

URS Greiner Woodward Clyde

A Division of URS Corporation

ENVIRONMENTAL
PROTECTION
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98 NOV 31 AM 9:35
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November 24, 1998
961163NB

Ms. Madhulla Logan
Hazardous Materials Specialist
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94503

Subject: As Built Report, Addendum to Risk Management Plan for Soil Impacted by TPH-Motor Oil, Wind River Systems Site, Alameda, California

Dear Ms. Logan:

URS Greiner Woodward Clyde (URSGWC), on behalf of Wind River Systems, Inc. (Wind River), is pleased to submit this "As-Built" report, which is an addendum to the Risk Management Plan (RMP) for on-site management of soil impacted by TPH-motor oil at the Wind River site in Alameda, California (the site). The RMP dated July 1, 1997, was prepared by URSGWC to provide a decision framework for on-site management of residual chemicals in soil in a manner that is consistent with the planned commercial/industrial land use and is protective of human health and the environment, including water quality (WC 1997c).

The development of the site includes construction of office buildings, surface parking, and landscaping activities. The buildings, asphalt parking lots, and landscaping, along with access drives and paths, will cover the whole site and will serve to cap residual chemicals on-site so that human health and the environment, including water quality, are protected. Figure 1 shows the approximate locations of the buildings and parking areas. Two buildings, Buildings 1 and 2, are under construction at the north end of the site. The northern half of the site is to be developed with paving and landscaping during this phase of development. The southern half of the site will be graded and will remain for future development.

As stated in the RMP, the target level for TPH-motor oil impacted soil on the site is 1,000 mg/kg. Soil exceeding this concentration needs to be managed according to the RMP (WC 1997c). To satisfy the requirements of the RMP, URSGWC prepared this "As-Built" report to document the location and the capping of soil exceeding the TPH target level.

This addendum will be submitted to the Alameda County Department of Environmental Health (ACDEH), and to the City of Alameda (the City), and will be maintained by the City and by Wind River.

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SUMMARY OF FIELD ACTIVITIES RESULTS

Field activities performed by URSGWC for the site were reported in: (1) the "Environmental Summary Report", dated August 14, 1996 (WC 1996), (2) the "Site Characterization Report and Remediation Plan", dated April 1997 (WC 1997a), and (3) the "Addendum to July 1, 1997 RMP" (WC 1997e). The initial results for TPH-motor oil in soil, the sampling locations, and the areas of concern for TPH-motor oil were presented in Table 4 and Figure 4 of WC (1997a). Both the table and figure are attached for your convenience. The laboratory results indicated that at some of the sampling locations TPH-motor oil and lead were detected at concentrations above 1,000 mg/kg (representing the target level). Remediation of lead-impacted soil was addressed in URSGWC's June 13, 1997 workplan (WC 1997b) and the cleanup was documented in the Closure Documentation Report for Lead-Impacted Soil, dated September 10, 1997 (WC 1997d). The ACHCSA approved the lead soil cleanup in a letter dated September 15, 1997 (see references). Detections of chemicals other than lead and TPH-motor oil in soil and shallow groundwater were evaluated to be insignificant (see WC 1997c, Attachment B).

To delineate the extent and significance of TPH at the locations where detection was above the target 1,000 mg/kg, a supplemental soil sampling and analysis activity was performed in August-September 1997. The results were reported in WC (1997e), and supported a modification of the distribution of TPH-motor oil in soil at the site exceeding the 1,000 mg/kg criteria for on-site soil management. As shown in the attached Figure 4A, ten exploration pits were excavated at locations where previous exploration borings and shallow soil samples reported greater than 1,000 mg/kg TPH-motor oil.

The exploration pits were excavated at the following locations (see WC 1997c): S-1, S-3, S-4, S-6, SS-5, SS-8, B1, G-10, G-14, and G-15. The pits were identified with the addition of an "A" to the locations. Areas near former exploration locations G-1 and SS-2 were not explored because a concrete slab was encountered below the asphaltic concrete pavement. The results of this supplemental activity indicated that the extent of soil with TPH-motor oil exceeding the 1,000 mg/kg and requiring on-site management was considerably less than previously estimated based on the limited initially available data (see Figure 4 in the RMP). The updated extent is shown in the attached Figure 4A. Based on the results of this activity, it was concluded that additional exploration, soil sampling and laboratory analyses for TPH-motor oil was needed to complete the delineation of the extent of soil requiring on-site management.

AS-BUILT SOIL SAMPLING

The additional delineation soil sampling and analysis activity was performed in July-August 1998 to complete the characterization of the areas shown on Figure 4A with TPH-motor oil was detected at concentration exceeding 1,000 mg/kg. The activity included: (1) collect confirmation samples at

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locations G-1 and SS-2 that could not be explored in 1997 additional sampling because a concrete slab was encountered below the asphaltic concrete pavement, and (2) collect samples in the area surrounding location G15A.

The purpose of the confirmation sampling at locations G-1 and SS-2 was to evaluate whether the detected TPH concentration was an artifact due to the suspected presence of asphaltic concrete particles in the soil samples. The purpose of sampling around G15A was to delineate the extent of TPH-motor oil impacted soil.

The results of the additional delineation soil sampling and analysis activity are documented in Table 1, and on Figure 1, and 2 attached to this letter report, and can be summarized as follows:

1. TPH-motor oil was not detectable above laboratory reporting limits at locations G-1 and SS-2, confirming our suspicions concerning the presence of asphalt particles in the 1997 initial investigation soil samples.
2. The extent of TPH-motor oil impacted soil exceeding 1,000 mg/kg in the area around G15A was delineated and it is presented in the attached Figures 1 and 2.

EXTENT OF SOIL REQUIRING MANAGEMENT

In conclusion, the only area where concentration of TPH-motor oil requires ~~management due to~~ ~~exceedance of the 1,000 mg/kg criteria~~ is near location G15A, as shown on Figures 1 and 2. A layer of soil about 18 inches in thickness remains ~~beneath~~ existing asphaltic concrete pavement at the west edge of the site, where a paved parking lot is planned. Based on the results of the above-described field sampling and analysis activities, no other soil at the site needs management as required by the RMP.

POST-CONSTRUCTION REQUIREMENTS OF THE RMP

The requirements of the RMP involve both the construction and the post-construction scenarios at the site. Risk management during construction addresses precautions to be taken to mitigate risks to human health and the environment from exposure to residual chemicals, where they are found on the site, during earthwork construction for the planned development of the site.

The post-construction portion of the RMP addresses precautions to be undertaken to mitigate unacceptable long-term risks to human health and the environment after construction is complete. Components of the post-construction risk management plan are:

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- Preventing exposure of site occupants or visitors to soil chemicals by capping those portions of the site where TPH concentrations in excess of 1,000 mg/kg will remain with buildings, concrete, asphalt, or, in landscaped areas, with 18 inches of clean top soil;
- Establishing protocols for on-site workers engaged in subsurface excavation activities in such areas (e.g., utility repairs, work on building foundations, changes to paved areas); and
- Instituting a notification mechanism to provide for long-term compliance with the RMP.

CAPPING OF THE TPH-IMPACTED SOIL

The area near G15A where TPH-impacted soil was detected at concentration that exceeded the 1,000 mg/kg target level (Figure 2) is already capped with asphalt, and it will be covered by an additional layer of asphaltic concrete pavement as part of the planned development of the site. At least 18 inches of clean landscaping soil will be placed in landscaping areas over the TPH-impacted soil.

PROTOCOLS FOR FUTURE SUBSURFACE ACTIVITIES

Any persons performing maintenance or construction **in the area near G15A (Figure 2)** will follow the procedures described in the RMP for risk management during construction, as appropriate, if they are engaged in subsurface excavation activities in which TPH-impacted soil may be uncapped (e.g., utility repairs, work on building foundations, changes to paved areas). At a minimum, contractors performing this work will prepare site-specific health and safety plans that are consistent with State and Federal Occupational Safety and Health Administration standards for hazardous waste operations (CCR, Title 8, Section 5192 and 29 Code of Federal Regulations 1910.120, respectively), any other applicable health and safety standards (e.g., the lead in construction standard (CCR Title 8, Section 1532.1), Proposition 65 (CCR Title 22, Sections 12000 to 14000)), and any other applicable regulations at the time the work is being performed. Among other things, contractor health and safety plans will include a description of health and safety training requirements for on-site construction personnel, a description of the level of personal protective equipment to be used, and any other applicable precautions to be undertaken to minimize direct contact with soil.

Because natural attenuation may eventually reduce the TPH-motor oil concentration, future subsurface activities **in the area near G15A (Figure 2)** may be managed alternatively in the following manner. Soil samples will be collected at the frequency of one per 20 linear feet of excavation in the capped area. The soil samples will be analyzed for TPH-motor oil. Construction activities will proceed without the consideration of this RMP if the soil samples in the construction

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area show TPH-motor oil concentration below 1,000 mg/kg. However, this RMP would be implemented in areas where soil TPH-motor oil concentrations exceed 1,000 mg/kg.

LONG TERM COMPLIANCE

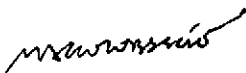
The Risk Management Plan and this Addendum will be submitted to the City of Alameda as part of the permitting process for development of the site. The documents will be maintained in the City Files and will be considered as conditions of approval in connection with the permitting process for development of the site.

LIMITATIONS

This document has been prepared by URSGWC solely for the use of Wind River. The scope was limited to the requested scope of work as defined by Wind River. The findings, recommendations, specifications, or professional opinions are presented have been prepared in accordance with generally accepted engineering practice in Northern California at the time this workplan was prepared. No other warranty is either expressed or implied. Any reliance on this report by third parties shall be at such party's sole risk.

We appreciate the opportunity to prepare this "As-Built" Addendum to the Risk Management Plan. If you have any questions, or if we can offer any further assistance, please call Albert Ridley at (510) 874-3125 or Marco Lobascio at (510) 874-3254.

Sincerely,



Marco C. Lobascio, P.E., R.E.A.
Project Engineer



Albert P. Ridley, C.E.G.
Senior Consultant

cc: Dick Kraber, John Sanger, Esq.

ATTACHMENTS:

- Table 1: As-Built Detections of TPH in soil
- Figure 1: 1998 As-Built TPH Motor Oil Soil Sampling Results
- Figure 2: Extent of Soil Exceeding TPH-Motor Oil Target Level
- Attachment A: Relevant Tables And Figures From Previous Site Investigation Reports
- Attachment B: 1998 Laboratory Reports

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REFERENCES

- Alameda County Health Care Services Agency. 1997. Approval letter for site remedial activities for lead impacted soil. Prepared by Ms. Madhulla Logan, dated September 15, 1997.
- Woodward-Clyde (WC). 1996. Environmental Summary Report. Encinal Real Estate Site. August 14.
- WC. 1997a. Site Characterization Report and Remediation Plan. Encinal Real Estate Site. April.
- WC. 1997b. Removal Action Workplan for Lead-Impacted Soil Encinal Real Estate Site, Alameda California, June 13, 1997.
- WC. 1997c. Risk Management Plan for Soil Impacted by TPH-motor oil. Encinal Real Estate Site, Alameda, California. July 1.
- WC. 1997d. Closure Documentation Report for Lead-Impacted Soil, Alameda Belt Line Site, Alameda, California
- WC. 1997e. Addendum to Risk Management Plan for Soil Impacted by TPH-motor oil. Encinal Real Estate Site, Alameda, California. September 11.

ATTACHMENT A

**RELEVANT TABLES AND FIGURES
FROM PREVIOUS SITE INVESTIGATION REPORTS**

Table 1
 As-Built Detections of TPH and BTEX in Soil
 Wind River Systems Site, Alameda, CA
 (mg/kg)

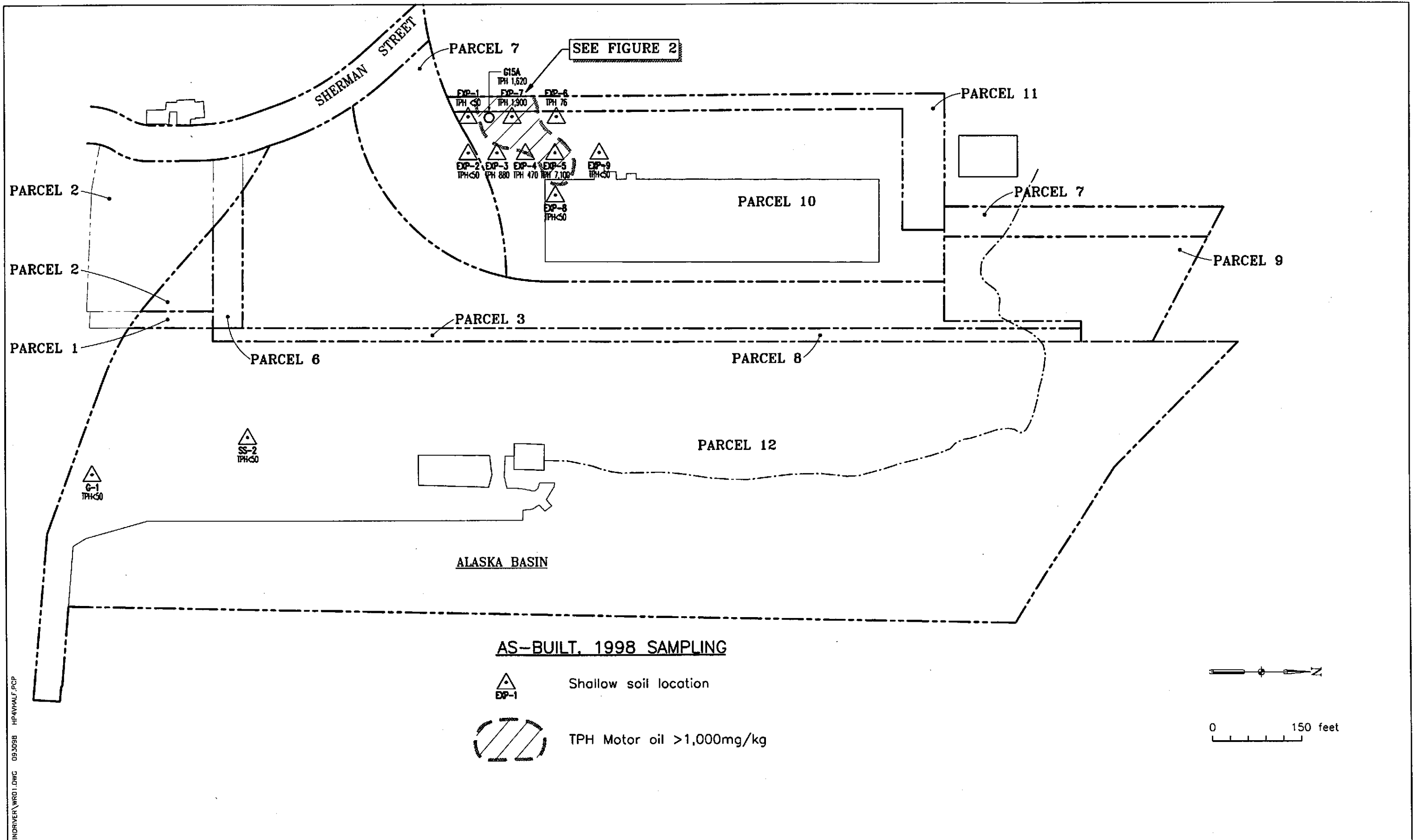
Sample No.	Depth in ft.	TPH Diesel	TPH M. Oil	TPH Gasoline	Benzene	Toluene	Ethylbenzene	Xylenes
G-15A-1	1-1/2	<50	1,620	nt	nt	nt	nt	nt
G-15A-2	2-1/2	<10	<10	nt	nt	nt	nt	nt
EXP-1	1'-1"	1.2	<50	<1.0	<0.005	<0.005	<0.005	<0.005
EXP-2	0'-11"	<1.0	<50	<1.0	<0.005	<0.005	<0.005	<0.005
EXP-3	0'-11"	62	880	<1.0	<0.005	<0.005	<0.005	<0.005
EXP-4	1'-0"	58	470	<1.0	<0.005	<0.005	<0.005	<0.005
EXP-5	1'-0"	1,400	7,100	<1.0	<0.005	<0.005	<0.005	<0.005
EXP-5-C	2'-3"	<1.0	<50	<1.0	<0.005	<0.005	<0.005	<0.005
EXP-6	1'-0"	11	76	<1.0	<0.005	<0.005	<0.005	<0.005
EXP-7	1'-0"	140	1,900	<1.0	<0.005	<0.005	<0.005	<0.005
EXP-8-A	1'-6"	<1.0	<50	<1.0	<0.005	<0.005	<0.005	<0.005
EXP-9-B	2'-3"	<1.0	<50	<1.0	<0.005	<0.005	<0.005	<0.005
G-1	2'-0"	3.3	<50	<1.0	<1.0	<0.005	<0.005	<0.005
SS-2	2'-0"	2	<50	<1.0	<1.0	<0.005	<0.005	<0.005

