

February 29, 2000

2834

Fernald Environmental Management Project

Letter No. C: SWP(ARWWP):2000-0004

Mr. James R. Morris  
Chief, Division of Water  
Ohio Department of Natural Resources  
Water Resources Section  
1939 Fountain Square Court, Bldg. E-1  
Columbus, OH 43224-1336

Dear Mr. Morris:

**CONTRACT DOE DE-AC24-92OR21972, 1999 OHIO DEPARTMENT OF NATURAL  
RESOURCES (ODNR) ANNUAL WATER WITHDRAWAL REPORT**

The enclosed copy of ODNR Form 7804 comprises the 1999 FEMP Annual Water Withdrawal Report. The total FEMP groundwater withdrawal for calendar year 1999 was 1,747.93 million gallons.

Water withdrawn from Well 2 (30.14 million gallons) and Well 42202 (18.30 million gallons) was applied to roadways and construction areas for the purpose of dust suppression. For purposes of this report, discharges from these wells were considered to be consumed and subtracted from the total groundwater withdrawn in order to determine the return flows. Discharges from the other extraction wells were assumed to equal returns since the water was either re-injected back into the aquifer after treatment or discharged to the Great Miami River.

Three new extraction wells (EW-23, EW-24, and 42471) were completed in 1999, but were not placed in service during 1999. The registration form (Attachment A) and the appropriate well completion logs (Attachment B) for these wells are included. Also included is a Well Identification Cross Reference (Attachment C).

If you have any questions, please contact Caran Siefert at (513) 648-4202.

Sincerely,



David J. Brettschneider, Project Manager  
Aquifer Restoration/Wastewater Project

DJB:CGS:dsm  
Attachment

February 29, 2000

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Mr. James R. Morris

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Letter No. C:SWP(ARWWP):2000-0004

c: Irma Brown, DOE Contract Specialist  
File Storage Project Number 52400  
K. A. Broberg, MS52-5  
E. H. Henry, MS52-5  
W. A. Hertel, MS52-5  
R. J. Janke, DOE-FEMP, MS45  
F. L. Johnston, MS52-5  
C. G. Siefert, MS52-5  
E. P. Skintik, DOE-FEMP, MS45  
C. Smyser, MS52-5



**STATE OF OHIO  
WATER WITHDRAWAL  
FACILITY REGISTRATION  
ANNUAL REPORT FORM**

SEND TO: OHIO DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF WATER  
WATER RESOURCES SECTION  
1939 FOUNTAIN SQUARE COURT, BLDG. E-1  
COLUMBUS, OHIO 43224-1336  
(614) 265-6735

2834

*AUTHORITY: Ohio Revised Code Section 1521.16 requires that any owner of a facility, or combination of facilities, with the capacity to withdraw more than 100,000 gallons of water daily, register such facilities and file an annual report with the Ohio Department of Natural Resources, Division of Water.*

**Water Withdrawal Report for the Year Ending December 31, 1999**

According to our records,

The **CONTACT** is listed as: Make Corrections Below

CARAN G. SIEFERT  
FERNALD ENVIRONMENTAL MNGT. PROJECT  
P.O. BOX 538705  
CINCINNATI, OH 45253-8704 P.O. Box 538704

Phone: 513/648-4202

The **OWNER** is listed as: Make Corrections Below

U.S. DEPT. ENERGY  
FERNALD ENVIRONMENTAL MNGT. PROJECT  
P.O. BOX 538705  
CINCINNATI, OH 45253-8705

Phone: 513/648-3000

Please make any corrections or changes to the listed OWNER and CONTACT information in the space provided to the right of the address.

**Facility Name and Withdrawal Mode:** Please make any changes next to the well or intake number(s).

FERNALD ENV MNGT PROJECT  
Registration Number: 01573  
Well Number:

Registration Date: 11/08/91  
Intake Number:

- 1
- 2
- 3
- 42202
- AW-1
- AW-2
- EW-13
- EW-14
- EW-15
- EW-16
- EW-17
- EW-18
- EW-19
- EW-20
- EW-21
- EW-22
- RW-1
- RW-2
- RW-3
- RW-4
- RW-5
- RW-6

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WITHDRAWALS

Registration Number 01573

GROUND WATER (in Units of Millions of Gallons)

