



Chevron U.S.A. Products Company

2410 Camino Ramon, San Ramon, California • Phone (510) 842-9500
Mail Address: P.O. Box 5004, San Ramon, CA 94583-0804

* C3 - resampled (Jan. 13, 1993) (TKG)
9 390 ppb B
40 4,000 ppb (TKG) 9
120 ppb B
9077

Operations

February 11, 1993

ST10 432

Ms. Susan Hugo
Alameda County Health Care Services
80 Swan Way, Room 200
Oakland, CA 94621

Re: Former Chevron Service Station No. 9-3864
5101 Telegraph Avenue, Oakland, California

Dear Ms. Hugo :

Enclosed is a sampling report from Sierra Environmental Services (SES) dated February 10, 1993.
This report documents the resampling of monitoring well C-3.

If you have any questions or comments, please feel free to call me at (510) 842-8752.

Sincerely,

Chevron U.S.A. Products Co.

Kenneth Kan
Site Assessment and Remediation Engineer

LKAN/MacFile 9-3864R15

Enclosure

cc: Mr. Richard Hiatt
RWQCB-San Francisco Bay Area
2101 Webster Street, Suite 500
Oakland, CA 94612

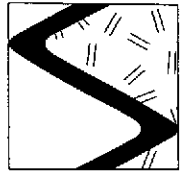
Dr. Ravi Arulananthum
Alameda County Health Care Services
80 Swan Way, Room 200
Oakland, CA 94621

Ms. Bette Owen
Chevron U.S.A. Products Co.



FEB 11 '93 J.M.M.

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Environmental Services

February 10, 1993

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

Re: Former Chevron Service Station #9-3864
5101 Telegraph Avenue
Oakland, California
SES Project #1-203-04

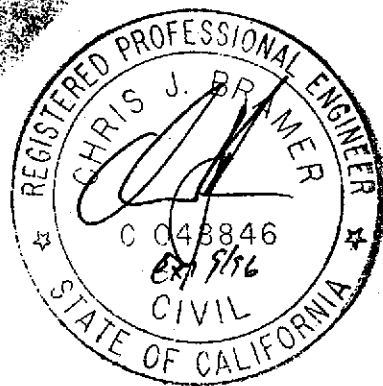
Dear Mr. Kan:

This report presents the results of additional ground water sampling at Former Chevron Service Station #9-3864, located at 5101 Telegraph Avenue in Oakland, California (Figure 1, Appendix A). One well, C-3, was sampled (Figure 2, Appendix A).

On January 20, 1993, SES personnel visited the site. A water level measurement was collected in one site well and the well was checked for the presence of free-phase hydrocarbons. Free-phase hydrocarbons were not present. Water level data are shown in Table 1 (Appendix B).

The water sample was collected on January 20, 1993 in accordance with SES Standard Operating Procedure - Ground Water Sampling (Appendix C). All analyses were performed by Superior Precision Analytical, Inc. of Martinez, California. Analytic results for ground water are presented in Table 2 (Appendix B). The chain of custody document 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.



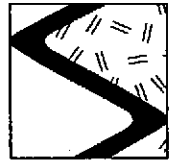
Sincerely,
Sierra Environmental Services

