



**Environmental
Protection Agency**

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

June 1, 2012

**RE: HARDY ROAD LANDFILL
GROUND WATER MONITORING
NOTICE OF VIOLATION**

CERTIFIED MAIL 7011 0470 0002 3496 1627

Stephen A. Dubetz, P.E., P.S.
Manager, Engineering Services Division
City of Akron Department of Public Service
Bureau of Public Works
1436 Triplett Blvd.
Akron, Ohio 44306

Dear Mr. Dubetz:

The Ohio Environmental Protection Agency (Ohio EPA) has reviewed the following ground water monitoring report regarding Hardy Road Landfill, also known as Akron Regional Landfill:

- *Ground Water Quality Assessment Plan (GWQAP)* for MW-21, dated April 4, 2012, received April 5, 2012.

The report was prepared by Eagon & Associates, Inc.

Hardy Road Landfill closed under the 1994 revised municipal solid waste regulations and is currently conducting post-closure ground water detection monitoring in accordance with OAC 3745-27-10 (effective August 15, 2003).

Vinyl Chloride was detected in MW-21 (1.5 ug/L) during the second annual ground water sampling event of 2011 conducted on September 12-13, 2011. A resampling was performed on November 8, 2011 and vinyl chloride was detected in the resample at 2.1 ug/L. This resample confirmed the exceedance. MW-21 was resampled again on November 28-29, 2011. Vinyl chloride was detected at 2.0 ug/L.

Hardy Road proposes to use two existing wells, MW-10 and MW-3D to assess rate, extent and concentration of ground water contamination downgradient of MW-21.

It is unclear if a well will be installed upgradient of MW-21.

VIOLATION

1. **Hardy Road Landfill is in violation of OAC Rule 3745-27-10(E)(4)(a) requiring the *GWQAP* to include a detailed description of the hydrogeologic conditions at the landfill.**

The *GWQAP* does not contain a detailed description of the silt zone below the uppermost aquifer system (UAS). The *GWQAP* states, "As presented in previous reports, the silt zone below the UAS acts as an aquitard and separates the UAS from the bedrock; therefore, due to the horizontally extensive silt zone below the UAS, a vertical well is not planned at this time."

The *GWQAP* does not contain the information needed for the Ohio EPA to determine if the silt zone below the UAS is an aquitard. The *GWQAP* refers to previous reports but the documents are not referenced and the supporting information is not included in the *GWQAP*.

Hardy Road Landfill's justification for not installing a vertical extent well adjacent to MW-21 is based on the silt zone below the UAS being an aquitard. Ohio EPA will review the need for a vertical extent well upon receipt of the detailed hydrogeologic information on the silt zone below the UAS.

To return to compliance with this rule the *GWQAP* must be revised to include a detailed description of the silt zone under the UAS. This description must contain the reasons why the lower silt is an aquitard.

More Information Needed to Determine Compliance Regarding the Following:

2. **Compliance with OAC Rule 3745-27-10(E)(1) requiring the implementation of a "*Ground Water Quality Assessment Plan*" capable of determining the concentration, rate, and extent of migration of waste-derived constituent(s) in the ground water cannot be determined at this time.**

The *GWQAP* contains conflicting statements regarding the installation of an additional well between MW-21 and the limits of waste placement. Ohio EPA is unable to determine if this additional well will be installed.

MW-21 is approximately 200 feet from the limits of waste placement, and there is no information on the quality of ground water between MW-21 and the limits of waste placement. Vinyl chloride has been detected at and above the MCL at MW-21. It is anticipated that the concentration of vinyl chloride will be higher closer to the landfill. In order to determine the preliminary rate, extent and

concentration (REC) and adequately evaluate corrective measures, the concentration of vinyl chloride must be determined at all points of the plume.

To demonstrate compliance with this rule, the *GWQAP* should contain provisions to install well(s) as close as practicable to the limits of waste placement upgradient of MW-21. Several wells may be needed along the limits of waste placement to determine the width of the area contaminated.

3. **Compliance with OAC Rule 3745-27-10(C)(1) requiring the collection of monitoring results that provide an accurate representation of ground water quality at the background and downgradient wells cannot be determined at this time.**

Ohio EPA is unable to determine if the proposed sampling methods will allow for the collection of representative ground water samples. The *GWQAP* states that, "In wells that have purged dry, sampling will be initiated within 24 hours of purging."