ATTACHMENT B

1998 SITE INVESTIGATION REPORTS

ATTACHMENT A

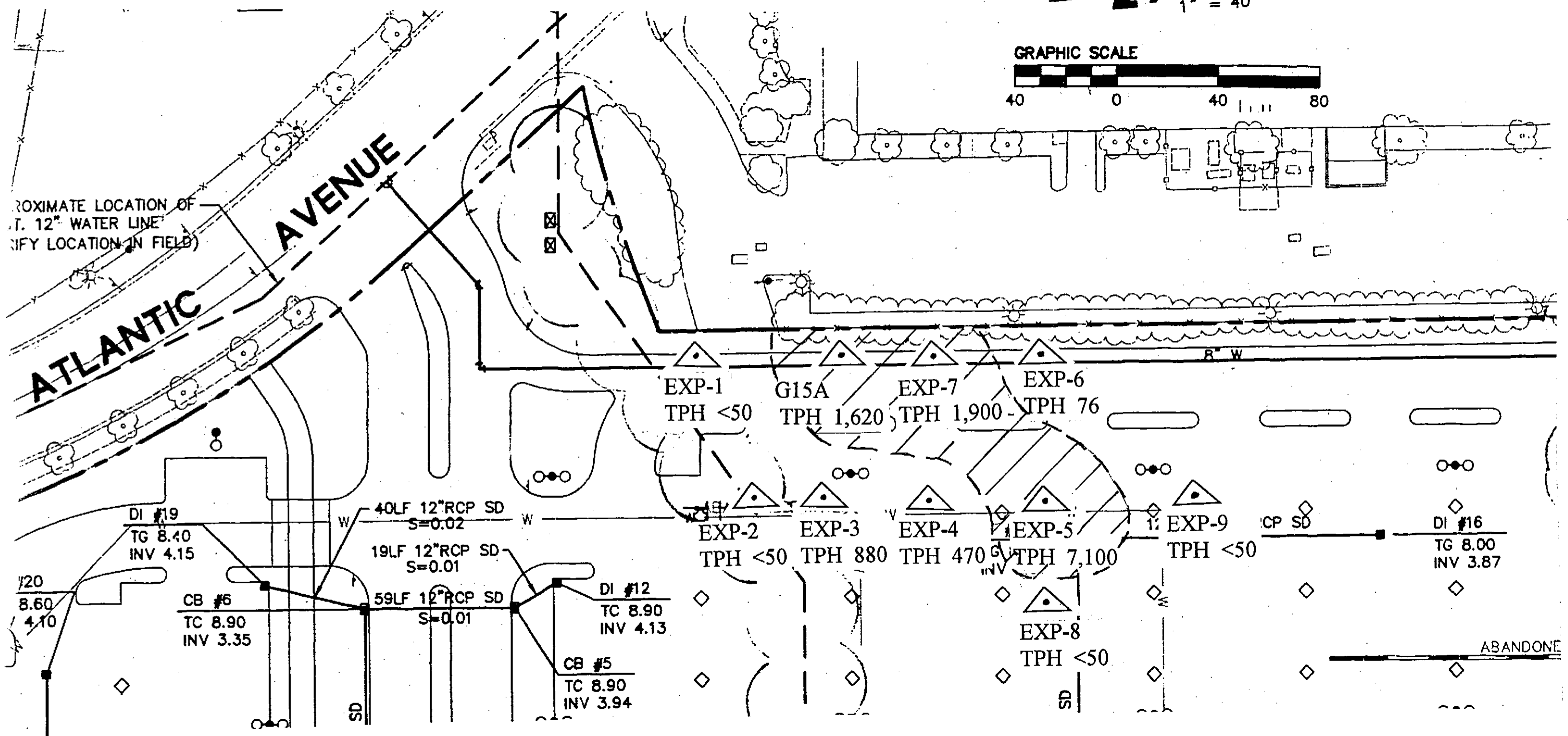
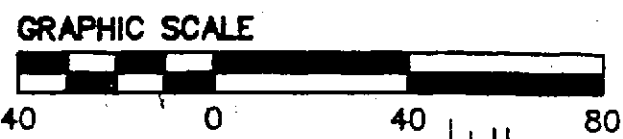
**RELEVANT TABLES AND FIGURES
FROM PREVIOUS SITE INVESTIGATION REPORTS**



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Project No. 961163NB	Wind River Systems	1998 AS-BUILT TPH MOTOR OIL SOIL SAMPLING RESULTS	Figure 1
Woodward-Clyde			

1" = 40'



TPH Motor oil >1,000mg/kg



Shallow soil location

Project No. 961163NB	Wind River Systems	EXTENT OF SOIL EXCEEDING TPH MOTOR OIL TARGET LEVEL	Figure 2
Woodward-Clyde			

TABLE 4

SOIL ANALYTICAL RESULTS FOR DETECTED ORGANICS IN mg/kg

Location	Depth [feet]	Volatile Organic Compounds (EPA method 8260)			Semi Volatile Organic Compounds (EPA Method 8270)	Pesticides & PCBs (EPA Method 8081)	Herbicides (EPA Method 8151)	Total Petroleum Hydrocarbons (EPA Method)		
		Acetone	Toluene	Methylene chloride		Endosulfan I		Gasoline	Diesel	Motor oil
Geoprobe Grab Sample										
SG-1	0.5 - 1	<0.02	<0.005	<0.005	ND [17 - 3.3]	<0.017	ND [20 - .005]	<0.5	<1000	6,300
SG-2	0.5 - 1	<0.02	<0.005	0.012	ND [8.5 - 1.6]	<0.170	ND [20 - .005]	<0.5	<10	26
SG-3*	na	na	na	na	na	na	na	na	na	na
SG-4	0.5 - 1	<0.02	<0.005	<0.005	ND [17 - 3.3]	<0.085	ND [40 - .010]	<0.5	<10	31
SG-5	0.5 - 1	<0.02	<0.005	<0.005	ND [8.5 - 1.6]	<0.034	ND [20 - .005]	<0.5	<10	10
SG-6	0.5 - 1	<0.02	<0.005	<0.005	ND [17 - 3.3]	<0.085	ND [20 - .005]	<0.5	<10	14
SG-7	0.5 - 1	<0.02	<0.005	<0.005	ND [17 - 3.3]	<0.034	ND [20 - .005]	<0.5	<10	<10
SG-8	0.5 - 1	<0.02	<0.005	<0.005	ND [17 - 3.3]	<0.034	ND [20 - .005]	<0.5	<10	<10
SG-9	0 - 0.5	<0.02	<0.005	<0.005	ND [17 - 3.3]	<0.034	ND [20 - .005]	<0.5	<10	<10
SG-10	0.5 - 1	<0.02	0.006	0.006	ND [17 - 3.3]	<0.1	ND [40 - .010]	<0.5	<100	660
SG-11	0.5 - 1	<0.02	<0.005	<0.005	ND [8.5 - 1.6]	<0.017	ND [40 - .010]	<0.5	<1000	5,400
SG-12	0.5 - 1	<0.02	<0.005	<0.005	ND [17 - 3.3]	<0.034	ND [20 - .005]	<0.5	<10	27
SG-13	0.5 - 1	<0.02	<0.005	<0.005	ND [8.5 - 1.6]	<0.085	ND [20 - .005]	<0.5	<10	<10
SG-14	0.5 - 1	<0.02	<0.005	<0.005	ND [17 - 3.3]	<0.047	ND [20 - .005]	<0.5	<1000	6,000
SG-15	0.5 - 1	<0.02	<0.005	<0.005	ND [170 - 33]	<0.072	ND [40 - .010]	<0.5	<1000	8,800
SG-16	0.5 - 1	<0.02	<0.005	<0.005	ND [8.5 - 1.6]	<0.034	ND [20 - .005]	<0.5	<100	580
Hand-Auger Sample										
SS-1*	na	na	na	na	na	na	na	na	na	na
SS-2	0.5 - 1	0.022	<0.005	<0.005	ND [170 - 33]	<0.42	ND [20 - .005]	<0.5	<500	2,900
SS-3	0.5 - 1	0.02	0.008	<0.005	ND [17 - 3.3]	<0.034	ND [20 - .005]	<0.5	<10	67
SS-4	0 - 0.5	<0.02	<0.005	<0.005	ND [8.5 - 1.6]	<0.034	ND [20 - .005]	<0.5	<10	33
SS-5	0 - 0.5	<0.02	<0.005	<0.005	ND [17 - 3.3]	0.54	ND [20 - .005]	2	3,100	5,700
SS-6	0 - 0.5	<0.02	<0.005	0.016	ND [17 - 3.3]	<0.017	ND [20 - .005]	<0.5	<100	350
SS-7	0 - 0.5	<0.02	<0.005	<0.005	ND [17 - 3.3]	<0.052	ND [40 - .010]	<0.5	<100	470
SS-8	0 - 0.5	na	na	na	ND [20 - 3.9]	na	ND [20 - .005]	<0.5	<200	1,150
SS-9	0.5 - 1	<0.02	0.016	<0.005	ND [17 - 3.3]	21	ND [20 - .005]	<0.5	<500	1,900
SS-10	0.5 - 1	<0.02	<0.005	<0.005	ND [8.5 - 1.6]	<3.4	ND [20 - .005]	<0.5	<10	71
SS-11	0.5 - 1	na	na	na	na	na	2,4,5-TP(silvex):009	na	na	na
Maximum Concentrations		0.022	0.016	0.016	na	21	0.009	2	3100	8800
PRGs - Commercial⁽¹⁾		8,750	880	18	na	4,090	na	na	na	na

Legend:

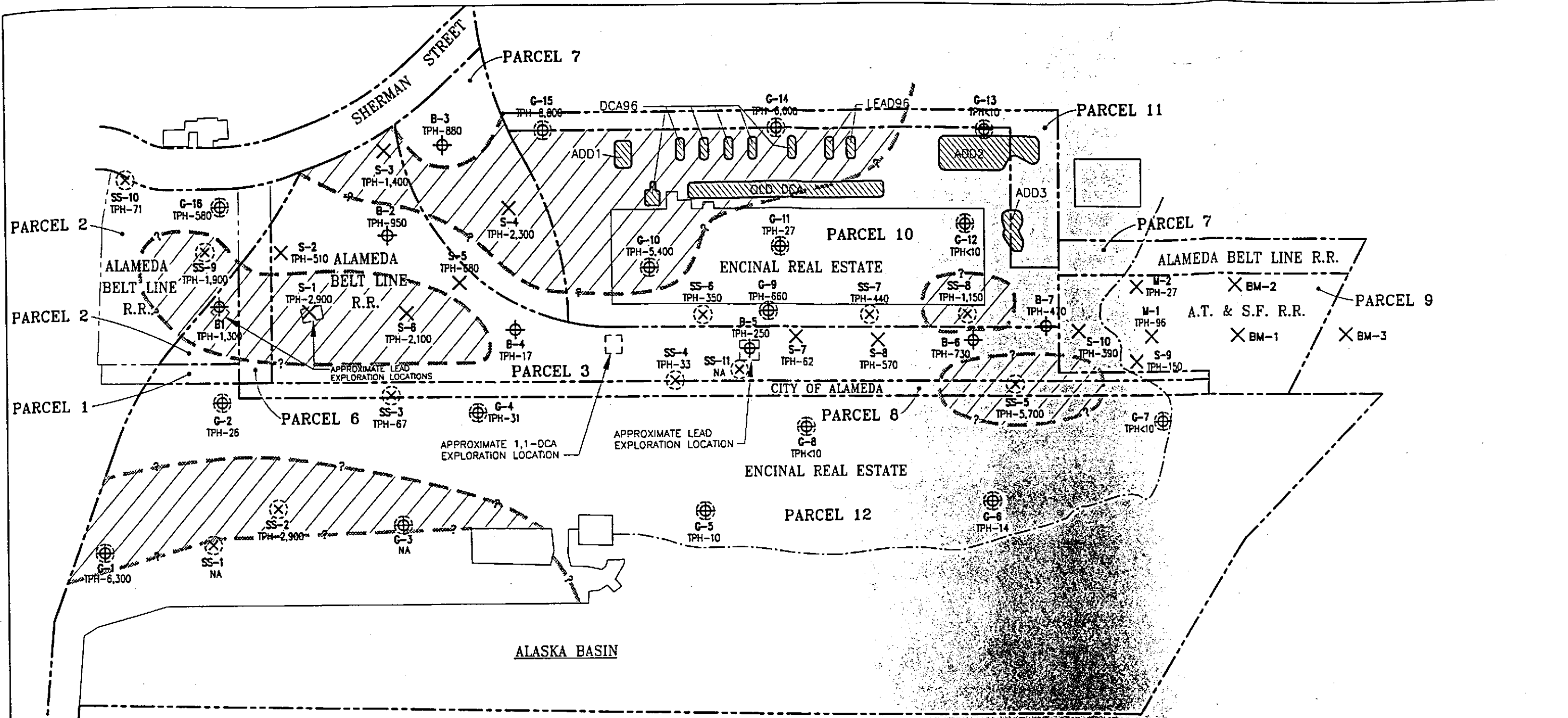
na = Not analyzed/not available/not applicable.

ND = Not detected.

* Due to refusal during drilling, no shallow soil samples were collected.

(1) EPA Region IX Preliminary Remediation Goals (PRGs), August 1, 1996.

Bold values exceed PRGs.



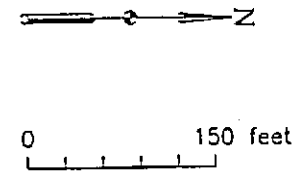
LEGEND

Current Investigation, January 1997

- ⊕ G-5 Geoprobe location
- ⊗ SS-2 Shallow soil location
- ▨ Stockpiles
- ▨(?) TPH Motor oil >1,000mg/kg

Previous Investigation, 1996

- ⊕ B-1 Soil boring with water elevation
- ⊗ S-1 Shallow soil sample
- ⊗ M-1 Shoreline sediment
- ⊗ BM-1 Bottom sediment

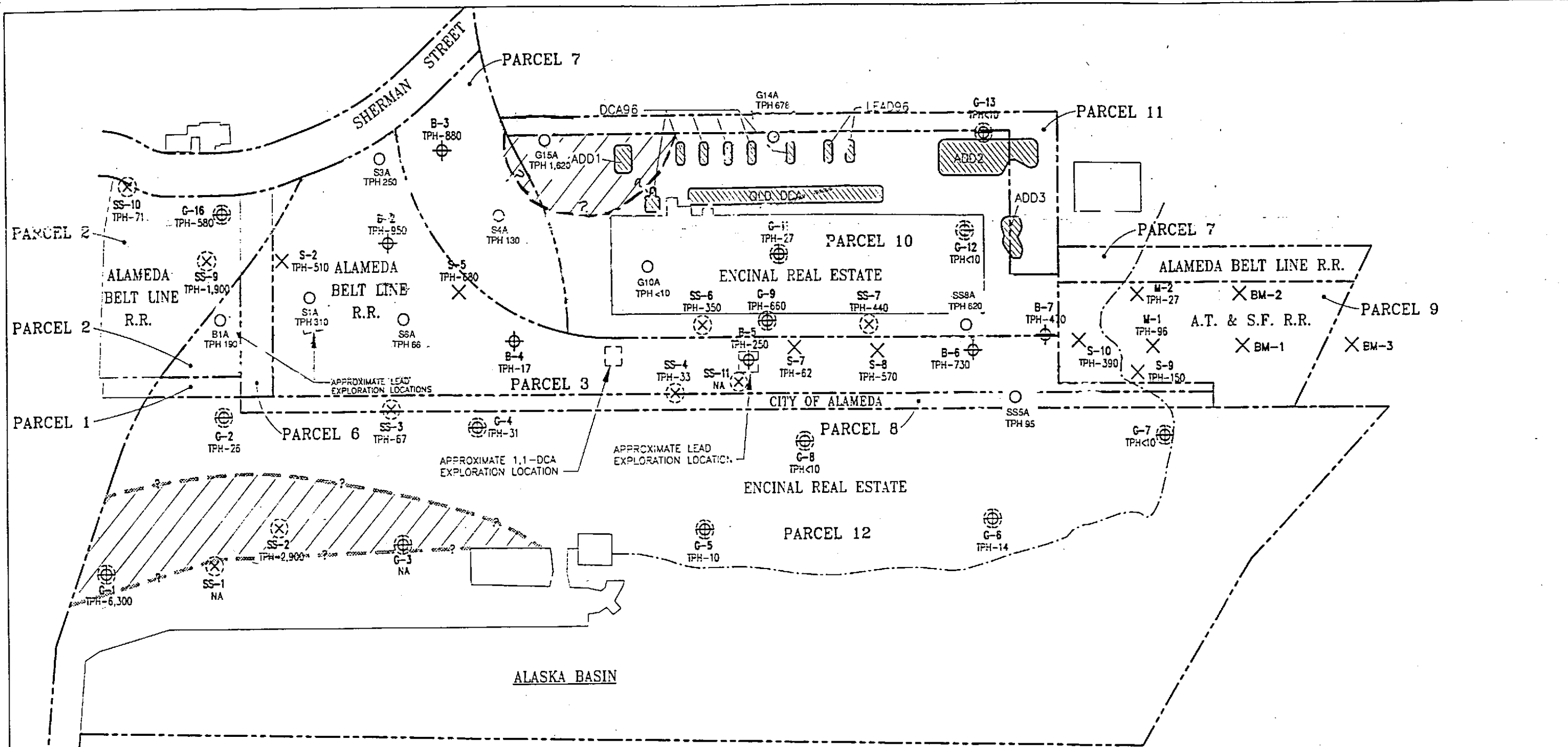


Project No. 961163NB	Wind River Systems	TPH MOTOR OIL SOIL SAMPLING RESULTS	Figure 4
Woodward-Clyde Consultants			

