



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



92 APR 28 10 11 AM '92

Marketing Department

April 27, 1992

Mr. Juliet Shin
Alameda County Health Care Services
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

**Re: Former Chevron Service Station #9-1153
3126 Fernside Blvd., Alameda**

Dear Ms. Shin:

Enclosed we are forwarding the results of the quarterly ground water sampling dated March 31, 1992, prepared by our consultant Sierra Environmental Services for the above referenced site. As indicated in the report, ground water samples collected were analyzed for total petroleum hydrocarbons as gasoline and BTEX. Benzene was detected in monitor well C-1 only at a concentration of 5,800 ppb. Depth to ground water was measured at approximately 2.2-feet below grade, and the inferred direction of flow is to the southeast.

A work plan proposing additional off-site ground water monitor wells to delineate the extent of the hydrocarbon plume was forwarded to your office on January 13, 1992. We would appreciate your review and formal concurrence. Once the wells are installed, all data compiled to date will be evaluated to assess appropriate next actions with respect to additional remedial efforts.

Chevron will continue to sample this site and report findings on a quarterly basis and monitor the effectiveness of the ground water remediation system.

If you have any questions or comments, please do not hesitate to contact me at (510) 842-9581.

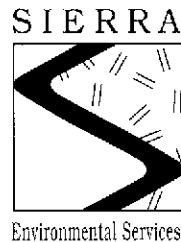
Very truly yours,
CHEVRON U.S.A. PRODUCTS COMPANY

Nancy Vukelich
Site Assessment and Remediation Engineer

Enclosures

cc: Mr. Eddy So, RWQCB-Bay Area
Ms. B.C. Owen
Ms. Sandra Lindsey, GTI-Concord Office
File (9-1153Q2)

Mr. Larry Bolten
State Farm Insurance
2509 Santa Clara Avenue
Alameda, CA 94501



March 31, 1992

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

Re: Former Chevron Service Station #9-1153
3126 Fernside Boulevard
Alameda, California
SES Project #1-232-04

Dear Ms. Vukelich:

This report presents the results of the quarterly ground water sampling at Former Chevron Service Station #9-1153, located at 3126 Fernside Boulevard in Alameda, California (Figure 1, Appendix A). Two wells, C-1 and C-3, were sampled (Figure 2, Appendix A).

On March 3, 1992, 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 are shown in Table 1 (Appendix B).

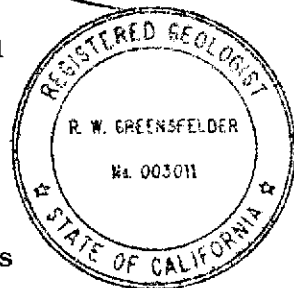
The ground water samples were collected on March 3, 1992 in accordance with SES Standard Operating Procedure - Ground Water Sampling (Appendix C). All analyses were performed by Superior Precision Analytical, Inc. of Martinez, California. Analytic results for ground water are presented in Table 2 (Appendix 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

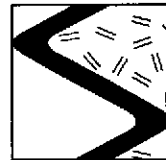
Chris J. Bramer
Environmental Project Manager

