



**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

03 APR 19 7 11:50

April 9, 1993

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 the quarterly monitoring and sampling report from Sierra Environmental Services (SES) dated April 1, 1993.

During this sampling event, monitoring wells C-4 did not detect total purgeable petroleum hydrocarbon as gasoline (TPPH-G), benzene, toluene, ethylbenzene, and xylenes (BTEX). Wells C-1 through C-3 did detect dissolved hydrocarbons. Their concentrations ranged as follow : 150 to 5100 ppb TPPH-G, 2.4 to 86 ppb benzene, 20 to 24 ppb toluene, 3.3 to 12 ppb ethylbenzene, and 23 to 25 ppb xylenes. Depth to water ranged from 13.47 to 15.49 feet.

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 9-3864R16

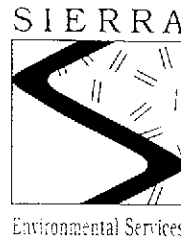
Enclosure

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.





APR 9 '93 J.M.M.

April 1, 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:

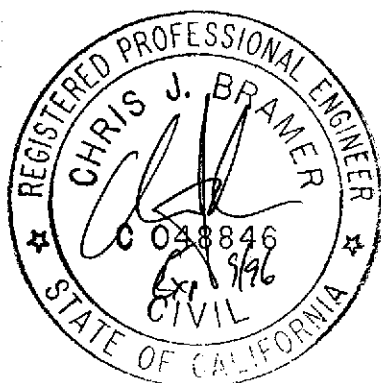
This report presents the results of quarterly ground water sampling at Former Chevron Service Station #9-3864, located at 5101 Telegraph Avenue in Oakland, California (Figure 1, Appendix A). Four wells, C-1 through C-4, were sampled (Figure 2, Appendix A).

On March 11, 1993, SES personnel visited the site. Water level measurements were collected in all site wells and all wells were checked for the presence of free-phase hydrocarbons. Free-phase hydrocarbons were not present in any of the site wells. Water level data is shown in Table 1 (Appendix B) and a ground water elevation contour map is included as Figure 2 (Appendix A).

The water samples were collected on March 11, 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

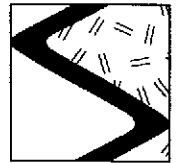


*Argy Meha*  
Argy Meha  
Staff Geologist

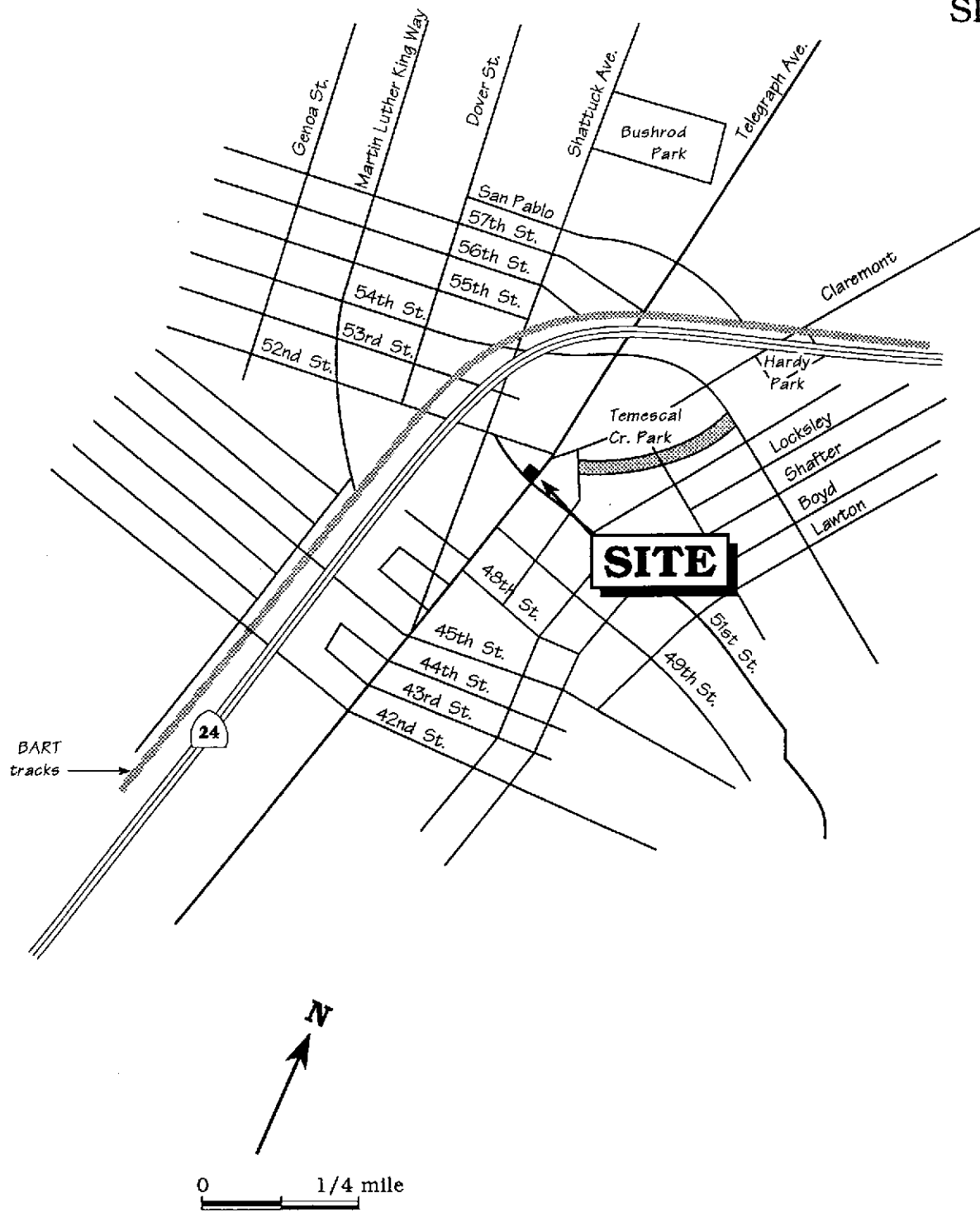
*Chris J. Bramer*  
Chris J. Bramer  
Professional Engineer #C48846

