installed the leachate evaporator system to reduce the leachate volume from the facility. The facility began processing leachate on March 12, 2020.

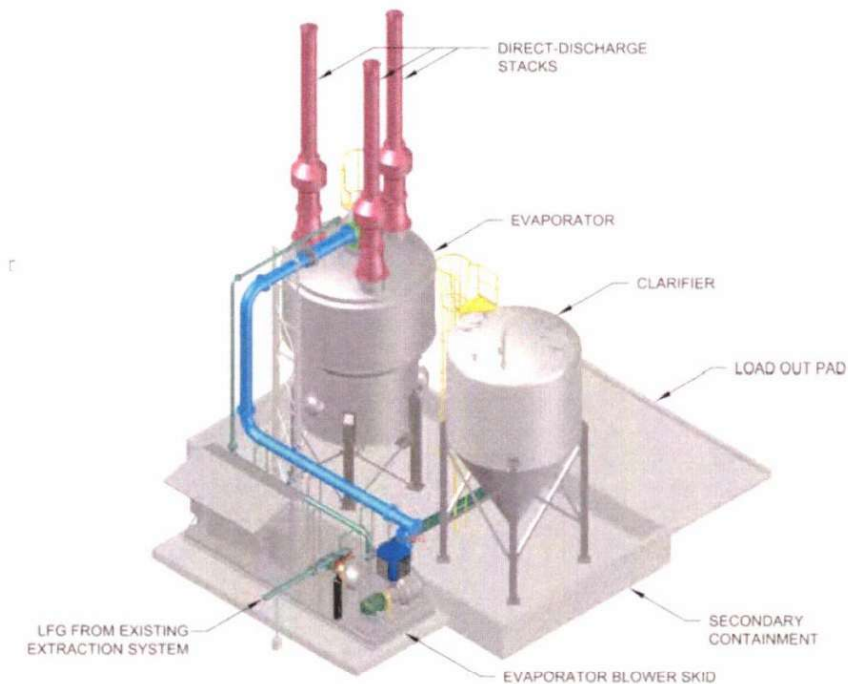


Figure 1. Leachate Evaporator system. Image courtesy of RMC Environmental, Inc.

FIELD ACTIVITIES SUMMARY

On December 28, 2021, Mr. Terriquez and I arrived at the Region 7 EPA Science and Technology Center around 8:00 am to pick up the Toxic Vapor Analyzer (TVA) we then drove to Nebraska in a government owned vehicle. Mr. Turco and Mr. Winters joined Mr. Terriquez and I at a designated meeting area around 12:45 pm and we calibrated the TVA for the inspection. Mr. Turco, Mr. Winters, Mr. Terriquez, and I arrived at Pheasant Point Landfill around 1:20 pm. We were greeted by Mr. Grubaugh who led us into a conference area where we met Mr. Grimm and Mr. Alday. There I presented my credentials and Mr. Terriquez explained the purpose of the inspection. Once introductions were concluded, I asked some preliminary questions pertaining to the every-day operations at the facility and Mr. Grubaugh gave a general overview of the facility. Mr. Turco turned on the Forward Looking Infrared (FLIR) camera and I noted that the FLIR camera was not intrinsically safe equipment but would be used throughout the inspection. I also informed Mr. Grubaugh, Alday and Grimm that upon the conclusion of the inspection, they had a right to claim confidential business information (CBI) and a form would need to be signed noting whether such claims were necessary. When the opening conference ended, EPA and NDEE followed Mr. Grubaugh up to the landfill to conduct the surface emission monitoring.

Starting at well GW-34 and heading north, I performed surface emission monitoring (SEM) using the TVA and following Method 21. Mr. Terriquez only noted the methane detections

exceeding 500 parts per million (ppm) and marked the location with a flag. Mr. Winters took photos (attachment 1). 40 CFR Part 62, Subpart OOO indicates that surface emissions of methane should be below 500 ppm. Although I began the SEM with the TVA at 3:04 pm (data is logged every 2 seconds), the FLIR camera was not used until after the first reading above 500 ppm was noted (3:13 pm). Mr. Turco, with Mr. Terriquez's assistance, used the FLIR camera to examine the wells that were leaking methane above the threshold limit. We attempted to find the origin of landfill gas emission using the FLIR camera. We monitored for 30 minutes until the TVA batteries died (3:34 pm). We headed back to the conference area to conclude for the day letting Pheasant Point know that Mr. Terriquez and I would complete the surface emission monitoring the following morning and examine the evaporator and powerhouse too.

