US NAVY NORTHERN DIVISION
REMEDIAL ACTION CONTRACT (RAC)
CONTRACT NO. N62472-94-D-0398
DELIVERY ORDER NO. 0034
FOSTER WHEELER ENVIRONMENTAL CORPORATION

WORK PLAN

FOR

SPILL CLEANUP
AT
NAVAL WEAPONS STATION EARLE

COLTS NECK, NEW JERSEY

JUNE 1998

Prepared for

U.S. Navy Northern Division

Revision	Date	Prepared By	Approved By	Pages Affected
0	6/26/98	C. Tippmann, P.E.	J Gorgol, P.E.	ALL

WORK PLAN

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ATTACHMENTS

1. INTRODUCTION

Foster Wheeler Environmental Corporation (FWENC) is pleased to submit this work plan to the Department of the Navy (Navy) in response to the Delivery Order 0034. This work plan describes work that will be performed to complete the spill cleanup at the Waterfront Area located at the Naval Weapons Station Earle (NWS Earle). Work tasks described below include soil excavation, soil characterization, soil disposal, confirmation sampling, and site restoration.

1.1 PROJECT BACKGROUND

NWS Earle is located in Monmouth County, New Jersey, approximately 47 miles south of New York City. The station consists of two areas, the 10,248-acre Main Base (Mainside) area, located inland, and the 706-acre Waterfront area as shown on the Site Vicinity Map, Figure 1 (Attachment 1). The two areas are connected by a Navy-controlled right-of-way. Commissioned in 1943, the facilities primary mission is to supply ammunition to the naval fleet.

The Bilge Water Treatment Facility, located at Naval Weapons Station Earle's Waterfront Bldg. R-30, treats bilge water from vessels arriving in port. This process includes an operation that separates waste oil from the bilge. The waste oil is loaded into tanker cars for off site disposal.

On May 2, 1998 at 7:45 A.M., a discharge of oily water from a transfer hose at Building R-30 was discovered and terminated, which resulted in a 300-gallon spill of oily bilge water onto dry land. The transfer hose was not secured to the standpipe, allowing discharge to the ground surface adjacent to the standpipe. The oily waste flowed through the railroad ballast to an area on the opposite side of the track. From there the oil waste flowed across the road, down an adjacent ditch into an open area where it was contained by a sand berm. Two oil booms were placed across the ditch. The liquid waste was immediately contained and removed and disposed of. The spill was reported to the NJDEP, Case Number 98-05-02-1300-56.

The Spill Area Map, Figure 2 is included in Attachment 1.

On May 2, 1998, Clean Ventures removed contaminated soil from the area opposite the rail tracks from the location of the original spill. The area excavated was approximately 12 ft by 12 ft by 1 ft deep. Soil was also removed in the area of the oil booms. These excavations were approximately 8 ft long by 2 ft wide by 1 ft deep. Visual observation and air monitoring equipment were used to define the limits of excavation.

Visual contamination is still evident in the area of the standpipe. The remaining pathway of the spill visually does not appear to be stained. The area of the spill is an active yard and relatively free of vegetation. Therefore no stressed vegetation is evident. The ground is generally a silty sand with a silt/clay content between 15 – 50 %.

Sampling result for the waste product, which was spilled, is included as Attachment 2. The sample results did not detect the presence of metals, chlorinated solvents, or pesticides. Low levels of Toluene, Ethyl Benzene, Xylenes and Styrene were detected. These levels on an analogous solid concentration basis were below NJ Non-Residential Direct Contact Cleanup

Standards for Soils.

1.2 OBJECTIVES

The objective of the remedial action is to remove the remaining contaminated soil, confirm removal of contamination in accordance with NJ Non-Residential Direct Contact Cleanup Standards for Soils, and restore the site. The NJ Clean up level for Total Petroleum Hydrocarbons (TPH) is 10,000 PPM. The Cleanup levels for individual hydrocarbon constituents are provided by the NJDEP.

2. DESCRIPTION OF ACTIVITIES

The following major activities will be performed:

- Remove visually contaminated soil.
- Perform confirmation sampling.
- Backfill excavated areas.

2.1 EXCAVATION AND STOCKPILING

FWENC will remove visually contaminated soil in the area of the standpipe using hand tools and mechanical equipment. The contaminated soil will be placed into a rolloff for offsite disposal.

