Prepare in quintuplicate (original and 4 copies)

CONTRACTOR DRAWINGS & INFORMATION SUBMITTAL
NORTHNAVFACENGCOM 4335/3 (Rev. 6/80)

CONTROL NO. 50

CONTRACT NO.	DELIVERY ORDER #	ACTIVITY LOCATION
N62472-94-D-0398	**0018**	**Warminster, PA**

PROJECT TITLE:
Various Remedial Action at NAWC

FROM:	DATE
Foster Wheeler Environmental Corp. - Program QCM: Akram Aziz	March 30, 1998
TO:	DATE
S. Lehman (3 copies)	March 30, 1998

1. THE CONTRACTOR SUBMITTALS LISTED BELOW ARE FORWARDED FOR YOUR REVIEW AND RECOMMENDATIONS.
   (a) APPLY APPROPRIATE STAMP IMPRINT TO EACH SUBMITTAL AND INDICATE REVIEW COMMENTS, AS REQUIRED.
   (b) RETAIN ONE (1) COPY OF THIS TRANSMITTAL FORM AND RETURN REMAINING COPIES WITH REVIEWED SUBMITTALS TO ROICC.
2. THESE SUBMITTALS SHOULD BE RETURNED TO THIS OFFICE BY _____
3. _____

COPY TO:

[X] ROICC **E. Beatty (2 copies)** [ ] RPM [ ] CSO

SIGNATURE AND DATE 3/30/98

FROM: DESIGNER	DATE
TO: ROICC	DATE

1. THE SUBMITTALS LISTED BELOW HAVE BEEN REVIEWED AND ARE RETURNED, WITH ACTION TAKEN AS INDICATED.
2. _____

COPY TO:

[ ] ROICC [ ] DESIGNER

SIGNATURE AND DATE

FROM: ROICC	DATE
TO: CONTRACTOR	DATE

1. THE SUBMITTALS LISTED BELOW HAVE BEEN REVIEWED AND ARE APPROVED/DISAPPROVED AS SHOWN BELOW AND ON EACH STAMP IMPRINT.

COPY TO:

[ ] ROICC [ ] OTHER

FOR COMMANDING OFFICER, NORTHERN DIVISION NAVAL FACILITIES ENGINEERING COMMAND — DATE

ITEM NO.	SUBMITTAL DESCRIPTION	PREPARED/ SUBMITTED BY	APPROVED	DISAPPROVED	REMARKS
50	SD-10, Test Reports	A. Aziz			
	Water Analytical Results				

 TOXIKON CORP. REPORT Work Order # 98-02-383

Received: 02/19/98 03/04/98 15:22:55

REPORT TO: FOSTER & WHEELER
1 OXFORD VALLEY, SUITE 200
LANGHORNE, PA. 19047
215-702-4007 FAX: 4047
ATTEN DAVE DiCESARE

PREPARED BY: TOXIKON CORPORATION
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, PA
TAKEN 2/18/98
TRANS
TYPE WATER
P.O. #
INVOICE under separate cover

VERIFIED BY:

SAMPLE IDENTIFICATION

01	DO-0018-06-001
02	DO-0018-06-002
02	DO-0018-06-002 (DISSOLVED)
03	DO-0018-006-003
04	DO-0018-06-004
04	DO-0018-06-004 (DISSOLVED)
05	DO-0018-06-005
06	DO-0018-06-006
07	DO-0018-06-007
07	DO-0018-06-007 (DISSOLVED)
08	DO-0018-06-FIELD BLANK
08	DO-0018-06-FIELD BLANK DIS

TEST CODES and NAMES used on this workorder

8260	PURGEABLE ORGANICS VOA
AL	ALUMINUM
AS	ARSENIC
CD	CADMIUM
CN TOT	CYANIDE TOTAL
CU	COPPER
FE	IRON
HG	MERCURY
MEX DW	METALS, DIS. EXT., WATER
MEX HG	METALS, EXT. FOR MERCURY
MEX TW	METALS, TOTAL EXT., WATER
MN	MANGANESE
PB	LEAD
PH W	PH - AQUEOUS
TOC	TOC
TSS	TOTAL SUSPENDED SOLIDS
ZN	ZINC

Received: 02/19/98 Results by Sample

SAMPLE ID DO-0018-06-001 SAMPLE # 01 FRACTIONS: A

Date & Time Collected 02/18/98 11:45:00 Category WATER

PH_W	7.0	TSS	ND
	PH UNITS		mg/L DL=4.0

Received: 02/19/98 Results by Sample

SAMPLE ID DO-0018-06-001 FRACTION 01A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 02/18/98 11:45:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	11.0	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 02/25/98
ANALYST XL
INSTRUMENT B
DIL. FACTOR 1
UNITS ug/L
COMMENTS