SOURCE	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL PER YEAR
WELL NO. 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WELL NO. 2	0.40	0.37	1.50	2.06	2.28	4.45	3.46	3.94	3.62	3.84	3.11	1.11	30.14
WELL NO. 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WELL NO. 42202	0.00	0.00	0.00	0.90	0.90	1.65	1.65	3.75	3.75	3.75	1.80	0.15	18.30
WELL NO. RW-1	13.33	11.97	13.24	12.62	12.68	11.90	13.15	13.29	11.78	13.16	11.94	11.77	150.83
WELL NO. RW-2	13.22	11.66	13.18	12.49	12.61	11.87	13.28	13.29	12.86	13.19	11.83	11.68	151.16
WELL NO. RW-3	14.77	15.86	17.63	16.30	16.14	16.22	16.69	15.45	16.58	16.55	14.88	6.75	183.82
WELL NO. RW-4	22.02	19.28	21.56	20.13	20.70	20.91	21.42	21.30	21.12	20.71	8.37	16.35	233.87
WELL NO. RW-5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WELL NO. RW-6	5.01	9.90	10.19	9.75	10.00	10.61	11.18	10.98	7.19	9.87	8.16	9.91	112.75
WELL NO. RW-7	5.03	9.86	10.20	9.73	9.47	10.59	11.14	10.98	7.08	9.83	8.12	9.83	111.86
WELL NO.													
<b>TOTAL</b>	73.78	78.90	87.50	83.98	84.78	88.20	91.97	92.98	83.98	90.90	68.21	67.55	<b>GRAND TOTAL 992.73</b>
MAXIMUM	0.95	0.96	0.99	0.88	1.01	1.01	0.91	0.97	0.83	0.89	0.72	1.05	
MINIMUM	0.29	0.21	0.28	0.23	0.00	0.20	0.29	0.19	0.36	0.17	0.00	0.00	
DAYS IN OPERATION	31	28	31	30	30	30	31	31	30	31	28	30	TOTAL OPERATION DAYS 361

SURFACE WATER (in Units of Millions of Gallons)

SOURCE	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL PER YEAR
INTAKE													
INTAKE													
INTAKE													
INTAKE													
INTAKE													
<b>TOTAL</b>													<b>GRAND TOTAL</b>
MAXIMUM													
MINIMUM													
DAYS IN OPERATION													TOTAL OPERATION DAYS

Are surface water and ground water withdrawal amounts based on metered readings?  yes  no (circle one) If "no," how were the reported withdrawal amounts determined? (Attach separate sheet, if necessary)

RETURN FLOW (in Units of Millions of Gallons)

SOURCE	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL PER YEAR
FLOW	73.38	78.53	86.00	81.02	81.60	82.10	86.86	85.29	76.61	83.31	63.30	66.29	944.29
FLOW													
<b>TOTAL</b>	73.38	78.53	86.00	81.02	81.60	82.10	86.86	85.29	76.61	83.31	63.30	66.29	<b>GRAND TOTAL 944.29</b>

Are return flow amounts based on metered readings? yes  no  (circle one) If "no," how were the reported return flow amounts determined? (Attach separate sheet, if necessary) See cover letter for explanation

NOTE: Is the information originally supplied on your registration form still correct? yes  no  (circle one)  
 If "no," please attach a separate sheet indicating the nature of the change. If needed, a new registration form will be forwarded to you so that you may provide this office with the necessary revisions. Registration data for new wells enclosed

Owner or authorized representative's signature: *Ryan M. ... for Dave Breitschneider* Date: *2/29/00*



**STATE OF OHIO  
WATER WITHDRAWAL  
FACILITY REGISTRATION  
ANNUAL REPORT FORM**

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DIVISION OF WATER  
WATER RESOURCES SECTION  
1939 FOUNTAIN SQUARE COURT, BLDG. E-1  
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(614) 265-6735

2834

*AUTHORITY: Ohio Revised Code Section 1521.16 requires that any owner of a facility, or combination of facilities, with the capacity to withdraw more than 100,000 gallons of water daily, register such facilities and file an annual report with the Ohio Department of Natural Resources, Division of Water.*

**Water Withdrawal Report for the Year Ending December 31, 1999**

According to our records,

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FERNALD ENVIRONMENTAL MNGT. PROJECT  
P.O. BOX 538705  
CINCINNATI , OH 45253-8704 P.O. Box 538704

Phone: 513/648-4202

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U.S. DEPT. ENERGY  
FERNALD ENVIRONMENTAL MNGT. PROJECT  
P.O. BOX 538705  
CINCINNATI , OH 45253-8705

Phone: 513/648-3000

Please make any corrections or changes to the listed OWNER and CONTACT information in the space provided to the right of the address.

