



State of Ohio Environmental Protection Agency

Northwest District Office

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Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director

Re: Huron County Landfill
Ground Water
Huron County, Ohio

November 21, 2007

Huron County Commissioners
180 Milan Avenue
Norwalk, Ohio 44857

Dear Commissioners:

The owner/operator is currently required to perform ground water detection monitoring (and assessment monitoring activities for MW-2, MW-19 and MW-21) at the Huron County Landfill. Ohio EPA has reviewed submittal (received October 12, 2007) from Malcolm Pirnie, Inc., which documents a response to the June 29, 2007, letter from Ohio EPA regarding the April 2007, Annual Sampling event for the facility. This submittal was reviewed to determine compliance with OAC Rule 3745-27-10.

COMMENTS

Violations

1. The owner/operator is in violation of OAC Rule 3745-27-10(B)(3)(e) which requires that *"The monitoring wells...shall be operated and maintained to perform to design specifications throughout the life of the monitoring program"*. The owner/operator needs to properly abandon MW-19C and reinstall a replacement well as soon as possible.

OAC Rule 3745-27-10(B)(3)(e) requires that *"The monitoring wells...shall be operated and maintained to perform to design specifications throughout the life of the monitoring program."*

As stated in the June 29, 2007, letter from Ohio EPA, *"The field data sheet for MW-19C indicates that MW-19C may have become grout contaminated. During the April 2007 sampling event, the initial pH reading at MW-19C was 10.46 S.U. and fell to 8.50 S.U. by the time of sampling. Subsequently, during the May 2007, sampling event, the initial pH reading at MW-19C was 11.82 S.U. and fell to 7.84 S.U. by the time of sampling. These high initial pH values of the purge water are a strong indication of grout contamination."*

To determine compliance with OAC Rule 3745-27-10(B)(3)(e), the owner/operator needs to investigate the possible grout contamination at MW-19C and subsequently submit a letter report of the findings to Ohio EPA."

In response to this comment, the submittal states (with regard the high pH measurements at MW-19C which fall into the typical range by the end of purging) **"...the final pH in MW-19C is within the range of pH values at the landfill. This value was an indication that purging [sic] the MW-19C eliminates any potential issues that may be associated with grout contamination of the well. The water produced was representative of the groundwater in the formation..."**.

However, regardless of whether or not the water produced at MW-19C (at the end of purging) was representative of the ground water in the formation, the requirements of OAC Rule 3745-27-10(B)(3)(e) are not being met if the well has grout contamination.

Owner/Operator's Response to Previously Cited Violations

- 2. The citation of the violation of OAC Rule 3745-27-10(C)(1)(a) in the June 29, 2007 letter from Ohio EPA stands as cited.**

The June 29, 2007, letter from Ohio EPA cited the owner/operator in violation of OAC Rule 3745-27-10(C)(1)(a) which requires that **"...The owner or operator is required to use the procedures documented within the sampling and analysis plan."**

This violation was cited specifically because the field parameter stabilization criteria documented in the Ground Water Detection Monitoring Plan (GWDMP) and the Ground Water Quality Assessment Plan (GWQAP) were not followed at several wells during the April 2007 sampling event. Regarding this, the GWDMP and GWQAP state **The stabilization of the monitored water quality parameters will be considered to be complete when they stabilize within the following ranges over three consecutive readings taken within approximately fifteen minutes:**

| | |
|----------------------|---------------|
| Conductivity: | 3% |
| pH: | 0.1 SU |
| Temperature: | 0.5C |

Regarding these field parameter stabilization requirements, the June 29, 2007 letter from Ohio EPA stated **"...during the April 2007, annual sampling event, these field parameter stabilization criteria were not followed for conductivity at MW-2, MW-8 and MW-11 or for temperature at MW-19 or for pH at AW-19A. Further, supplemental purging (beyond three well volumes) was not performed for these wells. These procedures are necessary to assure the collection of representative ground water samples."**

In response to this comment, the submittal states **"Regarding the conductivity at MW-2, using the mean of the last three readings as the basis for the comparison, the last three conductivity readings are within 3% of each other.**

At MW-2, the mean of the readings is 1108.67 and 3% of that value is 33.26, providing a range from 1075.41 to 1141.93."

However, this method of calculating the variance in the readings provides for a 6% variance, rather than the required maximum of 3%. In verifying the required 3% stability for field stabilization of conductivity, the relative percent difference (RPD) formula is to be used (using the highest and lowest of the three values).

