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Department of Energy

Ohio Field Office
Fernald Area Office
P. O. Box 538705
Cincinnati, Ohio 45253-8705
(513) 648-3155

APR 29 1997

DOE-0843-97

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

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

Dear Mr. Saric and Mr. Schneider:

UPDATE OF WELL PLUGGING AND ABANDONMENT ACTIVITIES

Reference: 1) Letter, J. Reising (DOE-FEMP) to T. Schneider (OEPA) and J. A. Saric (EPA), "DOE-0766-95: Well Abandonment," dated April 25, 1996.

The purpose of this letter is to identify the wells/lysimeters to be plugged during Fiscal Year (FY) 1997 and the waste disposition of the materials associated with the plugging and abandonment activities. In April 1996, a letter was sent to the U.S. Environmental Protection Agency (U.S. EPA) and Ohio Environmental Protection Agency (OEPA) identifying the wells/lysimeters proposed for abandonment during 1996 and the methods to be used (Reference 1). This letter has the same format as the above referenced letter.

A preliminary list of wells that will be plugged and abandoned during FY 1997 is provided as an enclosure (Enclosure 1: Table 1). In addition, a map is provided which identifies the locations of wells that have been abandoned, the wells that are tentatively identified for abandonment, and the remaining active wells. The map also identifies those wells that have been temporarily plugged in advance of excavation activities. The abandonment of these wells will be ultimately completed by removing the well casing. This circumstance only applies to select, shallow monitoring wells within buildings or storage pads.

The abandonment list has been developed from preliminary project schedules, and therefore, is subject to change. Due to changes in the construction, demolition, or excavation schedules several wells that were anticipated to be plugged earlier in 1996 were not. Most of these wells will be plugged during FY 1997. However, it should be noted that there are

1

several wells that were on the original list sent to the U.S. EPA and OEPA (Reference 1) that will not be plugged and abandoned at this time due to changing priorities (Enclosure 1: Table 2). The plugging and abandonment of these wells will be rescheduled, if necessary, based on project priorities and construction excavation schedules.

The major projects driving abandonments for FY 1997 are the possible construction activities for the On-Site Disposal Facility (OSDF), site preparation for the excavation of the Southern Waste Units, and potential start of the Thorium Complex/Plant 9 dismantlement activities. The Fernald Environmental Management Project (FEMP) will make every effort to abandon as many 1000 series wells as possible during FY 1997. The remaining wells in the FEMP monitoring well system will be abandoned as necessary during remediation, with peak periods of well abandonment anticipated occurring in 1997, 1998, and 2005. The approved plugging and abandonment techniques that will be utilized are provided in Enclosure 2.

The FEMP has submitted and will continue to submit a Water Well Sealing Report to the Ohio Department of Natural Resources (ODNR) for each method of abandonment used. A list of wells that were abandoned will be attached to each report. Reports will be filed on a semi-annual basis. This system of reporting has been discussed with the ODNR.

This letter also addresses the waste/well material associated with the plugging and abandonment project. Primary materials that will be generated include stainless steel and Polyvinyl Chloride (PVC) casings and screens, concrete pads, steel protective casings, and soil. Every attempt will be made to reuse/recycle as much of the recovered well material (stainless steel well casing, screens, etc.) as possible. It should be noted that field activities for the plugging and abandonment project will cut across a number of operable units and remediation projects that are in various stages, ranging from work plan development to field implementation. Consideration will be given to the unique waste management requirements for each.

If you have any questions regarding the information provided, please contact Kathleen Nickel at (513) 648-3166.

Sincerely,

Johnny W. Reising
Fernald Remedial Action
Project Manager

FEMP:Nickel

Enclosures: As Stated

cc w/encs:

T. Schneider, OEPA-Dayton (total of 3 copies of enc.)
D. S. Ward, GeoTrans
J. Raab, ODNR
AR Coordinator/78

cc w/o encs:

N. Hallein, EM-42/CLOV
G. Jablonowski, USEPA-V, 5HRE-8J
R. Beaumier, TPSS/DERR, OEPA-Columbus
M. Rochotte, OEPA-Columbus
F. Bell, ATSDR
R. Vandegrift, ODOH
R. Geiger, PRC
D. Carr, FDF/9
T. Hagen, FDF/65-2
J. Harmon, FDF/90
C. Little, FDF/2
EDC, FDF/52-7

ENCLOSURE 1:

TABLE 1:
PRELIMINARY WELL ABANDONMENT LIST FOR FY97

WELL	PROJECT CONFLICT/REASON	E83 COORDINATE	N83 COORDINATE
1046	Southern Waste Unit Excavation	1347959.53	478084.12
1064	On-Site Disposal Facility	1350724.01	480748.20
11482[L*]	On-Site Disposal Facility	1351027.80	483043.60
11483[L*]	On-Site Disposal Facility	1351031.50	483054.99
11484[L*]	On-Site Disposal Facility	1351296.70	481846.22
11486[L*]	On-Site Disposal Facility	1351004.99	482134.22
11491*	On-Site Disposal Facility	1351025.55	483056.78
11492*	On-Site Disposal Facility	1351021.20	483045.15
11493*	On-Site Disposal Facility	1351004.12	482448.12
11494*	On-Site Disposal Facility	1350993.97	482448.21
11495*	On-Site Disposal Facility	1350999.75	482457.38
11496*	On-Site Disposal Facility	1350995.31	482126.09
11497*	On-Site Disposal Facility	1351006.32	482126.03
11500*	On-Site Disposal Facility	1351284.42	481840.03
11501*	On-Site Disposal Facility	1351285.28	481853.33
11502	On-Site Disposal Facility	1351282.89	481317.55
11503	On-Site Disposal Facility	1351275.89	481326.99
11504	On-Site Disposal Facility	1351219.79	479235.15
11505	On-Site Disposal Facility	1351212.30	479229.17
1152	On-Site Disposal Facility	1350636.60	480440.42
11546*	On-Site Disposal Facility	1351286.10	481865.39
11547	On-Site Disposal Facility	1350957.98	480468.19
11557[L*]	On-Site Disposal Facility	1351276.80	481842.73
1160	On-Site Disposal Facility	1350635.49	480212.65
11681	On-Site Disposal Facility	1350409.81	483087.46
11687*	On-Site Disposal Facility	1351572.80	481842.73

WELL	PROJECT CONFLICT/REASON	E83 COORDINATE	N83 COORDINATE
1171	On-Site Disposal Facility	1350601.56	479971.11
1301*	Thorium/Plant 9 Complex Dismantlement	1350180.49	481190.73
1786*	Thorium/Plant 9 Complex Dismantlement	1350212.83	480857.86
1842	On-Site Disposal Facility	1350503.90	479956.65
1942	Southern Waste Unit Excavation	1348158.56	477691.89
1954	Southern Waste Unit Excavation	1347931.10	477894.08
2064	On-Site Disposal Facility	1350714.94	480749.51
2120	On-Site Disposal Facility	1350654.03	480216.32
2171	On-Site Disposal Facility	1350607.31	479967.31
2401	Southern Waste Unit Excavation	1347636.22	478157.18
2439	On-Site Disposal Facility	1350730.35	481123.95
2943	Southern Waste Unit Excavation	1348166.90	477503.97
2944	Southern Waste Unit Excavation	1348024.06	477543.41
2945	Southern Waste Unit Excavation	1347650.96	478001.54
2954	Southern Waste Unit Excavation	1347937.50	477833.64
2955	Southern Waste Unit Excavation	1347484.09	478133.17
3064	On-Site Disposal Facility	1350715.19	480759.94
3120	On-Site Disposal Facility	1350626.18	480196.63
4064	On-Site Disposal Facility	1350724.59	480759.64
4439	On-Site Disposal Facility	1350730.75	481113.68

* Well previously identified to be plugged and abandoned in prior 1996 correspondence to EPA and OEPA.

TABLE 2:
WELLS NOT PLUGGED DURING FY96

WELL	E83 COORDINATE	N83 COORDINATE
1085	1350270.60	481999.69
1086	1350247.48	482013.85
1087	1350217.42	481992.33
1088	1350199.91	482006.55
1089	1350247.51	481995.36
1090	1350215.50	482024.77
1351	1348430.85	480969.77
1352	1348535.50	480919.10
1359	1348671.17	480833.31
1676	1349510.51	481216.84
3008	1347751.51	480691.49
4008	1347746.61	480690.58

ENCLOSURE 2:

The following identifies the techniques for abandonment that have been approved by EPA and OEPA. The techniques used for abandonment may vary from well to well depending on the well type and location. However, all abandonment methods will be consistent the FEMP Sitewide CERCLA Quality Assurance Project Plan (SCQ), OEPA guidance provided in the Technical Guidance Manual for Hydrogeologic Investigations and Groundwater Monitoring, and Ohio Department of Natural Resources (ODNR) guidance. A general description of the abandonment procedures to be used for wells located outside the OSDF footprint is as follows:

- Shallow Type 1 flush-mount wells located inside buildings will be filled temporarily with bentonite. The well casing will be removed later as the building foundations are excavated. If the excavation is not as deep as the well, the remaining well borehole will be sealed with grout.

