OhioEPA

State of Ohio Environmental Protection Agency

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

Re: Ground Water Detection Sampling Plan
Wapakoneta Landfill, Auglaize County

June 16, 2008

Mr. Rex Katterheinrich
Safety Service Director
P.O. Box 269
Wapakoneta, Ohio 45895

Dear Mr. Katterheinrich:

The Ohio Environmental Protection Agency (Ohio EPA) completed a review of the ground water detection sampling and analysis plan for the Wapakoneta Landfill. The submittal was dated March 7, 2008, and received March 7, 2008. Following are Ohio EPA comments relating to the review.

COMMENTS

VIOLATIONS

1. **The owner/operator is in violation of director's order number 10 which requires that Ohio EPA review the ground-water detection monitoring program and if it is deficient Ohio EPA provide the City with a written notice of deficiencies. The City will then, within 30 days after receipt of the notice, revise the ground water detection monitoring program to address the deficiencies and submit the revised program to Ohio EPA. The revised plan was not provided within 30 of receipt of the agency comments.**

   Ohio EPA reviewed the City's original ground water detection sampling and analysis plan, dated January 5, 2004, and responded in a letter dated March 29, 2005. The owner/operator has now responded to the Ohio EPA comments in a submittal dated March 7, 2008, which is greater than 30 days from receipt of the Ohio EPA comments.

2. **The owner/operator is in violation of director's order number 9 which requires that within ninety (90) days after the effective date of the orders the City will submit and implement a revised plan that is in accordance with OAC Rule 3745-27-10, et. seq., as effective March 1, 1990. Deficiencies are still present; therefore, the plan is still not meeting the requirements of the above-stated rule.**

The City has now provided the "Submittal of Revision to the Groundwater Detection Sampling and Analysis Plan and Groundwater Assessment Sampling and Analysis Plan; WAP042.100.0006.DOC" dated and received March 7, 2008. This plan continues to contain deficiencies; therefore, the plan still does not meet the requirements of OAC Rule 3745-27-10 and the requirements of director's order number 9.

3. **The owner/operator is in violation of Ohio Administrative Code (OAC) Rule 3745-27-10 (B)(1)(b) which requires that the ground water monitoring system consist of a sufficient number of wells, installed at appropriate locations and depths to yield ground water samples from the uppermost aquifer system and significant zones of saturation that represent ground water flowing upgradient and downgradient of the landfill. The owner/operator needs to modify the ground water monitoring system to include areas where significant saturated zones can move leachate or leachate-derived constituents away from the landfill. An appropriate number of additional wells need to be added to the ground water monitoring system in these areas.**

   Ohio EPA, based on data provided by the owner/operator, has in the past indicated areas of the site which are not adequately monitored by wells at the site. (See Ohio EPA letter dated February 12, 2003, to Rex Katterheinrich regarding broader ground water issues.) These areas include the significant saturated zones on the northeast side of the site between well SW-4 and the SW-3 area, the significant saturated zones on the southeast side of the site between the SW-3 area and SAW-9, the significant saturated zones on the east and southeast portions of the site between SW-5 and SW-1 and the significant saturated zones on the south side of the site between SW-1 and the SW-2/SW-7 area.

4. **The City of Wapakoneta is in violation of OAC Rule 3745-27-10 (B) and (B)(1)(a) which require that a ground-water monitoring system shall consist of a sufficient number of wells, installed at appropriate locations and depths, to yield ground-water samples from both the uppermost aquifer system and significant zones of saturation that represent ground water that has not been affected by past or present operations at the landfill; and OAC Rule 3745-27-10 (C)(1) which requires that the ground-water monitoring program shall include consistent sampling and analysis procedures that are protective of human health and the environment and that are designed to ensure monitoring results that are representative of background ground water quality, and OAC Rule 3745-27-10 (C)(3) which requires that the permittee establish background ground-water quality, unless the exception in paragraph (C)(4) of this rule applies, by analyzing ground-water samples collected from hydraulically upgradient wells(s). The owner/operator needs to install background well(s), provide procedures for collection of representative background samples, and establish background ground water quality.**

