



PACIFIC
ENVIRONMENTAL
GROUP, INC.

113

September 12, 1995
Project 305-131.1D

Mr. R. Jeff Granberry
Shell Oil Products Company
P.O. Box 4023
Concord, California 94524

Re: Site Investigation
Shell Service Station
4411 Foothill Boulevard at High Street
Oakland, California
WIC No 204-5508-3400

Dear Mr. Granberry:

This letter has been prepared by Pacific Environmental Group, Inc. (PACIFIC) to document the findings of site assessment activities performed at the site referenced above (Figures 1 and 2). The site assessment activities have been performed on behalf of Shell Oil Products Company (Shell), in accordance with the *Technical Response and Site Assessment Work Plan* (PACIFIC, April 25, 1995). The work plan was written in response to the March 14, 1995 Alameda County Health Care Services Agency (ACHCSA) letter requesting a Remedial Action Plan (RAP) submittal. This investigation has been performed prior to RAP preparation to complete the soil investigation around the underground storage tank complex, and to further define the extent of petroleum hydrocarbons in groundwater, and the source for the petroleum hydrocarbons.

SCOPE OF WORK

The scope of work consisted of the advancement of ten geoprobe borings to determine the presence or absence of petroleum hydrocarbons in soil and groundwater and delineate their extent if present (Figure 2) and to determine if the shallow water-bearing zone beneath the Shell service station is continuous laterally off site.

FINDINGS

PACIFIC completed eight on-site geoprobe borings (GP-3 through GP-10) and two off-site geoprobe borings (GP-1 and GP-2) on June 27 and 28, 1995. Seven soil geoprobe borings were advanced in the pump islands, product tank areas, and the former

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waste oil tank location as shown on Figure 2. Groundwater Geoprobe GP-1 was advanced southwest of the site on Bond Street approximately 50 feet upgradient of Well C-7 (Figure 2). Groundwater Geoprobe GP-2 was advanced west of the site on High Street adjacent to the Chevron service station (Figure 2). Groundwater Geoprobe GP-10 was advanced along the eastern edge of the site (Figure 2). Groundwater Geoprobes GP-1, GP-2, and GP-10 were advanced for the purpose of groundwater grab sample collection. Groundwater Geoprobes GP-3 through GP-9 were advanced for soil sample collection. Soil samples were collected at approximately 4-foot intervals. Two soil samples selected from each boring were submitted to the laboratory for analysis. Field and laboratory procedures and boring logs are presented as Attachment A.

Subsurface Conditions

The soils encountered during geoprobe boring advancement consisted primarily of clay to sandy clay from ground surface to approximately 4 to 9 feet below ground surface (bgs). This material is underlain by clayey sand to the total depth explored on site of 16 feet bgs. Off site in probe locations GP-1 and GP-2 the clayey sand is underlain by clay to sandy clay to the total depth explored of 31-1/2 feet bgs. Geologic cross-sections are shown on Figures 3 and 4.

Groundwater exists in on-site monitoring wells at approximately 9 feet bgs. Groundwater grab samples, however, were not obtainable until a depth of 16 feet bgs was reached in probe location GP-10 and 20 feet bgs in probe location GP-2, possibly due to clay smearing and a slow recharge rate. The groundwater levels in GP-2 and GP-10 continued to rise and grab groundwater samples were collected before static levels were reached. Probe location GP-1 was advanced to a total depth of 31.5 feet. From 15 feet to the maximum depth explored, the probe was advanced in 5-foot intervals and raised after each interval to allow groundwater recharge, if present. No groundwater grab sample was collected possibly due to smeared clay along the walls of the boring thereby not allowing groundwater to enter the boring, or groundwater only being present under pressure in the coarse-grained material at approximately 38 feet bgs.

Analytical Results

Soil samples from Geoprobe Borings GP-3 through GP-9 were analyzed for total purgeable petroleum hydrocarbons (TPPH), benzene, toluene, ethylbenzene, and xylenes (BTEX compounds), and total extractable petroleum hydrocarbons (TEPH). TPPH was detected in all geoprobe borings, with the exception of GP-5. Benzene was only detected in soil from Geoprobe Borings GP-3 and GP-4. TEPH was detected in soil from Geoprobe Borings GP-3 through GP-9. The highest concentrations of TPPH (840 and 760 parts per million [ppm] in Borings GP-7 and GP-9, respectively) and benzene (0.13 ppm in Boring GP-3) were reported at 12 feet bgs. The highest concentrations of

TEPH (180 and 380 ppm in Borings GP-7 and GP-9, respectively) were reported at 9-1/2 and 8 feet bgs. Soil analytical data for TPH, BTEX compounds, and TEPH are presented in Table 1. Analysis and quality control/quality assurance (QA/QC) procedures are described in the certified analytical reports. Certified analytical reports and chain-of-custody documentation are presented as Attachment B.

Groundwater samples from Geoprobe Borings GP-2 and GP-10 were analyzed for TPH, BTEX compounds, TEPH, semivolatile organic compounds (SVOCs), and motor oil. TPH was detected in groundwater from GP-2 at 1,100 parts per billion (ppb) and in GP-10 at 820 ppb. Benzene was detected in GP-2 at 34 ppb and in GP-10 at 6.3 ppb. TEPH was detected in GP-2 at 800 ppb and in GP-10 at 860 ppb. Motor oil was detected only in GP-10 at 820 ppb. Semivolatile organic analysis of groundwater from GP-10 reported 8.2 ppb 2-methylnaphthalene and 17 ppb naphthalene, no other SVOCs were detected. Groundwater analytical data for TPH, BTEX compounds, TEPH, and motor oil are presented in Table 2. Analysis and QA/QC procedures are described in the certified analytical reports. Certified analytical reports and chain-of-custody documentation are presented as Attachment B.

SUMMARY OF FINDINGS

- The maximum concentration of petroleum hydrocarbons from seven soil geoprobe borings advanced on site was 840 ppm TPH at 12 feet bgs in Geoprobe Boring GP-7 located immediately southwest of the product island.
- Grab groundwater samples were only obtainable from Geoprobe Borings GP-2 and GP-10. The maximum concentration of petroleum hydrocarbons in groundwater were reported from GP-2 at 1,100 ppb TPH, and 34 ppb benzene located downgradient to the west of the Shell site.
- No groundwater was encountered in Geoprobe Boring GP-1 located southwest of the site. Either clay smearing prevented infiltration of groundwater into the geoprobe boring, or groundwater occurs in the coarse-grained unit at approximately 34 to 42 feet bgs and is under pressure, raising the static water level in Well C-7 to approximately 27 feet bgs.

If you have any questions or comments, please call.

Sincerely,

Pacific Environmental Group, Inc.



Ross W. N. Tinline
Project Geologist
RG 5860



- Attachments:
- Table 1 - Soil Analytical Data -
Total Petroleum Hydrocarbons
(TPPH, BTEX Compounds, and TEPH)
 - Table 2 - Groundwater Analytical Data -
Total Petroleum Hydrocarbons
(TPPH, BTEX Compounds, TEPH, and Motor Oil)
 - Figure 1 - Site Location Map
 - Figure 2 - Geoprobe Location Map
 - Figure 3 - Geologic Cross-Section A-A'
 - Figure 4 - Geologic Cross-Section B-B'
 - Attachment A - Field and Laboratory Procedures and Boring Logs
 - Attachment B - Certified Analytical Reports and Chain-of-Custody
Documentation

cc. **Mr. Barney Chan, Alameda County Health Care Services Agency**
Mr. Mark Miller, Chevron U.S.A. Products Company

Table 1
Soil Analytical Data
Total Petroleum Hydrocarbons
(TPPH, BTEX Compounds, and TEPH)

Shell Service Station
4411 Foothill Boulevard at High Street
Oakland, California

Sample ID	Sample Depth (feet)	Date Sampled	TPPH (C6-C12) (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Xylenes (ppm)	TEPH (C9-C24) (ppm)
GP-3	8	06/28/95	ND	0.006	ND	ND	ND	2.0
	12		8.4	0.13	0.029	0.14	0.36	3.7
GP-4	8	06/28/95	7.2	0.098	0.009	0.054	0.13	2.9
	12		280	ND	3.1	3.9	25	46
GP-5	8	06/28/95	ND	ND	ND	ND	ND	ND
	12		ND	ND	ND	ND	ND	1.2
GP-6	8	06/27/95	87	ND	1.3	2.2	6.6	7.3
	12		39	ND	ND	0.14	0.29	5.4
GP-7	9.5	06/27/95	ND	ND	ND	0.15	0.017	180
	12		840	ND	6.0	20	98	43
GP-8	8	06/28/95	ND	ND	ND	ND	ND	ND
	12		86	ND	ND	1.0	2.0	15
GP-9	8	06/28/95	190	ND	ND	3.6	13	380
	12		760	ND	0.71	17	76	41
TPPH = Total purgeable petroleum hydrocarbons TEPH = Total extractable petroleum hydrocarbons ppm = Parts per million ND = Not detected								

Table 2
Groundwater Analytical Data
Total Petroleum Hydrocarbons
(TPPH, BTEX Compounds, TEPH, and Motor Oil)

Shell Service Station
 4411 Foothill Boulevard at High Street
 Oakland, California

Sample ID	Date Sampled	TPPH (C6-C12) (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Xylenes (ppb)	TEPH (C9-C24) (ppb)	Motor Oil (ppb)
GP-2	06/27/95	1,100	34	ND	7.2	4.1	800	ND
GP-10	06/28/95	820	6.3	ND	41	71	860	820
TPPH	= Total purgeable petroleum hydrocarbons							
TEPH	= Total extractable petroleum hydrocarbons							
ppb	= Parts per billion							
ND	= Not detected							

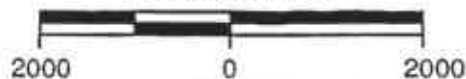


QUADRANGLE
LOCATION

REFERENCES:

USGS 7.5 MIN. TOPOGRAPHIC MAP
TITLED: OAKLAND EAST, CALIFORNIA
DATED: 1959 REVISED: 1980

SCALE IN FEET

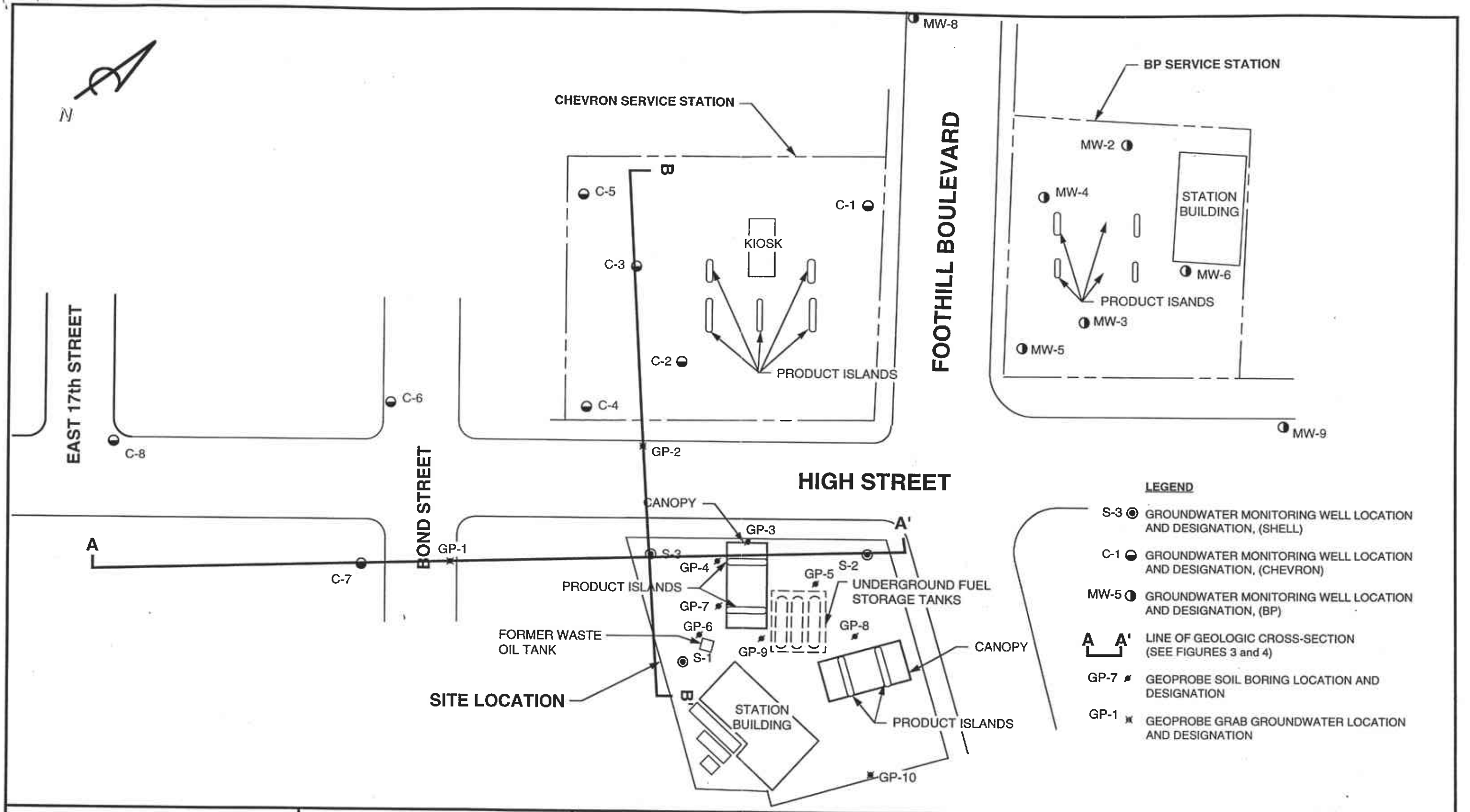


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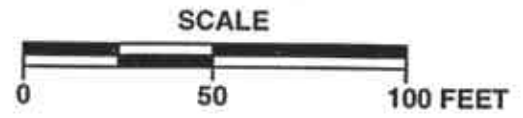
SHELL SERVICE STATION
4411 Foothill Boulevard at High Street
Oakland, California

SITE LOCATION MAP

FIGURE:
1
PROJECT:
305-131.1B



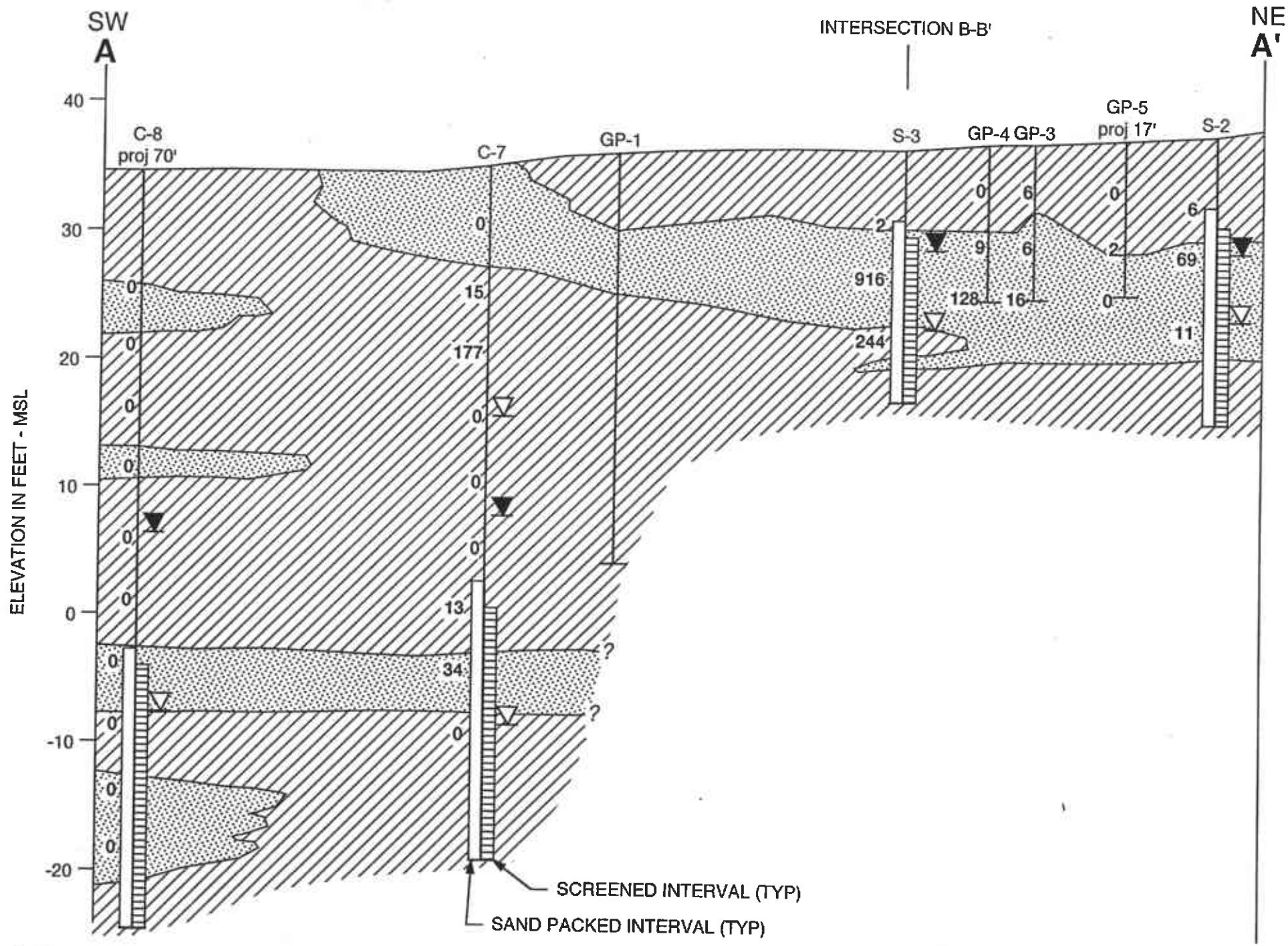

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SHELL SERVICE STATION
 4411 Foothill Boulevard at High Street
 Oakland, California

GEOPROBE LOCATION MAP

FIGURE: 2
PROJECT: 305-131.1B



- LEGEND**
-  PRIMARILY FINE-GRAINED DEPOSITS - CL and SM
 -  PRIMARILY COARSE-GRAINED DEPOSITS - SC, SW, SP, GC, GW and GP
 - S-2 GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION (SHELL)
 - C-7 GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION (CHEVRON)
 - GP-1 GEOPROBE SOIL BORING LOCATION AND DESIGNATION
 - proj PROJECTED ONTO LINE OF SECTION IN FEET
 -  FIRST ENCOUNTERED WATER LEVEL AT TIME OF DRILLING
 -  STATIC WATER LEVEL, 6-20-94
 - 916 PHOTO IONIZATION DETECTOR LEVEL IN PARTS PER MILLION

