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PERCHED GROUNDWATER IN THE K-65 AREA

USEPA/DOE-FN

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LETTER**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

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REPLY TO THE ATTENTION OF:

MAR 22 1993

Mr. Jack R. Craig
United States Department of Energy
Feed Materials Production Center
P.O. Box 398705
Cincinnati, Ohio 45239-8705

HRE-8J

RE: Perched Groundwater in the K-65
Area

Dear Mr. Craig:

The United States Environmental Protection Agency (U.S. EPA) has completed its review of the Work Plan Addendum for Additional Characterization of the Perched Water West of the K-65 Silos. The Work Plan Addendum fails to meet the objective of determining the rate of movement and extent of groundwater contamination in the K-65 Silo area.

Therefore, U.S. EPA disapproves the Addendum pending incorporation of the attached comments.

Please contact me at (312) 886-0992 if you have any questions.

Sincerely,

James A. Saric
Remedial Project Manager

Enclosure

cc: Graham Mitchell, OEPA-SWDO
Pat Whitfield, U.S. DOE-HDQ
Nick Kauffman, FERMCO
Jim Theising, FERMCO
Paul Clay, FERMCO

(Yerace)
partial
action
response
to doe-1128-93
(5781)

OPERABLE UNIT 4 WORK PLAN ADDENDUM**GENERAL TECHNICAL COMMENTS**

1. Assuming that the primary objective of the proposed study is to characterize the nature and extent of K-65-related ground-water contamination, the proposed investigation is not adequate. Additional hydropunch borings or piezometers, particularly in the areas west and south of monitoring well 1032, should be located along the downgradient areas of Operable Unit 4 to fully characterize the lateral and vertical extent of contaminated, perched ground water.
2. If monitor well 1033 is not immediately upgradient of the silos background contamination emanating from other sources can not be adequately evaluated in context with contamination downgradient of the silos, and additional hydropunch borings or piezometers should be installed.
3. The remedial investigation/feasibility study (RI/FS) work plan addendum should include a section summarizing the hydrogeological characteristics of the K-65 silo area. The sections should include brief discussions of perched water flow directions, rates, continuity, thicknesses, and depth.

SPECIFIC COMMENTS

1. Section 2.1.2, Page 2, Sentence 2. This sentence states that radiological analytical results from the previous investigations are shown in Table 4-33; however, the total uranium and Pb-210 results are not included in the table. This information should be included in the table.
2. Section 2.1.2, Page 2, Sentence 5. This sentence states that concentrations of Ra-226, Pb-210, and total uranium decrease with depth. As indicated in Specific Comment No. 1, total uranium and Pb-210 results are not presented. Furthermore, the data presented in Table 4-33 do not support the conclusion that Ra-226 concentrations decrease with depth. These discrepancies should be addressed.
3. Section 2.2.3, Page 3, Paragraph 3. This section discusses the possibility that leaks have occurred based on Ra-226 data obtained from the slant borings. However, no other radiological data are discussed. All radiological data collected during the slant boring investigations should be included in this discussion.
4. Section 3.1, Page 5, Paragraph 1, Sentence 4. This sentence indicates that, at a minimum, all water samples will be analyzed for Ra-226, U-238, and fluorescein dye tracer. The site wide characterization report (DOE, 1992) stated that uranium, thorium, and radium isotopes as well as Pb-210 were used as indicator parameters to determine if radiological contamination was emanating from the K-65 silos. DOE should explain why the list of proposed analyses has been reduced to only two radionuclides.
5. Section 3.1, Page 5, Paragraph 1, Sentence 5. The text states that additional analyses will be performed if sufficient water volume can be collected. DOE should make every effort to maximize sample volumes so that the TAL 50.03.13-B analyses can be performed. With the exception of lysimeter samples, volumes of water sufficient for TAL 50.03.13-B analysis should be obtainable. However, DOE should prioritize the list of analytes contained in TAL 50.03.13-B so field personnel will be able to make maximum use of the available water volumes in the event sufficient volumes for TAL 50.03.13-B analysis are not available.

SPECIFIC COMMENTS (Continued)

6. Section 3.2.1, Page 5, Paragraph 2, Sentence 2. This sentence provides details of the proposed piezometer installations. However, details regarding screen lengths are not included. This information should be provided.

7. Section 3.2.4, Page 7, Paragraph 3. This section discusses the installation of lysimeters along the east bank of Paddys Run. However, it is unclear why DOE proposes to conduct this investigation. Vadose zone waters emanating from the K-65 silos are expected to migrate vertically. It is very unlikely that contaminated vadose zone water will migrate 300 feet laterally into Paddys Run. This issue should be addressed.