UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

DATE: July 1, 2021

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
Southeast Berrien County Landfill, Niles, Michigan

FROM: Daniel Heins, Environmental Scientist
AECAB (IL/IN)

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

TO: File

BASIC INFORMATION

Facility Name: Southeast Berrien County Landfill (SEBCL)

Facility Location: 1540 Mayflower Road, Niles, MI 49120

Date of Inspection: Virtual Opening Conference: May 4, 2021
On Site Inspection: May 6, 2021
Closing Conference: May 6, 2021

EPA Inspector(s):
1. Daniel Heins, Environmental Scientist
2. Vicky Mei, Environmental Engineer
3. Emma Leeds, Environmental Engineer

Other Attendees:
1. Emily Stoler, Environmental Compliance Manager – SEBCL
2. Tyler Ganus, General Manager – SEBCL
3. Josh Eagleson, Senior Environmental Technician - SEBCL
4. Jeff Benya, Environmental Quality Analyst – Michigan Environment, Great Lakes, & Energy (EGLE)
5. Mike Kovalchick, Environmental Engineer – EGLE
6. Matt Deskins, Environmental Quality Analyst – EGLE

Contact Email Address: estoler@sebclandfill.com

Purpose of Inspection: Clean Air Act compliance

Facility Type: Muncipal solid waste (MSW) landfill

Regulations Central to Inspection: 40 C.F.R. Part 60, Subpart WWW; 40 C.F.R. Part 63, Subpart AAAA, Title V Permit Requirements

Virtual Conference (5/4) Start Time: 14:00
Virtual Conference (5/4) End Time: 15:30
On Site (5/6) Arrival Time: 9:30
On Site (5/6) Departure Time: 13:00

Inspection Type:

☐ Unannounced Inspection
☒ Announced Inspection

<u>OPENING CONFERENCE</u>

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

The following information was obtained verbally from SEBC representatives.

Process Description:
The Southeast Berrien County Landfill (the Landfill) is a 160-acre municipal solid waste landfill that opened in 1972. The Landfill is owned by five municipalities and has 20 employees. The Landfill accepts up to about 900 tons of waste per day, consisting of approximately 80% MSW, with the rest including a mix of construction and demolition waste, sludges, and industrial waste. The Landfill is currently in phase 6, with an expected 13 years remaining in its lifespan. If a phase 7 expansion is approved, another 20 years would be added. There is final cover on phases 2, 3, and parts of 4 and 5. Leachate is actively collected, pretreated for ammonia, and flows to the Buchanan Publicly Owned Treatment Works. There are approximately 105 gas wells, both vertical and horizontal. After collection, landfill gas (LFG) is sent to a gas to energy plant with three Caterpillar 3520 landfill gas engines, managed by North American Natural Resources. LFG can also be flared by an open Zink flare, which only occasionally runs.

Staff Interview: To address watered-in wells, the Landfill has added dewatering pumps to 26 wells since the 2019 US EPA inspection. This resulted in an improvement in gas collection, but there have not been any re-measurements of water levels since pump installation.

Surface emissions monitoring (SEM) is conducted in-house by a technician at the Landfill using an SEM5000 Portable Methane Detector. SEM surveys include monitoring at cover penetrations.

TOUR INFORMATION

EPA Tour of the Facility: Yes

Data Collected and Observations:
EPA and EGLE conducted a limited SEM survey of the facility. EPA made observations with a Forward Looking Infrared (FLIR) camera. Gas leakage was in some locations visible on the FLIR camera, and a total of 22 points were found to have surface methane concentrations in excess of 500 parts per million (ppm). Distressed vegetation, exposed waste, and an animal burrow were observed.

Photos and/or Videos: were taken during the inspection.

Field Measurements: were taken during this inspection.

RECORDS REVIEW

Requested and reviewed prior to inspection:

- Cover integrity reports, from September 2019 to present
- PDF of the most current depiction/map of their gas collection and control system(GCCS)
- Map depiction of where their current working active face is located
- Current New Source Performance Standard (NSPS) SubpartWWW Landfill GCCS Design Plan
- NSPS SEM reports (including any follow-up monitoring) from 4th Quarter 2019 to present with all associated recorded data
- Most recent depth to water measurements for each well with percent of perforation available, in a spreadsheet format
- Wellhead parameters monitoring (in spreadsheet format), including records for correction of any exceedances, from September 2019 to present
- Control device parameter monitoring (e.g. temperature and LFG flow to flare) in a spreadsheet format, from September 2019 to present
- List of any wells installed from September 2019 to present with reason for installation
- Waste accepted by category over the past year, in a spreadsheet format if available
- Any performance tests for any control devices on site conducted from September 2019 to present, including but not limited to flares and any gas-to-energy engines/turbines (if not already available via https://www.deq.state.mi.us/aps/downloads/SRN/N5432/)
- Any gas sampling test reports (such as for HAP or for sulfur) from September 2019 to present
- All submitted semi-annual reports from September 2019 to present

CLOSING CONFERENCE

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

Requested documents:

- Leachate collection system map
- Dewatering pump preventative maintenance procedure
- Gas generation data
- SOP for cover integrity
- Leachate generation/collection data from September 2019 to present
- Missing SEM report from prior EPA Section 114 Information Request (2018 Q4)
- Documentation of exceedance correction and re-monitoring for SEM hits detected by EPA and EGLE

Compliance Assistance: EPA and EGLE answered questions about SEM procedure and provided recommendations on more effective methods to address LFG leaks at penetrations.