Argy Mena
Staff Geologist

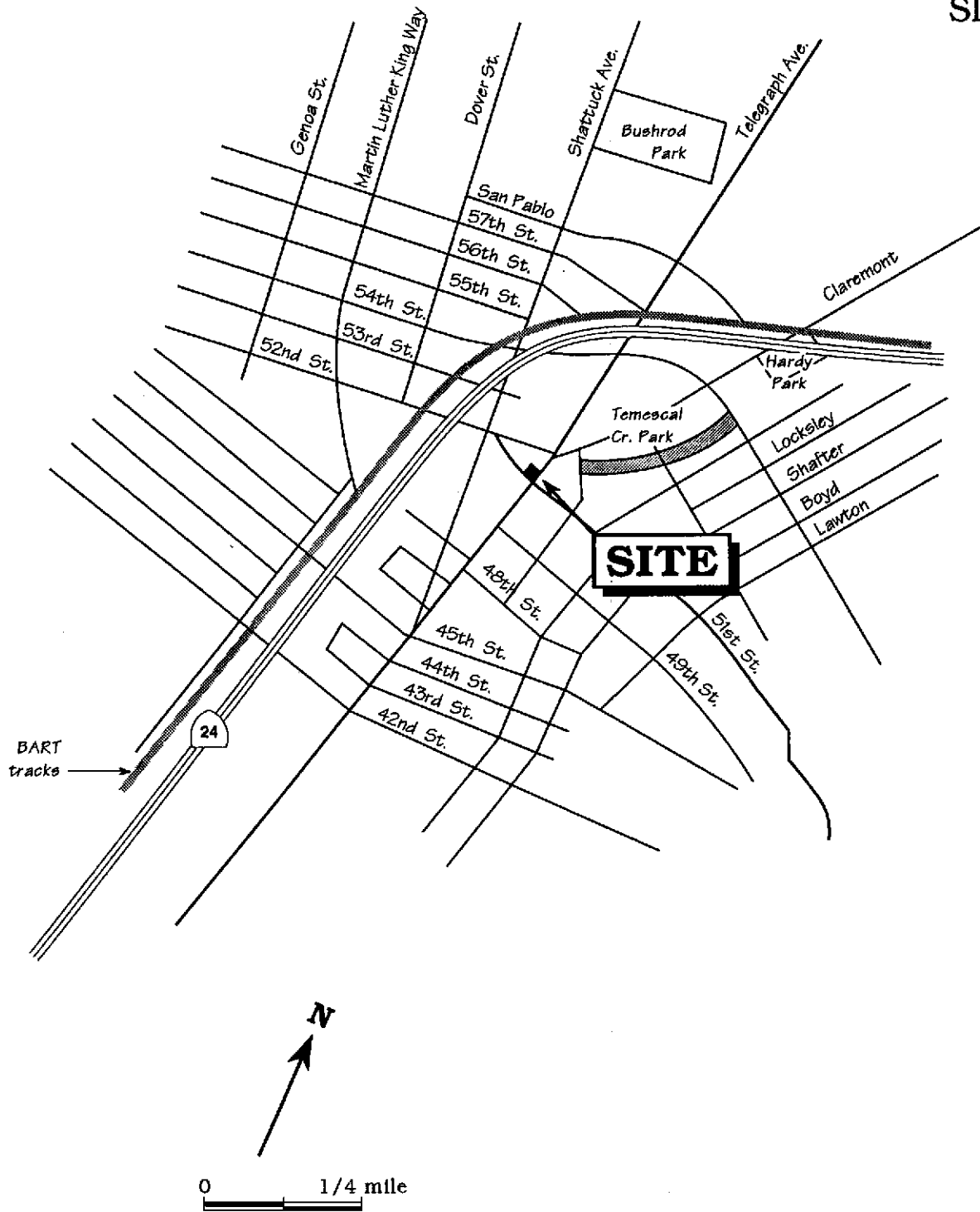
Chris J. Bramer
Professional Engineer #C48846

AJM/CJB/dcp
20304QM.FE3

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



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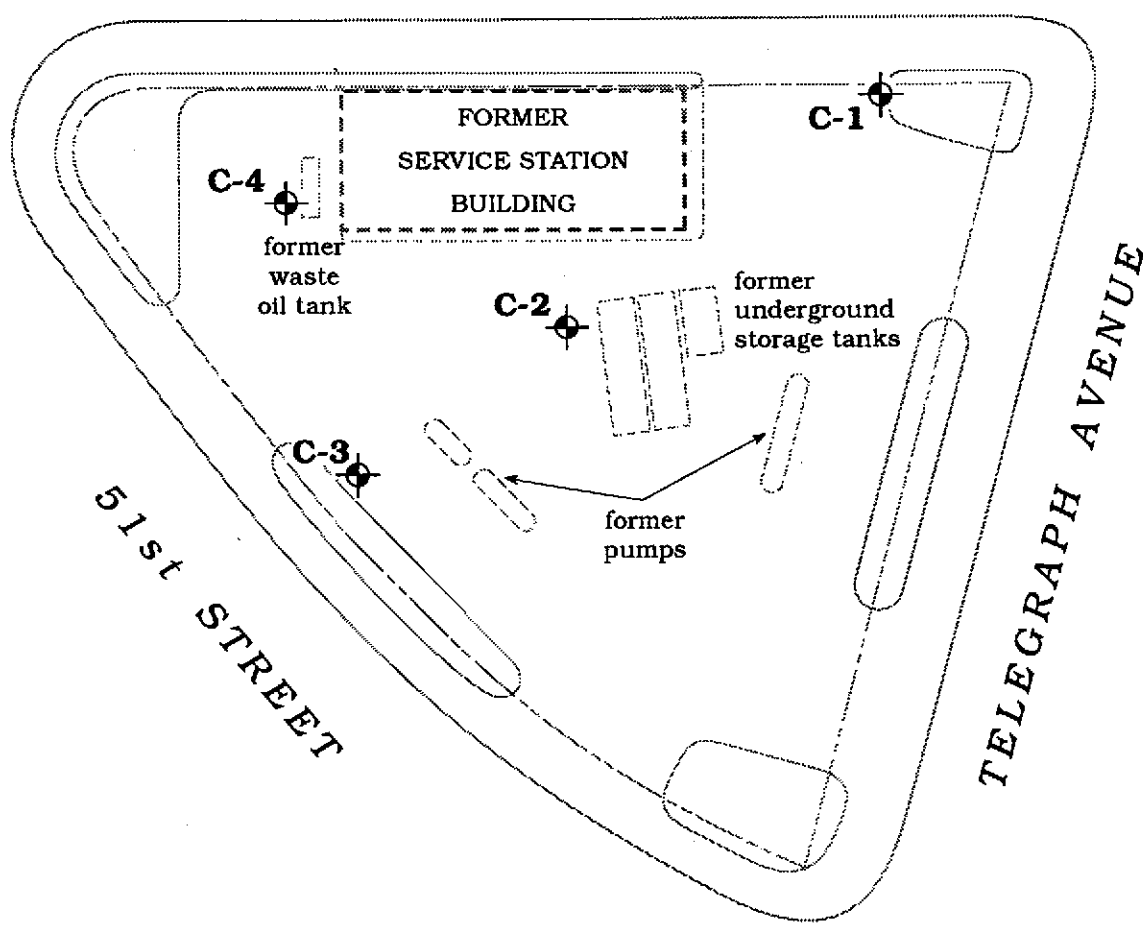