**Facility Name and Withdrawal Mode:** Please make any changes next to the well or intake number(s).

FERNALD ENV MNGT PROJECT  
Registration Number: 01573  
Well Number: RW-7

Registration Date: 11/08/91  
Intake Number:

**WITHDRAWALS**

Registration Number 01573

**GROUND WATER** (in Units of Millions of Gallons)

SOURCE	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL PER YEAR
EW-13	6.67	7.47	8.42	8.79	8.21	8.69	9.05	9.14	8.79	9.04	8.57	8.43	101.27
WELL NO. EW-14	6.30	7.64	8.75	8.81	7.88	8.69	9.06	9.08	8.72	8.95	8.50	2.85	95.23
WELL NO. EW-15	0.00	0.30	1.24	0.20	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	1.75
WELL NO. EW-16	7.13	7.66	8.64	8.72	8.20	8.78	8.99	9.04	8.73	9.04	7.34	8.37	100.64
WELL NO. EW-17	3.18	3.87	4.46	4.87	4.14	4.30	4.47	4.50	4.34	4.52	7.91	7.76	58.32
WELL NO. EW-18	3.14	3.91	4.46	4.92	4.07	4.42	4.48	4.47	2.92	4.49	3.33	3.95	48.56
WELL NO. EW-19	3.01	3.87	4.43	4.79	4.43	4.39	4.49	4.48	4.34	4.51	3.82	3.95	50.51
WELL NO. EW-20	3.12	3.69	4.48	4.17	4.03	4.30	4.49	4.52	4.36	4.54	3.89	4.01	49.60
WELL NO. EW-21	6.73	7.63	8.85	8.53	8.14	8.68	8.95	8.97	8.66	8.99	7.61	7.89	99.63
WELL NO. EW-22	12.35	11.33	13.03	12.71	12.06	13.09	13.43	13.32	12.99	13.44	11.19	10.75	149.69
WELL NO.													
WELL NO.													
WELL NO.													
<b>TOTAL</b>	51.63	57.37	66.76	66.51	61.16	65.34	67.41	67.53	63.85	67.52	62.16	57.96	<b>755.20</b>
<b>MAXIMUM</b>	0.63	0.70	0.60	0.56	0.59	0.59	0.58	0.50	0.52	0.50	0.53	0.50	
<b>MINIMUM</b>	0.40	0.00	0.08	0.07	0.00	0.03	0.10	0.10	0.11	0.12	0.00	0.00	
<b>DAYS IN OPERATION</b>	31	27	31	30	30	30	31	31	30	31	29	30	<b>TOTAL OPERATION DAYS 361</b>

**SURFACE WATER** (in Units of Millions of Gallons)

SOURCE	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL PER YEAR
INTAKE													
INTAKE													
INTAKE													
INTAKE													
INTAKE													
<b>TOTAL</b>													<b>GRAND TOTAL</b>
<b>MAXIMUM</b>													
<b>MINIMUM</b>													
<b>DAYS IN OPERATION</b>													<b>TOTAL OPERATION DAYS</b>

Are surface water and ground water withdrawal amounts based on metered readings?  yes  no (circle one) If "no," how were the reported withdrawal amounts determined? (Attach separate sheet, if necessary)

**RETURN FLOW** (in Units of Millions of Gallons)

SOURCE	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL PER YEAR
FLOW	51.63	57.37	66.76	66.51	61.16	65.34	67.41	67.53	63.85	67.52	62.16	57.96	755.20
FLOW													
<b>TOTAL</b>	51.63	57.37	66.76	66.51	61.16	65.34	67.41	67.53	63.85	67.52	62.16	57.96	<b>755.20</b>

Are return flow amounts based on metered readings? yes  no (circle one) If "no," how were the reported return flow amounts determined? (Attach separate sheet, if necessary)

See Cover Letter for Explanation

**NOTE:** Is the information originally supplied on your registration form still correct? yes  no (circle one)

If "no," please attach a separate sheet indicating the nature of the change. If needed, a new registration form will be forwarded to you so that you may provide this office with the necessary revisions. Registration data for new wells enclosed

Owner or authorized representative's signature

Date

*Ry A. Nicholas for Dave Brutschneider*

*4/29/00*

A. Owner's well number 42471  
 Well capacity 0.935 GPO or MGD (Circle one)  
 Well log number (or copy of well log) \_\_\_\_\_  
 Well depth 178.8 (ft) Well diameter 10 (in)

