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U-004-305 .45

OU2 RI REPORT - COMMENTS (FEBRUARY 18, 1994 SUBMITTAL)

04/19/94

OEPA

DOE-FN

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COMMENTS



State of Ohio Environmental Protection Agency

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MAR 20 9 53 AM '94

George V. Voinovich
Governor

April 19, 1994

Re: DOE FEMP
MSL #531-0297
OU2 RI REPORT -
COMMENTS

Mr. Jack Craig
Project Manager
U.S. DOE FEMP
P.O. Box 398705
Cincinnati, OH 45329-8705

Dear Mr. Craig:

Attached are Ohio EPA's comments on DOE's OU2 Remedial Investigation Report submitted on February 18, 1994.

If you should have any questions, please contact me (513 285-6055).

Sincerely,

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

cc: Jenifer Kwasniewski, DERR
Mike Proffitt, DDAGW
Jim Saric, U.S. EPA
Ken Alkema, FERMCO
Lisa August, GeoTrans
Jean Michaels, PRC
Robert Owen, ODH

(WARNER(R)
DABIAL
ACTION RESPONSE
to R-0910/
(7838)

000001

OHIO-EPA-COMMENTS
ON THE
OPERABLE UNIT 2 RI REPORT

1. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: General Comment Pg #: Line #: Code: c

Original Comment #:

Comment: Compared to previous investigations on the FEMP, the Phase II investigation detected Pu-238 and Pu-239/240 more often and in more media. The document fails to address this phenomena or provide any discussion of this increased detection frequency. Due to the low mobility of plutonium, generally speaking, it would seem DOE may be able to evaluate plutonium concentrations and obtain an idea of disposal timeframes or potentially the amount of post disposal mixing of waste that occurred. Plutonium may not be the driver for risk in this OU, but DOE should consider how the data may assist in interpreting the rest of the data.

Response:

Action:

2. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: ES Pg #: ES-7 Line #: 5 Code: c

Original Comment #:

Comment: Change the number "Thirteen" to "Twelve" to make the COCs add up correctly ("6 radionuclides, 3 metals, and 3 organic compounds" do not equal 13).

Response:

Action:

3. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: ES Pg #: ES-7 Line #: 21 Code: c

Original Comment #:

Comment: The evidence in the text does not support the sentence: "This means that future impacts from the sludge upon the soil are not likely." Delete this sentence unless further justification to support this conclusion can be provided within the text.

Response:

Action:

4. Commenting Organization: Ohio EPA

Section #: ES Pg #: ES-13 Line #: 18 Code: c

Original Comment #:

Comment: The Baseline Risk Assessment fails to mention the carcinogenic risk to the on-property child. This parameter is included as part of the discussion of other future use scenarios and should be included as part of all scenarios.

Response:

Action:

5. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: 1.5.9 Pg #: 1-26 Line #: 19-20 Code: c

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Original Comment #:

Comment: DOE should provide the additional aerial photographs used, but not included in the USEPA 1988 report, within the OU2 RI. These photographs could be included as an appendix to the document.

Response:

Action:

6. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.2.2.2.2 Pg #: 2-20 Line #: 14 Code: c

Original Comment #:

Comment: Provide justification as to why soil gas surveys were not conducted for other waste subunits (ie. the South Field).

Response:

Action:

7. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2 Pg #: 2-21 Line #: Code: c

Original Comment #:

Comment: In Table 2-8 under Lime Sludge Ponds, the table indicates that 14 sample locations were taken, however, 15 samples were analyzed for radionuclides. This seems impossible. Is this a typo?

Response:

Action:

8. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Table 2-10 Pg #: 2-27 Line #: Code: c

Original Comment #:

Comment: The text should discuss the basis for limiting some HSL samples to "metals only."

Response:

Action:

9. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.4.3 Pg #: 2-60 Line #: 24 Code: c

Original Comment #:

Comment: Clarify the sediment sampling information contained in this section. Since it is included in the section title, it should be included in the adjacent text. Similarly, there are no sediment sample locations on Figure 2-8, yet it is included in the legend.

Response:

Action:

10. Commenting Organization: Ohio EPA Commentor: OFFO

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Section #: Figure 2-14 Pg #: 2-80 Line #: Code: c

Original Comment #:

Comment: It appears that a number of hydropunch and monitoring well locations (e.g., 11023, 11020, 1517, etc.) are improperly designated as 1000 series well (i.e., screened within the till). DOE should revise the designation of these sampling locations to properly define them. The mislabeling of these locations causes confusion for the reviewer throughout the document.

Response:

Action:

11. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: 2.6.2 Pg #: 2-87 Line #: 18 Code: c

Original Comment #:

Comment: Provide justification for why Boring No. 1725 was plugged and abandoned.

Response:

Action:

12. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: 3 Pg #: 3-2 Line #: Code: C

Original Comment #:

Comment: The Rose Diagram is sufficient in showing primary wind direction at the FEMP, but DOE should consider a different method of representing wind speeds. The small difference in sizes of the bars representing different wind speeds is difficult to see between the chart and the legend.

Response:

Action:

13. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: 3 Pg #: 3-5 Line #: Code: c

Original Comment #:

Comment: The increments on the Y-axis of the Precipitation Histogram need to be noted in .5-inch intervals. The double numbers on the Y-axis do not make sense.

Response:

Action:

14. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: 3.1.3.3 Pg #: 3-24 Line #: 8-22 Code: C

Original Comment #:

Comment: Identify and/or distinguish between horizontal and vertical K measurements made by slug and core tests.

Response:

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Action:

15. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 3.1.3.3 Pg #: 3-25 Line #: Figure Code: C
Original Comment #:
Comment: Velocities should be referred to as estimated velocities.
Response:
Action:

16. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 3 Pg #: 3-26 Line #: Code: c
Original Comment #:
Comment: For Table 3-2 include an acronym list for the USTM Soil Types.
Response:
Action:

17. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 3.1.3.3 Pg #: 3-27 Line #: 14-16 Code: C
Original Comment #:
Comment: Note that the peak water table elevation corresponds more to the end of the annual period of low evapotranspiration than to high monthly precipitation.

Response:
Action:

18. Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: 3.1.3.4.2 Pg #: 3-35 Line #: 11 Code:
Original Comment #:
Comment: Need units for 150,000².
Response:
Action:

19. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 3.1.5 Pg #: 3-46 Line #: 22-30 Code: c
Original Comment #:
Comment: Chemical Leahman Inc. located in Ross, Ohio should be added to this section. The site is on CERCLIS and has had Screening Site Inspection completed by US EPA.

Response:
Action:

20. Commenting Organization: Ohio EPA Commentor: DDAGW

Section #: 3.2.2 Pg #: 3-60 Line #: 11-12 Code:

Original Comment #:

Comment: A detailed description and explanation of the Intergraph software should be included. An explanation of how the software model was created and how figures were generated to support the final OU model should also be included.

Response:

Action:

21. Commenting Organization: Ohio EPA Commentor: DDAGW

Section #: 3.2.2 Pg #: 3-60 Line #: 31-33 Code:

Original Comment #:

Comment: A single boring cannot indicate a regional unit. What other borings were used to identify the "blue clay aquitard"?

Response:

Action:

22. Commenting Organization: Ohio EPA Commentor: DDAGW

Section #: 3.2.2 Pg #: 3-62 Line #: 2-3 Code:

Original Comment #:

Comment: This sentence should be modified to state that although the till appeared to be unsaturated to dry at the time of drilling, it was later found to be saturated.

Response:

Action:

23. Commenting Organization: Ohio EPA Commentor: DDAGW

Section #: 3.2.2 Pg #: 3-62 Line #: 16-17 Code:

Original Comment #:

Comment: What method was used to measure the degree of saturation of the silty sand in the interval beneath the till and above the Great Miami Aquifer?

Response:

Action:

24. Commenting Organization: Ohio EPA Commentor: DDAGW

Section #: 3.2.2 Pg #: 3-62 Line #: 27-29 Code:

Original Comment #:

Comment: A figure showing the location of these monitoring wells and a detailed description of screened intervals should be included. There is not enough information here to indicate if using these wells to determine hydraulic gradients is appropriate.

Response:

Action:

25. Commenting Organization: Ohio EPA Commentor: DDAGW

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Section #: 3.3.2 Pg #: 3-64 Line #: Fig 3-31 Code:

Original Comment #:

Comment: Why did the water level elevation change 2 feet in MW1950 while changing only several tenths of a foot in the other monitoring wells?

Response:

Action:

26. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: Figure 3-32 Pg #: 3-65 Line #: Code: c

Original Comment #:

Comment: DOE should be using on-site meteorological data rather than data from the Cincinnati Airport. This figure and others like it should be revised using on-site data.

Response:

Action:

27. Commenting Organization: Ohio EPA Commentor: DDAGW

Section #: 3.3.2 Pg #: 3-69 Line #: 10-11 Code:

Original Comment #:

Comment: See previous comment on Section 3.3.2, pg. 60, lines 11-12.

Response:

Action:

28. Commenting Organization: Ohio EPA Commentor: DDAGW

Section #: 3.3.2 Pg #: 3-69 Line #: 18-23 Code:

Original Comment #:

Comment: What is the moisture content of the sand lens? How was it calculated? What is the transmissivity of this unit, and how was it calculated?

Response:

Action:

29. Commenting Organization: Ohio EPA Commentor: DDAGW

Section #: 3.4.2 Pg #: 3-79 Line #: 26-28 Code:

Original Comment #:

Comment: See Comment-2.

