



6-106.54  
P.O. Box 538704 Cincinnati, Ohio 45253-8704 (513) 648-3000

2180

April 14, 1999

Fernald Environmental Management Project  
Letter No. C:C:SWP(ARWWP):99-0012

Mr. Thomas A. Winston, District Chief  
Ohio Environmental Protection Agency  
Southwest District Office  
401 East Fifth Street  
Dayton, OH 45402-2911

Dear Mr. Winston:

**NONCOMPLIANCE REPORT - MARCH 1999 - NPDES PERMIT NUMBER 11000004\*ED -  
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT**

Enclosed is the Noncompliance Report for March 1999. A copy of the March 1999 Discharge Monitoring Reports are enclosed to aid your review. If you have any questions, please contact Mr. Frank Johnston at (513) 648-5294.

Sincerely,

A handwritten signature in black ink, appearing to read "David J. Brettschneider".

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

DJB:FLJ  
Enclosures



Mr. Thomas A. Winston, District Chief  
Letter No. C:C:SWP(ARWWP):99-0012  
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- c: D.J. Carr, Fluor Daniel Fernald, MS52-2  
N. Hallein, EM-42/CLOV  
E. H. Henry, Fluor Daniel Fernald, MS52-5  
W. A. Hertel, Fluor Daniel Fernald, MS52-2  
R. J. Janke, DOE-FEMP, MS45  
J. D. Kappa, DOE-FEMP, MS45  
C. G. Siefert, Fluor Daniel Fernald, MS52-5  
E. P. Skintik, DOE-FEMP, MS45  
C. L. Tabor, Fluor Daniel Fernald, MS90  
T. J. Walsh, Fluor Daniel Fernald, MS65-2  
AR Coordinator, MS78  
EDC File No. 52700
- c w/o: L. J. Evans, Fluor Daniel Fernald, MS90  
Brenda Hoog, Fluor Daniel Fernald, MS52-2  
Donna Metzler, Fluor Daniel Fernald, MS52-5

NONCOMPLIANCE REPORT  
 NPDES PERMIT NO. 11000004\*ED  
 FERNALD ENVIRONMENTAL MANAGEMENT PROJECT  
 U.S. DEPARTMENT OF ENERGY

**2180**

The following table describes the March 1999 noncompliances with the discharge limitations specified in the FEMP NPDES Permit. This table lists the affected outfall, dates of the noncompliances, parameter, permit limits, and measured effluent concentrations.

<b>SEWAGE TREATMENT PLANT (STP) - OUTFALL *4601</b>			
DATE	PARAMETER	PERMIT LIMIT	ACTUAL MEASUREMENT
March 3, 1999	TSS Concentration	40 mg/l	45.0 mg/l
March 1999	Monthly Avg. TSS Concentration	20 mg/l	31.2 mg/l

The noncompliances at the sewage treatment plant are related to the continuing problems associated with suspended solids control. These noncompliances have not had a detrimental impact on TSS limits at the outfall to the Great Miami River (Outfall 4001).

Previous Noncompliance Reports have identified a number of actions that were planned or initiated to address these continuing noncompliances. This report serves to update previous actions taken and identify any new trends or issues.

1. FDF is continuing to operate the system with one reactor basin (aeration basin) followed by two secondary clarifiers. This has allowed the use of the second reactor basin to be used as an equalization tank accepting large flows and then bleeding these flows back into the reactor basin. This has mitigated difficulties during periods of high flow rates but has not alleviated the TSS problems.
2. Operations personnel have reconfigured the aeration system to incorporate a tapered aeration along the length of the reactor basin. Adjusting the aeration in the reactor basin is an attempt to ensure that formed floc is not being sheared due to over-aeration. This was begun on February 18. It is not clear at this time whether this will mitigate the TSS problems in the clarifiers. However the number of TSS noncompliances have been reduced from past months.
3. Operations staff continue to observe weekly the biomass under a microscope. No microorganisms detrimental to the activated sludge process have been found (e.g. nocardia). Filaments have been observed but not in excess that would lead to a bulking floc.
4. Operations staff continue to provide a biomass supplement (dog food) on Fridays, Saturdays, and Sunday evenings in an attempt to increase mixed liquor volatile suspended solids. MLVSS ranged from 150 to 1130 mg/l with an average of 557 mg/l. Sludge return and sludge wasting is being better controlled to ensure proper a food/microorganisms ratio and reduce sludge age. In March sludge age is approximately 15 days.

