



State of Ohio Environmental Protection Agency

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August 6, 2008

Ms Jane Powell
Fernald Site Mgr
DOE-LM-20.1
10995 Hamilton Cleves Hwy
Harrison, Ohio 45030

RE: 2007 SITE ENVIRONMENTAL REPORT

Dear Ms Powell,

Ohio EPA has received DOE's "Transmittal of the 2007 Site Environmental Report," dated May 28, 2008. Ohio EPA has reviewed the report and our comments are enclosed.

If there are any questions, please contact me.

Sincerely,

Thomas A. Schneider
Fernald Project Manager
Office of Federal Facilities Oversight

Cc: Tim Fischer, US EPA
Michelle Cullerton, Tetra Tech
Frank Johnston, Stoller
Mark Shupe, Geo Trans, Inc.

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5. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.2.1 Pg #: 2-5 Line #: na Code: C
Comment: The phrase, "OEPA had yet to act on this certification at the end of 2007," is inappropriate. Ohio EPA may not have made a decision, but to state that Ohio EPA has not "acted" on the report is misleading.

Section 4.0

6. Commenting Organization: Ohio EPA Commentor: DSW
Section #: 4.1 Pg #: 4-1 Line #: na Code: C
Comment: This section states that:

"With the completion of remediation activities under Operable Units 1, 2, 3, and 4 as well as the completion of the vast majority of soil remediation under Operable Unit 5, (with the exception of soils associated with the groundwater treatment infrastructure) in October 2006, treated effluent is composed of only treated and untreated groundwater and leachate from the on-site disposal facility."

It was my understanding that precipitation that falls on and in the immediate vicinity of the CAWWT is captured and treated as well (see Section B.1.3, page B.1-8). If this is true, wouldn't the treated effluent also be composed of this rain water? Is the precipitation that falls on and in the immediate vicinity of the CAWWT being captured and treated? This statement should be modified to reflect any treated storm water.

7. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.2 Pg #: 4-3 Line #: na Code: C
Comment: There is no mention of whether DOE will conduct future monitoring in regards to the "series of small puddles and drainage ditches" west of Waste Pit 3. Even though efforts were made to address this area of contamination, DOE should discuss future monitoring and path forward if surface water concentrations continue to exceed the FRL.

8. Commenting Organization: Ohio EPA Commentor: DSW
Section #: 4.3 Pg #: 4-4 Line #: na Code: C
Comment: The focus of the monitoring program continues as it did during remediation. Monitoring activities post closure will have elements significantly different than those during cleanup. The surface water and sediment monitoring programs should reflect this change in focus.

9. Commenting Organization: Ohio EPA Commentor: DSW
Section #: 4.3.1 Pg #: 4-8 Line #: na Code: C
Comment: This section states that surveillance monitoring at SWP-03 and PF 4001 are important because "they represent locations where direct exposure to the public is possible". This was true when access to the site was restricted. However as we move farther from the "contract closure" date in 2006, more and more public access has occurred. Consequently this view is no longer supported and direct exposure to the public is increasingly likely across the site. As a result, the surveillance monitoring focus should reflect this change.

Section 7.0

10. Commenting Organization: Ohio EPA Commentor: DSW

Section #: 7.1 Pg #: 7-2 Line #: na Code: C

Comment: This section states that "Pursuant to the Natural Resource Restoration Plan, functional monitoring efforts were completed in 2005, so no additional monitoring was conducted in 2007." As indicated in Section E.1.4 additional monitoring may be needed so it may not be prudent to indicate that functional monitoring has been completed.

11. Commenting Organization: Ohio EPA Commentor: DSW

Section #: 7.4 Pg #: 7-5 Line #: na Code: C

Comment: As the Fernald Preserve becomes more important as a refuge for local fauna and flora with increasing local development, continuing to list species of significance, in this section only, increases in importance. Considering this, including the Cave Salamander with the species described in the sidebar is advised. It may be useful to include the description of the Cobblestone Tiger Beetle as well. Both of these species are found in the vicinity of the Fernald Preserve and as the site becomes an importance resource for studying rare species knowing that these are close and perhaps moving on to the site will become more important. The site has already gained some recognition with regard to the bird species visiting it.

General Comments on the Appendices/Attachments:

Appendix C

12. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: General Pg #: na Line #: na Code: C

Comment: Throughout Appendix C, there is reference to the 95% confidence level of the mean. What data distribution was used to calculate the confidence level and make the subsequent statements about the comparability of background and site boundary concentrations?

Specific Comments on the Appendices/Attachments:

Attachment A.1

13. Commenting Organization: OEPA Commenter: GeoTrans, Inc.

Section #: Attach. A.1 Pg #: A.1-7 Line #: 17 Code: C

Comment: The statements regarding the completeness of the remedy are inaccurate and misleading. EPA's methods for assessment of remedy completeness consider all wells. The text omits any indication that the trended concentration data in the site monitoring wells also must meet remediation goals. Also omitted from the statement is any discussion of the effects of concentration rebound as a result of unsaturated zone desorption and kinetic desorption processes, which will likely significantly impact the trend-based or VAM model-based cleanup estimates noted in the text. Clearly, any declaration of completeness (such as "the remedy is 66 percent complete") needs to include a discussion of the factors that are unaccounted for in the estimate.

14. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.1 Pg #: A.1-7 Line #: 17 Code: C
Comment: DOE should define what is meant by aquifer remedy completion. Does it mean that the aquifer is certified to be cleaned up in accordance with the Fernald Groundwater Certification Plan? Is it assumed that the minimum anticipated timeframes given in the plan will be required for stages II and III (four months and three years respectively)? If so, is that realistic given the existing evidence that rebound is likely?

Attachment A.2

15. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.2 Pg #: A.2-5 Line #: 25 Code: C
Comment: Is surface water infiltration significant in the immediate vicinity of Monitoring Well 83341?

16. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.2 Pg #: A.2-6 Line #: 14 Code: C
Comment: The referenced discussion is in Section B.1.1.2, not Section 4.

17. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.2 Pg #: A.2-9 Line #: 28 Code: C
Comment: How was the steel lined shaft abandoned?

18. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.2 Pg #: A.2-16 Line #: 5 Code: C
Comment: Is there any data to suggest that significant coarse grained material lenses in the till may contribute significant unmeasured flow to the SSOD?

Attachment A.5

19. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.5 Pg #: A.5-8 Line #: 40 Code: C
Comment: DOE should continue to collect annual leachate samples from OSDF Cells 1, 2, and 3 for analysis of OAC 3745-27-10 (Appendix I and PCBs). DOE and Ohio EPA have agreed to a procedure that uses the LCS annual data (LMICP, Volume II, Attachment C, Appendix E, Figures 3-2 and 3-3 and associated discussion on Page E-16) to verify that the monitoring list for each cell includes all appropriate constituents. The only way to ensure that the parameter list for a cell is complete is to test an annual leachate sample for Appendix I and PCB constituents and to conduct the agreed-to evaluation procedure provided in the LMICP, Volume II, Attachment C.

20. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.5 Pg #: A.5-9 Line #: 1 Code: C
Comment: Annual leachate sampling is required in the post-closure care phase for a landfill in Ohio. OAC 3745-27-14 A. states that following completion of final closure activities in accordance with rule OAC 3745-27-11, the owner of a landfill facility shall conduct post-closure care activities at the landfill for a minimum of thirty years. These activities include the submittal of an annual report to Ohio EPA. As stated in OAC

26. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.5.2 Pg #: A.5.2-5 Line #: 7 Code: C
Comment: Arsenic, cobalt, nickel, selenium, TDS, and zinc should be sampled along with the refined list of constituents for Cell 2. Data collection is the only viable approach to determining whether or not these constituents will significantly enhance the early detection capability of the monitoring program.

27. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.5.2 Pg #: A.5-9 Line #: 2 Code: C
Comment: The OSDF contains 2.96 million cubic yards of contaminated debris and soil. The analyses conducted to develop the WAC were necessary to achieve the goal that, to the extent possible, debris and soil with concentrations corresponding to risks above an acceptable threshold level were not disposed of onsite in the OSDF but were disposed of offsite in a facility designed to handle such materials. The WAC were the best available approach to achieve this goal. However, given the sheer volume of material placed in the OSDF, it is inappropriate to use the WAC calculations as a substitute for measured concentrations in leachate.

28. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.5.2 Pg #: A.5-9 Line #: 2 Code: C
Comment: As is true for the WAC, perched groundwater data are no substitute for measured concentrations in leachate, given the size of the OSDF. Annual leachate samples, therefore, should continue to be collected and tested for Appendix I and PCBs.

29. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.5.2 Pg #: A.5-9 Line #: 14 Code: C
Comment: Until the leachate data are collected, the LMICP Volume II Attachment C evaluation run, and the monitoring systems sampled for the identified constituents, it is pure conjecture as to whether or not the constituents identified will, in fact, perform well as leachate detection constituents at the OSDF.

30. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.5.2 Pg #: A.5-9 Line #: 30 Code: C
Comment: The stated goal of the Common Ion Study is to conduct ion monitoring for the purpose ascertaining when steady state conditions have been reached and statistically valid control charts can be constructed. In none of the discussions or planning documents pertaining to the Common Ion Study was it stated that the objective of the study was to generate a list of common ions for use as substitutions for the original list of monitoring parameters at the OSDF.

31. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.5.2 Pg #: A.5-10 Line #: 17 Code: C
Comment: Since it is based on arbitrary assumptions regarding leakage rates and data quality, the x4 screening factor indiscriminately rejects data that may otherwise be useful for leak detection monitoring. The x4 screening factor should, therefore, be abandoned.

32. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.5.2 Pg #: A.5-10 Line #: 19 Code: C
Comment: The parameter list in the text is incomplete for use in leak detection monitoring because it is not based on the full list of potential leachate constituents as defined by Appendix I and PCBs list.

33. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.5.2 Pg #: A.5-13 Line #: 38 Code: C
Comment: It is agreed that the list of monitoring constituents for Cell 8 can be reduced to the five constituents (total uranium, boron, total organic carbon, total organic halogens, and sulfate) monitored on a quarterly basis for Cells 1 through 7.

34. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.5.2 Pg #: A.5-13 Line #: 38 Code: C
Original Comment#
Comment: DOE should continue to collect annual leachate samples from OSDF Cells 1, 2, and 3 for analysis Appendix I and PCBs. The only way to ensure that the parameter list for a cell is complete is to test an annual leachate sample for Appendix I and PCB constituents and to conduct the agreed-to evaluation procedure provided in the LMICP, Volume II, Attachment C.

35. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.5.3 Pg #: A.5.3-3 Line #: 37 Code: C
Comment: For the Cell 3 leachate sample, the text should more fully summarize the results of the Appendix I and PCB analyses in terms of analyte type. For the current sampling round, the detection frequencies for VOCs, SVOCs, radionuclides, metals, pesticides, and PCBs should be noted in this summary.

36. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.5.3 Pg #: A.5.3-3 Line #: 37 Code: C
Comment: Of the 11 common ions that have been sampled at least eight times and have been detected 25 percent of the time in Cell 3, DOE should select the ions that best differentiate between the three monitoring horizons. The selection of these common ions should be based on Cell 3 bivariate ion plots and Cell 3 concentration versus time plots. The ions thus selected may not necessary correspond to the Cell 3 ions selected from the Common Ion Study (manganese and sodium). The final list of common ions should be sampled along with the refined list constituents for this cell.

37. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.5.3 Pg #: A.5.3-5 Line #: 8 Code: C
Comment: Cobalt, nickel, selenium, TDS, and zinc should be sampled along with the refined list of constituents for Cell 3. Data collection is the only viable approach to determining whether or not these constituents will significantly enhance the early detection capability of the monitoring program.

38. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.5.3 Pg #: A.5.3-5 Line #: 29 Code: C
Comment: It is agreed that the statistical analyses results shown in Table A.5.3-4 support the discontinuation of sampling for 1, 1-dichloroethane in accordance with the proposed action outlined in the text.

39. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.5.3 Pg #: A.5.3-9 Line #: 38 Code: C
Comment: DOE should confirm that the units for the 1, 1-dichloroethane concentrations shown in Table A.5.3-4 are in ug/L not mg/L as noted in the table.

40. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.5.4 Pg #: A.5.4-3 Line #: 37 Code: C
Comment: For the Cell 4 leachate sample, the text should more fully summarize the results of the Appendix I and PCB analyses in terms of analyte type. For the current sampling round, the detection frequencies for VOCs, SVOCs, radionuclides, metals, pesticides, and PCBs should be noted in this summary.

41. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.5.4 Pg #: A.5.4-3 Line #: 37 Code: C
Comment: Of the 11 common ions that have been sampled at least eight times and have been detected 25 percent of the time in Cell 4, DOE should select the ions that best differentiate between the three monitoring horizons. The selection of these common ions should be based on Cell 4 bivariate ion plots and Cell 4 concentration versus time plots. The ions thus selected may not necessary correspond to the Cell 4 ions selected from the Common Ion Study (sodium). The final list of common ions should be sampled along with the refined list of constituents for this cell.

42. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.5.5 Pg #: A.5.5-3 Line #: 37 Code: C
Comment: For the Cell 5 leachate sample, the text should more fully summarize the results of the Appendix I and PCB analyses in terms of analyte type. For the current sampling round, the detection frequencies for VOCs, SVOCs, radionuclides, metals, pesticides, and PCBs should be noted in this summary.

43. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.5.5 Pg #: A.5.5-3 Line #: 37 Code: C
Comment: Of the 11 common ions that have been sampled at least eight times and have been detected 25 percent of the time in Cell 5, DOE should select the ions that best differentiate between the three monitoring horizons. The selection of these common ions should be based on Cell 5 bivariate ion plots and Cell 5 concentration versus time plots. The ions thus selected may not necessary correspond to the Cell 5 ions selected from the Common Ion Study (manganese). The final list of common ions should be sampled along with the refined list constituents for this cell.

44. Commenting Organization: OEPA Commenter: GeoTrans, Inc.
Section #: Attach. A.5.6 Pg #: A.5.6-3 Line #: 37 Code: C
Comment: For the Cell 6 leachate sample, the text should more fully summarize the

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in some areas the prudent course of action was patience to allow the native herbaceous cover to establish itself, those areas had more organic content and less soil compaction. We believe that intervention will be needed to achieve success in many of the areas that were restored prior to closure and that remain relatively barren now

56. Commenting Organization: Ohio EPA Commentor: DSW

Section #: Table E-1 Pg #: E-21 Line #: na Code: C

Comment: A pH greater than 9 exceeds the water quality standards. Is there any reason that you have results this high? Likewise dissolved oxygen less than 5 ppm is not conducive to aquatic life. You have results ranging from very high (near 20 ppm) that I would assume to be caused by algae if taken on a very sunny day, to very low. Any explanations for these disparate results