



State of Ohio Environmental Protection Agency

**Northwest District Office**

347 North Dunbridge Road  
Bowling Green, OH 43402-9398

TELE: (419) 352-8461 FAX: (419) 352-8468  
www.epa.state.oh.us

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

Re: Wales Road Landfill  
Ground Water

September 25, 2008

Mr. Ed Ciecka, Administrator  
City of Rossford  
133 Osborn Street  
Rossford, Ohio 43460

Dear Mr. Ciecka:

On June 2, 2008, the Ohio Environmental Protection Agency (Ohio EPA), Northwest District Office (NWDO) received a letter in response to Ohio EPA comment letters dated March 6 and 19, 2008, regarding Statistical Reports of Ground Water Quality for the June and November 2007 sampling events, respectively, for the City of Rossford – Closed Wales Road Landfill. The letter, dated May 30, 2008, was reviewed to verify compliance with Ohio Administrative Code (OAC) Rule 3745-27-10. Below are Ohio EPA's comments regarding the review.

**Comments**

**Owner/Operator's Response to Ohio EPA letter dated March 6, 2008**

**Evaluation of Owner or Operator's Response to Previously Cited Violations**

1. As stated in Ohio EPA's March 6, 2008 letter, this violation has been addressed by the submittal of a Revised Statistical Monitoring Plan.
2. As documented in the May 30, 2008 letter from Hull & Associates, Inc., the required statistical analysis of chloride at MW-12BR has been performed and an amendment for the June 2007 statistical report of this evaluation (including a revised statistical summary table for MW-12BR) was included in the submittal.

Therefore, the owner/operator has regained compliance with OAC Rule 3745-27-10(C)(8) as the violation cited in the March 6, 2008 letter from Ohio EPA has been adequately addressed.

3. A violation of OAC Rule 3745-27-10(E)(6) was originally cited in an April 17, 2006 letter from Ohio EPA regarding the October 2005 Assessment/Compliance Monitoring Analysis Plan. The violation was cited as the owner/operator did not determine the rate, extent and concentration of contaminants which included portions of the plume that exist beyond the facility boundary, and did not demonstrate that the owner/operator was unable to obtain permission to undertake such action. The owner/operator will return to compliance for OAC Rule 3745-27-10(E)(6) once they provide a copy of the written statement from CSX indicating that off-site access is denied. Or, if access is granted, the owner/operator will return to compliance once the determination of rate, extent, and concentration is completed in accordance with OAC Rule 3745-27-10(E)(6).

Ohio EPA stated in a meeting that was held on January 28, 2008, that the owner/operator must respond to the notice of violation issued in the April 17, 2006 letter. Ohio EPA provided numerous statements in response to Compliance Monitoring sampling events that the owner/operator has not responded to the April 17, 2006, violation. Ohio EPA has further stated that given the requirements of 3745-27-10(E)(6) have not been satisfied, the October 2005 Compliance Monitoring Analysis Plan submitted pursuant to 3745-27-10(E)(8) was not appropriate at that time.

On May 30, 2008, Ohio EPA received a copy of a Letter of Transmittal (LOT) that accompanied a Right-of-Entry Application submitted to CSX Transportation, dated May 28, 2008. This submittal demonstrates that the owner/operator is working towards compliance.

#### Statements

4. **The owner/operator's response was sufficient to avert a violation of OAC Rule 3745-27-10(C)(7)(e).**
5. **The owner/operator's response was sufficient to avert a violation of OAC Rule 3745-27-10(C)(7)(e).**

In accordance with OAC Rule 3745-27-10(C)(7)(e), the background data set for zinc needs to be updated to accommodate the new lower PQL. The selection of data points to be included in the updated background data set should be further determined as follows:

- All previous detections shall be retained in the background data set;
- All non-detect data points at the older PQL(s) shall be removed from the background data set unless one of the following are met:
  - The non-detect data include estimated values. The owner/operator may choose to keep the estimated values in the background data set to be used in place of its corresponding PQL in the statistical method.
  - The number of data points at the new PQL plus the number of detects plus the number of estimated values to be kept in the background data set is less than eight. If the background data set is less than eight, then the most recent, non-detect data points at the old PQL shall be retained in the background data set (enough to bring the total background data set to eight data points). After the collection of four more additional data points at the new lower PQL the owner/operator shall update the background data set and remove all non-detect data points at the older PQL.