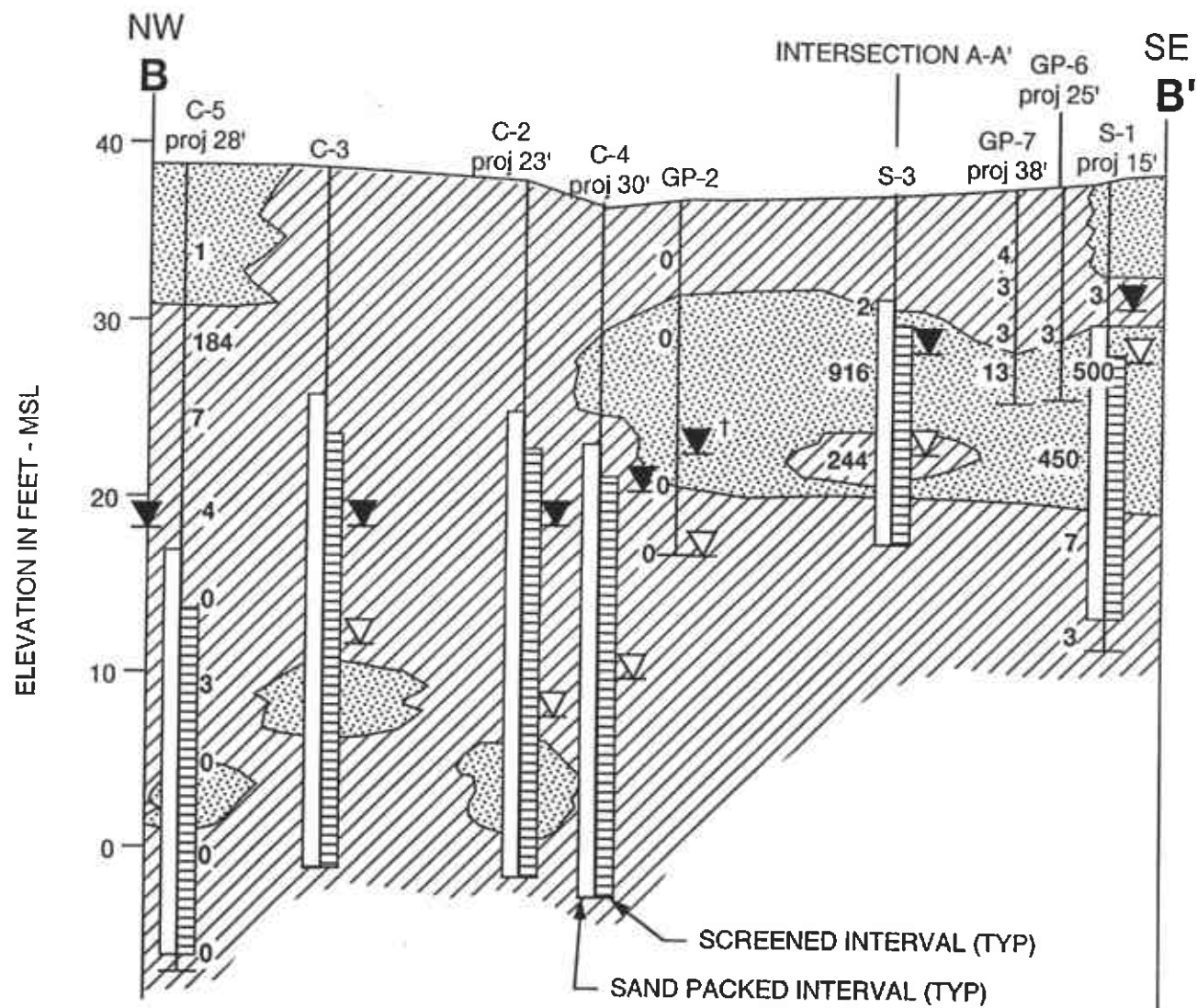


SCALE
 HORIZONTAL : 1" = 50'
 VERTICAL : 1" = 10'

SHELL SERVICE STATION
 4411 Foothill Boulevard at High Street
 Oakland, California

GEOLOGIC CROSS-SECTION A-A'

FIGURE:
3
PROJECT:
 305-131.1B



- LEGEND**
- PRIMARILY FINE-GRAINED DEPOSITS - CL and SM
 - PRIMARILY COARSE-GRAINED DEPOSITS - SC, SW, SP, GC and GM
 - S-3 GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION (SHELL)
 - C-2 GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION (CHEVRON)
 - GP-2 GEOPROBE SOIL BORING LOCATION AND DESIGNATION
 - proj PROJECTED ONTO LINE OF SECTION IN FEET
 - ▽ FIRST ENCOUNTERED WATER LEVEL AT TIME OF DRILLING
 - ▼ STATIC WATER LEVEL, 6-20-94
 - 916 PHOTO IONIZATION DETECTOR LEVEL IN PARTS PER MILLION
 - † APPROXIMATE LEVEL OF GROUNDWATER PRIOR TO GRAB SAMPLING, 6-27-95



PACIFIC ENVIRONMENTAL GROUP, INC.

SCALE
 HORIZONTAL : 1" = 50'
 VERTICAL : 1" = 10'

SHELL SERVICE STATION
 4411 Foothill Boulevard at High Street
 Oakland, California

GEOLOGIC CROSS-SECTION B-B'

FIGURE:
4
 PROJECT:
 305-131.1B

ATTACHMENT A
FIELD AND LABORATORY PROCEDURES
AND BORING LOGS

ATTACHMENT A

FIELD AND LABORATORY PROCEDURES

Geoprobe Procedures

Soil and Groundwater Sampling

The borings for the geoprobe borings were advanced using 2-inch diameter hollow-stem rods. The borings were logged by a Pacific Environmental Group, Inc. geologist using the Unified Soil Classification System and standard geologic techniques. Soil samples for logging and laboratory analysis were collected at minimum 4-foot depth intervals by advancing the acetate lined continuous core sampler into undisturbed soil. The sampler was driven approximately 4 feet using a pneumatic hammer and hydraulic pressure. Soil samples were analyzed in the field for volatile organic compounds (VOCs) using a photo-ionization detector (PID). Results of the PID tests were used to assist in selection of samples for laboratory analysis. Two samples from each probe location was submitted for analysis as described below. Soil samples for chemical analysis were retained in acetate, capped with Teflon® and plastic end caps, taped with a non-volatile rubber-based tape, and sealed in zip-lock plastic bags. Groundwater samples were collected in the borings by use of a centrifugal pump and 1/4-inch plastic tubing. The groundwater was pumped into VOAs and 1 liter bottles for laboratory analysis. These samples were placed in a cooler with ice for transport to the laboratory accompanied by chain-of-custody documentation. The temperature of the cooler was recorded upon delivery to the laboratory.

Organic Vapor Procedures

Soil samples collected during drilling were analyzed in the field for VOCs using the HNU Model PI 101 PID with a 10.2 eV lamp. The test procedure involved measuring approximately 30 grams from an undisturbed soil sample, placing this subsample in a clean plastic bag. The bag was warmed for approximately 20 minutes, then the bag was pierced and the head-space within the bag was tested for total organic vapor, measured in parts per million as benzene (ppm; volume/volume). The instrument had been previously calibrated using a 100-ppm isobutylene standard (in air) and a sensitivity factor of 0.7, which relates the photo-

ionization sensitivity of benzene (7.0 ppm) to that of isobutylene. The results of the field testing are not reported due to anomalous data resulting from moisture interference caused by heavy rain.

Laboratory Procedures

The analytical methods for determining the presence of total purgeable petroleum hydrocarbons (TPPH), total extractable petroleum hydrocarbons (TEPH), motor oil, benzene, toluene, ethylbenzene, and xylenes are taken from EPA Methods 8015 and 8020. Analysis for semi-volatile organic compounds was by EPA Method 8270. The above analytical methods utilize the purge and trap technique, with final detection by gas chromatography using a flame-ionization detector and a PID. All analyses were performed by a California State-certified laboratory.

ATTACHMENT B

**CERTIFIED ANALYTICAL REPORTS AND
CHAIN-OF-CUSTODY DOCUMENTATION**



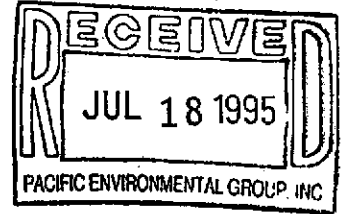
**Sequoia
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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Project: 305-131.1B/Oakland

Enclosed are the results from samples received at Sequoia Analytical on June 30, 1995. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
9506K9201	LIQUID, GP-2	6/27/95	TPHD Extractable TPH TPHD Motor Oil EPA 8270 TPHGB Purgeable TPH/BTEX
9506K9202	LIQUID, GP-10	6/28/95	TPHD Extractable TPH TPHD Motor Oil EPA 8270 TPHGB Purgeable TPH/BTEX

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Brucie Fletcher

Brucie Fletcher
Project Manager



**Sequoia
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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-2 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9506K92-01	Sampled: 06/27/95 Received: 06/30/95 Extracted: 07/05/95 Analyzed: 07/07/95 Reported: 07/14/95
Attention: Maree Doden		

QC Batch Number: GC0705950HBPEXY
Instrument ID: GCHP4A

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern:	50	800 C9-C24
Surrogates n-Pentacosane (C25)	Control Limits % 50 150	% Recovery 108

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-2 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9506K92-01	Sampled: 06/27/95 Received: 06/30/95 Extracted: 07/05/95 Analyzed: 07/07/95 Reported: 07/14/95
Attention: Maree Doden		

QC Batch Number: GC0705950HBPEXY
Instrument ID: GCHP4A

Fuel Fingerprint : Motor Oil

Analyte	Detection Limit ug/L	Sample Results ug/L
Extractable HC as Motor Oil Chromatogram Pattern:	500	N.D.
Surrogates n-Pentacosane (C25)	Control Limits % 50 150	% Recovery 108

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 305-131.1B/Oakland Sample Descriptor: GP-2 Matrix: LIQUID Analysis Method: EPA 8270 Lab Number: 9506K92-01	Sampled: 06/27/95 Received: 06/30/95 Extracted: 07/07/95 Analyzed: 07/07/95 Reported: 07/14/95
Attention: Maree Doden		

QC Batch Number: MS0703958270EXA
Instrument ID: F4

Semivolatile Organics (EPA 8270)

Analyte	Detection Limit ug/L	Sample Results ug/L
Acenaphthene	5.0	N.D.
Acenaphthylene	5.0	N.D.
Anthracene	5.0	N.D.
Benzoic Acid	10	N.D.
Benzo(a)anthracene	5.0	N.D.
Benzo(b)fluoranthene	5.0	N.D.
Benzo(k)fluoranthene	5.0	N.D.
Benzo(g,h,i)perylene	5.0	N.D.
Benzo(a)pyrene	5.0	N.D.
Benzyl alcohol	5.0	N.D.
Bis(2-chloroethoxy)methane	5.0	N.D.
Bis(2-chloroethyl)ether	5.0	N.D.
Bis(2-chloroisopropyl)ether	5.0	N.D.
Bis(2-ethylhexyl)phthalate	10	N.D.
4-Bromophenyl phenyl ether	5.0	N.D.
Butyl benzyl phthalate	5.0	N.D.
4-Chloroaniline	10	N.D.
2-Chloronaphthalene	5.0	N.D.
4-Chloro-3-methylphenol	5.0	N.D.
2-Chlorophenol	5.0	N.D.
4-Chlorophenyl phenyl ether	5.0	N.D.
Chrysene	5.0	N.D.
Dibenzo(a,h)anthracene	5.0	N.D.
Dibenzofuran	5.0	N.D.
Di-n-butyl phthalate	10	N.D.
1,2-Dichlorobenzene	5.0	N.D.
1,3-Dichlorobenzene	5.0	N.D.
1,4-Dichlorobenzene	5.0	N.D.
3,3-Dichlorobenzidine	10	N.D.
2,4-Dichlorophenol	5.0	N.D.
Diethyl phthalate	5.0	N.D.
2,4-Dimethylphenol	5.0	N.D.
Dimethyl phthalate	5.0	N.D.
4,6-Dinitro-2-methylphenol	10	N.D.
2,4-Dinitrophenol	10	N.D.
2,4-Dinitrotoluene	5.0	N.D.



