

**FOSTER WHEELER ENVIRONMENTAL CORPORATION**

**REPORT**

**STOCKPILE CHARACTERIZATION  
SITE 4, NAVAL STATION LONG BEACH  
LONG BEACH, CALIFORNIA**

**March 10, 1998**

**Prepared for:**

**NAVAL FACILITIES ENGINEERING COMMAND  
NAVAL CONSTRUCTION BATTALION CENTER  
1000 23<sup>RD</sup> AVENUE  
PORT HUENEME, CALIFORNIA**



CONTRACT NO. N47408-95-D-0730

REPORT

**STOCKPILE CHARACTERIZATION  
SITE 4, NAVAL STATION LONG BEACH  
LONG BEACH, CALIFORNIA  
March 10, 1998**

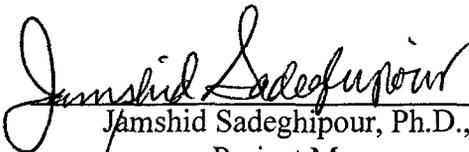
Prepared for

**NAVAL FACILITIES ENGINEERING COMMAND  
NAVAL CONSTRUCTION BATTALION CENTER  
1000 23<sup>RD</sup> AVENUE  
PORT HUENEME, CALIFORNIA**

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DEPARTMENT OF THE NAVY  
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1220 PACIFIC HIGHWAY  
SAN DIEGO, CA 92132-5190

5090.4  
Ser 56LB.DR/0100  
March 11, 1998

Mr. Hugh Marley  
California Regional Water Quality Control Board  
Los Angeles Region  
101 Centre Plaza Drive  
Monterey Park, CA 91754-2156

Dear Mr. Marley:

Request your review and concurrence on recommendations of the attached characterization report for IRP Site 4, Naval Station Long Beach, Long Beach, California

Upon receipt of your concurrence, a schedule will be provided to you for completion of the recommended actions, back filling of the excavation, and subsequent Closure Report.

If you have any questions regarding this matter, please contact Mr. Duane Rollefson at (619) 532-4712.

Sincerely,

A handwritten signature in black ink, appearing to read "Faiq Aljabi".

FAIQ ALJABI  
Environmental Engineer  
By direction of the Commander

Encl:

- (1) STOCK PILE CHARACTERIZATION, SITE 4, NAVAL STATION LONG BEACH, LONG BEACH, CA dated December 15, 1997

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# **REPORT**

## **STOCKPILE CHARACTERIZATION**

This report describes the results of the stockpile characterization at Site 4, Naval Station Long Beach in the city of Long Beach, Los Angeles County, California. The stockpile characterization activities were conducted in accordance with the "Action Plan for Stockpile Characterization" prepared by the Battelle and Foster Wheeler Environmental Corporation team (the Contractor). The Action Plan was issued on January 5, 1998 and was approved for implementation by the U.S. Navy Southwest Division (Navy-SWDIV) and the California Regional Water Quality Control Board, Los Angeles Region (RWQCB). The stockpile characterization was conducted at the site between January 13, and February 5, 1998. The analytical test results of the stockpile soil samples presented in this report will be used to decide which stockpiles are suitable for use as backfill in the excavation and which ones will require removal or remediation.

### **SUMMARY OF FIELD ACTIVITIES**

Stockpile characterization activities were conducted on January 13 and 31, 1998 and February 2 and 5, 1998. A description of the investigative methods employed to characterize the stockpiles is presented below.

#### **SECTION SURVEY**

On January 13, 1998, Dubron and Associates Surveyors (Dubron) was contracted by Foster Wheeler Environmental Corporation (Foster Wheeler Environmental) to conduct an elevation survey of the various stockpiles. The survey data was used to estimate the approximate volume of each stockpile. Overall, it was estimated that 17 stockpiles are located at the site with a total volume of approximately 18,000 cubic yards (cy). Fourteen (14) stockpiles were identified by the Navy for soil characterization purposes. The remaining 3 stockpiles, Stockpiles 1, 2, and 7 were excluded from sampling. These stockpiles consisted of thermally treated soil and clean over burden. A site map showing the locations of the various stockpiles is presented in Figure 1.

Subsequently, using the survey data and drawings, Dubron divided the selected stockpiles identified for soil sampling into 100 cy sections. On January 31, 1998, Dubron visited the site, and surveyed and marked the transect lines at the toe of each selected stockpile with survey stakes. The marked transect lines were used by Foster Wheeler Environmental to identify the pre-determined sampling sections for the various stockpiles.

## **STOCKPILE SAMPLING**

Within each section of a stockpile, a single wooden stake was driven into the soil to mark the point for a proposed soil boring. Each stake was randomly placed in each section, and labeled with the proposed soil sample identification along with an arbitrary sample collection depth. Soil boring locations for each stockpile are illustrated on Figures 2 through 15.

Foster Wheeler Environmental contracted Apex Environmental Drilling to hand-auger soil borings and collect soil samples using a core sampler. Soil samples were collected in 2-inch diameter by 6-inch long brass sleeves. Following the recovery of the brass sleeve from the core sampler, the sleeves were capped with Teflon® tape and plastic end caps. The soil samples were properly labeled and immediately placed in a pre-cooled ice-chest and transported under chain-of-custody procedures to Del Mar Analytical Laboratories in Irvine, California. Del Mar Analytical is a certified California Department of Health Services laboratory.

Each soil sample was designated by a unique alphanumeric code. Soil samples were identified with "SP" (stockpile), followed by a numeric identifier. The numeric identifier indicates the designated stockpile, followed by 1, 2, 3 or more to identify the specific section of the stockpile. For example, SP4-2 represents a soil sample collected from stockpile number 4 in Section 2.

A total of 141 discrete soil samples were collected, in addition to, 15 duplicate samples. One soil sample was collected from each section and a minimum of three soil samples was collected from each stockpile. Soil samples were analyzed for total recoverable petroleum hydrocarbons (TRPH) by U.S. Environmental Protection Agency (USEPA) Method 418.1, and total petroleum hydrocarbons (TPH), for gasoline (C<sub>6</sub> to C<sub>12</sub>), diesel (C<sub>12</sub> to C<sub>22</sub>), and heavier hydrocarbons (C<sub>23</sub> to C<sub>32</sub>) in accordance with USEPA Method 8015. In addition, soil samples were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX) in accordance with USEPA Method 8020. The laboratory analytical reports are presented in Appendix A.

During sampling activities, air monitoring was routinely conducted with an organic vapor analyzer to ensure safe working conditions. Volatile organic compounds were not detected in ambient air present in the vicinity of the sampling locations.

## **HEALTH AND SAFETY**

Foster Wheeler Environmental prepared and implemented a site specific Health and Safety Plan for the field sampling activities to ensure the safety of all Foster Wheeler Environmental's personnel and subcontractors. Prior to the start of sampling activities, a health and safety tailgate meeting was conducted. During this meeting Foster Wheeler Environmental reviewed the Health and Safety Plan with site personnel to ensure that all safety concerns were addressed. Further,

pertinent medical and hazardous waste training documents for all subcontracted personnel were obtained and reviewed by Foster Wheeler Environmental.

### **DECONTAMINATION ACTIVITIES**

Sampling equipment was decontaminated before sampling began, between sampling events and prior to leaving the site. The decontamination procedures for sampling equipment consisted of brushing off any solids from the hand auger and core sampler, a potable water non-phosphate Liquinox detergent wash followed by a potable water rinse and a final de-ionized rinse.

### **WASTE HANDLING ACTIVITIES**

All personal protection equipment and decontamination water generated from sampling activities were placed in four Department of Transportation (DOT) approved 55-gallon drums. On February 18, 1998, Laidlaw Environmental transported the drums off site to a waste disposal facility in accordance with DOT and USEPA regulations.

## **RESULTS**

The results of chemical analyses on the stockpile soil samples are summarized in Table 1. The results are compared with the TPH and BTEX maximum discharge limits (MDLs) established by the RWQCB. Overall, TPH as gasoline (C<sub>6</sub>-C<sub>12</sub>) was either non-detectable or detected sporadically at relatively low concentrations in various stockpiles. The detectable concentrations of TPH-gasoline were all below the MDL for gasoline (less than 1,000 mg/kg). Similarly, TPH-heavy hydrocarbons (C<sub>23</sub>-C<sub>32</sub>) were detected in various stockpiles but at concentrations below the MDL of 50,000 mg/kg. On the other hand, TPH as diesel (C<sub>13</sub>-C<sub>22</sub>) was reported to exceed the MDL for diesel (greater than 10,000 mg/kg) in several soil samples in six of the stockpiles (Stockpile No. 4, 6, 8, 11, 15 and 16).

Among BTEX compounds, benzene was not detected in any of the soil samples. The detection levels for benzene for five samples (SP12-8, SP14-5, SP15-5, SP15-10 and SP15-11DUP) were above the RWQCB MDL for this compound due to the fact that the samples had to be diluted for TPH values to be within the instrumentation calibration limits. The laboratory re-examined the raw data and confirmed the absence of benzene in all samples with the exception of SP12-8. Toluene, ethylbenzene and total xylenes were detected in only a few soil samples but usually at relatively low concentrations close to the laboratory detection limits. Overall, BTEX results conform to the MDL requirements for BTEX.

In accordance with the Action Plan for Stockpile Characterization, stockpiles with soil samples which exceeded the MDL for diesel were further evaluated by estimating the upper one-sided

95% confidence interval of the mean TPH-diesel for the specific stockpile (95% UCL). The 95% UCLs were compared to the MDL for diesel. The results of the statistics including the 95% UCL for the TPH-diesel in the stockpiles are summarized in Table 2.

As shown in Table 2, only one stockpile, Stockpile 6, has a 95% UCL exceeding the MDL for diesel (10,000 mg/kg). In accordance, with the requirements of the Action Plan for Stockpile Characterization, the soil in this stockpile is not suitable for using as backfill in the excavation at Site 4. However, since the 95%-UCL for the other stockpiles, Stockpiles 4, 8, 11, 15, 16 are less than 10,000 mg/kg, the soil in these stockpiles should be acceptable for use as backfill. Note also that all of the other stockpiles that do not have any soil samples exceeding the MDL for diesel are also acceptable for use as backfill.

## **CONCLUSIONS AND RECOMMENDATIONS**

The land survey identified 17 stockpiles at the site with an approximate total volume of 18,000 cy. The Navy identified three stockpiles to be excluded from characterization efforts since they consisted of treated soil or clean overburden. The remaining 14 stockpiles with a total volume of approximately 13,600 cy were sampled for characterization purposes. A total of 141 discrete soil samples and 15 duplicates were collected and analyzed by a state of California certified laboratory for TRPH, TPH, and BTEX.

Based on the analytical results of soil samples, only 19 samples (out of 156 samples) showed TPH as diesel exceeding the MDL for diesel. These samples were collected from 6 stockpiles, Stockpiles 4, 6, 8, 11, 15 and 16. A statistical evaluation of the 6 stockpiles revealed that only the 95% UCL of TPH-diesel for Stockpile 6 exceeded the MDL for diesel.

Due to relatively small volume of Stockpile 6 (316 cy), on-site low temperature thermal desorption is not considered an economically feasible alternative. It is recommended that TPH-impacted soil from Stockpile 6 be transported for disposal or treatment at an off-site licensed treatment, storage, disposal facility. The soil from the remaining stockpiles at the site should be acceptable for use as backfill in the excavation.

## **TABLES**

TABLE 1

**STOCKPILE CHARACTERIZATION RESULTS  
SITE 4, NAVAL STATION LONG BEACH**

Stockpile No.	Sample No	Depth (ft)	TRPH (mg/kg)	TPH-G C <sub>6</sub> -C <sub>12</sub> (mg/kg)	TPH-D C <sub>13</sub> -C <sub>22</sub> (mg/kg)	TPH-HHC C <sub>23</sub> -C <sub>32</sub> (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Total Xylenes (mg/kg)
SP-3	SP3-1	2	630	ND<1	94	130	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP3-2	3	970	ND<1	200	110	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP3-3	3	1600	ND<1	760	580	ND<.0050	ND<.0050	ND<.0050	ND<.015
SP-4	SP4-1	3	4400	23	1500	840	ND<.015	ND<.015	ND<.015	ND<.045
	SP4-2	5	2000	ND<1	720	480	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP4-3	7	3000	ND<1	120	60	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP4-4	6	14000	ND<1	2200	1500	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP4-5	2	2500	ND<1	1100	900	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP4-6	8	1500	ND<1	310	460	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP4-7	8	4100	ND<1	1700	1000	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP4-8	5	12000	19	4800	2300	ND<.020	ND<.020	ND<.020	ND<.060
	SP4-9	9	18000	260	<b>12000</b>	4500	ND<.030	ND<.030	0.12	0.85
	SP4-10	3	210	ND<1	6.6	3.5	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP4-11	7	45000	590	<b>11000</b>	3000	ND<.075	0.18	0.94	2.3
	SP4-11DUP	7	23000	170	5800	2400	ND<.050	ND<.050	0.35	1.1
	SP4-12	2	3200	1.5	1300	1200	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP4-13	4	2300	ND<1	1400	790	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP4-14	6	4800	2.5	1100	560	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP4-14DUP	6	5900	ND<1	1100	440	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP4-15	9	14000	11	3800	1500	ND<.010	ND<.010	ND<.010	ND<.030
	SP4-16	3	5200	3.1	1600	1900	ND<.0050	ND<.0050	0.0092	0.025
	SP4-17	7	31000	470	<b>13000</b>	2900	ND<.050	0.1	0.9	2
	SP4-18	3	890	2.3	1100	1200	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP4-19	7	30000	740	<b>14000</b>	2800	ND<.075	0.18	0.91	5.1
	SP4-20	10	21000	150	9100	2600	ND<.075	ND<.075	0.24	0.97
	SP4-21	2	8000	190	3700	1500	ND<.020	0.089	0.084	1
	SP4-22	6	18000	14	2300	1500	ND<.020	ND<.020	0.026	0.072
	SP4-23	8	5500	2.6	1700	1200	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP4-24	4	7000	ND<1	1200	940	ND<.0050	ND<.0050	ND<.0050	ND<.015
SP4-25	6	27000	320	<b>19000</b>	5500	ND<.050	ND<.050	0.43	1.3	
SP4-26	7	24000	38	9000	3400	ND<.020	ND<.020	ND<.020	0.11	
SP4-26DUP	7	28000	30	9700	3800	ND<.020	ND<.020	ND<.020	ND<.060	
Maximum Discharge Limits				1000	10000	50000	0.1	15	70	175

**STOCKPILE CHARACTERIZATION RESULTS  
SITE 4, NAVAL STATION LONG BEACH**

Stockpile No.	Sample No	Depth (ft)	TRPH (mg/kg)	TPH-G C <sub>6</sub> -C <sub>12</sub> (mg/kg)	TPH-D C <sub>13</sub> -C <sub>22</sub> (mg/kg)	TPH-HHC C <sub>23</sub> -C <sub>32</sub> (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Total Xylenes (mg/kg)
SP-4A	SP4A-1	3	9600	6.2	4900	2000	ND<.010	ND<.010	ND<.010	ND<.030
	SP4A-2	7	13000	270	4400	1700	ND<.075	ND<.075	0.60	1.7
	SP4A-3	4	510	ND<1	6900	2000	ND<.0050	ND<.0050	ND<.0050	ND<.015
SP-5	SP5-1	5	5500	27	1600	850	ND<.015	ND<.015	ND<.015	ND<.045
	SP5-2	3	3900	ND<1	990	890	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP5-3	4	4500	140	1800	920	ND<.020	ND<.020	ND<.020	ND<.060
	SP5-4	2	1300	ND<1	380	390	ND<.0050	ND<.0050	ND<.0050	ND<.015
SP-6	SP6-1	7	14000	120	74	110	ND<.015	ND<.015	0.026	0.13
	SP6-2	3	14000	1.7	<b>11000</b>	3200	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP6-3	5	23000	93	9900	2600	ND<.038	ND<.038	ND<.038	0.19
SP-8	SP8-1	3	8300	1.7	3300	1800	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP8-2	6	12000	15	2900	1200	ND<.020	ND<.020	ND<.020	ND<.060
	SP8-3	2	5300	ND<1.0	1100	1100	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP8-4	5	43000	280	<b>13000</b>	3600	ND<.050	0.093	0.20	0.59
	SP8-5	7	13000	76	2700	870	ND<.050	ND<.050	ND<.050	0.17
	SP8-5DUP	7	5100	ND<1.0	1500	800	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP8-6	1	2700	2.6	780	440	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP8-7	3	35000	190	11000	3200	ND<.030	0.065	0.17	1.1
	SP8-8	8	1700	ND<1.0	27	17	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP8-9	9	9500	1.3	6300	1300	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP8-10	2	510	ND<1.0	2800	990	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP8-11	10	13000	300	4700	1100	ND<.075	0.098	0.25	1.4
	SP8-12	3	1100	ND<1.0	310	340	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP8-13	4	29000	210	<b>12000</b>	3200	ND<.050	ND<.050	0.20	1.2
	SP8-14	6	3500	ND<1.0	520	340	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP8-15	8	1800	4.9	280	240	ND<.010	ND<.010	ND<.010	0.03
	SP8-16	7	3100	7.4	850	400	ND<.0065	ND<.0065	ND<.0065	ND<.020
	SP8-17	3	1800	ND<1.0	680	550	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP8-18	4	5000	1.7	1100	670	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP8-19	2	3800	99	1900	620	ND<.050	ND<.050	ND<.050	0.46
SP8-19DUP	2	2900	1.4	530	370	ND<.0050	ND<.0050	ND<.0050	ND<.015	
SP8-20	2	10000	16	3500	1200	ND<.020	ND<.020	ND<.020	0.088	
Maximum Discharge Limits				1000	10000	50000	0.1	15	70	175

TABLE 1

**STOCKPILE CHARACTERIZATION RESULTS  
SITE 4, NAVAL STATION LONG BEACH**

Stockpile No.	Sample No	Depth (ft)	TRPH (mg/kg)	TPH-G C <sub>6</sub> -C <sub>12</sub> (mg/kg)	TPH-D C <sub>13</sub> -C <sub>22</sub> (mg/kg)	TPH-HHC C <sub>23</sub> -C <sub>32</sub> (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Total Xylenes (mg/kg)
SP-9	SP9-1	4	4000	1.8	530	340	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP9-2	7	3000	5.9	2700	1400	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP9-3	5	8600	9.1	4400	2100	ND<.020	ND<.020	ND<.020	ND<.060
	SP9-3DUP	5	5800	11	2000	1000	ND<.010	ND<.010	ND<.010	ND<.030
	SP9-4	3	760	ND<1	350	310	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP9-5	6	14000	110	6300	2600	ND<.020	ND<.020	ND<.020	0.30
SP-10	SP10-1	2	11000	ND<1.0	980	770	ND<.0050	ND<.0050	ND<.0050	ND<0.015
	SP10-2	4	12000	230	2000	870	ND<.030	ND<.030	0.04	0.15
	SP10-3	5	29000	360	4700	1800	ND<.075	0.11	0.51	1.3
	SP10-4	4	8900	3.1	1200	690	ND<.0050	ND<.0050	ND<.0050	ND<.015
SP-11	SP11-1	3	26000	90	10000	3900	ND<.030	ND<.030	ND<.030	0.14
	SP11-2	4	19000	82	7500	2800	ND<.050	ND<.050	ND<.050	ND<.15
	SP11-2DUP	4	11000	300	8700	3400	ND<.030	ND<.030	0.32	1.1
	SP11-3	2	1900	91	1700	600	ND<.043	ND<.043	ND<.043	0.13
	SP11-4	4	13000	500	4900	1500	ND<.060	ND<.060	0.20	0.61
	SP11-5	5	17000	2.4	6000	2100	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP11-6	3	13000	45	5600	2300	ND<.015	ND<.015	ND<.015	ND<.045
SP11-7	1	3300	2.7	480	580	ND<.0050	ND<.0050	ND<.0050	ND<.015	
SP-12	SP12-1	3	14000	5.5	4400	2300	ND<.010	ND<.010	ND<.010	ND<.030
	SP12-1DUP	3	5400	29	3400	1400	ND<.015	ND<.015	ND<.015	ND<.045
	SP12-2	5	1100	7.6	270	200	ND<.0065	ND<.0065	ND<.0065	ND<.020
	SP12-3	2	1200	5.9	420	340	ND<.0065	ND<.0065	ND<.0065	ND<.020
	SP12-4	2	8500	4.9	3100	1300	ND<.005	ND<.005	ND<.005	ND<.015
	SP12-5	1	13000	92	5700	1500	ND<.025	ND<.025	ND<.025	ND<.075
	SP12-6	1	21000	21	7100	3300	ND<.020	ND<.020	ND<.020	ND<.060
	SP12-7	5	2000	43	210	85	ND<.030	ND<.030	ND<.030	ND<.090
	SP12-8	3	5900	600	1100	480	ND<.15	ND<.15	ND<.15	ND<.45
SP12-8DUP	3	1300	ND<1	130	110	ND<.0050	ND<.0050	ND<.0050	ND.015	
SP12-9	5	6300	23	2500	960	ND<.020	ND<.020	ND<.020	ND<.020	
Maximum Discharge Limits				1000	10000	50000	0.1	15	70	175

TABLE 1

**STOCKPILE CHARACTERIZATION RESULTS  
SITE 4, NAVAL STATION LONG BEACH**

Stockpile No.	Sample No	Depth (ft)	TRPH (mg/kg)	TPH-G C <sub>6</sub> -C <sub>12</sub> (mg/kg)	TPH-D C <sub>13</sub> -C <sub>22</sub> (mg/kg)	TPH-HHC C <sub>23</sub> -C <sub>32</sub> (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Total Xylenes (mg/kg)
SP-13	SP13-1	3	16000	6.3	940	490	ND<.010	ND<.010	ND<.010	ND<.030
	SP13-2	4	19000	300	5100	2200	ND<.030	ND<.030	0.12	0.42
	SP13-2DUP	4	14000	410	5500	2200	ND<0.060	ND<.060	0.1	0.39
	SP13-3	3	17000	66	2300	920	ND<.015	ND<.015	0.035	0.36
SP-14	SP14-1	2	5600	100	6.8	3.3	ND<.020	ND<.020	0.13	1.1
	SP14-2	3	11000	ND<1.0	2200	1400	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP14-3	4	820	6.4	170	56	ND<.020	ND<.020	ND<.020	ND<.060
	SP14-4	1	21000	9	3900	1500	ND<.020	ND<.020	ND<.020	ND<.060
	SP14-5	3	27000	490	3400	1400	ND<.15	ND<.15	ND<.15	0.52
	SP14-6	5	12000	5.8	4300	1800	ND<.0050	ND<.0050	ND<.0050	ND<.015
SP-15	SP15-1	3	2100	ND<1.0	450	480	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP15-2	3	18000	280	<b>12000</b>	5200	ND<.060	ND<.060	ND<.060	0.98
	SP15-3	4	14000	110	1500	430	ND<.020	ND<.020	0.18	0.96
	SP15-4	2	28000	4.8	6700	2500	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP15-5	5	27000	510	5100	1700	ND<0.12	ND<0.12	0.51	2.6
	SP15-6	2	21000	95	3800	1100	ND<.030	ND<.030	ND<.030	ND<.090
	SP15-6DUP	2	8800	2	2000	1100	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP15-7	3	16000	170	2600	830	ND<.060	ND<.060	ND<.060	ND<0.18
	SP15-8	4	8200	440	1800	530	ND<.10	ND<.10	0.12	0.43
	SP15-9	4	13	ND<1.0	4.8	3.1	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP15-10	6	38000	620	<b>13000</b>	4100	ND<.120	ND<.120	0.38	1.5
	SP15-11	3	13000	170	3600	920	ND<.038	ND<.038	0.17	1.2
	SP15-11DUP	3	30000	860	5600	1900	ND<.15	0.41	0.99	4.2
	SP15-12	5	21000	100	7500	2500	ND<.030	ND<.030	0.086	0.52
	SP15-13	5	14000	590	3800	1100	ND<.010	ND<.010	0.19	0.71
	SP15-14	2	36000	450	6100	1900	ND<.060	ND<.060	0.19	0.61
	SP15-15	3	11000	1.4	2900	750	ND<.0050	ND<.0050	ND<.0050	ND<.0015
	SP15-16	3	14000	160	3200	920	ND<.060	ND<.060	ND<.060	ND<0.18
	SP15-17	1	140	1.1	51	33	ND<.0050	ND<.0050	ND<.0050	ND<.015
SP15-18	4	1500	ND<1.0	69	100	ND<.0050	ND<.0050	ND<.0050	ND<.015	
SP15-19	2	9700	6.4	1900	1300	ND<.0050	ND<.0050	ND<.0050	ND<.015	
Maximum Discharge Limits				1000	10000	50000	0.1	15	70	175

