



**Chevron U.S.A. Inc.**

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

92 FEB 27 11:10:01

Marketing Department

February 25, 1992

Mr. Ravi Arulananthum  
Alameda County Environmental Health  
80 Swan Way, Room 200  
Oakland, CA 94621

Re: Chevron Station # 9-5542  
7007 San Ramon Valley Blvd., Dublin, CA 94568

Dear Mr. Arulananthum:

Attached is a report dated January 19, 1992, which was prepared by Chevron's consultant, Sierra Environmental Services (Sierra), to describe groundwater monitoring performed on December 19, 1991, at the site captioned above.

The levels of dissolved hydrocarbons and the direction of hydraulic gradient were consistent with previous observations at this site.

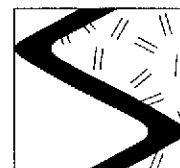
If you have any questions or comments, I can be reached at (510) 842-8658.

Sincerely,

Clint B. Rogers  
Engineer, Site Assessment and Remediation

Attachment

cc: Richard Hiatt, 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)



January 19, 1992

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-7, were sampled (Figure 2, Appendix A).

On December 19, 1991, SES personnel visited the site. Water level measurements were collected from all wells and all wells were checked for 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 19, 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). 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

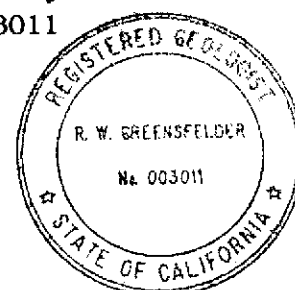
Chris J. Bramer  
Senior Project Engineer

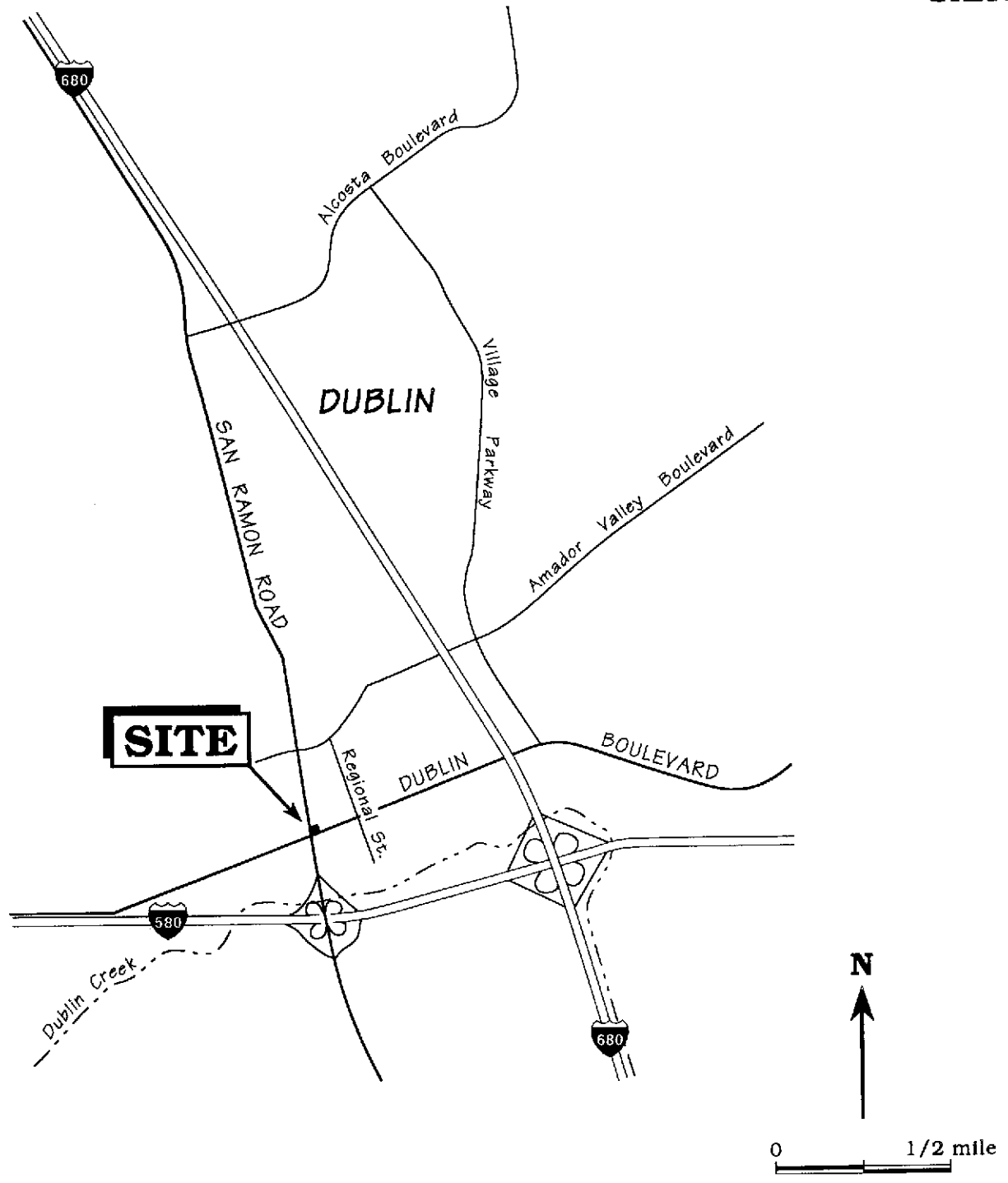
Dr. Roger Greensfelder  
Registered Geologist #003011

CJB/RG/ly  
21404QM.JA2

Appendices

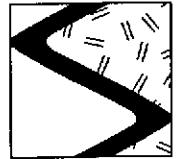
- A - Figures
- B - Tables
- C - SES Standard Operating Procedure
- D - Chain of Custody Document and Laboratory Analytic Reports



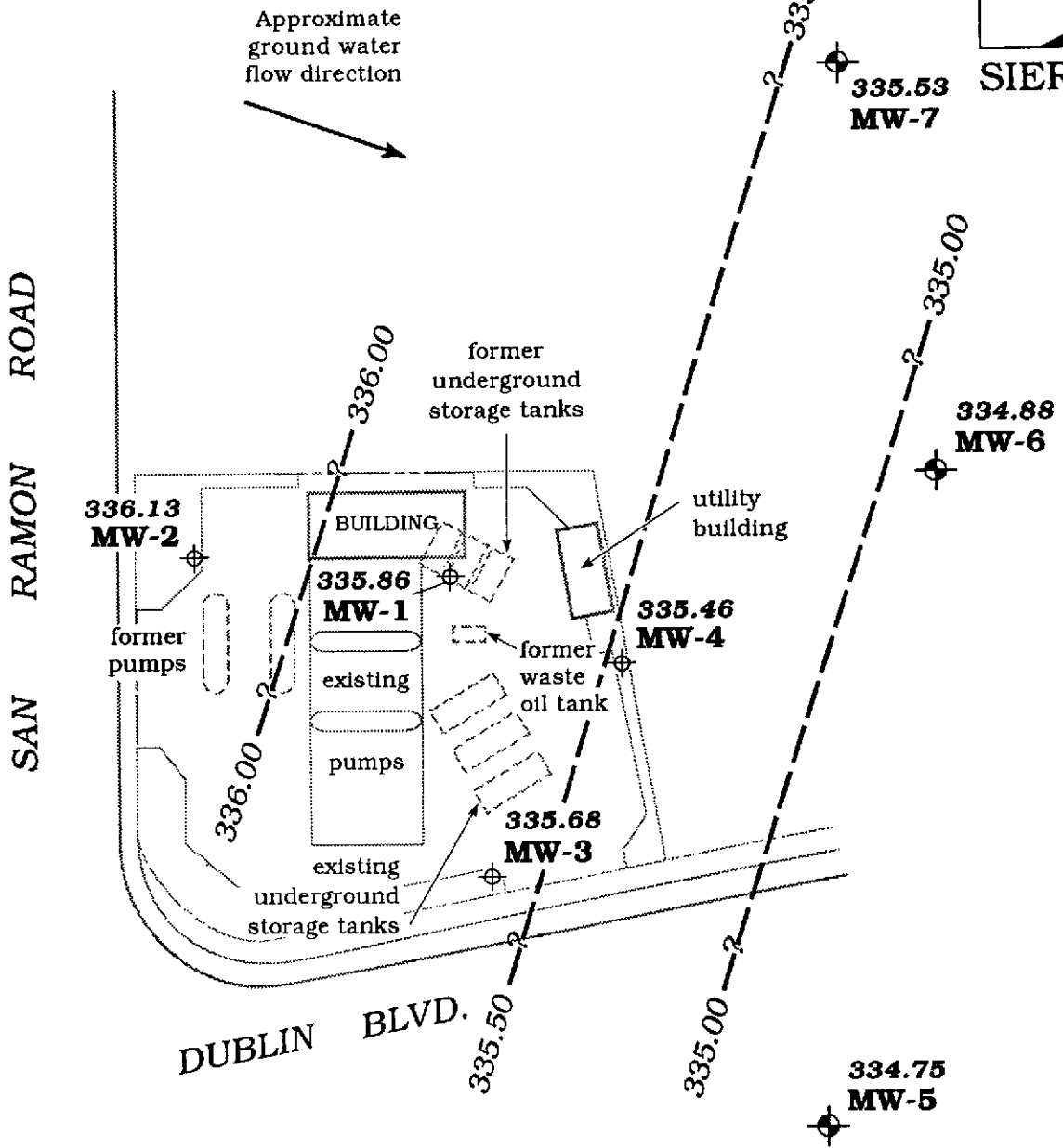


Base map ref: California State Automobile Association (AAA)

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

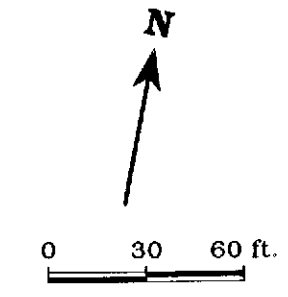


SIERRA



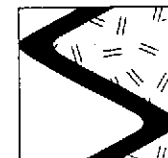
**EXPLANATION**

- ⊕ MW-4 Monitoring well installed by previous consultant
- ⊕ MW-7 Monitoring well installed by SES
- 335.53 Ground water elevation, in feet
- 336.00 Ground water elevation contour, dashed where inferred, queried where uncertain



Base map after Chemical Processors, Inc.

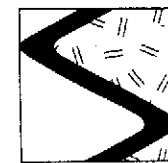
Figure 2. Monitoring Well Location and Ground Water Elevation Contour Map - December 19, 1991 - Chevron Service Station #9-5542 - 7007 San Ramon Road, Dublin, California



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* (ft)	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	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			
	<b>12/19/91</b>	<b>28.12</b>		<b>335.86</b>	<b>0</b>			
MW-2	5/31/91	25.51	364.19	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			
	<b>12/19/91</b>	<b>28.06</b>		<b>336.13</b>	<b>0</b>			
MW-3	5/31/91	23.20	361.92	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			
	<b>12/19/91</b>	<b>26.24</b>		<b>335.68</b>	<b>0</b>			
MW-4	5/31/91	24.67	362.70	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			
	<b>12/19/91</b>	<b>27.24</b>		<b>335.46</b>	<b>0</b>			
MW-5	6/21/91	23.17	359.95	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			
	<b>12/19/91</b>	<b>25.20</b>		<b>334.75</b>	<b>0</b>			



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* (ft)	GWE (msl)	Product Thickness** (ft)	Screen Interval	Sand Pack Interval	Bentonite/Grout Interval
						<-----feet below grade----->		
MW-6	6/21/91	23.55	360.22	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			
	<b>12/19/91</b>	<b>25.34</b>		<b>334.88</b>	<b>0</b>			
MW-7	6/21/91	23.45	360.63	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			
	<b>12/19/91</b>	<b>25.10</b>		<b>335.53</b>	<b>0</b>			

EXPLANATION:

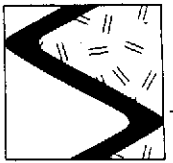
DTW = Depth to water  
TOC = Top of casing elevation  
GWE = Ground water elevation  
msl = Measurements referenced relative to mean sea level

NOTES:

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

\* Top of casing elevations were surveyed by Ron Miller, Professional Engineer #15816, June 26, 1991.

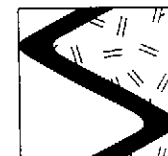
\*\* Product thickness was measured with an MMC flexi-dip interface probe.



SIERRA

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	HVOCs	1,2-DCA	EDB	OL
				-----ppb----->									
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	SAL	8015/8020/8010	31,000	---	7,400	2,500	630	2,100	ND	2	---	---
	5/31/91	SAL	503E	---	<5,000	---	---	---	---	---	---	---	---
	9/20/91	SAL	8015/8020/8010	31,000	---	3,000	2,800	610	3,100	ND	0.6	---	---
	12/19/91	SPA	8015/8020/8010	20,000	---	5,200	1,700	560	2,000	ND	3.3	---	---
MW-2	4/3-4/90	*	8015/602/504	<50	---	<0.3	<0.3	<0.3	<0.6	---	---	<0.02	---
	5/31/91	SAL	8015/8020/8010	100	---	3.1	4.2	0.7	2.0	ND	<0.5	---	---
	5/31/91	SAL	503E	---	<5,000	---	---	---	---	---	---	---	---
	9/20/91	SAL	8015/8020	68	---	1.3	1.6	0.8	3.0	---	---	---	---
	12/19/91	SPA	8015/8020	<50	---	0.6	1.2	0.8	2.5	---	---	---	---
MW-3	4/3-4/90	*	8015/602/504	2,200	---	36	5	6	17	---	---	<0.02	---
	5/31/91	SAL	8015/8020/8010	2,200	---	130	11	31	78	ND	19	---	---
	5/31/91	SAL	503E	---	<5,000	---	---	---	---	---	---	---	---
	9/20/91	SAL	8015/8020	2,200	---	190	6.0	24	32	---	---	---	---
	12/19/91	SPA	8015/8020	640	---	73	27	17	56	---	---	---	---
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	SAL	8015/8020/8010	34,000	---	2,900	2,900	680	3,300	ND	<0.5	---	---
	5/31/91	SAL	503E	---	<5,000	---	---	---	---	---	---	---	---
	9/20/91	SAL	8015/8020/8010	37,000	---	4,000	3,200	580	3,000	ND	9.2	---	---
	12/19/91	SPA	8015/8020/8010	41,000	---	5,500	4,900	1,000	4,400	ND	17	---	---
MW-5	6/21/91	SAL	8015/8020	<50	---	<0.5	<0.5	<0.5	<0.5	---	<0.5	---	---
	6/21/91	SAL	8010/LUFT	---	---	---	---	---	---	ND	---	---	<4,000
	9/20/91	SAL	8015/8020	170 <sup>1</sup>	---	0.8	0.9	<0.5	1.5	---	---	---	---
	12/19/91	SPA	8015/8020	<50	---	0.7	0.7	<0.5	1.4	---	---	---	---
MW-6	6/21/91	SAL	8015/8020	3,700	---	50	2.6	150	340	---	<0.5	---	---
	6/21/91	SAL	8010/LUFT	---	---	---	---	---	---	ND	---	---	<4,000
	9/20/91	SAL	8015/8020	3,200	---	28	<0.5	140	100	---	---	---	---
	12/19/91	SPA	8015/8020	380	---	2.7	4.0	15	10	---	---	---	---

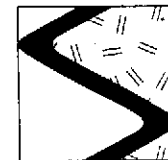


SIERRA

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(C)	O&G	B	T	E	X	HVOCs	1,2-DCA	EDB	OL
				←-----ppb-----→									
MW-7	6/21/91	SAL	8015/8020	<50	---	<0.5	<0.5	<0.5	<0.5	---	<0.5	---	---
	6/21/91	SAL	8010/LUFT	---	---	---	---	---	---	ND	---	---	<4,000
	9/20/91	SAL	8015/8020	69	---	4.4	3.3	1.2	3.9	---	---	---	---
	<b>12/19/91</b>	<b>SPA</b>	<b>8015/8020</b>	<b>&lt;50</b>	---	<b>0.9</b>	<b>2.8</b>	<b>1.7</b>	<b>5.9</b>	---	---	---	---
Trip Blank (MW-AA)	5/31/91	SAL	8015/8020	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	6/21/91	SAL	8015/8020	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	9/20/91	SAL	8015/8020	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	<b>12/19/91</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;0.5</b>	---	---	---	---
Bailer Blank (MW-BB)	5/31/91	SAL	8015/8020	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	6/21/91	SAL	8015/8020	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	9/20/91	SAL	8015/8020	<50	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	<b>12/19/91</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;0.5</b>	---	---	---	---
DHS MCLs	---	---	---	NE	NE	1	---	680	1,750	***	0.5	0.02	NE
DHS RALs	---	---	---	---	NE	---	100	---	---	***	---	---	NE





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  
ND = Not detected at detection limits of 0.5 to 1 ppb  
--- = Not analyzed/not applicable  
DHS = Department of Health Services  
MCLs = Maximum Contaminant Levels  
RALs = Recommended Action Levels  
NE = Not established  
D = duplicate sample

ANALYTIC METHODS:

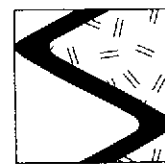
8015 = EPA Method 8015/5030 for TPPH(G)  
602 = EPA Method 602 for BTEX  
504 = EPA Method 504 for EDB  
503E = Standards Methods Method 503E for O&G  
8020 = EPA Method 8020 for BTEX  
8010 = EPA Method 8010 for HVOCs  
413.1 = EPA Method 413.1 for total O&G  
624 = EPA Method 624 for BTEX and VOCs  
LUFT = DHS LUFT Manual method for OL

ANALYTIC LABORATORY:

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

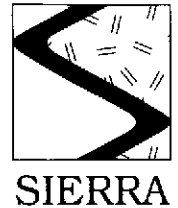
NOTES:

- \* 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
- \*\*\* DHS MCLs and RALs for HVOCs vary
- <sup>1</sup> A non-standard gasoline pattern was observed in the chromatogram.



SIERRA

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



## **SES STANDARD OPERATING PROCEDURE GROUND WATER SAMPLING**

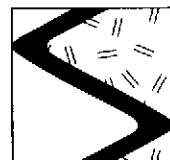
The following describes sampling procedures used by SES field personnel to collect and handle ground water samples. Before samples are collected, careful consideration is given to the type of analysis to be performed so that precautions are taken to prevent loss of volatile components or contamination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

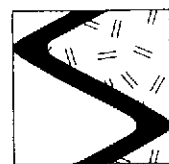


SIERRA

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.

GWTRSAMP.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) 229-1512 / 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.: 84665  
CLIENT: Sierra Environmental  
CLIENT JOB NO.: 1-214-04

DATE RECEIVED: 12/20/91  
DATE REPORTED: 12/30/91

Page 1 of 2

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
84665- 1	AA	12/19/91	12/27/91
84665- 2	BB	12/19/91	12/27/91
84665- 3	MW-5	12/19/91	12/30/91
84665- 4	MW-7	12/19/91	12/27/91
84665- 5	MW-2	12/19/91	12/27/91
84665- 6	MW-3	12/19/91	12/30/91
84665- 7	MW-6	12/19/91	12/27/91
84665- 8	MW-1	12/19/91	12/30/91
84665- 9	MW-4	12/19/91	12/27/91

Laboratory Number:	84665 1	84665 2	84665 3	84665 4	84665 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	ND<50	ND<50
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	ND<0.5	ND<0.5	0.7	0.9	0.6
TOLUENE:	ND<0.5	ND<0.5	0.7	2.8	1.2
ETHYL BENZENE:	ND<0.5	ND<0.5	ND<0.5	1.7	0.8
XYLENES:	ND<0.5	ND<0.5	1.4	5.9	2.5

Laboratory Number:	84665 6	84665 7	84665 8	84665 9
--------------------	------------	------------	------------	------------

ANALYTE LIST	Amounts/Quantitation Limits (ug/L)			
OIL AND GREASE:	NA	NA	NA	NA
TPH/GASOLINE RANGE:	640	380	20000	41000
TPH/DIESEL RANGE:	NA	NA	NA	NA
BENZENE:	73	2.7	5200	5500
TOLUENE:	27	4.0	1700	4900
ETHYL BENZENE:	17	15	560	1000
XYLENES:	56	10	2000	4400



# 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: 84665

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 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	10/04/91	200 ng	102/102	0	70-130
Benzene	12/02/91	200 ng	102/104	2	70-130
Toluene	12/02/91	200 ng	100/101	1	70-130
Ethyl Benzene	12/02/91	200 ng	99/101	2	70-130
Total Xylene	12/02/91	200 ng	98/99	1	70-130

Richard Srna, Ph.D.

*James Salimpour*  
Laboratory Director





# Superior Precision Analytical, Inc.

835 Arnold Drive, Suite 106 • Martinez, California 94553 • (510) 229-0166 / fax (510) 229-0916

## CERTIFICATE OF ANALYSIS

LABORATORY NO: 84665  
CLIENT: Sierra Environmental  
PROJECT NO: 1-214-04

DATE SAMPLED :12/19/91  
DATE RECEIVED:12/20/91  
DATE REPORTED:01/06/92

### EPA SW-846 METHOD 8010 HALOGENATED VOLATILE ORGANICS

LAB#: 84665-8 Date Analyzed (12/30/91)  
SAMPLE: MW-1 (Water)

ANALYTE	MDL(ug/L)	RESULT(ug/L)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene/Freon 113	0.5	ND
Dichloromethane	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
cis-1,2-Dichloroethene	0.5	ND
Chloroform	0.5	ND
1,1,1-Trichloroethane	0.5	ND
Carbon Tetrachloride	0.5	ND
1,2-Dichloroethane	0.5	3.3
Trichloroethene (TCE)	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND

Surrogate (BFB) Recovery: 118%

MDL: Method Detection Limit

QA/QC Summary: For Water Matrix (12/30/91)  
MS/MSD Average Recovery: 102%  
MS/MSD %RPD: 7%

  
Senior Analyst



# Superior Precision Analytical, Inc.

835 Arnold Drive, Suite 106 • Martinez, California 94553 • (510) 229-0166 / fax (510) 229-0916

## CERTIFICATE OF ANALYSIS

LABORATORY NO: 84665  
CLIENT: Sierra Environmental  
PROJECT NO: 1-214-04

DATE SAMPLED :12/19/91  
DATE RECEIVED:12/20/91  
DATE REPORTED:01/06/92

### EPA SW-846 METHOD 8010 HALOGENATED VOLATILE ORGANICS

LAB#: 84665-9 Date Analyzed (12/30/91)  
SAMPLE: MW-4 (Water)

ANALYTE	MDL(ug/L)	RESULT(ug/L)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene/Freon 113	0.5	ND
Dichloromethane	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
cis-1,2-Dichloroethene	0.5	ND
Chloroform	0.5	ND
1,1,1-Trichloroethane	0.5	ND
Carbon Tetrachloride	0.5	ND
1,2-Dichloroethane	0.5	17
Trichloroethene (TCE)	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND

Surrogate (BFB) Recovery: 109%

MDL: Method Detection Limit

QA/QC Summary: For Water Matrix (12/30/91)

MS/MSD Average Recovery: 102%

MS/MSD %RPD: 7%

Senior Analyst