On page 7 of the submittal the owner/operator states, "Prior to this 2008 revision to the DMSAP, no upgradient/background monitoring point was established for the significant zone of saturation. In 2007, investigative piezometers SW-1 through SW-16 were installed in the significant zone of saturation to refine the site conceptual model (SCM). After collecting additional data from these piezometers, a comprehensive evaluation will be completed in 2008." While the City has made progress in defining the geology and hydrogeology of the site it is still not meeting the requirements of the rules cited above.

For the significant saturated zones, the owner/operator has not installed background well(s) as required by OAC Rule 3745-27-10 (B)(1)(a); has not provided for procedures 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 wells as required by OAC Rule 3745-27-10 (C)(1); and has not established background ground water quality as required by OAC Rule 3745-27-10 (C)(3).

5. **The City is in violation of OAC Rule 3745-27-10 (C)(5) which requires in part that, the permittee specify one of the statistical methods listed in the rule. The owner/operator needs to specify the statistical method.**

Section 7.1 of the submittal briefly discusses the use of statistics and states, AThe statistical method selected will be a method approved by Ohio EPA as listed in OAC 3745-27-10(C)(5)(a-e).@ No method was selected in the DMSAP.

6. **The City is in violation of OAC Rule 3745-27-10 (B)(3)(d) which requires that the design, installation, development and abandonment of any monitoring wells, piezometers, and other measurement, sampling, and analytical devices shall be documented in the operating record. Detailed information regarding the proper decommissioning of well AW-4 needs to be provided to the agency.**

On several occasions Ohio EPA has commented on missing well AW-4 which is located in the SW-3 area. All that is known about decommissioning this well is that it was buried. Burying a well is not considered proper decommissioning and no information was provided relating to proper decommissioning.

7. **The owner/operator is in violation of OAC Rule 3745-27-10 (C)(1), which requires that the ground-water monitoring program utilize consistent sampling and analysis procedures that are protective of human health and the environment and that are designed to ensure results that provide an accurate representation of ground water quality and that the sampling and analysis procedures employed in the monitoring program be documented in the written plan.**

The equipment employed as part of the sampling and analysis procedures are not documented in the plan as required by this rule. The statements indicating the type of filtration equipment should be corrected in the plan to accurately describe those used in the sampling and analysis procedures.

In item g on page 12 of the submittal the owner/operator states, "A Geotech 2.4 liter barrel filter, or comparable instrument, will be utilized at this site." In recent years a barrel filter has not be used at this site, but an inline filter has been used. Inline filters are not comparable to the barrel filter in that inline filters utilize water pressure to move the water through the filter element and barrel filters apply air pressure to the sample to move it through the filter element. If the owner/operator intends to use inline filters this should be specified otherwise they need to use the apparatus described in their plan. In addition, if inline filters are used, the owner/operator is cautioned to ensure directions for these filters are followed including ensuring the appropriate amount of water is moved through the filter prior to sampling.

MORE INFORMATION NEEDED TO DETERMINE COMPLIANCE

8. **Compliance with OAC Rule 3745-27-10 (C)(8), which requires that, the permittee prepare an outline for a ground-water quality assessment program, cannot be determined at this time. The owner/operator should respond as to where this outline can be found.** A review of the submitted ground water detection monitoring sampling and analysis plan indicates the outline required by OAC Rule 3745-27-10 (C)(8), was not provided.

