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WORK PLAN ADDENDUM FOR OFFSITE WELLS IN THE SOUTH PLUME AREA

12/15/89

**DOE-336-90
DOE-FN USEPA
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ADDENDUM**



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Department of Energy

FMPC Site Office
P.O. Box 398705
Cincinnati, Ohio 45239-8705
(513) 738-6319

December 15, 1989

DOE-336-90

Ms. Catherine A. McCord
U. S. Environmental Protection Agency
Region V - 5HR-12
230 S. Dearborn Street
Chicago, Illinois 60604

Dear Ms. McCord:

WORK PLAN ADDENDUM FOR OFFSITE WELLS IN THE SOUTH PLUME AREA

The enclosed addendum to the FMPC RI/FS Work Plan dated March 1988 contains the locations and justification for additional wells in the South Plume area. This addendum is to fulfill our commitment to you to provide the locations of additional wells by December 15, 1989. We have initiated the process of obtaining access permits from the land owners in these locations. A schedule of monitoring well installation, sampling, and delivery of analytical results will be provided two weeks after your approval of this addendum.

Sincerely,


James A. Reafsnider
FMPC Site Manager

DP-84:Brakken

Enclosure: As stated

cc w/encl.:

A. P. Avel, DP-84, FMPC
D. J. Carr, WMCO
K. M. Eilerman, WMCO
B. Lenyk, ASI
B. Galbraith, IT

ADDITIONAL SOUTH PLUME WELLS

INTRODUCTION

This work plan addendum presents the justification for three 2000-series wells that are required to determine if the South Plume is in the location predicted by the model. Four contingency wells are also included. Initial runs of the RI/FS ground water model, using the data available as of September 1989 for the South Plume indicate that the main axis of the plume is east of the location previously postulated. The data generated from these wells is necessary for completing the South Plume EE/CA. All wells proposed in this work plan addendum will be installed in strict accordance with the procedures set forth in the FMPC RI/FS Work Plan dated March 1988.

Wells 2126 and 3126 are currently being installed to complete the ten well Work Plan Addendum Program. The possibility of unexpected findings in monitoring wells may require the installation of additional wells.

Proposed 2000 Series Wells

There are two issues to be addressed in relation to the South Plume. Emphasis has been on the plume that appears to have resulted from infiltration along Paddy's Run when there was uncontrolled runoff from the plant. The highest concentrations of uranium in this plume exceed 250 ug/l.

Current model interpretations indicate that the main plume has a long slender shape and that it extends a considerable distance to the southeast as shown in Figure 1. The location of the southern third of the plume is farther to the east beyond current monitoring wells. Figure 2 shows the locations of proposed wells 2391 and 2392 which will refine the definition of the South Plume and determine if the model prediction of the southern tip of the South Plume is accurate. The appearance of 4.5 ug/l uranium in existing well 2094 in January 1988, while not a high value, indicates that uranium is present in the area.

The second issue is the lower levels of uranium which entered the creek system and infiltrated along the length of Paddy's Run downstream from the FMPC. The southernmost well installed for the RI/FS (well 2127) has had total uranium values of 37, 6, and 14 ug/l when sampled in April, May, and July of 1989. It is not clear what is causing this variation in uranium values, but it does seem likely that this variation is related to recharge occurring in the lower stretch of Paddy's Run.

Review of existing information indicates that well 2393 should be installed on Rutgers Nease property as shown in Figure 2. This well will fill a large data gap and should complete the definition of the western boundary of the uranium plume.

Access

Location 391 is land owned by Harrison Poured Foundations Inc. This company has not been approached before for well access by the FMPC RI/FS. It would be best to have location 391 on the north side of New Haven Road and along the west side of the cemetery. As an alternative, the location could be shifted to the south side of New Haven Road on the Buckeye Foundry Co. property. Location 392 is also on Buckeye Foundry Co. property and they have allowed access in the past.

Contingency Wells

If the main axis of the plume is found in wells 2391 and 2392, then at least one additional well pair to the east in the vicinity of Highway 128 will likely be required to verify the eastern boundary of the plume. In the event that wells 2391 and 2392 do show elevated levels of uranium, wells 3391 and 3392 should be installed to determine the vertical extent of the plume. Wells 3391, 3392, and the additional well pair are considered low priority at this time.

