



FOSTER WHEELER ENVIRONMENTAL CORPORATION

March 29, 1999
File #: 1284-0018-99-0130

Commanding Officer
Northern Division
Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop #82
Lester, PA 19113
Attn.: Code 4023 (S. Lehman)

Subject: US NAVY CONTRACT NO. N62472-94-D-0398
DELIVERY ORDER NO. 0018-06, NAWC WARMINSTER, PA.
February, 1999 GROUNDWATER PUMP & TREAT SYSTEM
MONTHLY REPORT

Dear Mr. Lehman:

This letter report provides the results of the February 1999 sampling and the activities performed during the reporting period from February 1, 1999 through February 28, 1999. The groundwater treatment plant operated 82 % of the reporting period.

As of February 28, 1999 (2400 hours) a total of 770,082 gallons of groundwater had been treated during the period from February 1, 1999 through February 28, 1999. This brings the total amount of water treated to 34,296,478 gallons (February 28, 1999). During February 1999 the average effluent flowrate was 23.3 gpm.

The process water was sampled on February 25, 1999. The results of this sampling are presented in the attached table. This data shows that no discharge limits were exceeded during the February 1999 reporting period. Trichloroethene was detected in the Area C influent. As in January 1999, Trichloroethene was detected in the equalization tank effluent sample. Trichloroethene was also detected in the air stripper effluent.

During the reporting period there was one system shutdown:

2/10/99- Area "C" level transducer was indicating rapidly changing water levels in the sump. Further inspection showed incorrect readings for the AS-1 card in the CMCS. Replacement cards were installed on 2/15/99 for AS-1 and AS-2. All transmitters were checked for proper signals before the new cards were installed. The system was restarted at 1454 hours on 2/15/99.

Maintenance items performed during the month of February are as follows:

2/05/99- Installed Area "A" replacement flow meter. No response at CMCS.
2/12/99- Installed temporary water and air lines for pneumatic pumps in EW-A6 and EW-A7.
2/15/99- Changed AS-1 and AS-2 computer boards in CMCS. Verified proper operation of transmitters.



The Trichloroethene concentration in the influent to the system was 13,100 ug/l, with a total of 90.556 pounds of Trichloroethene removed during the February 1999 reporting period. Tetrachloroethene was not detected in the influent during the February, 1999 reporting period. The total amounts of Tetrachloroethene and Trichloroethene removed through February, 1999 are 3.252 and 96.466 pounds, respectively.

Calculation:
Average TCE concentration = 13,100 ug/l.
Average water flowrate for month of February, 1999 = 23.3 gpm
Pounds of TCE removed = (23.3 gpm)(35,586 min)(13,100 ug/l)(3.785 l/gal) (1 g/1,000,000 ug)(1 lb. / 454 g) = 90.556 lbs. TCE

The scheduled dates which Foster Wheeler Environmental's operator will be on-site during the month of April, 1999 are presented in the attached schedule.

If you should have any questions or comments regarding the February 1999 reporting period, please feel free to contact either me at 215-702-4076 or Dave DiCesare at 215-702-4074.

Sincerely,


Daniel R. Kopcow, P.E.
Project Manager


David L. DiCesare
Project Engineer

cc: L. Monaco (NORTHDIV)
T. Ames (CSO)
N. Crickman (PADEP)
M. Hunter (CSO)
E. Beatty (ROICC)
A. Flipse (PADEP)
D. Ostrauskas (USEPA)
A. Wills (Bucks Co. Dept. of Health)
D. Fennimore (Earth Data Inc.)
A. Holcomb (FWENC)
File

**Foster Wheeler Environmental Corporation
NAWC, Warminster - Groundwater Pump and Treat Plant
February, 1999 - Sampling Results**

FWENC - Sample ID		DO-0018-06-001	DO-0018-06-02	DO-0018-06-003	DO-0018-06-004	DO-0018-06-05	DO-0018-06-06	DO-0018-06-007	
Sample Location		Area C Influent	Equalization Tank Effluent	Inclined Plate Separator Effluent	Sand Filter Effluent	Air Stripper Effluent	Lead Carbon Unit Effluent	Treatment Plant Effluent	Discharge Limits
Sample Date	Method	25-Feb-99	25-Feb-99	25-Feb-99	25-Feb-99	25-Feb-99	25-Feb-99	25-Feb-99	Instantaneous Maximum
Total Discharge (gal.) thru 2/28/99									770,082
Average Discharge Flowrate (gpm) for February, 1999									23.3
pH	EPA 150.1	6.35	7.1	N/A	7.15	N/A	N/A	7.15	6.0-9.0
Total Suspended Solids (mg/l)	EPA 160.2	4	2024	37	8	N/A	N/A	18	75 mg/l
Total Organic Carbon (mg/l)	415.1/EPA600	N/A	<10	N/A	N/A	N/A	<10	<10	-
Carbon Tetrachloride	EPA 8260A	BDL	BDL	N/A	N/A	BDL	BDL	BDL	4.2 ug/l
Tetrachloroethene	EPA 8260A	BDL	BDL	N/A	N/A	BDL	BDL	BDL	10.0 ug/l
Trichloroethene	EPA 8260A	280	13100	N/A	N/A	300	BDL	BDL	42.5 ug/l
Vinyl Chloride	EPA 8260A	BDL	BDL	N/A	N/A	BDL	BDL	BDL	0.27 ug/l
1,1-Dichloroethene	EPA 8260A	BDL	BDL	N/A	N/A	BDL	BDL	BDL	0.85 ug/l
1,1,1,2-Tetrachloroethane	EPA 8260A	BDL	BDL	N/A	N/A	BDL	BDL	BDL	-
Cadmium	SW846	N/A	BDL	N/A	BDL	N/A	N/A	BDL	4.0 ug/l
Copper	SW846	N/A	89.1	N/A	22	N/A	N/A	14.8	24.0 ug/l
Lead	SW846	N/A	16	N/A	2.5	N/A	N/A	BDL	11.0 ug/l
Zinc	SW846	N/A	114	N/A	41.5	N/A	N/A	35.4	157 ug/l
Arsenic	SW846	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.27 ug/l
Aluminum	SW846	N/A	17,500	N/A	301	N/A	N/A	31.8	1875 ug/l
Total Iron	SW846	N/A	27,000	N/A	701	N/A	N/A	54	3600 ug/l
Total Manganese	SW846	N/A	4450	N/A	89	N/A	N/A	3.2	3750 ug/l
Mercury	SW846	N/A	BDL	N/A	BDL	N/A	N/A	BDL	0.045 ug/l
Total Cyanide (mg/l)	SW846 335.3	N/A	BDL	N/A	BDL	N/A	N/A	BDL	-
Chromium (+6) - (mg/l)	SW846 7196	N/A	<.025	N/A	<.025	N/A	N/A	<.025	23.2 ug/l

NOTES:

1 - All concentrations are in ug/l unless otherwise noted.
N/A - indicates compound was not analyzed for.
BDL - Below Detection Limits

**Foster Wheeler Environmental Corporation
NAWC, Warminster Groundwater Pump and Treatment Plant
Operator Schedule for April, 1999**

Thursday, April 1, 1999

Monday, April 5, 1999

Thursday, April 8, 1999

Monday, April 12, 1999

Thursday, April 15, 1999

Monday, April 19, 1999

Thursday, April 22, 1999

Monday, April 26, 1999

Thursday, April 29, 1999