9. **Compliance with OAC Rule 3745-27-10 (C)(1), cannot be determined at this time. For rule citation see comment number 7 above. Since it has been established that background has not been established for the significant zones of saturation, the statement on page 10 (reproduced below) is in error and should be corrected.**

   On page 7 of the submittal the owner/operator states, "Prior to this 2008 revision to the DMSAP, no upgradient/background monitoring point was established for the significant zone of saturation. In 2007, investigative piezometers SW-1 through SW-16 were installed in the significant zone of saturation to refine the site conceptual model (SCM). After collecting additional data from these piezometers, a comprehensive evaluation will be completed in 2008." On page 10, however, the owner/operator states, "Since an appropriate background data set has been established, groundwater samples collected from these monitoring wells will be analyzed semi-annually for these parameters." The second statement is inconsistent with the first statement and inconsistent with the facts.

10. **Compliance with OAC Rule 3745-27-10 (C)(1) cannot be determined at this time. For rule citation see comment 7 above.**

Since it appears that SOP No. 3005 is not included in Appendix C the owner/operator should provide this document, indicate where it could be found, or change the statement on page 14.

On page 14 the owner/operator states, "The collection of groundwater elevation data will be completed in accordance with Hull's Standard Operating Procedure (SOP) No. F3005 included in Appendix C." A review of Appendix C indicates that SOP No. F3005 could not be found.

11. **Compliance with OAC Rule 3745-27-10 (C)(1) cannot be determined at this time. For rule citation see comment 7 above. Since it appears that SOP No. 3007 is not included in Appendix C the owner/operator should provide this document, indicate where it could be found, or change the statement on page 14.**

    On page 14 the owner/operator states, "Hull's SOP No. F3007 included I Appendix C outlines the proper purging procedures and documentation utilized." A review of Appendix C indicates that SOP No. F3007 could not be found.

12. **Compliance with OAC Rule 3745-27-10 (C)(1) cannot be determined at this time. For rule citation see comment 7 above. Procedures for purge water disposal as stated in the plan are inconsistent. The owner/operator should make necessary corrections or explain how their statements are consistent.**

    On page 14 of the plan the owner/operator states, "Purge water will be disposed of away from the well head." On page 6 of SOP F3008 (2002 rev) the owner/operator states, "All water removed during purging will be assumed contaminated unless analytical data have been obtained that indicate otherwise." These two statements are contradictory.

    It should be noted that many of the samples from the site's wells have displayed leachate or leachate-derived constituents. An appropriate method of disposal is to collect the purge water and dispose of it in the leachate collection system unless analytical data indicate the water is not contaminated.

13. **Compliance with OAC Rule 3745-27-10 (C)(1), which requires the collection of representative samples, and (C)(1)(d), which requires that the sampling and analysis plan include a detailed description of the equipment, procedures, and techniques to be used for performance of field analysis, cannot be determined at this time. Actual stabilization of the field parameters might not be occurring in the monitoring wells during purging. The City of Wapakoneta should do one of the following:**

    - ☐ **revise the Groundwater Detection Monitoring Sampling and Analysis Plan to document the new field parameter stabilization criteria noted below, followed by field implementation;**

OR

- ☐ **demonstrate to Ohio EPA how the current field parameter stabilization criteria in the Groundwater Detection Monitoring Sampling and Analysis Plan meet the requirements of OAC Rule 3745-27-10(C)(1).**

SOP No. F3008 included in Appendix C states, "Under these conditions, the well will be purged until the temperature, conductivity and pH values of the purge water have stabilized or up to five well volumes..." SOP 3008 also states in part, "The temperature, pH, and conductivity will be measured initially, as well as after each well volume is purged. The last two values obtained must be within 10 percent of one another."

Based on review of current technical literature, Ohio EPA now considers the criteria for stabilization of these field parameters to be 0.1 S.U. for pH, 3% for conductivity, 0.5°C for temperature and 10% for turbidity (when turbidity is >10 NTU). Also, a parameter can be considered stable when at least three consecutive readings have stabilized.

