Chevron

Chevron U.S.A. Inc.
2410 Camino Ramon, San Ramon, California • Phone (415) 842-9500
Mail Address: P.O. Box 5004, San Ramon, CA 94583-0804

Marketing Department

August 5, 1991

Mr. Rafat Shahid
Alameda County
Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

Re: Chevron Service Station #9-1740
6550 Moraga Avenue
Oakland, CA 94611

Dear Mr. Shahid:

Enclosed we are forwarding the [redacted] port dated August 2, 1991, conducted by our consultant Sierra Environmental Services for the above referenced site. As indicated in the report, groundwater samples collected were analyzed for total petroleum hydrocarbons as gasoline (TPH-G) and BTEX. Benzene was detected in monitor wells C-1, C-2 and C-4 at concentrations of 250, 190 and 1500 ppb, respectively. Depth to groundwater was measured at approximately 4 to 7-feet below grade, and the direction of flow is to the south-southeast.

Chevron will continue to sample this site and report findings on a quarterly basis for three (3) additional quarters. This will complete one (1) years worth of sampling. At this time, the data will be evaluated and appropriate next actions recommended.

If you have any questions or comments please do not hesitate to call me at (415) 842 - 9581.

Very truly yours,
CHEVRON U.S.A. INC.

Nancy Vukelich
Environmental Engineer

Enclosure

cc: Mr. Rich Hiett, RWQCB-Bay Area
Mr. S.A. Willar
File (#9-1740ql Listing)

91 AUG -7 PM 3:02

SIERRA
Environmental Services

TLH

August 2, 1991

Nancy Vukelich
Chevron USA
P.O. Box 5004
San Ramon, CA 94583

Re: Chevron Service Station #9-1740
6550 Moraga Avenue
Oakland, California
SES Project #1-221-04

Dear Ms. Vukelich:

This report presents the results of the quarterly ground water sampling at Chevron Service Station #9-1740, located at 6550 Moraga Avenue in Oakland, California (Figure 1, Appendix A). Ground water samples from four wells, C-1 through C-4, were collected (Figure 2, Appendix A).

On July 1, 1991, SES personnel visited the site. Free phase hydrocarbons were not present in any of the site wells. Water level data are shown in Table 1 (Appendix B) and a ground water elevation contour map is included as Figure 2 (Appendix A).

The ground water samples were collected on July 1, 1991 in accordance with SES Standard Operating Procedure - Ground Water Sampling (Appendix C). All analyses were performed by Superior Analytical Laboratory of Martinez, California. Analytic results for ground water are presented in Table 2 (Appendix B). Chain of custody documents and laboratory analytic reports are included in Appendix D. SES is not responsible for laboratory omissions or errors.

Thank you for allowing us to provide services to Chevron. Please call if you have any questions.

Sincerely,
Sierra Environmental Services

Jeanne A. Wahler
Senior Project Geologist

Dr. Roger Greensfelder
Registered Geologist #003011

REGISTERED GEOLOGIST
R. W. GREENSFELDER
No. 003011
STATE OF CALIFORNIA

JW/RG:ly
22104QM.AU1

Appendices A - Figures
B - Tables
C - SES Standard Operating Procedure
D - Chain of Custody Documents and Laboratory Analytic Reports