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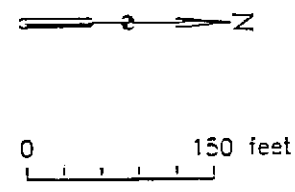
**TABLE 1 - SUMMARY OF TPH DIESEL AND MOTOR OIL IN SOIL
Alameda Beltline and Encinal Real Estate Sites**

Figure 4			Aug. '97 Results in MG/KG	
Location	Sampled	Depth in feet	THP Diesel	TPH Motor Oil
B1	B1A-1	1/4 to 1/2	<100	190
B1	B1A-2	1 1/2 to 2	<10	<10
S-1	S1A-1	1/2 to 1	<100	260
S-1	S1A-2	1 1/2 to 2 3/4	<100	310
S-3	S3A-1	3/4 to 1	<100	250
S-3	S3A-2	1 1/2 to 2	<10	21
S-4	S4A-1	0 to 1/2	<10	8,600
S-4	S4A-2	3/4 to 1	<50	130
S-4	S4A-3	2 to 2 1/4	<10	<10
SS-5	SS5A-1	1 to 1 1/2	<20	81
SS-5	SS5A-2	2 to 2 1/2	<50	95
S-6	S6A-1	1/2 to 1	<20	66
SS-8	SS8A-1	1/2 to 1	<200	620
G-10	G-10A-1	1 to 1 1/2	<10	<10
G-14	G-14A-1	1/4 to 1/2	<10	678
G-14	G-14A-2	1 to 1 1/4	<10	366
G-15	G-15A-1	1 to 1 1/2	<50	1,620
G-15	G-15A-2	2 to 2 1/2	<10	<10



LEGEND

Investigation, January 1997		Previous Investigation, 1996		Supplemental Investigation, August 1997	
	G-5 Geoprobe location		B-1 Soil boring with water elevation		Exploratory Pit
	SS-2 Shallow soil location		S-1 Shallow soil sample		S6A TPH 700 Concentration of TPH Motor oil in Mg/kg
	Stockpiles		M-1 Shoreline sediment		
	TPH Motor oil >1,000mg/kg		BM-1 Bottom sediment		



Project No. 961163NA	Encinal Real Estate	SUPPLEMENTAL TPH MOTOR OIL SOIL SAMPLING RESULTS	Figure 4A
Woodward-Clyde Consultants			

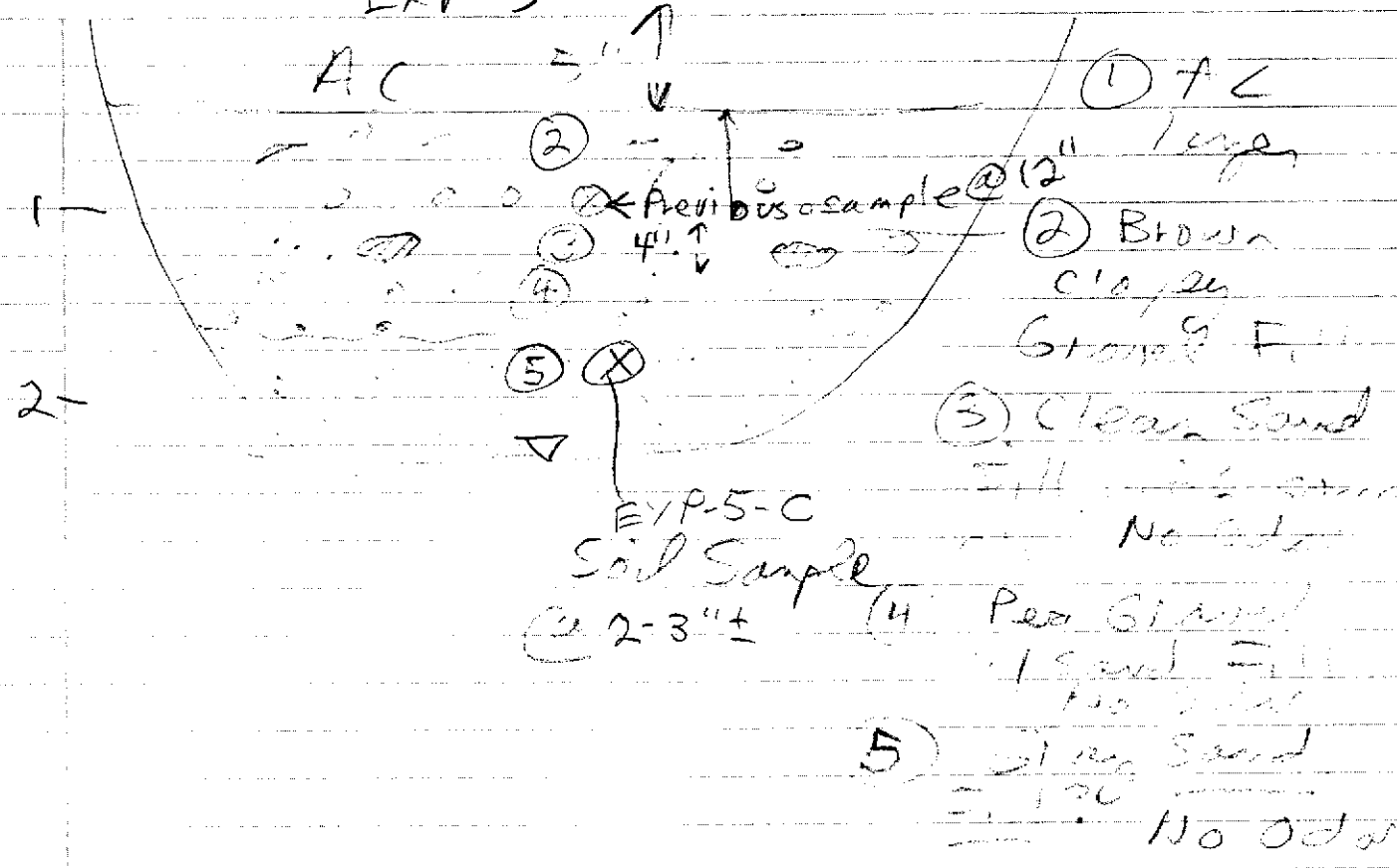
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ATTACHMENT B

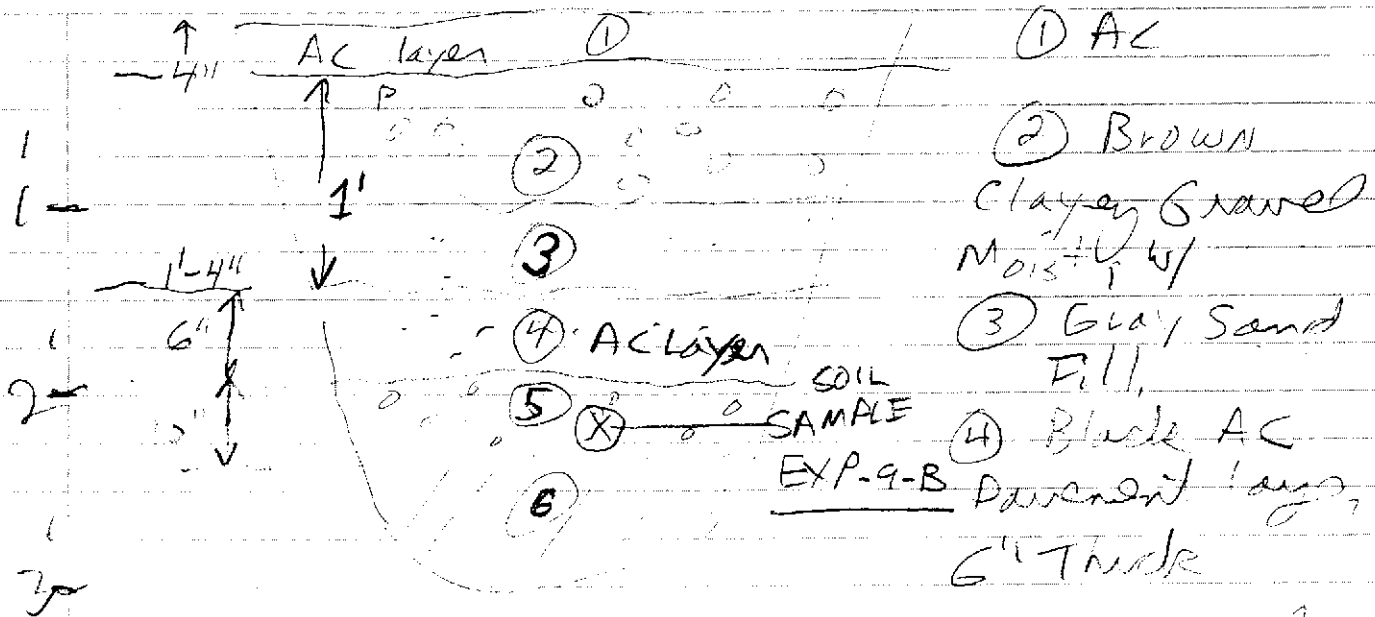
1998 SITE INVESTIGATION REPORTS



Pi
EXP-5 C



EXP-9-B



No Petroleum Odors in any soil layers.

- ① AC
- ② Brown Clayey Gravel Moist 1/4
- ③ Gray Sand Fill
- ④ Black AC EXP-9-B pavement layer, 6" Thick
- ⑤ Tan Gravelly Sand Fill
- ⑥ Gray Clay (Pres. Mod)

CHROMALAB, INC.

Environmental Services (SDB)

July 29, 1998

Submission #: 9807355

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project#: 961163NB

Project: Not provided
Received: July 24, 1998

re: 3 samples for TEPH analysis.
Method: EPA 8015M

Sampled: July 24, 1998 Matrix: SOIL Extracted: July 27, 1998
Run#: 13931 Analyzed: July 28, 1998

Spl#	CLIENT SPL ID	Diesel (mg/Kg)	Motor Oil (mg/Kg)
197016	EXP-8-A	N.D.	N.D.
197017	EXP-9-B	N.D.	N.D.

Note: Hydrocarbon reported does not match the pattern of our Diesel Standard.

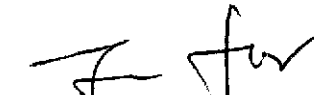
Sampled: July 24, 1998 Matrix: SOIL Extracted: July 27, 1998
Run#: 13931 Analyzed: July 28, 1998

Spl#	CLIENT SPL ID	Diesel (mg/Kg)	Motor Oil (mg/Kg)
197018	EXP-5-C	N.D.	N.D.

Reporting Limits
Blank Result
Blank Spike Result (%)

1.0 50
N.D. N.D.
96.0 --


Carolyn House
Analyst


Bruce Havlik
Analyst

CHROMALAB, INC.

Environmental Services (SDB)

July 29, 1998

Submission #: 9807355

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: 961163NB

Received: July 24, 1998

re: **Blank spike and duplicate** report for TEPH analysis.

Method: EPA 8015M

Matrix: SOIL

Lab Run#: 13931

Analyzed: July 28, 1998

Analyte	Spike Amount		Spike Amount Found		Spike Recov		Control % Limits RPD	% RPD Lim
	BSP (mg/Kg)	Dup	BSP (mg/Kg)	Dup	BSP (%)	Dup (%)		
DIESEL	83.3	83.3	80.0	83.4	96.0	100	60-130 4.08	25

BS Smpl #: 197248

BSD Smpl #: 197249

1220 Quarry Lane • Pleasanton, California 94566-4756
(925) 484-1919 • Facsimile (925) 484-1096
Federal ID #68-0140157

OC_8501226 JUNETU 14:33:01

CHROMALAB, INC.

Environmental Services (SDB)

August 3, 1998

Submission #: 9807355

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: 961163NB

Received: July 24, 1998

re: **Matrix spike** report for TEPH analysis.

Method: EPA 8015M

Matrix: SOIL

Lab Run#: 13931

Instrument:

Analyzed: July 28, 1998

Analyte	Spiked		Amt Found		Spike Recov		Control Limits	% RPD	% RPD Lim
	Amount (mg/Kg)	Spike Amt MS MSD (mg/Kg)	MS MSD (mg/Kg)	MS MSD (%) (%)					
DIESEL	N.D.	83.1 83.2	75.7 76.9	91.1 92.4	60-130	1.42	25		

Sample Spiked: 197016

Submission #: 9807355

Client Sample ID: EXP-8-A

CHROMALAB, INC.

Environmental Services (SDB)

July 28, 1998

Submission #: 9807355

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: July 24, 1998

Project#: 961163NB

re: One sample for Gasoline BTEX analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: EXP-8-A

Spl#: 197016

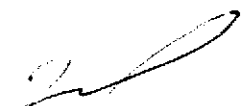
Matrix: SOIL


Sampled: July 24, 1998

Run#:13919

Analyzed: July 27, 1998

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	1.0	N.D.	93	1
BENZENE	N.D.	0.0050	N.D.	87	1
TOLUENE	N.D.	0.0050	N.D.	84	1
ETHYL BENZENE	N.D.	0.0050	N.D.	80	1
XYLENES	N.D.	0.0050	N.D.	78	1


Vincent Vancil
Analyst


Michael Verona For
Operations Manager

***AS

LEV2

CHROMALAB, INC.

Environmental Services (SDB)

July 28, 1998

Submission #: 9807355

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: July 24, 1998

Project#: 961163NB

re: One sample for Gasoline BTEX analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: EXP-9-B

Spl#: 197017

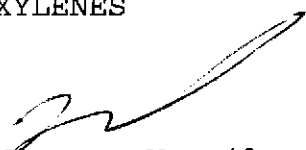
Matrix: SOIL

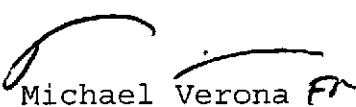
Sampled: July 24, 1998

Run#:13919

Analyzed: July 27, 1998

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	1.0	N.D.	93	1
BENZENE	N.D.	0.0050	N.D.	87	1
TOLUENE	N.D.	0.0050	N.D.	84	1
ETHYL BENZENE	N.D.	0.0050	N.D.	80	1
XYLENES	N.D.	0.0050	N.D.	78	1


Vincent Vancil
Analyst


Michael Verona
Operations Manager

**AS

LEV2

AS V132 O: BTEXQC0220

BUBBA 15:18

CHROMALAB, INC.

Environmental Services (SDB)

July 28, 1998

Submission #: 9807355

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: July 24, 1998

Project#: 961163NB

re: One sample for Gasoline BTEX analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: EXP-5-C

Spl#: 197018

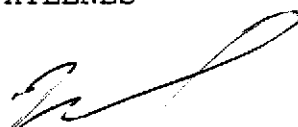
Matrix: SOIL

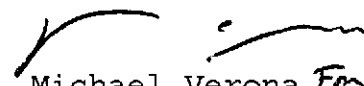
Sampled: July 24, 1998

Run#:13919

Analyzed: July 27, 1998

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	1.0	N.D.	93	1
BENZENE	N.D.	0.0050	N.D.	87	1
TOLUENE	N.D.	0.0050	N.D.	84	1
ETHYL BENZENE	N.D.	0.0050	N.D.	80	1
XYLENES	N.D.	0.0050	N.D.	78	1


Vincent Vancil
Analyst


Michael Verona *Fm*
Operations Manager

**AS

LEV2

CHROMALAB, INC.

