

August 13, 1998

Fernald Environmental Management Project
Letter No. C:C:SWP(ARWWP):98-0037

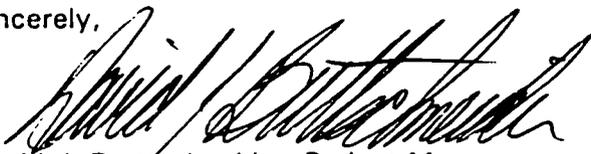
Mr. Thomas Winston, District Chief
Southwest District Office
Ohio Environmental Protection Agency
401 East Fifth Street
Dayton, OH 45402-2911

Dear Mr. Winston:

**NONCOMPLIANCE REPORT - JULY 1998 - NPDES PERMIT NUMBER 11000004*ED -
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT**

Enclosed is the Noncompliance Report for July, 1998. In addition, the July 1998 Discharge Monitoring Reports are enclosed to aid your review. If you have any questions, please contact Marlene M. Landrum at (513) 648-4197.

Sincerely,



David J. Brettschneider, Project Manager
AWWT & Wastewater Project

MML
Enclosures



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- c w/o: Brenda Hoog, Fluor Daniel Fernald, MS 52-2
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NONCOMPLIANCE REPORT
 NPDES PERMIT NO. 11000004*ED
 FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
 U.S. DEPARTMENT OF ENERGY

The following tables describe the July 1998 noncompliances with the discharge limitations specified in the FEMP NPDES Permit. These tables list the affected outfalls, dates of noncompliance, parameter, permit limits, and measured effluent concentrations.

PARSHALL FLUME - OUTFALL *4001			
DATE	PARAMETER	PERMIT LIMIT	ACTUAL MEASUREMENT
July 20, 1998	TSS Mass Loading	473 kg/day	688 kg
July 21, 1998	TSS Mass Loading	473 kg/day	995 kg

STORMWATER RETENTION BASIN (SWRB) SPILLWAY - OUTFALL *4002			
DATE	PARAMETER	PERMIT LIMIT	ACTUAL MEASUREMENT
July 20, 1998	TSS Concentration	50 mg/l	228 mg/l

SEWAGE TREATMENT PLANT (STP) - OUTFALL *4601			
DATE	PARAMETER	PERMIT LIMIT	ACTUAL MEASUREMENT
July 20, 1998	TSS Concentration	40 mg/l	41.2 mg/l
July 27, 1998	TSS Concentration	40 mg/l	50.0 mg/l
July 29, 1998	TSS Concentration	40 mg/l	41.2 mg/l
Monthly Average	TSS Concentration	20 mg/l	24.8 mg/l

The TSS violations at the Parshall Flume occurred during a stormwater bypass event. The bypass was necessary to mitigate an overflow of the Stormwater Retention Basin (SWRB) due to heavy rainfall. The bypass event commenced at 4:00 am on July 20, 1998 and ended at 3:45 pm on July 23, 1998. The OEPA was notified of the initiation of the bypass at 8:30 am on July 20, 1998. The noncompliances were discovered on August 3, 1998 and the OEPA was informed on the same day as required under the terms of the permit.

The noncompliances at the Parshall Flume are directly related to the stormwater bypass event. The TSS concentration for July 20, 1998 was 30.8 mg/l, which is well below the permit limit of 45 mg/l. However, the discharge of 5,902,000 gallons to the Great Miami River from the FEMP resulted in a total mass discharge of 688 kg, which exceeds the permit limit of 473 kg/day for mass loading at this outfall. The TSS concentration for July 20, 1998 was 34.4 mg/l, which is also well below the permit limit of 45 mg/l. The discharge of 7,639,000 gallons to the Great Miami River from the FEMP resulted in a total mass discharge of 995 kg, which exceeds the permit limit of 473 kg.

The FEMP maintains daily logs recording TSS measurements at various locations on site. Operator logs indicate that and there were no unusual events other than the bypass which contributed to the TSS noncompliances at the Parshall Flume.

The TSS violation at the SWRB Spillway to Paddys Run occurred during an overflow event due to the aforementioned heavy rainfall. The overflow began at 4:45 pm on July 20, 1998. The overflow of the basin ended at 3:00 pm on July 20, 1998. A total of 550,000 gallons overflowed to Paddys Run. The TSS concentration for the July 20, 1998 sample was 228 mg/l, which exceeded the permit limit of 50 mg/l. The noncompliance was discovered on July 21, 1998 and the OEPA was notified of the noncompliance at approximately 9:15 am on that same day.