Response:

Action:

30. Commenting Organization: Ohio EPA Commentor: DDAGW

Section #: 3.4.2 Pg #: 3-82 Line #: 26-33 Code:

Original Comment #:

Comment: The actual occurrence of unsaturated till at the FEMP site has been rare to non-existent. Typically, "unsaturated" tills have proven to be instances where DOE did not allow

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sufficient time for ground water recovery, and in actuality, the tills have been saturated. As a result, DOE's claim that the till under the South Field is unsaturated is highly suspect. Ohio EPA believes that this till is in fact saturated and should be treated as such. The DOE needs to address the data gap for the characterization of the saturated till under the inactive flyash pile and needs to determine how this will affect fate and transport.

Response:

Action:

31. Commenting Organization: Ohio EPA Commentor: DDAGW

Section #: 3.4.2 Pg #: 3-82 Line #: 28-31 Code:

Original Comment #:

Comment: How long did the borings remain open before the determination of saturation was made?

Response:

Action:

32. Commenting Organization: Ohio EPA Commentor: DDAGW

Section #: 3.4.2 Pg #: 3-82 Line #: 30-31 Code:

Original Comment #:

Comment: See previous comment on Section 3.4.2, pg. 82, lines 26-33.

Response:

Action:

33. Commenting Organization: Ohio EPA Commentor: DDAGW

Section #: 3.5.2 Pg #: 3-96 Line #: 9-11 Code:

Original Comment #:

Comment: See previous comment on Section 3.2.2, pg. 60, lines 11-12.

Response:

Action:

34. Commenting Organization: Ohio EPA Commentor: DDAGW

Section #: 3.5.2 Pg #: 3-96 Line #: 19 Code:

Original Comment #:

Comment: How long was the hydropunch left in the formation for ground water recovery before determining saturation?

Response:

Action:

35. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: 3.5.2 Pg #: 3-96 Line #: 33 Code: c

Original Comment #:

Comment: Change "Well 1048 (downgradient)" to read "Well 1045 (downgradient)".

Response:
Action:

36. Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: 3.5.2 Pg #: 3-97 Line #: 3-4 Code:
Original Comment #:

Comment: How was saturation determined? How long were the borings left open for ground water recovery?

Response:
Action:

37. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Table 4-1A Pg #: 4-5 Line #: Code: c
Original Comment #:

Comment: The subsurface soil concentration for Strontium-90 is inconsistent with the footnote provided for the surface soil concentration. DOE should revise the table to explain the Sr-90 concentration in subsurface soil.

Response:
Action:

38. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Table 4-1A Pg #: 4-6 Line #: Code: c
Original Comment #:

Comment: The methodology used to determine background concentrations for groundwater is flawed and results in a significant underestimation of risk at the site. Background concentrations range up to nearly an order of magnitude higher than the MCL for specific inorganic contaminants (antimony, arsenic, etc.). DOE must reevaluate the method for determining background concentrations.

Response:
Action:

39. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Figure 4-1 Pg #: 4-14 Line #: Code: c
Original Comment #:

Comment: The figure has a ten foot contour within a ten foot contour. DOE should review data used to develop the figure and revise appropriately.

Response:
Action:

40. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 4-16 Line #: Code: c
Original Comment #:

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Comment: The information in the text indicates that one complete cell was located in the Solid Waste Landfill; the "Location/Date" column in Table 4-2A suggests that there are five cells. These five cells need to be discussed in the text.

Response:

Action:

41. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 4-18 Line #: Code: c
Original Comment #:
Comment: Change "650 ppb Total U" to "650 µg/L Total U". Be consistent when reporting units.
Response:
Action:

42. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 4-18 Line #: Code: c
Original Comment #:
Comment: For Boring 11039, the data from Samples 115384 and 115385 indicate that Total Thorium increases with depth. This information is not indicated in, nor supported by the text. Please include justification in the accompanying text.
Response:
Action:

43. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 4-19 Line #: Code: c
Original Comment #:
Comment: Include as part of the footnote "***NA = Not analyzed" additional justification as to why Total Thorium was not analyzed.
Response:
Action:

44. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 4-19 Line #: Code: c
Original Comment #:
Comment: Provide a footnote justification as to why U-238 and Ra-228 were not analyzed for Sample 111452 in Table 4-2A.
Response:
Action:

45. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: 4-20 Line #: Table Code: C

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Original Comment #:

Comment:

Are there not more common usages/sources for some of the organic chemicals detected in the landfill? For example, what is the relationship between PAHs and roofing shingles found in landfill? Are not the PAHs widespread as byproducts of the combustion of wood, coal, etc.? What specific knowledge is there regarding the use of the listed organics (e.g., chrysene, chlorophenol, and methylnaphthalene) in metallurgy or (e.g., pyrene and phenanthrene) at the site medical lab?

Response:

Action:

46. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.2.2 Pg #: 4-40 Line #: 3-5 Code: C

Original Comment #:

Comment:

The sentence discusses Phase II subsurface soil sampling referring to 26 samples reported in Table 4-4. The text should be revised to state that Table 4-5 provides summary information and that 37 samples were collected rather than 26 reported in the text.

Response:

Action:

47. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 4.2.2 Pg #: 4-40 Line #: 15-17 Code: C

Original Comment #:

Comment:

Provide more explanation and references to support the interpretation that Arochlors are derived from other chemicals.

Response:

Action:

48. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 4-44 Line #: 13-14 Code: C

Original Comment #:

Comment: It is mentioned several times in the text that background concentrations for surface water have not yet been defined for the site. Since surface water samples comprise a significant amount of the sampling performed in this RI, it seems as if obtaining background readings would be of utmost importance in order to obtain an accurate assessment of contamination.

Are efforts being made to determine background concentrations for surface water and if so, when does DOE plan to be able to define these concentrations?

Response:

Action:

49. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.2.3 Pg #: 4-55 Line #: 1-2 Code: C

Original Comment #:

Comment: The use of surface soil data as background for sediment samples is a poor representation. Sediment samples will likely differ from surface soil sample in both particle size distribution and organic content. The differences in these characteristics often result in significant concentration differences between sediment samples. DOE should evaluate sediment concentrations within specific operable units based upon upgradient samples of similar particle size and organic content. Operable Unit 5 should evaluate sediment background concentrations from locations upgradient of the site.

Response:

Action:

50. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.2.3 Pg #: 4-55 Line #: 8-13 Code: C

Original Comment #:

Comment: The text discusses downstream sediment samples and landfill surface soils samples. It would seem more appropriate to use upstream sediment samples to compare with locations downstream of the landfill to determine contaminants potentially migrating from the landfill. As stated previously, DOE should use upstream sediment samples for determining the impact of isolated units such as those in OU2. DOE should include a discussion of upstream vs. downstream sediment samples within the text.

Response:

Action:

51. Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: 4.2.2 Pg #: 4-72 Line #: 1-6 Code:

Original Comment #:

Comment: Strontium and Thorium concentrations need units.

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Response:
Action:

52. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 4-72 Line #: 21-22 Code: C
Original Comment #:

Comment: Throughout the document, groundwater flow is defined either as upgradient or downgradient. Using a map, define groundwater flow direction to support upgradient versus downgradient travel. This may be done either by using arrows or contour lines.

Response:
Action:

53. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 4-73 Line #: Figure 4-5 Code: C
Original Comment #:

Comment: Elevated radium is shown to be detected in Well 1952. DOE should discuss this in relation to the contamination in the 2000-series wells.

Response:
Action:

54. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Figures 4-5 & 4-6 Pg #: 4-73 & -74 Line #: Code: C
Original Comment #:

Comment: The title for these and most other figures relating sampling data are misleading. The figure title "Radionuclides in 1000-Series Wells Detected Above Background in the Solid Waste Landfill", yet only a select few of the radionuclides detected above background (see Tables 4-11 & 4-12) are reported. Additionally, some contaminants which were not detected at concentrations exceeding background are included in the figure. DOE must revise the figures and/or title to clearly define the data being presented.

Response:
Action:

55. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 4-74 Line #: Figure 4-6 Code: C
Original Comment #:

Comment: Please explain how Wells 2027 and 2037 can be described as upgradient when adjacent wells 2947 and 2953 are described as downgradient (See page 2-72, lines 24-26). The use of groundwater contour lines would assist in clarifying this.

Response:

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Action:

56. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 4-75 Line #: Code: c
Original Comment #:

Comment: Under the first column "Well and Location" be more specific about the location (ie. North, South, East or West).

Response:

Action:

57. Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: 4.2.2 Pg #: 4-98 Line #: 5-6 Code:
Original Comment #:

Comment: If 1037 is poorly constructed, it should be abandoned immediately.

Response:

Action:

58. Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: 4.2.2 Pg #: 4-98 Line #: 10-16 Code:
Original Comment #:

Comment: Strontium, Thorium, and Uranium concentrations need units.

Response:

Action:

59. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.2.6 Pg #: 4-99 Line #: Code: c
Original Comment #:

Comment: The previous groundwater section and the summary fail to discuss contaminants detected during trenching activity sampling of perched groundwater. The contaminants detected during this sampling should be discussed and compared to contaminants within downgradient 1000 and 2000 series wells.

Response:

Action:

60. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.2.6 Pg #: 4-99 Line #: 30-35 Code: c
Original Comment #:

Comment: Since Figures 4-5 and 4-6 do not include groundwater gradient information, it is difficult to determine the validity of this conclusion.

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Response:
Action:

61. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Figures 4-8 Pg #: 4-109 Line #: Code: C
Original Comment #:

Comment: The title for this and most other figures relating surface soil sampling data are misleading. The figure title "Radionuclides and Metals of Concern is Surface Soil Samples Detected Above Background in the Lime Sludge Ponds", yet only a select few of the radionuclides and metals detected above background (see Table 4-16) are reported. Additionally, some contaminants which were not detected at concentrations exceeding background are included in the figure. DOE fails to define "of Concern" as used in the figure title. DOE must revise the figures and/or title to clearly define the data being presented.