2.2 CONFIRMATION SAMPLING

After completion of excavation, FWENC will collect one sample at the bottom of the contaminated area near the standpipe and one sample at the bottom of the 12 ft by 12 ft excavation area to verify that cleanup standards have been met. The samples will be analyzed for TPH and BTEX. The samples exceeding 1000 PPM TPH will be analyzed for Volatile Organics + 10 Non Targeted Organic Compounds (VO +10). Sampling will otherwise be performed in accordance with NJAC 7:26E-2.1(d) and 7:26E-6.4. For volatile organics bottom samples taken within 24 hours of excavation, samples shall be taken from the zero to six-inch interval at the excavation floor. Samples taken after 24 hours but prior to two weeks shall be taken at six to twelve inches. Sampling for VOC's will be in accordance with the NJ methanol preservation methodology.

2.3 SITE RESTORATION

Upon completion of contamination removal, FWENC will backfill the excavated areas.

3. SAMPLING AND ANALYSIS

3.1 OBJECTIVE

The objectives of the surface soil sampling program are to confirm removal of contamination in excavated areas and to confirm other suspect areas do not require contamination removal.

3.2 SAMPLE LOCATION AND PARAMETERS

Sample will be taken in the locations indicated in Section 2.2 . Sampling will be conducted in accordance with the NJDEP Field Sampling Procedures Manual. Sample locations will be biased to the location of greatest contamination.