Roger Greensfelder
Registered Geologist #003011

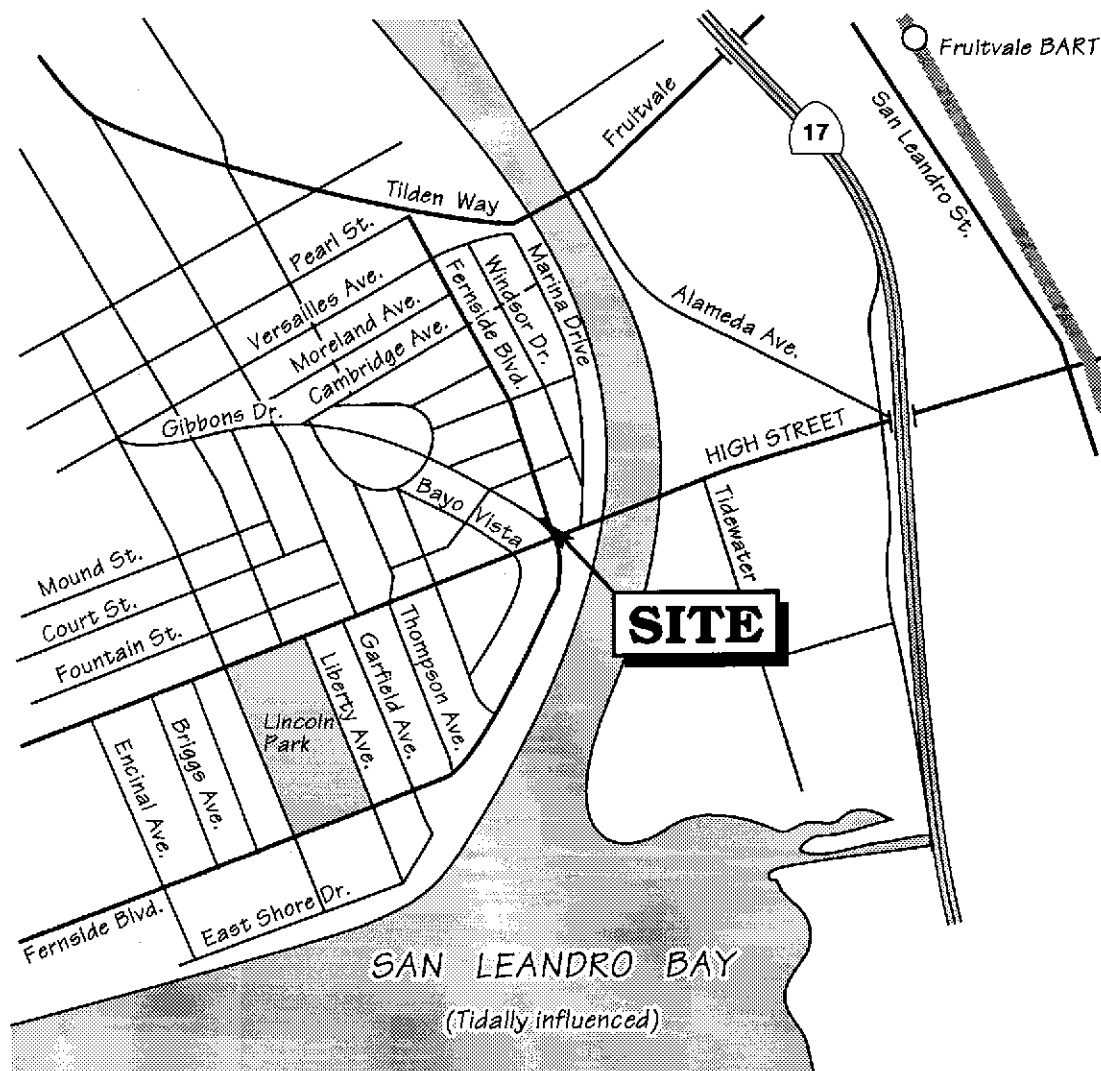


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23204QM.MR2

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

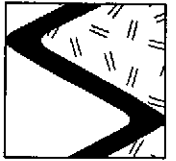


SIERRA



Base map ref: California Automobile Association (AAA)

Figure 1. Site Location Map – Former Chevron Service Station #9-1153, 3126 Fernside Boulevard, Alameda, California



