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

DATE:	See date of Section Chief signature
SUBJECT:	CLEAN AIR ACT INSPECTION REPORT Waste Management Deer Track Park Landfill, Watertown, WI
FROM:	Daniel Heins, Environmental Scientist AECAB (IL/IN)
THRU:	Nathan Frank, Section Chief AECAB (IL/IN)
TO:	File

BASIC INFORMATION

Facility Name: Waste Management Deer Track Park Landfill, Watertown, WI

Facility Location: N6756 Waldmann Lane, Watertown, WI 53094

Date of Inspection: On Site Inspection: June 21, 2021
Virtual Conferences: June 22, 2021

EPA Inspector(s):

1. Daniel Heins, Environmental Scientist
2. Vicky Mei, Environmental Engineer
3. Joshua Hufferd, Environmental Engineer
4. Brianna Fenzl, Environmental Engineer
5. Brittany Cobb, Environmental Engineer (virtual conference only)

Other Attendees:

1. Dan Leclair, Environmental Engineer – Waste Management (WM)
2. Joe Hackbarth, District Manager – WM
3. Kyle Kneser, Area Gas Operations Manager – WM
4. Jeff Krall, Area Gas Operations Manager – WM
5. Kyle Badtke, Gas Operations Supervisor – WM
6. Khaled Mahmood, Consultant – Tetra Tech
7. Tami Sands, Consultant – Tetra Tech

Contact Email Address: dleclaire1@wm.com

Purpose of Inspection: To determine Clean Air Act (CAA) compliance and perform a comparative Surface Emissions Monitoring (SEM) survey

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

On Site (6/21) Arrival Time: 10:45
On Site (6/21) Departure Time: 16:30
Virtual Conference (6/22) Start Time: 10:00
Virtual Conference (6/22) End Time: 12:00

Inspection Type:
☐ Unannounced Inspection
☒ Announced Inspection

OPENING CONFERENCE

☒ 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 Waste Management representatives.

Process Description:
Deer Track Park Landfill ("the Landfill") is an MSW landfill that has operated since the 1970s. The whole landfill is lined, as the old waste was flipped onto an installed post-Resource Conservation and Recovery Act (RCRA) Subtitle D liner. The Landfill's planned footprint is approximately 112 acres, with 14 acres pending waste. Presently, 64 acres are capped and under final cover, largely covering the northeast lobe of the site. The Landfill receives 700 to 800 tons of waste per day, which is placed on the southwest face of the site. Approximately 61% of the waste is MSW, 28% alternate daily cover (ADC), and the rest split between sludge, construction & demolition waste, and any other special wastes. ADC includes shredder fluff and contaminated soils. If the contaminated soils are laden with volatile organic compounds (VOC), they are passively treated by adding fertilizer and allowing microbial breakdown. WM tests these soils to confirm when they reach a low enough organic content to use as cover. The Landfill does accept asbestos waste. The design capacity is 12.8 million cubic yards, including the ADC. The expected remaining lifespan is 10-15 years, pending the projections from the collections from the former Advanced Disposal Services fleet now that it has been acquired by WM. No expansion is currently planned.

Leachate is collected above the liner with pipes/sumps, which go to tanks for storage. In 2020, the site produced 8.5 million gallons. There are several tanks on site for storing leachate, from 25,000 to 30,000 gallons. Leachate is sent to neighboring publicly owned treatment works (POTWs), primarily the Atkinson POTW. The Landfill checks liquid levels in wells annually. If a well is more than 50% obstructed, the Landfill will determine if the well needs a pump. Basis for evaluation includes determination if the well is vacuum limited, surface emissions monitoring hits, and gas quality. Presently, 13 wells have operating pumps, and there are additional wells with stuck non-operational pumps. There is no set standard to determine if a well must have a dewatering pump added. Pumps are checked on a monthly basis to determine if they are functioning. If not, they may be flagged for cleaning or replacing. To determine if a broken or obstructed well needs replacing, the Landfill uses the same criteria as for determining if a pump is needed.

