OhioEPA

State of Ohio Environmental Protection Agency

Northwest District Office

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

Re: GMPT Landfill, Defiance County
Ground Water

July 25, 2008

Mr. Chuck Renn
Environmental Engineering
General Motors Powertrain
P. O. Box 70
Defiance, Ohio 43512-0070

Dear Mr. Renn:

On June 30, 2008, the Ohio Environmental Protection Agency (Ohio EPA), Division of Solid and Infectious Waste Management (DSIWM), Northwest District Office (NWDO) received the report documenting the statistical evaluation of ground water monitoring data for the April 21-23, 2008 semi-annual sampling event at the General Motors Powertrain Landfill (GMPT-Defiance) in Defiance County. The response was reviewed to determine compliance with Ohio Administrative Code (OAC) Rule 3745-30-08.

COMMENTS

Violations

1. **GMPT-Defiance continues to be in violation of OAC Rules 3745-30-08(C)(6)(f) and (C)(5) regarding the procedures for statistically analyzing the ground water quality data. To return to compliance, the statistical analysis procedures need to be revised to control or correct for spatial variability in the background data.**

   As stated in the May 6, 2008, letter from Ohio EPA, the owner/operator has been cited in violation of OAC Rules 3745-30-08(C)(6)(f) and (C)(5).

   OAC Rule 3745-30-08(C)(6)(f) requires that the statistical method, if necessary, include procedures to control or correct for spatial variability in the data. OAC Rule 3745-30-08(C)(5) requires that the statistical method ensure protection of human health and safety and the environment and comply with the performance standards in OAC Rule 3745-30-08(C)(6).

   The statistical method that is being used still does not include procedures to control or correct for spatial variability in the background data. Therefore, GMPT-Defiance continues to be in violation of OAC Rule 3745-30-08(C)(6)(f).

   Further, as such procedures to control or correct for spatial variability in the background data are lacking, the current inter-well statistical comparisons for some constituents are essentially invalid. Therefore, the statistical method does not ensure protection of human health and safety and the environment and comply with the performance standards in OAC Rule 3745-30-08(C)(6). Hence, GMPT-Defiance continues to be in violation of OAC Rule 3745-30-08(C)(5).

More Information Needed to Determine Compliance

2. **At this time, Ohio EPA is unable to determine compliance with OAC Rule 3745-30-08(B)(3), regarding whether the construction of monitoring well MW-11DR allows for the collection of representative ground water samples. The owner/operator recently installed MW-11DR in the proximity of upgradient well MW-11D due to concerns regarding water level fluctuations and increases in concentrations of several constituents at MW-11D. For MW-11DR to be included in the ground water monitoring network, the owner/operator must demonstrate that the construction of MW-11DR allows for the collection of representative ground water samples in accordance with OAC Rule 3745-30-08(B)(3).**

OAC Rule 3745-30-08(B)(3) requires that the ground water monitoring wells in the ground water monitoring program *"...be designed, installed and developed in a manner that allows the collection of ground water samples that are representative of ground water quality in the geologic unit being monitored..."*.

Ohio EPA is concerned that MW-11DR might not allow for the collection of representative ground water samples. Ohio EPA's concern about the construction of MW-11DR is based on several observances for MW-11DR including the water level, the pH of purge water and the water recovery rate. Each of these concerns is detailed below.

Water Level at MW-11DR

Previously, the potentiometric elevations at former MW-11D (before MW-11D experienced erratic water levels) ranged between approximately 695 and 710 feet msl (feet above mean sea level).

However, the water level at replacement well MW-11DR during the April 2008 sampling event was 656.34 feet msl. Therefore, this elevation at replacement well MW-11DR is approximately 40 to 50 feet lower than previously seen at MW-11D. Further, this potentiometric elevation at MW-11DR is the lowest potentiometric elevation of any of the monitoring network wells, including the downgradient wells.

This extremely low water level at MW-11DR suggests a potential problem with the screen placement and/or construction of MW-11DR.

pH of Purge Water at MW-11DR

The field data sheet for MW-11DR indicates that MW-11DR may be grout contaminated. During the April 2008 sampling event, the initial pH reading at MW-11DR was 9.71 S.U. and fell to 8.44 S.U. by the time of sampling. This high initial pH value of the purge water is a strong indication of grout contamination. Even this final pH measurement of 8.44 S.U. exceeds the measurements typically observed at other on-site wells.

Water Recovery Rate at MW-11DR

Prior to purging MW-11DR (during the April 2008 sampling event), MW-11DR had approximately five feet of static water in the well. MW-11DR was purged dry and sampling was not performed until two days after purging. At the time of sampling, the water level at MW-11DR had only recovered 0.27 feet (approximately 3 inches). This recovery rate is extremely slow.

Former well MW-11D was also known for slow recovery, but this rate at MW-11DR is considerably slower than at former well MW-11D.

This extremely slow recovery rate suggests a potential problem with the screen placement and/or construction of MW-11DR.

Statements

3. **The submittal includes a potentiometric surface map for the April 2008 semi-annual sampling event. However, with consideration to Comment No. 2 above, Ohio EPA reminds the owner/operator that following a determination of compliance with OAC Rule 3745-30-08(B)(3) for MW-11DR, the potentiometric surface map may need to be revised.**

If you have any questions, please feel free to contact Ken Brock at the Ohio EPA Northwest District Office at 419-373-3143. Any written correspondence should be sent to the attention of Kimberly Burnham, Division of Solid and Infectious Waste Management, Ohio EPA Northwest District Office, 347 N. Dunbridge Road, Bowling Green, Ohio 43402.

Sincerely,

Kimberly Burnham, R.S.
Environmental Specialist
Division of Solid and Infectious Waste Management

/llr

pc: Tamara Moorman, RMT, Inc.
DSIWM-NWDO File: Defiance County, GMPT Landfill, Ground Water
ec: Jack Leow, DDAGW, NWDO
Ken Brock, DDAGW, NWDO
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