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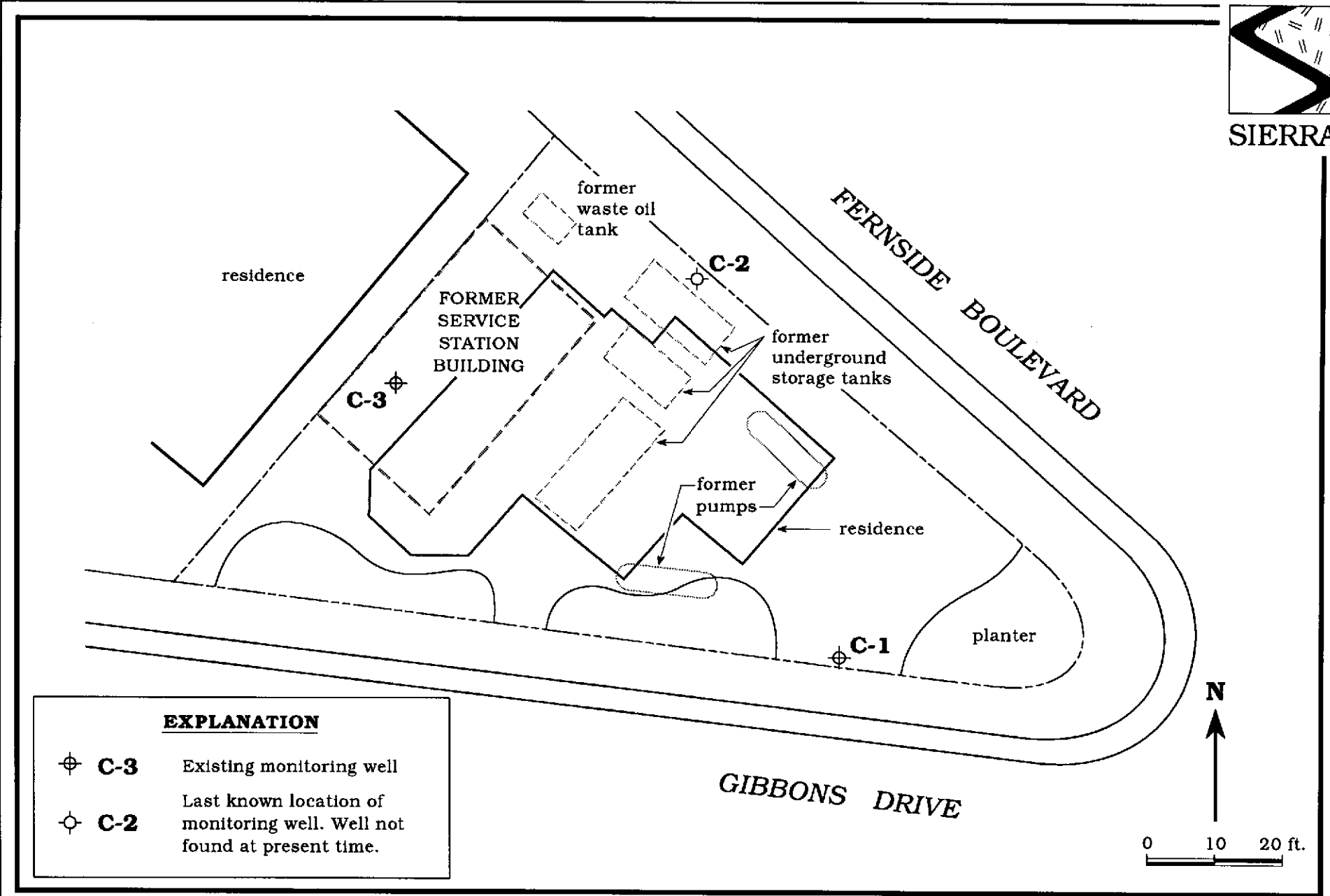


Figure 2. Monitoring Well Locations - March 3, 1992 - Former Chevron Service Station #9-1153, Fernside Boulevard and Gibbons Drive, Alameda, California



Table 1. Water Level Data and Well Construction Details - Former Chevron Service Station #9-1153, 3126 Fernside Boulevard, Alameda, 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	8/18/86	4.10	UNK	---	UNK	UNK	UNK	UNK
	9/4/86	---		---	UNK			
	7/22/87	---		---	UNK			
	5/3/89	4.46		---	UNK			
	12/4/89	4.16		---	UNK			
	2/14/90	3.64		---	UNK			
	3/7/90	3.36		---	UNK			
	9/6/91	4.43		---	0*			
	12/15/91	4.78		---	0*			
	3/3/92	2.39		---	0*			
C-2	8/18/86	UNK	UNK	---	UNK	UNK	UNK	UNK
	9/4/86	UNK		---	UNK			
	7/22/87	UNK		---	UNK			
	5/3/89**	---		---	---			
C-3	8/18/86	4.00	UNK	---	UNK	UNK	UNK	UNK
	9/4/86	---		---	UNK			
	7/22/87	---		---	UNK			
	5/3/89	4.15		---	UNK			
	12/4/89	4.24		---	UNK			
	2/14/90	3.57		---	UNK			
	3/7/90	3.31		---	UNK			
	9/6/91	4.59		---	0*			
	12/15/91	4.84		---	0*			
	3/3/92	2.17		---	0*			