5. Operations staff have eliminated the return of scum collected from the secondary clarifier to the aeration basin. Scum can potentially be a source of certain species detrimental to the activated sludge process.
6. Operations staff continue to implement a routine cleaning program to ensure flights, chains, troughs, UV units are clean and not the cause of the TSS problems.

FDF has yet to completely solve the TSS problems. FDF will continue to monitor the performance of the sewage treatment plant and institute improvements where appropriate.

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U.S. DEPARTMENT OF ENERGY

11000004001

MAR 1999

1 2 03/24/90 OH0009580

Fernald Environmental

SAMPLING STATION DESCRIPTION

Management Project

P.O. Box 538704

4001 PARSHALL FLUME, EFFLUENT TO GREAT MIAMI RIVER

Cincinnati, OH 45253-8704 Hamilton

2180

NOTE: THIS FORM MUST BE TYPED

1 FOR CONTINUOUS, 2 FOR COMPOSITE, 3 FOR GRAB SAMPLE OR FREQUENCY OF SAMPLING			REPORTING LAB	ANALYST					
1	1	1	3	2	3	3	2	2	2
999	999	999	1	998	1	1	998	998	998
CONDUI FLOW MGD	pH (MIN) S.U.	pH (MAX) S.U.	WATER TEMP. C	TOT.SUSP SOLIDS MG/L	DISS. OXYGEN MG/L	O & G TOTAL MG/L	NITRO NH3-N MG/L	NITRO NO2+NO3 MG/L	FLUORIDE TOTAL MG/L
REPORTING CODE	REPORTING CODE	REPORTING CODE	REPORTING CODE	REPORTING CODE	REPORTING CODE	REPORTING CODE	REPORTING CODE	REPORTING CODE	REPORTING CODE
50050	00402	00401	00010	00530	00300	00550	00810	00630	00951
5.899	6.8	6.9	11	AA	7.9	AA	AA	1.3	0.29
5.938	6.8	6.9	13	AA					
5.976	6.9	7.0	11	AA					
3.698	6.8	6.9	11	AA					
4.908	6.9	7.2	11	AA					
5.313	6.9	7.0	10	AA					
5.464	6.9	6.9	10	AA					
6.211	6.9	6.9	10	2.0					
5.938	6.8	6.9	10	AA	AE	AA	AA	1.3	0.28
5.028	6.8	6.9	9	2.0					
5.821	6.8	6.9	10	AA					
5.568	6.8	6.9	11	AA					
5.054	6.8	6.9	10	AA					
5.147	6.8	6.9	10	AA					
4.656	6.7	6.9	10	2.0					
5.003	6.7	6.9	11	2.0					
4.108	6.8	7.0	12	AA	9.1	AA	AA	1.4	0.23
4.536	6.8	7.0	12	AA					
5.162	6.8	7.1	11	AA					
4.020	6.8	7.1	12	AA					
5.463	6.8	6.8	12	AA					
5.257	6.8	6.8	11	2.4					
4.504	6.9	7.4	11	2.4					
4.487	7.4	7.4	12	AA					
4.350	7.4	7.5	11	AA	7.0	AA	AA	1.3	0.31
4.373	7.2	7.4	12	AA					
4.152	7.3	7.4	11	AA					
4.267	7.3	7.4	12	2.8					
4.130	7.2	7.4	12	AA					
4.461	7.2	7.4	12	AA					
4.285	7.2	7.3	10	AA					
153.171	N/A	N/A	N/A	63.6	24.0	AA	AA	5.3	1.11
4.941	N/A	N/A	11	2.0	8.0	AA	AA	1.3	0.28
6.211	7.4	7.5	13	2.8	9.1	AA	AA	1.4	0.31
3.698	6.7	6.8	9	AA	7.0	AA	AA	1.3	0.23