- 3. Based on the response in the submittal, it appears that the owner/operator is on course to address the violation of OAC Rule 3745-27-10(E)(5)(b)(ii)(a) which was cited in the June 29, 2007, letter from Ohio EPA. Until this violation is adequately addressed, the owner/operator will remain in violation of the rule.**

The June 29, 2007, letter from Ohio EPA cited the owner/operator in violation of OAC Rule 3745-27-10(E)(5)(b)(ii)(a) which requires that all wells in the ground water quality assessment program be analyzed annually for all constituents in Appendix II of OAC Rule 3745-27-10(E)(5)(b)(ii)(a).

Regarding this citation, the June 29, 2007, letter stated **"The owner/operator performed this expanded Appendix II sample analysis for the April 2007 sampling event (for the wells in the assessment monitoring program). However, cyanide (which is on the Appendix II list) was not analyzed for the April 2007 sampling of the assessment monitoring wells."**

In response to this comment, the submittal states **"It appears that the cyanide sampling bottles were inadvertently omitted from the bottle sets for the assessment wells. During the autumn sampling event, groundwater from the assessment wells was collected and will be analyzed for cyanide."**

More Information Needed to Determine Compliance

- 4. Compliance with OAC Rule 3745-27-10(A)(1) cannot be determined at this time. OAC Rule 3745-27-10(A)(1) requires that the owner/operator implement a *...groundwater monitoring program capable of determining the impact of the facility on the ground water quality...* The owner/operator needs to respond accordingly.**

Regarding turbidity of ground water samples, the GWDMP and GWQAP state **Turbidity will be measured at approximately the time the sample is collected. If turbidity values are elevated, the sampling team may continue purging in an attempt to get the turbidity value below 5 NTUs..**

The June 29, 2007, letter from Ohio EPA stated **"...during the April 2007, annual sampling event, high turbidities were recorded at several monitoring wells including AW-19A and MW-8. Respective turbidities of 550 NTU and 700 NTU were recorded for these wells (in the field).**

These turbidities are considerably lower than the turbidities noted from the September 2006, sampling event, but are still higher than typically characteristic of representative ground water samples....

For AW-19A, this turbidity (550 NTU) is lower than previously seen at AW-19A (this is only the third sampling event for AW-19A), however, this turbidity still exceeds what is typically considered to be characteristic of representative of ground water samples. For MW-8, this turbidity (700 NTU) was much greater than previously noted for MW-8. Prior to this event, the turbidities at MW-8 generally ranged from 1 to 70 NTU, with one spike of 140 NTU. It also appears that this high turbidity for the April 2007 sampling event artificially elevated a few metals constituents for the sample from MW-8.

Considering the above, the ground water samples from AW-1A and MW-8 from the April 2007, sampling event may not have been representative of the ground water quality. Representative ground water samples are a necessary part in determining the impact of the facility on the ground water quality.

To assure compliance with OAC Rule 3745-27-10(A)(1) for future sampling events, the owner/operator needs to collect representative ground water samples from all monitoring wells in the detection monitoring and assessment monitoring programs..."

In the submittal, it appears that Malcolm Pirnie, Inc. attempted to respond to this comment. However, significant text of the response is missing from the submittal.

Statements

- 5. The June 29, 2007, letter from Ohio EPA contained eight (8) comments regarding the April 2007 annual sampling event. As detailed in Comments No. 1 through 4 above, issues of Comments No. 1 through 4 of the June 29, 2007, letter from Ohio EPA remain outstanding. The submittal indicates that Comment No. 5 of the June 29, 2007, letter will be addressed in the near future. Comment No. 6 of the June 29, 2007, letter did not require a response. Comments No. 7 and 8 of the June 29, 2007, letter were adequately addressed by the October 9, 2007, submittal from Malcolm Pirnie, Inc..**

If you have any questions please feel free to contact Ken Brock at the Ohio EPA Northwest District Office (419-373-3143).

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Any written correspondence should be sent to the attention of Tyler Madeker, Division of Solid and Infectious Waste Management, Ohio EPA Northwest District Office, 347 N. Dunbridge Road, Bowling Green, Ohio 43402.

Sincerely,



Tyler Madeker S.I.T.

Division of Solid and Infectious Waste Management

/llr

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