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REMEDIAL ACTION REPORT FOR SOIL EXCAVATION AT SITE 12, FORMER BATTERY STORAGE AREA

NAVAL WEAPONS STATION – EARLE COLTS NECK, NEW JERSEY

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FOR SOIL EXCAVATION AT SITE 12,
FORMER BATTERY STORAGE AREA

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1.0 INTRODUCTION

Foster Wheeler Environmental Corporation (Foster Wheeler Environmental) was contracted by the Northern Division, Naval Facilities Engineering Command (NORDIV) to excavate contaminated soils at Site 12 - Former Battery Storage Area, at the Naval Weapons Station (NWS) Earle, located in Colts Neck, NJ. This Close-Out Report is being submitted to satisfy the post-construction submittal requirements included in paragraph 1.2.1, Pre- and Post-Construction Documentation of the Statement of Services for Delivery Order No. 0034 under Remedial Action Contract No. N62472-94-D-0398.

1.1 PROJECT OBJECTIVES

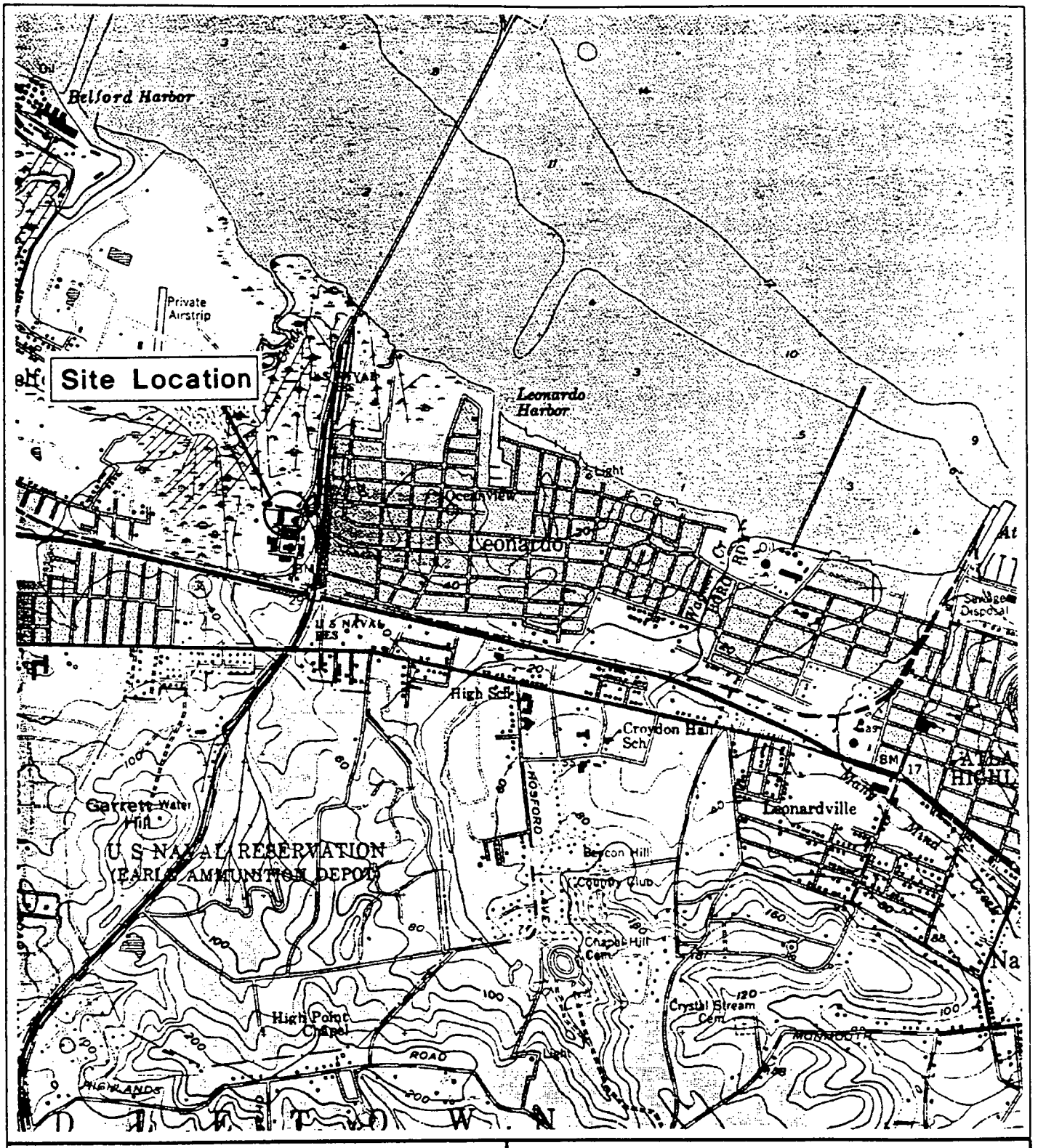
The project objective was the excavation, removal, and disposal of contaminated soils, sample collection to demonstrate that New Jersey Department of Environmental Protection (NJDEP) Residential Clean-Up Standards have been met, and restoration of the site after excavation. Removal of the impacted soils shall minimize the potential migration/mobilization of the contaminants to surface water, groundwater, and soils at the site. All work was completed in accordance with all applicable federal, state, and local regulations.

2.0 PROJECT LOCATION AND DESCRIPTION

Naval Weapons Station Earle (NWS-Earle) is located in Monmouth County in east-central New Jersey. The base consists of a Mainside area and a Water Front area occupying a total of approximately 11,134 acres. The Mainside of the base is located approximately 10 miles inland from the Atlantic Ocean. The Mainside and the Waterfront areas of the base are linked by a narrow tract of land that serves as a right-of-way for a government road and railroad line.

NWS Earle is responsible for furnishing ammunition to the naval fleet, and coordinates all port services and logistical support for home-ported and visiting ships. The base also conducts safety inspections, supervises ammunition loading for the United States Coast Guard, and provides marine fire fighting capability and standby tug services.

Site 12 is located at the Waterfront area of the NWS-Earle Base, as presented in Figure 2-1. The Waterfront consists of an ammunition depot and associated piers for loading and servicing the naval fleet. Site 12 is located adjacent to the loading dock north of Building R-10. The site layout of Site 12 – Former Battery Storage Area is shown as Figure 2-2.



0 2000 4000 FT

Source: U.S.G.S. Topographic Maps (7.5 Minute)
Sandy Hook, NJ Quadrangle

QUADRANGLE LOCATION

NWS – Earle

Colts Neck, N.J.

Figure 2–1
Site Location Map

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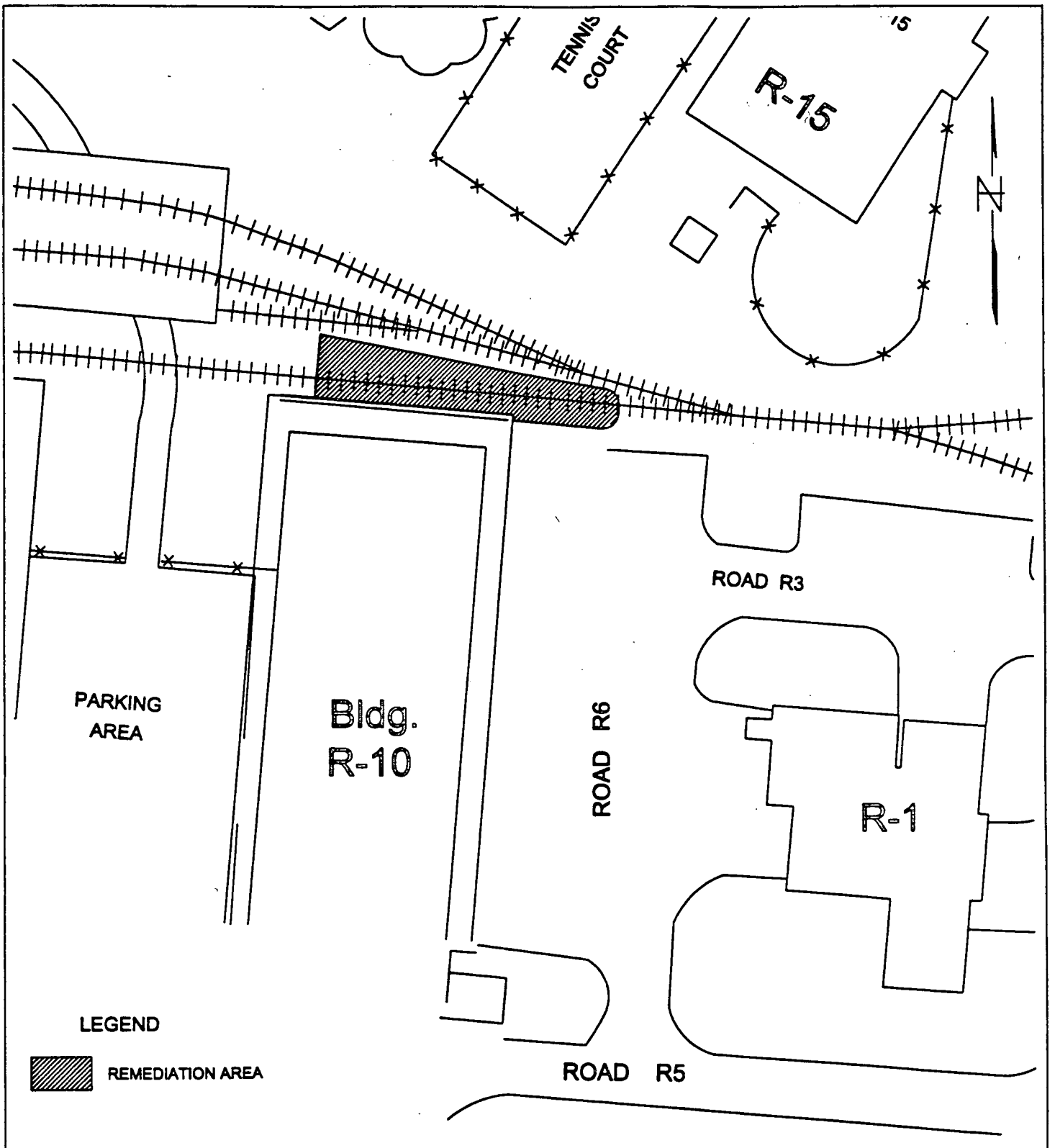

0 50 100
SCALE IN FEET

Source: Brown & Root Environmental, RI Report.

U.S. Navy RAC
NWS - Earle

Figure 2-2
Site 12 Battery Storage Area
Site Layout Map

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Site 12 was used as a temporary staging area for forklift batteries. The storage area encompassed an area of approximately 10,000 square feet. The area has not been in use for battery storage for some time. There was no visible source of contamination, such as staining or stressed vegetation.

2.1 PREVIOUS INVESTIGATIONS

Brown and Root Environmental conducted a Remedial Investigation of the Site 12 in 1996. Surface soils were obtained between the loading dock, on the northern side of Building R-10, and the railroad tracks. The soil samples were collected from 0 to six-inches below grade. The three soil samples were analyzed for total compound list (TCL) volatile organic compounds (VOCs), TCL semivolatile compounds (SVOCs), TCL pesticides/PCBs, and total analyte list (TAL) metals. The laboratory analyses of the surface soils revealed concentrations of SVOCs and inorganics above the NJDEP Residential Direct Contact Cleanup Criteria.

Brown and Root Environmental conducted additional sampling at Site 12, and submitted an Addendum to the RI. This sampling included the collection of an additional surface soil sample (12SS04) to the west of surface soil sample 12SS03, in order to delineate the western extent of contamination. Soil borings were also advance during the additional field work to delineate the vertical extent of the metals contamination. Four soil borings were advanced to a depth of approximately 3 feet below grade at surface soil sample locations, and four subsurface soil samples were analyzed for (TAL) metals. The laboratory analyses of the subsurface soil samples revealed that the concentrations of metals at 3 feet below grade were below all NJDEP Residential Clean-Up Criteria. Appendix A contains a summary of all the analytical data collected for the RI, and the Addendum to the RI.

3.0 REMEDIAL ACTIVITIES

3.1 COLLECTION OF ADDITIONAL DELINEATION SAMPLES

As part of Foster Wheeler Environmental's remedial action, two additional soil samples (12SS04 and 12SS05) were obtained north of the railroad tracks at Site 12. The additional delineation samples were obtained in order to determine the northern extent of the remediation. The soil samples were analyzed for Metals and SVOCs. The laboratory analytical results of soil sample 12SS04 contained arsenic at a concentration above the NJDEP Residential Cleanup Criteria of 20 mg/kg. The width of the excavation was extended north to include the area encompassing the 12SS04 sample areas. Table 3-1 summarized the laboratory analytical data of the additional delineation samples. Appendix B contains the laboratory analyses of these two samples.

3.2 WASTE CHARACTERIZATION

Following the additional delineation, waste characterization sampling was performed to characterize the soils for off-site transportation and disposal. Foster Wheeler Environmental collected three waste characterization samples (12WC01, 12WC02, 12WC03) from the area prior to excavation in order to evaluate the soils for off-site disposal. Soil sample 12WC01 was analyzed for Full TCLP, PCBs and RCRA Characteristics. Soil samples 12WC02 and 12-WC03 were analyzed for Full TCLP. The three soil samples, with the exception of the volatile fractions, were composited over the area of known contamination. The samples were collected with a decontaminated stainless steel auger at depths of 0 to 2 feet below grade. Each sample was composited from 5 separate locations. The volatile samples were collected as discrete grab samples. Appendix C contains the laboratory analyses of the waste characterization soil samples. Based on the laboratory results of the waste characterization samples, the soils were classified as non-hazardous.

The Navy and the disposal facility requested that additional waste characterization samples be obtained once the soils were stock-piled. Three additional waste characterization samples (12WC07, 12WC08 and 12WC09) were obtained from the stock-piled soils after excavation at Site 12. Each soil sample was composited from three locations in the stock-piled soils. A stainless steel hand auger was used to obtain composite samples from the middle of the piles. All three samples were analyzed to TCLP Metals and Total Petroleum Hydrocarbons (TPH). Sample 12WC07 was also analyzed for VOCs. The volatile organic compounds fraction for 12WC07 was collected from one location (not composited) to minimized volatilization. This sample was biased towards the oil-stained cinder excavated from the site. Appendix C contains the laboratory analyses of the waste characterization soil samples.

As per the laboratory analytical results of the soil samples obtained during the RI, samples taken of the stock-piled soils, and the pre-excavation waste characterization samples, the waste soil was classified as non-hazardous soil, contaminated with petroleum hydrocarbons and metals.

3.3 EXCAVATION OF CONTAMINATED SOIL

The contaminated soil from Site 12 was excavated with a Case 580 backhoe. Appendix D contains the Photo Log of site activities. The soils were excavated and stock-piled on plastic, and covered over with plastic at the end of each working day. The area around the excavation was secured with a temporary fence to prevent entrance to the exclusion zone.

Table 3-1
Site 12
Additional Delineation Sample Results

SAMPLE ID	Residential	12SS04		12SS05	
DATE COLLECTED	Direct Contact	8/3/1999		8/3/1999	
LOCATION	Soil Cleanup	SITE 12		SITE 12	
MATRIX	Criteria	soil		soil	
UNITS	mg/Kg	mg/Kg		mg/Kg	
COMMENTS		0-2' BGS		0-2' BGS	
Aluminum	NA	5780		9820	
Antimony	14	0.94	B	1.8	B
Arsenic	20	**26.6**		17.1	
Barium	700	20.7	B	72.5	
Beryllium	1	0.57		1.0	
Cadmium	1	0.11	U	0.11	U
Calcium	NA	1030		3190	
Chromium	240	30.6		36.2	
Cobalt	NA	3.4	B	5.1	B
Copper	600	20.4		42.3	
Iron	NA	27,600		38,000	
Lead	400	22.9		126	
Magnesium	NA	872		2160	
Manganese	NA	72.2		82.4	
Mercury	14	0.11	U	0.13	
Nickel	250	3.0	B	7.8	
Potassium	NA	1690		4250	
Selenium	63	0.53	U	0.55	U
Silver	110	0.11	U	0.17	B
Sodium	NA	154	B	318	B
Thallium	2	0.74	U	0.77	U
Vanadium	370	35.6		28.2	
Zinc	1500	42		95.5	

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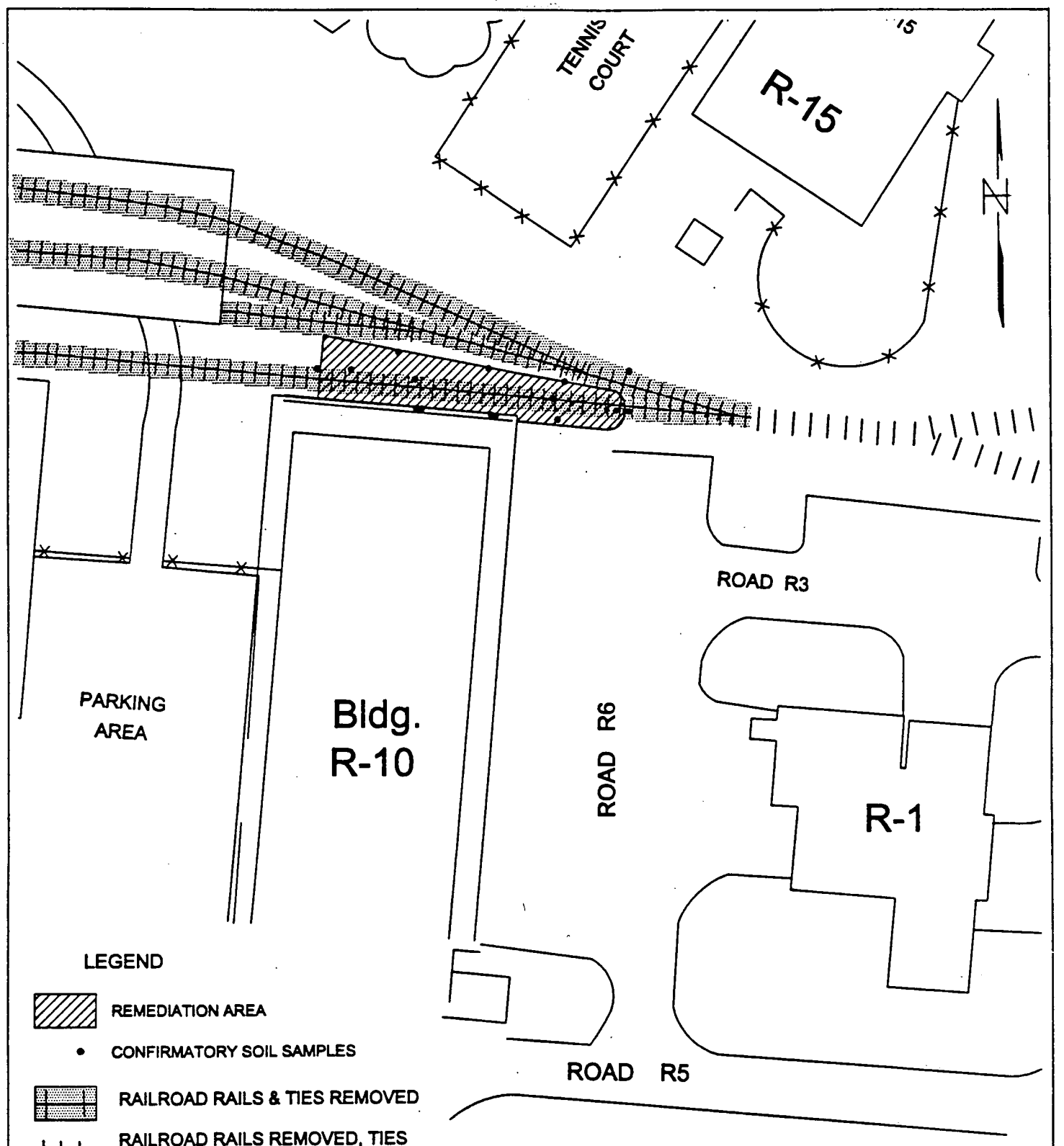
Based on the existing analytical results, the area of concern north of Building R-10 was initially excavated to a depth of approximately 1.5 to 2-feet below grade. Three separate excavation activities were conducted to ensure that all soils at the site were excavated to concentrations below the NJDEP Residential Cleanup Criteria. The following sections detail each excavation activity, and the confirmatory soil samples collected.

3.3.1 Initial Excavation Activities

The initial excavation at Site 12 occurred on October 20 and 21, 1999, to remove soils contaminated with Semi-Volatile Organic Compounds (SVOCs) and Metals. During the initial excavation activities, petroleum hydrocarbon contamination was detected at Site 12. Petroleum hydrocarbons were not identified as contaminants of concern during the RI. The Navy was notified and agreed that the confirmatory samples should also be analyzed for Total Petroleum Hydrocarbons-Diesel Range Organics (TPH-DRO). The samples were analyzed for diesel range organics due to the odor of the soil and the location of a former heating oil underground storage tank in the area. During the removal of soils adjacent to the loading dock of Building R-10, pipe outfalls were uncovered approximately 1.5 to 2 feet below grade. The three-inch diameter terra cotta pipes ended flush with the dock. The function of these pipes was not determined. Building R-10 is apparently a newer building that was built upon a former building slab. The pipes may have been associated with the former building at this location. The soils beneath the drain outfall located on the northeastern corner of the loading dock were stained with petroleum. Additional soils were excavated in the area of this pipe to remove all the petroleum contamination. The soils in the area of the northern pipe were excavated to a depth of approximately 4.5 feet below grade. Petroleum contamination was also noted in the cinders underlying the former railroad tracks, north of Building R-12. The petroleum contamination appeared to be limited to the cinders, and was not observed to extend deeper into the underlying silty sand and clay. The petroleum-contaminated cinders were excavated along with the other soils at the site.

On October 20 and 21, eleven confirmatory soil samples (12SS07-99-1 through 12SS17-99-1) and one duplicate sample (12SS11D-99-1) were collected from the initial excavation at Site 12. Based on NJDEP Final Regulations, one confirmatory sample was taken from each side-wall for every 30 linear feet of side-wall and one sample was be taken from the excavation bottom for every 900 square feet of bottom area. Eight side-wall samples were collected from 0 to 6 inches into the soil bank, approximately midway up the side-wall. Five samples (0-6 inches deep),including the duplicate sample, were collected at regularly-spaced intervals from the bottom of the excavation. If any visible staining or odor was present, samples were biased towards these areas. Figure 3-1 depicts the area of remediation at Site 12. Figure 3-2 depicts the confirmatory soil sample locations. Table 3-2 summarizes the soil sample descriptions of the confirmatory samples.



Source: Brown & Root Environmental, RI Report.

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Figure 3–1
Site 12 Battery Storage Area
Area of Remediation

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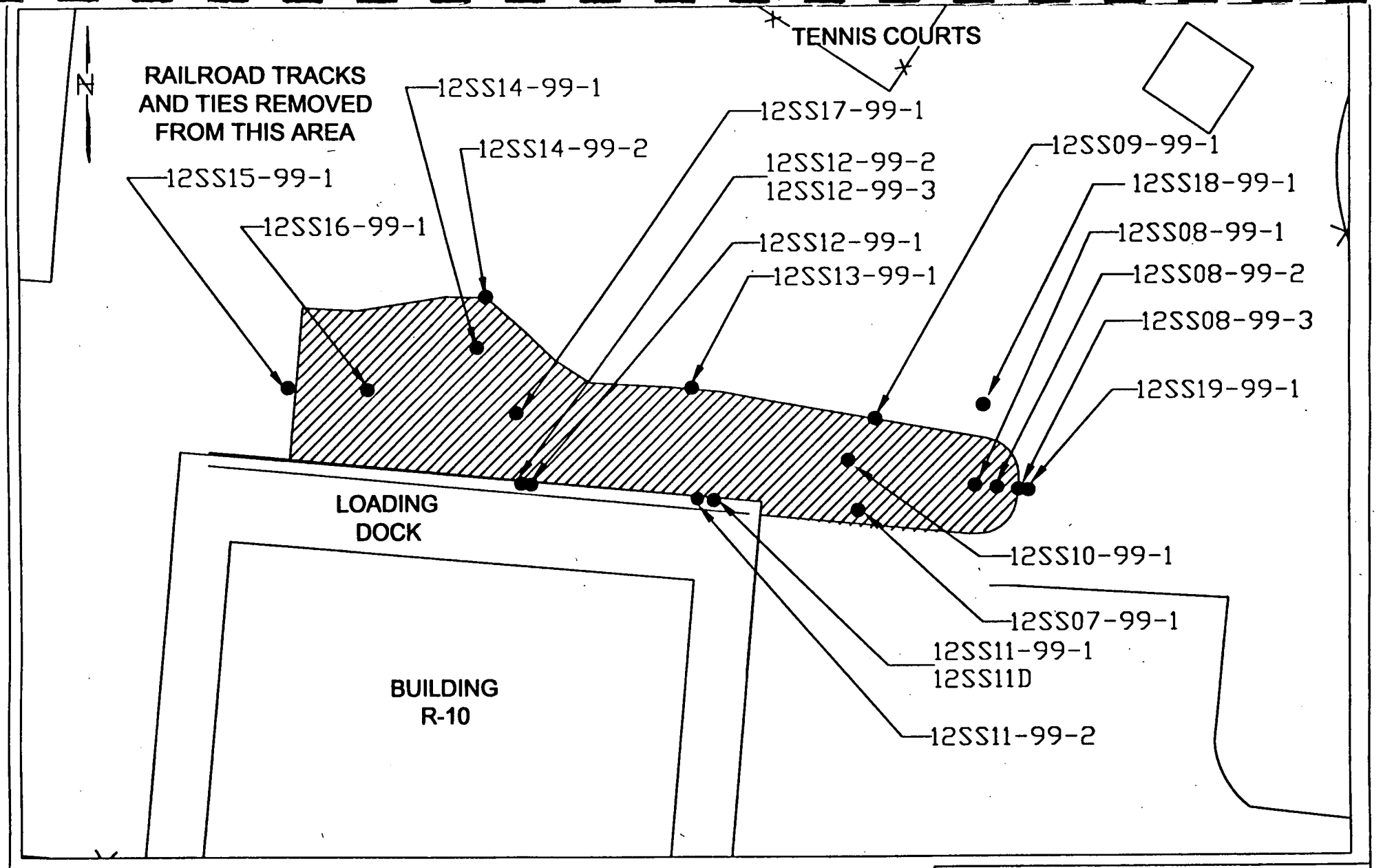

20 0 20 40

Scale in feet

U.S. Navy RAC
NWS – Earl

Figure 3-2
Sit 12 Battery St rage Ar a
Confirmatory Soil Sampling L cations

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Table 3-2
NWS-Earle
Site 12: Soil Sample Description

SAMPLE ID	date collected	time	SAMPLE TYPE	APPROXIMATE DEPTH (feet below original grade)	SOIL DECRIPTION
12SS07-99-1	10/20/99	1420	SIDEWALL	1.5	Brown silty sand with minor clay
12SS08-99-1	10/20/99	1430	SIDEWALL	1.5	Black cinders, petroleum odor
12SS09-99-1	10/20/99	1435	SIDEWALL	1.5	Black cinders
12SS10-99-1	10/20/99	1445	BOTTOM	3.0	Brown silty fine sand
12SS11-99-1	10/21/99	905	BOTTOM	4.5	Brown silty sand with minor clay
12SS11D-99-1	10/21/99	905	BOTTOM	4.5	Blind duplicate
12SS12-99-1	10/21/99	915	SIDEWALL	2	Brown clay and sand
12SS13-99-1	10/21/99	900	SIDEWALL	1.5	Brown silty sand and clay
12SS14-99-1	10/21/99	1150	SIDEWALL	1.5	Brown silty sand
12SS15-99-1	10/21/99	1325	SIDEWALL	2.0	Brown silty sand with some black cinders
12SS16-99-1	10/21/99	1330	SIDEWALL	1.5	Black cinders, petroleum odor
12SS17-99-1	10/21/99	925	BOTTOM	2.0	Brown clay and silty sand
12SS18-99-1	10/21/99	1115	delineation	1.5-2.0	Black cinders with silty fine sand, no odor
12SS19-99-1	10/21/99	1130	delineation	1.5-2.0	Black cinders with petroleum odor
12SS08-99-02	11/2/99	10:15	SIDEWALL	2.5	Light brown, silty sand with some clay
12SS11-99-02	11/2/99	10:48	BOTTOM	4.0	Dense, dark-gray clay
12SS12-99-02	11/2/99	11:05	SIDEWALL	4.0	Dense, dark-gray clay
12SS14-99-02	11/2/99	11:20	SIDEWALL	2.0	Brown silty fine sand
12SS08-99-03	11/9/99	13:45	SIDEWALL	3.0	Brown sand with some clay, slight petroleum odor
12SS12-99-03	11/9/99	14:40	SIDEWALL	5.0	Dense, dark-gray clay

Samples were collected from 0 to 6 inches deep with a decontaminated stainless steel hand trowel. The soil was homogenized in a stainless steel bowl and then placed into the laboratory-prepared bottles. The bottles were labeled appropriately, and logged in a field logbook and on the laboratory chain of custody.

Confirmatory samples were analyzed for TCL SVOCs, TAL Metals and TPH-DRO and the results were compared to the NJDEP Residential Direct Contact Soil Cleanup Criteria (NJDEP Cleanup Criteria). The laboratory analytical results of all the samples were below the NJDEP Cleanup Criteria, with the exception of several samples, which contained concentrations of arsenic above the criteria. Table 4-1 and Table 4-2 summarize the SVOC and Metals data, respectively.

The arsenic concentrations detected in soil samples SS08-99-1, SS11D-99-1, SS12-99-1, and SS14-99-1 ranged from 22.9 to 32.0 ppm, and were in exceedance of the NJDEP Cleanup Criteria of 20 ppm for arsenic.

All initial confirmatory sample results were below the NJDEP Cleanup Criteria for TPH of 10,000 ppm. However, Sample 12SS08-99-1 had a TPH concentration of 1,100 ppm. Table 4-3 summarizes the TPH concentrations of the confirmatory soil samples.

3.3.2 Secondary Excavation Activities

Based on the first round of laboratory analytical results of the post excavation samples, additional excavation activities occurred at Site 12 on November 2, 1999. The areas around sample locations SS08-99-1, SS11-99-1, SS12-99-1, and SS14-99-1 were re-excavated and additional confirmatory soil samples were obtained and analyzed for metals. One soil sample was also obtained for Volatile Organic Compounds (VOCs). As per the New Jersey Technical Requirements for Site Remediation, a sample must be collected and analyzed for VOCs if a sample from the location in question exceeds 1,000 ppm for TPH. Since the laboratory analysis of Sample 12SS08-99-1 contained a TPH concentration of 1,100 ppm, the confirmatory soil sample collected after re-excavation was also analyzed for VOCs. The area at 12SS08 was excavated horizontally an additional 6-feet to the east, and vertically down to a depth of approximately 2 feet. The area of 12SS11-99-01 was excavated from the original 2 feet depth to 4 feet below grade. The area of 12SS12-99-01 was excavated from the original 2.5 feet depth to 4 feet below grade. The area of 12SS14-99-01 was excavated an additional 2 feet to the north at the original depth of 2 feet.

The second round of confirmatory soil samples were obtained after the additional excavation activities were complete. The soil samples were labeled to depict the second round sampling at that location (i.e., 12SS08-99-02). The ...99-02 portion of the sample identifier signifies that this was the second sample taken at this location. The second round of confirmatory samples were analyzed for TAL Metals. Two of the four areas re-excavated and sampled still revealed concentrations of arsenic in excess of the NJDEP Cleanup Criteria. Soil sample 12SS12-99-02 contained arsenic at a concentration of 27.67 ppm, and soil sample 12SS08-99-02 contained arsenic at a concentration of 25.69 ppm. Table 4-4 summarizes the metals

concentrations of the second round of confirmatory soil samples. The NJDEP Cleanup Criteria for arsenic is 20 ppm. The analytical results from the other two areas re-excavated and sampled did not exceed the NJDEP Cleanup Criteria.

The VOC analyses of soil sample 12SS08-99-02 revealed no detected concentrations of volatile organics. This area was sampled for VOCs because the original confirmatory soil sample (12SS08-99-01) had a TPH concentration greater than 1,000 ppm. Appendix A contains the complete laboratory data sheet.

3.3.3 Tertiary Excavation Activities

Based on the second round of laboratory analytical results of the post excavation samples, additional excavation activities occurred at Site 12 on November 9, 1999. The areas around soil sample locations 12SS08-99-2 and SS12-99-2 were re-excavated, and additional confirmatory soil samples were obtained and analyzed for metals. The area around 12SS08 was excavated another 8 feet to the east, and a total of approximately 3 feet below grade. The area around 12SS12 was excavated to a total depth of approximately 5 feet below original grade.

The third round of confirmatory soil samples were obtained after the additional excavation activities were complete. The soil samples were labeled to depict the second round sampling at that location (i.e.,12SS08-99-03). The ...99-03 portion of the sample identifier signifies that this was the third sample taken at this location. The third-round of confirmatory samples (12SS08-9903 and 12SS12-99-03) were analyzed for TAL Metals. The laboratory results of samples taken in both re-excavated areas revealed concentrations of arsenic, and all other metals, below the NJDEP Cleanup Criteria. Table 4-5 summarizes the metals concentrations of the third-round confirmatory soil samples.

4.0 LABORATORY ANALYTICAL RESULTS

The site-specific Standard Operating Procedures and laboratory analyses methods outlined in the approved Work Plan were used for the sampling and analysis procedures. Any modifications necessary to these SOPs, due to field conditions or other unforeseen situations were recorded in the site logbook, documented on the appropriate Change Request Forms (CRF) by site personnel, and approved by the Senior Project Engineer/Manager and the Navy. The only change in scope from the original approved Work Plan was the additional laboratory analyses of the soil samples for TPH, which was approved by the Navy utilizing the appropriate CRF.

The sample tracking system outlined in the approved Work Plan was used to label and track all samples.

4.1 CONFIRMATORY SOIL SAMPLES

In accordance with the approved Work Plan, confirmatory soil samples were collected from the excavation side-walls and base in order to verify that the contaminants of concern were excavated to concentrations below the NJDEP Residential Cleanup Criteria. All samples were sent to ChemTech Laboratory, in Englewood, New Jersey. The initial confirmatory soil samples were analyzed for TAL metals and TCL SVOCs. Since petroleum contamination was encountered during the excavation, the first-round of confirmatory soil samples were also analyzed for TPH-DRO. Tables 4-1 through 4-3 summarize the analytical results of the first round of confirmatory soil samples. Appendix E contains the laboratory analyses of the confirmatory soil samples.

After the initial excavation, two additional soil excavation and sampling events were conducted in order to ensure soils all soils with concentrations of arsenic above the NJDEP Cleanup Criteria were removed. Since arsenic was the only contaminant of concern for the two additional soil excavations, the second and third-round of confirmatory soil samples were only analyzed for TAL metals. Tables 4-4 and 4-5 summarize the analytical results of the second and third round of confirmatory soil samples. Appendix E contains the laboratory analyses of the confirmatory soil samples.

4.2 BLANK SAMPLES

In accordance with the approved Work Plan, field blank samples were obtained in the field and analyzed at the laboratory. The objective of rinse blank sampling was to ensure that the proper quality assurance and quality control procedures were used during the collection of the confirmatory soil samples. De-ionized water was poured over the decontaminated soil collection devices (trowel and hand auger), and the water was collected in a decontaminated stainless steel bowl under the sampling device. The water was then transferred from the stainless steel bowl to the appropriate sample container. The field blank was collected by pouring de-ionized water from the source bottle to a laboratory prepared bottle. The field blank is used to determine is site atmospheric conditions could possibly contaminate the samples. The field blank sample for the volatile organics is used to determine if any outside source of contamination effected the sample bottleware from the lab to the site, and the return to the lab. The laboratory analyses of the field blank (FB-01), rinsate blank (RB-01) and trip blank sample (Trip Blank-1) ensured that there was no cross-contamination associated with the sampling procedures at the site. Appendix E contains the laboratory analyses, which includes the field blanks.

TABLE 4-1
NWS-EARLE
Site 12: 1st Round Confirmatory Soil Sample Analytical Results
TCL Semi-Volatile Organic Compounds

SAMPLE ID			12SS13-99-1		12SS14-99-1		12SS15-99-1		12SS16-99-1		12SS17-99-1	
LAB ID	**Residential**		88442		88443		88444		88445		88446	
DATE COLLECTED	**Direct Contact**		10/21/99		10/21/99		10/21/99		10/21/99		10/21/99	
LOCATION	**Soil Cleanup**		SIDEWALL		SIDEWALL		SIDEWALL		SIDEWALL		BOTTOM	
MATRIX	**Criteria**		soil		soil		soil		soil		soil	
UNITS	**mg/Kg**		mg/Kg		ug/Kg		mg/Kg		mg/Kg		mg/Kg	
DEPTH BGS (ft)			1.5		1.5		2.0		1.5		2.0	
COMMENTS			POST-EX		POST-EX		POST-EX		POST-EX		POST-EX	
Acenaphthene	**10,000**		ND		ND		ND		ND		ND	
2,4-Dinitrophenol	**110**		ND		ND		ND		ND		ND	
4-Nitrophenol	**NA**		ND		ND		ND		ND		ND	
Dibenzofuran	**NA**		ND		ND		ND		ND		ND	
2,4-Dinitrotoluene	**1**		ND		ND		ND		ND		ND	
Diethylphthalate	**10,000**		ND		ND		ND		ND		ND	
4-Chlorophenyl-phenylether	**NA**		ND		ND		ND		ND		ND	
Fluorene	**2,300**		ND		ND		ND		ND		ND	
4-Nitroaniline	**NA**		ND		ND		ND		ND		ND	
4,6-Dinitro-2-methylphenol	**NA**		ND		ND		ND		ND		ND	
N-Nitrosodiphenylamine	**140**		ND		ND		ND		ND		ND	
4-Bromophenyl-phenylether	**NA**		ND		ND		ND		ND		ND	
Hexachlorobenzene	**0.66**		ND		ND		ND		ND		ND	
Pentachlorophenol	**6**		ND		ND		ND		ND		ND	
Phenanthrene	**NA**		ND		ND		ND		ND		0.20	
Anthracene	**10,000**		ND		ND		ND		ND		ND	
Carbazole	**NA**		ND		ND		ND		ND		0.086	
Di-n-butlyphtalate	**5,700**		ND		ND		ND		ND		ND	
Fluoranthene	**2,300**		ND		ND		0.079		ND		0.22	
Pyrene	**1,700**		ND		ND		0.11		ND		0.17	
Butlybenzylphthalate	**1,100**		ND		ND		ND		ND		ND	
3,3'-Dichlorobenzidine	**2**		ND		ND		ND		ND		ND	
Benzo(a)anthracene	**0.9**		ND		ND		0.06		ND		ND	
Chrysene	**9**		ND		ND		0.14		ND		0.07	
bis(2-Ethylhexyl)phthalate	**NA**		ND		ND		ND		ND		ND	
Di-n-octylphthalate	**1,100**		ND		ND		ND		ND		ND	
Benzo(b)fluoranthene	**0.9**		ND		ND		ND		ND		ND	
Benzo(k)fluoranthene	**0.9**		ND		ND		ND		ND		ND	
Benzo(a)pyrene	**0.66**		ND		ND		ND		ND		ND	
Indeno(1,2,3-cd)pyrene	**0.9**		ND		ND		ND		ND		ND	
Dibenz(a,h)anthracene	**0.66**		ND		ND		ND		ND		ND	
Benzo(g,h,I)perylene	**NA**		ND		ND		ND		ND		ND	
TOTAL TICs	**NA**	J	8.07	J	16.74	J	10.76	J	0.17	J	3.05	J

ND-concentration below the detection limit
J-estimated concentration
NA-not applicable

TABLE 4-1
NWS-EARLE
Site 12: 1st Round Confirmatory Soil Sample Analytical Results
TCL Semi-Volatile Organic Compounds

SAMPLE ID		12SS13-99-1	12SS14-99-1	12SS15-99-1	12SS16-99-1	12SS17-99-1
LAB ID	**Residential**	88442	88443	88444	88445	88446
DATE COLLECTED	**Direct Contact**	10/21/99	10/21/99	10/21/99	10/21/99	10/21/99
LOCATION	**Soil Cleanup**	SIDEWALL	SIDEWALL	SIDEWALL	SIDEWALL	BOTTOM
MATRIX	**Criteria**	soil	soil	soil	soil	soil
UNITS	**mg/Kg**	mg/Kg	ug/Kg	mg/Kg	mg/Kg	mg/Kg
DEPTH BGS (ft)		1.5	1.5	2.0	1.5	2.0
COMMENTS		POST-EX	POST-EX	POST-EX	POST-EX	POST-EX
Phenol	**10,000**	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	**0.66**	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	**NA**	ND	ND	ND	ND	ND
2-Chlorophenol	**280**	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	**5,100**	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	**5,100**	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	**570**	ND	ND	ND	ND	ND
2-Methylphenol	**2,800**	ND	ND	ND	ND	ND
3+4-Methylphenols	**2,800**	ND	ND	ND	ND	ND
n-Nitroso-di-n-propylamine	**0.66**	ND	ND	ND	ND	ND
Hexachloroethane	**6**	ND	ND	ND	ND	ND
Nitrobenzene	**28**	ND	ND	ND	ND	ND
Isophorone	**1,100**	ND	ND	ND	ND	ND
2-Nitrophenol	**NA**	ND	ND	ND	ND	ND
2,4-Dimethylphenol	**1,100**	ND	ND	ND	ND	ND
bis(2-Chloroethoxy)methane	**NA**	ND	ND	ND	ND	ND
2,4-Dichlorophenol	**170**	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	**68**	ND	ND	ND	ND	ND
Naphthalene	**230**	ND	ND	ND	ND	ND
4-Chloroaniline	**230**	ND	ND	ND	ND	ND
Hexaclorobutadiene	**1**	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	**10,000**	ND	ND	ND	ND	ND
2-Methylnaphthalene	**NA**	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	**400**	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	**62**	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	**5,600**	ND	ND	ND	ND	ND
2-Chloronaphthalene	**NA**	ND	ND	ND	ND	ND
2-Nitroaniline	**NA**	ND	ND	ND	ND	ND
Dimethylphthalate	**10,000**	ND	ND	ND	ND	ND
Acenaphthylene	**NA**	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	**1**	ND	ND	ND	ND	ND
3-Nitroaniline	**NA**	ND	ND	ND	ND	ND

ND-concentration below the detection limit
J-estimated concentration
NA-not applicable

TABLE 4-1
NWS-EARLE
Site 12: 1st Round Confirmatory Soil Sample Analytical Results
TCL Semi-Volatile Organic Compounds

SAMPLE ID		12SS07-99-1		12SS08-99-1		12SS09-99-1		12SS10-99-1		12SS11-99-1		12SS11D-99-1		12SS12-99-1
LAB ID	**Residential**	88435		88436		88437		88438		88439		88440		88441
DATE COLLECTED	**Direct Contact**	10/20/1999		10/20/1999		10/20/1999		10/20/1999		10/21/1999		10/21/1999		10/21/99
LOCATION	**Soil Cleanup**	SIDEWALL		SIDEWALL		SIDEWALL		SIDEWALL		BOTTOM		BOTTOM		SIDEWALL
MATRIX	**Criteria**	soil		soil		soil		soil		soil		soil		soil
UNITS	**mg/Kg**	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg
DEPTH BGS (ft)		1.5		1.5		1.5		3.0		4.5		4.5		2.0
COMMENTS		POST-EX		POST-EX		POST-EX		POST-EX		POST-EX		POST-EX/DUPLICATE		POST-EX
Acenaphthene	**3,400**	ND		ND		0.11		ND		ND		ND		ND
2,4-Dinitrophenol	**110**	ND		ND		ND		ND		ND		ND		ND
4-Nitrophenol	**NA**	ND		ND		ND		ND		ND		ND		ND
Dibenzofuran	**NA**	ND		ND		ND		ND		ND		ND		ND
2,4-Dinitrotoluene	**1**	ND		ND		ND		ND		ND		ND		ND
Diethylphthalate	**10,000**	ND		ND		ND		ND		ND		ND		ND
4-Chlorophenyl-phenylether	**NA**	ND		ND		ND		ND		ND		ND		ND
Fluorene	**2,300**	ND		ND		ND		ND		ND		ND		ND
4-Nitroaniline	**NA**	ND		ND		ND		ND		ND		ND		ND
4,6-Dinitro-2-methylphenol	**NA**	ND		ND		ND		ND		ND		ND		ND
N-Nitrosodiphenylamine	**140**	ND		ND		ND		ND		ND		ND		ND
4-Bromophenyl-phenylether	**NA**	ND		ND		ND		ND		ND		ND		ND
Hexachlorobenzene	**0.66**	ND		ND		ND		ND		ND		ND		ND
Pentachlorophenol	**6**	ND		ND		ND		ND		ND		ND		ND
Phenanthrene	**NA**	ND		ND		0.35		ND		ND		ND		ND
Anthracene	**10,000**	ND		ND		0.053		ND		ND		ND		ND
Carbazole	**NA**	ND		ND		0.11		ND		ND		ND		ND
Di-n-butlyphtalate	**5,700**	ND		ND		ND		ND		ND		ND		ND
Fluoranthene	**2,300**	ND		ND		0.89		ND		ND		ND		ND
Pyrene	**1,700**	ND		ND		0.05		ND		ND		ND		ND
Butlybenzylphthalate	**1,100**	ND		ND		ND		ND		ND		ND		ND
3,3'-Dichlorobenzidine	**2**	ND		ND		ND		ND		ND		ND		ND
Benzo(a)anthracene	**0.9**	ND		ND		0.28		ND		ND		ND		ND
Chrysene	**9**	ND		ND		0.44		ND		ND		ND		ND
bis(2-Ethylhexyl)phthalate	**NA**	ND		ND		ND		ND		ND		ND		ND
Di-n-octylphthalate	**1,100**	ND		ND		ND		ND		ND		ND		ND
Benzo(b)fluoranthene	**0.9**	ND		ND		0.39		ND		ND		ND		ND
Benzo(k)fluoranthene	**0.9**	ND		ND		0.28		ND		ND		ND		ND
Benzo(a)pyrene	**0.66**	ND		ND		0.20		ND		ND		ND		ND
Indeno(1,2,3-cd)pyrene	**0.9**	ND		ND		ND		ND		ND		ND		ND
Dibenz(a,h)anthracene	**0.66**	ND		ND		ND		ND		ND		ND		ND
Benzo(g,h,I)perylene	**NA**	ND		ND		0.089		ND		ND		ND		ND
TOTAL TICs	**NA**	0.19	J	31.68	J	4.5	J	0.29	J	0.18	J	2.18	J	0.21

