



FOSTER WHEELER ENVIRONMENTAL CORPORATION

October 30, 1997
File #: 1284-0018-97-0812

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
September, 1997 GROUNDWATER PUMP & TREAT SYSTEM MONTHLY REPORT

Dear Mr. Lehman:

This letter report provides the results of the September, 1997 sampling and the activities performed during the reporting period from September 1, 1997 through September 30, 1997. The groundwater treatment plant operated 97.8% of the reporting period.

As of September, 30 1997 (2400 hours) a total of 901,741 gallons of groundwater had been treated during the period from September 1, 1997 through September 30, 1997. This brings the total amount of water treated to 21,596,074 gallons (September 30, 1997). During September, 1997 the average effluent flowrate was 21.35 gpm.

The process water was sampled on September 17, 1997, the results of this sampling are presented in the attached table. This data shows that no discharge limits were exceeded during the September, 1997 reporting period.

There were two alarm/system induced shutdowns during the reporting period, and there was also two operator induced shutdown on the following dates:

1. September 23, 1997 - 1059 to 1453 hours - Automax control valve solenoid was sticking, problem was resolved by restarting system.
2. September 24, 1997 - 2258 to September 25, 1997 - 0920 hours - Pump 19 sent and overload alarm. Operator received page, and shut the well pumps and equalization tank pumps down remotely via Reachout.
3. September 11, 1997 - 1150 to 1315 hours - Operator performed disk cleaning and file defragmentation.
4. September 29, 1997 - 1320 to 1410 hours - Operator performed disk cleaning and file defragmentation, and relieved pressure on compressor receiver.

In addition, the following maintenance was performed on the groundwater treatment system during September, 1997:

1. Installed new fax modem for Reachout.
2. Sand filter air injection tube cleaned, air flow returned to manufacturer's specifications.
3. Sump pumps #29 and #30 tested. Pump #29 needs to be repaired. Valve #V203 was replaced due to inability to completely close.
4. Operated Flash Tank Mixer and Flocculation Tank Mixer.
5. Ran all chemical feed systems with water. (Chemicals are currently not being used in the treatment system).
6. Continued repair of concrete floor cracks.

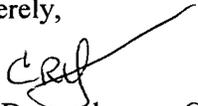
The Tetrachloroethene concentration in the groundwater influent to the system was 6.7 ug/l, with a total of 0.052 pounds of Tetrachloroethene removed during the September, 1997 reporting period. The total amount of Tetrachloroethene removed through September 30, 1997 is 1.999 pounds.

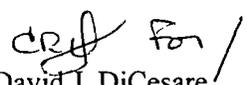
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|---|
| Calculation: |
| Average PCE concentration = 6.7 ug/l |
| Average water flowrate for month of September, 1997 = 21.35 gpm |
| Pounds of PCE removed = (21.35 gpm)(43,200 min)(6.7 ug/l)(3.785 l/gal) (1 g / 1,000,000 ug)(1 lb / 454 g) = 0.052pounds of PCE |

The scheduled dates which Foster Wheeler Environmental's operator will be on-site during the month of November, 1997 are presented in the attached schedule.

If you should have any questions or comments regarding the September, 1997 reporting period, please feel free to contact either me at 215-702-4007 or Dave DiCesare at 215-702-4074.

Sincerely,


Carl Dannenberger, CHMM
Project Manager


David J. DiCesare
Project Engineer

cc: L. Monaco (USEPA)
T. Ames (CSO)
N. Crickman (PADEP)
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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 Treatment Plant
Operator Schedule for November, 1997**

Monday, November 3, 1997
Wednesday, November 5, 1997
Monday, November 10, 1997
Wednesday, November 12, 1997
Monday, November 17, 1997
Wednesday, November 19, 1997
Monday, November 24, 1997

FOSTER WHEELER ENVIRONMENTAL CORPORATION
NAWC, WARMINSTER GROUNDWATER PUMP AND TREAT PLANT
SAMPLING RESULTS - SEPTEMBER, 1997

| FWENC - Sample ID | | DO-0018-06-001 | DO-0018-06-002 | DO-0018-06-003 | DO-0018-06-004 | DO-0018-06-005 | DO-0018-06-006 | 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 | 17-Sep-97 | 17-Sep-97 | 17-Sep-97 | 17-Sep-97 | 17-Sep-97 | 17-Sep-97 | 17-Sep-97 | Instantaneous Maximum |
| Total Discharge (gal.) thru 9/30/97 | | | | | | | | 901,741 | |
| Average Discharge Flowrate (gpm) for September, 1997 | | | | | | | | 21.35 | |
| pH | EPA 150.1 | 7.1 | 7.4 | N/A | 7.5 | N/A | N/A | 7.4 | 6.0-9.0 |
| Total Suspended Solids (mg/l) | EPA 160.2 | 9 | <1 | <1 | <1 | N/A | N/A | <1 | 75 mg/l |
| Total Organic Carbon (mg/l) | 415.1/EPA600 | N/A | BDL | N/A | N/A | N/A | BDL | BDL | - |
| Carbon Tetrachloride | EPA 8260A | N/A | BDL | N/A | N/A | BDL | BDL | BDL | 4.2 ug/l |
| Tetrachloroethene | EPA 8260A | N/A | 6.7 | N/A | N/A | BDL | BDL | BDL | 10.0 ug/l |
| Trichloroethene | EPA 8260A | N/A | BDL | N/A | N/A | BDL | BDL | BDL | 42.5 ug/l |
| Vinyl Chloride | EPA 8260A | N/A | BDL | N/A | N/A | BDL | BDL | BDL | 0.27 ug/l |
| 1,1-Dichloroethene | EPA 8260A | N/A | BDL | N/A | N/A | BDL | BDL | BDL | 0.85 ug/l |
| Cadmium | SW846 | N/A | BDL | N/A | BDL | N/A | N/A | BDL | 4.0 ug/l |
| Copper | SW846 | N/A | BDL | N/A | BDL | N/A | N/A | BDL | 24.0 ug/l |
| Lead | SW846 | N/A | BDL | N/A | BDL | N/A | N/A | BDL | 11.0 ug/l |
| Zinc | SW846 | N/A | 43.8 | N/A | 49.8 | N/A | N/A | 44.8 | 157 ug/l |
| Arsenic | SW846 | N/A | BDL | N/A | BDL | N/A | N/A | BDL | 0.27 ug/l |
| Aluminum | SW846 | N/A | BDL | N/A | BDL | N/A | N/A | BDL | 1875 ug/l |
| Total Iron | SW846 | N/A | 224 | N/A | BDL | N/A | N/A | BDL | 3600 ug/l |
| Total Manganese | SW846 | N/A | BDL | N/A | BDL | N/A | N/A | BDL | 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 9010 | N/A | <0.02 | N/A | <0.02 | N/A | N/A | <0.02 | - |
| Chromium (+6) - (mg/l) | SW846 7196 | N/A | <0.01 | N/A | <0.01 | N/A | N/A | <0.01 | 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