Environmental Services (SDB)

July 28, 1998

Submission #: 9807355

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: 961163NB

Received: July 24, 1998

re: **Blank spike and duplicate** report for Gasoline BTEX analysis.

Method: SW846 8020A Nov 1990 / 8015Mod

Matrix: SOIL

Lab Run#: 13919

Analyzed: July 27, 1998

Analyte	Spike Amount		Spike Amount Found		Spike Recov		Control % Limits	% RPD	Lim
	BSP (mg/Kg)	Dup	BSP (mg/Kg)	Dup	BSP (%)	Dup (%)			
GASOLINE	0.500	0.500	0.464	0.452	92.8	90.4	75-125	2.62	35
BENZENE	0.100	0.100	0.0867	0.0879	86.7	87.9	77-123	1.37	35
TOLUENE	0.100	0.100	0.0839	0.0848	83.9	84.8	78-122	1.07	35
ETHYL BENZENE	0.100	0.100	0.0799	0.0812	79.9	81.2	70-130	1.61	35
XYLENES	0.300	0.300	0.234	0.240	78.0	80.0	75-125	2.53	35

BS Smp1 #: 197215

BSD Smp1 #: 197216

1220 Quarry Lane • Pleasanton, California 94566-4756
(925) 484-1919 • Facsimile (925) 484-1096
Federal ID #68-0140157

LEV2

OC_BSD1226 BUBBA 15:18:10

CHROMALAB, INC.

Environmental Services (SDB)

July 28, 1998

Submission #: 9807355

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: 961163NB
Received: July 24, 1998

re: **Matrix spike** report for Gasoline BTEX analysis.

Method: SW846 8020A Nov 1990 / 8015Mod

Matrix: SOIL

Lab Run#: 13919 Instrument: 3400-4

Analyzed: July 27, 1998

Analyte	Spiked		Amt Found		Spike Recov		Control Limits	% RPD	% Lim	
	Sample Amount (mg/Kg)	Spike Amt (mg/Kg)	MS	MSD	MS	MSD				
GASOLINE	N.D.	0.466	0.478	0.413	0.288	88.6	60.2	65-135	38.2	35
BENZENE	N.D.	0.0933	0.0956	0.0764	0.0749	81.9	78.3	65-135	4.49	35
TOLUENE	N.D.	0.0933	0.0956	0.0741	0.0731	79.4	76.5	65-135	3.72	35
ETHYL BENZENE	N.D.	0.0933	0.0956	0.0706	0.0691	75.7	72.3	65-135	4.59	35
XYLENES	N.D.	0.280	0.287	0.206	0.204	73.6	71.1	65-135	3.46	35

Sample Spiked: 197018

Submission #: 9807355

Client Sample ID: EXP-5-C

CHROMALAB, INC.

Environmental Services (SDB)

August 3, 1998

Submission #: 9807355

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: 961163NB
Received: July 24, 1998

re: **Surrogate** report for 3 samples for Gasoline BTEX analysis.
Method: SW846 8020A Nov 1990 / 8015Mod
Lab Run#: 13919
Matrix: SOIL

Sample#	Client Sample ID	Surrogate	% Recovered	Recovery Limits
197016-1	EXP-8-A	TRIFLUOROTOLUENE	75.7	53-125
197016-1	EXP-8-A	4-BROMOFLUOROBENZENE	71.8	58-124
197017-1	EXP-9-B	TRIFLUOROTOLUENE	75.2	53-125
197017-1	EXP-9-B	4-BROMOFLUOROBENZENE	68.7	58-124
197018-1	EXP-5-C	TRIFLUOROTOLUENE	79.7	53-125
197018-1	EXP-5-C	4-BROMOFLUOROBENZENE	79.7	58-124

Sample#	QC Sample Type	Surrogate	% Recovered	Recovery Limits
197214-1	Reagent blank (MDB)	TRIFLUOROTOLUENE	65.8	53-125
197214-1	Reagent blank (MDB)	4-BROMOFLUOROBENZENE	59.2	58-124
197215-1	Spiked blank (BSP)	TRIFLUOROTOLUENE	77.0	53-125
197215-1	Spiked blank (BSP)	4-BROMOFLUOROBENZENE	84.0	58-124
197216-1	Spiked blank duplicate (BSD)	TRIFLUOROTOLUENE	81.2	53-125
197216-1	Spiked blank duplicate (BSD)	4-BROMOFLUOROBENZENE	82.0	58-124
197433-1	Matrix spike (MS)	TRIFLUOROTOLUENE	77.7	53-125
197433-1	Matrix spike (MS)	4-BROMOFLUOROBENZENE	83.0	58-124
197434-1	Matrix spike duplicate (MSD)	TRIFLUOROTOLUENE	70.0	53-125
197434-1	Matrix spike duplicate (MSD)	4-BROMOFLUOROBENZENE	60.4	58-124

V132 LEVZ
OCSURR1229 AFSANEH 03-Aug-98 1

9355 / 199016 - 197018

41061

Woodward-Clyde Consultants

500 12th Street, Suite 100, Oakland, CA 94607-4014
(510) 893-3600

Chain of Custody Record

PROJECT NO.
961163NB

SAMPLERS: (Signature)
a. Ridley

ANALYSES

8015 Motor Oil
8015g, BTEX
8015g diesel

DATE TIME SAMPLE NUMBER

Sample Matrix
(Soil, Water, Air)

EPA Method 8015 Motor Oil

EPA Method 8015g, BTEX

EPA Method 8015g diesel

EPA Method

NL

7-24-98 11:30 EXP-8-A

X X X

1

7-24-98 12:00 EXP-9-B

X X X

1

7-24-98 12:15 EXP-5-C

X X X

1

Brass liners
of soil
Need
TPH, gas, BTEX
diesel,
and
Motor
oil
RUSH
3 day
turnaround

RUSH

TOTAL
NUMBER OF
CONTAINERS
3

RELINQUISHED BY:
(Signature)
a. Ridley

DATE/TIME
7-24 14:00

RECEIVED BY:
(Signature)
7-24-98
1958

RELINQUISHED BY:
(Signature)
7-24-98
18:02

DATE/TIME
7-24-98
18:02

RECEIVED BY:
(Signature)
C. Umada

METHOD OF SHIPMENT:

SHIPPED BY:
(Signature)

COURIER:
(Signature)

RECEIVED FOR LAB BY:
(Signature)

DATE/TIME

CHROMALAB, INC.

Environmental Service (SDB)

Sample Receipt Checklist

Client Name: WOODWARD-CLYDE OAKLAND

Date/Time Received: 07/24/98 | 1558

Reference/Submis: 41061 | 9807355

Received by: BOM

Checklist completed by:

Chris Parley 7/27/98
Signature Date

Reviewed by: *ALL 7/27/98*
Initials Date

Matrix: Soil Carrier name: Client - C/L

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Temp 2.8 °C Yes No
- Water - VOA vials have zero headspace? Yes No VOA vials submitted Yes No
- Water - pH acceptable upon receipt? Adjusted? Checked by _____
chemist for VOAs

Any No and/or NA (not applicable) response must be detailed in the comments section below.

Client contacted: _____ Date contacted: _____ Person contacted: _____

Contacted by: _____ Regarding: _____

Comments: *X Sample ID m Coc: BHL 11-11.5 labeled BHL 11.5
12, BHL 7 2.5-3 labeled BHL 7 2-2.5, BHL 4-4.5
labeled BHL 5-5.5*

Corrective Action: _____

Woodward-Clyde Consultants

500 12th Street, Suite 100, Oakland, CA 94607-4014
(510) 893-3600

Chain of Custody Record

PROJECT NO.

96463NB

SAMPLERS: (Signature)

[Signature]

ANALYSES

Number of Containers

REMARKS
(Sample preservation, handling procedures, etc.)

DATE TIME SAMPLE NUMBER

Sample Matrix (S)oil, (W)ater, (A)ir

EPA Method 8015 M

EPA Method 8015 G

EPA Method 8015 D

EPA Method

7-24-98 11:30

EX-8-A

X X X

1

7-24-98 12:00

EX-9-B

X X X

1

7-24-98 12:15

EX-5-C

X X X

1

Brass liners of soil
Need
TFA gas, BTEX diesel,
and
Motor oil
RUSH
3 day
Turnaround

TOTAL NUMBER OF CONTAINERS

3

RELINQUISHED BY: (Signature)

[Signature]

DATE/TIME

7-24-98

RECEIVED BY: (Signature)

[Signature]

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

[Signature]

METHOD OF SHIPMENT:

SHIPPED BY: (Signature)

COURIER: (Signature)

RECEIVED FOR LAB BY: (Signature)

DATE/TIME

Woodward-Clyde Consultants

500 12th Street, Suite 100, Oakland, CA 94607-4074
 (510) 893-3600

Chain of Custody Record

PROJECT NO.
 961163NB

SAMPLERS: (Signature)
a. Ridley

8015 Motor Oil
 8015g, BTEX
 8015 diesel

ANALYSES

DATE	TIME	SAMPLE NUMBER	Sample Matrix (Soil, (Water, (Air	EPA Method	EPA Method	EPA Method	EPA Method														Number of Containers	REMARKS (Sample preservation, handling procedures, etc.)	
7-24-98	11:30	EXP-8-A		X	X	X															1	Brass liners of soil Need TPH gas, BTEX diesel, and Motor Oil RUSH 3 day turnaround	
7-24-98	12:00	EXP-9-B		X	X	X															1		
7-24-98	12:15	EXP-5-C		X	X	X																	
																			TOTAL NUMBER OF CONTAINERS		3		
RELINQUISHED BY : (Signature) <i>a Ridley</i>		DATE/TIME 7-24 14:00		RECEIVED BY : (Signature)		RELINQUISHED BY : (Signature)		DATE/TIME		RECEIVED BY : (Signature)													
METHOD OF SHIPMENT :				SHIPPED BY : (Signature)				COURIER : (Signature)				RECEIVED FOR LAB BY : (Signature)				DATE/TIME							

DATE	TIME	SAMPLE NUMBER	Sample Matrix (Soil, (Water, (Air	EPA Method	EPA Method	EPA Method	EPA Method														Number of Containers	REMARKS (Sample preservation, handling procedures, etc.)	
7-24-98	11:30	EXP-8-A		X	X	X																1	Brass liners of soil Need TPH gas, BTEX diesel, and Motor Oil RUSH 3 day turnaround
7-24-98	12:00	EXP-9-B		X	X	X																1	
7-24-98	12:15	EXP-5-C		X	X	X																	
																			TOTAL NUMBER OF CONTAINERS		3		
RELINQUISHED BY : (Signature) <i>a Ridley</i>		DATE/TIME 7-24 14:00		RECEIVED BY : (Signature)		RELINQUISHED BY : (Signature)		DATE/TIME		RECEIVED BY : (Signature)													
METHOD OF SHIPMENT :				SHIPPED BY : (Signature)				COURIER : (Signature)				RECEIVED FOR LAB BY : (Signature)				DATE/TIME							

Brass liners of soil
 Need TPH gas, BTEX diesel, and Motor Oil RUSH 3 day turnaround

RELINQUISHED BY : (Signature) <i>a Ridley</i>		DATE/TIME 7-24 14:00		RECEIVED BY : (Signature)		RELINQUISHED BY : (Signature)		DATE/TIME		RECEIVED BY : (Signature)													
METHOD OF SHIPMENT :				SHIPPED BY : (Signature)				COURIER : (Signature)				RECEIVED FOR LAB BY : (Signature)				DATE/TIME							

**Field Activity Report
Wind River Systems 961163NB-8000
July 1998**

Objective: To sample soil piles and exploratory pits near G15A.

FIELD ACTIVITIES

July 8, 1998, Wednesday:

Personnel: Sevin Bilir, Woodward-Clyde Consultants (WCC)
April Giangerelli, WCC

General

Woodward-Clyde (WCC) personnel traveled to Alameda, California to sample soil piles near the east side of the Wind River Systems construction site.

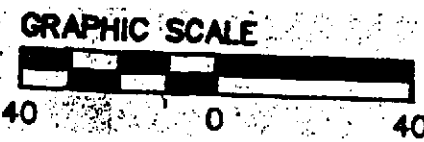
Weather

The weather at the time WCC personnel arrived at the site was foggy and cool. During sampling, the weather changed to sunny and warm.

Soil Sampling

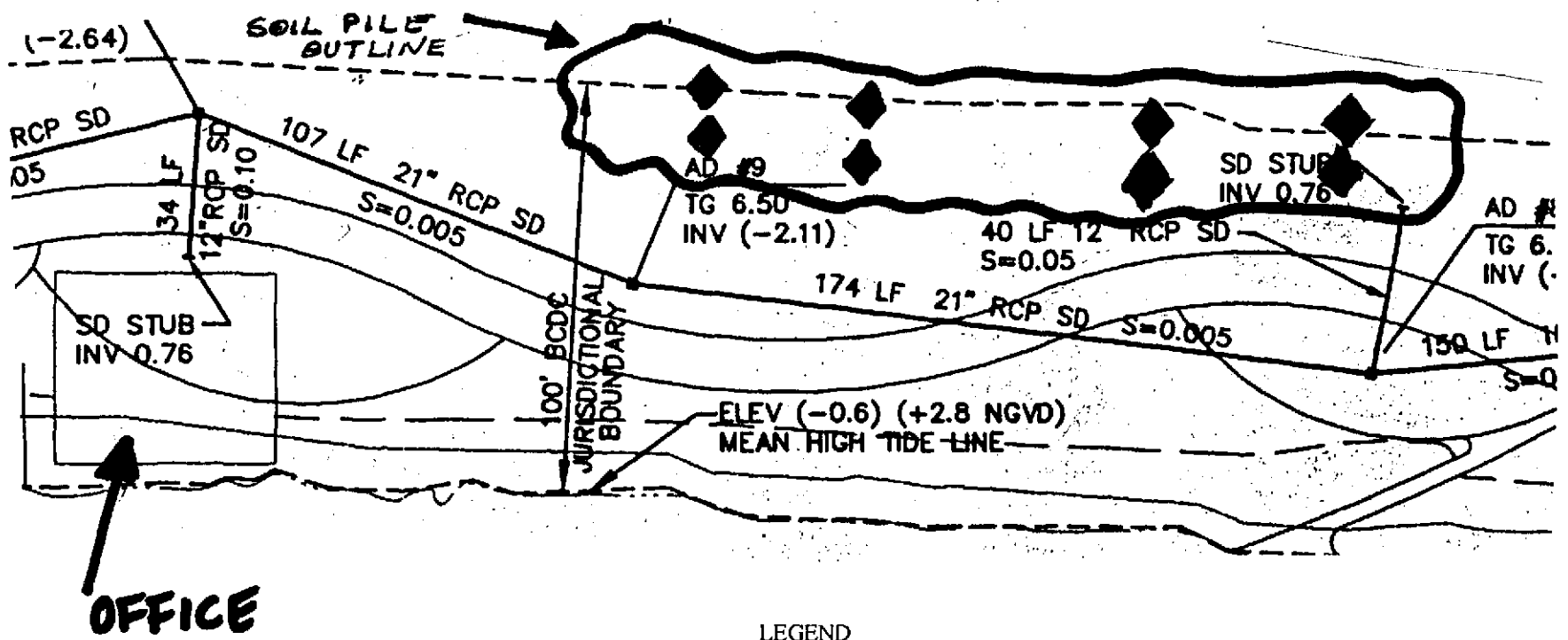
WCC collected eight soil samples at the soil pile near the east side of the site (east of the Turner Construction building). The samples were collected to create two composite soil samples. Four samples were taken from the northern half of the soil pile, and four samples were taken from the southern half of the pile. The samples were collected in brass tubes 2 inches in diameter and 4 inches long, and the ends of the tubes were sealed with teflon sheeting and plastic caps. The eight tubes were then placed in a cooler with ice and transported using Chain-of-Custody procedures. Chromalab Inc. of Pleasanton, California conducted the soil analysis using EPA 8015-8020 TPH analysis for gasoline, diesel, motor oil and BTEX.

WCC personnel marked locations for exploratory pits near G15A on the western edge of the property. Seven locations in a grid 50 feet from G15A were marked (refer to the diagram). Due to asphalt covering the area, Turner Construction needed to dig the pits. WCC personnel agreed to return tomorrow under their notice to complete the sampling at the seven locations.