14. **Compliance with OAC Rule 3745-27-10 (C)(1) cannot be determined at this time. For rule citation see comment 7 above. The statement should be clarified or corrected.**

In section 3.0 A.1. of SOP F1007 the owner/operator states, "The conductivity readings will be expressed in microsiemens per centimeter (mS/cm)." Convention dictates that microsiemens are expressed as ΦS while millisiemens are expressed as mS. Errors have been noted by Ohio EPA in the reporting of conductivity measurements on field data sheets in the past. The confusion between ΦS and mS might be the cause. This statement is not clear or contains errors.

15. **Compliance with OAC Rule 3745-27-10 (C)(1) cannot be determined at this time. For rule citation see comment 7 above. The statement should be clarified or corrected.**

On page 18 of the submittal the owner/operator states, "Field/equipment/atmosphere blanks will be collected at a frequency of one per sampling event or one per 20 samples, whichever is greater. It is not clear what is meant by the term "whichever is greater". It could mean whichever provides the greater number of blanks; or it could mean whichever has the greatest number of samples. A blank should be collected for no more than for every 20 samples. For example if there are 21 samples collected in an event, two blanks should be collected.

16. **Compliance with OAC Rule 3745-27-10 (C)(1)(g)(i) and (ii), which require that the ground water monitoring program include a detailed description of the equipment, procedures and techniques to be used for chain of custody control including standardized field tracking forms and sample labels; and (C)(1)(h) (i), (ii) and (iii) which require detailed descriptions relating to field and laboratory quality assurance and control including collection or duplicate samples, submission of field-bias blanks and potential interferences, cannot be determined at this time. Detailed information, as listed below should be required in the plan.**

    On page 19 the owner/operator provides a procedure for addressing matrix interferences observed in ground water samples. This discussion states in part, Aln regards to matrix interferences in groundwater samples collected from the facility, the first occurrence of matrix interference for a specific parameter collected from a monitoring well will be documented in the report.@ It is recommended that at the first occurrence the lab be requested to provide documentation that method procedures relative to matrix interferences were followed. This documentation should be included in the report.

    In addition the owner/operator's plan should include submittal of all of the QA/QC data. The plan should require the submittal of: chain of custody forms, case narrative, field and sample identification numbers, holding times, sample or cooler receipt forms with sample preservation information including temperature, surrogate and spike recoveries with control limits, blank data - method blanks and if required instrument blanks with control limits, spike data- matrix spikes/matrix spike duplicates and matrix spike blanks with control limits and laboratory control samples if required. This should be added to the DMSAP.

    The data required by OAC Rule 3745-27-10 (C)(1)(g)(i) and (ii) and (C)(1)(h)(i), (ii), and (iii) are needed to determine if the samples meet the requirements of OAC Rule 3745-27-10 (C)(1) of being representative of ground water quality. Ohio EPA needs this specific information to ensure that the ground water analytical results are technically and legally representative of ground water quality. These data provide the minimum information needed to document that the ground water analytical results are representative.

17. **Compliance with OAC Rule 3745-27-10 (C)(6)(e), which requires that a PQL which is used in a statistical method be the lowest concentration level that can be reliably achieved within the specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility, cannot be determined at this time. The owner/operator should explain how the PQLs for iron and zinc, which have been increased above previous levels, meet the requirements of this rule. Alternatively the owner/operator should lower the PQLs to at least the previous level.**

A review of Table 2 indicates that the PQL for iron is now 0.05 mg/L and the PQL for zinc is now 0.01 mg/L. Previously the PQLs/reporting limits for iron and zinc were 0.03 mg/L and 0.005 mg/L respectively. The PQLs/reporting limits have increased. Since the previous PQLs were said to have met the requirements of OAC Rule 3745-27-10 (C)(6)(e) at the lower level, the increased level might not be meeting the requirements of this rule.

