



GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
WARREN DISTRICT OFFICE



PHILLIP D. ROOS
DIRECTOR

January 16, 2024

VIA EMAIL

Matt Williams, Environmental Director
County of Saint Clair
6779 Smiths Creek Road
Smiths Creek, Michigan 48047

Dear Matt Williams:

SUBJECT: Violation Notice; Smiths Creek Landfill; St. Clair County
Fiscal Year 2024, First Quarter Part 115 Inspection
Waste Data System Number: 452546

On December 1, 2023, the staff of the Department of Environment, Great Lakes, and Energy (EGLE), Materials Management Division (MMD), conducted an inspection of the Smiths Creek Landfill (Facility) located at 6779 Smiths Creek Road, Kimball, Michigan. This inspection was performed to evaluate compliance of the Facility with Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, MCL 324.11501 et seq., as amended, and the administrative rules promulgated thereunder (Part 115).

Based on the above referenced inspection and subsequent document review pertaining to third and fourth quarter 2023 violations, MMD staff determined that the Facility remains in violation of provisions of the Part 115 Administrative Rules.

Violations pertaining to the third quarter 2023 inspection that remain open are the following:

1. R 299.4448(2)(d) which states, "The owner and operator shall close each type II landfill unit in a manner that minimizes all of the following: (d) The post-closure formation and release of leachate and explosive gases to air, groundwater, or surface water to the extent necessary to protect human health and the environment."

On June 28, 2023, MMD staff observed landfill gas escaping the final cover of the certified closed area of the Facility in areas where there was no vegetation and standing liquid was present. The gas could be seen bubbling up from the final cover through the standing liquid at multiple locations. Environmental Information Logistics, L.L.C. (EIL) was contracted by the Facility to conduct a routine surface emission screening (SEM) event for the active, closed, and interim cover areas of the Facility on August 1 and 2, 2023. No detectable methane was identified in the certified closed area during this SEM event. Due to the lack of detectable methane during the SEM and review of the solar flare runtime data, it was suggested by the Facility that the gases escaping the certified closed area final cover indicate methane oxidation through the soil final cover and an increasing proportion of carbon dioxide in the landfill gas.

On October 18, 2023, the Air Quality Division (AQD) conducted an abbreviated SEM inspection covering the Facility's active, closed, and interim cover areas. Several locations within the certified closed area of the landfill had surface methane concentrations greater than 500 ppm above the background. The results of the AQD SEM event suggest that the portions of the certified closed area final cover may be inadequate, and/or the passive gas collection system may not be operating as designed. Additional evaluations are necessary to ensure that the final cover and passive venting system are operating effectively to prevent fugitive emissions of landfill gas.

2. R 299.4425(7) which states, "To prevent the ponding of water on completed fill surfaces, the grading contours shall be sufficient to prevent the development of local depressions due to postconstruction settlement."

Ponding liquid was observed at multiple locations throughout the certified closed area of the Facility. These topographic low areas throughout the certified closed area require attention to prevent erosion and water infiltration. An annual flyover was scheduled for August 2023 to create a topographic survey of the certified closed area final cap surface to prepare localized grading adjustments to improve water flow from the final cap. The data from the survey was scheduled to be prepared in August 2023, with localized re-grading occurring in September/October 2023. Documentation of the completion of re-grading activities must be submitted to MMD for review.

3. R 299.4425(9) which states, "All final covered areas shall be stabilized using appropriate shallow-rooted vegetation for the soil type, slope, and moisture conditions present. Seed and mulch rates shall, at a minimum, be consistent with recommendations contained in the United States department of agriculture document entitled "Natural Resources Conservation Service Critical Area Planting Guide." The natural resources conservation service critical area planting guide is adopted by reference in R 299.4141."

Several areas without vegetation were observed throughout the certified closed area of the Facility. Re-vegetation was scheduled to occur in October 2023 after topographic low areas of the final cap were re-graded. These areas require seeding to establish vegetation that will minimize erosion of the final cover and water infiltration into the fill. Documentation of the completion of seeding activities must be submitted to MMD for review.

