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TRANSMITTAL OF WELLS AND LYSIMETERS PLUGGING AND ABANDONM INFORMATION FOR JANUARY THROUGH JUNE 1996

10/15/96

DOE-0015-97
DOE-FN ODNR
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LETTER

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

OCT 15 1996

DOE-0015-97

Mr. James M. Raab
Hydrogeologist/Supervisor
Technical Services Unit
Water Resources Section
Division of Water
Fountain Square
Columbus, Ohio 43224-1387

Dear Mr. Raab:

TRANSMITTAL OF WELLS AND LYSIMETERS PLUGGING AND ABANDONMENT INFORMATION FOR JANUARY THROUGH JUNE 1996

Reference: Letter, J. Raab (ODNR) to K. Nickel (DOE-FN), dated March 4, 1996.

This letter transmits information regarding monitoring well and lysimeter plugging and abandonment activities for the period of January through June 1996 for the Department of Energy, Fernald Environmental Management Project (DOE-FEMP). This information has been prepared based on your referenced correspondence and subsequent follow-up phone conversations with Fluor Daniel Fernald (FDF) staff. During the period, 43 monitoring wells and 2 lysimeters were plugged and abandoned using various abandonment methods. The most appropriate abandonment method was selected based on an evaluation of physical conditions at each well and lysimeter site. The methods are described in Enclosure 1 along with the list of wells and lysimeters plugged and abandoned. An Ohio Department of Natural Resources (ODNR) Water Well Sealing Report has been completed for the deepest well and lysimeter representing each abandonment method and is also included in Enclosure I. A summary list containing information about the plugged wells and lysimeters has been provided in Enclosure II.

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Additional plugging and abandonment information will be sent on a semi-annual basis. If you have any questions or comments concerning this matter, please contact Kathi Nickel at (513) 648-3166.

Sincerely,

Johnny Reising

Johnny W. Reising
Fernald Remedial Action
Project Manager

FEMP:Nickel

Enclosures: As Stated

cc w
S. Fauver, EM-425/GTN
L. Griffin, EM-425/GTN
R. L. Nace, EM-425/GTN
G. Jablonowski, USEPA-V, 5HRE-8J
R. Beaumier, TPSS/DERR, OEPA-Columbus
M. Rochotte, OEPA-Columbus
T. Schneider, OEPA-Dayton (3 copies total of enc.)
F. Bell, ATSDR
D. S. Ward, GeoTrans
R. Vandegrift, ODOH
S. McLellan, PRC
D. Carr, FDF/9
T. Hagen, FDF/65-2
J. Harmon, FDF/90
AR Coordinator/78

cc w/o encs:

C. Little, FDF/2
EDC, FDF/52-7

ENCLOSURE I

The plugging methods used are described below:
Note: Asterisk (*) indicates the deepest well/lysimeter per method.

Method 1) Cut the riser 5 feet below the base of the glacial overburden and remove. Fill the screened interval with sand and cap with a 1-foot thick bentonite seal. Inject expansive cement grout into the remaining riser and hole bringing grout flush to the surface.

Wells plugged using Method 1:

3001, 3010, 3024, 3452, *4001

Method 2) Pull riser and screen from the ground. Inject expansive cement grout into the resultant hole, bringing grout flush to the surface.

Wells plugged using Method 2:

1024, 1038, 1074, 1076, 1077, 11068, 11070, 11071, 11072, 11077, 11078, 11122, 11213, 11214, 11216, 11230, 11233, 1239, 1287, 1293, 1362, 1839, 1887, 1937, 1947, 1952, 2024, 2452, 2939, *2947, 2953

Method 3) Fill riser and screen with bentonite pellets and hydrate the pellets.

Wells temporarily plugged using Method 3:

1318, 1324, *1346, 1353, 1423

This is a temporary plugging method. The well casing will be removed later as the building foundations are excavated. The resulting hole will be sealed with grout.

Method 4) Overdrill original boring and remove all well construction materials. Inject expansive cement grout into the resultant hole to a depth of 12 feet below the ground surface. Inject bentonite grout slurry into the remaining hole in order to bring grout flush to the surface.

Wells plugged using Method 4:

*11498, 11499

Method 5) Pull inner riser, lysimeter cup, and protective riser from the ground. Inject expansive cement grout into the resultant hole, bringing grout flush to the surface.