The noncompliance at the spillway is due to the unusually intense rainfall of 3.76 inches experienced at the FEMP between midnight, July 19, 1998 and 3:15 am, July 20, 1998. A review of the operator logs indicate that the level of stormwater in the SWRB was 8.92 feet at 3:15 am when the stormwater bypass was initiated. The basin began to overflow at 4:45 am. The overflow level at the spillway is 11.75 feet. Therefore, the stormwater in the SWRB rose approximately 2.83 feet in 1.5 hours. The intensity of this rainfall resulted in a rapid rise in the basin stormwater which did not allow the settling of solids to occur.

On July 18, 1998, the shift operator reported that there was damage to the flights and chains on the east clarifier at the STP, rendering it non-operational. The necessary replacement parts for the clarifier were received and unit was functioning properly as of August 10, 1998. However, west clarifier at the STP is currently not in operation due to damage to the flights. It is expected that the repairs to this equipment will be expedited and the west clarifier returned to service in a timely manner. As a result of only one clarifier operating since mid-July, there were three noncompliance for TSS at the STP during this reporting month.

The TSS concentration at the STP on July 20, 1998 was 41.2 mg/l, exceeding the permit limit of 40 mg/l. The flow of 116,000 gallons resulted in a total mass discharge of 18 kg, which is below the permit limit of 24.2 kg/day. The TSS concentration at the STP on July 27, 1998 was 50.0 mg/l, exceeding the permit limit of 40 mg/l. The flow of 54,000 gallons resulted in a total mass loading of 10.2 kg. The permit limit is 24.2 kg/day. The TSS concentration at the STP on July 29, 1998 was 41.2 mg/l, which is slightly higher than the permit limit of 40 mg/l. The flow of 51,000 gallons resulted in a total mass loading of 8 kg, which is below the permit limit of 24.2 kg/day. The OEPA was notified within 24 hours of the discovery of the noncompliances, as required by the terms of the permit. These noncompliances contributed to a higher than usual monthly TSS concentration average of 24.8 mg/l, which exceeds the permit 30-day concentration limitation of 20 mg/l.

This section of the noncompliance report also serves to explain a situation with respect to continuous pH measurement at the Parshall Flume (Outfall 4001). While not reported as a non-compliance, the FEMP pH meter was continuously reading a pH below 6.5 beginning approximately 0230 on July 28, 1998 and lasting through 0645 on July 29, 1998. The FEMP believes these readings to be erroneous.

AWWT Operator round sheets were pulled for the days in question. Grab sample pH measurements are made once per shift (0600, 1400, and 2200) on the AWWT Phase 1 system (groundwater/stormwater feed), AWWT Phase 2 system (Bio-Surge Lagoon feed), and the combined Phase 1/Phase 2 effluent. The following table lists these measurements:

AWWT PH MEASUREMENTS

Date	AWWT Phase 1			AWWT Phase 2			Combined Effluent		
	0600	1400	2200	0600	1400	2200	0600	1400	2200
7/28/98	System	Down	7.43	7.44	7.46	7.37	7.44	7.46	7.37
7/29/98	7.21	7.27	7.52	7.41	7.58	7.37	7.41	7.58	7.37

Further indication of a instrumentation problem is evidenced by the samples collected at the Parshall Flume itself. Twice per shift, operators note the instantaneous reading from the continuous meter and perform a grab sample pH for comparison purposes. The following table summarizes this information. The first value listed is the reading from the continuous meter while the second value is the result from the bench test:

PARSHALL FLUME PH MEASUREMENTS

July 28		July 29	
Chart	Bench	Chart	Bench
6.46	6.95	6.44	6.93
6.45	6.92	6.45	6.92
6.45	6.93	7.07	7.39
6.45	6.93	7.08	7.39
6.48	6.97	7.08	7.22
6.45	6.92	7.11	7.16

In summary, there is no indication that any contributing effluent had a pH reading below 6.5. Confirmatory sampling at the Parshall Flume indicates that the pH meter was malfunctioning. Also, the pH meter began recording a pH in the 7.0 range immediately following the performance of preventive maintenance calibration activity at about 0830 on July 29, 1998. All of this information leads to the conclusion that the FEMP effluent was indeed compliant with the minimum pH level of 6.5.

Operators have been instructed to immediately report apparent malfunctions of the continuous pH meter. Historically, these malfunctions have been attributed to being out of calibration, insufficient flow in the sampling trough containing the pH probe, or a foreign substance becoming lodged in the probe causing interference. Calibration will continue to be performed once per week or as may be needed based on the confirmatory sampling described above.

The FDF/FEMP will continue to monitor these issues. However, at this time, there are no additional corrective actions identified.