



Department of Energy
Ohio Field Office
Fernald Environmental Management Project
P. O. Box 538705
Cincinnati, Ohio 45253-8705
(513) 648-3155



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MAR 05 2003

Mr. James A. Saric, Remedial Project Manager
United States Environmental Protection Agency
Region V-SRF-5J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

DOE-0243-03

Mr. Tom Schneider, Project Manager
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, Ohio 45402-2911

Dear Mr. Saric and Mr. Schneider:

TRANSMITTAL OF WORK PLAN TO CONDUCT GEOPROBE SAMPLING IN SOUTH PLUME

The purpose of this letter is to transmit the Work Plan to conduct Geoprobe sampling in the South Plume portion of the Great Miami Aquifer. The direct push sampling proposed in the work plan will be conducted in accordance with the Project Specific Plan for conducting direct Push Sampling in the South Plume that was previously submitted in January 2002.

If you have any questions, please contact Robert Janke at (513) 648-3124.

Sincerely,

Johnny W. Reising
Fernald Remedial Action
Project Manager

FCP:R.J. Janke

Enclosure: As Stated

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DOE-0243-03

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Mr. James A. Saric
Mr. Tom Schneider

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cc w/enclosure:

R. J. Janke, OH/FCP
A. Murphy, OH/FCP
T. Schneider, OEPA-Dayton (three copies of enclosure)
G. Jablonowski, USEPA-V, SRF-5J
F. Bell, ATSDR
M. Cullerton, Tetra Tech
M. Shupe, HSI GeoTrans
R. Vandegrift, ODH
AR Coordinator, Fluor Fernald, Inc./MS78

cc w/o enclosure:

R. Greenberg, EM-31/CLOV
N. Hallein, EM-31/CLOV
D. Brettschneider, Fluor Fernald, Inc./MS52-5
D. Carr, Fluor Fernald, Inc./MS2
M. Frank, Fluor Fernald, Inc./MS90
T. Hagen, Fluor Fernald, Inc./MS9
W. Hertel, Fluor Fernald, Inc./MS52-5
M. Jewett, Fluor Fernald, Inc./MS52-5
T. Poff, Fluor Fernald, Inc./MS65-2
ECDC, Fluor Fernald, Inc./MS52-7

Direct Push Sampling South of Willey Road in 2003 February 19, 2003

Additional direct push sampling in the Great Miami Aquifer, off property, south of Willey is proposed for 2003. Figure 1 shows the fourteen proposed locations (13299, 13300, 13301, 13302, 13303, 13304, 13305, 13306, 13307, 13308, 12237a, 13229a, 13230a, and 13240a) and the latest uranium plume interpretation for the subject area.

Direct push sampling will be conducted in accordance with the Project Specific Plan for Conducting Direct-Push Sampling in the South Plume, January 2002. As with previous direct-push sampling programs, the fourteen proposed locations are considered "initial" locations. Additional sampling locations may be pursued pending the results of these initial locations. Additional locations will only be sampled though pending successful access negotiations with the appropriate landowner.

Discussed below are the objectives of the sampling and the rationale for selection of the sampling locations, including the reason why an additional extraction well south of Willey road is not being ruled out at this time.

Objectives:

Direct push sampling will be used to

- 1) Verify the uranium plume interpretation shown in Figure 1 for the area of the Great Miami Aquifer that is located between the South Plume Optimization Wells (32308 and 32309) and the South Plume Extraction Wells (3924, 3925, 3926, and 3927). The proposed direct-push locations are identified in Figure 1 as 13299, 132300, 132301, 132302, 132303, 132304, 132305, 132306, 132307, 132308.
- 2) Status restoration progress in the Great Miami Aquifer immediately north of the South Plume Optimization Wells (32308 and 32309). The proposed direct-push locations are identified in Figure 1 as 12237a, 13229a, 13230a, and 13240a.

Rationale:

The uranium plume in the Great Miami Aquifer for the area located between the South Plume Optimization Wells (32308 and 32309) and the South Plume Extraction Wells (3924, 3925, 3926, and 3927) is currently interpreted as residing within a stagnation zone. Figure 1 illustrates the latest uranium plume interpretation for the subject area. Flow path interpretations modeled for this area also indicate the presence of a stagnation zone, See Figure 2. Figure 2 is taken from the Design for Remediation of the Great Miami Aquifer, South Field Phase II Module. This area has not been sampled in the past. It is wooded, and the terrain in many places is not level due to the presence of creeks and former flood terraces along the Paddy's Run Outlet. This sampling is considered a proactive step for possible pumping changes within the existing extraction wells in order

to disrupt the stagnation zone and more effectively remediate the subject area. If sampling indicates that uranium concentrations are higher than what has been characterized for the area then additional groundwater modeling may be needed to verify that existing extraction wells can achieve remediation objectives. If groundwater modeling indicates that the current extraction wells cannot effectively remediate the area, then an additional well may be considered. Direct push sampling locations in this area were selected to reduce the number of required access agreements. All of the selected locations between the extraction wells reside under one access agreement. If sampling at these initial locations indicates that a step-out sampling location is required, then additional locations will be pursued. Sampling at any additional locations though would be pending successful access agreements with the respective property owner.