REMARKS (AH REPORTING CODES MUST BE EXPLAINED IN THIS SECTION)

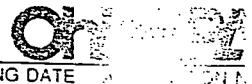
AA: 00530 - 2.0 mg/L; 00550 - 5.0 mg/L; 00810 - 0.10 mg/L; 00630 - 0.1 mg/L; 00951 - 0.01mg/L.

AE: ANALYTICAL RESULT INVALID.

CERTIFY UNDER THE PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR PROVIDING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.

DATE REPORT SUBMITTED: 2/12/99 SIGNATURE OF REPORTER: [Signature] TITLE OF REPORTER: ARWWP Project Mar. FDF

5



THLY REPORT FORM

REPORTED

ADDRESS CITY, COUNTY, ZIP

STATION CODE -

DATE (MONTH, YEAR)

PAGE

PRINTING DATE

U.S. DEPARTMENT OF ENERGY

11000004001

MAR 1999

2 2

03/24/90 OH0009580

Fernald Environmental Management Project

SAMPLING STATION DESCRIPTION

2180

P.O. Box 538704

4001 PARSHALL FLUME, EFFLUENT TO GREAT MIAMI RIVER

Cincinnati, OH 45253-8704 Hamilton

NOTE: THIS FORM MUST BE FILED

ENTER 1 FOR CONTINUOUS, 2 FOR COMPOSITE, 3 FOR GRAB SAMPLE ENTER FREQUENCY OF SAMPLING			REPORTING LAB	ANALYST
2 998	3 1	2 998		
COPPER TOT,REC UG/L	CHROMI HEX-DS UG/L	C-BOD 5 DAY MG/L		
REPORTING CODE	REPORTING CODE	REPORTING CODE	REPORTING CODE	REPORTING CODE
01119 2.1	01220 AA	80082 AA		
		AA		
2.7	AA			
		AA		
AA	AA			
		AA		
AA	AA			
		AA		
8.6	AA	AA		
2.2	AA	AA		
2.7	AA	AA		
AA	AA	AA		

ADDITIONAL REMARKS (ALL REPORTING CODES MUST BE EXPLAINED IN THIS SECTION)  
AA: 01119 - 6.2 ug/L; 01220 - 6.0 ug/L; 80082 - 2.0 mg/L.

DISTRIBUTION  
 WHITE - AGENCY  
 GREEN - REPORTER

I CERTIFY UNDER THE PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED AND BASED ON MY KNOWLEDGE AND BELIEF, THE INFORMATION SUBMITTED IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR PROVIDING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.

DATE REPORT GENERATED: 4/17/99  
 SIGNATURE: [Signature]  
 TITLE OF REPORTER: ARWWP Project Mgr. FDF

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DAILY REPORT FORM

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DATE (MONTH, YEAR)