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LEGEND:

- 200- URANIUM CONCENTRATION
MVA LAYER 1
- ▨ BEDROCK
- EMPC SITE BOUNDARY
- PROPOSED MONITORING
WELL LOCATION
- ROJE: COMPUTER FILE NAME
353011A5

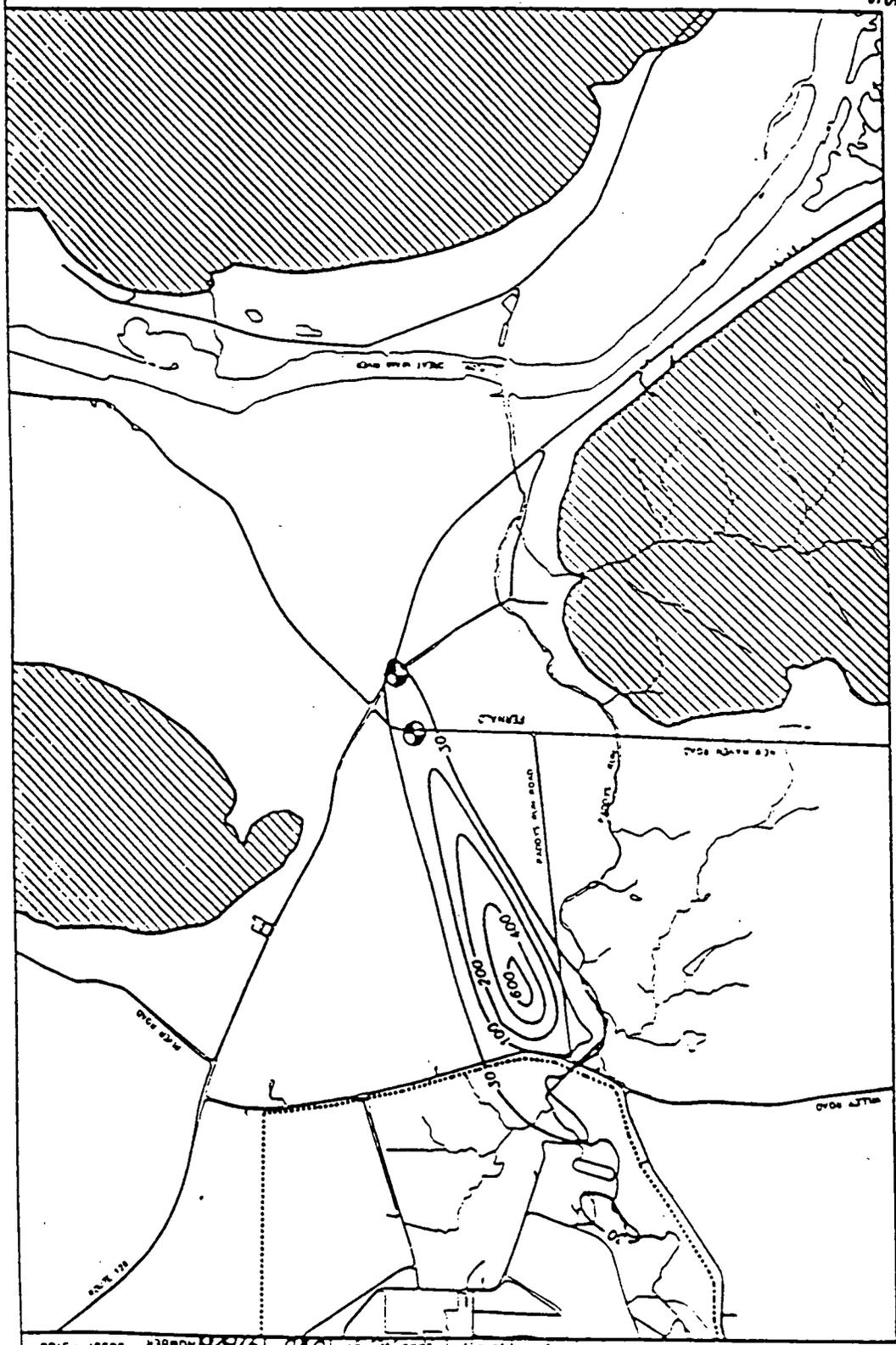


FIGURE 1

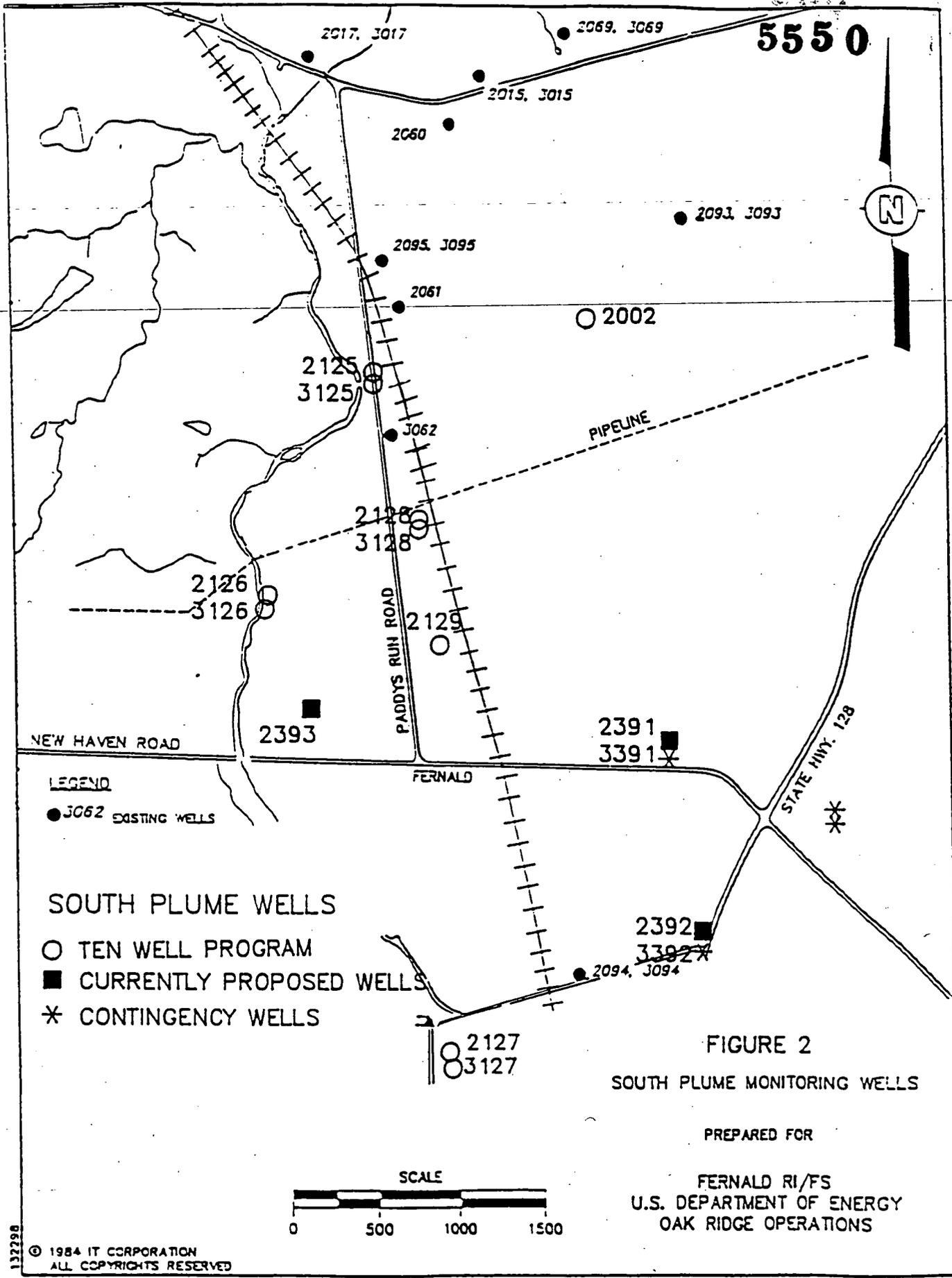
OPERABLE UNIT 6
SOUTH PLUME GROUND WATER SITE
SIMULATED URANIUM CONCENTRATION
PRESENT CONDITIONS

PREPARED FOR
FERRALD EE/CA
U.S. DEPARTMENT OF ENERGY
OAK RIDGE OPERATIONS



DRAMA 37 353011A5 9/15/80
 DATE 9/15/80
 DRAWING NUMBER 003317-3180

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 The word "plume" may be used.



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RI/FS DOCUMENT CHANGE REQUEST

This form is used to initiate and update RI/FS plans and procedures, only.

SAFETY	
YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
INVOLVED	

REQUEST NO: 36
Completed by: _____
Revision/ Issue Date: _____
DO NOT WRITE IN THIS BLOCK

REQUESTOR Robert Galbraith PHONE NO.: 738-3100 DATE _____