Base map ref: California Automobile Association (AAA)

Figure 1. Site Location Map - Former Chevron Service Station #9-3864, 5101 Telegraph Avenue, Oakland, California




52nd STREET



51st STREET

TELEGRAPH AVENUE

EXPLANATION

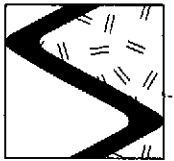
 C-4 Monitoring well



0 20 40 ft.

Base map after: GeoStrategies Inc.

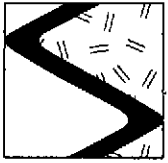
Figure 2. Monitoring Well Location Map - Former Chevron Service Station #9-3864, 5101 Telegraph Avenue, Oakland, California



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Table 1. Water Level Data and Well Construction Details - Chevron Service Station #9-3864, 5101 Telegraph Avenue, Oakland, California

Well ID	Date Measured	DTW (ft)	TOC (ft)	GWE (msl)	Product Thickness* (ft)	Screen Interval ←-----feet below grade-----→	Sand Pack Interval	Bentonite/Grout Interval
C-1	12/6/90	15.34	117.45	102.11	0	10 - 29.5	8 - 30	0 - 8
	6/6/91	14.62		102.83	0			
	12/4/91	14.48		102.97	0			
	6/2/92	14.53		102.92	0			
	9/16/92	14.93		102.52	0			
	12/21/92	13.73		103.72	0			
C-2	12/6/90	15.34	116.16	100.82	0	10 - 29.5	8 - 30	0 - 8
	6/6/91	14.62		101.54	0			
	12/4/91	15.43		100.73	0			
	6/2/92	14.42		101.74	0			
	9/16/92	14.81		101.35	0			
	12/21/92	13.37		102.79	0			
C-3	12/6/90	16.86	115.70	98.84	0	10 - 29.5	8 - 30	0 - 8
	6/6/91	15.69		100.01	0			
	12/4/91	15.38		100.32	0			
	6/2/92	15.40		100.30	0			
	9/16/92	15.89		99.81	0			
	12/21/92	13.91		101.79	0			
	1/20/93	12.35	103.35	0				
C-4	12/6/90	17.68	116.10	98.42	0	10 - 29.5	8 - 30	0 - 8
	6/6/91	16.49		99.61	0			
	12/4/91	16.82		99.28	0			
	6/2/92	16.92		99.18	0			
	9/16/92	17.71		98.39	0			
	12/21/92	15.36		100.74	0			



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Table 1. Water Level Data and Well Construction Details - Chevron Service Station #9-3864, 5101 Telegraph Avenue, Oakland, California (continued)

EXPLANATION:

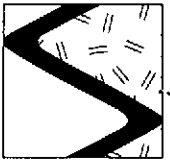
DTW = Depth to water
TOC = Top of casing elevation
GWE = Ground water elevation
msl = Measurements referenced relative
to mean sea level

NOTES:

Depth to water measurements and top of casing elevations prior to June 6, 1991 were compiled from the January 17, 1991 Site Update Report prepared for this service station by GeoStrategies, Inc. of Hayward, California.

