



FOSTER WHEELER ENVIRONMENTAL CORPORATION

October 6, 1998

File #: 1284-0018-98-0482

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
August, 1998 GROUNDWATER PUMP & TREAT SYSTEM
MONTHLY REPORT

Dear Mr. Lehman:

This letter report provides the results of the August, 1998 sampling and the activities performed during the reporting period from August 1, 1998 through August 31, 1998. The groundwater treatment plant operated 100 % of the reporting period.

As of August 31, 1998 (3144 hours) a total of 1,040,552 gallons of groundwater had been treated during the period from August 1, 1998 through August 31, 1998. This brings the total amount of water treated to 31,479,813 gallons (August 31, 1998). During August, 1998 the average effluent flowrate was 23.3 gpm.

The process water was sampled on August 17, 1998. The results of this sampling are presented in the attached table. This data shows that no discharge limits were exceeded during the August, 1998 reporting period.

During the reporting period there were no shutdowns.

Maintenance items performed:

- 08/07/98 - Perm-A-Lert technician, Jeff Wickert, came on site to check leak detection system. He was unable to get a response from the mother board. Jeff used a portable system to contact the leak detection system and found a large amount of water to be in the Area "C" transfer line. Area "A" had no water. The mother board was removed and shipped on 08/10/98.
- 08/28/98 - Removed area "A" vault lid that covers the valves and actuator connected with the Area "A" transfer sump. A tract hoe was used for the removal of the lid. This eliminated the need to do a confined space entry just to open the valves. The

valves were opened so that the Area "A" transfer equipment could be checked out for proper operation.

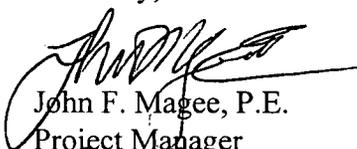
The Tetrachloroethene concentration in the groundwater influent to the system was 16.6 ug/l (Area C influent), with a total of 0.144 pounds of Tetrachloroethene removed during the August, 1998 reporting period. The total amount of Tetrachloroethene removed through August, 1998 is 2.840 pounds.

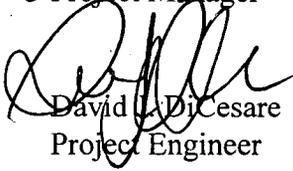
Calculation:
Average PCE concentration = 16.6 ug/l
Average water flowrate for month of August, 1998 = 23.3 gpm
Pounds of PCE removed = (23.3 gpm)(44640 min)(16.6 ug/l)(3.785 l/gal) (1 g / 1,000,000 ug)(1 lb / 454 g) = 0.144lbs PCE

The scheduled dates which Foster Wheeler Environmental's operator will be on-site during the month of October, 1998 are presented in the attached schedule.

If you should have any questions or comments regarding the August, 1998 reporting period, please feel free to contact either me at 215-702-4020 or Dave DiCesare at 215-702-4074.

Sincerely,


John F. Magee, 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
August, 1998 - 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	17-Aug-98	17-Aug-98	17-Aug-98	17-Aug-98	17-Aug-98	17-Aug-98	17-Aug-98	Instantaneous Maximum
Total Discharge (gal.) thru 7/31/98									1,040,552
Average Discharge Flowrate (gpm) for July, 1998									23.3
pH	EPA 150.1	7.4	7.7	N/A	N/A	N/A	N/A	7.6	6.0-9.0
Total Suspended Solids (mg/l)	EPA 160.2	BDL	BDL	BDL	N/A	N/A	N/A	BDL	75 mg/l
Total Organic Carbon (mg/l)	415.1/EPA600	N/A	1.1	N/A	N/A	BDL	BDL	BDL	-
Carbon Tetrachloride	EPA 8260A	BDL	BDL	N/A	N/A	BDL	BDL	BDL	4.2 ug/l
Tetrachloroethene	EPA 8260A	16.6	6.4	N/A	N/A	BDL	BDL	BDL	10.0 ug/l
Trichloroethene	EPA 8260A	BDL	BDL	N/A	N/A	BDL	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
Cadmium	SW846	N/A	BDL	N/A	N/A	N/A	N/A	BDL	4.0 ug/l
Copper	SW846	N/A	175	N/A	N/A	N/A	N/A	22	24.0 ug/l
Lead	SW846	N/A	6	N/A	N/A	N/A	N/A	BDL	11.0 ug/l
Zinc	SW846	N/A	52	N/A	N/A	N/A	N/A	49	157 ug/l
Arsenic	SW846	N/A	BDL	N/A	N/A	N/A	N/A	BDL	0.27 ug/l
Aluminum	SW846	N/A	BDL	N/A	N/A	N/A	N/A	62	1875 ug/l
Total Iron	SW846	N/A	250	N/A	N/A	N/A	N/A	65	3600 ug/l
Total Manganese	SW846	N/A	BDL	N/A	N/A	N/A	N/A	BDL	3750 ug/l
Mercury	SW846	N/A	BDL	N/A	N/A	N/A	N/A	BDL	0.045 ug/l
Total Cyanide (mg/l)	SW846 335.3	N/A	BDL	N/A	N/A	N/A	N/A	BDL	-
Chromium (+6) - (mg/l)	SW846 7196	N/A	BDL	N/A	N/A	N/A	N/A	BDL	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 October, 1998**