Table 1. Water Level Data and Well Construction Details - Former Chevron Service Station #9-1153, 3126 Fernside Boulevard, Alameda, California (continued)

EXPLANATION:

DTW = Depth to water
TOC = Top of casing elevation
GWE = Ground water elevation
msl = Measurements referenced relative to mean sea level
--- = Not measured/not applicable
UNK = Information unknown

NOTES:

All data and information in this table were compiled from the Report of Soil and Groundwater Investigation, dated October 26, 1989; the Quarterly Groundwater Sampling Report, dated May 9, 1990; and the Revised Work Plan for Remediation of Soil and Groundwater, dated June 21, 1990, prepared by EA Engineering, Science, and Technology, Inc. of Lafayette, California.

- * Product thickness was measured with an MMC flexi-dip interface probe.
- ** Monitoring well destroyed/abandoned during construction of residence.

23204T.WL



Table 2. Analytic Results for Ground Water - Former Chevron Service Station #9-1153, 3126 Fernside Boulevard, Alameda, California

Well ID	Date Sampled	Analytic Method	Analytic Lab	TPPH(G)	B	T	E	X	Other VOCs	Metals
C-1	8/18/86	---	---	---	---	---	---	---	---	---
	9/4/86	8015/8020 ¹	UNK	15,000	760	820	1,500 ²	---	---	---
	7/22/87	8015/8020 ¹	UNK	1,100	250	7	40 ²	---	---	---
	5/3/89	8015/8020 ¹	UNK	6,900	3,800	190	229 ²	---	---	---
	12/4/89	8015/8020 ¹	UNK	17,000	8,000	490	470 ²	---	---	---
	2/14/90	8015/8020	PACE	19,000	12,000	990	1,050 ²	---	---	---
	3/7/90	624/Metals	PACE	---	4,260	261	430 ²	---	ND ³	ND ⁴
	9/6/91	8015/8020	SPA	21,000	10,000	100	240	560	---	---
	12/15/91	8015/8020	SPA	20,000	4,900	43	110	330	---	---
3/3/92	8015/8020	SPA	13,000	5,800	730	340	1,200	---	---	
C-2	8/18/86	---	---	---	---	---	---	---	---	---
	9/4/86	8015/8020 ¹	UNK	1,100	49	18	84 ²	---	---	---
	7/22/87	8015/8020 ¹	UNK	<50	1.8	<1.0	<4.0 ²	---	---	---
	5/3/89 ⁵	---	---	---	---	---	---	---	---	---
C-3	8/18/86	---	---	---	---	---	---	---	---	---
	9/4/86	8015/8020 ¹	UNK	50	3.2	5.4	5.8 ²	---	---	---
	7/22/87	8015/8020 ¹	UNK	<50	<0.5	<1.0	<4.0 ²	---	---	---
	5/3/89	8015/8020 ¹	UNK	<50	<0.5	<1.0	<2.0 ²	---	---	---
	12/4/89	8015/8020 ¹	UNK	<250	<0.5	<0.5	<0.5 ²	---	---	---
	2/14/90	8015/8020	PACE	<50	<0.5	<0.5	<0.5 ²	---	---	---
	3/7/90	624	PACE	NA	<5	<5	<5 ²	---	ND ³	ND ⁶
	9/6/91	8015/8020	SPA	<50	<0.5	<0.5	<0.5	<0.5	---	---
	12/15/91	8015/8020	SPA	<50	<0.5	<0.5	<0.5	<0.5	---	---
	3/3/92	8015/8020	SPA	<50	<0.5	<0.5	<0.5	<0.5	---	---
Trip Blank AA	2/14/90	8015/8020	PACE	<50	<0.5	1.1	<0.5	<0.5	---	---
	9/6/91	8015/8020	SPA	<50	<0.5	<0.5	<0.5	<0.5	---	---
	12/15/91	8015/8020	SPA	<50	<0.5	<0.5	<0.5	<0.5	---	---
	3/3/92	8015/8020	SPA	<50	<0.5	<0.5	<0.5	<0.5	---	---