Response:
Action:

62. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Table 4-19 Pg #: 4-124 Line #: Code: C
Original Comment #:

Comment: DOE should review the data and shading decisions for the table. The errors in the table are obvious when comparing the last column to the number of shaded blocks in each row (e.g., location 1958, 5/8 samples exceed yet only 1 block shaded, see location 1956).

Response:
Action:

63. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Table 4-20 Pg #: 4-127 Line #: Code: C
Original Comment #:

Comment: The table title should be revised to reflect that not all radioisotope and organic data are reported.

Response:
Action:

64. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Table 4-22 Pg #: 4-132 Line #: Code: C
Original Comment #:

Comment: The intent of DOE's incorporation of Ohio Exempt Waste Standard into the table is unclear, since the lime sludge ponds are already classified as Solid Waste Management Units. Additionally, the presence of organic

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contaminants such as bis(2-Ethylhexyl)phthalate and radionuclides prevent consideration of this waste under the Exempt Waste Standard. If DOE determines it is necessary to keep the standards in the table, a reference for the standards should be provided within the table.

Response:

Action:

65. Commenting Organization: Ohio EPA Commentor: DDAGW

Section #: 4.3.4 Pg #: 4-147 Line #: 27 Code:

Original Comment #:

Comment: Change "walt" to salt.

Response:

Action:

66. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: Section 4.3.6 Pg #: 4-148 Line #: 37-40 Code: C

Original Comment #:

Comment: This conclusion is incorrect. Bis(2-Ethylhexyl)phthalate was detected in surface soil, subsurface sludge, surface water and perched groundwater samples reported (see tables 4-18, 4-26, etc.). The presence of this contaminant in perched groundwater does indicate this contaminant is leaching from the sludge.

Response:

Action:

67. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: Figures 4-10 & -11 Pg #: 4-149 & -150 Line #: Code: C

Original Comment #:

Comment: The title for these and most other figures relating sampling data are misleading. As stated in previous comments figures should be revised to include only above background data and all above background data. DOE must revise the figures and/or title to clearly define the data being presented.

Response:

Action:

68. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: 4 Pg #: 4-177 Line #: 5-7 Code: C

Original Comment #:

Comment: The text does not support the assumption that future impacts of the sludge upon the soil are not likely. Under certain conditions, it is possible for the contaminants to pass from the sludge to the underlying soil and

concentrate there due to differing chemical conditions (e.g., pH).
Additional justification is needed to verify DOE's theory.

Response:

Action:

69. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 4-177 Line #: 9-11 Code: C
Original Comment #:

Comment: The text does not support the assumption that the K-65 slurry line trench is the source for the contamination in the downgradient perched groundwater wells. Additional discussion is needed to support DOE's theory.

Response:

Action:

70. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 4-180 Line #: 7-17 Code: C
Original Comment #:

Comment: The information given in this paragraph is confusing. By reading this information, OEPA was unable to draw the conclusion that a pattern exists of surface disposal at one location with subsequent surface spreading. Please clarify this information.

Response:

Action:

71. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 4-181 Line #: Code: General
Original Comment #:

Comment: The summaries that are provided throughout the document are extremely helpful. Some of the data as presented in Chapter 4 is confusing at best. OEPA realizes that there is a lot of data and it is DOE's obligation to present this information, but DOE should consider more frequent use of summaries. Also, summaries should not be used to draw conclusions that are not already presented elsewhere in the text.

Response:

Action:

72. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Figure 4-13 Pg #: 4-182 Line #: Code: c
Original Comment #:

Comment: As stated in previous comments, the title for this figure is misleading. The figure provides both rad and metal contaminants, yet the title refers only to rads. The figure only presents a subset of the rad and

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metal contaminants detected above background, which is not clear from the title. Additionally, some contaminants are included which weren't detected above background. DOE must revise the figure and title to accurately reflect the data being presented.

Response:

Action:

73. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.4.2 Pg #: 4-199 Line #: 33-34 Code: c
Original Comment #:

Comment: If the summary presented in the bullet is correct, then all samples reported in the table on page 4-181 must have been from the sludge material. This is not clear from reviewing the text or table. It would seem a number of these samples, with metals exceeding "background flyash", occurred in areas not defined as sludge. DOE should review the data and revise the table or bullet as appropriate.

Response:

Action:

74. Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: 4.4.4 Pg #: 4-237 Line #: 22-26 Code:
Original Comment #:

Comment: This explanation of horizontal ground water flow in the till is inconsistent with DOE's previous statements that horizontal ground water flow in the till is very limited.

Response:

Action:

75. Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: 4.4.4 Pg #: 4-237 Line #: 29-30 Code:
Original Comment #:

Comment: If 1016 is completed in the regional aquifer, then where are 2016, 3016, and 4016 completed?

Response:

Action:

76. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 4-237 Line #: 29 Code: C
Original Comment #:

Comment: The text states that Well 1016 is mislabeled. What is being done by DOE to correct this mislabeled well?

Response:

Action:

77. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 4-257 Line #: Code: c

Original Comment #:

Comment: Keep units consistent within columns. In particular, don't switch between $\mu\text{g}/\text{kg}$ and mg/kg within the same column.

Response:

Action:

78. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4 Pg #: 4-259 Line #: Code: c

Original Comment #:

Comment: Insert an asterisk by DPM in the last column, to read "Activity of Dry Wipe *DPM". Further explain the Disintegration Per Minute measurement in the footnote.

Response:

Action:

79. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.5.2 Pg #: 4-283 Line #: 1 Code: c

Original Comment #:

Comment: Include a footnote at the end of this chart to explain what analytical parameters are included in the "Total Organic Concentrations" column (ie. VOCs, SVOCs, Pesticides/PCBs, and/or Dioxins).

Response:

Action:

80. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Figure 4-22 Pg #: 4-285 Line #: Code: c

Original Comment #:

Comment: See previous comments regarding data inclusion and exclusion within the table and the necessity of the title to accurately reflect the data presented.

Response:

Action:

81. Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: 4.4.4 Pg #: 4-309 Line #: 2-3 Code:

Original Comment #:

Comment: Why do these 1000 series monitoring wells monitor the 2000 series aquifer?

Response:

Action:

82. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Figure 4-23 Pg #: 4-310 Line #: Code: c
Original Comment #:
Comment: The figure should be correctly titled "Figure 4-23A. Additionally, see previous comments regarding data inclusion and exclusion within the table and the necessity of the title to accurately reflect the data presented.

Response:

Action:

83. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.5.4 Pg #: 4-312 Line #: Code: c
Original Comment #:
Comment: Sample locations are not shown on Figure 4-25 as suggested by the text. DOE should provide a figure detailing the groundwater sampling locations and their proximity to the firing range.

Response:

Action:

84. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.5.4 Pg #: 4-328 Line #: 12-14 Code: c
Original Comment #:
Comment: It appears that location 11028 is downgradient and has above background concentrations of lead. DOE should review the sampling location with regard to gradient and concentrations.

Response:

Action:

85. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.6.2 Pg #: 4-331 Line #: 30-31 Code: c
Original Comment #:
Comment: Figure 4-28 presents radionuclides detected in surface soils within the Active Flyash Pile at above background concentrations. The text within this section does not agree with the information provided in the figure. DOE should review and revise appropriately.

Response:

Action:

86. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Table 4-59 Pg #: 4-334 Line #: Code: c

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Original Comment #:

Comment: The table presents Sr-90 background as 4,390 pCi/g. The text does not justify this number. DOE must provide substantial documentation to support this concentration. Additionally, the table does not include above background radionuclides presented in Figure 4-28 (e.g., Np-237, Ra-228, Th-228, Th-230). This table, Figure 4-28 and the text associated with this section must be revised to accurately reflect the data collected.

Response:

Action:

87. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.6.2 Pg #: 4-360 Line #: 1-2 Code: c

Original Comment #:

Comment: The sentence must be revised to state that three additional, six total, organic contaminants were detected in the surface soil. According to the data presented in Table 4-63, 1,1,1-trichloroethane, methylene chloride and toluene were also detected above background.

Response:

Action:

88. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.6.2 Pg #: 4-360 Line #: 12-13 Code: c

Original Comment #:

Comment: The bullet incorrectly states that 1,1,1-trichloroethane (1,1,1-TCA) was not detected in surface soil. Both Table 4-63 and Figure 4-28 show 1,1,1-TCA being detected in surface soil samples.

Response:

Action:

89. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.6.2 Pg #: 4-360 Line #: 15-17 Code: c

Original Comment #:

Comment: All organics do not decrease with depth. The highest concentration of 1,1,1-TCA was detected at the waste soil interface at a concentration of 5,600 ug/kg. DOE should revise the summary bullet.

Response:

Action:

90. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.6.3 Pg #: 4-367 Line #: 22-25 Code: c

Original Comment #:

Comment: DOE has not provided enough discussion to support the decision to change the sediment sampling locations to surface soil samples. DOE must incorporate additional justification within the text. Additionally, both Figures 4-28 and 4-30 must be revised to accurately reflect this decision. At present the figures are misleading. DOE should also identify within Section 4.6.2 that these surface soil samples were added after changing their designation from sediment locations.

Response:

Action:

91. Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: 4.6.4 Pg #: 4-378 Line #: 8-9 Code:
Original Comment #:

Comment: This section is very misleading. It appears that DOE is stating that ground water flow exists only in the sand lens beneath the Active Flyash Pile. Though this lens provides a preferential flow pathway, ground water flow still occurs in the clay till.