Well construction details were compiled from November 14 and 15, 1990 boring logs by GeoStrategies, Inc.

- * Product thickness was measured by GeoStrategies, Inc. on December 6, 1990 with an electronic oil-water interface probe. SES product thickness measurements after 12/6/90 were made with an MMC flexi-dip interface probe.



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Table 2. Analytic Results for Ground Water - Chevron Service Station #9-3864, 5101 Telegraph Avenue, Oakland, California

Well ID	Date Sampled	Analytic Lab	Analytic Method	TPPH(G) B T E X				
				-----ppb-----				
C-1	12/6/90	SAL	8015/8020	1,900	17	11	3	21
	6/6/91	SAL	8015/8020	3,400	21	15	11	18
	12/4/91	SPA	8015/8020	2,700	22	16	13	23
	6/2/92	SPA	8015/8020	1,900	170	170	13	83
	9/16/92	SPA	8015/8020	810	5.8	5.7	2.0	6.3
	12/21/92	SPA	8015/8020	75	2.4	2.9	1.4	4.7
C-2	12/6/90	SAL	8015/8020	210	140	9	2	11
	6/6/91	SAL	8015/8020	4,800	340	23	19	23
	12/4/91	SPA	8015/8020	3,900	85	15	9.1	15
	6/2/92	SPA	8015/8020	3,300	76	9.2	14	15
	9/16/92	SPA	8015/8020	3,000	16	15	3.4	7.5
	12/21/92	SPA	8015/8020	2,200	21	12	7.1	15
C-3	12/6/90	SAL	8015/8020	210	2	<0.5	<0.5	1
	12/6/90 ¹	SAL	8015/8020	220	2	0.6	<0.5	2
	6/6/91	SAL	8015/8020	6,400	310	21	16	21
	12/4/91	SPA	8015/8020	5,100	120	18	17	20
	6/2/92	SPA	8015/8020	6,700	140	44	17	37
	9/16/92	SPA	8015/8020	7,100	130	26	12	30
	12/21/92	SPA	8015/8020	13,000	390	360	100	410
<i>Retest</i> 1/20/93	SPA	8015/8020	4,800	120	32	15	58	
C-4	12/6/90	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5
	12/18/90 ²	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5
	6/6/91	SAL	8015/8020	<50	1.0	1.0	<0.5	0.7
	12/4/91	SPA	8015/8020	70	6.5	9.8	1.7	8.6
	6/2/92	SPA	8015/8020	70	3.0	4.4	1.8	9.0
	9/16/92	SPA	8015/8020	<50	1.4	1.8	<0.5	1.1
	12/21/92	SPA	8015/8020	<50	0.6	0.7	<0.5	1.5
	Trip Blank	12/6/90	SAL	8015/8020	<50	<0.5	<0.5	<0.5
	12/18/90 ³	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5
(AA)	6/6/91	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5
	12/4/91	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5
TB-LB	6/2/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5
	9/16/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5
	12/21/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5



Table 2. Analytic Results for Ground Water - Chevron Service Station #9-3864, 5101 Telegraph Avenue, Oakland, California
(continued)

Well ID	Date Sampled	Analytic Lab	Analytic Method	TPPH(G)	B	T	E	X
Bailer Blank	6/6/91	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5
(BB)	12/4/91	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5
	6/2/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5
	9/16/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5
	12/21/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5

EXPLANATION:

TPPH(G) = Total Purgeable Petroleum Hydrocarbons as Gasoline
 B = Benzene
 T = Toluene
 E = Ethylbenzene
 X = Xylenes
 ppb = Parts per billion
 --- = Not analyzed/not applicable

ANALYTIC METHODS:

8015 = EPA Method 8015/5030 for TPH(G)
 8020 = EPA Method 8020 for BTEX

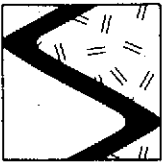
ANALYTIC LABORATORIES:

SAL = Superior Analytical Laboratory of Martinez and San Francisco, California
 SPA = Superior Precision Analytical, Inc. of Martinez, California

NOTES:

Ground water analytic data from December 6 and 18, 1990 was compiled from the January 17, 1991 Site Update Reports prepared for this service station by GeoStrategies, Inc. of Hayward, California.