18. **Compliance with OAC Rule 3745-27-10 (C)(1) cannot be determined at this time. For rule citation see comment 7 above. The owner/operator needs to clarify the distinction between "affected wells" and "assessment wells" as indicated on their maps.**

The legend on Figure 2, Potentiometric Surface Map for the Significant Saturated Zone (5/14/07), distinguishes between affected wells and assessment wells. This distinction is not clear in that most of the "assessment wells" are also "affected wells" in that they are affected by leachate or leachate-derived constituents. For example, well MW-10 is shown to be an affected well while wells DAW-1, DAW-2 and DAW-3 are shown to be assessment wells. Data indicate that wells DAW-1, DAW-2 and DAW-3 are affected by leachate or leachate-derived constituents.

19. **Compliance with OAC Rule 3745-27-10 (C)(1) cannot be determined at this time. For rule citation see comment 7 above. The owner/operator needs to clarify the location of the limits of fill on the potentiometric surface maps.**

A review of Figure 2, Potentiometric Surface Map for the Significant Saturated Zone (5/14/07), indicates that the "limit of fill" line does not encompass the "north wedge" area. The "north wedge" area is a portion of the landfill that contains solid waste. In addition, the owner/operator has installed leachate collection system wells LEW 1 through LEW-6 to help control leachate which was seeping from this portion of the fill.

20. **Compliance with OAC Rule 3745-27-10 (C)(1) cannot be determined at this time. For rule citation see comment 7 above. The reasons for decommissioning several wells should be presented. Since some of these wells are affected they will need to be replaced in order to define the rate, extent and concentrations of the plumes. The owner/operator also needs to provide the vertical and horizontal location of the replacement wells and also provide the location of the well screens at those locations.**

On Figure 2 and Figure 3 the owner/operator provides a note next to several wells noting that they will be decommissioned. Many of these wells, (e.g., DAW-1 and DAW-3) have been shown to be affected by leachate or leachate-derived constituents.

RECOMMENDATIONS

21. **On page 5b (section 2.3) the owner/operator erroneously states, "As stated in the previous section, monitoring well MW-6(R) is the current upgradient monitoring well for the MW-10 are uppermost aquifer system." It is recommended that this be corrected.** A review of the previous section (section 2.2.2) does reference well MW-5, MW-6(R), MW-8, SW-5, and SW-6; but does not indicate that MW-6(R) is the upgradient well.

22. **It is unclear if the owner/operator intends the field data sheet to be filled out (completely) or if they intend to only complete part of the sheet. Clarification is requested.** On page 16 the owner/operator states, AA field data sheet will be filled for each monitoring well sampled.@ An example of this data sheet is included in Appendix F-1. This sheet may include:...@ The data sheet in the appendix includes all of the listed information. If the sheet is Afilled out@ all the information would be expected to be listed.

23. **The submitted Groundwater Monitoring Well Field Data Sheet provides for the collection of appropriate field information. Based on experience, it is recommended that well yield (low or high) be included on the form. In addition, the beginning and ending time of purging are helpful additions if there appears to be a need to modify the rate of purging. The addition of this data is recommended.**

24. **It is not clear where the new Figures 2 and 3, provided in the submittal, should be placed. In addition, it is not clear what should be done with the other old figures including Figures 1, 4, 5, and 6. Clarification is requested.** The owner/operator includes Figure 2 and Figure 3 in the submittal. Since there are no instructions relative to replacement of these figures it is presumed that Figure 2 and Figure 3 will be direct replacements of old Figures 2 and 3. Old Figures 2 and 3, however, are a Monitoring Point Location Map and a Hydraulic Communication Flowchart respectively.

STATEMENTS

25. **The ground water detection sampling an analysis plan contains the following typographical errors:**

    On page 1 of SOP F1004 in section 3.0 A. the owner/operator states, "The temperature and pH probes will be repeated with deionized water."

    On page 2 of SOP F1004 in section 3.0 B. the owner/operator states, "Both proves will be rinsed with distilled water."

    On page 2 of SOP F1004 in section 3.0 B. the owner/operator states, "Test the temperature meter will be tested on the pH meter for accuracy with a calibrated thermometer."