**STOCKPILE CHARACTERIZATION RESULTS  
SITE 4, NAVAL STATION LONG BEACH**

Stockpile		Depth (ft)	TRPH (mg/kg)	TPH-G	TPH-D	TPH-HHC	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl- Benzene (mg/kg)	Total Xylenes (mg/kg)
No.	Sample No			C <sub>6</sub> -C <sub>12</sub> (mg/kg)	C <sub>13</sub> -C <sub>22</sub> (mg/kg)	C <sub>23</sub> -C <sub>32</sub> (mg/kg)				
SP-16	SP16-1	2	13000	82	3500	930	ND<.015	ND<.015	ND<.015	ND<.045
	SP16-2	5	2500	10	530	210	ND<.020	ND<.020	ND<.020	ND<.020
	SP16-3	9	41000	480	15000	3000	ND<.050	0.060	0.37	0.75
	SP16-4	4	36000	270	15000	2800	ND<.050	ND<.050	0.16	0.39
	SP16-5	6	590	ND<1.0	140	170	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP16-6	2	14000	100	6200	1300	ND<.050	ND<.050	ND<.050	ND<.015
	SP16-7	7	29000	180	9900	2200	ND<.060	ND<.060	0.13	0.47
	SP16-8	3	25000	61	11000	5000	ND<.020	ND<.020	ND<.020	ND<.060
	SP16-9	10	16000	26	8100	2300	ND<.015	ND<.015	ND<.015	0.068
	SP16-9DUP	10	22000	29	5100	1200	ND<0.015	ND<0.015	ND<0.015	0.05
	SP16-10	4	18000	28	3700	700	ND<.015	ND<.015	ND<.015	0.070
	SP16-11	5	4200	3.4	1100	310	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP16-12	5	32000	200	15000	4000	ND<.060	ND<.060	0.27	0.82
	SP16-12DUP	5	45000	320	19000	4300	ND<.040	ND<.040	0.48	1.3
	SP16-13	2	1200	ND<1.0	430	280	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP16-14	6	11000	56	3600	1100	ND<.020	ND<.020	0.031	0.19
	SP16-15	3	10000	4.2	3700	1500	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP16-16	1	3600	21	2600	1100	ND<.020	ND<.020	ND<.020	ND<.060
	SP16-17	6	26000	110	5300	790	0.020	0.030	0.035	0.13
	SP16-18	3	14000	10	3300	1300	ND<.010	ND<.010	ND<.010	ND<.030
	SP16-19	9	23000	130	6500	1900	ND<0.015	ND<.015	0.068	0.14
	SP16-20	4	7000	2.5	2100	760	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP16-21	6	11000	87	3200	1000	ND<.020	ND<.020	ND<.020	ND<.060
	SP16-22	3	960	1.1	300	220	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP16-23	8	31000	160	17000	2900	ND<.020	ND<.020	0.068	0.48
	SP16-24	2	2500	ND<1.0	660	410	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP16-25	6	51	ND<1.0	1.9	3.3	ND<.0050	ND<.0050	ND<.0050	ND<.015
	SP16-26	4	40000	88	17000	2900	ND<.0050	ND<.0050	0.060	0.46
	SP16-27	5	39000	180	34000	7600	ND<.020	ND<.020	0.28	0.58
	SP16-28	1	29000	15	8900	2400	ND<.020	ND<.020	ND<.020	ND<.060
	SP16-29	8	85000	220	8100	1900	ND<.030	ND<.030	0.38	0.92
	SP16-29DUP	8	25000	83	8600	2600	ND<.030	ND<.030	0.10	0.66
Maximum Discharge Limits				1000	10000	50000	0.1	15	70	175

**TABLE 2****STATISTICAL ANALYSIS OF  
STOCKPILE CHARACTERIZATION RESULTS  
SITE 4, NAVAL STATION LONG BEACH**

Stockpile Number	Number of Samples	Standard Deviation (mg/kg)	Sample Mean (mg/kg)	Standard Error of Mean (mg/kg)	UCL (1,95%) (mg/kg)
4	29	5,117	4,667	950	6,284
6	3	6,016	6,991	3,473	17,133
8	22	3,898	3,263	831	4,693
11	8	3,266	5,610	1,155	7,798
15	21	3,577	3,985	781	5,331
16	32	7,442	7,518	1,316	9,750

## **FIGURES**

Drawn By: BDB  
Date: 3/98

Checked By:  
Approved By:

No.:  
Project No.:

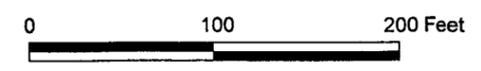
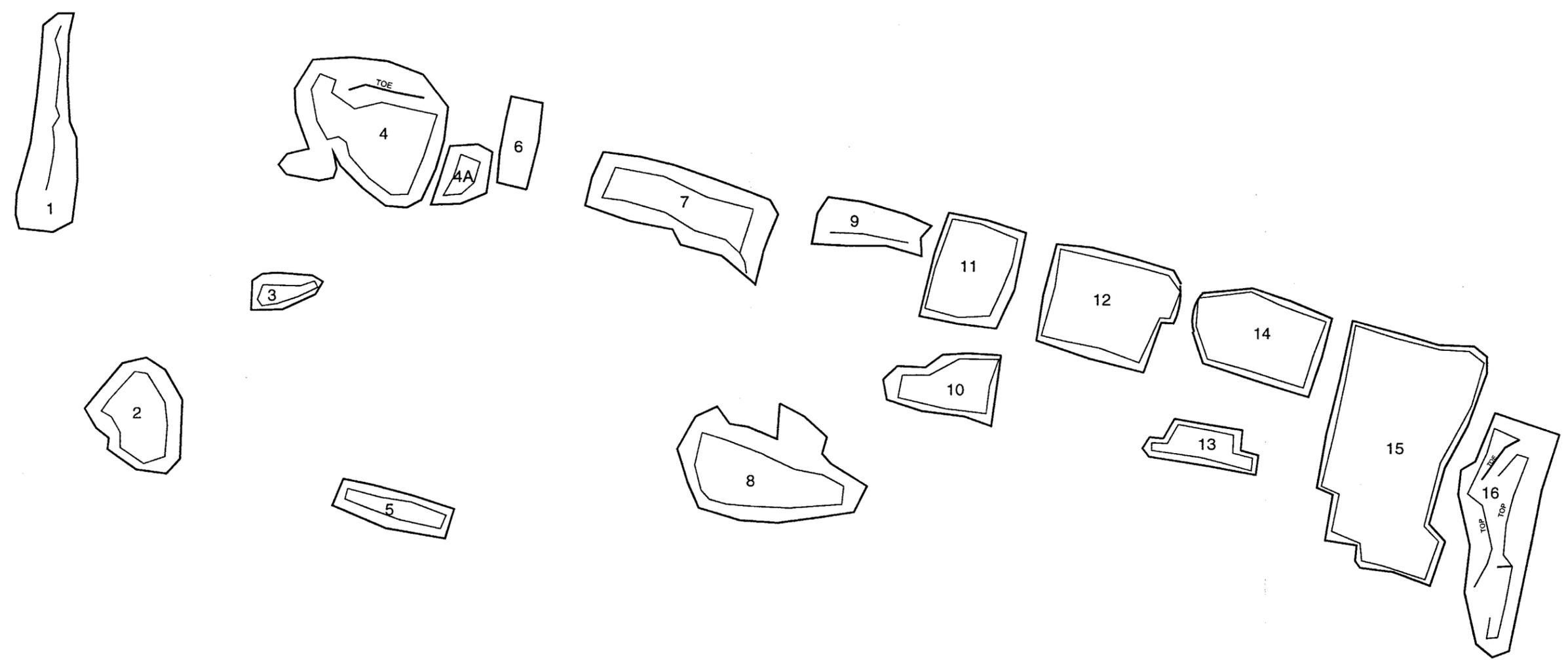


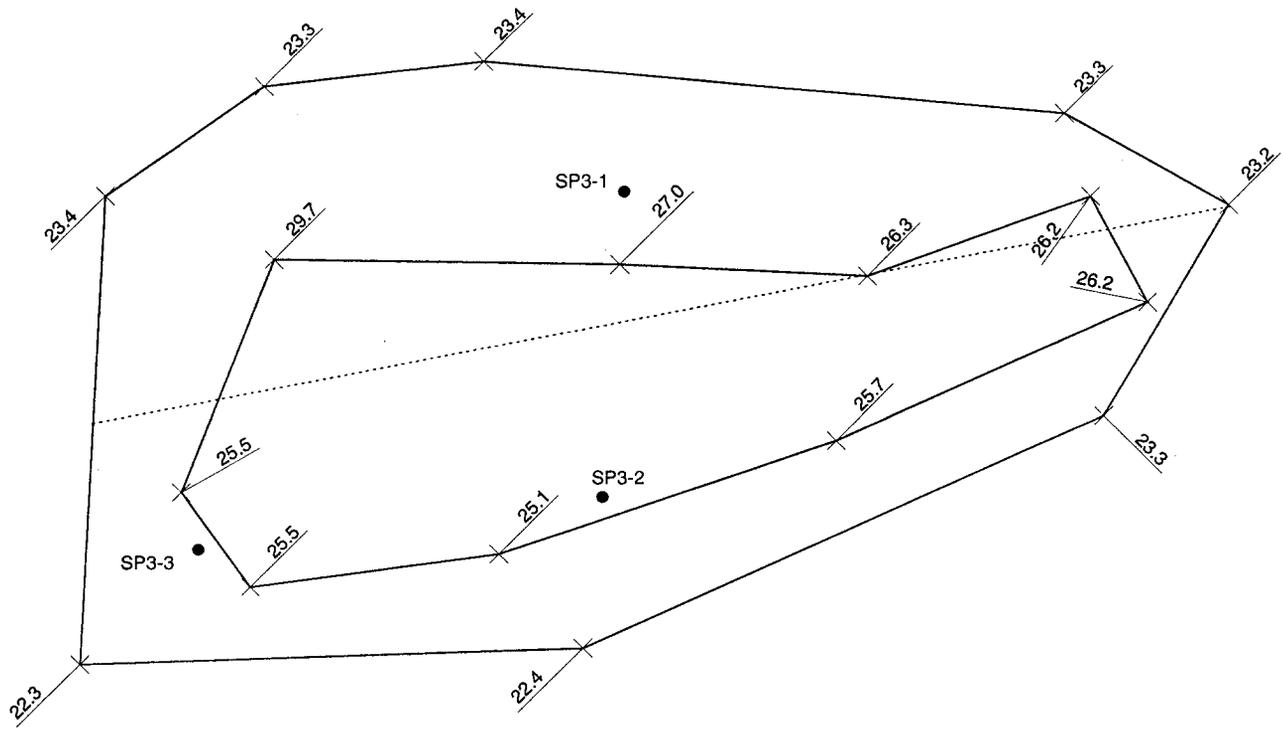
Figure 1  
**Stockpile Location Map**  
Site 4, Naval Station Long Beach  
Long Beach, California



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Drawn By: BDB	Checked By:	Dt. No.:
Date: 3/98	Rev. Date:	Project No.:

### STOCKPILE 3



#### Explanation

- Sample Location
- ..... Section Consisting of Approximately 100 Cubic Yards of Soil

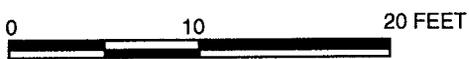


Figure 2

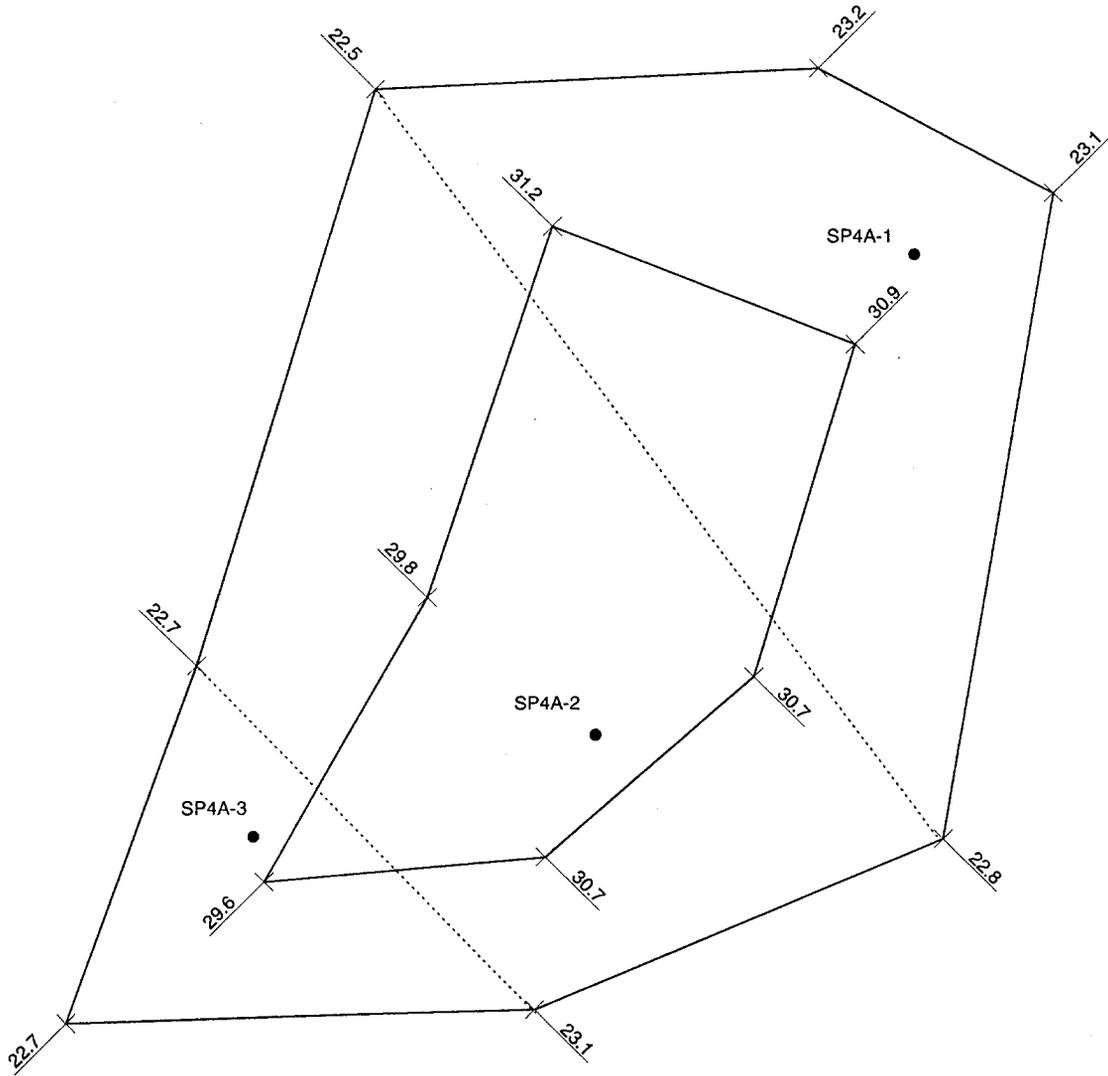
**Stockpile 3 Sampling Locations**  
 Site 4, Naval Station Long Beach  
 Long Beach, California



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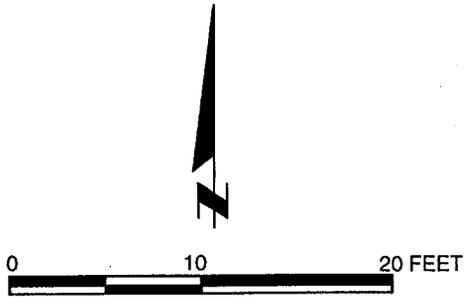


Drawn By: BDB	Checked By:	Drawing No.:
Date: 3/98	Approved By:	Project No.:



**STOCKPILE 4A**

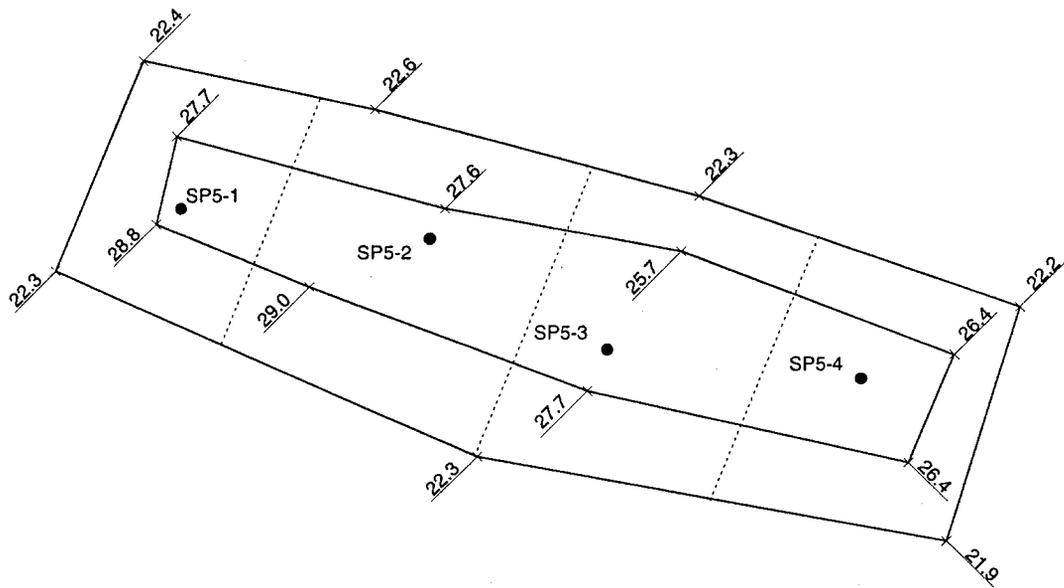
Explanation	
●	Sample Location
.....	Section Consisting of Approximately 100 Cubic Yards of Soil



**Figure 4**  
**Stockpile 4A Sampling Locations**  
 Site 4, Naval Station Long Beach  
 Long Beach, California

Drawn By: BDB Date: 3/98	Checked By: Approved By:	Drawing No.: Project No.:
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**STCOKPILE 5**



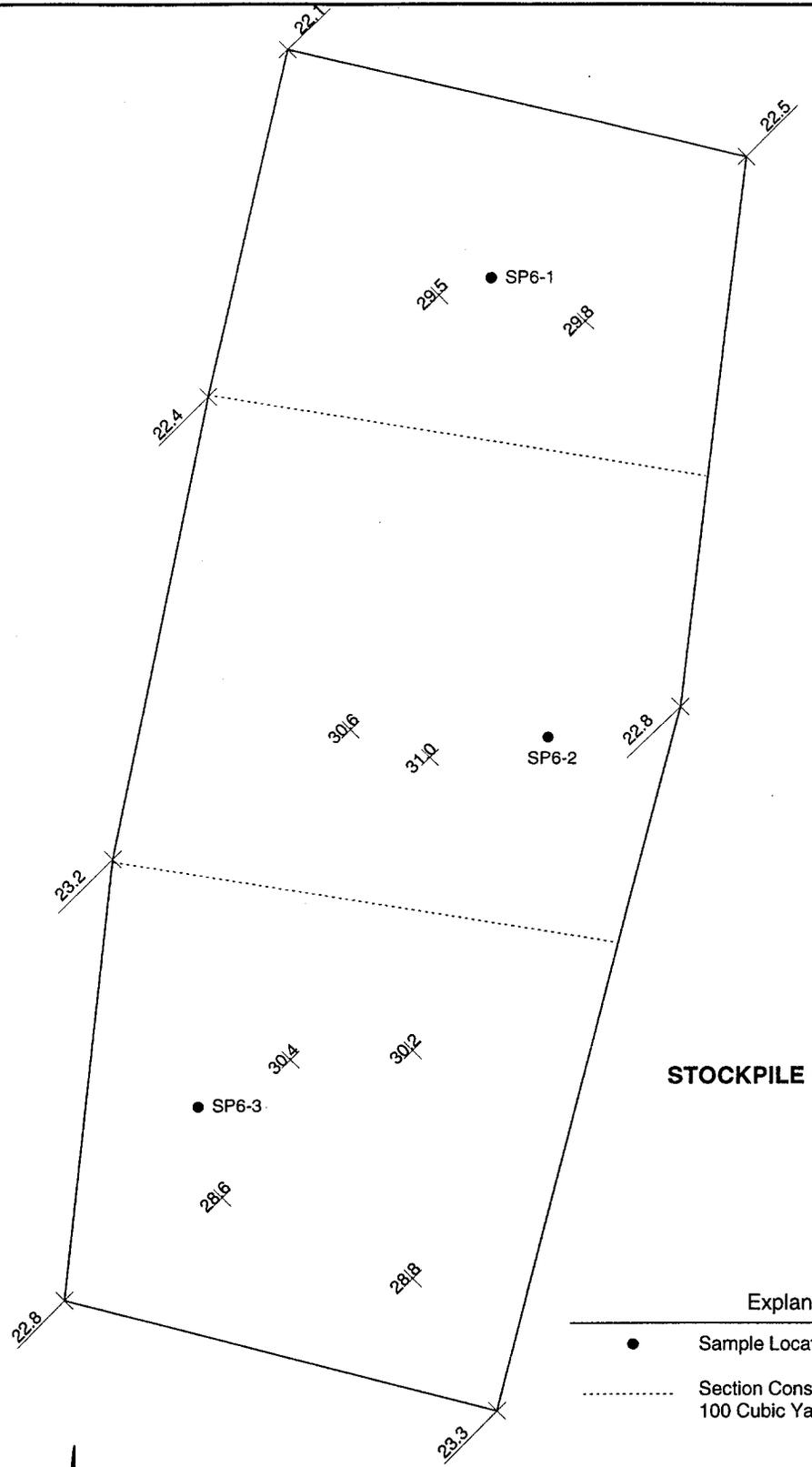
**Explanation**

- Sample Location
- Section Consisting of Approximately 100 Cubic Yards of Soil



**Figure 5**  
**Stockpile 5 Sampling Locations**  
 Site 4, Naval Station Long Beach  
 Long Beach, California

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**STOCKPILE 6**

**Explanation**

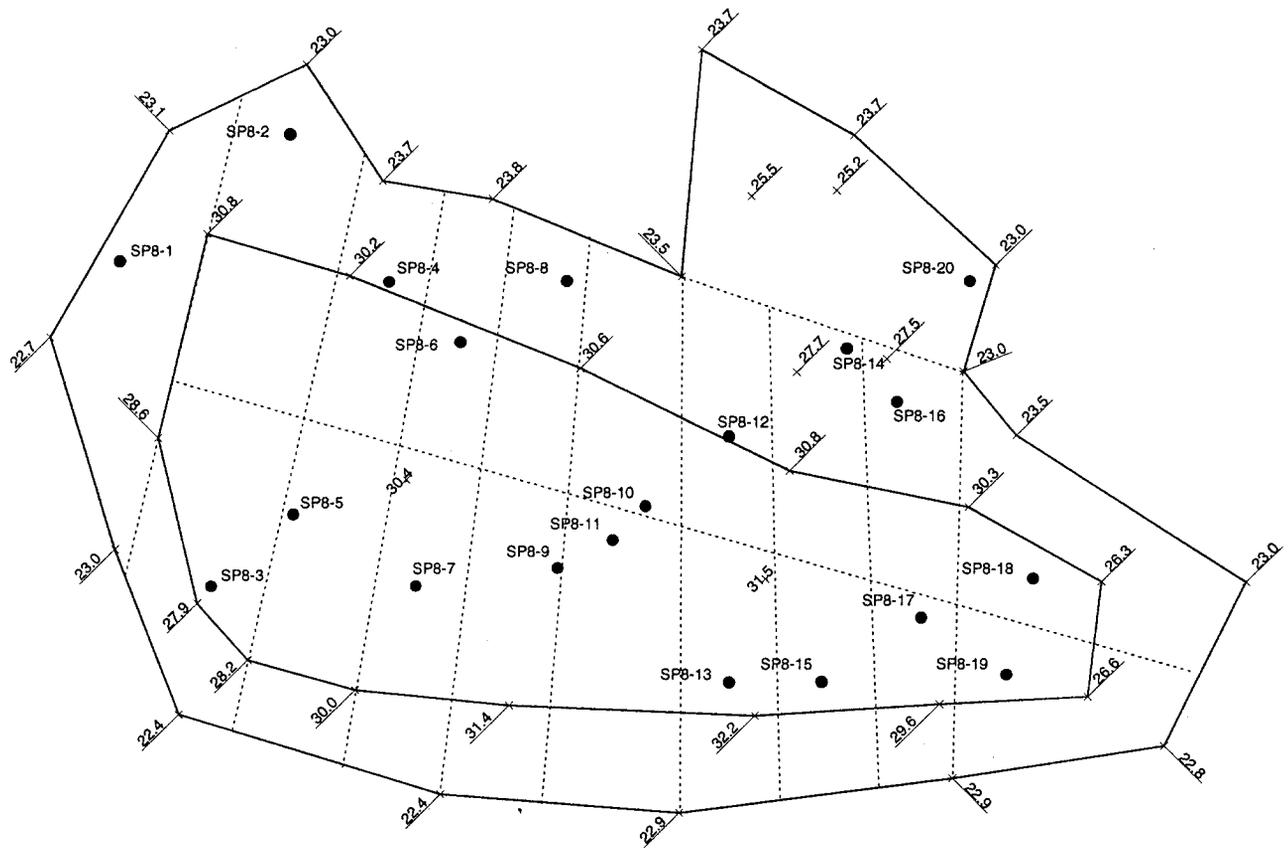
- Sample Location
- ..... Section Consisting of Approximately 100 Cubic Yards of Soil



**Figure 6**  
**Stockpile 6 Sampling Locations**  
 Site 4, Naval Station Long Beach  
 Long Beach, California

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Date: 3/98	Rev. Date:	Approved By:	Project No.:

### STOCKPILE 8



#### Explanation

- Sample Location
- Section Consisting of Approximately 100 Cubic Yards of Soil

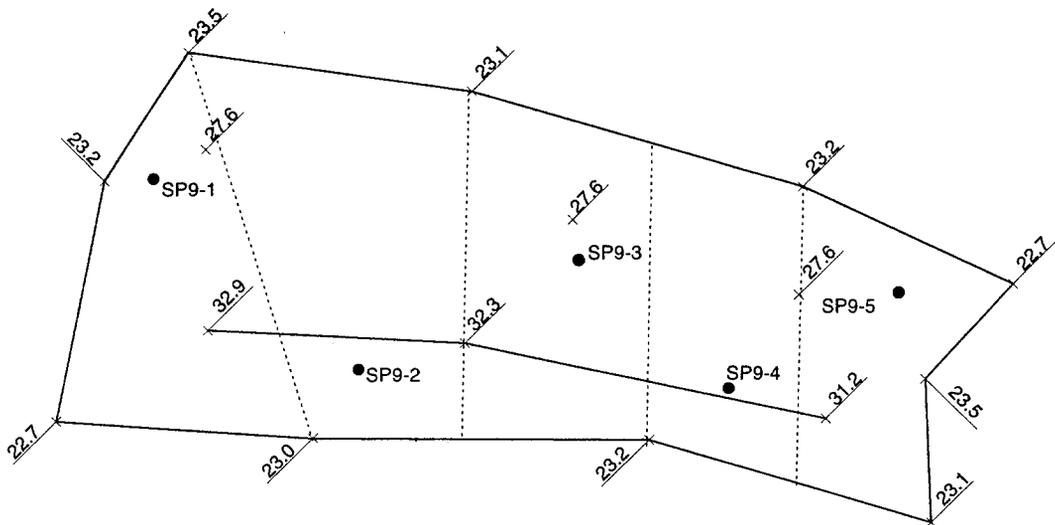


Figure 7  
**Stockpile 8 Sampling Locations**  
 Site 4, Naval Station Long Beach  
 Long Beach, California

**FW** FOSTER WHEELER  
 ENVIRONMENTAL CORPORATION

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### STOCKPILE 9



#### Explanation

- Sample Location
- Section Consisting of Approximately 100 Cubic Yards of Soil

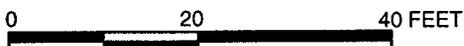


Figure 8

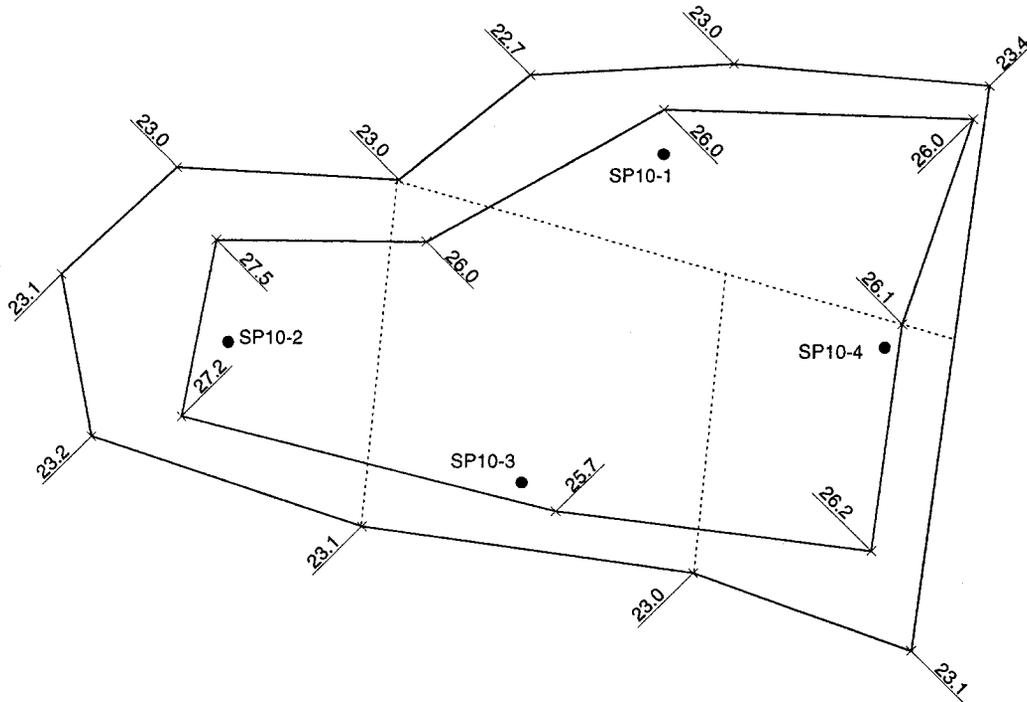
**Stockpile 9 Sampling Locations**  
 Site 4, Naval Station Long Beach  
 Long Beach, California



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### STOCKPILE 10



#### Explanation

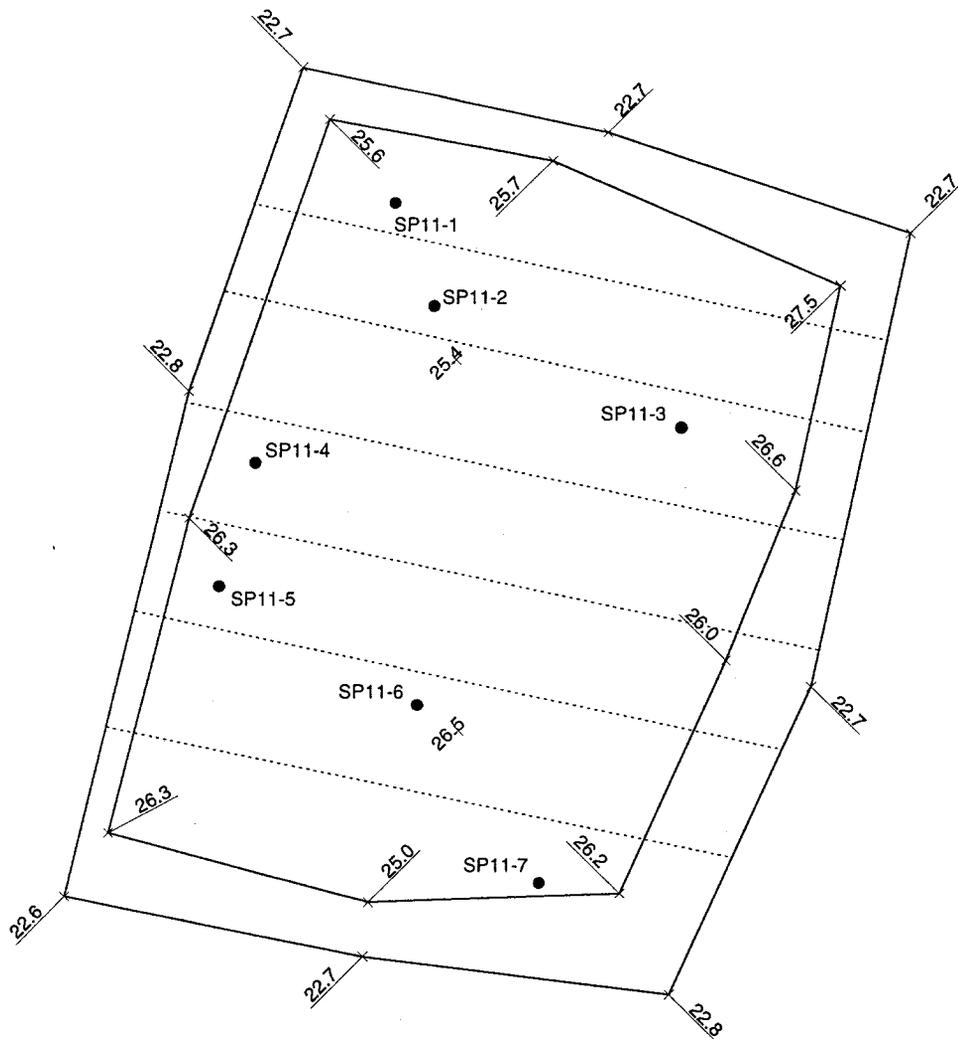
- Sample Location
- ..... Section Consisting of Approximately 100 Cubic Yards of Soil



**Figure 9**  
**Stockpile 10 Sampling Locations**  
 Site 4, Naval Station Long Beach  
 Long Beach, California

Drawn By: BDB Date: 3/98	Checked By: Approved By:	Draw No.: Project No.:
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**STOCKPILE 11**



**Explanation**

- Sample Location
- Section Consisting of Approximately 100 Cubic Yards of Soil

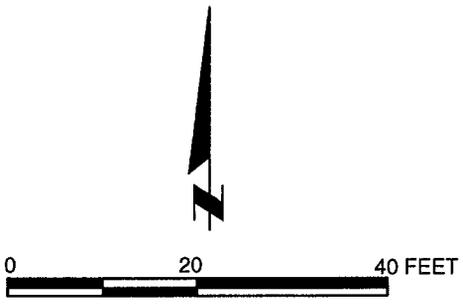
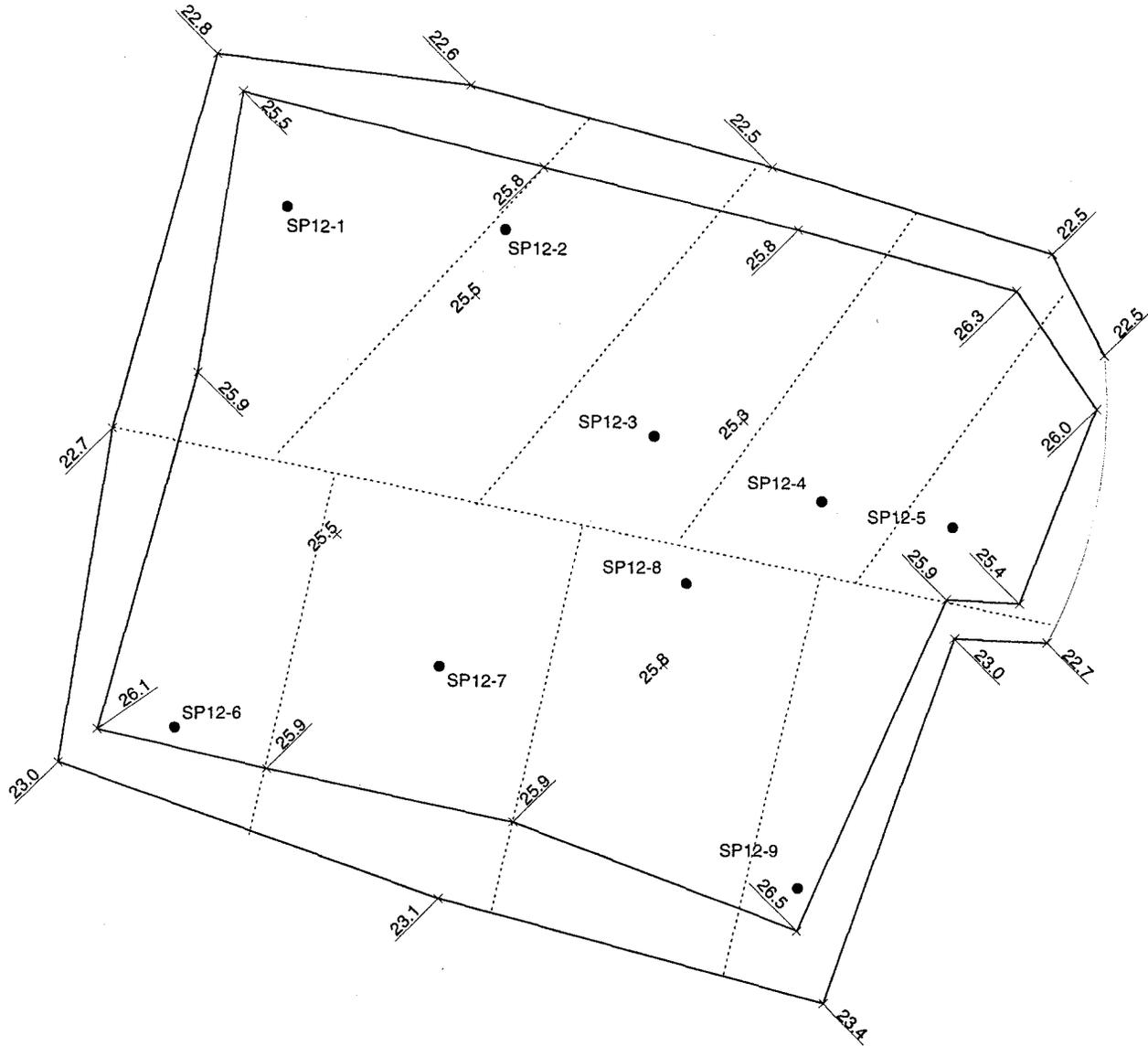


Figure 10  
**Stockpile 11 Sampling Locations**  
 Site 4, Naval Station Long Beach  
 Long Beach, California

**Foster Wheeler Environmental Corporation**

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Date: 3/98	Approved By:	Project No.:

### STOCKPILE 12



#### Explanation

- Sample Location
- Section Consisting of Approximately 100 Cubic Yards of Soil



Figure 11

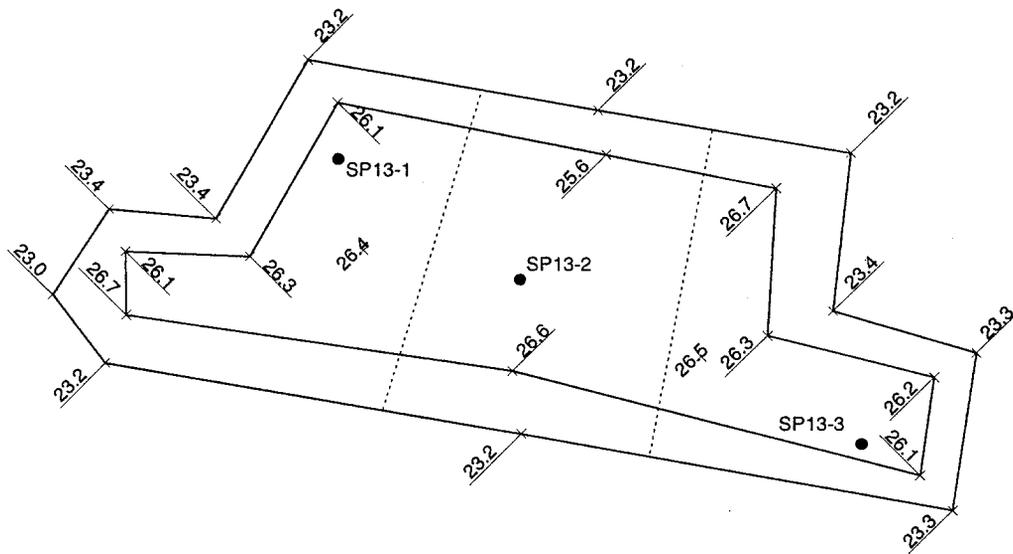
**Stockpile 12 Sampling Locations**  
 Site 4, Naval Station Long Beach  
 Long Beach, California



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### STOCKPILE 13



#### Explanation

- Sample Location
- Section Consisting of Approximately 100 Cubic Yards of Soil



Figure 12

#### Stockpile 13 Sampling Locations

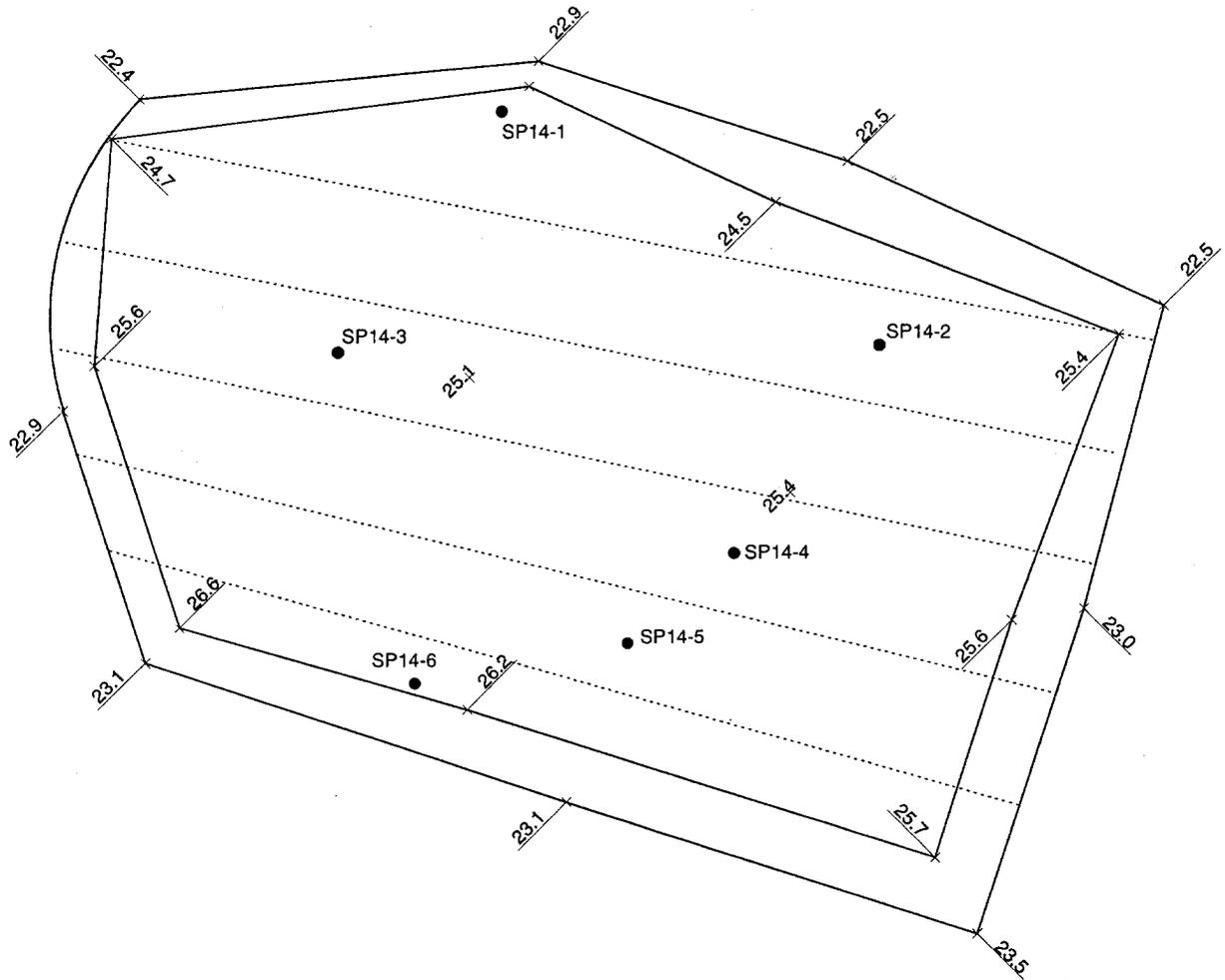
Site 4, Naval Station Long Beach  
Long Beach, California



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Drawn By: BDB	Checked By:	Drawn By: BDB	Checked By:
Date: 3/98	Rev. Date:	Rev. Date:	Rev. Date:

**STOCKPILE 14**



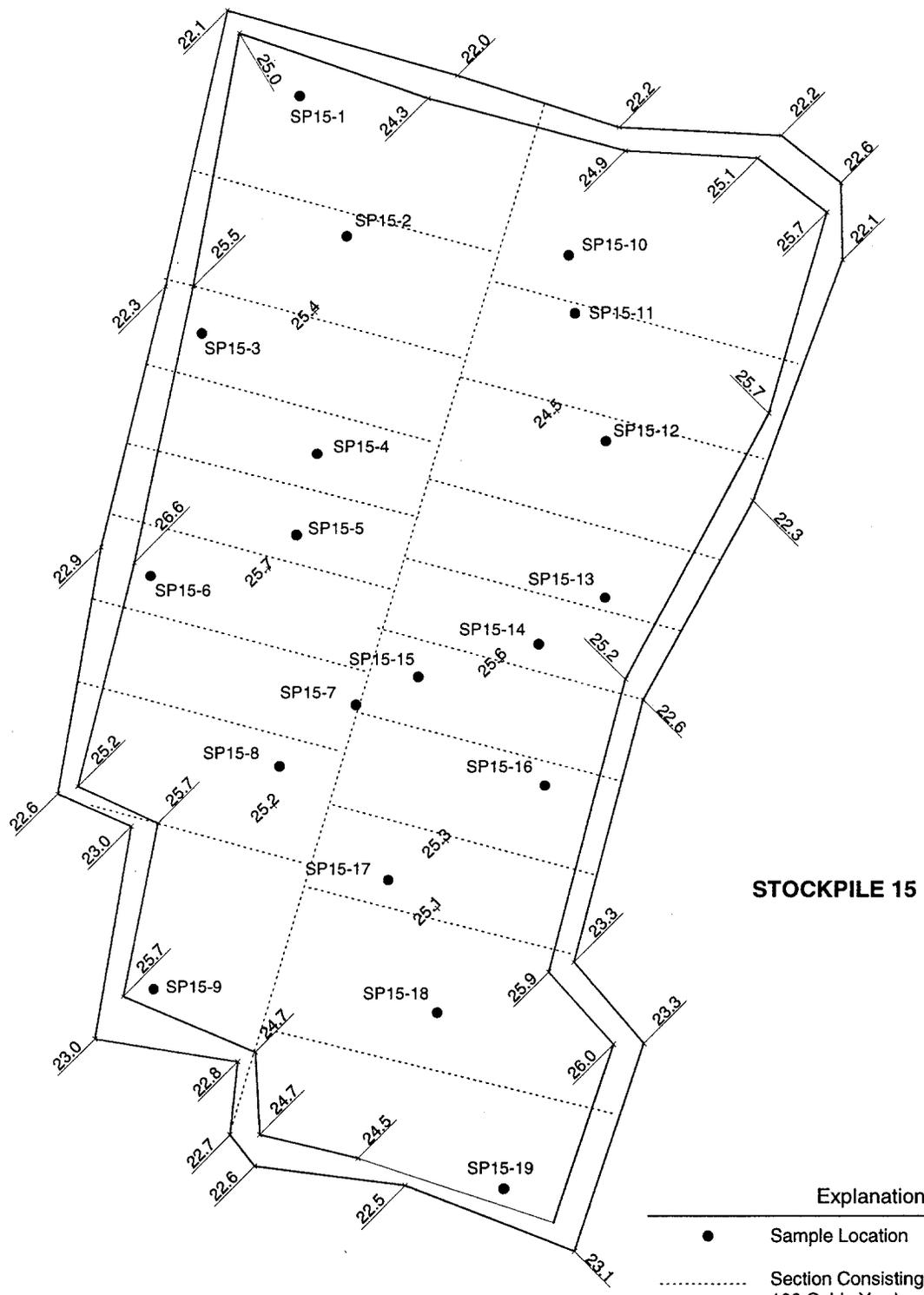
**Explanation**

- Sample Location
- Section Consisting of Approximately 100 Cubic Yards of Soil



**Figure 13**  
**Stockpile 14 Sampling Locations**  
 Site 4, Naval Station Long Beach  
 Long Beach, California

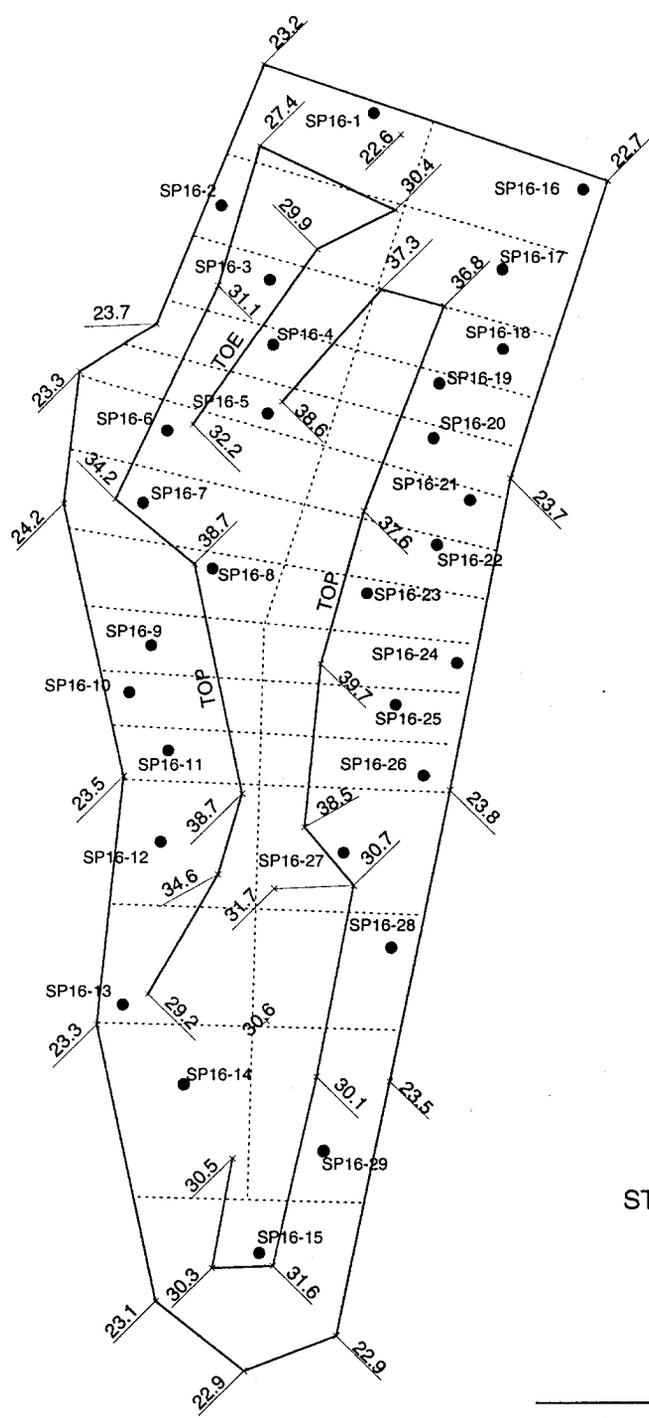
Drawn By: BDB	Checked By:	Drawing No.:
Date: 3/98	Rev. Date:	Project No.:



**Figure 14**  
**Stockpile 15 Sampling Locations**  
 Site 4, Naval Station Long Beach  
 Long Beach, California

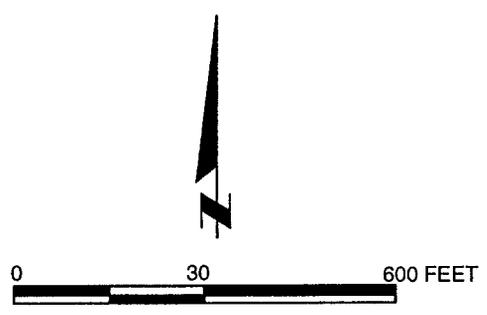
**Foster Wheeler Environmental Corporation**

Drawn By: BDB	Checked By:	Drawing No.:
Date: 3/98	Rev. Date:	Project No.:



**STOCKPILE 16**

- Explanation**
- Sample Location
  - Section Consisting of Approximately 100 Cubic Yards of Soil



**Figure 15**  
**Stockpile 16 Sampling Locations**  
 Site 4, Naval Station Long Beach  
 Long Beach, California

**Foster Wheeler Environmental Corporation**

**APPENDIX A**  
**LABORATORY ANALYTICAL REPORTS**

Foster Wheeler Environmental 311 Anton Blvd., Suite 800 Costa Mesa, CA 92626 Attention: Abram Eloskof	Client Project ID: Soil Stockpile Char. Site 4 - Naval Station - Long Beach Analysis Method: EPA 418.1 (I.R. with clean-up) First Sample #: V8020005	Sampled: Jan 30, 1998 Received: Jan 30, 1998 Extracted: Feb 5, 1998 Analyzed: Feb 5, 1998 Reported: Feb 9, 1998
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## TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Laboratory Number	Sample Description Soil	Sample Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor
V8020005	SP5-1	5,500	50	10
V8020006	SP5-2	3,900	25	5.0
V8020007	SP5-3	4,500	50	10
V8020008	SP5-4	1,300	10	2.0
V8020009	SP3-1	630	5.0	1.0
V8020010	SP3-2	970	10	2.0
V8020011	SP4-1	4,400	50	10
V8020012	SP4-2	2,000	25	5.0
V8020013	SP4-3	3,000	25	5.0
V8020014	SP4-4	14,000	200	40

Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

### DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)



Van Quach  
Laboratory Manager

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V8020005.FFF <1 of 25>

Foster Wheeler Environmental 611 Anton Blvd., Suite 800 Costa Mesa, CA 92626 Attention: Abram Eloskof	Client Project ID: Soil Stockpile Char. Site 4 - Naval Station - Long Beach Analysis Method: EPA 418.1 (I.R. with clean-up) First Sample #: V8020015	Sampled: Jan 30, 1998 Received: Jan 30, 1998 Extracted: Feb 5, 1998 Analyzed: Feb 5, 1998 Reported: Feb 9, 1998
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## TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Laboratory Number	Sample Description Soil	Sample Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor
V8020015	SP4-5	2,500	25	5.0
V8020016	SP4-6	1,500	25	5.0
V8020017	SP4-7	4,100	50	10
V8020018	SP4-8	12,000	200	40
V8020019	SP4-9	18,000	200	40
V8020020	SP4-10	210	5.0	1.0
V8020021	SP4-11	45,000	340	67
V8020022	SP4-11DUP	23,000	200	40
V8020023	SP4-12	3,200	50	10
V8020024	SP4-13	2,300	50	10

Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

### DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)



Van Quach  
Laboratory Manager

Foster Wheeler Environmental 611 Anton Blvd., Suite 800 Costa Mesa, CA 92626 Attention: Abram Eloskof	Client Project ID: Soil Stockpile Char. Site 4 - Naval Station - Long Beach Analysis Method: EPA 418.1 (I.R. with clean-up) First Sample #: V8020025	Sampled: Jan 30, 1998 Received: Jan 30, 1998 Extracted: Feb 6, 1998 Analyzed: Feb 6, 1998 Reported: Feb 9, 1998
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## TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Laboratory Number	Sample Description Soil	Sample Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor
V8020025	SP4-14	4,800	50	10
V8020026	SP4-14DUP	5,900	50	10
V8020027	SP4-15	14,000	200	40
V8020028	SP4-16	5,200	50	10
V8020029	SP4-17	31,000	250	50
V8020030	SP4-18	890	50	10
V8020031	SP4-19	30,000	500	100
V8020032	SP4-20	21,000	500	100
V8020033	SP4-21	8,000	500	100
V8020034	SP4-22	18,000	200	40

Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

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Van Quach  
Laboratory Manager

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V8020005.FFF <3 of 25>

Foster Wheeler Environmental 611 Anton Blvd., Suite 800 Costa Mesa, CA 92626 Attention: Abram Eloskof	Client Project ID: Soil Stockpile Char. Site 4 - Naval Station - Long Beach Analysis Method: EPA 418.1 (I.R. with clean-up) First Sample #: V8020035	Sampled: Jan 30, 1998 Received: Jan 30, 1998 Extracted: Feb 6, 1998 Analyzed: Feb 6, 1998 Reported: Feb 9, 1998
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## TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Laboratory Number	Sample Description Soil	Sample Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor
V8020035	SP4-23	5,500	50	10
V8020036	SP4-24	7,000	200	40
V8020037	SP4-25	27,000	250	50
V8020038	SP4-26	24,000	250	50
V8020039	SP4-26DUP	28,000	250	50
V8020040	SP4A-1	9,600	200	40
V8020041	SP4A-2	13,000	200	40
V8020042	SP4A-3	510	5.0	1.0
V8020043	SP6-1	14,000	500	100
V8020044	SP6-2	14,000	250	50

Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

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Laboratory Manager

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V8020005.FFF <4 of 25>

Foster Wheeler Environmental 611 Anton Blvd., Suite 800 Costa Mesa, CA 92626 Attention: Abram Eloskof	Client Project ID: Soil Stockpile Char. Site 4 - Naval Station - Long Beach Analysis Method: EPA 418.1 (I.R. with clean-up) First Sample #: V8020045	Sampled: Jan 30, 1998 Received: Jan 30, 1998 Extracted: Feb 6, 1998 Analyzed: Feb 6, 1998 Reported: Feb 9, 1998
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## TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Laboratory Number	Sample Description Soil	Sample Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor
V8020045	SP6-3	23,000	500	100
V8020046	SP9-1	4,000	50	10
V8020047	SP9-2	3,000	50	10
V8020048	SP9-3	8,600	500	100
V8020049	SP9-3DUP	5,800	500	100
V8020050	SP9-4	760	50	10
V8020051	SP9-5	14,000	500	100
V8020052	SP11-1	26,000	500	100
V8020053	SP11-2	19,000	250	50
V8020054	SP11-2DUP	11,000	500	100

Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**



Van Quach  
Laboratory Manager

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V8020005.FFF <5 of 25>

Foster Wheeler Environmental 611 Anton Blvd., Suite 800 Costa Mesa, CA 92626 Attention: Abram Eloskof	Client Project ID: Soil Stockpile Char. Site 4 - Naval Station - Long Beach Analysis Method: EPA 418.1 (I.R. with clean-up) First Sample #: V8020055	Sampled: Jan 30, 1998 Received: Jan 30, 1998 Extracted: Feb 6, 1998 Analyzed: Feb 6, 1998 Reported: Feb 9, 1998
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## TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Laboratory Number	Sample Description Soil	Sample Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor
V8020055	SP11-3	1,900	50	10
V8020056	SP11-4	13,000	500	100
V8020057	SP11-5	17,000	250	50
V8020058	SP11-6	13,000	500	100
V8020059	SP12-1	14,000	500	100
V8020060	SP12-1DUP	5,400	500	100
V8020061	SP12-6	21,000	250	50

Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

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Laboratory Manager

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V8020005.FFF <6 of 25>

Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Soil Stockpile Char.  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 5030/CA DHS Mod. 8015/8020  
 First Sample #: V8020005

Sampled: Jan 30, 1998  
 Received: Jan 30, 1998  
 Extracted: Feb 6, 1998  
 Analyzed: Feb 6, 1998  
 Reported: Feb 9, 1998

## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
V8020005	SP5-1	27	N.D.	N.D.	N.D.	N.D.
Dilution: 3	Reporting Limit:	3.0	0.015	0.015	0.015	0.045
V8020006	SP5-2	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020007	SP5-3	140	N.D.	N.D.	N.D.	N.D.
Dilution: 4	Reporting Limit:	4.0	0.020	0.020	0.020	0.060
V8020008	SP5-4	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020009	SP3-1	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020010	SP3-2	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**



Van Quach  
 Laboratory Manager

Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Soil Stockpile Char.  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 5030/CA DHS Mod. 8015/8020  
 First Sample #: V8020011

Sampled: Jan 30, 1998  
 Received: Jan 30, 1998  
 Extracted: Feb 2-6, 1998  
 Analyzed: Feb 2-6, 1998  
 Reported: Feb 9, 1998

## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
V8020011	SP4-1	23	N.D.	N.D.	N.D.	N.D.
Dilution: 3	Reporting Limit:	3.0	0.015	0.015	0.015	0.045
V8020012	SP4-2	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020013	SP4-3	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020014	SP4-4	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020015	SP4-5	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020016	SP4-6	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**



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Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
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 Attention: Abram Eloskof

Client Project ID: Soil Stockpile Char.  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 5030/CA DHS Mod. 8015/8020  
 First Sample #: V8020017

Sampled: Jan 30, 1998  
 Received: Jan 30, 1998  
 Extracted: Feb 3-5, 1998  
 Analyzed: Feb 3-5, 1998  
 Reported: Feb 9, 1998

## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
<b>V8020017</b>	<b>SP4-7</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
<b>V8020018</b>	<b>SP4-8</b>	<b>19</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 4	Reporting Limit:	4.0	0.020	0.020	0.020	0.060
<b>V8020019</b>	<b>SP4-9</b>	<b>260</b>	<b>N.D.</b>	<b>N.D.</b>	<b>0.12</b>	<b>0.85</b>
Dilution: 6	Reporting Limit:	6.0	0.030	0.030	0.030	0.090
<b>V8020020</b>	<b>SP4-10</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
<b>V8020021</b>	<b>SP4-11</b>	<b>590</b>	<b>N.D.</b>	<b>0.18</b>	<b>0.94</b>	<b>2.3</b>
Dilution: 15	Reporting Limit:	15	0.075	0.075	0.075	0.23
<b>V8020022</b>	<b>SP4-11DUP</b>	<b>170</b>	<b>N.D.</b>	<b>N.D.</b>	<b>0.35</b>	<b>1.1</b>
Dilution: 10	Reporting Limit:	10	0.050	0.050	0.050	0.15

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

### DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)



Van Quach  
 Laboratory Manager

Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Soil Stockpile Char.  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 5030/CA DHS Mod. 8015/8020  
 First Sample #: V8020023

Sampled: Jan 30, 1998  
 Received: Jan 30, 1998  
 Extracted: Feb 3-4, 1998  
 Analyzed: Feb 3-4, 1998  
 Reported: Feb 9, 1998

## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
V8020023	SP4-12	1.5	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020024	SP4-13	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020025	SP4-14	2.5	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020026	SP4-14DUP	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020027	SP4-15	11	N.D.	N.D.	N.D.	N.D.
Dilution: 2	Reporting Limit:	2.0	0.010	0.010	0.010	0.030
V8020028	SP4-16	3.1	N.D.	N.D.	0.0092	0.025
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)



Van Quach  
 Laboratory Manager

Foster Wheeler Environmental 611 Anton Blvd., Suite 800 Costa Mesa, CA 92626 Attention: Abram Eloskof	Client Project ID: Soil Stockpile Char. Site 4 - Naval Station - Long Beach Analysis Method: EPA 5030/CA DHS Mod. 8015/8020 First Sample #: V8020029	Sampled: Jan 30, 1998 Received: Jan 30, 1998 Extracted: Feb 4-5, 1998 Analyzed: Feb 4-5, 1998 Reported: Feb 9, 1998
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## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
<b>V8020029</b>	<b>SP4-17</b>	<b>470</b>	<b>N.D.</b>	<b>0.10</b>	<b>0.90</b>	<b>2.0</b>
Dilution: 10	Reporting Limit:	10	0.050	0.050	0.050	0.15
<b>V8020030</b>	<b>SP4-18</b>	<b>2.3</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
<b>V8020031</b>	<b>SP4-19</b>	<b>740</b>	<b>N.D.</b>	<b>0.18</b>	<b>0.91</b>	<b>5.1</b>
Dilution: 15	Reporting Limit:	15	0.075	0.075	0.075	0.23
<b>V8020032</b>	<b>SP4-20</b>	<b>150</b>	<b>N.D.</b>	<b>N.D.</b>	<b>0.24</b>	<b>0.97</b>
Dilution: 15	Reporting Limit:	15	0.075	0.075	0.075	0.23
<b>V8020033</b>	<b>SP4-21</b>	<b>190</b>	<b>N.D.</b>	<b>0.089</b>	<b>0.084</b>	<b>1.0</b>
Dilution: 4	Reporting Limit:	4.0	0.020	0.020	0.020	0.060
<b>V8020034</b>	<b>SP4-22</b>	<b>14</b>	<b>N.D.</b>	<b>N.D.</b>	<b>0.026</b>	<b>0.072</b>
Dilution: 4	Reporting Limit:	4.0	0.020	0.020	0.020	0.060

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

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Van Quach  
Laboratory Manager

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Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Soil Stockpile Char.  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 5030/CA DHS Mod. 8015/8020  
 First Sample #: V8020035

Sampled: Jan 30, 1998  
 Received: Jan 30, 1998  
 Extracted: Feb 4-6, 1998  
 Analyzed: Feb 4-6, 1998  
 Reported: Feb 9, 1998

## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
V8020035	SP4-23	2.6	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020036	SP4-24	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020037	SP4-25	320	N.D.	N.D.	0.43	1.3
Dilution: 10	Reporting Limit:	10	0.050	0.050	0.050	0.15
V8020038	SP4-26	38	N.D.	N.D.	N.D.	0.11
Dilution: 4	Reporting Limit:	4.0	0.020	0.020	0.020	0.060
V8020039	SP4-26DUP	30	N.D.	N.D.	N.D.	N.D.
Dilution: 4	Reporting Limit:	4.0	0.020	0.020	0.020	0.060
V8020040	SP4A-1	6.2	N.D.	N.D.	N.D.	N.D.
Dilution: 2	Reporting Limit:	2.0	0.010	0.010	0.010	0.030

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

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 Laboratory Manager

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V8020005.FFF <12 of 25>

Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Soil Stockpile Char.  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 5030/CA DHS Mod. 8015/8020  
 First Sample #: V8020041

Sampled: Jan 30, 1998  
 Received: Jan 30, 1998  
 Extracted: Feb 4-6, 1998  
 Analyzed: Feb 4-6, 1998  
 Reported: Feb 9, 1998

## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
V8020041	SP4A-2	270	N.D.	N.D.	0.60	1.7
Dilution: 15	Reporting Limit:	15	0.075	0.075	0.075	0.23
V8020042	SP4A-3	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020043	SP6-1	120	N.D.	N.D.	0.026	0.13
Dilution: 3	Reporting Limit:	3.0	0.015	0.015	0.015	0.045
V8020044	SP6-2	1.7	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020045	SP6-3	93	N.D.	N.D.	N.D.	0.19
Dilution: 7.5	Reporting Limit:	7.5	0.038	0.038	0.038	0.11
V8020046	SP9-1	1.8	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**



Van Quach  
 Laboratory Manager



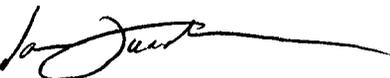
Foster Wheeler Environmental 611 Anton Blvd., Suite 800 Costa Mesa, CA 92626 Attention: Abram Eloskof	Client Project ID: Soil Stockpile Char. Site 4 - Naval Station - Long Beach Analysis Method: EPA 5030/CA DHS Mod. 8015/8020 First Sample #: V8020047	Sampled: Jan 30, 1998 Received: Jan 30, 1998 Extracted: Feb 4-6, 1998 Analyzed: Feb 4-6, 1998 Revised: Mar 4, 1998
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## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
V8020047	SP9-2	5.9	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020048	SP9-3	9.1	N.D.	N.D.	N.D.	N.D.
Dilution: 4	Reporting Limit:	4.0	0.020	0.020	0.020	0.060
V8020049	SP9-3DUP	11	N.D.	N.D.	N.D.	N.D.
Dilution: 2	Reporting Limit:	2.0	0.010	0.010	0.010	0.030
V8020050	SP9-4	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020051	SP9-5	110	N.D.	N.D.	N.D.	0.30
Dilution: 4	Reporting Limit:	4.0	0.020	0.020	0.020	0.060
V8020052	SP11-1	90	N.D.	N.D.	N.D.	0.14
Dilution: 6	Reporting Limit:	6.0	0.030	0.030	0.030	0.090

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

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 Van Quach  
 Laboratory Manager

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V8020005.FFF <14 of 25>

Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Soil Stockpile Char.  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 5030/CA DHS Mod. 8015/8020  
 First Sample #: V8020053

Sampled: Jan 30, 1998  
 Received: Jan 30, 1998  
 Extracted: Feb 4-6, 1998  
 Analyzed: Feb 4-6, 1998  
 Reported: Feb 9, 1998

## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
V8020053	SP11-2	82	N.D.	N.D.	N.D.	N.D.
Dilution: 10	Reporting Limit:	10	0.050	0.050	0.050	0.15
V8020054	SP11-2DUP	300	N.D.	N.D.	0.32	1.1
Dilution: 6	Reporting Limit:	6.0	0.030	0.030	0.030	0.090
V8020055	SP11-3	91	N.D.	N.D.	N.D.	0.13
Dilution: 8.6	Reporting Limit:	8.6	0.043	0.043	0.043	0.13
V8020056	SP11-4	500	N.D.	N.D.	0.20	0.61
Dilution: 12	Reporting Limit:	12	0.060	0.060	0.060	0.18
V8020057	SP11-5	2.4	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020058	SP11-6	45	N.D.	N.D.	N.D.	N.D.
Dilution: 3	Reporting Limit:	3.0	0.015	0.015	0.015	0.045

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**

  
 Van Quach  
 Laboratory Manager

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

V8020005.FFF <15 of 25>

Foster Wheeler Environmental 611 Anton Blvd., Suite 800 Costa Mesa, CA 92626 Attention: Abram Eloskof	Client Project ID: Soil Stockpile Char. Site 4 - Naval Station - Long Beach Analysis Method: EPA 5030/CA DHS Mod. 8015/8020 First Sample #: V8020059	Sampled: Jan 30, 1998 Received: Jan 30, 1998 Extracted: Feb 4-6, 1998 Analyzed: Feb 4-6, 1998 Reported: Feb 9, 1998
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## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
V8020059	SP12-1	5.5	N.D.	N.D.	N.D.	N.D.
Dilution: 2	Reporting Limit:	2.0	0.010	0.010	0.010	0.030
V8020060	SP12-1DUP	29	N.D.	N.D.	N.D.	N.D.
Dilution: 3	Reporting Limit:	3.0	0.015	0.015	0.015	0.045
V8020061	SP12-6	21	N.D.	N.D.	N.D.	N.D.
Dilution: 4	Reporting Limit:	4.0	0.020	0.020	0.020	0.060

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**



Van Quach  
Laboratory Manager

Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Soil Stockpile Char.  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 3550/CA DHS Mod. 8015  
 First Sample #: V8020005

Sampled: Jan 30, 1998  
 Received: Jan 30, 1998  
 Extracted: Feb 4, 1998  
 Analyzed: Feb 4-9, 1998  
 Revised: Feb 18, 1998

## EXTRACTABLE FUEL HYDROCARBONS (CA DHS Mod. EPA 8015)

Laboratory Number	Sample Description Soil	Sample Result C13 - C22 mg/Kg (ppm)	Sample Result C23 - C32 mg/Kg (ppm)	Reporting Limit C13 - C32 mg/Kg (ppm)	Dilution Factor
V8020005	SP5-1	1,600	850	50	10
V8020006	SP5-2	990	890	50	10
V8020007	SP5-3	1,800	920	50	10
V8020008	SP5-4	380	390	50	10
V8020009	SP3-1	94	130	5.0	1.0
V8020010	SP3-2	200	110	5.0	1.0
V8020011	SP4-1	1,500	840	50	10
V8020012	SP4-2	720	480	50	10
V8020013	SP4-3	120	60	5.0	1.0
V8020014	SP4-4	2,200	1,500	50	10

Extractable Hydrocarbons are quantitated against a diesel fuel standard. Hydrocarbons detected by this method range from C13 to C32. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**

  
 Van Quach  
 Laboratory Manager

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V8020005.FFF <17 of 25>

Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Soil Stockpile Char.  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 3550/CA DHS Mod. 8015  
 First Sample #: V8020015

Sampled: Jan 30, 1998  
 Received: Jan 30, 1998  
 Extracted: Feb 4, 1998  
 Analyzed: Feb 4-5, 1998  
 Revised: Feb 18, 1998

## EXTRACTABLE FUEL HYDROCARBONS (CA DHS Mod. EPA 8015)

Laboratory Number	Sample Description Soil	Sample Result C13 - C22 mg/Kg (ppm)	Sample Result C23 - C32 mg/Kg (ppm)	Reporting Limit C13 - C32 mg/Kg (ppm)	Dilution Factor
V8020015	SP4-5	1,100	900	100	20
V8020016	SP4-6	310	460	50	10
V8020017	SP4-7	1,700	1,000	50	10
V8020018	SP4-8	4,800	2,300	100	20
V8020019	SP4-9	12,000	4,500	100	20
V8020020	SP4-10	6.6	3.5	5.0	1.0
V8020021	SP4-11	11,000	3,000	100	20
V8020022	SP4-11DUP	5,800	2,400	100	20
V8020023	SP4-12	1,300	1,200	50	10
V8020024	SP4-13	1,400	790	50	10

Extractable Hydrocarbons are quantitated against a diesel fuel standard. Hydrocarbons detected by this method range from C13 to C32. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**

  
 Van Quach  
 Laboratory Manager

Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Soil Stockpile Char.  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 3550/CA DHS Mod. 8015  
 First Sample #: V8020025

Sampled: Jan 30, 1998  
 Received: Jan 30, 1998  
 Extracted: Feb 4, 1998  
 Analyzed: Feb 5-9, 1998  
 Revised: Feb 18, 1998

## EXTRACTABLE FUEL HYDROCARBONS (CA DHS Mod. EPA 8015)

Laboratory Number	Sample Description Soil	Sample Result C13 - C22 mg/Kg (ppm)	Sample Result C23 - C32 mg/Kg (ppm)	Reporting Limit C13 - C32 mg/Kg (ppm)	Dilution Factor
V8020025	SP4-14	1,100	560	5.0	1.0
V8020026	SP4-14DUP	1,100	440	5.0	1.0
V8020027	SP4-15	3,800	1,500	100	20
V8020028	SP4-16	1,600	1,900	100	20
V8020029	SP4-17	13,000	2,900	200	40
V8020030	SP4-18	1,100	1,200	100	20
V8020031	SP4-19	14,000	2,800	100	20
V8020032	SP4-20	9,100	2,600	100	20
V8020033	SP4-21	3,700	1,500	100	20
V8020034	SP4-22	2,300	1,500	100	20

Extractable Hydrocarbons are quantitated against a diesel fuel standard. Hydrocarbons detected by this method range from C13 to C32. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**



Van Quach  
 Laboratory Manager

Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Soil Stockpile Char.  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 3550/CA DHS Mod. 8015  
 First Sample #: V8020035

Sampled: Jan 30, 1998  
 Received: Jan 30, 1998  
 Extracted: Feb 4, 1998  
 Analyzed: Feb 5-9, 1998  
 Revised: Feb 18, 1998

## EXTRACTABLE FUEL HYDROCARBONS (CA DHS Mod. EPA 8015)

Laboratory Number	Sample Description Soil	Sample Result C13 - C22 mg/Kg (ppm)	Sample Result C23 - C32 mg/Kg (ppm)	Reporting Limit C13 - C32 mg/Kg (ppm)	Dilution Factor
V8020035	SP4-23	1,700	1,200	100	20
V8020036	SP4-24	1,200	940	100	20
V8020037	SP4-25	19,000	5,500	100	20
V8020038	SP4-26	9,000	3,400	100	20
V8020039	SP4-26DUP	9,700	3,800	100	20
V8020040	SP4A-1	4,900	2,000	100	20
V8020041	SP4A-2	4,400	1,700	100	20
V8020042	SP4A-3	6,900	2,000	100	20
V8020043	SP6-1	74	110	5.0	1.0
V8020044	SP6-2	11,000	3,200	100	20

Extractable Hydrocarbons are quantitated against a diesel fuel standard. Hydrocarbons detected by this method range from C13 to C32. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**



