



State of Ohio Environmental Protection Agency

**Northwest District Office**

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

Re: Marion City Landfill  
Groundwater

March 15, 2007

Mr. Dan Cobb  
Safety/Service Director  
233 West Center Street  
Marion, Ohio 43302

Dear Mr. Cobb:

The Ohio Environmental Protection Agency (Ohio EPA) completed a review of submittal letters dated October 26 and December 15, 2006 responding to Ohio EPA comments for the Marion City Sanitary Landfill.

The owner/operator is currently required to perform compliance monitoring for the ground water in accordance with the OAC Rules effective June 1, 1994 and with the Corrective Measures Plan (approved March 31, 2003). Ohio EPA has reviewed the October 26, 2006 letter from CEC (received October 30, 2006) as well as the revised Sampling & Analysis Plan (dated December 15, 2006 and received December 18, 2006). Both of these submittals respond to Ohio EPA comments dated July 5, 2006 (RE: CFGWI) and August 18, 2006 (RE: April 2006 sampling event).

**COMMENTS**

Violations

1. OAC Rule 3745-27-10(B)(3)(e) [effective June 1, 1994]: As detailed below, the owner/operator is in violation of OAC Rule 3745-27-10(B)(3)(e).

As previously stated in the July 5, 2006 letter from Ohio EPA, "Ohio Administrative Code (OAC) Rule 3745-27-10(B)(3)(e) states, *"The monitoring wells, piezometers, and other measurement, sampling, and analytical devices shall be operated and maintained to perform to design specifications throughout the life of the monitoring program."*

As observed during the April 25, 2006 inspection, two on-site monitoring wells require repair/maintenance...

*Marion Co., Marion City LF, Groundwater*

- **The concrete pads at W-13D and W-38 are in need of repair/maintenance. Good concrete pads are necessary to assure that surface water does not enter the borehole. Concrete pads should be sloped to drain surface water away from the borehole. The City needs to repair or replace the concrete pads at these wells as soon as possible.**

**To assure compliance with the requirements of OAC Rule 3745-27-10(B)(3)(e), the City needs to complete each of the above repair/maintenance activities and send a letter documenting the completion of these activities to Ohio EPA."**

In response to this Comment, the October 26, 2006 letter from CEC, Inc. states **"The concrete pads on W-13D and W-38 will be repaired and modified with additional concrete placed around the existing pad such that surface water does not enter the borehole..."**.

As this necessary maintenance for W-13D and W-38 had not been completed, and is apparently still not complete, the owner/operator is in violation of OAC Rule 3745-27-10(B)(3)(e).

To regain compliance with the requirements of OAC Rule 3745-27-10(B)(3)(e), the owner/operator needs to complete the necessary maintenance activities for W-13D and W-38 as soon as possible and send a letter documenting the completion of these activities to Ohio EPA.

#### **More Information Needed to Determine Compliance**

2. OAC Rule 3745-27-10(C)(1)[effective June 1, 1994]: Compliance with OAC Rule 3745-27-10(C)(1) cannot be determined at this time.

OAC Rule 3745-27-10(C)(1) requires that **"The ground water monitoring program shall include consistent sampling and analysis procedures...that are designed to ensure monitoring results that provide an accurate representation of ground water quality..."**.

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Comment No. 3a. of the July 5, 2006 stated "The City has been performing low-flow purging and sampling for most of the ground water monitoring wells at the facility. As part of this procedure, the sampling crew uses a non-dedicated pump and sets the pump in the middle of the well screen prior to initiating purging and sampling. Ohio EPA concurs with this procedure. However, this procedure is not documented in the SAP [Sampling & Analysis Plan]....".

The SAP was revised in response to this comment from Ohio EPA and states "Field personnel will lower the sampling pump slowly into the well to minimize disturbance of sediment. In shallow wells that have a small amount of water in the well column, the pump will be lowered into the middle of the well screen. In deeper wells that produce sufficient water, and exhibit little to no drawdown, the pump may be set four to five feet below the static level for purging and sampling activities."[emphasis added].