Response:

Action:

92. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Table 4-73 Pg #: 4-398 Line #: Code: c
Original Comment #:

Comment: The data presented in this table for sediment samples is inconsistent with the text in Section 4.6.3, page 4-367. According to text in the previous section these samples are considered surface soil rather than sediment. DOE must revise the document to be consistent.

Response:

Action:

93. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.6.6 Pg #: 4-399 Line #: 31-33 Code: c
Original Comment #:

Comment: As stated in a previous comment, the concentrations of 1,1,1-TCA do not decrease with depth. The highest concentration was detected at the bottom of the pile. DOE should revise the text accordingly.

Response:

Action:

94. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 5.0 Pg #: 5-1 Line #: 31-33 Code: c
Original Comment #:

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Comment: Among the most prevalent radionuclides within OU 2 should be Pu-238 which was detected in all subunits and all media. DOE fails to discuss the distribution of the radionuclide within OU2.

Response:

Action:

95. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: 5.1.1 Pg #: 5-4 Line #: 13 Code: c

Original Comment #:

Comment: Insert the words "which goes to Paddys Run." at the end of the sentence which reads: "Runoff flow from the Active Flyash Pile drains to the Storm Sewer Outfall Ditch" to provide more complete information to the reader.

Response:

Action:

96. Commenting Organization: Ohio EPA Commentor: DDAGW

Section #: 5.1.2 Pg #: 5-5 Line #: 29-33 Code:

Original Comment #:

Comment: The vertical migration of contaminated ground water from the till to the GMA is also a controlling mechanism for migration.

Response:

Action:

97. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: 5.3.3 Pg #: 5-18 Line #: 6-10 Code: C

Original Comment #:

Comment: How was the dilution calculation made? Provide further explanation.

Response:

Action:

98. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: 5.3.4.4 Pg #: 5-30 Line #: 4-5 Code: c

Original Comment #:

Comment: The text fails to include arsenic as a contaminant reaching the GMA at levels above the screening criteria (see Table 5-5). DOE should revise the text and review all subsequent calculations to ensure that arsenic was included in modelling efforts.

Response:

Action:

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99. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 5.3.4.5 Pg #: 5-30 Line #: 12-13 Code: c
Original Comment #:
Comment: The text should define what contaminant is predicted to have a maximum surface water concentration of 300 ug/l.
Response:
Action:
100. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 5.3.4.6 Pg #: 5-40 Line #: 22-27 Code: c
Original Comment #:
Comment: The text suggests three organic CPCs were predicted for the Active Flyash Pile. Either the "organics" is a typo or Table 5-12 should be revised to include these CPCs.
Response:
Action:
101. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Table 5-12 Pg #: 5-44 Line #: Code: c
Original Comment #:
Comment: The table fails to include arsenic as a CPC for the Inactive Flyash Pile (see Table 5-5). Table 5-12 should be revised and all subsequent text and calculations reviewed to ensure incorporation of the CPC.
Response:
Action:
102. Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: 5.4.1.2 Pg #: 5-50 Line #: 19-20 Code:
Original Comment #:
Comment: Why wasn't subsurface seep and seep pathways not applied to the Lime Sludge Ponds?
Response:
Action:
103. Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: 5.4.1.3 Pg #: 5-57 Line #: 13 Code:
Original Comment #:
Comment: Perched water is also found in the saturated glacial till.
Response:
Action:
104. Commenting Organization: Ohio EPA Commentor: DDAGW

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Section #: 5.4.1.3 Pg #: 5-57 Line #: 19-20 Code:

Original Comment #:

Comment: Why is there no modeled vertical migration?

Response:

Action:

105. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: 5.4.2.3 Pg #: 5-69 Line #: 36 Code: C

Original Comment #:

Comment: The report states that "The retardation factors used for all the CPCs . . . are discussed in detail in Appendix A.2." Actually, relatively little is presented regarding the bases for selecting Kd values in Appendix A.2. A more thorough discussion of available Kd data and data limitations would be helpful.

Response:

Action:

106. Commenting Organization: Ohio EPA Commentor: DDAGW

Section #: 5.4.2.3 Pg #: 5-70 Line #: 4-10 Code:

Original Comment #:

Comment: The retardation factors must be revised based upon recent OU5 lysimeter data. The DOE has not sufficiently defined the geochemical processes which control retardation in both the till and the sand and gravel aquifer systems.

Response:

Action:

107. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: Table 5-18 Pg #: 5-76 Line #: Code: c

Original Comment #:

Comment: The difference between the 0.0 and the 3.42×10^{-17} reported in the table are unclear. At what point is DOE using 0.0 rather than such a concentration.

Response:

Action:

108. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Table 5-21 Pg #: 5-83 Line #: Code: C

Original Comment #:

Comment: What do the model-predicted maximum uranium concentration values of 10^{-41} and 10^{-42} mean? Mathematical noise, a typo, or something else?

Response:

Action:

109. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 5.4.3.1 Pg #: 5-81 Line #: 14-29 Code: M
Original Comment #:
Comment:

The interpretation of field data provided on page 4-71 is somewhat inconsistent with the reported modeling results pertaining to uranium migration from the solid waste landfill into the perched aquifer. On page 4-71, the report notes "Downgradient wells (Well 1038, Well 1952, and Well 1950) detected concentrations that ranged from 4.11 ug/L to 55.8 ug/L [of total uranium]. These data suggest that uranium has leached into the perched groundwater from the waste unit. Table 4-2a, which contains leachate results, indicates that the waste material is leachable and confirms its potential impact on the perched groundwater." The higher observed values of uranium exceed the model screening concentration given in Table 5-21.

Response:

Action:

110. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Chapter 5 Pg #: Line #: Code: M
Original Comment #:
Comment:

A major source of modeling uncertainty is the selection of Kd values for uranium species in the glacial overburden. The value used, 200 ml/g, is much higher than the value of 1.80 estimated for uranium species in the RI/FS Risk Assessment Work Plan (2/4/92, p. 6-22). It is also higher than the range of values determined for uranium in the glacial till using adsorption batch tests (12 to 81 ml/g) and most of the values calculated from analyses of 1000-series well soil and water samples. This high Kd prevents uranium species migration downward through the glacial till during the modeled time frame. Given uncertainty regarding Kd values of uranium species in the glacial overburden at the site (due to limited testing, variable testing results, heterogeneous site conditions, possible localized presence of uranium mobilizing agents, etc.), a broader sensitivity analyses for uranium retardation in the glacial overburden is warranted for the OU2 batteries.

Response:

Action:

111. Commenting Organization: Ohio EPA Commentor: DDAGW

Section #: 5.4.3.1 Pg #: 5-98 Line #: 2-3 Code:
Original Comment #:
Comment: How does this affect the long term model runs?
Response:
Action:

112. Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: General Ground Water Modeling Pg #: Line #: Code:
Original Comment #:
Comment: The ground water model runs will have to be re-calculated in order to reflect new geochemical data when it is obtained. If the new geochemical data falls within the modeled range of parameters, then the final interpretation of the model run will have to reflect the new data.
Response:
Action:

113. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Chapter 5 Pg #: Line #: Code: M
Original Comment #:
Comment: During the FS and subsequent remedial work, it will be important to account for uncertainty regarding media and transport parameters. For example, how will the selection/implementation of remedial measures be affected if it is determined that the retardation of uranium in the glacial till may be significantly overstated by the RI model analysis?
Response:
Action:

114. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 5.4.3.2 Pg #: 5-98 Line #: 1-2 Code: C
Original Comment #:
Comment: The statement that all constituents in perched groundwater by the lime sludge ponds were detected at concentrations comparable to the background concentrations-is-contradicted-by Table-5-27. This table shows that certain uranium and thorium species detected in perched groundwater exceed background concentrations. The statement on p. 5-98 is also inconsistent with statements provided on p. 4-147 (e.g., "data suggest that metals [chromium, copper, beryllium, and vanadium] have leached from the pond sludge and have impacted perched groundwater.")

Response:
Action:

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115. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 5.4.3.3 Pg #: 5-98 Line #: 28 Code: C
Original Comment #:
Comment: Are carbon disulfide and bis(2-ethylhexyl)phthalate possible lab
contaminants?

Response:

Action:

116. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 5.4.4.1 Pg #: 5-116 Line #: 11-12 Code: C
Original Comment #:
Comment: The reported time of maximum concentration arrival for technicium-
99 is slightly inconsistent. It is given as 70 years on lines 11-12 and
60 years in Table 5-36.

Response:

Action:

117. Commenting Organization: Ohio EPA Commentor: DDAGW
Section #: 5.4.4.3 Pg #: 5-117 Line #: 10-29 Code:
Original Comment #:
Comment: Uranium Kd needs to be recalculated based upon additional geochemical
investigations. The Kd values at the site appear to have been overestimated, based on recent
lysimeter data, and must be further empirically defined.

Response:

Action:

118. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Figure 5-28 Pg #: 5-133 Line #: Code: c
Original Comment #:
Comment: The text should include a discussion of the two separate contours for the 1E-2
isopleth. The contours suggest a early and later prolonged release.

Response:

Action:

119. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: 5-172 Line #: 20-24 Code: C
Original Comment #:
Comment: It is dubious that "worst-case infiltrations were predicted" using the
base case parameters. The calibrated recharge rate through the
glacial till in the GMA model is 6 in/yr. Also note that recharge is
somewhat sensitive to hydraulic conductivity. As shown in Table 5-
47, increasing the hydraulic conductivity by 10 x the base case raises

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the calculated infiltration rate from 2.2 to 8.2 and 3.2 to 11.5 in/yr in the inactive flyash pile/southfield and the active flyash pile areas, respectively.