On page 1 of SOP F1000 (1999rev) in section 1.0 the owner/operator states, "Decontamination will be performed as a both a quality assurance measure and as a safety precaution."

At the bottom of page 5a the owner/operator utilizes the term "goechemical".

26. **While the shallower zones may be hydraulically connected somewhere on the site, they are still separate significant zones of saturation that must be monitored separately as required by OAC Rule 3745-27-10 (B)(1).** On page 5a of the submittal the City states, "In some areas, the significant saturated zone is comprised of one or more granular deposits separated by varying thicknesses of clay. A number of distinct glacial deposits are represented in the subsurface; however, since these glacial units are compositionally and texturally similar, it would be difficult and unrealistic to delineate unique glacial till deposits. Furthermore, data collected through monitoring of groundwater elevations suggest the granular zones separated by the clay are hydraulically connected."

    It appears that the significant zones of saturation may be hydraulically connected to some extent somewhere in the area of the landfill property. While this hydraulic connection is not defined it may be occurring, at a minimum, under the landfill. Away from the landfill, this interconnection may be minimal. For example, well SW-2 displays the presence of benzene and well SW-7, screened in a slightly deeper zone, displays the presence of vinyl chloride. While these two zones are connected at the landfill, both display the presence of waste-derived constituents and they contain separate, distinct plumes and ground water in each of these zones of significant saturation. They need to be monitored separately.

27. **At the top of page 5b the owner/operator states, "Tritium data was used to determine if monitoring well MW-10 has been impacted by leachate, to further characterize the possible hydraulic connection between monitoring well MW-10 and P-1 and evaluate if piezometer P-1 is representative of the uppermost aquifer system."** Ohio EPA reviewed this tritium study and responded to it in a letter dated September 15, 2003. This review concluded that, "The data provided by the owner/operator in this submittal supports the fact that wells MW-10, P-1 and DAW-2 are contaminated. The City is required to perform assessment monitoring activities in this area."

28. **The owner/operator is reminded that the installation of wells to meet the requirements of OAC Rule 3745-27-10 is self implementing.** On page 5b the owner/operator states, "Therefore, upon concurrence from Ohio EPA, the City will install an additional downgradient monitoring point (P-2) in the vicinity of monitoring well MW-10." This statement was made in the January 2004 sampling and analysis plan; but well P-2 has not been installed.

29. **The owner/operator does not provide details regarding proposed well P-2 and does not indicate why this well may be considered to be a detection well.** On page 6, the owner/operator discusses a new well called P-2 which will be installed in the assessment area near MW-10. The proposed depth, the location, and the screened interval for this well are not provided. The owner/operator concludes on page 6, "Upon completion of analysis of the groundwater elevations and chemistry, monitoring point P-2 may be incorporated into the groundwater detection monitoring network." It is unclear why this well will be included in the detection program rather than the assessment program.

30. **If the owner/operator does not use practical quantitation limits (PQL) as required by the rules the City may be in violation of these rules.** In the last paragraph on page 9 the owner/operator states, "Note that the facility will make every attempt to use PQLs designated in OAC-3745-27-10 (effective March 1, 1990). However, due to available analytical technology and properties of the samples, the designated PQLs may not always be appropriate." While the City has received approval for alternate PQLs for four organic parameters, the owner/operator is reminded that OAC Rule 3745-27-10 (C)(6)(e) requires that PQLs used in statistical analyses meet the requirements of that rule and that OAC Rule 3745-27-10 (C)(5) requires that if PQLs are used in statistical analyses they must be use those in Appendix I.

31. **A demonstration to use an alternate PQL needs to show that the alternate PQL is more appropriate and it needs to be approved by the director.** In the last paragraph on page 9 the owner/operator states, "If during future events the analytical laboratory cannot achieve the designated PQL, the facility may demonstrate that an alternate PQL is necessary for that parameter." The owner/operator is cautioned that OAC Rule 3745-27-(C)(5) states in part, "If the permittee can demonstrate that any alternate PQL is more appropriate for the VOCs listed in appendix I of this rule, or if the permittee chooses to use PQLs for another constituent not listed in appendix I of this rule, then the PQL must be proposed by the permittee and approved by the director or his authorized representative before the PQL can be used."