However, Ohio EPA has concerns regarding this procedure for the deeper wells because it may preclude the collection of representative ground water samples. For example, consider the following purging information from the recent October 2006 sampling event of W-38:

Well Depth (ft)	43.34
Depth to Water (ft)	19.90
Water Column Height in Well (ft)	23.44
Volume of Column Water (gallons)	4.0
Well Screen Length (ft)	5
Water Column Height above Screen (ft)	18.44
Volume of Column Water above Screen (gallons)	3.1
Total Purge Prior to Sampling (gallons)	1.5

Of particular interest, note that the total volume of purging prior to sampling was approximately half the volume of column water above the screen. Therefore, if the procedure of setting the pump four to five below the static level was used for low-flow purging and sampling (rather than within the well screen), the pump would probably still be drawing in stagnant water from the well column at the time of sampling, rather than "fresh" formation water. If this was occurring, the ground water samples might not be representative of the true ground water quality.

Therefore, to assure future compliance with OAC Rule 3745-27-10(C)(1), the SAP needs to be revised to state that the pump will be placed within the screened interval of the well for all wells that are purged using low-flow procedures.

3. OAC Rules 3745-27-10(C)(1) and (C)(2)(d) [effective June 1, 1994] As detailed below, more information is needed to determine compliance with OAC Rules 3745-27-10(C)(1) and (C)(2)(d).

As previously stated in the August 18, 2006 letter from Ohio EPA, "OAC Rule 3745-27-10(C)(1) requires that *"the ground water monitoring program shall include consistent sampling and analysis procedures...that are designed to ensure monitoring results that provide an accurate representation of ground water quality..."*.

Further, OAC Rule 3745-27-10(C)(2)(d) requires that the SAP document the procedures for performance of field analysis.

The SAP documents the criteria for field parameter stabilization and that field parameter stabilization will be reached when three consecutive readings are within  $\pm 10\%$  for at least three of the following four parameters: pH, conductivity, temperature and turbidity.

However, based on review of current technical literature, Ohio EPA now considers the criteria for stabilization of these field parameters to be  $\pm 0.1$  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).

To assure compliance with OAC Rules 3745-27-10(C)(1) and (C)(2)(d) in the future, the owner/operator needs to do one of the following:

- ▶ revise the SAP to document the new field parameter stabilization criteria noted above, followed by field implementation;

OR

- ▶ demonstrate to Ohio EPA how the current field parameter stabilization criteria in the SAP meet the requirements of OAC Rule 3745-27-10(C)(1)."

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The SAP was revised in response to this comment from Ohio EPA as it regards low-flow purging, but was not revised as it regards purging using bailers.

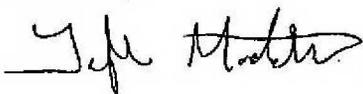
Therefore, to assure compliance with OAC Rules 3745-27-10(C)(1) and (C)(2)(d) in the future, the owner/operator needs to revise the SAP to document the new field parameter stabilization criteria noted above for purging using bailers.

### Statements

4. The July 5, 2006 letter from Ohio EPA contained nine (9) comments (Comments No. 1, 2, 3a., 3b., and 4 through 8) regarding the April 2006 ground water inspection at the facility. Comments No. 2, 3b., and 4 through 8 of the July 5, 2006 letter were adequately addressed by the submittals from CEC, Inc. However, as detailed in Comments No. 1 and 2 above, Comments No. 1 and 3a. of the July 5, 2006 letter have not yet been adequately addressed.
5. The August 18, 2006 letter from Ohio EPA contained five (5) comments regarding the April 2006 sampling event at the facility. Some issues of Comments No. 1 and 5 of the August 18, 2006 letter were partly addressed by the submittals from CEC, Inc. and some issues of these comments are currently being addressed by ongoing correspondence between Ohio EPA and the owner/operator. Comments No. 3 and 4 of the August 18, 2006 letter did not require a response. However, as detailed in Comment No. 3 above, Comment No. 2 of the August 18, 2006 letter has not yet been adequately addressed.

If you have any questions please feel free to contact Ken Brock at the Ohio EPA Northwest District Office (419-373-3143). Any written correspondence should be sent to the attention of Tyler Madeker, Division of Solid and Infectious Waste Management, Ohio EPA Northwest District Office, 347 N. Dunbridge Road, Bowling Green, Ohio 43402.

Sincerely,



Tyler Madeker, S.I.T  
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Division of Solid and Infectious Waste Management  
/csl

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