Composite
SOIL-SD-3A

Composite
SOIL-SD-3B



LEGEND

- ◆ Composite soil sample location

Source: Wind River Systems, Utility Plan, Construction Package No. 2, Drawing No. C2, Dated 9-18-97

Project No. 961163NB	Wind River	SOIL PILE SAMPLING LOCATIONS FROM STORM DRAIN ON EAST SIDE	Figure 1
Woodward-Clyde International-Americas			

Chain of Custody Record

PROJECT NO. <u>961163NB</u>		ANALYSES								Number of Containers	REMARKS (Sample preservation, handling procedures, etc.)
SAMPLERS: (Signature) <u><i>[Signature]</i></u>		Sample Matrix (Soil, Water, Air)	EPA Method	EPA Method	EPA Method	EPA Method	TPH-GAS	TPH-Petrol	BTEX		
DATE	TIME	SAMPLE NUMBER									
<u>7/8</u>		<u>SOIL-SD-3A</u>	<u>S</u>				<u>X</u>	<u>X</u>	<u>X</u>		
		<u>SOIL-SD-3B</u>	<u>S</u>				<u>X</u>	<u>X</u>	<u>X</u>		
		<u>SOIL-ENT-1</u>	<u>S</u>								
		<u>SOIL-ENT-2</u>	<u>S</u>								
		<u>SOIL-ENT-3</u>	<u>S</u>								
		<u>SOIL-ENT-4</u>	<u>S</u>								
		<u>SOIL-ENT-5</u>	<u>S</u>								
		<u>SOIL-ENT-6</u>	<u>S</u>								
		<u>SOIL-ENT-7</u>	<u>S</u>								
		<u>R.V.S</u>	<u>X</u>								
24 HOUR TURNAROUND											
24 HOUR TURNAROUND											
24 HOUR TURNAROUND											
24 HOUR TURNAROUND											
TOTAL NUMBER OF CONTAINERS										- 1 ice chest	
RELINQUISHED BY: (Signature) <u><i>[Signature]</i></u>		DATE/TIME <u>7/8/98 1345</u>	RECEIVED BY: (Signature) <u><i>[Signature]</i></u>		RELINQUISHED BY: (Signature)			DATE/TIME		RECEIVED BY: (Signature)	
METHOD OF SHIPMENT: <u>011</u>			SHIPPED BY: (Signature) <u>[Signature]</u>		COURIER: (Signature)			RECEIVED FOR LAB BY: (Signature)		DATE/TIME	

24 Hour turn around

Samples collected in brass liners, teflon paper, and plastic end caps.

Fax (ASAP) Results to Al Ridley 510-874-326X
 Questions to Sevin Bilu 510-874-1788

CHROMALAB, INC.

Environmental Service (SES)

FAX COVER SHEET

To: Al Ridley

Company Woodward-Clyde

Fax Number 874-3268

From: Atsanh

Phone Number 925-484-1919

Fax Number 925-484-1096

Date: 7/9 / 98 Time: _____

Number of Pages: Cover + 10

Message:

CHROMALAB, INC.

Environmental Services (SDB)

July 9, 1998

Submission #: 9807086

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: July 8, 1998

Project#: 961163NB

re: 1 sample for TEPH analysis.
Method: EPA 8015M

Sampled: July 8, 1998

Matrix: SOIL
Run#: 13665

Extracted: July 8, 1998
Analyzed: July 9, 1998


Spl#	CLIENT SPL ID	Diesel (mg/Kg)	Motor Oil (mg/Kg)
194667	SOIL-SD-3B	22	230


Note: Hydrocarbon reported is in the late Diesel range and does not match our Diesel standard. High surrogate due to matrix interference.

Reporting Limits
Blank Result
Blank Spike Result (%)

0
N.D.
92.8

100
--


Bruce Havlik
Analyst


Michael Verona
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

July 9, 1998

Submission #: 9807086

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
 Received: July 8, 1998

Project#: 961163NB


re: 1 sample for TEPH analysis.
 Method: EPA 8015M

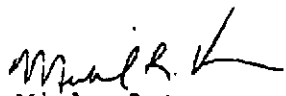
Sampled: July 8, 1998 Matrix: SOIL Extracted: July 8, 1998
 Run#: 13665 Analyzed: July 9, 1998

Spl#	CLIENT SPL ID	Diesel (mg/Kg)	Motor Oil (mg/Kg)
194666	SOIL-SD-3A	5.4	68

Note: Hydrocarbon reported is in the late Diesel range and does not match our Diesel standard.

Reporting Limits	1.0	50
Blank Result	N.D.	
Blank Spike Result (%)	92.8	--


 Bruce Havlik
 Analyst


 Michael Verona
 Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

July 9, 1998

Submission #: 9807086

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: 961163NB
Received: July 8, 1998

re: **Blank spike and duplicate report for TEPH analysis.**

Method: EPA 8015M

Matrix: SOIL
Lab Run#: 13665

Analyzed: July 8, 1998

Analyte	Spike Amount		Spike Amount Found		Spike Recov		Control % Limits	% RPD
	BSP (mg/Kg)	Dup	BSP (mg/Kg)	Dup	BSP (%)	Dup (%)		
DIESEL	83.3	83.3	77.3	76.4	92.8	91.7	60-130	1.19 25

BS Smp# #: 194608

BSO Smp# #: 194609

CHROMALAB, INC.

Environmental Services (SDB)

July 9, 1998

Submission #: 9807086

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: 961163NB
 Received: July 8, 1998

re: **Matrix spike** report for TEPH analysis.

Method: EPA 8015M

Matrix: SOIL

Lab Run#: 13665 Instrument:

Analyzed: July 8, 1998

Analyte	Spiked Sample Amount		Spike Amt		Amt Found		Spike Recov		% Control		% RPD
	(mg/Kg)	(mg/Kg)	MS	MSD	MS	MSD	MS	MSD	Limit	RPD	
DIESEL	1400	82.6	82.3	999	1610	-485	255	60-130	643	25	

Sample Spiked: 194595
 Submission #: 9807081
 Client Sample ID: DD SOIL 1,2,3,4

CHROMALAB, INC.

Environmental Services (SDB)

July 9, 1998

Submission #: 9807086

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: 961163NB
 Received: July 8, 1998

re: **Surrogate** report for 2 samples for TEPH analysis.

Method: EPA 8015M
 Lab Run#: 13665
 Matrix: SOIL

Sample#	Client Sample ID	Surrogate	% Recovered	Recovery Limits
194666-1	SOIL-SD-3A	O-TERPHENYL	111	60-130
194667-1	SOIL-SD-3B	O-TERPHENYL	144	60-130

Sample#	QC Sample Type	Surrogate	% Recovered	Recovery Limits
194607-1	Reagent blank (MDB)	O-TERPHENYL	94.2	60-130
194608-1	Spiked blank (BSP)	O-TERPHENYL	84.3	60-130
194609-1	Spiked blank duplicate (BSD)	O-TERPHENYL	128	60-130
194610-1	Matrix spike (MS)	O-TERPHENYL	898	60-130
194611-1	Matrix spike duplicate (MSD)	O-TERPHENYL	1120	60-130

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CHROMALAB, INC.

Environmental Services (SDB)

July 9, 1998

Submission #: 9807086

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: July 8, 1998

Project#: 961163NB

re: One sample for Gasoline BTEX analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: SOIL-SD-3A

Spl#: 194666

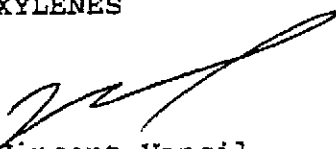
Matrix: SOIL

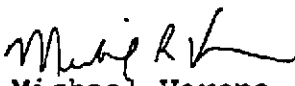
Sampled: July 8, 1998

Run#:13670

Analyzed: July 8, 1998

ANALYTE	RESULT	REPORTING	BLANK	BLANK	DILUTION
	(mg/Kg)	LIMIT	RESULT	SPIKE	
		(mg/Kg)	(mg/Kg)	(%)	FACTOR
GASOLINE	N.D.	1.0	N.D.	82	1
BENZENE	N.D.	0.0050	N.D.	98	1
TOLUENE	N.D.	0.0050	N.D.	100	1
ETHYL BENZENE	N.D.	0.0050	N.D.	99	1
XYLENES	N.D.	0.0050	N.D.	100	1


Vincent Vancil
Analyst


Michael Verona
Operations Manager

CHROMALAB, INC.

Environmental Services (SOB)

July 9, 1998

Submission #: 9807086

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: July 8, 1998

Project#: 961163NB

re: One sample for Gasoline BTEX analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: SOIL-SD-3B

Spl#: 194667

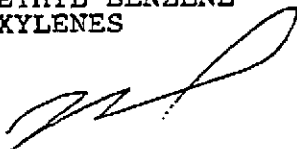
Sampled: July 8, 1998

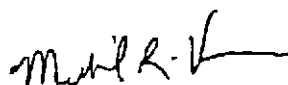
Matrix: SOIL

Run#:13670

Analyzed: July 8, 1998

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	1.0	N.D.	82	1
BENZENE	N.D.	0.0050	N.D.	98	1
TOLUENE	N.D.	0.0050	N.D.	100	1
ETHYL BENZENE	N.D.	0.0050	N.D.	99	1
XYLENES	N.D.	0.0050	N.D.	100	1


Vincent Vancil
Analyst


Michael Verona
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

July 9, 1998

Submission #: 9807086

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: 961163NB
Received: July 8, 1998re: **Surrogate** report for 2 samples for Gasoline BTEX analysis.
Method: SW846 8020A Nov 1990 / 8015Mod
Lab Run#: 13670
Matrix: SOIL

Sample#	Client Sample ID	Surrogate	% Recovered	Recovery Limits
194666-1	SOIL-SD-3A	TRIFLUOROTOLUENE	65.7	53-125
194666-1	SOIL-SD-3A	4-BROMOFLUOROBENZENE	44.1	58-124
194667-1	SOIL-SD-3B	TRIFLUOROTOLUENE	56.9	53-125
194667-1	SOIL-SD-3B	4-BROMOFLUOROBENZENE	40.3	58-124

Sample#	QC Sample Type	Surrogate	% Recovered	Recovery Limits
194630-1	Reagent blank (MDB)	TRIFLUOROTOLUENE	89.7	53-125
194630-1	Reagent blank (MDB)	4-BROMOFLUOROBENZENE	89.4	58-124
194631-1	Spiked blank (BSP)	TRIFLUOROTOLUENE	78.5	53-125
194631-1	Spiked blank (BSP)	4-BROMOFLUOROBENZENE	80.6	58-124
194632-1	Spiked blank duplicate (BSD)	TRIFLUOROTOLUENE	91.5	53-125
194632-1	Spiked blank duplicate (BSD)	4-BROMOFLUOROBENZENE	83.3	58-124
194650-1	Matrix spike (MS)	TRIFLUOROTOLUENE	56.7	53-125
194650-1	Matrix spike (MS)	4-BROMOFLUOROBENZENE	49.7	58-124
194651-1	Matrix spike duplicate (MSD)	TRIFLUOROTOLUENE	1.65	53-125
194651-1	Matrix spike duplicate (MSD)	4-BROMOFLUOROBENZENE	47.3	58-124

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CHROMALAB, INC.

Environmental Services (SDB)

July 9, 1998

Submission #: 9807086

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: 961163NB
 Received: July 8, 1998

re: Matrix spike report for Gasoline BTEX analysis.

Method: SW846 8020A Nov 1990 / 8015Mod

Matrix: SOIL

Lab Run#: 13670 Instrument: 3400-2

Analyzed: July 8, 1998

Analyte	Spiked		Amt Found		Spike Recov		Control Limits	% RPD	% RPD Lim
	Sample Amount (mg/Kg)	Spike Amt MS MSD (mg/Kg)	MS MSD (mg/Kg)	MS MSD (%)	MS MSD (%)				
GASOLINE	N.D.	0.478 0.431	0.396 0.372	82.8 86.3	65-135	4.14	35		
BENZENE	N.D.	0.0956 0.0862	0.0457 0.0012	47.8 1.46	65-135	188	35		
TOLUENE	N.D.	0.0956 0.0862	0.0843 0.0013	88.2 1.55	65-135	193	35		
ETHYL BENZENE	N.D.	0.0956 0.0862	0.0843 0.0013	88.2 1.60	65-135	193	35		
XYLENES	N.D.	0.287 0.259	0.253 0.0039	88.2 1.54	65-135	193	35		

Sample Spiked: 194153
 Submission #: 9807047
 Client Sample ID: SB2-8

July 9, 1998, Thursday:

Personnel: April Giangerelli, WCC

General

WCC personnel traveled to Alameda, California to sample exploratory pits near the G15A sample location, at the western edge of the Wind River Systems construction site.

Weather

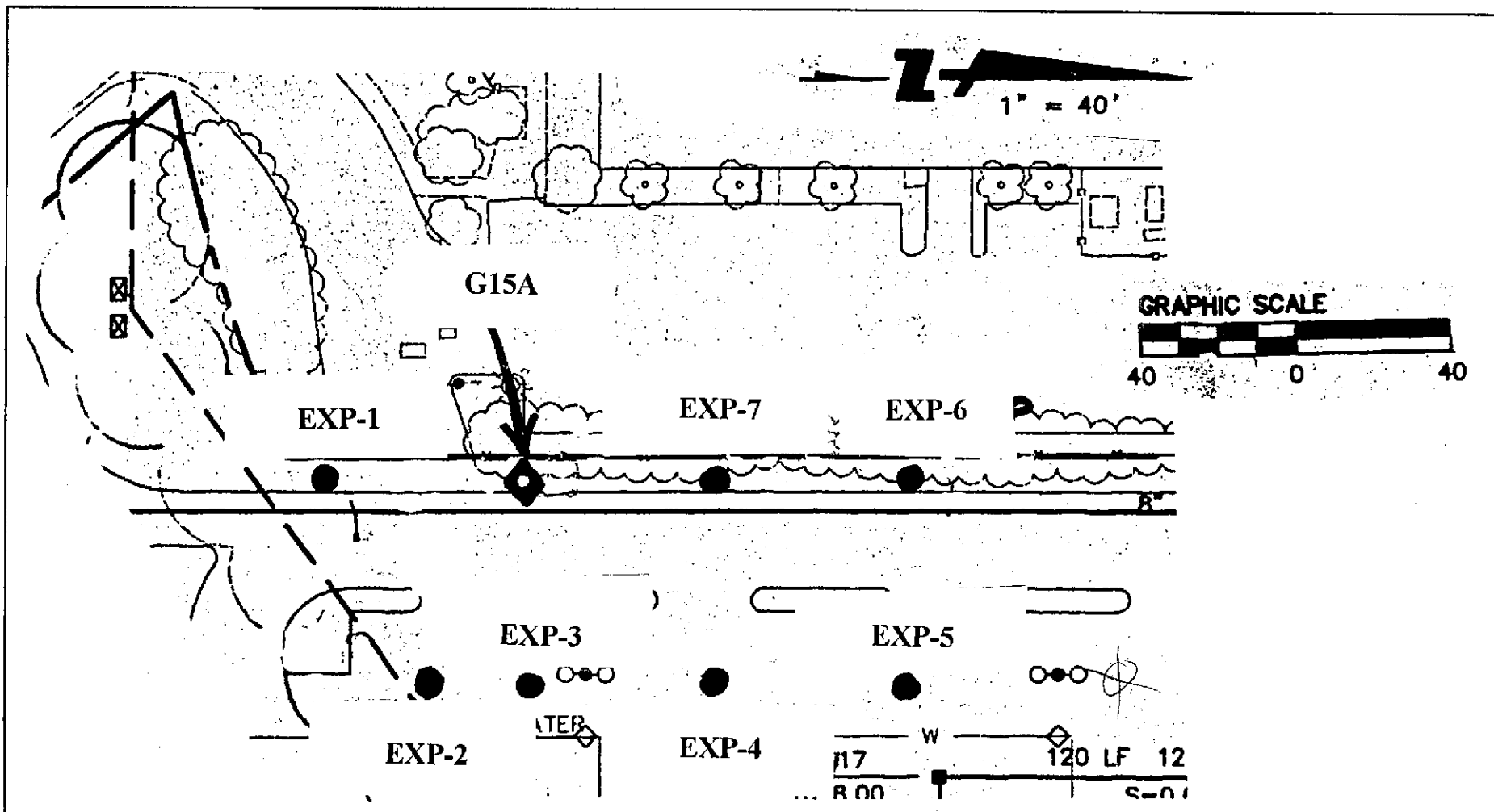
The weather during sampling was foggy and cool.

