



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

January 30, 2008

Huron County Commissioners
180 Milan Avenue
Norwalk, Ohio 44857

Dear Commissioners:

The owner/operator is currently required to perform ground water detection monitoring activities at the facility, as well as assessment monitoring activities for MW-2 and MW-19. The Ohio Environmental Protection Agency (Ohio EPA) has reviewed the submittal (received December 17, 2007) from Malcolm Pirnie, Inc., which documents the October 1-3, 2007, semi-annual sampling event at 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(C)(1)(a) which requires that the owner/operator use the procedures documented within the sampling and analysis plan (SAP). To assure compliance with OAC Rule 3745-27-10(C)(1)(a) during future sampling events, the owner/operator needs to follow all purging and sampling procedures specified by the SAP.**

The SAP, which is part of both the Ground Water Detection Monitoring Plan (GWDMP) and Ground Water Quality Assessment Plan (GWQAP) documents the procedures for field parameter stabilization. These plans 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:	±0.0°C"

However, during the October 2007, semi-annual sampling event, these field parameter stabilization criteria were not followed for conductivity at MW-9 and MW-13 or for temperature at MW-15. 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.

To assure compliance with OAC Rule 3745-27-10(C)(1)(a) during future sampling events, the owner/operator needs to follow all purging and sampling procedures specified by the GWDMP and GWQAP.

Owner/Operators Response to Previously Cited Violations

- 2. The November 21, 2007, letter from Ohio EPA cited the owner/operator in violation of OAC Rule 3745-27-10(B)(3)(e) because MW-19C was not being maintained to design specifications (grout contamination evidenced by high pH of the purge water). The owner/operator has indicated its intentions to redevelop MW-19C in an attempt to resolve the elevated pH issue. The cited violation will continue until the issue is resolved.**

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..."*

For the recent October 2007, sampling event, the pH at MW-19C remained high. The initial pH measurement was 11.8 S.U. and only fell to 11.14 S.U. at the completion of purging (the well was purged dry). Additionally, the specific conductivity at MW-19C was initially 3802 $\mu\text{S}/\text{cm}$ and remained above 3000 $\mu\text{S}/\text{cm}$ until the final measurement, which was 2259 $\mu\text{S}/\text{cm}$. These conductivities were the highest measurements of any the ground water monitoring wells for the October 2007, sampling event. Additionally, the potassium concentration at MW-19C was 302 mg/L, which is approximately 25 times greater than the highest concentration previously observed on-site (of 12.7 mg/L at MW-16).

These observations support the conclusion that MW-19C has become grout contaminated and is no longer capable of yielding representative ground water samples.

A December 7, 2007, letter from Malcolm Pirnie, Inc. stated that MW-19C will be redeveloped in an attempt to resolve the elevated pH issue.

If this issue cannot be resolved through redevelopment, the owner/operator would need to properly abandon MW-19C and reinstall a replacement well to regain compliance with OAC Rule 3745-27-10(B)(3)(e).

3. **The September 24, 2004, letter from Ohio EPA cited the owner/operator in violation of OAC Rule 3745-27-10(E)(6)(a) because the extent of ground water contamination north of MW-19 had not been adequately defined. The March 13, 2007, letter from Ohio EPA clarified (updated) this situation for the MW-19 assessment area. However, this issue has not been addressed. Therefore, the owner/operator continues in violation of OAC Rule 3745-27-10(E)(6) and will remain in violation of this rule until this issue is adequately addressed.**

Recommendations

4. **Ohio EPA recommends that the owner/operator request reinstatement of the detection monitoring program for MW-2.**

OAC Rule 3745-27-10(E)(9)(a) states that *"If the owner or operator determines that the concentrations of all waste-derived constituents are shown to be at or below background values,...for two consecutive sampling events, then the owner or operator may request, in writing, that the Director approve reinstatement of the detection monitoring program..."*.

Monitoring well MW-2 triggered into assessment in June 2006, for statistically significant concentrations of ammonia. However, the concentrations of ammonia at MW-2 have been below the prediction limit for several events.

Therefore, Ohio EPA recommends that the owner/operator request reinstatement of the detection monitoring program for MW-2 in accordance with OAC Rule 3745-27-10(E)(9)(a).

5. **A total of 10 trip blanks were analyzed for the October 2007, sampling event. Ohio EPA recommends that the owner/operator reduce the number of trip blanks it analyzes for future sampling events.**

For the October 2007, sampling event, 10 trip blanks were analyzed (5 for the standard 8260 method analysis and 5 for method 504.1). Considering the number of ground water samples collected at the facility and the duration of the sampling event, Ohio EPA considers this number of trip blanks to be excessive.

The GWDMP and GWQAP properly indicate that trip blanks will be included in coolers containing VOC samples. However, the number of trip blanks being analyzed could be significantly reduced while still meeting the requirements of the GWDMP and GWQAP.

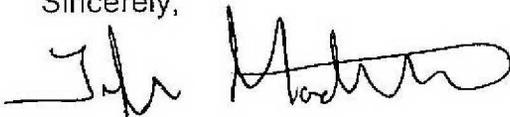
Typically, the semi-annual ground water sampling events at the facility are performed over a 3 day period. The sample coolers are collected and are taken by courier to the laboratory as one shipment. Therefore, if all of the VOC samples were placed in the same cooler (on a given day), the number of trip blanks could be reduced to 6 (1 for method 8260 and 1 for method 504.1 each of the three days). Another option would be to collect all VOC samples in one cooler for the entire sampling event. This would reduce the number of trip blanks to 2, 1 for method 8260, and 1 for method 504.1.

Statements

6. **Monitoring well MW-21 was recently reinstated to the detection monitoring program. The GWDMP and GWQAP still document that MW-21 is in the assessment monitoring program, rather than the detection monitoring program. To avoid potential compliance issues in the future, the GWDMP and GWQAP need to be revised accordingly.**

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

pc: Peter Welch, Huron County Landfill Manager
Wes Rhiel, Malcolm-Pirnie
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