On the following morning December 29, 2021, Mr. Terriquez and I calibrated the TVA prior to arriving at the landfill. We arrived around 8:30 am where Mr. Grubaugh granted us access and we proceeded to finish conducting the surface monitoring. Mr. Terriquez used the TVA while I noted and flagged the areas which exceeded the 500 ppm threshold (Table 4). We started near the wells GW34 and 36R moving southeast along the incline then finished at the southwestern area near well 31 around 11:10 am. We did not bring the FLIR for use. When the monitoring was complete, we drove to see the evaporator. Mr. Alday met us there and explained the processes that occur there. We observed the operating temperature, pH level, and the by-products clean out pit. Once that was complete, we drove to the powerhouse where Mr. Grimm and Mr. Jackson answered our questions and described the way operations of the powerhouse are handled.

I conducted the closing conference and allowed Mr. Grubaugh the opportunity to sign the CBI form but he declined and gave me the information for the general manager so that he could electronically sign the form. Mr. Terriquez collected the existing gas collection system drawing (attachment 2) from Mr. Grubaugh. Mr. Grubaugh signed the receipt of documents form (attachment 3) before we departed the facility around 12:30 pm.

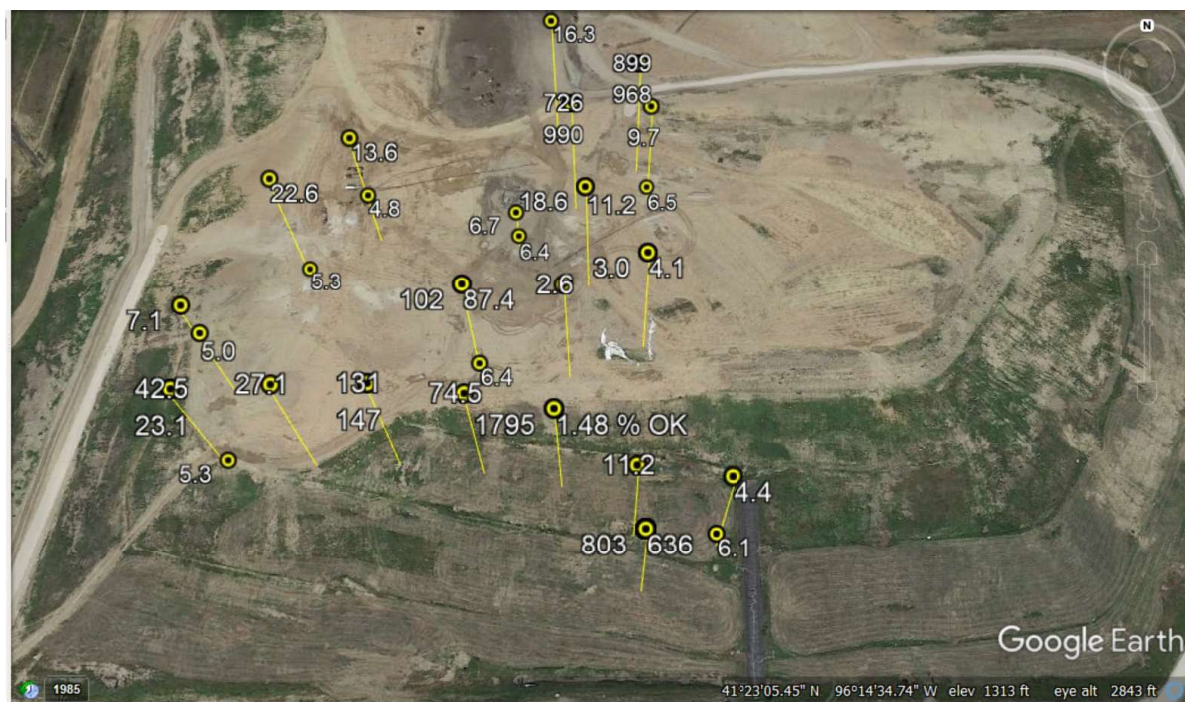


Figure 1. Landfill areas assessed with the Toxic Vapor Analyzer and the accompany TVA values in ppm

On January 3, 2022, I sent a follow-up email to Mr. Palmer, requesting information regarding the list provided below:

1. The facility's 2020 Surface Emission Monitoring report which should include all the GPS data if it was logged and the values if they were logged.
2. Copy of the facility's Annual Report.
3. Information on corrective actions for the locations noted as exceeding 500 ppm (where the EPA flags were left) along with the previous SEM events.
4. The facility's last 6 months (daily or monthly) flow data for the gas collection system. The data should include total from gas collection system and the flows to the generation station and the evaporator.
5. A copy of any root cause analysis conducted for any wells exceeding the Higher Operating Values.
6. Provide a description of how the facility complies with § 63.1960 (c)(5) which specifies regulations for cover integrity.
7. Describe and provide information for the 3-hour block average in § 63.1975. If this is included in the semi-annual report then just supply the semi-annual report.
8. Submit a current version of the gas collection and control design plan.

The facility submitted their responses via a shared folder on January 11, 2022. This information is under review by the EPA.