Response:

Action:

120. Commenting Organization: Ohio EPA Commentor: DDAGW

Section #: 5.4.6.3 Pg #: 5-183 Line #: 16-17 Code:

Original Comment #:

Comment: Because DOE did not typically allow sufficient time for water level recovery in the till during boring installation, the degree of till saturation has typically been underestimated. This has affected the quantity and types of ground water samples obtained from this unit. These problems, coupled with a general neglect towards geochemical characterization of contaminant transport in both the till and the sand and gravel aquifer systems, make the retardation factor of 12 for uranium highly suspect. It is Ohio EPA's understanding that DOE will be further characterizing the geochemistry of the aquifer systems, and that fate and transport modeling will be updated once adequate data has been acquired and interpreted.

Response:

Action:

121. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: 6.2.1.2 Pg #: 6-6 Line #: 28-33 Code: c

Original Comment #:

Comment: DOE should include groundwater consumption as an exposure route.

Response:

Action:

122. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: Table 6-1 Pg #: 6-7 Line #: Code: c

Original Comment #:

Comment: DOE should include groundwater consumption as an exposure route for the off-property resident.

Response:

Action:

123. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: 6-13 Line #: 24 Code: C

Original Comment #:

Comment:

The risk-based screening document cited in the reference section is outdated and inaccurate for carcinogens because of a systematic error. According to USEPA Region 3, risk-based concentrations decreased

by 20% for air and tap water, and nearly 50% for residential soil. This error was corrected in the Fourth Quarter 1993 submittal (the most recent submittal in January 1994). Thus, chemicals not included as CPCs based on this screening analysis may have been incorrectly withdrawn from the analysis. This comment also applies to several other sections of the risk assessment.

Response:

Action:

124. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg.#: 6-14 Line #: Table 6-2 Code: C

Original Comment #:

Comment: In second column from left: PU-237 should be **PU-238** in second column; PU-239/239 should be PU-239/**240**, and RA-234 should be deleted. Also, no values have been provided for 2-Hexanone in Tables B.2-7, B.2-8, or B.2-12, is this really a CPC?

Response:

Action:

125. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: 6-15 Line #: Table 6-3 Code: C

Original Comment #:

Comment: First column: PU-239 should be **PU-239/240**; acenaphthylene is identified as a CPC but acenaphthene is also listed in Table B.2-7, is this the correct CPC or should both be CPCs?

Response:

Action:

126. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: 6-24 Line #: 5 Code: C

Original Comment #:

Comment: The upper bound of the range should be 10^{-4} not 10^{-5} since several risks exceeded 10^{-5} .

Response:

Action:

127. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: 6.3.1 Pg #: 6-24 Line #: 1-12 Code: C

Original Comment #:

Comment: Substantial confusion existed within Section 4 concerning the decision to convert several sediment sample locations to surface soil

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sampling locations. Has DOE used the samples a surface soil or sediment for calculations in the Baseline Risk Assessment?

Response:

Action:

128. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: Table 6-9A Pg #: 6-27 Line #: Code: C
 Original Comment #:

Comment: There appears to be an error in the table with regard to calculations for the off-property resident child, homegrown produce groundwater scenario (i.e., $7.2E-08 + 5.1E-08$ does not equal $7.2E-08$). DOE should review the table and revise all subsequent calculations appropriately.

Response:

Action:

129. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 6.3.2 Pg #: 6-32 Line #: 12-26 Code: C
 Original Comment #:

Comment: The paragraph should include a discussion of HI results for the Southfield receptors as is provided for the ILCR results.

Response:

Action:

130. Commenting Organization: Ohio EPA Commentor: GeoTrans
 Section #: Pg #: 6-35 Line #: Table 6-13A Code: C
 Original Comment #:

Comment: GMR adult risk should read $4.0E-05$.

Response:

Action:

131. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: Table 6-13B Pg #: 6-37 Line #: Code: C

Original Comment #:

Comment: The on-property resident farmer groundwater HI is reported as $1.9E+01$ in this table yet is reported as $1.9E-01$ within Table 6-14B. DOE should review the tables and supporting calculations and revise as appropriate.

Response:

Action:

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132. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Table 6-14B Pg #: 6-39 Line #: Code: C

Original Comment #:

Comment: The on-property resident farmer HI column does not add up to the reported total of 1.3E+01. DOE should review the table and supporting calculations and revise as appropriate. Also see previous comment on Table 4-13B.

Response:

Action:

133. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: 6-40 Line #: 36 Code: C

Original Comment #:

Comment: According to Table 6-17A, the highest cancer risk was the total risk associated with soil and not groundwater.

Response:

Action:

134. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Table 6-18B Pg #: 6-47 Line #: Code: C

Original Comment #:

Comment: The off-property resident farmer HI column does not add up to the reported total of 3.4E+00. DOE should review the table and supporting calculations and revise as appropriate. Also see previous comment on Table 4-13B.

Response:

Action:

135. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: 6-48 Line #: 12 Code: C

Original Comment #:

Comment: According to Table 6-17A, risks actually exceed 1E-5.

Response:

Action:

136. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: 6-49 Line #: 20 Code: C

Original Comment #:

Comment: Risks do not appear to match Table 6-21A with regards to the child scenario.

Response:

Action:

000032

137. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: 6-57 Line #: 37 Code: C
Original Comment #:
Comment: Risks do not appear to match Table 6-25A regarding the on-property resident child

Response:
Action:

138. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: 6-68 Line #: Table 6-27B Code: M
Original Comment #:
Comment: Groundwater hazard to On-Property Resident Farmer should not be lower than Off-Property Resident Farmer. The actual risk to the On-Property Resident Farmer was actually 1.95E+1, not 6.7E-2.

Response:
Action:

139. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: 6-77 Line #: 29-30 Code: C
Original Comment #:
Comment: The last sentence of the paragraph should be removed or reworded since certain risk estimates did in fact exceed 10^{-6} .

Response:
Action:

140. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: 6 Pg #: Line #: Code: M
Original Comment #:
Comment: Not all of the chemicals on CPC lists (Tables 6-2 through 6-6) are included in this section, and several chemicals not on the lists in Section 6 are included in this section. In addition, these lists are inconsistent with tables presented in the Appendix and in toxicity tables and profiles. Thus, a systematic check of chemical lists should be conducted throughout the document to ensure consistency.

Response:
Action:

141. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 6.5.1.4 Pg #: 6-89 Line #: 15-20 Code: C
Original Comment #:
Comment: Ohio Exempt Waste Standards do not apply to Operable Unit 2 wastes due to the presence of contaminants and wastes not covered

by the standards. All OU2 waste units include above background concentrations of radionuclides and organic contaminants.

Response:

Action:

142. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: 7.3 Pg #: 7-7 Line #: 6-7 Code: C

Original Comment #:

Comment: Essentially the entire FEMP is in the recharge zone of the Great Miami Aquifer. Several areas probably function as preferential recharge zones.

Response:

Action:

143. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: Table 7-3 Pg #: 7-15 Line #: Code: C

Original Comment #:

Comment: The document should include a discussion of the accuracy of the model in predicting perched groundwater concentrations. The discussion should include a presentation of actual perched groundwater results (from well and trenches) and the predicted perched groundwater concentrations in the Solid Waste Landfill. It appears from the data presented in this table that the model substantially underestimates the concentration of contaminants in the perched groundwater.

Response:

Action:

144. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: Table 7-6 Pg #: 7-20 Line #: Code: C

Original Comment #:

Comment: The document should include a discussion of the accuracy of the model in predicting perched groundwater concentrations. The discussion should include a presentation of actual perched groundwater results (from well and trenches) and the predicted perched groundwater concentrations in the Lime Sludge Ponds. It appears from the data presented in this table that the model substantially underestimates the concentration of contaminants in the perched groundwater.

Response:

Action:

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145. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: Vol. II Figure 2-12 Line #: Code: C
 Original Comment #:
 Comment: The legend should include icon definitions for locations 11188, 11027, etc.

Response:

Action:

146. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: Vol. II Figure 4-4 Line #: Code: C
 Original Comment #:
 Comment: DOE should review the figure for unit errors/consistency (e.g., 1721 1,2-DCE, various units for dioxins ug/kg or ng/g, etc.).

Response:

Action:

147. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: Vol. II Figures 4-2,-3,-9,-14,-16,-17,-19,-25 Code: C
 Original Comment #:
 Comment: As stated in previous comments, DOE should evaluate the data presented on the figure for consistency with the figure title. Not all contaminants detected above background were reported and some are included that aren't above background. DOE use of the terms "of concern" within the title are unclear. DOE should revise the figure to ensure an accurate presentation of data.

Response:

Action:

148. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: Vol. II Figure 4-14 Line #: Code: C
 Original Comment #:
 Comment: The Th-total concentration relation to the isotopic thorium concentrations within borings 11051 and 1710 (27-28.5') appear to be inconsistent the relationship/ratio seen in other borings. DOE should discuss this difference within the text of the RI.

Response:

Action:

8000

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149. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Vol. II Figure 4-16 Line #: Code: C
Original Comment #:

Comment: ASIT-009 must also have been a surface water sampling location since uranium is reported as both ug/l and mg/kg. DOE should use an icon to denote the fact the location was both a surface water and sediment sampling location.

Response:
Action:

150. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Vol. II Figure 4-17 Line #: Code: C
Original Comment #:

Comment: The legend should define the icon used for locations 1969, etc. within the legend.

Response:
Action:

151. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Vol. II Figure 4-18 Line #: Code: C
Original Comment #:

Comment: Contrary to the figure's title suggesting organics are presented, antimony concentrations are reported for locations 1975 and 1970. DOE should revise the figure to ensure an accurate representation is being made.

