



Environmental
Protection Agency

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

July 1, 2011

Mr. Felipe Mejia
Mansfield Plumbing Products, LLC.
150 East First Street
Perrysville, Ohio 44864

Dear Mr. Mejia:

The Ohio Environmental Protection Agency (Ohio EPA) reviewed the "Response to Ohio EPA comment letter dated March 8, 2011, regarding the statistical evaluation of September 2010 semiannual ground water monitoring results" for compliance with the Ohio Administrative Code (OAC) Rule 3745-30-08. The document was received on March 28, 2011. The landfill is in assessment monitoring for statistically significant increases (SSI) in total dissolved solids (TDS), dissolved copper, and dissolved zinc at monitoring wells MW-3, MW-4, MW-6, and MW-7.

COMMENTS

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

1. **Mansfield Plumbing Products' (MPP) submitted the March 2010 sampling event laboratory data sheets for monitoring wells MW-1, MW-6 and MW-7. This information adequately addresses Comment 1 in the March 8, 2011, letter; therefore, the owner/operator has returned to compliance with OAC Rule 3745-30-08(C)(8).**

Statements

2. **MPP submitted responses to the bulleted items that appear in Comment 2 of the March 8, 2011, letter. A review of MPP's response is discussed in items A through D below. The bold-italic headings in A through D are in reference to the demonstration discussed in Ohio EPA Guidance Document 0715 (dated June 12, 2009). MPP states that additional information will be submitted after the September 2012 sampling event for Ohio EPA to determine compliance with OAC Rule 3745-30-08(C)(6)(g).**

- A. *Consideration of potential close proximity in concentration of the statistical outlier to other detections or to available estimated data that is greater than or equal to the MDL but less than the PQL.***

MPP states the September 2009 zinc concentration at MW-1 is confirmed by the results of 37 ug/L in June 2008 and 36 ug/L in December 2009.

The June 2008 and December 2009 results referenced by MPP are unreliable. These results are unreliable due to laboratory error. Laboratory error is indicated by the duplicate sample results that differ significantly.

Dissolved Zinc at Upgradient Well MW-1 (concentrations in ug/L)					
Sampling Date	Result	MDL	PQL	Duplicate Result	Comment *
9/20/2007	not detected	8.8	30	not detected (MW-1 duplicate)	
11/28/2007	not detected	3.0	10	not detected (MW-1 duplicate)	
1/16/2008	not detected	8.8	30	not detected (MW-1 duplicate)	
3/12/2008	not detected	3.0	10	not detected (MW-1 duplicate)	
5/8/2008	not detected	3.0	10	not detected (MW-1 duplicate)	
6/24/2008	37	3.3	10	not detected (MW-1 duplicate)	Initial MW-1 result not verified by duplicate sample and considered non-detect.
8/6/2008	not detected	3.3	10	not detected (MW-1 duplicate)	
9/11/2008	not detected	3.3	10	not detected (MW-1 duplicate)	
3/2/2009	4.7 J	3.3	10	not detected (MW-4) 34 (MW-4 duplicate)	MW-1 result initially estimated below MDL. Duplicate sample results inconsistent. MW-1 considered non-detect.
9/28/2009	46	2.6	10	34 (MW-4) 4.4 J (MW-4 duplicate)	MW-1 result uncertain due to inconsistent duplicate sample results. MW-1 result considered an outlier.
12/1/2009	36	6.8	30	73 (MW-4) 27 J (MW-4 duplicate)	MW-1 result considered non-detect due to inconsistent duplicate sample results.

Dissolved Zinc at Upgradient Well MW-1 (concentrations in ug/L)					
Sampling Date	Result	MDL	PQL	Duplicate Result	Comment *
3/29/2010**	4.4 J	2.6	10	not detected (MW-4) not detected (MW-4 duplicate)	MW-1 result initially estimated below MDL. MW-1 considered non-detect.
9/29/2010	4.5 J	2.6	10	4.5 J (MW-4) not detected (MW-4 duplicate)	MW-1 result initially estimated below MDL. MW-1 considered non-detect.
* The outlier analysis in Appendix D in the September 2010 sampling event report identified all dissolved zinc results for MW-1 as non-detect except the result dated 9/28/2009.					
** 3/29/2010 analytical data for wells MW-1, MW-6 & MW-7 submitted in response dated March 23, 2011.					