32. **OAC Rule 3745-27-10 (D)(7) requires that the owner/operator submit all analyses results not later than sixty days after sampling the well or not later than fifteen days after receiving the results, whichever is sooner. If these time limits are exceeded the owner/operator will be in violation of this rule.**

    In section 7.2 on page 20 comment 1 states, "In accordance with OAC 3745-27-10 (D)(7), every attempt will be made to submit all groundwater analysis and statistical evaluations to Ohio EPA within the regulated timeframe of no later than 60 days after sampling the wells or no later than fifteen days after receiving the laboratory analytical results, whichever is sooner. "

33. **OAC Rule 3745-27-10 (D)(8)(a) requires that the owner/operator provide notification of a statistically significant change not later than fifteen days after receiving the statistical or analytical results indicating that change. The director, therefore, needs to be notified not later than 15 days after receiving the statistical or analytical results not 15 days after the statistical evaluation is completed. Exceedance of the time will result in a violation of OAC Rule 3745-27-10 (D)(8)(a).**

    On page 20, in comment 2, in section 7.2 the owner/operator states, "If, for any monitoring well, it is determined that there has been a statistically significant increase (or decrease in the case of pH) from background values for any of the parameters for which statistical analysis (sic) are performed, a notification will be made to Ohio EPA no later than fifteen days after the statistical evaluation is completed in accordance with OAC Rule 3745-27-10 (D)(8)(a)."

34. **OAC Rule 3745-27-10 (D)(8)(b) requires that the owner/operator resample, not later than fifteen days after notifying the director, the affected monitoring well(s) for those constituents demonstrating a significant change in concentration or level. If the affected wells are not sampled for constituents demonstrating a significant change in concentration or level, the owner/operator will be in violation of OAC Rule 3745-27-10 (D)(8)(b). Also, the owner/operator needs to know that a "significant change in concentration or level" is not necessarily the same as "an identified statistical significance above background levels". Also, Ohio EPA requests a two (2) week notice of resampling.**

    In section 7.2 on page 21 comment 3 states, "In accordance with OAC 3745-27-10 (D)(8)(b), resampling of the monitoring well(s) for those constituents demonstrating a significant change in concentration above background levels may be performed no later than 15 days after the notification to the Ohio EPA. Re-sampling may be performed only in the monitoring wells for which there was an identified statistical significance above background levels and only for the parameter for which significance was determined. The Ohio EPA will be notified prior to the resampling event@.

35. **A comparison of Figure 2, Potentiometric Surface Map for the Significant Saturated Zone (5/14/07), and Figure 3, Potentiometric Surface Map for the Uppermost Aquifer Zone (5/14/07) indicates that there is a downward flow potential from the significant zones of saturation to the uppermost aquifer system.**

36. **There may be complete radial flow from SW-14 in all directions around this well resulting in the presence of leachate or leachate-derived constituents in the significant zones of saturation west of the landfill as wells as in other directions.** Figure 2, Potentiometric Surface Map for the Significant Saturated Zone (5/14/07), shows that ground water flows from well SW-14 in a partial radial manner in generally northerly, easterly and southerly directions.

There are no wells in the significant zones of saturation within at least 500 feet in any direction of this well.

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 Mike Reiser, Division of Solid and Infectious Waste Management, Ohio EPA Northwest District Office, 347 North Dunbridge Road, Bowling Green, Ohio 43402.

Sincerely,

Michael A. Reiser

Michael A. Reiser, R.S.
Environmental Supervisor
Division of Solid and Infectious Waste Management

/llr

pc: Bill Petruzzi, Hull & Associates, Inc.
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File: Auglaize County, Wapakoneta Landfill, Ground Water
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