4. R 299.4448(2)(b) which states, "The owner and operator shall close each type II landfill unit in a manner that minimizes all of the following: (b) erosion."

Severe erosion of the final cover was observed in multiple areas of the certified closed area of the Facility. Inspection of these eroded areas resulted in exposed waste being observed. Re-grading of the gas collection and control system header also disturbed the final cap of the certified closed area. *These areas of the clay cap need to be repaired, and certification documentation that the final cover meets the requirements of Part 115 needs to be provided.*

Please submit a comprehensive plan and schedule that addresses the above violations. The plan should address the topographic survey data, re-grading, final cap repairs and certification, seeding, and an SEM survey once correction actions have been completed.

Violations pertaining to the fourth quarter 2023 inspection that remain open are the following:

1. R 299.4433(c) which states, "The gases generated by the facility do not create a nuisance and are not otherwise in violation of part 55 of the act at the property boundary."

The AQD and MMD continue to receive complaints from residents in the vicinity of the Facility. The complaints have ranged from smelling intermittent, objectionable odors to severely bad odors that impacted residents' ability to enjoy their property. The staff of AQD and MMD have performed several odor inspections in the areas of the numerous complainants' homes and have noted landfill gas odor of various intensities at different times of the day. It has been determined that the Facility's gas collection and control system has deficiencies that need to be adequately addressed to prevent the release of excessive landfill gas odors that migrate into the adjacent residents' community.

2. Section 11511(b)(5)(c)(iv) states that a Research, Development, and Demonstration Project (RDDP) must have "An active gas collection and control system. The system shall be of adequate size for the anticipated size for the anticipated methane production rates and to control odors. The system must be operational before the addition of any material to accelerate or enhance biostabilization of the solid waste."

The MMD has reviewed the gas collection and control system as-built information and has raised concerns that the main gas header, providing vacuum from the gas-to-energy plant and primary flair station, may be undersized for the current gas generation of the landfill. In addition, the current location of the main gas header within the waste mass subjects it to settlement forces which are detrimental to its effective, long-term operation. Currently, the temporary flare/blower is providing additional vacuum to Cell 8. The interceptor trench collector has been installed, but minimal vacuum has been applied to the collector due to high oxygen and balance gas concentrations.

A plan that addresses additional clay cover or, more preferably, the use of a flexible membrane cover over the interceptor trench collector is required. The plan should include a timeline for when the interceptor trench collector is expected to be fully functional and an evaluation of the potential area of influence under varying vacuum conditions. The plan should also describe the nature and extent of (enhanced) interim cover intended to be placed in the area of the interceptor trench to maximize its short-term effectiveness. For examples, to what distance upslope from the toe of slope will interim cover be placed to prevent air intrusion to the interceptor trench in an effort to increase its potential influence; for soil interim cover, what soil types are being used, how are they being compacted, what is the target thickness; what efforts have been undertaken to evaluate/pursue the use of a flexible membrane liner for enhanced interim cover over the interceptor trench.

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The Facility has stated that a complete design and operational review is underway by EIL. This review is expected to focus on the sizing of the header lines, expected gas production rate, density and sizing of the lateral extraction lines, system and available vacuum, collection capacity, location of the future header system, and other design improvements that will be necessary to meet recent Part 115 requirements and rectify off-site odor nuisances. A comprehensive assessment of the lateral collector's potential for settlement or liquid intrusion is also ongoing. A timeframe for completion of these evaluations and any proposed corrective measures resulting from these evaluations has not yet been provided.

Please submit a response to this Violation Notice by February 6, 2024. The response should include a timeframe for the completion of the gas collection and control system design and operational review by EIL, a timeframe for the completion of the lateral collector comprehensive assessment, a plan that addresses the violations pertaining to the certified closed area, a plan for bringing the Cell 8 interceptor trench collector to full functionality, and an updated wellfield vacuum analysis. A copy of the MMD inspection report highlighting key observations has been enclosed with this letter for your reference.