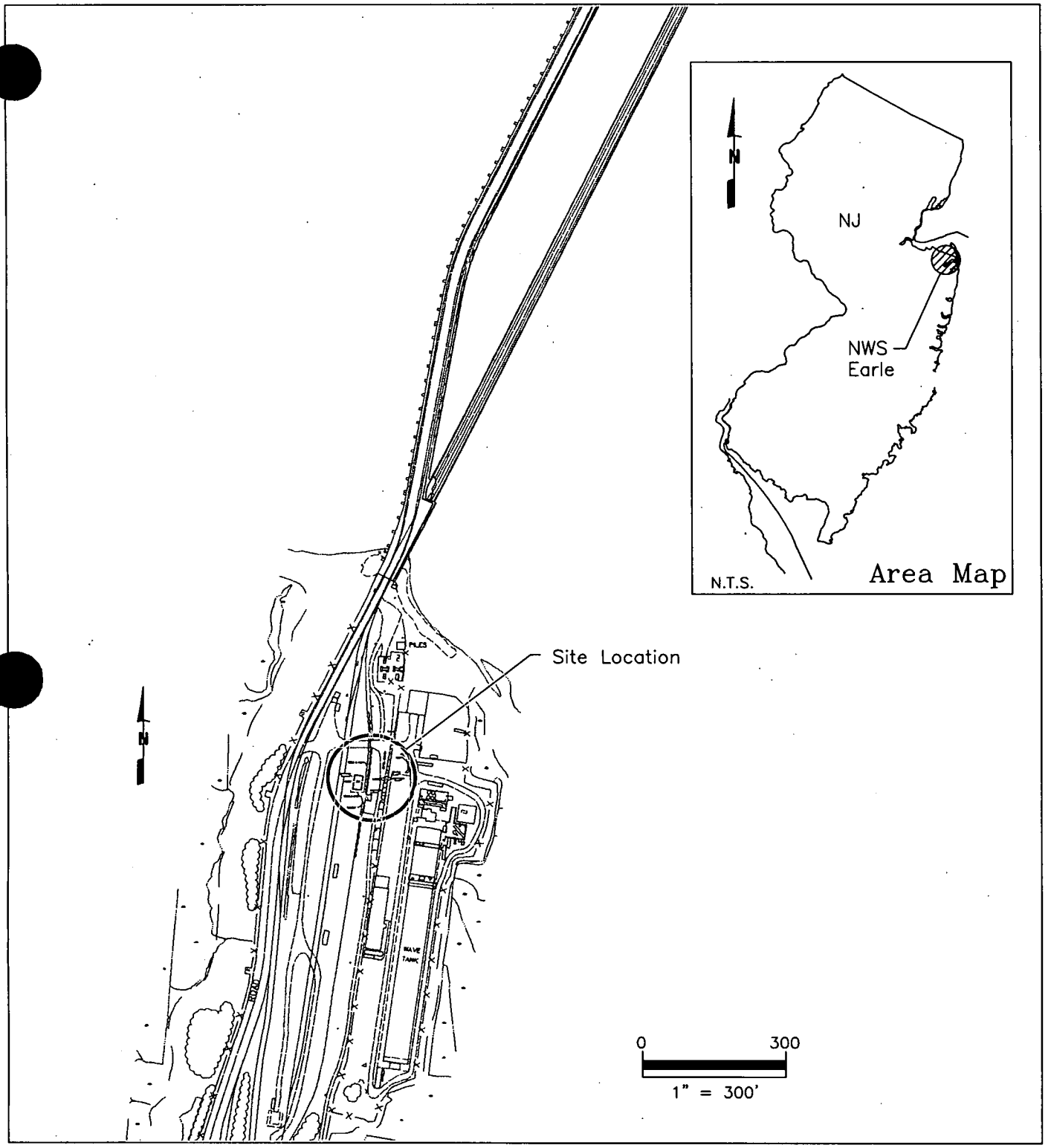
4. FINAL REPORT

A final engineering report will be written and finalized within 30 days of project completion and furnished to the Navy. The 30 days will commence on the first day after the final inspection has been completed and the work is accepted by the Navy. The final engineering report will contain the following items:

- Summary of Record Documents
- Discussion of Remediation Activities Performed
- Analytical Data
- Off-site Disposal Documentation
- Photographs

ATTACHMENT 1

SITE MAPS -FIGURES 1 AND 2



U.S. Navy RAC
Earle NWS, Colts Neck, NJ

Figure 1

Project Location Map

FOSTER WHEELER ENVIRONMENTAL CORPORATION

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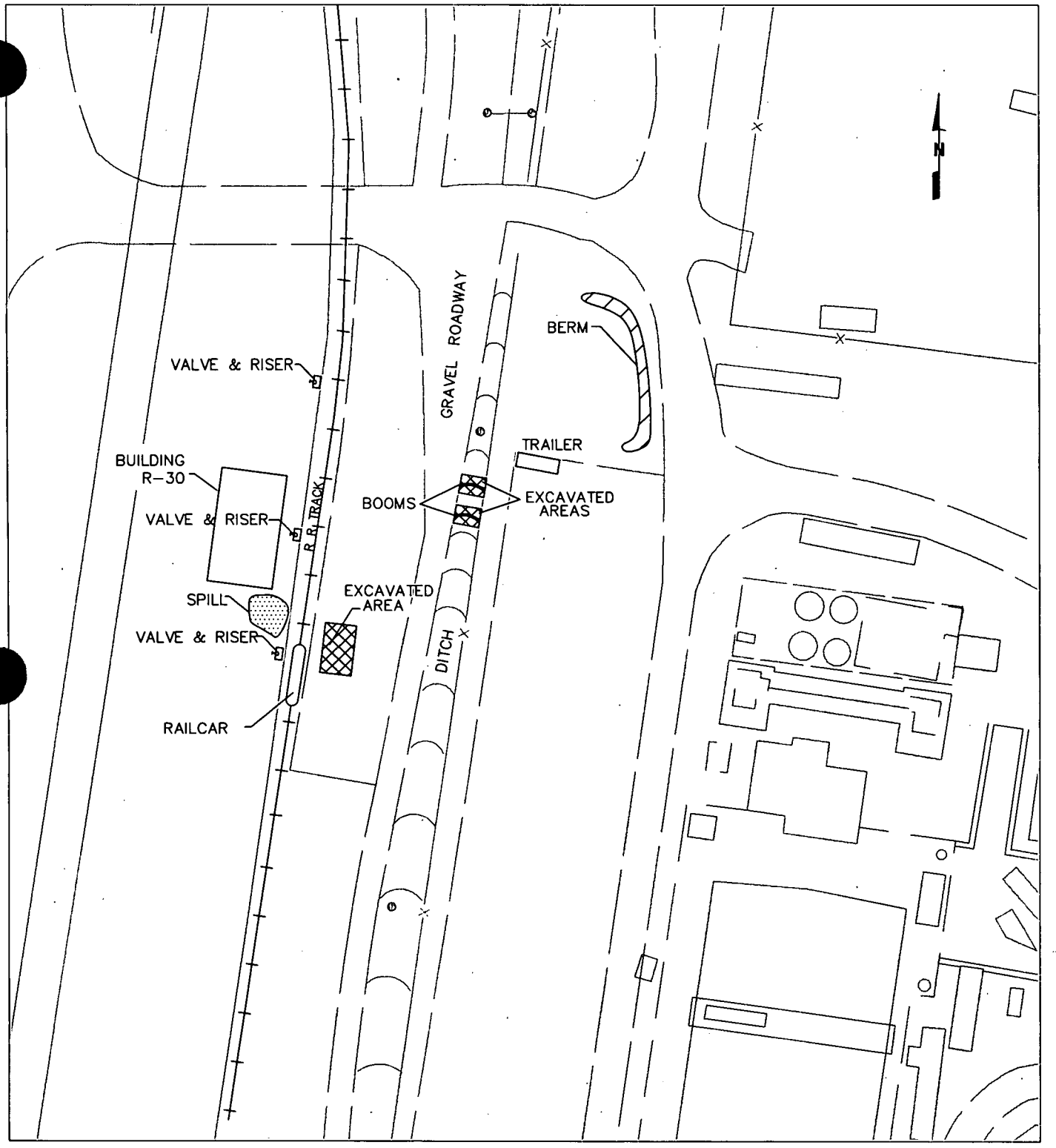

