



State of Ohio Environmental Protection Agency

Northeast District Office

2110 East Aurora Rd.
Twinsburg, Ohio 44087

TELE: (330) 963-1200 FAX: (330) 487-0769
www.epa.state.oh.us

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

December 30, 2008

**RE: WESTLAKE CITY LANDFILL
CUYAHOGA COUNTY
GROUND WATER
NOTICE OF VIOLATION**

Mr. Don Glauner
Service Director
City of Westlake
27216 Hilliard Boulevard
Westlake, Ohio 44145

Dear Mr. Glauner:

On September 18, 2008, Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), received a submittal dated August 2008, entitled "*Post Closure Groundwater Monitoring Report, May 2008 Sampling Episode, Former Westlake Sanitary Landfill Facility, Westlake, Ohio.*" The report was prepared and submitted by Mr. Fraser Hamilton of Earth Consulting, LTD, on behalf of the City of Westlake.

Westlake Landfill closed under the 1990 Solid Waste Landfill Regulations, and is currently conducting post-closure ground water detection monitoring in accordance with OAC Rule 3745-27-10 of the 2003 revised Solid and Infectious Waste Regulations. The sampling report was prepared and submitted to conform with OAC Rule 3745-27-10(C)(10) of the 2003 revised Solid and Infectious Waste regulations.

The May 2008 sampling episode report was reviewed for compliance with OAC Rule 3745-27-10(D) and the facility's revised 2004 ground water detection monitoring plan (GWDMP). Ground water elevations were collected from all monitoring wells prior to purging or sampling.

Ground water samples were collected on May 15, 2008. According to field data sheets (Appendix A), GW-3R and GW-6R are new monitoring wells that were installed to replace wells GW-3 and GW-6 in February 2008. These replacement wells were not developed at the time of installation. No noticeable recharge occurred after 30 minutes in either well, and additional development will be performed prior to the next scheduled sampling event.

All ground water monitoring samples were analyzed for Appendix I parameters, total dissolved solids (TDS), total organic carbon (TOC), temperature, pH, and specific conductivity [OAC Rule 3745-27-10(D)(5)a]. Ammonia and chloroethane have been detected in ground water samples collected from all downgradient wells since at least the March 2004 sampling event (attached Tables 1 and 2). For example, recent ammonia concentrations in GW-5 range from 26.7 mg/l in ground water samples

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collected during the October 2005 sampling event, to 25 mg/l during the October 2007 sampling event. In comparison, the range of ammonia concentrations detected in ground water samples from the background well, GW-7 over the same period, was 1.14 mg/l to 0.202 mg/l. This comparison shows that ammonia concentrations in ground water downgradient of the landfill are approximately 23 times higher than upgradient concentrations. It was noted that chloroethane was detected at GW-5 at a concentration of 4.0 mg/L. Detections of chloroethane, along with elevated ammonia concentrations in downgradient wells, indicate that the landfill has impacted ground water flowing beneath the facility.

This report also included a section titled *Statistical Evaluation* (Section 4.0, page 3) for the discussion of how intrawell limits will be used to statistically analyze the May 2008 results.

Upon review of the document, Ohio EPA has identified the following violations of Ohio Administrative Code Chapter 3745-27-10:

- 1. OAC Rules 3745-27-10(A), 3745-27-10(C)(7)(h), 3745-27-10(D)(5)(a)(iii) and 3745-27-10(D)(7): which requires that the ground water monitoring program be capable of determining the impact of the facility on the quality of ground water and that the owner/operator determine whether statistically significant increases have occurred in the monitoring wells. According to the statistical procedures specified in paragraphs (C)(6) and (C)(7) of this rule, each constituent is required to be statistically analyzed.**

The owner/operator has failed to statistically analyze the May 2008 sample results to determine whether any of the results constitute statistically significant increases as required by these rules. Specifically, the owner/operator has utilized intrawell prediction limits and trend analysis as the statistical method without approval from Ohio EPA. However, the use of intrawell analysis is not acceptable until it can be demonstrated that the ground water has not been affected by the landfill within the relevant well(s). This demonstration has not been completed and approved by Ohio EPA. Thus, the owner/operator has failed to implement a ground water detection monitoring program capable of determining the impact of the facility on the underlying ground water [OAC Rule 3745-27-10(A)].

In order to return to compliance, the owner/operator must immediately determine whether or not statistically significant increases over background have occurred based on analysis of the May 2008 data according to the statistical procedures specified in paragraphs 3745-27-10(C)(6), 3745-27-10(C)(7), and 3745-27-10(D)(7) of this rule. This demonstration should include at least two ground

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water sampling events to prove no impact and that the background wells have not been impacted by historical landfill operations.

- 2. OAC Rule 3745-27-10(C)(10): which requires that the owner/operator submit all ground water information no later than seventy-five days after sampling the wells. This information should include all ground water elevation, sample analysis and statistical analysis results.**

Ohio EPA has determined that the owner/operator failed to comply with OAC Rule 3745-27-10(C)(10) because the May 2008 sampling episode report was not received within the 75-day deadline by Ohio EPA.