#### Owner/Operator's Response to Ohio EPA letter dated March 19, 2008

#### **Evaluation of Owner or Operator's Response to Previously Cited Violations**

1. **Violations 1A, 1B, 1D and 1E**

**The owner/operator continues to be in violation of OAC 3745-27-10(C)(7)(a). In order to regain compliance the owner/operator must revise the control charts for sodium at MW-10T, MW-12TR and MW-12BR, chloride at MW-12TR, and potassium at MW-3BR using the original "raw" data, as discussed below.**

As stated in OAC Rule 3745-27-10(C)(7)(e), "If the distribution of the chemical parameters or waste-derived constituents is shown by the owner or operator to be inappropriate for a normal

theory test, then the data should be transformed or a distribution free theory test used." This means that the first attempt to distribute the data needs to be performed using the original or "raw" data. If the distribution shows that the raw data is not normal, then the data should be transformed (such as logged), or a distribution free statistical method utilized. For the well/parameter combinations in these cases, the distribution of the "raw" data was normal; therefore, the raw data was the most appropriate to construct the control charts. This is explained in the September 2004 Draft EPA Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Unified Guidance (Unified Guidance). Further, the Unified Guidance explains why the default assumption of ground water data being lognormally distributed as referenced in the "Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities – Interim Final Guidance" (1989) and the corresponding Addendum (1992) is inaccurate for current statistical applications and should not be considered.

#### **Violation 1C**

**The owner/operator continues to be in violation of OAC Rule 3745-27-10(C)(7)(a). In order to regain compliance the owner/operator must provide a revised control chart for sodium at MW-12BR using the original "raw" data, and removing the June 26, 1996 outlier (43.7 mg/L) from the background data set for the reason discussed below.**

As documented in the owner/operator's August 2003 "Statistical Report of Groundwater Quality" the June 26, 1996 sodium concentration at MW-12BR (43.7 mg/L) was determined to be an outlier and not representative of groundwater quality at the facility. This determination was made using the Dixon's Test for outliers with 16 background data points. Up through the November 2007 sampling event the June 26, 1996, sodium concentration of 43.7 mg/L has been excluded from statistical evaluation.

OAC Rule 3745-27-10(C)(7)(g) requires that background data only be added in groups of four or more after the data have been statistically compared to the current background data and not statistical differences are detected, unless another method is deemed acceptable to the director. The June 26, 1996 sodium concentration at MW-12BR was statistically determined not to be representative of ground water at the facility; therefore, the owner/operator needs a director's approval to add that data point to background for statistical evaluations. Until such time the owner/operator submits a request to include the June-26, 1996 sodium concentration of 43.7 mg/L collected at MW-12BR, and is granted director's approval, it cannot be used for statistical evaluations.

When the June 26, 1996 sodium concentration of 43.7 mg/L is removed from statistical evaluation, the original "raw" data is normally distributed. In this case, as discussed in the preceding comment, the raw data should be used to construct the control chart. With the low outlier removed from background for the purpose of statistical evaluation and the control chart constructed using the raw data, the sodium concentration from the November 2007 sampling event appears to be statistically significant.

2. **Please see Ohio EPA Comment 3 (above) from the owner/operator's response to Ohio EPA's letter dated March 6, 2008.**

#### **More Information Needed to Determine Compliance**

3. **Compliance with OAC Rule 3745-27-10(C)(1), requiring the owner/operator to collect representative ground water samples, cannot be determined at this time. The owner/operator must do one of the following:**

- **Revise the Ground Water Detection Monitoring Sampling and Analysis Plan to document the current field parameter stabilization criteria;**

OR

- **Demonstrate to Ohio EPA how the field parameters that are currently being utilized for stabilization criteria in the Ground Water Detection Monitoring Plan meet the requirements of OAC Rule 3745-27-10(C)(1).**

The owner/operator failed to address Comment 5 of Ohio EPA's March 19, 2008 letter. Based on review of current technical literature, Ohio EPA now considers the criteria for stabilization to be  $\pm 0.1$  Standard Units (S.U.) for pH,  $\pm 3\%$  for conductivity, and  $\pm 0.5^\circ\text{C}$  for temperature. In addition, a parameter is considered stable when at least three consecutive readings have stabilized.