0 50 100

1" = 50'

U.S. Navy RAC
Earle NWS, Colts Neck, NJ

Figure 2

Waterside Spill Area Map

FOSTER WHEELER ENVIRONMENTAL C RPORATION

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ATTACHMENT 2

ANALYTIC RESULTS FOR WASTE OIL

CycleChem

Recycling Treatment & Disposal of Hazardous Waste

NJ State Certification No. 20109

May 11, 1998

ATTN: Mr. Anthony DeRosa
Clean Venture/Cycle Chem Inc.
201 S. First Street
Elizabeth, NJ 07206

RE: Earle Naval Station Spill(Job No. 7516-01-11)
CCI Lab Log No. LAR 6476

Dear Mr. DeRosa:

The subject sample was received at the CCI Laboratory on May 5, 1998. It consisted of an 100% brown organic liquid. The requested test results are as follows:

Test	Result	Method
Paint Filter	Liquid	SW-846, Mtd. #9095
Flashpoint	>141 deg F.	ASTM D93-80
pH	7	SW-846, Mtd. #9045
Cyanide spot	negative	Std. Mtd. 4500 CN, Part K.
Sulfide spot	negative	Std. Mtd. 4500 S
Reaction potential	none	Tested against acid, base, and water(40 CFR 261.123)

The results for the full TCLP and total volatiles analysis are attached as separate pages.

Please call me if there are any questions.

Sincerely,

Jim Marshall-Zank
Lab Manager

lar6476.ltr

201 South First Street, Elizabeth, NJ 07206 • 908-355-5800, FAX: 908-355-0562

CycleChem

Recycling Treatment & Disposal of Hazardous Waste

ATOMIC ABSORPTION RESULTS

CUSTOMER: Earle Naval Station
(Clean Venture Inc.)

REPORT DATE: 5/11/98

SAMPLE ID: LAR 6476

INITIAL:

Total Metals

ELEMENT	MDL(mg/kg)	RESULT(mg/kg)	DATE
Arsenic (As)	1.00	<1.00	5/7/98
Barium (Ba)	100.0	<100.0	5/11/98
Cadmium (Cd)	2.50	<2.50	5/8/98
Chromium (Cr)	10.00	<10.00	5/7/98
Lead (Pb)	25.00	<25.00	5/7/98
Mercury (Hg)	0.50	<0.50	5/8/98
Selenium (Se)	1.00	<1.00	5/7/98
Silver (Ag)	5.00	<5.00	5/8/98

The results are reported on a dry weight basis. Total metals were done because the matrix was organic.

Acid Digestion of Non-Aqueous or Solid Samples for Total Flame Metals and Graphite Furnace Metals; SW-846; Method 3050.

