



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

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LOG C-01213

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FILE:
REPLY TO THE ATTENTION OF:

MAY 14 2002

Mr. Johnny W. Reising
United States Department of Energy
Feed Materials Production Center,
P.O. Box 398705
Cincinnati, Ohio 45239-8705

SRF-5J

RE: Uranium Sorption and
Partitioning of GMA PSP

Dear Mr. Reising:

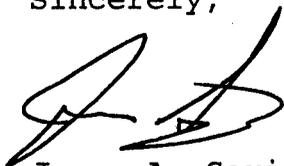
The United States Environmental Protection Agency (U.S. EPA) has completed its review of the United States Department of Energy's (U.S. DOE) Project Specific Plan (PSP) for the analysis of uranium sorption and partitioning of Great Miami Aquifer matrix sediments. The document presents an approach to evaluate how uranium is adsorbed and partitioned on Great Miami Aquifer matrix sediments at the Fernald site.

The document does not adequately explain why the proposed study is required, and it does not provide information on how the study results will be used to improve the accuracy of cleanup predictions, which is the primary objective of the study.

Therefore, U.S. EPA disapproves the uranium sorption and partitioning PSP. U.S. DOE must submit a revised PSP and responses to comments addressing U.S. EPA's enclosed comments within thirty (30) days receipt of this letter.

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

Sincerely,



James A. Saric
Remedial Project Manager
Federal Facilities Section
SFD Remedial Response Branch #2

Enclosure

cc: Tom Schneider, OEPA-SWDO
Sally Robison, U.S. DOE-HDQ
John Bradburne, Fluor Fernald
Terry Hagen, Fluor Fernald
Tim Poff, Fluor Fernald

discuss the impacts of using a semi-selective extraction procedure on meeting the study's objective.

- The PSP should either (1) provide a reference for the proposed multi-step extraction procedure or (2) explain why the proposed procedure is necessary and why the extraction parameter conditions are adequate to accomplish the objective of each extraction step.

Commenting Organization: U.S. EPA
Section #: 3.7
Original Specific Comment #: 3

Commentor: Saric
Page #: 8
Line #: NA

Comment: Phase 2 of the study schedule includes characterization of sediment samples primarily to determine the distribution of uranium in the samples. For example, a high-resolution transmission electron microscopy technique will be used to determine the uranium fractions associated with carbonate minerals or iron oxides. However, Step 3 of the extraction procedure, which targets the uranium fraction bound to carbonate minerals, is to be conducted during Phase 1. Because each extraction step is intended to target different uranium fractions, the extraction procedure should be implemented after sediment characterization studies have been completed. Depending on the outcome of the characterization studies, the extraction procedure may have to be adjusted. For example, (1) omission or modification of one or more of the proposed extraction steps may be required, or (2) a new extraction step may need to be added to the proposed extraction procedure.