Should you require further information regarding the matters discussed in this letter, please contact me at 586-942-1910 or by email at DarlingA5@Michigan.gov.

Sincerely,



Aaron P. Darling, Geologist
Warren District Office
Materials Management Division

Enclosure

cc/enc: David Richmond, St. Clair County Health Department
Mary Carnagie, EGLE
Joyce Zhu, EGLE
Greg Morrow, EGLE
Carolyn Parker, EGLE
Iranna Konanahalli, EGLE

Michigan Department of Environment, Great Lakes, and Energy
Materials Management Division
Part 115 - Landfill Evaluation Report

Name of Facility SMITHS CREEK LANDFILL			Facility Number 452546		License # and Expiration Date 9561 6/20/2024	
Facility Address 6779 SMITHS CREEK RD, KIMBALL, MI 48074			Facility Contact : Name -- Phone Number MATT WILLIAMS 810-989-6979			
LEGEND: (C) = Compliance (V) = Violation (NE) = Not Evaluated (*) = See Note (--) = Does not Apply						
General Operations				Leachate / Stormwater Mangement		
C	A.	Miscellaneous Operational Issues		C	J.	Surface Water Discharge
C	B.	Blowing Debris, Dust, Odor & Vector Control		C	K.	Protection of Surface Waters
*	C.	Gas Monitoring & Migration		C	L.	Leachate Control / Mangement
No	D.	Are there any exceedances of the LEL?		NE	M.	Leachate Volume / Head Records
Prohibited Waste Restrictions				--	N.	Secondary Volume / ARF / RFR Records
				Daily / Interim / Final Cover		
				C	O.	Adequacy of Daily Cover
C	E.	Hazardous Waste / Liquids / Yard Waste / Other Materials Prohibited for Disposal		Yes	P.	Are Alternate Daily Cover Materials Used?
C	F.	Random / Suspicious Load Records		Yes	Q.	Is the Use in Compliance with Approved Plan?
NE	G.	Load Inspection During Evaluation		C	R.	Period and Adequacy of Interim Cover
0	# of Loads Inspected	0	yds. Volume of Loads	Yes	S.	Are all lifts exposed for 90 days covered with interim cover?
Permit and License Compliance				*	T.	Completion of Area / Final Cover
*	H.	Operations Conform to Permit, License, Order Conditions & Construction Certifications				
*	I.	Operations Conform to Approved Hydrogeo, Monitoring, Engineering and Operational Plans				
REMARKS:						
C, H, I, T : Violations pertaining to third and fourth quarter 2023 inspections remain open.						
Additional Notes:						
– Cell 8 interceptor trench collector is anticipated to be completed by 12/15/23.						
– Sniffer Robotics SEM to occur in early January after the completion of the Cell 8 interceptor trench collector.						
– 4 gas meters of crew constructing Cell 8 interceptor trench collector have not alarmed while working on project.						
– Bottom fill of Cell 7 is construction and demolition waste.						
– Interim cover of Cell 8 has been increased in order to help mitigate off-site H2S odors.						
– Temporary flare flow at time of inspection: 411 scfm.						
– 15 inches of water column at Cell 8 GCCS manifold at time of inspection.						
Person Interviewed MATT WILLIAMS, TRAVIS HESLOP			Date of Inspection 12/1/2023		Time of Inspection 10:00 AM	
Inspected By AARON DARLING, GREG MORROW			Representing EGLE - MMD			

