OhioEPA
State of Ohio Environmental Protection Agency

Southwest District Office

401 East Fifth Street
Dayton, Ohio 45402-2911

TELE: (937) 285-6357 FAX: (937) 285-6404

Bob Taft, Governor
Jennette Bradley, Lt. Governor
Christopher Jones, Director

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April 9, 2004

Mr. William J. Taylor
U.S. Department of Energy, Fernald Area Office
P.O. Box 538705
Cincinnati, OH 45253-8705

RE: COMMENTS ON PSP FOR GROUNDWATER SAMPLING IN AREAS 3A/4A

Dear Mr. Taylor:

This letter provides Ohio Environmental Protection Agency comments on the Project Specific Plans for Direct-Push Sampling in Former Soil Excavation Areas.

Should you have any questions, please contact Tom Ontko or me.

Sincerely,

Tom Ontko

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

cc: Jim Saric, U.S. EPA
Terry Hagen, Fluor Fernald
Mark Shupe, GeoTrans, Inc.
Michelle Cullerton, Tetra Tech EM Inc.
Ruth Vandergrift, ODH

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Ohio Environmental Protection Agency Comments on the Project Specific Plans for Direct-Push Sampling in Former Soil Excavation Areas.

1) Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: NA Pg.#: NA Line #: NA Code: M
Comment: The objective of this PSP is to use direct-push sampling to determine whether the deep excavation areas have acted as pathways for contamination to reach the GMA via infiltrating contaminated storm water or perched water. Given that the deep excavations will function in the post-remediation life of the site as water-filled basins, the installation of a boring through the base of each excavation would appear to be inappropriate. Prior to final remediation of all sources of contaminated perched groundwater and storm runoff, the deep excavations remain potential sources of contamination to the GMA. The direct-push boring potentially could, therefore, itself create the "short circuit" pathway to the aquifer. Further, the proposed approach will tend to result in a false conclusion of "no contamination" when contamination actually exists. The single boring may not detect leakage that could follow a complex migration pathway influenced by fractures in the till and lithologic heterogeneity in the aquifer. DOE should propose an alternative plan for determining whether or not the excavations have leaked. Possible approaches include identifying significant fractures in the excavations and sampling the till or available till groundwater in close proximity to the fractures. The installation of borings at the periphery of an excavation to sample beneath the footprint is an additional approach that could be implemented.

2) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.0 Pg #: 1 Line #: 2nd paragraph Code: c
Comment: The main criterion for selecting locations for the sampling is that excavations be within 5 feet of the base of the glacial overburden where above-FRL material was identified. Cite the reference which is used to locate the elevation of the bottom of the overburden. We suspect that this was mapped in the OU5 RI.

3) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Pg #: Line #: Code: g
Comment: The main criterion for selecting locations for the sampling is that excavations be within 5 feet of the base of the glacial overburden where above-FRL material was identified. Not taken into consideration are locations of AWAC material and uncertainties in the elevation of the base of the till.
A large scale map should be developed which indicates

- Elevation of the base of the glacial overburden. It would be helpful if some indication of the confidence in the elevation of the base of till were presented. Perhaps locations of well logs which were used to delineate the base of till could be shown.
- 'As-built' grades showing post-excavation topography
- Locations of clay plugs.
- Areas where above FRL and AWAC was found should be indicated along with some indication of the volume of uranium removed. It would be satisfactory to develop a

color-coded scheme which indicates where large amounts of uranium were removed.

The format of the map is not as important as the information to be conveyed. If DOE can devise a more useful scheme to convey the relevant information, we would be inclined to favorable entertain such proposals.

Once the data is displayed in this format, locations for sampling can be determined considering the thickness of the remaining glacial tills, the quantities of uranium-contaminated soil removed and the uncertainties in the thickness of the till. Additionally, pushes should be made everywhere the tills were breached, i.e. where clay plugs were installed.

4) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Pg #: Line #: Code: g
Comment: The title of this PSP does not describe what is intended to be accomplished. This PSP only addresses Areas 3A and 4A, not the entire area where remedial soil excavation occurred.

5) Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Pg #: Line #: Code: g
Comment: This Plan is limited to direct-push sampling. After completion of this Project, some permanent monitoring wells may be necessary.

6) Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: 3.0 Pg.#: 8 Line #: 5 Code: E
Comment: Table 1 is not included in the PSP. Please provide Table 1.

7) Commenting Organization: Ohio EPA Commentor: GeoTrans, Inc.
Section #: 3.0 Pg.#: 7 Line #: 9 Code: C
Comment: Given that the objective of the PSP is to check beneath a specific excavation to see whether or not it leaked during the several years (presumably less than three) that it has been in existence, sampling the GMA to a depth of 60 feet seems unjustified. The deep sampling is particularly questionable given the lack of significant vertical gradients in the vicinity of the excavations. Specific justification for the proposed direct-push sampling depths should be provided in the PSP.

Lacking convincing justification, Ohio EPA would consider trading a deep push for several shallower pushes.