ND-concentration below the detection limit
J-estimated concentration
NA-not applicable

TABLE 4-1
NWS-EARLE
Site 12: 1st Round Confirmatory Soil Sample Analytical Results
TCL Semi-Volatile Organic Compounds

SAMPLE ID		12SS07-99-1	12SS08-99-1	12SS09-99-1	12SS10-99-1	12SS11-99-1	12SS11D-99-1	12SS12-99-1
LAB ID	**Residential**	88435	88436	88437	88438	88439	88440	88441
DATE COLLECTED	**Direct Contact**	10/20/1999	10/20/1999	10/20/1999	10/20/1999	10/21/1999	10/21/1999	10/21/99
LOCATION	**Soil Cleanup**	SIDEWALL	SIDEWALL	SIDEWALL	SIDEWALL	BOTTOM	BOTTOM	SIDEWALL
MATRIX	**Criteria**	soil	soil	soil	soil	soil	soil	soil
UNITS	**mg/Kg**	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
DEPTH BGS (ft)		1.5	1.5	1.5	3.0	4.5	4.5	2.0
COMMENTS		POST-EX	POST-EX	POST-EX	POST-EX	POST-EX	POST-EX/DUPLICATE	POST-EX
Phenol	**10,000**	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethyl)ether	**0.66**	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroisopropyl)ether	**NA**	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	**280**	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	**5,100**	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	**5,100**	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	**570**	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	**2,800**	ND	ND	ND	ND	ND	ND	ND
3+4-Methylphenols	**2,800**	ND	ND	ND	ND	ND	ND	ND
n-Nitroso-di-n-propylamine	**0.66**	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	**6**	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	**28**	ND	ND	ND	ND	ND	ND	ND
Isophorone	**1,100**	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	**NA**	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	**1,100**	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethoxy)methane	**NA**	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	**170**	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	**68**	ND	ND	ND	ND	ND	ND	ND
Naphthalene	**230**	ND	ND	ND	ND	ND	ND	ND
4-Chloroaniline	**230**	ND	ND	ND	ND	ND	ND	ND
Hexaclorobutadiene	**1**	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	**10,000**	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	**NA**	ND	ND	0.049 J	ND	ND	ND	ND
Hexachlorocyclopentadiene	**400**	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	**62**	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	**5,600**	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	**NA**	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	**NA**	ND	ND	ND	ND	ND	ND	ND
Dimethylphthalate	**10,000**	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	**NA**	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	**1**	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	**NA**	ND	ND	ND	ND	ND	ND	ND

ND-concentration below the detection limit
J-estimated concentration
NA-not applicable

TABLE 4-2
NWS-EARLE
Site 12: 1st Round Confirmatory Soil Sample Analytical Results
TAL Metals

SAMPLE ID		12SS15-99-1		12SS16-99-1		12SS17-99-1	
LAB ID	**Residential**	88444		88445		88446	
DATE COLLECTED	**Direct Contact**	10/21/99		10/21/99		10/21/99	
LOCATION	**Soil Cleanup**	SIDEWALL		SIDEWALL		BOTTOM	
MATRIX	**Criteria**	soil		soil		soil	
UNITS	**mg/Kg**	mg/Kg		mg/Kg		mg/Kg	
DEPTH BGS (ft)		2.0		1.5		2.0	
COMMENTS		POST-EX		POST-EX		POST-EX	
Aluminum	**NA**	13300		933		2710	
Antimony	**14**	0.65	U	0.57	U	0.59	U
Arsenic	**20**	17.7		2.2		5.2	
Barium	**700**	25.9		4.3		8.4	
Beryllium	**2**	1.6		0.18		0.3	
Cadmium	**39**	0.13	U	0.11	U	0.12	U
Calcium	**NA**	809		134		250	
Chromium	**240**	50.5		2.2		6.1	
Cobalt	**NA**	6.3	U	0.39		0.79	
Copper	**600**	7.8		3		7.2	
Iron	**NA**	50,600		20,700		40,300	
Lead	**400**	11.8		1.5		25.2	
Magnesium	**NA**	3270		19.5		120	
Manganese	**NA**	138		22.1		18.6	
Mercury	**14**	0.13	U	0.12	U	0.12	U
Nickel	**250**	4.8		0.2	U	0.23	U
Potassium	**NA**	8930		26.5		243	
Selenium	**63**	0.65	U	0.57	U	0.59	U
Silver	**110**	0.53		0.15		0.34	
Sodium	**NA**	283		61.5		72.2	
Thallium	**2**	0.92	U	0.8	U	0.82	U
Vanadium	**370**	35		2.7		7.9	
Zinc	**1500**	66		4.3		13.7	

U-concentration is less than detection limit.
NA-not applicable

p

TABLE 4-2
NWS-EARLE
Site 12: 1st Round Confirmatory Soil Sample Analytical Results
TAL Metals

SAMPLE ID			12SS11D-99-1		12SS12-99-1		12SS13-99-1		12SS14-99-1	
LAB ID	**Residential**		88440		88441		88442		88443	
DATE COLLECTED	**Direct Contact**		10/21/1999		10/21/99		10/21/99		10/21/99	
LOCATION	**Soil Cleanup**		BOTTOM		SIDEWALL		SIDEWALL		SIDEWALL	
MATRIX	**Criteria**		soil		soil		soil		soil	
UNITS	**mg/Kg**		mg/Kg		mg/Kg		mg/Kg		ug/Kg	
DEPTH BGS (ft)			4.5		2.0		1.5		1.5	
COMMENTS			POST-EX DUPLICATE		POST-EX		POST-EX		POST-EX	
Aluminum	**NA**		11400		13000		4020		7350	
Antimony	**14**	U	1.3		0.61	U	0.61	U	0.73	
Arsenic	**20**		**32.9**		**22.9**		7.9		**23.5**	
Barium	**700**		33.7		52.3		17.7		26.5	
Beryllium	**2**		1.3		1.2		0.4		0.68	
Cadmium	**39**	U	0.13	U	0.12	U	0.12	U	0.12	U
Calcium	**NA**		925		2620		1110		1080	
Chromium	**240**		75.2		47.4		10.2		32	
Cobalt	**NA**		3.6		3.8		2.1		2.6	
Copper	**600**		10.3		9.5		9.8		11.7	
Iron	**NA**		52,900		54,600		38,400		38,000	
Lead	**400**		15.8		12.9		14.1		14.3	
Magnesium	**NA**		2030		2180		390		1340	
Manganese	**NA**		82.5		75.2		48.9		52.3	
Mercury	**14**	U	0.13	U	0.13	U	0.12	U	0.12	U
Nickel	**250**		2.7		2.2		0.24	U	1.4	
Potassium	**NA**		4630		6110		655		3060	
Selenium	**63**	U	0.63	U	0.61	U	0.61	U	0.61	U
Silver	**110**		0.56		0.27		0.4		0.23	
Sodium	**NA**		392		438		108		118	
Thallium	**2**	U	0.88	U	0.86	U	0.85	U	0.85	U
Vanadium	**370**		64		43.9		12		31.5	
Zinc	**1500**		40.7		38.6		19.9		28.4	

U-concentration is less than detection limit.
NA-not applicable

p

TABLE 4-2
NWS-EARLE
Site 12: 1st Round Confirmatory Soil Sample Analytical Results
TAL Metals

SAMPLE ID		12SS07-99-1		12SS08-99-1		12SS09-99-1		12SS10-99-1		12SS11-99-1
LAB ID	**Residential**	88435		88436		88437		88438		88439
DATE COLLECTED	**Direct Contact**	10/20/1999		10/20/1999		10/20/1999		10/20/1999		10/21/1999
LOCATION	**Soil Cleanup**	SIDEWALL		SIDEWALL		SIDEWALL		SIDEWALL		BOTTOM
MATRIX	**Criteria**	soil		soil		soil		soil		soil
UNITS	**mg/Kg**	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg
DEPTH BGS (ft)		1.5		1.5		1.5		3.0		4.5
COMMENTS		POST-EX		POST-EX		POST-EX		POST-EX		POST-EX
Aluminum	**NA**	3590		13400		1200		4600		6210
Antimony	**14**	0.56	U	0.64	U	1.2		0.61	U	0.63
Arsenic	**20**	6.4		**23.7**		17.1		8.1		10.6
Barium	**700**	9.5		87.9		111		13.1		23.5
Beryllium	**2**	0.28		1.0		0.96		0.6		0.62
Cadmium	**39**	0.57		0.13	U	1.3		0.12	U	0.13
Calcium	**NA**	1940		2160		1940		198		956
Chromium	**240**	14.3		25.9		26.9		13.3		24.1
Cobalt	**NA**	1.8		8.3		8		1.3		2.1
Copper	**600**	9.2		50		44.6		8.9		11.7
Iron	**NA**	16,900		38,100		34,100		4,100		28,400
Lead	**400**	12.4		36.6		37.4		5.7		18.9
Magnesium	**NA**	826		417		435		434		1020
Manganese	**NA**	42.3		51.4		51.1		32.5		63.4
Mercury	**14**	0.12	U	0.13	U	0.12	U	0.12	U	0.13
Nickel	**250**	3.0		17.3		13.6		0.24	U	3.8
Potassium	**NA**	578		1400		1390		820		2080
Selenium	**63**	0.56	U	0.64	U	0.89		0.61	U	0.63
Silver	**110**	0.11	U	0.4		0.53		0.17		0.16
Sodium	**NA**	171		384		413		81.2		292
Thallium	**2**	0.78	U	1.4		0.89	U	0.85	U	0.89
Vanadium	**370**	20.6		24.2		29.6		17		25.1
Zinc	**1500**	41.8		17.3		36.9		21.5		58.2

U-concentration is less than detection limit.
NA-not applicable

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TABLE 4-3
NWS-EARLE
Site 12 Soil Sample Analytical Results Total Petroleum Hydrocarbons (Diesel Range)

SAMPLE ID	NJDEP CLEANUP CRITERIA	12SS07-99-1	12SS08-99-1	12SS09-99-1	12SS10-99-1	12SS11-99-1	12SS11D-99-1	12SS12-99-1
LAB ID		88435/91634	88436/91635	88437/91636	88438/91637	88439/91638	88440/91639	88441/91640
ATE COLLECTED		10/20/1999	10/20/1999	10/20/1999	10/20/1999	10/21/1999	10/21/1999	10/21/99
LOCATION		SIDEWALL	SIDEWALL	SIDEWALL	SIDEWALL	BOTTOM	BOTTOM	SIDEWALL
MATRIX		soil	soil	soil	soil	soil	soil	soil
UNITS		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
DEPTH BGS (ft)		1.5	1.5	1.5	3.0	4.5	4.5	2
COMMENTS		Post-excavation	Post-excavation	Post-excavation	Post-excavation	Post-excavation	Post-excavation duplicate	Post-excavation
Total Petroleum Hydrocarbons	**10,000 mg/Kg**	<19	1100	<22	<2.0	<2.2	<2.1	<2.1

SAMPLE ID	NJDEP CLEANUP CLEANUP CRITERIA	12SS13-99-1	12SS14-99-1	12SS15-99-1	12SS16-99-1	12SS17-99-1	12SS18-99-1	12SS19-99-1
LAB ID		88442/91641	88443/91642	88444/91643	88445/91644	88446/91645	91649	91650
LOCATION		10/21/99	10/21/99	10/21/99	10/21/99	10/21/99	10/21/99	10/21/99
LOCATION		SIDEWALL	SIDEWALL	SIDEWALL	SIDEWALL	BOTTOM	SUBSURFACE	SUBSURFACE
MATRIX		soil	soil	soil	soil	soil	soil	soil
UNITS		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
DEPTH BGS (ft)		1.5	1.5	2.0	1.5	2.0	1.5-2.0	1.5-2.0
COMMENTS		Post-excavation	Post-excavation	Post-excavation	Post-excavation	Post-excavation	Delineation	Delineation
Total Petroleum Hydrocarbons	**10,000 mg/Kg**	<2.0	<2.1	36	<2.0	5.7	<20	118

TABLE 4-4
NWS-EARLE
Site 12: 2nd Round Confirmatory Soil Sample Analytical Results
TAL Metals

SAMPLE ID		12SS08-99-02		12SS11-99-02		12SS12-99-02		12SS14-99-02	
LAB ID	**Residential**	92499		92500		92501		92502	
DATE COLLECTED	**Direct Contact**	11/2/1999		11/2/1999		11/2/1999		11/2/1999	
LOCATION	**Soil Cleanup**	SIDEWALL		BOTTOM		SIDEWALL		SIDEWALL	
MATRIX	**Criteria**	soil		soil		soil		soil	
UNITS	**mg/Kg**	mg/Kg		mg/Kg		mg/Kg		mg/Kg	
DEPTH BGS (ft)		2.5		4.0		4.0		2.0	
COMMENTS		POST-EX		POST-EX		POST-EX		POST-EX	
Aluminum	**NA**	N/A		N/A		N/A		N/A	
Antimony	**14**	N/A	U	N/A		N/A		N/A	
Arsenic	**20**	**25.69**		19.19		**27.67**		12.56	
Barium	**700**	26.05		ND		19.3		14.88	
Beryllium	**2**	N/A		N/A		N/A		N/A	
Cadmium	**39**	ND	U	ND	U	ND		N/A	
Calcium	**NA**	N/A		N/A		N/A		N/A	
Chromium	**240**	36.61		42.3		12.62		28.95	
Cobalt	**NA**	N/A		N/A		N/A		N/A	
Copper	**600**	3.6		7.58		10.44		29.07	
Iron	**NA**	N/A		N/A		N/A		N/A	
Lead	**400**	8.16		12.22		18.81		14.42	
Magnesium	**NA**	N/A		N/A		N/A		N/A	
Manganese	**NA**	N/A		N/A		N/A		N/A	
Mercury	**14**	0.048	U	0.073		0.073		0.07	
Nickel	**250**	7.2		7.58		5.2		4.07	
Potassium	**NA**	N/A		N/A		N/A		N/A	
Selenium	**63**	0.48		1.1		1.46		0.81	
Silver	**110**	ND	U	ND		ND		ND	
Sodium	**NA**	N/A		N/A		N/A		N/A	
Thallium	**2**	N/A	U	N/A		N/A		N/A	
Vanadium	**370**	N/A		N/A		N/A		N/A	
Zinc	**1500**	31.69		34.84		24.39		34.19	

U-concentration is less than detection limit.
NA-not applicable

TABLE 4-5
NWS-EARLE
Site 12: 3rd Round Confirmatory Soil Sample Analytical Results
TAL Metals

SAMPLE ID		12SS08-99-03		12SS12-99-03					
LAB ID	**Residential**	92499		92500					
DATE COLLECTED	**Direct Contact**	11/9/1999		11/2/1999					
LOCATION	**Soil Cleanup**	SIDEWALL		BOTTOM					
MATRIX	**Criteria**	soil		soil					
UNITS	**mg/Kg**	mg/Kg		mg/Kg					
DEPTH BGS (ft)		3.0		5.0					
COMMENTS		POST-EX		POST-EX					
Aluminum	**NA**	3350		3490					
Antimony	**14**	0.54	U	0.55	U				
Arsenic	**20**	16.8		8.1					
Barium	**700**	12.6		23					
Beryllium	**2**	0.4	B	0.3	B				
Cadmium	**39**	0.11	U	0.11	U				
Calcium	**NA**	545		1210					
Chromium	**240**	7.3		10.7					
Cobalt	**NA**	9.8		1.6	B				
Copper	**600**	6.1		10.8					
Iron	**NA**	26,600		12,900					
Lead	**400**	5.9		24.9					
Magnesium	**NA**	451		270	B				
Manganese	**NA**	172		21.6					
Mercury	**14**	0.11	U	0.11	U				
Nickel	**250**	3.2	B	4.2	B				
Potassium	**NA**	391		400	B				
Selenium	**63**	0.64		0.6	U				
Silver	**110**	0.11	U	0.11	U				
Sodium	**NA**	80.8	B	158	B				
Thallium	**2**	0.75	U	0.77	U				
Vanadium	**370**	32.2		21.2					
Zinc	**1500**	19		18.1					

U-concentration is less than detection limit.
NA-not applicable

5.0 WASTE DISPOSAL

All excavated soil and waste resulting from the Site 12 remediation were transported and disposed of as non-hazardous materials in accordance with all applicable federal, state and local regulations. Prior to the wastes being shipped off site, all transporters and disposal facilities were approved by the Navy and Foster Wheeler Environmental.

Railroad ties were excavated from the area north of Building R-10. Several sets of railroad tracks ran from east to west, north of Building R-10. Another Navy Contractor removed the rails associated with the railroad tracks, but the railroad ties were left in place. The soil excavation, stock-piling and loading activities at Site 12 necessitated the removal of the railroad ties. The former railroad ties were placed in four 20 cubic yard roll-off containers and transported off-site for disposal. The railroad ties were analyzed for TCLP Extractables prior to shipment to ensure non-hazardous classification. Appendix C contains the analytical results of the railroad tie characterization sample (12WC10). The railroad ties were transported to Modern Landfill in York, Pennsylvania by Clean Harbors Environmental Services. Appendix F contains copies of the Non-Hazardous Manifests or Bill-Of-Ladings.

Approximately 262 tons of excavated soil was shipped off-site to Soil Safe Inc. in Salem, New Jersey, under proper non-hazardous manifests for disposal/recycling. Hermans Trucking Company transported the soils to Soil Safe. Shipping occurred from November 10, 1999 to November 11, 1999. Appendix F contains certificate of recycling and copies of the Non-Hazardous Waste Manifests for the soils removed from Site12.

5.1 MATERIAL LOAD-OUT

Plastic sheeting was placed on the asphalt loading area adjacent to the staged soil to catch contaminated soil spilled during loading. The loading and staging area was located west of the excavation area. The trucks backed up onto the plastic sheeting for loading. The soil was loaded into trucks equipped with covers. Any soil that fell onto the plastic or trucks while loading was promptly removed to ensure that the trucks did not track soil off the plastic. The trucks did not require any additional decontamination.

6.0 BACKFILLING OPERATIONS

The Site 12 excavation was backfilled upon confirmation that all soils were excavated to concentrations less than the NJDEP Residential Cleanup Criteria for metal, semi-volatile organic compounds, and total petroleum hydrocarbons. Certified clean select fill was placed in the excavation and compacted with a 1.5 ton roller in 6-inch lifts. Approximately 195 tons of select fill was obtained from Tomkat Construction to backfill Site 12. Appendix G contains Certificate of Clean Letter from the Tomkat Construction for the select fill. Appendix G also contains the weight tickets for the select fill transported to Site 12. The area

was brought to within three inches of the surrounding grade, and then covered with 1.5-inch clean stone. Approximately 64 tons of 1.5 inch-stone was placed atop the Site 12 area.

Some minor areas disturbed north of Site 12 during the remedial activities were repaired with topsoil and re-seeded with perennial ryegrass. Approximately 24 tons of topsoil were placed and graded north of Site 12.

7.0 CONCLUSION

All remediation activities pertaining to Site 12 have been completed in accordance with the Final Work Plan and all federal, state, and local regulations. Based on U.S.EPA and NJDEP approval, Site 12 has met all the applicable requirements for closure, and the remediation for which Foster Wheeler Environmental was contracted by the Northern Division, Naval Facilities Engineering Command is complete.

This Remedial Action Report satisfies the post-construction submittal requirements included in paragraph 1.2.1, Pre- and Post-Construction Documentation of the Statement of Services for Delivery Order No. 0034, under Remedial Action Contract No. N62472-94-D-0398.

6.0 SITE 12: BATTERY STORAGE AREA

6.1 SITE BACKGROUND AND PHYSICAL SETTING

The battery storage area is a paved area next to the loading dock east of Building R-10. This area was used as a temporary staging area for forklift batteries being sent off site to be reclaimed. The storage area occupied various portions of the paved area at different times but was generally limited to approximately 7,500 to 10,000 square feet at the northern end of the paved area adjacent to Building R-10. As reported in the 1993 SI, batteries have not been stored at the site for several years. It is unknown if a release to the environment occurred at the site in the past. No source of visible contamination, such as batteries, other residues, stressed vegetation, or surface soil staining, is present at the site. Infiltration is limited by an asphalt parking lot that covers the site. Surface runoff is directed to a stormwater collection basin that discharges through a concrete culvert to a drainage swale and eventually to a marsh north of the site. An underground storage tank was located in this general area, but it has been removed. Figure 6-1 is a map of the site.

6.2 PREVIOUS INVESTIGATIONS

6.2.1 IAS and SI

IAS

The 1983 IAS consisted of interviews and on-site inspection. The site was not recommended for a confirmation study based on the belief that any acids spilled would be buffered when they drained into the salt marsh.

SI

During the 1993 SI, one surface water sample and one sediment sample were collected from the downstream side of the stormwater culvert outflow. No surface water or sediment was present at the upgradient portion of the drainage culvert at the time these samples were taken. The sediment sample was analyzed for VOCs, SVOCs, pesticides, PCBs, metals, and cyanide. The surface water sample was analyzed for VOCs, metals, and cyanide. Sample analysis indicated that SVOCs, VOCs, pesticides, and metals were present in the sediment sample taken at the site. Metals were detected in the surface water sample. Cyanide was not detected in either sample.

SAMPLE LOCATIONS
SITE 12 - BATTERY STORAGE AREA

FIGURE 6-1

Brown & Root Environmental

An underground storage tank, R-10, installed at the northeastern corner of Building R-10, was located approximately adjacent to the former battery storage area. The UST was removed in 1994. Visual contamination of the soil was not observed during the tank removal. Upon removal, the tank and associated piping were examined and found in good condition, free of holes, with minor rust and pitting. Four confirmation soil samples were obtained from the excavation sidewalls, and two samples were taken from the excavated soils. The excavation sidewall samples were analyzed for TPH, and all were found to contain a concentration less than the method detection limit of 56 to 61 mg/kg. The two soil pile samples showed TPH of 460 mg/kg and 520 mg/kg. The soil was disposed as nonhazardous.

6.2.2 1995 RI

In August 1995, B&R Environmental collected three surface soil samples from the northern end of Building 10 between the loading dock and southern side of the railroad tracks. In addition, two sediment samples were obtained from an area north of the railroad tracks and south of the tennis court. Samples from the battery storage area were not obtained because the asphalt cover would preclude impacts from spilled battery electrolyte solution. Instead, the samples were collected from low-lying areas where runoff may flow and collect. Figure 6-1 shows the sampling locations.

6.2.3 Summary of Conclusions

Elevated levels of metals, particularly lead, were detected in surface soil samples. PAHs, which are believed to originate from the railroad bed, were also detected. Sediment samples also showed elevated levels of metals, PAHs, and pesticides.

6.2.4 Data Gaps (Objectives of RI Addendum Field Investigation)

The RI Addendum field investigation was designed to provide further data on the areal and vertical extent of metals contamination.

6.3 RI ADDENDUM FIELD INVESTIGATION

On October 29, 1996, B&R Environmental conducted the following field investigation activities at Site 12:

- Sampling and analysis of surface soil (Section 6.3.1)
- Sampling and analysis of subsurface soil (Section 6.3.2)

B&R Environmental surveyed to establish the horizontal locations and vertical elevations of the surface and subsurface soil sample locations.

6.3.1 Surface Soil Sampling

One surface soil sample (12 SS 04), as specified by the RI Addendum work plan, was collected near the northeastern corner of the loading dock, approximately 40 feet east of 1995 RI sample 12 SS 03 (Figure 6-1). B&R Environmental collected this sample with a stainless-steel trowel and transferred the soil directly into the sampling container. Samples were submitted to IEA Laboratories and analyzed for TAL metals and TOC.

6.3.2 Subsurface Soil Sampling

Three subsurface soil samples (12 SB 02 through 12 SB 04), as specified in the RI Addendum work plan, were collected at Site 12. These samples were obtained at corresponding surface soil sample locations 12 SS 02 and 12 SS 03 from the 1995 RI sampling and 12 SS 04 (Figure 6-1). Samples were collected by advancing a hand bucket auger, supplemented with a rock bar to remove larger materials, to the desired sampling depth of 3 to 3.5 feet. The sample was removed from the auger bucket by stainless-steel trowel and transferred directly into the sample container. Samples were submitted to IEA Laboratories for TAL metals and TOC analysis.

6.4 SITE CHARACTERISTICS

6.4.1 Geology

Regional mapping places Site 12 within the outcrop area of the Englishtown Formation. The Englishtown Formation ranges between 35 and 150 feet in thickness and consists of tan and gray, fine- to medium-grained quartz sand with local clay beds. The presence of the Englishtown Formation beneath the site cannot be confirmed because no soil borings were drilled at the site. However, the lithology of the sediments ncountered in borings at Sites 6, 15, and 17 generally agrees with the published description of the Englishtown Formation. Site 6 is located about 600 feet northeast, Site 15 is located about 1,000 feet south-southeast, and Site 17 is located about 700 feet south-southwest of Site 12. In general, the borings at these sites encountered fill material and sand, silty sand, and clayey sand.

6.4.2 Hydrogeology

Groundwater conditions beneath the site cannot be confirmed because no wells were installed at the site. However, groundwater in the Englishtown aquifer beneath Sites 6 and 17, and presumably Site 12, occurs under unconfined conditions. The direction of shallow groundwater flow in the aquifer beneath Site 6, as indicated by both the August and October 1995 groundwater elevation measurements, is toward the north and northwest. The direction of groundwater flow in the aquifer beneath Site 17, as indicated by both the August and October groundwater contour maps for Site 17, is toward the northwest.

6.5 NATURE AND EXTENT OF CONTAMINATION

This section evaluates the occurrence and distribution of contaminants detected from the 1995 RI and RI Addendum field investigations. Surface soil, subsurface soil, and sediment sample analysis results were compared to NWS Earle site-wide background samples as presented in Section 2.4.1.

6.5.1 Surface Soils

Three surface soil samples were collected at Site 12 (12 SS 01 through 12 SS 03) in 1995. An additional surface soil sample (12 SS 04), analyzed for TAL metals, was collected during the 1996 RI Addendum field activities (Figure 6-1). Tables 6-1 and 6-2 present the occurrence and distribution of inorganic and organic chemicals in site-related samples and compare them to background. Table 6-3 presents a comparison of detected compounds to ARARs and TBCs. Figure 6-2 shows sample locations and concentrations of compounds that exceed ARARs and TBCs.

6.5.1.1 Inorganics

Elevated concentrations of certain metals, notably lead and zinc, were seen in surface soil samples. The highest concentrations of these metals in Site 12 surface soil samples were generally present in samples 12 SS 02 and 12 SS 03; however, elevated levels of metals were also detected in sample 12 SS 04. Metals present at concentrations greater than background in surface soil samples include the following: aluminum (up to 10,900 mg/kg), barium (up to 189 mg/kg), beryllium (up to 0.85 mg/kg), cadmium (up to 8.7 mg/kg), copper (up to 339 mg/kg), lead (up to 1,130 mg/kg), magnesium (up to 10,400 mg/kg), manganese (up to 373 mg/kg), mercury (up to 0.87 mg/kg), vanadium (up to 259 mg/kg), and zinc (up to 1,570 mg/kg R). Note that zinc results for the 1995 samples were qualified rejected (R), based upon data validation; however, zinc is believed to be present in these samples. The presence of zinc was confirmed in sample 12 SS 04 at a level approximately twice that of background. Antimony (up to 71.5 mg/kg) was detected in all site-related samples but was not present in background samples.

TABLE 6-1
OCCURRENCE AND DISTRIBUTION OF INORGANICS IN SURFACE SOIL AT SITE 12
NWS EARLE, COLTS NECK, NEW JERSEY
(mg/kg)

SUBSTANCE	BACKGROUND***				SITE-RELATED					
	FREQUENCY OF DETECTION	RANGE OF POSITIVE DETECTION	UTL**	2 X AVERAGE CONCENTRATION	FREQUENCY OF DETECTION	RANGE OF POSITIVE DETECTION	AVERAGE CONCENTRATION	MEAN > 2 X BKGD?	MEAN > BACK UTL?	REPRESENTATIVE CONCENTRATION
ALUMINUM	4 / 4	1710 - 5310	4.6E+09	5310	4 / 4	3530 - 7825	6646	YES	NO	10900
ANTIMONY *	NOT DETECTED	-	-	-	4 / 4	0.76 - 71.5	19.20	YES	-	60.27
ARSENIC *	4 / 4	1.35 - 14.4	9.6E+02	14.40	4 / 4	5.1 - 10.7	9.88	NO	NO	10.7
BARIUM	4 / 4	1.85 - 31	3.6E+03	31.00	4 / 4	28.7 - 188.5	111.08	YES	NO	188.5
BERYLLIUM*	1 / 4	0.28 - 0.28	1.6E-01	0.28	4 / 4	0.05 - 0.47	0.42	YES	YES	0.85
CADMIUM *	1 / 4	0.3975 - 0.3975	6.7E-02	0.40	3 / 4	1.4 - 8.25	3.42	YES	YES	8.25
CALCIUM	4 / 4	40.1 - 519	2.3E+07	519.00	3 / 3	1610 - 23550	15520	YES	NO	23550
CHROMIUM	4 / 4	7.8 - 59.5	6.8E+04	59.50	4 / 4	39.6 - 96.3	54.88	NO	NO	96.3
COBALT	2 / 4	0.75 - 5	1.0E+01	4.27	4 / 4	3.1 - 7.9	4.68	YES	NO	7.9
COPPER	4 / 4	0.97 - 8.4	4.5E+02	8.40	4 / 4	23.2 - 282.5	94.25	YES	NO	282.5
IRON	4 / 4	3745 - 62500	3.0E+12	62500	4 / 4	17500 - 37450	25988	NO	NO	37450
LEAD	4 / 4	1.8 - 39.4	2.1E+04	39.40	4 / 4	68.6 - 1130	558.80	YES	NO	1130
MAGNESIUM	4 / 4	71.7 - 619	1.5E+07	619.00	4 / 4	413 - 6825	2765	YES	NO	6825
MANGANESE	4 / 4	3.45 - 214	4.3E+02	182.62	4 / 4	133 - 334	169.48	NO	NO	334
MERCURY *	4 / 4	0.035 - 0.17	8.1E-03	0.17	3 / 4	0.395 - 0.87	0.44	YES	YES	0.87
NICKEL	2 / 4	1.6 - 7.2	6.2E+01	7.20	4 / 4	6.8 - 49.9	18.63	YES	NO	43.30
POTASSIUM	4 / 4	85 - 792	5.9E+07	792.00	4 / 4	649 - 851.5	1688	YES	NO	4530
SILVER *	2 / 4	0.37 - 0.67	2.3E-01	0.67	2 / 4	1.1 - 1.7	0.74	YES	YES	1.7
SODIUM	4 / 4	17.5 - 86.2	5.8E+04	86.20	3 / 4	76.3 - 685	250.95	YES	NO	595.17
THALLIUM	2 / 4	0.5025 - 1.9	4.0E+00	1.66	1 / 4	2.1 - 2.1	0.62	NO	NO	1.15
VANADIUM	4 / 4	11.05 - 64	5.0E+04	64.00	4 / 4	18 - 252	82.58	YES	NO	216.07
ZINC	3 / 4	0.665 - 27.6	6.1E+03	27.60	1 / 1	54.7 - 54.7	54.70	YES	NO	54.7

* - Selected as a COPC
** - Upper Tolerance Limit = UTL is the concentration that is estimated to contain a designated portion (95%) of all possible sample measurements.
*** - Background samples are as follows: BGSB0100, BGSB0200 (AND A DUPLICATE, DUP-4), BGSB0300, BGSB0400

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TABLE 6-2
OCCURRENCE AND DISTRIBUTION OF ORGANICS IN SURFACE SOIL AT SITE 12
NWS EARLE, COLTS NECK, NEW JERSEY
(ug/kg)

SUBSTANCE	BACKGROUND			SITE-RELATED		
	FREQUENCY OF DETECTION	RANGE OF POSITIVE DETECTION	REPRESENTATIVE CONCENTRATION	FREQUENCY OF DETECTION	RANGE OF POSITIVE DETECTION	REPRESENTATIVE CONCENTRATION
4,4'-DDD *	NOT DETECTED	-	-	1 / 2	19 - 19	19
4,4'-DDE *	2 / 4	16 - 330	277.86	1 / 2	29 29	29
4,4'-DDT *	2 / 4	43 - 420	355.71	3 / 3	460 235.3	460
ALDRIN *	NOT DETECTED	-	-	1 / 3	2 - 2	2
ALPHA-CHLORDANE *	NOT DETECTED	-	-	2 / 3	9.05 - 6.88	9.05
ENDRIN ALDEHYDE *	NOT DETECTED		-	2 3	60 42.5	60
GAMMA-CHLORDANE *	NOT DETECTED	-	-	3 / 3	14 - 9.27	14
2-METHYLNAPHTHALENE *	NOT DETECTED	-	-	2 / 3	170 160	170
ACENAPHTHENE *	NOT DETECTED	-	-	2 / 3	64 - 58.5	64
ACENAPHTHYLENE *	NOT DETECTED	-	-	2 / 3	135 - 122.5	135
ANTHRACENE *	NOT DETECTED	-	-	3 / 3	945 - 446.3	945
BENZ(A)ANTHRACENE *	NOT DETECTED	-	-	3 / 3	3900 - 1903	3900
BENZO(A)PYRENE *	NOT DETECTED	-	-	3 / 3	2250 - 1200	2250
BENZO(B)FLUORANTHENE *	NOT DETECTED	-	-	3 / 3	10350 - 5187	10350
BENZO(G,H,I)PERYLENE *	NOT DETECTED	-	-	3 / 3	2300 - 1600	2300
BIS(2-ETHYLHEXYL)PHTHALATE *	NOT DETECTED		-	3 / 3	1220 756	1220
BUTYLBENZYLPHTHALATE *	1 / 4	220 - 220	220	1 / 3	130 - 130	130
CARBAZOLE *	NOT DETECTED	-	-	3 / 3	980 - 542	980
CHRYSENE *	NOT DETECTED	-	-	3 / 3	8200 - 3773	8200
DI-N-BUTYLPHTHALATE *	2 / 4	45 - 48	48	2 / 3	110 - 105	110
DIBENZ(A,H)ANTHRACENE *	NOT DETECTED	-	-	3 / 3	540 - 300	540
DIBENZOFURAN *	NOT DETECTED	-	-	2 / 3	63 - 55.5	63
FLUORANTHENE *	2 / 4	40 - 84	84	3 / 3	13300 - 6073	13300
FLUORENE *	NOT DETECTED	-	-	2 / 3	94 - 90.5	94
INDENO(1,2,3-CD)PYRENE *	NOT DETECTED	-	-	3 / 3	2500 - 1380	2500
NAPHTHALENE *	NOT DETECTED	-	-	2 / 3	130 - 106.5	130
PHENANTHRENE *	NOT DETECTED	-	-	3 / 3	1900 - 1147	1900
PYRENE *	1 / 4	46 46	46	3 / 3	15500 - 7293	15500
TETRACHLOROETHENE *	NOT DETECTED	-	-	1 / 3	3 3	3

* - Selected as a COPC

TABLE 6-3a

COMPARISON OF SUBSURFACE SOIL ANALYTICAL DATA TO ARARS AND TBCs - SITE 12

NWS EARLE, COLTS NECK, NEW JERSEY

SAMPLE NUMBER:	12SB02-03	12SB03-03	12SB04-03	---	---	---	ARARS & TBCs		
LOCATION:	12SB02	12SB03	12SB04	---	---	---	NJDEP Soil Residential Direct Contact Cleanup Criteria	NJDEP Soil Non-Residential Direct Contact Cleanup Criteria	NJDEP Soil Impact to Groundwater Cleanup Criteria
DATA SOURCE:	1996 RI	1996 RI	1996 RI						
SAMPLE DATE:	10/29/96	10/29/96	10/29/96						
INORGANICS	mg/kg	mg/kg	mg/kg				mg/kg	mg/kg	mg/kg
aluminum	12400	1670	10900				-	-	-
antimony	0.82	0.40 U	0.40 U				14.0	340	-
arsenic	16.5	0.92	13.1				20.0	20.0	-
barium	32.5	5.0	30.7				700	47000	-
beryllium	1.1 E	0.11	0.87				1.00	1.00	-
calcium	410	220	6940 R				-	-	-
chromium, total	45.2	6.2 R	35.1				-	500	-
cobalt	2.7	0.79	3.5				-	-	-
copper	9.2 J	2.2	5.5 J				600	600	-
iron	40700	2040	32200				-	-	-
lead	30.1	12.7	17.7				400	600	-
magnesium	2720	114	2120				-	-	-
manganes	35.2 J	11.3 J	111 J				-	-	-
nickel	5.8	1.1	6.8				250	2400	-
potassium	8320	159	5450				-	-	-
silver	0.12 U	0.15	0.12 U				110	4100	-
sodium	240	153 U	155 U				-	-	-
vanadium	38.0	6.8	36.7				370	7100	-
zinc	43.8	8.3	30.6				1500	1500	-

TABLE 6-3a
COMPARISON OF SUBSURFACE SOIL ANALYTICAL DATA TO ARARS AND TBCS - SITE 12
NWS EARLE, COLTS NECK, NEW JERSEY

F otnotes to sample results:

U - Compound or element was not detected. Value is the detection limit (inorganics) or quantitation limit (organics).

UJ - Not detected. Detection limit or quantitation limit shown is considered estimated due to exceedance of data validation quality control criteria.

No Value - Constituent was not analyzed for in this sample.

UR - Nondetected result is considered rejected based on exceedance of data validation quality control criteria.

J - Value is estimated because concentration is below the quantitation limit or because of exceedance of data validation quality control criteria.

R - Positive result is considered rejected based on exceedance of data validation quality control criteria.

N - Compound is considered to be tentatively identified based on exceedance of QC criteria for compound identification.

E - Result exceeds one or more of the selected ARARs.

F otnotes to soil criteria:

- - No standard is available for this chemical in this classification.

TABLE 6-3b

COMPARISON OF SUBSURFACE SOIL MISCELLANEOUS PARAMETERS DATA TO ARARS AND TBCs - SITE 12

NWS EARLE, COLTS NECK, NEW JERSEY

SAMPLE NUMBER:		12SB02-03	12SB03-03	12SB04-03	---	---	ARARS & TBCs		
LOCATION:		12SB02	12SB03	12SB04	---	---	NJDEP Soil Residential Direct Contact Cleanup Criteria	NJDEP Soil Non-Residential Direct Contact Cleanup Criteria	NJDEP Soil Impact to Groundwater Cleanup Criteria
DATA SOURCE:		1996 RI	1996 RI	1996 RI					
SAMPLE DATE:		10/29/96	10/29/96	10/29/96					
MISCELLANEOUS									
% solids	%	79.9	84.7	83.9			-	-	-
total rganic carbon	mg/kg	4820	2740	2640			-	-	-

TABLE 6-3b
COMPARISON OF SUBSURFACE SOIL MISCELLANEOUS PARAMETERS DATA TO ARARS AND TBCS - SITE 12
NWS EARLE, COLTS NECK, NEW JERSEY

F otnotes to sample results:

U - Compound or element was not detected. Value is the detection limit (inorganics) or quantitation limit (organics).

UJ - Not detected. Detection limit or quantitation limit shown is considered estimated due to exceedance of data validation quality control criteria.

No Value - Constituent was not analyzed for in this sample.

UR - Nondetected result is considered rejected based on exceedance of data validation quality control criteria.

J - Value is estimated because concentration is below the quantitation limit or because of exceedance of data validation quality control criteria.

R - Positive result is considered rejected based on exceedance of data validation quality control criteria.

N - Compound is considered to be tentatively identified based on exceedance of QC criteria for compound identification.

E - Result exceeds one or more of the selected ARARs.

Fo tnotes to soil criteria:

- - No standard is available for this chemical in this classification.

@ - Value is New Jersey guideline for maximum total concentration of all organic compounds in soil (including VOCs, SVOCs, and TPH).

TABLE 6-3c

COMPARISON OF SEDIMENT ANALYTICAL DATA TO ARARS AND TBCs - SITE 12

NWS EARLE, COLTS NECK, NEW JERSEY

SAMPLE NUMBER:	12SD01 08/07/95	12SD02 08/07/95	12SD02-DUP	---	---	---	---	SELECTED ARARS
LOCATION:	12SD01	12SD02	12SD02	---	---	---	---	Sediment Ecological Toxicity Threshold Values
DATA SOURCE:	1995 RI	1995 RI	1995 RI					
SAMPLE DATE:	08/07/95	08/07/95	08/07/95					
INORGANICS	mg/kg	mg/kg	mg/kg					mg/kg
aluminum	7690	5850	4590					-
arsenic	9.8 E	14.4 E	12.4 E					8.20 L
barium	51.0 E	31.5	28.2					40.0 B
beryllium	0.66	0.72	0.43					-
calcium	4670	10900	7200					-
chromium, total	26.7	28.8	30.5					81.0 L
cobalt	1.9	2.4	1.5					50.0 T
copper	25.6	19.6	28.9					34.0 L
iron	39000	27100	23600					-
lead	67.0 E	45.0	106 E					47.0 L
magnesium	2880	3520	1360					-
manganese	127	120	103					460 O
mercury	0.012 J	0.045 J	0.026 J					0.150 L
nickel	4.0	6.0	4.9					21.0 L
potassium	2360	2150	1210					-
sodium	119	147	103					-
vanadium	23.6	31.9	29.8					-
zinc	34.1	59.2	65.8					150 L
SEMIVOLATILES	ug/kg	ug/kg	ug/kg					ug/kg
2-methylnaphthalene	360 U	53.0 J	50.0 J					330 F
benzo(a)anthracene	250 J	460 E	340 E J					330 F
benzo(a)pyren	320 J	540 E	430 J					430 L
benzo(b)fluoranthene	520 E	890 E	790 E J					330 F
benzo(g,h,i)perylene	240 J	400 E J	310 J					330 F
benzo(k)fluoranthene	180 J	340 E J	250 J					330 F
bis(2-ethylhexyl)phthalate	67.0 J	80.0 J	110 J					890000000 S
chrysene	280 J	580 E	460 E					330 F
dibenz(a,h)anthracen	60.0 J	97.0 J	62.0 J					330 F

TABLE 6-3c

COMPARISON OF SEDIMENT ANALYTICAL DATA TO ARARS AND TBCs - SITE 12

NWS EARLE, COLTS NECK, NEW JERSEY

SAMPLE NUMBER:	12SD01 08/07/95	12SD02 08/07/95	12SD02-DUP	---	---	---	---	SELECTED ARARS
LOCATION:	12SD01	12SD02	12SD02	---	---	---	---	Sediment Ecological Toxicity Threshold Values
DATA SOURCE:	1995 RI	1995 RI	1995 RI					
SAMPLE DATE:	08/07/95	08/07/95	08/07/95					
SEMIVOLATILES	ug/kg	ug/kg	ug/kg					ug/kg
fluoranthene	350 J	680	500					2900 Q
indeno(1,2,3-cd)pyrene	240 J	410 E	320 J					330 F
naphthalene	360 U	51.0 J	47.0 J					480 P
ph nanthrene	110 J	210 J	180 J					850 Q
pyrene	310 J	600	490					660 L
PESTICIDES	ug/kg	ug/kg	ug/kg					ug/kg
4,4'-DDD	3.6 E R	5.3 E JN	5.5 E JN					1.60 L
4,4'-DDE	11.0 E	19.0 E	18.0 E					2.20 L
4,4'-DDT	35.0 E	35.0 E	35.0 E					1.60 L
alpha-BHC	1.9 U	0.19 J	2.0 U					3.70 S
alpha-chlordane	1.0 J	1.2 J	1.2 J					7.00 O
gamma-BHC (Lindane)	1.9 U	0.070 R	2.0 U					-
gamma-chlordane	0.54 J	0.79 J	1.0 J					7.00 O
heptachlor epoxide	1.9 U	2.0 U	0.57 JN					5.00 O

TABLE 6-3c
COMPARISON OF SEDIMENT ANALYTICAL DATA TO ARARS AND TBCS - SITE 12
NWS EARLE, COLTS NECK, NEW JERSEY

F tn tes t sample results:

U - Compound or element was not detected. Value is the detection limit (inorganics) or quantitation limit (organics).

UJ - Not detected. Detection limit or quantitation limit shown is considered estimated due to exceedance of data validation quality control criteria.

No Value - Constituent was not analyzed for in this sample.

UR - Nondetected result is considered rejected based on exceedance of data validation quality control criteria.

J - Value is estimated because concentration is below the quantitation limit or because of exceedance of data validation quality control criteria.

R - Positive result is considered rejected based on exceedance of data validation quality control criteria.

N - Compound is considered to be tentatively identified based on exceedance of QC criteria for compound identification.

E - Result exceeds one or more of the selected ARARs.

Footnotes to sediment ecological toxicity criteria:

- - No standard is available for this chemical in this classification.

B - Source: Baudo, R., J. Geisy and H. Muntau. eds. 1990. Sediments: Chemistry and Toxicity of In-Place Pollutants. Lewis Publishers, Inc. Ann Arbor, MI.

F - Source: USEPA. 1994c. Draft Region IV Waste Management Division Sediment Screeing Values for Hazardous Waste Sites. 2/16/94 Revision.

L - Effects Range-Low. Source: Long E.R., D.D. MacDonald, S.L. Smith, and F.D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environmental Management. 19:81-97.