ND = Not detected at detection limit

Received: 02/19/98 Results by Sample

SAMPLE ID DO-0018-06-002 SAMPLE # 02 FRACTIONS: A

Date & Time Collected 02/18/98 11:58:00 Category WATER

AL	0.045	AS	ND	CD	ND	CN_TOT	ND	CU	ND	FE	0.158
mg/L	DL=0.010	mg/L	DL=0.005	mg/L	DL=0.005	mg/L	DL=0.01	mg/L	DL=0.005	mg/L	DL=0.010
HG	ND	MN	ND	PB	0.005	PH_W	7.4	TOC	ND	TSS	ND
mg/L	DL=0.0005	mg/L	DL=0.005	mg/L	DL=0.005		PH UNITS	mg/L	DL=1.0	mg/L	DL=4.0
ZN	0.037										
mg/L	DL=0.020										

Received: 02/19/98 Results by Sample

SAMPLE ID DO-0018-06-002 FRACTION 02A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 02/18/98 11:58:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	8.8	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 02/25/98
ANALYST XL
INSTRUMENT B
DIL. FACTOR 1
UNITS ug/L
COMMENTS

ND = Not detected at detection limit

Received: 02/19/98

Results by Sample

SAMPLE ID DO-0018-06-002 (DISSOLVED) SAMPLE # 02 FRACTIONS: B
Date & Time Collected 02/18/98 11:58:00 Category WATER

FE	0.021
mg/L	DL=0.020

SAMPLE ID DO-0018-006-003 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 02/18/98 12:04:00 Category WATER

TSS	ND
mg/L	DL=4.0

SAMPLE ID DO-0018-06-004 SAMPLE # 04 FRACTIONS: A
Date & Time Collected 02/18/98 12:08:00 Category WATER

AL	0.047	AS	ND	CD	ND	CN_TOT	ND	CU	ND	FE	0.232
mg/L	DL=0.010	mg/L	DL=0.005	mg/L	DL=0.005	mg/L	DL=0.01	mg/L	DL=0.005	mg/L	DL=0.010
HG	ND	MN	ND	PB	0.006	PH_W	7.4	TSS	ND	ZN	0.049
mg/L	DL=0.0005	mg/L	DL=0.005	mg/L	DL=0.005		PH UNITS	mg/L	DL=4.0	mg/L	DL=0.005

SAMPLE ID DO-0018-06-004 (DISSOLVED) SAMPLE # 04 FRACTIONS: B
Date & Time Collected 02/18/98 12:08:00 Category WATER

FE	ND
mg/L	DL=0.020

 TOXIKON CORP. REPORT Work Order # 98-02-383

Received: 02/19/98 Results by Sample

SAMPLE ID DO-0018-06-005 FRACTION 05A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA

Date & Time Collected 02/18/98 12:13:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 02/25/98

ANALYST XL

INSTRUMENT B

DIL. FACTOR 1

UNITS ug/L

COMMENTS

ND = Not detected at detection limit

Received: 02/19/98

Results by Sample

SAMPLE ID DO-0018-06-006

SAMPLE # 06 FRACTIONS: A

Date & Time Collected 02/18/98 12:18:00 Category WATER

TOC ND

mg/L DL=1.0

Received: 02/19/98 Results by Sample

SAMPLE ID DO-0018-06-006 FRACTION 06A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 02/18/98 12:18:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 02/25/98
ANALYST XL
INSTRUMENT B
DIL. FACTOR 1
UNITS ug/L
COMMENTS

ND = Not detected at detection limit

Received: 02/19/98

Results by Sample

SAMPLE ID DO-0018-06-007 SAMPLE # 07 FRACTIONS: A

Date & Time Collected 02/18/98 12:22:00 Category WATER

AL	0.061	AS	ND	CD	ND	CN_TOT	ND	CU	ND	FE	0.100
mg/L	DL=0.010	mg/L	DL=0.005	mg/L	DL=0.005	mg/L	DL=0.01	mg/L	DL=0.005	mg/L	DL=0.010
HG	ND	MN	ND	PB	ND	PH_W	7.4	TOC	ND	TSS	ND
mg/L	DL=0.0005	mg/L	DL=0.005	mg/L	DL=0.005		PH UNITS	mg/L	DL=1.0	mg/L	DL=4.0
ZN	0.041										
mg/L	DL=0.005										

SAMPLE ID DO-0018-06-007 FRACTION 07A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 02/18/98 12:22:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 02/25/98
ANALYST XL
INSTRUMENT B
DIL. FACTOR 1
UNITS ug/L
COMMENTS