On February 8, 2022, I sent another follow up email to Mr. Palmer requesting information pertaining to the evaporator:

1. Does the facility have any information from the manufacture on the evaporate they can share with EPA; Design drawings, specifications, capacities, etc.
2. Why is there such a wide range of variability for the evaporator?
3. Can we get a copy of the stack test from evaporator? Or have you submitted this to NDEE already?

On February 25, 2022, the facility submitted their responses via email and uploaded necessary documents on the shared folder which is being reviewed by the EPA. Email correspondences are in attachment 4.

Measurement and/or Sampling Activities

The inspection team conducted field measurements via Method 21, as required by 40 CFR 62 Subpart OOO (attachment 5). Figure 2 shows the areas on the landfill that were measured throughout the inspection. **Table 4** summarizes field measurements that were above the 500 ppm threshold for methane.

All environmental measurement activities were performed in accordance with the EPA Region 7 quality system. The EPA team used the same TVA for all measurements noted in Table 4.

Table 4 summarizes field measurement activities; additional information can be found in the project file.

Table 4. FIELD MEASUREMENT ACTIVITIES			
Location Identifier	Date(s) and Time	Method and/or Procedure ¹ , and Equipment	Measurer Name
Flag 1/ Well GW 34	12/28/21 3:13 pm	Method: EPA Method 21: Determination of Methane Emission; 1,400 ppm Region 7 Procedure: <i>Toxic Vapor Analyzer (TVA)</i> Equipment: <u>Thermo Fisher Scientific TVA-2020 (TVA-2020) serial number 202019034113</u>	Avery Bowers
Flag 2/ Well GW 36R	12/28/21 3:13 pm	Method: EPA Method 21: Determination of Methane Emission; 1,053 ppm	Avery Bowers
Flag 1/ Well GW 34	12/29/21 9:31 am	Method: EPA Method 21: Determination of Methane Emission; 900 ppm	Joe Terriquez
Flag 2/ Well GW 36R	12/29/21 9:31 am	Method: EPA Method 21: Determination of Methane Emission; 700 ppm	Joe Terriquez
Flag 3/ Well EW 40	12/29/21 10:00 am	Method: EPA Method 21: Determination of Methane Emission; 700- 800 ppm	Joe Terriquez
Flag 4/ Well EW 23	12/29/21 10:17 am	Method: EPA Method 21: Determination of Methane Emission; 600-900 ppm	Joe Terriquez
Flag 5/ Well 15	12/29/21 10:22 am	Method: EPA Method 21: Determination of Methane Emission; 1% (10,000) ppm	Joe Terriquez
Flag 6/ Well 31	12/29/21 10:29 am	Method: EPA Method 21: Determination of Methane Emission; 1,000-1,500 ppm	Joe Terriquez
¹ The current version of each procedure, at the time of the investigation, was followed.			

Site conditions and activities were documented in field records, and field photographs are attached as **Appendix A**.

INVESTIGATION OBSERVATIONS

On December 28, 2021, the temperature on the landfill was approximately 23°F and continued to drop, with wind speeds between 20-25 mph and gusts up to 30 mph. On December 29, 2021, the temperature was approximately 11 °F with windspeed around 5-7 mph. The wind and gusts adversely affect the landfill gas diffusion rates. The facility appeared to be operating under normal conditions.

The EPA and NDEE inspection team made the following observations during the Full Compliance Evaluation inspection. Mr. Terriquez and I discussed all observations with facility representatives during the closeout meeting unless otherwise noted in the observation description.

These observations are not final compliance determinations. EPA Region 7 Air Branch case review team will make the final compliance determinations based on its review of this report and other technical, regulatory, and facility information.

Observation 1: Cover integrity issue.
Observation Summary: Mr. Terriquez and I observed and monitored an area that had been washed out and contained debris.
Citation: 40 CFR § 63.1960 (c)(5)
Evidence: Figure 3
Description of Observation: While doing the surface emission monitoring, Mr. Terriquez and I assessed an area that contained a washed-out that made coverage of the area difficult. Our monitoring of the washed- out area did not detect values above 500 ppm. We inquired about a flag that was near the location of the washed-out area. Mr. Boyd said that the flag was from a contractor who had previously conducted surface monitoring and noted it as a cover integrity issue. It was also noted that there was some exposed trash in the washed-out area. The Google Earth™ imagery in Figure 3 below indicates the location of the washed-out area which, based on the imagery date, has been there since March of 2021. The area varied in depth. At its deepest the washed-out area was approximately 3 ft. deep.



Figure 3. Washed out area

Observation 2: Methane emission levels above 500 ppm.
Observation Summary: While conducting surface emission monitoring of the landfill, I monitored values above 500 ppm.

Observation 2: Methane emission levels above 500 ppm.
Citation: <i>40 CFR § 63.1968</i>
Evidence: Table 4 and Attachment 5
Description of Observation: During the inspection we walked around the landfill with the TVA recording all the methane values.