- In all other Type 1 wells, the screen and riser will be removed and the resulting hole will be sealed with grout. (If the well is in an area where the soil is to be removed down to the depth of the well, the well will not be plugged but will be removed during excavation activities.)

- Lysimeters will be abandoned by removing the riser, cup, and protective casing from the subsurface. The resulting hole will be sealed with grout.

- In Type 2, 3 and 4 wells, the screen will be filled with sand followed by 1-2 feet of bentonite. The riser will be filled with grout at a minimum of five feet below the glacial overburden. The casing will be cut at this point and removed. The resulting hole will be sealed with grout.

For wells abandoned inside the footprint of the OSDF, the following procedure will be used:

- Type 1 wells and lysimeters within the footprint will be over drilled to a depth of at least 1 foot below the bottom of the original well boring. The riser, well screen or lysimeter cup will be completely removed. The borehole will be abandoned with an expansive cement (Type-K) to 5 feet below the planned elevation of the bottom of the compacted clay liner component of the OSDF liner system. The remainder of the borehole will be filled to the ground surface with a bentonite slurry. The purpose of the bentonite slurry is to provide a compressible zone at the top of the boring that does not induce stress concentrations in the OSDF liner system when the OSDF foundation settles.

- Type 2, 3, and 4 wells within the footprint will be over drilled to a depth of at least 5 feet below the base of the glacial overburden. The well screens will be filled with sand, followed by 1-2 feet of bentonite pellets. The well casing will be filled with an expansive cement (Type-K) up to an elevation of 5 feet below the glacial overburden. The well casing will be cut at this point and the upper

portion removed. The resulting hole will be filled with an expansive cement (Type-K) to 5 feet below the planned elevation of the bottom of the compacted clay liner component of the OSDF liner system. The remainder of the borehole will be filled to the ground surface with a bentonite slurry.

ON SITE DISPOSAL FACILITY

STATE 25

SCALE
500 250 0 500 FEET
NAD83

NO.	REVISIONS	DATE	REVISED BY
1	CREATED BY FERMCO GIS	3/13/96	P. HILDEBRAND L. McCANDLESS
2	UPDATES TO PLUGGED WELLS/D. SHANKLIN	3/14/96	L. McCANDLESS
3	UPDATES TO PROPOSED WELLS/M. CHERRY	3/26/96	L. McCANDLESS
4	UPDATES TO EXISTING WELLS/D. SHANKLIN & K. COLLINS	4/1/96	L. McCANDLESS
5	UPDATES TO LYSIMETERS/D. SHANKLIN & P. RILEY	4/9/96	L. McCANDLESS
6	UPDATES TO PLUGGED WELLS/D. SHANKLIN	7/2/96	L. McCANDLESS
7	UPDATES TO PROPOSED WELLS/D. SHANKLIN	9/12/96	L. McCANDLESS
8	UPDATES TO PROPOSED WELLS/C. TABOR	11/01/96	L. McCANDLESS
	UPDATES TO PROPOSED AND PLUGGED WELLS/C. TABOR MAP HAS BEEN REMADE AND IS LINKED TO THE SED DATABASE	12/19/96	L. McCANDLESS
9	FORMAT AND SYMBOL UPDATE	1/22/97	L. McCANDLESS

Fernald Environmental Management Project

FLUOR DANIEL FERNALD

U.S. DEPARTMENT OF ENERGY

LEGEND:

WELL SYMBOL DESCRIPTION:
- TYPE 1 MONITORING WELLS
- TYPE 2 MONITORING WELLS
- TYPE 3 MONITORING WELLS
- TYPE 4 MONITORING WELLS
- TYPE 6 MONITORING WELLS
- LYSIMETER

WELLS DEPICTED IN BLACK ARE ACTIVE

COLOR CODE DESCRIPTION:
- WELLS PLUGGED IN PLACE
- WELLS PROPOSED FOR ABANDONMENT IN 1996-1997
- LYSIMETERS PROPOSED FOR ABANDONMENT IN 1996-1997
- ABANDONED WELLS/LYSIMETERS
- BEDROCK OUTLINE

FILE NAME: @MRSLATE/5CRW2..../NEWPLUG.DGN

FEMP PROPOSED WELL ABANDONMENTS FOR 1996-1997

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