**Monday, October 5, 1998
Wednesday, October 7, 1998
Monday, October 12, 1998
Wednesday, October 14, 1998
Monday, October 19, 1998
Wednesday, October 21, 1998
Monday, October 26, 1998
Wednesday, October 28, 1998**

REPORT FOSTER & WHEELER
TO 1 OXFORD VALLEY, SUITE 200
LANGHORNE, PA. 19047
215-702-4007 FAX: 4045

ATTEN DAVE DICESARE

PREPARED TOXIKON CORPORATION
BY 15 WIGGINS AVE
BEDFORD, MA 01730

ATTEN PAUL LEZBERG
PHONE (617)275-3330

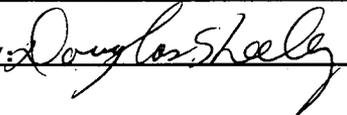

CERTIFIED BY
CONTACT CHUCKC

CLIENT FOSTER SAMPLES 8

COMPANY FOSTER & WHEELER
FACILITY 1 OXFORD VALLEY, SUITE 200
LANGHORNE, PA. 19047

MA CERT # M-MA064: TRACE METALS, SULFATE, CYANIDE, RES. FREE
CHLORINE, Ca, TOTAL ALK., TDS, pH, THMs, VOC, PEST., NUTRIENTS.
DEMAND. O&G, PHENOLICS, PCBs . CT DHS #PH-0563, NY #10778
FL HRS E87143, NJ DEP 59538, NC DNR286, SC 88002, NH 204091-C.

WORK ID NAWC WARMINSTER
TAKEN 8/17/98
TRANS _____
TYPE WATER
P.O. # _____
INVOICE under separate cover

VERIFIED BY: 

SAMPLE IDENTIFICATION

TEST CODES and NAMES used on this workorder

<u>01 DO-0018-06-001</u>	<u>AL ALUMINUM</u>
<u>02 DO-0018-06-002</u>	<u>AS ARSENIC</u>
<u>02 DO-0018-06-002 DISS</u>	<u>CD CADMIUM</u>
<u>03 DO-0018-06-003</u>	<u>CN TOT CYANIDE TOTAL</u>
<u>04 DO-0018-06-004</u>	<u>CR HEX CHROMIUM HEXAVALENT</u>
<u>04 DO-0018-06-004 DISS</u>	<u>CU COPPER</u>
<u>05 DO-0018-06-005</u>	<u>FE IRON</u>
<u>06 DO-0018-06-006</u>	<u>GENERC GENERIC TEST METHOD</u>
<u>07 DO-0018-06-007</u>	<u>HG MERCURY</u>
<u>07 DO-0018-06-007 DISS</u>	<u>MEX-DW METALS, DIS. EXT., WATER</u>
<u>08 DO-0018-FIELD BLANK</u>	<u>MEX-HG METALS, EXT. FOR MERCURY</u>
<u>08 DO-0018-FIELD BLANK DISS</u>	<u>MEX-TW METALS, TOTAL EXT., WATER</u>
	<u>MN MANGANESE</u>
	<u>PB LEAD</u>
	<u>PH W PH - AQUEOUS</u>
	<u>TOC TOC</u>
	<u>TSS TOTAL SUSPENDED SOLIDS</u>
	<u>TTOVOA PURGEABLE ORGANICS VOA</u>
	<u>ZN ZINC</u>