M - Effects Range-Low. Source: Long, E. R. and L. G. Morgan. 1991. The Potential for Biological Effects of Sediment-Sorbed Contaminants Tested in the National Status and Trends Program. NOAA Technical Memorandum NOS OMA 52, National Oceanic and Atmospheric Administration, Seattle, WA.

O - Ontario screening level. Source: Ontario Ministry of the Environment (OME). 1992. Guidelines for the Protection and Management of the Aquatic Sediment Quality in Ontario. Log 92-2309-067, PIBS 1962.

P - Sediment quality benchmark using equipartition. Source: USEPA. 1996. ECO Update. Volume 3: Number 2. EPA 540/F-95/038.

Q - Sediment quality criterion. Source: USEPA. 1996. ECO Update. Volume 3: Number 2. EPA 540/F-95/038.

S - Sediment screening benchmark. Source: Suter, G. W., and J. B. Mabrey. 1994. Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Aquatic Biota. Oak Ridge National Laboratory, Oak Ridge, TN.

T - Threshold for soils. Source: Direction des Substances Dangereuses. 1988. Contaminated Sites Rehabilitation Policy. Gouvernement du Quebec. Ministere de L'Environment. Sainte-Foy, Quebec, Canada. In: R.L. Siegrist. 1989. International Review of Approaches for Establishing Cleanup Goals for Hazardos Waste Contaminated Land. Institute for Georesearch and Pollution Research. Norway.

W - Screening value for wet soil. Source: Will, M.E., and G.W. Suter. 1994. Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Terrestrial Plants: 1994 Revision. Oak Ridge National Laboratory.

TABLE 6-3d

COMPARISON OF SURFACE SOIL ANALYTICAL DATA TO ARARS AND TBCs - SITE 12

NWS EARLE, COLTS NECK, NEW JERSEY

SAMPLE NUMBER:	12SS01 08/05/95	12SS02 08/05/95	12SS03 08/05/95	12SS03-DUP	12SS04 10/29/96	---	ARARS & TBCs		
LOCATION:	12SS01	12SS02	12SS03	12SS03	12SS04	---	NJDEP Soil Residential Direct Contact Cleanup Criteria	NJDEP Soil Non-Residential Direct Contact Cleanup Criteria	NJDEP Soil Impact to Groundwater Cleanup Criteria
DATA SOURCE:	1995 RI	1995 RI	1995 RI	1995 RI	1996 RI				
SAMPLE DATE:	08/05/95	08/05/95	08/05/95	08/05/95	10/29/96				
INORGANICS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg
aluminum	3530	4330	7980	7670	10900		-	-	-
antimony	0.76	71.5 E	3.6	4.4	0.52		14.0	340	-
arsenic	10.7	5.1	6.6	7.8	16.5		20.0	20.0	-
barium	28.7	187	188	189	40.1		700	47000	-
beryllium	0.47	0.050	0.37	0.23	0.85		1.00	1.00	-
cadmium	1.4 E	4.0 E	7.8 E	8.7 E	0.051 U		1.00	100	-
calcium	1610	21400	20000	27100	2600 R		-	-	-
chromium, total	53.3 J	39.6 J	85.6 J	107 J	30.3		-	500	-
cobalt	4.6	3.1	7.5	8.3	3.1		-	-	-
copper	23.2	66.9	226	339	4.4		600	600	-
iron	20300	17500	34600	40300	28700		-	-	-
lead	68.6	1130 E	978 E	1070 E	12.6		400	600	-
magnesium	413	1950 J	3250 J	10400 J	1870		-	-	-
manganese	133	140	295	373	70.9 J		-	-	-
mercury	0.42	0.87	0.42	0.37	0.12 U		14.0	270	-
nickel	6.8	11.4	49.1	50.7	6.4		250	2400	-
potassium	649	723	893	810	4530		-	-	-
silv r	0.21 U	1.7	1.1	1.1	0.12 U		110	4100	-
sodium	76.3	167	200	1170	151 U		-	-	-
thallium	0.82 U	0.66 U	2.1 E	1.0 U	0.72 UJ		2.00	2.00	-
vanadium	18.0	19.2	245	259	41.1		370	7100	-
zinc	214 R	835 R	1500 R	1570 E R	54.7		1500	1500	-
SEMIVOLATILES	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg		ug/kg	ug/kg	ug/kg
2-methylnaphthalen	170 J	150 J	460 U	460 U	n/a		-	-	-
acenaphthene	380 U	64.0 J	57.0 J	49.0 J	n/a		3400000	10000000	100000
acenaphthylene	380 U	110 J	140 J	130 J	n/a		-	-	-
anthracen	44.0 J	350 J	490	1400	n/a		10000000	10000000	100000
benzo(a)anthracene	210 J	1600 E J	2300 E J	5500 E J					

COMPARISON OF SURFACE SOIL ANALYTICAL DATA TO ARARS AND TBCs - SITE 12

NWS EARLE, COLTS NECK, NEW JERSEY

DRAFT

SAMPLE NUMBER:	12SS01 08/05/95	12SS02 08/05/95	12SS03 08/05/95	12SS03-DUP	12SS04 10/29/96	---	ARARS & TBCs		
LOCATION:	12SS01	12SS02	12SS03	12SS03	12SS04	---	NJDEP Soil Residential Direct Contact Cleanup Criteria	NJDEP Soil Non-Residential Direct Contact Cleanup Criteria	NJDEP Soil Impact to Groundwater Cleanup Criteria
DATA SOURCE:	1995 RI	1995 RI	1995 RI	1995 RI	1996 RI				
SAMPLE DATE:	08/05/95	08/05/95	08/05/95	08/05/95	10/29/96				
SEMIVOLATILES	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg		ug/kg	ug/kg	ug/kg
benzo(a)pyrene	250 J	1100 E J	1700 E J	2800 E J	n/a		660	660	100000
benzo(b)fluoranthene	610	4600 E J	6700 E J	12000 E J	n/a		900	4000	50000
benzo(g,h,i)perylene	600	1700 J	2200 J	2400 J	n/a		-	-	-
bis(2-ethylhexyl)phthalate	87.0 J	960 J	1700 J	740 J	n/a		49000	210000	100000
butylbenzylphthalate	380 U	410 UJ	150 J	110 J	n/a		1100000	10000000	100000
carbazole	45.0 J	600	1100	860	n/a		-	-	-
chrysene	320 J	2800 J	6400 J	10000 E J	n/a		9000	40000	500000
di-n-butylphthalate	380 U	100 J	70.0 J	150 J	n/a		5700000	10000000	100000
dibenz(a,h)anthracene	59.0 J	300 J	490 J	590 J	n/a		660	660	100000
dibenzofuran	380 U	63.0 J	48.0 J	460 U	n/a		-	-	-
fluoranthene	320 J	4600	9600	17000	n/a		2300000	10000000	100000
fluorene	380 U	94.0 J	80.0 J	94.0 J	n/a		2300000	10000000	100000
indeno(1,2,3-cd)pyrene	340 J	1300 E J	2300 E J	2700 E J	n/a		900	4000	500000
naphthalene	83.0 J	130 J	460 U	460 U	n/a		230000	4200000	100000
phenanthrene	140 J	1400	1900	1900	n/a		-	-	-
pyrene	380 J	6000 J	12000 J	19000 J	n/a		1700000	10000000	100000
VOLATILES	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg		ug/kg	ug/kg	ug/kg
tetrachloroethene	3.0 J	12.0 UJ	14.0 UJ	14.0 U	n/a		4000	6000	1000
PESTICIDES	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg		ug/kg	ug/kg	ug/kg
4,4'-DDD	19.0 JN	23.0 R	4.6 U	8.0 U	n/a		3000	12000	50000
4,4'-DDE	3.9 U	29.0 J	7.6 R	14.0 R	n/a		2000	9000	50000
4,4'-DDT	51.0	460	190 J	200 JN	n/a		2000	9000	500000
aldrin	2.0 U	2.1 U	2.0 J	0.89 R	n/a		40.0	170	50000
alpha-BHC	2.0 U	0.17 R	0.26 R	0.23 R	n/a		-	-	-
alpha-chlordane	2.0 U	4.7 JN	7.1	11.0	n/a		-	-	-
ndosulfan sulfat	3.8 U	4.1 U	4.6 U	27.0 R	n/a		340000	6200000	50000
endrin aldehyde	3.9 U	25.0	46.0 J	74.0 JN	n/a		-	-	-
gamma-BHC (Lindane)	0.072 R	0.067 R	2.4 U	2.4 U	n/a		520	2200	50000

TABLE 6-3d

COMPARISON OF SURFACE SOIL ANALYTICAL DATA TO ARARS AND TBCs - SITE 12

NWS EARLE, COLTS NECK, NEW JERSEY

SAMPLE NUMBER:	12SS01 08/05/95		12SS02 08/05/95		12SS03 08/05/95		12SS03-DUP		12SS04 10/29/96		---	ARARS & TBCs		
LOCATION:	12SS01		12SS02		12SS03		12SS03		12SS04		---	NJDEP Soil Residential Direct Contact Cleanup Criteria	NJDEP Soil Non-Residential Direct Contact Cleanup Criteria	NJDEP Soil Impact to Groundwater Cleanup Criteria
DATA SOURCE:	1995 RI		1995 RI		1995 RI		1995 RI		1996 RI					
SAMPLE DATE:	08/05/95		08/05/95		08/05/95		08/05/95		10/29/96					
PESTICIDES	ug/kg		ug/kg		ug/kg		ug/kg		ug/kg			ug/kg	ug/kg	ug/
gamma-chlordane	1.8	J	12.0	JN	14.0	J	22.0	R	n/a			-	-	-
heptachlor	2.0	U	0.40	R	0.62	R	0.43	R	n/a			150	650	50000
heptachlor epoxide	0.60	R	2.5	R	2.4	U	2.4	U	n/a			-	-	-
methoxychlor	8.4	R	21.0	U	24.0	U	24.0	U	n/a			280000	5200000	50000

TABLE 6-3d
COMPARISON OF SURFACE SOIL ANALYTICAL DATA TO ARARS AND TBCS - SITE 12
NWS EARLE, COLTS NECK, NEW JERSEY

F tnotes to sample results:

U - Compound or element was not detected. Value is the detection limit (inorganics) or quantitation limit (organics).

UJ - Not detected. Detection limit or quantitation limit shown is considered estimated due to exceedance of data validation quality control criteria.

No Value - Constituent was not analyzed for in this sample.

UR - Nondetected result is considered rejected based on exceedance of data validation quality control criteria.

J - Value is estimated because concentration is below the quantitation limit or because of exceedance of data validation quality control criteria.

R - Positive result is considered rejected based on exceedance of data validation quality control criteria.

N - Compound is considered to be tentatively identified based on exceedance of QC criteria for compound identification.

E - Result exceeds one or more of the selected ARARs.

Footnotes to soil criteria:

- - No standard is available for this chemical in this classification.

TABLE 6-3

COMPARISON OF SURFACE SOIL MISCELLANEOUS PARAMETERS DATA TO ARARS AND TBCs - SITE 12

NWS EARLE, COLTS NECK, NEW JERSEY

SAMPLE NUMBER:		12SS04 10/29/96	---	---	---	---	ARARS & TBCs		
LOCATION:		12SS04	---	---	---	---	NJDEP Soil Residential Direct Contact Cleanup Criteria	NJDEP Soil Non-Residential Direct Contact Cleanup Criteria	NJDEP Soil Impact to Groundwater Cleanup Criteria
DATA SOURCE:		1996 RI							
SAMPLE DATE:		10/29/96							
MISCELLANEOUS									
% solids	%	85.8					-	-	-
total organic carbon	mg/kg	4250					-	-	-

TABLE 6-3
COMPARISON OF SURFACE SOIL MISCELLANEOUS PARAMETERS DATA TO ARARS AND TBCS - SITE 12
NWS EARLE, COLTS NECK, NEW JERSEY

Footnotes to sample results:

U - Compound or element was not detected. Value is the detection limit (inorganics) or quantitation limit (organics).

UJ - Not detected. Detection limit or quantitation limit shown is considered estimated due to exceedance of data validation quality control criteria.

No Value - Constituent was not analyzed for in this sample.

UR - Nondetected result is considered rejected based on exceedance of data validation quality control criteria.

J - Value is estimated because concentration is below the quantitation limit or because of exceedance of data validation quality control criteria.

R - Positive result is considered rejected based on exceedance of data validation quality control criteria.

N - Compound is considered to be tentatively identified based on exceedance of QC criteria for compound identification.

E - Result exceeds one or more of the selected ARARs.

Footnotes to soil criteria:

- - No standard is available for this chemical in this classification.

@ - Value is New Jersey guideline for maximum total concentration of all organic compounds in soil (including VOCs, SVOCs, and TPH).

CONCENTRATIONS ABOVE SCREENING LEVELS
SITE 12 - BATTERY STORAGE AREA

50 0 50 100 Feet

FIGURE 6-2

Brown & Root Environmental

6.5.1.2 Organics

PAHs were present at levels greater than background in surface soils, with the highest levels occurring in sample 12 SS 03. Benz(a)anthracene, benzo(a)pyrene, carbazole, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzofuran, indeno(1,2,3-cd)pyrene, fluoranthene, fluorene, naphthalene, and pyrene were detected in site-related surface soil samples at levels ranging from 44 ug/kg to 15,500 ug/kg. Many of these compounds are typically associated with treated lumber such as could be found on the adjacent railroad track.

4,4'-DDT (43 ug/kg to 420 ug/kg) and 4,4'-DDE (16 ug/kg to 330 ug/kg) were each detected in two background surface soil samples. These pesticides were detected at similar levels in site-related surface soil samples, with concentrations ranging from 51 ug/kg to 460 ug/kg for 4,4'-DDT and at 29 ug/kg for 4,4'-DDE. Other pesticides, including 4,4'-DDD (19 ug/kg), aldrin (2 ug/kg), alpha-chlordane (4.7 ug/kg to 9.05 ug/kg), and gamma-chlordane (1.8 ug/kg to 14 ug/kg), were also detected in surface soil samples collected at Site 12. PCE was detected in one site-related surface soil sample (12 SS 01) at a concentration of 3 ug/kg.

6.5.1.3 Miscellaneous Parameters

Samples collected in 1996 were analyzed for TOC but did not show levels above background.

6.5.2 Subsurface Soil

Three subsurface soil samples (12 SB 02-03, 12 SB 03-03, and 12 SB 04-03) were collected and analyzed for TAL metals during the RI Addendum field activities. These samples were obtained from depths of approximately 3 feet below the ground surface. Table 6-4 presents the occurrence and distribution of inorganic chemicals in site-related samples and compare them to background. Table 6-3 presents a comparison of detected compounds to ARARs and TBCs. Figure 6-2 shows sample locations and concentrations of compounds that exceed ARARs and TBCs.

6.5.2.1 Inorganics

Subsurface soils collected from a depth of approximately 3 feet below the ground surface generally contained metals in the range of subsurface soil background samples. Those metals exceeding background concentrations were at sample locations 12 SB 02-03 and 12 SB 04-03 and included aluminum (up to 12,400 mg/kg), beryllium (up to 1.1 mg/kg), and magnesium (up to 2,720 mg/kg). Antimony (0.82 mg/kg) was also detected in 12 SB 02-03 but was not detected in background samples.

TABLE 6-4
OCCURRENCE AND DISTRIBUTION OF INORGANICS IN SUBSURFACE SOILS AT SITE 12
NWS EARLE, COLTS NECK, NEW JERSEY
(mg/kg)

	BACKGROUND***				SITE-RELATED					
SUBSTANCE	FREQUENCY OF DETECTION	RANGE OF POSITIVE DETECTION	UTL**	2 X AVERAGE CONCENTRATION	FREQUENCY OF DETECTION	RANGE OF POSITIVE DETECTION	AVERAGE CONCENTRATION	MEAN > 2 X BKGD?	MEAN > BACK UTL?	REPRESENTATIVE CONCENTRATION
ALUMINUM	8 / 8	675 - 5310	2.1E+07	5310	3 / 3	1670 - 12400	8323	YES	NO	12400
ANTIMONY *	NOT DETECTED	-	4.3E+00	-	1 / 3	0.82 - 0.82	0.41	YES	-	0.82
ARSENIC *	8 / 8	1.35 - 14.4	1.5E+02	14.40	3 / 3	0.92 - 16.5	10.17	NO	NO	16.5
BARIUM	8 / 8	0.92 - 31	3.8E+01	15.81	3 / 3	5 - 32.5	22.73	YES	NO	32.5
BERYLLIUM *	2 / 8	0.12 0.28	8.8E-02	0.28	3 3	0.11 1.1	0.69	YES	YES	1.1
CALCIUM	8 / 8	28.6 - 799	3.6E+05	799.00	2 / 2	220 - 410	315.00	NO	NO	410
CHROMIUM	8 / 8	4.7 59.5	2.5E+03	59.50	2 2	35.1 45.2	40.15	NO	NO	45.2
COBALT	4 / 8	0.75 - 5	6.1E+00	2.50	3 / 3	0.79 - 3.5	2.33	NO	NO	3.5
COPPER	8 / 8	0.97 - 8.6	1.6E+01	6.62	3 / 3	2.2 - 9.2	5.63	NO	NO	9.2
IRON	8 / 8	3745 - 62500	1.5E+09	62500	3 / 3	2040 - 40700	24980	NO	NO	40700
LEAD	8 / 8	1.4 - 39.4	5.5E+02	39.40	3 / 3	12.7 - 30.1	20.17	NO	NO	30.1
MAGNESIUM	8 / 8	18.5 619	2.9E+05	619.00	3 3	114 2720	1651	YES	NO	2720
MANGANESE	8 / 8	2.6 - 214	2.4E+02	93.90	3 / 3	11.3 - 111	52.50	NO	NO	111
NICKEL	4 / 8	1.8 - 7.2	9.7E+00	4.02	3 / 3	1.1 - 6.8	4.57	YES	NO	6.8
POTASSIUM	7 / 8	95 - 792	8.1E+05	792.00	3 / 3	159 - 8320	4643	YES	NO	8320
SILVER	2 / 8	0.37 - 0.67	8.8E-01	0.38	1 / 3	0.15 - 0.15	0.09	NO	NO	0.15
SODIUM	8 / 8	17.5 94.8	1.4E+02	60.94	1 3	240 240	131.33	YES	NO	240
VANADIUM	8 / 8	11.05 - 64	2.8E+03	61.59	3 / 3	6.8 - 38	27.17	NO	NO	38
ZINC	6 / 8	0.665 - 50.7	1.2E+03	50.70	3 / 3	8.3 - 43.8	27.57	NO	NO	43.8

* - Selected as a COPC

** - Upper Tolerance Limit = UTL is the concentration that is estimated to contain a designated portion (95%) of all possible sample measurements.

*** - Background samples are as follows: BGSB0100, BGSB0200 (AND A DUPLICATE, DUP-4), BGSB0300, BGSB0400, BGSB0105, BGSB0205, BGSB0305, BGSB0405

6.5.2.2 Miscellaneous Parameters

Samples collected in 1996 were analyzed for TOC but did not show levels above background.

6.5.3 Sediment

Two sediment samples were collected at Site 12: 12 SED 01 and 12 SED 02 (Figure 6-1). Tables 6-5 and 6-6 present the occurrence and distribution of inorganic and organic chemicals in site-related samples and compare them to background. Table 6-3 presents a comparison of detected compounds to ARARs and TBCs. Figure 6-2 shows sample locations and concentrations of compounds that exceed ARARs and TBCs.

6.5.3.1 Inorganics

The two site-related sediment samples revealed barium, iron, and manganese at levels greater than background. Arsenic, lead, and zinc were also detected at levels similar to or slightly greater than the upper range observed in background samples.

6.5.3.2 Organics

PAHs including benz(a)anthracene, benzo(a)pyrene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, fluoranthene, and fluorene were detected in background sediment samples at a range from 140 ug/kg to 1,800 ug/kg. Similar levels of PAHs were detected in sediment samples collected at Site 12. Bis(2-ethylhexyl) phthalate (280 ug/kg to 520 ug/kg) was detected in two site-related sediment samples but was not detected in background samples.

4,4'-DDT (43 ug/kg to 420 ug/kg), 4,4'-DDD (4.9 ug/kg to 21 ug/kg), 4,4'-DDE (16 ug/kg to 330 ug/kg), endosulfan I (0.45 ug/kg), and endrin ketone (1.6 ug/kg) were detected in background sediment samples. These pesticides were detected in site-related sediment samples collected at Site 12 at levels ranging from 11 ug/kg to 19 ug/kg for 4,4'-DDE, 240 ug/kg to 410 ug/kg for endosulfan I, at 35 ug/kg for 4,4'-DDT, 5.5 ug/kg for 4,4'-DDD, and 49 ug/kg for endrin ketone. Alpha-BHC (0.19 ug/kg) and alpha-chlordane (1 ug/kg to 1.2 ug/kg) were also detected in sediment samples collected at Site 12.

TABLE 6-5
OCCURRENCE AND DISTRIBUTION OF INORGANICS IN SEDIMENT AT SITE 12
NWS EARLE, COLTS NECK, NEW JERSEY
(mg/kg)

	BACKGROUND***				SITE-RELATED					
SUBSTANCE	FREQUENCY OF DETECTION	RANGE OF POSITIVE DETECTION	UTL**	2 X AVERAGE CONCENTRATION	FREQUENCY OF DETECTION	RANGE OF POSITIVE DETECTION	AVERAGE CONCENTRATION	MEAN > 2 X BKGD?	MEAN > BACK UTL?	REPRESENTA C NCENTRA
ALUMINUM	6 / 6	839 - 3940	8.1E+07	5460	2 / 2	5220 - 7690	6455	YES	NO	7690
ARSENIC *	5 / 6	2.4 - 9.9	2.9E+02	11.23	2 / 2	9.8 - 13.4	11.60	YES	NO	13.40
BARIUM	6 / 6	3.2 - 15.8	2.9E+02	16.80	2 / 2	29.85 - 51	40.43	YES	NO	51.00
BERYLLIUM	4 / 6	0.34 0.57	3.3E-01	0.72	2 / 2	0.575 - 0.66	0.62	NO	YES	0.66
CALCIUM	6 / 6	179 - 518	6.7E+05	690.83	2 / 2	4670 - 9050	6860	YES	NO	050
CHROMIUM	6 / 6	4.3 - 56	2.6E+03	40.42	2 / 2	26.7 - 29.65	28.18	NO	NO	29.65
COBALT	4 / 6	0.51 2.1	6.4E+00	2.85	2 / 2	1.9 - 1.95	1.93	NO	NO	1.95
COPPER *	6 / 6	1 - 13	1.9E+01	9.08	2 / 2	24.25 - 25.6	24.93	YES	YES	25.60
IRON	6 / 6	228 - 21400	7.2E+09	23589	2 / 2	25350 - 39000	32175	YES	NO	39000
LEAD *	6 / 6	4 - 34.3	4.8E+01	21.07	2 / 2	67 - 75.5	71.25	YES	YES	75.50
MAGNESIUM	6 / 6	60.7 - 880	2.0E+08	809.90	2 / 2	2440 - 2880	2660	YES	NO	2880
MANGANESE *	6 / 6	3.9 - 63.1	8.9E+01	36.22	2 / 2	111.5 - 127	119.25	YES	YES	127.00
MERCURY	1 / 6	0.068 0.068	8.5E-03	0.09	2 / 2	0.012 - 0.0355	0.02	NO	YES	0.04
NICKEL	5 / 6	1.6 - 6	3.4E+01	6.90	2 / 2	4 - 5.45	4.73	NO	NO	5.45
POTASSIUM	5 / 6	86.1 - 2900	1.4E+07	1892	2 / 2	1680 - 2360	2020	YES	NO	2360
SODIUM	4 / 6	26.6 - 2280	2.9E+03	876.80	2 / 2	119 - 125	122.00	NO	NO	125.00
VANADIUM	6 / 6	5.9 - 42.7	2.1E+03	39.42	2 / 2	23.6 - 30.85	27.23	NO	NO	30.85
ZINC	6 / 6	12.5 - 34.7	1.5E+03	41.23	2 / 2	34.1 - 62.5	48.30	YES	NO	62.50

* - Selected as a COPC
** - Upper Tolerance Limit = UTL is the concentration that is estimated to contain a designated portion (95%) of all possible sample measurements.
*** - Background samples are as follows: BGSD01, BGSD02, BGSD04 through BGSD07

TABLE 6-6
OCCURRENCE AND DISTRIBUTION OF RGANICS IN SEDIMENT AT SITE 12
NWS EARLE, COLTS NECK, NEW JERSEY
(ug/kg)

SUBSTANCE	BACKGROUND			SITE-RELATED				
	FREQUENCY OF DETECTION	RANGE OF POSITIVE DETECTION	2 X Average Concentration	FREQUENCY OF DETECTION	RANGE OF POSITIVE DETECTION	Average Concentration	Mean > 2 X Bkgd.?	REPRESENTATIVE CONCENTRATION
2-METHYLNAPHTHALENE *	NOT DETECTED	-	-	1 / 2	51.5	115.75	NO	51.5
BENZO(A)ANTHRACENE *	3 / 6	85 - 560	560.00	2 / 2	250 - 460	355	NO	460
BENZO(A)PYRENE *	3 / 6	110 - 590	393.60	2 / 2	320 - 540	430	YES	540
BENZO(B)FLUORANTHENE *	3 / 6	150 490	346.54	2 / 2	520 - 890	705	YES	890
BENZO(G,H,I)PERYLENE *	3 / 6	51 - 380	380.00	2 / 2	240 - 355	297.5	NO	355
BENZO(K)FLUORANTHENE *	3 / 6	63 - 470	470.00	2 / 2	180 - 295	237.5	NO	295
BIS(2-ETHYLHEXYL)PHTHALATE *	NOT DETECTED	-	-	2 / 2	67 - 95	81	NO	95
CHRYSENE *	3 / 6	130 - 940	677.87	2 / 2	280 - 520	400	NO	520
DIBENZ(A,H)ANTHRACENE *	NOT DETECTED	-	-	2 / 2	60 - 79.5	69.75	NO	79.5
FLUORANTHENE *	3 / 6	240 - 1800	1024	2 / 2	350 - 590	470	NO	590
INDENO(1,2,3-CD)PYRENE *	3 / 6	55 - 310	310.00	2 / 2	240 - 410	325	YES	410
NAPHTHALENE *	NOT DETECTED	-	-	1 / 2	49	114.5	NO	49
PHENANTHRENE *	3 / 6	110 - 1900	1052	2 / 2	110 - 195	152.5	NO	195
PYRENE *	3 / 6	200 - 1900	1077	2 / 2	310 - 545	427.5	NO	545
4,4'-DDD *	2 / 6	4.9 - 21	11.98	1 / 1	5.3	5.3	NO	5.3
4,4'-DDE *	1 / 6	1.7 - 1.7	1.70	2 / 2	11 - 19	15	YES	19
4,4'-DDT *	1 / 6	19 19	10.64	2 / 2	35 - 35	35	YES	35
ALPHA-BHC *	NOT DETECTED	-	-	1 / 2	0.19	0.57	NO	0.19
ALPHA-CHLORDANE *	NOT DETECTED	-	-	2 / 2	1 - 1.2	1.1	NO	1.2
GAMMA-CHLORDANE *	1 / 6	0.095 - 0.095	0.10	2 / 2	0.54 - 0.79	0.665	YES	0.79

* - Selected as a COPC

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6.6 CONTAMINANT FATE AND TRANSPORT

The behavior of contaminants in the environment at Site 12 is described in this subsection. Various chemicals detected and their transport potential in the environment are discussed in Section 6.6.1. Persistence of detected chemicals in the environment is discussed in Section 6.6.2. Section 6.6.3 presents a brief discussion of contaminant trends.

6.6.1 Detected Chemicals and Transport Potential

Analytical results for the media sampled at Site 12 indicate the presence of lead, zinc, and other metals in surface soil, with lower levels of metals present in sediment and subsurface soil samples. PAHs and pesticides were detected at levels greater than background in surface soil and, to a lesser degree, in sediments at Site 12. PCE was detected at a trace level in one surface soil and PCBs were detected at low levels in sediment but were not detected in surface soil. The physical transport data for the detected contaminants are presented in Table 2-8. Additional discussion with respect to chemical and physical properties, contaminant persistence, and contaminant migration pathways is presented in Section 2.3.

The former battery storage area occupied portions of a paved area adjacent to Building R-10. Infiltration is limited by an asphalt parking lot that covers the site. With the exception of PCE, contaminants detected in the surface soil and sediments at Site 12 have low potential for impacts to groundwater. The detected PAHs and pesticides exhibit low solubility and are strongly bound to soil. Inorganic compounds also have a strong tendency to adsorb onto soil/sediment particles, a factor that greatly reduces their mobility. However, processes that transport surface soil particles, such as fugitive dust emissions and erosional transport via surface water pathways, can lead to migration of contaminated media. Surface water runoff at the site is directed to a stormwater collection basin, which discharges water through a concrete culvert, to a drainage swale, and eventually to the marsh area north of the site.

Lead, the major component of the forklift batteries stored at Site 12, was found at concentrations similar to background levels in sediments but at a higher level than background in surface soil. Lead and other metals can migrate by erosional effects of wind or surface water. The potential for lead in the soil to enter the groundwater or surface water exists and would be increased if the pH of surface soils were to decrease. Subsurface soils do not indicate the presence of lead at levels exceeding background; therefore, the potential for migration to groundwater is expected to be low.

The lead contribution at the site may be partially due to leachable lead from the railroad bed ballast; however, based on leachability testing of the ballast material, the lead contribution from the ballast is minimal (see Section 11.3.2).

PCE, which was detected in one surface soil sample, is considered volatile, soluble, and mobile in groundwater. PCE will readily leach from soils and migrate in the subsurface through groundwater transport and soil vapor migration. Volatilization from surface soils is a significant fate process.

6.6.2 Contaminant Persistence

For the classes of detected chemicals, environmental persistence varies widely. Transformation of a chemical to its degradation by-product(s) can be the result of numerous processes including biotransformation and uptake, photolysis, acid- or base-catalyzed reaction, or hydrolysis. The by-product chemical(s) may or may not be significantly different toxicologically or different from a physical transport perspective. If the transformational process is known or suspected, product chemicals can be predicted and extent of transformation can be determined from chemical reaction rate data. Other transformational processes may be identified empirically from analytical data.

Although most chemicals are resistant to chemical change because of their stability and/or lack of reaction sites, many of the more mobile species are subjected to at least limited transformation. Because of more frequent contact with reactive dissolved species and catalysts when compared to unsaturated conditions, the contaminants found in saturated media (groundwater, saturated zone soils, surface water, and sediment) are most likely to be transformed in the environment. Higher molecular weight contaminants tend to be less mobile and less prone to chemical transformation. PAHs can be biodegraded but the rate of degradation is slower for the higher molecular weight compounds.

PCE, which was detected at a trace level in one surface soil, is considered to have low persistence due to its high volatility and solubility. In addition, PCE in the subsurface can be slowly degraded by microorganisms to simpler chlorinated ethenes.

6.6.3 Observed Chemical Contaminant Trends

The detected surface soil contamination indicates elevated levels of several organics and metals. A potential for groundwater contamination with lead also cannot be ruled out, since groundwater quality was not determined during this or previous investigations; however, subsurface soils do not appear to be adversely impacted by lead contamination. The potential for leaching to groundwater would be controlled by factors such as the chemical form of lead, soil cation exchange capacity, soil pH, and the buffering capacity of subsurface soil. Since the site was a temporary storage area rather than a battery reclaiming area, it is unlikely that groundwater pH would be affected. Subsurface soil samples do not indicate significant contamination by metals because levels are generally within the background range.

Organic contaminants in surface soil and sediment fall into three classes: PAHs (which are considered relatively immobile), pesticides (which have varying degrees of mobility), and volatiles (which are considered mobile). Of these classes, the detected levels of PAHs are the highest, although the overall potential for PAH migration impacts is lowest. PAH levels in site-related surface soils were notably greater than levels in background in surface soil samples. Levels of PAHs in site-related sediment samples were within a range similar to background sediment samples.

The significance of a single detection of PCE at levels below quantitation limits is unclear since VOCs were not detected elsewhere in site-related samples and are not related to known previous site activities. Based upon the limited detection, it is safe to conclude that there is not widespread potential for groundwater contamination with PCE resulting from this site.

6.6.4 Conclusions

The principal concern is metals and organics in surface soils in a small area in the vicinity of the north end of Building R-10 near the loading dock and railroad tracks. Some degree of migration of surface soil could occur through windblown particulates or through runoff and erosional dispersion; however, the greatest concern is from compounds near the surface that could be accidentally ingested via direct contact with soil. With the exception of PCE, which is of questionable origin, compounds detected in the surface soil and sediments at Site 12 have low potential for impacts to groundwater. Samples collected along the surface water drainage pathway do not indicate significant migration of lead through erosional soil transport.

The significance of a single detection of PCE at trace levels in surface soil cannot be determined. The presence of this chemical might be attributable to a spill or off-site source.

6.7 BASELINE RISK ASSESSMENT

This section presents the results of the baseline risk assessment for Site 12. The risk assessment was performed using the approach outlined in Section 2.4. Tables 6-7 through 6-9 provide the selected COPCs and representative concentrations of inorganics and organics in site-related surface soil, subsurface soil (inorganics only), and sediment, respectively. COPCs and representative concentrations were selected as described in Sections 2.4.1.1, 2.4.1.2, and 2.4.1.3. Exposure pathways, potential receptors, uncertainties, and conclusions are included.

The risk assessment only identifies exposure and risks, not acceptable levels of these parameters. The results of this risk assessment are used for input into the risk management process, where clean-up goals and remediation procedures are identified for a site.

6.7.1 Risk Characterization

The results of the risk assessment are presented in the risk characterization and are discussed on a receptor-specific basis. The identified potential receptors have been evaluated on the basis of current land use (industrial employee) and hypothetical future land use (industrial employees, residential receptors, and recreational receptors).

6.7.1.1 Current Industrial Employee

Surface Soil Exposure

RME

The estimated total cancer risks for the current industrial employee for exposure to COPCs in surface soil at Site 12 are 2.1E-05 (ingestion) and 4.3E-05 (dermal contact). The total surface soil cancer risk is within the 10^{-4} to 10^{-6} target acceptable risk range often used by EPA to determine the need for action at CERCLA/RCRA sites or formulate standards and criteria (ARARs). The principal COPCs contributing to the surface soil cancer risk are arsenic (ingestion, 41 percent of the cancer risk for this pathway; dermal contact, 100 percent of the cancer risk for this pathway), benzo(a)pyrene (ingestion, 27 percent of the cancer risk for this pathway), and benzo(b)fluoranthene (ingestion, 12 percent of the cancer risk for this pathway).

The estimated noncarcinogenic HIs for the current industrial employee assuming exposure to COPCs in surface soil at Site 12 is less than 1.0 for the ingestion, dermal contact, and inhalation exposure pathways. Adverse noncarcinogenic effects are not expected when the HI is less than 1.0.

Estimated RME carcinogenic risks and noncarcinogenic HQs are presented for current industrial receptors exposed to surface soil at Site 12 in Tables 6-10 and 6-11, respectively.

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RESULTS SUMMARY

PROJECT NAME: NWS EARLE –SITE 12
PROJECT # PO # 018775

FOSTER WHEELER ENVIROMENTAL CORP
ONE OXFORD VALLY, SUITE 200
LANGHORNE, PA 19047-1829
215-702-4015

CHEMTECH PROJECT# 12887NJ
ATTENTION MIKE HEFFRON

Since 1967

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12SS04

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTAL

Project No.: 12887NJ Site: SITE 12 Location: WATER FRONT Group: 12SS04

Matrix: (soil/water) SOIL Lab Sample ID: O80793

Sample wt/vol: 30.0 (g/mL G Lab File ID: B5504.D

Level: (low/med) LOW Date Received: 8/5/99

% Moisture: 5 decanted: (Y/N): N Date Extracted: 8/5/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/18/99

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	14	U
111-44-4	bis(2-Chloroethyl)ether	14	U
108-60-1	2,2'-oxybis(1-Chloropropane)	11	U
95-57-8	2-Chlorophenol	46	U
95-50-1	1,2-Dichlorobenzene	20	U
541-73-1	1,3-Dichlorobenzene	5.2	U
106-46-7	1,4-Dichlorobenzene	12	U
95-48-7	2-Methylphenol	67	U
106-44-5	3+4-Methyphenols	70	U
621-64-7	n-Nitroso-di-n-propylamine	14	U
67-72-1	Hexachloroethane	18	U
98-95-3	Nitrobenzene	6.6	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	110	U
105-67-9	2,4-Dimethylphenol	31	U
111-91-1	bis(2-Chloroethoxy)methane	20	U
120-83-2	2,4-Dichlorophenol	87	U
120-82-1	1,2,4-Trichlorobenzene	9	U
91-20-3	Naphthalene	6.3	U
106-47-8	4-Chloroaniline	70	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	70	U
91-57-6	2-Methylnaphthalene	59	U
77-47-4	Hexachlorocyclopentadiene	9.7	U
88-06-2	2,4,6-Trichlorophenol	44	U
95-95-4	2,4,5-Trichlorophenol	92	U
91-58-7	2-Chloronaphthalene	5.9	U
88-74-4	2-Nitroaniline	120	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	7.6	U
606-20-2	2,6-Dinitrotoluene	16	U
99-09-2	3-Nitroaniline	130	U
83-32-9	Acenaphthene	6.3	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12SS04

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTAL

Project No.: 12887NJ Site: SITE 12 Location: WATER FRONT Group: 12SS04

Matrix: (soil/water) SOIL Lab Sample ID: O80793

Sample wt/vol: 30.0 (g/mL G Lab File ID: B5504.D

Level: (low/med) LOW Date Received: 8/5/99

% Moisture: 5 decanted: (Y/N): N Date Extracted: 8/5/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/18/99

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	170	U
100-02-7	4-Nitrophenol	34	U
132-64-9	Dibenzofuran	55	U
121-14-2	2,4-Dinitrotoluene	9.4	U
84-66-2	Diethylphthalate	8.7	U
7005-72-3	4-Chlorophenyl-phenylether	9.4	U
86-73-7	Fluorene	6.6	U
100-01-6	4-Nitroaniline	180	U
534-52-1	4,6-Dinitro-2-methylphenol	220	U
86-30-6	N-Nitrosodiphenylamine	12	U
101-55-3	4-Bromophenyl-phenylether	23	U
118-74-1	Hexachlorobenzene	16	U
87-86-5	Pentachlorophenol	110	U
85-01-8	Phenanthrene	40	
120-12-7	Anthracene	22	U
86-74-8	Carbazole	51	U
84-74-2	Di-n-butylphthalate	27	U
206-44-0	Fluoranthene	130	
129-00-0	Pyrene	140	
85-68-7	Butylbenzylphthalate	13	U
91-94-1	3,3'-Dichlorobenzidine	140	U
56-55-3	Benzo[a]anthracene	79	
218-01-9	Chrysene	120	
117-81-7	bis(2-Ethylhexyl)phthalate	65	U
117-84-0	Di-n-octylphthalate	17	U
205-99-2	Benzo[b]fluoranthene	150	
207-08-9	Benzo[k]fluoranthene	110	
50-32-8	Benzo[a]pyrene	100	
193-39-5	Indeno [1,2,3-cd] pyrene	27	U
53-70-3	Dibenz[a,h]anthracene	52	U
191-24-2	Benzo[g,h,i]perylene	55	

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SEMIVOLATILE ORGANICS ANALYSI. ATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

12SS04

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTA

Project No.: 1288 Site: SITE 12 Location: WATER FRONT Group: 12SS04

Matrix: (soil/water) SOIL Lab Sample ID: O80793

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B5504.D

Level: (low/med) LOW Date Received: 8/5/99

% Moisture: 5 decanted: (Y/N) N Date Extracted: 8/5/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/18/99

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 14 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1. 109-21-7	Butanoic acid, butyl ester	13.33	340	J
2. 10544-50-0	Sulfur, mol. (S8)	21.40	980	J
3. 57-10-3	Hexadecanoic acid	22.78	1300	J
4. 822-23-1	Acetic acid, octadecyl ester	23.00	400	J
5.	10-Methylnonadecane	23.81	520	J
6.	Unknown	24.63	1000	J
7. 112-95-8	Eicosane	24.72	810	J
8. 106-33-2	Dodecanoic acid, ethyl ester	24.91	330	J
9. 55045-08-4	Dodecane, 2-methyl-6-propyl-	26.41	620	J
10. 593-45-3	Octadecane	27.21	550	J
11. 55333-99-8	Eicosane, 7-hexyl-	27.99	650	J
12. 630-06-8	Hexatriacontane	28.73	400	J
13. 544-85-4	Dotriacontane	29.47	310	J
14.	Unknown	31.85	660	J
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ANALYSIS REPORT
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INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #

12SS04

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 12887

Matrix (soil/water): SOIL Lab Sample ID: 80793S

Level (low/med): LOW Date Received: 08/05/99

% Solids: 94.6

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5670			P
7440-36-0	Antimony	0.92	B		P
7440-38-2	Arsenic	26.1			P
7440-39-3	Barium	20.3	B		P
7440-41-7	Beryllium	0.56			P
7440-43-9	Cadmium	0.10	U		P
7440-70-2	Calcium	1010			P
7440-47-3	Chromium	30.0			P
7440-48-4	Cobalt	3.4	B		P
7440-50-8	Copper	~~20.0~~			P
7439-89-6	Iron	27000			P
7439-92-1	Lead	22.4			P
7439-95-4	Magnesium	855			P
7439-96-5	Manganese	70.8			P
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel	3.0	B		P
7440-09-7	Potassium	1660			P
7782-49-2	Selenium	0.52	U		P
7440-22-4	Silver	0.10	U		P
7440-23-5	Sodium	151	B		P
7440-28-0	Thallium	0.73	U		P
7440-62-2	Vanadium	34.9			P
7440-66-6	Zinc	41.2			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
12SS05

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTAL

Project No.: 12887NJ Site: SITE 12 Location: WATER FRONT Group: 12SS04

Matrix: (soil/water) SOIL Lab Sample ID: O80794

Sample wt/vol: 30.0 (g/mL G Lab File ID: B5505.D

Level: (low/med) LOW Date Received: 8/5/99

% Moisture: 10 decanted: (Y/N): N Date Extracted: 8/5/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/18/99

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	14	U
111-44-4	bis(2-Chloroethyl)ether	15	U
108-60-1	2,2'-oxybis(1-Chloropropane)	11	U
95-57-8	2-Chlorophenol	48	U
95-50-1	1,2-Dichlorobenzene	22	U
541-73-1	1,3-Dichlorobenzene	5.5	U
106-46-7	1,4-Dichlorobenzene	12	U
95-48-7	2-Methylphenol	71	U
106-44-5	3+4-Methyphenols	74	U
621-64-7	n-Nitroso-di-n-propylamine	14	U
67-72-1	Hexachloroethane	19	U
98-95-3	Nitrobenzene	7	U
78-59-1	Isophorone	11	U
88-75-5	2-Nitrophenol	120	U
105-67-9	2,4-Dimethylphenol	32	U
111-91-1	bis(2-Chloroethoxy)methane	21	U
120-83-2	2,4-Dichlorophenol	92	U
120-82-1	1,2,4-Trichlorobenzene	9.5	U
91-20-3	Naphthalene	60	
106-47-8	4-Chloroaniline	74	U
87-68-3	Hexachlorobutadiene	11	U
59-50-7	4-Chloro-3-methylphenol	74	U
91-57-6	2-Methylnaphthalene	180	
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	47	U
95-95-4	2,4,5-Trichlorophenol	97	U
91-58-7	2-Chloronaphthalene	6.2	U
88-74-4	2-Nitroaniline	130	U
131-11-3	Dimethylphthalate	77	
208-96-8	Acenaphthylene	8.1	U
606-20-2	2,6-Dinitrotoluene	17	U
99-09-2	3-Nitroaniline	140	U
83-32-9	Acenaphthene	6.6	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
12SS05

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTAL

Project No.: 12887NJ Site: SITE 12 Location: WATER FRONT Group: 12SS04

Matrix: (soil/water) SOIL Lab Sample ID: O80794

Sample wt/vol: 30.0 (g/mL G Lab File ID: B5505.D

Level: (low/med) LOW Date Received: 8/5/99

% Moisture: 10 decanted: (Y/N): N Date Extracted: 8/5/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/18/99

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	170	U
100-02-7	4-Nitrophenol	36	U
132-64-9	Dibenzofuran	58	U
121-14-2	2,4-Dinitrotoluene	9.9	U
84-66-2	Diethylphthalate	9.2	U
7005-72-3	4-Chlorophenyl-phenylether	9.9	U
86-73-7	Fluorene	7	U
100-01-6	4-Nitroaniline	190	U
534-52-1	4,6-Dinitro-2-methylphenol	230	U
86-30-6	N-Nitrosodiphenylamine	13	U
101-55-3	4-Bromophenyl-phenylether	25	U
118-74-1	Hexachlorobenzene	17	U
87-86-5	Pentachlorophenol	120	U
85-01-8	Phenanthrene	95	
120-12-7	Anthracene	23	U
86-74-8	Carbazole	54	U
84-74-2	Di-n-butylphthalate	29	U
206-44-0	Fluoranthene	170	
129-00-0	Pyrene	160	
85-68-7	Butylbenzylphthalate	14	U
91-94-1	3,3'-Dichlorobenzidine	150	U
56-55-3	Benzo[a]anthracene	59	
218-01-9	Chrysene	130	
117-81-7	bis(2-Ethylhexyl)phthalate	69	U
117-84-0	Di-n-octylphthalate	18	U
205-99-2	Benzo[b]fluoranthene	140	
207-08-9	Benzo[k]fluoranthene	85	J
50-32-8	Benzo[a]pyrene	79	
193-39-5	Indeno [1,2,3-cd] pyrene	29	U
53-70-3	Dibenz[a,h]anthracene	55	U
191-24-2	Benzo[g,h,i]perylene	40	