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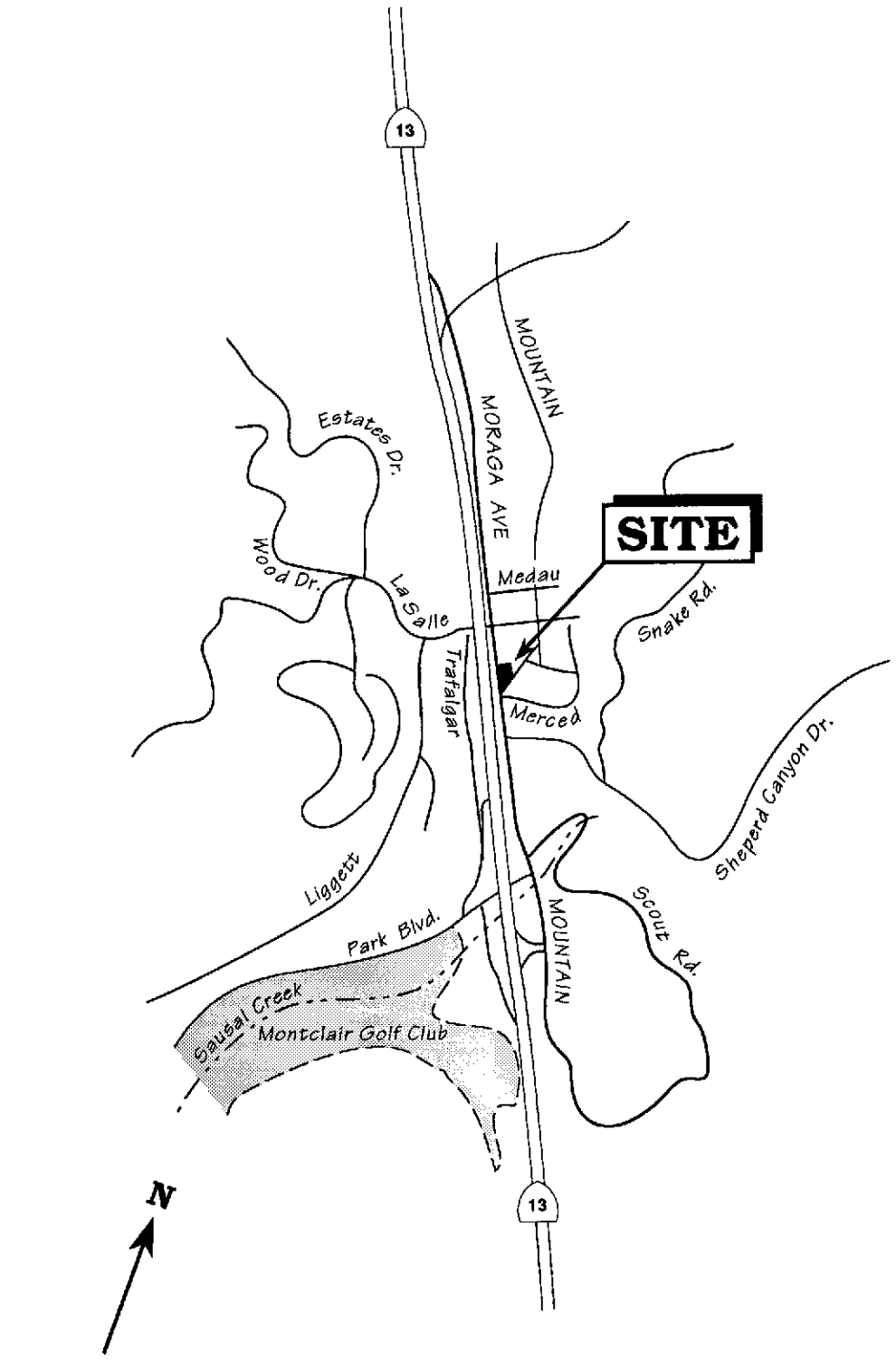

Base map ref: California Automobile Association (AAA)

Figure 1. Site Location Map – Chevron Service Station #9-1740, 6550 Moraga Avenue, Oakland, California