ND = Not detected at detection limit

Received: 02/19/98 Results by Sample

SAMPLE ID DO-0018-06-007 (DISSOLVED) SAMPLE # 07 FRACTIONS: B
Date & Time Collected 02/18/98 12:22:00 Category WATER

FE	ND
mg/L	DL=0.020

SAMPLE ID DO-0018-06-FIELD BLANK SAMPLE # 08 FRACTIONS: A
Date & Time Collected 02/18/98 12:34:00 Category WATER

AL	0.049	AS	ND	CD	ND	CN_TOT	ND	CU	ND	FE	ND
mg/L	DL=0.010	mg/L	DL=0.005	mg/L	DL=0.005	mg/L	DL=0.01	mg/L	DL=0.005	mg/L	DL=0.010
HG	ND	MN	ND	PB	0.013	PH_W	7.4	TOC	ND	TSS	ND
mg/L	DL=0.0005	mg/L	DL=0.005	mg/L	DL=0.005		PH UNITS	mg/L	DL=1.0	mg/L	DL=4.0
ZN	0.018										
mg/L	DL=0.005										

Received: 02/19/98 Results by Sample

SAMPLE ID DO-0018-06-FIELD BLANK FRACTION 08A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 02/18/98 12:34:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 02/25/98
ANALYST XL
INSTRUMENT B
DIL. FACTOR 1
UNITS ug/L
COMMENTS

ND = Not detected at detection limit

Received: 02/19/98 Results by Sample

SAMPLE ID DO-0018-06-FIELD BLANK DIS SAMPLE # 08 FRACTIONS: B
Date & Time Collected 02/18/98 12:34:00 Category WATER

FE	ND
mg/L DL=0.020	

TEST CODE 8260 NAME PURGEABLE ORGANICS VOA

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

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

RESULTS ARE REPORTED ON A DRY WEIGHT BASIS.

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 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.

TOXIKON
15 Wiggins Ave., Bedford, MA 01730
Telephone: (781) 275-3330
Fax: (781) 275-7478

CHAIN OF CUSTODY RECORD

WORK ORDER #: 98-02-383
DUE DATE : 3-4-98

COMPANY: Foster Wheeler Environmental Corp.
ADDRESS: 2300 Lincoln Highway East one Oxford Valley
Langborne, PA 19047
PHONE #: (215) 702-4074 FAX #: (215) 702-4045
P.O. #:
PROJECT MANAGER: Dave DiCesare
PROJECT ID/LOCATION: NAWC Warminster, PA

SAMPLE TYPE
1. WASTEWATER
2. SOIL
3. SLUDGE
4. OIL
5. DRINKING WATER
6. WATER (GW/MW/SW)
7. OTHER (SPECIFY

CONTAINER TYPE
P - PLASTIC
G - GLASS
V - VOA

ANALYSES

TOXIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	pH	TSS	TOC	CN	CR+6	Total Iron	Dissolved Iron	Hg	Cd, Cu, Pb, Zn, Fe, Al, TMW	TCL-VOA			SPECIAL INSTRUCTIONS/ COMMENTS
1	DO-0018-06-001			V/P	5	2/18/98	1145		1	1							3				
2	DO-0018-06-002			V/P	11	2/18/98	1158		1	1	1	1	1	1	1	1	3				
3	DO-0018-06-003			P	1	2/18/98	1204			1											
4	DO-0018-06-004			P	7	2/18/98	1208		1	1		1	1	1	1	1					
5	DO-0018-06-005			V	3	2/18/98	1213										3				
6	DO-0018-06-006			P/N	4	2/18/98	1218				1						3				
7	DO-0018-06-007			V/P	11	2/18/98	1222		1	1	1	1	1	1	1	1	3				
8	DO-0018-06-Field Blank			V/P	11	2/18/98	1234		1	1	1	1	1	1	1	1	3				

SAMPLED BY: Charles W. Roberts
DATE: 2-18-98
TIME: 12-48-00

RELINQUISHED BY: Charles W. Roberts
DATE: 2-18-98
TIME: 14-35

RELINQUISHED BY:
DATE: - -
TIME: - -

METHOD OF SHIPMENT

QUOTATION #:

RECEIVED BY:
DATE: 2-19-98
TIME: 15-05

RECEIVED FOR LAB BY:
DATE: - -
TIME: - -

COOLER TEMPERATURE

☐ RUSH ..... BUSINESS DAY TURN AROUND
☑ ROUTINE

Sample disposal information
Are there any other known or suspected contaminants in these samples other than those listed above?
Yes ____ No ____ If Yes, 1st Known