Received: 08/18/98

Results by Sample

SAMPLE ID <u>DO-0018-06-001</u>	SAMPLE # <u>01</u> FRACTIONS: <u>A</u>
	Date & Time Collected <u>08/17/98 14:34:00</u> Category <u>WATER</u>
PH <u>7.4</u> TSS <u>ND</u>	
PH UNITS mg/L DL=4.0	

Received: 08/18/98

Results by Sample

SAMPLE ID DO-0018-06-001FRACTION 01ATEST CODE TTVOVANAME PURGEABLE ORGANICS VOADate & Time Collected 08/17/98 14:34:00Category WATER**PURGEABLE ORGANICS VOA**

	RESULT	LIMIT		RESULT	LIMIT
Acrolein	ND	100	Trichloroethene	ND	2.0
Acrylonitrile	ND	10	Dibromochloromethane	ND	2.0
Chloromethane	ND	2.0	1,1,2-Trichloroethane	ND	2.0
Bromomethane	ND	2.0	Benzene	ND	2.0
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	2.0
Chloroethane	ND	2.0	2-Chloroethylvinylether	ND	2.0
Methylene Chloride	ND	10	Bromoform	ND	2.0
Dichlorodifluoromethane	ND	5.0	Tetrachloroethene	16.6	2.0
1,1-Dichloroethene	ND	2.0	1,1,2,2-Tetrachloroethane	ND	2.0
Trichlorofluoromethane	ND	2.0	Toluene	ND	2.0
1,1-Dichloroethane	ND	2.0	Chlorobenzene	ND	2.0
Trans 1,2-Dichloroethene	ND	2.0	Ethyl Benzene	ND	2.0
Chloroform	ND	2.0	TOTAL TTO	16.6	
1,2-Dichloroethane	ND	2.0			
1,1,1-Trichloroethane	ND	2.0			
Carbon Tetrachloride	ND	2.0			
Bromodichloromethane	ND	2.0			
1,2-Dichloropropane	ND	2.0			

Notes and Definitions for this Report:

DATE RUN: 08/21/98ANALYST: XLINSTRUMENT: GDIL. FACTOR: 1

COMMENTS: _____

UNITS: ug/L

ND = not detected at detection limit

SAMPLE ID <u>DO-0018-06-002</u>		SAMPLE # <u>02</u>		FRACTIONS: <u>A</u>							
Date & Time Collected <u>08/17/98 14:28:00</u>				Category <u>WATER</u>							
<u>AL</u>	<u>ND</u>	<u>AS</u>	<u>ND</u>	<u>CD</u>	<u>ND</u>	<u>CN_TOT</u>	<u>ND</u>	<u>CR_HEX</u>	<u>ND</u>	<u>CJ</u>	<u>0.175</u>
mg/L	DL=0.050	mg/L	DL=0.005	mg/L	DL=0.005	mg/L	DL=0.01	mg/L	DL=0.05	mg/L	DL=0.005
<u>FE</u>	<u>0.250</u>	<u>HG</u>	<u>ND</u>	<u>MN</u>	<u>ND</u>	<u>PB</u>	<u>0.006</u>	<u>PH_W</u>	<u>7.7</u>	<u>TOC</u>	<u>1.10</u>
mg/L	DL=0.010	mg/L	DL=0.0005	mg/L	DL=0.005	mg/L	DL=0.005	PH UNITS		mg/L	DL=1.0
<u>TSS</u>	<u>ND</u>	<u>ZN</u>	<u>0.052</u>								
mg/L	DL=4.0	mg/L	DL=0.005								

Received: 08/18/98

Results by Sample

SAMPLE ID DO-0018-06-002FRACTION 02ATEST CODE TTVOVANAME PURGEABLE ORGANICS VOADate & Time Collected 08/17/98 14:28:00Category WATER**PURGEABLE ORGANICS VOA**