Soil Sampling

Sample Location	Soil Profile	Size of Soil Profile	Sample Depth
EXP-1	Asphalt Sandy Gravel Asphalt Fine, Clayey Sand	6 inches 3 inches 3 inches	13 inches
EXP-2	Asphalt Sandy Gravel Asphalt Fine, Clayey Sand	3 inches 3 inches 3 inches	11 inches
EXP-3 (*Petroleum Smell)	Asphalt Sandy Gravel Asphalt Fine, Clayey Sand	3 inches 3 inches 3 inches	11 inches
EXP-4	Asphalt Sandy Gravel Asphalt Brown, Gravelly Clay Fine, Clayey Sand	4 inches 3 inches 3 inches 3 inches	12 inches
EXP-5	Asphalt Sandy Gravel Asphalt Brown, Gravelly Clay Fine, Clayey Sand	3 inches 1 inch 4 inches 4 inches	12 inches
EXP-6	Asphalt	4 inches	12 inches

	Sandy Gravel	3 inches	
	Asphalt	3 inches	
	Brown, Gravelly Clay	6 inches	
	Fine, Clayey Sand		
EXP-7	Asphalt	3 inches	12 inches
	Sandy Gravel	3 inches	
	Asphalt	3 inches	
	Brown, Gravelly Clay	6 inches	
	Fine, Clayey Sand		

WCC personnel collected soil samples at the seven locations in a grid around the G15A location (refer to the diagram). One exploratory pit, EXP-2 was dug in the wrong location-- instead of being 50 feet from EXP-3, it was approximately 20 feet away. The average soil profile included approximately 3 inches of asphalt, 3 inches of sandy gravel, and 3 inches of asphalt. The next layer down varied at the different locations. It was difficult to discern a brown, gravelly clay from the fine, clayey sand in EXP-1, EXP-2, and EXP-3 sample pits. The brown, gravelly clay was most pronounced in the exploratory pits nearest the fence (EXP-7 and EXP-6) where G15A was located. EXP-4 and EXP-5 pits had a very hard, brownish gray layer of the brown, gravelly clay that made sampling of that layer difficult. EXP-3 had a distinct petroleum odor and visible signs of petroleum.



Source: Wind River Systems, Utility Plan, Construction Package No. 2, Drawing No. C2, Dated 9-18-97

LEGEND

- Exploratory Pit Soil Sample Location (July 1998)
- ◊ Exploratory Pit Soil Sample Location (August 1997)

Project No. 961163NB	Wind River	SOIL SAMPLING LOCATIONS FOR DELINEATION OF TPH NEAR G15A	Figure 2
Woodward-Clyde International-Americas			

Woodward-Clyde Consultants

500 12th Street, Suite 200 • Oakland, CA 94607-4014
(510) 893-3600

Chain of Custody Record

PROJECT NO. 9611631013

SAMPLERS: (Signature)
April Ciangerelli

ANALYSES

REMARKS
(Sample preservation, handling procedures, etc.)

DATE	TIME	SAMPLE NUMBER
1998		
7/9		SOIL-EXP-1
		SOIL-EXP-2
		SOIL-EXP-3
		SOIL-EXP-4
		SOIL-EXP-5
		SOIL-EXP-6
		SOIL-EXP-7

Sample Matrix
(Soil, Water, Air)

EPA Method

EPA Method

EPA Method

EPA Method

TPH-gas

TPH-diesel

TPH-motor oi

BTEX

Number of Containers

24 Hour Turnaround

Samples collected in brass liners, teflon paper, and plastic end caps.

Fax (ASAP) Results to Al Ridley (510) 874-3268
Questions to April Ciangerelli (510) 874-3140

RUSH
24 HOUR TURNAROUND

TOTAL NUMBER OF CONTAINERS

1 Ice Chest

RELINQUISHED BY: (Signature)
[Signature]

DATE/TIME
7/9/14 17

RECEIVED BY: (Signature)
Shane White

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

METHOD OF SHIPMENT:

SHIPPED BY: (Signature)

COURIER: (Signature)

RECEIVED FOR LAB BY (Signature)

DATE/TIME

CHROMALAB, INC.

Environmental Service (SES)

FAX COVER SHEET

To: Al Ridley
 Company: Woodward Clyde
 Fax Number: 874 3268
 From: Al Ridley

Phone Number 925-484-1919

Fax Number 925-484-1096

Date: 7/10/98 Time: _____

Number of Pages: Cover + 6

Message:

CHROMALAB, INC.

Environmental Services (SDB)

July 21, 1998

Submission #: 9807101

WOODWARD-CLYDE OAKLAND
500 12th St., Suite 200
Oakland, CA 94607-4014

Attn: Al Ridley

RE: Analysis for project 961163NB.


REPORTING INFORMATION

Samples were received cold and in good condition on July 9, 1998. They were refrigerated upon receipt and analyzed as described in the attached report. ChromaLab followed EPA or equivalent methods for all testing reported.

Deviation from standard conditions was found in the following:

- For the Gas/BTEX analysis, the MS/MSD percent recovery exceeded acceptance criteria due to matrix interference. Batch precision and accuracy was verified by the LCS/LCSD.

<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date collected</u>	<u>Sample #</u>
SOIL-EXP-1	SOIL	July 9, 1998	194766
SOIL-EXP-2	SOIL	July 9, 1998	194767
SOIL-EXP-3	SOIL	July 9, 1998	194768
SOIL-EXP-4	SOIL	July 9, 1998	194769
SOIL-EXP-5	SOIL	July 9, 1998	194770
SOIL-EXP-6	SOIL	July 9, 1998	194771
SOIL-EXP-7	SOIL	July 9, 1998	194772


Aisaneh Salimpour
Project Manager

CHROMALAB, INC.

Environmental Services (SDB)

July 10, 1998

Submission #: 9807101

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: July 9, 1998

Project#: 961163NB

re: One sample for Gasoline BTEX analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: SOIL-EXP-1

Spl#: 194766


Matrix: SOIL

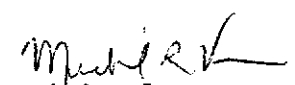
Sampled: July 9, 1998

Run#:13693

Analyzed: July 9, 1998

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	1.0	N.D.	81	1
BENZENE	N.D.	0.0050	N.D.	87	1
TOLUENE	N.D.	0.0050	N.D.	84	1
ETHYL BENZENE	N.D.	0.0050	N.D.	81	1
XYLENES	N.D.	0.0050	N.D.	82	1


Vincent Vancil
Analyst


Michael Verona
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

July 10, 1998

Submission #: 9807101

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: July 9, 1998

Project#: 961163NB

re: One sample for Gasoline BTEX analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: SOIL-EXP-2

Spl#: 194767


Matrix: SOIL

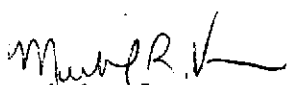
Sampled: July 9, 1998

Run#: 13693

Analyzed: July 9, 1998

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	1.0	N.D.	81	1
BENZENE	N.D.	0.0050	N.D.	87	1
TOLUENE	N.D.	0.0050	N.D.	84	1
ETHYL BENZENE	N.D.	0.0050	N.D.	81	1
XYLENES	N.D.	0.0050	N.D.	82	1


Vincent Vancil
Analyst


Michael Verona
Operations Manager

**AS

LEV2

CHROMALAB, INC.

Environmental Services (SDB)

July 10, 1998

Submission #: 9807101

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: July 9, 1998

Project#: 961163NB

re: One sample for Gasoline BTEX analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: SOIL-EXP-3

Spl#: 194768


Matrix: SOIL

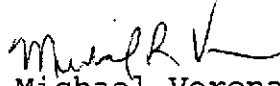
Sampled: July 9, 1998

Run#: 13693

Analyzed: July 9, 1998

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	1.0	N.D.	81	1
BENZENE	N.D.	0.0050	N.D.	87	1
TOLUENE	N.D.	0.0050	N.D.	84	1
ETHYL BENZENE	N.D.	0.0050	N.D.	81	1
XYLENES	N.D.	0.0050	N.D.	82	1


Vincent Vancil
Analyst


Michael Verona
Operations Manager

**AS

LEV2

CHROMALAB, INC.

Environmental Services (SDB)

July 10, 1998

Submission #: 9807101

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: July 9, 1998

Project#: 961163NB

re: One sample for Gasoline BTEX analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: SOIL-EXP-4

Spl#: 194769

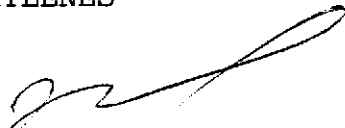
Matrix: SOIL

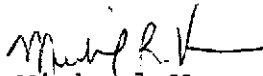
Sampled: July 9, 1998

Run#:13693

Analyzed: July 9, 1998

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	1.0	N.D.	81	1
BENZENE	N.D.	0.0050	N.D.	87	1
TOLUENE	N.D.	0.0050	N.D.	84	1
ETHYL BENZENE	N.D.	0.0050	N.D.	81	1
XYLENES	N.D.	0.0050	N.D.	82	1


Vincent Vancil
Analyst


Michael Verona
Operations Manager

**AS

LEV2

1220 Quarry Lane • Pleasanton, California 94566-4756

(925) 484-1919 • Facsimile (925) 484-1096

Federal ID #68-0140157

AS V132 O: BTEXQC0220

BURBA 15:31

CHROMALAB, INC.

Environmental Services (SDB)

July 10, 1998

Submission #: 9807101

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: July 9, 1998

Project#: 961163NB

re: One sample for Gasoline BTEX analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: SOIL-EXP-5

Spl#: 194770

Matrix: SOIL

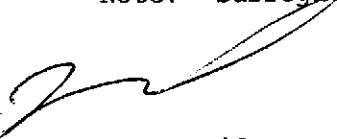
Sampled: July 9, 1998

Run#:13693

Analyzed: July 9, 1998

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	1.0	N.D.	81	1
BENZENE	N.D.	0.0050	N.D.	87	1
TOLUENE	N.D.	0.0050	N.D.	84	1
ETHYL BENZENE	N.D.	0.0050	N.D.	81	1
XYLENES	N.D.	0.0050	N.D.	82	1

Note: Surrogate Recoveries demonstrate Matrix interference.


Vincent Vancil
Analyst


Michael Verona
Operations Manager

**AS

LEV2

CHROMALAB, INC.

Environmental Services (SDB)

July 10, 1998

Submission #: 9807101

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: July 9, 1998

Project#: 961163NB

re: One sample for Gasoline BTEX analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: SOIL-EXP-6

Spl#: 194771


Matrix: SOIL

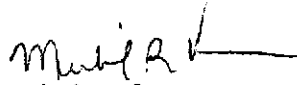
Sampled: July 9, 1998

Run#:13693

Analyzed: July 9, 1998

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	1.0	N.D.	81	1
BENZENE	N.D.	0.0050	N.D.	87	1
TOLUENE	N.D.	0.0050	N.D.	84	1
ETHYL BENZENE	N.D.	0.0050	N.D.	81	1
XYLENES	N.D.	0.0050	N.D.	82	1


Vincent Vancil
Analyst


Michael Verona
Operations Manager

**AS

LEV2

CHROMALAB, INC.

Environmental Services (SDB)

July 10, 1998

Submission #: 9807101

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: July 9, 1998

Project#: 961163NB

re: One sample for Gasoline BTEX analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

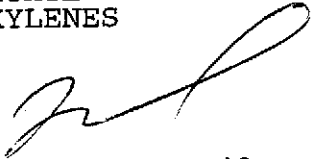
Client Sample ID: SOIL-EXP-7

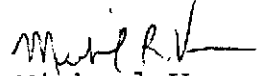
Spl#: 194772
Sampled: July 9, 1998

Matrix: SOIL
Run#: 13693

Analyzed: July 9, 1998

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	1.0	N.D.	81	1
BENZENE	N.D.	0.0050	N.D.	87	1
TOLUENE	N.D.	0.0050	N.D.	84	1
ETHYL BENZENE	N.D.	0.0050	N.D.	81	1
XYLENES	N.D.	0.0050	N.D.	82	1


Vincent Vancil
Analyst


Michael Verona
Operations Manager

***AS

LEV2

CHROMALAB, INC.

Environmental Services (SDB)

July 10, 1998

Submission #: 9807101

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: 961163NB
Received: July 9, 1998

re: **Blank spike and duplicate** report for Gasoline BTEX analysis.

Method: SW846 8020A Nov 1990 / 8015Mod

Matrix: SOIL
Lab Run#: 13693

Analyzed: July 9, 1998

Analyte	Spike Amount		Spike Amount Found		Spike Recov		Control Limits	% RPD	% Lim
	BSP (mg/Kg)	Dup	BSP (mg/Kg)	Dup	BSP (%)	Dup (%)			
GASOLINE	0.500	0.500	0.403	0.434	80.6	86.8	75-125	7.41	35
BENZENE	0.100	0.100	0.0865	0.103	86.5	103	77-123	17.4	35
TOLUENE	0.100	0.100	0.0842	0.102	84.2	102	78-122	19.1	35
ETHYL BENZENE	0.100	0.100	0.0813	0.103	81.3	103	70-130	23.5	35
XYLENES	0.300	0.300	0.247	0.310	82.3	103	75-125	22.3	35

BS Smpl #: 194780
BSD Smpl #: 194781

1220 Quarry Lane • Pleasanton, California 94566-4756
(925) 484-1919 • Facsimile (925) 484-1096
Federal ID #68-0140157

LEV2

DC_BSD1225 BUBBA 15:32:01

CHROMALAB, INC.

Environmental Services (SDB)

July 10, 1998

Submission #: 9807101

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: 961163NB
Received: July 9, 1998

re: **Matrix spike** report for Gasoline BTEX analysis.

Method: SW846 8020A Nov 1990 / 8015Mod

Matrix: SOIL
Lab Run#: 13693 Instrument: 3400-2

Analyzed: July 9, 1998

Analyte	Spiked		Amt Found		Spike Recov		Control Limits	% RPD	% Lim	
	Sample Amount (mg/Kg)	Spike Amt MS (mg/Kg)	MS (mg/Kg)	MSD (mg/Kg)	MS (%)	MSD (%)				
GASOLINE	N.D.	0.451	0.468	0.159	0.201	35.2	42.9	65-135	19.7	35
BENZENE	N.D.	0.0902	0.0936	0.0652	0.0601	72.3	64.2	65-135	11.9	35
TOLUENE	N.D.	0.0902	0.0936	0.0573	0.0532	63.5	56.8	65-135	11.1	35
ETHYL BENZENE	N.D.	0.0902	0.0936	0.0488	0.0467	54.1	49.9	65-135	8.08	35
XYLENES	N.D.	0.271	0.281	0.143	0.136	52.8	48.4	65-135	8.70	35

Sample Spiked: 194772
Submission #: 9807101
Client Sample ID: SOIL-EXP-7

CHROMALAB, INC.

Environmental Services (SDB)

July 10, 1998

Submission #: 9807101

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: 961163NB
Received: July 9, 1998

re: **Surrogate** report for 7 samples for Gasoline BTEX analysis.
Method: SW846 8020A Nov 1990 / 8015Mod
Lab Run#: 13693
Matrix: SOIL

Sample#	Client Sample ID	Surrogate	% Recovered	Recovery Limits
194766-1	SOIL-EXP-1	TRIFLUOROTOLUENE	91.1	53-125
194766-1	SOIL-EXP-1	4-BROMOFLUOROBENZENE	72.2	58-124
194767-1	SOIL-EXP-2	TRIFLUOROTOLUENE	80.8	53-125
194767-1	SOIL-EXP-2	4-BROMOFLUOROBENZENE	65.5	58-124
194768-1	SOIL-EXP-3	TRIFLUOROTOLUENE	62.2	53-125
194768-1	SOIL-EXP-3	4-BROMOFLUOROBENZENE	49.4	58-124
194769-1	SOIL-EXP-4	TRIFLUOROTOLUENE	58.2	53-125
194769-1	SOIL-EXP-4	4-BROMOFLUOROBENZENE	39.8	58-124
194770-1	SOIL-EXP-5	TRIFLUOROTOLUENE	47.8	53-125
194770-1	SOIL-EXP-5	4-BROMOFLUOROBENZENE	25.3	58-124
194771-1	SOIL-EXP-6	TRIFLUOROTOLUENE	70.4	53-125
194771-1	SOIL-EXP-6	4-BROMOFLUOROBENZENE	58.3	58-124
194772-1	SOIL-EXP-7	TRIFLUOROTOLUENE	63.0	53-125
194772-1	SOIL-EXP-7	4-BROMOFLUOROBENZENE	37.4	58-124

Sample#	QC Sample Type	Surrogate	% Recovered	Recovery Limits
194779-1	Reagent blank (MDB)	TRIFLUOROTOLUENE	108	53-125
194779-1	Reagent blank (MDB)	4-BROMOFLUOROBENZENE	86.4	58-124
194780-1	Spiked blank (BSP)	TRIFLUOROTOLUENE	79.2	53-125
194780-1	Spiked blank (BSP)	4-BROMOFLUOROBENZENE	75.6	58-124
194781-1	Spiked blank duplicate (BSD)	TRIFLUOROTOLUENE	93.6	53-125
194781-1	Spiked blank duplicate (BSD)	4-BROMOFLUOROBENZENE	69.3	58-124
194881-1	Matrix spike (MS)	TRIFLUOROTOLUENE	58.7	53-125
194881-1	Matrix spike (MS)	4-BROMOFLUOROBENZENE	25.8	58-124
194882-1	Matrix spike duplicate (MSD)	TRIFLUOROTOLUENE	59.7	53-125
194882-1	Matrix spike duplicate (MSD)	4-BROMOFLUOROBENZENE	33.4	58-124

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CHROMALAB, INC.