In order to comply with OAC Rule 3745-27-10(C)(10), the owner/operator must ensure that all future ground water detection monitoring reports are submitted to Ohio EPA within the 75-day deadline.

Upon review of the document, Ohio EPA has identified the following deficiency of Ohio Administrative Code Chapter 3745-27-10:

The May 2008 sampling episode report indicated that ground water samples were not collected and analyzed from two replacement monitoring wells, GW-3R and GW-6R, at the facility. The owner/operator must attempt to successfully sample GW-3R and GW-6R using a new sampling method that is documented in a revised GWDMP or install and sample new wells in place of GW-3R and GW-6R. In either case, the collection of representative ground water samples should be achieved as required by this rule and the facility's GWDMP.

In addition, Ohio EPA has the following comments regarding May 2008 sampling episode report:

1. Report Table 2 indicates that these are the results for the "May 2007 Sampling Episode." This is not correct. Table 2 should be re-titled "May 2008 Sampling Episode," checked for correctness, and resubmitted for Ohio EPA review.
2. The report text, analytical result tables and figures do not follow the labeling format found in the Facility's 2004 GWDMP. For example, the Facility's 2004 GWDMP refers to the monitoring wells in terms of "MW1, MW2, MW3." However, the text, associated figures and the ground water elevation table use two designations for monitoring wells (GW1, GW2, etc. versus MW1, MW2, etc.).

The report text, the potentiometric map (Figure 1) and the results table (Report Table 2) should follow the labeling format found (MW1, MW2, etc.) in the Facility's 2004 GWDMP. All text, table and figures discrepancies should be

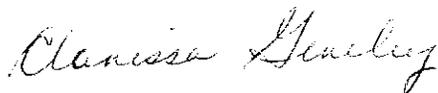
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revised to follow the Facility's 2004 GWDMP and resubmitted for Ohio EPA review.

Please submit the revisions to the May 2008 ground water detection monitoring report to this office within sixty days of receipt of this letter. If you have any questions regarding this review, please contact me at (330) 963-1224. Please submit all correspondence to my attention at the Ohio EPA Northeast District Office, 2110 East Aurora Road, Twinsburg, Ohio 44087.

Nothing in this letter shall be construed to authorize any waiver from the requirements of any applicable state or federal laws or regulations. This letter shall not be interpreted to release the Entity from responsibility under Chapters 3704, 3714, 3734, or 6111 of the Ohio Revised Code or under the Federal Clean Water or Comprehensive Environmental Response, Compensation, and Liability Acts for remedying conditions resulting from any release of contaminants to the environment.

Sincerely,



Clarissa Gereby,
Environmental Specialist
Division of Solid and Infectious Waste Management

CG:cl

cc: Carl Preusser, Cuyahoga County Health Department
File: [Kurko/LAND/Westlake City LF/GRO/18]

Project #1905

Table 1: 2004 - 2008 Ammonia Analytical Results

Parameter	Sampling Event	Monitoring Wells							
		GW-1	GW-2	GW-3	GW-5	GW-6	GW-4	GW-7	
		downgradient					side-gradient	upgradient	
Ammonia, Nitrogen (mg/L)	3/2004	<1	<1	<1	<1	NS	<1	<1	
	11/2004	NA	NA	NA	NA	NA	NA	NA	
	4/2005	<0.5	<0.5	<0.5	1.7	<5	<0.5	<1	
	10/2005	0.55	0.42	1.2 (diluted x 2)	26.7 (diluted x 40)	NS	1.49 (diluted x 4)	1.14 (diluted x 4)	
	4/2006	0.56	0.51	NS	24 (diluted x 10)	NS	0.58	1.19 (diluted x 2)	
	11/2006	0.451	0.467	NS	27.4	NS	1.22	1.17	
	3/2007	0.618	0.442	NS	20.3	NS	0.354	0.941	
	10/2007	0.438	0.429	NS	25	NS	1.46	0.202	
	5/2008	NA	NA	NA	NA	NA	NA	NA	

Table 2: 2004 - 2008 Chloroethane Analytical Results			
Parameter	Sampling Event	Monitoring Wells	
		GW-5	GW-7
		downgradient	upgradient
Chloroethane (g/L)	3/2004	5	<5
	11/2004	<5	<5
	4/2005	<5	<5
	10/2005	4.5 J	<0.80
	5/2006	4.2 J	<0.80
	11/2006	*Results not included in November 2007 Sampling Report	*Results not included in November 2007 Sampling Report
	5/2007	3.9 J	<0.446
	10/2007	3.44 ZJ	<0.450 Z
	5/2008	4	<0.1

J indicates an estimated value (the analyte was detected at a level less than the Reporting Limit and greater than or equal to the Method).
Z indicates that there was no MS/MDS analyzed with this batch due to insufficient sample volume.