AJM/CJB/dcp  
20304QM.AP3

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



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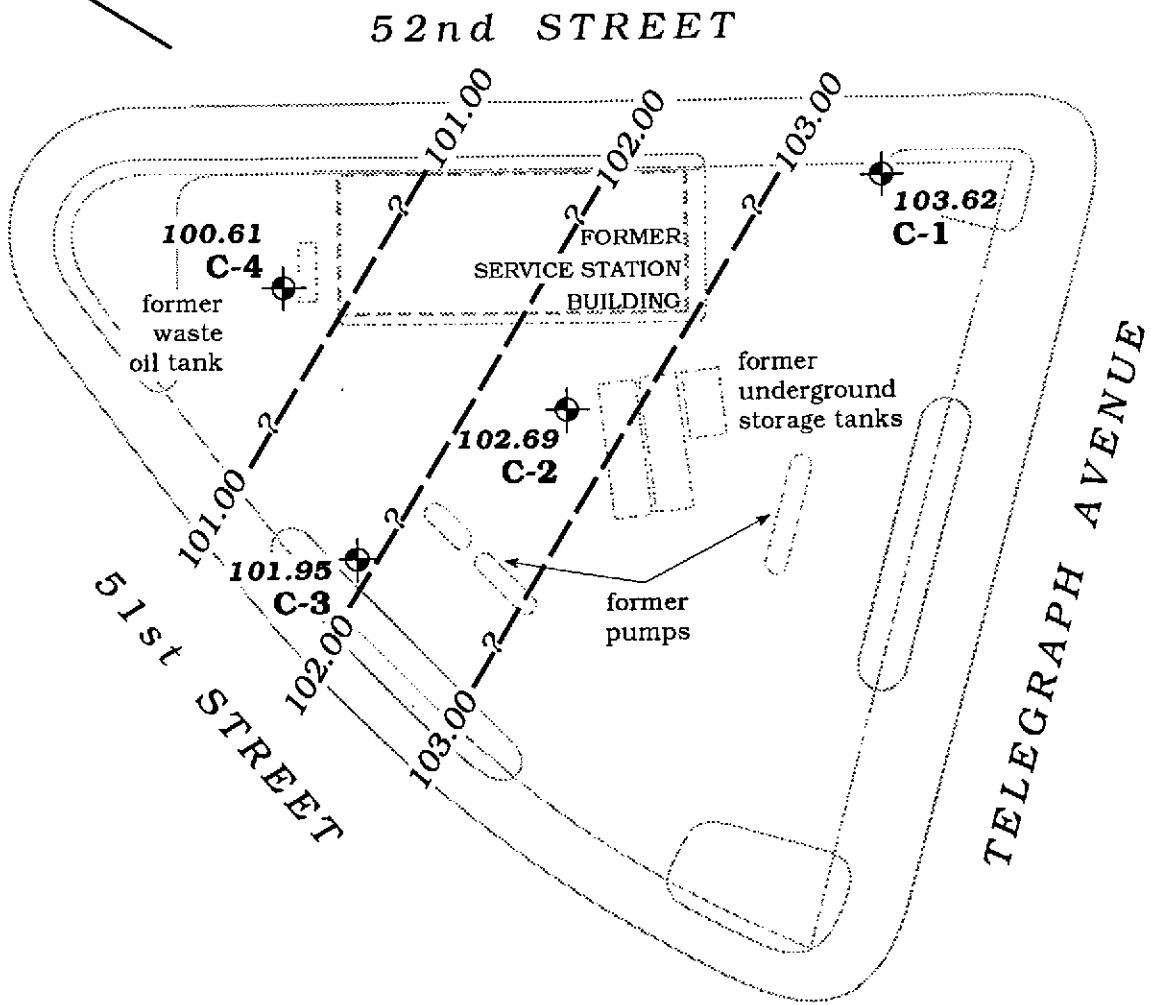