1 2

03/24/90 OH0009580

U.S. DEPARTMENT OF ENERGY

11000004002

MAR 1999

SAMPLING STATION DESCRIPTION

2180

Fernald Environmental

Management Project

P.O. Box 538704

4002 SPILLWAY FROM STORMWATER RETENTION BASIN

Cincinnati, OH 45253-8704 Hamilton

NOTE: THIS FORM MUST BE TYPED

ENTER 1 FOR CONTINUOUS, 2 FOR COMPOSITE, 3 FOR GRAB SAMPLE ENTER FREQUENCY OF SAMPLING				REPORTING LAB				ANALYST		
2	3	2	3	2	2	2	2	2	2	2
4	1	4	1	4	4	4	4	4	4	4
CONDUI FLOW MGD	pH S.U.	TOT.SUSP SOLIDS MG/L	O & G Total MG/L	NITRO NH3-N MG/L	NITRO NO2+NO3 MG/L	PHOS TOTAL MG/L	FLUORI TOTAL MG/L	NICKEL TOT,REC UG/L	SILVER TOT,REC UG/L	
50050	00400	00530	00550	00610	00630	00685	00951	01074	01079	
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ADDITIONAL REMARKS (AH REPORTING CODES MUST BE EXPLAINED IN THIS SECTION)

NO WATER OVERFLOWED FROM THE STORMWATER RETENTION BASIN.

DISTRIBUTION: WHITE - AGENCY, GREEN - REPORTER. I CERTIFY UNDER THE PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND APPROVED THE INFORMATION SUBMITTED AND BASED ON MY KNOWLEDGE OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, THE INFORMATION SUBMITTED IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.

DATE REPORT COMPLETED

SIGNATURE OF REPORTER

TITLE OF REPORTER: ARWWP Project Mgr. FDF

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MONTHLY REPORT FORM

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ADDRESS CITY, COUNTY, ZIP

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U.S. DEPARTMENT OF ENERGY

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MAR 1999

2 2 OF 03/24/90 OH0009580

Fernald Environmental

SAMPLING STATION DESCRIPTION

Management Project

4002 SPILLWAY FROM STORMWATER RETENTION BASIN

2180

P.O. Box 538704

Cincinnati, OH 45253-8704 Hamilton

NOTE: THIS FORM MUST BE TYPE

ENTER 1 FOR CONTINUOUS, 2 FOR COMPOSITE, 3 FOR GRAB SAMPLE  
ENTER FREQUENCY OF SAMPLING

REPORTING LAB

ANALYST

	2	2	3	2						
	4	4	1	4						
	CHROMI TOT,REC UG/L	COPPER TOT,REC UG/L	CHROMI HEX-DS UG/L	CHLORINE TOT,RESI MG/L	REPORTING CODE					
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ADDITIONAL REMARKS (AH REPORTING CODES MUST BE EXPLAINED IN THIS SECTION)

NO WATER OVERFLOWED FROM THE STORMWATER RETENTION BASIN.

DISTRIBUTION  
WHITE - AGENCY  
GREEN - REPORTER

I CERTIFY UNDER THE PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR FURNISHING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.

DATE REPORT WAS FILED: 3/11/99 SIGNATURE: [Signature] TITLE OF REPORTER: ARWWP Project Mgr. FDF

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MONTHLY REPORT FORM

ADDRESS CITY, COUNTY, ZIP

STATION CODE

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PAGE

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U.S. DEPARTMENT OF ENERGY

11000004589

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1 of 1

03/24/90

OH0009580

Fernald Environmental Management Project

SAMPLING STATION DESCRIPTION

2180

P.O. Box 538704

4589 SEWAGE SLUDGE AFTER DEWATERING

Cincinnati, OH 45253-8704 Hamilton

NOTE: THIS FORM MUST BE TYPE

ENTER 1 FOR CONTINUOUS, 2 FOR COMPOSITE, 3 FOR GRAB SAMPLE ENTER FREQUENCY OF SAMPLING				REPORTING LAB				ANALYST	
3	3	3	3	3	3	3	3		
1	1	1	1	1	1	1	1		
CADMIUM CD,TOT MG/KG	CHROMIUM CR,TOT MG/KG	COPPER CU,TOT MG/KG	LEAD PB,TOT MG/KG	NICKEL NI,TOT MG/KG	ZINC ZN,TOT MG/KG	SLUDGE WEIGHT D-TONS	MERCURY HG,TOT MG/KG		
REPORTING CODE	REPORTING CODE	REPORTING CODE	REPORTING CODE	REPORTING CODE	REPORTING CODE	REPORTING CODE	REPORTING CODE	REPORTING CODE	REPORTING CODE
01028	01029	01043	01052	01088	01083	70316	71921		
01									
02									
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ADDITIONAL REMARKS (AH REPORTING CODES MUST BE EXPLAINED IN THIS SECTION)