ACQUIFER UTILIZED (Check one)

- |   |   |
|---|---|
| <input type="checkbox"/> Sand                       | <input type="checkbox"/> Slate (Sh)             |
| <input type="checkbox"/> Sandstone (SS)             | <input type="checkbox"/> Interbedded SS, LS, Sh |
| <input checked="" type="checkbox"/> Sand and gravel | <input type="checkbox"/> Underground mine       |
| <input type="checkbox"/> Limestone (LS) / Dolomite  | <input type="checkbox"/> Other _____            |

LOCATION OF WELL

County Hamilton  
 Township Crosby Section 5  
 Nearest City or Town Fernald  
 Provide written description of well location.

N 479241.37 E 1351630.1 (NAD 1983)

2. Owner's well number 32446  
 Well capacity 1.3 GPO or MGD (Circle one)  
 Well log number (or copy of well log) Attached  
 Well depth 117.48 (ft) Well diameter 12 (in)

ACQUIFER UTILIZED (Check one)

- |   |   |
|---|---|
| <input type="checkbox"/> Sand                       | <input type="checkbox"/> Slate (Sh)             |
| <input type="checkbox"/> Sandstone (SS)             | <input type="checkbox"/> Interbedded SS, LS, Sh |
| <input checked="" type="checkbox"/> Sand and gravel | <input type="checkbox"/> Underground mine       |
| <input type="checkbox"/> Limestone (LS) / Dolomite  | <input type="checkbox"/> Other _____            |

LOCATION OF WELL

County Hamilton  
 Township Crosby Section 8  
 Nearest City or Town Fernald  
 Provide written description of well location.

N 476634.53 E 1349312.38 (NAD 1983)

C. Owner's well number 32447  
 Well capacity 3.2 GPO or MGD (Circle one)  
 Well log number (or copy of well log) Attached  
 Well depth 120.27 (ft) Well diameter 12 (in)

ACQUIFER UTILIZED (Check one)

- |   |   |
|---|---|
| <input type="checkbox"/> Sand                       | <input type="checkbox"/> Slate (Sh)             |
| <input type="checkbox"/> Sandstone (SS)             | <input type="checkbox"/> Interbedded SS, LS, Sh |
| <input checked="" type="checkbox"/> Sand and gravel | <input type="checkbox"/> Underground mine       |
| <input type="checkbox"/> Limestone (LS) / Dolomite  | <input type="checkbox"/> Other _____            |

LOCATION OF WELL

County Hamilton  
 Township Crosby Section 2  
 Nearest City or Town Fernald  
 Provide written description of well location.

N 477150.24 E 1349421.19 (NAD 1983)

(Note the additional sheet if necessary)

intake capacity \_\_\_\_\_ GPO or MGD (Circle one)  
 Name of body of water \_\_\_\_\_

SOURCE UTILIZED (Check one)

- |   |
|---|
| <input type="checkbox"/> River, stream, or drainage ditch |
| <input type="checkbox"/> Lake, pond, quarry, or reservoir |
| <input type="checkbox"/> Other _____                      |

LOCATION OF INTAKE

County \_\_\_\_\_  
 Township \_\_\_\_\_ Section \_\_\_\_\_  
 Nearest City or Town \_\_\_\_\_  
 Provide written description of intake location.

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3. Owner's intake number \_\_\_\_\_  
 Intake capacity \_\_\_\_\_ GPO or MGD (Circle one)  
 Name of body of water \_\_\_\_\_

SOURCE UTILIZED (Check one)

- |   |
|---|
| <input type="checkbox"/> River, stream, or drainage ditch |
| <input type="checkbox"/> Lake, pond, quarry, or reservoir |
| <input type="checkbox"/> Other _____                      |

LOCATION OF INTAKE

County \_\_\_\_\_  
 Township \_\_\_\_\_ Section \_\_\_\_\_  
 Nearest City or Town \_\_\_\_\_  
 Provide written description of intake location.

C. Owner's intake number \_\_\_\_\_  
 Intake capacity \_\_\_\_\_ GPO or MGD (Circle one)  
 Name of body of water \_\_\_\_\_

SOURCE UTILIZED (Check one)

- |   |
|---|
| <input type="checkbox"/> River, stream, or drainage ditch |
| <input type="checkbox"/> Lake, pond, quarry, or reservoir |
| <input type="checkbox"/> Other _____                      |

LOCATION OF INTAKE

County \_\_\_\_\_  
 Township \_\_\_\_\_ Section \_\_\_\_\_  
 Nearest City or Town \_\_\_\_\_  
 Provide written description of intake location.

