



**Environmental
Protection Agency**

Ted Strickland, Governor
Lee Fisher, Lt. Governor
Chris Korleski, Director

Re: Henry County
Henry County Landfill
Ground Water

September 2, 2010

Henry County Board of Commissioners
1853 Oakwood Avenue
Napoleon, Ohio 43545

Dear Commissioners:

The Ohio Environmental Protection Agency (Ohio EPA), Northwest District Office (NWDO), reviewed, "Semi-Annual Corrective Measures Activities Report for the First Half of 2010 and Second Quarter 2010 Hydraulic Monitoring Report; Henry County Landfill" (report), dated July 30, 2010, from Mannik & Smith Group, Inc. The Henry County Landfill (facility) is required to maintain a ground water detection monitoring program as well as a corrective measures program at the facility. This submittal was reviewed to determine compliance with Ohio Administrative (OAC) Rule 3745-27-10.

Based on Ohio EPA's evaluation, the facility is presently operating under the correct ground water monitoring phases, the ground water monitoring network is adequate and the owner or operator should continue to monitor under the current programs.

COMMENTS

VIOLATION

1. **The owner/operator is in violation of OAC Rule 3745-27-10(F)(1), which requires that the owner/operator implement a corrective measures program capable of attaining the concentration levels in the plan, capable of controlling the source of the release, and capable of eliminating further releases. The owner/operator needs to ensure and document, for all future events, that the requirements of this rule are being met considering dewatering wells DW-1 and DW-3 do not appear to be operating properly to maintain ground water levels below the "Maximum Elevation for Pump On". The owner/operator should also inspect the three dewatering wells and make any repairs or adjustments which are necessary to ensure that maximum pump-on and pump-off levels are maintained. Results of this inspection and repair work should be forwarded to Ohio EPA.**

Table 4.0 in Volume I of the March 2003 corrective measures plan (revised through May 25, 2007) provides the "Maximum Elevation for Pump On" for dewatering well DW-1. This level is 666.4'. A review of Table 1.0 in the current submittal indicates the ground water level measured on June 30, 2010, in dewatering well DW-1 was 666.81'. This measured water level was 0.41' above the maximum pump on level. The previous period, measured March 9, 2010, recorded a water level which was 1.29' above the maximum pump-on level. If the pump was working properly, the pump should have turned on and lowered the level to 664.20' before it turned off and the water level again began to rise. Table 4.0 in the corrective measures plan also indicates that the maximum pump-on level for dewatering well DW-3 should be 664'; but the water level recorded for the June 30, 2010, sampling event was 669.70. This is 5.7 feet higher than the

maximum pump on level. The pumps appear to not be working properly and cannot meet the requirements of this rule to control the source of the release and eliminate further releases.

MORE INFORMATION NEEDED TO DETERMINE COMPLIANCE

2. **Compliance with OAC Rule 3745-27-10(F)(1), which requires that the owner/ operator implement a corrective measures program capable of attaining the concentration levels in the plan, capable of controlling the source of the release, and capable of eliminating further releases, cannot be determined at this time. In order for Ohio EPA to determine compliance with OAC Rule 3745-27-10(F)(1), the owner/operator needs to document how the requirements of this rule are being met considering a potential lack of hydraulic control. If the owner/operator cannot provide evidence that the corrective measures plan requirements are being met in accordance with the corrective measures plan the need for additional corrective measures and/or additional monitoring of the ground water chemistry of the site needs to be determined and implemented.**

In the second paragraph of section 3.3.2.2 of Volume II of the March 2003 corrective measures plan (revised through May 25, 2007) the owner/operator states, "Specifically, elevation data will be collected from existing groundwater monitoring wells and piezometers, the dewatering wells, manholes associated with the perimeter leachate collection trench, and South Turkey Foot Creek, to demonstrate that the direction of groundwater movement inside of the barrier wall is toward the dewatering wells and perimeter leachate collection trench. Additionally, data will be collected to demonstrate that the hydraulic head inside of the wall is lower than outside of the wall."

In the second paragraph of section 3.3.3 of Volume II of the March 2003 corrective measures plan (revised through May 25, 2007) the owner/operator states, "In addition to the above, Henry county and the Ohio EPA will evaluate the effectiveness of the barrier wall and dewatering system to determine if they are effectively operating as a hydraulic control."

A review of figure 5.0 in the corrective measures plan indicates that wells P-1 and DW-1 are located on the west end of and inside the wall; and well MW-7A is also located on the west end of the wall, but generally outside the line of the wall. This map also indicates that wells P-2 and DW-3 are located on the east end of and inside the wall; and well MW-6 is also located on the east end of, but outside the wall. If the requirement that the "hydraulic head inside of the well is lower than outside of the wall" is to be maintained, wells located inside the wall, including the dewatering wells (DW-1 and DW-3) need to display water levels which are lower than in wells located outside the wall. While this is true for the east end of the wall at wells P-2, DW-3 and MW-6, it is not the case on the west end of the wall. Table 1.0 of the submittal provides ground water elevation data which indicates that this requirement is not being met on the west end of the wall, but is being met on the east end of the wall. Following is a table which shows the water levels collected June 30, 2010, for wells P-1, DW-1, MW-7A, P-2, DW-3, and MW-6.

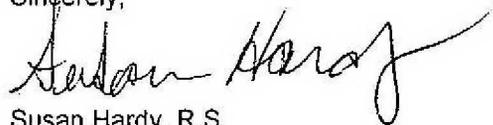
West End of Wall	P-1 (inside) 672.69	DW-1 (inside) 666.81	MW-7A (outside) 662.37
East End of Wall	P-2 (inside) 670.49	DW-3 (inside) 669.70	MW-6 (outside) 672.95

From this table it can be seen that the well outside the wall on the west end displays lower ground water elevations than the well in the same area inside the wall. This is true for even the dewatering well which should be lower than any wells in the area since they are depressing the water table at that well by pumping. This data indicates that the plan requirement that the water in this well inside the wall be lower than that outside is not being met.

Also, Figure 2.0 of the submittal, a time/series plot which shows "Groundwater Elevations Upgradient of the Cutoff Wall Prior to and Post Corrective Measures Installation Activities", appears to indicate that since about June 2005, many of the wells located inside the wall are displaying increasing trends in water levels. These trends are especially true when water levels associated with flooding events are ignored. The upward trends include both monitoring wells and the three dewatering wells.

If you have any questions please feel free to contact Randy Skrzyniecki at the Ohio EPA Northwest District Office (419-373-3149). Any written correspondence should be sent to the attention of Sue Hardy, Division of Solid and Infectious Waste Management, Ohio EPA Northwest District Office, 347 N. Dunbridge Road, Bowling Green, Ohio 43402.

Sincerely,



Susan Hardy, R.S.
Environmental Specialist
Division of Solid and Infectious Waste Management

/cs

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