1F
SEMIVOLATILE ORGANICS ANALYSI. ATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
12SS05

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTA

Project No.: 1288 Site: SITE 12 Location: WATER FRONT Group: 12SS04

Matrix: (soil/water) SOIL Lab Sample ID: O80794

Sample wt/vol: 30.0 (g/mL) G Lab File ID: B5505.D

Level: (low/med) LOW Date Received: 8/5/99

% Moisture: 10 decanted: (Y/N) N Date Extracted: 8/5/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/18/99

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 15 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1. 629-59-4	Tetradecane	13.63	970	J
2. 3891-98-3	Dodecane, 2,6,10-trimethyl-	14.49	630	J
3. 629-62-9	Pentadecane	15.01	1200	J
4. 629-78-7	Heptadecane	17.54	1200	J
5. 6975-98-0	Decane, 2-methyl-	17.60	470	J
6.	Unknown	19.82	890	J
7. 112-95-8	Eicosane	20.89	670	J
8. 593-49-7	Heptacosane	21.91	460	J
9. 57-10-3	Hexadecanoic acid	22.78	560	J
10.	Unknown	24.64	490	J
11. 638-67-5	Tricosane	29.50	560	J
12.	Unknown	30.00	600	J
13.	Unknown	30.19	510	J
14. 55401-75-7	Anthracene, 9-dodecyltetrade	30.61	480	J
15. 544-76-3	Hexadecane	30.89	590	J
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

ANALYSIS REPORT
1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #

12SS05

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 12887

Matrix (soil/water): SOIL Lab Sample ID: 80794S

Level (low/med): LOW Date Received: 08/05/99

% Solids: 90.4

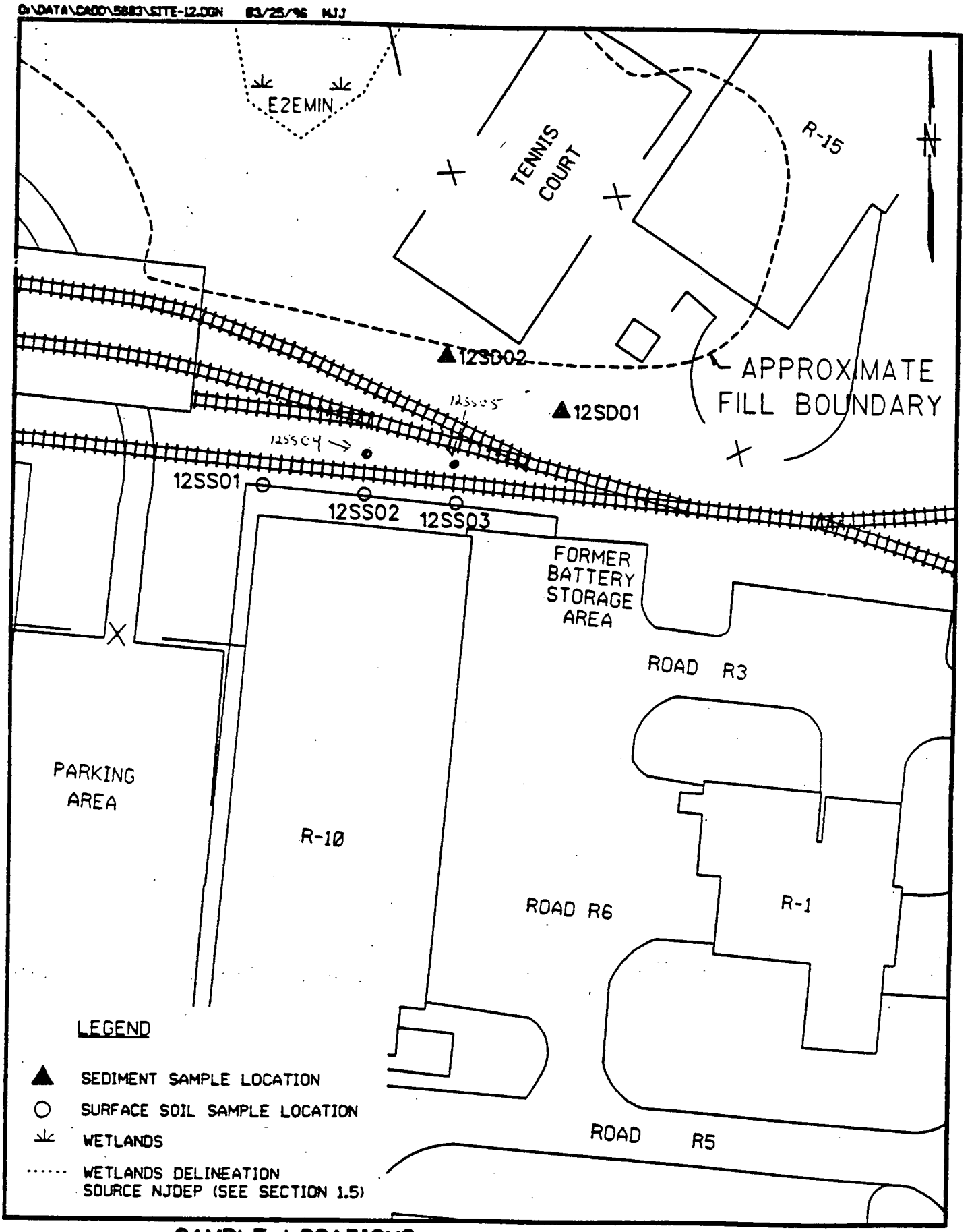
Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9530			P
7440-36-0	Antimony	1.7	B		P
7440-38-2	Arsenic	16.6			P
7440-39-3	Barium	70.4			P
7440-41-7	Beryllium	0.99			P
7440-43-9	Cadmium	0.11	U		P
7440-70-2	Calcium	3100			P
7440-47-3	Chromium	35.2			P
7440-48-4	Cobalt	5.0	B		P
7440-50-8	Copper	41.1			P
7439-89-6	Iron	36900			P
7439-92-1	Lead	122			P
7439-95-4	Magnesium	2090			P
7439-96-5	Manganese	80.0			P
7439-97-6	Mercury	0.13			CV
7440-02-0	Nickel	7.6			P
7440-09-7	Potassium	4120			P
7782-49-2	Selenium	0.54	U		P
7440-22-4	Silver	0.17	B		P
7440-23-5	Sodium	309	B		P
7440-28-0	Thallium	0.75	U		P
7440-62-2	Vanadium	27.4			P
7440-66-6	Zinc	92.7			P
	Cyanide				NR

Color Before: GREY Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:



SAMPLE LOCATIONS

SITE 12 - BATTERY STORAGE AREA

0 50 100

SCALE IN FEET

FIGURE 14-1

Brown & Root Environmental

CHEMTECH

LABORATORY REPORT

REPORT OF ANALYSES

FOSTER WHEELER ENVIRONMENTAL
ONE OXFORD VALLEY
SUITE 200
LANGHORNE, PA 19047-
Attn: MIKE HEFFRON

DATE: 08/09/99

PROJECT # 12887 NJ

SAMPLE NUMBER- 80795
DATE SAMPLED- 08/03/99
DATE RECEIVED- 08/05/99
DELIVERED BY- CHEM

SAMPLE ID- 12WC01
TIME SAMPLED- 1245 SAMPLER- CLIENT
TIME RECEIVED- 1000
RECEIVED BY- AD SAMPLE MATRIX- SO

PRELIMINARY RESULTS

ANALYSIS	METHOD	ANALYSIS DATE	TIME	BY	RESULT	UNITS
IGNITIBILITY	1010	08/06/99		HCP	>100	Degree C
OIL & GREASE	413.1	08/05/99		HNP	243	mg/Kg
CORROSIVITY	Y9045	08/06/99		HSP	6.85	pH Unit
SULFIDE-REACTIVITY	9030	08/05/99		HNP	382	mg/kg
CYANIDE-REACTIVITY	9010	08/05/99		HNP	<1.05	mg/Kg
TOTAL VOLATILE SOLIDS	160.4	08/09/99		HCP	5290	mg/kg
SOLIDS, PERCENT	160.3	08/05/99		BP	93.81	%
PAINT FILTER TEST	9095	08/09/99		HCP	<1.0	mL/kg

LABORATORY DIRECTOR _____

110 Route 4
Englewood, New Jersey 07631
Phone: (201) 567-6868 Fax: (201) 567-1333

515 Route 9
Barnegat, New Jersey 08005
Phone: (609) 698-0199 Fax: (609) 698-0910

NYSDOH Certification No. 10624
NJDEP Certification No. 02548

NJDEP Certification No. 15004

CHEMTECH

LABORATORY REPORT

REPORT OF ANALYSES

FOSTER WHEELER ENVIRONMENTAL
ONE OXFORD VALLEY
SUITE 200
LANGHORNE, PA 19047-
Attn: MIKE HEFFRON

DATE: 08/09/99

PROJECT # 12887 NJ

SAMPLE NUMBER- 80798
DATE SAMPLED- 08/03/99
DATE RECEIVED- 08/05/99
DELIVERED BY- CHEM

SAMPLE ID- 12WC01
TIME SAMPLED- 1245 SAMPLER- CLIENT
TIME RECEIVED- 1000
RECEIVED BY- ASD SAMPLE MATRIX- LE

Page 1 of 1

ANALYSIS	METHOD	ANALYSIS DATE	TIME	BY	RESULT	UNITS
CHEMICAL OXYGEN DEMAND	EPA 410.2	08/06/99		HSP	40.0	mg/L
NITROGEN, AMMONIA	EPA 350.1	08/09/99		ST	< 0.1	mg/L
OIL & GREASE	EPA 413.1	08/05/99		HNP	84.0	mg/L
SOLIDS, TOTAL	EPA 160.2	08/09/99		HSP	89.0	mg/L

COMMENTS: MATRIXS IS LEACHATE

LABORATORY DIRECTOR _____

110 Route 4
Englewood, New Jersey 07631
Phone: (201) 567-6868 Fax: (201) 567-1333

515 Route 9
Barnegat, New Jersey 08005
Phone: (609) 698-0199 Fax: (609) 698-0910

NYSDOH Certification No. 10624
NJDEP Certification No. 02548

NJDEP Certification No. 15004

1A

TCLP VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12WC02

Lab Name: CHEMTECH

Contract: FOSTER WHEELER ENVIRONMENTAL

Project No.: 12887NJ

Site: _____

Location: _____

Group: O12SS04

Matrix: (soil/water) WATER

Lab Sample ID: O80796

Sample wt/vol: 1.0 (g/mL) ML

Lab File ID: N07059.D

Level: (low/med) _____

Date Received: 8/17/99

% Moisture: not dec. 100

Date Analyzed: 8/18/99

GC Column: RTX624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
75-01-4	Vinyl Chloride	50	U
75-35-4	1,1-Dichloroethene	50	U
67-66-3	Chloroform	50	U
107-06-2	1,2-Dichloroethane	50	U
78-93-3	2-Butanone	50	U
56-23-5	Carbon Tetrachloride	50	U
79-01-6	Trichloroethene	50	U
71-43-2	Benzene	50	U
127-18-4	Tetrachloroethene	50	U
108-90-7	Chlorobenzene	50	U

1B

TCLP SEMIVOLATILE ORGANICS ANAL .IS DATA SHEET

SAMPLE NO.

12WC02

Lab Name: CHEMTECH

Contract: FOSTER WHEELER ENVIRONMENTAL

Project No.: 12887NJ

Site: SITE 12

Location: WATER FRONT

Group: 12SS04

Matrix: (soil/water) WATER

Lab Sample ID: O80796

Sample wt/vol: 100.0 (g/mL ML

Lab File ID: B5509.D

Level: (low/med)

Date Received: 8/5/99

% Moisture: 100

decanted: (Y/N): N

Date Extracted: 8/6/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 8/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
110-86-1	Pyridine	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
106-44-5	3+4-Methyphenols	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
87-68-3	Hexachlorobutadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
121-14-2	2,4-Dinitrotoluene	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	11	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

12WC02

Lab Name: CHEMTECH CONSULTING GRUP. Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 12887T

Matrix: (soil/water) WATER Lab Sample ID: 80796T

Sample wt/vol: 50 (g/ml) ML Lab File ID: _____

% Moisture: decanted: (Y/N) Date received: 08/05/99

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 08/17/99

Concentrated Extract Volume: 10000 (uL) Date analyzed: 08/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
58-89-9	gamma-BHC (Lindane)	1.0	U
76-44-8	Heptachlor	1.0	U
1024-57-3	Heptachlor epoxide	1.0	U
72-20-8	Endrin	2.0	U
72-43-5	Methoxychlor	10	U
5103-71-9	Chlordane	20	U
8001-35-2	Toxaphene	100	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

12WC02

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68D20041

Lab Code: CHEM Case No.: SAS No.: SDG No.: 12887H

Matrix: (soil/water) WATER Lab Sample ID: 80796

Sample wt/vol: 50 (g/ml) ML Lab File ID:

% Moisture: decanted: (Y/N) Date received: 08/05/99

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 08/17/99

Concentrated Extract Volume: 10000 (uL) Date analyzed: 08/18/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
94-75-7	2,4-D	5.0	U
93-72-1	SILVEX	5.0	U
93-76-5	2,4,5-T	5.0	U
88-85-7	DINOSEB	500	U

ANALYSIS REPORT
1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #

12WC02

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 12887T

Matrix (soil/water): SOIL Lab Sample ID: 80796TS

Level (low/med): LOW Date Received: 08/05/99

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	6.0	U		P
7439-92-1	Lead	104			P
7440-39-3	Barium	51.1	B		P
7440-43-9	Cadmium	1.9	B		P
7439-97-6	Mercury	0.20	U		CV
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	1.0	U		P
7440-47-3	Chromium	1.0	U		P
7440-02-0	Nickel	8.2	B		P
7440-50-8	Copper	58.5			P
7440-66-6	Zinc	186			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

TCLP EXTRACT

1A

TCLP VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12WC03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTAL

Project No.: 12887NJ Site: Location: Group: O12SS04

Matrix: (soil/water) WATER Lab Sample ID: O80797

Sample wt/vol: 1.0 (g/mL) ML Lab File ID: N07060.D

Level: (low/med) Date Received: 8/17/99

% Moisture: not dec. 100 Date Analyzed: 8/18/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
75-01-4	Vinyl Chloride	50	U
75-35-4	1,1-Dichloroethene	50	U
67-66-3	Chloroform	50	U
107-06-2	1,2-Dichloroethane	10	J
78-93-3	2-Butanone	50	U
56-23-5	Carbon Tetrachloride	50	U
79-01-6	Trichloroethene	50	U
71-43-2	Benzene	50	U
127-18-4	Tetrachloroethene	50	U
108-90-7	Chlorobenzene	50	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

12WC03

Lab Name: CHEMTECH CONSULTING GRUP. Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 12887T

Matrix: (soil/water) WATER Lab Sample ID: 80797T

Sample wt/vol: 50 (g/ml) ML Lab File ID: _____

% Moisture: decanted: (Y/N) Date received: 08/05/99

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 08/17/99

Concentrated Extract Volume: 10000 (uL) Date analyzed: 08/19/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
58-89-9	gamma-BHC (Lindane)	1.0	U
76-44-8	Heptachlor	1.0	U
1024-57-3	Heptachlor epoxide	1.0	U
72-20-8	Endrin	2.0	U
72-43-5	Methoxychlor	10	U
5103-71-9	Chlordane	20	U
8001-35-2	Toxaphene	100	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

12WC03

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68D20041

Lab Code: CHEM Case No.: SAS No.: SDG No.: 12887H

Matrix: (soil/water) WATER Lab Sample ID: 80797

Sample wt/vol: 50 (g/ml) ML Lab File ID: _____

% Moisture: decanted: (Y/N) Date received: 08/05/99

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 08/17/99

Concentrated Extract Volume: 10000 (uL) Date analyzed: 08/18/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
94-75-7	2,4-D	5.0	U
93-72-1	SILVEX	5.0	U
93-76-5	2,4,5-T	5.0	U
88-85-7	DINOSEB	500	U

ANALYSIS REPORT
1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #

12WC03

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 12887T

Matrix (soil/water): SOIL Lab Sample ID: 80797TS

Level (low/med): LOW Date Received: 08/05/99

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	6.0	U		P
7439-92-1	Lead	18.2			P
7440-39-3	Barium	80.9	B		P
7440-43-9	Cadmium	1.1	B		P
7439-97-6	Mercury	0.20	U		CV
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	1.0	U		P
7440-47-3	Chromium	1.0	U		P
7440-02-0	Nickel	9.5	B		P
7440-50-8	Copper	11.8	B		P
7440-66-6	Zinc	122			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

TCLP EXTRACT

Naval Weapons Station-Earle
Site 12
Sample ID:FORM U, 12WC01

All quantities in ppm, except where noted.

Analyte[1]	Form U Guidelines		
	Limit	Lab	pass/fail
VOC (detection limit 50ug/L)			
Benzene	0.425	ND	pass
Carbon Tetrachloride	0.425	ND	pass
Chlorobenzene	85	ND	pass
Chloroform	6.8	ND	pass
1,2-Dichloroethane	0.425	ND	pass
1,1-Dichloroethylene (1,1-Dichloroethene)	0.595	ND	pass
Methyl Ethyl Ketone (2-Butanone)	170	ND	pass
Tetrachloroethane	0.595	ND	pass
Trichloroethene	0.425	ND	pass
Vinyl Chloride	0.17	ND	pass
BNA (detection limit 1.3 - 10 ug/L)			
m-Cresol	{170}[2]	ND	pass
o-Cresol	{170}[2]	ND	pass
p-Cresol	{170}[2]	ND	pass
p-Dichlorobenzene(1,4)	6.375	ND	pass
2,4-Dinitrotoluene	0.1105	ND	pass
Hexachlorobenzene	0.1105	ND	pass
Hexachlorobutadiene	0.425	ND	pass
Hexachloroethane	2.55	ND	pass
Nitrobenzene	1.7	ND	pass
Pentachlorophenol	85	ND	pass
Pyridine	4.25	ND	pass
2,4,6-Trichlorophenol	1.7	ND	pass
2,4,5-Trichlorophenol	340	ND	pass
METALS			
Arsenic	4.25	ND	pass
Barium	85	0.0697	pass
Cadmium	0.85	0.0016	pass
Chromium	4.25	ND	pass
Copper	142	0.012	pass
Lead	4.25	0.024	pass
Mercury	0.17	ND	pass
Nickel	206	0.0075	pass
Selenium	0.85	ND	pass
Silver	4.25	ND	pass
Zinc	1594	0.431	pass

ND Non-Detect
NA Not analyzed
(1) VOC-Volatile Organic Compounds, BNA-Base Neutral Acids
(2) Reported lab concentration is the sum of the three constituent BNA.
Note: "Limit" is 85% of the concentration classifying the waste as hazardous

Naval Weapons Station-Earle
Site 12
Sample ID:FORM U, 12WC01

All quantities in ppm, except where noted.

Analyte[1]	Form U Guidelines		
	Limit	Lab	pass/fail
ASTM LEACHATE			
Chemical Oxygen Demand	-	40	pass
Total Solids	-	89	pass
Ammonia-N	111111	<0.1	pass
Oil & Grease	88550	84	pass
PESTICIDES			
Chlordane	0.0255	ND	pass
Endrin	0.017	ND	pass
Heptachlor	0.0068	ND	pass
Heptachlor Epoxide	0.0068	ND	pass
Lindane	0.34	ND	pass
Methoxychlor	8.5	ND	pass
Toxaphene	0.425	ND	pass
HERBICIDES			
2,4-D	8.5	ND	pass
2,4,5 T (Silvex)	0.85	ND	pass
MISCELLANEOUS			
pH (total)	>2 <12.5	6.85	pass
Ignitability	yes/no	>100	pass
Reactive Sulfide	500	382	pass
Reactive Cyanide	100	<1.05	pass
PCB (detection limit 35 - 70 ug/Kg)	50	0.024	pass
Total Solids	-	93.81%	pass
Total Volatile Solids	-	5290	pass
Paint Filter Test	pass/fail	<1.0mL/Kg	pass
Oil & Grease	-	243 mg/Kg	pass

ND Non-Detect
NA Not analyzed
(1) VOC-Volatile Organic Compounds, BNA-Base Neutral Acids
(2) Reported lab concentration is the sum of the three constituent BNA.
Note: "Limit" is 85% of the concentration classifying the waste as hazardous

Naval Weapons Station-Earle
Site 12
Sample ID:FORM U, 12WC02

All quantities in ppm, except where noted.

Analyte[1]	Form U Guidelines		
	Limit	Lab	pass/fail
VOC (detection limit 50 ug/L)			
Benzene	0.425	ND	pass
Carbon Tetrachloride	0.425	ND	pass
Chlorobenzene	85	ND	pass
Chloroform	6.8	ND	pass
1,2-Dichloroethane	0.425	ND	pass
1,1-Dichloroethylene (1,1-Dichloroethene)	0.595	ND	pass
Methyl Ethyl Ketone (2-Butanone)	170	ND	pass
Tetrachloroethane	0.595	ND	pass
Trichloroethene	0.425	ND	pass
Vinyl Chloride	0.17	ND	pass
BNA (detection limit 10 - 11 ug/L)			
m-Cresol	{170}[2]	ND	pass
o-Cresol	{170}[2]	ND	pass
p-Cresol	{170}[2]	ND	pass
p-Dichlorobenzene(1,4)	6.375	ND	pass
2,4-Dinitrotoluene	0.1105	ND	pass
Hexachlorobenzene	0.1105	ND	pass
Hexachlorobutadiene	0.425	ND	pass
Hexachloroethane	2.55	ND	pass
Nitrobenzene	1.7	ND	pass
Pentachlorophenol	85	ND	pass
Pyridine	4.25	ND	pass
2,4,6-Trichlorophenol	1.7	ND	pass
2,4,5-Trichlorophenol	340	ND	pass
METALS (detection limit 0.2 - 6.0 ug/L)			
Arsenic	4.25	ND	pass
Barium	85	0.0511	pass
Cadmium	0.85	0.0019	pass
Chromium	4.25	ND	pass
Copper	142	0.0585	pass
Lead	4.25	0.104	pass
Mercury	0.17	ND	pass
Nickel	206	0.0082	pass
Selenium	0.85	ND	pass
Silver	4.25	ND	pass
Zinc	1594	0.186	pass
PESTICIDES (detection limit 1 - 100 ug/L)			
Chlordane	0.0255	ND	pass
Endrin	0.017	ND	pass
Heptachlor	0.0068	ND	pass

ND Non-Detect
NA Not analyzed
(1) VOC-Volatile Organic Compounds, BNA-Base Neutral Acids
(2) Reported lab concentration is the sum of the three constituent BNA.

Naval Weapons Station-Earle
Site 12
Sample ID:FORM U, 12WC02

All quantities in ppm, except where noted.

Analyte[1]	Form U Guidelines		
	Limit	Lab	pass/fail
Heptachlor Epoxide	0.0068	ND	pass
Lindane	0.34	ND	pass
Methoxychlor	8.5	ND	pass
Toxaphene	0.425	ND	pass
HERBICIDES (detection limit 5 - 500 ug/L)			
2,4-D	8.5	ND	pass
2,4,5 T (Silvex)	0.85	ND	pass

ND Non-Detect
NA Not analyzed
(1) VOC-Volatile Organic Compounds, BNA-Base Neutral Acids
(2) Reported lab concentration is the sum of the three constituent BNA.

Naval Weapons Station-Earle
Site 12
Sample ID:FORM U, 12WC03

Analyte[1]	Form U Guidelines		
	Limit	Lab	pass/fail
VOC (detection limit 50ug/L)			
Benzene	0.425	ND	pass
Carbon Tetrachloride	0.425	ND	pass
Chlorobenzene	85	ND	pass
Chloroform	6.8	ND	pass
1,2-Dichloroethane	0.425	0.01	pass
1,1-Dichloroethylene (1,1-Dichloroethene)	0.595	ND	pass
Methyl Ethyl Ketone (2-Butanone)	170	ND	pass
Tetrachloroethane	0.595	ND	pass
Trichloroethene	0.425	ND	pass
Vinyl Chloride	0.17	ND	pass
BNA (detection limit 1.3 - 10 ug/L)			
m-Cresol	{170}[2]	ND	pass
o-Cresol	{170}[2]	ND	pass
p-Cresol	{170}[2]	ND	pass
p-Dichlorobenzene(1,4)	6.375	ND	pass
2,4-Dinitrotoluene	0.1105	ND	pass
Hexachlorobenzene	0.1105	ND	pass
Hexachlorobutadiene	0.425	ND	pass
Hexachloroethane	2.55	ND	pass
Nitrobenzene	1.7	ND	pass
Pentachlorophenol	85	ND	pass
Pyridine	4.25	ND	pass
2,4,6-Trichlorophenol	1.7	ND	pass
2,4,5-Trichlorophenol	340	ND	pass
METALS (detection limit 0.2 - 6.0 ug/L)			
Arsenic	4.25	ND	pass
Barium	85	0.0809	pass
Cadmium	0.85	0.0011	pass
Chromium	4.25	ND	pass
Copper	142	0.0118	pass
Lead	4.25	0.0182	pass
Mercury	0.17	ND	pass
Nickel	206	0.0095	pass
Selenium	0.85	ND	pass
Silver	4.25	ND	pass
Zinc	1594	0.122	pass
PESTICIDES			
Chlordane	0.0255	ND	pass
Endrin	0.017	ND	pass
Heptachlor	0.0068	ND	pass
Heptachlor Epoxide	0.0068	ND	pass
Lindane	0.34	ND	pass
Methoxychlor	8.5	ND	pass

ND Non-Detect
NA Not analyzed
(1) VOC-Volatile Organic Compounds, BNA-Base Neutral Acids
(2) Reported lab concentration is the sum of the three constituent BNA.
Note: "Limit" is 85% of the concentration classifying the waste as hazardous

Naval Weapons Station-Earle
Site 12
Sample ID:FORM U, 12WC03

Analyte[1]	Form U Guidelines		
	Limit	Lab	pass/fail
Toxaphene	0.425	ND	pass
HERBICIDES			
2,4-D	8.5	ND	pass
2,4,5 T (Silvex)	0.85	ND	pass

ND Non-Detect
NA Not analyzed
(1) VOC-Volatile Organic Compounds, BNA-Base Neutral Acids
(2) Reported lab concentration is the sum of the three constituent BNA.
Note: "Limit" is 85% of the concentration classifying the waste as hazardous

1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #

12WC07

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 13876T

Matrix (soil/water): SOIL Lab Sample ID: 88447TS

Level (low/med): LOW Date Received: 10/21/99

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	6.0	U		P
7439-92-1	Lead	8.2			P
7440-39-3	Barium	114	B		P
7440-43-9	Cadmium	1.3	B		P
7439-97-6	Mercury	0.20	U		CV
7782-49-2	Selenium	5.0	U		F
7440-22-4	Silver	1.0	U		P
7440-47-3	Chromium	1.0	U		P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

TCLP EXTRACT

FORM I - IN

ILM03.0

ANALYSIS REPORT
1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #

12WC06

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 13876T

Matrix (soil/water): SOIL Lab Sample ID: 88448TS

Level (low/med): LOW Date Received: 10/21/99

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	6.0	U		P
7439-92-1	Lead	68.3			P
7440-39-3	Barium	81.0	B		P
7440-43-9	Cadmium	2.3	B		P
7439-97-6	Mercury	0.20	U		CV
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	1.0	U		P
7440-47-3	Chromium	1.0	U		P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

TCLP EXTRACT

FORM I - IN

ILM03.0

ANALYSIS REPORT
1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #: 12WC09

Lab Name: CHEMTECH CONSULTING GROUP Contract:
Lab Code: CHEM Case No.: SAS No.: SDG No.: 13876T
Matrix (soil/water): SOIL Lab Sample ID: 88449TS
Level (low/med): LOW Date Received: 10/21/99
% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	6.3	B		P
7439-92-1	Lead	6.5			P
7440-39-3	Barium	99.0	B		P
7440-43-9	Cadmium	2.7	B		P
7439-97-6	Mercury	0.20	U		CV
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	1.0	U		P
7440-47-3	Chromium	1.0	U		P

Color Before: COLORLESS Clarity Before: CLEAR Texture:
Color After: COLORLESS Clarity After: CLEAR Artifacts:
Comments:
TCLP EXTRACT

FORM I - IN ILM02.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
12WC07

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTAL
Project No.: 13876NJ
Site:
Location: EARLE NAVAL BAS
Group:
Matrix: (soil/water) SOIL
Sample wt/vol: 10.0 (g/mL) G
Lab Sample ID: 088447
Level: (low/med) MED
Lab File ID: M13353.D
% Moisture: not dec. 1
Date Received: 10/21/99
GC Column: RTX624
ID: 0.53 (mm)
Date Analyzed: 10/26/99
Soil Extract Volume: 25000 (uL)
Dilution Factor: 1.0
Soil Aliquo: Volume: 100 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
75-71-8	Dichlorodifluoromethane	210	U
74-87-3	Chloromethane	420	U
75-01-4	Vinyl Chloride	240	U
74-83-9	Bromomethane	480	U
75-00-3	Chloroethane	630	U
107-02-8	Acrolein	630	U
75-69-4	Trichlorofluoromethane	150	U
75-35-4	1,1-Dichloroethene	240	U
67-64-1	Acetone	630	U
75-15-0	Carbon Disulfide	630	U
75-09-2	Methylene Chloride	130	U
156-60-5	trans-1,2-Dichloroethene	530	U
107-13-1	Acrylonitrile	630	U
75-34-3	1,1-Dichloroethane	160	U
594-20-7	2,2-Dichloropropane	130	U
156-59-2	cis-1,2-dichloroethene	220	U
74-97-5	Bromochloromethane	220	U
67-66-3	Chloroform	150	U
71-55-6	1,1,1-Trichloroethane	110	U
108-05-4	Vinyl Acetate	630	U
78-93-3	2-Butanone	630	U
56-23-5	Carbon Tetrachloride	500	U
563-58-6	1,1-Dichloropropene	140	U
71-43-2	Benzene	130	U
107-06-2	1,2-Dichloroethane	130	U
79-01-6	Trichloroethene	330	U
78-87-5	1,2-Dichloropropane	430	U
74-95-3	Dibromomethane	180	U
75-27-4	Bromodichloromethane	130	U
110-07-3	2-Chloroethyl Vinyl Ether	630	U
10061-01-5	cis-1,3-Dichloropropene	130	U
108-88-3	Toluene	470	U
10061-02-6	trans-1,3-Dichloropropene	130	U

FORM I VOA

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
12WC07

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTAL
Project No.: 13876NJ
Site:
Location: EARLE NAVAL BAS
Matrix: (soil/water) SOIL
Group:
Sample wt/vol: 10.0 (g/mL) G
Lab Sample ID: 088447
Level: (low/med) MED
Lab File ID: M13353.D
% Moisture: not dec. 1
Date Received: 10/21/99
GC Column: RTX624
Date Analyzed: 10/26/99
ID: 0.53 (mm)
Soil Extract Volume: 25000 (uL)
Dilution Factor: 1.0
Soil Aliquot Volume: 100 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
79-00-5	1,1,2-Trichloroethane	170	U
108-10-1	4-Methyl-2-Pentanone	630	U
127-18-4	Tetrachloroethene	140	U
142-28-9	1,3-Dichloropropane	150	U
124-48-1	Dibromochloromethane	88	U
106-93-4	1,2-Dibromoethane	200	U
591-78-6	2-Hexanone	630	U
108-90-7	Chlorobenzene	140	U
630-20-6	1,1,1,2-Tetrachloroethane	150	U
100-41-4	Ethylbenzene	140	U
136777-61-2	m&p-xylenes	680	
95-47-6	o-xylene	150	U
100-42-5	Styrene	25	U
75-25-2	Bromoform	63	U
98-82-8	isopropylbenzene	160	U
108-86-1	Bromobenzene	130	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
96-18-4	1,2,3-Trichloropropane	320	U
103-65-1	n-Propylbenzene	160	U
95-49-8	2-Chlorotoluene	140	U
106-43-4	4-Chlorotoluene	130	U
108-67-8	1,3,5-Trimethylbenzene	200	U
98-06-6	tert-Butylbenzene	150	U
95-63-6	1,2,4-Trimethylbenzene	400	
135-98-8	sec-Butylbenzene	150	U
541-73-1	1,3-Dichlorobenzene	150	U
99-87-6	4-Isopropyltoluene	110	U
106-46-7	1,4-Dichlorobenzene	150	U
95-50-1	1,2-Dichlorobenzene	130	U
104-51-8	n-Butylbenzene	210	U
96-12-8	1,2-Dibromo-3-chloropropane	630	U
120-82-1	1,2,4-Trichlorobenzene	150	U
87-68-3	Hexachlorobutadiene	130	U

FORM I VOA

3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
12WC07

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTAL
Project No.: 13876NJ
Site:
Location: EARLE NAVAL BAS
Group:
Matrix: (soil/water) SOIL
Lab Sample ID: 088447
Sample wt/vol: 10.0 (g/mL) G
Lab File ID: M13353.D
Level: (low/med) MED
Date Received: 10/21/99
% Moisture: not dec. 1
Date Analyzed: 10/26/99
GC Column: RTX624 ID: 0.53 (mm)
Dilution Factor: 1.0
Soil Extrac: Volume: 25000 (uL)
Soil Aliquot Volume: 100 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
91-20-3	Naphthalene	300	U
87-61-6	1,2,3-Trichlorobenzene	180	U

FORM I VOA

3/90

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
12WC07

Lab Name: CHEMTECH

Contract: FOSTER WHEELER ENVIRONMENTA

Project No. 1387

Site: _____

Location: EARLE NAVAL BA

Group: _____

Matrix: (soil/water) SOIL

Lab Sample ID: 08S447

Sample wt/vol: 10.0 (g/mL) G

Lab File ID: M13353.D

Level: (low/med) MED

Date Received: 10/21/99

% Moisture: not dec. 0.99

Date Analyzed: 10/26/99

GC Column: RTX624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL)

Soil Aliquot Volume: 100 (uL)

Number TICs found: 0

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc.	Q
1.				
2.				
3.				
4.				
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29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
TRIP BLANK

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTAL
Project No.: 13876NJ
Site:
Location: EARLE NAVAL BAS
Group:
Matrix: (soil/water) SOIL
Lab Sample ID: 088454
Sample wt/vol: 0.0 (g/mL) G
Level: (low/med) MED
Lab File ID: M13351.D
% Moisture: not dec. 0
Date Received: 10/21/99
GC Column: RTX624 ID: 0.53 (mm)
Date Analyzed: 10/26/99
Soil Extract Volume: 25000 (uL)
Dilution Factor: 1.0
Soil Aliquot Volume: 100 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
75-71-8	Dichlorodifluoromethane	210	U
74-87-3	Chloromethane	420	U
75-01-4	Vinyl Chloride	230	U
74-83-9	Bromomethane	470	U
75-00-3	Chloroethane	630	U
107-02-8	Acrolein	630	U
75-69-4	Trichlorofluoromethane	140	U
75-35-4	1,1-Dichloroethene	240	U
67-64-1	Acetone	630	U
75-15-0	Carbon Disulfide	630	U
75-09-2	Methylene Chloride	130	U
156-60-5	trans-1,2-Dichloroethene	530	U
107-13-1	Acrylonitrile	630	U
75-34-3	1,1-Dichloroethane	160	U
594-20-7	2,2-Dichloropropane	130	U
156-59-2	cis-1,2-dichloroethene	220	U
74-97-5	Bromochloromethane	210	U
67-66-3	Chloroform	150	U
71-55-6	1,1,1-Trichloroethane	110	U
108-05-4	Vinyl Acetate	630	U
78-93-3	2-Butanone	630	U
56-23-5	Carbon Tetrachloride	500	U
563-58-6	1,1-Dichloropropene	140	U
71-43-2	Benzene	130	U
107-06-2	1,2-Dichloroethane	130	U
79-01-6	Trichloroethene	320	U
78-87-5	1,2-Dichloropropane	430	U
74-95-3	Dibromomethane	180	U
75-27-4	Bromodichloromethane	130	U
110-07-3	2-Chloroethyl Vinyl Ether	630	U
10061-01-5	cis-1,3-Dichloropropene	130	U
108-88-3	Toluene	160	U
10061-02-6	trans-1,3-Dichloropropene	130	U

FORM I VOA

3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
TRIP BLANK

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTAL
Project No.: 13876NJ
Site:
Location: EARLE NAVAL BAS
Matrix: (soil/water) SOIL
Group:
Sample wt/vol: 0.0 (g/mL) G
Lab Sample ID: O88454
Level: (low/med) MED
Lab File ID: M13351.D
% Moisture: not dec. 0
Date Received: 10/21/99
GC Column: RTX624
Date Analyzed: 10/26/99
ID: 0.53 (mm)
Soil Extract Volume: 25000 (uL)
Dilution Factor: 1.0
Soil Aliquot Volume: 100 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound	ug/Kg	Q
79-00-5	1,1,2-Trichloroethane	170	U
108-10-1	4-Methyl-2-Pentanone	630	U
127-18-4	Tetrachloroethene	140	U
142-28-9	1,3-Dichloropropane	150	U
124-48-1	Dibromochloromethane	87	U
106-93-4	1,2-Dibromoethane	200	U
591-78-6	2-Hexanone	630	U
108-90-7	Chlorobenzene	140	U
630-20-6	1,1,1,2-Tetrachloroethane	150	U
100-41-4	Ethylbenzene	140	U
135777-61-2	m&p-xylenes	290	U
95-47-6	o-xylene	150	U
100-42-5	Styrene	25	U
75-25-2	Bromoform	62	U
98-82-8	isopropylbenzene	160	U
108-86-1	Bromobenzene	130	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
96-18-4	1,2,3-Trichloropropane	310	U
103-65-1	n-Propylbenzene	160	U
95-49-8	2-Chlorotoluene	140	U
106-43-4	4-Chlorotoluene	130	U
108-67-8	1,3,5-Trimethylbenzene	200	U
98-06-6	tert-Butylbenzene	150	U
95-63-6	1,2,4-Trimethylbenzene	200	U
135-98-8	sec-Butylbenzene	150	U
541-73-1	1,3-Dichlorobenzene	150	U
99-87-6	4-Isopropyltoluene	110	U
106-46-7	1,4-Dichlorobenzene	150	U
95-50-1	1,2-Dichlorobenzene	130	U
104-51-8	n-Butylbenzene	210	U
96-12-8	1,2-Dibromo-3-chloropropane	630	U
120-82-1	1,2,4-Trichlorobenzene	150	U
87-68-3	Hexachlorobutadiene	130	U

FORM I VOA

3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
TRIP BLANK

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTAL
Project No.: 13876NJ
Site: _____
Location: EARLE NAVAL BAS
Group: _____
Matrix: (soil/water) SOIL
Sample wt/vol: 0.0 (g/mL) G
Lab Sample ID: O88454
Level: (low/med) MED
Lab File ID: M13351.D
% Moisture: not dec. 0
Date Received: 10/21/99
GC Column: RTX624
ID: 0.53 (mm)
Date Analyzed: 10/26/99
Soil Extract Volume: 25000 (uL)
Dilution Factor: 1.0
Soil Aliquot Volume: 100 (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
91-20-3	Naphthalene	300	U
87-61-6	1,2,3-Trichlorobenzene	180	U

FORM I VOA

3/90

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
TRIP BLANK

Lab Name: CHEMTECH
Contract: POSTER WHEELER ENVIRONMENTAL
Project No. 1387
Site:
Location: EARLE NAVAL BA
Group:
Matrix: (soil/water) SOIL
Sample wt/vol: 0.0 (g/mL) G
Lab Sample ID: O88454
Level: (low/med) MED
Lab File ID: M13351.D
% Moisture: not dec. 0
Date Received: 10/21/99
GC Column: RTX624
ID: 0.53 (mm)
Date Analyzed: 10/26/99
Soil Extract Volume: 25000 (uL)
Dilution Factor: 1.0
Soil Aliquot Volume: 100 (uL)

Number TICs found: 0
Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc.	Q
1.				
2.				
3.				
4.				
5.				
6.				
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8.				
9.				
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12.				
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14.				
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19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Chemtech Inc., 285 Campus Drive, Plaza 1 Edison, NJ 08837 Tel(732)226-4110 Fax(732)226-4111

ANALYTICAL REPORT
DIESEL RANGE ORGANICS
(C8-C22)

Client: FOSTER WHEELER ENVIRONMENTAL
Report Date: 10/27/99
Received Date: 10/21/99
Extraction Date: 10/25/99

Project: NAVAL WEAPON STATION SITE 1
Analyst: SK
Matrix: SOIL

CLIENT ID	LAB ID	RESULTS (mg/Kg)	MDL (mg/Kg)	ANALYSIS DATE
12SS07-99-1	91634 1:10	ND	19	10/25/99
12SS08-99-01	91635 1:10	1100	22	10/27/99
12SS09-99-01	91636 1:10	ND	22	10/25/99
12SS10-99-1	91637	ND	2.0	10/25/99
12SS11-99-1	91638	ND	2.2	10/25/99
12SS11D-99-1	91639	ND	2.1	10/25/99
12SS12-99-1	91640	ND	2.1	10/25/99
12SS13-99-1	91641	ND	2.0	10/25/99
12SS14-99-1	91642	ND	2.1	10/26/99
12SS15-99-1	91643	36	2.2	10/26/99
12SS16-99-1	91644	ND	2.0	10/26/99
12SS17-99-1	91645	5.7	2.0	10/26/99
12WC07	91646 1:10	ND	20	10/26/99
12WC08	91647 1:10	ND	20	10/26/99
12WC09	91648 1:10	22	19	10/26/99
12SS18-99-01	91649 1:10	ND	20	10/26/99
12SS19-99-01	91650 1:10	118	22	10/26/99

*ANALYSIS PERFORMED BY ANALAB/ICM

CHEMTECH

CHAIN OF CUSTODY RECORD

☐ 110 Route 4
Englewood, NJ 07631
(201) 567-6868
Fax (201) 567-1333

Please check one:
☐ 205 Campus Plaza 1
Edison, NJ 08837
(732) 225-4111
Fax (732) 225-4110

☐ 515 Route 9 South
Barnegat, NJ 08005
(609) 698-0199
Fax (609) 698-0910

CHEMTECH JOB NO.:

CHEMTECH QUOTE NO.:

CLIENT INFORMATION

REPORT TO BE SENT TO

COMPANY: Foster Wheeler Enviro

ADDRESS: One Oxford Valley Suite 200

CITY: Langhorne STATE: PA ZIP: 19047

ATTENTION: Mike Heffron

PHONE: (215) 702-4015 FAX:

PROJECT INFORMATION

PROJECT NAME: NWS-Earle Site 12

PROJECT NO.:

PROJECT MANAGER: Mike Heffron

LOCATION: Leonardo, NJ

PHONE: FAX:

BILLING INFORMATION

BILL TO: Foster Wheeler PO #: 020513

ADDRESS: Same

CITY: STATE: ZIP:

ATTENTION: Rita Lee PHONE:

DATA TURNAROUND INFORMATION

FAX:

HARD COPY: 3 DAYS *

EDD: 14 DAYS *

14 DAYS *

* TO BE APPROVED BY CHEMTECH

** NORMAL TURNAROUND TIME - 14 DAYS

DATA DELIVERABLE INFORMATION

☐ RESULTS ONLY
☐ RESULTS + QC
☒ NJ REDUCED
☐ NJ CLP
☒ EDD FORMAT:
☐ USEPA CLP
☐ NYS ASP "B"
☐ NYS ASP "A"
☐ EDD

ANALYSIS

1 TAL Metals
2 TCL Semi-VOCs
3 TPH (DRO)
4 TCLP Metals
5 TCL VOCs
6
7
8
9

CHEMTECH SAMPLE ID	SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES 1	2	3	4	5	6	7	8	9	COMMENTS
1.	12SS14-99-1	Soil		X	10/5/99	11:50	3	X	X	X							
2.	12SS15-99-1					13:35	3	X	X	X							
3.	12SS16-99-1					13:30	3	X	X	X							
4.	12SS17-99-1					9:25	3	X	X	X							
5.	12WC07-99		X			9:20	3			X	X	X					
6.	12WC08					11:45	2			X	X						
7.	12WC09					11:50	2			X	X						
8.																	

Specify Preservatives
A - HCl B - HNO3
C - H2SO4 D - NaOH
E - ICE F - Other

7 day Turn Around

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:
1. [signature]	10/5/99	1.
RELINQUISHED BY: 2.	DATE/TIME:	RECEIVED BY: 2.
RELINQUISHED BY: 3.	DATE/TIME: 10/21/99	RECEIVED FOR LAB BY: 3. [signature]

Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non-Compliant ☐ Temp. of Cooler 4°C

Comments:

Page 2 of 2

Ver. 8-99

WHITE - CHEMTECH COPY

FOSTER WHEELER ENVIRONMENTAL CORPORATION

November 9, 1999
File: 1284-0034-99-0563

Commanding Officer
Northern Division
Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop #82
Lester, PA 19113-2090
Attn: William Faustman

Subject: US NAVY CONTRACT NO. 62472-94-D-0398
NAVAL WEAPONS STATION-EARLE, D.O. #34
REMOVAL OF OLD RAILROAD TIES
SITE 12: BATTERY STORAGE AREA

Dear Mr. Faustman:

We removed several tons of railroad ties at Site 12: Battery Storage Area in order to excavate the soils at this site. A composite sample was obtained from five separate railroad ties for laboratory analyses of TCLP Semivolatile Organics, which include the Creosol Compounds (Methylphenols). The composite samples were biased towards the dark, oily-stained portions of the railroad ties. The laboratory analyses came back non detect for the TCLP methylphenols, therefore the railroad ties can be transported and recycled off site as non-hazardous. Attached are the laboratory analytical results of the railroad tie sample. The railroad ties are being transported and recycled at Mercer Wrecking in Trenton, New Jersey. This is an approved facility which has undergone a regulatory review by Foster Wheeler.

If you have any questions pertaining to the above, please contact me at (215) 702-4015.