Lysimeters plugged using Method 5:

11132, *11133

WATER WELL SEALING REPORT
(For Abandoned or Unused Wells)
OHIO DEPARTMENT OF NATURAL RESOURCES
Division of Water, Ground Water Resources Section
1939 Fountain Square Drive
Columbus, Ohio 43224-1360

LOCATION Fernald Environmental Management Project (FEMP)

County Hamilton Township Crosby Section 6
Property Owner United States Department of Energy

Address of Property 7400 Willey Road, Fernald, Ohio 45030

Location (NAD83 State Planar Coordinates) E137299.42, N481326.66

ORIGINAL WELL

ODNR Well Log Number 291500 Copy attached? (Yes) or No (circle one) FEMP ID# 4001

MEASURED CONSTRUCTION DETAILS Date of Measurements 4-12-65

Depth of Well 180 feet Static Water Level 64 feet

Size of Casing 4 inch diameter Length of Casing 176.5 feet
Well Condition Good - screened interval contained accumulated rust/scale

SEALING PROCEDURE

Method of Placement Remove a portion of the riser. Fill screen with sand and cap with a 1-foot thick bentonite seal. Grout to the ground surface.

			Sealing Material	Volume
Placement:	From 180 feet	To 174 feet	Sand	0.5 ft³
	From 174 feet	To 173 feet	Bentonite Chips	0.09 ft³
	From 173 feet	To 0 feet	Expansive Cement Grout	15 ft³

Was Casing Removed? (Yes) or No (circle one) Amount Removed 40 feet

Condition of Casing Good
Perforations: From N/A To N/A
From N/A To N/A
Date Sealing Performed 4-11-96

Reason(s) for Sealing Abandoned in advance of excavation and construction remediation activities.

CONTRACTOR

Name Alliance Environmental, Inc. ODH Registration # 2119
Address 117 Industry Road
City/State/Zip Marietta, Ohio 45750

FEMP Geologist Signature Dan E. Shankle

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Note: Length of casing does not include length of screen.
N/A: Not applicable or not available

SUBMIT COMPLETED FORM TO ODNR-DIVISION OF WATER

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WELL LOG AND DRILLING REPORT

#4001 443

PLEASE USE PENCIL OR TYPEWRITER
DO NOT USE INK

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus 12, Ohio

No 291500

County Butler Township Ross Section of Township 31

Owner National Lead of Ohio Address Box 39158 Cincinnati, O

Location of property Well # 1-D 4001

CONSTRUCTION DETAILS

Casing diameter 4" Length of casing 176'6"

Type of screen Geek Brass 1" Length of screen 5'

Type of pump

Capacity of pump

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST

Pumping Rate 70 G.P.M. Duration of test 4 h

Drawdown - ft. Date 4/12/65

Static level-depth to water 64'

Quality (clear, cloudy, taste, odor)

Pump installed by

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
	0 Feet	Ft.
Yellow clay	0	12
Gravel & yellow clay	12	14
Blue clay-some gravel	14	40
Sandy yellow clay	40	45
Sand sm. gravel	45	131'6"
Blue clay	131'6"	145'
~~[illegible]~~		
Sand & gravel	145'	152'
Red & coarse sand	152'	170'
Fine sand	170'	180'

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.

N.

Check with Natl. Lead for well location

W. AEC Fernald Plant E

S.

See reverse side for instructions

Drilling Firm Wm Crane Date 4/12/65

Address Shandon, O Signed

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WATER WELL SEALING REPORT
(For Abandoned or Unused Wells)
OHIO DEPARTMENT OF NATURAL RESOURCES
Division of Water, Ground Water Resources Section
1939 Fountain Square Drive
Columbus, Ohio 43224-1360

LOCATION Fernald Environmental Management Project (FEMP)

County Hamilton Township Crosby Section 6
Property Owner United States Department of Energy

Address of Property 7400 Willey Road, Fernald, Ohio 45030

Location (NAD83 State Planar Coordinates) E1348437.85, N482149.35

ORIGINAL WELL

ODNR Well Log Number N/A Copy attached? Yes or (No) (circle one) FEMP ID# 2947

MEASURED CONSTRUCTION DETAILS Date of Measurements 4-15-93

Depth of Well 80 feet Static Water Level 67.5 feet
Size of Casing 4 inch diameter Length of Casing 65 feet
Well Condition Very good

SEALING PROCEDURE

Method of Placement Pull riser and screen from the ground. Grout borehold to the ground surface.

			Sealing Material	Volume
Placement:	From 80 feet	To 0 feet	Expansive Cement	7.0 ft³
	From N/A	To N/A	N/A	N/A
	From N/A	To N/A	N/A	N/A

Was Casing Removed? Yes or (No) (circle one) Amount Removed N/A

Condition of Casing Very good
Perforations: From N/A To N/A
From N/A To N/A
Date Sealing Performed 4-23-96
Reason(s) for Sealing Abandoned in advance of excavation and construction remediation activities.

CONTRACTOR

Name Alliance Environmental, Inc. ODH Registration # 2119
Address 117 Industry Road
City/State/Zip Marietta, Ohio 45750
FEMP Geologist Signature Dean E. Stanley

Note: Length of casing does not include length of screen.
N/A: Not applicable or not available.