(Note the additional sheet if necessary)

WELL 32447(#23) WELL COMPLETION LOG	
Contractor: Moody's	Date Completed: 10/11/99
Location: South Field	NAD 1983 Coordinates:  N 477150.24 E 1349421.19
Installation details:  Drilling method: Cable Tool Borehole diameter: 20 inches Total Depth of well: 120.3 feet bgs Completion method Filter pack using Global #4 sand	
Casing:  304 Stainless Steel 12-inch diameter Joint type: NPT Threaded	Screen:  Top of screen: 70' bgs. Length of screen: 45 feet 304 stainless steel, sch. 10 @ midbody Johnson continuous wire wrapped 12-inch diameter Screen slot size: 0.070 inch
General Lithology:  0'- 30'        bgs., glacial overburden 30'- 120'    bgs., sand and gravel 57'            bgs., water table	
Installation Details for Observation well: Note: Installed just outside of 12 inch well screen  Total Depth of observation well: 115.1 feet	
Casing:  PVC 2 inch diameter Joint type: Threaded	Screen:  Top of screen: 107' bgs. Screen length: 5 feet PVC 2 inch diameter Screen Slot size: 0.010 inch

ATTACHMENT B

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WELL 32446 (#24) WELL COMPLETION LOG	
Contractor: Moody's	Date Completed: 9/23/99
Location: South Field	NAD 1983 Coordinates: N 476634.53 E 1349312.38
Installation details: Drilling method: Cable Tool Borehole diameter: 20 inches Total Depth of well: 117.5 feet bgs Completion method Filter pack using Global #5 sand	
Casing: 304 Stainless Steel 12-inch diameter Joint type: NPT Threaded	Screen: Top of screen: 82' bgs. Length of screen: 30 feet 304 stainless steel, sch. 10 @ midbody Johnson continuous wire wrapped 12-inch diameter Screen slot size: 0.035 inch
General Lithology: 0'- 30' bgs., glacial overburden 30'- 119.2 bgs., sand and gravel 58' bgs., water table	
Installation Details for Observation well: Note: Installed just outside of 12 inch well screen  Total Depth of observation well: 112.0 feet	
Casing: PVC 2 inch diameter Joint type: Threaded	Screen: Top of screen: 107' bgs. Length of Screen: 5 feet PVC 2 inch diameter Screen Slot size: 0.010 inch

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WELL 42471 WELL COMPLETION LOG	
Project: OSDF Contractor: Moody's	Date Completed: 9/29/99
Location: South of OSDF	NAD 1983 Coordinates:  N 479241.37 E 1351630.1
Installation details:  Drilling method: Cable Tool Borehole diameter: 10 inches Total Depth of well: 178.8 feet bgs. Completion method: Natural	
Casing:  Black Iron Drive Casing 10-inch diameter Joint type: NPT Threaded	Screen:  Top of Screen: 145' bgs. Length of screen: 24 feet 304 stainless steel Continuous wire wrapped 9.5-inch diameter  Screen slot size:  Upper 7 feet 0.020 inch Next 11 feet 0.030 inch Bottom 6 feet 0.060 inch
General Lithology:  0'-31'            bgs., glacial overburden 31'-178.8'      bgs., sand and gravel at 81.2'        bgs., water table	

ATTACHMENT C

2834

Well Identification Cross Reference		
Modeling Identification #	Operations Identification #	Site Identification #
Recovery Well 1	RW-1	3924
Recovery Well 2	RW-2	3925
Recovery Well 3	RW-3	3926
Recovery Well 4	RW-4	3927
Recovery Well 6	RW-6	32308
Recovery Well 7	RW-7	32309
Extraction Well 13	EW-13	31565
Extraction Well 14	EW-14	31564
Extraction Well 15	EW-15	31566
Extraction Well 16	EW-16	31563
Extraction Well 17	EW-17	31567
Extraction Well 18	EW-18	31550
Extraction Well 19	EW-19	31560
Extraction Well 20	EW-20	31561
Extraction Well 21	EW-21	31562
Extraction Well 22	EW-22	32276
Extraction Well 23	EW-23	32447
Extraction Well 24	EW-24	32446
	42202	42202
	42471	42471

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