



**Environmental
Protection Agency**

Ted Strickland, Governor
Lee Fisher, Lt. Governor
Chris Korleski, Director

Re: GMPT Landfill, Defiance County
Ground Water

September 20, 2010

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

Dear Mr. Renn:

On July 6, 2010, the Ohio Environmental Protection Agency (Ohio EPA), Division of Solid and Infectious Waste Management (DSIWM), Northwest District Office (NWDO) received the report (dated April 2010) documenting the statistical evaluation of ground water monitoring data for the April 26-28 semi-annual sampling event at the General Motors Powertrain Landfill (GMPT-Defiance) in Defiance County. The report was reviewed to determine compliance with Ohio Administrative Code (OAC) Rule 3745-30-08.

COMMENTS

Violations

1. **GMPT-Defiance continues in violation of OAC Rules 3745-30-08(C)(6)(f) and (C)(5) regarding its methods of statistical analysis. To return to compliance with these rules, GMPT-Defiance needs to revise the statistical analysis procedures for sulfate and TDS to control or correct for spatial variability.**

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 to comply with the performance standards outlined in OAC Rule 3745-30-08(C)(6). Note that the technical issues regarding statistical analyses and their applications to these rules were extensively discussed in the May 6, 2008 letter from Ohio EPA, but are not reiterated herein.

The May 6, 2008 letter from Ohio EPA cited GMPT-Defiance in violation of OAC Rules 3745-30-08(C)(6)(f) and (C)(5) regarding its methods of statistical analysis for iron, sulfate and TDS. Specifically, considering the high degree of spatial

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variability in the upgradient concentrations of these parameters, that GMPT-Defiance was not using procedures to control or correct for this spatial variability.

Subsequently, GMPT-Defiance has begun performing intra-well statistics for the iron data from the facility (which corrects for the spatial variability observed for iron data). Therefore, this issue does not currently apply to the iron data for the facility.

However, the statistical analysis procedures for sulfate and TDS have not been revised to control or correct for spatial variability. Therefore, GMPT-Defiance continues in violation of OAC Rules 3745-30-08(C)(6)(f) and (C)(5) regarding its methods of statistical analysis for sulfate and TDS.

More Information Needed to Determine Compliance

- 2. Compliance with the requirements of OAC Rule 3745-30-08(C)(8), regarding the submittal of statistical analysis results, cannot be determined at this time. To allow for a determination of compliance with this rule, GM Defiance needs to respond accordingly.**

OAC Rule 3745-30-08(C)(8) requires that all statistical analysis results be submitted to Ohio EPA not later than 75 days after sampling the well.

GM Defiance is currently using Tolerance Limits to statistically analyze lead, sulfate and TDS and Control Limits to statistically analyze iron. The submittal lists the statistical limits that are currently being used, but does not include the statistical data sheets which document/display the construction/calculation of the statistical limits including the results of outlier testing and testing for normality.

To allow for a determination of compliance with this rule, GM Defiance needs to respond accordingly.

Recommendations

- 3. Ohio EPA recommends that GM Defiance resume submitting historical ground water quality data summary tables in the semi-annual reports of ground water quality.**

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In the past, the semi-annual reports of ground water quality data have included historical ground water quality data summary tables. Ohio EPA appreciates the use of these tables as they generally enhance the review and understanding of the ground water quality data reports.

However, these historical ground water quality tables were not included in the submittal for the April 2010 ground water sampling event.

Statements

- 4. The submittal indicates that the performance of intra-well statistics for iron is an interim measure. However, GMPT-Defiance will not be meeting the requirements of OAC Rules 3745-30-08(C)(6)(f) and (C)(5) if it discontinues intra-well statistical analysis of iron for the downgradient monitoring wells and resumes inter-well statistical analysis for iron.**

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 to comply with the performance standards outlined in OAC Rule 3745-30-08(C)(6).

Due to the high degree of spatial variability in the upgradient iron concentrations, intra-well statistical analysis of the downgradient iron data is appropriate, as it corrects for the spatial variability of the iron data.

Considering this, GMPT-Defiance recently began performing intra-well statistics for the iron data from the facility.

However, the submittal indicates that the performance of intra-well statistics for iron is an interim measure.

- 5. The concentrations of ammonia at MW-15D continue to be generally elevated.**

During the April 2010 semi-annual sampling event, the concentration of ammonia at MW-15D was 8.2 mg/L. This concentration of ammonia is higher than observed at other on-site wells. Further, concentrations of this magnitude are not typically attributable to natural conditions, but are typically associated

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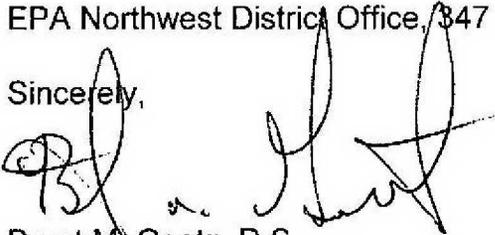
with ground water contamination. Such elevated ammonia concentrations have been noted at MW-15D periodically since 2001.

Further, Ohio EPA has previously noted concern regarding the concentrations of barium at MW-15D. However, as this was the semi-annual event, barium was not analyzed during this event.

Ammonia and barium are not statistical indicator parameters for the facility. However, ground water beneath a landfill facility can still become impacted without a statistically significant change in the indicator parameters.

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 Brent M. Goetz, Division of Solid and Infectious Waste Management, Ohio EPA Northwest District Office, 347 N. Dunbridge Road, Bowling Green, Ohio 43402.

Sincerely,



Brent M. Goetz, R.S.
Environmental Specialist
Division of Solid and Infectious Waste Management

/lb

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~~NWDO File: Defiance County, GMPT Landfill, Ground Water~~

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