Response:
Action:

152. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Vol. II Figure 4-28 Line #: Code: C
Original Comment #:

Comment: DOE should clarify whether the "background" being used to determine which contaminants are presented is for soil or flyash. Additionally, the definition of the words "of concern" should be provided. The figure should be revised to include sediment sample locations (see Figure 4-30) which were determined to be surface soil samples.

Response:
Action:

153. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Vol. II Figure 4-29 Line #: Code: C
Original Comment #:
Comment:

DOE should clarify whether the "background" being used to determine which contaminants are presented is for soil or flyash. Additionally, the definition of the words "of concern" should be provided. As stated in previous comments DOE should review to ensure data are representative of the figure title.

Response:
Action:

154. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Vol. II Figure 4-30 Line #: Code: C
Original Comment #:
Comment:

DOE should revise the figure to only include those locations considered to be sediment samples. Additionally DOE should review the data presented to ensure all data suggested by the title are incorporated into the figure (e.g., all rads above background).

Response:
Action:

155. Commenting Organization: OEPA Commentor: GeoTrans
Section #: A.2.5 Pg. #: A-2-39 Line #: 29 Code: C
Original Comment #:
Comment:

The vadose modeling does not seem to properly address the molecular diffusion process. Values for molecular diffusion are not reported in the RI, nor are representative values provided in the "Risk Assessment Workplan Addendum." A calculation of the extent of molecular diffusion over 1,000 years through the till indicate that "vadose zone model toxicity screening" may not be conservative. For example, literature values for molecular diffusion from the literature were used to calculate the effects of molecular diffusion only. An average till thickness of 30 ft was chosen. The predicted concentration at the base of the till (top of vadose layer 2) after 1,000 years is between 10^{-3} and 10^{-5} of the source concentration. This assumes there is no retardation. Thus for constituents with low retardation factors (less than 5), such as Technicium-99, many of the organics and cyanide, these may, in fact, require further modeling in the GMA. The report should more clearly define if indeed that molecular diffusion was included. Note that molecular diffusion is not mentioned in the discussion of ODAST (p. A-2-53), nor does it explicitly appear in the equation (p. A-2-60).

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Response:

Action:

156. Commenting Organization: OEPA Commentor: GeoTrans
Section #: A-1 Pg. #: A-1-28' Line #: Code: C
Original Comment #
Comment:

It is incorrect to simply add concentration levels from different subunits into a total concentration value. If the individual source loadings were on a mass unit basis or all source areas contributed equal fluid volumes, then a summation is appropriate.

Response:

Action:

157. Commenting Organization: OEPA Commentor: GeoTrans
Section #: A-1 Pg. #: A-1-.. Line #: Code: C
Original Comment #
Comment:

The overall approach to surface water modeling is focused on storm events, but little detail was provided for the conditions under which field measurement were taken. It is very important, particularly for highly sorbed radionuclides, that sediment transport be included. There appears to be limited information in the comparison with field measurements. Limited detail was provided for the conditions of the field measurements (Table A.1-6 & A.1-8). For example, were any measurements taken under storm event/high runoff conditions? In the eastern region of the country, sediment transport during storm discharge conditions often accounts for the bulk of the transport through streams and lakes. This is sometime a critical component in developing a mass transfer calculations between the source areas, surface water and groundwater environments. The comparisons provided would seem to provide reasonable comparison of the model predictions with field observation, but there is significant doubt as to whether such a comparison is meaningful. Due to the limited amount of surface water data collected, one would generally conclude that the results are not from storm runoff conditions, but rather from average flow conditions when sediment transport may be significantly less. Thus one can not conclude the model concentrations in Paddy's Run are truly comparable with the field observations.

Response:

Action:

158. Commenting Organization: OEPA Commentor: GeoTrans
Section #: A.2.7.2 Pg. #: A-2-62 Line #: 17-25 Code: C

000038

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Original Comment #

Comment: The development of source depletion time and depletion factors is not clear. The approach used has not been described in the Workplan Addendum. It would seem that the depletion factor significantly affects the predicted maximum concentration in the perched zone and into vadose layer 2.

Interpreting from Figure A.2-15, the apparent depletion half-life for Technicium-99 is 100 years. For Uranium-238 (Figure A.2-20) the depletion half-life is approximately 200 years. Lead (Figure A.2-38) appears not to be depleted within 1,000 years. Similarly for Arsenic (Figure A.2-57) is not significantly depleted.

Response:
Action:

159. Commenting Organization: OEPA Commentor: GeoTrans
Section #: A.2.10.1 Pg. #: A-2-208 Line #: 18-20 Code: C

Original Comment #

Comment: The conclusion that ODAST is not sensitive to dispersivity may not be a valid conclusion. The case presented is overdominated by the decreasing source boundary condition and is not appropriate for many of the metals where the source depletion factors are many centuries. In other words, this is not the general case and conclusions regrading the parameter sensitivity should not be made.

Response:
Action:

160. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: App. A-2 Pg #: A-2-43 Line #: 32 Code: C

Original Comment #:

Comment: Has the Uranium Partition Coefficient Evaluation Study for Operable Unit 2 (1993) been provided to OEPA?

Response:
Action:

161. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Appendix B Pg #: Line #: Code: C

Original Comment #:

Comment: DOE should revise the OU2 Baseline Risk Assessment to be consistent with Ohio and U.S. EPA comments on the OU1 Baseline Risk Assessment and the agreed upon resolution of those comments (e.g., screening criteria, etc.).

Response:

Action:

162. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: B-2-3 Line #: 48-49 Code: C

Original Comment #:

Comment: Table II.1-1 gives source of radionuclide slope factors as HEAST EPA 1992d, not EPA 1993b.

Response:

Action:

163. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: B-2-25 Line #: 6 Code: C

Original Comment #:

Comment: Why should the term "SQL" be used for both chemicals and radionuclides, when the MDA is a minimum detectable activity and not a detection limit multiplied by a factor of 3 to 5 for an SQL? The term MDA should be used to distinguish the difference in radionuclide analysis and detection.

Response:

Action:

164. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: B-2-30 Line #: 24 Code: M

Original Comment #:

Comment: The equation listed for calculating the 95th UCL on the arithmetic mean assuming a lognormal distribution is incorrect. The entire equation should be an exponent of e, not just the first two terms. Also, the square root should be taken of "n-1", not just "n". If this equation was actually used as listed then all the log based EPCs were calculated incorrectly, and thus CDIs and risks are incorrect.

Response:

Action:

165. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: B-2-32 Line #: 4 Code: M

Original Comment #:

Comment: Clarify the use of this screening step. What did "additional evaluation" consist of?

Response:

Action:

166. Commenting Organization: Ohio EPA Commentor: GeoTrans

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Section #: Pg #: B-2-32 Line #: 29-31 Code: C
 Original Comment #:
 Comment: See previous comment from page 6-13.
 Response:
 Action:

167. Commenting Organization: Ohio EPA Commentor: GeoTrans
 Section #: Pg #: B-2-39 Line #: Table B.2-3 Code: M
 Original Comment #:
 Comment: Use of the FI factor of 0.19 for trespassing youths assumes that children ingest similar quantities of soil throughout the entire portion of the day when the child is awake. It would not be reasonable to assume that children, engaged in the activities outlined for the pathway, consume similar quantities of soil while playing in soil at the site than during periods of time when the child is indoors. Therefore, the FI factor should be set to 1.0 for this pathway. Using the FI factor of 1, as compared to 0.19, should result in risk estimates approximately 5 times higher than those currently estimated in the report.

Response:
 Action:

168. Commenting Organization: Ohio EPA Commentor: GeoTrans
 Section #: Pg #: B-2-43 Line #: Table B.2-4 Code: M
 Original Comment #:
 Comment: Provide justification for the use of the 0.25FI factor for GMR pathways.

Response:
 Action:

169. Commenting Organization: Ohio EPA Commentor: GeoTrans
 Section #: Pg #: B-2-43 Line #: Table B.2-4 Code: C
 Original Comment #:
 Comment: ~~Units for "C_s" are in pCi/g, tables in Appendix B-III use pCi/kg.~~
 Response:
 Action:

170. Commenting Organization: ~~Ohio EPA~~ Commentor: ~~GeoTrans~~
 Section #: Pg #: B-2-44 Line #: Table B.2-4 Code: C
 Original Comment #:
 Comment: Units for "C_{iv}" are in pCi/g, tables in Appendix B-III use pCi/kg.
 Response:

Action:

171. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: B-2-45 Line #: Table B.2-4 Code: M

Original Comment #:

Comment: Use of the FI factor of 0.125 for trespassers assumes that they ingest similar quantities of soil throughout the entire portion of the day when awake. As previously discussed, it would not be reasonable to assume that similar quantities of soil would be ingested while playing in soil at the site than during periods of time indoors. Therefore, the FI factor should be set to 1.0 for these pathways. Using the FI factor of 1, as compared to 0.125, should result in risk estimates approximately 8 times higher than those currently estimated in the report.

Response:

Action:

172. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: B-2-47 Line #: Table B.2-4 Code: C

Original Comment #

Comment: Units for "C_s" are in pCi/g, tables in Appendix B-III use pCi/kg.

Response:

Action:

173. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: B-2-47 Line #: Table B.2-4 Code: C Units for "C_{ia}"

Original Comment #:

Comment: Units for "C_{ia}" and "C_{iv}" are in pCi/g, tables in Appendix B-III use pCi/kg.

Response:

Action:

174. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: B-2-50 Line #: 11 Code: C

Original Comment #:

Comment: Equation B.2-8 needs a conversion factor. "C_s" is given as pCi/g in line 19, but is pCi/kg in tables in Appendix B-III.