Sincerely,

Michael Heffron, P.G.
Delivery Order Manager

Cc: C. Davis
G. Goepfert
T. Dunn
File

Enclosure

2300 Lincoln Highway East, One Oxford Valley, Suite 200, Langhorne, PA 19047-1829
Phone (215) 702-4000 Fax (215) 702-4045

CHEMTECH

CHAIN OF CUSTODY RECORD

☐ 110 Route 4
Englewood, NJ 07631
(201) 567-6868
Fax (201) 567-1333

Please check one:
☒ 205 Campus Plaza 1
Edison, NJ 08837
(732) 225-4111
Fax (732) 225-4110

☐ 515 Route 9 South
Barnegat, NJ 08005
(609) 698-0199
Fax (609) 698-0910

CHEMTECH JOB NO.: L5542
L5442NJ
CHEMTECH QUOTE NO.:

CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: Foster Wheeler Env. Co.
2300 Lincoln Highway East
ADDRESS: 1 Oxford Valley, Suite 300
CITY: Langhorne STATE: PA ZIP: 19047
ATTENTION: Mike Heffron
PHONE: (215) 702-4015 FAX: (215) 702-4045

PROJECT INFORMATION

PROJECT NAME: N.W.S. Earle; Site 12
PROJECT NO.:
PROJECT MANAGER: Mike Heffron
LOCATION: Naval Weapons St. Earle Leonardo, N.J.
PHONE: (215) 702-4015 FAX: (215) 702-4045

BILLING INFORMATION

BILL TO: Foster Wheeler PO #: 020513
ADDRESS: Same
CITY: STATE: ZIP:
ATTENTION: Rita Lee PHONE: (215) 702-4000

DATA TURNAROUND INFORMATION

FAX: 48 Hr ~~DAYS~~
HARD COPY: 48 Hr ~~DAYS~~
EDD: DAYS
* TO BE APPROVED BY CHEMTECH
** NORMAL TURNAROUND TIME - 10 DAYS

RUSH

DATA DELIVERABLE INFORMATION

☐ RESULTS ONLY
☐ RESULTS + QC
☒ NJ REDUCED
☐ NJ CLP
☐ EDD FORMAT:
☐ USEPA CLP
☐ NYS ASP "B"
☐ NYS ASP "A"
☐ EDD

ANALYSIS

1 TCLP Semi Vol + Cresols combined
2
3
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CHEMTECH SAMPLE ID	SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES 1	2	3	4	5	6	7	8	9	COMMENTS
1.	12WC10	Wood		X	11-4-99	0800	2										
2.																	
3.																	
4.																	
5.																	
6.																	
7.																	
8.																	

* Specify Preservatives
A – HCl B – HNO_3
C – H_2SO_4 D – NaOH
E – ICE F – Other

2-4C

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1. Rick Goldbeck	11-4-99 0830	1.
RELINQUISHED BY: 2. FEDEX	DATE/TIME: 11/5/99 1100	RECEIVED BY: 2.
RELINQUISHED BY: 3.	DATE/TIME:	RECEIVED FOR LAB BY: 3.

Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non-Compliant ☐ Temp. of Cooler ____
Comments:

Page 1 of 1

Shipment Complete: Yes ____ No ____

Ver. 9-99

WHITE – CHEMTECH COPY FOR RETURN TO CLIENT YELLOW – CHEMTECH COPY

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12WC10

Lab Name: CHEMTECH Contract: FOSTER WHEELER

Project No.: L5542 Site: N.W.S. EARLocation: NAVAL WEAPON Group:

Matrix: (soil/water) WATER Lab Sample ID: O92826

Sample wt/vol: 100.0 (g/mL ML Lab File ID: F1594.D

Level: (low/med) Date Received: 11/5/99

% Moisture: 100 decanted: (Y/N): N Date Extracted: 11/8/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/8/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
110-86-1	Pyridine	50	U
106-46-7	1,4-Dichlorobenzene	50	U
95-48-7	2-Methylphenol	100	U
67-72-1	Hexachloroethane	50	U
	3/4-Methylphenols	100	U
98-95-3	Nitrobenzene	50	U
87-68-3	Hexachlorobutadiene	50	U
95-95-4	2,4,5-Trichlorophenol	100	U
88-06-2	2,4,6-Trichlorophenol	100	U
121-14-2	2,4-Dinitrotoluene	50	U
118-74-1	Hexachlorobenzene	50	U
87-86-5	Pentachlorophenol	100	U

1A

TCLP VOLATILE ORGANICS ANALYS ATA SHEET

SAMPLE NO.

O12WC01

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTAL

Project No.: 12887NJ Site: _____ Location: _____ Group: O12SS04

Matrix: (soil/water) WATER Lab Sample ID: O80795

Sample wt/vol: 1.0 (g/mL) ML Lab File ID: N06888.D

Level: (low/med) _____ Date Received: 8/5/99

% Moisture: not dec. 100 Date Analyzed: 8/6/99

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
75-01-4	Vinyl Chloride	50	U
75-35-4	1,1-Dichloroethene	50	U
67-66-3	Chloroform	50	U
107-06-2	1,2-Dichloroethane	50	U
78-93-3	2-Butanone	50	U
56-23-5	Carbon Tetrachloride	50	U
79-01-6	Trichloroethene	50	U
71-43-2	Benzene	50	U
127-18-4	Tetrachloroethene	50	U
108-90-7	Chlorobenzene	50	U

1B

TCLP SEMIVOLATILE ORGANICS ANAl IS DATA SHEET

SAMPLE NO.

12WC01

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTAL

Project No.: 12887NJ Site: SITE 12 Location: WATER FRONT Group: 12SS04

Matrix: (soil/water) WATER Lab Sample ID: O80795

Sample wt/vol: 100.0 (g/mL ML Lab File ID: B5503.D

Level: (low/med) Date Received: 8/5/99

% Moisture: 100 decanted: (Y/N): N Date Extracted: 8/6/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/18/99

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
110-86-1	Pyridine	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
106-44-5	3+4-Methyphenols	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
87-68-3	Hexachlorobutadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	10	U
121-14-2	2,4-Dinitrotoluene	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	11	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

12WC01

Lab Name: CHEMTECH CONSULTING GRUP. Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 12887P

Matrix: (soil/water) SOIL Lab Sample ID: 80795

Sample wt/vol: 30.3 (g/ml) G Lab File ID:

% Moisture: 6 decanted: (Y/N) N Date received: 08/05/99

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 08/05/99

Concentrated Extract Volume: 10000 (uL) Date analyzed: 08/06/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	70	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

12WC01

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68D20041

Lab Code: CHEM Case No.: SAS No.: SDG No.: 12887TH

Matrix: (soil/water) WATER Lab Sample ID: 80795

Sample wt/vol: 50 (g/ml) ML Lab File ID:

% Moisture: decanted: (Y/N) Date received: 08/05/99

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 08/06/99

Concentrated Extract Volume: 10000 (uL) Date analyzed: 08/06/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
94-75-7	2,4-D	5.0	U
93-72-1	SILVEX	5.0	U
93-76-5	2,4,5-T	5.0	U

ANALYSIS REPORT
1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #

12WC01

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 12887T

Matrix (soil/water): SOIL Lab Sample ID: 80795TS

Level (low/med): LOW Date Received: 08/05/99

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	6.0	U		P
7439-92-1	Lead	24.0			P
7440-39-3	Barium	69.7	B		P
7440-43-9	Cadmium	1.6	B		P
7439-97-6	Mercury	0.20	U		CV
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	1.0	U		P
7440-47-3	Chromium	1.0	U		P
7440-02-0	Nickel	7.5	B		P
7440-50-8	Copper	12.0	B		P
7440-66-6	Zinc	431			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

TCLP EXTTRACT

Photo 01: **Removal of railroad ties prior to excavation activities, facing east.**

Photo 02: **Stock-piling of railroad ties.**

Photo 03: **Stock-piled railroad ties after removal.**

Photo 04: **First line of railroad ties removed adjacent to Building R-10.**

Photo 5: **Former track area after the removal of railroad ties.**

Photo 06: **Excavation of contaminated soils facing west.**

Photo 07: **Excavation of contaminated soils facing west..**

Photo 08: **Collection of confirmatory soil samples in excavation, facing west.**

Photo 09: **Close-up of confirmatory soil sample locations adjacent to the western portion of the loading dock.**

Photo 10: **Close-up of confirmatory soil sample locations on the western end of the excavation.**

Photo 11: **Close-up of confirmatory soil sample locations on the northern side of the excavation.**

Photo 12: **Truck loading area during the removal of contaminated soils, facing southeast.**

Photo 13: **Power-washing the former drains located below grade at the loading dock.**

Photo 14: **Cleaning and sealing the former drains at the Building R-10 loading dock.**

Photo 15: **Sealing the inner drains with expanding foam.**

Photo 16: **The former drains at the Building R-10 loading dock sealed with hydraulic cement.**

Photo 17: **Site 12, facing west, after backfilling and grading.**

Photo 18: **Site 12, facing northwest, after backfilling and grading.**

Photo 19: **The grassy area south of Site 12 after repairing with topsoil and seed.**

CHEMTECH
ANALAB/ICM DIVISION

205 Campus Plaza 1 • Raritan Center • Edison, NJ • 08837
Tel. 732.225.4111 Fax 732.225.4110

METHODOLOGY SUMMARY
PROJECT # 13876NJ

VOALTILE ORGANICS
The analysis of Volatile Organics is based on Method 8260B.

SEMIVOALTILE ORGANICS
The analysis of Semivoltile Organic is based on Method 8270.

TOTAL METALS
The analysis of Total Metals is based on Method 6010,except for Mercury which is based on Method 7470/7471.

TCLP METALS
The analysis of TCLP Metals is based on Method 6010.

TPH (DRO)
The analysis of TPH (DRO) is based on Method 8015.

CHEMTECH

CHAIN OF CUSTODY RECORD

Please check one:

☐ 110 Route 4, Englewood, NJ 07631, (201) 567-6868, Fax (201) 567-1333

☐ 205 Campus Plaza 1, Edison, NJ 08837, (732) 225-4111, Fax (732) 225-4110

☐ 515 Route 9 South, Barnegat, NJ 08005, (609) 698-0199, Fax (609) 698-0910

CHEMTECH JOB NO

CHEMTECH QUOTE NO.

CLIENT INFORMATION (REPORT TO BE SENT TO)

COMPANY: Foster Wheeler Enviro

ADDRESS: One Oxford Valley Suite 200

CITY: Langhorne STATE: PA ZIP: 19047

ATTENTION: Mike Heffron

PHONE: FAX:

PROJECT INFORMATION

PROJECT NAME: NWS Earle Site 12

PROJECT NO.:

PROJECT MANAGER: Mike Heffron

LOCATION: Leonardo, NJ

PHONE: FAX:

BILLING INFORMATION

BILL TO: Foster Wheeler PO # 020513

ADDRESS: Same

CITY: STATE: ZIP:

ATTENTION: Rita Lee PHONE:

DATA TURNAROUND INFORMATION

FAX
HARD COPY 3 DAYS *
EDD 14 DAYS *
14 DAYS *

* TO BE APPROVED BY CHEMTECH
** NORMAL TURNAROUND TIME - 14 DAYS

DATA DELIVERABLE INFORMATION

☐ RESULTS ONLY
☐ RESULTS + QC
☒ NJ REDUCED
☐ NJ CLP
☒ EDD FORMAT:
☐ USEPA CLP
☐ NYS ASP "B"
☐ NYS ASP "A"
☐ EDD

ANALYSIS

1 TAL Metals
2 TCL Semi-VOCs
3 TPH (DRO)
4 TCLP Metals
5 TCL VOCs
6
7
8
9

CHEMTECH SAMPLE ID	SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES 1	2	3	4	5	6	7	8	9	COMMENTS
1	125514-99-1	Soil		X	10/6/99	11:50	3	X	X	X							
2	125515-99-1					13:35	3	X	X	X							
3	125516-99-1					13:35	3	X	X	X							
4	125517-99-1					9:25	3	X	X	X							
5	12WC07-99		X			9:20	3			X	X	X					
6	12WC03					11:45	2			X	X						
7	12WC09					11:50	2			X	X						
8																	

Specify Preservatives: A - HCl, B - HNO3, C - H2SO4, D - NaOH, E - ICE, F - Other

7 Day Turn Around

000003

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY	DATE/TIME	RECEIVED BY
1. [signature]	10/8/99	1.
2.	DATE/TIME	2.
3.	DATE/TIME 10/8/99	3. [signature]

Conditions of bottles or coolers at receipt: Compliant / Non-Compliant / Temp of Cooler

Comments:

Page 2 of 3

Shipment Complete: Yes / No

WHITE - CHEMTECH COPY FOR RETURN TO CLIENT YELLOW - CHEMTECH COPY PINK - SAMPLER COPY

CHEMTECH

CHAIN OF CUSTODY RECORD

Please check one:

☐ 110 Route 4, Englewood, NJ 07631, (201) 567-6868, Fax (201) 567-1333

☐ 205 Campus Plaza 1, Edison, NJ 08837, (732) 225-4111, Fax (732) 225-4110

☐ 515 Route 9 South, Barnegat, NJ 08005, (609) 698-0199, Fax (609) 698-0910

CHEMTECH JOB NO.:

CHEMTECH QUOTE NO.:

CLIENT INFORMATION

REPORT TO BE SENT TO

COMPANY: Foster Wheeler Ensiro

ADDRESS: One Oxford Valley Suite 200

CITY: Langhorne STATE: PA ZIP: 19047

ATTENTION: Mike Hoffman

PHONE: (215)702-4015 FAX: (215)702-4045

PROJECT INFORMATION

PROJECT NAME: NWS-Earle Site 12

PROJECT NO.:

PROJECT MANAGER: Mike Hoffman

LOCATION: Leonardo, NJ

PHONE: FAX:

BILLING INFORMATION

BILL TO: Foster Wheeler PO #: 020513

ADDRESS: Same

CITY: STATE: ZIP:

ATTENTION: Rita Lee PHONE:

DATA TURNAROUND INFORMATION

FAX ... 3 DAYS *

HARD COPY ... 14 DAYS *

EDD ... 14 DAYS *

* TO BE APPROVED BY CHEMTECH

** NORMAL TURNAROUND TIME - 14 DAYS

DATA DELIVERABLE INFORMATION

☐ RESULTS ONLY ☐ USEPA CLP

☐ RESULTS + QC ☐ NYS ASP "B"

☒ NJ REDUCED ☐ NYS ASP "A"

☐ NJ CLP ☐ EDD

☒ EDD FORMAT:

ANALYSIS

1 TPH-GRO 2 TCL VOC 3 4 5 6 7 8 9

CHEMTECH SAMPLE ID	SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES 1 (E)	2 (methanol E)	3	4	5	6	7	8	9	COMMENTS
1	125518-99-01	Soil		X	10/20/99	11:15	1	X									
2	125519-99-01	Soil		X	10/20/99	11:30	1	X									
3	12 FB01-	AQ		X	10/20/99	12:20											72hr Turn-Around
4	12 RB01	AQ		X	10/20/99	12:20											
5	Trip Blank	AQ			10/20/99	—			X								
6																	
7																	
8																	

000003

Specify Preservatives: A - HCl, B - HNO3, C - H2SO4, D - NaOH, E - ICE, F - Other

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

	DATE/TIME	RECEIVED BY
1.	10/21/99	1.
2.		2.
3.	10/21/99	3.

Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non-Compliant Temp of Cooler 4°C

Comments: Received Metal & VOC for FB, RB

Page 3 of 3

Shipment Complete: Yes No

WHITE - CHEMTECH COPY FOR RETURN TO CLIENT YELLOW - CHEMTECH COPY PINK - SAMPLER COPY

CHEMTECH
ANALAB/ICM DIVISION

205 Campus Plaza 1 • Raritan Center • Edison, NJ • 08837
Tel. 732.225.4111 Fax 732.225.4110

DATA REPORTING QUALIFIERS - ORGANIC

For reporting results, the following "Results Qualifiers" are used:

VALUE - If the result is a value greater than or equal to the detection limit, report the value.

U - Indicates the compound was analyzed for, but was not detected. Report the minimum detection limit for the sample with the U, ie "10 U". This is not necessarily the instrument detection limit. The figure represents the minimum detection limit attainable for this particular sample based on any concentration or dilution that may have been required.

J - Indicates an estimated value. This flag is used:

(1) When estimating a concentration for a tentatively identified compound (library search hits, where a 1:1 response is assumed).

(2) When the mass spectral data indicated the identification, however the result was less than the specified detection limit but greater than zero. If the detection limit was 10 ug/L and a concentration of 3 ug/L was calculated, report as "3 J".

B - Indicates the analyte was found in the blank as well as the sample; report as "12 B".

E - Indicates the analyte's's concentration exceeds the calibrated range of the GC/MS instrument for that specific analysis.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.

P - This flag is used for a Pesticide/Aroclor target analyte when there is >25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form I and flagged with a "P".

N - This flag indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the flag is not used.

CHEMTECH

DATA REPORTING QUALIFIERS - - INORGANIC

For reporting results, the following "Results Qualifiers" are used:

B - If the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).

U - If the analyte was analyzed for, but not detected.

E - The reported value is estimated because of the presence of interference.

M - Duplicate injection precision not met.

N - Spiked sample recovery not within control limits.

S - The reported value was determined by the Method of Standard Additions (MSA).

W - Post-digestion spike for Furnace AA analysis is out of control limits (85 - 115%), while sample absorbance is less than 50% of spike absorbance.

* - Duplicate analysis not within control limits.

+ - Correlation coefficient for the MSA is less than 0.995.

*** - Entering "S", "W", or "+" is mutually exclusive. No combination of these qualifiers can appear in the same field for an analyte.

M (Method) qualifier

"P" for ICP
"A" for Flame AA
"F" for Furnace AA
"PM" for ICP when Microwave Digestion is used
"AM" for flame AA when Microwave Digestion is used
"FM" for furnace AA when Microwave Digestion is used
"CV" for Manual Cold Vapor AA
"AV" for automated Cold Vapor AA
"CA" for Midi-Distillation Spectrophotometric
"AS" for Semi-Automated Spectrophotometric
"C" for Manual Spectrophotometric
"T" for Titrimetric
"NR" if the analyte is not required to be analyzed

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12SS07-99-1

Lab Name: CHEMTECH

Contract: FOSTER WHEELER ENVIRONMENTAL

Project No.: 13876NJ

Site:

Location: EARLE NAVAL BA

Group: 12SS07-99-

Matrix: (soil/water) SOIL

Lab Sample ID: O88435

Sample wt/vol: 30.0 (g/mL G

Lab File ID: Z04557.D

Level: (low/med) LOW

Date Received: 10/21/99

% Moisture: 13

decanted: (Y/N): N

Date Extracted: 10/22/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 10/27/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	38	U
111-44-4	bis(2-Chloroethyl)ether	38	U
108-60-1	Bis(2-chloroisopropyl)ether	38	U
95-57-8	2-Chlorophenol	50	U
95-50-1	1,2-Dichlorobenzene	38	U
541-73-1	1,3-Dichlorobenzene	38	U
106-46-7	1,4-Dichlorobenzene	38	U
95-48-7	2-Methylphenol	74	U
65794-96-9	3+4-Methyphenols	77	U
621-64-7	n-Nitroso-di-n-propylamine	38	U
67-72-1	Hexachloroethane	38	U
98-95-3	Nitrobenzene	38	U
78-59-1	Isophorone	38	U
88-75-5	2-Nitrophenol	120	U
105-67-9	2,4-Dimethylphenol	38	U
111-91-1	bis(2-Chloroethoxy)methane	38	U
120-83-2	2,4-Dichlorophenol	95	U
120-82-1	1,2,4-Trichlorobenzene	38	U
91-20-3	Naphthalene	38	U
106-47-8	4-Chloroaniline	76	U
87-68-3	Hexachlorobutadiene	38	U
59-50-7	4-Chloro-3-methylphenol	77	U
91-57-6	2-Methylnaphthalene	65	U
77-47-4	Hexachlorocyclopentadiene	38	U
88-06-2	2,4,6-Trichlorophenol	49	U
95-95-4	2,4,5-Trichlorophenol	100	U
91-58-7	2-Chloronaphthalene	38	U
88-74-4	2-Nitroaniline	140	U
131-11-3	Dimethylphthalate	38	U
208-96-8	Acenaphthylene	38	U
606-20-2	2,6-Dinitrotoluene	38	U
99-09-2	3-Nitroaniline	150	U
83-32-9	Acenaphthene	38	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
12SS07-99-1

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTAL
Project No.: 13876NJ
Site:
Location: EARLE NAVAL BA
Group: 12SS07-99-
Matrix: (soil/water) SOIL
Lab Sample ID: O88435
Sample wt/vol: 30.0 (g/mL G
Lab File ID: Z04557.D
Level: (low/med) LOW
Date Received: 10/21/99
% Moisture: 13
decanted: (Y/N): N
Date Extracted: 10/22/99
Concentrated Extract Volume: 1000 (uL)
Date Analyzed: 10/27/99
Injection Volume: 2.0 (uL)
Dilution Factor: 1.0
GPC Cleanup: (Y/N) N
pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	180	U
100-02-7	4-Nitrophenol	38	U
132-64-9	Dibenzofuran	60	U
121-14-2	2,4-Dinitrotoluene	38	U
84-66-2	Diethylphthalate	38	U
7005-72-3	4-Chlorophenyl-phenylether	38	U
86-73-7	Fluorene	38	U
100-01-6	4-Nitroaniline	200	U
534-52-1	4,6-Dinitro-2-methylphenol	240	U
86-30-6	N-Nitrosodiphenylamine	38	U
101-55-3	4-Bromophenyl-phenylether	38	U
118-74-1	Hexachlorobenzene	38	U
87-86-5	Pentachlorophenol	120	U
85-01-8	Phenanthrene	38	U
120-12-7	Anthracene	38	U
86-74-8	Carbazole	56	U
84-74-2	Di-n-butylphthalate	38	U
206-44-0	Fluoranthene	38	U
129-00-0	Pyrene	38	U
85-68-7	Butylbenzylphthalate	38	U
91-94-1	3,3'-Dichlorobenzidine	150	U
56-55-3	Benzo[a]anthracene	38	U
218-01-9	Chrysene	38	U
117-81-7	bis(2-Ethylhexyl)phthalate	71	U
117-84-0	Di-n-octylphthalate	38	U
205-99-2	Benzo[b]fluoranthene	120	U
207-08-9	Benzo[k]fluoranthene	110	U
50-32-8	Benzo[a]pyrene	38	U
193-39-5	Indeno [1,2,3-cd] pyrene	38	U
53-70-3	Dibenz[a,h]anthracene	57	U
191-24-2	Benzo[g,h,i]perylene	38	U

FORM I SV

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

12SS07-99-1

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTA

Project No.: 1387 Site: Location: EARLE NAVAL B Group: 12SS07-9

Matrix: (soil/water) SOIL Lab Sample ID: O88435

Sample wt/vol: 30.0 (g/mL) G Lab File ID: Z04557.D

Level: (low/med) LOW Date Received: 10/21/99

% Moisture: 13 decanted: (Y/N) N Date Extracted: 10/22/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/27/99

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1. 74367-33-2	Propanoic acid, 2-methyl-, 2	13.66	190	J
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ANALYSIS REPORT
1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #

12SS07-99-1

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 13876

Matrix (soil/water): SOIL Lab Sample ID: 88435S

Level (low/med): LOW Date Received: 10/21/99

% Solids: 86.6

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3590			P
7440-36-0	Antimony	0.56	U		P
7440-38-2	Arsenic	6.4			P
7440-39-3	Barium	9.5	B		P
7440-41-7	Beryllium	0.28	B		P
7440-43-9	Cadmium	0.57			P
7440-70-2	Calcium	1940			P
7440-47-3	Chromium	14.3			P
7440-48-4	Cobalt	1.8	B		P
7440-50-8	Copper	9.2			P
7439-89-6	Iron	16900			P
7439-92-1	Lead	12.4			P
7439-95-4	Magnesium	826			P
7439-96-5	Manganese	42.3			P
7439-97-6	Mercury	0.12	U		CV
7440-02-0	Nickel	3.0	B		P
7440-09-7	Potassium	578			P
7782-49-2	Selenium	0.56	U		P
7440-22-4	Silver	0.11	U		P
7440-23-5	Sodium	171	B		P
7440-28-0	Thallium	0.78	U		P
7440-62-2	Vanadium	20.6			P
7440-66-6	Zinc	41.8			P
	Cyanide				NR

olor Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

mm nts:

FORM I - IN

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
12SS08-99-1

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTAL
Project No.: 13876NJ
Site:
Location: EARLE NAVAL BA
Group: 12SS07-99-
Matrix: (soil/water) SOIL
Lab Sample ID: O88436
Sample wt/vol: 30.0 (g/mL G
Lab File ID: Z04555.D
Level: (low/med) LOW
Date Received: 10/21/99
% Moisture: 24
decanted: (Y/N): N
Date Extracted: 10/22/99
Concentrated Extract Volume: 1000 (uL)
Date Analyzed: 10/27/99
Injection Volume: 2.0 (uL)
Dilution Factor: 1.0
GPC Cleanup: (Y/N) N
pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	43	U
111-44-4	bis(2-Chloroethyl)ether	43	U
108-60-1	Bis(2-chloroisopropyl)ether	43	U
95-57-8	2-Chlorophenol	57	U
95-50-1	1,2-Dichlorobenzene	43	U
541-73-1	1,3-Dichlorobenzene	43	U
106-46-7	1,4-Dichlorobenzene	43	U
95-48-7	2-Methylphenol	84	U
65794-96-9	3+4-Methyphenols	88	U
621-64-7	n-Nitroso-di-n-propylamine	43	U
67-72-1	Hexachloroethane	43	U
98-95-3	Nitrobenzene	43	U
78-59-1	Isophorone	43	U
88-75-5	2-Nitrophenol	140	U
105-67-9	2,4-Dimethylphenol	43	U
111-91-1	bis(2-Chloroethoxy)methane	43	U
120-83-2	2,4-Dichlorophenol	110	U
120-82-1	1,2,4-Trichlorobenzene	43	U
91-20-3	Naphthalene	43	U
106-47-8	4-Chloroaniline	87	U
87-68-3	Hexachlorobutadiene	43	U
59-50-7	4-Chloro-3-methylphenol	88	U
91-57-6	2-Methylnaphthalene	74	U
77-47-4	Hexachlorocyclopentadiene	43	U
88-06-2	2,4,6-Trichlorophenol	56	U
95-95-4	2,4,5-Trichlorophenol	110	U
91-58-7	2-Chloronaphthalene	43	U
88-74-4	2-Nitroaniline	160	U
131-11-3	Dimethylphthalate	43	U
208-96-8	Acenaphthylene	43	U
606-20-2	2,6-Dinitrotoluene	43	U
99-09-2	3-Nitroaniline	170	U
83-32-9	Acenaphthene	43	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
12SS08-99-1

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTAL
Project No.: 13876NJ
Site:
Location: EARLE NAVAL BA
Group: 12SS07-99-
Matrix: (soil/water) SOIL
Lab Sample ID: O88436
Sample wt/vol: 30.0 (g/mL G
Lab File ID: Z04555.D
Level: (low/med) LOW
Date Received: 10/21/99
% Moisture: 24
decanted: (Y/N): N
Date Extracted: 10/22/99
Concentrated Extract Volume: 1000 (uL)
Date Analyzed: 10/27/99
Injection Volume: 2.0 (uL)
Dilution Factor: 1.0
GPC Cleanup: (Y/N) N
pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	210	U
100-02-7	4-Nitrophenol	43	U
132-64-9	Dibenzofuran	69	U
121-14-2	2,4-Dinitrotoluene	43	U
84-66-2	Diethylphthalate	43	U
7005-72-3	4-Chlorophenyl-phenylether	43	U
86-73-7	Fluorene	43	U
100-01-6	4-Nitroaniline	230	U
534-52-1	4,6-Dinitro-2-methylphenol	270	U
86-30-6	N-Nitrosodiphenylamine	43	U
101-55-3	4-Bromophenyl-phenylether	43	U
118-74-1	Hexachlorobenzene	43	U
87-86-5	Pentachlorophenol	140	U
85-01-8	Phenanthrene	43	U
120-12-7	Anthracene	43	U
86-74-8	Carbazole	64	U
84-74-2	Di-n-butylphthalate	43	U
206-44-0	Fluoranthene	43	U
129-00-0	Pyrene	43	U
85-68-7	Butylbenzylphthalate	43	U
91-94-1	3,3'-Dichlorobenzidine	180	U
56-55-3	Benzo[a]anthracene	43	U
218-01-9	Chrysene	43	U
117-81-7	bis(2-Ethylhexyl)phthalate	81	U
117-84-0	Di-n-octylphthalate	43	U
205-99-2	Benzo[b]fluoranthene	130	U
207-08-9	Benzo[k]fluoranthene	130	U
50-32-8	Benzo[a]pyrene	43	U
193-39-5	Indeno [1,2,3-cd] pyrene	43	U
53-70-3	Dibenz[a,h]anthracene	65	U
191-24-2	Benzo[g,h,i]perylene	43	U

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
12SS08-99-1

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTA
Project No.: 1387
Site:
Location: EARLE NAVAL B
Group: 12SS07-9
Matrix: (soil/water) SOIL
Lab Sample ID: O88436
Sample wt/vol: 30.0 (g/mL) G
Lab File ID: Z04555.D
Level: (low/med) LOW
Date Received: 10/21/99
% Moisture: 24
decanted: (Y/N) N
Date Extracted: 10/22/99
Concentrated Extract Volume: 1000 (uL)
Date Analyzed: 10/27/99
Injection Volume: 2.0 (uL)
Dilution Factor: 1.0
GPC Cleanup: (Y/N) N
pH:
Number TICs found: 20
Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1.	Unknown	6.16	810	J
2.	Unknown	6.39	1300	J
3.	Unknown	6.50	1100	J
4.	Unknown	6.63	1100	J
5.	Unknown	6.91	1500	J
6.	Unknown	7.12	2600	J
7.	Unknown	7.28	2000	J
8.	Unknown	7.51	950	J
9.	Unknown	8.28	4100	J
10.	Unknown	8.48	1700	J
11.	Unknown	8.57	1100	J
12.	Unknown	8.87	1700	J
13.	Unknown	9.05	1300	J
14.	Unknown	9.16	880	J
15.	Unknown	12.61	1700	J
16.	Unknown	12.86	2400	J
17.	Unknown	14.14	1100	J
18.	Unknown	15.38	1200	J
19.	Unknown	17.88	940	J
20.	Unknown	18.62	2200	J
21.				
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ANALYSIS REPORT
1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #

12SS08-99-1

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 13876

Matrix (soil/water): SOIL Lab Sample ID: 88436S

Level (low/med): LOW Date Received: 10/21/99

% Solids: 76.3

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	13400			P
7440-36-0	Antimony	0.64	U		P
7440-38-2	Arsenic	23.7			P
7440-39-3	Barium	87.9			P
7440-41-7	Beryllium	1.0			P
7440-43-9	Cadmium	0.13	U		P
7440-70-2	Calcium	2160			P
7440-47-3	Chromium	25.9			P
7440-48-4	Cobalt	8.3			P
7440-50-8	Copper	50.0			P
7439-89-6	Iron	38100			P
7439-92-1	Lead	36.6			P
7439-95-4	Magnesium	417	B		P
7439-96-5	Manganese	51.4			P
7439-97-6	Mercury	0.13	U		CV
7440-02-0	Nickel	17.3			P
7440-09-7	Potassium	1400			P
7782-49-2	Selenium	0.64	U		P
7440-22-4	Silver	0.40	B		P
7440-23-5	Sodium	384	B		P
7440-28-0	Thallium	1.4			P
7440-62-2	Vanadium	24.2			P
7440-66-6	Zinc	17.3			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12SS09-99-1

Lab Name: CHEMTECH

Contract: FOSTER WHEELER ENVIRONMENTAL

Project No.: 13876NJ

Site:

Location: EARLE NAVAL BA

Group: 12SS07-99-

Matrix: (soil/water) SOIL

Lab Sample ID: O88437

Sample wt/vol: 30.0 (g/mL G

Lab File ID: Z04556.D

Level: (low/med) LOW

Date Received: 10/21/99

% Moisture: 23

decanted: (Y/N): N

Date Extracted: 10/22/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 10/27/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	43	U
111-44-4	bis(2-Chloroethyl)ether	43	U
108-60-1	Bis(2-chloroisopropyl)ether	43	U
95-57-8	2-Chlorophenol	57	U
95-50-1	1,2-Dichlorobenzene	43	U
541-73-1	1,3-Dichlorobenzene	43	U
106-46-7	1,4-Dichlorobenzene	43	U
95-48-7	2-Methylphenol	83	U
65794-96-9	3+4-Methyphenols	87	U
621-64-7	n-Nitroso-di-n-propylamine	43	U
67-72-1	Hexachloroethane	43	U
98-95-3	Nitrobenzene	43	U
78-59-1	Isophorone	43	U
88-75-5	2-Nitrophenol	140	U
105-67-9	2,4-Dimethylphenol	43	U
111-91-1	bis(2-Chloroethoxy)methane	43	U
120-83-2	2,4-Dichlorophenol	110	U
120-82-1	1,2,4-Trichlorobenzene	43	U
91-20-3	Naphthalene	43	U
106-47-8	4-Chloroaniline	86	U
87-68-3	Hexachlorobutadiene	43	U
59-50-7	4-Chloro-3-methylphenol	86	U
91-57-6	2-Methylnaphthalene	49	J
77-47-4	Hexachlorocyclopentadiene	43	U
88-06-2	2,4,6-Trichlorophenol	55	U
95-95-4	2,4,5-Trichlorophenol	110	U
91-58-7	2-Chloronaphthalene	43	U
88-74-4	2-Nitroaniline	150	U
131-11-3	Dimethylphthalate	43	U
208-96-8	Acenaphthylene	110	
606-20-2	2,6-Dinitrotoluene	43	U
99-09-2	3-Nitroaniline	170	U
83-32-9	Acenaphthene	43	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
12SS09-99-1

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTAL
Project No.: 13876NJ
Site:
Location: EARLE NAVAL BA
Group: 12SS07-99-
Matrix: (soil/water) SOIL
Lab Sample ID: O88437
Sample wt/vol: 30.0 (g/mL G
Lab File ID: Z04556.D
Level: (low/med) LOW
Date Received: 10/21/99
% Moisture: 23
decanted: (Y/N): N
Date Extracted: 10/22/99
Concentrated Extract Volume: 1000 (uL)
Date Analyzed: 10/27/99
Injection Volume: 2.0 (uL)
Dilution Factor: 1.0
GPC Cleanup: (Y/N) N
pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	200	U
100-02-7	4-Nitrophenol	43	U
132-64-9	Dibenzofuran	68	U
121-14-2	2,4-Dinitrotoluene	43	U
84-66-2	Diethylphthalate	43	U
7005-72-3	4-Chlorophenyl-phenylether	43	U
86-73-7	Fluorene	43	U
100-01-6	4-Nitroaniline	230	U
534-52-1	4,6-Dinitro-2-methylphenol	270	U
86-30-6	N-Nitrosodiphenylamine	43	U
101-55-3	4-Bromophenyl-phenylether	43	U
118-74-1	Hexachlorobenzene	43	U
87-86-5	Pentachlorophenol	140	U
85-01-8	Phenanthrene	350	
120-12-7	Anthracene	53	
86-74-8	Carbazole	110	
84-74-2	Di-n-butylphthalate	43	U
206-44-0	Fluoranthene	890	
129-00-0	Pyrene	50	
85-68-7	Butylbenzylphthalate	43	U
91-94-1	3,3'-Dichlorobenzidine	170	U
56-55-3	Benzo[a]anthracene	280	
218-01-9	Chrysene	440	
117-81-7	bis(2-Ethylhexyl)phthalate	80	U
117-84-0	Di-n-octylphthalate	43	U
205-99-2	Benzo[b]fluoranthene	390	
207-08-9	Benzo[k]fluoranthene	280	
50-32-8	Benzo[a]pyrene	200	
193-39-5	Indeno [1,2,3-cd] pyrene	43	U
53-70-3	Dibenz[a,h]anthracene	64	U
191-24-2	Benzo[g,h,i]perylene	89	

FORM I SV

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

12SS09-99-1

Lab Name: CHEMTECH

Contract: FOSTER WHEELER ENVIRONMENTA

Project No.: 1387

Site:

Location: EARLE NAVAL B

Group: 12SS07-9

Matrix: (soil/water) SOIL

Lab Sample ID: O88437

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: Z04556.D

Level: (low/med) LOW

Date Received: 10/21/99

% Moisture: 23

decanted: (Y/N) N

Date Extracted: 10/22/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 10/27/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH:

Number TICs found: 20

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1.	Unknown	9.62	230	J
2.	Unknown	11.27	320	J
3.	Unknown	12.39	200	J
4. 629-50-5	Tridecane	12.80	410	J
5. 74367-33-2	Propanoic acid, 2-methyl-, 2	13.66	210	J
6. 629-59-4	Tetradecane	14.22	270	J
7. 575-37-1	Naphthalene, 1,7-dimethyl-	14.66	150	J
8.	Unknown	18.07	150	J
9. 779-02-2	Anthracene, 9-methyl-	20.47	150	J
10. 2531-84-2	Phenanthrene, 2-methyl-	20.54	160	J
11.	Unknown	20.75	190	J
12. 57-10-3	Hexadecanoic acid	20.94	210	J
13. 35465-71-5	2-Phenylnaphthalene	21.26	140	J
14. 84-65-1	9,10-Anthracenedione	21.32	150	J
15.	Unknown	22.78	460	J
16. 243-17-4	11H-Benzo[b]fluorene	23.70	100	J
17.	Unknown	28.08	170	J
18.	Unknown	28.86	200	J
19. 192-97-2	Benzo[e]pyrene	29.02	450	J
20.	Unknown	29.51	180	J
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ANALYSIS REPORT
1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #

12SS09-99-1

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 13876

Matrix (soil/water): SOIL Lab Sample ID: 88437S

Level (low/med): LOW Date Received: 10/21/99

% Solids: 76.7

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12000			P
7440-36-0	Antimony	1.2	B		P
7440-38-2	Arsenic	17.1			P
7440-39-3	Barium	111			P
7440-41-7	Beryllium	0.96			P
7440-43-9	Cadmium	1.3			P
7440-70-2	Calcium	1940			P
7440-47-3	Chromium	26.9			P
7440-48-4	Cobalt	8.0			P
7440-50-8	Copper	44.6			P
7439-89-6	Iron	34100			P
7439-92-1	Lead	37.4			P
7439-95-4	Magnesium	435	B		P
7439-96-5	Manganese	51.1			P
7439-97-6	Mercury	0.12	U		CV
7440-02-0	Nickel	13.6			P
7440-09-7	Potassium	1390			P
7782-49-2	Selenium	0.89			P
7440-22-4	Silver	0.53	B		P
7440-23-5	Sodium	413	B		P
7440-28-0	Thallium	0.89	U		P
7440-62-2	Vanadium	29.6			P
7440-66-6	Zinc	36.9			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
12SS10-99-1

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTAL
Project No.: 13876NJ
Site:
Location: EARLE NAVAL BA
Group: 12SS07-99-
Matrix: (soil/water) SOIL
Lab Sample ID: O88438
Sample wt/vol: 30.0 (g/mL G
Lab File ID: Z04547.D
Level: (low/med) LOW
Date Received: 10/21/99
% Moisture: 18
decanted: (Y/N): N
Date Extracted: 10/22/99
Concentrated Extract Volume: 1000 (uL)
Date Analyzed: 10/26/99
Injection Volume: 2.0 (uL)
Dilution Factor: 1.0
GPC Cleanup: (Y/N) N
pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	40	U
111-44-4	bis(2-Chloroethyl)ether	40	U
108-60-1	Bis(2-chloroisopropyl)ether	40	U
95-57-8	2-Chlorophenol	53	U
95-50-1	1,2-Dichlorobenzene	40	U
541-73-1	1,3-Dichlorobenzene	40	U
106-46-7	1,4-Dichlorobenzene	40	U
95-48-7	2-Methylphenol	78	U
65794-96-9	3+4-Methyphenols	81	U
621-64-7	n-Nitroso-di-n-propylamine	40	U
67-72-1	Hexachloroethane	40	U
98-95-3	Nitrobenzene	40	U
78-59-1	Isophorone	40	U
88-75-5	2-Nitrophenol	130	U
105-67-9	2,4-Dimethylphenol	40	U
111-91-1	bis(2-Chloroethoxy)methane	40	U
120-83-2	2,4-Dichlorophenol	100	U
120-82-1	1,2,4-Trichlorobenzene	40	U
91-20-3	Naphthalene	40	U
106-47-8	4-Chloroaniline	81	U
87-68-3	Hexachlorobutadiene	40	U
59-50-7	4-Chloro-3-methylphenol	81	U
91-57-6	2-Methylnaphthalene	69	U
77-47-4	Hexachlorocyclopentadiene	40	U
88-06-2	2,4,6-Trichlorophenol	52	U
95-95-4	2,4,5-Trichlorophenol	110	U
91-58-7	2-Chloronaphthalene	40	U
88-74-4	2-Nitroaniline	140	U
131-11-3	Dimethylphthalate	40	U
208-96-8	Acenaphthylene	40	U
606-20-2	2,6-Dinitrotoluene	40	U
99-09-2	3-Nitroaniline	160	U
83-32-9	Acenaphthene	40	U

FORM I SV

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
12SS10-99-1

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTAL
Project No.: 13876NJ
Site:
Location: EARLE NAVAL BA
Group: 12SS07-99-
Matrix: (soil/water) SOIL
Lab Sample ID: O88438
Sample wt/vol: 30.0 (g/mL G
Lab File ID: Z04547.D
Level: (low/med) LOW
Date Received: 10/21/99
% Moisture: 18
decanted: (Y/N): N
Date Extracted: 10/22/99
Concentrated Extract Volume: 1000 (uL)
Date Analyzed: 10/26/99
Injection Volume: 2.0 (uL)
Dilution Factor: 1.0
GPC Cleanup: (Y/N) N
pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	190	U
100-02-7	4-Nitrophenol	40	U
132-64-9	Dibenzofuran	64	U
121-14-2	2,4-Dinitrotoluene	40	U
84-66-2	Diethylphthalate	40	U
7005-72-3	4-Chlorophenyl-phenylether	40	U
86-73-7	Fluorene	40	U
100-01-6	4-Nitroaniline	210	U
534-52-1	4,6-Dinitro-2-methylphenol	250	U
86-30-6	N-Nitrosodiphenylamine	40	U
101-55-3	4-Bromophenyl-phenylether	40	U
118-74-1	Hexachlorobenzene	40	U
87-86-5	Pentachlorophenol	130	U
85-01-8	Phenanthrene	40	U
120-12-7	Anthracene	40	U
86-74-8	Carbazole	60	U
84-74-2	Di-n-butylphthalate	40	U
206-44-0	Fluoranthene	40	U
129-00-0	Pyrene	40	U
85-68-7	Butylbenzylphthalate	40	U
91-94-1	3,3'-Dichlorobenzidine	160	U
56-55-3	Benzo[a]anthracene	40	U
218-01-9	Chrysene	40	U
117-81-7	bis(2-Ethylhexyl)phthalate	75	U
117-84-0	Di-n-octylphthalate	40	U
205-99-2	Benzo[b]fluoranthene	120	U
207-08-9	Benzo[k]fluoranthene	120	U
50-32-8	Benzo[a]pyrene	40	U
193-39-5	Indeno [1,2,3-cd] pyrene	40	U
53-70-3	Dibenz[a,h]anthracene	60	U
191-24-2	Benzo[g,h,i]perylene	40	U

FORM I SV

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
12SS10-99-1

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTA

Project No.: 1387 Site: Location: EARLE NAVAL B Group: 12SS07-9

Matrix: (soil/water) SOIL Lab Sample ID: O88438

Sample wt/vol: 30.0 (g/mL) G Lab File ID: Z04547.D

Level: (low/med) LOW Date Received: 10/21/99

% Moisture: 18 decanted: (Y/N) N Date Extracted: 10/22/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/26/99

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1. 74367-33-2	Propanoic acid, 2-methyl-, 2	13.67	290	J
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ANALYSIS REPORT
1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #: 12SS10-99-1

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 13876

Matrix (soil/water): SOIL Lab Sample ID: 88438S

Level (low/med): LOW Date Received: 10/21/99

% Solids: 81.5

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4600			P
7440-36-0	Antimony	0.61	U		P
7440-38-2	Arsenic	8.1			P
7440-39-3	Barium	13.1	B		P
7440-41-7	Beryllium	0.59	B		P
7440-43-9	Cadmium	0.12	U		P
7440-70-2	Calcium	198	B		P
7440-47-3	Chromium	13.3			P
7440-48-4	Cobalt	1.3	B		P
7440-50-8	Copper	8.9			P
7439-89-6	Iron	41000			P
7439-92-1	Lead	5.7			P
7439-95-4	Magnesium	434	B		P
7439-96-5	Manganese	32.5			P
7439-97-6	Mercury	0.12	U		CV
7440-02-0	Nickel	0.24	U		P
7440-09-7	Potassium	820			P
7782-49-2	Selenium	0.61	U		P
7440-22-4	Silver	0.17	B		P
7440-23-5	Sodium	81.2	B		P
7440-28-0	Thallium	0.85	U		P
7440-62-2	Vanadium	17.0			P
7440-66-6	Zinc	21.5			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