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SUBMIT COMPLETED FORM TO ODNR-DIVISION OF WATER

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WATER WELL SEALING REPORT
(For Abandoned or Unused Wells)
OHIO DEPARTMENT OF NATURAL RESOURCES
Division of Water, Ground Water Resources Section
1939 Fountain Square Drive
Columbus, Ohio 43224-1360

LOCATION Fernald Environmental Management Project (FEMP)

County Hamilton Township Crosby Section 6
Property Owner United States Department of Energy

Address of Property 7400 Willey Road, Fernald, Ohio 45030

Location (NAD83 State Planar Coordinates) E1348710.00, N481275.00

ORIGINAL WELL

ODNR Well Log Number N/A Copy attached? Yes or (No) (circle one) FEMP ID# 1346

MEASURED CONSTRUCTION DETAILS Date of Measurements 1-7-90

Depth of Well 20 feet Static Water Level 9.8 feet

Size of Casing 4 inch diameter Length of Casing 15.3 feet
Well Condition Very good

SEALING PROCEDURE

Method of Placement Fill riser and screen with bentonite pellets and hydrate the pellets.

			Sealing Material	Volume
Placement:	From 20 feet	To 0 feet	Bentonite Pellets	1.7 ft³
	From N/A	To N/A	N/A	N/A
	From N/A	To N/A	N/A	N/A

Was Casing Removed? Yes or (No) (circle one) Amount Removed N/A

Condition of Casing N/A
Perforations: From N/A To N/A
From N/A To N/A
Date Sealing Performed 1-26-96

Reason(s) for Sealing Abandoned in advance of excavation and construction remediation activities.

CONTRACTOR
Name FERMCO ODH Registration # N/A
Address 7400 Willey Road
City/State/Zip Fernald, Ohio 45030

FEMP Geologist Signature Dean C. Shanklin

Note: Length of casing does not include length of screen.
N/A: Not applicable or not available.

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SUBMIT COMPLETED FORM TO ODNR-DIVISION OF WATER

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WATER WELL SEALING REPORT
(For Abandoned or Unused Wells)
OHIO DEPARTMENT OF NATURAL RESOURCES
Division of Water, Ground Water Resources Section
1939 Fountain Square Drive
Columbus, Ohio 43224-1360

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LOCATION Fernald Environmental Management Project (FEMP)

County Hamilton Township Crosby Section 6
Property Owner United States Department of Energy

Address of Property 7400 Willey Road, Fernald, Ohio 45030

Location (NAD83 State Planar Coordinates) E1350981.10, N481593.10

ORIGINAL WELL

ODNR Well Log Number N/A Copy attached? Yes or (No) (circle one) FEMP ID# 11498

MEASURED CONSTRUCTION DETAILS Date of Measurements 12-28-94

Depth of Well 31.0 feet Static Water Level 22.9 feet
Size of Casing 4 inch diameter Length of Casing 29 feet
Well Condition Very good

SEALING PROCEDURE

Method of Placement Overdrill and remove all well construction materials. Grout to the ground surface.

			Sealing Material	Volume
Placement:	From 31 feet	To 12 feet	Expansive Cement	3.7 ft³
	From 12 feet	To 0 feet	Volclay Grout	2.4 ft³
	From N/A	To N/A	N/A	

Was Casing Removed? (Yes) or No (circle one) Amount Removed 29 feet
Condition of Casing Very good
Perforations: From N/A To N/A
From N/A To N/A
Date Sealing Performed 6-17-96
Reason(s) for Sealing Abandoned in advance of excavation and construction remediation activities.

CONTRACTOR

Name Alliance Environmental, Inc. ODH Registration # 2119
Address 117 Industry Road
City/State/Zip Marietta, Ohio 45750
FEMP Geologist Signature Dean E. Shanklin

Note: Length of casing does not include length of screen.
N/A: Not applicable or not available.

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SUBMIT COMPLETED FORM TO ODNR-DIVISION OF WATER

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WATER WELL SEALING REPORT
(For Abandoned or Unused Wells)
OHIO DEPARTMENT OF NATURAL RESOURCES
Division of Water, Ground Water Resources Section
1939 Fountain Square Drive
Columbus, Ohio 43224-1360

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LOCATION Fernald Environmental Management Project (FEMP)

County Hamilton Township Crosby Section 6
Property Owner United States Department of Energy
Address of Property 7400 Willey Road, Fernald, Ohio 45030
Location (NAD83 State Planar Coordinates) E1350356.55, N482237.30

ORIGINAL WELL

ODNR Well Log Number N/A Copy attached? Yes or (No) (circle one) FEMP ID# 11133

MEASURED CONSTRUCTION DETAILS Date of Measurements 9-25-93

Depth of Well 48 feet Static Water Level N/A
Size of Casing 2 inch diameter Length of Casing 47 feet
Well Condition Very good

SEALING PROCEDURE

Method of Placement Pull all lysimeter construction materials. Grout borehole to the ground surface.

