



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

✓rc
2/25/93

February 22, 1993

Ms. Eva Chu
Alameda County Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

Re: Chevron Station # 9-5542, 7007 San Ramon Valley Blvd., Dublin, CA
Attached groundwater monitoring report (Sierra, 1/13/93)

Dear Ms. Chu:

Attached is a report dated January 13, 1993, which was prepared by Chevron's consultant, Sierra Environmental Services (Sierra), to describe groundwater monitoring performed at the subject site on December 18, 1992. Sierra will monitor the site again in the first quarter of 1993.

A pilot test to determine the effectiveness of groundwater and vapor extraction at the site is being scheduled by Chevron's consultant, Geraghty & Miller. The pilot test will be conducted in the near future. If you have any questions or comments, I can be reached at (510) 842-8658.

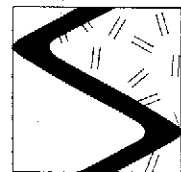
Sincerely,

Clint B. Rogers
Environmental Engineer

Attachment

cc: Eddy So, San Francisco Bay RWQCB, Oakland, CA
Mary Diamond, See's Candy, 3423 S. La Cienega Blvd., Los Angeles, CA 90016-4401
See's Real Estate, 210 El Camino Real, S. San Francisco, CA 94080 (w/o attachment)
Paul Hehn, Geraghty & Miller, Richmond, CA





JAN 19 '93 PWM

January 13, 1993

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

Re: Chevron Service Station #9-5542
7007 San Ramon Road
Dublin, California
SES Project #1-214-04

Dear Mr. Rogers:

This report presents the results of the quarterly ground water sampling at Chevron Service Station #9-5542, located at 7007 San Ramon Road in Dublin, California (Figure 1, Appendix A). Seven wells, MW-1 through MW-6 and MW-8, were sampled (Figure 2, Appendix A). One well (MW-7) could not be located. SES unsuccessfully attempted to locate MW-7 with a metal detector. The area where the well is located is a vacant lot covered with approximately 8 inches of loose soil and new growth of grass is evident.

On December 18, 1992, SES personnel visited the site. Water level measurements were collected from six wells and all 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) and a ground water elevation contour map is included as Figure 2 (Appendix A).

The ground water samples were collected on December 18, 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.



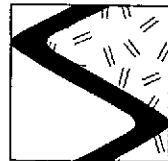
Sincerely,
Sierra Environmental Services

Argy Mena
Argy Mena
Staff Geologist

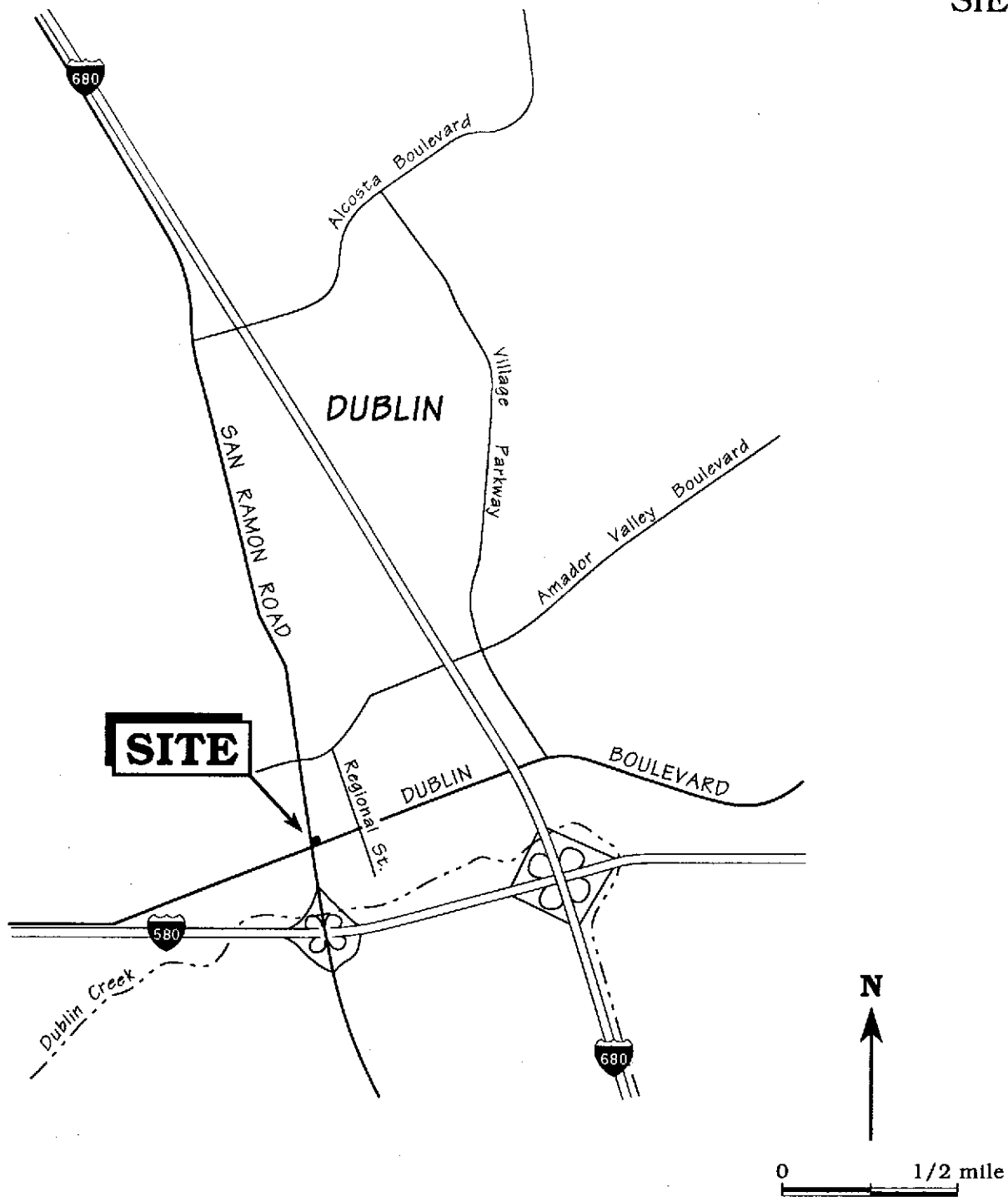
Chris J. Bramer
Chris J. Bramer
Professional Engineer #C48846

AJM/CJB/ly
21404QMJA3

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

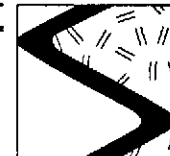


SIERRA



Base map ref: California State Automobile Association (AAA)

Figure 1. Site Location Map – Chevron Service Station #9-5542, 7007 San Ramon Road, Dublin, California



SIERRA



Approximate ground water flow direction

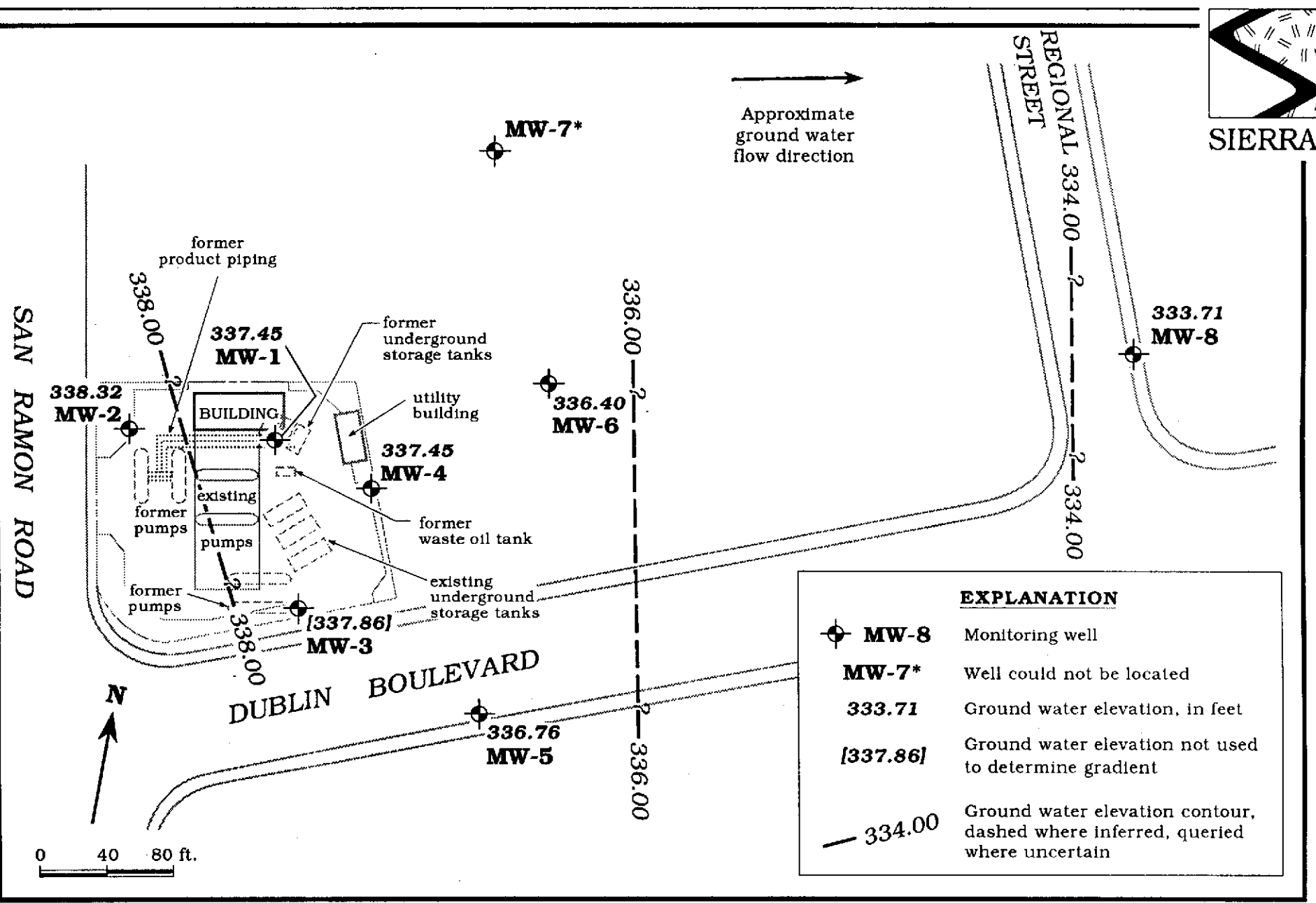
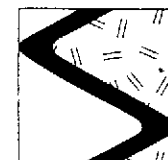


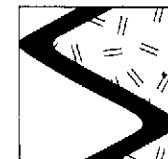
Figure 2. Monitoring Well Location and Ground Water Elevation Contour Map - December 18, 1992 - Chevron Service Station #9-5542, 7007 San Ramon Road, Dublin, California



SIERRA

Table 1. Water Level Data and Well Construction Details - Chevron Service Station #9-5542, 7007 San Ramon Road, Dublin, California

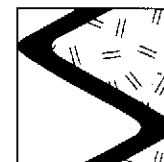
Well ID	Date Measured	DTW (ft)	TOC (msl)	GWE (msl)	Product Thickness* (ft)	Screen Interval	Sand Pack Interval	Bentonite/Grout Interval
						-----feet below grade----->		
MW-1	5/31/91	25.67	363.98 ¹	338.31	0	20.0 - 35.0	19.5 - 35.5	0 - 19.5
	6/21/91	26.23		337.75	0			
	7/17/91	26.53		337.45	0			
	10/4/91	27.90		336.08	0			
	12/19/91	28.12		335.86	0			
	3/19/92	24.63		339.35	0			
	6/19/92	26.23	364.32 ²	338.09	0			
	9/22/92	27.73		336.59	0			
	12/18/92	26.76		337.56	0			
MW-2	5/31/91	25.51	364.19 ¹	338.68	0	22.0 - 37.0	20.0 - 37.0	0 - 20.0
	6/21/91	26.13		338.06	0			
	7/17/91	26.46		337.73	0			
	10/4/91	27.79		336.40	0			
	12/19/91	28.06		336.13	0			
	3/19/92	24.46		339.73	0			
	6/19/92	26.10	364.64 ²	338.54	0			
	9/22/92	27.60		337.04	0			
	12/18/92	26.32		338.32	0			
MW-3	5/31/91	23.20	361.92 ¹	338.72	0	20.0 - 35.0	19.0 - 35.0	0 - 19.0
	6/21/91	24.13		337.79	0			
	7/17/91	24.59		337.73	0			
	9/20/91	25.98		335.94	0			
	12/19/91	26.24		335.68	0			
	3/19/92	22.46		339.46	0			
	6/19/92	24.32	362.26 ²	337.94	0			
	9/22/92	25.84		336.42	0			
	12/18/92	24.40		337.86	0			
MW-4	5/31/91	24.67	362.70 ¹	338.03	0	20.0 - 35.0	19.0 - 35.0	0 - 19.0
	6/21/91	25.31		337.39	0			
	7/17/91	25.73		336.97	0			
	10/4/91	27.08		335.62	0			



SIERRA

Table 1. Water Level Data and Well Construction Details - Chevron Service Station #9-5542, 7007 San Ramon Road, Dublin, California

Well ID	Date Measured	DTW (ft)	TOC (msl)	GWE (msl)	Product Thickness* (ft)	Screen Interval -----feet below grade----->	Sand Pack Interval	Bentonite/Grout Interval
MW-4 (cont)	12/19/91	27.24		335.46	0			
	3/19/92	23.66		339.04	0			
	6/19/92	25.33	363.07 ²	337.74	0			
	9/22/92	26.90		336.17	0			
	12/18/92	25.62		337.45	0			
MW-5	6/21/91	23.17	359.95 ¹	336.78	0	21.0 - 36.0	19.5 - 36.0	0 - 19.5
	7/17/91	23.68		336.27	0			
	10/4/91	25.20		334.75	0			
	12/19/91	25.20		334.75	0			
	3/19/92	21.21		338.74	0			
	6/19/92	23.42	360.28 ²	336.86	0			
	9/22/92	24.97		335.31	0			
	12/18/92	23.52		336.76	0			
MW-6	6/21/91	23.55	360.22 ¹	336.67	0	20.0 - 35.0	18.5 - 35.0	0 - 18.5
	7/17/91	24.00		336.22	0			
	10/4/91	25.29		334.93	0			
	12/19/91	25.34		334.88	0			
	3/19/92	22.05		338.17	0			
	6/19/92	23.52	360.58 ²	337.06	0			
	9/22/92	25.60		334.98	0			
	12/18/92	24.18		336.40	0			
MW-7	6/21/91	23.45	360.63 ¹	337.18	0	20.0 - 35.0	18.5 - 35.0	0 - 18.5
	7/17/91	23.90		336.73	0			
	10/4/91	25.03		335.60	0			
	12/19/91	25.10		335.53	0			
	3/19/92	22.74		337.89	0			
	6/19/92 ³	---	360.99 ³	---	---			
	9/22/92 ³	---		---	---			
	12/18/92³	---		---	---			



SIERRA

Table 1. Water Level Data and Well Construction Details - Chevron Service Station #9-5542, 7007 San Ramon Road, Dublin, California

Well ID	Date Measured	DTW (ft)	TOC (msl)	GWE (msl)	Product Thickness* (ft)	Screen Interval	Sand Pack Interval	Bentonite/Grout Interval
						<-----feet below grade----->		
MW-8	12/12/91	22.54	---	---	0			
	6/19/92	20.47	354.89 ²	334.42	0			
	9/22/92	29.80		325.09	0			
	12/18/92	21.18		333.71	0			

EXPLANATION:

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

NOTES:

Well construction details for MW-1 through MW-4 were compiled from a draft report prepared by Chempro, undated.

* Product thickness was measured with an MMC flexi-dip interface probe.

¹ Top of casing elevations for monitoring wells MW-1 through MW-7 were surveyed by Ron Miller, Professional Engineer #15816 on June 26, 1991.

² Top of casing elevations for monitoring wells MW-1 through MW-8 were surveyed by Kier & Wright of Pleasanton, California on December 12, 1991. Survey data received by SES on April 30, 1992.

³ Well could not be located on this date due to surface conditions from recent discing.



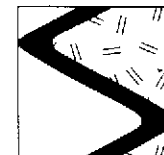
Table 2. Analytic Results for Ground Water - Chevron Service Station #9-5542, 7007 San Ramon Road, Dublin, California

Sample ID	Date	Analytic Method	Analytic Lab	TPPH(G)	O&G	B	T	E	X	Other HVOCs	1,2-DCA	EDB	OL
MW-1 (D)	4/3-4/90	8015/602/504	*	46,000	---	8,400	7,400	860	5,600	---	---	1.04	---
	4/3-4/90	8015/602/504	*	43,000	---	8,400	7,200	840	5,200	---	---	1.1	---
	5/31/91	8015/8020/8010	SAL	31,000	---	7,400	2,500	630	2,100	ND ¹	2	---	---
	5/31/91	503E	SAL	---	<5,000	---	---	---	---	---	---	---	---
	9/20/91	8015/8020/8010	SAL	31,000	---	3,000	2,800	610	3,100	ND ¹	0.6	---	---
	12/19/91	8015/8020/8010	SPA	20,000	---	5,200	1,700	560	2,000	ND ¹	3.3	---	---
	3/19/92	8015/8020/8010	SPA	30,000	---	8,500	3,600	590	2,400	ND ¹	2.7	---	---
	6/19/92	8015/8020	SPA	25,000	---	1,100	2,000	520	1,800	---	---	---	---
	9/22/92	8015/8020	SPA	21,000	---	8,000	3,500	670	2,900	---	---	---	---
	12/18/92	8015/8020	SPA	79,000	---	12,000	12,000	1,800	8,500	---	---	---	---
MW-2	4/3-4/90	8015/602/504	*	<50	---	<0.3	<0.3	<0.3	<0.6	---	---	<0.02	---
	5/31/91	8015/8020/8010	SAL	100	---	3.1	4.2	0.7	2.0	ND ¹	<0.5	---	---
	5/31/91	503E	SAL	---	<5,000	---	---	---	---	---	---	---	---
	9/20/91	8015/8020	SAL	68	---	1.3	1.6	0.8	3.0	---	---	---	---
	12/19/91	8015/8020	SPA	<50	---	0.6	1.2	0.8	2.5	---	---	---	---
	3/19/92	8015/8020	SPA	<50	---	2.5	2.0	1.1	2.4	---	---	---	---
	6/19/92	8015/8020	SPA	<50	---	<0.5	0.6	0.7	1.2	---	---	---	---
	9/22/92	8015/8020	SPA	200	---	16	42	6.1	32	---	---	---	---
	12/18/92	8015/8020	SPA	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---
MW-3	4/3-4/90	8015/602/504	*	2,200	---	36	5	6	17	---	---	<0.02	---
	5/31/91	8015/8020/8010	SAL	2,200	---	130	11	31	78	ND ¹	19	---	---
	5/31/91	503E	SAL	---	<5,000	---	---	---	---	---	---	---	---
	9/20/91	8015/8020	SAL	2,200	---	190	6.0	24	32	---	---	---	---
	12/19/91	8015/8020	SPA	640	---	73	27	17	56	---	---	---	---
	3/19/92	8015/8020	SPA	4,500	---	1,000	15	91	240	---	---	---	---
	6/19/92	8015/8020	SPA	1,100	---	89	3.3	9.1	13	---	---	---	---
	9/22/92	8015/8020	SPA	1,400	---	81	51	15	49	---	---	---	---
	12/18/92	8015/8020	SPA	1,100	---	2.0	1.1	53	38	---	---	---	---
MW-4	4/3-4/90	8015/413.1/602/504	*	43,000	18,000	4,000	5,000	790	5,500	---	---	<0.02	---
	4/3-4/90	624**	*	---	---	6,000	8,200	1,500	---	---	---	---	---
	5/31/91	8015/8020/8010	SAL	34,000	---	2,900	2,900	680	3,300	ND ¹	<0.5	---	---
	5/31/91	503E	SAL	---	<5,000	---	---	---	---	---	---	---	---
	9/20/91	8015/8020/8010	SAL	37,000	---	4,000	3,200	580	3,000	ND ¹	9.2	---	---



Table 2. Analytic Results for Ground Water - Chevron Service Station #9-5542, 7007 San Ramon Road, Dublin, California (continued)

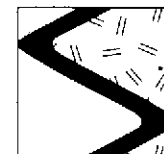
Sample ID	Date	Analytic Method	Analytic Lab	TPPH(G)	O&G	B	T	E	X	Other HVOCs	1,2-DCA	EDB	OL	
				-----ppb----->										
MW-4 (cont)	12/19/91	8015/8020/8010	SPA	41,000	---	5,500	4,900	1,000	4,400	ND ¹	17	---	---	
	3/19/92	8015/8020/8010	SPA	21,000	---	3,800	2,900	500	3,200	ND ²	15	---	---	
	6/19/92	8015/5520/8020	SPA	27,000	<5,000	1,800	1,600	570	1,900	---	---	---	---	
	9/22/92	8015/5520/8020	SPA	20,000	<5,000	4,100	2,700	670	3,200	---	---	---	---	
	12/18/92	8015/5520/8020	SPA	15,000	<5,000	2,200	2,000	370	1,600	---	---	---	---	
MW-5	6/21/91	8015/8020	SAL	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	
	6/21/91	8010/LUFT	SAL	---	---	---	---	---	---	ND ¹	<0.5	---	<4,000	
	9/20/91	8015/8020	SAL	170 ³	---	0.8	0.9	<0.5	1.5	---	---	---	---	
	12/19/91	8015/8020	SPA	<50	---	0.7	0.7	<0.5	1.4	---	---	---	---	
	3/19/92	8015/8020	SPA	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	
	6/19/92	8015/8020	SPA	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	
	9/22/92	8015/8020	SPA	150	---	13	34	5.0	26	---	---	---	---	
	12/18/92	8015/8020	SPA	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	
	MW-6	6/21/91	8015/8020	SAL	3,700	---	50	2.6	150	340	---	---	---	---
6/21/91		8010/LUFT	SAL	---	---	---	---	---	---	ND ¹	<0.5	---	<4,000	
9/20/91		8015/8020	SAL	3,200	---	28	<0.5	140	100	---	---	---	---	
12/19/91		8015/8020	SPA	380	---	2.7	4.0	15	10	---	---	---	---	
3/19/92		8015/8020	SPA	3,400	---	57	4.5	330	360	---	---	---	---	
6/19/92		8015/8020	SPA	980	---	11	4.2	57	38	---	---	---	---	
9/22/92		8015/8020	SPA	1,100	---	22	41	77	58	---	---	---	---	
12/18/92		8015/8020	SPA	1,000	---	3.2	1.3	58	47	---	---	---	---	
MW-7		6/21/91	8015/8020	SAL	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	6/21/91	8010/LUFT	SAL	---	---	---	---	---	---	ND ¹	<0.5	---	<4,000	
	9/20/91	8015/8020	SAL	69	---	4.4	3.3	1.2	3.9	---	---	---	---	
	12/19/91	8015/8020	SPA	<50	---	0.9	2.8	1.7	5.9	---	---	---	---	
	3/19/92	8015/8020	SPA	<50	---	1.1	0.6	0.9	2.5	---	---	---	---	
	6/19/92 ⁴	---	---	---	---	---	---	---	---	---	---	---	---	
	9/22/92 ⁴	---	---	---	---	---	---	---	---	---	---	---	---	
	12/18/92 ⁴	---	---	---	---	---	---	---	---	---	---	---	---	
	MW-8	12/12/91	8015/8020	SPA	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---
		6/19/92	8015/8020	SPA	<50	---	1.2	1.4	0.5	2.9	---	---	---	---
9/22/92		8015/8020	SPA	180	---	17	42	6.0	31	---	---	---	---	
12/18/92		8015/8020	SPA	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	



SIERRA

Table 2. Analytic Results for Ground Water - Chevron Service Station #9-5542, 7007 San Ramon Road, Dublin, California (continued)

Sample ID	Date	Analytic Method	Analytic Lab	TPPH(G)	O&G	B	T	E	X	Other HVOCs	1,2-DCA	EDB	OL
				----->									
				-----ppb-----<									
Trip Blank													
(MW-AA)	5/31/91	8015/8020	SAL	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	6/21/91	8015/8020	SAL	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	9/20/91	8015/8020	SAL	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	12/19/91	8015/8020	SPA	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	3/19/92	8015/8020	SPA	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---
(TB-LB)	6/19/92	8015/8020	SPA	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	9/22/92	8015/8020	SPA	92 ⁵	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	12/18/92	8015/8020	SPA	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---
Baiter Blank													
(MW-BB)	5/31/91	8015/8020	SAL	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	6/21/91	8015/8020	SAL	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	9/20/91	8015/8020	SAL	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	12/19/91	8015/8020	SPA	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	3/19/92	8015/8020	SPA	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	6/19/92	8015/8020	SPA	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	9/22/92	8015/8020	SPA	<50	---	<0.5	<0.5	<0.5	0.8	---	---	---	---
	12/21/92	8015/8020	SPA	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---



SIERRA

Table 2. Analytic Results for Ground Water - Chevron Service Station #9-5542, 7007 San Ramon Road, Dublin, California (continued)

EXPLANATION:

TPPH(G) = Total Purgeable Petroleum Hydrocarbons as Gasoline
O&G = Oil and Grease
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
HVOCs = Halogenated Volatile Organic Compounds
1,2-DCA = 1,2-Dichloroethane
EDB = Ethylene dibromide
OL = Organic lead
ppb = Parts per billion
D = Duplicate sample
--- = Not analyzed/not applicable
ND = Not detected (see notes)

ANALYTIC METHODS:

8015 = EPA Method 8015/5030 for TPPH(G)
602 = EPA Method 602 for BTEX
504 = EPA Method 504 for EDB
8020 = EPA Method 8020 for BTEX
8010 = EPA Method 8010 for HVOCs
503E = Standards Methods Method 503E for O&G

ANALYTIC METHODS: (continued)

413.1 = EPA Method 413.1 for total O&G
624 = EPA Method 624 for BTEX and VOCs
5520 = Standard Methods Method 5520 for O&G
LUFT = DHS LUFT Manual Method for OL

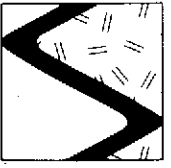
ANALYTIC LABORATORIES:

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

NOTES:

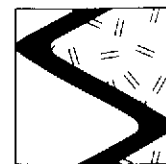
Analytic data was compiled from a draft report prepared by Chempro, undated.

- * Analytic laboratory was not shown.
- ** 624 compounds other than BTE were not reported
- ¹ Other HVOCs were not detected at detection limits ranging from 0.5 to 1 ppb.
- ² Chloroform and bromodichloromethane were detected at 1.3 and 0.9 ppb, respectively. Other HVOCs were not detected at detection limits ranging from 0.5 to 1 ppb.
- ³ A non-standard gasoline pattern was observed in the chromatogram.
- ⁴ This well could not be located; therefore it was not sampled.
- ⁵ Gasoline range concentration reported. The chromatogram shows only a single peak in the gasoline range.



SIERRA

APPENDIX C
SIERRA ENVIRONMENTAL SERVICES
STANDARD OPERATING PROCEDURE



SIERRA

SES STANDARD OPERATING PROCEDURE

GROUND WATER SAMPLING

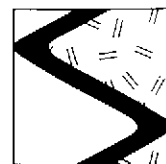
The following describes sampling procedures used by SES field personnel to collect and handle ground water samples. Before samples are collected, careful consideration is given to the type of analysis to be performed so that precautions are taken to prevent loss of volatile components or contamination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

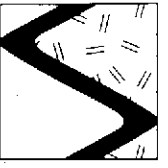


SIERRA

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



SIERRA

APPENDIX D
CHAIN OF CUSTODY DOCUMENT AND
LABORATORY ANALYTIC REPORTS



Superior Precision Analytical, Inc.

825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1527 FAX (510) 229-1526

Sierra Environmental
Attn: Chris Bramer

Project 1-214-04
Reported 01/04/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
87481- 1	TB-LB	12/18/92	12/31/92 Water
87481- 2	BB	12/18/92	12/31/92 Water
87481- 3	MW-8	12/18/92	12/31/92 Water
87481- 4	MW-5	12/18/92	12/31/92 Water
87481- 5	MW-2	12/18/92	12/31/92 Water
87481- 6	MW-6	12/18/92	12/31/92 Water
87481- 7	MW-3	12/18/92	12/31/92 Water
87481- 8	MW-4	12/18/92	12/31/92 Water
87481- 9	MW-1	12/18/92	12/31/92 Water

RESULTS OF ANALYSIS

Laboratory Number: 87481- 1 87481- 2 87481- 3 87481- 4 87481- 5

Gasoline:	ND<50	ND<50	ND<50	ND<50	ND<50
Benzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Toluene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Ethyl Benzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Xylenes:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Oil and Grease:	NA	NA	NA	NA	NA
Concentration:	ug/L	ug/L	ug/L	ug/L	ug/L

Laboratory Number: 87481- 6 87481- 7 87481- 8 87481- 9

Gasoline:	1900	1100	15000	79000
Benzene:	3.2	2.0	2200	12000
Toluene:	1.3	1.1	2000	12000
Ethyl Benzene:	58	53	370	1600
Xylenes:	47	38	1600	8500
Oil and Grease:	NA	NA	ND<5000	NA
Concentration:	ug/L	ug/L	ug/L	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: 87481

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	SPIKE LEVEL	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	200 ng	100/94	6%	70-130
Benzene:	200 ng	90/96	6%	70-130
Toluene:	200 ng	98/98	0%	70-130
Ethyl Benzene:	200 ng	104/105	1%	70-130
Xylenes:	200 ng	104/104	0%	70-130
Oil&Grease	30 mg	84/84	0%	56-106

Richard Srna, Ph.D.

Chaneh Sakup
Laboratory Director