Van Quach  
 Laboratory Manager

Foster Wheeler Environmental 611 Anton Blvd., Suite 800 Costa Mesa, CA 92626 Attention: Abram Eloskof	Client Project ID: Soil Stockpile Char. Site 4 - Naval Station - Long Beach Analysis Method: EPA 3550/CA DHS Mod. 8015 First Sample #: V8020045	Sampled: Jan 30, 1998 Received: Jan 30, 1998 Extracted: Feb 5, 1998 Analyzed: Feb 5-9, 1998 Revised: Feb 18, 1998
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### EXTRACTABLE FUEL HYDROCARBONS (CA DHS Mod. EPA 8015)

Laboratory Number	Sample Description Soil	Sample Result C13 - C22 mg/Kg (ppm)	Sample Result C23 - C32 mg/Kg (ppm)	Reporting Limit C13 - C32 mg/Kg (ppm)	Dilution Factor
V8020045	SP6-3	9,900	2,600	100	20
V8020046	SP9-1	530	340	5.0	1.0
V8020047	SP9-2	2,700	1,400	100	20
V8020048	SP9-3	4,400	2,100	100	20
V8020049	SP9-3DUP	2,000	1,000	5.0	1.0
V8020050	SP9-4	350	310	5.0	1.0
V8020051	SP9-5	6,300	2,600	100	20
V8020052	SP11-1	10,000	3,900	100	20
V8020053	SP11-2	7,500	2,800	100	20
V8020054	SP11-2DUP	8,700	3,400	100	20

Extractable Hydrocarbons are quantitated against a diesel fuel standard. Hydrocarbons detected by this method range from C13 to C32. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

#### DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)



Van Quach  
Laboratory Manager

Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Soil Stockpile Char.  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 3550/CA DHS Mod. 8015  
 First Sample #: V8020055

Sampled: Jan 30, 1998  
 Received: Jan 30, 1998  
 Extracted: Feb 5, 1998  
 Analyzed: Feb 5-9, 1998  
 Revised: Feb 18, 1998

## EXTRACTABLE FUEL HYDROCARBONS (CA DHS Mod. EPA 8015)

Laboratory Number	Sample Description Soil	Sample Result C13 - C22 mg/Kg (ppm)	Sample Result C23 - C32 mg/Kg (ppm)	Reporting Limit C13 - C32 mg/Kg (ppm)	Dilution Factor
V8020055	SP11-3	1,700	600	100	20
V8020056	SP11-4	4,900	1,500	100	20
V8020057	SP11-5	6,000	2,100	100	20
V8020058	SP11-6	5,600	2,300	100	20
V8020059	SP12-1	4,400	2,300	100	20
V8020060	SP12-1DUP	3,400	1,400	100	20
V8020061	SP12-6	7,100	3,300	100	20

Extractable Hydrocarbons are quantitated against a diesel fuel standard. Hydrocarbons detected by this method range from C13 to C32. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**



Van Quach  
 Laboratory Manager

Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

**Method Blank**

Extracted: Feb 5-6, 1998  
 Analyzed: Feb 5-6, 1998  
 Reported: Feb 9, 1998

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**TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)**

Laboratory Description	Sample Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)
Method Blank	N.D.	5.0

Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and/or other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**



Van Quach  
 Laboratory Manager

Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

**Method Blank**

Extracted: Feb 4-6, 1998  
 Analyzed: Feb 4-6, 1998  
 Reported: Feb 9, 1998

**VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)**

Sample Description	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
Method Blank	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution: 1 Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**



Van Quach  
 Laboratory Manager

Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

**Method Blank**

Extracted: Feb 4-5, 1998  
 Analyzed: Feb 4-9, 1998  
 Revised: Feb 18, 1998

## EXTRACTABLE FUEL HYDROCARBONS (CA DHS Mod. EPA 8015)

Sample Description Soil	Sample Result C13 - C22 mg/Kg (ppm)	Sample Result C23 - C32 mg/Kg (ppm)	Reporting Limit C13 - C32 mg/Kg (ppm)	Dilution Factor
Method Blank	N.D.	N.D.	5.0	1.0

Extractable Hydrocarbons are quantitated against a diesel fuel standard. Hydrocarbons detected by this method range from C13 to C32. Analytes reported as N.D. were not present at or above the reporting limit.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**

  
 Van Quach  
 Laboratory Manager

## MS/MSD DATA REPORT

### EPA Method 8015/8020

Matrix: Soil

Date: 02/04/98

Sample #: V8020644

Batch #: HB04G42S

<u>Analyte</u>	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Mean PR</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	%	<u>RPD</u>	<u>Mean PR</u>
TPH	0.16	1.1	1.1	0.97	83	73	10	78	≤30	70 - 121
Benzene	0	0.10	0.089	0.087	89	87	1.6	88	≤12	85 - 130
Toluene	0.00025	0.10	0.092	0.091	92	91	1.1	92	≤14	85 - 130
Ethylbenzene	0	0.10	0.092	0.091	92	91	1.1	91	≤25	85 - 130
Xylenes	0.00027	0.30	0.27	0.27	90	89	0.72	89	≤14	85 - 130

### Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS;  $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD;  $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference;  $((MS-MSD)/(MS+MSD)/2) \times 100$
- Mean PR..... Mean Percent Recovery
- Acceptance Limits..... Determined by in-house Control Charts



## MS/MSD DATA REPORT

**EPA METHOD:** 418.1  
**Matrix:** Soil

**DATE:** 2/6/98

**SAMPLE #:** V8020023

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Hydrocarbons	3,200	60	3,000	3,500	0%	500%	15.4%	250%

### Definition of Terms:

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS;  $((MS-R1) / SP) \times 100$
- PR2..... Percent Recovery of MSD;  $((MSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference;  $((MS-MSD)/(MS+MSD)/2) \times 100$



## MS/MSD DATA REPORT

**EPA METHOD:** 418.1  
**Matrix:** Soil

**DATE:** 2/5/98

**SAMPLE #:** V8020013

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%

Hydrocarbons	3,000	60	2,300	2,600	0%	0%	12.2%	0%
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### Definition of Terms:

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS;  $((MS-R1) / SP) \times 100$
- PR2..... Percent Recovery of MSD;  $((MSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference;  $((MS-MSD)/(MS+MSD)/2) \times 100$



## MS/MSD DATA REPORT

**EPA METHOD:** 418.1  
**Matrix:** Soil

**DATE:** 2/6/98

**SAMPLE #:** V8020042

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Hydrocarbons	510	60	570	620	100%	183%	8.4%	142%

### Definition of Terms:

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS;  $((MS-R1) / SP) \times 100$
- PR2..... Percent Recovery of MSD;  $((MSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference;  $((MS-MSD)/(MS+MSD)/2) \times 100$



## MS/MSD DATA REPORT

**EPA METHOD:** 8015 Diesel  
**Matrix:** Soil

**DATE:** 2/5/98

**SAMPLE #:** Blank

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%

Hydrocarbons	6,400	200	11,000	12,000	2300%	2800%	8.7%	2550%
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\*Refer to LCS report.

### Definition of Terms:

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS;  $((MS-R1) / SP) \times 100$
- PR2..... Percent Recovery of MSD;  $((MSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference;  $((MS-MSD)/(MS+MSD)/2) \times 100$



## LCS DATA REPORT

**METHOD** 8015 Diesel  
**Matrix:** Soil

**DATE:** 2/5/98

Analyte	St	R1	PR
	ppm	ppm	%
Hydrocarbons	200	201	101%

### Definitions of Terms:

**St.** ..... Standard Concentration

**R1.** ..... Standard Result

**PR.** ..... Percent Recovery of R1;  $(R1 / St) \times 100$

**Del Mar Analytical**



FOSTER WHEELER ENVIRONMENTAL CORPORATION

No 0766

CHAIN OF CUSTODY FORM REQUEST FOR ANALYSIS

Page 1 of 5

Project: <u>SOIL STOCKPILE CHAR.</u>		OFS No. <u>1508.0032</u>		HAZARD IDENTIFICATION:		Time Required		<b>THE INFORMATION IN THIS SECTION WILL NOT BE AVAILABLE TO THE LABORATORY</b>						
Project Address: <u>SITE 4 - NAVAL STN - LONG BEACH</u>		Sampler (Name): <u>CARLE JONES</u>		Nonhazard <input checked="" type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/>		Reactive <input type="checkbox"/> Toxic <input type="checkbox"/> Infectious <input type="checkbox"/>					NORMAL <input checked="" type="checkbox"/> DAYS		RUSH <input type="checkbox"/> DAYS	
Sampler (Signature): <u>[Signature]</u>		Laboratory: <u>DELMAR</u>		ANALYSES REQUIRED										
Reports to Be Sent to: <u>A. ELOSOF</u>		TPH - GAS/LINE		TPH (D. + sel to C <sub>10</sub> )		TRPH (Y181)					BTEX (8025)			
SAMPLE NUMBER	TIME COLLECTED	DATE COLLECTED	NUMBER OF CONTAINERS	CONTAINER SIZE(S)	SAMPLE MATERIAL			TPH - GAS/LINE	TPH (D. + sel to C <sub>10</sub> )	TRPH (Y181)	BTEX (8025)	LOCATION	DEPTH	QC CODE
					WATER	SOIL	OTHER (Describe)							
SP5-1	0910	1/30/98	1	2" x 6" S.S. 51 REUSE		X		X	X	X	X		5'	
SP5-2	0912		1			X		X	X	X			3'	
SP5-3	0915		1			X		X	X	X			4'	
SP5-4	0921		1			X		X	X	X			2'	
SP3-1	0940		1			X		X	X	X			2'	
SP3-2	0935		1			X		X	X	X			3'	
SP4-1	1015		1			X		X	X	X			3'	
SP4-2	1020		1			X		X	X	X			5'	
SP4-3	1025		1			X		X	X	X			7'	
SP4-4	1050		1			X		X	X	X			6'	
SP4-5	1000		1			X		X	X	X			2'	
SP4-6	1005	✓	1	✓		X		X	X	X			8'	
LABORATORY INSTRUCTIONS/COMMENTS: Relinquished: <u>[Signature]</u> 2/2/98 8:00 REC'D: <u>[Signature]</u> 2/2/98 8:00 RELINQO: <u>[Signature]</u> 2/2/98 1130 LAB JON KUBER 2/2/98 1130												SAMPLING COMMENTS: Samples Received @ 4°C Intact on ice		
Relinquished by: (Signature) <u>[Signature]</u>		Date: <u>1/30/98</u>		Received by: (Signature) <u>[Signature]</u>		Date: <u>1/30/98</u>		Relinquished by: (Signature) <u>[Signature]</u>		Date: <u>1/30/98</u>		Received by: (Signature) <u>[Signature]</u>		
Company: <u>FWENC</u>		Time: <u>1550</u>		Company: <u>FWENC</u>		Time: <u>1550</u>		Company: <u>FWENC</u>		Time: <u>1707</u>		Company: <u>DELMAR 1130/98 1707</u>		



FOSTER WHEELER ENVIRONMENTAL CORPORATION

No 0767

CHAIN OF CUSTODY FORM REQUEST FOR ANALYSIS

Page 2 of 5

Project : SOIL STOCKPILE CHAR.		OFS No. 1508.0032		HAZARD IDENTIFICATION: Nonhazard <input checked="" type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Reactive <input type="checkbox"/> Toxic <input type="checkbox"/> Infectious <input type="checkbox"/>		Time Required NORMAL <input checked="" type="checkbox"/> _____ DAYS RUSH <input type="checkbox"/> _____ DAYS		THE INFORMATION IN THIS SECTION WILL NOT BE AVAILABLE TO THE LABORATORY																																																																																																																																																																																																	
Project Address: SITE 4 - NAVAL STN - LONG BEACH				Sampler (Name): CARL C. JONES		Sampler (Signature): <i>[Signature]</i>					ANALYSES REQUIRED																																																																																																																																																																																														
Laboratory: DEL MAR				Reports to Be Sent to: A. ELSKOF		TPH - GASOLINE								<table border="1"> <thead> <tr> <th rowspan="2">SAMPLE NUMBER</th> <th rowspan="2">TIME COLLECTED</th> <th rowspan="2">DATE COLLECTED</th> <th rowspan="2">NUMBER OF CONTAINERS</th> <th rowspan="2">CONTAINER SIZE(S)</th> <th colspan="3">SAMPLE MATERIAL</th> <th rowspan="2">TPH (Discrete C4)</th> <th rowspan="2">TRPH (YIP.1)</th> <th rowspan="2">BTEX (8020)</th> <th rowspan="2">LOCATION</th> <th rowspan="2">DEPTH</th> <th rowspan="2">QC CODE</th> </tr> <tr> <th>WATER</th> <th>SOIL</th> <th>OTHER (Describe)</th> </tr> </thead> <tbody> <tr> <td>SP4-7</td> <td>1040</td> <td>1/30/98</td> <td></td> <td>2" x 6" S.S. 51+202</td> <td></td> <td>X</td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td>8</td> <td></td> </tr> <tr> <td>SP4-8</td> <td>1120</td> <td></td> <td>5</td> <td></td> </tr> <tr> <td>SP4-9</td> <td>1115</td> <td></td> <td>9</td> <td></td> </tr> <tr> <td>SP4-10</td> <td>1130</td> <td></td> <td>3</td> <td></td> </tr> <tr> <td>SP4-11</td> <td>1135</td> <td></td> <td>7</td> <td></td> </tr> <tr> <td>SP4-11 DUP</td> <td>1135</td> <td></td> <td>7</td> <td></td> </tr> <tr> <td>SP4-12</td> <td>1010</td> <td></td> <td>2</td> <td></td> </tr> <tr> <td>SP4-13</td> <td>1030</td> <td></td> <td>4</td> <td></td> </tr> <tr> <td>SP4-14</td> <td>1145</td> <td></td> <td>6</td> <td></td> </tr> <tr> <td>SP4-14 DUP</td> <td>1145</td> <td></td> <td>6</td> <td></td> </tr> <tr> <td>SP4-15</td> <td>1200</td> <td></td> <td>9</td> <td></td> </tr> <tr> <td>SP4-16</td> <td>1205</td> <td>Y</td> <td></td> <td>Y</td> <td></td> <td>Y</td> <td></td> <td>Y</td> <td>Y</td> <td>Y</td> <td></td> <td>3</td> <td></td> </tr> </tbody> </table>			SAMPLE NUMBER	TIME COLLECTED	DATE COLLECTED	NUMBER OF CONTAINERS	CONTAINER SIZE(S)	SAMPLE MATERIAL			TPH (Discrete C4)	TRPH (YIP.1)	BTEX (8020)	LOCATION	DEPTH	QC CODE	WATER	SOIL	OTHER (Describe)	SP4-7	1040	1/30/98		2" x 6" S.S. 51+202		X		X	X	X		8		SP4-8	1120											5		SP4-9	1115											9		SP4-10	1130											3		SP4-11	1135											7		SP4-11 DUP	1135											7		SP4-12	1010											2		SP4-13	1030											4		SP4-14	1145											6		SP4-14 DUP	1145											6		SP4-15	1200											9		SP4-16	1205	Y		Y		Y		Y	Y	Y		3	
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LABORATORY INSTRUCTIONS/COMMENTS: Relinquished: <i>[Signature]</i> 2/2/98 8:00 RECID: K. McLaugh 2/2/98 8:00 RECID: K. McLaugh 2/2/98 1130 RECD <i>[Signature]</i> 2/2/98 1130								SAMPLING COMMENTS: Samples received @ 4°C																																																																																																																																																																																																	
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Company: FWE		Time: 1550		Company: FWE		Time: 1707		Company: FWE		Time: 1707		Company: DEL MAR 1130/98 1707																																																																																																																																																																																													



FOSTER WHEELER ENVIRONMENTAL CORPORATION

No 0768

CHAIN OF CUSTODY FORM REQUEST FOR ANALYSIS

Page 3 of 5

Project: SOIL STOCKPILE CHAR.		OFS No. 1508.0032		HAZARD IDENTIFICATION: Nonhazard <input checked="" type="checkbox"/> Reactive <input type="checkbox"/> Flammable <input type="checkbox"/> Toxic <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Infectious <input type="checkbox"/>		Time Required NORMAL <input checked="" type="checkbox"/> _____ DAYS RUSH <input type="checkbox"/> _____ DAYS							
Project Address: SITE 4 - NAVAL STN - LONG BEACH				ANALYSES REQUIRED									
Sampler (Name): CARL C. JONES		Sampler (Signature): <i>[Signature]</i>		TPH - GASOLINE TPH (Diesel to C40) TRPH (418.1) BTEX (8020)									
Laboratory: DEL MAR													
Reports to Be Sent to: A. FLOSKOF													
SAMPLE NUMBER	TIME COLLECTED	DATE COLLECTED	NUMBER OF CONTAINERS	CONTAINER SIZE(S)	SAMPLE MATERIAL			LOCATION	DEPTH	QC CODE			
					WATER	SOIL	OTHER (Describe)						
SP4-17	1210	1/30/98	1	2" x 6" S.S. sleeve		X		X	X	X		7	
SP4-18	1215		1									3	
SP4-19	1215		1									7	
SP4-20	1218		1									10	
SP4-21	1218		1									2	
SP4-22	1225		1									6	
SP4-23	1220		1									8	
SP4-24	1220		1									4	
SP4-25	1235		1									6	
SP4-26	1240		1									7	
SP4-26 DUP	1240		1									7	
LABORATORY INSTRUCTIONS/COMMENTS: Relinquished: <i>[Signature]</i> 2/2/98 8:00 RECD: R Healy 2/2/98 8:00 Relinquish: R Healy 2/2/98 1130 RECD: <i>[Signature]</i> 2/2/98 1130											SAMPLING COMMENTS: Samples Received @ 4°C		
Relinquished by: (Signature) <i>[Signature]</i>		Date: 1/30/98	Received by: (Signature) <i>[Signature]</i>		Date: 1/30/98	Relinquished by: (Signature) <i>[Signature]</i>		Date: 1/30/98	Received by: (Signature) <i>[Signature]</i>				
Company: FWENC		Time: 1550	Company: FWENC		Time: 1707	Company: FWENC		Time: 1707	Company: DEL MAR - 1130/161767				



# FOSTER WHEELER ENVIRONMENTAL CORPORATION

No 0769

## CHAIN OF CUSTODY FORM REQUEST FOR ANALYSIS

Page 4 of 5

Project: <u>SOIL STOCKPILE CAAR</u>		OFS No. <u>1508.0032</u>		HAZARD IDENTIFICATION:		Time Required		<b>THE INFORMATION IN THIS SECTION WILL NOT BE AVAILABLE TO THE LABORATORY</b>																																																																																																																																																												
Project Address: <u>SITE 4 - NAVAL STN - LONG BEACH</u>		Sampler (Name): <u>CARL C. JONES</u>		Nonhazard <input checked="" type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/>		Reactive <input type="checkbox"/> Toxic <input type="checkbox"/> Infectious <input type="checkbox"/>			NORMAL <input checked="" type="checkbox"/> DAYS																																																																																																																																																											
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SAMPLE NUMBER	TIME COLLECTED	DATE COLLECTED	NUMBER OF CONTAINERS						CONTAINER SIZE(S)	SAMPLE MATERIAL						TPH - GASOLINE	TPH - (DIPSTICK TO C42)	TRPH (YIP.1)	BTX (P20)																																																																																																																																																	
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Company: FWENC		Time: 1550		Company: FWENC		Time: 1707		DEL MAR 1/30/98 1707																																																																																																																																																												



FOSTER WHEELER ENVIRONMENTAL CORPORATION

No 0770

CHAIN OF CUSTODY FORM REQUEST FOR ANALYSIS

Page 5 of 5

Project: SOIL STACKPILE CHAR.		OFS No. 1508.0032		HAZARD IDENTIFICATION:		Time Required								
Project Address: SITE Y - NAVAL STN - LONG BEACH		Sampler (Name): CARL C. JONES		Sampler: (Signature)		Nonhazard <input checked="" type="checkbox"/> Reactive <input type="checkbox"/>								
Laboratory: DEL MAR		Reports to Be Sent to: A. ELSKOF		Flammable <input type="checkbox"/> Toxic <input type="checkbox"/>		NORMAL <input checked="" type="checkbox"/> _____ DAYS								
RUSH <input type="checkbox"/> _____ DAYS		ANALYSES REQUIRED		Skin Irritant <input type="checkbox"/> Infectious <input type="checkbox"/>		THE INFORMATION IN THIS SECTION WILL NOT BE AVAILABLE TO THE LABORATORY								
SAMPLE NUMBER	TIME COLLECTED	DATE COLLECTED	NUMBER OF CONTAINERS	CONTAINER SIZE(S)	SAMPLE MATERIAL			TPH - GASOLINE	TPH (Pipette to 40)	TPH (YLR 1)	BTEX (8020)	LOCATION	DEPTH	QC CODE
					WATER	SOIL	OTHER (Describe)							
SP11-1	1500	1/30/98	1	2" x 6" 55.5 gal can		X		X	X	X	X		3	
SP11-2	1502		1										4	
SP11-2 DUP	1502		1										4	
SP11-3	1510		1										2	
SP11-4	1505		1										4	
SP11-5	1515		1										5	
SP11-6	1507		1										3	
SP12-1	1530		1										3	
SP12-1 DUP	1530		1										3	
SP12-6	1535		1										1	
SP			1											
SP			1											
LABORATORY INSTRUCTIONS/COMMENTS: Relinquished  2/2/98 8:00 Rec'd: L. DeLay 2/2/98 8:00 Relinquished: L. DeLay 2/2/98 1130 Ennie K. DeLay 2/2/98 1130												SAMPLING COMMENTS: Samples Received @ 40°C		
Relinquished by: (Signature)		Date: 1/30/98		Received by: (Signature)		Date: 1/30/98		Relinquished by: (Signature)		Date: 1/30/98		Received by: (Signature)		
Company: FWENC		Time: 1550		Company: FWENC		Time: 1707		Company: DEL MAR		Time: 1809		1707		

Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 418.1 (I.R. with clean-up)  
 First Sample #: V8020067

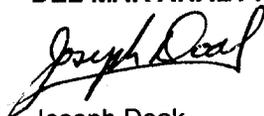
Sampled: Feb 2, 1998  
 Received: Feb 3, 1998  
 Extracted: Feb 10, 1998  
 Analyzed: Feb 10, 1998  
 Reported: Feb 19, 1998

## TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Laboratory Number	Sample Description Soil	Sample Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor
V8020067	SP3-3	1,600	25	5.0
V8020068	SP8-19	3,800	50	10
V8020069	SP8-19 DUP	2,900	25	5.0
V8020070	SP8-17	1,800	25	5.0
V8020071	SP8-13	29,000	500	100
V8020072	SP8-12	1,100	10	2.0
V8020073	SP8-15	1,800	25	5.0
V8020074	SP8-9	9,500	200	40
V8020075	SP8-7	35,000	250	50
V8020076	SP8-11	13,000	200	40

Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**



Joseph Doak  
 Project Manager

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

V8020067.FFF <1 of 25>



2852 Alton Ave., Irvine, CA 92714 (714) 261-1022 FAX (714) 261-1228  
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046  
 16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843  
 2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 418.1 (I.R. with clean-up)  
 First Sample #: V8020077

Sampled: Feb 2, 1998  
 Received: Feb 3, 1998  
 Extracted: Feb 11, 1998  
 Analyzed: Feb 11, 1998  
 Reported: Feb 19, 1998

**TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)**

Laboratory Number	Sample Description Soil	Sample Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor
V8020077	SP8-3	5,300	200	40
V8020078	SP8-5	13,000	250	50
V8020079	SP8-6	2,700	200	40
V8020080	SP8-1	8,300	200	40
V8020081	SP8-2	12,000	250	50
V8020082	SP8-5 DUP	5,100	50	10
V8020083	SP8-4	43,000	500	100
V8020084	SP8-10	510	5.0	1.0
V8020085	SP8-8	1,700	25	5.0
V8020086	SP8-20	10,000	250	50

Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**

Joseph Doak  
 Project Manager

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Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 418.1 (I.R. with clean-up)  
 First Sample #: V8020087

Sampled: Feb 2, 1998  
 Received: Feb 3, 1998  
 Extracted: Feb 11, 1998  
 Analyzed: Feb 11, 1998  
 Reported: Feb 19, 1998

**TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)**

Laboratory Number	Sample Description Soil	Sample Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor
V8020087	SP8-14	3,500	50	10
V8020088	SP8-18	5,000	50	10
V8020089	SP8-16	3,100	200	40
V8020090	SP11-7	3,300	200	40
V8020091	SP15-9	13	5.0	1.0
V8020092	SP15-18	1,500	10	2.0
V8020093	SP15-16	14,000	200	40
V8020094	SP15-17	140	5.0	1.0
V8020095	SP15-7	16,000	200	40
V8020096	SP15-15	11,000	200	40

Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**

  
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 Project Manager

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V8020067.FFF <3 of 25>

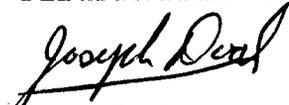
Foster Wheeler Environmental 611 Anton Blvd., Suite 800 Costa Mesa, CA 92626 Attention: Abram Eloskof	Client Project ID: Stockpile Characterization Site 4 - Naval Station - Long Beach Analysis Method: EPA 418.1 (I.R. with clean-up) First Sample #: V8020097	Sampled: Feb 2, 1998 Received: Feb 3, 1998 Extracted: Feb 11, 1998 Analyzed: Feb 11, 1998 Reported: Feb 19, 1998
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## TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Laboratory Number	Sample Description Soil	Sample Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor
V8020097	SP15-8	8,200	200	40
V8020098	SP15-14	36,000	500	100
V8020099	SP15-13	14,000	250	50
V8020100	SP15-6	21,000	250	50
V8020101	SP15-6 DUP	8,800	200	40
V8020102	SP15-5	27,000	500	100
V8020103	SP15-4	28,000	250	50
V8020104	SP15-12	21,000	250	50
V8020105	SP15-11	13,000	200	40
V8020106	SP15-11 DUP	30,000	250	50

Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

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Joseph Doak  
Project Manager



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Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 418.1 (I.R. with clean-up)  
 First Sample #: V8020107

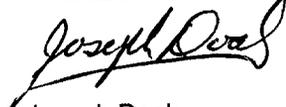
Sampled: Feb 2, 1998  
 Received: Feb 3, 1998  
 Extracted: Feb 11, 1998  
 Analyzed: Feb 11, 1998  
 Reported: Feb 19, 1998

## TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Laboratory Number	Sample Description Soil	Sample Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor
V8020107	SP15-3	14,000	200	40
V8020108	SP15-2	18,000	500	100
V8020109	SP15-1	2,100	25	5.0
V8020110	SP15-19	9,700	250	50
V8020111	SP15-10	38,000	500	100
V8020112	SP14-5	27,000	500	100
V8020113	SP14-1	5,600	200	40
V8020114	SP14-4	21,000	200	40
V8020115	SP14-6	12,000	200	40
V8020116	SP14-3	820	10	2.0

Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

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 Project Manager

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 Attention: Abram Eloskof

Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 418.1 (I.R. with clean-up)  
 First Sample #: V8020117

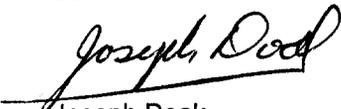
Sampled: Feb 2, 1998  
 Received: Feb 3, 1998  
 Extracted: Feb 12, 1998  
 Analyzed: Feb 12, 1998  
 Reported: Feb 19, 1998

## TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Laboratory Number	Sample Description Soil	Sample Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor
V8020117	SP14-2	11,000	250	50
V8020118	SP13-3	17,000	500	100
V8020119	SP13-2	19,000	500	100
V8020120	SP13-2 DUP	14,000	500	100
V8020121	SP10-1	11,000	500	100
V8020122	SP10-2	12,000	500	100
V8020123	SP10-3	29,000	500	100
V8020124	SP10-4	8,900	200	40
V8020131	SP13-1	16,000	200	40

Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

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Joseph Doak  
 Project Manager



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Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 5030/CA DHS Mod. 8015/8020  
 First Sample #: V8020067

Sampled: Feb 2, 1998  
 Received: Feb 3, 1998  
 Extracted: Feb 5-6, 1998  
 Analyzed: Feb 5-6, 1998  
 Reported: Feb 19, 1998

## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
<b>V8020067</b>	<b>SP3-3</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
<b>V8020068</b>	<b>SP8-19</b>	<b>99</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>0.46</b>
Dilution: 10	Reporting Limit:	10	0.050	0.050	0.050	0.15
<b>V8020069</b>	<b>SP8-19 DUP</b>	<b>1.4</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
<b>V8020070</b>	<b>SP8-17</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
<b>V8020071</b>	<b>SP8-13</b>	<b>210</b>	<b>N.D.</b>	<b>N.D.</b>	<b>0.20</b>	<b>1.2</b>
Dilution: 10	Reporting Limit:	10	0.050	0.050	0.050	0.15
<b>V8020072</b>	<b>SP8-12</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

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 Project Manager

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Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 5030/CA DHS Mod. 8015/8020  
 First Sample #: V8020073

Sampled: Feb 2, 1998  
 Received: Feb 3, 1998  
 Extracted: Feb 5-9, 1998  
 Analyzed: Feb 5-9, 1998  
 Reported: Feb 19, 1998

## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
V8020073	SP8-15	4.9	N.D.	N.D.	N.D.	0.030
Dilution: 2	Reporting Limit:	2.0	0.010	0.010	0.010	0.030
V8020074	SP8-9	1.3	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020075	SP8-7	190	N.D.	0.065	0.17	1.1
Dilution: 6	Reporting Limit:	6.0	0.030	0.030	0.030	0.090
V8020076	SP8-11	300	N.D.	0.098	0.25	1.4
Dilution: 15	Reporting Limit:	15	0.075	0.075	0.075	0.23
V8020077	SP8-3	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020078	SP8-5	76	N.D.	N.D.	N.D.	0.17
Dilution: 10	Reporting Limit:	10	0.050	0.050	0.050	0.15

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

### DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)

Joseph Doak  
 Project Manager



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Foster Wheeler Environmental  
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 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 5030/CA DHS Mod. 8015/8020  
 First Sample #: V8020079

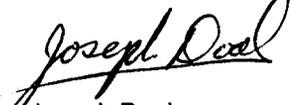
Sampled: Feb 2, 1998  
 Received: Feb 3, 1998  
 Extracted: Feb 6-10, 1998  
 Analyzed: Feb 6-10, 1998  
 Reported: Feb 19, 1998

## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
V8020079	SP8-6	2.6	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020080	SP8-1	1.7	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020081	SP8-2	15	N.D.	N.D.	N.D.	N.D.
Dilution: 4	Reporting Limit:	4.0	0.020	0.020	0.020	0.060
V8020082	SP8-5 DUP	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020083	SP8-4	280	N.D.	0.093	0.20	0.59
Dilution: 10	Reporting Limit:	10	0.050	0.050	0.050	0.15
V8020084	SP8-10	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)

  
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 Project Manager

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Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 5030/CA DHS Mod. 8015/8020  
 First Sample #: V8020085

Sampled: Feb 2, 1998  
 Received: Feb 3, 1998  
 Extracted: Feb 6-10, 1998  
 Analyzed: Feb 6-10, 1998  
 Reported: Feb 19, 1998

## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
<b>V8020085</b>	<b>SP8-8</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
<b>V8020086</b>	<b>SP8-20</b>	<b>16</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>0.088</b>
Dilution: 4	Reporting Limit:	4.0	0.020	0.020	0.020	0.060
<b>V8020087</b>	<b>SP8-14</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
<b>V8020088</b>	<b>SP8-18</b>	<b>1.7</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
<b>V8020089</b>	<b>SP8-16</b>	<b>7.4</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 1.3	Reporting Limit:	1.3	0.0065	0.0065	0.0065	0.020
<b>V8020090</b>	<b>SP11-7</b>	<b>2.7</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

### DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)

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 Project Manager

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 Attention: Abram Eloskof

Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 5030/CA DHS Mod. 8015/8020  
 First Sample #: V8020091

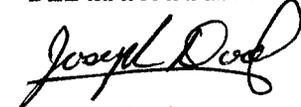
Sampled: Feb 2, 1998  
 Received: Feb 3, 1998  
 Extracted: Feb 6-9, 1998  
 Analyzed: Feb 6-9, 1998  
 Reported: Feb 19, 1998

## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
<b>V8020091</b>	<b>SP15-9</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
<b>V8020092</b>	<b>SP15-18</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
<b>V8020093</b>	<b>SP15-16</b>	<b>160</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 12	Reporting Limit:	12	0.060	0.060	0.060	0.18
<b>V8020094</b>	<b>SP15-17</b>	<b>1.1</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
<b>V8020095</b>	<b>SP15-7</b>	<b>170</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 12	Reporting Limit:	12	0.060	0.060	0.060	0.18
<b>V8020096</b>	<b>SP15-15</b>	<b>1.4</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**



Joseph Doak  
 Project Manager

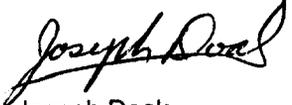
Foster Wheeler Environmental 611 Anton Blvd., Suite 800 Costa Mesa, CA 92626 Attention: Abram Eloskof	Client Project ID: Stockpile Characterization Site 4 - Naval Station - Long Beach Analysis Method: EPA 5030/CA DHS Mod. 8015/8020 First Sample #: V8020097	Sampled: Feb 2, 1998 Received: Feb 3, 1998 Extracted: Feb 9-10, 1998 Analyzed: Feb 9-10, 1998 Reported: Feb 19, 1998
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### VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
V8020097	SP15-8	440	N.D.	N.D.	0.12	0.43
Dilution: 20	Reporting Limit:	20	0.10	0.10	0.10	0.30
V8020098	SP815-14	450	N.D.	N.D.	0.19	0.61
Dilution: 12	Reporting Limit:	12	0.060	0.060	0.060	0.18
V8020099	SP15-13	590	N.D.	N.D.	0.19	0.71
Dilution: 20	Reporting Limit:	20	0.10	0.10	0.10	0.30
V8020100	SP15-6	95	N.D.	N.D.	N.D.	N.D.
Dilution: 6	Reporting Limit:	6.0	0.030	0.030	0.030	0.090
V8020101	SP15-6 DUP	2.0	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020102	SP15-5	510	N.D.	N.D.	0.51	2.6
Dilution: 24	Reporting Limit:	24	0.12	0.12	0.12	0.36

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)



Joseph Doak  
Project Manager

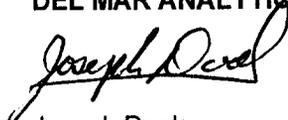
Foster Wheeler Environmental 611 Anton Blvd., Suite 800 Costa Mesa, CA 92626 Attention: Abram Eloskof	Client Project ID: Stockpile Characterization Site 4 - Naval Station - Long Beach Analysis Method: EPA 5030/CA DHS Mod. 8015/8020 First Sample #: V8020103	Sampled: Feb 2, 1998 Received: Feb 3, 1998 Extracted: Feb 6-11, 1998 Analyzed: Feb 6-11, 1998 Reported: Feb 19, 1998
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## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
<b>V8020103</b>	<b>SP15-4</b>	<b>4.8</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
<b>V8020104</b>	<b>SP15-12</b>	<b>100</b>	<b>N.D.</b>	<b>N.D.</b>	<b>0.086</b>	<b>0.52</b>
Dilution: 6	Reporting Limit:	6.0	0.030	0.030	0.030	0.090
<b>V8020105</b>	<b>SP15-11</b>	<b>170</b>	<b>N.D.</b>	<b>N.D.</b>	<b>0.17</b>	<b>1.2</b>
Dilution: 7.5	Reporting Limit:	7.5	0.038	0.038	0.038	0.11
<b>V8020106</b>	<b>SP15-11 DUP</b>	<b>860</b>	<b>N.D.</b>	<b>0.41</b>	<b>0.99</b>	<b>4.2</b>
Dilution: 30	Reporting Limit:	30	0.15	0.15	0.15	0.45
<b>V8020107</b>	<b>SP15-3</b>	<b>110</b>	<b>N.D.</b>	<b>N.D.</b>	<b>0.18</b>	<b>0.96</b>
Dilution: 4	Reporting Limit:	4.0	0.020	0.020	0.020	0.060
<b>V8020108</b>	<b>SP15-2</b>	<b>280</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>0.98</b>
Dilution: 12	Reporting Limit:	12	0.060	0.060	0.060	0.18

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**



Joseph Doak  
Project Manager



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Foster Wheeler Environmental  
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Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 5030/CA DHS Mod. 8015/8020  
 First Sample #: V8020109

Sampled: Feb 2, 1998  
 Received: Feb 3, 1998  
 Extracted: Feb 9-12, 1998  
 Analyzed: Feb 9-12, 1998  
 Reported: Feb 19, 1998

## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
V8020109	SP15-1	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020110	SP15-19	6.4	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020111	SP15-10	620	N.D.	N.D.	0.38	1.5
Dilution: 24	Reporting Limit:	24	0.12	0.12	0.12	0.36
V8020112	SP14-5	490	N.D.	N.D.	N.D.	0.52
Dilution: 30	Reporting Limit:	30	0.15	0.15	0.15	0.45
V8020113	SP14-1	100	N.D.	N.D.	0.13	1.1
Dilution: 4	Reporting Limit:	4.0	0.020	0.020	0.020	0.060
V8020114	SP14-4	9.0	N.D.	N.D.	N.D.	N.D.
Dilution: 4	Reporting Limit:	4.0	0.020	0.020	0.020	0.060

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)

Joseph Doak  
 Project Manager

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Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 5030/CA DHS Mod. 8015/8020  
 First Sample #: V8020115

Sampled: Feb 2, 1998  
 Received: Feb 3, 1998  
 Extracted: Feb 9-11, 1998  
 Analyzed: Feb 9-11, 1998  
 Reported: Feb 19, 1998

## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
<b>V8020115</b>	<b>SP14-6</b>	<b>5.8</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
<b>V8020116</b>	<b>SP14-3</b>	<b>6.4</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 4	Reporting Limit:	4.0	0.020	0.020	0.020	0.060
<b>V8020117</b>	<b>SP14-2</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
<b>V8020118</b>	<b>SP13-3</b>	<b>66</b>	<b>N.D.</b>	<b>N.D.</b>	<b>0.035</b>	<b>0.36</b>
Dilution: 3	Reporting Limit:	3.0	0.015	0.015	0.015	0.045
<b>V8020119</b>	<b>SP13-2</b>	<b>300</b>	<b>N.D.</b>	<b>N.D.</b>	<b>0.12</b>	<b>0.42</b>
Dilution: 6	Reporting Limit:	6.0	0.030	0.030	0.030	0.090
<b>V8020120</b>	<b>SP13-2 DUP</b>	<b>410</b>	<b>N.D.</b>	<b>N.D.</b>	<b>0.10</b>	<b>0.39</b>
Dilution: 12	Reporting Limit:	12	0.060	0.060	0.060	0.18

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**



Joseph Doak  
 Project Manager

Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 5030/CA DHS Mod. 8015/8020  
 First Sample #: V8020121

Sampled: Feb 2, 1998  
 Received: Feb 3, 1998  
 Extracted: Feb 10-12, 1998  
 Analyzed: Feb 10-12, 1998  
 Reported: Feb 19, 1998

## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
<b>V8020121</b>	<b>SP10-1</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
<b>V8020122</b>	<b>SP10-2</b>	<b>230</b>	<b>N.D.</b>	<b>N.D.</b>	<b>0.040</b>	<b>0.15</b>
Dilution: 6	Reporting Limit:	6.0	0.030	0.030	0.030	0.090
<b>V8020123</b>	<b>SP10-3</b>	<b>360</b>	<b>N.D.</b>	<b>0.11</b>	<b>0.51</b>	<b>1.3</b>
Dilution: 15	Reporting Limit:	15	0.075	0.075	0.075	0.23
<b>V8020124</b>	<b>SP10-4</b>	<b>3.1</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
<b>V8020131</b>	<b>SP13-1</b>	<b>6.3</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 2	Reporting Limit:	2.0	0.010	0.010	0.010	0.030

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**



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Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 3550/CA DHS Mod. 8015  
 First Sample #: V8020067

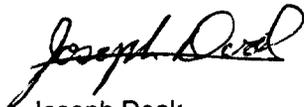
Sampled: Feb 2, 1998  
 Received: Feb 3, 1998  
 Extracted: Feb 9, 1998  
 Analyzed: Feb 9, 1998  
 Reported: Feb 19, 1998

## EXTRACTABLE FUEL HYDROCARBONS (CA DHS Mod. EPA 8015)

Laboratory Number	Sample Description Soil	Sample Result C13 - C22 mg/Kg (ppm)	Sample Result C23 - C32 mg/Kg (ppm)	Reporting Limit C13 - C32 mg/Kg (ppm)	Dilution Factor
V8020067	SP3-3	760	580	100	20
V8020068	SP8-19	1,900	620	100	20
V8020069	SP8-19 DUP	530	370	100	20
V8020070	SP8-17	680	550	100	20
V8020071	SP8-13	12,000	3,200	100	20
V8020072	SP8-12	310	340	100	20
V8020073	SP8-15	280	240	100	20
V8020074	SP8-9	6,300	1,300	100	20
V8020075	SP8-7	11,000	3,200	100	20
V8020076	SP8-11	4,700	1,100	100	20

Extractable Hydrocarbons are quantitated against a diesel fuel standard. Hydrocarbons detected by this method range from C13 to C32. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**



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Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 3550/CA DHS Mod. 8015  
 First Sample #: V8020077

Sampled: Feb 2, 1998  
 Received: Feb 3, 1998  
 Extracted: Feb 9, 1998  
 Analyzed: Feb 9-10, 1998  
 Reported: Feb 19, 1998

## EXTRACTABLE FUEL HYDROCARBONS (CA DHS Mod. EPA 8015)

Laboratory Number	Sample Description Soil	Sample Result	Sample Result	Reporting Limit	Dilution Factor
		C13 - C22 mg/Kg (ppm)	C23 - C32 mg/Kg (ppm)	C13 - C32 mg/Kg (ppm)	
V8020077	SP8-3	1,100	1,100	100	20
V8020078	SP8-5	2,700	870	100	20
V8020079	SP8-6	780	440	100	20
V8020080	SP8-1	3,300	1,800	100	20
V8020081	SP8-2	2,900	1,200	100	20
V8020082	SP8-5 DUP	1,500	800	100	20
V8020083	SP8-4	13,000	3,600	100	20
V8020084	SP8-10	2,800	990	100	20
V8020085	SP8-8	27	17	5.0	1.0
V8020086	SP8-20	3,500	1,200	100	20

Extractable Hydrocarbons are quantitated against a diesel fuel standard. Hydrocarbons detected by this method range from C13 to C32. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**



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Foster Wheeler Environmental  
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 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 3550/CA DHS Mod. 8015  
 First Sample #: V8020087

Sampled: Feb 2, 1998  
 Received: Feb 3, 1998  
 Extracted: Feb 9, 1998  
 Analyzed: Feb 10, 1998  
 Reported: Feb 19, 1998

**EXTRACTABLE FUEL HYDROCARBONS (CA DHS Mod. EPA 8015)**

Laboratory Number	Sample Description Soil	Sample Result C13 - C22 mg/Kg (ppm)	Sample Result C23 - C32 mg/Kg (ppm)	Reporting Limit C13 - C32 mg/Kg (ppm)	Dilution Factor
V8020087	SP8-14	520	340	50	10
V8020088	SP8-18	1,100	670	50	10
V8020089	SP8-16	850	400	50	10
V8020090	SP11-7	480	580	50	10
V8020091	SP15-9	4.8	3.1	5.0	1.0
V8020092	SP15-18	69	100	5.0	1.0
V8020093	SP15-16	3,200	920	50	10
V8020094	SP15-17	51	33	5.0	1.0
V8020095	SP15-7	2,600	830	50	10
V8020096	SP15-15	2,900	750	50	10

Extractable Hydrocarbons are quantitated against a diesel fuel standard. Hydrocarbons detected by this method range from C13 to C32. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**

  
 Joseph Doak  
 Project Manager

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V8020067.FFF <19 of 25>



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 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 3550/CA DHS Mod. 8015  
 First Sample #: V8020097

Sampled: Feb 2, 1998  
 Received: Feb 3, 1998  
 Extracted: Feb 9, 1998  
 Analyzed: Feb 10, 1998  
 Reported: Feb 19, 1998

**EXTRACTABLE FUEL HYDROCARBONS (CA DHS Mod. EPA 8015)**

Laboratory Number	Sample Description Soil	Sample Result C13 - C22 mg/Kg (ppm)	Sample Result C23 - C32 mg/Kg (ppm)	Reporting Limit C13 - C32 mg/Kg (ppm)	Dilution Factor
V8020097	SP15-8	1,800	530	50	10
V8020098	SP15-14	6,100	1,900	50	10
V8020099	SP15-13	3,800	1,100	50	10
V8020100	SP15-6	3,800	1,100	50	10
V8020101	SP15-6 DUP	2,000	1,100	50	10
V8020102	SP15-5	5,100	1,700	50	10
V8020103	SP15-4	6,700	2,500	50	10
V8020104	SP15-12	7,500	2,500	50	10
V8020105	SP15-11	3,600	920	50	10
V8020106	SP15-11 DUP	5,600	1,900	50	10

Extractable Hydrocarbons are quantitated against a diesel fuel standard. Hydrocarbons detected by this method range from C13 to C32. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL VAN NUYS (ELAP #1855)**

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 Project Manager

Foster Wheeler Environmental  
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Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 3550/CA DHS Mod. 8015  
 First Sample #: V8020107

Sampled: Feb 2, 1998  
 Received: Feb 3, 1998  
 Extracted: Feb 10, 1998  
 Analyzed: Feb 10, 1998  
 Reported: Feb 19, 1998

## EXTRACTABLE FUEL HYDROCARBONS (CA DHS Mod. EPA 8015)

Laboratory Number	Sample Description Soil	Sample Result C13 - C22 mg/Kg (ppm)	Sample Result C23 - C32 mg/Kg (ppm)	Reporting Limit C13 - C32 mg/Kg (ppm)	Dilution Factor
V8020107	SP15-3	1,500	430	50	10
V8020108	SP15-2	12,000	5,200	50	10
V8020109	SP15-1	450	480	50	10
V8020110	SP15-19	1,900	1,300	50	10
V8020111	SP15-10	13,000	4,100	50	10
V8020112	SP14-5	3,400	1,400	50	10
V8020113	SP14-1	6.8	3.3	5.0	1.0
V8020114	SP14-4	3,900	1,500	50	10
V8020115	SP14-6	4,300	1,800	50	10
V8020116	SP14-3	170	56	5.0	1.0

Extractable Hydrocarbons are quantitated against a diesel fuel standard. Hydrocarbons detected by this method range from C13 to C32. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**



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 2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 3550/CA DHS Mod. 8015  
 First Sample #: V8020117

Sampled: Feb 2, 1998  
 Received: Feb 3, 1998  
 Extracted: Feb 10, 1998  
 Analyzed: Feb 10-11, 1998  
 Reported: Feb 19, 1998

**EXTRACTABLE FUEL HYDROCARBONS (CA DHS Mod. EPA 8015)**

Laboratory Number	Sample Description Soil	Sample Result C13 - C22 mg/Kg (ppm)	Sample Result C23 - C32 mg/Kg (ppm)	Reporting Limit C13 - C32 mg/Kg (ppm)	Dilution Factor
V8020117	SP14-2	2,200	1,400	50	10
V8020118	SP13-3	2,300	920	50	10
V8020119	SP13-2	5,100	2,200	50	10
V8020120	SP13-2 DUP	5,500	2,200	50	10
V8020121	SP10-1	980	770	50	10
V8020122	SP10-2	2,000	870	50	10
V8020123	SP10-3	4,700	1,800	50	10
V8020124	SP10-4	1,200	690	50	10
V8020131	SP13-1	940	490	50	10

Extractable Hydrocarbons are quantitated against a diesel fuel standard. Hydrocarbons detected by this method range from C13 to C32. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**

Joseph Doak  
 Project Manager

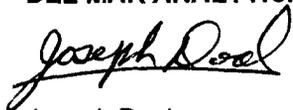
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V8020067.FFF <22 of 25>

Foster Wheeler Environmental  
611 Anton Blvd., Suite 800  
Costa Mesa, CA 92626  
Attention: Abram Eloskof**Method Blank**Extracted: Feb 10-12, 1998  
Analyzed: Feb 10-12, 1998  
Reported: Feb 19, 1998**TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)**

Laboratory Description	Sample Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)
Method Blank	N.D.	5.0

Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and/or other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**Joseph Doak  
Project Manager

Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

**Method Blank**

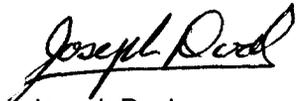
Extracted: Feb 5-12, 1998  
 Analyzed: Feb 5-12, 1998  
 Reported: Feb 19, 1998

**VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)**

Sample Description	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
Method Blank	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution: 1 Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

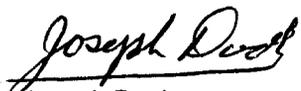
**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**

  
 Joseph Doak  
 Project Manager

Foster Wheeler Environmental  
611 Anton Blvd., Suite 800  
Costa Mesa, CA 92626  
Attention: Abram Eloskof**Method Blank**Extracted: Feb 9-11, 1998  
Analyzed: Feb 9-11, 1998  
Reported: Feb 19, 1998**EXTRACTABLE FUEL HYDROCARBONS (CA DHS Mod. EPA 8015)**

Sample Description Soil	Sample Result C13 - C22 mg/Kg (ppm)	Sample Result C23 - C32 mg/Kg (ppm)	Reporting Limit C13 - C32 mg/Kg (ppm)	Dilution Factor
Method Blank	N.D.	N.D.	5.0	1.0

Extractable Hydrocarbons are quantitated against a diesel fuel standard. Hydrocarbons detected by this method range from C13 to C32. Analytes reported as N.D. were not present at or above the reporting limit.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**  
Joseph Doak  
Project Manager



## MS/MSD DATA REPORT

### EPA Method 8015/8020

Matrix: Soil

Date: 02/10/98

Sample #: V8020168

Batch #: HB10G11S

<u>Analyte</u>	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Mean PR</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	%	<u>RPD</u>	<u>Mean PR</u>
TPH	0.086	1.1	1.1	1.1	89	93	3.8	91	≤30	78 - 120
Benzene	0	0.10	0.083	0.088	83	88	5.6	85	≤18	82 - 115
Toluene	0	0.10	0.080	0.084	80	84	4.9	82	≤18	78 - 115
Ethylbenzene	0	0.10	0.086	0.091	86	91	5.9	88	≤18	84 - 118
Xylenes	0	0.30	0.25	0.26	83	87	5.2	85	≤17	81 - 115

### Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS;  $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD;  $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference;  $((MS-MSD)/(MS+MSD)/2) \times 100$
- Mean PR..... Mean Percent Recovery
- Acceptance Limits..... Determined by in-house Control Charts



## MS/MSD DATA REPORT

**EPA METHOD:** 418.1  
**Matrix:** Soil

**DATE:** 2/10/98

**SAMPLE #:** BLANK

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Hydrocarbons	22	60	89	91	112%	115%	2.2%	113%

\*Refer to LCS for confirmation.