Response:

Action:

175. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-2-52 Line #: Table B.2-5A Code: C
Original Comment #:
Comment: Some chemicals in this table are not on CPC lists.
Response:
Action:

176. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-2-53 Line #: Table B.2-5A Code: C
Original Comment #:
Comment: Some chemicals in this table are not on CPC lists.
Response:
Action:

177. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-2-54 Line #: Table B.2-5A Code: C
Original Comment #:
Comment: Some chemicals in this table are not on CPC lists.
Response:
Action:

178. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-2-55 Line #: Table B.2-5A Code: C
Original Comment #:
Comment: Some chemicals in this table are not on CPC lists.
Response:
Action:

179. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-2-59 Line #: 3 Code: C
Original Comment #:
Comment: Equation B.2-11 uses " C_{avi} " in pCi/g but the tables in Appendix B-III use pCi/kg.
Response:
Action:

180. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-2-60 Line #: 35 Code: C
Original Comment #:
Comment: " CF_p " is not included in equation B.2-12C.
Response:
Action:

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181. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-2-61 Line #: 16 Code: C

Original Comment #:

Comment: Equation B.2-14 does not include a conversion factor (CF) which is necessary because the modeled concentrations for total concentration of contaminants in vegetables or fruit are given in pCi/kg in the Tables in Appendix B-III (e.g., Table B.3.5-7(b)) and the concentration term " C_{iv} " in the equation uses the units pCi/g. Units in Table B.2-3 correspond to those in the Tables in Appendix B-III (pCi/kg).

Response:

Action:

182. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-2-62 Line #: 33, 35 Code: C

Original Comment #:

Comment: Insert "or" between (pCi/g or pCi/L, rad) and (mg/kg or L, chem).
Units in tables in Appendix B-III are in pCi/kg.

Response:

Action:

183. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-2-64 Line #: 22 Code: C

Original Comment #:

Comment: " CF_p " is not in equation B.2-17b.

Response:

Action:

184. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-2-66 Line #: 2 Code: C

Original Comment #:

Comment: Need to define parameters in equation B.2-19.

Response:

Action:

185. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-2-66 Line #: 18 Code: C

Original Comment #:

Comment: Need to define " C_{fi} " also.

Response:

Action:

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186. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-2-69 Line #: 4-9 Code: C
Original Comment #:
Comment: Values presented in Table B.2-6B could not be verified because values used for these terms (i.e., CF, TAO, ET, t*, and B) were not given. Either present the terms used or reference pages from EPA 1992f which give default values, if any.

Response:

Action:

187. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-2-70 Line #: Table B.2-6A Code: C
Original Comment #:
Comment: Some chemicals in this table are not on CPC lists.

Response:

Action:

188. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-2-71 Line #: Table B.2-6A Code: C
Original Comment #:
Comment: Log K_{ow} : for carbon tetrachloride should be 2.83; the value for diethylphthalate appears to have a different source than EPA 1992 and the footnote is missing.

Response:

Action:

189. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-2-72 Line #: Table B.2-6A Code: C
Original Comment #:
Comment: Some chemicals in this table are not on CPC lists. 4,4-DDE should be 4,4'-DDE; 4,4-DDT should be 4,4'-DDT.

Response:

Action:

190. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-2-73 Line #: Table B.2-6B Code: C
Original Comment#:
Comment: Please check the DA values given for the Active Fly Ash Pile for Groundwater. These values do not match with the intake results presented in the Appendix (pgs. B-III-108 and 110). The values presented for DA for the Inactive Flyash Pile and South Field for groundwater do match with their respective results presented in the

Appendix, so the equation appears to be working. However, should these two areas (Inactive Flyash Pile and South Field) have exactly the same DA values for groundwater?

Response:

Action:

191. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-2-80 Line #: Table B.2-7 Code: C
Original Comment #:
Comment: Ammonia and Antimony are not listed in CPC Tables 6-2 through 6-6.

Response:

Action:

192. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-2-81 Line #: Table B.2-7 Code: M
Original Comment #:
Comment: Nickel should be Nickel (**soluble salts**) and effect of cancer should not be listed in this table. Source footnote is missing for thorium. Values or information (ND) are missing for uranium and uncertainty factor is in wrong column. Several organic chemicals are given that are not in CPC lists in Tables 6-2 through 6-6. Acenaphylene that was in the CPC lists has missing values or information. Chronic oral RfD for acenaphthene may be incorrect, but this is not listed as a CPC.

Response:

Action:

193. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-2-82 Line #: Table B.2-7 Code: M
Original Comment #:
Comment: Need to provide values or information (ND) for most chemicals on this page. 2-Hexanone on CPC lists is missing here. Two chemicals are not on CPC lists.

Response:

Action:

194. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-2-83 Line #: Table B.2-7 Code: C
Original Comment #:
Comment: DDT is given on tables, but is not in CPC lists. Footnote c, ECOA should be **ECAO**. Footnote i, consider should be considers.

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Response:

Action:

195. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: B-2-85 Line #: Table B.2-8 Code: M

Original Comment #:

Comment: Ammonia and Antimony are not in CPC lists. Inhalation Cancer Slope Factors for Cadmium and Chromium should be 6.3×10^0 and 4.2×10^1 , respectively, according to IRIS 1993. Inhalation Cancer Slope Factor for Nickel (Refinery Dust) should be 8.4×10^{-1} . A number of semi-volatiles are not in CPC lists.

Response:

Action:

196. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: B-2-86 Line #: Table B.2-8 Code: C

Original Comment #:

Comment: Several chemicals are not in CPC lists and should not be included here.

Response:

Action:

197. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: B-2-91 Line #: Table B.2-11 Code: C

Original Comment #:

Comment: Actinium, Americium, Protactinium not in CPC lists.

Response:

Action:

198. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: B-2-93 Line #: Table B.2-12 Code: C

Original Comment #:

Comment: Several chemicals in table (antimony, boron, silver, tin, tetrachloroethene)-not in CPC lists (Tables 6-2 through 6-6)

Response:

Action:

199. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: B-2-94 Line #: Table B.2-12 Code: C

Several

Original Comment #:

Comment: Several chemicals in table (acenaphthene, fluorene, 4-nitroaniline, 4-nitrophenol, 2,4,5,-trichlorophenol, tributyl phosphate) not in CPC lists (Tables 6-2 through 6-6). Benzo(b)perylene should be **Benzo(g,h,i)perylene** to correspond to CPC lists.

Response:

Action:

200. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-2-95 Line #: Table B.2-12 Code: C
Original Comment #:

Comment: 4,4-DDT is not in CPC lists (Tables 6-2 through 6-6), only 4,4'-DDE. Footnote a, Toxicity Profiles appear in B-II, not Attachment III, and these profiles are not in there.

Response:

Action:

201. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-3-5 Line #: 27 Code: C
Original Comment #:

Comment: Beryllium under dermal contact contributes to risk (4.8E-05).

Response:

Action:

202. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-3-6 Line #: Table B.3.1-3 Code: C
Original Comment #:

Comment: Second column from left: PU-237 should be PU-238, PU-239/239 should be **PU-239/240**, RA-224 should be deleted; no values have been provided for 2-Hexanone in Tables B.2-7, B.2-8, or B.2-12, is this really a CPC?

Response:

Action:

203. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-3-9 Line #: 16 Code: C
Original Comment #:

Comment: Risk to farmer appears to be due to arsenic.

Response:

Action:

204. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-3-37 Line #: Table B.3.2-3 Code: C

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Original Comment #:

Comment: First column: PU-239 should be **PU-239/240**; acenaphthylene is identified as a CPC but acenaphthene is also listed in Table B.2-7, is this the correct CPC or should both be CPCs?

Response:

Action:

205. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: B-3-42 Line #: 19 Code: C

Original Comment #:

Comment: Exposure to RA-228 also shows high risk (3.5E-05).

Response:

Action:

206. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: B-3-42 Line #: 20 Code: C

Original Comment #:

Comment: Text notes individual CPCs have risks up to 10^{-7} but this should be 10^{-5} .

Response:

Action:

207. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: B-3-105 Line #: Table B.3.4-3 Code: C

Original Comment #:

Comment: First column: 4,4'-DDE is given as a CPC here, but 4,4-DDT is listed as a CPC in Table B.2-12 -- which is correct? Second column: Silicon is listed as a CPC here but not in any other tables, should be deleted. There is no column for subsurface soil CPCs, but these are reported in Table B.3.4-2, pages B-III-382 through 384.

Response:

Action:

208. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: B-3-135 Line #: Table B.3.5-1 Code: C

Original Comment #:

Comment: Under "Future Perched Groundwater User" says "Not quantified" but it actually was in Tables B.2-1, B.3.5-22(a), and B.3.5-22(b). Tetrachlorodibenzodioxin is listed in these tables, but the concentration is "0.0", why was it included?

Response:

Action:

209. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: B-3-141 Line #: 14 Code: C

Original Comment #:

Comment: HI for on-property farmer for dermal contact with soil should be "1.5" due primarily to contact with uranium-total.

Response:

Action:

210. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: B-3-160 Line #: 35 Code: C

Original Comment #:

Comment: Says risks to youth were "slightly greater than 1.0×10^{-7} " but in Table B.3.6-9(b) total risks for this receptor and pathway were 9.8E-08.

Response:

Action:

211. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: B-4-1 Pg #: Line #: Code: C

Original Comment #:

Comment: The description of risks presented in the summary does not appear to be well balanced. Very little text (only 6 sentences) is offered regarding description of Subunit-Specific Risks in Section B.4.1, while extensive text is presented for other sections regarding comparison with background information and uncertainties. Major points that can be drawn from the extensive number of tables included in the summary section would be helpful to the reader.