 TOXIKON CORP. REPORT Work Order # 98-02-386

Received: 02/19/98 02/20/98 13:47:26

REPORT TO: FOSTER & WHEELER
1 OXFORD VALLEY, SUITE 200
LANGHORNE, PA. 19047
215-702-4007 FAX: 4047
ATTEN DAVE DiCESARE

PREPARED BY: TOXIKON CORPORATION
15 WIGGINS AVE
BEDFORD, MA 01730
ATTEN PAUL LEZBERG
PHONE (617)275-3330

CERTIFIED BY

CONTACT CHUCKC

CLIENT FOSTER SAMPLES 4
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, PA
TAKEN 2/18/98
TRANS
TYPE WATER
P.O. #
INVOICE under separate cover

VERIFIED BY:

SAMPLE IDENTIFICATION

01 DO-0018-06-002
02 DO-0018-06-004
03 DO-0018-06-007
04 DO-0018-06-FIELD BLANK

TEST CODES and NAMES used on this workorder

CR HEX CHROMIUM HEXAVALENT

Received: 02/19/98

Results by Sample

SAMPLE ID DO-0018-06-002 SAMPLE # 01 FRACTIONS: A

Date & Time Collected 02/18/98 15:44:00 Category WATER

CR_HEX ND

mg/L DL=0.05

SAMPLE ID DO-0018-06-004 SAMPLE # 02 FRACTIONS: A

Date & Time Collected 02/18/98 15:41:00 Category WATER

CR_HEX ND

mg/L DL=0.05

SAMPLE ID DO-0018-06-007 SAMPLE # 03 FRACTIONS: A

Date & Time Collected 02/18/98 15:39:00 Category WATER

CR_HEX ND

mg/L DL=0.05

SAMPLE ID DO-0018-06-FIELD BLANK SAMPLE # 04 FRACTIONS: A

Date & Time Collected 02/18/98 15:37:00 Category WATER

CR_HEX ND

mg/L DL=0.05

Received: 02/19/98 Test Methodology

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.

TOXIKON
15 Wiggins Ave., Bedford, MA 01730
Telephone: (781) 275-3330
Fax: (781) 275-7478

CHAIN OF CUSTODY RECORD

WORK ORDER #: 98-02-386
DUE DATE : 2-20-98

COMPANY: Foster Wheeler Environmental Corp
ADDRESS: 2300 Lincoln Highway East, One Oxford Valley, Langhorne, PA 19047
PHONE #: (215) 702-4074 FAX #: (215) 702-4045
P.O. #:
PROJECT MANAGER: Dave Dicesare
PROJECT ID/LOCATION: NAWC Warminster, PA

SAMPLE TYPE	CONTAINER TYPE
1. WASTEWATER	P - PLASTIC
2. SOIL	G - GLASS
3. SLUDGE	V - VOA
4. OIL	
5. DRINKING WATER	
6. WATER (GW/MW/SW)	
7. OTHER (SPECIFY	

ANALYSES

TOXIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	Cr+6												SPECIAL INSTRUCTIONS/ COMMENTS
1	DO-0018-06-002	1		P	1	2/18/98	1544	—	1												
2	DO-0018-06-004	1		P	1	2/18/98	1541		1												
3	DO-0018-06-007	1		P	1	2/18/98	1539		1												
4	DO-0018-06-Field Blank	1		P	1	2/18/98	1537		1												

SAMPLED BY: Charles [illegible]	DATE: 2-18-98 TIME: 15-45-00	QUOTATION #:	
RELINQUISHED BY: [illegible]	DATE: 2-18-98 TIME: 15-50-00	RECEIVED BY: [illegible]	DATE: 2-19-98 TIME: 16-00-
RELINQUISHED BY:	DATE: - - TIME: - -	RECEIVED FOR LAB BY:	DATE: - - TIME: - -
METHOD OF SHIPMENT		COOLER TEMPERATURE	

☐ RUSH ..... BUSINESS DAY TURN AROUND
☒ ROUTINE

Sample disposal information
Are there any other known or suspected contaminants in these samples other than those listed above?
Yes No If Yes, 1st Known

CASE NARRATIVE

All samples were analyzed within the method holding times.

No target compounds were detected in the method blanks.

TOXIKON

QA/QC REPORT

WORK ORDER: 9802386
MATRIX: WATER

PARAMETER	DUPLICATE PERCENT RPD	CONTROL LIMITS	CONTROL SPIKE PERCENT RECOVERY	MATRIX SPIKE PERCENT RECOVERY	CONTROL LIMITS
HEXAVALENT CR	0	0-25	90	85	80-120