Sequoia Analytical

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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-2 Matrix: LIQUID Analysis Method: EPA 8270 Lab Number: 9506K92-01	Sampled: 06/27/95 Received: 06/30/95 Extracted: 07/07/95 Analyzed: 07/07/95 Reported: 07/14/95
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QC Batch Number: MS0703958270EXA
Instrument ID: F4

Analyte	Detection Limit ug/L	Sample Results ug/L
2,6-Dinitrotoluene	5.0	N.D.
Di-n-octyl phthalate	5.0	N.D.
Fluoranthene	5.0	N.D.
Fluorene	5.0	N.D.
Hexachlorobenzene	5.0	N.D.
Hexachlorobutadiene	5.0	N.D.
Hexachlorocyclopentadiene	10	N.D.
Hexachloroethane	5.0	N.D.
Indeno(1,2,3-cd)pyrene	5.0	N.D.
Isophorone	5.0	N.D.
2-Methylnaphthalene	5.0	N.D.
2-Methylphenol	5.0	N.D.
4-Methylphenol	5.0	N.D.
Naphthalene	5.0	N.D.
2-Nitroaniline	10	N.D.
3-Nitroaniline	10	N.D.
4-Nitroaniline	10	N.D.
Nitrobenzene	5.0	N.D.
2-Nitrophenol	5.0	N.D.
4-Nitrophenol	10	N.D.
n-Nitrosodiphenylamine	5.0	N.D.
n-Nitroso-di-n-propylamine	5.0	N.D.
Pentachlorophenol	10	N.D.
Phenanthrene	5.0	N.D.
Phenol	5.0	N.D.
Pyrene	5.0	N.D.
1,2,4-Trichlorobenzene	5.0	N.D.
2,4,5-Trichlorophenol	10	N.D.
2,4,6-Trichlorophenol	5.0	N.D.
Surrogates	Control Limits %	% Recovery
2-Fluorophenol	21	110
Phenol-d5	10	110
Nitrobenzene-d5	35	114
2-Fluorobiphenyl	43	116
2,4,6-Tribromophenol	10	123
p-Terphenyl-d14	33	141

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



Sequoia Analytical

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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-2 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9506K92-01	Sampled: 06/27/95 Received: 06/30/95 Analyzed: 07/05/95 Reported: 07/14/95
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QC Batch Number: GC070595BTEX07A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	125	1100
Benzene	1.2	34
Toluene	1.2	N.D.
Ethyl Benzene	1.2	7.2
Xylenes (Total)	1.2	4.1
Chromatogram Pattern:		C6-C12
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	105

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher
Project Manager



Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-10 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9506K92-02	Sampled: 06/28/95 Received: 06/30/95 Extracted: 07/05/95 Analyzed: 07/07/95 Reported: 07/14/95
Attention: Maree Doden		

QC Batch Number: GC0705950HBPEXY
Instrument ID: GCHP4A

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel Chromatogram Pattern:	50	860 C9-C24
Surrogates n-Pentacosane (C25)	Control Limits % 50 150	% Recovery 98

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-10 Matrix: LIQUID Analysis Method: EPA 8015 Mod Lab Number: 9506K92-02	Sampled: 06/28/95 Received: 06/30/95 Extracted: 07/05/95 Analyzed: 07/07/95 Reported: 07/14/95
Attention: Maree Doden		

QC Batch Number: GC0705950HBPEXY
Instrument ID: GCHP4A

Fuel Fingerprint : Motor Oil

Analyte	Detection Limit ug/L	Sample Results ug/L
Extractable HC as Motor Oil Chromatogram Pattern:	500	820 C16-C36
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	98

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Client Proj. ID: 305-131.1B/Oakland
Sample Descript: GP-10
Matrix: LIQUID
Analysis Method: EPA 8270
Lab Number: 9506K92-02

Sampled: 06/28/95
Received: 06/30/95
Extracted: 07/07/95
Analyzed: 07/07/95
Reported: 07/14/95

Attention: Maree Doden

QC Batch Number: MS0703958270EXA
Instrument ID: F4

Semivolatile Organics (EPA 8270)

Analyte	Detection Limit ug/L	Sample Results ug/L
Acenaphthene	5.0	N.D.
Acenaphthylene	5.0	N.D.
Anthracene	5.0	N.D.
Benzoic Acid	10	N.D.
Benzo(a)anthracene	5.0	N.D.
Benzo(b)fluoranthene	5.0	N.D.
Benzo(k)fluoranthene	5.0	N.D.
Benzo(g,h,i)perylene	5.0	N.D.
Benzo(a)pyrene	5.0	N.D.
Benzyl alcohol	5.0	N.D.
Bis(2-chloroethoxy)methane	5.0	N.D.
Bis(2-chloroethyl)ether	5.0	N.D.
Bis(2-chloroisopropyl)ether	5.0	N.D.
Bis(2-ethylhexyl)phthalate	10	N.D.
4-Bromophenyl phenyl ether	5.0	N.D.
Butyl benzyl phthalate	5.0	N.D.
4-Chloroaniline	10	N.D.
2-Chloronaphthalene	5.0	N.D.
4-Chloro-3-methylphenol	5.0	N.D.
2-Chlorophenol	5.0	N.D.
4-Chlorophenyl phenyl ether	5.0	N.D.
Chrysene	5.0	N.D.
Dibenzo(a,h)anthracene	5.0	N.D.
Dibenzofuran	5.0	N.D.
Di-n-butyl phthalate	10	N.D.
1,2-Dichlorobenzene	5.0	N.D.
1,3-Dichlorobenzene	5.0	N.D.
1,4-Dichlorobenzene	5.0	N.D.
3,3-Dichlorobenzidine	10	N.D.
2,4-Dichlorophenol	5.0	N.D.
Diethyl phthalate	5.0	N.D.
2,4-Dimethylphenol	5.0	N.D.
Dimethyl phthalate	5.0	N.D.
4,6-Dinitro-2-methylphenol	10	N.D.
2,4-Dinitrophenol	10	N.D.
2,4-Dinitrotoluene	5.0	N.D.



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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-10 Matrix: LIQUID Analysis Method: EPA 8270 Lab Number: 9506K92-02	Sampled: 06/28/95 Received: 06/30/95 Extracted: 07/07/95 Analyzed: 07/07/95 Reported: 07/14/95
--	--	--

QC Batch Number: MS0703958270EXA
Instrument ID: F4

Analyte	Detection Limit ug/L	Sample Results ug/L	
2,6-Dinitrotoluene	5.0	N.D.	
Di-n-octyl phthalate	5.0	N.D.	
Fluoranthene	5.0	N.D.	
Fluorene	5.0	N.D.	
Hexachlorobenzene	5.0	N.D.	
Hexachlorobutadiene	5.0	N.D.	
Hexachlorocyclopentadiene	10	N.D.	
Hexachloroethane	5.0	N.D.	
Indeno(1,2,3-cd)pyrene	5.0	N.D.	
Isophorone	5.0	N.D.	
2-Methylnaphthalene	5.0	8.2	
2-Methylphenol	5.0	N.D.	
4-Methylphenol	5.0	N.D.	
Naphthalene	5.0	17	
2-Nitroaniline	10	N.D.	
3-Nitroaniline	10	N.D.	
4-Nitroaniline	10	N.D.	
Nitrobenzene	5.0	N.D.	
2-Nitrophenol	5.0	N.D.	
4-Nitrophenol	10	N.D.	
n-Nitrosodiphenylamine	5.0	N.D.	
n-Nitroso-di-n-propylamine	5.0	N.D.	
Pentachlorophenol	10	N.D.	
Phenanthrene	5.0	N.D.	
Phenol	5.0	N.D.	
Pyrene	5.0	N.D.	
1,2,4-Trichlorobenzene	5.0	N.D.	
2,4,5-Trichlorophenol	10	N.D.	
2,4,6-Trichlorophenol	5.0	N.D.	
Surrogates	Control Limits %	% Recovery	
2-Fluorophenol	21	110	47
Phenol-d5	10	110	33
Nitrobenzene-d5	35	114	79
2-Fluorobiphenyl	43	116	72
2,4,6-Tribromophenol	10	123	88
p-Terphenyl-d14	33	141	80

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-10 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9506K92-02	Sampled: 06/28/95 Received: 06/30/95 Analyzed: 07/06/95 Reported: 07/14/95
--	--	---

QC Batch Number: GC070695BTEX22A
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	100	820
Benzene	1.0	6.3
Toluene	1.0	N.D.
Ethyl Benzene	1.0	41
Xylenes (Total)	1.0	71
Chromatogram Pattern:		C6-C12
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	126

