



**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

91 073 00 77 0:16

Marketing Department

December 18, 1991

Mr. Paul Smith  
Alameda County Health Care Services  
80 Swan Way, Room 200  
Oakland, CA 94621

**Re: Former Chevron Service Station #9-0020  
1633 Harrison, Oakland**

Dear Mr. Smith:

Enclosed we are forwarding the Quarterly Ground Water Monitoring Report dated December 10, 1991, prepared by our consultant Sierra Environmental Services for the above referenced site. This report documents the sampling of all monitor wells including the newly installed monitor wells designated MW-13 and MW-14. As indicated in the report, ground water samples collected were analyzed for total petroleum hydrocarbons as gasoline, BTEX and volatile organic compounds. Benzene was detected in monitor wells MW-2, MW-5, MW-7, and MW-9 only at concentrations of .5, .9, 150 and 8.8, respectively. Negligible concentrations of VOC's were detected in all the monitor wells with the exception of monitor well MW-13 which reported non-detectable concentrations. Based on the uneven distribution of solvents and the higher concentrations being detected in the upgradient and cross-gradient wells, it is surmised that the solvents are emanating from an off-site source. Depth to ground water was measured at approximately 20-feet below grade, and the direction of flow fluctuates from the northeast to east.

We have instructed our consultant to further assess the distribution pattern of the solvents from the data collected to date and to assist in determining solvent responsibility. Chevron will continue to sample this site and report findings on a semi-annual basis.

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

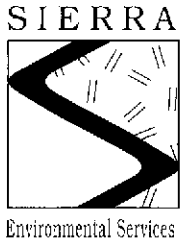
Very truly yours,  
CHEVRON U.S.A. INC.

  
Nancy Vukelich  
Environmental Engineer

Enclosure

cc: Mr. Eddy So, RWQCB-Bay Area  
Mr. B.C. Owen  
File (9-0020Q2)

DEC 18 '91 T.L.H.



December 10, 1991

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

Re: Former Chevron Service Station #9-0020  
1633 Harrison Street  
Oakland, California  
SES Project #1-199-04

Dear Ms. Vukelich:

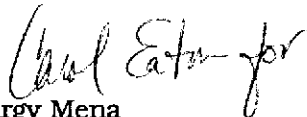
This report presents the results of the quarterly ground water sampling at Former Chevron Service Station #9-0020, located at 1633 Harrison Street in Oakland, California (Figure 1, Appendix A). Fourteen wells, MW-1 through MW-14, were sampled (Figure 2, Appendix A).


On November 15, 1991, SES personnel visited the site. 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).

Ground water samples were collected on November 15, 1991 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 Tables 2 and 3 (Appendix B). The chain of custody documents 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 Chris Bramer if you have any questions.

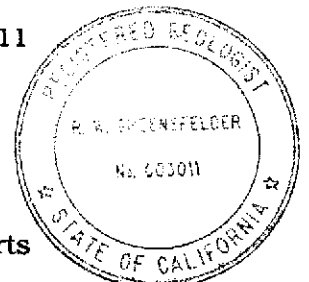
Sincerely,  
Sierra Environmental Services

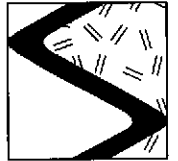
  
Argy Mena  
Staff Geologist

  
Roger Greensfelder  
Registered Geologist #003011

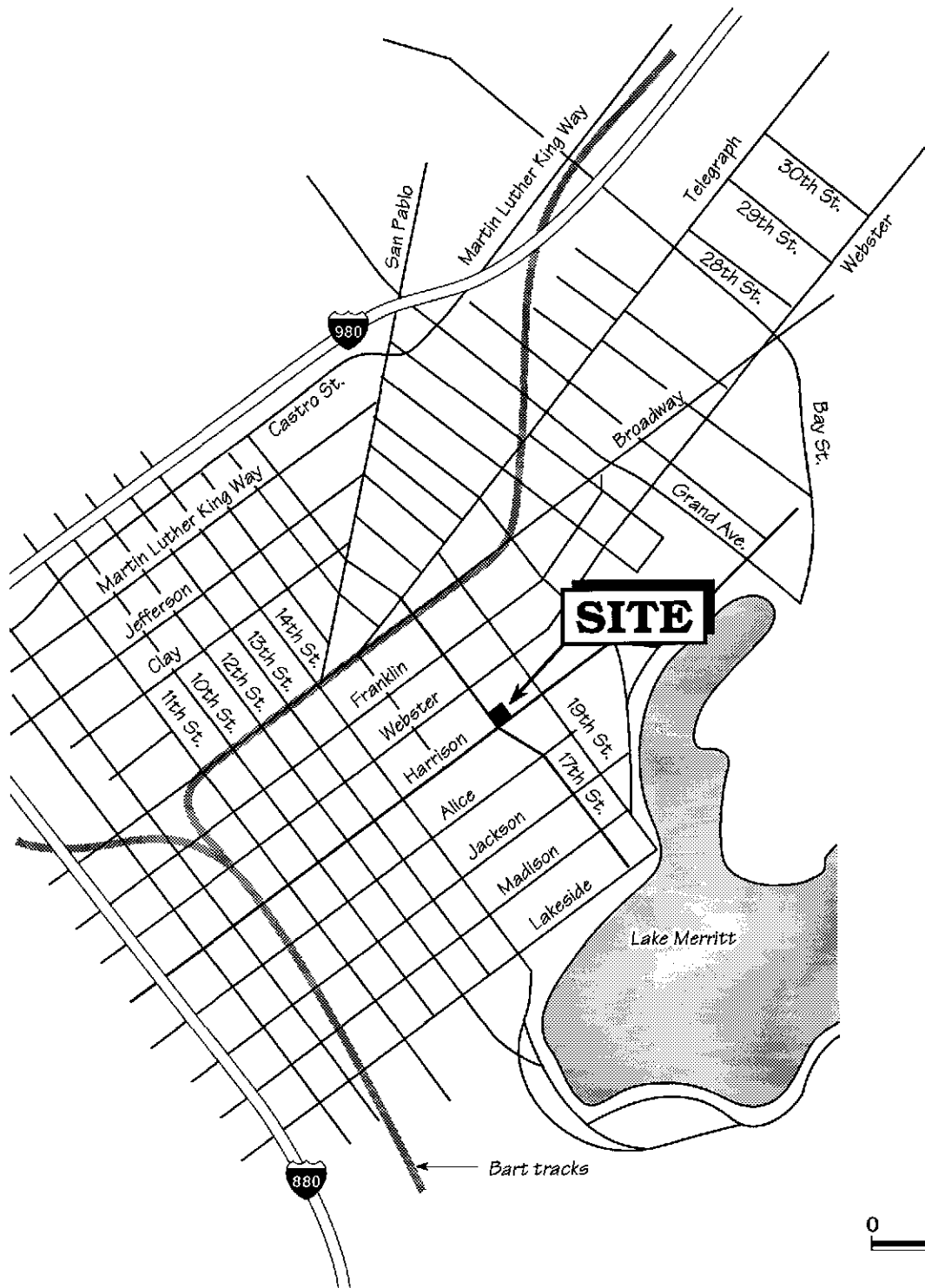
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Appendices A - Figures  
B - Tables  
C - SES Standard Operating Procedure  
D - Chain of Custody Documents and Laboratory Analytic Reports



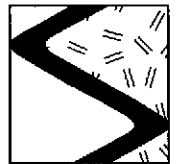


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Base map ref: California Automobile Association (AAA)

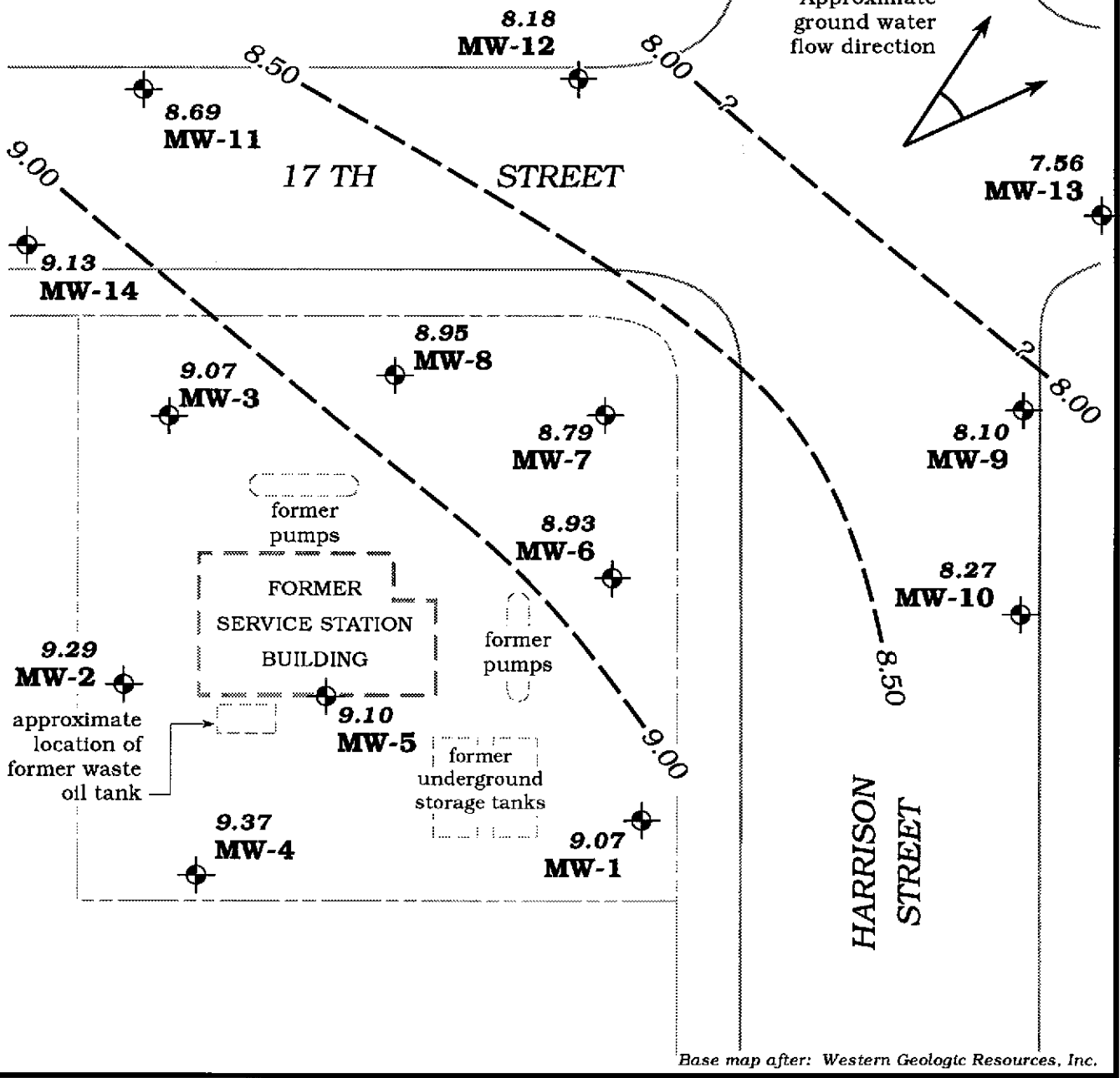
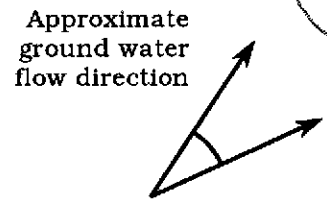
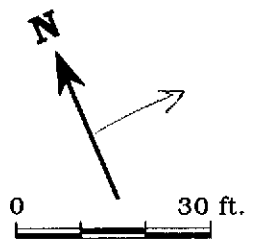
Figure 1. Site Location Map - Chevron Service Station #9-0020, 17th Street and Harrison Street, Oakland, California



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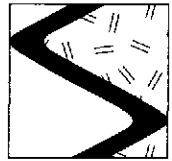
**EXPLANATION**

-  **MW-14** Monitoring well
- 9.13** Ground water elevation, in feet
-  **8.50** Ground water elevation contour, dashed where inferred, queried where uncertain



Base map after: Western Geologic Resources, Inc.

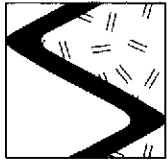
Figure 2. Monitoring Well Location and Ground Water Elevation Contour Map - November 15, 1991  
Chevron Service Station #9-0020, 17th Street and Harrison Street, Oakland, California



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Table 1. Water Level Data and Well Construction Details - Former Chevron Service Station #9-0020, 1633 Harrison Street, Oakland, California

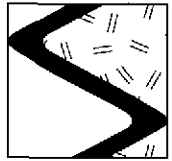
Well ID	Date Measured	DTW (ft)	TOC (ft)	GWE (msl)	Product Thickness* (ft)	Screen Interval ←-----feet below grade-----→	Sand Pack Interval	Bentonite/Grout Interval
MW-1	11/3/88	20.40	29.82	9.42	---	19 - 29	17 - 29	0 - 17
	2/2/89	20.71		9.11	---			
	4/23/89	20.34		9.48	---			
	7/28/89	20.58		9.24	---			
	10/30/89	20.52		9.30	---			
	1/9/90	20.77		9.05	---			
	4/18/90	20.95		8.87	---			
	6/22/90	21.00		8.82	---			
	8/9/90	20.94		8.88	---			
	11/13/90	20.98		8.84	---			
	5/15/91	20.64		9.18	---			
	8/27/91	20.79		9.03	---			
	<b>11/15/91</b>	<b>20.75</b>		<b>9.07</b>	<b>0</b>			
MW-2	11/3/88	20.89	30.59	9.70	---	21 - 28.5	19.5 - 28.5	0 - 19.5
	2/2/89	21.21		9.38	---			
	4/23/89	20.82		9.77	---			
	7/28/89	21.02		9.57	---			
	10/30/89	20.96		9.63	---			
	1/9/90	21.25		9.34	---			
	4/18/90	21.53		9.06	---			
	6/22/90	21.57		9.02	---			
	8/9/90	21.55		9.04	---			
	11/13/90	21.54		9.05	---			
	5/15/91	21.15		9.44	---			
	8/27/91	21.27		9.32	---			
	<b>11/15/91</b>	<b>21.30</b>		<b>9.29</b>	<b>0</b>			



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Table 1. Water Level Data and Well Construction Details - Former Chevron Service Station #9-0020, 1633 Harrison Street, Oakland, California (continued)

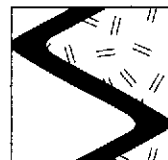
Well ID	Date Measured	DTW (ft)	TOC (ft)	GWE (msl)	Product Thickness* (ft)	Screen Interval	Sand Pack Interval	Bentonite/Grout Interval
						<-----feet below grade----->		
MW-3	11/3/88	20.54	30.09	9.55	---	22 - 32	20 - 32	0 - 20
	2/2/89	20.85		9.24	---			
	4/23/89	20.43		9.66	---			
	7/28/89	20.64		9.45	---			
	10/30/89	20.61		9.48	---			
	1/9/90	20.88		9.21	---			
	4/18/90	21.15		8.94	---			
	6/22/90	21.20		8.89	---			
	8/9/90	21.18		8.91	---			
	11/13/90	21.15		8.94	---			
	5/15/91	20.91		9.18	---			
	8/27/91	20.89		9.20	---			
	<b>11/15/91</b>	<b>21.02</b>		<b>9.07</b>	<b>0</b>			
MW-4	4/23/89	21.33	31.17	9.84	---	19 - 33.5	18.5 - 33.5	0 - 18.5
	7/28/89	21.58		9.59	---			
	10/30/89	21.54		9.63	---			
	1/9/90	21.82		9.35	---			
	4/18/90	22.09		9.08	---			
	6/22/90	22.12		9.05	---			
	8/9/90	22.11		9.06	---			
	11/13/90	22.10		9.07	---			
	5/15/91	21.71		9.46	---			
	8/27/91	21.87		9.30	---			
	<b>11/15/91</b>	<b>21.80</b>		<b>9.37</b>	<b>0</b>			



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Table 1. Water Level Data and Well Construction Details - Former Chevron Service Station #9-0020, 1633 Harrison Street, Oakland, California (continued)

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-5	4/23/89	20.62	30.28	9.66	---	22 - 32	21 - 32	0 - 21
	7/28/89	20.86		9.42				
	10/30/89	20.82		9.46				
	1/9/90	21.07		9.21				
	4/18/90	21.35		8.93				
	6/22/90	21.38		8.90				
	8/9/90	21.36		8.92				
	11/13/90	21.35		8.93				
	5/15/91	21.29		8.99				
	8/27/91	21.11		9.17				
	<b>11/15/91</b>	<b>21.18</b>		<b>9.10</b>				
MW-6	4/23/89	20.05	29.46	9.41	---	19 - 26	18.5 - 26	0 - 18.5
	7/28/89	20.30		9.16				
	10/30/89	20.32		9.14				
	1/9/90	20.51		8.95				
	4/18/90	20.72		8.74				
	6/22/90	20.77		8.69				
	8/9/90	20.74		8.72				
	11/13/90	20.75		8.71				
	5/15/91	20.61		8.85				
	8/27/91	20.53		8.93				
	<b>11/15/91</b>	<b>20.53</b>		<b>8.93</b>				
MW-7	4/23/89	18.99	29.01	10.02	---	18.5 - 27	17.5 - 27	0 - 17.5
	7/28/89	19.94		9.07				
	10/30/89	19.97		9.04				
	1/9/90	20.15		8.86				
	4/18/90	20.37		8.64				
	6/22/90	20.40		8.61				
	8/9/90	20.38		8.63				
	11/13/90	20.41		8.60				
	5/15/91	20.47		8.54				
	8/27/91	20.14		8.87				
	<b>11/15/91</b>	<b>20.22</b>		<b>8.79</b>				

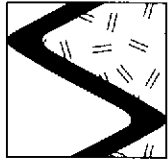


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Table 1. Water Level Data and Well Construction Details - Former Chevron Service Station #9-0020, 1633 Harrison Street, Oakland, California (continued)

Well ID	Date Measured	DTW (ft)	TOC (ft)	GWE (msl)	Product Thickness* (ft)	Screen Interval -----feet below grade----->	Sand Pack Interval	Bentonite/Grout Interval
MW-8	4/23/89	20.14	29.57	9.43	---	18.5 - 26	17.5 - 26	0 - 17.5
	7/28/89	20.37		9.20	---			
	10/30/89	20.32		9.25	---			
	1/9/90	20.60		8.97	---			
	4/18/90	20.87		8.70	---			
	6/22/90	20.34		9.23	---			
	8/9/90	20.89		8.68	---			
	11/13/90	20.86		8.71	---			
	5/15/91	20.49		9.08	---			
	8/27/91	20.60		8.97	---			
	<b>11/15/91</b>	<b>20.62</b>		<b>8.95</b>	<b>0</b>			
MW-9	6/22/90	20.80	28.67	7.87	---	20 - 25	19.5 - 25	0 - 19.5
	8/9/90	20.74		7.93	---			
	11/13/90	20.78		7.89	---			
	5/15/91	20.48		8.19	---			
	8/27/91	20.55		8.12	---			
		<b>11/15/91</b>		<b>20.57</b>				
MW-10	6/22/90	20.48	28.60	8.12	---	18 - 24	17 - 24	0 - 17
	8/9/90	20.45		8.15	---			
	11/13/90	20.47		8.13	---			
	5/15/91	20.15		8.45	---			
	8/27/91	20.27		8.33	---			
		<b>11/15/91</b>		<b>20.33</b>				
MW-11	6/22/90	21.03	29.37	8.34	---	19 - 26	18.5 - 26	0 - 18.5
	8/9/90	21.02		8.35	---			
	11/13/90	20.93		8.44	---			
	5/15/91	20.61		8.76	---			
	8/27/91	20.70		8.67	---			
		<b>11/15/91</b>		<b>20.68</b>				





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Table 1. Water Level Data and Well Construction Details - Former Chevron Service Station #9-0020, 1633 Harrison Street, Oakland, California (continued)

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-12	6/22/90	20.45	28.43	7.98	---	18.5 - 26	17.5 - 26	0 - 17.5
	8/9/90	20.43		8.00	---			
	11/13/90	20.45		7.98	---			
	5/15/91	20.07		8.36	---			
	8/27/91	20.15		8.28	---			
	11/15/91	20.25		8.18	0			
MW-13	11/15/91	21.07	28.63	7.56	0	18 - 28	17 - 28	16.5 - 17
MW-14	11/15/91	20.33	29.46	9.13	0	17 - 28.5	16 - 27	15.5 - 16 / 27 - 28.5

EXPLANATION:

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

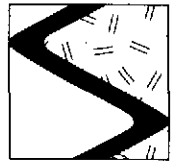
NOTES:

Top of casing elevations were surveyed relative to mean sea level.

MW-1 through MW-12 well construction details are from boring logs by Western Geologic Resources, Inc., San Rafael, California.

Well construction details for MW-13 and MW-14 are from Pacific Environmental Group.

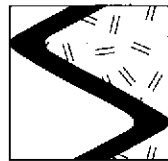
\* Product thickness measurements were made using an MMC flexi-dip interface probe. Product thickness information prior to May 15, 1991 was not available for inclusion in this report.



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Table 2. Analytic Results for Ground Water - Petroleum Hydrocarbons - Former Chevron Service Station #9-0020, 1633 Harrison Street, Oakland, California

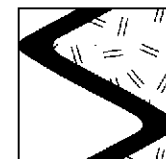
Well ID	Date Sampled	Analytic Method	Analytic Lab	TPPH(G)	B	T	E	X	O&G
				-----ppb-----					
MW-1	11/3/88	8015/624	BC	<1,000 <sup>1</sup>	<1.0	<1.0	<1.0	<1.0	---
	2/10/89	524.2/8240	CCAS	<100	<0.2	<0.2	<0.2	<0.4	---
	4/24/89	524.2/8260	CCAS	<50	<0.5	<1.0	<1.0	<1.0	<3,000
	7/28/89	8260	CCAS	<50	<0.1	<0.5	<0.2	<0.5	<3,000
	10/30/89	8015/8020	GTEL	<500	<0.3	<0.3	<0.3	<0.6	---
	1/9/90	8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---
	4/18/90	8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---
	8/9/90	8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---
	11/13/90	8015/8020	SAL	<50	<0.5	<0.5	<0.5	<0.5	---
	5/15/91	8015/8020	SAL	<50	<0.5	<0.5	<0.5	<0.5	---
	8/27/91	8015/8020	SPA	110 <sup>2</sup>	<0.5	<0.5	<0.5	<0.5	---
	11/15/91	8015/8020	SPA <sup>5</sup>	<50	<0.5	<0.5	<0.5	<0.5	---
	MW-2	11/3/88	624/8015	BC	<1,000 <sup>1</sup>	<1.0	<1.0	<1.0	<1.0
2/10/89		524.2/8240	CCAS	<100	<0.2	<0.2	<0.2	<0.4	---
4/24/89		524.2/8260	CCAS	<50	<0.5	<1.0	<1.0	<1.0	<3,000
7/28/89		8260	CCAS	<100	<0.2	<1.0	<0.2	<0.4	<3,000
10/30/89		8015/8020	GTEL	<500	<0.3	<0.3	<0.3	<0.6	---
1/9/90		8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---
4/18/90		8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---
8/9/90		8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---
11/13/90		8015/8020	SAL	<50	<0.5	0.8	<0.5	0.9	---
5/15/91		8015/8020	SAL	83 <sup>2</sup>	<0.5	<0.5	<0.5	<0.5	---
8/27/91		8015/8020	SPA	97 <sup>2</sup>	<0.5	<0.5	<0.5	<0.5	---
11/15/91		8015/8020	SPA <sup>5</sup>	<50	0.5	1.5	0.8	3.6	---
MW-3		11/3/88	624/8015	BC	<1,000 <sup>1</sup>	<1.0	<1.0	<1.0	<1.0
	2/10/89	524.2/8240	CCAS	<100	<0.2	<0.2	<0.2	<0.4	---
	4/24/89	524.2/8260	CCAS	<50	<0.5	<1.0	<1.0	<1.0	<3,000
	7/28/89	8260	CCAS	<100	<0.2	<1.0	<0.2	<0.4	<3,000
	10/30/89	8015/8020	GTEL	<500	<0.3	<0.3	<0.3	<0.6	---
	1/9/90	8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---



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Table 2. Analytic Results for Ground Water - Petroleum Hydrocarbons - Former Chevron Service Station #9-0020, 1633 Harrison Street, Oakland, California (continued)

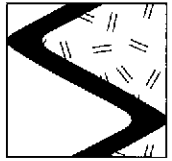
Well ID	Date Sampled	Analytic Method	Analytic Lab	TPPH(G)	B	T	E	X	O&G
				-----ppb-----					
MW-3 (cont)	4/18/90	8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---
	8/9/90	8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---
	11/13/90	8015/8020	SAL	51 <sup>2</sup>	<0.5	<0.5	<0.5	<0.5	---
	5/15/91	8015/8020	SAL	85 <sup>2</sup>	<0.5	<0.5	<0.5	<0.5	---
	8/27/91	8015/8020	SPA	91 <sup>2</sup>	<0.5	<0.5	<0.5	<0.5	---
	<b>11/15/91</b>	<b>8015/8020</b>	<b>SPA<sup>5</sup></b>	<b>&lt;50</b>	<b>&lt;0.5</b>	<b>0.7</b>	<b>&lt;0.5</b>	<b>1.3</b>	<b>---</b>
MW-4	4/24/89	524.2/8260	CCAS	<50	<0.5	<1.0	<1.0	<1.0	<3,000
	7/28/89	8260	CCAS	<50	<0.1	<0.5	<0.1	<0.2	<3,000
	10/30/89	8015/8020	GTEL	<500	<0.3	<0.3	<0.3	<0.6	---
	1/9/90	8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---
	4/18/90	8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---
	8/9/90	8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---
	11/13/90	8015/8020	SAL	<50	<0.5	1	0.5	1	---
	5/15/91	8015/8020	SAL	<50	<0.5	<0.5	<0.5	<0.5	---
	8/27/91	8015/8020	SPA	<50	<0.5	<0.5	<0.5	<0.5	---
	<b>11/15/91</b>	<b>8015/8020</b>	<b>SPA<sup>5</sup></b>	<b>97</b>	<b>&lt;0.5</b>	<b>0.9</b>	<b>&lt;0.5</b>	<b>1.9</b>	<b>---</b>
MW-5	4/24/89	524.2/8260	CCAS	<50	<0.5	<1.0	<1.0	<1.0	<3,000
	7/28/89	8260	CCAS	<100	<0.2	<1.0	<0.2	<0.4	<3,000
	10/30/89	8015/8020	GTEL	<500	<0.3	<0.3	<0.3	<0.6	---
	1/9/90	8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---
	4/18/90	8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---
	8/9/90	8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---
	11/13/90	8015/8020	SAL	<50	<0.5	1	<0.5	1	---
	5/15/91	8015/8020	SAL	<50	<0.5	<0.5	<0.5	<0.5	---
	8/27/91	8015/8020	SPA	94	3.0	5.0	1.5	5.5	---
	<b>11/15/91</b>	<b>8015/8020</b>	<b>SPA<sup>5</sup></b>	<b>&lt;50</b>	<b>0.9</b>	<b>1.7</b>	<b>&lt;0.5</b>	<b>2.2</b>	<b>---</b>
MW-6	4/24/89	524.2/8260	CCAS	<50	<0.5	<1.0	<1.0	<1.0	<3
	7/28/89	8260	CCAS	<100	<0.2	<1.0	<0.2	<0.4	<3
	10/30/89	8015/8020	GTEL	<500	<0.3	<0.3	<0.3	<0.6	---



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Table 2. Analytic Results for Ground Water - Petroleum Hydrocarbons - Former Chevron Service Station #9-0020, 1633 Harrison Street, Oakland, California (continued)

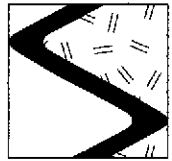
Well ID	Date Sampled	Analytic Method	Analytic Lab	TPPH(G)	B	T	E	X	O&G
MW-6 (cont)	1/9/90	8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---
	4/18/90	8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---
	8/9/90	8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---
	11/13/90	8015/8020	SAL	<50	3	5	0.5	2	---
	5/15/91	8015/8020	SAL	<50	<0.5	<0.5	<0.5	<0.5	---
	8/27/91	8015/8020	SPA	180	6.1	12	3.8	14	---
	<b>11/15/91</b>	<b>8015/8020</b>	<b>SPA<sup>5</sup></b>	<b>&lt;50</b>	<b>&lt;0.5</b>	<b>0.6</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	---
MW-7	4/24/89	524.2/8260	CCAS	8,400 <sup>3</sup>	100	260	160	1,300	3 <sup>4</sup>
	7/28/89	8260	CCAS	7,000 <sup>3</sup>	230	90	70	440	<3,000
(D)	7/28/89	8260	CCAS	6,000 <sup>3</sup>	280	180	58	430	---
(D)	10/30/89	8015/8020	GTEL	10,000 <sup>3</sup>	570	55	160	400	---
	10/30/89	8015/8020	GTEL	9,900 <sup>3</sup>	520	82	180	410	---
	1/9/90	8015/8020	GTEL	3,400 <sup>3</sup>	290	72	9	200	---
	4/18/90	8015/8020	GTEL	6,800 <sup>3</sup>	350	140	110	400	---
	8/9/90	8015/8020	GTEL	11,000 <sup>3</sup>	360	130	14	660	---
	11/13/90	8015/8020	SAL	6,500	230	110	97	460	---
	5/15/91	8015/8020	SAL	4,600	180	55	46	300	---
	8/27/91	8015/8020	SPA	7,000	220	53	63	340	---
	<b>11/15/91</b>	<b>8015/8020</b>	<b>SPA<sup>5</sup></b>	<b>3,300</b>	<b>150</b>	<b>19</b>	<b>4.9</b>	<b>200</b>	---
	MW-8	4/24/89	524.2/8260	CCAS	<50	<0.5	<1.0	<1.0	<1.0
4/24/89		524.2/8260 <sup>5</sup>	CCAS	<50	<0.5	<1.0	<1.0	<1.0	---
7/28/89		8260	CCAS	<100	<0.2	<1.0	<0.2	<0.4	<3,000
10/30/89		8015/8020	GTEL	<500	<0.3	<0.3	<0.3	<0.6	---
1/9/90		8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---
4/18/90		8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---
8/9/90		8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---
11/13/90		8015/8020	SAL	<50	<0.5	0.8	<0.5	2	---
5/15/91		8015/8020	SAL	<50	<0.5	<0.5	<0.5	<0.5	---
8/27/91		8015/8020	SPA	73 <sup>2</sup>	<0.5	<0.5	<0.5	<0.5	---
<b>11/15/91</b>		<b>8015/8020</b>	<b>SPA<sup>5</sup></b>	<b>&lt;50</b>	<b>&lt;0.5</b>	<b>0.7</b>	<b>&lt;0.5</b>	<b>2.1</b>	---



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Table 2. Analytic Results for Ground Water - Petroleum Hydrocarbons - Former Chevron Service Station #9-0020, 1633 Harrison Street, Oakland, California (continued)

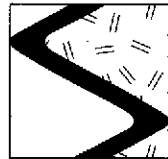
Well ID	Date Sampled	Analytic Method	Analytic Lab	TPPH(G)	-----ppb-----					O&G
					B	T	E	X		
MW-9	6/22/90	8015/8020	PACE	5,700 <sup>3</sup>	47	31	280	530	<1,000	
	8/9/90	8015/8020	GTEL	8,000 <sup>3</sup>	<0.3	17	210	480	---	
	11/13/90	8015/8020	SAL	6,400	<3	20	240	450	---	
	5/15/91	8015/8020	SAL	5,700	2	16	190	390	---	
	8/27/91	8015/8020	SPA	6,700	<3	31	180	350	---	
	<b>11/15/91</b>	<b>8015/8020</b>	<b>SPA<sup>5</sup></b>	<b>4,000</b>	<b>8.8</b>	<b>26</b>	<b>150</b>	<b>280</b>	---	
MW-10	6/22/90	8015/8020	PACE	<50 <sup>3</sup>	<0.5	<0.5	<0.5	<0.5	<1,000	
	8/9/90	8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---	
	11/13/90	8015/8020	SAL	<50	<0.5	2	0.5	2	---	
	5/15/91	8015/8020	SAL	<50	<0.5	<0.5	<0.5	<0.5	---	
	8/27/91	8015/8020	SPA	<50	<0.5	<0.5	<0.5	<0.5	---	
	<b>11/15/91</b>	<b>8015/8020</b>	<b>SPA<sup>5</sup></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>	---	
MW-11	6/22/90	8015/8020	PACE	<50 <sup>3</sup>	<0.5	<0.5	<0.5	<0.5	<1,000	
	8/9/90	8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---	
	11/13/90	8015/8020	SAL	76	0.6	1	0.9	4	---	
	5/15/91	8015/8020	SAL	78 <sup>2</sup>	<0.5	<0.5	<0.5	<0.5	---	
	8/27/91	8015/8020	SPA	110 <sup>2</sup>	<0.5	<0.5	<0.5	<0.5	---	
	<b>11/15/91</b>	<b>8015/8020</b>	<b>SPA<sup>5</sup></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>	---	
MW-12	6/22/90	8015/8020	PACE	<50 <sup>3</sup>	<0.5	<0.5	<0.5	<0.5	<1,000	
	8/9/90	8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---	
	11/13/90	8015/8020	SAL	<50	<0.5	<0.5	<0.5	<0.5	---	
	5/15/91	8015/8020	SAL	<50	<0.5	<0.5	<0.5	<0.5	---	
	8/27/91	8015/8020	SPA	56 <sup>2</sup>	<0.5	<0.5	<0.5	<0.5	---	
	<b>11/15/91</b>	<b>8015/8020</b>	<b>SPA<sup>5</sup></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>	---	
<b>MW-13</b>	<b>11/15/91</b>	<b>8015/8020</b>	<b>SPA<sup>5</sup></b>	<b>3,100</b>	<b>68</b>	<b>40</b>	<b>110</b>	<b>270</b>	---	
<b>MW-14</b>	<b>11/15/91</b>	<b>8015/8020</b>	<b>SPA<sup>5</sup></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>	---	



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Table 2. Analytic Results for Ground Water - Petroleum Hydrocarbons - Former Chevron Service Station #9-0020, 1633 Harrison Street, Oakland, California (continued)

Well ID	Date Sampled	Analytic Method	Analytic Lab	TPPH(G)	B	T	E	X	O&G
-----ppb-----									
MW-AA	11/3/88	624/8015	BC	---	<1.0	<1.0	<1.0	<1.0	---
(Trip Blank)	2/10/89	524.2/8240	CCAS	<50	<0.1	<0.1	<0.1	<0.2	---
	4/24/89	524.2/8260	CCAS	<50	<0.5	<1.0	<1.0	<1.0	---
	7/28/89	8260	CCAS	<50	<0.1	<0.5	<0.1	<0.2	---
	10/30/89	8015/8020	GTEL	<500	<0.3	<0.3	<0.3	<0.6	---
	1/9/90	8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---
	4/18/90	8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---
	6/22/90	8015/8020	PACE	<50	<0.5	<0.5	<0.5	<0.5	---
	8/9/90	8015/8020	GTEL	<50	<0.3	<0.3	<0.3	<0.6	---
	11/13/90	8015/8020	SAL	<50	<0.5	<0.5	<0.5	<0.5	---
	5/15/91	8015/8020	SAL	<50	<0.5	<0.5	<0.5	<0.5	---
	8/27/91	8015/8020	SPA	<50	<0.5	<0.5	<0.5	<0.5	---
	<b>11/15/91</b>	<b>8015/8020</b>	<b>SPA<sup>5</sup></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>	---
MW-BB	5/15/91	8015/8020	SAL	<50	<0.5	<0.5	<0.5	<0.5	---
(Bailer Blank)	8/27/91	8015/8020	SPA	51 <sup>2</sup>	<0.5	<0.5	<0.5	<0.5	---
	<b>11/15/91</b>	<b>8015/8020</b>	<b>SPA<sup>5</sup></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>	---



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Table 2. Analytic Results for Ground Water - Petroleum Hydrocarbons - Former Chevron Service Station #9-0020, 1633 Harrison Street, Oakland, California (continued)

EXPLANATION:

TPPH(G) = Total Purgeable Petroleum Hydrocarbons as Gasoline  
B = Benzene  
T = Toluene  
E = Ethylbenzene  
X = Xylenes  
O&G = Oil and Grease  
ppb = Parts per billion  
--- = Not analyzed/Not applicable  
(D) = Duplicate analysis

ANALYTIC METHODS:

8015 = EPA Method 8015 for TPPH(G)  
624 = EPA Method 624 for BTEX  
8020 = EPA Method 8020 for BTEX  
524.2/8240 = EPA Method 524.2/8240 for VOCs  
8260 = Approved variance for Method 8240 using a capillary column and GC/MS for TPPH(G) and BTEX

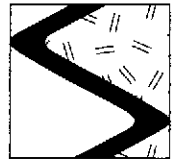
ANALYTIC LABORATORIES:

BC = Brown and Caldwell Laboratories of Emeryville, California  
CCAS = Coast to Coast Analytical Services of San Luis Obispo, California  
GTEL = Groundwater Technology Environmental Laboratories of Concord, California  
PACE = Pace Laboratories, Inc. of Novato, California  
SAL = Superior Analytical Laboratory of San Francisco, California  
SPA = Superior Precision Analytical, Inc. of San Francisco, California  
SPA = Superior Precision Analytical, Inc. of Martinez, California

NOTES:

Analytic results for ground water prior to May 15, 1991 were compiled from the ground water sampling report for this service station prepared 12/14/90 by Western Geologic Resources, Inc. of San Rafael, California.

- <sup>1</sup> Analyzed for total fuel hydrocarbons.
- <sup>2</sup> Laboratory reported that peaks did not match typical gasoline pattern.
- <sup>3</sup> Fuel characterized as gasoline.
- <sup>4</sup> Acetone and 2-butanone were detected at 50 and 160 ppb, respectively.

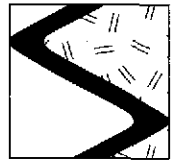


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Table 3. Analytic Results for Ground Water - Volatile Organic Compounds - Former Chevron Service Station #9-0020, 1633 Harrison Street, Oakland, California

Well ID	Date Sampled	Analytic Method	Analytic Lab	Carb Tet	Chloro-form	PCE	TCE	1,2-DCE	t-1,2-DCE	c-1,2-DCE	TCA	1,2-DCA	1,2-DCP	MC	Other HVOCs <sup>1</sup>
MW-1	11/3/88	624	BC	18.0	7.0	<1.0	<1.0	---	<1.0	---	<1.0	<1.0	---	---	---
	2/10/89	524.2/8240	CCAS	17.0	6.0	<0.2	<0.2	---	<0.2	<0.2	<0.2	<0.2	---	---	---
	4/24/89	524.2/8260	CCAS	16.0	6.0	<1.0	<1.0	<1.0	---	---	<1.0	<1.0	---	---	---
	7/28/89	8260	CCAS	20.0	6.4	<0.1	<0.1	---	<0.1	<0.1	0.3	<0.1	---	---	---
	10/30/89	601	GTEL <sup>2</sup>	11.0	4.9	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	---	---	---
	1/9/90	601	GTEL <sup>2</sup>	24.0	7.2	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	---	---	---
	4/18/90	601	GTEL <sup>2</sup>	23.0	5.5	<0.5	<0.5	<0.5	---	---	1.4	<0.5	<0.5	<0.5	---
	8/9/90	601	GTEL <sup>2</sup>	32.0	11.0	0.76	<0.5	<0.5	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/13/90	8010	SAL	24	7	0.7	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---
	5/15/91	8010	SAL	15	5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	8/27/91	8010	SPA	18	4.2	<0.5	<0.5	---	---	<0.5	<0.5	<0.5	<0.5	<0.5	ND
11/15/91	8010	SPA*	21	7.9	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	
MW-2	11/3/88	624	BC	3.0	2.0	34.0	3.0	---	10.0	---	<1.0	<1.0	---	---	---
	2/10/89	524.2/8240	CCAS	1.4	1.0	17.2	<0.2	---	<0.2	6.3	<0.2	<0.2	---	---	---
	4/24/89	524.2/8260	CCAS	2.0	2.0	38.0	3.0	9.0	---	---	<1.0	<1.0	---	---	---
	7/28/89	8260	CCAS	3.7	2.0	46.0	2.6	---	<0.2	<0.2	<0.2	<0.2	---	---	---
	10/30/89	601	GTEL <sup>2</sup>	1.4	2.6	53.0	1.1	14.0	---	---	<0.5	<0.5	---	---	---
	1/9/90	601	GTEL <sup>2</sup>	3.6	3.9	78.0	5.3	16.0	---	---	<0.5	<0.5	---	---	---
	4/18/90	601	GTEL <sup>2</sup>	1.5	2.7	130.0	3.9	19.0	---	---	<0.5	<0.5	<0.5	<0.5	---
	8/9/90	601	GTEL <sup>2</sup>	2.1	2.1	74.0	6.1	15.0	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/13/90	8010	SAL	<0.5	2	40	4	---	<0.5	10	<0.5	<0.5	<0.5	<0.5	---
	5/15/91	8010	SAL	2	2	56	6	---	<0.5	15	<0.5	<0.5	<0.5	<0.5	ND
	8/27/91	8010	SPA	1.1	0.9	46	3.9	---	---	8.0	<0.5	<0.5	<0.5	<0.5	ND
11/15/91	8010	SPA*	0.6	1.1	58	3.1	---	<0.5	6.3	<0.5	<0.5	<0.5	<0.5	ND	
MW-3	11/3/88	624	BC	8.0	6.0	84.0	3.0	---	5.0	---	<1.0	<1.0	---	---	---
	2/10/89	524.2/8240	CCAS	5.8	4.0	53.0	1.9	---	<0.2	9.0	<0.2	<0.2	---	---	---
	4/24/89	524.2/8260	CCAS	7.0	6.0	110.0	3.0	11.0	---	---	<1.0	<1.0	---	---	---
	7/28/89	8260	CCAS	8.6	5.0	49.0	2.1	---	<0.2	11.0	<0.2	<0.1	---	---	---
	10/30/89	601	GTEL <sup>2</sup>	5.6	5.3	62.0	0.77	8.2	---	---	<0.5	<0.5	---	---	---
	1/9/90	601	GTEL <sup>2</sup>	8.6	6.1	81.0	3.8	8.7	---	---	<0.5	<0.5	---	---	---
	4/18/90	601	GTEL <sup>2</sup>	7.6	5.8	120.0	2.4	11.0	---	---	<0.5	<0.5	<0.5	<0.5	---
	8/9/90	601	GTEL <sup>2</sup>	11.0	6.7	81.0	5.1	11.0	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/13/90	8010	SAL	7	5	43	4	---	<0.5	9	<0.5	<0.5	<0.5	<0.5	---
	5/15/91	8010	SAL	6	4	46	3	---	<0.5	8	<0.5	<0.5	<0.5	<0.5	ND
	8/27/91	8010	SPA	5.5	3.8	43	2.6	---	---	8.1	<0.5	<0.5	<0.5	<0.5	ND
11/15/91	8010	SPA*	6.3	5.0	67	3.4	---	0.8	7.4	0.9	<0.5	<0.5	<0.5	ND <sup>4,5,6,7</sup>	





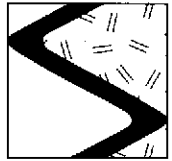
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Table 3. Analytic Results for Ground Water - Volatile Organic Compounds - Former Chevron Service Station #9-0020, 1633 Harrison Street, Oakland, California (continued)

Well ID	Date Sampled	Analytic Method	Analytic Lab	Carb Tet	Chloro-form	PCE	TCE	1,2-DCE	t-1,2-DCE	c-1,2-DCE	TCA	1,2-DCA	1,2-DCP	MC	Other HVOCs <sup>1</sup>
MW-4	4/24/89	524.2/8260	CCAS	35.0	11.0	<1.0	<1.0	<1.0	---	---	<1.0	<1.0	---	---	---
	7/28/89	8260	CCAS	32.0	9.3	<0.1	<0.1	---	<0.1	<0.1	<0.1	<0.1	---	---	---
	10/30/89	601	GTEL <sup>2</sup>	32.0	8.5	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	---	---	---
	1/9/90	601	GTEL <sup>2</sup>	36.0	9.8	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	---	---	---
	4/18/90	601	GTEL <sup>2</sup>	41.0	9.5	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	<0.5	<0.5	---
	8/9/90	601	GTEL <sup>2</sup>	38.0	11.0	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/13/90	8010	SAL	40	11	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---
	5/15/91	8010	SAL	35	10	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	8/27/91	8010	SPA	28	6.1	<0.5	<0.5	---	---	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	11/15/91	8010	SPA*	23	9.1	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
MW-5	4/24/89	524.2/8260	CCAS	4.0	5.0	4.0	<1.0	2.0	---	---	<1.0	<1.0	---	---	---
	7/28/89	8260	CCAS	5.6	4.0	5.3	0.3	---	0.2	2.3	0.5	<0.2	---	---	---
	10/30/89	601	GTEL <sup>2</sup>	2.9	2.0	2.7	<0.5	0.86	---	---	<0.5	<0.5	---	---	---
	1/9/90	601	GTEL <sup>2</sup>	8.2	4.6	7.8	0.6	3.1	---	---	<0.5	<0.5	---	---	---
	4/18/90	601	GTEL <sup>2</sup>	6.3	2.8	2.6	<0.5	1.7	---	---	<0.5	<0.5	<0.5	<0.5	---
	8/9/90	601	GTEL <sup>2</sup>	11.0	4.8	6.0	<0.5	2.3	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/13/90	8010	SAL	7	3	5	<0.5	---	<0.5	1	<0.5	<0.5	<0.5	<0.5	---
	5/15/91	8010	SAL	4	2	3	<0.5	---	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	ND
	8/27/91	8010	SPA	3.3	1.1	2.3	<0.5	---	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	11/15/91	8010	SPA*	5.7	2.8	5.5	<0.5	---	<0.5	1.7	<0.5	<0.5	<0.5	<0.5	ND
MW-6	4/24/89	524.2/8260	CCAS	13.0	7.0	<1.0	<1.0	<1.0	---	---	<1.0	<1.0	---	---	---
	7/28/89	8260	CCAS	9.6	4.0	<0.2	<0.2	---	<0.2	<0.2	0.5	0.6	---	---	---
	10/30/89	601	GTEL <sup>2</sup>	8.2	3.6	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	---	---	---
	1/9/90	601	GTEL <sup>2</sup>	10.0	4.2	<0.5	<0.5	<0.5	---	---	<0.5	1.8	---	---	---
	4/18/90	601	GTEL <sup>2</sup>	11.0	3.8	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	<0.5	<0.5	---
	8/9/90	601	GTEL <sup>2</sup>	20.0	6.6	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/13/90	8010	SAL	15	5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---
	5/15/91	8010	SAL	11	4	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	8/27/91	8010	SPA	8.0	2.2	2.4	<0.5	---	---	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	11/15/91	8010	SPA*	13	5.4	<0.5	<0.5	---	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	ND
MW-7	4/24/89	524.2/8260	CCAS	3.0	9.0	<1.0	<1.0	<1.0	---	---	<1.0	<1.0	---	---	---
	7/28/89	8260	CCAS	<2.0	<10.0	<2.0	<2.0	---	<2.0	<2.0	<10.0	6.0	---	---	---
	7/28/89	8260 <sup>3</sup>	CCAS	<5.0	<20.0	<5.0	<5.0	---	<5.0	<5.0	<5.0	<5.0	---	---	---
	10/30/89	601	GTEL <sup>2</sup>	<1.0	3.9	<1.0	<1.0	<1.0	---	---	<1.0	6.4	---	---	---
	10/30/89	601 <sup>3</sup>	GTEL <sup>2</sup>	<1.0	3.1	<1.0	<1.0	<1.0	---	---	<1.0	6.2	---	---	---







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Table 3. Analytic Results for Ground Water - Volatile Organic Compounds - Former Chevron Service Station #9-0020, 1633 Harrison Street, Oakland, California (continued)

EXPLANATION:

Carb Tet = Carbon Tetrachloride  
PCE = Tetrachloroethene  
TCE = Trichloroethylene  
1,2-DCE = 1,2-Dichloroethene  
t-1,2-DCE = trans-1,2-Dichloroethene  
c-1,2-DCE = cis-1,2-Dichloroethene  
TCA = 1,1,1-Trichloroethane  
1,2-DCA = 1,2-Dichloroethane  
1,2-DCP = 1,2-Dichloropropane  
MC = Methylene chloride (dichloromethane)  
Other HVOCs = Other Halogenated Volatile Organic Compounds  
--- = Not analyzed  
ND = Not detected

ANALYTIC METHODS:

624 = EPA Method 624 for VOCs  
524.2/8240 = EPA Method 524.2/8240 for VOCs  
8260 = Approved variance for Method 8240 using a capillary column and GC/MS for VOCs  
601 = EPA Method 601 for VOCs  
8010 = EPA Method 8010 for VOCs

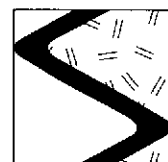
ANALYTIC LABORATORIES:

BC = Brown and Caldwell Laboratories of Emeryville, California  
CCAS = Coast to Coast Analytical Services of San Luis Obispo, California  
GTEL = Groundwater Technology Environmental Laboratories of Concord, California  
PACE = Pace Laboratories, Inc. of Novato, California  
SAL = Superior Analytical Laboratories, Inc. of San Francisco, California  
SPA = Superior Precision Analytical, Inc. of San Francisco, California  
SPA\* = Superior Precision Analytical, Inc. of Martinez, California

NOTES:

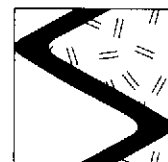
Analytic results for ground water prior to May 15, 1991 were compiled from the ground water sampling report for this former service station prepared 12/14/90 by Western Geologic Resources, Inc. of San Rafael, California.

- <sup>1</sup> The tabulated analytic results for ground water prior to May 15, 1991 do not specify whether or not other HVOCs were detected.
- <sup>2</sup> GTEL does not speciate 1,2-dichloroethene; however, according to a footnote from a table created by Western Geological Services of San Rafael, California, the analytical reports incorrectly state levels for trans-1,2-dichloroethene.
- <sup>3</sup> Duplicate analysis.
- <sup>4</sup> Trichlorofluoromethane was detected at 1.4 ppb.
- <sup>5</sup> 1,1-Dichloroethene was detected at 1.3 ppb.
- <sup>6</sup> 1,1-Dichloroethane was detected at 0.5 ppb.
- <sup>7</sup> Chlorobenzene was detected at 0.7 ppb.
- <sup>8</sup> 1,1-Dichloroethane was detected at 0.6 ppb.



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



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## **SES STANDARD OPERATING PROCEDURE**

### **GROUND WATER SAMPLING**

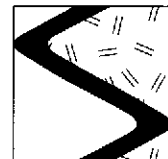
The following describes sampling procedures used by SES field personnel to collect and handle ground water samples. Before samples are collected, careful consideration is given to the type of analysis to be performed so that precautions are taken to prevent loss of volatile components or contamination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

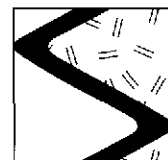


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The chain-of-custody form includes the project number, analysis requested, sample ID, date analysis and the SES field person's name. The form is signed and dated (with the transfer time) by each person who yields or receives the samples beginning with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

GWTRSAMP.SOP



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**APPENDIX D**  
CHAIN OF CUSTODY DOCUMENTS AND  
LABORATORY ANALYTIC REPORTS



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

Chevron Facility Number 9-0020  
Facility Address 1633 HARRISON ST., OAKLAND  
Consultant Project Number 1-199-04  
Consultant Name SIERRA ENVIRONMENTAL SERVICES  
Address P.O. BOX 2546, MARTINEZ  
Project Contact (Name) JEANNE WAHLER  
(Phone) (510) 370-1280 (Fax Number) (510) 370-7959

Chevron Contact (Name) NANCY VUKELICH  
(Phone) (510) 842-9581  
Laboratory Name SUPERIOR PRECISION ANALYTICAL  
Laboratory Release Number 4368662  
Samples Collected by (Name) ARLY MENA / BILL KEANE  
Collection Date 15 NOV. 1991  
Signature [Signature]

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)					
MW-AA		3	W	G	14:15	HCL	Y	✓												ANALYZE
MW-AA		2			14:15															IN ORDER
MW-BB		3			14:12			✓												
MW-BB		2			14:12															
MW-4		3			11:22			✓												
MW-4		2			11:22															
MW-10		3			11:05			✓												
MW-10		2			11:05															
MW-12		3			9:20			✓												
MW-12		2			9:20															
MW-8		3			12:05			✓												
MW-8		2			12:05															
MW-3		3			12:15			✓												
MW-3		2	↓	↓	12:15	↓	↓													↓

Relinquished By (Signature) <u>[Signature]</u>	Organization <u>SES</u>	Date/Time <u>15 NOV 1991</u>	Received By (Signature) <u>[Signature]</u>	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>[Signature]</u>		Date/Time <u>11/05/91 - 18:18</u>	

COC-3.DWG/03 81/HCH

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

Chain-of-Custody-Record

Chevron U.S.A. Inc. P.O. BOX 5004 San Ramon, CA 94583 FAX (415)842-9591	Chevron Facility Number <u>9-0020</u> Facility Address <u>1633 HARRISON ST., OAKLAND</u> Consultant Project Number <u>1-199-04</u> Consultant Name <u>SIERRA ENVIRONMENTAL SERVICES</u> Address <u>P.O. BOX 2546, MARTINEZ</u> Project Contact (Name) <u>JEANNE WAHLER</u> (Phone) <u>(510) 370-1280</u> (Fax Number) <u>(510) 370-7959</u>	Chevron Contact (Name) <u>NANCY VUKELICH</u> (Phone) <u>(510) 842-9581</u> Laboratory Name <u>SUPERIOR PRECISION ANALYTICAL</u> Laboratory Release Number <u>4368660</u> Samples Collected by (Name) <u>ARGY MENA / BILL KEANE</u> Collection Date <u>15 NOV 1991</u> Signature <u>Argy Mena Bill Keane</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)				
MW-5		40 3 <sup>AD</sup>	W	G	15:00	HCL	Y	✓											Analyze
MW-5		2			15:00							✓							IN ORDER
MW-2		3			11:04			✓											
MW-2		2			11:04							✓							
MW-14		3			8:00			✓											
MW-14		2			8:00							✓							
MW-11		3			8:45			✓											
MW-11		2			8:45							✓							
MW-1		3			13:45			✓											
MW-1		2			13:45							✓							
MW-13		3			10:00			✓											
MW-13		2			10:00							✓							
MW-6		3			14:20			✓											
MW-6		2	↓	↓	14:20	↓	↓					✓							↓

Relinquished By (Signature) <u>Argy Mena</u>	Organization <u>SES</u>	Date/Time <u>15 NOV 1991</u>	Received By (Signature) <u>[Signature]</u>	Organization	Date/Time	Turn Around Time (Circle Choice)  24 Hrs. 48 Hrs. <input checked="" type="radio"/> 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>[Signature]</u>		Date/Time <u>11/15/91 - 13:18</u>	

COC-3.DWG/03 91/HCH

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

# Chain-of-Custody-Record

Chevron U.S.A. Inc. P.O. BOX 5004 San Ramon, CA 94583 FAX (415)842-9591	Chevron Facility Number <u>9-0020</u> Facility Address <u>1633 HARRISON ST., OAKLAND</u> Consultant Project Number <u>1-199-04</u> Consultant Name <u>SIERRA ENVIRONMENTAL SERVICES</u> Address <u>P.O. BOX 2546, MARTINEZ</u> Project Contact (Name) <u>JEANNE WALLER</u> (Phone) <u>(510) 370-1280</u> (Fax Number) <u>(510) 370-7959</u>	Chevron Contact (Name) <u>NANCY VUKELICH</u> (Phone) <u>(510) 842-9581</u> Laboratory Name <u>SUPERIOR PRECISION ANALYTICAL</u> Laboratory Release Number <u>4368660</u> Samples Collected by (Name) <u>ARGY MENA / BILL KEANE</u> Collection Date <u>15 NOV. 1991</u> Signature <u>Argy Mena / Bill Keane</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)								
MW-9		3	W	G	11:20	HCL	Y	✓															ANALYZE IN ORDER
MW-9		2	↓	↓	11:20	↓	↓																↓
MW-7		3	↓	↓	15:30	↓	↓	✓															↓
MW-7		2	↓	↓	15:30	↓	↓																↓

Relinquished By (Signature) <u>Argy Mena</u>	Organization <u>SES</u>	Date/Time <u>15 NOV 1991</u>	Received By (Signature) <u>[Signature]</u>	Organization	Date/Time	Turn Around Time (Circle Choice)  24 Hrs. 48 Hrs. <input checked="" type="radio"/> 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>[Signature]</u>		Date/Time <u>11/15/91 - 18:18</u>	

COC-3.DWG/03 01/1/91



# 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.: 84397  
CLIENT: Sierra Environmental  
CLIENT JOB NO.: 1-199-04

DATE RECEIVED: 11/15/91  
DATE REPORTED: 11/22/91

Page 2 of 3

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
84397-11	MW-11	11/15/91	11/21/91
84397-12	MW-1	11/15/91	11/21/91
84397-13	MW-13	11/15/91	11/21/91
84397-14	MW-6	11/15/91	11/22/91
84397-15	MW-9	11/15/91	11/22/91
84397-16	MW-7	11/15/91	11/22/91

Laboratory Number:	84397	84397	84397	84397	84397
	11	12	13	14	15

ANALYTE LIST	Amounts/Quantitation Limits (ug/L)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	ND<50	ND<50	3100	ND<50	4000
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	ND<0.5	ND<0.5	68	ND<0.5	8.8
TOLUENE:	ND<0.5	ND<0.5	40	0.6	26
ETHYL BENZENE:	ND<0.5	ND<0.5	110	ND<0.5	150
XYLENES:	ND<0.5	ND<0.5	270	ND<0.5	280

Laboratory Number:	84397
	16

ANALYTE LIST	Amounts/Quantitation Limits (ug/L)
OIL AND GREASE:	NA
TPH/GASOLINE RANGE:	3300
TPH/DIESEL RANGE:	NA
BENZENE:	150
TOLUENE:	19
ETHYL BENZENE:	4.9
XYLENES:	200



# 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.: 84397  
CLIENT: Sierra Environmental  
CLIENT JOB NO.: 1-199-04

DATE RECEIVED: 11/15/91  
DATE REPORTED: 11/22/91

Page 1 of 3

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
84397- 1	MW-AA	11/15/91	11/21/91
84397- 2	MW-BB	11/15/91	11/21/91
84397- 3	MW-4	11/15/91	11/21/91
84397- 4	MW-10	11/15/91	11/21/91
84397- 5	MW-12	11/15/91	11/21/91
84397- 6	MW-8	11/15/91	11/21/91
84397- 7	MW-3	11/15/91	11/21/91
84397- 8	MW-5	11/15/91	11/21/91
84397- 9	MW-2	11/15/91	11/21/91
84397-10	MW-14	11/15/91	11/21/91

Laboratory Number:	84397	84397	84397	84397	84397
	1	2	3	4	5

ANALYTE LIST	Amounts/Quantitation Limits (ug/L)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	ND<50	ND<50	97	ND<50	ND<50
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
TOLUENE:	ND<0.5	ND<0.5	0.9	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	1.9	ND<0.5	ND<0.5

Laboratory Number:	84397	84397	84397	84397	84397
	6	7	8	9	10

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	0.9	0.5	ND<0.5
TOLUENE:	0.7	0.7	1.7	1.5	ND<0.5
ETHYL BENZENE:	ND<0.5	ND<0.5	ND<0.5	0.8	ND<0.5
XYLENES:	2.1	1.3	2.2	3.6	ND<0.5



# Superior Precision Analytical, Inc.

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## 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 3 of 3  
QA/QC INFORMATION  
SET: 84397

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

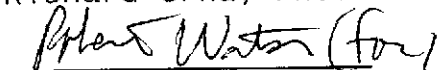
Modified EPA-SW846 Method 8015 for Extractable Hydrocarbons:  
Minimum Quantitation Limit for Diesel in Water: 50ug/L  
Standard Reference: NA

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	91/95	4	70-130
Benzene	10/11/91	200 ng	82/82	0	70-130
Toluene	10/11/91	200 ng	85/86	1	70-130
Ethyl Benzene	10/11/91	200 ng	95/87	9	70-130
Total Xylene	10/11/91	200 ng	97/99	2	70-130

Richard Srna, Ph.D.

  
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: 84397  
CLIENT: Sierra Environmental  
PROJECT NO: 1-199-04

DATE SAMPLED :11/15/91  
DATE RECEIVED:11/15/91  
DATE REPORTED:11/25/91

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

LAB#: 84397-1 (Analyzed:11/22/91)  
SAMPLE: MW-AA (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	ND
Trichloroethene (TCE)	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
2-Chloroethyl Vinyl Ether	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

MDL: Method Detection Limit

\*Second Column confirmation available upon request.

QA/QC Summary: For 84397

MS/MSD Average Recovery: 90%

MS/MSD %RPD: 1%

*Charles Brown*

Senior Analyst



# Superior Precision Analytical, Inc.

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## CERTIFICATE OF ANALYSIS

LABORATORY NO: 84397  
CLIENT: Sierra Environmental  
PROJECT NO: 1-199-04

DATE SAMPLED : 11/15/91  
DATE RECEIVED: 11/15/91  
DATE REPORTED: 11/25/91

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

LAB#: 84397-2 (Analyzed: 11/22/91)  
SAMPLE: MW-BB (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	ND
Trichloroethene (TCE)	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
2-Chloroethyl Vinyl Ether	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

MDL: Method Detection Limit

\*Second Column confirmation available upon request.

QA/QC Summary: For 84397

MS/MSD Average Recovery: 90%

MS/MSD %RPD: 1%

  
Senior Analyst

Certified Laboratories





# Superior Precision Analytical, Inc.

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## CERTIFICATE OF ANALYSIS

LABORATORY NO: 84397  
CLIENT: Sierra Environmental  
PROJECT NO: 1-199-04

DATE SAMPLED :11/15/91  
DATE RECEIVED:11/15/91  
DATE REPORTED:11/25/91

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

LAB#: 84397-12 (Analyzed:11/22/91)  
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	7.9*
1,1,1-Trichloroethane	0.5	ND
Carbon Tetrachloride	0.5	21*
1,2-Dichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
2-Chloroethyl Vinyl Ether	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

MDL: Method Detection Limit

\*Second Column confirmation available upon request.

QA/QC Summary: For 84397-2  
MS/MSD Average Recovery: 90%  
MS/MSD %RPD: 8%

*Charles J. Green*  
Senior Analyst



# Superior Precision Analytical, Inc.

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## CERTIFICATE OF ANALYSIS

LABORATORY NO: 84397  
CLIENT: Sierra Environmental  
PROJECT NO: 1-199-04

DATE SAMPLED :11/15/91  
DATE RECEIVED:11/15/91  
DATE REPORTED:11/25/91

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

LAB#: 84397-9 (Analyzed:11/22/91)  
SAMPLE: MW-2 (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	6.3*
Chloroform	0.5	1.1*
1,1,1-Trichloroethane	0.5	ND
Carbon Tetrachloride	0.5	0.6*
1,2-Dichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	3.1*
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
2-Chloroethyl Vinyl Ether	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	58*
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

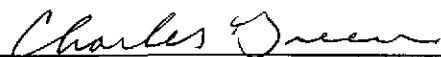
MDL: Method Detection Limit

\*Second Column confirmation available upon request.

QA/QC Summary: For 84397-2

MS/MSD Average Recovery: 90%

MS/MSD %RPD: 8%

  
Senior Analyst



# Superior Precision Analytical, Inc.

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## CERTIFICATE OF ANALYSIS

LABORATORY NO: 84397  
CLIENT: Sierra Environmental  
PROJECT NO: 1-199-04

DATE SAMPLED :11/15/91  
DATE RECEIVED:11/15/91  
DATE REPORTED:11/25/91

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

LAB#: 84397-7 (Analyzed:11/22/91)  
SAMPLE: MW-3 (Water)

ANALYTE	MDL(ug/L)	RESULT(ug/L)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	1.4*
1,1-Dichloroethene/Freon 113	0.5	1.3*
Dichloromethane	0.5	ND
trans-1,2-Dichloroethene	0.5	0.8*
1,1-Dichloroethane	0.5	0.5*
cis-1,2-Dichloroethene	0.5	7.4*
Chloroform	0.5	5.0*
1,1,1-Trichloroethane	0.5	0.9*
Carbon Tetrachloride	0.5	6.3*
1,2-Dichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	3.4*
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
2-Chloroethyl Vinyl Ether	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	67*
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	0.7*
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

MDL: Method Detection Limit

\*Second Column confirmation available upon request.

QA/QC Summary: For 84397-2

MS/MSD Average Recovery: 90%

MS/MSD %RPD: 8%

  
Senior Analyst



# Superior Precision Analytical, Inc.

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## CERTIFICATE OF ANALYSIS

LABORATORY NO: 84397  
CLIENT: Sierra Environmental  
PROJECT NO: 1-199-04

DATE SAMPLED :11/15/91  
DATE RECEIVED:11/15/91  
DATE REPORTED:11/25/91

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

LAB#: 84397-3 (Analyzed:11/22/91)  
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	9.1*
1,1,1-Trichloroethane	0.5	ND
Carbon Tetrachloride	0.5	23*
1,2-Dichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
2-Chloroethyl Vinyl Ether	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

MDL: Method Detection Limit

\*Second Column confirmation available upon request.

QA/QC Summary: For 84397-2  
MS/MSD Average Recovery: 90%  
MS/MSD %RPD: 8%

*Charles Drennon*  
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: 84397  
CLIENT: Sierra Environmental  
PROJECT NO: 1-199-04

DATE SAMPLED :11/15/91  
DATE RECEIVED:11/15/91  
DATE REPORTED:11/25/91

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

LAB#: 84397-8 (Analyzed:11/22/91)  
SAMPLE: MW-5 (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	1.7*
Chloroform	0.5	2.8*
1,1,1-Trichloroethane	0.5	ND
Carbon Tetrachloride	0.5	5.7*
1,2-Dichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
2-Chloroethyl Vinyl Ether	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	5.5*
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

MDL: Method Detection Limit

\*Second Column confirmation available upon request.

QA/QC Summary: For 84397-2

MS/MSD Average Recovery: 90%

MS/MSD %RPD: 8%

*Charles D. ...*

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: 84397  
CLIENT: Sierra Environmental  
PROJECT NO: 1-199-04

DATE SAMPLED :11/15/91  
DATE RECEIVED:11/15/91  
DATE REPORTED:11/25/91

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

LAB#: 84397-14 (Analyzed:11/22/91)  
SAMPLE: MW-6 (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	5.4*
1,1,1-Trichloroethane	0.5	ND
Carbon Tetrachloride	0.5	13*
1,2-Dichloroethane	0.5	0.8*
Trichloroethene (TCE)	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
2-Chloroethyl Vinyl Ether	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

MDL: Method Detection Limit

\*Second Column confirmation available upon request.

QA/QC Summary: For 84397-2

MS/MSD Average Recovery: 90%

MS/MSD %RPD: 8%

*Charles D. ...*  
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: 84397  
CLIENT: Sierra Environmental  
PROJECT NO: 1-199-04

DATE SAMPLED :11/15/91  
DATE RECEIVED:11/15/91  
DATE REPORTED:11/25/91

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

LAB#: 84397-16 (Analyzed:11/22/91)  
SAMPLE: MW-7 (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	0.8*
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
cis-1,2-Dichloroethene	0.5	ND
Chloroform	0.5	2.7*
1,1,1-Trichloroethane	0.5	ND
Carbon Tetrachloride	0.5	0.8*
1,2-Dichloroethane	0.5	3.1*
Trichloroethene (TCE)	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
2-Chloroethyl Vinyl Ether	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

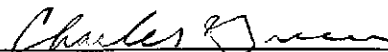
MDL: Method Detection Limit

\*Second Column confirmation available upon request.

QA/QC Summary: For 84397-2

MS/MSD Average Recovery: 90%

MS/MSD %RPD: 8%

  
Senior Analyst



# Superior Precision Analytical, Inc.

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## CERTIFICATE OF ANALYSIS

LABORATORY NO: 84397  
CLIENT: Sierra Environmental  
PROJECT NO: 1-199-04

DATE SAMPLED :11/15/91  
DATE RECEIVED:11/15/91  
DATE REPORTED:11/25/91

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

LAB#: 84397-6 (Analyzed:11/22/91)  
SAMPLE: MW-8 (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	5.8*
Chloroform	0.5	1.9*
1,1,1-Trichloroethane	0.5	ND
Carbon Tetrachloride	0.5	1.5*
1,2-Dichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND
1,2-Dichloropropane	0.5	2.0*
Bromodichloromethane	0.5	ND
2-Chloroethyl Vinyl Ether	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	50*
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

MDL: Method Detection Limit

\*Second Column confirmation available upon request.

QA/QC Summary: For 84397-2

MS/MSD Average Recovery: 90%

MS/MSD %RPD: 8%

  
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: 84397  
CLIENT: Sierra Environmental  
PROJECT NO: 1-199-04

DATE SAMPLED : 11/15/91  
DATE RECEIVED: 11/15/91  
DATE REPORTED: 11/25/91

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

LAB#: 84397-15 (Analyzed: 11/22/91)  
SAMPLE: MW-9 (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	0.6*
Trichloroethene (TCE)	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
2-Chloroethyl Vinyl Ether	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

MDL: Method Detection Limit

\*Second Column confirmation available upon request.

QA/QC Summary: For 84397-2

MS/MSD Average Recovery: 90%

MS/MSD %RPD: 8%

  
Senior Analyst



# Superior Precision Analytical, Inc.

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## CERTIFICATE OF ANALYSIS

LABORATORY NO: 84397  
CLIENT: Sierra Environmental  
PROJECT NO: 1-199-04

DATE SAMPLED :11/15/91  
DATE RECEIVED:11/15/91  
DATE REPORTED:11/25/91

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

LAB#: 84397-4 (Analyzed:11/22/91)  
SAMPLE: MW-10 (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	3.3*
1,1,1-Trichloroethane	0.5	ND
Carbon Tetrachloride	0.5	2.7*
1,2-Dichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
2-Chloroethyl Vinyl Ether	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

MDL: Method Detection Limit

\*Second Column confirmation available upon request.

QA/QC Summary: For 84397-2

MS/MSD Average Recovery: 90%

MS/MSD %RPD: 8%

  
Senior Analyst



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## CERTIFICATE OF ANALYSIS

LABORATORY NO: 84397  
CLIENT: Sierra Environmental  
PROJECT NO: 1-199-04

DATE SAMPLED :11/15/91  
DATE RECEIVED:11/15/91  
DATE REPORTED:11/25/91

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

LAB#: 84397-11 (Analyzed:11/22/91)  
SAMPLE: MW-11 (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	2.3*
Chloroform	0.5	3.6*
1,1,1-Trichloroethane	0.5	ND
Carbon Tetrachloride	0.5	3.3*
1,2-Dichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	0.9*
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
2-Chloroethyl Vinyl Ether	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	64*
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

MDL: Method Detection Limit

\*Second Column confirmation available upon request.

QA/QC Summary: For 84397-2

MS/MSD Average Recovery: 90%

MS/MSD %RPD: 8%

  
Senior Analyst



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## CERTIFICATE OF ANALYSIS

LABORATORY NO: 84397  
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DATE SAMPLED :11/15/91  
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### EPA SW-846 METHOD 8010 HALOGENATED VOLATILE ORGANICS

LAB#: 84397-5 (Analyzed:11/22/91)  
SAMPLE: MW-12 (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	5.9*
Chloroform	0.5	3.5*
1,1,1-Trichloroethane	0.5	ND
Carbon Tetrachloride	0.5	1.9*
1,2-Dichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
2-Chloroethyl Vinyl Ether	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	8.9*
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

MDL: Method Detection Limit

\*Second Column confirmation available upon request.

QA/QC Summary: For 84397-2

MS/MSD Average Recovery: 90%

MS/MSD %RPD: 8%

  
Senior Analyst



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## CERTIFICATE OF ANALYSIS

LABORATORY NO: 84397  
CLIENT: Sierra Environmental  
PROJECT NO: 1-199-04

DATE SAMPLED :11/15/91  
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### EPA SW-846 METHOD 8010 HALOGENATED VOLATILE ORGANICS

LAB#: 84397-13 (Analyzed:11/22/91)  
SAMPLE: MW-13 (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	0.6*
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	ND
Trichloroethene (TCE)	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
2-Chloroethyl Vinyl Ether	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

MDL: Method Detection Limit

\*Second Column confirmation available upon request.

QA/QC Summary: For 84397-2

MS/MSD Average Recovery: 90%

MS/MSD %RPD: 8%

*Charles S. Brown*  
Senior Analyst



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## CERTIFICATE OF ANALYSIS

LABORATORY NO: 84397  
CLIENT: Sierra Environmental  
PROJECT NO: 1-199-04

DATE SAMPLED :11/15/91  
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### EPA SW-846 METHOD 8010 HALOGENATED VOLATILE ORGANICS

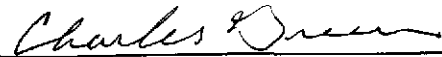
LAB#: 84397-10 (Analyzed:11/22/91)  
SAMPLE: MW-14 (Water)

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	5.5*
1,1,1-Trichloroethane	0.5	ND
Carbon Tetrachloride	0.5	ND
1,2-Dichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
2-Chloroethyl Vinyl Ether	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	33*
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

MDL: Method Detection Limit

\*Second Column confirmation available upon request.

QA/QC Summary: For 84397-2  
MS/MSD Average Recovery: 90%  
MS/MSD %RPD: 8%

  
Senior Analyst