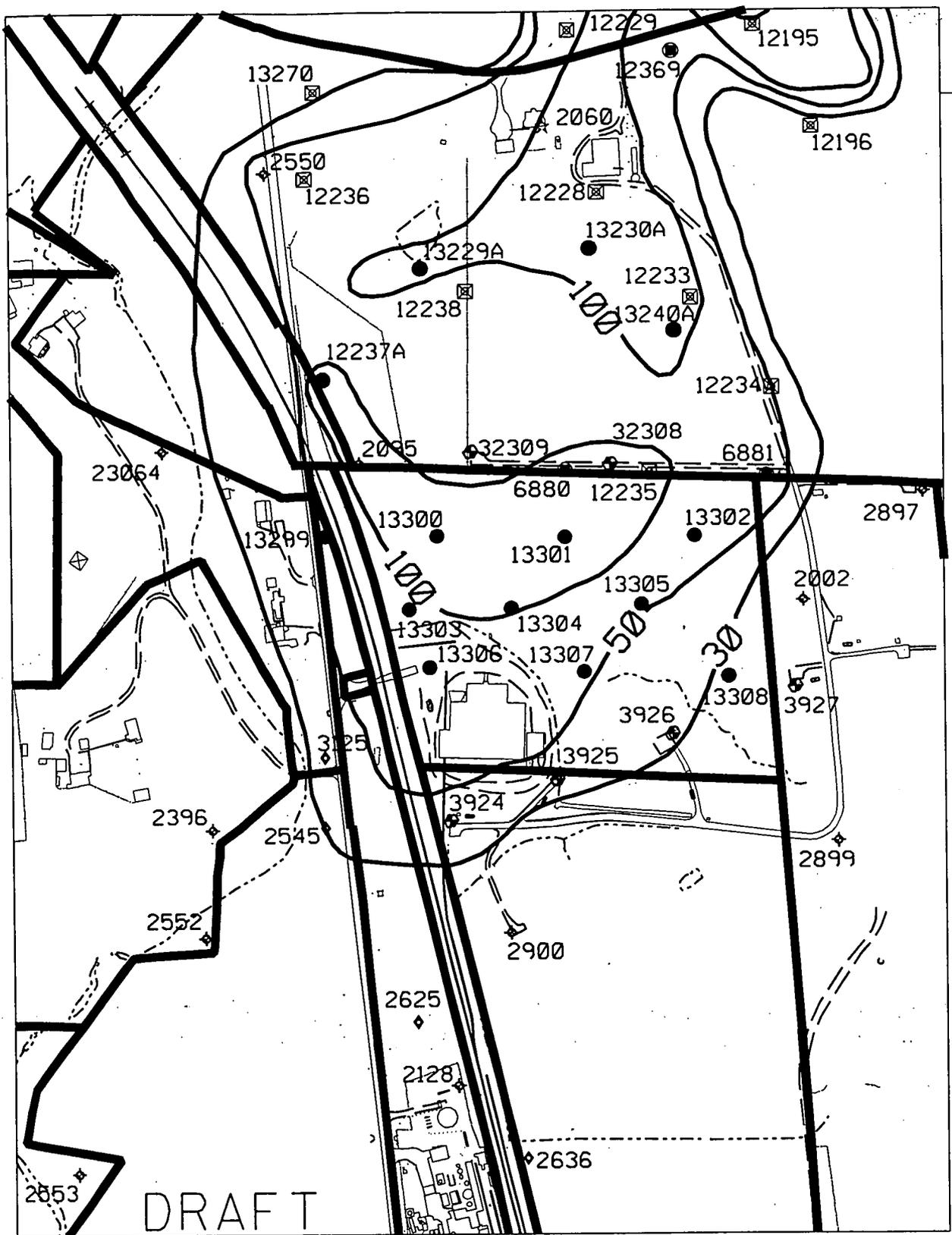
Direct-push sampling in the Great Miami Aquifer was conducted last year north of the South Plume Optimization Wells. The area immediately north of the optimization wells (32308 and 32309) is utilized farmland, Figure 1. Sampling access is granted during non-growing seasons. The landowner does not want permanent water monitoring wells installed in these fields. Therefore, direct push sampling is utilized to track remediation progress. Four key locations (12237, 13229, 13230, and 13240) have been selected to revisit this year to document uranium concentration changes. These four locations currently establish the limit of the 100 $\mu\text{g}/\text{L}$ uranium concentrations in the subject area. It is anticipated that additional direct-push sampling will be conducted in later years to further document progress and to help update uranium plume interpretations.

Figure 1 indicates that the area northeast of the South Plume Optimization Wells may not be realizing the same degree of remediation as the area northwest of the optimization wells is. The 100 $\mu\text{g}/\text{L}$ uranium concentration extends further south of Willey Road in the east (Location 13240) then it does in the west (Location 13230). DOE intends to monitor this situation with continued direct-push sampling. If it appears that the area northeast of the optimization wells will not achieve cleanup as modeled then an additional extraction well in the area of Direct-Push Location 13240 might be needed.

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STATE PLANNING COORDINATE SYSTEM 1983

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LEGEND:

☆	◆	PRIVATE MONITORING WELL	☒	PREVIOUS GEOPROBE
●	◆	MONITORING WELL	●	PROPOSED GEOPROBE
⊕		EXTRACTION WELL		
—50—		TOTAL URANIUM CONTOUR (μ g/L)		
—		HOME OWNER PROPERTY BOUNDARY		

SCALE
350 175 0 350 FEET

FIGURE 1. PROPOSED GEOPROBE LOCATIONS

