



State of Ohio Environmental Protection Agency

**Northwest District Office**

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Bowling Green, OH 43402-9398

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

Re: Residual Waste Landfill  
Groundwater

April 9, 2009

Mr. Andy Cvitkovich  
Engineering Manager  
United States Gypsum Company  
Gypsum, Ohio 43433

Dear Mr. Cvitkovich:

On January 20, 2009, the Ohio Environmental Protection Agency (Ohio EPA), Northwest District Office (NWDO), received the Statistical Report of Groundwater Quality for the November 2008 sampling event at the United States Gypsum Company (US Gypsum) Residual Waste Landfill (Facility) in Ottawa County. The report, dated January 2009, was reviewed to determine compliance with Ohio Administrative Code (OAC) Chapter 3745-30, an approved Closure Plan, and the Director's Findings and Orders dated October 12, 1994. Below are Ohio EPA's comments regarding the review.

**COMMENTS**

**Violations**

1. **The owner/operator is in violation of OAC Rule 3745-30-08(C)(1), which requires consistent sampling and analysis procedures that are designed to ensure monitoring results that provide an accurate representation of ground water quality. In order to return to compliance with OAC Rule 3745-30-08(C)(1) the owner/operator needs to provide documentation when the wells recharged sufficiently to collect a sample. Also, the owner/operator needs to ensure that representative samples are collected, and that the procedures used for collecting samples are documented in the plan.**

A review of the field data sheets for the wells sampled at the site indicates that ground water field parameter values did not display stable conditions or displayed conditions which were not consistent with purge data. In wells which were not purged dry, there are typically seven (7) readings for field parameters: pH, temperature and conductance. When properly purged, field data from the wells should display consistent results for the last three readings. When compared to each other the last three readings ideally should be within 0.2 S.U. for pH, within 3% for conductance, and within 0.5°C for temperature.

Based on review of ASTM and U.S. EPA guidance, Ohio EPA considers the criteria for stabilization of these field parameters to be  $\pm 0.2$  S.U. for pH,  $\pm 3\%$  for conductivity,  $\pm 0.5^\circ\text{C}$  for temperature and  $\pm 10\%$  for turbidity (when turbidity is  $>10$  NTU). A parameter can be considered stable when at least three consecutive readings have stabilized.

A review of the field data sheets indicates that all wells were purged on November 5, 2008, but were sampled the next day (November 6, 2008, respectively), whether they could produce enough water immediately following purging or not. There is no indication that any of the wells recharge slowly. Since enough water is available, sampling should immediately follow purging. OAC Rule 3745-30-08(C)(1) requires that procedures be used which will produce representative samples. This usually means that samples are collected as soon as enough water is available for sampling. Waiting 22 or more hours to sample a well which had recharged immediately following purging could result in samples of "stagnant" water and would not result in representative samples. A review of the stabilization data recorded as field parameters for wells that were not bailed dry indicates the chemistry of the water in several of the wells changed significantly between the end of purging and the time of sampling. The chemistry of the sampled water is significantly different from that removed from the well at the end of purging and is not representative of the ground water of the site. The sampled water appears to be stagnant. Following is a table comparing the field parameters of the wells which were not bailed dry. Bold values exceed new stabilization criteria. Values with an asterisk indicate values equal or exceed a 10% difference.

WELL	Time from purge to sampling (hrs: mins)	pH at final purge volume (SU)	Sample pH (SU)	Temp. at final volume (°C)	Sample Temp (°C)	Conduct. at final volume (µmohs/cm)	Sample Conduct. (µmohs/cm)
MW-1*	22:15	6.66	<b>6.44</b>	11.7	<b>13.9*</b>	4030	<b>3270*</b>
MW-2*	21:50	6.76	6.58	12.4	<b>13.6</b>	3730	<b>3130*</b>
MW-4	20:20	6.88	6.80	12.5	<b>14.3*</b>	4730	<b>4490</b>
MW-5*	20:07	6.95	6.80	14.2	14.3	3980	<b>3460*</b>
MW-6*	20:23	6.81	6.67	11.7	11.5	2760	<b>2350*</b>
MW-7*	20:35	6.74	6.60	12.4	12.1	3490	3020
MW-8	20:45	6.71	6.57	11.4	10.5	3580	<b>3120*</b>
MW-9*	21:20	6.73	6.62	11.4	11.9	3560	<b>3030*</b>
MW-10*	21:30	6.92	6.78	11.5	<b>13.1*</b>	3700	<b>2940*</b>
MW-11*	20:05	6.75	6.66	15.3	<b>17.4*</b>	4520	<b>4290</b>
MW-12*	19:45	6.78	6.69	15.0	<b>17.6*</b>	3730	3540

**Based on stabilization criteria: pH ±0.2 standard units, specific conductance ±3%, and temperature ±0.5° Celsius.**

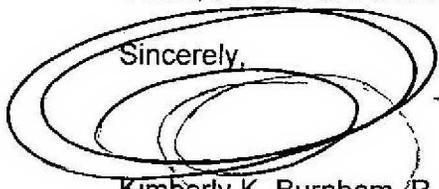
\* Exceeds 10% criteria set by owner/operator.

Wells should be sampled as soon as enough water is available in the well to sample.

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If you have any questions, please contact Jack Leow at the Ohio EPA Northwest District Office at (419) 373-3095. Any written correspondence should be sent to the attention of Kimberly Burnham, Division of Solid and Infectious Waste Management, Ohio EPA Northwest District Office, 347 North Dunbridge Road, Bowling Green, Ohio 43402.

Sincerely,



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

/cs

pc: Jack Leow, DDAGW, NWDO  
William Petruzzi, Hull & Associates, Inc.  
DSIWM; NWDO File – Ottawa County; US Gypsum, Groundwater

ec: HK, Mike Reiser

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