Environmental Services (SDB)

July 10, 1998

Submission #: 9807101

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: July 9, 1998

Project#: 961163NB


re: 2 samples for TEPH analysis.
Method: EPA 8015M

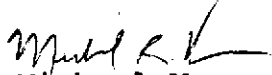
Sampled: July 9, 1998

Matrix: SOIL
Run#: 13678

Extracted: July 9, 1998
Analyzed: July 9, 1998

Spl#	CLIENT SPL ID	Diesel (mg/Kg)	Motor Oil (mg/Kg)
194766	SOIL-EXP-1	1.2	N.D.
Note: Hydrocarbon reported is in the late Diesel Range and does not match our Diesel Standard.			
194767	SOIL-EXP-2	N.D.	N.D.
Reporting Limits		1.0	50
Blank Result		N.D.	
Blank Spike Result (%)		94.8	--


Bruce Havlik
Analyst


Michael Verona
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

July 10, 1998

Submission #: 9807101

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: July 9, 1998

Project#: 961163NB

re: 1 sample for TEPH analysis.
Method: EPA 8015M

Sampled: July 9, 1998

Matrix: SOIL
Run#: 13678


Extracted: July 9, 1998
Analyzed: July 10, 1998

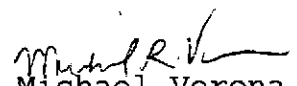
Spl#	CLIENT SPL ID	Diesel (mg/Kg)	Motor Oil (mg/Kg)
194768	SOIL-EXP-3	62	880

Note: Hydrocarbon reported is in the late Diesel range and does not match our Diesel standard. High surrogate due to matrix interference.

Reporting Limits
Blank Result
Blank Spike Result (%)

20	400
N.D.	
94.8	--


Bruce Havlik
Analyst


Michael Verona
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

July 10, 1998

Submission #: 9807101

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: July 9, 1998

Project#: 961163NB

re: 1 sample for TEPH analysis.
Method: EPA 8015M

Sampled: July 9, 1998

Matrix: SOIL
Run#: 13678

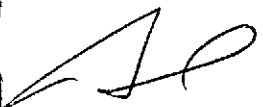
Extracted: July 9, 1998
Analyzed: July 10, 1998


Spl#	CLIENT SPL ID	Diesel (mg/Kg)	Motor Oil (mg/Kg)
194769	SOIL-EXP-4	58	470

Note: Hydrocarbon reported has characteristics of weathered/aged Diesel. High surrogate due to matrix interference.

Reporting Limits
Blank Result
Blank Spike Result (%)

10	200
N.D.	
94.8	--


Bruce Havlik
Analyst


Michael Verona
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

July 10, 1998

Submission #: 9807101

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: July 9, 1998

Project#: 961163NB


re: 1 sample for TEPH analysis.
Method: EPA 8015M

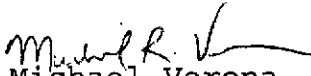
Sampled: July 9, 1998 Matrix: SOIL Extracted: July 9, 1998
Run#: 13678 Analyzed: July 9, 1998

Spl#	CLIENT SPL ID	Diesel (mg/Kg)	Motor Oil (mg/Kg)
194770	SOIL-EXP-5	1400	7100

Note: Hydrocarbon reported has characteristics of weathered/aged Diesel.
Surrogate was diluted out.

Reporting Limits	40	800
Blank Result	N.D.	
Blank Spike Result (%)	94.8	--


Bruce Havlik
Analyst


Michael Verona
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

July 10, 1998

Submission #: 9807101

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: July 9, 1998

Project#: 961163NB


re: 1 sample for TEPH analysis.
Method: EPA 8015M

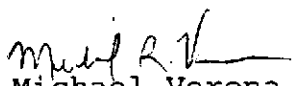
Sampled: July 9, 1998 Matrix: SOIL Extracted: July 9, 1998
Run#: 13678 Analyzed: July 9, 1998

Spl#	CLIENT SPL ID	Diesel (mg/Kg)	Motor Oil (mg/Kg)
194771	SOIL-EXP-6	11	76

Note: Hydrocarbon reported is in the late Diesel Range and does not match our Diesel Standard.

Reporting Limits 2.0 50
Blank Result N.D.
Blank Spike Result (%) 94.8 --


Bruce Havlik
Analyst


Michael Verona
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

July 10, 1998

Submission #: 9807101

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: July 9, 1998

Project#: 961163NB

re: 1 sample for TEPH analysis.
Method: EPA 8015M

Sampled: July 9, 1998

Matrix: SOIL
Run#: 13678

Extracted: July 9, 1998
Analyzed: July 10, 1998


Spl#	CLIENT SPL ID	Diesel (mg/Kg)	Motor Oil (mg/Kg)
194772	SOIL-EXP-7	140	1900

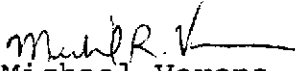
Note: Hydrocarbon reported is in the late Diesel Range and does not match our Diesel Standard. Surrogate was diluted out.

Reporting Limits
Blank Result
Blank Spike Result (%)

40
N.D.
94.8

800
--


Bruce Havlik
Analyst


Michael Verona
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

July 21, 1998

Submission #: 9807101

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: 961163NB

Received: July 9, 1998

re: **Blank spike and duplicate** report for TEPH analysis.

Method: EPA 8015M

Matrix: SOIL

Lab Run#: 13678

Analyzed: July 9, 1998

Analyte	Spike Amount		Spike Amount Found		Spike Recov		Control Limits	% RPD	% RPD Lim
	BSP (mg/Kg)	Dup	BSP (mg/Kg)	Dup	BSP (%)	Dup (%)			
DIESEL	83.3	83.3	79.0	76.3	94.8	91.6	60-130	3.43	25

CHROMALAB, INC.

Environmental Services (SDB)

July 21, 1998

Submission #: 9807101

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: 961163NB

Received: July 9, 1998

re: **Matrix spike** report for TEPH analysis.

Method: EPA 8015M

Matrix: SOIL

Extracted: July 9, 1998

Lab Run#: 13678

Instrument:

Analyzed: July 10, 1998

Analyte	Spiked		Amt Found		Spike Recov		Control Limits	% RPD		
	Sample Amount (mg/Kg)	Spike Amt MS (mg/Kg)	MS (mg/Kg)	MSD (mg/Kg)	MS (%)	MSD (%)				
DIESEL	7.3	82.9	83.0	77.9	77.5	85.2	84.6	60-130	0.70	25

Sample Spiked: 194725

Submission #: 9807097

Client Sample ID: 890-SB-2-2'

CHROMALAB, INC.

Environmental Services (SDB)

July 21, 1998

Submission #: 9807101

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: 961163NB
Received: July 9, 1998

re: **Surrogate** report for 7 samples for TEPH analysis.

Method: EPA 8015M
Lab Run#: 13678
Matrix: SOIL

Sample#	Client Sample ID	Surrogate	% Recovered	Recovery Limits
194766-1	SOIL-EXP-1	O-TERPHENYL	99.7	60-130
194767-1	SOIL-EXP-2	O-TERPHENYL	92.3	60-130
194768-1	SOIL-EXP-3	O-TERPHENYL	187	60-130
194769-1	SOIL-EXP-4	O-TERPHENYL	175	60-130
194771-1	SOIL-EXP-6	O-TERPHENYL	111	60-130

Sample#	QC Sample Type	Surrogate	% Recovered	Recovery Limits
194694-1	Reagent blank (MDB)	O-TERPHENYL	96.9	60-130
194695-1	Spiked blank (BSP)	O-TERPHENYL	89.6	60-130
194696-1	Spiked blank duplicate (BSD)	O-TERPHENYL	123	60-130
194758-1	Matrix spike (MS)	O-TERPHENYL	89.8	60-130
194759-1	Matrix spike duplicate (MSD)	O-TERPHENYL	87.5	60-130

S010
QCSURR1229 AFSANEH 21-Jul-98 10

4807101 / 194766-77

40785

Woodward-Clyde Consultants

500 12th Street, Suite 200 • Oakland, CA 94607-4014
(510) 893-3600

Chain of Custody Record

PROJECT NO. 961163NB			ANALYSES							Number of Containers	REMARKS (Sample preservation, handling procedures, etc.)			
DATE	TIME	SAMPLE NUMBER	Sample Matrix (Soil, Water, Air)	EPA Method	EPA Method	EPA Method	EPA Method	TPH-gas	TPH-diesel			TPH-motor oil	BTEX	
SAMPLERS: (Signature) <i>April Giangerell</i>														
1998														
7/9		SOIL-EXP-1	S											24 Hour Turnaround Samples collected in brass liners, teflon paper, and plastic end caps. Fax (ASAP) Results to Al Ridley (510) 874-3268 Questions to April Giangerell (510) 874-3140
		SOIL-EXP-2	S											
		SOIL-EXP-3	S											
		SOIL-EXP-4	S											
		SOIL-EXP-5	S											
		SOIL-EXP-6	S											
		SOIL-EXP-7	S											
RUSH * 24 HOUR TURNDAROUND * RUSH														
TOTAL NUMBER OF CONTAINERS												1 Ice Chest		
RELINQUISHED BY: (Signature) <i>[Signature]</i>			DATE/TIME 7/9/98/1417	RECEIVED BY: (Signature) <i>Thomas Wright</i>			RELINQUISHED BY: (Signature) <i>Thomas Wright 1500</i>			DATE/TIME	RECEIVED BY: (Signature)			
METHOD OF SHIPMENT:			SHIPPED BY: (Signature)			COURIER: (Signature)			RECEIVED FOR LAB BY (Signature) <i>[Signature]</i>	DATE/TIME 7-9-98 15:02				

CHROMALAB, INC.

Environmental Service (SDB)

Sample Receipt Checklist

Client Name: **WOODWARD-CLYDE OAKLAND**

Date/Time Received: **07/09/98** | **14:17**

Reference/Submis: **40785** | **9807101**

Received by: **T.W.**

Checklist completed by: *O'Conedy*

Signature

7.9.98
Date

Reviewed by: *[Signature]*

Initials | Date

Matrix: *soil*

Carrier name: Client **C/L**

Shipping container/cooler in good condition?

Yes No Not Present

Custody seals intact on shipping container/cooler?

Yes No Not Present

Custody seals intact on sample bottles?

Yes No Not Present

Chain of custody present?

Yes No

Chain of custody signed when relinquished and received?

Yes No

Chain of custody agrees with sample labels?

Yes No

Samples in proper container/bottle?

Yes No

Sample containers intact?

Yes No

Sufficient sample volume for indicated test?

Yes No

All samples received within holding time?

Yes No

Container/Temp Blank temperature in compliance?

Temp: **4.7**°C Yes No

Water - VOA vials have zero headspace?

No VOA vials submitted Yes No

Water - pH acceptable upon receipt?

Adjusted? Checked by _____
chemist for VOAs

Any No and/or NA (not applicable) response must be detailed in the comments section below.

Client contacted: _____ Date contacted: _____ Person contacted: _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action: _____

CHROMALAB, INC.

Environmental Services (SDB)

July 7, 1998

Submission #: 9806469

WOODWARD-CLYDE OAKLAND
500 12th St., Suite 200
Oakland, CA 94607-4014

Attn: Al Ridley

RE: Analysis for project 961163NB.

REPORTING INFORMATION

Samples were received cold and in good condition on June 29, 1998. They were refrigerated upon receipt and analyzed as described in the attached report. ChromaLab followed EPA or equivalent methods for all testing reported.

No discrepancies were observed or difficulties encountered with the testing.

<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date collected</u>	<u>Sample #</u>
SOIL-G-1	SOIL	June 29, 1998	193410
SOIL-SD-1A, 2A	SOIL	June 29, 1998	193407
SOIL-SD-1B, 2B	SOIL	June 29, 1998	193408
SOIL-SS-2	SOIL	June 29, 1998	193409

Afsaneh Salimpour
Project Manager

CHROMALAB, INC.

Environmental Services (SDB)

July 1, 1998

Submission #: 9806469

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: June 29, 1998

Project#: 961163NB

re: One sample for Gasoline BTEX analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: SOIL-SD-1A, 2A

Spl#: 193407

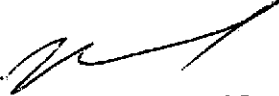
Matrix: SOIL

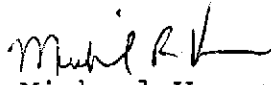
Sampled: June 29, 1998

Run#: 13588

Analyzed: July 1, 1998

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	1.0	N.D.	98	1
BENZENE	N.D.	0.0050	N.D.	83	1
TOLUENE	N.D.	0.0050	N.D.	81	1
ETHYL BENZENE	N.D.	0.0050	N.D.	77	1
XYLENES	N.D.	0.0050	N.D.	76	1


Vincent Vancil
Analyst


Michael Verona
Operations Manager

**AS

LEV2

CHROMALAB, INC.

Environmental Services (SDB)

July 2, 1998

Submission #: 9806469

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: June 29, 1998

Project#: 961163NB

re: One sample for Gasoline BTEX analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: SOIL-SD-1B,2B

Spl#: 193408

Matrix: SOIL

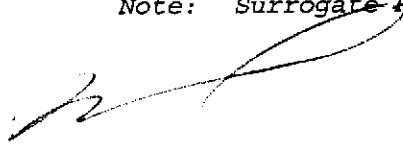
Sampled: June 29, 1998

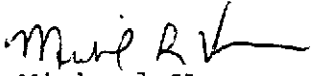
Run#:13588

Analyzed: July 1, 1998

<u>ANALYTE</u>	<u>RESULT</u> <u>(mg/Kg)</u>	<u>REPORTING</u> <u>LIMIT</u> <u>(mg/Kg)</u>	<u>BLANK</u> <u>RESULT</u> <u>(mg/Kg)</u>	<u>BLANK</u> <u>SPIKE</u> <u>(%)</u>	<u>DILUTION</u> <u>FACTOR</u>
GASOLINE	N.D.	1.0	N.D.	98	1
BENZENE	N.D.	0.0050	N.D.	83	1
TOLUENE	N.D.	0.0050	N.D.	81	1
ETHYL BENZENE	N.D.	0.0050	N.D.	77	1
XYLENES	N.D.	0.0050	N.D.	76	1

Note: ~~Surrogate Recoveries~~ demonstrate Matrix interference.


Vincent Vancil
Analyst


Michael Verona
Operations Manager

**AS

LEV2

CHROMALAB, INC.

Environmental Services (SDB)

July 1, 1998

Submission #: 9806469

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: June 29, 1998

Project#: 961163NB

re: One sample for Gasoline BTEX analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: SOIL-SS-2

Spl#: 193409


Matrix: SOIL

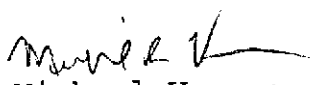
Sampled: June 29, 1998

Run#:13588

Analyzed: July 1, 1998

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	1.0	N.D.	98	1
BENZENE	N.D.	0.0050	N.D.	83	1
TOLUENE	N.D.	0.0050	N.D.	81	1
ETHYL BENZENE	N.D.	0.0050	N.D.	77	1
XYLENES	N.D.	0.0050	N.D.	76	1


Vincent Vancil
Analyst


Michael Verona
Operations Manager

**AS

LEV2

AS V132 0:BTEXQC0220

CHROMALAB, INC.

Environmental Services (SDB)

July 1, 1998

Submission #: 9806469

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: June 29, 1998

Project#: 961163NB

re: One sample for Gasoline BTEX analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: SOIL-G-1

Spl#: 193410

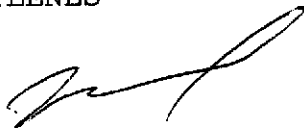
Matrix: SOIL

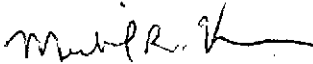
Sampled: June 29, 1998

Run#:13588

Analyzed: July 1, 1998

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	1.0	N.D.	98	1
BENZENE	N.D.	0.0050	N.D.	83	1
TOLUENE	N.D.	0.0050	N.D.	81	1
ETHYL BENZENE	N.D.	0.0050	N.D.	77	1
XYLENES	N.D.	0.0050	N.D.	76	1


Vincent Vancil
Analyst


Michael Verona
Operations Manager

**AS

LEV2

CHROMALAB, INC.