Base map ref: California Automobile Association (AAA)

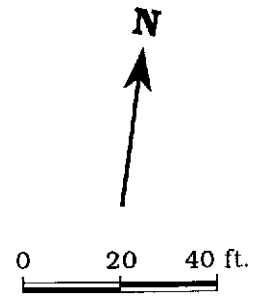
Figure 1. Site Location Map - Former Chevron Service Station #9-3864, 5101 Telegraph Avenue, Oakland, California



Approximate  
ground water  
flow direction

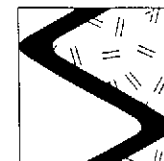


EXPLANATION	
	C-4 Monitoring well
100.61	Ground water elevation, in feet
	103.00 Ground water elevation contour, dashed where inferred, queried where uncertain



Base map after: GeoStrategies Inc.

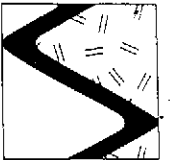
Figure 2. Monitoring Well Location and Ground Water Contour Map - March 11, 1993 - Former Chevron Service Station #9-3864, 5101 Telegraph Avenue, Oakland, California



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Table 1. Water Level Data and Well Construction Details - Former 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	Sand Pack Interval	Bentonite/Grout Interval
						-----feet below grade----->		
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			
	<b>3/11/93</b>	<b>13.83</b>		<b>103.62</b>	<b>0</b>			
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			
	<b>3/11/93</b>	<b>13.47</b>		<b>102.69</b>	<b>0</b>			
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			
	<b>3/11/93</b>	<b>13.75</b>		<b>101.95</b>	<b>0</b>			
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			
	<b>3/11/93</b>	<b>15.49</b>		<b>100.61</b>	<b>0</b>			



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

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EXPLANATION:

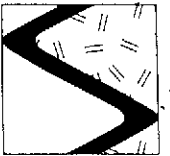
DTW = Depth to water  
TOC = Top of casing elevation  
GWE = Ground water elevation  
msl = Measurements referenced relative  
to mean sea level

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.

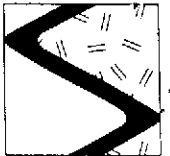
- Product thickness was measured by GeoStrategies, Inc. on December 6, 1990 with an electronic oil-water interface probe. SES product thickness measurements after 12/6/90 were made with an MMC flexi-dip interface probe.



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Table 2. Analytic Results for Ground Water - Former 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
	<b>3/11/93</b>	<b>SPA</b>	<b>8015/8020</b>	<b>150</b>	<b>2.4</b>	<b>20</b>	<b>3.3</b>	<b>23</b>
	C-2	12/6/90	SAL	8015/8020	210	140	9	2
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
<b>3/11/93</b>		<b>SPA</b>	<b>8015/8020</b>	<b>2,200</b>	<b>33</b>	<b>24</b>	<b>12</b>	<b>25</b>
C-3		12/6/90	SAL	8015/8020	210	2	<0.5	<0.5
	12/6/90 <sup>1</sup>	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
	<b>3/11/93</b>	<b>SPA</b>	<b>8015/8020</b>	<b>5,100</b>	<b>86</b>	<b>20</b>	<b>12</b>	<b>23</b>
	C-4	12/6/90	SAL	8015/8020	<50	<0.5	<0.5	<0.5
12/18/90 <sup>2</sup>		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
<b>3/11/93</b>		<b>SPA</b>	<b>8015/8020</b>	<b>&lt;50</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;1.5</b>



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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
				-----ppb-----				
Trip Blank	12/6/90	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5
	12/18/90 <sup>3</sup>	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
	3/11/93	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<1.5
Bailer Blank (BB)	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
	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
	3/11/93	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<1.5

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 TPPH(G)  
 8020 = EPA Method 8020 for BTEX

ANALYTIC LABORATORIES:

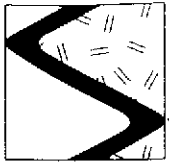
SAL = Superior Analytical Laboratory of Martinez and San Francisco, California  
 SPA = Superior Precision Analytical, Inc. of Martinez, California

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.

