



Environmental
Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

Re: GMPT Landfill, Defiance County
Ground Water

March 23, 2011

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

Dear Mr. Renn:

On January 14, 2011, the Ohio Environmental Protection Agency (Ohio EPA), Division of Solid and Infectious Waste Management (DSIWM), Northwest District Office (NWDO) received the October 2010 Annual Statistical Evaluation of Ground Water Monitoring Data (dated January 2011). The submittal documented the statistical evaluation of ground water monitoring data for the October 27-November 3 annual sampling event at the General Motors Powertrain Landfill (GMPT-Defiance) in Defiance County. The submittal 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 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 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, as previously stated in the August 4, 2009, March 1, 2010, September 20, 2010 and December 22, 2010, Ohio EPA letters, 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.

Recommendations

- 2. Ohio EPA recommends that for future ground water sampling events, GMPT-Defiance resume the practice of documenting the monitoring well I.D.s on the chain-of-custody forms.**

In the past, GMPT-Defiance had been documenting the monitoring well I.D.s on the chain-of-custody forms. This procedure is preferred and is the standard practice in the environmental field.

However, for the October 2010 annual sampling event, monitoring well I.D.s were not placed on the chain-of-custody forms. Rather, a number code which corresponded to the date and time of sample collection was used in lieu of the monitoring well I.D.s on the chain-of-custody forms.

However, doing this significantly complicates the review process. Therefore, Ohio EPA recommends that for future ground water sampling events, GMPT-Defiance resume the practice of documenting the monitoring well I.D.s on the chain-of-custody forms.

Statements

- 3. 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.

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

During the October 2010 annual sampling event, the concentration of ammonia at MW-15D was 5.2 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 with ground water contamination. Such elevated ammonia concentrations have been noted at MW-15D periodically since 2001.

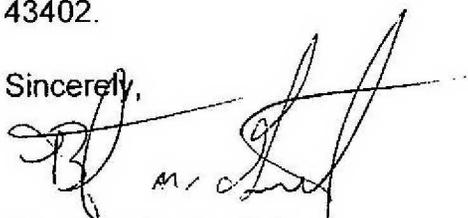
Further, Ohio EPA has previously noted concern regarding the concentrations of barium at MW-15D. The concentration of barium at MW-15D during the October 2010 annual event was 1,100 µg/L. This concentration of barium is considerably higher than observed at other on-site wells. Further, it appears that these barium concentrations may be exhibiting a slowly increasing trend at MW-15D.

Mr. Chuck Renn
March 23, 2011
Page 4

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

/llr

pc: Tamara Moorman, Haley & Aldrich
~~DSIWM-NWDO File: Defiance County, GMPT, Landfill, Ground Water~~

ec: Jack Leow, DDAGW, NWDO
Ken Brock, DDAGW, NWDO
Mike Reiser, DSIWM, NWDO

id #: 5-10083