Metals by Flame Atomic Absorption Spectrometry; Barium: Method 3111D; Cadmium, Chromium, Lead, and Silver: Method 3111B; Standard Methods; 18th Ed.

Acid Digestion of Solid/Sludge Samples for Total Mercury; SW-846; Method 7471A.

Analysis of Total Mercury by Cold Vapor Atomic Absorption Spectrometric Method; Method 3112B; Standard Methods; 18th Ed.

Analysis of Total Metals by Electrothermal Graphite Furnace Atomic Absorption Spectrometry(GFAA); Arsenic and Selenium: Method 3113B; Standard Methods of Water and Wastewater, 18th Ed.

201 South First Street, Elizabeth, NJ 07206 • 908-355-5800, FAX: 908-355-0562

Quantex Laboratories
22 Dixie Garden Boulevard, Edison, New Jersey 08817 (908) 248-3505 FAX (908) 248-0913

TCLP Analytical Report

Client Name:	Cycle Chem Inc.	**Lab Project:**	980138
Client ID:	7516-01-11	**Lab Sample ID**	980138-01
Client Project:	LARJ-6476	**Report Date:**	5/12/98

Analysis	Results	Units	MCL	Detection Limit	Analyst	Analysis date
gamma-BHC (Lindane)	<0.002	mg/L	0.4	0.002	JM	5/12/98
Heptachlor & Heptachlor Epoxide	<0.005	mg/L	0.008	0.005	JM	5/12/98
Endrin	<0.001	mg/L	0.02	0.001	JM	5/12/98
Methoxychlor	<0.002	mg/L	10.0	0.002	JM	5/12/98
Chlordane	<0.003	mg/L	0.03	0.003	JM	5/12/98
Toxaphene	<0.05	mg/L	0.5	0.05	JM	5/12/98
2,4-D	<0.010	mg/L	10	0.01	JM	5/12/98
2,4,5-T	<0.010	mg/L	1.0	0.01	JM	5/12/98

U Compound was analyzed for but not detected. The number preceding the compound flag "U" is the minimum concentration level for the sample.
J Compound was detected, but is below the Practical Quantitation Limit, Quantitation is approximate.
E Compound concentration exceeded the method calibration curve. Results are reported as an estimated value.
* Less Than. The number following the "<" sign is the minimum concentration level for the sample.

Quantex Laboratories
21 Distribution Boulevard, Edison, New Jersey 08817 (908) 248-8230 FAX (908) 248-8912

TCLP Analytical Report

Client Name: Cycle Chem Inc.
Client ID: 7516-01-11
Client Project: LAR#-6476

Lab Project: 980138
Lab Sample ID 980138-01
Report Date: 5/12/98

Analysis	Results	Units	MCL	Detection Limit	Analyst	Analysis date
Vinyl Chloride	0.1U	mg/L	0.2	0.1	AM	5/11/98
1,1-Dichloroethene	0.1U	mg/L	0.7	0.1	AM	5/11/98
2-Butanone	0.1U	mg/L	200	0.1	AM	5/11/98
Chloroform	0.1U	mg/L	6.0	0.1	AM	5/11/98
Carbon Tetrachloride	0.1U	mg/L	0.5	0.1	AM	5/11/98
1,2-Dichloroethane	0.1U	mg/L	0.5	0.1	AM	5/11/98
Benzene	0.1U	mg/L	0.5	0.1	AM	5/11/98
Trichloroethene	0.1U	mg/L	0.5	0.1	AM	5/11/98
Tetrachloroethene	0.1U	mg/L	0.7	0.1	AM	5/11/98
Chlorobenzene	0.1U	mg/L	100	0.1	AM	5/11/98

W Compound was analyzed for but not detected. The number preceding the analytical flag "U" is the minimum detectable detection limit for the sample.
J Detected but not detected, but is below the Method Detection Limit/Practical Quantitation Limit. Quantitation is approximate.
E Compound concentration exceeded the analytical calibration curve. Results are reported as an estimated value.
A Less than.