DIGITAL SIGNATURES

DANIEL HEINS Digitally signed by DANIEL HEINS Date: 2021.07.01 08:39:07 -05'00'

Daniel Heins, Report Author

ETHAN CHATFIELD Digitally signed by ETHAN CHATFIELD Date: 2021.07.02 07:36:50 -05'00'

Nathan Frank, Section Chief (IL/IN)

APPENDICES AND ATTACHMENTS

Appendix A: Digital Image Log

Appendix B: Field Measurement Data

Facility Name: Southeast Berrien County Landfill
Facility Location: 1540 Mayflower Road, Niles, MI 49120
Date of Inspection: May 4 & 6, 2021

APPENDIX A: DIGITAL IMAGE LOG

1. **Inspector Name:** Vicky Mei	2. **Archival Record Location:** ERC - Enf_SoutheastBerrienLandfill_MI_21

Image Number	File Name	Date/Time (Eastern)	Description of Image
1	IMG_0305.JPG	2021-05-06 11:14	EPA hit #1 (distressed vegetation)
2	IMG_0306.JPG	2021-05-06 11:38	EPA hit #2 (DW50, exposed waste)
3	IMG_0307.JPG	2021-05-06 11:44	EPA hit #3 (exposed waste)
4	IMG_0308.JPG	2021-05-06 11:45	EPA hit #3 (exposed waste)
5	IMG_0309.JPG	2021-05-06 11:59	EPA hit #4 (exposed waste)
6	IMG_0310.JPG	2021-05-06 11:59	EPA hit #4 (exposed waste)
7	IMG_0311.JPG	2021-05-06 12:05	EPA hit #5 (animal burrow, exposed waste)
8	IMG_0312.JPG	2021-05-06 12:06	EPA hit #5 (animal burrow, exposed waste)
9	MOV_2550.mp4	2021-05-06 11:32	FLIR video of gas leak adjacent to DW50 (EPA hit #2)
10	MOV_2552.mp4	2021-05-06 11:36	FLIR video of gas leak at DW50 (EPA hit #2)

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APPENDIX B: FIELD MEASUREMENT DATA

Exceedances detected by EPA

ID	Description	Latitude	Longitude	A56584 Methane Reading (ppm)	A56575 Methane Reading (ppm)
EPA 1	East of FPW33, distressed vegetation	41.811600°	-86.333213°	707	508
EPA 2	DW50, within pit surrounding dewatering well	41.810510°	-86.333609°	4000	1450
EPA 3	West of DW-45	41.810089°	-86.333513°	1000	900
EPA 4	East of DW-22	41.809918°	-86.334126°	977	780
EPA 5	South of DW-23 (animal burrow)	41.810096°	-86.334217°	1050	750

Exceedances detected by EGLE:

ID	Description	Latitude	Longitude	Methane Reading (ppm)
AQD 1	Secondary-4C	41.812248	-86.3333015	1487
AQD 2	Secondary riser-3B	41.81226683	-86.3332015	892
AQD 3	Leachate clean out-4C	41.8121135	-86.33289217	2671
AQD 4	4C P-Trap	41.81214883	-86.3326615	1422
AQD 5	GW-IOH3 (Watered in well)	41.8121195	-86.33234533	1459
AQD 6	GW-30	41.81145117	-86.33197883	145,226
AQD 7	GW-51	41.81173017	-86.33160767	662
AQD 8	GW-52 (Cracks noted in ground around wellhead.)	41.81208617	-86.33129817	9128
AQD 9	HGP-6	41.8118795	-86.33048483	3385
AQD 10	HGP-8	41.810917	-86.33015233	2276
AQD 11	HGP-9 (Watered in horizontal well.)	41.81043667	-86.3301175	1578
AQD 12	HGP-10	41.80996783	-86.33017017	20,735
AQD 13	GW-38	41.808744	-86.33123783	1780
AQD 14	GW-46	41.80965733	-86.3327785	854
AQD 15	Forced main marker between GW-45 and GW-46	41.80975583	-86.33287033	36,634
AQD 16	Forced main marker between GW-45 and GW-46	41.80986733	-86.33293567	3393
AQD 17	GW-45	41.81001883	-86.33300317	5578

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EPA Calibration Data

TVA calibration at 10:00AM.

	TVA #A56584		TVA #A56575	
	Methane Reading (ppm)	Response Time (s)	Methane Reading (ppm)	Response Time (s)
# 1	480	4.4	486	5.2
# 2	487	4.4	487	4.6
# 3	487	4.7	487	4.5

Calibration gases provided by SEBCL.

- Air, zero grade, THC < 1 ppm, expiration 09/2021
- Methane 500 ppm, expiration 09/2021

Bump check with 500 ppm calibration gas at 12:45 PM.

	TVA #A56584 Methane Reading (ppm)	TVA #A56575 Methane Reading (ppm)
# 1	530	481
# 2	529	483
# 3	530	487

The upwind reading was 3 ppm, and the downwind was 9 ppm. These readings were taken by EGLE.