FORM I - IN

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
12SS11-99-1

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTAL
Project No.: 13876NJ
Site:
Location: EARLE NAVAL BA
Group: 12SS07-99-
Matrix: (soil/water) SOIL
Lab Sample ID: O88439
Sample wt/vol: 30.0 (g/mL G
Lab File ID: Z04551.D
Level: (low/med) LOW
Date Received: 10/21/99
% Moisture: 23
decanted: (Y/N): N
Date Extracted: 10/22/99
Concentrated Extract Volume: 1000 (uL)
Date Analyzed: 10/26/99
Injection Volume: 2.0 (uL)
Dilution Factor: 1.0
GPC Cleanup: (Y/N) N
pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	43	U
111-44-4	bis(2-Chloroethyl)ether	43	U
108-60-1	Bis(2-chloroisopropyl)ether	43	U
95-57-8	2-Chlorophenol	57	U
95-50-1	1,2-Dichlorobenzene	43	U
541-73-1	1,3-Dichlorobenzene	43	U
106-46-7	1,4-Dichlorobenzene	43	U
95-48-7	2-Methylphenol	83	U
65794-96-9	3+4-Methyphenols	87	U
621-64-7	n-Nitroso-di-n-propylamine	43	U
67-72-1	Hexachloroethane	43	U
98-95-3	Nitrobenzene	43	U
78-59-1	Isophorone	43	U
88-75-5	2-Nitrophenol	140	U
105-67-9	2,4-Dimethylphenol	43	U
111-91-1	bis(2-Chloroethoxy)methane	43	U
120-83-2	2,4-Dichlorophenol	110	U
120-82-1	1,2,4-Trichlorobenzene	43	U
91-20-3	Naphthalene	43	U
106-47-8	4-Chloroaniline	86	U
87-68-3	Hexachlorobutadiene	43	U
59-50-7	4-Chloro-3-methylphenol	86	U
91-57-6	2-Methylnaphthalene	73	U
77-47-4	Hexachlorocyclopentadiene	43	U
88-06-2	2,4,6-Trichlorophenol	55	U
95-95-4	2,4,5-Trichlorophenol	110	U
91-58-7	2-Chloronaphthalene	43	U
88-74-4	2-Nitroaniline	150	U
131-11-3	Dimethylphthalate	43	U
208-96-8	Acenaphthylene	43	U
606-20-2	2,6-Dinitrotoluene	43	U
99-09-2	3-Nitroaniline	170	U
83-32-9	Acenaphthene	43	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
12SS11-99-1

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTAL
Project No.: 13876NJ
Site:
Location: EARLE NAVAL BA
Group: 12SS07-99-
Matrix: (soil/water) SOIL
Lab Sample ID: O88439
Sample wt/vol: 30.0 (g/mL G
Lab File ID: Z04551.D
Level: (low/med) LOW
Date Received: 10/21/99
% Moisture: 23
decanted: (Y/N): N
Date Extracted: 10/22/99
Concentrated Extract Volume: 1000 (uL)
Date Analyzed: 10/26/99
Injection Volume: 2.0 (uL)
Dilution Factor: 1.0
GPC Cleanup: (Y/N) N
pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	200	U
100-02-7	4-Nitrophenol	43	U
132-64-9	Dibenzofuran	68	U
121-14-2	2,4-Dinitrotoluene	43	U
84-66-2	Diethylphthalate	43	U
7005-72-3	4-Chlorophenyl-phenylether	43	U
86-73-7	Fluorene	43	U
100-01-6	4-Nitroaniline	230	U
534-52-1	4,6-Dinitro-2-methylphenol	270	U
86-30-6	N-Nitrosodiphenylamine	43	U
101-55-3	4-Bromophenyl-phenylether	43	U
118-74-1	Hexachlorobenzene	43	U
87-86-5	Pentachlorophenol	140	U
85-01-8	Phenanthrene	43	U
120-12-7	Anthracene	43	U
86-74-8	Carbazole	63	U
84-74-2	Di-n-butylphthalate	43	U
206-44-0	Fluoranthene	43	U
129-00-0	Pyrene	43	U
85-68-7	Butylbenzylphthalate	43	U
91-94-1	3,3'-Dichlorobenzidine	170	U
56-55-3	Benzo[a]anthracene	43	U
218-01-9	Chrysene	43	U
117-81-7	bis(2-Ethylhexyl)phthalate	80	U
117-84-0	Di-n-octylphthalate	43	U
205-99-2	Benzo[b]fluoranthene	130	U
207-08-9	Benzo[k]fluoranthene	120	U
50-32-8	Benzo[a]pyrene	43	U
193-39-5	Indeno [1,2,3-cd] pyrene	43	U
53-70-3	Dibenz[a,h]anthracene	64	U
191-24-2	Benzo[g,h,i]perylene	43	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

12SS11-99-1

Lab Name: CHEMTECH

Contract: FOSTER WHEELER ENVIRONMENTA

Project No.: 1387

Site:

Location: EARLE NAVAL B

Group: 12SS07-9

Matrix: (soil/water) SOIL

Lab Sample ID: O88439

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: Z04551.D

Level: (low/med) LOW

Date Received: 10/21/99

% Moisture: 23

decanted: (Y/N) N

Date Extracted: 10/22/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 10/26/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH:

Number TICs found: 1

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1. 74367-33-2	Propanoic acid, 2-methyl-, 2	13.67	180	J
2.				
3.				
4.				
5.				
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ANALYSIS REPORT
1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #

12SS11-99-1

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 13876

Matrix (soil/water): SOIL Lab Sample ID: 88439S

Level (low/med): LOW Date Received: 10/21/99

% Solids: 76.6

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6210			P
7440-36-0	Antimony	0.63	U		P
7440-38-2	Arsenic	10.6			P
7440-39-3	Barium	23.5	B		P
7440-41-7	Beryllium	0.62	B		P
7440-43-9	Cadmium	0.13	U		P
7440-70-2	Calcium	956			P
7440-47-3	Chromium	24.1			P
7440-48-4	Cobalt	2.1	B		P
7440-50-8	Copper	11.7			P
7439-89-6	Iron	28400			P
7439-92-1	Lead	18.9			P
7439-95-4	Magnesium	1020			P
7439-96-5	Manganese	63.4			P
7439-97-6	Mercury	0.13	U		CV
7440-02-0	Nickel	3.8	B		P
7440-09-7	Potassium	2080			P
7782-49-2	Selenium	0.63	U		P
7440-22-4	Silver	0.16	B		P
7440-23-5	Sodium	292	B		P
7440-28-0	Thallium	0.89	U		P
7440-62-2	Vanadium	25.1			P
7440-66-6	Zinc	58.2			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
12SS11D-99-1

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTAL
Project No.: 13876NJ
Site:
Location: EARLE NAVAL BA
Group: 12SS07-99-
Matrix: (soil/water) SOIL
Lab Sample ID: O88440
Sample wt/vol: 30.0 (g/mL G
Lab File ID: Z04550.D
Level: (low/med) LOW
Date Received: 10/21/99
% Moisture: 21
decanted: (Y/N): N
Date Extracted: 10/22/99
Concentrated Extract Volume: 1000 (uL)
Date Analyzed: 10/26/99
Injection Volume: 2.0 (uL)
Dilution Factor: 1.0
GPC Cleanup: (Y/N) N
pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	42	U
111-44-4	bis(2-Chloroethyl)ether	42	U
108-60-1	Bis(2-chloroisopropyl)ether	42	U
95-57-8	2-Chlorophenol	55	U
95-50-1	1,2-Dichlorobenzene	42	U
541-73-1	1,3-Dichlorobenzene	42	U
106-46-7	1,4-Dichlorobenzene	42	U
95-48-7	2-Methylphenol	81	U
65794-96-9	3+4-Methyphenols	84	U
621-64-7	n-Nitroso-di-n-propylamine	42	U
67-72-1	Hexachloroethane	42	U
98-95-3	Nitrobenzene	42	U
78-59-1	Isophorone	42	U
88-75-5	2-Nitrophenol	130	U
105-67-9	2,4-Dimethylphenol	42	U
111-91-1	bis(2-Chloroethoxy)methane	42	U
120-83-2	2,4-Dichlorophenol	100	U
120-82-1	1,2,4-Trichlorobenzene	42	U
91-20-3	Naphthalene	42	U
106-47-8	4-Chloroaniline	84	U
87-68-3	Hexachlorobutadiene	42	U
59-50-7	4-Chloro-3-methylphenol	84	U
91-57-6	2-Methylnaphthalene	71	U
77-47-4	Hexachlorocyclopentadiene	42	U
88-06-2	2,4,6-Trichlorophenol	53	U
95-95-4	2,4,5-Trichlorophenol	110	U
91-58-7	2-Chloronaphthalene	42	U
88-74-4	2-Nitroaniline	150	U
131-11-3	Dimethylphthalate	42	U
208-96-8	Acenaphthylene	42	U
606-20-2	2,6-Dinitrotoluene	42	U
99-09-2	3-Nitroaniline	160	U
83-32-9	Acenaphthene	42	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12SS11D-99-1

Lab Name: CHEMTECH

Contract: FOSTER WHEELER ENVIRONMENTAL

Project No.: 13876NJ

Site:

Location: EARLE NAVAL BA

Group: 12SS07-99-

Matrix: (soil/water) SOIL

Lab Sample ID: O88440

Sample wt/vol: 30.0 (g/mL G

Lab File ID: Z04550.D

Level: (low/med) LOW

Date Received: 10/21/99

% Moisture: 21

decanted: (Y/N): N

Date Extracted: 10/22/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 10/26/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	200	U
100-02-7	4-Nitrophenol	42	U
132-64-9	Dibenzofuran	66	U
121-14-2	2,4-Dinitrotoluene	42	U
84-66-2	Diethylphthalate	42	U
7005-72-3	4-Chlorophenyl-phenylether	42	U
86-73-7	Fluorene	42	U
100-01-6	4-Nitroaniline	220	U
534-52-1	4,6-Dinitro-2-methylphenol	260	U
86-30-6	N-Nitrosodiphenylamine	42	U
101-55-3	4-Bromophenyl-phenylether	42	U
118-74-1	Hexachlorobenzene	42	U
87-86-5	Pentachlorophenol	130	U
85-01-8	Phenanthrene	42	U
120-12-7	Anthracene	42	U
86-74-8	Carbazole	62	U
84-74-2	Di-n-butylphthalate	42	U
206-44-0	Fluoranthene	42	U
129-00-0	Pyrene	42	U
85-68-7	Butylbenzylphthalate	42	U
91-94-1	3,3'-Dichlorobenzidine	170	U
56-55-3	Benzo[a]anthracene	42	U
218-01-9	Chrysene	42	U
117-81-7	bis(2-Ethylhexyl)phthalate	78	U
117-84-0	Di-n-octylphthalate	42	U
205-99-2	Benzo[b]fluoranthene	130	U
207-08-9	Benzo[k]fluoranthene	120	U
50-32-8	Benzo[a]pyrene	42	U
193-39-5	Indeno [1,2,3-cd] pyrene	42	U
53-70-3	Dibenz[a,h]anthracene	62	U
191-24-2	Benzo[g,h,i]perylene	42	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

12SS11D-99-1

Lab Name: CHEMTECH

Contract: FOSTER WHEELER ENVIRONMENTA

Project No.: 1387

Site:

Location: EARLE NAVAL B

Group: 12SS07-9

Matrix: (soil/water) SOIL

Lab Sample ID: O88440

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: Z04550.D

Level: (low/med) LOW

Date Received: 10/21/99

% Moisture: 21

decanted: (Y/N) N

Date Extracted: 10/22/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 10/26/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH:

Number TICs found: 10

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1. 124-18-5	Decane	12.79	340	J
2. 74367-33-2	Propanoic acid, 2-methyl-, 2	13.66	250	J
3. 629-59-4	Tetradecane	14.22	300	J
4. 3891-98-3	Dodecane, 2,6,10-trimethyl-	15.05	180	J
5. 544-76-3	Hexadecane	16.82	330	J
6.	Unknown	17.39	140	J
7.	Unknown	18.01	230	J
8.	Unknown	18.07	180	J
9.	Unknown	19.24	130	J
10.	Unknown	20.21	100	J
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ANALYSIS REPORT
1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #

12SS11D-99-1

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 13876

Matrix (soil/water): SOIL Lab Sample ID: 88440S

Level (low/med): LOW Date Received: 10/21/99

% Solids: 79.4

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11400			P
7440-36-0	Antimony	1.3	B		P
7440-38-2	Arsenic	32.9			P
7440-39-3	Barium	33.7			P
7440-41-7	Beryllium	1.3			P
7440-43-9	Cadmium	0.13	U		P
7440-70-2	Calcium	925			P
7440-47-3	Chromium	75.2			P
7440-48-4	Cobalt	3.6	B		P
7440-50-8	Copper	10.3			P
7439-89-6	Iron	52900			P
7439-92-1	Lead	15.8			P
7439-95-4	Magnesium	2030			P
7439-96-5	Manganese	82.5			P
7439-97-6	Mercury	0.13	U		CV
7440-02-0	Nickel	2.7	B		P
7440-09-7	Potassium	4630			P
7782-49-2	Selenium	0.63	U		P
7440-22-4	Silver	0.56	B		P
7440-23-5	Sodium	392	B		P
7440-28-0	Thallium	0.88	U		P
7440-62-2	Vanadium	64.0			P
7440-66-6	Zinc	40.7			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12SS12-99-1

Lab Name: CHEMTECH

Contract: FOSTER WHEELER ENVIRONMENTAL

Project No.: 13876NJ

Site:

Location: EARLE NAVAL BA

Group: 12SS07-99-

Matrix: (soil/water) SOIL

Lab Sample ID: O88441

Sample wt/vol: 30.0 (g/mL G

Lab File ID: Z04546.D

Level: (low/med) LOW

Date Received: 10/21/99

% Moisture: 21

decanted: (Y/N): N

Date Extracted: 10/22/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 10/26/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	42	U
111-44-4	bis(2-Chloroethyl)ether	42	U
108-60-1	Bis(2-chloroisopropyl)ether	42	U
95-57-8	2-Chlorophenol	55	U
95-50-1	1,2-Dichlorobenzene	42	U
541-73-1	1,3-Dichlorobenzene	42	U
106-46-7	1,4-Dichlorobenzene	42	U
95-48-7	2-Methylphenol	81	U
65794-96-9	3+4-Methyphenols	84	U
621-64-7	n-Nitroso-di-n-propylamine	42	U
67-72-1	Hexachloroethane	42	U
98-95-3	Nitrobenzene	42	U
78-59-1	Isophorone	42	U
88-75-5	2-Nitrophenol	130	U
105-67-9	2,4-Dimethylphenol	42	U
111-91-1	bis(2-Chloroethoxy)methane	42	U
120-83-2	2,4-Dichlorophenol	100	U
120-82-1	1,2,4-Trichlorobenzene	42	U
91-20-3	Naphthalene	42	U
106-47-8	4-Chloroaniline	84	U
87-68-3	Hexachlorobutadiene	42	U
59-50-7	4-Chloro-3-methylphenol	84	U
91-57-6	2-Methylnaphthalene	71	U
77-47-4	Hexachlorocyclopentadiene	42	U
88-06-2	2,4,6-Trichlorophenol	53	U
95-95-4	2,4,5-Trichlorophenol	110	U
91-58-7	2-Chloronaphthalene	42	U
88-74-4	2-Nitroaniline	150	U
131-11-3	Dimethylphthalate	42	U
208-96-8	Acenaphthylene	42	U
606-20-2	2,6-Dinitrotoluene	42	U
99-09-2	3-Nitroaniline	160	U
83-32-9	Acenaphthene	42	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12SS12-99-1

Lab Name: CHEMTECH

Contract: FOSTER WHEELER ENVIRONMENTAL

Project No.: 13876NJ

Site:

Location: EARLE NAVAL BA

Group: 12SS07-99-

Matrix: (soil/water) SOIL

Lab Sample ID: O88441

Sample wt/vol: 30.0 (g/mL G

Lab File ID: Z04546.D

Level: (low/med) LOW

Date Received: 10/21/99

% Moisture: 21

decanted: (Y/N): N

Date Extracted: 10/22/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 10/26/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	200	U
100-02-7	4-Nitrophenol	42	U
132-64-9	Dibenzofuran	66	U
121-14-2	2,4-Dinitrotoluene	42	U
84-66-2	Diethylphthalate	42	U
7005-72-3	4-Chlorophenyl-phenylether	42	U
86-73-7	Fluorene	42	U
100-01-6	4-Nitroaniline	220	U
534-52-1	4,6-Dinitro-2-methylphenol	260	U
86-30-6	N-Nitrosodiphenylamine	42	U
101-55-3	4-Bromophenyl-phenylether	42	U
118-74-1	Hexachlorobenzene	42	U
87-86-5	Pentachlorophenol	130	U
85-01-8	Phenanthrene	42	U
120-12-7	Anthracene	42	U
86-74-8	Carbazole	62	U
84-74-2	Di-n-butylphthalate	42	U
206-44-0	Fluoranthene	42	U
129-00-0	Pyrene	42	U
85-68-7	Butylbenzylphthalate	42	U
91-94-1	3,3'-Dichlorobenzidine	170	U
56-55-3	Benzo[a]anthracene	42	U
218-01-9	Chrysene	42	U
117-81-7	bis(2-Ethylhexyl)phthalate	78	U
117-84-0	Di-n-octylphthalate	42	U
205-99-2	Benzo[b]fluoranthene	130	U
207-08-9	Benzo[k]fluoranthene	120	U
50-32-8	Benzo[a]pyrene	42	U
193-39-5	Indeno [1,2,3-cd] pyrene	42	U
53-70-3	Dibenz[a,h]anthracene	62	U
191-24-2	Benzo[g,h,i]perylene	42	U

FORM I SV

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

12SS12-99-1

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTA

Project No.: 1387 Site: Location: EARLE NAVAL B Group: 12SS07-9

Matrix: (soil/water) SOIL Lab Sample ID: O88441

Sample wt/vol: 30.0 (g/mL) G Lab File ID: Z04546.D

Level: (low/med) LOW Date Received: 10/21/99

% Moisture: 21 decanted: (Y/N) N Date Extracted: 10/22/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/26/99

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1. 2639-63-6	Butanoic acid, hexyl ester	13.67	210	J
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ANALYSIS REPORT
1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #

12SS12-99-1

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 13876

Matrix (soil/water): SOIL Lab Sample ID: 88441S

Level (low/med): LOW Date Received: 10/21/99

% Solids: 79.1

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	13000			P
7440-36-0	Antimony	0.61	U		P
7440-38-2	Arsenic	22.9			P
7440-39-3	Barium	52.3			P
7440-41-7	Beryllium	1.2			P
7440-43-9	Cadmium	0.12	U		P
7440-70-2	Calcium	2620			P
7440-47-3	Chromium	47.4			P
7440-48-4	Cobalt	3.8	B		P
7440-50-8	Copper	9.5			P
7439-89-6	Iron	54600			P
7439-92-1	Lead	12.9			P
7439-95-4	Magnesium	2180			P
7439-96-5	Manganese	75.2			P
7439-97-6	Mercury	0.13	U		CV
7440-02-0	Nickel	2.2	B		P
7440-09-7	Potassium	6110			P
7782-49-2	Selenium	0.61	U		P
7440-22-4	Silver	0.27	B		P
7440-23-5	Sodium	438	B		P
7440-28-0	Thallium	0.86	U		P
7440-62-2	Vanadium	43.9			P
7440-66-6	Zinc	38.6			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12SS13-99-1

Lab Name: CHEMTECH

Contract: FOSTER WHEELER ENVIRONMENTAL

Project No.: 13876NJ

Site:

Location: EARLE NAVAL BA

Group: 12SS07-99-

Matrix: (soil/water) SOIL

Lab Sample ID: O88442

Sample wt/vol: 30.0 (g/mL G

Lab File ID: Z04553.D

Level: (low/med) LOW

Date Received: 10/21/99

% Moisture: 17

decanted: (Y/N): N

Date Extracted: 10/22/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 10/27/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	40	U
111-44-4	bis(2-Chloroethyl)ether	40	U
108-60-1	Bis(2-chloroisopropyl)ether	40	U
95-57-8	2-Chlorophenol	52	U
95-50-1	1,2-Dichlorobenzene	40	U
541-73-1	1,3-Dichlorobenzene	40	U
106-46-7	1,4-Dichlorobenzene	40	U
95-48-7	2-Methylphenol	77	U
65794-96-9	3-4-Methyphenols	80	U
621-64-7	n-Nitroso-di-n-propylamine	40	U
67-72-1	Hexachloroethane	40	U
98-95-3	Nitrobenzene	40	U
78-59-1	Isophorone	40	U
88-75-5	2-Nitrophenol	130	U
105-67-9	2,4-Dimethylphenol	40	U
111-91-1	bis(2-Chloroethoxy)methane	40	U
120-83-2	2,4-Dichlorophenol	100	U
120-82-1	1,2,4-Trichlorobenzene	40	U
91-20-3	Naphthalene	40	U
106-47-8	4-Chloroaniline	80	U
87-68-3	Hexachlorobutadiene	40	U
59-50-7	4-Chloro-3-methylphenol	80	U
91-57-6	2-Methylnaphthalene	46	J
77-47-4	Hexachlorocyclopentadiene	40	U
88-06-2	2,4,6-Trichlorophenol	51	U
95-95-4	2,4,5-Trichlorophenol	100	U
91-58-7	2-Chloronaphthalene	40	U
88-74-4	2-Nitroaniline	140	U
131-11-3	Dimethylphthalate	40	U
208-96-8	Acenaphthylene	40	U
606-20-2	2,6-Dinitrotoluene	40	U
99-09-2	3-Nitroaniline	150	U
83-32-9	Acenaphthene	40	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12SS13-99-1

Lab Name: CHEMTECH

Contract: FOSTER WHEELER ENVIRONMENTAL

Project No.: 13876NJ

Site:

Location: EARLE NAVAL BA

Group: 12SS07-99-

Matrix: (soil/water) SOIL

Lab Sample ID: O88442

Sample wt/vol: 30.0 (g/mL G

Lab File ID: Z04553.D

Level: (low/med) LOW

Date Received: 10/21/99

% Moisture: 17

decanted: (Y/N): N

Date Extracted: 10/22/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 10/27/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	190	U
100-02-7	4-Nitrophenol	40	U
132-64-9	Dibenzofuran	63	U
121-14-2	2,4-Dinitrotoluene	40	U
84-66-2	Diethylphthalate	40	U
7005-72-3	4-Chlorophenyl-phenylether	40	U
86-73-7	Fluorene	40	U
100-01-6	4-Nitroaniline	210	U
534-52-1	4,6-Dinitro-2-methylphenol	250	U
86-30-6	N-Nitrosodiphenylamine	40	U
101-55-3	4-Bromophenyl-phenylether	40	U
118-74-1	Hexachlorobenzene	40	U
87-86-5	Pentachlorophenol	130	U
85-01-8	Phenanthrene	40	U
120-12-7	Anthracene	40	U
86-74-8	Carbazole	59	U
84-74-2	Di-n-butylphthalate	40	U
206-44-0	Fluoranthene	40	U
129-00-0	Pyrene	40	U
85-68-7	Butylbenzylphthalate	40	U
91-94-1	3,3'-Dichlorobenzidine	160	U
56-55-3	Benzo[a]anthracene	40	U
218-01-9	Chrysene	40	U
117-81-7	bis(2-Ethylhexyl)phthalate	74	U
117-84-0	Di-n-octylphthalate	40	U
205-99-2	Benzo[b]fluoranthene	120	U
207-08-9	Benzo[k]fluoranthene	120	U
50-32-8	Benzo[a]pyrene	40	U
193-39-5	Indeno [1,2,3-cd] pyrene	40	U
53-70-3	Dibenz[a,h]anthracene	59	U
191-24-2	Benzo[g,h,i]perylene	40	U

FORM I SV

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS.

SAMPLE NO.
12SS13-99-1

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTA
Project No.: 1387
Site:
Location: EARLE NAVAL B
Group: 12SS07-9
Matrix: (soil/water) SOIL
Lab Sample ID: O88442
Sample wt/vol: 30.0 (g/mL) G
Lab File ID: Z04553.D
Level: (low/med) LOW
Date Received: 10/21/99
% Moisture: 17
decanted: (Y/N) N
Date Extracted: 10/22/99
Concentrated Extract Volume: 1000 (uL)
Date Analyzed: 10/27/99
Injection Volume: 2.0 (uL)
Dilution Factor: 1.0
GPC Cleanup: (Y/N) N
pH:

Number TICs found: 20
Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1.	Unknown	15.05	170	J
2.	Unknown	18.07	190	J
3. 1921-70-6	Pentadecane, 2,6,10,14-tetra	19.24	180	J
4. 10544-50-0	Sulfur, mol. (S8)	22.06	180	J
5.	Unknown	28.45	410	J
6.	Unknown	28.54	410	J
7.	Unknown	28.84	470	J
8.	Unknown	29.00	250	J
9.	Unknown	29.14	440	J
10.	Unknown	29.19	280	J
11.	Unknown	29.44	300	J
12.	Unknown	29.98	890	J
13.	Unknown	30.21	350	J
14.	Unknown	30.35	690	J
15.	Unknown	30.53	600	J
16.	Unknown	30.58	440	J
17.	Unknown	31.29	940	J
18.	Unknown	32.31	350	J
19.	Unknown	32.44	300	J
20.	Unknown	33.42	250	J
21.				
22.				
23.				
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ANALYSIS REPORT
1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #

12SS13-99-1

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 13876

Matrix (soil/water): SOIL Lab Sample ID: 88442S

Level (low/med): LOW Date Received: 10/21/99

% Solids: 82.5

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4020			P
7440-36-0	Antimony	0.61	U		P
7440-38-2	Arsenic	7.9			P
7440-39-3	Barium	17.7	B		P
7440-41-7	Beryllium	0.41	B		P
7440-43-9	Cadmium	0.12	U		P
7440-70-2	Calcium	1110			P
7440-47-3	Chromium	10.2			P
7440-48-4	Cobalt	2.1	B		P
7440-50-8	Copper	9.8			P
7439-89-6	Iron	38400			P
7439-92-1	Lead	14.1			P
7439-95-4	Magnesium	390	B		P
7439-96-5	Manganese	48.9			P
7439-97-6	Mercury	0.12	U		CV
7440-02-0	Nickel	0.24	U		P
7440-09-7	Potassium	655			P
7782-49-2	Selenium	0.61	U		P
7440-22-4	Silver	0.40	B		P
7440-23-5	Sodium	108	B		P
7440-28-0	Thallium	0.85	U		P
7440-62-2	Vanadium	12.0			P
7440-66-6	Zinc	19.9			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12SS14-99-1

Lab Name: CHEMTECH

Contract: FOSTER WHEELER ENVIRONMENTAL

Project No.: 13876NJ

Site:

Location: EARLE NAVAL BA

Group: 12SS07-99-

Matrix: (soil/water) SOIL

Lab Sample ID: O88443

Sample wt/vol: 30.0 (g/mL G

Lab File ID: Z04552.D

Level: (low/med) LOW

Date Received: 10/21/99

% Moisture: 19

decanted: (Y/N): N

Date Extracted: 10/22/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 10/26/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	41	U
111-44-4	bis(2-Chloroethyl)ether	41	U
108-60-1	Bis(2-chloroisopropyl)ether	41	U
95-57-8	2-Chlorophenol	41	U
95-50-1	1,2-Dichlorobenzene	54	U
541-73-1	1,3-Dichlorobenzene	41	U
106-46-7	1,4-Dichlorobenzene	41	U
95-48-7	2-Methylphenol	41	U
65794-96-9	3+4-Methyphenols	79	U
621-64-7	n-Nitroso-di-n-propylamine	82	U
67-72-1	Hexachloroethane	41	U
98-95-3	Nitrobenzene	41	U
78-59-1	Isophorone	41	U
88-75-5	2-Nitrophenol	41	U
105-67-9	2,4-Dimethylphenol	130	U
111-91-1	bis(2-Chloroethoxy)methane	41	U
120-83-2	2,4-Dichlorophenol	41	U
120-82-1	1,2,4-Trichlorobenzene	100	U
91-20-3	Naphthalene	41	U
106-47-8	4-Chloroaniline	41	U
87-68-3	Hexachlorobutadiene	82	U
59-50-7	4-Chloro-3-methylphenol	41	U
91-57-6	2-Methylnaphthalene	82	U
77-47-4	Hexachlorocyclopentadiene	70	U
88-06-2	2,4,6-Trichlorophenol	41	U
95-95-4	2,4,5-Trichlorophenol	52	U
91-58-7	2-Chloronaphthalene	110	U
88-74-4	2-Nitroaniline	41	U
131-11-3	Dimethylphthalate	150	U
208-96-8	Acenaphthylene	41	U
606-20-2	2,6-Dinitrotoluene	41	U
99-09-2	3-Nitroaniline	41	U
83-32-9	Acenaphthene	160	U
		41	U

FORM I SV

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
12SS14-99-1

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTAL
Project No.: 13876NJ
Site:
Location: EARLE NAVAL BA
Group: 12SS07-99-
Matrix: (soil/water) SOIL
Lab Sample ID: O88443
Sample wt/vol: 30.0 (g/mL G
Lab File ID: Z04552.D
Level: (low/med) LOW
Date Received: 10/21/99
% Moisture: 19
decanted: (Y/N): N
Date Extracted: 10/22/99
Concentrated Extract Volume: 1000 (uL)
Date Analyzed: 10/26/99
Injection Volume: 2.0 (uL)
Dilution Factor: 1.0
GPC Cleanup: (Y/N) N
pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	190	U
100-02-7	4-Nitrophenol	41	U
132-64-9	Dibenzofuran	64	U
121-14-2	2,4-Dinitrotoluene	41	U
84-66-2	Diethylphthalate	41	U
7005-72-3	4-Chlorophenyl-phenylether	41	U
86-73-7	Fluorene	41	U
100-01-6	4-Nitroaniline	220	U
534-52-1	4,6-Dinitro-2-methylphenol	260	U
86-30-6	N-Nitrosodiphenylamine	41	U
101-55-3	4-Bromophenyl-phenylether	41	U
118-74-1	Hexachlorobenzene	41	U
87-86-5	Pentachlorophenol	130	U
85-01-8	Phenanthrene	41	U
120-12-7	Anthracene	41	U
86-74-8	Carbazole	60	U
84-74-2	Di-n-butylphthalate	41	U
206-44-0	Fluoranthene	41	U
129-00-0	Pyrene	41	U
85-68-7	Butylbenzylphthalate	41	U
91-94-1	3,3'-Dichlorobenzidine	160	U
56-55-3	Benzo[a]anthracene	41	U
218-01-9	Chrysene	41	U
117-81-7	bis(2-Ethylhexyl)phthalate	76	U
117-84-0	Di-n-octylphthalate	41	U
205-99-2	Benzo[b]fluoranthene	130	U
207-08-9	Benzo[k]fluoranthene	120	U
50-32-8	Benzo[a]pyrene	41	U
193-39-5	Indeno [1,2,3-cd] pyrene	41	U
53-70-3	Dibenz[a,h]anthracene	61	U
191-24-2	Benzo[g,h,i]perylene	41	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

12SS14-99-1

Lab Name: CHEMTECH

Contract: FOSTER WHEELER ENVIRONMENTA

Project No.: 1387

Site:

Location: EARLE NAVAL B

Group: 12SS07-9

Matrix: (soil/water) SOIL

Lab Sample ID: O88443

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: Z04552.D

Level: (low/med) LOW

Date Received: 10/21/99

% Moisture: 19

decanted: (Y/N) N

Date Extracted: 10/22/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 10/26/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH:

Number TICs found: 20

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1. 124-18-5	Decane	11.51	620	J
2. 6975-98-0	Decane, 2-methyl-	12.41	870	J
3. 17301-23-4	Undecane, 2,6-dimethyl-	12.97	580	J
4. 13065-07-1	Naphthalene, 1,2,3,4-tetrahy	13.22	550	J
5.	Unknown	13.50	800	J
6. 629-99-2	Pentacosane	13.67	550	J
7.	Unknown	14.30	720	J
8. 1120-21-4	Undecane	14.38	600	J
9.	Unknown	14.95	1300	J
10.	Unknown	15.09	1400	J
11.	Unknown	15.21	670	J
12.	Unknown	15.33	1200	J
13. 829-26-5	Naphthalene, 2,3,6-trimethyl	16.17	550	J
14.	Unknown	16.28	820	J
15. 2245-38-7	Naphthalene, 1,6,7-trimethyl	16.39	600	J
16.	Unknown	17.44	1300	J
17. 630-01-3	Hexacosane	18.11	1600	J
18. 613-33-2	4,4'-Dimethylbiphenyl	18.37	700	J
19. 7469-40-1	Naphthalene, 1,2-dihydro-4-p	22.01	620	J
20. 10544-50-0	Sulfur, mol. (S8)	22.10	690	J
21.				
22.				
23.				
24.				
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26.				
27.				
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ANALYSIS REPORT
1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #

12SS14-99-1

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 13876

Matrix (soil/water): SOIL Lab Sample ID: 88443S

Level (low/med): LOW Date Received: 10/21/99

% Solids: 80.5

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7350			P
7440-36-0	Antimony	0.73	B		P
7440-38-2	Arsenic	23.5			P
7440-39-3	Barium	26.5			P
7440-41-7	Beryllium	0.68			P
7440-43-9	Cadmium	0.12	U		P
7440-70-2	Calcium	1080			P
7440-47-3	Chromium	32.0			P
7440-48-4	Cobalt	2.6	B		P
7440-50-8	Copper	11.7			P
7439-89-6	Iron	38000			P
7439-92-1	Lead	14.3			P
7439-95-4	Magnesium	1340			P
7439-96-5	Manganese	52.3			P
7439-97-6	Mercury	0.12	U		CV
7440-02-0	Nickel	1.4	B		P
7440-09-7	Potassium	3060			P
7782-49-2	Selenium	0.61	U		P
7440-22-4	Silver	0.23	B		P
7440-23-5	Sodium	118	B		P
7440-28-0	Thallium	0.85	U		P
7440-62-2	Vanadium	31.5			P
7440-66-6	Zinc	28.4			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12SS15-99-1

Lab Name: CHEMTECH

Contract: FOSTER WHEELER ENVIRONMENTAL

Project No.: 13876NJ

Site:

Location: EARLE NAVAL BA

Group: 12SS07-99-

Matrix: (soil/water) SOIL

Lab Sample ID: O88444

Sample wt/vol: 30.0 (g/mL G

Lab File ID: Z04548.D

Level: (low/med) LOW

Date Received: 10/21/99

% Moisture: 24

decanted: (Y/N): N

Date Extracted: 10/22/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 10/26/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	43	U
111-44-4	bis(2-Chloroethyl)ether	43	U
108-60-1	Bis(2-chloroisopropyl)ether	43	U
95-57-8	2-Chlorophenol	57	U
95-50-1	1,2-Dichlorobenzene	43	U
541-73-1	1,3-Dichlorobenzene	43	U
106-46-7	1,4-Dichlorobenzene	43	U
95-48-7	2-Methylphenol	84	U
65794-96-9	3+4-Methyphenols	88	U
621-64-7	n-Nitroso-di-n-propylamine	43	U
67-72-1	Hexachloroethane	43	U
98-95-3	Nitrobenzene	43	U
78-59-1	Isophorone	43	U
88-75-5	2-Nitrophenol	140	U
105-67-9	2,4-Dimethylphenol	43	U
111-91-1	bis(2-Chloroethoxy)methane	43	U
120-83-2	2,4-Dichlorophenol	110	U
120-82-1	1,2,4-Trichlorobenzene	43	U
91-20-3	Naphthalene	43	U
106-47-8	4-Chloroaniline	87	U
87-68-3	Hexachlorobutadiene	43	U
59-50-7	4-Chloro-3-methylphenol	88	U
91-57-6	2-Methylnaphthalene	74	U
77-47-4	Hexachlorocyclopentadiene	43	U
88-06-2	2,4,6-Trichlorophenol	56	U
95-95-4	2,4,5-Trichlorophenol	110	U
91-58-7	2-Chloronaphthalene	43	U
88-74-4	2-Nitroaniline	160	U
131-11-3	Dimethylphthalate	43	U
208-96-8	Acenaphthylene	43	U
606-20-2	2,6-Dinitrotoluene	43	U
99-09-2	3-Nitroaniline	170	U
83-32-9	Acenaphthene	43	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12SS15-99-1

Lab Name: CHEMTECH

Contract: FOSTER WHEELER ENVIRONMENTAL

Project No.: 13876NJ

Site:

Location: EARLE NAVAL BA

Group: 12SS07-99-

Matrix: (soil/water) SOIL

Lab Sample ID: O88444

Sample wt/vol: 30.0 (g/mL G

Lab File ID: Z04548.D

Level: (low/med) LOW

Date Received: 10/21/99

% Moisture: 24

decanted: (Y/N): N

Date Extracted: 10/22/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 10/26/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	210	U
100-02-7	4-Nitrophenol	43	U
132-64-9	Dibenzofuran	69	U
121-14-2	2,4-Dinitrotoluene	43	U
84-66-2	Diethylphthalate	43	U
7005-72-3	4-Chlorophenyl-phenylether	43	U
86-73-7	Fluorene	43	U
100-01-6	4-Nitroaniline	230	U
534-52-1	4,6-Dinitro-2-methylphenol	270	U
86-30-6	N-Nitrosodiphenylamine	43	U
101-55-3	4-Bromophenyl-phenylether	43	U
118-74-1	Hexachlorobenzene	43	U
87-86-5	Pentachlorophenol	140	U
85-01-8	Phenanthrene	43	U
120-12-7	Anthracene	43	U
86-74-8	Carbazole	64	U
84-74-2	Di-n-butylphthalate	43	U
206-44-0	Fluoranthene	79	
129-00-0	Pyrene	110	
85-68-7	Butylbenzylphthalate	43	U
91-94-1	3,3'-Dichlorobenzidine	180	U
56-55-3	Benzo[a]anthracene	60	
218-01-9	Chrysene	140	
117-81-7	bis(2-Ethylhexyl)phthalate	81	U
117-84-0	Di-n-octylphthalate	43	U
205-99-2	Benzo[b]fluoranthene	130	U
207-08-9	Benzo[k]fluoranthene	130	U
50-32-8	Benzo[a]pyrene	43	U
193-39-5	Indeno [1,2,3-cd] pyrene	43	U
53-70-3	Dibenz[a,h]anthracene	65	U
191-24-2	Benzo[g,h,i]perylene	43	U

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.
12SS15-99-1

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTA
Project No.: 1387
Site:
Location: EARLE NAVAL B
Group: 12SS07-9
Matrix: (soil/water) SOIL
Lab Sample ID: O88444
Sample wt/vol: 30.0 (g/mL) G
Lab File ID: Z04548.D
Level: (low/med) LOW
Date Received: 10/21/99
% Moisture: 24
decanted: (Y/N) N
Date Extracted: 10/22/99
Concentrated Extract Volume: 1000 (uL)
Date Analyzed: 10/26/99
Injection Volume: 2.0 (uL)
Dilution Factor: 1.0
GPC Cleanup: (Y/N) N
pH:

Number TICs found: 20
Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1. 26730-14-3	Tridecane, 7-methyl-	8.24	320	J
2.	Unknown	10.55	450	J
3. 17301-23-4	Undecane, 2,6-dimethyl-	11.51	710	J
4.	Unknown	12.30	330	J
5.	Unknown	12.41	600	J
6. 17301-25-6	Undecane, 2,8-dimethyl-	12.97	490	J
7. 17312-81-1	Undecane, 3,5-dimethyl-	13.08	370	J
8.	Unknown	13.21	490	J
9.	Unknown	13.50	510	J
10.	Unknown	15.08	980	J
11.	Unknown	15.21	440	J
12.	Unknown	15.32	710	J
13.	Unknown	15.75	440	J
14.	Unknown	16.41	610	J
15.	Unknown	16.95	320	J
16. 638-36-8	Hexadecane, 2,6,10,14-tetram	17.43	710	J
17. 629-50-5	Tridecane	17.88	490	J
18.	Unknown	18.10	1100	J
19. 7383-90-6	1,1'-Biphenyl, 3,4'-dimethyl	18.36	320	J
20. 3674-66-6	Phenanthrene, 2,5-dimethyl-	22.01	370	J
21.				
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ANALYSIS REPORT
1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #: 12SS15-99-1

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 13876

Matrix (soil/water): SOIL Lab Sample ID: 88444S

Level (low/med): LOW Date Received: 10/21/99

% Solids: 76.5

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	13300			P
7440-36-0	Antimony	0.65	U		P
7440-38-2	Arsenic	17.7			P
7440-39-3	Barium	25.9	B		P
7440-41-7	Beryllium	1.6			P
7440-43-9	Cadmium	0.13	U		P
7440-70-2	Calcium	809			P
7440-47-3	Chromium	50.5			P
7440-48-4	Cobalt	6.3	B		P
7440-50-8	Copper	7.8			P
7439-89-6	Iron	50600			P
7439-92-1	Lead	11.8			P
7439-95-4	Magnesium	3270			P
7439-96-5	Manganese	138			P
7439-97-6	Mercury	0.13	U		CV
7440-02-0	Nickel	4.8	B		P
7440-09-7	Potassium	8930			P
7782-49-2	Selenium	0.65	U		P
7440-22-4	Silver	0.53	B		P
7440-23-5	Sodium	283	B		P
7440-28-0	Thallium	0.92	U		P
7440-62-2	Vanadium	35.0			P
7440-66-6	Zinc	66.0			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12SS16-99-1

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTAL

Project No.: 13876NJ Site: Location: EARLE NAVAL BA Group: 12SS07-99-

Matrix: (soil/water) SOIL Lab Sample ID: O88445

Sample wt/vol: 30.0 (g/mL G Lab File ID: Z04549.D

Level: (low/med) LOW Date Received: 10/21/99

% Moisture: 16 decanted: (Y/N): N Date Extracted: 10/22/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/26/99

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	39	U
111-44-4	bis(2-Chloroethyl)ether	39	U
108-60-1	Bis(2-chloroisopropyl)ether	39	U
95-57-8	2-Chlorophenol	52	U
95-50-1	1,2-Dichlorobenzene	39	U
541-73-1	1,3-Dichlorobenzene	39	U
106-46-7	1,4-Dichlorobenzene	39	U
95-48-7	2-Methylphenol	76	U
65794-96-9	3+4-Methyphenols	79	U
621-64-7	n-Nitroso-di-n-propylamine	39	U
67-72-1	Hexachloroethane	39	U
98-95-3	Nitrobenzene	39	U
78-59-1	Isophorone	39	U
88-75-5	2-Nitrophenol	130	U
105-67-9	2,4-Dimethylphenol	39	U
111-91-1	bis(2-Chloroethoxy)methane	39	U
120-83-2	2,4-Dichlorophenol	99	U
120-82-1	1,2,4-Trichlorobenzene	39	U
91-20-3	Naphthalene	39	U
106-47-8	4-Chloroaniline	79	U
87-68-3	Hexachlorobutadiene	39	U
59-50-7	4-Chloro-3-methylphenol	79	U
91-57-6	2-Methylnaphthalene	67	U
77-47-4	Hexachlorocyclopentadiene	39	U
88-06-2	2,4,6-Trichlorophenol	50	U
95-95-4	2,4,5-Trichlorophenol	100	U
91-58-7	2-Chloronaphthalene	39	U
88-74-4	2-Nitroaniline	140	U
131-11-3	Dimethylphthalate	39	U
208-96-8	Acenaphthylene	39	U
606-20-2	2,6-Dinitrotoluene	39	U
99-09-2	3-Nitroaniline	150	U
83-32-9	Acenaphthene	39	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12SS16-99-1

Lab Name: CHEMTECH

Contract: FOSTER WHEELER ENVIRONMENTAL

Project No.: 13876NJ

Site:

Location: EARLE NAVAL BA

Group: 12SS07-99-

Matrix: (soil/water) SOIL

Lab Sample ID: O88445

Sample wt/vol: 30.0 (g/mL G

Lab File ID: Z04549.D

Level: (low/med) LOW

Date Received: 10/21/99

% Moisture: 16

decanted: (Y/N): N

Date Extracted: 10/22/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 10/26/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	190	U
100-02-7	4-Nitrophenol	39	U
132-64-9	Dibenzofuran	62	U
121-14-2	2,4-Dinitrotoluene	39	U
84-66-2	Diethylphthalate	39	U
7005-72-3	4-Chlorophenyl-phenylether	39	U
86-73-7	Fluorene	39	U
100-01-6	4-Nitroaniline	210	U
534-52-1	4,6-Dinitro-2-methylphenol	250	U
86-30-6	N-Nitrosodiphenylamine	39	U
101-55-3	4-Bromophenyl-phenylether	39	U
118-74-1	Hexachlorobenzene	39	U
87-86-5	Pentachlorophenol	120	U
85-01-8	Phenanthrene	39	U
120-12-7	Anthracene	39	U
86-74-8	Carbazole	58	U
84-74-2	Di-n-butylphthalate	39	U
206-44-0	Fluoranthene	39	U
129-00-0	Pyrene	39	U
85-68-7	Butylbenzylphthalate	39	U
91-94-1	3,3'-Dichlorobenzidine	160	U
56-55-3	Benzo[a]anthracene	39	U
218-01-9	Chrysene	39	U
117-81-7	bis(2-Ethylhexyl)phthalate	73	U
117-84-0	Di-n-octylphthalate	39	U
205-99-2	Benzo[b]fluoranthene	120	U
207-08-9	Benzo[k]fluoranthene	110	U
50-32-8	Benzo[a]pyrene	39	U
193-39-5	Indeno [1,2,3-cd] pyrene	39	U
53-70-3	Dibenz[a,h]anthracene	59	U
191-24-2	Benzo[g,h,i]perylene	39	U

FORM I SV

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

12SS16-99-1

Lab Name: CHEMTECH

Contract: FOSTER WHEELER ENVIRONMENTA

Project No.: 1387

Site:

Location: EARLE NAVAL B

Group: 12SS07-9

Matrix: (soil/water) SOIL

Lab Sample ID: O88445

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: Z04549.D

Level: (low/med) LOW

Date Received: 10/21/99

% Moisture: 16

decanted: (Y/N) N

Date Extracted: 10/22/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 10/26/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH:

Number TICs found: 1

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1. 74367-33-2	Propanoic acid, 2-methyl-, 2	13.66	170	J
2.				
3.				
4.				
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ANALYSIS REPORT
1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #: 12SS16-99-1

