



REGION 5

CHICAGO, IL 60604

MEMORANDUM

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
WM Earthmovers Landfill, Elkhart, IN

FROM: Emma Leeds, Environmental Engineer
AECAB (IL/IN)

Jacob Herbers, Environmental Engineer
AECAB (MI/WI)

THRU: Nathan Frank, Section Supervisor
AECAB (IL/IN)

TO: File

BASIC INFORMATION

Facility Name: Waste Management (WM) Earthmovers Landfill, Elkhart, IN

Facility Location: 26488 Co Rd 26, Elkhart, IN 46517

Date of Inspection: November 19, 2024

EPA Inspector(s):

1. Emma Leeds, Environmental Engineer
2. Jacob Herbers, Environmental Engineer

Other Attendees:

1. Brian Wigent, Environmental Manager – IDEM
2. Randy Russell, Indiana Gas Operations Manager – WM
3. Neal Carswell, Renewable Energy Plant Manager – WM

Contact Email Address: rrussell@wm.com; bcarswel@wm.com

Purpose of Inspection: To determine compliance with the Clean Air Act (CAA) and conduct surface emissions monitoring (SEM).

Facility Type: Municipal solid waste (MSW) landfill

Facility Name: WM Earthmovers Landfill
Facility Location: 26488 Co Rd 26, Elkhart, IN 46517
Date of Inspection: November 19, 2024

Regulations Central to Inspection: 40 C.F.R. Part 62 Subpart OOO – Federal Plan Requirements for Municipal Solid Waste Landfills; 40 C.F.R. Part 63 Subpart AAAA – National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Municipal Solid Waste Landfills.

Arrival Time: 11:40 EST

Departure Time: 2:40 EST

Inspection Type:

☒ Unannounced Inspection

OPENING CONFERENCE

- ☒ Presented Credentials
- ☒ Stated authority and purpose of inspection
- ☒ Small Business Resource Information Sheet not provided. Reason: not a small business
- ☒ Provided CBI warning to facility

Was any information collected during the inspection claimed as CBI?

☐ Yes ☒ No.

The following information was obtained verbally from WM personnel unless otherwise noted.

Process Description:

Earthmovers Landfill (“the Landfill” or “the Facility”) is an MSW landfill that began operating in 1976, stopped accepting waste in 2023, and finished installing final cover on the landfill in 2024. The landfill gas (LFG) collection system has approximately 100 interior gas extraction wells in total. Gas is primarily routed to the on-site gas-to-energy facility at the northwest corner of the property with six rotating internal combustion engines. The gas-to-energy facility is owned by Wabash Valley Power, and operated by WM. Excess gas is also sent to the open flare at the central northern edge of the property.

Staff Interview:

The entire landfill was under final cover at the time of the inspection. Within the previous year, several new remediation wells had been installed outside the waste boundary of the landfill to address gas migration detected at gas boundary probes, including RW-14 and RW-15 at the central northern edge of the landfill. These remediation wells are connected to the gas collection and control system (GCCS).

TOUR INFORMATION

EPA Toured the Facility: Yes

Data Collected and Observations:

The EPA performed SEM at the landfill using two Inficon IRwin devices (IRwin). The IRwin probe inlets were held 10 centimeters (cm) from the ground during SEM, with the probe inlet taped 10 cm from the bottom of the walking sticks on the IRwins. The EPA performed SEM at various locations along the

eastern and northern slope of the landfill at areas with distressed vegetation and at wellhead penetrations and did not find any exceedances of 500 parts per million (ppm) methane. The EPA also performed SEM in areas near boundary gas probes that had indicated gas migration within the past year, and around exterior gas remediation wells, and also did not find exceedances of 500 ppm in these areas. The EPA inspected the landfill's flare and detected a 1,926 ppm methane leak from a bolt on a flange at the GCCS blower discharge outlet, which routes gas directly to the flare (Images 10-11).

The EPA drove around all four slopes of the landfill to observe the cover integrity from the perimeter. No major cover integrity issues were observed.

The EPA inspected the gas-to-energy facility and observed at least two of the engines running and visible emissions from an exhaust point outside the gas-to-energy facility. Inside the facility, methane gas was leaking from components on the pipes leading to the engines, including from the flexible metal mesh pipes immediately before the engines (Images 20-21). The EPA inspectors took IRwin measurements of these leaks, as noted in Appendix B.

Photos and/or Videos: were taken during the inspection and are listed in Appendix A.

Field Measurements: were taken during this inspection and are listed in Appendix B.