The Landfill has 72 vertical wells, 16 horizontal wells, and 11 cleanout risers. Currently, the Landfill installs horizontal wells into areas of waste placement every 30 to 40 feet, instead of the previous practice of installing vertical wells and extending them. When the area reaches final grade, the Landfill then installs vertical wells. Pending gas quality and collection efficiency, the horizontal wells may be either retired or kept in service. Collected landfill gas (LFG) is primarily routed to a gas to energy plant with eight Caterpillar engines. The landfill also has a candlestick flare as a backup control.

Staff Interview:
The Landfill has only just started testing total sulfur content of their LFG as per their upcoming permit renewal, and has not seen sulfur content issues. They test the engines every five years for formaldehyde emissions.

Gas generation has been declining, so the Landfill typically is only running six of their eight engines. In 2020, the candlestick flare operated for approximately six hours. The gas blower was installed in the range of 2005 to 2007.

The Landfill does not have any formal odor monitoring program, just informal response to complaints if they happen.

Cover integrity monitoring is conducted by wellfield technicians. Issues are recorded, and corrective actions determined. Corrective actions may be delayed due to safety or weather concerns.

For surface emissions monitoring (SEM), the closed section of the landfill is only monitored on an annual basis (with Wisconsin Department of Natural Resources approval), after having demonstrated a lack of SEM exceedances over at least four consecutive quarters. Until first quarter of 2021, SEM was conducted in-house with an RKI Eagle 2. The site began monitoring penetrations 5 or 6 years ago. Starting in the second quarter of 2021, the Landfill started using Sniffer Robotics to conduct monitoring using the consultant's ground crews with a Elkins Earthworks device. They do not use Sniffer's drone package.

TOUR INFORMATION

EPA Tour of the Facility: Yes

Data Collected and Observations:
EPA conducted comparative surface emissions monitoring on the landfill. EPA found 18 points in exceedance of 500 ppm, particularly concentrated along the slope directly above the haul road. EPA observed distressed vegetation and strong odors of landfill gas. Exceedances were found both at wellheads and on the general surface of the landfill. EPA observed bentonite seals having dried out and pulled away from penetration points, resulting in leaking gas.

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

Field Measurements: were taken during this inspection. See Appendix B.

RECORDS REVIEW

Requested and reviewed prior to inspection:

- Current map of the GCCS
- Current map of showing final cover, intermediate cover, and working face of the landfill
- Current map of the leachate collection system
- 2 years of SEM reports, with all associated recorded data and documentation of correction of exceedances
- 4 most recent semi-annual reports
- Past year of depth to water measurements for each well with percent of perforation in operation, in a spreadsheet format (most recent data if not monitored in past year)
- Most recent 12 months of cover integrity reports
- Past year of wellhead parameters monitoring (in spreadsheet format), including records for correction of any exceedances

CLOSING CONFERENCE

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

Requested documents:

- Past 5 years of SEM reports & semi-annual reports
    - Aside from previously received reports
- Current GCCS design plan
- Most recent performance test for the turbines
- Past year of control device parameter monitoring (e.g. temperature and LFG flow to flare), in a spreadsheet format

- Waste accepted by category over the past year, in a spreadsheet format
- Most recent sulfur test results
- Years of install and make/model for the engines, flare, and blowers
- Water level/pumps SOP
- Past year of pump maintenance/cycle records
- DNR approval of annual SEM monitoring for the closed section
- SOP on liquid addition/recirculation/'softs'
- Past 5 years annual waste reports
- Documentation of correction and re-monitoring to the exceedances EPA detected
- 2021 Second Quarter SEM report

DIGITAL SIGNATURES

DANIEL HEINS

Digitally signed by DANIEL HEINS
Date: 2021.08.19 17:18:11 -05'00'