### Definition of Terms:

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS;  $((MS-R1) / SP) \times 100$
- PR2..... Percent Recovery of MSD;  $((MSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference;  $((MS-MSD)/(MS+MSD)/2) \times 100$



**LCS DATA REPORT**

**METHOD** 418.1

**Matrix:** Soil

**DATE:** 2/10/98

Analyte	St	R1	PR
<u>          </u>	<u>ppm</u>	<u>ppm</u>	<u>%</u>
Hydrocarbons	60	68	113%

**Definitions of Terms:**

St. . . . . Standard Concentration

R1. . . . . Standard Result

PR. . . . . Percent Recovery of R1;  $(R1 / St) \times 100$



FOSTER WHEELER ENVIRONMENTAL CORPORATION

No 0773

CHAIN OF CUSTODY FORM REQUEST FOR ANALYSIS

Page 1 of 5

Project : <b>Stockpile Characterization</b>		OFS No. <b>1508-0032</b>		HAZARD IDENTIFICATION:				Time Required				<b>THE INFORMATION IN THIS SECTION WILL NOT BE AVAILABLE TO THE LABORATORY</b>															
Project Address: <b>SITE 4 - NAVAL STATION - LONG BEACH</b>		Sampler (Name): <b>DAVID DIRKIN</b>		Nonhazard <input checked="" type="checkbox"/> Reactive <input type="checkbox"/>		Flammable <input type="checkbox"/> Toxic <input type="checkbox"/>		Skin Irritant <input type="checkbox"/> Infectious <input type="checkbox"/>		NORMAL <input checked="" type="checkbox"/> _____ DAYS																	
Laboratory: <b>DEL MAR ANALYTICAL</b>		Sampler (Signature): <i>[Signature]</i>		ANALYSES REQUIRED																							
Reports to Be Sent to: <b>A. EKSKOF</b>																											
SAMPLE NUMBER	TIME COLLECTED	DATE COLLECTED	NUMBER OF CONTAINERS	CONTAINER SIZE(S)	SAMPLE MATERIAL			TPH - GASOLINE	TPH - (DIESEL TO CYC)	TPH (418.1)	BTEX (8020)											LOCATION	DEPTH	QC CODE			
					WATER	SOIL	OTHER (Describe)																				
SP3-3	0803	2/2/98	1	6" 55" BRASS SLEEVE		X		X	X	X	X														Stockpile #3	3'	
SP8-19	0810	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X														Stockpile #8	2'	
SP8-19 DUP	0820	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X														Stockpile #8	2.5'	Duplicate
SP8-17	0825	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X														Stockpile #8	3'	
SP8-13	0830	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X														Stockpile #8	4'	
SP8-12	0840	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X														Stockpile #8	3'	
SP8-15	0841	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X														Stockpile #8	8'	
SP8-9	0850	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X														Stockpile #8	9'	
SP8-7	0900	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X														Stockpile #8	5'	
SP8-11	0905	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X														Stockpile #8	10'	
SP8-3	0915	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X														Stockpile #8	2'	
SP8-5	0920	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X														Stockpile #8	7'	
LABORATORY INSTRUCTIONS/COMMENTS: <b>Sample middle of sleeve</b>												SAMPLING COMMENTS: <b>All samples received AT 4°C.</b>															
Relinquished by: (Signature) <i>[Signature]</i>		Date: <b>2/2/98</b>		Received by: (Signature) <i>[Signature]</i>		Date: <b>2/3/98</b>		Relinquished by: (Signature) <i>[Signature]</i>		Date: <b>2/3/98</b>		Received by: (Signature) <i>[Signature]</i>		Company: <b>FWENC</b>		Time: <b>15:41</b>		Company: <b>DEL MAR</b>		Company: <b>DEL MAR</b>		Company: <b>DEL MAR</b>		Company: <b>DEL MAR</b>			



FOSTER WHEELER ENVIRONMENTAL CORPORATION

No 0772

CHAIN OF CUSTODY FORM REQUEST FOR ANALYSIS

Page 2 of 5

Project : STOCKPILE CHARACTERIZATION		OFS No. 1508-0032		HAZARD IDENTIFICATION:				Time Required												
Project Address: SITE 4 - NAVAL STATION - LONG BEACH				Nonhazard <input checked="" type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/>		Reactive <input type="checkbox"/> Toxic <input type="checkbox"/> Infectious <input type="checkbox"/>		NORMAL <input checked="" type="checkbox"/> _____ DAYS RUSH <input type="checkbox"/> _____ DAYS												
Sampler (Name): David Dirsin		Sampler: (Signature): <i>[Signature]</i>		ANALYSES REQUIRED						THE INFORMATION IN THIS SECTION WILL NOT BE AVAILABLE TO THE LABORATORY										
Laboratory: DEL MAR ANALYTICAL		Reports to Be Sent to: A FLOSKOF		<table border="1"> <tr> <td></td> <td>TPH - GASOLINE</td> <td>TPH (DIESEL TO E40)</td> <td>TPH (410.1)</td> <td>TPH (8020)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>								TPH - GASOLINE	TPH (DIESEL TO E40)	TPH (410.1)	TPH (8020)					
	TPH - GASOLINE	TPH (DIESEL TO E40)	TPH (410.1)	TPH (8020)																
SAMPLE NUMBER		TIME COLLECTED	DATE COLLECTED	NUMBER OF CONTAINERS	CONTAINER SIZE(S)	SAMPLE MATERIAL			LOCATION		DEPTH	QC CODE								
						WATER	SOIL	OTHER (Describe)												
SP8-6	0930	2/2/98	1	6" BRASS SLEEVE		X	X		X	X	X	Stockpile #8	1'							
SP8-1	0931	2/2/98	1	6" BRASS SLEEVE		X	X		X	X	X	Stockpile #8	3'							
SP8-2	0940	2/2/98	1	6" BRASS SLEEVE		X	X		X	X	X	Stockpile #8	6'							
SP8-5 DUP	0945	2/2/98	1	6" BRASS SLEEVE		X	X		X	X	X	Stockpile #8	7'	Duplicate						
SP8-4	0956	2/2/98	1	6" BRASS SLEEVE		X	X		X	X	X	Stockpile #8	5'							
SP8-10	0952	2/2/98	1	6" BRASS SLEEVE		X	X		X	X	X	Stockpile #8	2'							
SP8-8	1000	2/2/98	1	6" BRASS SLEEVE		X	X		X	X	X	Stockpile #8	8'							
SP8-20	1010	2/2/98	1	6" BRASS SLEEVE		X	X		X	X	X	Stockpile #8	3'							
SP8-14	1015	2/2/98	1	6" BRASS SLEEVE		X	X		X	X	X	Stockpile #8	6'							
SP8-18	1020	2/2/98	1	6" BRASS SLEEVE		X	X		X	X	X	Stockpile #8	4'							
SP8-16	1025	2/2/98	1	6" BRASS SLEEVE		X	X		X	X	X	Stockpile #8	7'							
SP11-7	1056	2/2/98	1	6" BRASS SLEEVE		X	X		X	X	X	Stockpile #11	1'							
LABORATORY INSTRUCTIONS/COMMENTS:  SAMPLE FROM MIDDLE OF SLEEVE									SAMPLING COMMENTS:  SAMPLES RECEIVED @ 4°C											
Relinquished by: (Signature) <i>[Signature]</i>		Date: 2/2/98	Received by: (Signature) <i>[Signature]</i>		Relinquished by: (Signature) <i>[Signature]</i>		Date: 2/3/98	Received by: (Signature) <i>[Signature]</i>												
Company: FWENC		Time: 1541	Company: DEL MAR		Company: DEL MAR		Time: 1500	Company: DEL MAR												



# FOSTER WHEELER ENVIRONMENTAL CORPORATION

No 0771

## CHAIN OF CUSTODY FORM REQUEST FOR ANALYSIS

Page 3 of 5

Project : <u>Stockpile Characterization</u>		OFS No. <u>1508-0032</u>		HAZARD IDENTIFICATION:				Time Required				<b>THE INFORMATION IN THIS SECTION WILL NOT BE AVAILABLE TO THE LABORATORY</b>															
Project Address: <u>SITE 4- NAVAL STATION - LONG BEACH</u>				Nonhazard <input checked="" type="checkbox"/>	Reactive <input type="checkbox"/>	NORMAL <input checked="" type="checkbox"/> _____ DAYS																					
Sampler (Name): <u>DAVID DIRKIN</u>		Sampler (Signature):		Flammable <input type="checkbox"/>	Toxic <input type="checkbox"/>	RUSH <input type="checkbox"/> _____ DAYS																					
Laboratory: <u>DEL MAR ANALYTICAL</u>				Skin Irritant <input type="checkbox"/>	Infectious <input type="checkbox"/>																						
Reports to Be Sent to: <u>A. ELOSKOF</u>				ANALYSES REQUIRED																							
SAMPLE NUMBER	TIME COLLECTED	DATE COLLECTED	NUMBER OF CONTAINERS	CONTAINER SIZE(S)	SAMPLE MATERIAL			TAP 1 - 6" BRASS LINE (8020)	TAP 2 - DIESEL TO C40	TAP 3 - (418.1)	TAP 4 - (8020)											LOCATION	DEPTH	QC CODE			
					WATER	SOIL	OTHER (Describe)																				
SP15-9	1055	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X														Stockpile #15	4'	
SP15-18	1105	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X														Stockpile #15	4'	
SP15-16	1110	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X														Stockpile #15	3'	
SP15-17	1115	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X														Stockpile #15	1'	
SP15-7	1120	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X														Stockpile #15	3'	
SP15-15	1125	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X														Stockpile #15	3'	
SP15-8	1127	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X														Stockpile #15	4'	
SP15-14	1130	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X														Stockpile #15	2'	
SP15-13	1140	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X														Stockpile #15	5'	
SP15-6	1145	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X														Stockpile #15	2'	
SP15-6 DUC	1146	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X														Stockpile #15	2'	Duplicate
SP15-5	1150	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X														Stockpile #15	5'	
LABORATORY INSTRUCTIONS/COMMENTS:												SAMPLING COMMENTS:															
SAMPLE FROM MIDDLE OF SLEEVE												SAMPLES RECEIVED @ 4°C.															
Relinquished by (Signature):		Date: <u>2/2/98</u>	Received by (Signature):		Date: <u>2/3/98</u>	Relinquished by (Signature):		Date: <u>2/3/98</u>	Received by (Signature):																		
Company: <u>FWENC</u>		Time: <u>1641</u>	Company: <u>DEL MAR</u>		Time: <u>8:00</u>	Company: <u>DEL MAR</u>																					



# FOSTER WHEELER ENVIRONMENTAL CORPORATION

No 0774

## CHAIN OF CUSTODY FORM REQUEST FOR ANALYSIS

Page 4 of 5

Project: <b>Stockpile Characterization</b>		SFS No. <b>1208-0022</b>		HAZARD IDENTIFICATION:				Time Required																		
Project Address: <b>Site 4 - Naval Station - Long Beach</b>		Sampler (Name): <b>DAVID DICKIN</b>		Sampler: (Signature): <i>[Signature]</i>		Nonhazard <input checked="" type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Reactive <input type="checkbox"/> Toxic <input type="checkbox"/> Infectious <input type="checkbox"/> RUSH <input type="checkbox"/> DAYS				NORMAL <input checked="" type="checkbox"/> DAYS																
Laboratory: <b>DEL MAR ANALYTICAL</b>		Reports to Be Sent to: <b>A. BLOSZOF</b>		ANALYSES REQUIRED																						
SAMPLE NUMBER	TIME COLLECTED	DATE COLLECTED	NUMBER OF CONTAINERS	CONTAINER SIZE(S)	SAMPLE MATERIAL			TPH - Gasoline (BUSH)	TPH - Diesel (CYC)	TPH - (418.1)	BTEX - (BZC)											LOCATION	DEPTH	QC CODE		
					WATER	SOIL	OTHER (Describe)																			
SP15-4	1200	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X													Stockpile #15	2'	
SP15-12	1205	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X													Stockpile #15	5'	
SP15-11	1207	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X													Stockpile #15	3'	
SP15-11 Dup	1210	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X													Stockpile #15	3'	Duplicate
SP15-3	1215	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X													Stockpile #15	4'	
SP15-2	1217	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X													Stockpile #15	3'	
SP15-1	1220	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X													Stockpile #15	3'	
SP15-19	1223	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X													Stockpile #15	2'	
SP15-10	1225	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X													Stockpile #15	6'	
SP14-5	1400	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X													Stockpile #14	3'	
SP14-1	1405	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X													Stockpile #14	2'	
SP14-4	1406	2/2/98	1	6" BRASS SLEEVE		X		X	X	X	X													Stockpile #14	1'	
LABORATORY INSTRUCTIONS/COMMENTS:												SAMPLING COMMENTS:														
Sample MIDDLE OF SLEEVES												Samples RECEIVED @ 4°C														
Relinquished by: (Signature) <i>[Signature]</i>		Date: 2/2/98		Received by: (Signature) <i>[Signature]</i>		Date: 2/3/98		Relinquished by: (Signature) <i>[Signature]</i>		Date: 2/3/98		Received by: (Signature) <i>[Signature]</i>		Company: FWENC		Company: DEL MAR		Company: DEL MAR								



Foster Wheeler Environmental 611 Anton Blvd., Suite 800 Costa Mesa, CA 92626 Attention: Abram Elskof	Client Project ID: Stockpile Characterization Site 4 - Naval Station - Long Beach Analysis Method: EPA 418.1 (I.R. with clean-up) First Sample #: V8020196	Sampled: Feb 5, 1998 Received: Feb 5, 1998 Extracted: Feb 16, 1998 Analyzed: Feb 16, 1998 Reported: Feb 20, 1998
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## TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Laboratory Number	Sample Description Soil	Sample Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor
V8020196	SP12-9	6,300	100	20
V8020197	SP12-8	5,900	250	50
V8020198	SP12-5	13,000	500	100
V8020199	SP12-8 DUP	1,300	50	10
V8020200	SP12-4	8,500	250	50
V8020201	SP12-7	2,000	50	10
V8020202	SP12-2	1,100	50	10
V8020203	SP12-3	1,200	50	10
V8020204	SP16-1	13,000	250	50
V8020205	SP16-2	2,500	50	10

Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**



Joseph Doak  
Project Manager



2852 Alton Ave., Irvine, CA 92714 (714) 261-1022 FAX (714) 261-1228  
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046  
 16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843  
 2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

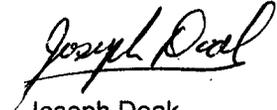
Foster Wheeler Environmental 611 Anton Blvd., Suite 800 Costa Mesa, CA 92626 Attention: Abram Elskof	Client Project ID: Stockpile Characterization Site 4 - Naval Station - Long Beach Analysis Method: EPA 418.1 (I.R. with clean-up) First Sample #: V8020206	Sampled: Feb 5, 1998 Received: Feb 5, 1998 Extracted: Feb 16, 1998 Analyzed: Feb 16, 1998 Reported: Feb 20, 1998
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**TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)**

Laboratory Number	Sample Description Soil	Sample Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor
V8020206	SP16-4	36,000	500	100
V8020207	SP16-18	14,000	500	100
V8020208	SP16-17	26,000	500	100
V8020209	SP16-19	23,000	250	50
V8020210	SP16-3	41,000	500	100
V8020211	SP16-20	7,000	250	50
V8020212	SP16-21	11,000	250	50
V8020213	SP16-22	960	50	10
V8020214	SP16-5	590	50	10
V8020215	SP16-6	14,000	500	100

Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**

  
 Joseph Doak  
 Project Manager

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.



Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Elskof

Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 418.1 (I.R. with clean-up)  
 First Sample #: V8020216

Sampled: Feb 5, 1998  
 Received: Feb 5, 1998  
 Extracted: Feb 17, 1998  
 Analyzed: Feb 17, 1998  
 Reported: Feb 20, 1998

**TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)**

Laboratory Number	Sample Description Soil	Sample Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor
V8020216	SP16-7	29,000	500	100
V8020217	SP16-8	25,000	200	40
V8020218	SP16-9	16,000	200	40
V8020219	SP16-9 DUP	22,000	200	40
V8020220	SP16-10	18,000	250	50
V8020221	SP16-11	4,200	200	40
V8020222	SP16-25	51	5.0	1.0
V8020223	SP16-23	31,000	250	50
V8020224	SP16-24	2,500	25	5.0
V8020225	SP16-26	40,000	500	100

Analyses reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**

  
 Joseph Doak  
 Project Manager



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Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 418.1 (I.R. with clean-up)  
 First Sample #: V8020226

Sampled: Feb 5, 1998  
 Received: Feb 5, 1998  
 Extracted: Feb 17, 1998  
 Analyzed: Feb 17, 1998  
 Reported: Feb 20, 1998

**TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)**

Laboratory Number	Sample Description Soil	Sample Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)	Dilution Factor
V8020226	SP16-12	32,000	500	100
V8020227	SP16-12 DUP	45,000	500	100
V8020228	SP16-27	39,000	500	100
V8020229	SP16-13	1,200	10	2.0
V8020230	SP16-28	29,000	250	50
V8020231	SP16-14	11,000	200	40
V8020232	SP16-15	10,000	250	50
V8020233	SP16-29	85,000	1,000	200
V8020234	SP16-29 DUP	25,000	250	50
V8020235	SP16-16	3,600	50	10

Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**

Joseph Doak  
 Project Manager

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V8020196.FFF <4 of 18>

Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 5030/CA DHS Mod. 8015/8020  
 First Sample #: V8020196

Sampled: Feb 5, 1998  
 Received: Feb 5, 1998  
 Extracted: Feb 10-12, 1998  
 Analyzed: Feb 10-12, 1998  
 Reported: Feb 20, 1998

## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
V8020196	SP12-9	23	N.D.	N.D.	N.D.	N.D.
Dilution: 4	Reporting Limit:	4.0	0.020	0.020	0.020	0.060
V8020197	SP12-8	600	N.D.	N.D.	N.D.	N.D.
Dilution: 30	Reporting Limit:	30	0.15	0.15	0.15	0.45
V8020198	SP12-5	92	N.D.	N.D.	N.D.	N.D.
Dilution: 5	Reporting Limit:	5.0	0.025	0.025	0.025	0.075
V8020199	SP12-8 DUP	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020200	SP12-4	4.9	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020201	SP12-7	43	N.D.	N.D.	N.D.	N.D.
Dilution: 6	Reporting Limit:	6.0	0.030	0.030	0.030	0.090

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)



Joseph Doak  
 Project Manager

Foster Wheeler Environmental 611 Anton Blvd., Suite 800 Costa Mesa, CA 92626 Attention: Abram Eloskof	Client Project ID: Stockpile Characterization Site 4 - Naval Station - Long Beach Analysis Method: EPA 5030/CA DHS Mod. 8015/8020 First Sample #: V8020202	Sampled: Feb 5, 1998 Received: Feb 5, 1998 Extracted: Feb 10-12, 1998 Analyzed: Feb 10-12, 1998 Reported: Feb 20, 1998
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## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
<b>V8020202</b>	<b>SP12-2</b>	<b>7.6</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 1.3	Reporting Limit:	1.3	0.0065	0.0065	0.0065	0.020
<b>V8020203</b>	<b>SP12-3</b>	<b>5.9</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 1.3	Reporting Limit:	1.3	0.0065	0.0065	0.0065	0.020
<b>V8020204</b>	<b>SP16-1</b>	<b>82</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 3	Reporting Limit:	3.0	0.015	0.015	0.015	0.045
<b>V8020205</b>	<b>SP16-2</b>	<b>10</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 4	Reporting Limit:	4.0	0.020	0.020	0.020	0.060
<b>V8020206</b>	<b>SP16-4</b>	<b>270</b>	<b>N.D.</b>	<b>N.D.</b>	<b>0.16</b>	<b>0.39</b>
Dilution: 10	Reporting Limit:	10	0.050	0.050	0.050	0.15
<b>V8020207</b>	<b>SP16-18</b>	<b>10</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 2	Reporting Limit:	2.0	0.010	0.010	0.010	0.030

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**



Joseph Doak  
Project Manager

Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 5030/CA DHS Mod. 8015/8020  
 First Sample #: V8020208

Sampled: Feb 5, 1998  
 Received: Feb 5, 1998  
 Extracted: Feb 10-12, 1998  
 Analyzed: Feb 10-12, 1998  
 Reported: Feb 20, 1998

## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
V8020208	SP16-17	110	0.020	0.030	0.035	0.13
Dilution: 4	Reporting Limit:	4.0	0.020	0.020	0.020	0.060
V8020209	SP16-19	130	N.D.	N.D.	0.068	0.14
Dilution: 3	Reporting Limit:	3.0	0.015	0.015	0.015	0.045
V8020210	SP16-3	480	N.D.	0.060	0.37	0.75
Dilution: 10	Reporting Limit:	10	0.050	0.050	0.050	0.15
V8020211	SP16-20	2.5	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020212	SP16-21	87	N.D.	N.D.	N.D.	N.D.
Dilution: 4	Reporting Limit:	4.0	0.020	0.020	0.020	0.060
V8020213	SP16-22	1.1	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)



Joseph Doak  
 Project Manager

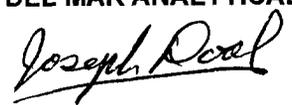
Foster Wheeler Environmental 611 Anton Blvd., Suite 800 Costa Mesa, CA 92626 Attention: Abram Eloskof	Client Project ID: Stockpile Characterization Site 4 - Naval Station - Long Beach Analysis Method: EPA 5030/CA DHS Mod. 8015/8020 First Sample #: V8020214	Sampled: Feb 5, 1998 Received: Feb 5, 1998 Extracted: Feb 10-11, 1998 Analyzed: Feb 10-11, 1998 Reported: Feb 20, 1998
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## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
<b>V8020214</b>	<b>SP16-5</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
<b>V8020215</b>	<b>SP16-6</b>	<b>100</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 10	Reporting Limit:	10	0.050	0.050	0.050	0.15
<b>V8020216</b>	<b>SP16-7</b>	<b>180</b>	<b>N.D.</b>	<b>N.D.</b>	<b>0.13</b>	<b>0.47</b>
Dilution: 12	Reporting Limit:	12	0.060	0.060	0.060	0.18
<b>V8020217</b>	<b>SP16-8</b>	<b>61</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 4	Reporting Limit:	4.0	0.020	0.020	0.020	0.060
<b>V8020218</b>	<b>SP16-9</b>	<b>26</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>0.068</b>
Dilution: 3	Reporting Limit:	3.0	0.015	0.015	0.015	0.045
<b>V8020219</b>	<b>SP16-9 DUP</b>	<b>29</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>0.050</b>
Dilution: 3	Reporting Limit:	3.0	0.015	0.015	0.015	0.045

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**



Joseph Doak  
Project Manager



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Foster Wheeler Environmental  
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 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 5030/CA DHS Mod. 8015/8020  
 First Sample #: V8020220

Sampled: Feb 5, 1998  
 Received: Feb 5, 1998  
 Extracted: Feb 11-12, 1998  
 Analyzed: Feb 11-12, 1998  
 Reported: Feb 20, 1998

## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
V8020220	SP16-10	28	N.D.	N.D.	N.D.	0.070
Dilution: 3	Reporting Limit:	3.0	0.015	0.015	0.015	0.045
V8020221	SP16-11	3.4	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020222	SP16-25	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020223	SP16-23	160	N.D.	N.D.	0.068	0.48
Dilution: 4	Reporting Limit:	4.0	0.020	0.020	0.020	0.060
V8020224	SP16-24	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020225	SP16-26	88	N.D.	N.D.	0.060	0.46
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

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Joseph Doak  
 Project Manager

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V8020196.FFF <9 of 18>

Foster Wheeler Environmental 611 Anton Blvd., Suite 800 Costa Mesa, CA 92626 Attention: Abram Eloskof	Client Project ID: Stockpile Characterization Site 4 - Naval Station - Long Beach Analysis Method: EPA 5030/CA DHS Mod. 8015/8020 First Sample #: V8020226	Sampled: Feb 5, 1998 Received: Feb 5, 1998 Extracted: Feb 11-12, 1998 Analyzed: Feb 11-12, 1998 Reported: Feb 20, 1998
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## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
V8020226	SP16-12	200	N.D.	N.D.	0.27	0.82
Dilution: 12	Reporting Limit:	12	0.060	0.060	0.060	0.18
V8020227	SP16-12 DUP	320	N.D.	N.D.	0.48	1.3
Dilution: 8	Reporting Limit:	8.0	0.040	0.040	0.040	0.12
V8020228	SP16-27	180	N.D.	N.D.	0.28	0.58
Dilution: 4	Reporting Limit:	4.0	0.020	0.020	0.020	0.060
V8020229	SP16-13	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020230	SP16-28	15	N.D.	N.D.	N.D.	N.D.
Dilution: 4	Reporting Limit:	4.0	0.020	0.020	0.020	0.060
V8020231	SP16-14	56	N.D.	N.D.	0.031	0.19
Dilution: 4	Reporting Limit:	4.0	0.020	0.020	0.020	0.060

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)