- ¹ Duplicate sample.
- ² C-4 was also analyzed for halogenated volatile organic compounds (HVOCs) by EPA Method 8010, and metals (Cd, Cr, Pb, Ni and Zn) by EPA-approved methods. Two ppb chloroform, 0.18 ppm chromium, 0.25 ppm nickel and 0.23 ppm zinc were detected. Other HVOCs, Cd and Pb were not detected.
- ³ The trip blank was also analyzed for HVOCs. HVOCs were not detected.



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APPENDIX C
SIERRA ENVIRONMENTAL SERVICES
STANDARD OPERATING PROCEDURE



SES STANDARD OPERATING PROCEDURE

GROUND WATER SAMPLING

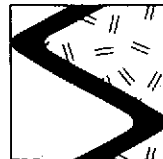
The following describes sampling procedures used by SES field personnel to collect and handle ground water samples. Before samples are collected, careful consideration is given to the type of analysis to be performed so that precautions are taken to prevent loss of volatile components or contamination 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 MMC flexi-dip interface probe. Product thickness (measured to the nearest 0.01 foot) 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 $\pm 0.5^{\circ}\text{F}$, 0.1 or 5%, respectively).

The purge water is taken to Chevron's Richmond Refinery for disposal.

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.

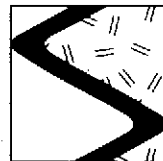


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The chain of custody form includes the project number, analysis requested, sample ID, date analysis and the SES field person's name. The form is signed and dated (with the transfer time) by each person who yields or receives the samples beginning with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

GWS-CHE.SOP



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APPENDIX D
CHAIN OF CUSTODY DOCUMENT AND
LABORATORY ANALYTIC REPORTS

Fax copy of Lab Report and COC to Chevron Contact: Yes No 87665

Chain-of-Custody-Record

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

Chevron Facility Number: 4-3864
Facility Address: 5101 Telegraph Ave, OAKLAND
Consultant Project Number: 1-203-04
Consultant Name: Sierra Environmental Services
Address: P.O. Box 2546, MARTINEZ, CA
Project Contact (Name): Argy Mena
(Phone): 370-1280 (Fax Number): 370-7959

Chevron Contact (Name): Ken Kan
(Phone): 842-8752
Laboratory Name: 4105 WILSON Superior Precision
Laboratory Release Number: 40516670
Samples Collected by (Name): Carol Eaton
Collection Date: 1/20/93
Signature: Carol Eaton

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed											Note: Do Not Bill TB-LB Samples	
								BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (ICAP or AA)					
TB-LB		3	W	G	11:10	HCl	Y	✓												HOLD
BB		↓	↓	↓	11:15	↓	↓	✓												HOLD
C-3		↓	↓	↓	12:55	↓	↓	✓												Analyze

Notes/Initials: ET
Samples stored in ice: samples handcarried ice cooled
Appropriate containers:
Samples preserved:
VOA's without headspace:
Comments:

Relinquished By (Signature): <u>Carol Eaton</u>	Organization: <u>SES</u>	Date/Time: <u>1/20/93</u>	Received By (Signature):	Organization:	Date/Time:	Turn Around Time (Circle Choice) 24 Hrs. <u>48 Hrs.</u> 5 Days 10 Days As Contracted
Relinquished By (Signature):	Organization:	Date/Time:	Received By (Signature):	Organization:	Date/Time:	
Relinquished By (Signature):	Organization:	Date/Time:	Received For Laboratory By (Signature): <u>ETanguilig</u>	Organization:	Date/Time: <u>1-20-93</u>	

COC-3.DWG/03 91/HCH

5:00 PM



Superior Precision Analytical, Inc.

825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

Sierra Environmental
Attn: ARGY MENA

Project 1-203-04
Reported 01/22/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
87665- 3	C-3	01/20/93	01/22/93 Water

RESULTS OF ANALYSIS

Laboratory Number: 87665- 3

Gasoline:	4800
Benzene:	120
Toluene:	32
Ethyl Benzene:	15
Xylenes:	58

Concentration: ug/L



Superior Precision Analytical, Inc.

825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

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

Page 2 of 2
QA/QC INFORMATION
SET: 87665

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

OIL AND GREASE ANALYSIS By Standard Methods Method 5520F:
Minimum Detection Limit in Water: 5000ug/L

Modified EPA SW-846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Water: 50ug/L

EPA SW-846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Water: 50ug/L

EPA SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Water: 0.5ug/L

ANALYTE	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	89/89	0%	70-130
Benzene:	88/78	12%	70-130
Toluene:	98/88	11%	70-130
Ethyl Benzene:	105/94	11%	70-130
Xylenes:	105/94	11%	70-130

Richard Srna, Ph.D.

Albanek Salimpour
Laboratory Director