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110 Attention: Maree Doden	Client Project ID: 305-131.1B/Oakland Matrix: LIQUID Work Order #: 9506K92 01-02	Reported: Jul 14, 1995
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QUALITY CONTROL DATA REPORT

Analyte: Diesel
QC Batch#: GC0705950HBPEXY
Analy. Method: EPA 8015 Mod.
Prep. Method: EPA 3520

Analyst: B. Ali
MS/MSD #: 9506L1701
Sample Conc.: N.D.
Prepared Date: 7/5/95
Analyzed Date: 7/7/95
Instrument I.D.#: GCHP4A
Conc. Spiked: 1000 µg/L

Result: 910
MS % Recovery: 91

Dup. Result: 640
MSD % Recov.: 64

RPD: 35
RPD Limit: 0-50

LCS #:

Prepared Date:
Analyzed Date:
Instrument I.D.#:
Conc. Spiked:

LCS Result:
LCS % Recov.:

MS/MSD LCS Control Limits	38-122
--	--------

Please Note:

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

Brucie Fletcher
Brucie Fletcher
Project Manager

** MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9506K92.PPP <1>



Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Client Project ID: 305-131.1B/Oakland
Matrix: Liquid

Work Order #: 9506K92 01

Reported: Jul 14, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Phenol	2-Chlorophenol	1,4-Dichloro benzene	N-Nitroso-Di-N-propylamine
QC Batch#:	MS0703958270EXA	MS0703958270EXA	MS0703958270EXA	MS0703958270EXA
Analy. Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3510	EPA 3510	EPA 3510	EPA 3510

Analyst:	E. Manuel	E. Manuel	E. Manuel	E. Manuel
MS/MSD #:	BLK070395	BLK070395	BLK070395	BLK070395
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/3/95	7/3/95	7/3/95	7/3/95
Analyzed Date:	7/3/95	7/3/95	7/3/95	7/3/95
Instrument I.D.#:	H5	H5	H5	H5
Conc. Spiked:	200 µg/L	200 µg/L	200 µg/L	200 µg/L
Result:	62	140	110	150
MS % Recovery:	31	70	55	75
Dup. Result:	64	140	120	170
MSD % Recov.:	32	70	60	85
RPD:	3.2	0.0	8.7	13
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:
Analyzed Date:
Instrument I.D.#:
Conc. Spiked:

LCS Result:
LCS % Recov.:

MS/MSD	5-112	23-134	20-124	DL-230
LCS				
Control Limits				

Please Note:

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** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

SEQUOIA ANALYTICAL

Brucie Fletcher
Brucie Fletcher
Project Manager



Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Client Project ID: 305-131.1B/Oakland
Matrix: Liquid

Work Order #: 9506K92 01

Reported: Jul 14, 1995

COC #:

QUALITY CONTROL DATA REPORT

Analyte:	1,2,4-Trichloro benzene	4-Chloro-3 Methylphenol	Acenaphthene	4-Nitrophenol
QC Batch#:	MS0703958270EXA	MS0703958270EXA	MS0703958270EXA	MS0703958270EXA
Analy. Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3510	EPA 3510	EPA 3510	EPA 3510

Analyst:	E. Manuel	E. Manuel	E. Manuel	E. Manuel
MS/MSD #:	BLK070395	BLK070395	BLK070395	BLK070395
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/3/95	7/3/95	7/3/95	7/3/95
Analyzed Date:	7/3/95	7/3/95	7/3/95	7/3/95
Instrument I.D.#:	H5	H5	H5	H5
Conc. Spiked:	200 µg/L	200 µg/L	200 µg/L	200 µg/L
Result:	130	140	140	58
MS % Recovery:	65	70	70	29
Dup. Result:	140	160	150	48
MSD % Recov.:	70	80	75	24
RPD:	7.4	13	6.9	19
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:
Analyzed Date:
Instrument I.D.#:
Conc. Spiked:

LCS Result:
LCS % Recov.:

MS/MSD LCS Control Limits	44-142	22-147	47-145	DL-132
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SEQUOIA ANALYTICAL

Bruce Fletcher
Bruce Fletcher
Project Manager



Pacific Environmental Group Client Project ID: 305-131.1B/Oakland
2025 Gateway Place, Suite 440 Matrix: Liquid
San Jose, CA 95110
Attention: Maree Doden Work Order #: 9506K92 01 Reported: Jul 14, 1995

COC #:

QUALITY CONTROL DATA REPORT

Analyte:	2,4-Dinitro- toluene	Pentachloro- phenol	Pyrene
QC Batch#:	MS0703958270EXA	MS0703958270EXA	MS0703958270EXA
Analy. Method:	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3510	EPA 3510	EPA 3510

Analyst:	E. Manuel	E. Manuel	E. Manuel
MS/MSD #:	BLK070395	BLK070395	BLK070395
Sample Conc.:	N.D.	N.D.	N.D.
Prepared Date:	7/3/95	7/3/95	7/3/95
Analyzed Date:	7/3/95	7/3/95	7/3/95
Instrument I.D.#:	H5	H5	H5
Conc. Spiked:	200 µg/L	200 µg/L	200 µg/L

Result:	150	140	130
MS % Recovery:	75	70	65

Dup. Result:	150	140	130
MSD % Recov.:	75	70	65

RPD:	0.0	0.0	0.0
RPD Limit:	0-50	0-50	0-50

LCS #:

Prepared Date:
Analyzed Date:
Instrument I.D.#:
Conc. Spiked:

LCS Result:
LCS % Recov.:

MS/MSD LCS Control Limits	39-139	14-176	52-115
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SEQUOIA ANALYTICAL

Brucie Fletcher
Brucie Fletcher
Project Manager



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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Client Project ID: 305-131.1B/Oakland
Matrix: LIQUID

Work Order #: 9506K92 01

Reported: Jul 14, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC070595BTEX07A	GC070595BTEX07A	GC070595BTEX07A	GC070595BTEX07A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	G. Garcia	G. Garcia	G. Garcia	G. Garcia
MS/MSD #:	9506L1303	9506L1303	9506L1303	9506L1303
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/5/95	7/5/95	7/5/95	7/5/95
Analyzed Date:	7/5/95	7/5/95	7/5/95	7/5/95
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10	9.8	9.7	28
MS % Recovery:	100	98	97	93
Dup. Result:	10	9.8	9.8	29
MSD % Recov.:	100	98	98	97
RPD:	0.0	0.0	1.0	3.5
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:
Analyzed Date:
Instrument I.D.#:
Conc. Spiked:

LCS Result:
LCS % Recov.:

MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120

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SEQUOIA ANALYTICAL

Brucie Fletcher
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Project Manager

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9506K92.PPP <5>



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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110 Attention: Maree Doden	Client Project ID: 305-131.1B/Oakland Matrix: LIQUID Work Order #: 9506K92 02	Reported: Jul 14, 1995
--	---	------------------------

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC070695BTEX22A	GC070695BTEX22A	GC070695BTEX22A	GC070695BTEX22A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	R. Geckler	R. Geckler	R. Geckler	R. Geckler
MS/MSD #:	950703301	950703301	950703301	950703301
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/6/95	7/6/95	7/6/95	7/6/95
Analyzed Date:	7/6/95	7/6/95	7/6/95	7/6/95
Instrument I.D.#:	GCHP22	GCHP22	GCHP22	GCHP22
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	10	10	11	32
MS % Recovery:	100	100	110	107
Dup. Result:	12	11	11	32
MSD % Recov.:	120	110	110	107
RPD:	18	9.5	0.0	0.0
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:
Analyzed Date:
Instrument I.D.#:
Conc. Spiked:

LCS Result:
LCS % Recov.:

MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120

Please Note:

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SEQUOIA ANALYTICAL

Bruce Fletcher
Bruce Fletcher
Project Manager

** MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9506K92.PPP <6>

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: PEG
 REC. BY (PRINT): JB

WORKORDER: 9506K92
 DATE OF LOG-IN: 7-3-95

CIRCLE THE APPROPRIATE RESPONSE		LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION(ETC.)
1. Custody Seal(s)	Present / Absent Intact / Broken*	1	B-F	GP-2	3 VOAS	LI	6/27/95	
2. Custody Seal Nos.:	Put in Remarks Section			↓	2x 1L Amber	↓		
3. Chain-of-Custody Records:	Present / Absent*	2	B-F	GP-10	SAME	↓	6/28/95	
4. Traffic Reports or Packing List:	Present / Absent							
5. Airbill:	Airbill / Sticker Present / Absent							
6. Airbill No.:	_____							
7. Sample Tags:	Present / Absent*							
Sample Tag Nos.:	Listed / Not Listed on Chain-of-Custody							
8. Sample Condition:	Intact / Broken* / Leaking*							
9. Does information on custody reports, traffic reports and sample tags agree?	Yes / No*							
10. Proper preservatives used:	Yes / No*							
11. Date Rec. at Lab:	<u>6-30-95</u>							
12. Temp. Rec. at Lab:	<u>12°</u>							
13. Time Rec. at Lab:	<u>1522</u>							

6-30-95 JB

* if Circled, contact Project manager and attach record of resolution



SHELL OIL COMPANY 305-131-1B
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No: _____

Date: 6/29/95
 Page 1 of 1

Site Address: 4411 Foothill Blvd. @ High St. Oakland **Analysis Required**

LAB: Sequoia

WIC#: 204-5506-3400

Shell Engineer: Dan T. Kirk Phone No.: 675-50169
 Fax #: 675-6173

Consultant Name & Address: 2025 Gateway Place
Pacific Environmental Group Suite 440 S.J.