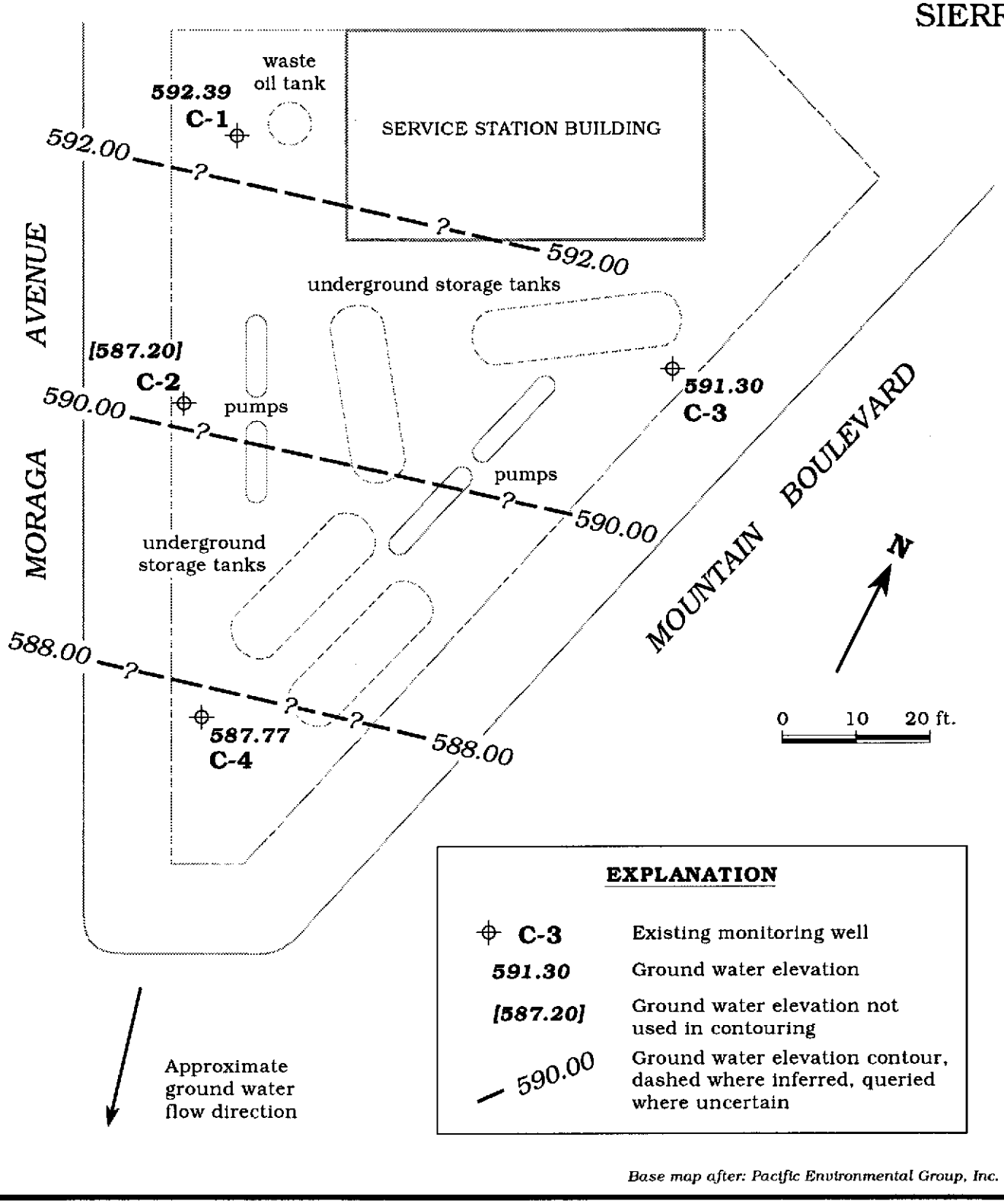

Figure 2. Monitoring Well Locations and Ground Water Elevation Contour Map – July 1, 1991 – Chevron Service Station #9-1740, 6550 Moraga Avenue, Oakland, California

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Table 1. Water Level Data and Well Construction Details - Chevron Service Station #9-1740, 6550 Moraga Avenue, Oakland, California