Daniel Heins, Report Author

NATHAN FRANK

Digitally signed by NATHAN FRANK
Date: 2021.08.20 15:14:50 -05'00'

Nathan Frank, Section Chief (IL/IN)

APPENDICES AND ATTACHMENTS

Appendix A: Digital Image Log

Appendix B: Field Measurement Data, Including Maps

Facility Name: Deer Track Park Landfill
Facility Location: N6756 Waldmann Lane, Watertown, WI 53094
Date of Inspection: June 21 & 22, 2021

APPENDIX A: DIGITAL IMAGE LOG

1. **Inspector Name:** Daniel Heins & Vicky Mei	2. **Archival Record Location:** ERC - Enf_DeerTrackWM__WI_InspRep

Image Number	File Name	Date/Time (Central)	Description of Image
A1	IMG_0001.jpg	15:45	Exceedance location at uphill of haul road, on path to LRT 14.
B20	IMG_0324.jpg	14:41	Exceedance upslope from fill area road by fence, dead veg
B21	IMG_0325.jpg	14:53	Exceedance in trench by road
B22	IMG_0326.jpg	14:56	Exceedance in trench by road
B23	IMG_0327.jpg	14:59	Exceedance in trench by road
B24	IMG_0328.jpg	15:08	Exceedance in trench by road
B25	IMG_0329.jpg	15:10	Exceedance in trench by road
B26	IMG_0330.jpg	15:12	Exceedance in trench by road
B27	IMG_0331.jpg	15:18	Exceedance by GW-57
B28	IMG_0332.jpg	15:25	Exceedance by pile of dirt

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APPENDIX B: FIELD MEASUREMENT DATA

Latitude	Longitude	Location Description & Notes	#A56575	#A56584	WM Reading	Confirmed Initials	Pic #
43.090383	-88.745029	Haul road, east of bio pile	800	800	260	SH	
43.090543	-88.744781	Well 56 (in between vacuum lines), dry bentonite	1400			WH	
43.090464	-88.746248	Uphill of haul road, on path to LRT 14 (distressed vegetation)	2600	600		KB	A1
43.090834	-88.744079	Well 54	1400	898		KK	
43.091754	-88.744717	150' upslope GW50		600		SH	
43.09141	-88.745677	GW52 (had flag from prior week's survey)		700		KK	
43.090996	-88.745689	Bio pile - oil contaminated soils	800	550		KB	
43.090109	-88.744353	GW55		8000	8000	KK, SH	
43.089845	-88.744117	Cleanout 49		6000	2200	SH, KK	
43.090857	-88.747136	150' upslope from fill area road by fence, dead veg	900	600		SH	B20
43.090843	-88.747454	Dead veg, trench by road by fill area	2400	1000		SH	B21
43.09074	-88.74714	Trench by fill road	1100		800	KK, KB	B22
43.090799	-88.747289	Trench by fill road	600	1500		KK	B23
43.090335	-88.746179	Trench	700	700		DL	B24
43.090312	-88.746079	Trench	1100	1000		JH	B25
43.09025	-88.74593	Trench	800			KB	B26
43.090276	-88.745756	By GW 57	1000		810	KB	B27
43.090788	-88.745095	Pile of dirt	1400	1200		KB	B28

Calibration and Instrument Information

EPA used two ThermoFisher Toxic Vapor Analyzer (TVA) 2020 instruments to conduct Method 21.

	TVA #A56575		TVA #A56584	
	Methane Reading (ppm)	Response Time (s)	Methane Reading (ppm)	Response Time (s)
# 1	498	4.82	498	4.89
# 2	495	4.45	497	4.00
# 3	497	5.09	497	4.47

EPA calibration gases:

- Air, zero grade, THC < 1 ppm, expiration 05/2026
- Methane 500 ppm in air, expiration 05/2025

The downwind background concentration was recorded at 3.8 ppm.

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Map of Detected Hits
SEM hit locations plotted over satellite imagery from April 1, 2021 as depicted on Google Earth.