

**Environmental  
Protection Agency**

1000 East Broad Street, Governor

1000 East Broad Street, Lt. Governor

1000 East Broad Street, Director

August 17, 2011

**RE: HOLMES COUNTY LANDFILL  
GROUND WATER  
NOTICE OF VIOLATION**

Joe Miller, Chairman  
Holmes County Board of Commissioners  
2 Court Street, Suite 14  
Millersburg, OH 44654

Dear Mr. Miller:

The Ohio Environmental Protection Agency (Ohio EPA) has reviewed the following documents:

- Ground Water Detection Monitoring Report, June 2010 Semiannual Event dated August 23, 2010; and
- Addendum to June 2010 Ground water Detection Monitoring Report Semiannual Event dated September 10, 2010.

On behalf of Holmes County Sanitary Landfill (SLF), North Point Engineering Corporation (NPE) and KU Resources, Inc. (KU) prepared and submitted to the Ohio EPA, the above referenced documents. The ground water detection monitoring report, dated August 23, 2010 was received by Ohio EPA, Northeast District Office (NEDO) on August 24, 2010. The addendum to the June 2010 Ground Water Detection Monitoring Report, dated September 10, 2010 was received by NEDO on September 13, 2010. Holmes County SLF is operating under the 2003 Revision to Ohio Administrative Code (OAC) Rule 3745-27-10, and at the time of this sampling event, in accordance with OAC Rule 3745-27-10(D) and (E), Detection and Assessment Monitoring Program.

The Semiannual Ground Water Monitoring Event for January to June 2010 was conducted on June 9 and 10, 2010. Samples were analyzed for chloride, ammonia, potassium, sodium and the VOC's 1,1-dichloroethane, benzene, chloroethane and vinyl chloride. Lower Significant Zone of Saturation (SZS) detection monitoring well LZ-2 did not produce enough water during the sampling event, except to collect a VOC sample on June 10, 2010. The well was purged again on August 16, 2010, and sampled on August 17, 2010 for ammonia, sodium, and potassium only. The next time water was available for sampling was August 23, 2010 when Holmes County SLF sampled for chloride, and the results are included in the June 2010 Addendum Report.

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Initial unverified statistically significant increases (SSIs) were detected in LZ-2 for sodium at 180 mg/L and 18 mg/L potassium. Per OAC 3745-27-10(D)(7)(c), Holmes County SLF had until January 6, 2011 to demonstrate that these SSIs for sodium and potassium were not attributed to the landfill. No demonstration was submitted until May 23, 2011 (under review). Therefore, as of January 7, 2011, LZ-2 entered assessment monitoring activities.

The report also serves as notification of additional SSI over background for potassium and sodium in the UZ-1 for 8.4 mg/L and 53.0 mg/L respectively; and SSIs over background for potassium and sodium in the UZ-12 for 9.0 mg/L and 28.9 mg/L, respectively. Holmes County SLF had until January 6, 2011 to demonstrate that these SSIs for sodium and potassium were not attributed to the landfill. No demonstration was submitted. Therefore, as of January 7, 2011, UZ-1 and UZ-12 also entered assessment monitoring activities.

Historically, the facility submitted an alternate source demonstration (ASD), dated May 21, 2010 for the SSIs for sodium, which triggered in monitoring well UZ-1 and LZ-3R in December 2009, which was received at Ohio EPA, NEDO on May 24, 2010. Ohio EPA declined to act on the ASD in a letter dated July 13, 2010. Because the May 2010 ASD was not accepted, the facility is now considered in Assessment Monitoring; detection monitoring wells UZ-1 and LZ-3R entered assessment monitoring as of July 12, 2010.

In summary, due to the aforementioned and unresolved SSIs at monitoring wells UZ-1, LZ-2, LZ-3R, and UZ-12, the facility is now conducting an assessment monitoring program.

Ohio EPA has identified the following violations:

1. Holmes County SLF remains in violation of OAC 3745-27-10(E)(1) requiring a ground water quality assessment monitoring program for UZ-1, UZ-12, LZ-2 and LZ-3R. The owner or operator has failed to comply with the following requirements regarding ground water quality assessment monitoring. Unless the director approves the report submitted in accordance with paragraph (D)(7)(c) of this rule, the owner or operator shall implement a ground water quality assessment plan capable of determining the concentration, rate, and extent of migration of waste-derived constituent(s) in the ground water upon determining a statistically significant increase over background in accordance with paragraph (D)(7) of this rule. The owner or operator shall implement and comply with the ground water quality assessment plan and the requirements of this rule.

Detection monitoring wells UZ-1 and LZ-3R entered assessment monitoring on July 13, 2010. They were joined in assessment monitoring by detection monitoring wells UZ-12 and LZ-2 on January 7, 2011. To date, Holmes County SLF has neither submitted a ground water quality assessment plan, nor conducted any of the ground water monitoring activities at these wells as required by this rule.

To return to compliance with this rule, the owner/operator needs to immediately submit a ground water quality assessment plan and initiate the required assessment sampling protocols, beginning with the Appendix I and II sampling at all four of these assessment wells, plus the appropriate background wells.

2. Holmes County SLF is in violation of OAC Rules 3745-27-10 (C)(1) and 3745-27-10(C)(1)(a), which requires the ground water monitoring program to include consistent sampling and analysis procedures and statistical methods that are protective of human health and the environment; and that are designed to ensure monitoring results that provide an accurate representation of ground water quality at the background and downgradient wells; and requires the owner/operator to document these consistent sampling and analysis procedures in a plan, and to follow it.

The ground water sample from monitoring well LZ-2 was not representative of ground water quality for the lower zone because the sample was obtained on August 23, 2010 without purging.

The Ground Water Detection Monitoring Plan (GWDMP) states that wells shall be sampled within 24 hours after purging has been completed. The GWDMP goes on to state that if a well goes dry during sampling, sample collection should proceed when the well has recharged sufficiently to meet the remaining samples, and in the event that one or more of the monitoring wells recovers so slowly that low-flow purging/sampling is precluded, sampling will be conducted utilizing minimum/no purge sampling techniques.

It is acceptable for wells that go dry, that the owner/operator attempt to sample within 24 hours, and if necessary, to continue to return to the well every 24 hours, up to a total of several days in an effort to collect a sufficient volume of water to satisfy a full sampling event (Technical Guidance Manual, Chapter 10). It is not acceptable to allow more than 24 hours passing before attempting sample collection. Ultimately, what happened here was fourfold. First, the owner/operator did not follow their plan, which required the well to be sampled within 24 hours. Second, the owner/operator implemented an unacceptable purging and sampling method (purge dry and sample six days later) based on inappropriate sampling language in their plan. Third, it does not appear the owner/operator attempted either low-flow or minimum/no purge sampling methods at this well, as set forth in their plan. Fourth, turbidity measurements prevented a representative sample from the well. Turbidity never dropped adequately to sample.

To return to compliance with these rules, the owner/operator needs to revise the plan to more clearly and appropriately specify how low-yield wells will be purged and sampled. The owner/operator should strictly adhere to Chapter 10 of the Technical Guidance Manual for Hydrogeologic Investigations and Ground Water Monitoring, and

the owner/operator needs to implement and follow their revised plan during the next semiannual sampling event at Holmes County SLF.

3. Holmes County SLF is in violation of OAC Rule 3745-27-10 (B)(3)(e), which requires the monitoring wells, piezometers, and other measurement, sampling, and analytical devices to be operated and maintained to perform to design specifications throughout the life of the monitoring program.

Turbidity measurements in the hundreds of nephelometric turbidity units (NTUs) prevented a representative sample from being collected at LZ-2. At a minimum, turbidity measurements over 100 NTUs at the time of sampling should signal that redevelopment of the well is necessary if a representative sample is to be collected. Holmes County SLF completed well redevelopment of LZ-2, and notified the agency on May 25, 2011, and, thus, returned to compliance for this violation; however, the redevelopment was necessary over a year earlier.

Ohio EPA has the following comments:

4. Approval of earlier ASDs is not adequate justification for the current SSIs triggered in June 2010. The facility stated that an ASD for addressing sodium in UZ-1 was completed and approved by Ohio EPA on June 13, 2008, and an ASD concerning the concentrations of potassium in wells UZ-1 and UZ-12 and sodium in well UZ-12 was approved by Ohio EPA January 22, 2009. These approvals are for the SSIs in 2008 and 2009; therefore, they are not applicable for the current SSIs for 2010.
5. Holmes County SLF inquired if Ohio EPA would review and approve new sampling procedures outlined in the addendum for low-yielding wells, and to update the Ground Water Monitoring Detection Plan (GWMDP) to reflect the new procedures. As to the purging and allowing seven days prior to collecting water samples, that is not acceptable. It is also not acceptable that the current GWMDP be changed to reflect this proposed procedure.

While it is agreed a collection of both filtered and unfiltered samples during sampling or resampling would be beneficial in normal circumstances to allow for a determination of the effect of turbidity on the water samples and SSIs, the primary problems appear to be low-yield and elevated turbidity. These issues are generally best addressed through well redevelopment. It is unclear how successful the owner/operator would be collecting both filtered and unfiltered samples from proven low-yield wells. These wells should be redeveloped or new wells installed if the wells are not yielding sufficient water to obtain samples representative of ground water quality.

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6. Correspondence via email from Robert Settle on May 25, 2011 indicates that LZ-2 was redeveloped. Significant particulates were removed during the surging and purging process. Currently, the well will now recharge in less than 24 hours.
7. Correspondence via email from Robert Settle on May 25, 2011 also stated that replacement well UZ-1R was installed to monitor the Upper Zone (Bedford Coal) on May 16, 2011. The Bedford Coal was less than one-foot thick at this location. This well was developed May 19-23, 2011, and has a low yield.
8. Correspondence via email from Robert Settle on June 6, 2011 indicated that using a top fill bailer allowed for enough water to permit the removal of 10 well volumes from monitoring well UZ-1R. The ground water sampling results were expected by the end of the following week. Ohio EPA has not received any ground water data on this new monitoring well.

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.

Please respond to this letter by September 17, 2011. If you have any questions, contact me at (330) 963-1257.

Sincerely,



Katharina Snyder

Division of Solid and Infectious Waste Management

KS:cl

cc: Kay Springer Amey, DDAGW-NEDO  
Jon Croup, Holmes County Health Department  
File: [Sowers/LAND/HOLMES/GRO/38] #3454, 3517