Well ID	Date Measured	DTW (ft)	TOC (ft)	GWE (msl)	Product Thickness* (ft)	Screen Interval	Sand Pack Interval	Bentonite/Grout Interval
						<----------*feet below grade*---------->		
C-1	3/25/91	3.28	595.82	592.54	0†	5 - 25	4 - 25	0 - 4
	7/1/91	**3.43**		**592.39**	**0**			
C-2	3/25/91	22.89	594.57	571.68	0†	5 - 25	4 - 25	0 - 4
	7/1/91	**7.37**		**587.20**	**0**			
C-3	3/25/91	5.16	597.14	591.98	0†	5 - 25	4 - 25	0 - 4
	7/1/91	**5.84**		**591.30**	**0**			
C-4	3/25/91	4.45	593.10	588.65	0†	5 - 25	4 - 25	0 - 4
	7/1/91	**5.33**		**587.77**	**0**			

EXPLANATIONS:

DTW = Depth to water
TOC = Top of casing elevation
GWE = Ground water elevation
msl = Measurements referenced relative to mean sea level

NOTES:

Depth to water measurements prior to July 1, 1991, top of casing elevations, and well construction details were compiled from the Soil and Groundwater Investigation Report dated June 13, 1991 prepared for this service station by Pacific Environmental Group, Inc. of Pleasant Hill, California.

* Product thickness measurements prior to July 1, 1991 were measured with a clear teflon bailer. Measurements made on July 1, 1991 were measured with an MMC flexi-dip interface probe.

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Table 2. Analytic Results for Ground Water - Chevron Service Station #9-1740, 6550 Moraga Avenue, Oakland, California

Well ID	Date Sampled	Analytic Method	TPPH(G)	TPH(D)	O&G	B	T	E	X
			<----------ppb---------->						
C-1	3/25/91	8015/8020/503E	54	<50	<5,000	0.7	<0.5	<0.5	2
	7/1/91	**8015/8020**	**730**	**---**	**---**	**250**	**3.0**	**16**	**4.8**
C-2	3/25/91	8015/8020	<50	<50	---	1	<0.5	<0.5	2
	7/1/91	**8015/8020**	**660**	**---**	**---**	**190**	**2.5**	**28**	**22**
C-3	3/25/91	8015/8020	<50	<50	---	<0.5	<0.5	<0.5	0.5
	7/1/91	**8015/8020**	**<50**	**---**	**---**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
C-4	3/25/91	8015/8020	2,700	<50	---	240	16	<0.5	350
	7/1/91	**8015/8020**	**7,900**	**---**	**---**	**1,500**	**230**	**340**	**350**
Trip Blank (AA)	3/25/91	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	7/1/91	**8015/8020**	**<50**	**---**	**---**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
Bailer Blank (BB)	3/25/91	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5
	7/1/91	**8015/8020**	**<50**	**---**	**---**	**<0.5**	**<0.5**	**<0.5**	**<0.5**

EXPLANATION:

TPPH(G) = Total Purgeable Petroleum Hydrocarbons as Gasoline
TPH(D) = Total Petroleum Hydrocarbons as Diesel
O&G = Oil and Grease
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
ppb = Parts per billion
--- = Not analyzed/Not applicable

ANALYTIC METHODS:

8015 = EPA Method 8015/5030 for TPPH(G)
8015 = EPA Method 8015 for TPH(D)
8020 = EPA Method 8020 for BTEX
503E = Standard Methods Method 503E for O&G

ANALYTIC LABORATORY:

All samples were analyzed by Superior Analytic Laboratory of Martinez, California.

NOTE:

Analytic data prior to July 1, 1991 were compiled from the Soil and Groundwater Investigation Report dated June 13, 1991 prepared for this service station by Pacific Environmental Group, Inc. of Pleasant Hill, California.