Ohio EPA's Technical Guidance Manual for Hydrogeologic Investigations and Ground Water Monitoring (TGM) recommends that samples be taken when there is a sufficient amount of water to collect a sample that best represents the ground water quality. Extended recovery times after purging (hours) allow the ground water to equilibrate with atmospheric conditions. In the case of a well with very slow recharge, sample collection may continue for several days. However, sample collection should be attempted no longer than every 24 hours. The intervening time should be consistent from event to event. In addition, it is important to evaluate all data from slowly recovering wells based on the possibility that it may be unrepresentative of actual conditions.

To demonstrate compliance with this rule, the *GWQAP* needs to be revised to allow for the collection of representative ground water samples from wells that have been purged dry.

4. **Compliance with OAC Rule 3745-27-10(E)(1) requiring a determination of rate, extent, and concentration cannot be determined at this time.**

Ohio EPA is unable to determine if implementing the *GWQAP* will allow for a determination of rate, extent and concentration within the proposed timeframes.

- A. To demonstrate compliance with this rule the *GWQAP* needs to be revised to mention that the non-statistical comparison of assessment data will be

conducted during each ground water assessment sampling event. The results of this comparison should be included in the assessment data reports.

B. To demonstrate compliance with this rule, the *GWQAP* needs to be revised to include the following information for the non-statistical comparison of assessment data:

- The date range of the background data,
- A list of all wells that will be used as background; and
- A list of the highest background value for every parameter.

This information is needed so Ohio EPA can verify that the non-statistical comparisons have been done correctly.

Recommendations

1. Upgradient well 7S is listed as an assessment well in Table 1; however, the text of the *GWQAP* does not mention that MW-7S is part of the assessment monitoring program. Ohio EPA recommends that the text portion of the *GWQAP* be revised to mention that MW-7S is part of the assessment monitoring system.
2. The following statement is in Section 6.1, "At present, there is not sufficient data to outline the specifics of the statistical data methods that may be used to compare assessment well data to background." Ground water monitoring has been conducted for most wells in the detection monitoring system since December 2002. Upgradient well MW-7S has been sampled since April/May 1999. This is a sufficient amount of Appendix 1 data to allow for the selection of a statistical data method that will be used to compare assessment well Appendix 1 data to background. Ohio EPA recommends that this language be revised.

Regarding proposed passive gas vents near MW-21 Section 4.0 of the Investigatory Approach and Figure 10

Two (2) passive gas vents are being installed as an investigatory approach to determine landfill gas migration and to assess the vinyl-chloride detected in MW-21. The report also mentioned that the vents will be used to measure landfill gas (methane, carbon dioxide, etc.) and dependent upon the assessment monitoring data more passive gas vents will be installed. Upon review I have decided that nothing further is needed for this report regarding the passive gas vents.

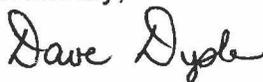
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Comments:

1. If additional passive gas vents will be installed, Ohio EPA shall be notified prior to the installation.
2. If additional passive gas vents are to be installed to sample and monitor landfill gas, then Hardy Road Landfill must update the Explosive Gas Monitoring Plan in accordance with the Ohio Administrative Code (OAC) Rule 3745-27-12(H)(2).
3. Once construction is complete, Hardy Road Landfill is required to submit a construction certification report pertaining to the two proposed passive gas vents to Ohio EPA and Summit County Health Department. The certification report shall include a summary of the construction event, identify if any changes were made from the Ground-Water Quality Assessment Plan, and include as-built drawings of the passive gas vents.
4. Results from all landfill gas measurements shall be submitted to Ohio EPA after each measuring event.

If you have any technical questions regarding this review, please contact Eric Adams, Ohio EPA, Division of Drinking and Ground Waters, Northeast District Office, at (330) 963-1185. Please submit all correspondence to Dave Dysle, Ohio EPA, Division of Materials and Waste Management, Northeast District Office, 2110 East Aurora Road, Twinsburg, Ohio 44087.

Sincerely,



Dave Dysle
Environmental Specialist
Division of Materials and Waste Management

DD/cl

cc: Eric Adams, DDAGW, NEDO
Allison Giancola, DMWM, NEDO
Julie Brown, Summit County Public Health
Tim Haaf, Waste Management, Inc., Closed Sites Management Group
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