Consultant Contact: Ross Tinline Phone No.: 441-7500
 Fax #: 441-9102

Comments: 9506K92

Sampled by: Charlie Ross
 Printed Name: Charlie Ross

CHECK ONE (1) BOX ONLY	CI/DI	TURN AROUND TIME
G.W. Monitoring <input type="checkbox"/>	4441	24 hours <input type="checkbox"/>
SRe Investigation <input checked="" type="checkbox"/>	4441	48 hours <input type="checkbox"/>
Soil Classify/Disposal <input type="checkbox"/>	4442	15 days <input checked="" type="checkbox"/> (Normal)
Water Classify/Disposal <input type="checkbox"/>	4443	Other <input type="checkbox"/>
Soil/Air Rem. or Sys. O & M <input type="checkbox"/>	4452	
Water Rem. or Sys. O & M <input type="checkbox"/>	4453	
Other <input type="checkbox"/>		

NOTE: Notify Lab as soon as possible of 24/48 hrs. TAT.

UST AGENCY: _____

Sample ID	Date	Sludge	Soil	Water	Air	No. of conds.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	Motor oil (M8015)	Semi Volatiles (8270)	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
GP-2	6/27			X		3						X				VOA	HCL	N	UST/groundwater	
GP-2	6/27			X		2	X						X	X		1L	NP		gas, diesel, mo + semi volatiles	
GP-10	6/28			X		3						X				VOA	HCL			
GP-10	6/28			X		2	X						X	X		1L	NP			

Relinquished By (signature): <u>Charlie Ross</u>	Printed Name: <u>Charlie Ross</u>	Date: <u>6/29/95</u>	Time: <u>1430</u>	Received (signature): <u>M. Doden</u>	Printed Name: <u>M. Doden</u>	Date: <u>6/29/95</u>	Time: <u>1430</u>
Relinquished By (signature): <u>M. Doden</u>	Printed Name: <u>M. Doden</u>	Date: <u>6/29/95</u>	Time: <u>1430</u>	Received (signature): <u>F. Fletcher</u>	Printed Name: <u>F. Fletcher</u>	Date: <u>6/29/95</u>	Time: <u>2:30</u>
Relinquished By (signature): <u>F. Fletcher</u>	Printed Name: <u>F. Fletcher</u>	Date: <u>6/29/95</u>	Time: <u>1522</u>	Received (signature): <u>J. BARG</u>	Printed Name: <u>J. BARG</u>	Date: <u>6/29/95</u>	Time: <u>1522</u>

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS



Sequoia Analytical

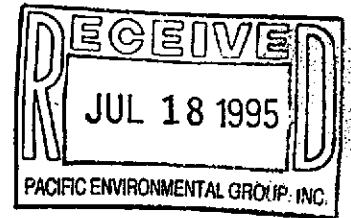
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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden



Project: 305-131.1B/Oakland

Enclosed are the results from samples received at Sequoia Analytical on June 30, 1995. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
9506K9301	SOLID, GP-3 8'	6/28/95	TPHD Extractable TPH TPHGB Purgeable TPH/BTEX
9506K9302	SOLID, GP-3 12'	6/28/95	TPHD Extractable TPH TPHGB Purgeable TPH/BTEX
9506K9303	SOLID, GP-4 8'	6/28/95	TPHD Extractable TPH TPHGB Purgeable TPH/BTEX
9506K9304	SOLID, GP-4 12'	6/28/95	TPHD Extractable TPH TPHGB Purgeable TPH/BTEX
9506K9305	SOLID, GP-5 8'	6/28/95	TPHD Extractable TPH TPHGB Purgeable TPH/BTEX
9506K9306	SOLID, GP-5 12'	6/28/95	TPHD Extractable TPH TPHGB Purgeable TPH/BTEX
9506K9307	SOLID, GP-6 8'	6/27/95	TPHD Extractable TPH TPHGB Purgeable TPH/BTEX
9506K9308	SOLID, GP-6 12'	6/27/95	TPHD Extractable TPH TPHGB Purgeable TPH/BTEX
9506K9309	SOLID, GP-7 9.5'	6/27/95	TPHD Extractable TPH TPHGB Purgeable TPH/BTEX
9506K9310	SOLID, GP-7 12'	6/27/95	TPHD Extractable TPH TPHGB Purgeable TPH/BTEX
9506K9311	SOLID, GP-8 8'	6/28/95	TPHD Extractable TPH TPHGB Purgeable TPH/BTEX
9506K9312	SOLID, GP-8 12'	6/28/95	TPHD Extractable TPH TPHGB Purgeable TPH/BTEX
9506K9313	SOLID, GP-9 8'	6/28/95	TPHD Extractable TPH TPHGB Purgeable TPH/BTEX
9506K9314	SOLID, GP-9 12'	6/28/95	TPHD Extractable TPH TPHGB Purgeable TPH/BTEX



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Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

A handwritten signature in cursive script that reads "Bruce Fletcher". The signature is written in black ink and is positioned above the printed name and title.

Bruce Fletcher
Project Manager



**Sequoia
Analytical**

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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Client Project ID: 305-131.1B/Oakland
Matrix: SOLID

Work Order #: 9506K93 01-14

Reported: Jul 14, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Diesel
QC Batch#:	GC0705950HBPEXB
Analy. Method:	EPA 8015 Mod.
Prep. Method:	EPA 3550

Analyst: B. Ali
MS/MSD #: 9506K9311
Sample Conc.: N.D.
Prepared Date: 7/5/95
Analyzed Date: 7/6/95
Instrument I.D.#: GCHP4A
Conc. Spiked: 25 mg/Kg

Result: 18
MS % Recovery: 72

Dup. Result: 19
MSD % Recov.: 76

RPD: 6.5
RPD Limit: 0-50

LCS #:

Prepared Date:
Analyzed Date:
Instrument I.D.#:
Conc. Spiked:

LCS Result:
LCS % Recov.:

MS/MSD LCS Control Limits	38-122
--	--------

Please Note:

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

Brucie Fletcher
Project Manager

** MS= Matrix Spike, MSD=MS Duplicate, RPD= Relative % Difference

9506K93.PPP <1>



Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Client Project ID: 305-131.1B/Oakland
Matrix: SOLID

Work Order #: 9506K93 01-03, 05-14

Reported: Jul 14, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC070595BTEXEXA	GC070595BTEXEXA	GC070595BTEXEXA	GC070595BTEXEXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	S. Mann	S. Mann	S. Mann	S. Mann
MS/MSD #:	9506L3201	9506L3201	9506L3201	9506L3201
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/5/95	7/5/95	7/5/95	7/5/95
Analyzed Date:	7/5/95	7/5/95	7/5/95	7/5/95
Instrument I.D.#:	GCHP1	GCHP1	GCHP1	GCHP1
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg
Result:	0.20	0.20	0.20	0.59
MS % Recovery:	100	100	100	98
Dup. Result:	0.17	0.17	0.17	0.53
MSD % Recov.:	85	85	85	88
RPD:	16	16	16	11
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:
Analyzed Date:
Instrument I.D.#:
Conc. Spiked:

LCS Result:
LCS % Recov.:

MS/MSD LCS Control Limits	55-145	47-149	47-155	56-140
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Please Note:

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

Brucie Fletcher
Project Manager

** MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9506K93.PPP <2>



Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Client Project ID: 305-131.1B/Oakland
Matrix: SOLID

Work Order #: 9506K93 04

Reported: Jul 14, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC070795BTEXEXA	GC070795BTEXEXA	GC070795BTEXEXA	GC070795BTEXEXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	S. Mann	S. Mann	S. Mann	S. Mann
MS/MSD #:	9506L3212	9506L3212	9506L3212	9506L3212
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/7/95	7/7/95	7/7/95	7/7/95
Analyzed Date:	7/7/95	7/7/95	7/7/95	7/7/95
Instrument I.D.#:	GCHP1	GCHP1	GCHP1	GCHP1
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg
Result:	0.20	0.21	0.21	0.62
MS % Recovery:	100	105	105	103
Dup. Result:	0.19	0.20	0.20	0.59
MSD % Recov.:	95	100	100	98
RPD:	5.1	4.9	4.9	5.0
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:

Prepared Date:
Analyzed Date:
Instrument I.D.#:
Conc. Spiked:

LCS Result:
LCS % Recov.:

MS/MSD LCS Control Limits	55-145	47-149	47-155	56-140
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Please Note:

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

Bruce Fletcher
Project Manager



**Sequoia
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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Client Proj. ID: 305-131.1B/Oakland
Sample Descript: GP-3 8'
Matrix: SOLID
Analysis Method: EPA 8015 Mod
Lab Number: 9506K93-01

Sampled: 06/28/95
Received: 06/30/95
Extracted: 07/05/95
Analyzed: 07/06/95
Reported: 07/14/95

QC Batch Number: GC0705950HBPEXB
Instrument ID: GCHP4A

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel Chromatogram Pattern:	1.0	2.0 C9-C24
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	96

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-3 8' Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9506K93-01	Sampled: 06/28/95 Received: 06/30/95 Extracted: 07/05/95 Analyzed: 07/05/95 Reported: 07/14/95
Attention: Maree Doden		

QC Batch Number: GC070595BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	0.006
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	98

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-3 12' Matrix: SOLID Analysis Method: EPA 8015 Mod Lab Number: 9506K93-02	Sampled: 06/28/95 Received: 06/30/95 Extracted: 07/05/95 Analyzed: 07/06/95 Reported: 07/14/95
Attention: Maree Doden		

QC Batch Number: GC0705950HBPEXB
Instrument ID: GCHP4A

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel Chromatogram Pattern:	1.0	3.7 C9-C24
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	90

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-3 12' Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9506K93-02	Sampled: 06/28/95 Received: 06/30/95 Extracted: 07/05/95 Analyzed: 07/05/95 Reported: 07/14/95
Attention: Maree Doden		

QC Batch Number: GC070595BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	8.4
Benzene	0.0050	0.13
Toluene	0.0050	0.029
Ethyl Benzene	0.0050	0.14
Xylenes (Total)	0.0050	0.36
Chromatogram Pattern:		C6-C12
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	139 Q

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Client Proj. ID: 305-131.1B/Oakland
Sample Descript: GP-4 8'
Matrix: SOLID
Analysis Method: EPA 8015 Mod
Lab Number: 9506K93-03

Sampled: 06/28/95
Received: 06/30/95
Extracted: 07/05/95
Analyzed: 07/06/95
Reported: 07/14/95