Joseph Doak  
Project Manager



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Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
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 Attention: Abram Eloskof

Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 5030/CA DHS Mod. 8015/8020  
 First Sample #: V8020232

Sampled: Feb 5, 1998  
 Received: Feb 5, 1998  
 Extracted: Feb 12, 1998  
 Analyzed: Feb 12, 1998  
 Reported: Feb 20, 1998

## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Laboratory Number	Sample Description Soil	Volatile Fuel Hydrocarbons mg/Kg (ppm)	Benzene mg/Kg (ppm)	Toluene mg/Kg (ppm)	Ethyl Benzene mg/Kg (ppm)	Total Xylenes mg/Kg (ppm)
V8020232	SP16-15	4.2	N.D.	N.D.	N.D.	N.D.
Dilution: 1	Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015
V8020233	SP16-29	220	N.D.	N.D.	0.38	0.92
Dilution: 6	Reporting Limit:	6.0	0.030	0.030	0.030	0.090
V8020234	SP16-29 DUP	83	N.D.	N.D.	0.10	0.66
Dilution: 6	Reporting Limit:	6.0	0.030	0.030	0.030	0.090
V8020235	SP16-16	21	N.D.	N.D.	N.D.	N.D.
Dilution: 4	Reporting Limit:	4.0	0.020	0.020	0.020	0.060

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)

  
 Joseph Doak  
 Project Manager

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V8020196.FFF <11 of 18>

Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 3550/CA DHS Mod. 8015  
 First Sample #: V8020196

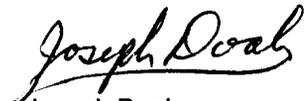
Sampled: Feb 5, 1998  
 Received: Feb 5, 1998  
 Extracted: Feb 16, 1998  
 Analyzed: Feb 16-19, 1998  
 Reported: Feb 20, 1998

## EXTRACTABLE FUEL HYDROCARBONS (CA DHS Mod. EPA 8015)

Laboratory Number	Sample Description Soil	Sample Result C13 - C22 mg/Kg (ppm)	Sample Result C23 - C32 mg/Kg (ppm)	Reporting Limit C13 - C32 mg/Kg (ppm)	Dilution Factor
V8020196	SP12-9	2,500	960	50	10
V8020197	SP12-8	1,100	480	50	10
V8020198	SP12-5	5,700	1,500	50	10
V8020199	SP12-8 DUP	130	110	50	10
V8020200	SP12-4	3,100	1,300	50	10
V8020201	SP12-7	210	85	50	10
V8020202	SP12-2	270	200	50	10
V8020203	SP12-3	420	340	5.0	1.0
V8020204	SP16-1	3,500	930	50	10
V8020205	SP16-2	530	210	50	10

Extractable Hydrocarbons are quantitated against a diesel fuel standard. Hydrocarbons detected by this method range from C13 to C32. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**



Joseph Doak  
 Project Manager

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 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 3550/CA DHS Mod. 8015  
 First Sample #: V8020206

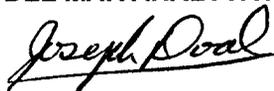
Sampled: Feb 5, 1998  
 Received: Feb 5, 1998  
 Extracted: Feb 16, 1998  
 Analyzed: Feb 16-19, 1998  
 Reported: Feb 20, 1998

## EXTRACTABLE FUEL HYDROCARBONS (CA DHS Mod. EPA 8015)

Laboratory Number	Sample Description Soil	Sample Result C13 - C22 mg/Kg (ppm)	Sample Result C23 - C32 mg/Kg (ppm)	Reporting Limit C13 - C32 mg/Kg (ppm)	Dilution Factor
V8020206	SP16-4	15,000	2,800	50	10
V8020207	SP16-18	3,300	1,300	50	10
V8020208	SP16-17	5,300	790	50	10
V8020209	SP16-19	8,500	1,900	50	10
V8020210	SP16-3	15,000	3,000	50	10
V8020211	SP16-20	2,100	760	50	10
V8020212	SP16-21	3,200	1,000	50	10
V8020213	SP16-22	300	220	50	10
V8020214	SP16-5	140	170	5.0	1.0
V8020215	SP16-6	6,200	1,300	50	10

Extractable Hydrocarbons are quantitated against a diesel fuel standard. Hydrocarbons detected by this method range from C13 to C32. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**



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Foster Wheeler Environmental  
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 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 3550/CA DHS Mod. 8015  
 First Sample #: V8020216

Sampled: Feb 5, 1998  
 Received: Feb 5, 1998  
 Extracted: Feb 16, 1998  
 Analyzed: Feb 16-19, 1998  
 Reported: Feb 20, 1998

## EXTRACTABLE FUEL HYDROCARBONS (CA DHS Mod. EPA 8015)

Laboratory Number	Sample Description Soil	Sample Result C13 - C22 mg/Kg (ppm)	Sample Result C23 - C32 mg/Kg (ppm)	Reporting Limit C13 - C32 mg/Kg (ppm)	Dilution Factor
V8020216	SP16-7	9,900	2,200	100	20
V8020217	SP16-8	11,000	5,000	50	10
V8020218	SP16-9	8,100	2,300	50	10
V8020219	SP16-9 DUP	5,100	1,200	100	20
V8020220	SP16-10	3,700	700	100	20
V8020221	SP16-11	1,100	310	100	20
V8020222	SP16-25	1.9	3.3	5.0	1.0
V8020223	SP16-23	17,000	2,900	100	20
V8020224	SP16-24	660	410	50	10
V8020225	SP16-26	17,000	2,900	100	20

Extractable Hydrocarbons are quantitated against a diesel fuel standard. Hydrocarbons detected by this method range from C13 to C32. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

### DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)

Joseph Doak  
 Project Manager

Results pertain only to samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

V8020196.FFF <14 of 18>



# Del Mar Analytical

2852 Alton Ave., Irvine, CA 92714 (714) 261-1022 FAX (714) 261-1228  
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046  
 16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843  
 2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

Client Project ID: Stockpile Characterization  
 Site 4 - Naval Station - Long Beach  
 Analysis Method: EPA 3550/CA DHS Mod. 8015  
 First Sample #: V8020226

Sampled: Feb 5, 1998  
 Received: Feb 5, 1998  
 Extracted: Feb 16, 1998  
 Analyzed: Feb 18-19, 1998  
 Reported: Feb 20, 1998

## EXTRACTABLE FUEL HYDROCARBONS (CA DHS Mod. EPA 8015)

Laboratory Number	Sample Description Soil	Sample Result C13 - C22 mg/Kg (ppm)	Sample Result C23 - C32 mg/Kg (ppm)	Reporting Limit C13 - C32 mg/Kg (ppm)	Dilution Factor
V8020226	SP16-12	15,000	4,000	50	10
V8020227	SP16-12 DUP	19,000	4,300	50	10
V8020228	SP16-27	34,000	7,600	100	20
V8020229	SP16-13	430	280	50	10
V8020230	SP16-28	8,900	2,400	50	10
V8020231	SP16-14	3,600	1,100	50	10
V8020232	SP16-15	3,700	1,500	50	10
V8020233	SP16-29	8,100	1,900	50	10
V8020234	SP16-29 DUP	8,600	2,600	100	20
V8020235	SP16-16	2,600	1,100	100	20

Extractable Hydrocarbons are quantitated against a diesel fuel standard. Hydrocarbons detected by this method range from C13 to C32. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

### DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)

✓ Joseph Doak  
 Project Manager

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V8020196.FFF <15 of 18>

Foster Wheeler Environmental  
611 Anton Blvd., Suite 800  
Costa Mesa, CA 92626  
Attention: Abram Eloskof**Method Blank**Extracted: Feb 16-17, 1998  
Analyzed: Feb 16-17, 1998  
Reported: Feb 20, 1998**TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)**

Laboratory Description	Sample Result mg/Kg (ppm)	Reporting Limit mg/Kg (ppm)
Method Blank	N.D.	5.0

Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and/or other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**Joseph Doak  
Project Manager



# Del Mar Analytical

2852 Alton Ave., Irvine, CA 92714 (714) 261-1022 FAX (714) 261-1228  
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046  
 16525 Sherman Way, Suite C-11, Van Nuys, CA 91406 (818) 779-1844 FAX (818) 779-1843  
 2465 W. 12th St., Suite 1, Tempe, AZ 85281 (602) 968-8272 FAX (602) 968-1338

Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Eloskof

**Method Blank**

Extracted: Feb 10-12, 1998  
 Analyzed: Feb 10-12, 1998  
 Reported: Feb 20, 1998

## VOLATILE FUEL HYDROCARBONS/BTEX DISTINCTION (CA DHS Mod. EPA 8015/8020)

Sample Description	Volatile Fuel Hydrocarbons	Benzene	Toluene	Ethyl Benzene	Total Xylenes
	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
<b>Method Blank</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>	<b>N.D.</b>
Dilution: 1 Reporting Limit:	1.0	0.0050	0.0050	0.0050	0.015

Volatile Fuel Hydrocarbons are quantitated against a gasoline standard. Hydrocarbons detected by this method range from C6 to C12. Analytes reported as N.D. were not present at or above the reporting limit. Dilution factors are due to matrix effects and other factors.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**

Joseph Doak  
 Project Manager

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V8020196.FFF <17 of 18>

Foster Wheeler Environmental  
 611 Anton Blvd., Suite 800  
 Costa Mesa, CA 92626  
 Attention: Abram Elskof

**Method Blank**

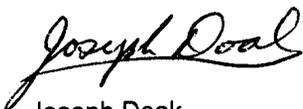
Extracted: Feb 16, 1998  
 Analyzed: Feb 16-19, 1998  
 Reported: Feb 20, 1998

## EXTRACTABLE FUEL HYDROCARBONS (CA DHS Mod. EPA 8015)

Sample Description Soil	Sample Result C13 - C22 mg/Kg (ppm)	Sample Result C23 - C32 mg/Kg (ppm)	Reporting Limit C13 - C32 mg/Kg (ppm)	Dilution Factor
Method Blank	N.D.	N.D.	5.0	1.0

Extractable Hydrocarbons are quantitated against a diesel fuel standard. Hydrocarbons detected by this method range from C13 to C32. Analytes reported as N.D. were not present at or above the reporting limit.

**DEL MAR ANALYTICAL, VAN NUYS (ELAP #1855)**



Joseph Doak  
 Project Manager

## MS/MSD DATA REPORT

### EPA Method 8015/8020

Matrix: Soil

Date: 02/12/98

Sample #: V8020121

Batch #: HB12G11S

<u>Analyte</u>	<u>R1</u>	<u>Sp</u>	<u>MS</u>	<u>MSD</u>	<u>PR1</u>	<u>PR2</u>	<u>RPD</u>	<u>Mean PR</u>	<u>Acceptance Limits</u>	
	ppm	ppm	ppm	ppm	%	%	%	%	<u>RPD</u>	<u>Mean PR</u>
TPH	0.25	1.1	1.1	1.2	75	91	15	83	≤30	78 - 120
Benzene	0	0.10	0.10	0.099	100	99	1.3	99	≤18	82 - 115
Toluene	0	0.10	0.089	0.088	89	88	1.9	89	≤18	78 - 115
Ethylbenzene	0	0.10	0.090	0.087	90	87	3.4	88	≤18	84 - 118
Xylenes	0	0.30	0.26	0.25	85	83	2.2	84	≤17	81 - 115

### Definition of Terms

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration added to sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS;  $((MS-R1)/SP) \times 100$
- PR2..... Percent Recovery of MSD;  $((MSD-R1)/SP) \times 100$
- RPD..... Relative Percent Difference;  $((MS-MSD)/(MS+MSD)/2) \times 100$
- Mean PR..... Mean Percent Recovery
- Acceptance Limits..... Determined by in-house Control Charts



## MS/MSD DATA REPORT

**EPA METHOD:** 8015 by extraction  
**Matrix:** Soil

**DATE:** 2/19/98

**SAMPLE #:** Blank

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Hydrocarbons	216	200	392	409	88%	97%	4.2%	92%

### Definition of Terms:

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS;  $((MS-R1) / SP) \times 100$
- PR2..... Percent Recovery of MSD;  $((MSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference;  $((MS-MSD)/(MS+MSD)/2) \times 100$



## MS/MSD DATA REPORT

**EPA METHOD:** 418.1  
**Matrix:** Soil

**DATE:** 2/16/98  
**SAMPLE #:** BLANK

Analyte	R1	Sp	MS	MSD	PR1	PR2	RPD	MEAN PR
	ppm	ppm	ppm	ppm	%	%	%	%
Hydrocarbons	2,000	60	2,100	2,100	167%	167%	0.0%	167%

\*Refer to LCS for confirmation.

### Definition of Terms:

- R1..... Result of Sample Analysis
- Sp..... Spike Concentration Added to Sample
- MS..... Matrix Spike Result
- MSD..... Matrix Spike Duplicate Result
- PR1..... Percent Recovery of MS;  $((MS-R1) / SP) \times 100$
- PR2..... Percent Recovery of MSD;  $((MSD-R1) / SP) \times 100$
- RPD..... Relative Percent Difference;  $((MS-MSD)/(MS+MSD)/2) \times 100$



## LCS DATA REPORT

**METHOD** 418.1  
**Matrix:** Soil

**DATE:** 2/16/98

Analyte	St	R1	PR
	ppm	ppm	%
Hydrocarbons	60	61	102%

### Definitions of Terms:

- St. .... Standard Concentration
- R1. .... Standard Result
- PR. .... Percent Recovery of R1;  $(R1 / St) \times 100$



**FOSTER WHEELER ENVIRONMENTAL CORPORATION**

**CHAIN OF CUSTODY FORM REQUEST FOR ANALYSIS**

PROJECT <b>Stockpile Characterization</b>	OFS NO. <b>1508-0032</b>	HAZARD IDENTIFICATION Non Hazard <input checked="" type="checkbox"/> Reactive <input type="checkbox"/> Flammable <input type="checkbox"/> Toxic <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Infectious <input type="checkbox"/>	TIME REQUIRED NORMAL <input checked="" type="checkbox"/> _____ DAYS RUSH <input type="checkbox"/> _____ DAYS												
PROJECT ADDRESS <b>SITE 4- NAVAL STATION - LONG BEACH</b>		ANALYSES REQUIRED													
SAMPLER (Name) <b>David Dirkin</b>	SAMPLER (Signature) <i>[Signature]</i>	<table border="1"> <tr> <td>TPH - GASOLINE</td> <td>TPH - DIESEL TO C40</td> <td>TPH - (40-1)</td> <td>TPH - (80-20)</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>		TPH - GASOLINE	TPH - DIESEL TO C40	TPH - (40-1)	TPH - (80-20)								
TPH - GASOLINE	TPH - DIESEL TO C40			TPH - (40-1)	TPH - (80-20)										
LABORATORY <b>DEL MAR ANALYTICAL</b>		REPORTS TO BE SENT TO													

THE INFORMATION IN THIS SECTION WILL NOT BE AVAILABLE TO THE LABORATORY

SAMPLE NUMBER	TIME COLLECTED	DATE COLLECTED	NUMBER OF CONTAINERS	CONTAINER SIZE(S)	SAMPLE MATERIAL			TPH - GASOLINE	TPH - DIESEL TO C40	TPH - (40-1)	TPH - (80-20)						
					WATER	SOIL	OTHER (Describe)										
SP12-9	0750	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X						
SP12-8	0753	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X						
SP12-5	0754	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X						
SP12-3 DUP	0800	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X						duplicate
SP12-4	0810	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X						
SP12-7	0812	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X						
SP12-2	0815	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X						
SP12-3	0820	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X						
SP16-1	0845	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X						
SP16-2	0850	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X						
SP16-4	0855	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X						
SP16-18	0900	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X						

LOCATION	DEPTH	QC CODE
Stockpile # 12	5'	
Stockpile # 12	3'	
Stockpile # 12	1'	
Stockpile # 12	3'	duplicate
Stockpile # 12	2'	
Stockpile # 12	5'	
Stockpile # 12	5'	
Stockpile # 12	2'	
Stockpile # 16	2'	
Stockpile # 16	5'	
Stockpile # 16	4'	
Stockpile # 16	3'	

LABORATORY INSTRUCTIONS/COMMENTS  
**SAMPLE MIDDLE OF SLEEVE**

SAMPLING COMMENTS  
**SAMPLES RECEIVED @ 2°C SB 2/5/98**

RELINQUISHED BY (Signature) <i>[Signature]</i>	DATE <b>2/5/98</b>	RECEIVED BY (Signature) <i>[Signature]</i>	DATE <b>2/5/98</b>	RELINQUISHED BY (Signature) <i>[Signature]</i>	DATE <b>2/6/98</b>	RECEIVED BY (Signature) <i>[Signature]</i>	DATE <b>2/6/98</b>
COMPANY <b>Foster</b>	TIME <b>1350</b>	COMPANY <b>Delmar</b>	TIME <b>1350</b>	COMPANY <b>Delmar</b>	TIME <b>8:00</b>	COMPANY <b>Delmar</b>	TIME <b>8:00</b>



FOSTER WHEELER ENVIRONMENTAL CORPORATION

No 0776-

CHAIN OF CUSTODY FORM REQUEST FOR ANALYSIS

Page 2 of 4

Project: <u>Stockpile Characterization</u>		OFS No. <u>1508-0032</u>		HAZARD IDENTIFICATION:				Time Required																
Project Address: <u>Site 4 - Naval Station - Long Beach</u>				Nonhazard <input checked="" type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/>		Reactive <input type="checkbox"/> Toxic <input type="checkbox"/> Infectious <input type="checkbox"/>		NORMAL <input checked="" type="checkbox"/> _____ DAYS RUSH <input type="checkbox"/> _____ DAYS																
Sampler (Name): <u>DAVID DIRKIN</u>		Sampler (Signature):		ANALYSES REQUIRED <u>TAH - Gasoline (3015)</u> <u>TAH - Diesel (418.1)</u> <u>TAH - (418.1)</u> <u>BIEX - (8020)</u>						THE INFORMATION IN THIS SECTION WILL NOT BE AVAILABLE TO THE LABORATORY														
Laboratory: <u>DEL MAR ANALYTICAL</u>																								
Reports to Be Sent to: <u>A. EIOSKOF</u>				LOCATION			DEPTH						QC CODE											
SAMPLE NUMBER	TIME COLLECTED	DATE COLLECTED	NUMBER OF CONTAINERS	CONTAINER SIZE(S)	SAMPLE MATERIAL			TAH - Gasoline (3015)	TAH - Diesel (418.1)				TAH - (418.1)	BIEX - (8020)										
					WATER	SOIL	OTHER (Describe)																	
SP16-17	0910	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X										Stockpile # 16	6'		
SP16-19	0915	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X											Stockpile # 16	9'	
SP16-3	0920	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X											Stockpile # 16	9'	
SP16-20	0925	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X											Stockpile # 16	4'	
SP16-21	0930	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X											Stockpile # 16	6'	
SP16-22	0935	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X											Stockpile # 16	3'	
SP16-5	0940	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X											Stockpile # 16	6'	
SP16-6	0945	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X											Stockpile # 16	2'	
SP16-7	0950	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X											Stockpile # 16	7'	
SP16-8	0955	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X											Stockpile # 16	5'	
SP16-9	1020	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X											Stockpile # 16	10'	
SP16-9DIE	1030	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X											Stockpile # 16	10'	
LABORATORY INSTRUCTIONS/COMMENTS: <u>SAMPLE MIDDLE OF SLEEVE</u>												SAMPLING COMMENTS: <u>SAMPLES RECEIVED @ 2:40 C</u> <u>JK</u>												
Relinquished by: (Signature)		Date: <u>2/5/98</u>		Received by: (Signature)		Date: <u>2/6/98</u>		Received by: (Signature)		Company: <u>FWENC</u>		Time: <u>1350</u>		Company: <u>DEL MAR</u>		Time: <u>8:00</u>		Company: <u>DEL MAR</u>						



FOSTER WHEELER ENVIRONMENTAL CORPORATION

No 0778-

CHAIN OF CUSTODY FORM REQUEST FOR ANALYSIS

Page 3 of 4

Project: <b>Stockpile Characterization</b>		OFS No. <b>1508-0032</b>		HAZARD IDENTIFICATION:				Time Required													
Project Address: <b>SITE 4- NAVAL STATION - LONG BEACH</b>				Nonhazard <input checked="" type="checkbox"/> Reactive <input type="checkbox"/>		Flammable <input type="checkbox"/> Toxic <input type="checkbox"/>		NORMAL <input checked="" type="checkbox"/> _____ DAYS													
Sampler (Name): <b>DAVID DIKIN</b>		Sampler (Signature):		Skin Irritant <input type="checkbox"/> Infectious <input type="checkbox"/>		RUSH <input type="checkbox"/> _____ DAYS		<p>THE INFORMATION IN THIS SECTION WILL NOT BE AVAILABLE TO THE LABORATORY</p>													
Laboratory: <b>DEL MAR ANALYTICAL</b>				ANALYSES REQUIRED																	
Reports to Be Sent to: <b>A. ELOSKOF</b>				<table border="1"> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">TPH-GASOLINE</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">TPH-DIESEL TO C-10</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">TPH-(4184)</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">BTX-(8020)</td> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>						TPH-GASOLINE	TPH-DIESEL TO C-10	TPH-(4184)	BTX-(8020)								
TPH-GASOLINE	TPH-DIESEL TO C-10	TPH-(4184)	BTX-(8020)																		
SAMPLE NUMBER	TIME COLLECTED	DATE COLLECTED	NUMBER OF CONTAINERS	CONTAINER SIZE(S)	SAMPLE MATERIAL			LOCATION	DEPTH	QC CODE											
					WATER	SOIL	OTHER (Describe)														
SP16-10	1035	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	Stockpile #16	4'									
SP16-11	1037	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	Stockpile #16	5'									
SP16-25	1045	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	Stockpile #16	5'									
SP16-23	1050	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	Stockpile #16	8'									
SP16-24	1052	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	Stockpile #16	2'									
SP16-26	1055	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	Stockpile #16	4'									
SP16-12	1100	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	Stockpile #16	5'									
SP16-12 DUP	1105	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	Stockpile #16	5'	Duplicate								
SP16-27	1107	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	Stockpile #16	5'									
SP16-13	1110	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	Stockpile #16	2'									
SP16-28	1115	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	Stockpile #16	1'									
SP16-14	1117	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	Stockpile #16	6'									
LABORATORY INSTRUCTIONS/COMMENTS:										SAMPLING COMMENTS:											
<p style="text-align: center;">SAMPLE MIDDLE OF SLEEVE</p>										<p style="text-align: center;">SAMPLES RECEIVED</p> <p style="text-align: center;">e24c DWS</p>											
Relinquished by: (Signature)		Date: <b>2/5/98</b>		Received by: (Signature)		Date: <b>2/5/98</b>		Relinquished by: (Signature)		Date: <b>2/6/98</b>		Received by: (Signature)									
Company: <b>FWENC</b>		Time: <b>1350</b>		Company: <b>DEL MAR</b>		Time: <b>1350</b>		Company: <b>DEL MAR</b>		Time: <b>8:00</b>		Company: <b>DEL MAR</b>									



# FOSTER WHEELER ENVIRONMENTAL CORPORATION

No 0779

## CHAIN OF CUSTODY FORM REQUEST FOR ANALYSIS

Page 4 of 4

Project: <b>Stockpile Characterization</b>		OFS No. <b>1508-0032</b>		HAZARD IDENTIFICATION:		Time Required		<b>THE INFORMATION IN THIS SECTION WILL NOT BE AVAILABLE TO THE LABORATORY</b>									
Project Address: <b>SITE 4- NAVAL STATION - LONG BEACH</b>				Nonhazard <input checked="" type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/>		Reactive <input type="checkbox"/> Toxic <input type="checkbox"/> Infectious <input type="checkbox"/>					NORMAL <input checked="" type="checkbox"/> _____ DAYS		RUSH <input type="checkbox"/> _____ DAYS				
Sampler (Name): <b>DAVID DIRKIN</b>		Sampler (Signature): <i>[Signature]</i>		ANALYSES REQUIRED													
Laboratory: <b>DEL MAR ANALYTICAL</b>		Reports to Be Sent to: <b>A. ELOSKOF</b>		WATER		SOIL					OTHER (Describe)		LOCATION		DEPTH		QC CODE
SAMPLE NUMBER	TIME COLLECTED	DATE COLLECTED	NUMBER OF CONTAINERS	CONTAINER SIZE(S)	SAMPLE MATERIAL		APPH - GASOLINE		APPH - DIESEL TO C40		TRPH - (418.1)		BTEX - (8020)				
SP16-15	1120	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X				Stockpile #16	3'	
SP16-29	1125	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X				Stockpile #16	8'	
SP16-29001	1126	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X				Stockpile #16	8'	
END SP16-16	1200	2/5/98	1	6" BRASS SLEEVE		X		X	X	X	X				Stockpile #16	1'	
<b>END</b>																	
LABORATORY INSTRUCTIONS/COMMENTS:										SAMPLING COMMENTS:							
SAMPLE MIDDLE OF SLEEVE										SAMPLES RECEIVED @ ZXC SB2/5/98							
Relinquished by: (Signature) <i>[Signature]</i>		Date: 2/14/98		Received by: (Signature) <i>[Signature]</i>		Relinquished by: (Signature) <i>[Signature]</i>		Date: 2/16/98		Received by: (Signature) <i>[Signature]</i>							
Company: FWENC		Time: 1350		Company: DELMAR 2/5/98 1350		Company: DELMAR		Time: 5:50		Company: DELMAR							