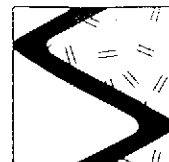
- <sup>1</sup> Duplicate sample.
- <sup>2</sup> C-4 was also analyzed for halogenated volatile organic compounds (HVOCs) by EPA Method 8010, and metals (Cd, Cr, Pb, Ni and Zn) by EPA-approved methods. Two ppb chloroform, 0.18 ppm chromium, 0.25 ppm nickel and 0.23 ppm zinc were detected. Other HVOCs,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





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**APPENDIX C**  
**SIERRA ENVIRONMENTAL SERVICES**  
**STANDARD OPERATING PROCEDURES**



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## SES STANDARD OPERATING PROCEDURE GROUND WATER SAMPLING

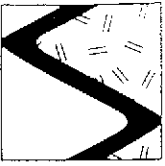
The following describes sampling procedures used by SES field personnel to collect and handle ground water samples. Before samples are collected, careful consideration is given to the type of analysis to be performed so that precautions are taken to prevent loss of volatile components or contamination 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 baller, 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  $4^{\circ}\text{C}$  with blue ice or ice) for transport under chain of custody to the laboratory.

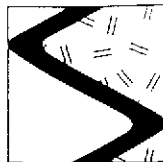


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The chain of custody form includes the project number, analysis requested, sample ID, date analysis and the SES field person's name. The form is signed and dated (with the transfer time) by each person who yields or receives the samples beginning with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



# 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 03/19/93

## TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
88051- 1	TB-LB	03/11/93	03/18/93 Water
88051- 2	BB	03/11/93	03/19/93 Water
88051- 3	C-4	03/11/93	03/18/93 Water
88051- 4	C-1	03/11/93	03/18/93 Water
88051- 5	C-2	03/11/93	03/18/93 Water
88051- 6	C-3	03/11/93	03/19/93 Water

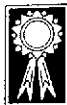
## RESULTS OF ANALYSIS

Laboratory Number: 88051- 1 88051- 2 88051- 3 88051- 4 88051- 5

Gasoline:	ND<50	ND<50	ND<50	150	2200
Benzene:	ND<0.5	ND<0.5	ND<0.5	2.4	33
Toluene:	ND<0.5	ND<0.5	ND<0.5	20	24
Ethyl Benzene:	ND<0.5	ND<0.5	ND<0.5	3.3	12
Xylenes:	ND<1.5	ND<1.5	ND<1.5	23	25
Concentration:	ug/L	ug/L	ug/L	ug/L	ug/L

Laboratory Number: 88051- 6

Gasoline:	5100
Benzene:	86
Toluene:	20
Ethyl Benzene:	12
Xylenes:	23
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: 88051

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:	100/98%	2%	70-130
Benzene:	104/106%	2%	70-130
Toluene:	101/102%	1%	70-130
Ethyl Benzenè:	103/103%	0%	70-130
Xylenes:	103/105%	2%	70-130

Richard Srna, Ph.D.

*Richard Srna* for  
Laboratory Director

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

Job # 88051

**Chain-of-Custody-Record**

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

Chevron Facility Number 9-3864  
Facility Address 5101 Telegraph Ave Oakland Ca.  
Consultant Project Number 1-203-04  
Consultant Name Sierra Environmental Services  
Address P.O. Box 2546 Martinez Ca.  
Project Contact (Name) Argy Mera  
(Phone) (510) 370-1280 (Fax Number) (510) 378-7959

Chevron Contact (Name) Kenneth Gau  
(Phone) (510) 872-9825  
Laboratory Name SPA  
Laboratory Release Number 4056670  
Samples Collected by (Name) Gary Gross  
Collection Date 3-11-93  
Signature Gary Gross

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analytes To Be Performed											Remarks			
								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	1	3	W	G	940	HCL	Y	✓														Analytes in Order Shown
BB	2	↓	↓	↓	1212	↓	↓	↓														
C-4	3	↓	↓	↓	1134	↓	↓	↓														
C-1	4	↓	↓	↓	1149	↓	↓	↓														
C-2	5	↓	↓	↓	1155	↓	↓	↓														
C-3	6	↓	↓	↓	1221	↓	↓	↓														

Please initial: \_\_\_\_\_

Samples Stored in ice. \_\_\_\_\_

Appropriate containers. \_\_\_\_\_

Samples preserved. \_\_\_\_\_

VOA's without headspace. \_\_\_\_\_

Comments: \_\_\_\_\_

Note:  
Do Not Bill  
TB-LB Samples

Relinquished By (Signature) <u>Gary Gross</u>	Organization <u>SES</u>	Date/Time <u>3-12-93 PM</u>	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice)  24 Hrs. 48 Hrs. <u>5 Days</u> 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>Ruan</u>		Date/Time <u>3-12 PM</u>	