Attention: Maree Doden

QC Batch Number: GC0705950HBPEXB
Instrument ID: GCHP4A

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel Chromatogram Pattern:	1.0	2.9 C9-C24
Surrogates n-Pentacosane (C25)	Control Limits % 50 150	% Recovery 102

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-4 8' Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9506K93-03	Sampled: 06/28/95 Received: 06/30/95 Extracted: 07/05/95 Analyzed: 07/05/95 Reported: 07/14/95
Attention: Maree Doden		

QC Batch Number: GC070595BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	7.2
Benzene	0.0050	0.098
Toluene	0.0050	0.009
Ethyl Benzene	0.0050	0.054
Xylenes (Total)	0.0050	0.13
Chromatogram Pattern:		C6-C12
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	111

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



**Sequoia
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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110 Attention: Marea Doden	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-4 12' Matrix: SOLID Analysis Method: EPA 8015 Mod Lab Number: 9506K93-04	Sampled: 06/28/95 Received: 06/30/95 Extracted: 07/05/95 Analyzed: 07/06/95 Reported: 07/14/95
--	--	--

QC Batch Number: GC0705950HBPEXB
Instrument ID: GCHP4A

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel Chromatogram Pattern:	1.0	46 C9-C24
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	103

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-4 12' Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9506K93-04	Sampled: 06/28/95 Received: 06/30/95 Extracted: 07/07/95 Analyzed: 07/07/95 Reported: 07/14/95
Attention: Maree Doden		

QC Batch Number: GC070795BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	50	280
Benzene	0.25	N.D.
Toluene	0.25	3.1
Ethyl Benzene	0.25	3.9
Xylenes (Total)	0.25	25
Chromatogram Pattern:		C6-C12
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	128

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



**Sequoia
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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Client Proj. ID: 305-131.1B/Oakland
Sample Descript: GP-5 8'
Matrix: SOLID
Analysis Method: EPA 8015 Mod
Lab Number: 9506K93-05

Sampled: 06/28/95
Received: 06/30/95
Extracted: 07/05/95
Analyzed: 07/06/95
Reported: 07/14/95

Attention: Maree Doden

QC Batch Number: GC0705950HBPEXB
Instrument ID: GCHP4A

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel Chromatogram Pattern:	1.0	N.D.
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	99

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-5 8' Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9506K93-05	Sampled: 06/28/95 Received: 06/30/95 Extracted: 07/05/95 Analyzed: 07/05/95 Reported: 07/14/95
Attention: Maree Doden		

QC Batch Number: GC070595BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	86

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Bruce Fletcher
Project Manager



Pacific Environmental Group	Client Proj. ID: 305-131.1B/Oakland	Sampled: 06/27/95
2025 Gateway Place, Suite 440	Sample Descript: GP-5 12'	Received: 06/30/95
San Jose, CA 95110	Matrix: SOLID	Extracted: 07/05/95
Attention: Maree Doden	Analysis Method: EPA 8015 Mod	Analyzed: 07/06/95
	Lab Number: 9506K93-06	Reported: 07/14/95

QC Batch Number: GC0705950HBPEXB
Instrument ID: GCHP4B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel Chromatogram Pattern:	1.0	1.2 C9-C24
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	99

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher
Project Manager



Sequoia Analytical

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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Client Proj. ID: 305-131.1B/Oakland
Sample Descript: GP-5 12'
Matrix: SOLID
Analysis Method: 8015Mod/8020
Lab Number: 9506K93-06

Sampled: 06/27/95
Received: 06/30/95
Extracted: 07/05/95
Analyzed: 07/05/95
Reported: 07/14/95

Attention: Maree Doden

QC Batch Number: GC070595BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	89

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher
Project Manager



Sequoia Analytical

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FAX (916) 921-0100

Pacific Environmental Group	Client Proj. ID: 305-131.1B/Oakland	Sampled: 06/27/95
2025 Gateway Place, Suite 440	Sample Descript: GP-6 8'	Received: 06/30/95
San Jose, CA 95110	Matrix: SOLID	Extracted: 07/05/95
Attention: Maree Doden	Analysis Method: EPA 8015 Mod	Analyzed: 07/06/95
	Lab Number: 9506K93-07	Reported: 07/14/95

QC Batch Number: GC0705950HBPEXB
Instrument ID: GCHP4B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel Chromatogram Pattern:	1.0	7.3 C9-C24
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	101

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Bruce Fletcher
Project Manager



Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-6 8' Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9506K93-07	Sampled: 06/27/95 Received: 06/30/95 Extracted: 07/05/95 Analyzed: 07/05/95 Reported: 07/14/95
Attention: Maree Doden		

QC Batch Number: GC070595BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	20	87
Benzene	0.10	N.D.
Toluene	0.10	1.3
Ethyl Benzene	0.10	2.2
Xylenes (Total)	0.10	6.6
Chromatogram Pattern:		C6-C12
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	129

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher
Project Manager



**Sequoia
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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-6 12' Matrix: SOLID Analysis Method: EPA 8015 Mod Lab Number: 9506K93-08	Sampled: 06/27/95 Received: 06/30/95 Extracted: 07/05/95 Analyzed: 07/06/95 Reported: 07/14/95
Attention: Maree Doden		

QC Batch Number: GC0705950HBPEXB
Instrument ID: GCHP4B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel Chromatogram Pattern:	1.0	5.4 C9-C24
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	106

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-6 12' Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9506K93-08	Sampled: 06/27/95 Received: 06/30/95 Extracted: 07/05/95 Analyzed: 07/05/95 Reported: 07/14/95
Attention: Maree Doden		

QC Batch Number: GC070595BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	10	39
Benzene	0.050	N.D.
Toluene	0.050	N.D.
Ethyl Benzene	0.050	0.14
Xylenes (Total)	0.050	0.29
Chromatogram Pattern:		C7-C12
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	95

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-7 9.5' Matrix: SOLID Analysis Method: EPA 8015 Mod Lab Number: 9506K93-09	Sampled: 06/27/95 Received: 06/30/95 Extracted: 07/05/95 Analyzed: 07/06/95 Reported: 07/14/95
Attention: Maree Doden		

QC Batch Number: GC0705950HBPEXB
Instrument ID: GCHP5B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel Chromatogram Pattern:	1.0	180 C9-C24
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	105

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



Pacific Environmental Group	Client Proj. ID: 305-131.1B/Oakland	Sampled: 06/27/95
2025 Gateway Place, Suite 440	Sample Descript: GP-7 9.5'	Received: 06/30/95
San Jose, CA 95110	Matrix: SOLID	Extracted: 07/05/95
Attention: Maree Doden	Analysis Method: 8015Mod/8020	Analyzed: 07/05/95
	Lab Number: 9506K93-09	Reported: 07/14/95

QC Batch Number: GC070595BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	0.15
Xylenes (Total)	0.0050	0.017
Chromatogram Pattern:		
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	94

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Client Proj. ID: 305-131.1B/Oakland
Sample Descript: GP-7 12'
Matrix: SOLID
Analysis Method: EPA 8015 Mod
Lab Number: 9506K93-10

Sampled: 06/28/95
Received: 06/30/95
Extracted: 07/05/95
Analyzed: 07/06/95
Reported: 07/14/95

Attention: Marea Doden

QC Batch Number: GC0705950HBPEXB
Instrument ID: GCHP4B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel Chromatogram Pattern:	1.0	43 C9-C24
Surrogates n-Pentacosane (C25)	Control Limits % 50 150	% Recovery 106

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-7 12' Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9506K93-10	Sampled: 06/28/95 Received: 06/30/95 Extracted: 07/05/95 Analyzed: 07/05/95 Reported: 07/14/95
Attention: Maree Doden		

QC Batch Number: GC070595BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	100	840
Benzene	0.50	N.D.
Toluene	0.50	6.0
Ethyl Benzene	0.50	20
Xylenes (Total)	0.50	98
Chromatogram Pattern:		C6-C12
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	143 Q

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher
Project Manager



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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-8 8' Matrix: SOLID Analysis Method: EPA 8015 Mod Lab Number: 9506K93-11	Sampled: 06/28/95 Received: 06/30/95 Extracted: 07/05/95 Analyzed: 07/06/95 Reported: 07/14/95
Attention: Maree Doden		

QC Batch Number: GC0705950HBPEXB
Instrument ID: GCHP4A

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel Chromatogram Pattern:	1.0	N.D.
Surrogates n-Pentacosane (C25)	Control Limits % 50 150	% Recovery 89

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-8 8' Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9506K93-11	Sampled: 06/28/95 Received: 06/30/95 Extracted: 07/05/95 Analyzed: 07/05/95 Reported: 07/14/95
Attention: Maree Doden		

QC Batch Number: GC070595BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	91

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-8 12' Matrix: SOLID Analysis Method: EPA 8015 Mod Lab Number: 9506K93-12	Sampled: 06/28/95 Received: 06/30/95 Extracted: 07/05/95 Analyzed: 07/06/95 Reported: 07/14/95
Attention: Maree Doden		

QC Batch Number: GC0705950HBPEXB
Instrument ID: GCHP4A

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel Chromatogram Pattern:	1.0	15 C9-C24
Surrogates n-Pentacosane (C25)	Control Limits % 50 150	% Recovery 102

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110

Client Proj. ID: 305-131.1B/Oakland
Sample Descript: GP-8 12'
Matrix: SOLID
Analysis Method: 8015Mod/8020
Lab Number: 9506K93-12

Sampled: 06/28/95
Received: 06/30/95
Extracted: 07/05/95
Analyzed: 07/05/95
Reported: 07/14/95

Attention: Maree Doden

QC Batch Number: GC070595BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	10	86
Benzene	0.050	N.D.
Toluene	0.050	N.D.
Ethyl Benzene	0.050	1.0
Xylenes (Total)	0.050	2.0
Chromatogram Pattern:		C6-C12
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	151 Q