4. **Compliance with OAC Rule 3745-27-10(C)(1), requiring that the owner/operator collect representative ground water samples cannot be determined at this time. The owner/operator failed to address Comment 6 of Ohio EPA's March 19, 2008 letter. The owner/operator needs to review the discussion below and provide the necessary documentation.**
- A. A review of the field data sheets indicates that wells MW-1T, MW-2T, MW-3T, MW-10T, MW-11T(R), MW-12T(R), MW-1B, MW-3B(R), MW-10B(R) and MW-11B(R) were purged dry. These wells were then sampled the next day. OAC Rule 3745-27-10(C)(1) requires that the owner/operator collect representative ground water samples. This typically means that samples are collected as soon as enough water is available in the well for the sample to be collected. Waiting 20 to 23 hours to sample a well which may have recharged shortly after going dry may result in samples of "stagnant" water and would not result in representative samples. There is no information on the field data sheets indicating when the referenced wells recharged with enough water to sample. It can be estimated from well recovery data provided in the Ground Water Detection Monitoring Sampling and Analysis Plan (Revised May 2004) that several of the wells that "purged dry" recharged at a rate that should not have required waiting until the next day to sample. The wells should have been sampled as soon as enough water became available.
- The owner/operator needs to provide documentation relating to when the referenced wells recharged sufficiently to collect the ground water samples.
- B. A review of the field data sheets indicates that wells MW-2B and MW-12B(R) did not purge dry and were sampled the next day. OAC Rule 3745-27-10(C)(1) requires that the owner/operator collect representative ground water samples. This means that samples are collected as soon as enough water is available in the well for the sample to be collected. A review of the stabilization data for MW-2B and MW-12B(R) recorded on their respective field data sheets indicates that the chemistry of the water changed significantly between the end of purging and the time of sampling. For example, the last pH and temperature measurement at MW-2B were 6.86 S.U. and  $11.0^\circ\text{C}$ , respectively. When MW-2B was sampled the water measurement for pH and temperature increased to 7.31 S.U. and  $11.8^\circ\text{C}$ , respectively. It appears that waiting approximately 21 hours after purging to collect the ground water sample resulted in the ground water becoming "stagnant" and the samples not representative.
- The owner/operator needs to explain how the samples collected from MW-2B and MW-12B(R) are representative of ground water at the site.

**Statements**

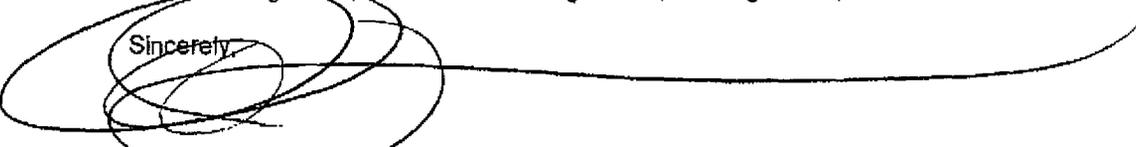
5. **The owner/operator's response to Comment 3 for more information to determine compliance with OAC Rule 3745-27-10(C)(7)(e) was sufficient to avert a violation.**

Please note the background data set for arsenic will need to be updated once four data points using the new lower PQL have been collected, as discussed in statement 5 (above) regarding the owner/operator's response to Ohio EPA's letter dated March 6, 2008.

6. **The owner/operator's response to Comment 4 for more information to determine compliance with OAC Rule 3745-27-10(C)(7)(e) was sufficient to avert a violation.**

If you have any questions, please contact Chad Zajkowski at the Ohio EPA, Northwest District Office, Division of Drinking and Ground Waters, at (419)373-3097. Any written correspondence should be sent to the attention of Kimberly Burnham, Ohio EPA Northwest District Office, Division of Solid & Infectious Waste Management, 347 North Dunbridge Road, Bowling Green, Ohio 43402.

Sincerely,



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

/cs

pc: Jim Konopinski, Wood County Health Department  
William Petruzzi, Hull & Associates, Inc.  
Chad Zajkowski, DDAGW, NWDO  
~~=> DSIWM; NWDO. File: Wood County; Wales Road Landfill; Ground Water.~~

ec: JL, AD, MR

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