NO SLUDGE REMOVED DURING MONTH

9

DISTRIBUTION DATE - AGENCY REPORTER

I CERTIFY UNDER THE PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED AND BASED ON MY KNOWLEDGE OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, THE INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.

DATE REPORT SUBMITTED: 3/24/90

SIGNATURE: [Handwritten Signature]

TITLE OF REPORTER: ARWWP Project Mgr. FDF



DAILY REPORT FORM

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CITY, COUNTY, ZIP

STATION CODE

DATE (MONTH, YEAR)

PAGE PRINTING DATE APPLICATION

U.S. DEPARTMENT OF ENERGY

11000004601

MAR 1999

1 of 03/24/90 OH0009580

Fernald Environmental Management Project

SAMPLING STATION DESCRIPTION

4601 SEWAGE TREATMENT PLANT EFFLUENT

2180

P.O. Box 538704

Cincinnati, OH 45253-8704 Hamilton

NOTE: THIS FORM MUST BE TYPE

NUMBER 1 FOR CONTINUOUS, 2 FOR COMPOSITE, 3 FOR GRAB SAMPLE ENTER FREQUENCY OF SAMPLING				REPORTING LAB	ANALYST				
1	3	2	2	2					
989	1	998	998	998					
CONDUIT FLOW MGD	pH S.U.	C-BOD 5 DAY MG/L	TOT. SUSP SOLIDS MG/L	AMMONI NH3-N MG/L					
REPORTING CODE	REPORTING CODE	REPORTING CODE	REPORTING CODE	REPORTING CODE	REPORTING CODE	REPORTING CODE	REPORTING CODE	REPORTING CODE	REPORTING CODE
50050	00400	80082	00530	00610					
01	0.073	6.4	7.5	38.0	0.53				
02	0.074	6.4							
03	0.070	6.5	8.7	45.0					
04	0.073	6.4							
05	0.049	6.2							
06	0.075	6.3							
07	0.056	6.4							
08	0.074	6.6	5.6	31.0					
09	0.064	6.7							
10	0.088	6.7	9.0	22.4					
11	0.087	6.7							
12	0.063	6.7							
13	0.052	6.3							
14	0.051	6.5							
15	0.096	6.6	6.1	31.0					
16	0.083	6.6							
17	0.071	6.4	6.7	29.0	1.53				
18	0.076	6.4							
19	0.061	5.9							
20	0.027	6.3							
21	0.027	6.5							
22	0.070	6.6	6.4	38.0					
23	0.070	6.4							
24	0.070	6.3	6.2	34.0					
25	0.059	6.0							
26	0.064	6.2							
27	0.080	6.2							
28	0.045	6.7							
29	0.061	6.5	AA	9.2					
30	0.074	6.4							
31	0.071	6.3	6.6	34.0					
	2.053	N/A	64.9	311.8	2.08				
	0.068	N/A	6.6	31.2	1.02				
	0.096	6.7	9.0	45.0	1.53				
	0.027	5.9	AA	9.2	0.53				

ALL REMARKS (AH REPORTING CODES MUST BE EXPLAINED IN THIS SECTION)  
AA: 00530 - 2.0 mg/L; 00610 - 0.10 mg/L; 80082 - 2.0 mg/L.

I CERTIFY UNDER THE PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED AND BASED ON MY KNOWLEDGE AND BELIEF, I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.

REPORTER: *[Signature]* DATE: 4/14/99 SIGNATURE: *[Signature]* TITLE: ARWWP Project Mgr. FDF

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