	RESULT	LIMIT		RESULT	LIMIT
Acrolein	<u>ND</u>	<u>100</u>	Trichloroethene	<u>ND</u>	<u>2.0</u>
Acrylonitrile	<u>ND</u>	<u>10</u>	Dibromochloromethane	<u>ND</u>	<u>2.0</u>
Chloromethane	<u>ND</u>	<u>2.0</u>	1,1,2-Trichloroethane	<u>ND</u>	<u>2.0</u>
Bromomethane	<u>ND</u>	<u>2.0</u>	Benzene	<u>ND</u>	<u>2.0</u>
Vinyl Chloride	<u>ND</u>	<u>10</u>	cis-1,3-Dichloropropene	<u>ND</u>	<u>2.0</u>
Chloroethane	<u>ND</u>	<u>2.0</u>	2-Chloroethylvinylether	<u>ND</u>	<u>2.0</u>
Methylene Chloride	<u>ND</u>	<u>10</u>	Bromoform	<u>ND</u>	<u>2.0</u>
Dichlorodifluoromethane	<u>ND</u>	<u>5.0</u>	Tetrachloroethene	<u>6.4</u>	<u>2.0</u>
1,1-Dichloroethene	<u>ND</u>	<u>2.0</u>	1,1,2,2-Tetrachloroethane	<u>ND</u>	<u>2.0</u>
Trichlorofluoromethane	<u>ND</u>	<u>2.0</u>	Toluene	<u>ND</u>	<u>2.0</u>
1,1-Dichloroethane	<u>ND</u>	<u>2.0</u>	Chlorobenzene	<u>ND</u>	<u>2.0</u>
Trans 1,2-Dichloroethene	<u>ND</u>	<u>2.0</u>	Ethyl Benzene	<u>ND</u>	<u>2.0</u>
Chloroform	<u>ND</u>	<u>2.0</u>	TOTAL TTO	<u>6.4</u>	
1,2-Dichloroethane	<u>ND</u>	<u>2.0</u>			
1,1,1-Trichloroethane	<u>ND</u>	<u>2.0</u>			
Carbon Tetrachloride	<u>ND</u>	<u>2.0</u>			
Bromodichloromethane	<u>ND</u>	<u>2.0</u>			
1,2-Dichloropropane	<u>ND</u>	<u>2.0</u>			

Notes and Definitions for this Report:

DATE RUN: 08/24/98ANALYST: XLINSTRUMENT: BDIL. FACTOR: 1

COMMENTS: _____

UNITS: ug/L

ND = not detected at detection limit

Received: 08/18/98

Results by Sample

SAMPLE ID DO-0018-06-002 DISS SAMPLE # 02 FRACTIONS: B
 Date & Time Collected 08/17/98 14:28:00 Category WATER

FE ND
 mg/L DL=0.010

SAMPLE ID DO-0018-06-003 SAMPLE # 03 FRACTIONS: A
 Date & Time Collected 08/17/98 14:24:00 Category WATER

TSS ND
 mg/L DL=4.0

SAMPLE ID DO-0018-06-004 SAMPLE # 04 FRACTIONS: A
 Date & Time Collected 08/17/98 14:21:00 Category WATER

AL ND AS ND CD ND CN_TOT ND CR_HEX ND CU ND
 mg/L DL=0.050 mg/L DL=0.005 mg/L DL=0.005 mg/L DL=0.01 mg/L DL=0.05 mg/L DL=0.005

FE 0.084 HG ND MN ND PB ND PH_W 7.8 TSS ND
 mg/L DL=0.010 mg/L DL=0.0005 mg/L DL=0.005 mg/L DL=0.005 PH UNITS mg/L DL=4.0

ZN 0.028
 mg/L DL=0.005

SAMPLE ID DO-0018-06-004 DISS SAMPLE # 04 FRACTIONS: B
 Date & Time Collected 08/17/98 14:21:00 Category WATER

FE 0.047
 mg/L DL=0.010

Received: 08/18/98

Results by Sample

SAMPLE ID DO-0018-06-005FRACTION 05A TEST CODE TTVOVA NAME PURGEABLE ORGANICS VOADate & Time Collected 08/17/98 14:18:00Category WATER**PURGEABLE ORGANICS VOA**

	RESULT	LIMIT		RESULT	LIMIT
Acrolein	ND	100	Trichloroethene	ND	2.0
Acrylonitrile	ND	10	Dibromochloromethane	ND	2.0
Chloromethane	ND	2.0	1,1,2-Trichloroethane	ND	2.0
Bromomethane	ND	2.0	Benzene	ND	2.0
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	2.0
Chloroethane	ND	2.0	2-Chloroethylvinylether	ND	2.0
Methylene Chloride	ND	10	Bromoform	ND	2.0
Dichlorodifluoromethane	ND	5.0	Tetrachloroethene	ND	2.0
1,1-Dichloroethene	ND	2.0	1,1,2,2-Tetrachloroethane	ND	2.0
Trichlorofluoromethane	ND	2.0	Toluene	ND	2.0
1,1-Dichloroethane	ND	2.0	Chlorobenzene	ND	2.0
Trans 1,2-Dichloroethene	ND	2.0	Ethyl Benzene	ND	2.0
Chloroform	ND	2.0	TOTAL TTO	ND	
1,2-Dichloroethane	ND	2.0			
1,1,1-Trichloroethane	ND	2.0			
Carbon Tetrachloride	ND	2.0			
Bromodichloromethane	ND	2.0			
1,2-Dichloropropane	ND	2.0			