Environmental Services (SDB)

July 1, 1998

Submission #: 9806469

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: 961163NB
Received: June 29, 1998

re: **Blank spike and duplicate** report for Gasoline BTEX analysis.

Method: SW846 8020A Nov 1990 / 8015Mod

Matrix: SOIL
Lab Run#: 13588

Analyzed: July 1, 1998

Analyte	Spike Amount		Spike Amount Found		Spike Recov		Control Limits	% RPD	% Lim
	BSP (mg/Kg)	Dup	BSP (mg/Kg)	Dup	BSP (%)	Dup (%)			
GASOLINE	0.500	0.500	0.491	0.506	98.2	101	75-125	2.81	35
BENZENE	0.100	0.100	0.0834	0.0834	83.4	83.4	77-123	0	35
TOLUENE	0.100	0.100	0.0807	0.0813	80.7	81.3	78-122	0.74	35
ETHYL BENZENE	0.100	0.100	0.0774	0.0773	77.4	77.3	70-130	0.12	35
XYLENES	0.300	0.300	0.228	0.230	76.0	76.7	75-125	0.91	35

BS Smpl #: 193888
BSD Smpl #: 193889

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(925) 484-1919 • Facsimile (925) 484-1096
Federal ID #68-0140157

LEV2
QC_BSD1226 WMCB 17:05:40

CHROMALAB, INC.

Environmental Services (SDB)

July 2, 1998

Submission #: 9806469

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: 961163NB
Received: June 29, 1998

re: **Matrix spike** report for Gasoline BTEX analysis.

Method: SW846 8020A Nov 1990 / 8015Mod

Matrix: SOIL
Lab Run#: 13588 Instrument: 3400-4 Analyzed: July 1, 1998

Analyte	Spiked		Amt Found		Spike Recov		Control Limits	% RPD	% Lim	
	Sample Amount (mg/Kg)	Spike Amt MS (mg/Kg)	MS (mg/Kg)	MSD (mg/Kg)	MS (%)	MSD (%)				
GASOLINE	N.D.	0.484	0.472	0.405	0.400	83.7	84.7	65-135	1.19	35
BENZENE	N.D.	0.0969	0.0943	0.0726	0.0800	74.9	84.8	65-135	12.4	35
TOLUENE	N.D.	0.0969	0.0943	0.0678	0.0752	70.0	79.7	65-135	13.0	35
ETHYL BENZENE	N.D.	0.0969	0.0943	0.0642	0.0701	66.2	74.3	65-135	11.5	35
XYLENES	N.D.	0.291	0.283	0.187	0.202	64.3	71.4	65-135	10.5	35

Sample Spiked: 193077
Submission #: 9806438
Client Sample ID: SW-SB-4-10'

CHROMALAB, INC.

Environmental Services (SDB)

July 2, 1998

Submission #: 9806469

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: 961163NB
Received: June 29, 1998

re: **Surrogate** report for 4 samples for Gasoline BTEX analysis.
Method: SW846 8020A Nov 1990 / 8015Mod
Lab Run#: 13588
Matrix: SOIL

Sample#	Client Sample ID	Surrogate	% Recovered	Recovery Limits
193407-1	SOIL-SD-1A,2A	TRIFLUOROTOLUENE	55.7	53-125
193407-1	SOIL-SD-1A,2A	4-BROMOFLUOROBENZENE	61.9	58-124
193408-1	SOIL-SD-1B,2B	TRIFLUOROTOLUENE	47.5	53-125
193408-1	SOIL-SD-1B,2B	4-BROMOFLUOROBENZENE	41.2	58-124
193409-1	SOIL-SS-2	TRIFLUOROTOLUENE	68.4	53-125
193409-1	SOIL-SS-2	4-BROMOFLUOROBENZENE	65.6	58-124
193410-1	SOIL-G-1	TRIFLUOROTOLUENE	71.8	53-125
193410-1	SOIL-G-1	4-BROMOFLUOROBENZENE	62.4	58-124

Sample#	QC Sample Type	Surrogate	% Recovered	Recovery Limits
193887-1	Reagent blank (MDB)	TRIFLUOROTOLUENE	71.2	53-125
193887-1	Reagent blank (MDB)	4-BROMOFLUOROBENZENE	78.6	58-124
193888-1	Spiked blank (BSP)	TRIFLUOROTOLUENE	78.2	53-125
193888-1	Spiked blank (BSP)	4-BROMOFLUOROBENZENE	84.5	58-124
193889-1	Spiked blank duplicate (BSD)	TRIFLUOROTOLUENE	79.1	53-125
193889-1	Spiked blank duplicate (BSD)	4-BROMOFLUOROBENZENE	84.6	58-124
193890-1	Matrix spike (MS)	TRIFLUOROTOLUENE	59.5	53-125
193890-1	Matrix spike (MS)	4-BROMOFLUOROBENZENE	60.3	58-124
193891-1	Matrix spike duplicate (MSD)	TRIFLUOROTOLUENE	71.8	53-125
193891-1	Matrix spike duplicate (MSD)	4-BROMOFLUOROBENZENE	61.9	58-124

V132 LEV2
OCSURR1228 AFSANEH 02-Jul-98 15

CHROMALAB, INC.

Environmental Services (SDB)

June 30, 1998

Submission #: 9806469

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: June 29, 1998

Project#: 961163NB

re: 1 sample for TEPH analysis.
Method: EPA 8015M

Sampled: June 29, 1998

Matrix: SOIL
Run#: 13520

Extracted: June 29, 1998
Analyzed: June 30, 1998


Spl#	CLIENT SPL ID	Diesel (mg/Kg)	Motor Oil (mg/Kg)
193407	SOIL-SD-1A,2A	45	350

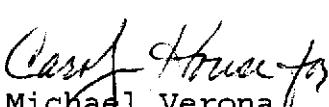
Note: Hydrocarbon reported is in the late Diesel Range and does not match our Diesel Standard. Surrogate high due to matrix interference.

Reporting Limits
Blank Result
Blank Spike Result (%)

10
N.D.
87.8

200
N.D.
--


Bruce Havlik
Analyst


Michael Verona
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

June 30, 1998

Submission #: 9806469

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: June 29, 1998

Project#: 961163NB

re: 1 sample for TEPH analysis.
Method: EPA 8015M

Sampled: June 29, 1998

Matrix: SOIL
Run#: 13520


Extracted: June 29, 1998
Analyzed: June 30, 1998

Spl#	CLIENT SPL ID	Diesel (mg/Kg)	Motor Oil (mg/Kg)
193408	SOIL-SD-1B,2B	170	1100

Note: Hydrocarbon reported is in the late Diesel Range and does not match our Diesel Standard. Surrogate diluted out.

Reporting Limits
Blank Result
Blank Spike Result (%)

40	800
N.D.	N.D.
87.8	--


Bruce Havlik
Analyst


Michael Verona
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

June 30, 1998

Submission #: 9806469

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: June 29, 1998

Project#: 961163NB

re: 1 sample for TEPH analysis.
Method: EPA 8015M

Sampled: June 29, 1998

Matrix: SOIL
Run#: 13520

Extracted: June 29, 1998
Analyzed: June 30, 1998


Spl#	CLIENT SPL ID	Diesel (mg/Kg)	Motor Oil (mg/Kg)
193409	SOIL-SS-2	2.0	N.D.

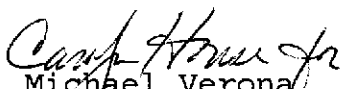
Note: Hydrocarbon reported is in the late Diesel Range and does not match our Diesel Standard.

Reporting Limits
Blank Result
Blank Spike Result (%)

1.0
N.D.
87.8

50
N.D.
--


Bruce Havlik
Analyst


Michael Verona
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

June 30, 1998

Submission #: 9806469

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: June 29, 1998

Project#: 961163NB

re: 1 sample for TEPH analysis.
Method: EPA 8015M

Sampled: June 29, 1998

Matrix: SOIL
Run#: 13520

Extracted: June 29, 1998
Analyzed: June 30, 1998


Spl#	CLIENT SPL ID	Diesel (mg/Kg)	Motor Oil (mg/Kg)
193410	SOIL-G-1	3.3	N.D.

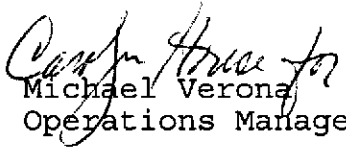
Note: Hydrocarbon reported is in the late Diesel Range and does not match our Diesel Standard.

Reporting Limits
Blank Result
Blank Spike Result (%)

1.0
N.D.
87.8

50
N.D.
--


Bruce Havlik
Analyst


Michael Verona
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

June 30, 1998

Submission #: 9806469

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: 961163NB
Received: June 29, 1998

re: **Blank spike and duplicate** report for TEPH analysis.

Method: EPA 8015M

Matrix: SOIL
Lab Run#: 13520

Analyzed: June 30, 1998

Analyte	Spike Amount		Spike Amount Found		Spike Recov		Control Limits	% RPD	% RPD Lim
	BSP (mg/Kg)	Dup	BSP (mg/Kg)	Dup	BSP (%)	Dup (%)			
DIESEL	83.3	83.3	73.1	76.0	87.8	91.2	60-130	3.80	25

BS Smpl #: 193269

BSD Smpl #: 193270

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Federal ID #68-0140157

QC_BSD1226 CMH 12-10-98

CHROMALAB, INC.

Environmental Services (SDB)

June 30, 1998

Submission #: 9806469

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: 961163NB

Received: June 29, 1998

re: **Matrix spike** report for TEPH analysis.

Method: EPA 8015M

Matrix: SOIL

Extracted: June 29, 1998

Lab Run#: 13520 Instrument:

Analyzed: June 30, 1998

Analyte	Spiked		Amt Found		Spike Recov		Control Limits	% RPD	% RPD Lim	
	Sample Amount (mg/Kg)	Spike MS (mg/Kg)	MS (mg/Kg)	MSD (mg/Kg)	MS (%)	MSD (%)				
DIESEL	N.D.	83.3	83.3	81.5	81.0	97.8	97.2	60-130	0.61	25

Sample Spiked: 193264

Submission #: 9806447

Client Sample ID: SOIL-SS-1D

CHROMALAB, INC.

Environmental Services (SDB)

June 30, 1998

Submission #: 9806469

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: 961163NB

Received: June 29, 1998

re: **Surrogate** report for 4 samples for TEPH analysis.

Method: EPA 8015M

Lab Run#: 13520

Matrix: SOIL

<u>Sample#</u>	<u>Client Sample ID</u>	<u>Surrogate</u>	<u>% Recovered</u>	<u>Recovery Limits</u>
193407-1	SOIL-SD-1A, 2A	O-TERPHENYL	134	60-130
193409-1	SOIL-SS-2	O-TERPHENYL	102	60-130
193410-1	SOIL-G-1	O-TERPHENYL	105	60-130

<u>Sample#</u>	<u>QC Sample Type</u>	<u>Surrogate</u>	<u>% Recovered</u>	<u>Recovery Limits</u>
193268-1	Reagent blank (MDB)	O-TERPHENYL	94.3	60-130
193269-1	Spiked blank (BSP)	O-TERPHENYL	126	60-130
193270-1	Spiked blank duplicate (BSD)	O-TERPHENYL	76.7	60-130
193271-1	Matrix spike (MS)	O-TERPHENYL	81.6	60-130
193272-1	Matrix spike duplicate (MSD)	O-TERPHENYL	79.0	60-130

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QCSURR1229 CMH 30-Jun-98 12:13

CHROMALAB, INC.

Environmental Services (SDB)

DRAFT

July 1, 1998

Submission #: 9806469

WOODWARD-CLYDE OAKLAND

Atten: Al Ridley

Project: Not provided
Received: June 29, 1998

Project#: 961163NB

re: One sample for Gasoline BTEX analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: SOIL-SD-1B, 2B

Spl#: 193408

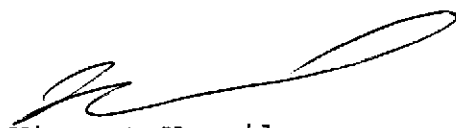
Matrix: SOIL

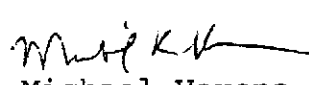
Sampled: June 29, 1998

Run#: 13588

Analyzed: July 1, 1998

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	1.0	N.D.	98	1
BENZENE	N.D.	0.0050	N.D.	83	1
TOLUENE	N.D.	0.0050	N.D.	81	1
ETHYL BENZENE	N.D.	0.0050	N.D.	77	1
XYLENES	N.D.	0.0050	N.D.	76	1


Vincent Vancil
Analyst


Michael Verona
Operations Manager

**AS

LEV2

9906469/193407-10

40635

Woodward-Clyde Consultants

500 12th Street, Suite 200 • Oakland, CA 94607-4014
(510) 893-3600

6012 25th Street, Suite 200, Oakland, CA 94612
TEL: 510-893-3600 FAX: 510-893-3601
E-MAIL: WOODCLY@AOL.COM
WWW: WWW.WOODCLY.COM

PROJECT NO. *961163NB*

SAMPLERS: (Signature) *SP*

DATE	TIME	SAMPLE NUMBER
<i>1998</i>		

Sample Matrix (Soil, Water, Air)	AN				Number of Containers	
	EPA Method	EPA Method	EPA Method	EPA Method		
			<i>gas/BTEX</i>	<i>Diesel</i>	<i>MOTOR OIL</i>	

REMARKS
(Sample preservation, handling procedures, etc.)

<i>6/29</i>	<i>1215</i>	<i>SOIL-SD-1A</i>				<i>✓</i>	<i>✓</i>	<i>✓</i>	<i>1</i>	<i>Composite and analyze</i>
	<i>1220</i>	<i>SOIL-SIO-2A</i>				<i>✓</i>	<i>✓</i>	<i>✓</i>	<i>1</i>	
	<i>1230</i>	<i>SOIL-SD-1B</i>				<i>✓</i>	<i>✓</i>	<i>✓</i>	<i>1</i>	<i>Composite and analyze</i>
	<i>1235</i>	<i>SOIL-SD-2B</i>				<i>✓</i>	<i>✓</i>	<i>✓</i>	<i>1</i>	
	<i>1245</i>	<i>SOIL-SS-2</i>				<i>✓</i>	<i>✓</i>	<i>✓</i>	<i>1</i>	
<i>1300</i>		<i>SOIL-G-1</i>				<i>✓</i>	<i>✓</i>	<i>✓</i>	<i>1</i>	

** 24 HOUR *
RUSH
TURN AROUND*

Samples stored on ice immediately upon collection.
Samples collected in brass lined tubes capped w/ ~~plastic~~ plastic caps.
FAX RESULTS to Al Ridley 510-874-3268 Questions 510-874-3125

24 HR RUSH!!

TOTAL NUMBER OF CONTAINERS *6* *1 cooler*

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
		<i>Hsanek Salimif</i> <i>6/29/98 2:43</i>	<i>[Signature]</i> <i>Chromab</i>	<i>6/29/98</i>	
METHOD OF SHIPMENT:		SHIPPED BY: (Signature)	COURIER: (Signature)	RECEIVED FOR LAB BY (Signature)	DATE/TIME
<i>Chromab Courier</i>				<i>[Signature]</i>	<i>6/29</i>

CHROMALAB, INC.

Environmental Service (SDB)

Sample Receipt Checklist

Client Name: **WOODWARD-CLYDE OAKLAND**

Date/Time Received: **06/29/98** | **14:43**

Reference/Submis: **40635** | **9806469**

Received by: **A.S.**

Checklist completed by: *P. Kennedy*

Signature

6-30-98

Date

Reviewed by: *ALC/7/10/98*

Initials | Date

Matrix: *soil*

Carrier name: Client - **C/L**

Shipping container/cooler in good condition?

Yes No Not Present

Custody seals intact on shipping container/cooler?

Yes No Not Present

Custody seals intact on sample bottles?

Yes No Not Present

Chain of custody present?

Yes No

Chain of custody signed when relinquished and received?

Yes No

Chain of custody agrees with sample labels?

Yes No

Samples in proper container/bottle?

Yes No

Sample containers intact?

Yes No

Sufficient sample volume for indicated test?

Yes No

All samples received within holding time?

Yes No

Container/Temp Blank temperature in compliance?

Temp: **4.5°C**

Yes No

Water - VOA vials have zero headspace?

No VOA vials submitted

Yes No

Water - pH acceptable upon receipt? *yes*

Adjusted?

Checked by *chemist for VOAs*

chemist for VOAs

Any No and/or NA (not applicable) response must be detailed in the comments section below.

Client contacted: _____ Date contacted: _____ Person contacted: _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action: _____