

**Environmental
Protection Agency**

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

Re: 2011 Annual Report
Closed Hardin County Landfill
Hardin County
Notice of Violation

August 2, 2012

Hardin County Commissioners
175 West Franklin Street
Kenton, Ohio 43326

Dear Commissioners:

The Ohio Environmental Protection Agency, Northwest District Office received the 2011 Annual Solid Waste Operational Report (Report) on March 30, 2012, for the closed Hardin County Landfill. The Report has been reviewed by the Division of Materials and Waste Management and the Division of Drinking and Ground Waters to determine its compliance with the regulations required by Ohio Administrative Code (OAC) Rule 3745-27-14(A)(5) and (6) and OAC Rule 3745-27-10(B)(5).

COMMENTS

Violations

1. **The owner/operator is in violation of OAC Rule 3745-27-10 (B)(5). This rule requires that the owner/operator evaluate, at least annually, ground water surface data to determine if the monitoring system is adequate to meet the requirements of OAC Rule 3745-27-10 (B). The owner/operator has not properly performed the required evaluation and must provide a proper evaluation of the uppermost aquifer system wells as soon as possible.**

In the current submittal the owner/operator provided four potentiometric surface maps. There were three maps on the two significant zones of saturation and one map on the uppermost aquifer system. These same maps were provided in a ground water report for the fall 2011 sampling event dated January 23, 2012. In a review of this ground water report Ohio EPA provided the following comment:

The owner/operator continues to be in violation of OAC Rule 3745-27-10 (B)(4)(a) and (b). For rule citation see comment number 2 above. Hardin County needs to review the referenced uppermost aquifer system map and data, make necessary corrections, and resubmit the map for review.

The number and spacing of wells should be modified to establish an adequate monitoring system. In addition the map should be recontoured to represent actual conditions and flow directions.

The owner/operator has provided their evaluation of the monitoring system using the same maps as presented in the fall 2011 sampling event report. Ohio EPA has already cited a violation because these maps possess errors. The use of these maps which contain errors has resulted in a violation of OAC Rule 3745-27-10 (B)(5).

2. **The owner/operator is in violation of OAC Rule 3745-27-10 (B)(5). This rule requires that the owner/operator evaluate, at least annually, ground water surface data to determine if the monitoring system is adequate to meet the requirements of OAC Rule 3745-27-10 (B). The owner/operator has not properly performed the required evaluation and must provide a proper evaluation of the ground moraine zone wells as soon as possible.**

In the last paragraph in the section labeled OAC Rule 3745-27-10(B)(5) in Attachment B of the submittal the owner/operator states, "The referenced maps illustrate that the existing groundwater monitoring network complies with the OAC requirements; therefore, Hardin County does not believe that modifications to the network are required at this time." A review of the potentiometric surface maps provided in the owner/operator's 2011 annual report indicates no mapping was performed for the ground moraine zone on the north side of and likely below the landfill (No wells have been installed through the landfill to determine its presence or relationship to the ground moraine sands in the southwest corner of the landfill.). Also the text does not discuss the presence of this sand zone. The ground moraine zone contains permeable, saturated sand deposits capable of supplying ground water to wells and also capable of acting as a preferential pathway of migration away from the limits of solid waste placement.

Because no potentiometric surface map was drawn for this sand zone located in the northern portion of the facility, the owner/operator has not properly evaluated this zone as required by OAC Rule 3745-27-10 (B)(5). This evaluation must be completed.

Ohio EPA has previously indicated, *"The submitted report indicates that wells in the ground moraine zone located in the southwest corner of the site have been sampled, although the data for only two of these wells were statistically analyzed.*

However, even though there are permeable, saturated sands documented to be present in this zone on the north side of the landfill they have not been sampled nor have data from this zone on the north side of the landfill been statistically analyzed. As discussed with the owner/operator previously, this zone on the north side of the landfill is a significant zone of saturation and needs to be monitored. By not properly monitoring wells in this significant saturated zone on the north side of the landfill the owner/operator is in violation of OAC Rule 3745-27-10 (A)(1) and OAC Rule 3745-27-10 (B)(4)(a) and (b)."

MORE INFORMATION NEEDED TO DETERMINE COMPLIANCE

- 3. Compliance with OAC Rule 3745-27-10(B)(5) cannot be determined at this time. For rule citation see comment number 1 above. Hardin County needs to clarify how they interpret the major flow direction in the southern area of the ground moraine zone.**

On Figure 2.0, "Potentiometric Surface Map for the Southwest Ground Moraine Granular Zone" (November 7, 2011 data) the owner/operator indicates, "Major Flow Direction: Radial". The map, as drawn, does not appear to display radial flow, but shows generally southern movement. It is unclear if the owner/operator interprets the ground water flow to be moving primarily toward the south or in a radial fashion.

STATEMENTS

- 4. The "four-inch HDPE leachate collection pipe installed in the southern portion of the landfill" referenced at the top of the additional page in the leachate management section of the submittal is likely not the most effective system at the facility for removing leachate from the landfill. This pipe is a toe drain constructed in part outside of the waste and several feet above the base of waste. Maps and observations indicate that it was likely damaged during construction of the corrective measures systems.**
- 5. A review of the monthly and total 2011 leachate disposal values indicates a significant quantity for this closed landfill. While some of the volume may be the result of flooding in the Scioto River, the monthly data indicate all months exceeded 100,000 gallons with the lowest being 126,785 gallons in June. July was 138,486 gallons with all of the other months being greater than 200,000. The maximum was 841,380 in April, 2011. The total leachate production was 4,583,895 gallons. The average production was, therefore, 381991.25 gallons per month.**

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Some of this amount may be due to infiltration through the landfill cap and/or infiltration through the soils overlying and adjacent to the dewatering system. This conclusion can be supported by the rather low concentrations of the analytical results for the leachate sample. Attention to this matter may ultimately reduce the amount of leachate and disposal costs.

The owner/operator of the Closed Hardin County Landfill needs to immediately take the necessary measures to return to compliance with Ohio's environmental laws. Within 14 days of receipt of this letter, the owner/operator is requested to provide documentation to this office including the steps taken to abate the violations cited above. Documentation of steps taken to return to compliance includes written correspondence, updated policies, and photographs, as appropriate, and may be submitted via the postal service or electronically to jeremy.scoles@epa.ohio.gov.

Please be advised that violations cited above will continue until the violations have been properly abated. Failure to comply with Chapter 3734. of the Ohio Revised Code and rules promulgated thereunder may result in a civil penalty of up to \$10,000 per day for each violation. It is imperative that you return to compliance. If circumstances delay the abatement of violations, the owner/operator is requested to submit written correspondence of the steps that will be taken by date certain to attain compliance.

If you have any questions please feel free to contact Randy Skrzyniecki at the Ohio EPA Northwest District Office (419-373-3149). Written correspondence should be sent to the attention of Jeremy Scoles, Division of Materials and Waste Management, Ohio EPA Northwest District Office, 347 North Dunbridge Road, Bowling Green, Ohio 43402.

Sincerely,



Jeremy Scoles, RS
Environmental Supervisor
Division of Materials and Waste Management

/llr

pc: Tom Covrett, Civil & Environmental Consultants, Inc.
Mike Smith, Hardin Co. Engineer
File: DMWM-SW, Hardin County, Hardin County Landfill, Annual Report
Correspondence
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gw id #5-11451