DOCUMENT TITLE _____ DOCUMENT NUMBER _____
SECTION/PARAGRAPH/PAGE NO.: _____
ISSUE DATE January 1987 LATEST REVISION DATE March 1988

JUSTIFICATION

Justification for additional wells in the South Plume area is provided in the attached "Installation of Additional South Plume Wells".

CONTENT OF CHANGE

Increase in the number of wells to be installed off-site by three with a provision for an additional four contingency wells.

CANCELLATION INSTRUCTIONS

CANCEL DOCUMENT NO.: N/A
Reason for cancellation: _____

REQUIRED APPROVALS

SSA [Signature] FOR R.G. LENYIK 12/13/89 RW [Signature] 12/14/89 FOR D.J. CAER
ASI PROJECT DIRECTOR/DATE David [Signature] 12/13/89 WMCQ PROJECT MGR./DATE N/A
ASI QA OFFICER/DATE [Signature] 12/13/89 WMCQ IMPACT ASSESS. MGR./DATE N/A
IT PROJECT DIR./DATE N/A WMCQ QA OFFICER/DATE [Signature] 12/15/89
IT QA OFFICER/DATE _____ DOE CONTR/DATE _____

TO BE COMPLETED BY DOE

- A. PRIOR EPA NOTIFICATION REQUIRED ? YES NO _____
- B. PRIOR EPA APPROVAL REQUIRED ? YES _____ NO _____
- C. IMMEDIATE IMPLEMENTATION. YES _____ NO