Quantex Laboratories
21 Distribution Boulevard, Edison, New Jersey 08817 (908) 248-2338 FAX (908) 248-0713

TCLP Semi-volatile Organics

Client Name:	Cycle Chem Inc.	**Lab Sample ID:**	980138-01
Client Project:	LAR#-6476	**Analyst:**	AM
Client Sample ID:	7516-01-11	**GC/MS ID:**	B12630
Analysis Date:	5/6/98	**Analysis Time:**	21:04

Compound	Results	Units	Detection Limit
O-Cresol	0.04U	mg/L	0.04
M & P-Cresol	0.04U	mg/L	0.04
2,4,6-Trichlorophenol	0.04U	mg/L	0.04
2,4,5-Trichlorophenol	0.04U	mg/L	0.04
Pentachlorophenol	0.04U	mg/L	0.04
Nitrobenzene	0.04U	mg/L	0.04
1,4-Dichlorobenzene	0.04U	mg/L	0.04
2,4-Dinitrotoluene	0.04U	mg/L	0.04
Hexachlorobenzene	0.04U	mg/L	0.04
Hexachlorobutadiene	0.04U	mg/L	0.04
Hexachloroethane	0.04U	mg/L	0.04
Pyridine	0.04U	mg/L	0.04

U Compound was analyzed for but not detected. The number preceding the modified flag "U" is the minimum practical detection limit for the sample.
J Compound was detected, but is below the lowest calibration point. Actual concentration is approximate.
E Compound concentration exceeded the highest calibration point. Results are reported as an estimated value.

Quantex laboratories 25 Distribution Boulevard, Edison, New Jersey 08817 (908) 549-3336 FAX (908) 549-4918

Tabulated Analytical Report For TCL Volatile Organics

Client Name:	Cycle Chem Inc.	**Lab Sample ID:**	980138-01
Client Project:	LAB-6476	**Analyst:**	AM
Client Sample ID:	7516-01-11	**GC/MS ID:**	V3711
Analysis Date:	5/11/98	**Analysis Time:**	16:33

Compound	Results	Units	Detection Limit
Chloromethane	1111U	ug/L	1111
Bromomethane	1111U	ug/L	1111
Vinyl Chloride	1111U	ug/L	1111
Chloroethane	1111U	ug/L	1111
Acetone	1111U	ug/L	1111
Carbon Disulfide	1111U	ug/L	1111
Methylene Chloride	1111U	ug/L	1111
1,1 Dichloroethene	1111U	ug/L	1111
trans 1,2 Dichloroethene	1111U	ug/L	1111
cis 1,2 Dichloroethene	1111U	ug/L	1111
2 Butanone	1111U	ug/L	1111
Vinyl Acetate	1111U	ug/L	1111
4 Methyl 2 pentanone	1111U	ug/L	1111
1,1 Dichloroethane	1111U	ug/L	1111
Chloroform	1111U	ug/L	1111
1,1,1 Trichloroethane	1111U	ug/L	1111
Carbontetrachloride	1111U	ug/L	1111
1,2 Dichloroethane	1111U	ug/L	1111
Bromodichloromethane	1111U	ug/L	1111
1,2 Dichloropropane	1111U	ug/L	1111
trans 1,3 Dichloropropene	1111U	ug/L	1111
cis 1,3 Dichloropropene	1111U	ug/L	1111
Trichloroethylene	1111U	ug/L	1111
Dibromochloromethane	1111U	ug/L	1111
1,1,2 Trichloroethane	1111U	ug/L	1111
Benzene	1111U	ug/L	1111
2 Chloroethyl Vinyl Ether	1111U	ug/L	1111
Bromoform	1111U	ug/L	1111
Tetrachloroethylene	1111U	ug/L	1111
1,1,2,2 Tetrachloroethane	1111U	ug/L	1111
Toluene	54220	ug/L	1111
Chlorobenzene	1111U	ug/L	1111
Ethyl Benzene	100937	ug/L	1111
M&P Xylenes	113130	ug/L	1111
O Xylene	202960	ug/L	1111
2 Hexanone	1111U	ug/L	1111
Styrene	6642	ug/L	1111

U Compound was analyzed for but not detected. The number preceding the analytical flag "U" is the minimum reliable detection limit for the sample.
J Concentration detected, but is below the Method Detection Limit/Practical Quantitation Limit. Quantitation is approximate.
E Compound concentration exceeded the method calibration range. Results are reported as an estimated value.