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APPENDIX C
SIERRA ENVIRONMENTAL SERVICES
STANDARD OPERATING PROCEDURE

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STANDARD OPERATING PROCEDURE

GROUND WATER SAMPLING

The following describes sampling procedures used by SES field personnel to collect and handle ground water samples. Before samples are collected, careful consideration is given to the type of analysis to be performed so that precautions are taken to prevent loss of volatile components or contamination of the sample, and to preserve the sample for subsequent analysis. Wells will be sampled no less than 24 hours after well development. Collection methods specific to ground water sampling are presented below.

Prior to sampling, each well is checked for the presence of free-phase hydrocarbons using an MMS flexi-dip interface probe. Product thickness (measured to the nearest 0.01 ft) is noted on the sampling form. Water level measurements are also made using either a water level meter or the interface probe. The water level measurements are also noted on the sampling form.

Prior to sampling, each well is purged of a minimum of four well casing volumes of water using a steam-cleaned PVC bailer, or a pre-cleaned pump. Temperature, pH and electrical conductivity are measured at least three times during purging. Purging is continued until these parameters have stabilized (i.e., changes in temperature, pH or conductivity do not exceed ±0.5°F, 0.1 or 5%, respectively).

The purge water is stored temporarily on-site in 55-gallon Department of Transportation-approved drums pending analytic results. The drums are labeled with the date, contents, the SES field personnel initials and SES phone number.

Ground water samples are collected from the wells with steam-cleaned Teflon bailers. The water samples are decanted into the appropriate container for the analysis to be performed. Pre-preserved sample containers may be used or the analytic laboratory may add preservative to the sample upon arrival. Duplicate samples are collected from each well as a back-up sample and/or to provide quality control. The samples are labeled to include the project number, sample ID, date, preservative, and the field person's initials. The samples are placed in polyethylene bags and in an ice chest (maintained at 4°C with blue ice or ice) for transport under chain-of-custody to the laboratory.

The chain-of-custody form includes the project number, analysis requested, sample ID, date analysis and the SES field person's name. The form is signed and dated (with the transfer time) by each person who yields or receives the samples beginning with the field personnel and ending with the laboratory personnel.

A trip blank and bailer blank accompanies each sampling set, or 5% trip blanks and 5% bailer blanks are included for sets of greater than 20 samples. The bailer blank is prepared by pouring previously boiled water into a steam-cleaned Teflon bailer prior to sampling a well. The trip and bailer blanks are analyzed for some or all of the same compounds as the ground water samples.

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APPENDIX D
CHAIN OF CUSTODY DOCUMENTS AND
LABORATORY ANALYTIC REPORTS

2004 2

Chain-of-Custody Record

Chevron U.S.A. Inc.
P.O. Box 5004
San Ramon, CA 94583
FAX (415) 842-9591

Chevron Facility No. 9-1740
Facility Address 6550 Moraga, Oakland CA
Consultant Project Number 1-221-04
Consultant Name SIERRA ENVIRONMENTAL SERVICES
Address P.O. Box 2546, Martinez, CA 94553
Project Contact (Name) Sharon Halper
(Phone) (415) 370-1280
(FAX Number) (415) 370-7959

Chevron Contact (Name) Nancy Vukelich
(Phone) 842-9581
Laboratory Name Superior
Laboratory Release Number 4600980
Samples Collected by (Name) Ted Moise
Collection Date 7/1/91
Signature Ted Moise

Laboratory Number	Sample Identification	# - size of Container(s)	Matrix S = Soil A = Air W = Water C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (yes or no)	ANALYSIS TO BE PERFORMED: BTEX + TPH Gas (602/8020 + 8015/5030)	TPH Diesel (8015/3550/3510)	Oil and Grease (Non-polar) (5520 B/E/F)	Halogenated Hydrocarbons (601/8010)	Volatile Organic Compounds (624/8240)	Total Lead (AA)	Metals: Cd, Cr, Ni, Pb, Zn (ICAP or AA)	Organic lead (DHS LUFT)			Remarks
1	AA	3x40ml	W	G	8:00	HCl	Yes	✓										* Analyze in order *
2	BB				8:00			✓										
3	C-3				2:09			✓										
4	C-2				2:01			✓										
5	C-1				1:51			✓										
6	C-4				2:15			✓										