Notes and Definitions for this Report:

DATE RUN: 08/21/98ANALYST: XLINSTRUMENT: GDIL. FACTOR: 1

COMMENTS: _____

UNITS: ug/L

ND = not detected at detection limit

Received: 08/18/98

Results by Sample

SAMPLE ID <u>DO-0018-06-006</u>	SAMPLE # <u>06</u> FRACTIONS: <u>A</u>
	Date & Time Collected <u>08/17/98 14:15:00</u> Category <u>WATER</u>
TOC <u>ND</u>	
mg/L DL=1.0	

Received: 08/18/98

Results by Sample

SAMPLE ID DO-0018-06-006FRACTION 06ATEST CODE TTOVOANAME PURGEABLE ORGANICS VOADate & Time Collected 08/17/98 14:15:00Category WATER**PURGEABLE ORGANICS VOA**

	RESULT	LIMIT		RESULT	LIMIT
Acrolein	ND	100	Trichloroethene	ND	2.0
Acrylonitrile	ND	10	Dibromochloromethane	ND	2.0
Chloromethane	ND	2.0	1,1,2-Trichloroethane	ND	2.0
Bromomethane	ND	2.0	Benzene	ND	2.0
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	2.0
Chloroethane	ND	2.0	2-Chloroethylvinylether	ND	2.0
Methylene Chloride	ND	10	Bromoform	ND	2.0
Dichlorodifluoromethane	ND	5.0	Tetrachloroethene	ND	2.0
1,1-Dichloroethene	ND	2.0	1,1,2,2-Tetrachloroethane	ND	2.0
Trichlorofluoromethane	ND	2.0	Toluene	ND	2.0
1,1-Dichloroethane	ND	2.0	Chlorobenzene	ND	2.0
Trans 1,2-Dichloroethene	ND	2.0	Ethyl Benzene	ND	2.0
Chloroform	ND	2.0	TOTAL TTO	ND	
1,2-Dichloroethane	ND	2.0			
1,1,1-Trichloroethane	ND	2.0			
Carbon Tetrachloride	ND	2.0			
Bromodichloromethane	ND	2.0			
1,2-Dichloropropane	ND	2.0			

Notes and Definitions for this Report:

DATE RUN: 08/21/98ANALYST: XLINSTRUMENT: GDIL. FACTOR: 1

COMMENTS: _____

UNITS: ug/L

ND = not detected at detection limit

Received: 08/18/98

Results by Sample

SAMPLE ID <u>DO-0018-06-007</u>		SAMPLE # <u>07</u>		FRACTIONS: <u>A</u>		Date & Time Collected <u>08/17/98 14:08:00</u>		Category <u>WATER</u>			
<u>AL</u>	<u>0.062</u>	<u>AS</u>	<u>ND</u>	<u>CD</u>	<u>ND</u>	<u>CN_TOT</u>	<u>ND</u>	<u>CR_HEX</u>	<u>ND</u>	<u>CJ</u>	<u>0.022</u>
mg/L	DL=0.050	mg/L	DL=0.005	mg/L	DL=0.005	mg/L	DL=0.01	mg/L	DL=0.05	mg/L	DL=0.005
<u>FE</u>	<u>0.065</u>	<u>HG</u>	<u>ND</u>	<u>MN</u>	<u>ND</u>	<u>PB</u>	<u>ND</u>	<u>PH_W</u>	<u>7.6</u>	<u>TOC</u>	<u>ND</u>
mg/L	DL=0.010	mg/L	DL=0.0005	mg/L	DL=0.005	mg/L	DL=0.005	PH UNITS		mg/L	DL=1.0
<u>TSS</u>	<u>ND</u>	<u>ZN</u>	<u>0.049</u>								
mg/L	DL=4.0	mg/L	DL=0.005								