The EPA inspectors performed surface emissions monitoring of methane emissions at the landfill, and leak monitoring at the gas control facilities using 2 IRwin devices.

CLOSING CONFERENCE

☒ Provided U.S. EPA point of contact to the facility.

Concerns: The EPA inspectors expressed concerns about landfill gas leaks from the gas-to-energy facility and the flare.

DIGITAL SIGNATURES

Report Author: Leeds,
Emma  Digitally signed by Leeds,
Emma
Date: 2025.01.03
14:01:28 -06'00'

Section Supervisor: NATHAN
FRANK  Digitally signed by
NATHAN FRANK
Date: 2025.01.03
15:42:33 -06'00'

Facility Name: WM Earthmovers Landfill
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APPENDICES

1. Appendix A: Digital Image Log and Digital Video Log
2. Appendix B: Field Measurement Data

APPENDIX A: DIGITAL IMAGE LOG

Inspector Names: Emma Leeds and Jacob Herbers | **Archival Record Location:** EPA Electronic Records

#	File Name	Date & Time (EST)	Description
1	PB190001.JPG	2024:11:19 12:24:41	Out-of-refuse remediation well RW-9
2	WIN_20241119_11_31_51_Pro.jpg	2024:11:19 12:31:52	Accidental
3	PB190002.JPG	2024:11:19 12:36:05	View of southern half of east slope of landfill
4	PB190003.JPG	2024:11:19 12:36:11	View of eastern half of south slope of landfill
5	WIN_20241119_12_10_30_Pro.jpg	2024:11:19 13:10:32	View of east slope of landfill, looking north
6	WIN_20241119_12_10_44_Pro.jpg	2024:11:19 13:10:44	View of east slope of landfill, looking south
7	WIN_20241119_12_12_54_Pro.jpg	2024:11:19 13:12:54	View of east slope of the landfill
8	PB190004.JPG	2024:11:19 13:30:30	New remediation wells installed within previous year: RW-14 (closest), RW-15, RW-13 (green), RW-12 (green), RW-11 (furthest back)
9	PB190005.JPG	2024:11:19 13:35:31	View of north slope of the landfill
10	WIN_20241119_13_42_27_Pro.jpg	2024:11:19 13:42:28	Flare blower discharge outlet where leak was observed
11	WIN_20241119_13_42_39_Pro.jpg	2024:11:19 13:42:39	Rusted bolt on flange at flare blower discharge outlet where leak was observed
12	PB190006.JPG	2024:11:19 13:44:42	Tall vegetation on north slope of landfill
13	PB190007.JPG	2024:11:19 13:49:11	Dense vegetation on the north slope of the landfill
14	PB190008.JPG	2024:11:19 14:06:20	View of southern portion of west slope of the landfill
15	PB190009.JPG	2024:11:19 14:07:16	View of northern portion of west slope side of the landfill
16	PB190010.JPG	2024:11:19 14:16:16	Engines (blurry/error)
17	PB190011.JPG	2024:11:19 14:16:19	Engines (blurry/error)
18	PB190012.JPG	2024:11:19 14:24:38	Engines (blurry/error)
19	PB190013.JPG	2024:11:19 14:34:57	Engines (blurry/error)
20	WIN_20241119_14_35_52_Pro.jpg	2024:11:19 14:35:53	Engines
21	WIN_20241119_14_35_56_Pro.jpg	2024:11:19 14:35:57	Engines

APPENDIX B: FIELD MEASUREMENT DATA

Irwin Monitoring Data

ID	IRwin reading (ppm CH ₄)	Description	Date/Time (EST)
1	1,924	Flare blower outlet HS1 pipe fitting	11/19/24, 1:39 PM
2	261	Engine #4 right flexible pipe	11/19/24, 2:27 PM
3	315	Engine #6 left flexible pipe	11/19/24, 2:32 PM
4	90	Engine #6 right flexible pipe	11/19/24, 2:33 PM

IRwin 1 (S/N: 92005482) Calibration at 11:23 EST

Measurement	Verification reading for 500 ppm gas	Response Time
#1	496	1
#2	497	3
#3	494	3

IRwin 2 (S/N: 92005974) Calibration at 11:22 EST

Measurement	Verification reading for 500 ppm gas	Response Time
#1	494	2
#2	495	1
#3	495	0

EPA Calibration Gases

Calibration gas	Lot no.	Expiration date
Zero air	230383	May 2027
Methane in air 523 ppm	304-4031015581	July 2028

Background Concentrations

Upwind	Downwind
0 ppm	0 ppm