Table 2. Analytic Results for Ground Water - Former Chevron Service Station #9-1153, 3126 Fernside Boulevard, Alameda, California (continued)

Well ID	Date Sampled	Analytic Method	Analytic Lab	TPPH(G) ----->	B	T	E	X	Other VOCs	Metals
Bailer Blank	2/14/90	8015/8020	PACE	<50	<0.5	0.5	<0.5	0.5	---	---
BB	9/6/91	8015/8020	SPA	<50	<0.5	<0.5	<0.5	<0.5	---	---
	12/15/91	8015/8020	SPA	<50	<0.5	<0.5	<0.5	<0.5	---	---
	3/3/92	8015/8020	SPA	<50	<0.5	<0.5	<0.5	<0.5	---	---

EXPLANATION:

TPPH(G) = Total Purgable Petroleum Hydrocarbons as Gasoline
 B = Benzene
 T = Toluene
 E = Ethylbenzene
 X = Xylenes
 VOCs = Volatile Organic Compounds
 Metals = Priority Pollutant Metals (Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium and Zinc)
 ppb = Parts per billion
 --- = Not analyzed/Not applicable
 UNK = Unknown

ANALYTIC METHODS:

8015 = EPA Method 8015 for TPH(G)
 8020 = EPA Method 8020 for BTEX
 624 = EPA Method 624 for VOCs, including BTEX
 Metals = Methods vary for Priority Pollutant Metals

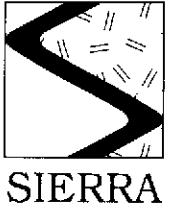
ANALYTIC LABORATORIES:

UNK = Analytic laboratory was not reported
 PACE = PACE Laboratories, Inc. of Novato, California
 SPA = Superior Precision Analytical, Inc. of Martinez, California

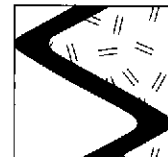
NOTES:

All data and information in this table were compiled from the Report of Soil and Groundwater Investigation, dated October 26, 1989; the Quarterly Groundwater Sampling Report, dated May 9, 1990; and the Revised Work Plan for Remediation of Soil and Groundwater, dated June 21, 1990, prepared by EA Engineering, Science, and Technology, Inc. of Lafayette, California.

- ¹ Analytic method assumed from the analytes reported.
- ² Ethylbenzene and xylenes were reported together.
- ³ Other VOCs not detected at detection limits of 5 ppb to 10 ppb.
- ⁴ Arsenic, Chromium, Copper, Nickel and Zinc were detected at concentrations of 30, 20, 20, 30 and 40 ppb, respectively. Other Priority Pollutant Metals were not detected at detection limits of 0.2 ppb to 200 ppb.
- ⁵ Monitoring well destroyed/abandoned during construction of residence.
- ⁶ Chromium, Copper, Nickel and Zinc were detected at concentrations of 20, 10, 40 and 30 ppb, respectively. Other Priority Pollutant Metals were not detected at detection limits of 0.2 ppb to 200 pp.



APPENDIX C
SIERRA ENVIRONMENTAL SERVICES
STANDARD OPERATING PROCEDURES



SIERRA

SES STANDARD OPERATING PROCEDURE GROUND WATER SAMPLING - QUARTERLY MONITORING

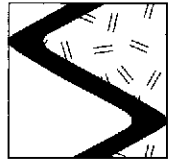
The following describes sampling procedures used by SES field personnel to collect and handle ground water samples. Before samples are collected, careful consideration is given to the type of analysis to be performed so that precautions are taken to prevent loss of volatile components or contamination 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).

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

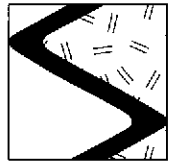


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time) by each person who yields or receives the samples beginning with the field personnel and ending with the laboratory personnel.

