



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

September 26, 2008

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

Dear Mr. Renn:

On August 29, 2008, the Ohio Environmental Protection Agency (Ohio EPA), Division of Solid and Infectious Waste Management (DSIWM), Northwest District Office (NWDO) received a letter (dated August 19, 2008) in response to the July 25, 2008, letter from Ohio EPA regarding the ground water monitoring program at the General Motors Powertrain Landfill (facility) in Defiance County. The submittal was reviewed to determine compliance with Ohio Administrative Code (OAC) Rule 3745-30-08. Ohio EPA's comments are below.

**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, July 8, and July 25, 2008 letters from Ohio EPA, the owner/operator is 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).

GMPT-Defiance continues to maintain that it is not in violation of these rules as detailed below.

- 1a. The submittal states "GMPT-Defiance continues to maintain that it is not in violation of either OAC Rule 3745-30-08(C)(5) or 3745-30-08(C)(6)(f) since all provisions of the Ohio EPA approved ground water monitoring plan are adhered to, which was written in accordance with accepted statistical procedures."

However, as explained in the July 8, 2008 letter from Ohio EPA, compliance with a ground water monitoring plan is not necessarily synonymous with compliance with the applicable rules.

As an example of this, (as given in the July 8, 2008 letter from Ohio EPA) GMPT's Ground Water Monitoring Plan documents that Tolerance Limits are currently being used for statistical analysis. However, the plan is vague in that it does not document the specific decision criteria which are used in manipulating the data for statistical analysis. Therefore, while GMPT may be meeting the specifications of the Ground Water Monitoring Plan, it is not meeting all the requirements of the OAC rules.

- 1b. Several times the submittal quotes the October 11, 1988 Federal Register and in this case, the submittal states "...GMPT-Defiance notes that the preamble [of the October 11, 1988 Federal Register] contemplates use of downgradient wells to establish background limits (intrawell statistics) 'at newer units that have no opportunity to contaminate the ground water and that are located in areas with little potential to be influenced by external sources unrelated to the unit.' GMPT Defiance believes that our site (in production since 1949 and located downgradient of railroad tracks and farm field using numerous chemicals) is not an appropriate candidate for [intra-well statistics] since it will not be able to account for changes in upgradient ground water quality not associated with the regulated unit."

Although it is true that intra-well statistics can be applied at newer facilities that haven't had opportunity to contaminate the ground water, intra-well statistics are certainly not limited to such facilities and in fact, are frequently applied at pre-existing facilities.

This is precisely why OAC Rule 3745-30-08(C)(6)(h) states "Prior to initially using an intra-well statistical method for the detection monitoring program, the owner or operator shall demonstrate the ground water is not impacted by a release from the landfill facility within the relevant well(s), unless otherwise approved by Ohio EPA."

GMPT-Defiance has stated its concern that intra-well statistics will not be capable of accounting for changes in upgradient ground water quality not associated with the regulated unit. Ohio EPA understands GMPT's concern. However, inherently, downgradient intra-well statistics never account for changes in upgradient ground water quality. This is the case for any site, whether at a pre-existing or new facility.

This is in part why OAC Rule 3745-30-08(D)(9) allows owner/operators the flexibility to demonstrate that a statistically significant increase is the result of a source other than the landfill (such as errors in sampling, analysis, statistical evaluation, natural variation in the ground water quality data, etc.).

- 1c. Quoting the October 11, 1988 Federal Register preamble, the submittal states "To better characterize spatial variability, an owner or operator may wish to install and sample from multiple background and compliance wells..."

Regarding this, the submittal states "GMPT believes that the Federal Register envisions that spatial variability should be accounted for via the collection of additional background data from multiple upgradient/ background wells at sites where spatial variability may be an issue. GMPT believes that the Federal Register envisions that any statistical method necessary to account for spatial variability is additional data in the background data set via multiple upgradient/background wells at sites where spatial variability may be an issue."

However, the Federal Register stated that an owner/operator may wish to install and sample multiple background and compliance wells; this being done to better characterize spatial variability. However, this does not mean that statistical issues of spatial variability can always be accounted for (to allow for inter-well statistics) by the installation of additional upgradient wells and the collection of additional ground water data.

As stated previously by GMPT, there is spatial variability in the ground water quality data at the facility.

In conclusion of this issue, the submittal states "...GMPT-Defiance believes that by using four background wells in the background data set, the site is satisfying the intent of the rule which is to account for spatial variability by the use of multiple background wells."

Ohio EPA disagrees. As stated previously, 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. By the installation and sampling of the monitoring wells at the facility (including the upgradient wells), GMPT has identified spatial variability of the ground water quality data at the facility. However, GMPT has not implemented procedures to control or correct for spatial variability (i.e., censoring data, performing intra-well statistics, etc.)

**2. GMPT-Defiance is in violation of OAC Rule 3745-30-08(B)(3)(e) regarding the operation and maintenance of MW-11DR. To return to compliance, MW-11DR needs to be properly abandoned.**

OAC Rule 3745-30-08(B)(3)(e) requires that "The monitoring wells...shall be operated and maintained to perform to design specifications throughout the life of the ground water monitoring program."

Regarding MW-11DR, the submittal states "GMPT-Defiance agrees that there is grout contamination that will correct itself in time when there is sufficient production to flush out the affected screened area." Regardless of whether or not the grout contamination will correct itself in time (it may or may not), MW-11DR is not being operated and maintained to perform to design specifications. Therefore, the requirements of OAC Rule 3745-30-08(B)(3)(e) are not being met for MW-11DR.

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. During the July 2008 sampling event, the initial pH reading at MW-11DR was 10.32 S.U. and fell to 8.18 S.U. by the time of sampling. These high initial pH values of the purge water are a strong indication of grout contamination. Even these final pH measurements exceed the measurements typically observed at other on-site wells.

General

As a general note about MW-11DR, the submittal states "GMPT-Defiance notes that MW-11D was replaced at the request and full knowledge, including location, of the Ohio EPA."

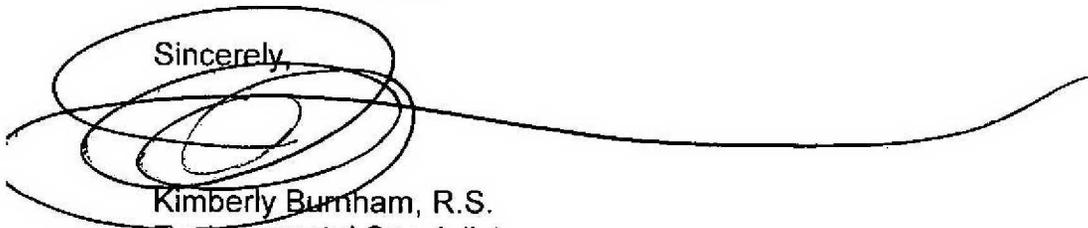
For clarification, Ohio EPA never requested that MW-11D be replaced. Rather, the decision to replace MW-11D was decided and planned solely by GMPT. Further, Ohio EPA was only made aware of GMPT's intentions to replace MW-11D shortly before MW-11DR was installed (after the installation of MW-11DR had been scheduled),

Further, as a general note, the submittal states "GMPT-Defiance believes that the replacement well, namely MW-11DR, is placed in a very tight clay unit." However, for clarification, the boring log for MW-11DR indicates that MW-11DR is actually screened in a clayey sand.

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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

/l/r

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