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 13876

Matrix (soil/water): SOIL Lab Sample ID: 88445S

Level (low/med): LOW Date Received: 10/21/99

% Solids: 83.7

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	933			P
7440-36-0	Antimony	0.57	U		P
7440-38-2	Arsenic	2.2			P
7440-39-3	Barium	4.3	B		P
7440-41-7	Beryllium	0.18	B		P
7440-43-9	Cadmium	0.11	U		P
7440-70-2	Calcium	134	B		P
7440-47-3	Chromium	2.2			P
7440-48-4	Cobalt	0.39	B		P
7440-50-8	Copper	3.0			P
7439-89-6	Iron	20700			P
7439-92-1	Lead	1.5			P
7439-95-4	Magnesium	19.5	B		P
7439-96-5	Manganese	22.1			P
7439-97-6	Mercury	0.12	U		CV
7440-02-0	Nickel	0.23	U		P
7440-09-7	Potassium	26.5	B		P
7782-49-2	Selenium	0.57	U		P
7440-22-4	Silver	0.15	B		P
7440-23-5	Sodium	61.5	B		P
7440-28-0	Thallium	0.80	U		P
7440-62-2	Vanadium	2.7	B		P
7440-66-6	Zinc	4.3			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

FORM I - IN

ILM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
12SS17-99-1

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTAL
Project No.: 13876NJ
Site:
Location: EARLE NAVAL BA
Group: 12SS07-99-
Matrix: (soil/water) SOIL
Sample wt/vol: 30.0 (g/mL G
Lab Sample ID: O88446
Level: (low/med) LOW
Lab File ID: Z04554.D
% Moisture: 17
decanted: (Y/N): N
Date Received: 10/21/99
Concentrated Extract Volume: 1000 (uL)
Date Extracted: 10/22/99
Injection Volume: 2.0 (uL)
Date Analyzed: 10/27/99
GPC Cleanup: (Y/N) N
pH:
Dilution Factor: 1.0

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	40	U
111-44-4	bis(2-Chloroethyl)ether	40	U
108-60-1	Bis(2-chloroisopropyl)ether	40	U
95-57-8	2-Chlorophenol	52	U
95-50-1	1,2-Dichlorobenzene	40	U
541-73-1	1,3-Dichlorobenzene	40	U
106-46-7	1,4-Dichlorobenzene	40	U
95-48-7	2-Methylphenol	77	U
65794-96-9	3+4-Methyphenols	80	U
621-64-7	n-Nitroso-di-n-propylamine	40	U
67-72-1	Hexachloroethane	40	U
98-95-3	Nitrobenzene	40	U
78-59-1	Isophorone	40	U
88-75-5	2-Nitrophenol	130	U
105-67-9	2,4-Dimethylphenol	40	U
111-91-1	bis(2-Chloroethoxy)methane	40	U
120-83-2	2,4-Dichlorophenol	100	U
120-82-1	1,2,4-Trichlorobenzene	40	U
91-20-3	Naphthalene	40	U
106-47-8	4-Chloroaniline	80	U
87-68-3	Hexachlorobutadiene	40	U
59-50-7	4-Chloro-3-methylphenol	80	U
91-57-6	2-Methylnaphthalene	68	U
77-47-4	Hexachlorocyclopentadiene	40	U
88-06-2	2,4,6-Trichlorophenol	51	U
95-95-4	2,4,5-Trichlorophenol	100	U
91-58-7	2-Chloronaphthalene	40	U
88-74-4	2-Nitroaniline	140	U
131-11-3	Dimethylphthalate	40	U
208-96-8	Acenaphthylene	40	U
606-20-2	2,6-Dinitrotoluene	40	U
99-09-2	3-Nitroaniline	150	U
83-32-9	Acenaphthene	40	U

FORM I SV

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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
12SS17-99-1

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTAL
Project No.: 13876NJ
Site:
Location: EARLE NAVAL BA
Group: 12SS07-99-
Matrix: (soil/water) SOIL
Lab Sample ID: O88446
Sample wt/vol: 30.0 (g/mL G
Lab File ID: Z04554.D
Level: (low/med) LOW
Date Received: 10/21/99
% Moisture: 17
decanted: (Y/N): N
Date Extracted: 10/22/99
Concentrated Extract Volume: 1000 (uL)
Date Analyzed: 10/27/99
Injection Volume: 2.0 (uL)
Dilution Factor: 1.0
GPC Cleanup: (Y/N) N
pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	190	U
100-02-7	4-Nitrophenol	40	U
132-64-9	Dibenzofuran	63	U
121-14-2	2,4-Dinitrotoluene	40	U
84-66-2	Diethylphthalate	40	U
7005-72-3	4-Chlorophenyl-phenylether	40	U
86-73-7	Fluorene	40	U
100-01-6	4-Nitroaniline	210	U
534-52-1	4,6-Dinitro-2-methylphenol	250	U
86-30-6	N-Nitrosodiphenylamine	40	U
101-55-3	4-Bromophenyl-phenylether	40	U
118-74-1	Hexachlorobenzene	40	U
87-86-5	Pentachlorophenol	130	U
85-01-8	Phenanthrene	200	
120-12-7	Anthracene	40	U
86-74-8	Carbazole	86	
84-74-2	Di-n-butylphthalate	40	U
206-44-0	Fluoranthene	220	
129-00-0	Pyrene	170	
85-68-7	Butylbenzylphthalate	40	U
91-94-1	3,3'-Dichlorobenzidine	160	U
56-55-3	Benzo[a]anthracene	40	U
218-01-9	Chrysene	70	
117-81-7	bis(2-Ethylhexyl)phthalate	74	U
117-84-0	Di-n-octylphthalate	40	U
205-99-2	Benzo[b]fluoranthene	120	U
207-08-9	Benzo[k]fluoranthene	120	U
50-32-8	Benzo[a]pyrene	40	U
193-39-5	Indeno [1,2,3-cd] pyrene	40	U
53-70-3	Dibenz[a,h]anthracene	59	U
191-24-2	Benzo[g,h,i]perylene	40	U

FORM I SV

000060

3/90

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

12SS17-99-1

Lab Name: CHEMTECH

Contract: FOSTER WHEELER ENVIRONMENTA

Project No.: 1387

Site:

Location: EARLE NAVAL B

Group: 12SS07-9

Matrix: (soil/water) SOIL

Lab Sample ID: O88446

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: Z04554.D

Level: (low/med) LOW

Date Received: 10/21/99

% Moisture: 17

decanted: (Y/N) N

Date Extracted: 10/22/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 10/27/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH:

Number TICs found: 17

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc	Q
1.	Unknown	12.38	200	J
2.	Unknown	12.79	210	J
3. 74367-33-2	Propanoic acid, 2-methyl-, 2	13.67	150	J
4. 398-23-2	1,1'-Biphenyl, 4,4'-difluoro	13.71	130	J
5. 629-59-4	Tetradecane	14.21	190	J
6.	Unknown	15.05	280	J
7.	Unknown	15.18	180	J
8.	Unknown	15.30	130	J
9.	Unknown	15.55	220	J
10. 762-04-9	Phosphonic acid, diethyl est	16.25	130	J
11.	Unknown	17.41	200	J
12.	Unknown	18.01	190	J
13.	Unknown	18.07	310	J
14.	Unknown	20.22	120	J
15.	Unknown	21.25	97	J
16. 84-65-1	9,10-Anthracenedione	21.31	140	J
17.	Unknown	22.76	170	J
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ANALYSIS REPORT
1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #: 12SS17-99-1

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 13876

Matrix (soil/water): SOIL Lab Sample ID: 88446S

Level (low/med): LOW Date Received: 10/21/99

% Solids: 83.5

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2710			P
7440-36-0	Antimony	0.59	U		P
7440-38-2	Arsenic	5.2			P
7440-39-3	Barium	8.4	B		P
7440-41-7	Beryllium	0.28	B		P
7440-43-9	Cadmium	0.12	U		P
7440-70-2	Calcium	250	B		P
7440-47-3	Chromium	6.1			P
7440-48-4	Cobalt	0.79	B		P
7440-50-8	Copper	7.2			P
7439-89-6	Iron	40300			P
7439-92-1	Lead	25.2			P
7439-95-4	Magnesium	120	B		P
7439-96-5	Manganese	18.6			P
7439-97-6	Mercury	0.12	U		CV
7440-02-0	Nickel	0.23	U		P
7440-09-7	Potassium	243	B		P
7782-49-2	Selenium	0.59	U		P
7440-22-4	Silver	0.34	B		P
7440-23-5	Sodium	72.2	B		P
7440-28-0	Thallium	0.82	U		P
7440-62-2	Vanadium	7.9			P
7440-66-6	Zinc	13.7			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

FORM I - IN

Chemtech Inc., 206 Campus Drive, Plaza1 Edison, NJ 08837 Tel(732)225-4110 Fax(732)225-4111

ANALYTICAL REPORT
DIESEL RANGE ORGANICS
(C8-C22)

Client: FOSTER WHEELER ENVIRONMENTAL
Report Date: 10/27/99
Received Date: 10/21/99
Extraction Date: 10/25/99

Project: NAVAL WEAPON STATION SITE 1
Analyst: SK
Matrix: SOIL

CLIENT ID	LAB ID	RESULTS (mg/Kg)	MDL (mg/Kg)	ANALYSIS DATE
12SS07-99-1	91634 1:10	ND	19	10/25/99
12SS08-99-01	91635 1:10	1100	22	10/27/99
12SS09-99-01	91636 1:10	ND	22	10/25/99
12SS10-99-1	91637	ND	2.0	10/25/99
12SS11-99-1	91638	ND	2.2	10/25/99
12SS11D-99-1	91639	ND	2.1	10/25/99
12SS12-99-1	91640	ND	2.1	10/25/99
12SS13-99-1	91641	ND	2.0	10/25/99
12SS14-99-1	91642	ND	2.1	10/26/99
12SS15-99-1	91643	36	2.2	10/26/99
12SS16-99-1	91644	ND	2.0	10/26/99
12SS17-99-1	91645	5.7	2.0	10/26/99
12WCO7	91646 1:10	ND	20	10/26/99
12WCO8	91647 1:10	ND	20	10/26/99
12WCO9	91648 1:10	22	19	10/26/99
12SS18-99-01	91649 1:10	ND	20	10/26/99
12SS19-99-01	91650 1:10	118	22	10/26/99

*ANALYSIS PERFORMED BY ANALAB/ICM

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
12FB01

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTAL
Project No.: 13876NJ
Site:
Location: EARLE NAVAL BA
Group: 12SS07-99-
Matrix: (soil/water) WATER
Lab Sample ID: O88452
Sample wt/vol: 1000.0 (g/mL ML
Lab File ID: Z04544.D
Level: (low/med)
Date Received: 10/21/99
% Moisture: 100
decanted: (Y/N): N
Date Extracted: 10/22/99
Concentrated Extract Volume: 1000 (uL)
Date Analyzed: 10/26/99
Injection Volume: 2.0 (uL)
Dilution Factor: 1.0
GPC Cleanup: (Y/N) N
pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)ether	1	U
108-60-1	Bis(2-chloroisopropyl)ether	1	U
95-57-8	2-Chlorophenol	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-48-7	2-Methylphenol	1	U
65794-96-9	3+4-Methyphenols	1	U
621-64-7	n-Nitroso-di-n-propylamine	1	U
67-72-1	Hexachloroethane	1	U
98-95-3	Nitrobenzene	1	U
78-59-1	Isophorone	1	U
88-75-5	2-Nitrophenol	1	U
105-67-9	2,4-Dimethylphenol	1	U
111-91-1	bis(2-Chloroethoxy)methane	1	U
120-83-2	2,4-Dichlorophenol	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	1	U
106-47-8	4-Chloroaniline	1	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	1	U
91-57-6	2-Methylnaphthalene	1	U
77-47-4	Hexachlorocyclopentadiene	1.2	U
88-06-2	2,4,6-Trichlorophenol	1	U
95-95-4	2,4,5-Trichlorophenol	1	U
91-58-7	2-Chloronaphthalene	1	U
88-74-4	2-Nitroaniline	1	U
131-11-3	Dimethylphthalate	1.1	U
208-96-8	Acenaphthylene	1	U
606-20-2	2,6-Dinitrotoluene	1	U
99-09-2	3-Nitroaniline	1	U
83-32-9	Acenaphthene	1	U

FORM I SV

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12FB01

Lab Name: CHEMTECH

Contract: FOSTER WHEELER ENVIRONMENTAL

Project No.: 13876NJ

Site:

Location: EARLE NAVAL BA

Group: 12SS07-99-

Matrix: (soil/water) WATER

Lab Sample ID: O88452

Sample wt/vol: 1000.0 (g/mL ML

Lab File ID: Z04544.D

Level: (low/med)

Date Received: 10/21/99

% Moisture: 100

decanted: (Y/N): N

Date Extracted: 10/22/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 10/26/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	1.2	U
100-02-7	4-Nitrophenol	1.1	U
132-64-9	Dibenzofuran	1	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
7005-72-3	4-Chlorophenyl-phenylether	1	U
86-73-7	Fluorene	1	U
100-01-6	4-Nitroaniline	2.2	U
534-52-1	4,6-Dinitro-2-methylphenol	1.2	U
86-30-6	N-Nitrosodiphenylamine	1	U
101-55-3	4-Bromophenyl-phenylether	1	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	1.1	U
85-01-8	Phenanthrene	1	U
120-12-7	Anthracene	1	U
86-74-8	Carbazole	1.7	U
84-74-2	Di-n-butylphthalate	1	U
206-44-0	Fluoranthene	1	U
129-00-0	Pyrene	1	U
85-68-7	Butylbenzylphthalate	1.1	U
91-94-1	3,3'-Dichlorobenzidine	1.4	U
56-55-3	Benzo[a]anthracene	1	U
218-01-9	Chrysene	1	U
117-81-7	bis(2-Ethylhexyl)phthalate	1	U
117-84-0	Di-n-octylphthalate	1	U
205-99-2	Benzo[b]fluoranthene	1	U
207-08-9	Benzo[k]fluoranthene	1	U
50-32-8	Benzo[a]pyrene	1	U
193-39-5	Indeno [1,2,3-cd] pyrene	1	U
53-70-3	Dibenz[a,h]anthracene	1	U
191-24-2	Benzo[g,h,i]perylene	1	U

FORM I SV

000077

3/90

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

12FB01

Lab Name: CHEMTECH

Contract: FOSTER WHEELER ENVIRONMENTA

Project No.: 1387

Site:

Location: EARLE NAVAL B

Group: 12SS07-9

Matrix: (soil/water) WATER

Lab Sample ID: O88452

Sample wt/vol: 1000.0 (g/mL) ML

Lab File ID: Z04544.D

Level: (low/med)

Date Received: 10/21/99

% Moisture: 100

decanted: (Y/N) N

Date Extracted: 10/22/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 10/26/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH:

Number TICs found: 1

Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1. 74367-33-2	Propanoic acid, 2-methyl-, 2	13.67	7.7	J
2.				
3.				
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INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #: 12FB01

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 13876

Matrix (soil/water): WATER Lab Sample ID: 88452S

Level (low/med): LOW Date Received: 10/21/99

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	14.0	U		P
7440-36-0	Antimony	5.0	U		P
7440-38-2	Arsenic	6.0	U		P
7440-39-3	Barium	1.0	U		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	16.0	U		P
7440-47-3	Chromium	1.0	U		P
7440-48-4	Cobalt	1.0	U		P
7440-50-8	Copper	1.0	U		P
7439-89-6	Iron	16.0	U		P
7439-92-1	Lead	2.0	U		P
7439-95-4	Magnesium	23.0	U		P
7439-96-5	Manganese	1.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	2.0	U		P
7440-09-7	Potassium	39.0	U		P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	28.5	B		P
7440-28-0	Thallium	7.0	U		P
7440-62-2	Vanadium	2.0	U		P
7440-66-6	Zinc	2.0	U		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
12RB01

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTAL
Project No.: 13876NJ
Site:
Location: EARLE NAVAL BA
Group: 12SS07-99-
Matrix: (soil/water) WATER
Lab Sample ID: O88453
Sample wt/vol: 1000.0 (g/mL ML
Lab File ID: Z04545.D
Level: (low/med)
Date Received: 10/21/99
% Moisture: 100
decanted: (Y/N): N
Date Extracted: 10/22/99
Concentrated Extract Volume: 1000 (uL)
Date Analyzed: 10/26/99
Injection Volume: 2.0 (uL)
Dilution Factor: 1.0
GPC Cleanup: (Y/N) N
pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	1	U
111-44-4	bis(2-Chloroethyl)ether	1	U
108-60-1	Bis(2-chloroisopropyl)ether	1	U
95-57-8	2-Chlorophenol	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-48-7	2-Methylphenol	1	U
65794-96-9	3+4-Methyphenols	1	U
621-64-7	n-Nitroso-di-n-propylamine	1	U
67-72-1	Hexachloroethane	1	U
98-95-3	Nitrobenzene	1	U
78-59-1	Isophorone	1	U
88-75-5	2-Nitrophenol	1	U
105-67-9	2,4-Dimethylphenol	1	U
111-91-1	bis(2-Chloroethoxy)methane	1	U
120-83-2	2,4-Dichlorophenol	1	U
120-82-1	1,2,4-Trichlorobenzene	1	U
91-20-3	Naphthalene	1	U
106-47-8	4-Chloroaniline	1	U
87-68-3	Hexachlorobutadiene	1	U
59-50-7	4-Chloro-3-methylphenol	1	U
91-57-6	2-Methylnaphthalene	1	U
77-47-4	Hexachlorocyclopentadiene	1.2	U
88-06-2	2,4,6-Trichlorophenol	1	U
95-95-4	2,4,5-Trichlorophenol	1	U
91-58-7	2-Chloronaphthalene	1	U
88-74-4	2-Nitroaniline	1	U
131-11-3	Dimethylphthalate	1.1	U
208-96-8	Acenaphthylene	1	U
606-20-2	2,6-Dinitrotoluene	1	U
99-09-2	3-Nitroaniline	1	U
83-32-9	Acenaphthene	1	U
		1	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12RB01

Lab Name: CHEMTECH

Contract: FOSTER WHEELER ENVIRONMENTAL

Project No.: 13876NJ

Site:

Location: EARLE NAVAL BA

Group: 12SS07-99-

Matrix: (soil/water) WATER

Lab Sample ID: O88453

Sample wt/vol: 1000.0 (g/mL ML

Lab File ID: Z04545.D

Level: (low/med)

Date Received: 10/21/99

% Moisture: 100

decanted: (Y/N): N

Date Extracted: 10/22/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 10/26/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	1.2	U
100-02-7	4-Nitrophenol	1.1	U
132-64-9	Dibenzofuran	1	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
7005-72-3	4-Chlorophenyl-phenylether	1	U
86-73-7	Fluorene	1	U
100-01-6	4-Nitroaniline	2.2	U
534-52-1	4,6-Dinitro-2-methylphenol	1.2	U
86-30-6	N-Nitrosodiphenylamine	1	U
101-55-3	4-Bromophenyl-phenylether	1	U
118-74-1	Hexachlorobenzene	1	U
87-86-5	Pentachlorophenol	1.1	U
85-01-8	Phenanthrene	1	U
120-12-7	Anthracene	1	U
86-74-8	Carbazole	1.7	U
84-74-2	Di-n-butylphthalate	1	U
206-44-0	Fluoranthene	1	U
129-00-0	Pyrene	1	U
85-68-7	Butylbenzylphthalate	1.1	U
91-94-1	3,3'-Dichlorobenzidine	1.4	U
56-55-3	Benzo[a]anthracene	1	U
218-01-9	Chrysene	1	U
117-81-7	bis(2-Ethylhexyl)phthalate	1	U
117-84-0	Di-n-octylphthalate	1	U
205-99-2	Benzo[b]fluoranthene	1	U
207-08-9	Benzo[k]fluoranthene	1	U
50-32-8	Benzo[a]pyrene	1	U
193-39-5	Indeno [1,2,3-cd] pyrene	1	U
53-70-3	Dibenz[a,h]anthracene	1	U
191-24-2	Benzo[g,h,i]perylene	1	U

FORM I SV

000081

3/90

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

12RB01

Lab Name: CHEMTECH

Contract: FOSTER WHEELER ENVIRONMENTA

Project No.: 1387

Site:

Location: EARLE NAVAL B

Group: 12SS07-9

Matrix: (soil/water) WATER

Lab Sample ID: O88453

Sample wt/vol: 1000.0 (g/mL) ML

Lab File ID: Z04545.D

Level: (low/med)

Date Received: 10/21/99

% Moisture: 100

decanted: (Y/N) N

Date Extracted: 10/22/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 10/26/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH:

Number TICs found: 1

Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1. 74367-33-2	Propanoic acid, 2-methyl-, 2	13.67	3.9	J
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ANALYSIS REPORT
1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #: 12RB01

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 13876

Matrix (soil/water): WATER Lab Sample ID: 88453S

Level (low/med): LOW Date Received: 10/21/99

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	14.0	U		P
7440-36-0	Antimony	5.0	U		P
7440-38-2	Arsenic	6.0	U		P
7440-39-3	Barium	1.0	U		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	16.0	U		P
7440-47-3	Chromium	1.0	U		P
7440-48-4	Cobalt	1.0	U		P
7440-50-8	Copper	1.0	U		P
7439-89-6	Iron	16.0	U		P
7439-92-1	Lead	2.0	U		P
7439-95-4	Magnesium	23.0	U		P
7439-96-5	Manganese	1.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	2.0	U		P
7440-09-7	Potassium	39.0	U		P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	23.0	U		P
7440-28-0	Thallium	7.0	U		P
7440-62-2	Vanadium	2.0	U		P
7440-66-6	Zinc	2.0	U		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
TRIP BLANK

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTAL
Project No.: 13876NJ
Site:
Location: EARLE NAVAL BAS
Group:
Matrix: (soil/water) SOIL
Lab Sample ID: O88454
Sample wt/vol: 0.0 (g/mL) G
Lab File ID: M13351.D
Level: (low/med) MED
Date Received: 10/21/99
% Moisture: not dec. 0
Date Analyzed: 10/26/99
GC Column: RTX624 ID: 0.53 (mm)
Dilution Factor: 1.0
Soil Extract Volume: 25000 (uL)
Soil Aliquot Volume: 100 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound	ug/Kg	Q
75-71-8	Dichlorodifluoromethane	210	U
74-87-3	Chloromethane	420	U
75-01-4	Vinyl Chloride	230	U
74-83-9	Bromomethane	470	U
75-00-3	Chloroethane	630	U
107-02-8	Acrolein	630	U
75-69-4	Trichlorofluoromethane	140	U
75-35-4	1,1-Dichloroethene	240	U
67-64-1	Acetone	630	U
75-15-0	Carbon Disulfide	630	U
75-09-2	Methylene Chloride	130	U
156-60-5	trans-1,2-Dichloroethene	530	U
107-13-1	Acrylonitrile	630	U
75-34-3	1,1-Dichloroethane	160	U
594-20-7	2,2-Dichloropropane	130	U
156-59-2	cis-1,2-dichloroethene	220	U
74-97-5	Bromochloromethane	210	U
67-66-3	Chloroform	150	U
71-55-6	1,1,1-Trichloroethane	110	U
108-05-4	Vinyl Acetate	630	U
78-93-3	2-Butanone	630	U
56-23-5	Carbon Tetrachloride	500	U
563-58-6	1,1-Dichloropropene	140	U
71-43-2	Benzene	130	U
107-06-2	1,2-Dichloroethane	130	U
79-01-6	Trichloroethene	320	U
78-87-5	1,2-Dichloropropane	430	U
74-95-3	Dibromomethane	180	U
75-27-4	Bromodichloromethane	130	U
110-07-3	2-Chloroethyl Vinyl Ether	630	U
10061-01-5	cis-1,3-Dichloropropene	130	U
108-88-3	Toluene	160	U
10061-02-6	trans-1,3-Dichloropropene	130	U

FORM I VOA

3/90

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
TRIP BLANK

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTAL
Project No.: 13876NJ
Site:
Location: EARLE NAVAL BAS
Group:
Matrix: (soil/water) SOIL
Lab Sample ID: O88454
Sample wt/vol: 0.0 (g/mL) G
Lab File ID: M13351.D
Level: (low/med) MED
Date Received: 10/21/99
% Moisture: not dec. 0
Date Analyzed: 10/26/99
GC Column: RTX624
ID: 0.53 (mm)
Dilution Factor: 1.0
Soil Extract Volume: 25000 (uL)
Soil Aliquot Volume: 100 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound		Q
79-00-5	1,1,2-Trichloroethane	170	U
108-10-1	4-Methyl-2-Pentanone	630	U
127-18-4	Tetrachloroethene	140	U
142-28-9	1,3-Dichloropropane	150	U
124-48-1	Dibromochloromethane	87	U
106-93-4	1,2-Dibromoethane	200	U
591-78-6	2-Hexanone	630	U
108-90-7	Chlorobenzene	140	U
630-20-6	1,1,1,2-Tetrachloroethane	150	U
100-41-4	Ethylbenzene	140	U
136777-61-2	m&p-xylenes	290	U
95-47-6	o-xylene	150	U
100-42-5	Styrene	25	U
75-25-2	Bromoform	62	U
98-82-8	isopropylbenzene	160	U
108-86-1	Bromobenzene	130	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
96-18-4	1,2,3-Trichloropropane	310	U
103-65-1	n-Propylbenzene	160	U
95-49-8	2-Chlorotoluene	140	U
106-43-4	4-Chlorotoluene	130	U
108-67-8	1,3,5-Trimethylbenzene	200	U
98-06-6	tert-Butylbenzene	150	U
95-63-6	1,2,4-Trimethylbenzene	200	U
135-98-8	sec-Butylbenzene	150	U
541-73-1	1,3-Dichlorobenzene	150	U
99-87-6	4-Isopropyltoluene	110	U
106-46-7	1,4-Dichlorobenzene	150	U
95-50-1	1,2-Dichlorobenzene	130	U
104-51-8	n-Butylbenzene	210	U
96-12-8	1,2-Dibromo-3-chloropropane	630	U
120-82-1	1,2,4-Trichlorobenzene	150	U
87-68-3	Hexachlorobutadiene	130	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
TRIP BLANK

Lab Name: CHEMTECH
Contract: FOSTER WHEELER ENVIRONMENTAL
Project No.: 13876NJ
Site:
Location: EARLE NAVAL BAS
Group:
Matrix: (soil/water) SOIL
Lab Sample ID: O88454
Sample wt/vol: 0.0 (g/mL) G
Lab File ID: M13351.D
Level: (low/med) MED
Date Received: 10/21/99
% Moisture: not dec. 0
Date Analyzed: 10/26/99
GC Column: RTX624 ID: 0.53 (mm)
Dilution Factor: 1.0
Soil Extract Volume: 25000 (uL)
Soil Aliquot Volume: 100 (uL)

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS No.	Compound		Q
91-20-3	Naphthalene	300	U
87-61-6	1,2,3-Trichlorobenzene	180	U

000087

FORM I VOA

3/90

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

TRIP BLANK

Lab Name: CHEMTECH

Contract: FOSTER WHEELER ENVIRONMENTAL

Project No. 1387

Site: _____

Location: EARLE NAVAL BA

Group: _____

Matrix: (soil/water) SOIL

Lab Sample ID: O88454

Sample wt/vol: 0.0 (g/mL) G

Lab File ID: M13351.D

Level: (low/med) MED

Date Received: 10/21/99

% Moisture: not dec. 0

Date Analyzed: 10/26/99

GC Column: RTX624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL)

Soil Aliquot Volume: 100 (uL)

Number TICs found: 0

Concentration Units: (ug/L or ug/Kg) ug/Kg

CAS Number	Compound Name	RT	Est. Conc.	Q
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CHEMTECH

CHAIN OF CUSTODY RECORD

☐ 110 Route 4
Englewood, NJ 07631
(201) 567-6868
Fax (201) 567-1333

Please check one:
☒ 205 Campus Plaza 1
Edison, NJ 08837
(732) 225-4111
Fax (732) 225-4110

☐ 515 Route 9 South
Barnegat, NJ 08005
(609) 698-0199
Fax (609) 698-0910

CHEMTECH JOB NO.: L5460NJ
CHEMTECH QUOTE NO.:

CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: FOSTER WHEELER ENVIRON. CO.
ADDRESS: ONE OXFORD VALLEY, SUITE 200
CITY: LANGHORNE STATE: PA ZIP: 19047
ATTENTION: MIKE HEFFRON
PHONE: (215) 702-4015 FAX: (215) 702-4045

PROJECT INFORMATION

PROJECT NAME: NAVAL WEAPONS ST. EARLE
PROJECT NO.: SITE 12: BATTERY STORAGE
PROJECT MANAGER: MIKE HEFFRON
LOCATION: LEONARDO, NJ.
PHONE: (215) FAX:

BILLING INFORMATION

BILL TO: PO #: 020513
ADDRESS:
CITY: STATE: ZIP:
ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX: 3 DAYS *
HARD COPY: 14 DAYS *
EDD: 14 DAYS *
* TO BE APPROVED BY CHEMTECH
** NORMAL TURNAROUND TIME - 14 DAYS

DATA DELIVERABLE INFORMATION

☐ RESULTS ONLY
☐ RESULTS + QC
☒ NJ REDUCED
☐ NJ CLP
☒ EDD FORMAT: HAZSITE SITE
☐ USEPA CLP
☐ NYS ASP "B"
☐ NYS ASP "A"
☐ EDD

ANALYSIS

1 TAL METALS
2 TCL VOCs
3 4 5 6 7 8 9

CHEMTECH SAMPLE ID	SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES 1 (E)	2 (MEOH/E)	3	4	5	6	7	8	9	COMMENTS
192499	125508-99-2	Soil		X	11-2-99	1015	3	X	X								
192500	125511-99-2	Soil		X	11-2-99	1048	1	X									72 HR
192501	125512-99-2	Soil		X	11-2-99	1105	1	X									TURNAROUND
192502	125514-99-2	Soil		X	11-2-99	1120	1	X									
5.																	
6.																	
7.																	
8.																	

Specify Preservatives: A – HCl B – HNO_3 C – H_2SO_4 D – NaOH E – ICE F – Other

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME: 11-2-99 315	RECEIVED BY: 1.
RELINQUISHED BY: 2.	DATE/TIME: 11/2/99 400	RECEIVED BY: 2.
RELINQUISHED BY: 3.	DATE/TIME: 11/2/99 1600	RECEIVED FOR LAB BY: 3. Sunny Patel

Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non-Compliant ☐ Temp. of Cooler ____
Comments:

Page 1 of 1

Shipment Complete: Yes ____ No ____

Ver. 9-99

WHITE – CHEMTECH COPY FOR RETURN TO CLIENT YELLOW – CHEMTECH COPY PINK – SAMPLER COPY

DEC 17 1999 11:10
7322255185
PAGE.02

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #

12SS08-99-2

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: L5460

Matrix (soil/water): SOIL Lab Sample ID: 92499S

Level (low/med): LOW Date Received: 11/02/99

% Solids: 83.3

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10200			P
7440-36-0	Antimony	1.2	U		P
7440-38-2	Arsenic	25.7			P
7440-39-3	Barium	26.1			P
7440-41-7	Beryllium	1.20			P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	269			P
7440-47-3	Chromium	36.6			P
7440-48-4	Cobalt	5.0			P
7440-50-8	Copper	3.6			P
7439-89-6	Iron	30600			P
7439-92-1	Lead	8.2			P
7439-95-4	Magnesium	2200			P
7439-96-5	Manganese	157			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	7.2			P
7440-09-7	Potassium	6850			P
7782-49-2	Selenium	0.48			P
7440-22-4	Silver	0.60	U		P
7440-23-5	Sodium	240	U		P
7440-28-0	Thallium	2.64			P
7440-62-2	Vanadium	61.0			P
7440-66-6	Zinc	43.7			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

FORM I - IN

ILM03.0

ANALYSIS REPORT
1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #

12SS11-99-2

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: L5460

Matrix (soil/water): SOIL Lab Sample ID: 92500S

Level (low/med): LOW Date Received: 11/02/99

% Solids: 81.8

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12800			P
7440-36-0	Antimony	1.23	U		P
7440-38-2	Arsenic	19.3			P
7440-39-3	Barium	32.4			P
7440-41-7	Beryllium	1.11			P
7440-43-9	Cadmium	0.62	U		P
7440-70-2	Calcium	1400			P
7440-47-3	Chromium	42.6			P
7440-48-4	Cobalt	3.08			P
7440-50-8	Copper	7.63			P
7439-89-6	Iron	36300			P
7439-92-1	Lead	12.3			P
7439-95-4	Magnesium	2260			P
7439-96-5	Manganese	51.5			P
7439-97-6	Mercury	0.07			CV
7440-02-0	Nickel	7.63			P
7440-09-7	Potassium	6860			P
7782-49-2	Selenium	1.11			P
7440-22-4	Silver	0.62	U		P
7440-23-5	Sodium	259			P
7440-28-0	Thallium	2.95			P
7440-62-2	Vanadium	48.7			P
7440-66-6	Zinc	35.1			P

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

FORM I - IN

ILM03.0

000042

ANALYSIS REPORT
1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #

12SS12-99-2

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: L5460

Matrix (soil/water): SOIL Lab Sample ID: 92501S

Level (low/med): LOW Date Received: 11/02/99

% Solids: 82.4

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5930			P
7440-36-0	Antimony	1.21	U		P
7440-38-2	Arsenic	27.7			P
7440-39-3	Barium	19.3			P
7440-41-7	Beryllium	0.61			P
7440-43-9	Cadmium	0.61	U		P
7440-70-2	Calcium	1000			P
7440-47-3	Chromium	12.6			P
7440-48-4	Cobalt	1.33			P
7440-50-8	Copper	10.4			P
7439-89-6	Iron	37900			P
7439-92-1	Lead	18.8			P
7439-95-4	Magnesium	402			P
7439-96-5	Manganese	57.8			P
7439-97-6	Mercury	0.07			CV
7440-02-0	Nickel	5.22			P
7440-09-7	Potassium	951			P
7782-49-2	Selenium	1.46			P
7440-22-4	Silver	0.61	U		P
7440-23-5	Sodium	243	U		P
7440-28-0	Thallium	2.79			P
7440-62-2	Vanadium	38.0			P
7440-66-6	Zinc	24.4			P

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

FORM I - IN

ILM03.0

ANALYSIS REPORT
1

INORGANIC ANALYSIS DATA SHEET

CLIENT SAMPLE #

12SS14-99-2

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: L5460

Matrix (soil/water): SOIL Lab Sample ID: 92502S

Level (low/med): LOW Date Received: 11/02/99

% Solids: 86.0

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6380			P
7440-36-0	Antimony	1.16	U		P
7440-38-2	Arsenic	12.6			P
7440-39-3	Barium	14.9			P
7440-41-7	Beryllium	0.81			P
7440-43-9	Cadmium	0.58	U		P
7440-70-2	Calcium	530			P
7440-47-3	Chromium	29.0			P
7440-48-4	Cobalt	3.37			P
7440-50-8	Copper	29.1			P
7439-89-6	Iron	30200			P
7439-92-1	Lead	15.6			P
7439-95-4	Magnesium	1490			P
7439-96-5	Manganese	140			P
7439-97-6	Mercury	0.07			CV
7440-02-0	Nickel	4.07			P
7440-09-7	Potassium	5500			P
7782-49-2	Selenium	0.81			P
7440-22-4	Silver	0.58	U		P
7440-23-5	Sodium	233	U		P
7440-28-0	Thallium	2.21			P
7440-62-2	Vanadium	22.4			P
7440-66-6	Zinc	34.2			P

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

FORM I - IN

ILM03.0

000044

CHEMTECH

CHAIN OF CUSTODY RECORD

☒ 110 Route 4
Englewood, NJ 07631
(201) 567-6868
Fax (201) 567-1333

☐ 205 Campus Plaza 1
Edison, NJ 08837
(732) 225-4111
Fax (732) 225-4110

☐ 515 Route 9 South
Barnegat, NJ 08005
(609) 698-0199
Fax (609) 698-0910

CHEMTECH JOB NO.:

CHEMTECH QUOTE NO.:

CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: FOSTER WHEELER ENV. CO.
2300 LINCOLN HIGHWAY EAST
ADDRESS: 1 OXFORD VALLEY SUITE 200
CITY: LANGHORNE STATE: PA ZIP: 19047
ATTENTION: MIKE HEFFRON
215 215
PHONE: 702-4015 FAX: 702-4045

PROJECT INFORMATION

PROJECT NAME: NWSE SITE 12
PROJECT NO.:
PROJECT MANAGER: MIKE HEFFRON
NAVAL WEAPON STATION EARLE
LOCATION: LEONARDO, N.J.
215 215
PHONE: 702-4015 FAX: 702-4045

BILLING INFORMATION

FOSTER WHEELER
BILL TO: ENVIRONMENTAL CO. PO #: 020513
ADDRESS: SAME
CITY: STATE: ZIP:
RITA LEE 215
ATTENTION: PHONE: 702-4000

DATA TURNAROUND INFORMATION

FAX: 48 HR ~~DAYS~~ *
HARD COPY: 48 HR ~~DAYS~~ *
EDD: DAYS *
* TO BE APPROVED BY CHEMTECH
** NORMAL TURNAROUND TIME - 14 DAYS

DATA DELIVERABLE INFORMATION

☐ RESULTS ONLY
☐ RESULTS + QC
☒ NJ REDUCED
☐ NJ CLP
☐ EDD FORMAT:
☐ USEPA CLP
☐ NYS ASP "B"
☐ NYS ASP "A"
☐ EDD

ANALYSIS

TAL METALS

CHEMTECH SAMPLE ID	SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES 1 (E)	2 (I)	3	4	5	6	7	8	9	COMMENTS
1.	12SSOB-99-3	Soil		X	11-9-99	1345	1.	X									
2.	12SS12-99-3	Soil		X	11-9-99	1430	1.	X									24 hr
3.																	
4.																	
5.																	
6.																	
7.																	
8.																	

Specify Preservatives: A – HCl, B – HNO_3, C – H_2SO_4, D – NaOH, E – ICE, F – Other

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER	DATE/TIME	RECEIVED BY
1. Rick Goldbeck	11-10-99 0800	1. [signature]
RELINQUISHED BY: 2.	DATE/TIME:	RECEIVED BY 2. 11/11/99 0930
RELINQUISHED BY: 3.	DATE/TIME: 11/11/99 0930	RECEIVED FOR LAB BY: 3. [signature]

Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non-Compliant ☐ Temp. of Cooler 4°C
Comments:

Page ___ of ___ Shipment Complete: Yes ___ No ___

Ver. 9.99

WHITE – CHEMTECH COPY FOR RETURN TO CLIENT YELLOW – CHEMTECH COPY PINK - SAMPLER COPY

29453

NOV 15 1999 12:26 NOV. 15. 1999 6:07PM NO. 437 P. 2/2

U.S. EPA - CLP
1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

12SS08-99-3

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 14018

Matrix (soil/water): SOIL Lab Sample ID: 90263S

Level (low/med): LOW Date Received: 11/11/99

% Solids: 90.2

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3350			P
7440-36-0	Antimony	0.54	U		P
7440-38-2	Arsenic	16.8			P
7440-39-3	Barium	12.6			P
7440-41-7	Beryllium	0.40	B		P
7440-43-9	Cadmium	0.11	U		P
7440-70-2	Calcium	545			P
7440-47-3	Chromium	7.3			P
7440-48-4	Cobalt	9.8			P
7440-50-8	Copper	6.1			P
7439-89-6	Iron	26600			P
7439-92-1	Lead	5.9			P
7439-95-4	Magnesium	451	B		P
7439-96-5	Manganese	172			P
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel	3.2	B		P
7440-09-7	Potassium	391	B		P
7782-49-2	Selenium	0.64			P
7440-22-4	Silver	0.11	U		P
7440-23-5	Sodium	80.8	B		P
7440-28-0	Thallium	0.75	U		P
7440-62-2	Vanadium	32.2			P
7440-66-6	Zinc	19.0			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

FORM I - IN

ILM03.0

U.S. EPA - CLP
1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

12SS12-99-3

Lab Name: CHEMTECH CONSULTING GROUP Contract:

Lab Code: CHEM Case No.: SAS No.: SDG No.: 14018

Matrix (soil/water): SOIL

Level (low/med): LOW Lab Sample ID: 90264S

% Solids: 89.8 Date Received: 11/11/99

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3490			P
7440-36-0	Antimony	0.55	U		P
7440-38-2	Arsenic	8.1			P
7440-39-3	Barium	23.0			P
7440-41-7	Beryllium	0.32	B		P
7440-43-9	Cadmium	0.11	U		P
7440-70-2	Calcium	1210			P
7440-47-3	Chromium	10.7			P
7440-48-4	Cobalt	1.6	B		P
7440-50-8	Copper	10.8			P
7439-89-6	Iron	12900			P
7439-92-1	Lead	24.9			P
7439-95-4	Magnesium	270	B		P
7439-96-5	Manganese	21.6			P
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel	4.2	B		P
7440-09-7	Potassium	400	B		P
7782-49-2	Selenium	0.60	U		P
7440-22-4	Silver	0.11	U		P
7440-23-5	Sodium	158	B		P
7440-28-0	Thallium	0.77	U		P
7440-62-2	Vanadium	21.2			P
7440-66-6	Zinc	18.1			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

FORM I - IN

ILM03.0

Soil Safe Incorporated
Certificate of Recycle

Soil Safe Incorporated accepted **262.47** Tons of non-hazardous, petroleum contaminated soil, transported on **10** Truck(s) from Site 12; Bldg R-10; Rt 36 Leonardo, NJ under Approval number N92395.

This material was contracted by and between Soil Safe Incorporated and **Eco-Tron NJ** broker, contractor, agent, representing **Earle Naval Weapons Station** the generator.

This material was analyzed prior to acceptance by a certified soils technician to determine soil components and specific product usage. Soil Safe Incorporated has taken full responsibility for this material; including safe handling, processing, storage and reuse. We hereby certify that all of the above was executed in accordance with all existing laws and regulations.

Soil Safe Incorporated certified on **Thursday, November 18, 1999** that this material has been recyled into an environmentally benign product.

State of Maryland
Harford County

My commission expires: August 12th, 2002

As sworn to me on this 15th day of November 19 99

Kelly Rae Fiorillo Notary

KELLY RAE FIORILLO
NOTARY PUBLIC
HARFORD COUNTY, MD

Certificate Issued To: Eco-Tron NJ
P.O. Box 67
Morrestown NJ 08057

GENERATOR: Earle Naval Weapons Stati

Soil Safe Incorporated is a corporation committed to the safe handling, processing and recycling of non-hazardous petroleum contaminated soil.

18429

Thursday, November 18, 1999

SoilSafe®

Recycling of Soil and Industrial Waste

Taher Ginwala
Eco-Tron NJ
P.O. Box 67
Morrestown, NJ 08057

Mike
I will mail you
certificate of Distruction
As soon as I Receive it.
Taher

RE: Invoice Summary for: Earle Naval Weapons Station

Dear Taher

Soil Safe, Inc. was contracted to complete the petroleum contaminated soil removal requirements for the **Earle Naval Weapons Stat** at **Site 12; Bldg R-10; Rt 36 Leonardo NJ**

The analytical results and site audit information for the subject job were carefully reviewed and found to be in compliance with Soil Safe's standards for material acceptance. After approval Soil Safe number **N9-2395** was assigned to this project.

The last truck for this invoice was received and accepted on **11/11/99** .

Each truck was manifested and weighed on a certified scale.

The final amounts of material received for this invoice include a total of:

262.47 **Tons**

of soil, transported on **10** truck(s).

A notarized Certificate of Recycle will be issued upon receipt of full payment.

If you have any questions with regards to the enclosed information, please contact me at (410) 327-5753.

Sincerely,

Soil Safe, Inc.

Kelly Rae Fiorillo

Kelly Rae Fiorillo
Administrator

Soil Safe Incorporated • 4600 East Fayette Street • Baltimore, Maryland 21224
Phone 410/327-5753 • Toll Free 800/562-4365 • Facsimile 410/327-6960

Log Number 12-1

SOIL SAFE, INC.

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name ~~Earle Naval Weapons Stati~~

Address 201 Hwy #34 South
Colts Neck, N.J. 07722

Phone No.

Shipping Location ~~Earle Naval Weapons Station~~

Address ~~Site 12 Bldg R 10 Rt 36~~
Leonardo NJ

Phone No. 0-

Approval Number N92395

Description of Material
Non-Regulated Petroleum/METALS Contaminated Soil
AS PER LABORATORY ANALYSIS
Non DOT/RCRA Regulated

11:33 11/10/1999	40.09 TN G	GROSS
ID 30	14.65 TN T	TARE
# 11	25.44 TN N	NET
		TONNAGE

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 r any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

* DENNIS MURPHY — Generator Authorized Agent Name
Signature
11/10/99 — Shipment Date

TRANSPORTER

Transporter Name HERMANS TRUCKING CO

Address 181 JACOBSTOWN COOKSTOWN RD
WRIGHTSTOWN NJ 08562

Driver Name (Print) JOHN GASKILL

Vehicle License No./State AE229E N.J.

Truck Number #30

I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature — 11/10/99 Shipment Date

I hereby certify that the above named material was delivered without incident to the destination listed below.

Driver Signature — 11/10/99 Delivery Date

DESTINATION

Site Name ~~Soil Safe, Inc.~~

Address ~~107 Tilbury Rd, Salem, NJ 08079~~

Phone No. ~~(800) 562-4365~~

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing true and accurate.

Name of Authorized Agent — Signature — 11/10/99 Receipt Date

White – Facility Green – Facility Yellow – Generator Pink – Broker Goldenrod – Contractor Blue – Trucking Co.

Log Number
12-3

SOIL SAFE, INC.