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Ted Moise	SES	7/1/91			
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received for Laboratory by (Signature) Robin Parker		7/1/91 3:30 pm

Turn Around Time (Circle One)
24 hours
48 hours
(5 days)
10 days
As Contracted

C E R T I F I C A T E O F A N A L Y S I S

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

QA/QC INFORMATION
SET: 20042

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
ug/l = part per billion (ppb)

OIL AND GREASE ANALYSIS By Standard Methods Method 503E:
Minimum Detection Limit in Water: 5000ug/L

Modified EPA-SW846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Water: 50ug/l
Standard Reference: NA

EPA-SW846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Water: 50ug/l
Standard Reference: Page 2

SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Water: 0.5ug/l
Standard Reference: Page 2

ANALYTE	REFERENCE	SPIKE LEVEL	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Oil & Grease	NA	NA	NA	NA	NA
Diesel	NA	NA	NA	NA	NA
Gasoline	BK#1PG#2	200 ug/L	96/99	2	75-125
Benzene	BK#1PG#3	20 ug/L	96/95	1	75-125
Toluene	BK#1PG#3	20 ug/L	90/89	1	75-125
Ethyl Benzene	BK#1PG#3	20 ug/L	91/91	0	75-125
Total Xylene	BK#1PG#3	20 ug/L	87/86	1	75-125

Richard Srna, Ph.D.
Robin Paulson (for)
Laboratory Director

SUPERIOR ANALYTICAL LABORATORIES, INC.

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 20042
CLIENT: Sierra Environmental
CLIENT JOB NO.: 1-221-04

DATE RECEIVED: 07/01/91
DATE REPORTED: 07/04/91

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
20042- 1	AA	07/01/91	07/01/91
20042- 2	BB	07/01/91	07/01/91
20042- 3	C-3	07/01/91	07/02/91
20042- 4	C-2	07/01/91	07/01/91
20042- 5	C-1	07/01/91	07/01/91
20042- 6	C-4	07/01/91	07/02/91

Laboratory Number:	20042 1	20042 2	20042 3	20042 4	20042 5
ANALYTE LIST	Amounts/Quantitation Limits (ug/L)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	ND<50	ND<50	ND<50	660	730
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	ND<0.5	ND<0.5	ND<0.5	190	250
TOLUENE:	ND<0.5	ND<0.5	ND<0.5	2.5	3.0
ETHYL BENZENE:	ND<0.5	ND<0.5	ND<0.5	28	16
XYLENES:	ND<0.5	ND<0.5	ND<0.5	22	4.8

Laboratory Number:	20042 6
ANALYTE LIST	Amounts/Quantitation Limits (ug/L)
OIL AND GREASE:	NA
TPH/GASOLINE RANGE:	7900
TPH/DIESEL RANGE:	NA
BENZENE:	1500
TOLUENE:	230
ETHYL BENZENE:	340
XYLENES:	350

SUPERIOR ANALYTICAL LABORATORIES, INC.

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INVOICE

Chevron USA
P.O. Box 5004
San Ramon, CA 94583

Date: 07/04/91
Date Rcvd: 07/01/91
Date Rptd: 07/04/91
Our Job #: 20042
Invoice #: 20042

Sierra Environmental Job # 1-221-04
Chevron USA Release # 4600980 Facility #: 9-1740

QTY/MATRIX	ANALYSIS	EXT. PRICE
6 WATER	sample(s) for VPH-BTXE @ $ 0.00 (NORMAL)	0.00
TOTAL INVOICE		0.00

Please Send Payment To:
Superior Analytical Labs
P.O. Box 1545
Martinez, CA 94553

TERMS: NET 30
A charge of 1.5% per month may be applied to unpaid balances

OUTSTANDING QUALITY AND SERVICE