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-GMP.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

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

LABORATORY NO.: 85189
CLIENT: Sierra Environmental
CLIENT JOB NO.: 1-232-04

DATE RECEIVED: 03/03/92
DATE REPORTED: 03/10/92

Page 1 of 2

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
85189- 1	AA	03/03/92	03/04/92
85189- 2	BB	03/03/92	03/04/92
85189- 3	C-3	03/03/92	03/04/92
85189- 4	C-1	03/03/92	03/05/92

Laboratory Number:	85189	85189	85189	85189
	1	2	3	4

ANALYTE LIST	Amounts/Quantitation Limits (ug/L)			
OIL AND GREASE:	NA	NA	NA	NA
TPH/GASOLINE RANGE:	ND<50	ND<50	ND<50	13000
TPH/DIESEL RANGE:	NA	NA	NA	NA
BENZENE:	ND<0.5	ND<0.5	ND<0.5	5800
TOLUENE:	ND<0.5	ND<0.5	ND<0.5	730
ETHYL BENZENE:	ND<0.5	ND<0.5	ND<0.5	340
XYLENES:	ND<0.5	ND<0.5	ND<0.5	1200



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: 85189

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-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: 10/04/91

SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Water: 0.5ug/L
Standard Reference: 10/11/91

ANALYTE	REFERENCE	SPIKE LEVEL	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Oil & Grease	NA	NA	NA	NA	NA
Diesel	NA	NA	NA	NA	NA
Gasoline	03/03/92	200 ng	91/95	4	70-130
Benzene	02/26/92	200 ng	92/86	7	70-130
Toluene	02/26/92	200 ng	105/99	6	70-130
Ethyl Benzene	02/26/92	200 ng	109/102	7	70-130
Total Xylenes	02/26/92	200 ng	110/102	8	70-130

Richard Srna, Ph.D.

Laboratory Director



Superior Precision Analytical, Inc.

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

MOCK INVOICE

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

Date: 03/10/92
Date Rcvd: 03/03/92
Date Rptd: 03/10/92
Our Job #: 85189
Invoice #: 85189

Sierra Environmental Job # 1-232-04
Chevron USA Release # 5901420

Facility #: 9-1153

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

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

TERMS: NET 30

A charge of 1.5% per month may be applied to unpaid balances.

Chevron U.S.A. Inc. P.O. BOX 5004 San Ramon, CA 94583 FAX (415)842-9591	Chevron Facility Number <u>9-1153</u> Facility Address <u>3126 Ferrelle Blvd., Alameda</u> Consultant Project Number <u>1-232-04</u> Consultant Name <u>Siem Environmental Services</u> Address <u>Box 2546, Martinez, CA 94552</u> Project Contact (Name) <u>Clarice Brauer</u> (Phone) <u>510 370-1280</u> (Fax Number)	Chevron Contact (Name) <u>Nancy Umbalich</u> (Phone) <u>510-842-9581</u> Laboratory Name <u>Superior Precision Analytical</u> Laboratory Release Number <u>5901420</u> Samples Collected by (Name) <u>CHRIS CONNER</u> Collection Date <u>Mar 3, 92</u> Signature <u>Christopher P. Conner</u>
--	---	--

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										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)			
AD	1	3	C	L/A	11:15	HCl	Yes											Analyze in order shown
B-3	2	↓	↓	↓	11:15	↓	↓											↓
C-3	3	↓	↓	↓	11:20	↓	↓											↓
C-1	4	↓	↓	↓	11:25	↓	↓											↓

Please initial _____ *AW*

Samples Stored in ice _____ *MW*

Appropriate containers _____ *MW*

Samples preserved _____ *AW*

VOA's without hoodspace _____ *AW*

Comments: _____

Relinquished By (Signature) <i>Christopher P. Conner</i>	Organization <i>SES</i>	Date/Time <i>Mar 3, 92 1500</i>	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 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) <i>Folens Water</i>		Date/Time <i>3/3/92 1500</i>	

COC-3.DWG/03 01/HCH