SAMPLE ID DO-0018-06-007 FRACTION 07A TEST CODE TTOVOA NAME PURGEABLE ORGANICS VOA
 Date & Time Collected 08/17/98 14:08:00 Category WATER

PURGEABLE ORGANICS VOA

	RESULT	LIMIT		RESULT	LIMIT
Acrolein	ND	100	Trichloroethene	ND	2.0
Acrylonitrile	ND	10	Dibromochloromethane	ND	2.0
Chloromethane	ND	2.0	1,1,2-Trichloroethane	ND	2.0
Bromomethane	ND	2.0	Benzene	ND	2.0
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	2.0
Chloroethane	ND	2.0	2-Chloroethylvinylether	ND	2.0
Methylene Chloride	ND	10	Bromoform	ND	2.0
Dichlorodifluoromethane	ND	5.0	Tetrachloroethene	ND	2.0
1,1-Dichloroethene	ND	2.0	1,1,2,2-Tetrachloroethane	ND	2.0
Trichlorofluoromethane	ND	2.0	Toluene	ND	2.0
1,1-Dichloroethane	ND	2.0	Chlorobenzene	ND	2.0
Trans 1,2-Dichloroethene	ND	2.0	Ethyl Benzene	ND	2.0
Chloroform	ND	2.0	TOTAL TTO	ND	
1,2-Dichloroethane	ND	2.0			
1,1,1-Trichloroethane	ND	2.0			
Carbon Tetrachloride	ND	2.0			
Bromodichloromethane	ND	2.0			
1,2-Dichloropropane	ND	2.0			

Notes and Definitions for this Report:

DATE RUN: 08/21/98
 ANALYST: XL
 INSTRUMENT: G
 DIL. FACTOR: 1
 COMMENTS: _____
 UNITS: ug/L

ND = not detected at detection limit

SAMPLE ID <u>DO-0018-06-007 DISS</u>	SAMPLE # <u>07</u> FRACTIONS: <u>B</u>
Date & Time Collected <u>08/17/98 14:08:00</u> Category <u>WATER</u>	
<u>FE</u> <u>ND</u>	
mg/L DL=0.010	

SAMPLE ID <u>DO-0018-FIELD BLANK</u>	SAMPLE # <u>08</u> FRACTIONS: <u>A</u>
Date & Time Collected <u>08/17/98 14:00:00</u> Category <u>WATER</u>	
<u>AL</u> <u>ND</u> <u>AS</u> <u>ND</u> <u>CD</u> <u>ND</u> <u>CN_TOT</u> <u>ND</u> <u>CR_HEX</u> <u>ND</u> <u>CJ</u> <u>ND</u>	
mg/L DL=0.050 mg/L DL=0.005 mg/L DL=0.005 mg/L DL=0.01 mg/L DL=0.05 mg/L DL=0.005	
<u>FE</u> <u>ND</u> <u>HG</u> <u>ND</u> <u>MN</u> <u>ND</u> <u>PB</u> <u>ND</u> <u>PH_W</u> <u>8.3</u> <u>TOC</u> <u>ND</u>	
mg/L DL=0.010 mg/L DL=0.0005 mg/L DL=0.005 mg/L DL=0.005 PH UNITS mg/L DL=1.0	
<u>TSS</u> <u>ND</u> <u>ZN</u> <u>0.019</u>	
mg/L DL=4.0 mg/L DL=0.005	

Received: 08/18/98

Results by Sample

SAMPLE ID DO-0018-FIELD BLANKFRACTION 08ATEST CODE TTOVOANAME PURGEABLE ORGANICS VOADate & Time Collected 08/17/98 14:00:00Category WATER**PURGEABLE ORGANICS VOA**