			Sealing Material	Volume
Placement:	From 48 feet	To 0 feet	Expansive Cement	5.2 ft³
	From N/A	To N/A	N/A	
	From N/A	To N/A	N/A	

Was Casing Removed? (Yes) or No (circle one) Amount Removed 47 feet

Condition of Casing Very good
Perforations: From N/A To N/A
From N/A To N/A
Date Sealing Performed 5-16-96
Reason(s) for Sealing Abandoned in advance of excavation and construction remediation activities.

CONTRACTOR

Name Alliance Environmental, Inc. ODH Registration # 2119
Address 117 Industry Road
City/State/Zip Marietta, Ohio 45750
FEMP Geologist Signature Leon Ludwick

Note: Length of casing does not include length of screen.
N/A: Not applicable or not available.

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SUBMIT COMPLETED FORM TO ODNR-DIVISION OF WATER

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ENCLOSURE II

Well/Lysimeter Plugging and Abandonment Summary Information

Well/ Lysimeter	Coordinates NAD83 E	Coordinates NAD83 N	Diameter (In)	Depth (Ft)	Riser Material	Sealing Date
Method 1						
3001	1347258.44	481340.91	8	130	STEEL	5/28/96
3010	1348340.97	481601.54	6	130	STEEL	6/03/96
3024	1347433.83	482506.50	4	110	STAINLESS	5/13/96
3452	1347712.03	482363.65	4	115.5	STAINLESS	5/06/96
4001	1347299.42	481326.66	4	180	STEEL	4/11/96
Method 2						
1024	1347424.02	482510.45	4	27.0	STAINLESS	5/08/96
1038	1348153.54	482084.76	4	28.5	STAINLESS	3/13/96
1074	1347169.89	481216.41	4	23.5	STAINLESS	3/04/96
1076	1347279.94	481455.18	4	31.5	STAINLESS	3/11/96
1077	1347346.73	481436.98	4	31.5	STAINLESS	3/11/96
11068	1347277.88	480177.84	4	16.4	STAINLESS	2/28/96
11070	1348008.05	480009.46	4	17.8	STAINLESS	2/28/96
11071	1348330.60	481572.95	4	25	STAINLESS	5/29/96
11072	1348298.95	481339.94	4	25.0	STAINLESS	6/04/96
11077	1347506.52	481277.07	4	21.5	STAINLESS	3/04/96
11078	1348372.69	482172.93	4	18.4	STAINLESS	3/07/96
11122	1347750.08	481534.43	2	25.33	PVC	3/04/96
11213	1347747.33	481513.77	2	16.25	PVC	3/04/96
11214	1347748.62	481524.85	4	24.25	STAINLESS	3/04/96
11216	1347940.26	481785.97	4	28.75	STAINLESS	3/07/96
11230	1350399.58	481866.45	4	12.0	STAINLESS	6/05/96
11233	1350404	481679	4	20.3	STAINLESS	6/05/96
1239	1348360.56	480063.09	2	12.0	PVC	4/22/96
1287	1349523.37	481664.25	2	15.0	PVC	6/04/96
1293	1349493.26	481436.33	2	12.0	PVC	6/04/96
1362	1349371.58	481333.24	2	10.0	PVC	6/04/96
1839	1347681.08	480463.23	2	20.2	PVC	2/28/96
1887	1349386.83	482440.01	4	12.0	STAINLESS	5/16/96
1937	1348065.59	480674.84	2	18.75	STAINLESS	5/29/96
1947	1348437.15	482137.33	2	20.5	STAINLESS	4/22/96
1952	1348297.55	482087.06	2	18.3	STAINLESS	3/07/96
2024	1347411.82	482516.84	4	69.0	STAINLESS	5/08/96
2452	1347721.87	482365.69	4	74.0	STAINLESS	5/07/96
2939	1348062.15	480700.80	4	69	STAINLESS	5/28/96
2947	1348437.85	482149.35	4	80.0	STAINLESS	4/23/96
2953	1348275.35	482049.41	4	77.0	STAINLESS	4/16/96
Method 3						
1318	1349965.62	480970.58	2	16.5	PVC	1/26/96
1324	1350212.93	480857.84	2	13.5	PVC	1/26/96
1346	1348710.00	481275.00	4	20.0	PVC	1/26/96
1353	1348782.82	480956.59	2	18.0	PVC	1/26/96
1423	1350148.36	480962.24	4	12.6	PVC	1/26/96
Method 4						

11498	1350981.10	481593.10	2	31.0	STAINLESS	6/17/96
11499	1350991.13	481593.14	2	19.0	STAINLESS	6/17/96
Method 5						
11132	1350372.02	482236.05	2	26.0	PVC	5/16/96
11133	1350356.55	482237.30	2	48.0	PVC	5/16/96