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name: Earle Naval Weapons Stati
Address: 201 Hwy #34 South
Colts Neck, N.J 07722
Phone No.:

Shipping Location: Earle Naval Weapons Station
Address: Site 12: Bldg R 10: Pt 36
Leonardo NJ
Phone No.: 0-

Approval Number: N92395

Description of Material:
Non-Regulated Petroleum Impacts
Contaminated Soil
AS PER LABORATORY ANALYTICAL
Non DOT/RCRA Regulated

12:30 11/10/1999 38.54 TN G (M) GROSS
ID 17 14.07 TN T TARE
14 24.47 TN N NET
TONNAGE

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

x DENNIS MURPHY
Generator Authorized Agent Name — Signature — 11/10/99 Shipment Date

TRANSPORTER

Transporter Name: Heimans
Address: 181 Jacobstown Cookstown Rd
Jacobstown NJ

Driver Name (Print): Ellis Stillwell
Vehicle License No./State: AA-138P
Truck Number: #17

I hereby certify that the above named material was picked up at the generator site listed above.

E. Stillwell 11-10-99
Driver Signature — Shipment Date

I hereby certify that the above named material was delivered without incident to the destination listed below.

X E. Stillwell
Driver Signature — Delivery Date

DESTINATION

Site Name: Soil Safe, Inc.
Phone No.: (609) 882-4565
Address: 187 Tilton Rd, Salem, NJ 08079

I hereby certify that the above named material was been accepted and to the best of my knowledge the foregoing is true and accurate.

Authorized Agent — Signature — 11/10/99 Receipt Date

White - Authority — Yellow - Generator — Pink - Transporter — Goldenrod - Trucking Co.

(4)

Log Number 12-4

SOIL SAFE, INC.

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name ~~Earle Naval Weapons Stati~~

Address 201 Hwy #34 South
Colts Neck, NJ 07722

Phone No.

Shipping Location ~~Earle Naval Weapons Station~~

Address ~~Site 12 Bldg R 10 Rt 36~~
Leonardo NJ

Phone No. ( )

Approval Number N92395

Description of Material

Non-Regulated Petroleum/Metals Contaminated Soil
AS PER LABORATORY ANALYTICAL
Non DOT/RCRA Regulated

12:29 11/10/1999 40.58 TN T GROSS
ID 25 15.48 TN T TARE
13 25.10 TN N NET
TONNAGE

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 r any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

* Dennis Murphy — Generator Authorized Agent Name
Signature
11/10/99 — Shipment Date

TRANSPORTER

Transporter Name Vermont

Address 181 Jacksonville NJ

Driver Name (Print) Sam Lewis

Vehicle License No./State AC133G N.J.

Truck Number #25

I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
11-10-99 Shipment Date

I hereby certify that the above named material was delivered without incident to the destination listed below.

X Driver Signature
Delivery Date

DESTINATION

Site Name Soil Safe, Inc.

Phone No. (800) 562 4365

Address 107 Tilbury Rd. Salem, NJ 08079

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent
Signature
11/10/99 Receipt Date

White – Facility Green – Facility Yellow – Generator Pink – Broker Goldenrod – Contractor Blue – Trucking Co.

(5)

SOIL SAFE, INC.

Log Number 12-5

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name: Earle Naval Weapons Stati

Address: 201 Hwy #34 South
COLTS NECK, N.J. 07722

Phone No.:

Shipping Location: ~~Earle Naval Weapons Station~~

Address: ~~Site 12: Bldg R 10: Rt 36~~
Leonardo NJ

Phone No.: 0

Approval Number: N92395

Description of Material:
Non-Regulated Petroleum/METALS Contaminated Soil
AS PER LABORATORY ANALYTICAL
Non DOT/RCRA Regulated

07:15 11/11/1999 45.23 TN G (M) GROSS
ID 30 14.74 TN T TARE
2 30.49 TN N NET
TONNAGE

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportati n according to applicable regulations.

x DENNIS MURPHY — Generator Authorized Agent Name
Signature
11/10/99 — Shipment Date

TRANSPORTER

Transporter Name: HERMANS

Address: 781 JACOBSTOWN COOKSTOWN RD
WRIGHTSTOWN NJ 08562

Driver Name (Print):

Vehicle License No./State: TEOHA GOSKE

Truck Number: #30

I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
11/9/99 Shipment Date

I hereby certify that the above named material was delivered without incident to the destination listed below.

Driver Signature
11/9/99 Delivery Date

DESTINATION

Site Name: Soil Safe, Inc.

Phone No.: (800) 562-4365

Address: 10 Tilbury Rd Salem, NJ 08079

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent
Signature
11-11-99 Receipt Date

White — Facility Green — Facility Yellow — Generator Pink — Broker Goldenrod — Contractor Blue — Trucking Co.

(6)

Log Numb r
12-6

SOIL SAFE, INC.

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name ~~Earle Naval Weapons Stati~~
Address 201 Hwy #34 South
Colts Neck, N.J. 07722
Phone No.

Shipping Location ~~Earle Naval Weapons Station~~
Address ~~Site 12 Bldg R 10 Rt 36~~
Leonardo NJ
Phone No. ()

Approval Number
N9:395

Description of Material
Non-Regulated Petroleum/METALS Contaminated Soil
As per LABORATORY ANALYTICAL
Non DOT/RCRA Regulated

07:20 11/10/1999 39.25 TN G (M) GROSS
ID 203 16.51 TN T TARE
3 22.74 TN N NET
TONNAGE

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 r any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation acc rding to applicable regulations.

Dennis Murphy — Generator Authorized Agent Name
Signature
11/10/99 — Shipment Date

TRANSPORTER

Transporter Name Herman's Trucking
Address 181 Coolidge Industrial Park
Wrightstown NJ

Driver Name (Print) Michael Cagle
Vehicle License No./State AD933E
Truck Number 203

I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
11/10/99 — Shipment Date

I hereby certify that the above named material was delivered without incident to the destination listed below.

Driver Signature
11/11/99 — Delivery Date

DESTINATION

Site Name ~~Soil Safe, Inc.~~
Phone No. ~~(800) 562-4365~~
Address ~~107 Tilbury Rd. Salem, NJ 08079~~

I hereby certify that the above named material has been accepted and to the best of my knowl dge the foregoing is true and accurate.

Name of Authorized Agent
Signature
11-11-99 — Receipt Date

White – Facility Green – Facility Yellow – Generator Pink – Broker Goldenrod – Contractor Blue – Trucking Co.

7.

Log Number
2-7

SOIL SAFE, INC.

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name: Earle Naval Weapons Stati
Address: 201 Hwy #34 South
COLTS NECK, N.J. 07722
Phone No.:

Shipping Location: ~~Earle Naval Weapons Station~~
Address: ~~Site 12: Elde R 10 Rt 36~~
Leonardo NJ
Phone No.: 0-

Approval Number: N92395

Description of Material:
Non-Regulated Petroleum /METALS Contaminated Soil
AS PER LABORATORY ANALYTICAL
Non DOT/RCRA Regulated

07:27 11/11/1999 45.00 T GROSS
ID 25 15.60 IN T TARE
5 29.40 TN N NET
TONNAGE

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 r any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

x DENNIS MURPHY — Generator Authorized Agent Name
Signature
11/10/99 — Shipment Date

TRANSPORTER

Transporter Name: HERMAN'S TRUCKING
Address: JACKSTOWN - COOKSTOWN Rd
WRIGHTSTOWN NJ

Driver Name (Print): SAM Lewis
Vehicle License No./State: AC 133G
Truck Number: #25

I hereby certify that the above named material was picked up at the generator site listed above.

Sam Lewis — Driver Signature
11-10-99 — Shipment Date

I hereby certify that the above named material was delivered without incident to the destination listed below.

Sam Lewis — Driver Signature
11-11-99 — Delivery Date

DESTINATION

Site Name: ~~Soil Safe, Inc.~~
Phone No.: ~~(800) 562 4365~~
Address: ~~107 Tilbury Rd Salem, NJ 08070~~

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent
Signature
11-11-99 — Receipt Date

White – Facility Green – Facility Yellow – Generator Pink – Broker Goldenrod – Contractor Blue – Trucking Co.

8

Log Number
12-8

SOIL SAFE, INC.

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name ~~Earle Naval Weapons Stati~~
Address 201 Hwy #34 South
COLTS NECK, N.J. 07722
Phone No.

Shipping Location ~~Earle Naval Weapons Station~~
Address ~~Site 12 Bldg R 10 Rt 36~~
Leonardo NJ
Phone No. ()-

Approval Number
N92395

Description of Material
Non-Regulated Petroleum/Metals
Contaminated Soil
AS PER LABORATORY ANALYTICAL
Non DOT/RCRA Regulated

07:25 11/11/1999 43.99 IN G (D)
GROSS
ID 17 14.21 IN TARE
4 29.78 IN NET
TONNAGE

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 r any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Dennis Murphy — Generator Authorized Agent Name
Signature
11/10/99 — Shipment Date

TRANSPORTER

Transporter Name HERMAN'S TRUCKING
Address
WRIGHTSTOWN NJ

Driver Name (Print) Ellis Stillwell
Vehicle License No./State AA138P
Truck Number #17

I hereby certify that the above named material was picked up at the generator site listed above.

Ellis Stillwell — Driver Signature
11-10-99 — Shipment Date

I hereby certify that the above named material was delivered without incident to the destination listed below.

E. Stillwell — Driver Signature
Delivery Date

DESTINATION

Site Name Soil Safe, Inc.
Phone No. (800) 56- 4365
Address 107 Tilbury Rd. Salem, NJ 08079

I hereby certify that the above named material has been accepted and to the best of my knowl dge the foregoing is true and accurate.

Name of Authorized Agent
Signature
11-11-99 — Receipt Date

White – Facility Green – Facility Yellow – Generator Pink – Broker Goldenrod – Contractor Blue – Trucking Co.

9

Log Number 12-9

SOIL SAFE, INC.

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name ~~Earle Naval Weapons Stati~~

Address 201 Hwy #34 South
Colts Neck NJ 07722

Phone No.

Shipping Location ~~Earle Naval Weapons Station~~

Address ~~Site 12 Bldg R 10 Rt 36~~
Leonardo NJ

Phone No. 0

Approval Number N92395

Description of Material

Non-Regulated Petroleum Contaminated Soil

Non DOT/RCRA Regulated

13:55 11/11/1999	42.18 TN G	GROSS
ID 30	14.60 TN T	TARE
# 22	27.58 TN N	NET
		TONNAGE

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 r any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable stat law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

X DENNIS MURPHY — Generator Authorized Agent Name

Signature

11/11/99 — Shipment Date

TRANSPORTER

Transporter Name HERMAN'S TRUCKING

Address 181 JACOBSTOWN COOKSTOWN RD
WRIGHTSTOWN, N.J.

Driver Name (Print) JOHN GASKIL

Vehicle License No./State AE229E

Truck Number #30

I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature — 11/11/99 Shipment Date

I hereby certify that the above named material was delivered without incident to the destination listed below.

Driver Signature — 11/11/99 Delivery Date

DESTINATION

Site Name Soil Safe, Inc.

Phone No. ~~(800) 562 4365~~

Address 107 Tilbury Rd. Salem, NJ 08079

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent

Signature

11/11/99 Receipt Date

White – Facility Green – Facility Yellow – Generator Pink – Broker Goldenrod – Contractor Blue – Trucking Co.

10.

Log Number 12-10

SOIL SAFE, INC.

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name: Earle Naval Weapons Stat

Address: 201 Hwy Rt 34
Colts Neck NJ 07722

Phone No.:

Shipping Location: Earle Naval Weapons Station

Address: Site 12: Bldg R-10, Rt 36
Leonardo NJ

Phone No.: ()

Approval Number: N92395

Description of Material: Non-Regulated Petroleum Contaminated Soil

Non DOT/RCRA Regulated

13:53 11/11/1999 43.75 TN 6 CM GROSS

ID 203 16.35 TN T TARE

21 27.40 TN N NET

TONNAGE

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 r any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Dennis Murphy — Generator Authorized Agent Name; Signature; 11/11/99 — Shipment Date

TRANSPORTER

Transporter Name: Hermans Trucking

Address: 181 Cookstown Jricksboro Rd
Wrightstown NJ

Driver Name (Print): Michael Cook

Vehicle License No./State: AD935E

Truck Number: #203

I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature; 11/11/99 Shipment Date

I hereby certify that the above named material was delivered without incident to the destination listed below.

Driver Signature; 11/11/99 Delivery Date

DESTINATION

Site Name: Soil Safe, Inc.

Phone No.: (800) 562-4365

Address: 107 Tilbury Rd. Salem, NJ 08070

I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

Name of Authorized Agent; Signature; 11/11/99 Receipt Date

White – Facility Green – Facility Yellow – Generator Pink – Broker Goldenrod – Contractor Blue – Trucking Co.

MODERN LANDFILL
4400 Mt. Pisgah Rd.
York, PA 17402

(717) 246-2686

Site Permit No. 100113

Document Refer **No** 99 17253

NON-HAZARDOUS WASTE MANIFEST

1. Generator of Waste (must be filled in by producer) EPA I.D. NO. N/A

Company Name: (Print or Type) [illegible]

Pick-up Address: [illegible] (No) (Street) (City) (State) (Zip Code)

Telephone Number: 215-777-4015 SIC No.

Waste Stream Identification: This manifest represents a non-hazardous waste as per E.P.A. and PA D.E.R. regulations. [illegible]

Tons: Cubic Yards: 20 CYT Other (Specify):

Special Handling Instructions, if any:

MODERN ID #: [illegible]

This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to applicable state and federal law. The wastes were consigned to the transporter named. I certify that the foregoing is true and correct to the best of my knowledge.

12-2-99

Signature: [illegible] (Name and Title)

2. Contractor:

Address:

Contact: Phone:

3. Hauler of Waste (must be filled-in by hauler) EPA I.D. No. PAD 073377 50

COMPANY NAME: CLEAN HARBORS ENV. SVCS. INC. PHONE: 781-849-1800

ADDRESS: 1501 WASHINGTON ST. BRAINTREE MA 02184

Pick-up Date: 12-2-99 Truck No. [illegible] Vehicle Lic. No. [illegible]

The above described waste was picked up and hauled by me to the disposal facility named below and was accepted. I certify under penalty of perjury that the foregoing is true and correct.

Signature of authorized agent and title: [illegible] Date: 12-2-99

4. Disposer of Waste (must be filled-in by disposer)

Company Name: (Print or Type): Modern Landfill

Site Location: 4400 Mt. Pisgah Rd., York, Pennsylvania 17402

Waste subject to this manifest was delivered by the above hauler to this disposal facility and accepted on (DISPOSAL DATE)

Signature of authorized agent and title:

White, Green, Canary - Landfill Pink - Hauler Golden Rod - Generator

CleanHarbors

ENVIRONMENTAL SERVICES, INC.
24 HOUR SERVICE
1-800-444-4244

DRIVER NAME [illegible]

DATE 11-4-99

PAGE 1 of 1

TRACTOR # 1135 TRAILER # [illegible] CAN # 200517

CWO #

ORDER DATE LEAVE DATE PICK UP DATE TIME AM PM

TR #

GENERATOR/ORIGIN FOSTER W. Heeler

DELIVERY DATE TIME AM PM

TSDF [illegible]

SPECIAL INSTRUCTIONS

MANIFEST NOS.

U.S. D.O.T. DESCRIPTION	NO. TYPE CONTAINERS	TOTAL QUANTITY/VOLUME

LOADING

ARRIVED 1100 DEPARTED 1700 TOTAL HRS. 1

COMMENTS Delivered (can ave.) Spotted as Directed.

[illegible] 11-4-99

GENERATOR SIGNATURE VERIFIES ARRIVAL & DEPARTURE TIMES DATE

UNLOADING

ARRIVED DEPARTED TOTAL HRS.

COMMENTS

TSDF SIGNATURE VERIFIES ARRIVAL & DEPARTURE TIMES DATE

WHITE – CLEAN HARBORS YELLOW – PAYROLL PINK – CUSTOMER COPY REV. 12

DOCUMENT NO. 22911

WORK ORDER NO. NJ18945

STRAIGHT BILL OF LADING

TRANSPORTER 1 CLEAN HARBORS ENV. SGR. VEHICLE ID # 1135-76

EPA ID # N/A TRANS. 1 PHONE 781 849-18

TRANSPORTER 2 VEHICLE ID #

EPA ID # TRANS. 2 PHONE

DESIGNATED FACILITY	SHIPPER
MERCER RECYCLING	NAVAL WEAPONS STATION
FACILITY EPA ID # N/A.	SHIPPER EPA ID # N/A.
ADDRESS	ADDRESS
CITY TRENTON STATE NJ ZIP	CITY STATE ZIP

CONTAINERS NO. & SIZE	TYPE	HM	DESCRIPTION OF MATERIALS	TOTAL QUANTITY	UNIT WT/VOL
1	TRD		A. WOOD	20	YDS.
			B.		
			C.		
			D.		
			E.		
			F.		
			G.		
			H.		

SPECIAL HANDLING INSTRUCTIONS

SHIPPERS CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

SHIPPER	PRINT CLIFFORD ATONI	SIGN Clifford Toni	DATE 11-16-99
TRANSPORTER 1	PRINT ROBERT BALDWIN	SIGN Robert Baldwin	DATE 11-16-99
TRANSPORTER 2	PRINT	SIGN	DATE
RECEIVED BY	PRINT	SIGN	DATE

HI 107

1

CleanHarbors

ENVIRONMENTAL SERVICES, INC.
24 HOUR SERVICE
1-800-444-4244

DRIVER NAME [illegible]

DATE 11-16-99

PAGE 1 of 1

CWO # NJ189455

TRACTOR # 1135 TRAILER # 767 CAN # _____

TR # _____

ORDER DATE _____ LEAVE DATE _____ PICK UP DATE _____ TIME AM PM _____ DELIVERY DATE _____ TIME AM PM _____

GENERATOR/ORIGIN [illegible]

TSDF MECOR Recycling Co

TRENTON NJ

SPECIAL INSTRUCTIONS _____

MANIFEST NOS. STRAIGHT BILL OF LADING # 22911

U.S. D.O.T. DESCRIPTION	NO. TYPE CONTAINERS	TOTAL QUANTITY/VOLUME
NON HAZ WOOD	31 RO	20 YDS

LOADING

ARRIVED 1130 DEPARTED _____ TOTAL HRS. _____

COMMENTS _____

GENERATOR SIGNATURE VERIFIES ARRIVAL & DEPARTURE TIMES — DATE

[illegible] 11-16-99

UNLOADING

ARRIVED _____ DEPARTED _____ TOTAL HRS. _____

COMMENTS _____

TSDF SIGNATURE VERIFIES ARRIVAL & DEPARTURE TIMES — DATE

NJ 189 455
R/O# 200459

MODERN LANDFILL
4400 Mt. Pisgah Rd.
York, PA 17402
(717) [illegible]-2686

Site Permit No. 100113

Document Refer No 99 16270

NON-HAZARDOUS [illegible] MANIFEST

1. Generator of Waste (must be filled in by producer) [illegible] NO. N/A

Company Name: (Print or Type) Neil Williams Station - Earle

Pick-up Address: 201 Hwy 34 South (Bldg C-2) Colts Neck, NJ 07722
(No.) (Street) (City) (State) (Zip Code)

Telephone Number: 732-866-251[illegible] SIC No.

Waste Stream Identification: This manifest represents a non-hazardous waste as per E.P.A. and PA D.E.R. regulations.

Tons: 40 TONS EST Cubic Yards: 20 EST Other (Specify):

Special Handling Instructions, if any:

MODERN ID #: 111999G

This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to applicable state and federal law. The wastes were consigned to the transporter named. I certify that the foregoing is true and correct to the best of my knowledge.

Date: 11/23/99 Signature: [illegible]
(Name and Title)

2. Contractor:

Address:

Contact: Phone:

3. Hauler of Waste (must be filled-in by hauler) EPA I.D. No. MAD039[illegible]90

COMPANY NAME: [illegible] SVCS. INC. PHONE: 781-849-1500

ADDRESS: 150 [illegible] WASHINGTON ST BRAINTREE MA 02185

Pick-up Date: 11-23-99 Truck No. 135-761 Vehicle Lic. No. MA 204412 MA661

The above described waste was picked up and hauled by me to the disposal facility named below and was accepted. I certify under penalty of perjury that the foregoing is true and correct.

Signature of authorized agent and title: [illegible] Date: 11-23-99

4. Disposer of Waste (must be filled-in by disposer)

Company Name: (Print or Type): Modern Landfill

Site Location: 4400 Mt. Pisgah Rd., York, Pennsylvania 17402

Waste subject to this manifest was delivered by the above hauler to this disposal facility and accepted on

(DISPOSAL DATE)

Signature of authorized agent and title:

White, Green, Canary - Landfill Pink - Hauler Golden Rod - Generator

MODERN LANDFILL

12/03/1999
PAGE 1

MONTHLY
CUSTOMER WASTE STREAM REPORT FOR
11/15/1999 TO 12/02/1999
CUSTOMER: 844
WASTE: ALL
DETAIL: Y

TICKET	TRUCK	DATE	CUYDS	TONS	AMOUNT		COUNTY
844 CLEAN HARBORS - DEPTFORD							
47 OFFSPEC PRODUCTS/CONTAINERS							
265612.0	1135	11/22/1999	20.00	7.09		T	NEW JERSEY-
266200.0	1135	11/24/1999	20.00	4.97		T	NEW JERSEY-
267029.0	1175	11/29/1999	20.00	9.55		T	NEW JERSEY-
267924.0	1148	12/02/1999	20.00	1.93		T	NEW JERSEY-
WASTE TRANSACTIONS:		4	80.00	23.54			RATE:
56 DIGOUT - ROLLOFFS & SMALL DUMP TRUCKS							
267085.0	1175	11/29/1999	1.00	0.00		Y	NEW JERSEY-
WASTE TRANSACTIONS:		1	1.00	0.00			RATE:
CUSTOMER TRANSACTIONS:		5	81.00	23.54			

	CUYDS	TONNAGE	TOTAL
TRANSACTIONS:	1	4	5
CUYDS:	1.00	80.00	81.00
OPERATIONAL TONS:	0.00	23.54	23.54
TOTAL AMOUNT:			
TRANSPORT AMOUNT:			

MODERN LANDFILL
4400 Mt. Pisgah Rd.
York, PA 17402

Site Permit No. 100113

(717) 246-2686

Document Refer **No** 99 16272

NON-HAZARDOUS WASTE MANIFEST

1. Generator of Waste (must be filled in by producer) EPA I.D. NO. N/A

Company Name: (Print or Type) Naval Weapon Station, Earle

Pick-up Address: Rt 36 Building R 22 Colonia NJ 07737
(No.) (Street) (City) (State) (Zip Code)

Telephone Number: _____ SIC No. _____

Waste Stream Identification: This manifest represents a non-hazardous waste as per E.P.A. and PA D.E.R. regulations.

Tons: _____ Cubic Yards: 20 cy Other (Specify): _____

Special Handling Instructions, if any: _____

MODERN ID #: 111999G Wood chips

This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to applicable state and federal law. The wastes were consigned to the transporter named. I certify that the foregoing is true and correct to the best of my knowledge.

Date: 11/22/99

Signature: [illegible] Driver
(Name and Title)

2. Contractor: _____

Address: _____

Contact: _____

Phone: _____

3. Hauler of Waste (must be filled-in by hauler) EPA I.D. No. MAD037322250

COMPANY NAME: Total Waste Services Inc PHONE: 781-849-1700

ADDRESS: _____

Pick-up Date: 11/22/99 Truck No. 113/747 Vehicle Lic. No. ME 614236

The above described waste was picked up and hauled by me to the disposal facility named below and was accepted. I certify under penalty of perjury that the foregoing is true and correct.

Signature of authorized agent and title: [illegible] Driver Date: 11/22/99

4. Disposer of Waste (must be filled-in by disposer)

Company Name: (Print or Type): Modern Landfill

Site Location: 4400 Mt. Pisgah Rd., York, Pennsylvania 17402

Waste subject to this manifest was delivered by the above hauler to this disposal facility and accepted on _____ (DISPOSAL DATE)

Signature of authorized agent and title: _____

White, Green, Canary - Landfill Pink - Hauler Golden Rod - Generator

1770 GRN ID# 111999 G

CLEAN HARBORS ENV SERVICES, INC.
2301 P nnsylvania Av nue
Deptford, NJ 08096
(609) 589-5000

No. 13891

NJ189455
RO# 200517

NON-HAZARDOUS WASTE MANIFEST

CHI Profile #

Date 11-24-99

Generator: NAVAL WEAPONS STATION EARL
201 RT 34
COLTS NECK, N.J 07722

Phone No.: 732-866-2048

EPA ID No.:

Contact: MR TOM DUNN

I certify that the materials described below are properly described, classified, packaged, marked & labeled, and are in proper condition to be transported in commerce under the applicable regulations of the State, the Environmental Protection Agency and the Department of Transportation. I certify that the waste described below is non-hazardous. I certify that the specified waste was delivered to the carrier named below for legal treatment, storage, or disposal at the site indicated.

Date 11/24/99 Signature R. Gowland FWENC

Container # NVR4 200517

Description of waste	Circle Form	Quantity	Circle Units	Container No.	Container Type
RAILROAD TIES	Solid	25	Gallons	001	RO
	Liquid		Cu. Yds.		
	Gas		Pounds		
	Sludge		Tons		

Transporter: CLEAN HARBORS ENV SERVICES INC
2301 PENN. AVE
DEPTFORD NJ

Phone No.: (781-849-1442

EPA ID No. MAD039322250

Contact:

Vehicle License Tag Number(s) [illegible]

Unit Number(s) [illegible]

I certify that the specified waste was transferred in a registered (licensed) vehicle to the disposal treatment, storage, or disposal facility named below and was accepted.

Pick-up Driver's Signature [signature] Date 11/24/99

Delivering Driver's Signature Date

TSD Facility: MODERN LAND FILL
4400 MT PISGAH RD
YORK PA 17402

Phone No.:

EPA ID No.:

Contact:

Handling Method:

I certify that the transporter above delivered the specified material to this TSD facility and was accepted and prop rly handled in the above manner. We are authorized and qualified by the State of _____ to handle this material.

Date _____ Signature: [signature]

Clean Harbors

ENVIRONMENTAL SERVICES, INC.
24 HOUR SERVICE
800-444-4244

DRIVER NAME: ROBERT BALDWIN
DATE: 11-23-99
TRACTOR # 1135 TRAILER # 267 CAN # 200455
ORDER DATE _____ LEAVE DATE _____ PICK UP DATE 11-23- TIME AM PM _____ DELIVERY DATE _____ TIME AM PM
GENERATOR/ORIGIN: NAVAL WEAPONS STATION
201 HWY 36 S. Bldg. C2.
COLTS NECK NJ. 07722

PAGE 1 of 1
CWO # NJ1894955
TR # _____

TSDF: MORDEN LANDFILL
4400 MT. PLEASANT RD
YORK PA. 17402

SPECIAL INSTRUCTIONS _____

MANIFEST NOS. 99 162 70

U.S. D.O.T. DESCRIPTION	NO. TYPE CONTAINERS	TOTAL QUANTITY/VOLUME
CONSTRUCTION DEBRIS NON HAZ NON D.O.T. 12169	20	20 YDS CST

LOADING
ARRIVED 1030 DEPARTED 1130 TOTAL HRS. 1
COMMENTS DROPED EMPTY CAN # 200507 - PICKED UP FULL CAN # 200455 - FOR TRANSPORT TO MORDEN LANDFILL

GENERATOR SIGNATURE VERIFIES ARRIVAL & DEPARTURE TIMES _____ DATE 11/23/

UNLOADING
ARRIVED _____ DEPARTED _____ TOTAL HRS. _____
COMMENTS _____

TSDF SIGNATURE VERIFIES ARRIVAL & DEPARTURE TIMES _____ DATE _____

CH# 136 WHITE – CLEAN HARBORS YELLOW – PAYROLL PINK – CUSTOMER COPY REV. 12/97

Site Permit No. 100113

RN LANDFILL
Mt. Pisgah Rd.
PA 17402

Document Refer **No** 99 17253

46-2686

NON-HAZARDOUS WASTE MANIFEST

Generator of Waste (must be filled in by producer) EPA I.D. NO. [illegible]

Company Name: (Print or Type) [illegible]

Pick-up Address: [illegible] (No.) (Street) (City) (State) (Zip Code)

Telephone Number: 215-722-4015 SIC No.

Waste Stream Identification: This manifest represents a non-hazardous waste as per E.P.A. and PA D.E.R. regulations. [illegible]

Tons: Cubic Yards: [illegible] Other (Specify):

Special Handling Instructions, if any:

MODERN ID #: [illegible]

is is to certify that the above named materials are properly classified, described, packaged, marked, and labeled are in proper condition for transportation according to applicable state and federal law. The wastes were consigned e transporter named. I certify that the foregoing is true and correct to the best of my knowledge.

12-2-99 Signature: [illegible] (Name and Title)

Contractor:

Address: Phone:

Contact:

Hauler of Waste (must be filled-in by hauler) EPA I.D. No. [illegible]

COMPANY NAME: [illegible] PHONE: 781-849-1800

ADDRESS: 1801 WASHINGTON ST. BRAINTREE MA 02184

Pick-up Date: 12-2-99 Truck No. [illegible] Vehicle Lic. No. [illegible]

The above described waste was picked up and hauled by me to the disposal facility named below and was accepted. I certify under penalty of perjury that the foregoing is true and correct.

Signature of authorized agent and title: [illegible] Date: 12-2-99

Disposer of Waste (must be filled-in by disposer)

Company Name: (Print or Type): Modern Landfill

Site Location: 4400 Mt. Pisgah Rd., York, Pennsylvania 17402

Waste subject to this manifest was delivered by the above hauler to this disposal facility and accepted on (DISPOSAL DATE)

Signature of authorized agent and title:

White, Green, Canary - Landfill Pink - Hauler Golden Rod - Generator

Tomkat Const., Inc.
930 Old Bridge Turnpike
East Brunswick, NJ 08816
(732) 254-7965
Fax:(732) 390-4048

August 6, 1999

Foster Wheeler Environmental
One Oxford Valley
Suite 200
2300 Lincoln Highway
Langhorne, PA 19047-1829

Attn: Dean Peterson

Re: Earle Naval Weapons Station, Route 36, Leonardo, NJ

Dear Mr. Peterson,

Our firm, Tomkat Construction, Inc. provides federal, state, industrial, and residential sites with bankrun, gravel, sand, topsoil, and various other subbase materials. The material we have in our pit is certified clean by the EPA and Army Corps of Engineers. We are currently supplying Sevenson Environmental at the Montclair Radium Site, and have supplied Dow Environmental at the Higgins Farm Superfund Site. We have also supplied Conti Environmental at the Kin-Buc site in Edison, NJ, Rust Remedial at the Waldick Superfund Site in Wall, NJ and Chemical Waste Management at the Burnt Fly Bog and Bog Creek Superfund Site as well as R & R International at the Great Swamp. The material that we supply originates at the pit of Toto Bros., Inc. and is located on Route 522 in Monroe, NJ (Block 35 Lot 45). This fill is clean, virgin material and is free of any known contaminants.

If you should have any questions, please do not hesitate to contact me at your convenience.

Sincerely,

Thomas J. Toto

Thomas J. Toto
President

№ 031821

TOMKAT Const. Inc.
930 Old Bridge Turnpike
East Brunswick, NJ 08816
(732) 254-7965

DATE 11-19-99
TRUCKER LENNY TOTO #36
MATERIAL Select fill
CU. YDS. 18
JOB Foster Wheeler
Earle Naval Rt 36

LOADS

1 24.14 (3659) CT
2 25.78 KS 003655
3 26.10 KS
4 24.53 KS 002800
5
6
7
8
9
10
11
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№ 031821

TOMKAT Const. Inc.
930 Old Bridge Turnpike
East Brunswick, NJ 08816
(732) 254-7965

DATE 11-19-99
TRUCKER LENNY TOTO #36
MATERIAL Select fill
CU. YDS. 18
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LOADS

1 24.14 (3659) CT
2 25.78 KS
3 26.10 KS
4 24.53 KS
5
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BUCK MINING & MATERIALS, INC.

P.O. Box 245, SPOTSWOOD, NJ 08884 003651

Excavating · Grading · Trucking

PIT: 908-446-9336

Date Truck/Equip.#

Customer

Location

Pit AREA: 22

LOADS	MATERIAL	PROD.#	YARDS
	Common Fill	1	
	Filldirt	2	
	Sandfill	3	
	Bank Run Sand	4	
	Clean Sand	5	
	Screened Sand	6	
	Septic Sand	7	
	Bank Run Gravel	8	
	Top Soil	9	
	Clay	10	
	Stone/Type:	Tons:	
	Other:		
	Rental:	Hrs:	

THE PURCHASER hereby agrees to save and indemnify and keep harmless BUCK MINING & MATERIALS, its agents and employees against all liability claims and judgements or demands for damages to property arising from accidents occasioned by the delivery of the foregoing materials and said PURCHASER will defend any and all suits that may be brought against BUCK MINING & MATERIALS, its agents and employees on account of any such accidents and will make good to, and reimburse BUCK MINING & MATERIALS, for any expenditures that said BUCK MINING & MATERIALS, its agents and employees may make by reason of such accidents.

BUCK MINING & MATERIALS, INC.

P.O. Box 245, SPOTSWOOD, NJ 08884 002806

Excavating · Grading · Trucking

PIT: 908-446-9336

Date Truck/Equip.#

Customer

Location

Pit AREA: 24.53

LOADS	MATERIAL	PROD.#	YARDS
	Common Fill	1	
	Filldirt	2	
	Sandfill	3	
	Bank Run Sand	4	
	Clean Sand	5	
	Screened Sand	6	
	Septic Sand	7	
	Bank Run Gravel	8	
	Top Soil	9	
	Clay	10	
	Stone/Type:	Tons:	
	Other:		
	Rental:	Hrs:	

THE PURCHASER hereby agrees to save and indemnify and keep harmless BUC MINING & MATERIALS, its agents and employees against all liability claims a judgements or demands for damages to property arising from accidents occasion by the delivery of the foregoing materials and said PURCHASER will defend any and suits that may be brought against BUCK MINING & MATERIALS, its agents a employees on account of any such accidents and will make good to, and reimbur BUCK MINING & MATERIALS, for any expenditures that said BUCK MINING MATERIALS, its agents and employees may make by reason of such accidents.

BUCK MINING & MATERIALS, INC.

P.O. Box 245, SPOTSWOOD, NJ 08884 **003654**

Excavating - Grading - Trucking

PIT: 908-446-9336

Date 11/19/0 Truck/Equip.#

Customer

Location

Pit AREA: 24.0

LOADS	MATERIAL	PROD.#	YARDS
	Common Fill	1	
	Filldirt	2	
	Sandfill	3	
	Bank Run Sand	4	
	Clean Sand	5	
	Screened Sand	6	
	Septic Sand	7	
	Bank Run Gravel	8	
	Top Soil	9	
	Clay	10	
	Stone/Type:	Tons:	
	Other:		
	Rental:	Hrs.	

THE PURCHASER hereby agrees to save and indemnify and keep harmless BUCK MINING & MATERIALS, its agents and employees against all liability claims and judgements or demands for damages to property arising from accidents occasioned by the delivery of the foregoing materials and said PURCHASER will defend any and all suits that may be brought against BUCK MINING & MATERIALS, its agents and employees on account of any such accidents and will make good to, and reimburse BUCK MINING & MATERIALS, for any expenditures that said BUCK MINING & MATERIALS, its agents and employees may make by reason of such accidents.

REC'D BY:

BUCK MINING & MATERIALS, INC.

P.O. Box 245, SPOTSWOOD, NJ 08884 **003653**

Excavating · Grading · Trucking

PIT: 908-446-9336

Date 11/17/ Truck/Equip.#

Customer

Location

Pit AREA: 20.10 T

LOADS	MATERIAL	PROD.#	YARDS
	Common Fill	1	
	Filldirt	2	
	Sandfill	3	
	Bank Run Sand	4	
	Clean Sand	5	
	Screened Sand	6	
	Septic Sand	7	
	Bank Run Gravel	8	
	Top Soil	9	
	Clay	10	
	Stone/Type:	Tons:	
	Other:		
	Rental:	Hrs:	

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REC'D BY:

#003667

BUCK MINING & MATERIALS, INC.

P.O. Box 245, SPOTSWOOD, NJ 08884 **003**

Excavating · Grading · Trucking

PIT: 908-446-9336

Date 11/17/11 Truck/Equip.#

Customer

Location

W.

Pit AREA: 21.2

LOADS	MATERIAL	PROD.#	YARDS
	Common Fill	1	
	Filldirt	2	
	Sandfill	3	
	Bank Run Sand	4	
	Clean Sand	5	
	Screened Sand	6	
	Septic Sand	7	
	Bank Run Gravel	8	
	Top Soil	9	
	Clay	10	
	Stone/Type:	Tons:	
	Other:		
	Rental:	Hrs:	

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REC'D BY:

BUCK MINING & MATERIALS, INC.

P.O. Box 245, SPOTSWOOD, NJ 08884 003656

Excavating · Grading · Trucking

PIT: 908-446-9336

Date 11/19/[illegible] Truck/Equip.# [illegible]

Customer [illegible]

Location [illegible]

Pit AREA: 23.84

LOADS	MATERIAL	PROD.#	YARDS
	Common Fill	1	
	Filldirt	2	
	Sandfill	3	
	Bank Run Sand	4	
	Clean Sand	5	
	Screened Sand	6	
	Septic Sand	7	
	Bank Run Gravel	8	
	Top Soil	9	
	Clay	10	
	Stone/Type:	Tons:	
	Other:		
	Rental:	Hrs:	

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REC'D BY:

BUCK MINING & MATERIALS, INC.

P.O. Box 245, SPOTSWOOD, NJ 08884 003655

Excavating · Grading · Trucking

PIT: 908-446-9336

Date 11/19/[illegible] Truck/Equip.# [illegible]

Customer [illegible]

Location

Pit AREA: 25.78

LOADS	MATERIAL	PROD.#	YARDS
	Common Fill	1	
	Filldirt	2	
	Sandfill	3	
	Bank Run Sand	4	
	Clean Sand	5	
	Screened Sand	6	
	Septic Sand	7	
	Bank Run Gravel	8	
	Top Soil	9	
	Clay	10	
	Stone/Type:	Tons:	
	Other:		
	Rental:	Hrs:	

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REC'D BY:

BUCK MINING & MATERIALS, INC.

P.O. Box 245, SPOTSWOOD, NJ 08884

Excavating · Grading · Trucking

PIT: 908-446-9336

003659

Date 11/1/91 Truck/Equip.#

Customer

Location

Pit AREA: 24.14

LOADS	MATERIAL	PROD.#	YARDS
	Common Fill	1	
	Fillclrt	2	
	Sandfill	3	
	Bank Run Sand	4	
	Clean Sand	5	
	Screened Sand	6	
	Septic Sand	7	
	Bank Run Gravel	8	
	Top Soil	9	
	Clay	10	
	Stone/Type:	Total:	
	Other:		
	Rental:	Hrs:	

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REC'D BY:

11-23-99

BUCK MINING & MATERIALS, INC.

P.O. Box 245, SPOTSWOOD, NJ 08884 003675

Excavating · Grading · Trucking

PIT: 908-446-9336

Date 11/23/99 Truck/Equip.# T.

Customer Toto Pres

Location W. ONEY

Pit Cliff Land AREA: 24.22

LOADS	MATERIAL	PROD.#	YARDS
	Common Fill	1	
	Filldirt	2	
	Sandfill	3	
	Bank Run Sand	4	
	Clean Sand	5	
	Screened Sand	6	
	Septic Sand	7	
	Bank Run Gravel	8	
	Top Soil THANK YOU!	9	
	Clay 09:55 am 11/23/99		
	Stone/Type:	Tons:	
	Other: 74540 lb Gross		
	Rental: 26500 lb Tare		
	48040 lb Net		

THE PURCHASER hereby agrees to save and indemnify and keep harmless BUCK MINING & MATERIALS, its agents and employees against all liability claims and judgements or demands for damages to property arising from accidents occasioned by the delivery of the foregoing materials and said PURCHASER will defend any and all suits that may be brought against BUCK MINING & MATERIALS, its agents and employees on account of any such accidents and will make good to, and reimburse BUCK MINING & MATERIALS, for any expenditures that said BUCK MINING & MATERIALS, its agents and employees may make by reason of such accidents.

REC'D BY:

№ 026457

TOMKAT Const. Inc.
25 Lexington Avenue
South River, NJ 08882
254-7965
254-2983

DATE 11.23.99
TRUCKER TJ #2
MATERIAL Select.
CU. YDS 18
JOB Foster-Wheeler

LOADS
1 Cliff Land
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

№ 026457

TOMKAT Const. Inc.
25 Lexington Avenue
South River, NJ 08882
254-7965
254-2983

DATE 11.23.99
TRUCKER TJ #2
MATERIAL Select.
CU. YDS 18
JOB Foster-Wheeler

LOADS
1 Cliff Land
2
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B

Stavola Construction Materials, Inc.
BOUND BROOK QUARRY
(732) 356-5700

SHIPPING TICKET

DATE.....: 11/23/99 TICKET..: 867140
CLERK....: SPINA IN 11:31 OUT 11:48

ORDER NO.: 001980 JOB #: pu by custo
CUSTOMER.: 61486
toto brothers
JOB.....: yard
P.O. NO..:
PRODUCT..: 011
1 1/2 CLEAN STONE
UNITS....: 20.86 TN
HAULER...: 099 P/D: P
MISCELLANEOUS PICKUP
CARD NO..: 20948
TRUCK....: TJ2
SHIP TO..:

GROSS WEIGHT: 68220
TARE WEIGHT: 26500
NET WEIGHT: 41720
NET TONS: 20.86
MEGAGRAMS: 18.9238

867148

TODAY'S LOADS: 2
QTY: 42.12

WAIT TIME: _____
DRIVER..:

CUSTOMER:

CLERK...: SPINA
26427

TICKET# 867140

B

Stavola Construction Materials, Inc.
BOUND BROOK QUARRY
(732) 356-5700

SHIPPING TICKET

DATE.....: 11/23/99 TICKET..: 867292
CLERK....: SPINA IN 13:31 OUT 13:48

ORDER NO.: 001980 JOB #: pu by custo
CUSTOMER.: 61486
toto brothers
JOB.....: yard
P.O. NO..:
PRODUCT..: 011
1 1/2 CLEAN STONE
UNITS....: 21.92 TN
HAULER...: 099 P/D: P
MISCELLANEOUS PICKUP
CARD NO..: 20948
TRUCK....: TJ2
SHIP TO..:

GROSS WEIGHT: 70340
TARE WEIGHT: 26500
NET WEIGHT: 43840
NET TONS: 21.92
MEGAGRAMS: 19.8855

867292

TODAY'S LOADS: 3
QTY: 64.04

WAIT TIME: _____
DRIVER..:

CUSTOMER:

CLERK...: SPINA
26427

TICKET# 867292

B

Stavola Construction Materials, Inc.
BOUND BROOK QUARRY
(732) 356-5700

SHIPPING TICKET

DATE.....: 11/23/99 TICKET..: 866912
CLERK....: SPINA IN 07:04 OUT 07:21

ORDER NO.: 001980 JOB #: pu by custo
CUSTOMER.: 61486
toto brothers
JOB.....: yard
P.O. NO..:
PRODUCT..: 011
1 1/2 CLEAN STONE
UNITS....: 21.26 TN
HAULER...: 099 P/D: P
MISCELLANEOUS PICKUP
CARD NO..: 20948
TRUCK....: TJ2
SHIP TO..:

866912

GROSS WEIGHT: 69020
TARE WEIGHT: 26500
NET WEIGHT: 42520

NET TONS: 21.26
MEGAGRAMS: 19.2867

TODAY'S LOADS: 1
QTY: 21.26

WAIT TIME: _____

DRIVER..:

CUSTOMER:

CLERK...: SPINA Glenn J Spina
26427

TICKET# 866912

Nº 025910

TOMKAT Const. Inc.
25 Lexington Avenue
South River, NJ 08882
254-7965
254-2983

DATE 11-23-99
TRUCKER TJ #2
MATERIAL [redacted] 1½ cl.
CU. YDS 18
JOB Foster-Wheeler

LOADS

1 Off Yard
2
3
4
5
6
7
8
9
10
11
12
13
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17
18

Nº 025910

TOMKAT Const. Inc.
25 Lexington Avenue
South River, NJ 08882
254-7965
254-2983

DATE 11-23-99
TRUCKER TJ #2
MATERIAL [redacted] 1½ cl.
CU. YDS 18
JOB Foster-Wheeler

LOADS

1 Off Yard
2
3
4
5
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Top Soil

BUCK MINING & MATERIALS, INC.

P.O. Box 245, SPOTSWOOD, NJ 08884

Excavating - Grading - Trucking

PIT: 908-446-9336

Date 11/9/ Truck/Equip.# 7.1

Customer

Location

Pit AREA:

LOADS	MATERIAL	PROD.#	YARDS
	Common Fill	1	
	Fill/dirt	2	
	Sandfill	3	
	Bank Run Sand	4	
	Clean Sand	5	
	Screened Sand	6	
	Septic Sand	7	
	Bank Run Gravel	8	
	Top Soil	9	
	Clay	10	
	Stone/Type:	Tons:	
	Other:		
	Rental:	Hrs:	

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№ 931586

TOMKAT Const. Inc.
930 Old Bridge Turnpike
East Brunswick, NJ 08816
(732) 254-7965

DATE 11 9 99
TRUCKER TK2
MATERIAL Top Soil
CU. YDS. 18
JOB Faster Wheels

LOADS
1 Cliff Land 2543
2
3
4
5
6
7
8
9
10
11
12
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14
15
16
17
18
19
20

№ 931586

TOMKAT Const. Inc.
930 Old Bridge Turnpike
East Brunswick, NJ 08816
(732) 254-7965

DATE 11 9 99
TRUCKER TK2
MATERIAL Top Soil
CU. YDS. 18
JOB Faster Wheels

LOADS
1 Cliff Land 2543
2
3
4
5
6
7
8
9
10
11
12
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