B. Supporting evidence found in relevant, professional literature that the statistical outlier concentration is within the normal range of background concentrations expected for the parameter at the facility.

MPP states the September 2009 zinc concentration at MW-1 is comparable to the mean total zinc concentration of 34.2 ug/L and below the maximum concentration of 6300 ug/L in Table 3 of the 2006 305(b) Report [on] Ohio's Ground Water Quality (dated June 2006).

The ground water quality at well MW-1 cannot be used in an 'apples to apples' comparison to the data in Table 3 of the 305(b) Report. The uppermost aquifer system beneath the Upper Landfill is shale overlain by unsaturated, unconsolidated material, including sand and gravel. The data from the report referenced by MPP represents saturated, sand and gravel aquifers in Ohio. A second difference is that the ground water quality data in the 305(b) Report is for total zinc. MPP does not sample or report total zinc. MPP field filters the ground water samples for the analysis of dissolved metals including dissolved zinc. A third difference is that the June 2008, September 2009, and December 2009 results for dissolved zinc at well MW-1 are larger than the mean total zinc concentrations in Table 3 of the 305(b) Report. The analysis for any constituent's dissolved concentration is typically lower than the sample's total concentration of the same constituent.

- C. *A comparison of the statistical outlier concentration to background data from other sample locations located up or down gradient and are unaffected by potential sources of contamination that considers the range, standard deviation and spatial variability present in background at the facility and demonstrates that the statistical outlier concentration is within the normal range of background concentrations expected for the parameter at the facility.***

MPP states the September 2009 zinc concentration at MW-1 will be reevaluated as a potential outlier once data is collected from the 16th semiannual sampling event scheduled for September 2012.

In accordance with OAC Rule 3745-30-08(C)(6)(g), MPP may wait until after the September 2012 sampling event to evaluate and potentially update the zinc background well data set. However, it would be inappropriate to compare the statistical outlier to the ground water quality of the downgradient monitoring wells to justify the outlier. The downgradient wells have been determined to be impacted and are currently in assessment monitoring.

- D. *Use of an appropriate outlier testing procedure not previously identified in the statistical analysis plan demonstrating that the data point previously identified as a statistical outlier in accordance with the statistical analysis plan is not an outlier.***

MPP's response did not state what procedure will be used to evaluate the potential background data for outliers.

The result of an outlier test may be inappropriate if simple substitution of one-half the practical quantitation limit (PQL) is used to replace the non-detect data. PQLs higher than Ohio EPA target PQLs have been used for the Upper Landfill. The Ohio EPA target PQL for zinc is 20 ug/L (Guidance Document 406 dated April 24, 2007). MPP has used PQLs of up to 30 ug/L to analyze zinc at MW-1. Zinc is considered to be 'not detected' at PQLs as low as 10 ug/L for the Upper Landfill as explained in the Table in Comment 2-A above.

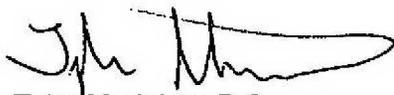
Ohio EPA Guidance Document 0715 states: "If there is a single detection greater than the practical quantitation limit (PQL) and detections above the method detection limit (MDL) comprise less than 50 percent of the background data set, any value greater than the highest PQL among the background data shall be considered a statistical outlier." Based on this and the information above, the September 28, 2009, result for dissolved zinc at MW-1 is an outlier and the other results for zinc at MW-1 are 'non-detect.'

If the owner/operator has any questions, please contact Pete Sokoloski, Division of Drinking and Ground Waters, Northwest District Office, Ohio EPA, at (419) 373-4100.

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All submittals should be sent to Tyler Madeker, Division of Materials and Waste Management, Northwest District Office, Ohio EPA, 347 North Dunbridge Road, Bowling Green, Ohio, 43402.

Sincerely,



Tyler Madeker, R.S.
Ohio Environmental Protection Agency
Division of Materials and Waste Management

/llr

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