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



**Sequoia
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Pacific Environmental Group	Client Proj. ID: 305-131.1B/Oakland	Sampled: 06/28/95
2025 Gateway Place, Suite 440	Sample Descript: GP-9 8'	Received: 06/30/95
San Jose, CA 95110	Matrix: SOLID	Extracted: 07/05/95
Attention: Maree Doden	Analysis Method: EPA 8015 Mod	Analyzed: 07/06/95
	Lab Number: 9506K93-13	Reported: 07/14/95

QC Batch Number: GC0705950HBPEXB
Instrument ID: GCHP5B

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel Chromatogram Pattern:	1.0	380 C9-C24
Surrogates	Control Limits %	% Recovery
n-Pentacosane (C25)	50 150	103

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-9 8' Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9506K93-13	Sampled: 06/28/95 Received: 06/30/95 Extracted: 07/05/95 Analyzed: 07/05/95 Reported: 07/14/95
Attention: Maree Doden		

QC Batch Number: GC070595BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	50	190
Benzene	0.25	N.D.
Toluene	0.25	N.D.
Ethyl Benzene	0.25	3.6
Xylenes (Total)	0.25	13
Chromatogram Pattern:		C6-C12
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	94

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Brucie Fletcher

Brucie Fletcher
Project Manager



Sequoia Analytical

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Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-9-12' Matrix: SOLID Analysis Method: EPA 8015 Mod Lab Number: 9506K93-14	Sampled: 06/28/95 Received: 06/30/95 Extracted: 07/05/95 Analyzed: 07/06/95 Reported: 07/14/95
Attention: Maree Doden		

QC Batch Number: GC0705950HBPEXB
Instrument ID: GCHP4A

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel Chromatogram Pattern:	1.0	41 C9-C24
Surrogates n-Pentacosane (C25)	Control Limits % 50 150	% Recovery 101

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Bruce Fletcher
Project Manager



Pacific Environmental Group 2025 Gateway Place, Suite 440 San Jose, CA 95110 Attention: Maree Doden	Client Proj. ID: 305-131.1B/Oakland Sample Descript: GP-9-12' Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9506K93-14	Sampled: 06/28/95 Received: 06/30/95 Extracted: 07/05/95 Analyzed: 07/05/95 Reported: 07/14/95
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QC Batch Number: GC070595BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	100	760
Benzene	0.50	N.D.
Toluene	0.50	0.71
Ethyl Benzene	0.50	17
Xylenes (Total)	0.50	76
Chromatogram Pattern:		C6-C12
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	112

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Bruce Fletcher
Project Manager



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Pacific Environmental Group
2025 Gateway Place, Suite 440
San Jose, CA 95110
Attention: Maree Doden

Client Proj. ID: 305-131.1B/Oakland

Lab Proj. ID: 9506K93

Received: 06/30/95

Reported: 07/14/95

LABORATORY NARRATIVE

Please note:

Q: Coelution confirmed for TPHG samples 9506k93-02,10&12.

SEQUOIA ANALYTICAL

Bruce Fletcher
Project Manager

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: PFCO
 REC. BY (PRINT): L Krause

WORKORDER: 9506K93
 DATE OF LOG-IN: 7-3-95

CIRCLE THE APPROPRIATE RESPONSE		LAB SAMPLE #	DASH #	CLIENT IDENTIFICATION	CONTAINER DESCRIPTION	SAMPLE MATRIX	DATE SAMP.	REMARKS: CONDITION(ETC.)
1. Custody Seal(s)	Present / Absent Intact / Broken*	1	A	GP-3 8'	core	S	6/28	
2. Custody Seal Nos.:	Put In Remarks Section	2		↓ 12'				
3. Chain-of-Custody Records:	Present / Absent*	3		GP-4 8'				
4. Traffic Reports or Packing List:	Present / Absent	4		GP-5 8'				
5. Airbill:	Airbill / Sticker Present / Absent	5		↓ 12'				
6. Airbill No.:		6		GP-6 8'			6/27	
7. Sample Tags:	Present / Absent*	7		↓ 12'				
Sample Tag Nos.:	Listed / Not Listed on Chain-of-Custody	8		GP-7 9 1/2'				
8. Sample Condition:	Intact / Broken* / Leaking*	9		↓ 12'				
9. Does information on custody reports, traffic reports and sample tags agree?	Yes / No *	10		GP-8 8'			6/28	
10. Proper preservatives used:	Yes / No *	11		↓ 12'				
11. Date Rec. at Lab:	<u>6/30/95</u>	12		GP-9 8'				
12. Temp. Rec. at Lab:	<u>14°C</u>	13	↓	GP-9 12'	↓			
13. Time Rec. at Lab:	<u>1522</u>	14						

* if Circled, contact Project manager and attach record of resolution



SHELL OIL COMPANY 305-131.1B
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No: _____

Date: 6/30/95

Page 1 of 2

Site Address: 4411 Foothill Blvd. @ Hartz St. Oakland Analysis Required

WIC#: 204-5506-3400

Shell Engineer: Dan T. Kirk
 Phone No.: 675-6168
 Fax #: 675-6170

Consultant Name & Address: 2025 Gateway Place
 Pacific Environmental Group Suite 440 S.J.

Consultant Contact: Ross Tinline
 Phone No.: 441-7500
 Fax #: 441-9102

Comments: 9506K93

Sampled by: Charlie Ross

Printed Name: Charlie Ross

LAB: Sequoia

CHECK ONE (X) BOX ONLY	CI/DT	TURN AROUND TIME
G.W. Monitoring <input type="checkbox"/>	4461	24 hours <input type="checkbox"/>
Site Investigation <input checked="" type="checkbox"/>	4441	48 hours <input type="checkbox"/>
Soil Classify/Disposal <input type="checkbox"/>	4442	15 days <input checked="" type="checkbox"/> (Normal)
Water Classify/Disposal <input type="checkbox"/>	4443	Other <input type="checkbox"/>
Soil/Air Rem. or Sys. O & M <input type="checkbox"/>	4452	
Water Rem. or Sys. O & M <input type="checkbox"/>	4453	
Other <input type="checkbox"/>		

NOTE: Helly Lab as soon as possible of 24/48 hrs. 1AT.

UST AGENCY: _____

Sample ID	Date	Sludge	Soil	Water	Air	No. of confs.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
																	geoprobes soil/gas+diesel	
GP-3 8'	6/28		X			1		X				X		2" x 6"		N		
GP-3 12'																		
GP-4 8'																		
GP-4 12'																		
GP-5 8'																		
GP-5 12'																		
GP-6 8'	6/27																	
GP-6 12'																		

Relinquished By (signature): <i>Charlie Ross</i>	Printed Name: Charlie Ross	Date: 6/30/95 Time: 9:00	Received (signature): <i>M. Dodson</i>	Printed Name: M. Dodson	Date: 6/30/95 Time: 12:45
Relinquished By (signature): <i>M. Dodson</i>	Printed Name: M. Dodson	Date: 6/30/95 Time: 8:35	Received (signature): <i>F. K. Fisher</i>	Printed Name: F. K. Fisher	Date: 6/30/95 Time: 2:30
Relinquished By (signature): <i>F. K. Fisher</i>	Printed Name: F. K. Fisher	Date: 6/30/95 Time: _____	Received (signature): <i>_____</i>	Printed Name: _____	Date: 6/30/95 Time: 15:30



SHELL OIL COMPANY 305-131.1B
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No: _____

Date: 6/30/95
 Page 2 of 2

Site Address: 4411 Foothill Blvd @ High St., Oakland

Analysis Required

LAB: Sequoia

WIC#: 204-5506-3400

Shell Engineer: Dan T. Kirk Phone No.: 675-6168
 Fax #: 675-6178

Consultant Name & Address: 2025 Gateway Place
Pacific Environmental Group Suite 440 S.J.

Consultant Contact: Ross Tinline Phone No.: 441-7500
 Fax #: 441-9102

Comments:

Sampled by: Charlie Rous
 Printed Name: Charlie Rous

Sample ID	Date	Sludge	Soil	Water	Air	No. of conds.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	Asbestos	Container Size	Preparation Used	Composite Y/N
GP-7	9 1/2'	6/27	X			1		X				X		2" x 6"		N
GP-7	12'															
GP-8	8'	6/28														
GP-8	12'															
GP-9	8'															
GP-9	12'															

CHECK ONE (1) BOX ONLY	CI/DI	TURN AROUND TIME
G.W. Monitoring <input type="checkbox"/>	4461	24 hours <input type="checkbox"/>
Site Investigation <input checked="" type="checkbox"/>	4441	8 hours <input type="checkbox"/>
Soil Classify/Disposal <input type="checkbox"/>	4442	15 days <input checked="" type="checkbox"/> (Normal)
Water Classify/Disposal <input type="checkbox"/>	4443	Other <input type="checkbox"/>
Soil/Air Rem. or Sys. O & M <input type="checkbox"/>	4452	
Water Rem. or Sys. O & M <input type="checkbox"/>	4453	
Other <input type="checkbox"/>		

UST AGENCY: _____

MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
<u>gp probed soil/gas + diesel</u>	

Relinquished By (signature): <u>Charlie Rous</u>	Printed Name: <u>Charlie Rous</u>	Date: <u>6/30/95</u>	Time: <u>9:00</u>	Received (signature): <u>[Signature]</u>	Printed Name: <u>M. Doden</u>	Date: <u>6/30/95</u>	Time: <u>12:00</u>
Relinquished By (signature): <u>[Signature]</u>	Printed Name: <u>M. Doden</u>	Date: <u>6/30/95</u>	Time: <u>11:30</u>	Received (signature): <u>[Signature]</u>	Printed Name: <u>F. Fletcher</u>	Date: <u>6/30/95</u>	Time: <u>2:30</u>
Relinquished By (signature): <u>[Signature]</u>	Printed Name: _____	Date: <u>6/30/95</u>	Time: _____	Received (signature): <u>[Signature]</u>	Printed Name: <u>L. Krause</u>	Date: <u>6/30/95</u>	Time: <u>15:00</u>

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN OF CUSTODY WITH INVOICE AND RESULTS