DEFINITIONS

- A. The landfill shall control public access and shall supervise the unloading of all solid waste. [Rule 315(3&4), 427, 430(1)]
On-site roads shall be constructed and operated to allow unrestricted traffic flow and prevent fugitive dust nuisance. [Rule 315(5&10), 426(5)] The burning of solid waste is prohibited (certain exceptions). The burning is to be in designated areas only and with the permission of the Solid Waste Control Agency. Suitable measures shall be available to extinguish accidental fires. [Rule 315(9), 434(2&3)] The facility shall maintain adequate equipment to operate the landfill. [Rule 315(1), 426(1)] Landfill operation shall not result in excessive or objectionable noise. [Rule 315(14), 431] The facility may separate recyclable materials. The operation must be consistent with the requirements for processing plants. The salvaging must not interfere with waste disposal. Scavenging is prohibited. [Rule 315(11), 428] (For Type III) Facilities that do not contain liners in compliance with Rule 307 shall test representative samples of waste on an annual basis and submit the results of those tests to the director. [Rule 311]
- B. The facility shall take measures to control dust, blowing litter, odors, and disease vectors. The entire area shall be kept clean and orderly. [Rule 315(5&12), 426(3), 429(9)]
- C. The facility shall ensure that the concentration of methane gas is not > 25% of the Lower Explosive Limit (LEL) in structures and the leachate collection system. The concentration of methane shall not be more than the LEL at the property boundaries and gases shall not create a nuisance or a violation of Part 55. The facility must implement a routine methane monitoring program. [Rule 315(5) 433(1-3)]
- D. In the facility operating record are monitoring results indicative of the compliance since the last inspection date. [YES / NO]
- E. The facility shall supervise the unloading of all waste and not accept regulated hazardous waste, PCB's, bulk liquid waste, liquid waste containers, sewage, materials that would adversely effect the liner, asbestos waste (unless approved), empty drums, lead acid batteries, or more than a deminimus quantity of whole tires, beverage containers or yard wastes as specified in Part 115. [Rule 315(4&8), 430(1&2)]
- F. In the facility operating record, are records of random/suspicious load inspections available since the last inspection? Do those records demonstrate compliance?
- G. During the inspection document the number of loads inspected, quantity of waste inspected, and compliance status.
- H. Landfill operations must conform to conditions in the construction permit and operating license and comply with final orders and compliance plans contained in final orders.
- I. The landfill must be operated in accordance with previously approved hydrogeologic, engineering, and operational plans. [Rule 904, 905, 906, 907, 910, 911]
- J. The active work area must be sloped, graded, and provided with drainage facilities to prevent the collection of standing water. A surface water monitoring plan must be implemented for any water that may receive runoff from the active face. [Rule 315(13), 426(6), 436(2)]
- K. The facility shall not discharge pollutants into waters of the United States in violation of Part 31 or NPDES permit. [Rule 306(2), 436(1)]
- L. The facility shall remove leachate to ensure that the leachate head is not more than 1' on the liner (excluding the collection sump), remove liquids from the secondary collection system to minimize head on the liner, and inspect the system to assure proper operation. The leachate must be disposed of in compliance with Part 31. [Rule 308, 315(16&17), 432]
- M. In the facility operating record, are leachate volume available since the last inspection. Do those records demonstrate compliance?
- N. In the facility operating record, are secondary collection volumes and flow rates available since the last inspection. Do those records demonstrate compliance?
- O. At least 6" of earthen daily cover must be placed at the end of each operating day. If alternative daily cover is used, it must be approved by the director. If the daily cover is low permeability soil, it must be scraped back daily. If daily cover does not meet the performance standards, it must be modified. [Rule 316(1), 429(1-5, 8)]
- P. Are alternate daily cover materials (ADCM's) utilized at the facility? [YES / NO]
- Q. Is the use of the ADCM's in compliance with the approved plan? [YES / NO]
- R. Any lift that will be exposed for 3 or more months must have 1' of compacted cover that can include the 6" daily cover. Runoff must be handled as leachate unless the area has received approved interim cover. [Rule 316(2), 429(6&7)]
- S. Are all lifts that will not receive addition waste within 90 days covered with at least 1' of soil? [YES / NO]
- T. The landfill must be brought up to final grade as soon as possible. The final cover must be repaired to correct the effects of settling subsidence, erosion, and other events. The slopes of the final cover must be sufficient to prevent the ponding of water and excess erosion. The final cover must be stabilized with appropriate vegetation. [Rule 317, 448, 449(1), 425(7-9)]