	RESULT	LIMIT		RESULT	LIMIT
Acrolein	ND	100	Trichloroethene	ND	2.0
Acrylonitrile	ND	10	Dibromochloromethane	ND	2.0
Chloromethane	ND	2.0	1,1,2-Trichloroethane	ND	2.0
Bromomethane	ND	2.0	Benzene	ND	2.0
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	2.0
Chloroethane	ND	2.0	2-Chloroethylvinylether	ND	2.0
Methylene Chloride	ND	10	Bromoform	ND	2.0
Dichlorodifluoromethane	ND	5.0	Tetrachloroethene	ND	2.0
1,1-Dichloroethene	ND	2.0	1,1,2,2-Tetrachloroethane	ND	2.0
Trichlorofluoromethane	ND	2.0	Toluene	ND	2.0
1,1-Dichloroethane	ND	2.0	Chlorobenzene	ND	2.0
Trans 1,2-Dichloroethene	ND	2.0	Ethyl Benzene	ND	2.0
Chloroform	ND	2.0	TOTAL TTO	ND	
1,2-Dichloroethane	ND	2.0			
1,1,1-Trichloroethane	ND	2.0			
Carbon Tetrachloride	ND	2.0			
Bromodichloromethane	ND	2.0			
1,2-Dichloropropane	ND	2.0			

Notes and Definitions for this Report:

DATE RUN: 08/21/98ANALYST: XLINSTRUMENT: GDIL. FACTOR: 1

COMMENTS: _____

UNITS: ug/L

ND = not detected at detection limit

Received: 08/18/98

Results by Sample

SAMPLE ID <u>DO-0018-FIELD BLANK DISS</u>	SAMPLE # <u>08</u>	FRACTIONS: <u>B</u>
Date & Time Collected <u>08/17/98 14:00:00</u>		Category <u>WATER</u>
FE <u>ND</u>		
mg/L DL=0.010		

Received: 08/18/98

Test Methodology

TEST CODE CN TOT NAME CYANIDE TOTAL

EPA METHOD: 335.3 for water sample

Reference: Methods for Chemical Analysis of Water and Wastes.
EPA 600/4-79-020 (Revised, March 1983). EPA/EMSL.

EPA METHOD: 9010 for soil sample

Reference: Methods for Evaluating Solid Waste: Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

TEST CODE CR HEX NAME CHROMIUM HEXAVALENT

EPA METHOD: 7196

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

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Test Methodology

TEST CODE GENERC NAME GENERIC TEST METHOD

METHOD REFERENCES ARE CONTAINED ON THE DATA PAGE

Received: 08/18/98

Test Methodology

TEST CODE MEX DW NAME METALS, DIS. EXT., WATER

REFERENCE:

EPA METHOD 3005. Acid Digestion of Waters for Total Recoverable or Dissolved Metals for Analysis by Flame Atomic Absorption Spectroscopy or Inductively Coupled Plasma Spectroscopy. Test Methods for Evaluating Physical/Chemical Methods. SW 846, 3rd Edition.

TEST CODE MEX HG NAME METALS, EXT. FOR MERCURY

REFERENCE:

EPA METHOD 245.1 Mercury. Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020.

EPA METHOD 7470. Mercury in Liquid Waste.

or

EPA METHOD 7471. Mercury in Solid or Semisolid Waste.
Test Methods for Evaluating Solid Waste: Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA>

TEST CODE MEX TW NAME METALS, TOTAL EXT., WATER

REFERENCE:

EPA METHOD 3005. Acid Digestion of Waters for Total Recoverable or Dissolved Metals for Analysis by Flame Atomic Absorption Spectroscopy or Inductively Coupled Plasma Spectroscopy. Test Methods for Evaluating Physical/Chemical Methods. SW 846, 3rd Edition.

Wastewater digestion

40CFR Part 136 Appendix C-Preparation for Inductively Coupled Plasma-Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes Method 200.7. Protection of Environment, 1991.

TEST CODE PH W NAME PH - AQUEOUS

EPA METHOD: 150.1

Reference: Methods for Chemical Analysis of Water and Wastes.
EPA 600/4-79-020 (Revised, March 1983). EPA/EMSL.

TEST CODE TOC NAME TOC

EPA Method: 415.1 Total Organic Carbon.

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846 (Third Edition) 1986.
Office of Solid Waste, USEPA.

TEST CODE TSS NAME TOTAL SUSPENDED SOLIDS

EPA METHOD: 160.2

Reference: Methods for Chemical Analysis of Water and Wastes.
EPA 600/4-79-020 (Revised, March 1983). EPA/EMSL.

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Test Methodology

TEST CODE TTVOVA NAME PURGEABLE ORGANICS VOA

EPA METHOD: 8260B: Gas Chromatography/Mass Spectrometry for Volatile Organics.

Reference: Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods.
EPA SW-846 Final Update III, 1996. Office of Solid Waste, USEPA.

SOIL RESULTS ARE REPORTED ON A DRY WEIGHT BASIS.