Response:

Action:

212. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: B-II Pg #: Line #: Code: C

Original Comment #:

Comment: Not all of chemicals on CPC lists (Tables 6-2 through 6-6) are discussed in this section, and several chemicals not on the lists are included. Need to check for consistency in CPCs throughout the document.

Response:

Action:

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213. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-II-1 Line #: 18-21 Code: C
Original Comment #:
Comment: Actinium-227 is not on the CPC lists.
Response:
Action:
214. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-II-1 Line #: 24-26 Code: C
Original Comment #:
Comment: Americium-241 is not on the CPC lists.
Response:
Action:
215. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-II-2 Line #: Table II.1-1 Code: C
Original Comment #:
Comment: Uranium-233, Protactinium-231, Actinium-227, and Americium-241 are not on the CPC lists. The source is given as EPA 1992d, but the 1993 version of HEAST is available and is cited as the source for radionuclide slope factors, EPA 1993b, on page B-2-3.
Response:
Action:
216. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-II-4 Line #: 20-26 Code: C
Original Comment #:
Comment: Protactinium-231 is not on the CPC lists.
Response:
Action:
217. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-II-22 Line #: 3-8 Code: C
Original Comment #:
Comment: 2-Chlorophenol is not on CPC lists.
Response:
Action:
218. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-II-23 Line #: 1-4 Code: C
Original Comment #:
Comment: 4-Chlorophenyl-phenylether is not on CPC lists.

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Response:

Action:

219. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: Line #: 6-33 Code: C

Original Comment #:

Comment: Ammonia is not on CPC lists.

Response:

Action:

220. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: B-II-24 Line #: 1-33 Code: C

Original Comment #:

Comment: Ammonia is not on CPC lists.

Response:

Action:

221. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: B-II-25 Line #: 9-22 Code: C

Original Comment #:

Comment: Antimony is not on CPC lists.

Response:

Action:

222. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: B-II-25 Line #: 29-30 Code: C

Original Comment #:

Comment: Aroclor-1248 is not on CPC lists.

Response:

Action:

223. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: B-II-34 Line #: 1-33 Code: C

Original Comment #:

Comment: DDT is not on list of CPCs. Studies specific to 4,4'-DDE should be discussed here.

Response:

Action:

224. Commenting Organization: Ohio EPA Commentor: GeoTrans

Section #: Pg #: B-II-35 Line #: 1-16 Code: C

Original Comment #:

Comment: DDT is not on list of CPCs.
Response:
Action:

225. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-II-35 Line #: 18-33 Code: C
Original Comment #:
Comment: Di-n-octylphthalate is not on CPC lists.
Response:
Action:

226. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-II-36 Line #: 1-9 Code: C
Original Comment #:
Comment: Di-n-octylphthalate is not on CPC lists.
Response:
Action:

227. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-II-37 Line #: 1-33 Code: C
Original Comment #:
Comment: 2,3,7,8-TCDD not on CPC lists in Results section, although it is
given in subsurface soils/solid waste landfill CPCs in Attachment
B.III.
Response:
Action:

228. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-II-38 Line #: 1-33 Code: C
Original Comment #:
Comment: 2,3,7,8-TCDD not on CPC lists in Results section, although it is
given in subsurface soils/solid waste landfill CPCs in Attachment
B.III.
Response:
Action:

229. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-II-44 Line #: 1-20 Code: C
Original Comment #:
Comment: 1,1,1-Trichloroethane is not on CPC lists.
Response:
Action:

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230. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-II-44 Line #: 22-33 Code: C
Original Comment #:
Comment: 1,4-Dioxane is not on CPC lists.
Response:
Action:
231. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-II-45 Line #: 1-4 Code: C
Original Comment #:
Comment: 1,4-Dioxane is not on CPC lists.
Response:
Action:
232. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-II-45 Line #: 6-33 Code: C
Original Comment #:
Comment: Chlordane is not on CPC lists.
Response:
Action:
233. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-II-46 Line #: 1-18 Code: C
Original Comment #:
Comment: Chlordane is not on CPC lists.
Response:
Action:
234. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-II-47 Line #: 7-11 Code: C
Original Comment #:
Comment: 4-Chloro-3-methylphenol (p-chloro-m-cresol) is not on CPC lists.
Response:
Action:
235. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Appendix B-III Pg #: Line #: Code: C
Original Comment #:
Comment: Need to be consistent with terminology between methodology section and Appendix B-III (i.e., PC and K_p). Also, tables that present the risk associated with dermal absorption of surface soil for the CT values do not consistently reflect the AF of 0.2 presented in Table

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B.2-4 for the on-property resident farmer. See also specific comments.

Response:

Action:

236. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: Appendix B-III Pg #: B-III-1 Line #: Code: C
 Original Comment #:

Comment: Table B.3.1-2(a) fails to include two contaminants detected in surface soil and presented in Table 4-63. DOE should revise the table and review all subsequent tables to ensure all detected contaminants are included in the appropriate table.

Response:

Action:

237. Commenting Organization: Ohio EPA Commentor: GeoTrans
 Section #: Pg #: B-III-x Line #: 13 Code: C
 Original Comment #:

Comment: The table for carcinogens is missing on page B-III-455.

Response:

Action:

238. Commenting Organization: Ohio EPA Commentor: GeoTrans
 Section #: Pg #: B-III-73-74 Line #: Table B.3.1-18 Code:
 C

Original Comment:

Comment: Beryllium was analyzed for the inhalation route, but not for the ingestion or dermal routes.

Response:

Action:

239. Commenting Organization: Ohio EPA Commentor: GeoTrans
 Section #: Pg #: B-III-79 Line #: Table B.3.1-19 Code:
 M

Original Comment:

Comment: Although the risk associated with dermal contact for beryllium and arsenic were very small, the risk for arsenic should actually be $3.8E-12$ and for beryllium, $7.6E-14$, according to the DA values presented in Table B.2-6B. Because this equation worked for this pathway in other areas of the site, it is most likely that the DA values presented for groundwater for the Active Flyash pile are erroneous. Uranium-total results are also off by several orders of magnitude.

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Action:

240. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-III-108 Line: Table B.3.1-23 Code: M

Original Comment:

Comment: Values presented for DA in Table B.2-6B do not match what is used in the intake result presented in the Appendix for arsenic and beryllium.

Response:

Action:

241. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-III-110 Line: Table B.3.1-23 Code: M

Original Comment:

Comment: Same comment as above, but for Uranium-total.

Response:

Action:

242. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-III-123 Line #: Table B.3.2-3 Code:

C

Original Comment #:

Comment: Cadmium and other constituents are marked "Y" in the CPC column but not included in the CPCs in other Tables in the Results section.

Response:

Action:

243. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-III-140 Line #: Table B.3.2-7(a) Code:

C

Original Comment:

Comment: Inhalation SF used for Radium-228 was for this isotope alone, not for Radium-228+D as presented in other places.

Response:

Action:

244. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-III-195 Line #: Table B.3.2-19(a) Code:

C

Original Comment #:

Comment: There seems to be a difference in rounding in the results for RA-228. The concentration of 3.38 pCi/g results in an intake of 140 pCi/g-y

and a risk of $4.1E-04$, which is slightly different from what is presented.

Response:
Action:

245. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-III-196 Line #: Table B.3.2-19(a) Code:
M

Original Comment #:

Comment: Hazard associated with ingestion of U-total is presented as 0.0. It should be $2.4E-02$.

Response:
Action:

246. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-III-227 Line #: Table B.3.2-23 Code:
C

Original Comment #:

Comment: The risks and hazards associated with dermal absorption of chemicals in surface soil do not use the AF of 0.2 presented for this route in Table B.2-4 in the methodology. Other tables where this occurred include Table B.3.4-23 and B.3.5-18 along with tables for other areas for the CT values for this route.

Response:
Action:

247. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-III-399 Line #: Table 3.3-2(b) Code:
C

Original Comment #:

Comment: TCDD listed in this table with a concentration of 0 for dermal contact/groundwater; however, TCDD is not listed in CPC tables at the beginning of the section or in body of report.

Response:
Action:

248. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-III-455 Line #: Table B.3.4-20(a) Code:
C

Original Comment #:

Comment: It appears that the carcinogenic risk portion of this table did not get copied. Table starts with noncarcinogenic hazard and is referred

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to as "continued." Also needs notes in boxes where no chemicals evaluated.

Response:

Action:

249. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-III-456 to 458 Line #: Code: C

Original Comment #:

Comment: Needs notes in boxes where no chemicals evaluated.

Response:

Action:

250. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-III-479 to 480 Line #: Code: C

Original Comment #:

Comment: Needs notes in boxes where no chemicals evaluated.

Response:

Action:

251. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-III-481 to 488 Line #: Tables Code: C

Original Comment #:

Comment: Heptachloro-p-dioxin appears in tables although the concentrations given=0 and no risk or hazard is identified.

Response:

Action:

252. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-III-490 Line #: Table B.3.4-27 Code:
C

Original Comment #:

Comment: Subsurface soil chemicals are not listed in the CPC tables in Results section (B.3.4-3, page B-3-105).

Response:

Action:

253. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-III-513 Line #: Table 3.5-2(b) Code:
C

Original Comment #:

Comment: This table lists constituents of potential concern for waste material pertaining to the Lime Sludge Pits (should this be **Ponds**?).

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Response:
Action:

254. Commenting Organization: Ohio EPA Commentor: GeoTrans
Section #: Pg #: B-III-571 Line #: Table Code: M
Original Comment #:

Comment: Hazard indices of dermal contact with soil were calculated incorrectly (intake values were multiplied by the RfD rather than divided, giving significantly different hazards). The total for the pathway should be "1.2" not "1.1E-07"; total noncarcinogenic hazard should be "1.5" not "2.5E-01"

Response:
Action: