



**Chevron U.S.A. Products Company**

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

August 27, 1992

~~Mr. Richard Hiett  
California Regional Water Quality  
Control Board  
San Francisco Bay Region  
2101 Webster Street, Suite 500  
Oakland, CA 94612~~

Re: Quarterly Monitoring Report  
Former Chevron Asphalt Plant & Terminal  
1520 Powell Street  
Emeryville, CA

Dear Mr. Hiett:

Enclosed is a copy of the most recent quarterly monitoring report dated August 24, 1992 by Sierra Environmental Services for your review.

If you have any question regarding the report, please feel free to call me at (510) 842-9655. I also look forward to Regional Board and Alameda County Health's comments on the risk assessment.

Sincerely,

Lucia R. Chou  
Engineer

Enclosure

✓ cc: Mr. Dennis Byrn, Alameda County Environmental Health



August 24, 1992

AUG 25 '92 JST

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

Re: Former Chevron Asphalt Plant &  
Terminal #1001067  
1520 Powell Street  
Emeryville, California  
SES Project #1-191-04

Dear Ms. Chou:

This report presents the results of the quarterly ground water sampling at the Former Chevron Asphalt Plant and Terminal #1001067, located at 1520 Powell Street in Emeryville, California (Figure 1, Appendix A). Fourteen wells, MW-1, MW-2, MW-3, MW-7, MW-8, MW-10, MW-11, and MW-13 through MW-19, were sampled (Figure 2, Appendix A).

On July 23, 1992, SES personnel visited the site. Water level measurements were collected in all site wells and all wells were checked for the presence of free-phase hydrocarbons. Free-phase hydrocarbons were not present in any of the site wells. Water level data are shown in Table 1 (Appendix B) and a ground water elevation contour map is included as Figure 2 (Appendix A).

Ground water samples were collected on July 23, 1992 in accordance with SES Standard Operating Procedure - Ground Water Sampling (Appendix C). All analyses were performed by Superior Precision Analytical, Inc. of Martinez, California. Analytic results for ground water are presented in Table 2 (Appendix B). The chain of custody 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 if you have any questions.

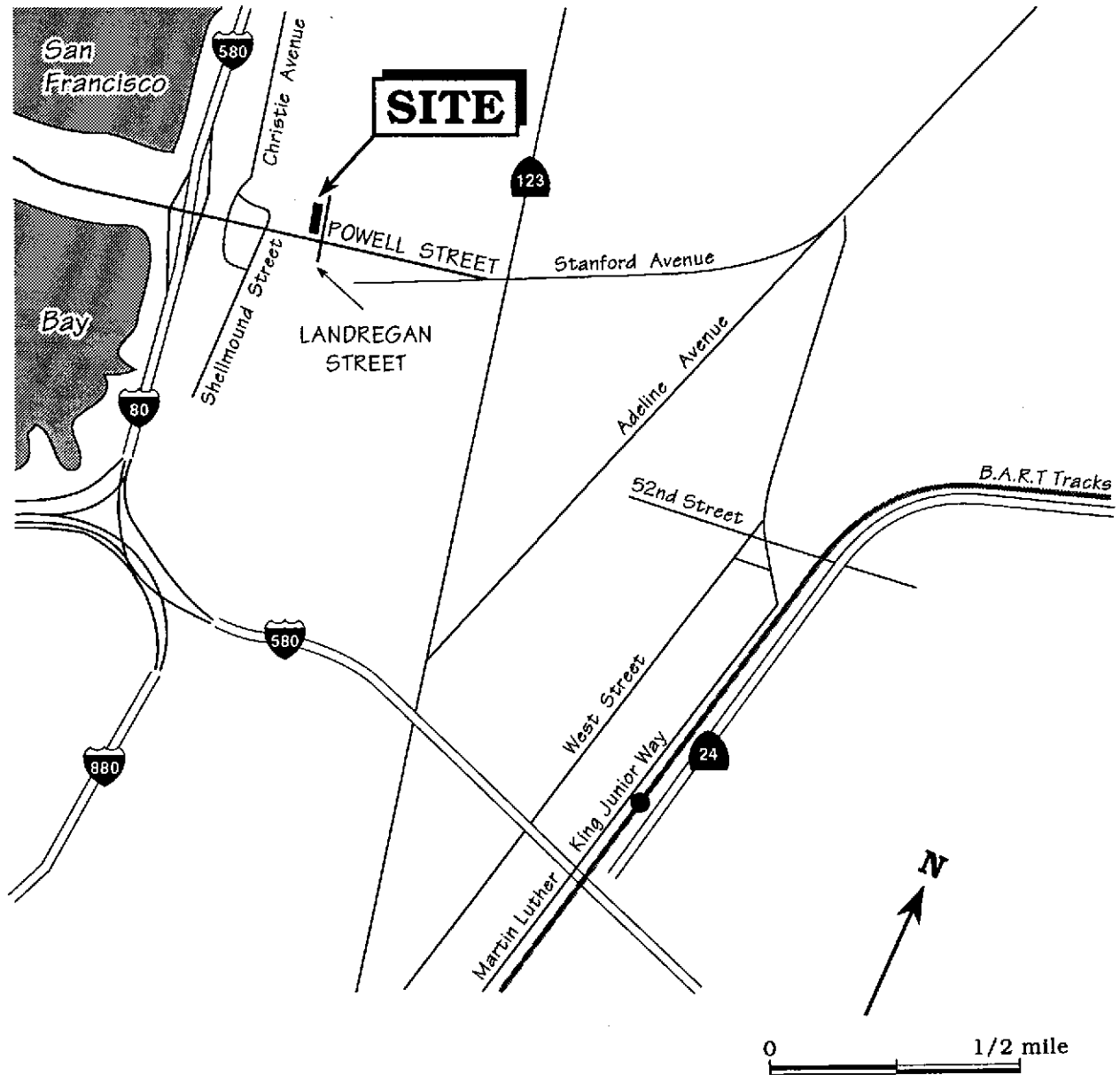


Sincerely,  
Sierra Environmental Services

*Jeanne A. Wahler*  
Jeanne A. Wahler  
Senior Project Geologist  
*Chris J. Bramer*  
Chris J. Bramer  
Professional Engineer #C48846

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19104QM.AU2

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


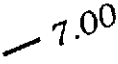


Base map ref: California State Automobile Association (AAA)

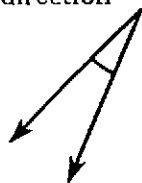
Figure 1. Site Location Map – Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California



**EXPLANATION**

- 
**MW-19** Monitoring well  
 3.23 Ground water elevation, in feet
- 
 7.00 Ground water elevation contour, dashed where inferred, queried where uncertain
- \* Not measured (see Table 1, Appendix B for explanation)

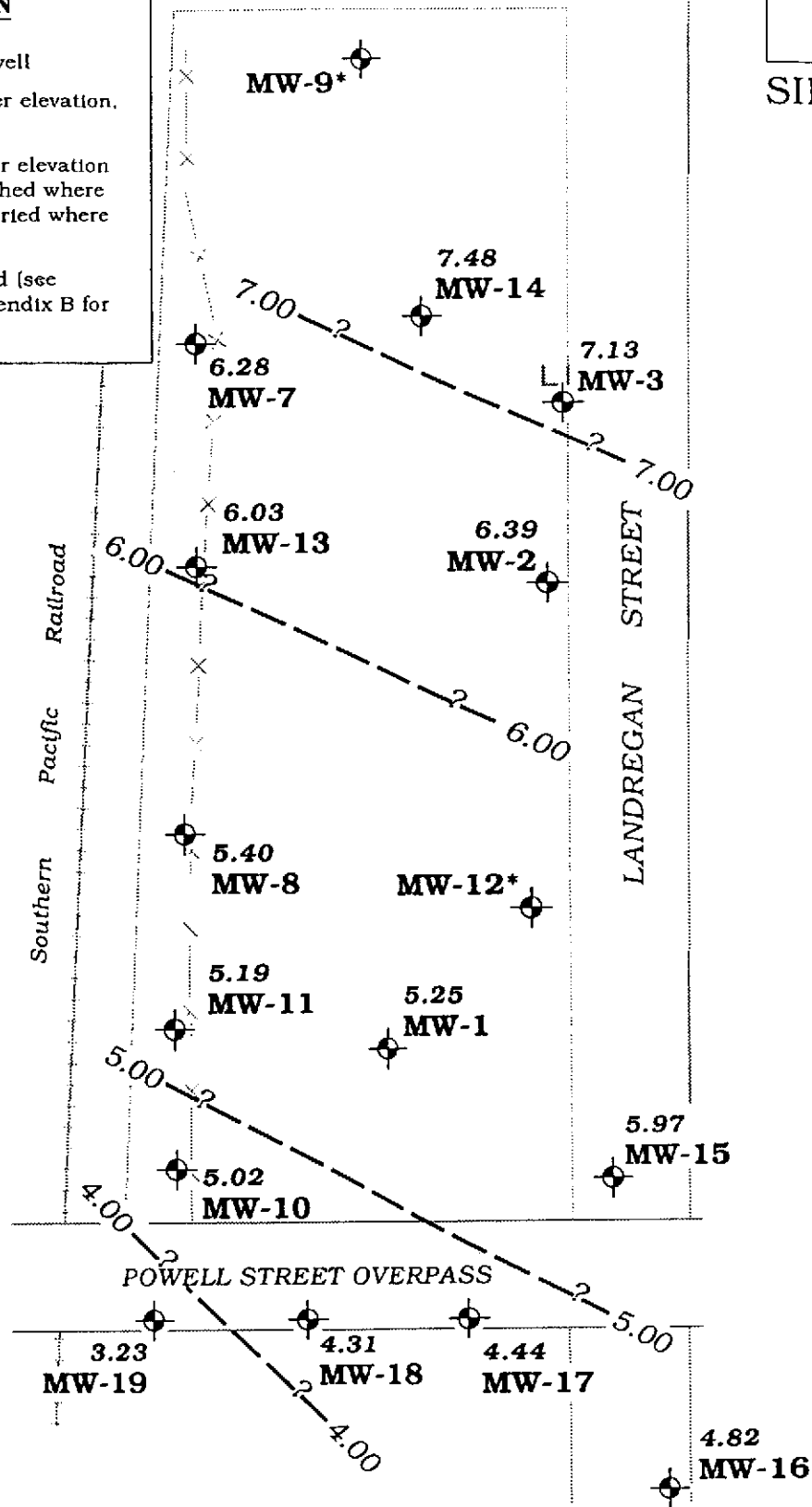
Approximate ground water flow direction



N

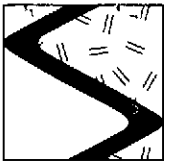


Scale Approximate



Base map after Western Geologic Resources, Inc.

Figure 2. Monitoring Well Locations and Ground Water Elevation Contours - July 23, 1992 - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California



SIERRA

Table 1. Water Level Data and Well Construction Details - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California

Well ID	Date Measured	DTW (ft)	TOC <sup>1</sup> (ft)	GWE (msl)	Product Thickness <sup>2</sup> (ft)	Screen Interval	Sand Pack Interval	Bentonite/Grout Interval
						-----feet below grade----->		
MW-1	4/13/89	3.72	10.67	6.95	---	1.5 - 11.5	1 - 12	0 - 1
	7/31/89	5.72		4.95	---			
	12/8/89	4.80		5.87	---			
	3/21/90	4.74		5.93	---			
	6/19/90	4.75		5.92	---			
	9/20/90	5.07		5.60	---			
	12/28/90	4.91		5.76	---			
	5/10/91	5.30		5.37	0			
	8/8/91	5.85		4.82	0			
	11/27/91	5.13		5.54	0			
	1/29/92	4.82		5.85	0			
	3/26/92	4.32		6.35	0			
	<b>7/23/92</b>	<b>5.42</b>		<b>5.25</b>	<b>0</b>			
MW-2	4/13/89	2.62	13.78	11.16	---	2 - 12	1 - 12	0 - 1
	7/31/89	4.63		9.15	---			
	12/8/89	5.98		7.80	---			
	3/21/90	5.85		7.93	---			
	6/19/90	5.95		7.83	---			
	9/20/90	6.86		6.92	---			
	12/28/90	6.34		7.44	---			
	5/10/91	5.96		7.82	0			
	8/8/91	7.66		6.12	0			
	11/27/91	8.04		5.74	0			
	1/29/92	6.01		7.77	0			
	3/26/92	6.10		7.68	0			
	<b>7/23/92</b>	<b>7.39</b>		<b>6.39</b>	<b>0</b>			
MW-3	4/13/89	2.34	11.73	9.39	---	2 - 12	1 - 12	0 - 1
	7/31/89	4.79		---	---			
	12/8/89	3.03	---	---				
	3/21/90	2.55	11.73	9.18	---			
	6/19/90	2.76		8.97	---			
	9/20/90	4.43		7.30	---			
	12/28/90	3.67		8.06	---			



Table 1. Water Level Data and Well Construction Details - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California (continued)

Well ID	Date Measured	DTW (ft)	TOC (ft)	GWE (msl)	Product Thickness <sup>2</sup> (ft)	Screen Interval	Sand Pack Interval	Bentonite/Grout Interval
						-----feet below grade----->		
MW-3 (cont)	5/10/91	2.83		8.90	0			
	8/8/91	5.09		6.64	0			
	11/27/91	5.37		6.36	0			
	1/29/92	3.46		8.27	0			
	3/26/92	2.10		9.63	0			
	<b>7/23/92</b>	<b>4.60</b>		<b>7.13</b>	<b>0</b>			
MW-4 <sup>4</sup>	4/13/89	2.12	---	---	---	2 - 12	1 - 12	0 - 1
MW-5 <sup>4</sup>	4/13/89	2.79	---	---	---	2 - 12	1 - 12	0 - 1
MW-6 <sup>4</sup>	4/13/89	1.90	---	---	---	2 - 12	1 - 12	0 - 1
MW-7	4/13/89	1.90	10.47	8.57	---	2 - 12	1 - 12	0 - 1
	7/31/89	4.24		6.23	---			
	12/8/89	2.65		7.82	---			
	3/21/90	2.76		7.71	---			
	6/19/90	3.24		7.23	---			
	9/20/90	4.57		5.90	---			
	12/28/90	3.12		7.35	---			
	5/10/91	3.53		6.94	0			
	8/8/91	4.64		5.83	0			
	11/27/91	3.66		6.81	0			
	1/29/92	3.24		7.23	0			
	3/26/92	2.61		7.86	0			
	<b>7/23/92</b>	<b>4.19</b>		<b>6.28</b>	<b>0</b>			
MW-8	4/13/89	2.80	10.46	7.66	---	2 - 12	1 - 12	0 - 1
	7/31/89	5.70		4.76	---			
	12/8/89	4.13		6.33	---			
	3/21/90	4.07		6.39	---			
	6/19/90	4.25		6.21	---			
	9/20/90	4.99		5.47	---			
	12/28/90	4.39		6.07	---			



Table 1. Water Level Data and Well Construction Details - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California (continued)

Well ID	Date Measured	DTW (ft)	TOC (ft)	GWE (msl)	Product Thickness <sup>2</sup> (ft)	Screen Interval -----feet below grade-----	Sand Pack Interval	Bentonite/Grout Interval
MW-8 (cont)	5/10/91	4.13		6.33	0			
	8/8/91	5.53		4.93	0			
	11/27/91	4.59		5.87	0			
	1/29/92	5.30		5.16	0			
	3/26/92	3.59		6.87	0			
	<b>7/23/92</b>	<b>5.06</b>		<b>5.40</b>	<b>0</b>			
MW-9 <sup>5</sup>	5/10/91	---	---	---	---	2 - 12	1 - 12	0 - 1
MW-10	3/21/90	4.60	10.82	6.22	---	---	---	---
	6/19/90	4.89		5.93	---			
	9/20/90	5.77		5.05	---			
	12/28/90	4.99		5.83	---			
	5/10/91	5.80		5.02	0			
	8/8/91	5.86		4.96	0			
	11/27/91	5.39		5.43	0			
	1/29/92	5.44		5.38	0			
	<b>7/23/92</b>	<b>5.80</b>		<b>5.02</b>	<b>0</b>			
MW-11	3/21/90	4.82	11.38	6.56	---	---	---	---
	6/19/90	5.14		6.24	---			
	9/20/90	6.11		5.27	---			
	12/28/90	5.16		6.22	---			
	5/10/91	7.83		3.55	0			
	8/8/91	6.32		5.06	0			
	11/27/91	5.67		5.71	0			
	1/29/92	5.83		5.55	0			
	<b>7/23/92</b>	<b>6.19</b>		<b>5.19</b>	<b>0</b>			
MW-12	3/21/90	6.76	13.03	6.27	---	---	---	---
	6/19/90	6.62		6.41	---			
	9/20/90	5.00		8.03	---			



Table 1. Water Level Data and Well Construction Details - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California (continued)

Well ID	Date Measured	DTW (ft)	TOC (ft)	GWE (msl)	Product Thickness <sup>2</sup> (ft)	Screen Interval -----feet below grade-----	Sand Pack Interval	Bentonite/Grout Interval
MW-12 (cont)	12/28/90	6.62		6.41	---			
	5/10/91	6.48		6.55	0			
	8/8/91	8.01		5.02	0			
	11/27/91	7.95		5.08	0			
	1/29/92	7.68		5.35	0			
	3/26/92	6.60		6.43	0			
	<b>7/23/92<sup>7</sup></b>	---		---	---			
MW-13	3/21/90	4.08	11.15	7.07	---	7.5 - 12	7 - 12	0 - 7
	6/19/90	4.34		6.81	---			
	9/20/90	5.31		5.84	---			
	12/28/90	4.79		6.36	---			
	5/10/91	4.20		6.95	0			
	8/8/91	5.13		6.02	0			
	11/27/91	4.72		6.43	0			
	1/29/92	4.69		6.46	0			
	3/26/92	4.04		7.11	0			
	<b>7/23/92</b>	<b>5.12</b>		<b>6.03</b>	<b>0</b>			
MW-14	3/21/90	0.91	9.78	8.87	---	5 - 10	6.5 - 10	0 - 6.5
	6/19/90	1.03		8.75	---			
	9/20/90	2.53		7.25	---			
	12/28/90	1.61		8.17	---			
	5/10/91	1.22		8.56	0			
	8/8/91	2.45		7.33	0			
	11/27/91	2.59		7.19	0			
	1/29/92	1.10		8.68	0			
	3/26/92	0.74		9.04	0			
	<b>7/23/92</b>	<b>2.30</b>		<b>7.48</b>	<b>0</b>			
MW-15	3/21/90	4.72	11.01	6.29	---	5.5 - 10.5	5 - 10.5	0 - 5
	6/19/90	4.78		6.23	---			
	9/20/90	4.98		6.03	---			





Table 1. Water Level Data and Well Construction Details - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California (continued)

Well ID	Date Measured	DTW (ft)	TOC (ft)	GWE (msl)	Product Thickness <sup>2</sup> (ft)	Screen Interval	Sand Pack Interval	Bentonite/Grout Interval
						<-----feet below grade----->		
MW-15 (cont)	12/28/90	4.84		6.17	---			
	5/10/91	4.58		6.43	0			
	8/8/91	5.03		5.98	0			
	11/27/91	5.88		5.13	0			
	1/29/92	4.82		6.19	0			
	3/26/92	4.35		6.66	0			
	<b>7/23/92</b>	<b>5.04</b>		<b>5.97</b>	<b>0</b>			
MW-16	3/21/90	5.84	11.11	5.27	---	7 - 13.5	7 - 13.5	0 - 7
	6/19/90	5.90		5.21	---			
	9/20/90	6.36		4.75	---			
	12/28/90	5.98		5.13	---			
	5/10/91	5.89		5.22	0			
	8/8/91	6.28		4.83	0			
	11/27/91	5.62		5.49	0			
	1/29/92	5.88		5.23	0			
	3/26/92	5.56		5.55	0			
	<b>7/23/92</b>	<b>6.29</b>		<b>4.82</b>	<b>0</b>			
MW-17	3/21/90	5.61	10.41	4.80	---	4 - 12	3.5 - 12	0 - 3.5
	6/19/90	---		---	---			
	9/20/90	6.02		4.39	---			
	12/28/90	5.73		4.68	---			
	5/10/91	5.65		4.76	0			
	8/8/91	5.94		4.47	0			
	11/27/91	6.00		4.41	0			
	1/29/92	5.61		4.80	0			
	3/26/92	5.31		5.10	0			
	<b>7/23/92</b>	<b>5.97</b>		<b>4.44</b>	<b>0</b>			
MW-18	3/21/90	5.15	9.80	4.65	---	4 - 11	3.5 - 11	0 - 3.5
	6/19/90	5.19		4.61	---			
	9/20/90	5.54		4.26	---			
	12/28/90	5.26		4.54	---			



Table 1. Water Level Data and Well Construction Details - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California (continued)

Well ID	Date Measured	DTW (ft)	TOC (ft)	GWE (msl)	Product Thickness <sup>2</sup> (ft)	Screen Interval -----feet below grade-----	Sand Pack Interval	Bentonite/Grout Interval
MW-18 (cont)	5/10/91	5.18		4.62	0			
	8/8/91	5.45		4.35	0			
	11/27/91	5.24		4.56	0			
	1/29/92	5.12		4.68	0			
	3/26/92	4.84		4.96	0			
	<b>7/23/92</b>	<b>5.49</b>		<b>4.31</b>	<b>0</b>			
MW-19	3/21/90	5.00	8.45	3.45	---	5 - 9	4.5 - 9	0 - 4.5
	6/19/90	5.06		3.39	---			
	9/20/90	5.25		3.20	---			
	12/28/90	5.07		3.38	---			
	5/10/91	5.02		3.43	0			
	8/8/91	5.17		3.28	0			
	11/27/91	5.06		3.39	0			
	1/29/92	4.93		3.52	0			
	3/26/92	4.79		3.66	0			
	<b>7/23/92</b>	<b>5.22</b>		<b>3.23</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  
 --- = Not measured

NOTES:

<sup>1</sup> Top of casing elevations shown prior to 3/21/90 were surveyed to an arbitrary datum point set at 100 feet. The GWEs shown for dates prior to 3/21/90 were corrected using new TOC elevations which were surveyed to a USGS benchmark (relative to mean sea level) in April 1990.

NOTES: (continued)

- <sup>2</sup> Product thickness measurements on and after May 10, 1991 were made using an MMC flexi-dip interface probe. Product thickness information prior to May 10, 1991 was not available for inclusion in this report.
- <sup>3</sup> Well construction details for wells MW-10, MW-11 and MW-12 was not available for inclusion in this report.
- <sup>4</sup> Monitoring wells destroyed during soil excavation in 1989.
- <sup>5</sup> Well MW-9 was not measured after 5/10/91 because it could not be located. Previous water level data was not available for inclusion in this report.
- <sup>6</sup> Well MW-12 could not be located after building demolition.



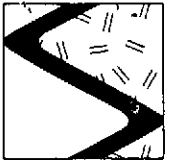
Table 2. Analytic Results for Ground Water - Petroleum Hydrocarbons - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California

Well ID	Date Sampled	Analytic Lab	Analytic Method	TPPH(G)	B T E X					O&G <-ppm->
					-----ppb-----					
MW-1	4/26/85	MES		---	99	---	---	6	---	
	9/11/87	SEQ		---	63	---	---	---	---	
	7/7/88	C&T		<100	55	---	---	---	---	
	4/14/89	CCAS	8260	<5,000	34	<5	<5	<10	---	
	7/31/89	CCAS	8260	7,000	57	1.2	<0.2	1.6	---	
	12/8/89	GTEL	8015/8020	---	26	0.4	0.9	2	---	
	3/21/90	GTEL	8015/8020	3,500	120	9	3	3	---	
	6/19/90	GTEL	8015/8020	2,700	100	<0.3	<0.3	7	---	
	9/21/90	GTEL	8015/8020	2,200	120	2	2	2	0.79	
	12/28/90	SAL	8015/8020	720	44	2	<0.5	9	---	
	5/10/91	SAL	8015/8020	530	47	2	0.5	8	---	
	8/8/91	SAL	8015/8020	1,400	37	8.3	3.7	12	---	
	11/27/91	SPA	8015/8020	840	16	7.1	4.5	11	---	
	1/29/92	SPA	8015/8020	350	18	9.3	3.7	7.7	---	
	3/26/92	SPA	8015/8020	420 <sup>s</sup>	19	2.2	1.2	4.0	---	
	7/23/92	SPA	8015/8020	4,000 <sup>s</sup>	50	82	40	160	---	
MW-2	4/26/85	MES		---	<10	---	---	---	---	
	9/11/87	---		---	---	---	---	---	---	
	7/7/88	C&T		<100	<5	---	---	---	---	
	4/14/89	CCAS	8260	<100	<0.2	<0.2	<0.2	<0.4	<3,000	
	7/31/89	CCAS	8260	<100	<0.2	<1.0	<0.2	<0.4	---	
	12/8/89	GTEL	8015/8020	---	<0.3	<0.3	<0.3	<0.6	---	
	3/21/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---	
	6/19/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---	
	9/21/90	GTEL	8015/8020	<50	<1.5	<1.5	<1.5	4.5	---	
	12/28/90	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---	
	5/10/91	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---	
	8/8/91	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---	
	11/27/91	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---	
	1/29/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---	
	3/26/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---	
	7/23/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	0.8	---	
MW-3	4/26/85	MES		---	<10	---	---	---	---	
	9/11/87	SEQ		---	<0.5	---	---	---	---	
	7/7/88	C&T		<100	<5	---	---	---	---	
	4/14/89	CCAS	8260	<100	<0.2	<0.2	<0.2	<0.4	<3,000	



Table 2. Analytic Results for Ground Water - Petroleum Hydrocarbons - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California (continued)

Well ID	Date Sampled	Analytic Lab	Analytic Method	TPPH(G)	B	T	E	X	O&G
				-----ppb-----					
MW-3 (cont)	7/31/89	CCAS	8260	<100	<0.2	<1.0	<0.2	<0.4	---
	12/8/89	GTEL	8015/8020	---	<0.3	<0.3	<0.3	<0.6	---
	3/21/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---
	6/19/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---
	9/21/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---
	12/28/90	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	5/10/91	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	8/8/91	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	11/27/91	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	1/29/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	3/26/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	7/23/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	MW-4 <sup>2</sup>	4/26/85	MES		3,100	<10	---	---	---
9/11/87		SEQ		---	<0.5	---	---	---	---
7/7/88		C&T		<100	<5	---	---	---	---
4/14/89		CCAS	8260	380 <sup>1</sup>	<0.5	<1	<1	<1	<3,000
MW-5 <sup>2</sup>	4/26/85	MES		1,600	<100	---	---	---	---
	9/11/87	SEQ		---	<10	---	---	---	---
	7/7/88	C&T		<100	<5	---	---	---	---
	4/14/89	CCAS	8260	4,300 <sup>1</sup>	<0.5	<1	<1	<1	<3,000
MW-6 <sup>2</sup>	4/26/85	MES		580	<100	---	---	---	---
	9/11/87	SEQ		---	<10	---	---	---	---
	7/7/88	C&T		8,000	<5	---	---	---	---
	4/14/89	CCAS	8260	3,300 <sup>1</sup>	<0.5	<1	<1	<1	<3,000
MW-7	4/26/85	MES		700	ND	---	---	---	---
	9/11/87	SEQ		---	<10	---	---	---	---
	7/7/88	C&T		17,000	<5	---	---	---	---
	4/14/89	CCAS	8260	<50	<0.5	<1	<1	<1	<3,000
	7/31/89	CCAS	8260	160 <sup>1</sup>	<0.1	<0.5	<0.1	<0.2	---
(D)	7/31/89	CCAS	8260	100 <sup>1</sup>	<0.1	<0.5	<0.1	<0.2	---
	12/8/89	GTEL	8015/8020	---	<0.3	<0.3	<0.3	<0.6	---
	3/21/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	0.6	---



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Table 2. Analytic Results for Ground Water - Petroleum Hydrocarbons - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California (continued)

Well ID	Date Sampled	Analytic Lab	Analytic Method	TPPH(G)	B T E X					O&G <ppm>
					-----ppb-----					
MW-7 (cont)	6/19/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	0.6	---	
	9/21/90	GTEL	8015/8020	<50	1.5	<0.3	<0.3	0.6	---	
	12/28/90	SAL	8015/8020	<50	0.7	<0.5	<0.5	0.7	---	
	5/10/91	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---	
	8/8/91	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---	
	11/27/91	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---	
	1/29/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	0.9	---	
	3/26/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	0.9	---	
	7/23/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---	
MW-8	4/26/85	MES		---	ND	---	---	---	---	
	9/11/87	SEQ		---	<10	---	---	---	---	
	7/7/88	C&T		20,000	<5	---	---	---	---	
	4/14/89	CCAS	8260	<50	<0.5	<1	<1	<1	<3,000	
	7/31/89	CCAS	8260	<50	<0.1	<0.5	<0.1	<0.2	---	
	12/8/89	GTEL	8015/8020	---	<0.3	<0.3	<0.3	<0.6	---	
	3/21/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---	
	6/19/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---	
	9/21/90	GTEL	8015/8020	<50	6	<0.3	<0.3	<0.6	---	
	12/28/90	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---	
	5/10/91	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---	
	8/8/91	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---	
	11/27/91	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---	
	1/29/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---	
	3/26/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	0.7	---	
7/23/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---		
MW-9	4/26/85	MES		---	---	---	---	---	---	
	9/11/87	SEQ		---	---	---	---	---	---	
	7/7/88	C&T		400	---	---	---	---	---	
	5/10/91 <sup>3</sup>	---	---	---	---	---	---	---	---	
MW-10	7/7/88	C&T		---	<5	---	---	---	---	
	4/14/89	CCAS	8260	<50	<0.5	<1	<1	<1	<3,000	
	7/31/89	CCAS	8260	<50	<0.1	<0.5	<0.1	<0.2	---	
	12/8/89	GTEL	8015/8020	---	<0.3	<0.3	<0.3	<0.6	---	
	3/21/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---	





Table 2. Analytic Results for Ground Water - Petroleum Hydrocarbons - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California (continued)

Well ID	Date Sampled	Analytic Lab	Analytic Method	TPPH(G)	B T E X				O&G <-ppm->
					-----ppb-----				
MW-13	3/21/90	GTEL	8015/8020	480	<0.3	<0.3	1.0	5.0	---
	6/19/90	GTEL	8015/8020	180	<0.3	<0.3	0.8	3.0	---
	9/20/90	GTEL	8015/8020	150	<0.3	<0.3	<0.3	0.54	---
	12/28/90	SAL	8015/8020	160	<0.5	<0.5	<0.5	1	---
	5/10/91	SAL	8015/8020	110	<0.5	<0.5	<0.5	2	---
	8/8/91	SAL	8015/8020	220 <sup>a</sup>	<0.5	<0.5	<0.5	1.8	---
	11/27/91	SPA	8015/8020	70	<0.5	<0.5	<0.5	1.2	---
	1/29/92	SPA	8015/8020	150	<0.5	<0.5	3.1	7.1	---
	3/26/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
<b>7/23/92</b>	<b>SPA</b>	<b>8015/8020</b>	<b>190</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>2.1</b>	---	
MW-14	3/21/90	GTEL	8015/8020	170	<0.3	<0.3	<0.4	2.0	---
	6/19/90	GTEL	8015/8020	77	<0.3	<0.3	<0.3	<0.6	---
	9/20/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---
	12/28/90	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	5/10/91	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	8/8/91	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	11/27/91	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	1/29/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	3/26/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
<b>7/23/92</b>	<b>SPA</b>	<b>8015/8020</b>	<b>&lt;50</b>	<b>0.6</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>0.8</b>	---	
MW-15	3/21/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---
	6/19/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---
	9/20/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---
	12/28/90	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	5/10/91	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	8/8/91	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	11/27/91	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	1/29/92	SPA	8015/8020	<50	1.9	2.6	0.8	2.6	---
	3/26/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
<b>7/23/92</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>0.5</b>	---	
MW-16	3/21/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---
	6/19/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---
	9/20/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---
	12/28/90	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---



Table 2. Analytic Results for Ground Water - Petroleum Hydrocarbons - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California (continued)

Well ID	Date Sampled	Analytic Lab	Analytic Method	TPPH(G)	B T E X					O&G <-ppm->
					-----ppb-----					
MW-16 (cont)	5/10/91	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	<0.5	---
	8/8/91	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	<0.5	---
	11/27/91	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	<0.5	---
	1/29/92	SPA	8015/8020	65	3.6	6.2	1.9	6.6	---	
	3/26/92	SPA	8015/8020	270 <sup>5</sup>	21	27	9.5	41	---	
	7/23/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	0.7	---	
MW-17	3/21/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---	
	6/19/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---	
	9/20/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---	
	12/28/90	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---	
	5/10/91	SAL	8015/8020	<50	<0.5	<0.5	<0.5	0.8	---	
	8/8/91	SAL	8015/8020	82	1.9	2.5	0.9	5.4	---	
	11/27/91	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---	
	1/29/92	SPA	8015/8020	<50	<0.5	0.9	<0.5	0.5	---	
	3/26/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---	
	7/23/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---	
MW-18	3/21/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---	
	6/19/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---	
	9/20/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---	
	12/28/90	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---	
	5/10/91	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---	
	8/8/91	SAL	8015/8020	52	<0.5	<0.5	<0.5	<0.5	---	
	11/27/91	SPA	8015/8020	<50	0.6	1.5	0.6	2.1	---	
	1/29/92	SPA	8015/8020	67	3.7	5.2	1.5	5.0	---	
	3/26/92	SPA	8015/8020	80 <sup>5</sup>	<0.5	<0.5	<0.5	0.8	---	
	7/23/92	SPA	8015/8020	50 <sup>6</sup>	1.3	2.1	0.5	3.0	---	
MW-19	3/21/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---	
	6/19/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---	
	9/20/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---	
	12/28/90	SAL	8015/8020	66	<0.5	<0.5	<0.5	<0.5	---	
	5/10/91	SAL	8015/8020	60 <sup>4</sup>	<0.5	<0.5	<0.5	<0.5	---	
	8/8/91	SAL	8015/8020	58	<0.5	<0.5	<0.5	<0.5	---	
	11/27/91	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---	
	1/29/92	SPA	8015/8020	<50	1.7	2.6	0.7	2.1	---	
	3/26/92	SPA	8015/8020	80 <sup>5</sup>	<0.5	<0.5	<0.5	<0.5	---	
	7/23/92	SPA	8015/8020	70 <sup>6</sup>	0.6	0.5	<0.5	1.5	---	





Table 2. Analytic Results for Ground Water - Petroleum Hydrocarbons - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California (continued)

Well ID	Date Sampled	Analytic Lab	Analytic Method	TPPH(G)	B	T	E	X	O&G
				-----ppb-----					<-ppm>
Trip Blank									
AA	4/14/89	CCAS	8260	<50	<0.5	<1	<1	<1	---
	7/31/89	CCAS	8260	<50	<0.1	<0.5	<0.5	<0.2	---
	12/8/89	GTEL	8015/8020	---	<0.3	<0.3	<0.3	<0.6	---
	3/21/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---
	3/26/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---
	6/19/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---
	9/21/90	GTEL	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---
	12/28/90	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.6	---
	5/10/91	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	8/8/91	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	11/27/91	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	1/29/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	3/26/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
TB-LB	7/23/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
Bailer Blank									
BB	5/10/91	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	8/8/91	SAL	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	11/27/91	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	1/29/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	3/26/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	7/23/92	SPA	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---



Table 2. Analytic Results for Ground Water - Petroleum Hydrocarbons - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, 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:

8260 = Approved Variance for Method EPA 8240 using capillary column and GC/MS for TPPH and BTEX  
8015 = EPA Method 8015 for TPPH(G)  
8020 = EPA Method 8020 for BTEX

ANALYTIC LABORATORIES:

MES = McKesson Environmental Services  
SEQ = Sequoia Analytical Laboratory  
C&T = Curtis & Tompkins, Ltd.  
CCAS = Coast to Coast Analytical Services of San Luis Obispo, California  
GTEL = Groundwater Technology Environmental Laboratory of Concord, California  
SAL = Superior Analytical Laboratory of Martinez and San Francisco, California  
SPA = Superior Precision Analytical, Inc. of Martinez, California

NOTES:

- <sup>1</sup> TPPH as Diesel #2.
- <sup>2</sup> Monitoring wells destroyed during soil excavation in 1989.
- <sup>3</sup> Well MW-9 was not sampled after 5/10/91 because it could not be located. Previous analytical data were not available for inclusion in this report.
- <sup>4</sup> Does not match a typical gasoline pattern.
- <sup>5</sup> Gasoline range concentration reported. The chromatogram shows only a single peak in the gasoline range.
- <sup>6</sup> Gasoline concentration reported. Only single peaks were observed in the chromatogram. The pattern was not typical of gasoline.
- <sup>7</sup> Well MW-12 could not be located after building demolition.







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Table 3. Analytic Results for Ground Water - Halogenated Volatile Organic Compounds - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California (continued)

Well ID	Date Sampled	Analytic Lab	Analytic Method	1,1-	1,2-	t-1,2-	c-1,2-	1,1-	1,1,1-	TCE	PCE	CF	VC	Other HVOCs
				DCE	DCE	DCE	DCE	DCA	TCA					
-----ppb----->														
MW-8	12/28/90	SAL	8010	<0.5	---	<0.5	<0.5	<0.5	2	<0.5	<0.5	<0.5	<1	---
(cont)	5/10/91	SAL	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND
	8/8/91	SAL	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND
	11/27/91	SPA	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND
	1/29/92	SPA	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND
	3/26/92	SPA	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND
	7/23/92	SPA	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND <sup>18</sup>
MW-9	5/10/91 <sup>9</sup>	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-10	4/14/89	CCAS	8010	<1	15	---	---	2	<1	5	<1	<2	<1	---
	7/31/89	CCAS	8010	0.7	---	6.3	27	2.9	<0.1	5.3	<0.1	<0.5	<0.1	ND
	12/8/89	GTEL	8010	<0.2	24	---	---	3.1	<0.5	4.9	<0.5	0.6	<1.0	---
	3/21/90	GTEL	8010	0.7	30	---	---	2.5	<0.5	3.5	<0.5	<0.5	<1	---
	6/19/90	GTEL	8010	0.3	33	---	---	2.6	<0.5	6.3	<0.5	<0.5	<1	---
	9/21/90	GTEL	8010	<0.2	32	---	---	5.0	<0.5	5.9	<0.5	<0.5	<1	---
	12/28/90	SAL	8010	<0.5	---	6	19	2	<0.5	5	<0.5	<0.5	<1	---
	5/10/91	SAL	8010	0.6	---	7	24	2	<0.5	6	<0.5	<0.5	<1	ND
	8/8/91	SAL	8010	<0.5	---	7	33	3.1	<0.5	6.2	<0.5	<0.5	<1	ND
	11/27/91	SPA	8010	<0.5	---	6.8	100	<0.5	<0.5	8.5	<0.5	<0.5	<1	ND
	1/29/92	SPA	8010	<0.5	---	9.1	30	2.8	<0.5	7.4	<0.5	<0.5	<1	ND
	3/26/92	SPA	8010	0.7	---	9.2	29	2.5	<0.5	6.8	<0.5	<0.5	<1	ND
	7/23/92	SPA	8010	<0.5	---	6.1	21	1.5	<0.5	4.7	<0.5	<0.5	<0.5	ND <sup>18</sup>
MW-11	4/14/89	CCAS	8010	<1	120	---	---	<1	<1	4	<1	<2	10	---
	7/31/89	CCAS	8010	0.9	---	40	110	2.2	1.4	2.9	<0.2	<0.2	<0.2	ND
	12/8/89	GTEL	8010	0.5	120	---	---	2.1	1.2	4.1	<0.5	<0.5	2.4	---
	3/21/90	GTEL	8010	1.3	150	---	---	1.2	1.7	3.5	<0.5	<0.5	4.3	ND <sup>10</sup>
	6/19/90	GTEL	8010	0.068	140	---	---	1.3	<0.5	5.0	<0.5	<0.5	1	---
	9/21/90	GTEL	8010	<0.2	100	---	---	1.1	<0.5	3.8	<0.5	<0.5	<1	---
	12/28/90	SAL	8010	<0.5	---	23	43	0.9	0.7	3	<0.5	<0.5	<1	---
	5/10/91	SAL	8010	0.9	---	44	110	0.5	<0.5	5	<0.5	<0.5	<1	ND





Table 3. Analytic Results for Ground Water - Halogenated Volatile Organic Compounds - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California (continued)

Well ID	Date Sampled	Analytic Lab	Analytic Method	1,1-	1,2-	t-1,2-	c-1,2-	1,1-	1,1,1-	TCE	PCE	CF	VC	Other HVOCs
				DCE	DCE	DCE	DCE	DCA	TCA					
-----ppb----->														
MW-14 (cont)	12/28/90	SAL	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	---
	5/10/91	SAL	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND
	8/8/91	SAL	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND
	11/27/91	SPA	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND
	1/29/92	SPA	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND
	3/26/92	SPA	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND
	7/23/92	SPA	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-15	3/21/90	GTEL	8010	<0.2	<0.5	---	---	<0.5	<0.5	<0.5	<0.5	<0.5	<1	---
	6/19/90	GTEL	8010	<0.2	<0.5	---	---	<0.5	<0.5	<0.5	<0.5	<0.5	<1	---
	9/20/90	GTEL	8010	<0.2	<0.5	---	---	<0.5	<0.5	<0.5	<0.5	<0.5	<1	---
	12/28/90	SAL	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	---
	5/10/91	SAL	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND <sup>12</sup>
	8/8/91	SAL	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND
	11/27/91	SPA	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND
	1/29/92	SPA	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND
	3/26/92	SPA	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND
	7/23/92	SPA	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-16	3/21/90	GTEL	8010	<0.2	0.8	---	---	<0.5	<0.5	27	8	2	<1	---
	6/19/90	GTEL	8010	<0.2	<0.5	---	---	<0.5	<0.5	35	7	2	<1	---
	9/20/90	GTEL	8010	<0.2	0.9	---	---	<0.5	<0.5	49	15	4.1	<1	---
	12/28/90	SAL	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	29	18	4	<1	ND <sup>19</sup>
	5/10/91	SAL	8010	<0.5	---	<0.5	0.5	<0.5	<0.5	32	10	4	<1	ND
	8/8/91	SAL	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	35	13	1.9	<1	ND
	11/27/91	SPA	8010	<0.5	---	<0.5	1.3	<0.5	<0.5	47	12	1.8	<1	ND <sup>15</sup>
	1/29/92	SPA	8010	<0.5	---	<0.5	0.9	<0.5	<0.5	31	11	1.8	<1	ND
	3/26/92	SPA	8010	<0.8	---	<0.8	<0.8	<0.8	<0.8	24	8.5	1.7	<1.7	ND <sup>19</sup>
	7/23/92	SPA	8010	<0.5	---	<0.5	0.9	<0.5	<0.5	37	12	1.0	<0.5	ND <sup>18</sup>
MW-17	3/21/90	GTEL	8010	<0.2	5.2	---	---	0.7	1.3	32	11	1.1	<1	---
	6/19/90	GTEL	8010	<0.2	3.1	---	---	<0.5	1.0	38	13	1.2	<1	---
	9/20/90	GTEL	8010	<0.2	2.4	---	---	<0.5	1.4	44	16	2.8	<1	---
	12/28/90	SAL	8010	<0.5	---	<0.5	2	<0.5	0.6	34	15	2	<1	---







Table 3. Analytic Results for Ground Water - Halogenated Volatile Organic Compounds - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California (continued)

Well ID	Date Sampled	Analytic Lab	Analytic Method	1,1-	1,2-	t-1,2-	c-1,2-	1,1-	1,1,1-	TCE	PCE	CF	VC	Other HVOCs
				DCE	DCE	DCE	DCE	DCA	TCA					
				-----ppb----->										
Trip Blank														
AA (cont)	3/26/90	GTEL	8010	<0.2	<0.5	---	---	<0.5	<0.5	<0.5	<0.5	<0.5	<1	---
	6/19/90	GTEL	8010	<0.2	<0.5	---	---	<0.5	<0.5	<0.5	<0.5	<0.5	<1	---
	9/21/90	GTEL	8010	<0.2	<0.5	---	---	<0.5	<0.5	<0.5	<0.5	<0.5	<1	---
	12/28/90	SAL	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	---
	5/10/91	SAL	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND
	8/8/91	SAL	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND <sup>14</sup>
	11/27/91	SPA	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND <sup>16</sup>
	1/29/92	SPA	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND
	3/26/92	SPA	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND
TB-LB	7/23/92	SPA	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND <sup>18</sup>
Bailer Blank														
BB	5/10/91	SAL	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND
	8/8/91	SAL	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND
	11/27/91	SPA	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND <sup>16</sup>
	1/29/92	SPA	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND
	3/26/92	SPA	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND
	7/23/92	SPA	8010	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND <sup>18</sup>



Table 3. Analytic Results for Ground Water - Halogenated Volatile Organic Compounds - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California (continued)

EXPLANATION:

1,1-DCE = 1,1-Dichloroethene  
1,2-DCE = 1,2-Dichloroethene  
t-1,2-DCE = trans-1,2-Dichloroethene  
c-1,2-DCE = cis-1,2-Dichloroethene  
1,1-DCA = 1,1-Dichloroethane  
1,1,1-TCA = 1,1,1-Trichloroethane  
TCE = Trichloroethene  
PCE = Tetrachloroethene  
CF = Chloroform  
VC = Vinyl Chloride  
Other HVOCs = Other Halogenated Volatile Organic Compounds  
ppb = Parts per billion  
--- = Not analyzed/not applicable  
ND = Not detected at detection limits of 0.5 to 1 ppb  
D = Duplicate analysis

ANALYTIC METHOD:

8010 = EPA Method 8010 for Volatile Organic Compounds

ANALYTIC LABORATORIES:

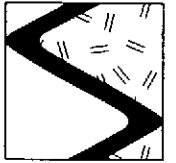
CCAS = Coast to Coast Analytical Services of San Luis Obispo, California  
GTEL = Groundwater Technologies Environmental Laboratory of Concord, California  
SAL = Superior Analytical Laboratory of Martinez and San Francisco, California  
SPA = Superior Precision Analytical, Inc. of Martinez and San Francisco, California

NOTES:

Historic analytic data was compiled from the Quarterly Groundwater Sampling report prepared for this service station by Western Geologic Resources, February 8, 1991.

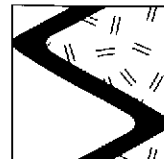
Selected HVOCs were reported by WGR; it is unknown whether other HVOCs were detected in the samples.

- <sup>1</sup> 6 ppb 1,2-dichloropropane detected; other HVOCs not detected.
- <sup>2</sup> 0.6 ppb 1,2-dichloroethane detected; other HVOCs not detected.
- <sup>3</sup> 63 ppb chloromethane and 0.6 ppb methylene chloride detected; other HVOCs not detected; sample contained 1,250 ppb total dissolved solids.
- <sup>4</sup> 0.9 ppb trans-1,3-dichloropropane detected; other HVOCs not detected; sample contained 810 ppb total dissolved solids.
- <sup>5</sup> 0.9 ppb trichlorofluoromethane and 1 ppb trans-1,3-dichloropropane detected; other HVOCs not detected.
- <sup>6</sup> 11 ppb trans-1,3-dichloropropane detected; other HVOCs not detected.
- <sup>7</sup> Monitoring well destroyed during excavation in 1989.
- <sup>8</sup> 0.1 ppb 1,2-dichlorobenzene detected; other HVOCs not detected.
- <sup>9</sup> Well MW-9 was not sampled after 5/10/91 because it could not be located. Previous analytic data were not available for inclusion in this report.
- <sup>10</sup> 1.8 ppb 1,2-dichloroethane detected; other HVOCs not detected
- <sup>11</sup> 3 ppb 1,1,2,2-tetrachloroethane detected; other HVOCs not detected.
- <sup>12</sup> 0.9 ppb 1,2-dichlorobenzene detected; other HVOCs not detected.
- <sup>13</sup> 0.5 ppb 1,2-dichloroethane detected; other HVOCs not detected.
- <sup>14</sup> 3.1 ppb 1,2-dichlorobenzene detected; other HVOCs not detected.
- <sup>15</sup> 0.9 ppb 1,2-dichloroethane detected; other HVOCs not detected.
- <sup>16</sup> Trace concentrations of trihalomethane compounds detected in bailer blank.
- <sup>17</sup> 1,1,2,2-Tetrachloroethane detected at 1.8 ppb; other HVOCs not detected at detection limits of 1.2 to 2.5 ppb.
- <sup>18</sup> Other HVOCs not detected at detection limit of 0.5 ppb.
- <sup>19</sup> Other HVOCs not detected at detection limits ranging from 0.8 to 1.7 ppb.
- <sup>20</sup> Other HVOCs not detected at detection limits of 25 ppb.
- <sup>21</sup> Other HVOCs not detected at detection limits of 50 ppb.
- <sup>22</sup> Well MW-12 could not be located after building demolition.



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



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## **SES STANDARD OPERATING PROCEDURE GROUND WATER SAMPLING - QUARTERLY MONITORING**

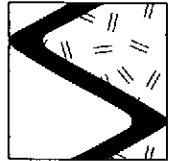
The following describes sampling procedures used by SES field personnel to collect and handle ground water samples. Before samples are collected, careful consideration is given to the type of analysis to be performed so that precautions are taken to prevent loss of volatile components or contamination of the sample, and to preserve the sample for subsequent analysis. Wells will be sampled no less than 24 hours after well development. Collection methods specific to ground water sampling are presented below.

Prior to sampling, each well is checked for the presence of free-phase hydrocarbons using an MMC flexi-dip interface probe. Product thickness (measured to the nearest 0.01 foot) is noted on the sampling form. Water level measurements are also made using either a water level meter or the interface probe. The water level measurements are also noted on the sampling form.

Prior to sampling, each well is purged of a minimum of three well casing volumes of water using a steam-cleaned PVC bailer, or a pre-cleaned pump. Temperature, pH and electrical conductivity are measured during purging. Purging is continued until these parameters have stabilized for consecutive readings.

Ground water samples are collected from the wells with steam-cleaned Teflon bailers. The water samples are decanted into the appropriate container for the analysis to be performed. Pre-preserved sample containers may be used or the analytic laboratory may add preservative to the sample upon arrival. Duplicate samples are collected from each well as a back-up sample and/or to provide quality control. The samples are labeled to include the project number, sample ID, date, preservative, and the field person's initials. The samples are placed in polyethylene bags and in an ice chest (maintained at 4°C with blue ice or ice) for transport under chain of custody to the laboratory.

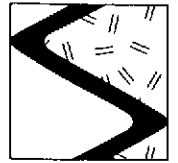
The chain of custody form includes the project number, analysis requested, sample ID, date analysis and the SES field person's name. The form is signed and dated (with the transfer time) by each person who yields or receives the samples beginning with the field personnel and ending with the laboratory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



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A trip blank and bailer blank accompanies each sampling set, or 5% trip blanks and 5% bailer blanks are included for sets of greater than 20 samples. The bailer blank is prepared by pouring previously boiled water into a steam-cleaned Teflon bailer prior to sampling a well. The trip and bailer blanks are analyzed for some or all of the same compounds as the ground water samples.

GWS-QMP2.SOP



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



# Superior Precision Analytical, Inc.

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

Sierra Environmental  
Attn: Jeanne Wahler

Project 1-191-04  
Reported 08/10/92

## TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
86306- 1	TB-LB	07/23/92	07/29/92 Water
86306- 2	BB	07/23/92	07/31/92 Water
86306- 3	MW.2	07/23/92	07/30/92 Water
86306- 4	MW.3	07/23/92	07/30/92 Water
86306- 5	MW.7	07/23/92	07/29/92 Water
86306- 6	MW.13	07/23/92	07/29/92 Water
86306- 7	MW.14	07/23/92	07/30/92 Water
86306- 8	MW.15	07/23/92	07/30/92 Water
86306- 9	MW.8	07/23/92	07/30/92 Water
86306-10	MW.10	07/23/92	07/30/92 Water

## RESULTS OF ANALYSIS

Laboratory Number:	86306- 1	86306- 2	86306- 3	86306- 4	86306- 5
--------------------	----------	----------	----------	----------	----------

Gasoline:	ND<50	ND<50	ND<50	ND<50	ND<50
Benzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Toluene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Ethyl Benzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Xylenes:	ND<0.5	ND<0.5	0.8	ND<0.5	ND<0.5
Concentration:	ug/L	ug/L	ug/L	ug/L	ug/L

Laboratory Number:	86306- 6	86306- 7	86306- 8	86306- 9	86306-10
--------------------	----------	----------	----------	----------	----------

Gasoline:	190	ND<50	ND<50	ND<50	ND<50
Benzene:	ND<0.5	0.6	ND<0.5	ND<0.5	ND<0.5
Toluene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.8
Ethyl Benzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.5
Xylenes:	2.1	0.8	0.5	ND<0.5	1.9
Concentration:	ug/L	ug/L	ug/L	ug/L	ug/L



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Sierra Environmental  
Attn: Jeanne Wahler

Project 1-191-04  
Reported 08/10/92

## TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
86306-11	MW.17	07/23/92	07/30/92 Water
86306-12	MW.11	07/23/92	07/30/92 Water
86306-13	MW.16	07/23/92	07/30/92 Water
86306-14	MW.18	07/23/92	07/30/92 Water
86306-15	MW.19	07/23/92	07/30/92 Water
86306-16	MW.1	07/23/92	08/03/92 Water

## RESULTS OF ANALYSIS

Laboratory Number: 86306-11 86306-12 86306-13 86306-14 86306-15

Gasoline:	ND<50	ND<50	ND<50	50 *	70 *
Benzene:	ND<0.5	ND<0.5	ND<0.5	1.3	0.6
Toluene:	ND<0.5	ND<0.5	ND<0.5	2.1	0.5
Ethyl Benzene:	ND<0.5	ND<0.5	ND<0.5	0.5	ND<0.5
Xylenes:	ND<0.5	ND<0.5	0.7	3.0	1.5
Concentration:	ug/L	ug/L	ug/L	ug/L	ug/L

Laboratory Number: 86306-16

Gasoline:	4000 *
Benzene:	50
Toluene:	82
Ethyl Benzene:	40
Xylenes:	160
Concentration:	ug/L

\* Gasoline concentration reported. Only single peaks were observed in the chromatogram. The pattern was not typical of gasoline.





# 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: 86306

NA = ANALYSIS NOT REQUESTED  
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT  
ug/L = parts per billion (ppb)

OIL AND GREASE ANALYSIS By Standard Methods Method 5520F:  
Minimum Detection Limit in Water: 5000ug/L


Modified EPA SW-846 Method 8015 for Extractable Hydrocarbons:  
Minimum Quantitation Limit for Diesel in Water: 50ug/L

EPA SW-846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:  
Minimum Quantitation Limit for Gasoline in Water: 50ug/L

EPA SW-846 Method 8020/BTXE  
Minimum Quantitation Limit in Water: 0.5ug/L

ANALYTE	SPIKE LEVEL	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	200 ng	100/99	1	70-130
Benzene:	200 ng	96/98	2	70-130
Toluene:	200 ng	94/94	0	70-130
Ethyl Benzene:	200 ng	96/95	1	70-130
Xylenes:	200 ng	93/93	0	70-130

Richard Srna, Ph.D.

  
Laboratory Director



# Superior Precision Analytical, Inc.

P.O. Box 1545 • Martinez, California 94553 • (510) 229-1590 / fax (510) 229-0916

Sierra Environmental  
Attn: Jeanne Wahler

Project 1-191-04  
Reported 09-August-1992

## EPA METHOD 8010

Sample preparation by Purge and Trap (EPA SW-846 Method 5030) and Chromatographic analysis using an electrolytic conductivity detector (EPA SW-846 Method 8010).

### Chronology

Laboratory Number 86306

Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
TB-LB	07/23/92	07/23/92	/ /	07/26/92		1
BB	07/23/92	07/23/92	/ /	07/26/92		2
MW.2	07/23/92	07/23/92	/ /	07/26/92		3
MW.3	07/23/92	07/23/92	/ /	07/26/92		4
MW.7	07/23/92	07/23/92	/ /	07/26/92		5
MW.13	07/23/92	07/23/92	/ /	07/26/92		6
MW.14	07/23/92	07/23/92	/ /	07/26/92		7
MW.15	07/23/92	07/23/92	/ /	07/26/92		8
MW.8	07/23/92	07/23/92	/ /	07/26/92		9
MW.10	07/23/92	07/23/92	/ /	07/26/92		10
MW.17	07/23/92	07/23/92	/ /	07/26/92		11
MW.11	07/23/92	07/23/92	/ /	07/26/92		12
MW.16	07/23/92	07/23/92	/ /	07/26/92		13
MW.18	07/23/92	07/23/92	/ /	07/26/92		14
MW.19	07/23/92	07/23/92	/ /	07/26/92		15



# Superior Precision Analytical, Inc.

PO. Box 1545 • Martinez, California 94553 • (510) 229-1590 / fax (510) 229-0916

Sierra Environmental  
Attn: Jeanne Wahler

Project 1-191-04  
Reported 09-August-1992

## EPA METHOD 8010

Sample preparation by Purge and Trap (EPA SW-846 Method 5030) and Chromatographic analysis using an electrolytic conductivity detector (EPA SW-846 Method 8010).

### Chronology

Laboratory Number 86306

Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
MW.1	07/23/92	07/23/92	/ /	08/03/92		16



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Project 1-191-04  
Reported 09-August-1992

## EPA METHOD 8010

Laboratory Number	Sample Identification	Matrix
86306- 1	TB-LB	Water
86306- 2	BB	Water
86306- 3	MW.2	Water
86306- 4	MW.3	Water
86306- 5	MW.7	Water

## RESULTS OF ANALYSIS

Laboratory Number:	86306- 1	86306- 2	86306- 3	86306- 4	86306- 5
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Chloromethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Vinyl Chloride:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Bromomethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Chloroethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Trichlorofluoromethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,1-Dichloroethene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Dichloromethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
c-1,2-Dichloroethene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,1-Dichloroethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
t-1,2-Dichloroethene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Chloroform:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,1,1-Trichloroethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Carbon tetrachloride:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,2-Dichloroethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Trichloroethene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,2-Dichloropropane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Bromodichloromethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
c-1,3-Dichloropropene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
t-1,3-Dichloropropene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,1,2-Trichloroethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Tetrachloroethene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Dibromochloromethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Chlorobenzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Bromoform:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,1,2,2-Tetracl-ethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,3-Dichlorobenzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,4-Dichlorobenzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,2-Dichlorobenzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Concentration:	ug/L	ug/L	ug/L	ug/L	ug/L



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Sierra Environmental  
Attn: Jeanne Wahler

Project 1-191-04  
Reported 09-August-1992

## EPA METHOD 8010

Laboratory Number	Sample Identification	Matrix
86306- 1	TB-LB	Water
86306- 2	BB	Water
86306- 3	MW.2	Water
86306- 4	MW.3	Water
86306- 5	MW.7	Water

## RESULTS OF ANALYSIS

Laboratory Number: 86306- 1 86306- 2 86306- 3 86306- 4 86306- 5

4-Chlorotoluene: 80% 76% 78% 74% 76%



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Project 1-191-04  
Reported 09-August-1992

## EPA METHOD 8010

Laboratory Number	Sample Identification	Matrix
86306- 6	MW.13	Water
86306- 7	MW.14	Water
86306- 8	MW.15	Water
86306- 9	MW.8	Water
86306-10	MW.10	Water

## RESULTS OF ANALYSIS

Laboratory Number:	86306- 6	86306- 7	86306- 8	86306- 9	86306-10
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Chloromethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Vinyl Chloride:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Bromomethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Chloroethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Trichlorofluoromethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,1-Dichloroethene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Dichloromethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
c-1,2-Dichloroethene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	21
1,1-Dichloroethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.5
t-1,2-Dichloroethene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	6.1
Chloroform:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,1,1-Trichloroethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Carbon tetrachloride:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,2-Dichloroethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Trichloroethene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	4.7
1,2-Dichloropropane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Bromodichloromethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
c-1,3-Dichloropropene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
t-1,3-Dichloropropene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,1,2-Trichloroethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Tetrachloroethene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Dibromochloromethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Chlorobenzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Bromoform:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,1,2,2-Tetracl-ethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,3-Dichlorobenzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,4-Dichlorobenzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,2-Dichlorobenzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Concentration:	ug/L	ug/L	ug/L	ug/L	ug/L



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Sierra Environmental  
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Project 1-191-04  
Reported 09-August-1992

## EPA METHOD 8010

Laboratory Number	Sample Identification	Matrix
86306- 6	MW.13	Water
86306- 7	MW.14	Water
86306- 8	MW.15	Water
86306- 9	MW.8	Water
86306-10	MW.10	Water

## RESULTS OF ANALYSIS

Laboratory Number:	86306- 6	86306- 7	86306- 8	86306- 9	86306-10
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4-Chlorotoluene:	70%	75%	61%	69%	75%
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Project 1-191-04  
Reported 09-August-1992

## EPA METHOD 8010

Laboratory Number	Sample Identification	Matrix
86306-11	MW.17	Water
86306-12	MW.11	Water
86306-13	MW.16	Water
86306-14	MW.18	Water
86306-15	MW.19	Water

## RESULTS OF ANALYSIS

Laboratory Number:	86306-11	86306-12	86306-13	86306-14	86306-15
Chloromethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Vinyl Chloride:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Bromomethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Chloroethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Trichlorofluoromethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,1-Dichloroethene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.1
Dichloromethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
c-1,2-Dichloroethene:	1.1	46	0.9	3.0	5.6
1,1-Dichloroethane:	ND<0.5	0.6	ND<0.5	ND<0.5	ND<0.5
t-1,2-Dichloroethene:	ND<0.5	18	ND<0.5	ND<0.5	1.4
Chloroform:	0.8	ND<0.5	1.0	0.8	3.3
1,1,1-Trichloroethane:	ND<0.5	ND<0.5	ND<0.5	0.5	1.0
Carbon tetrachloride:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,2-Dichloroethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Trichloroethene:	31	1.4	37	67	61
1,2-Dichloropropane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Bromodichloromethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
c-1,3-Dichloropropene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
t-1,3-Dichloropropene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,1,2-Trichloroethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Tetrachloroethene:	14	ND<0.5	12	19	38
Dibromochloromethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Chlorobenzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Bromoform:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,1,2,2-Tetracl-ethane:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,3-Dichlorobenzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,4-Dichlorobenzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1,2-Dichlorobenzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Concentration:	ug/L	ug/L	ug/L	ug/L	ug/L





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Project 1-191-04  
Reported 09-August-1992

## EPA METHOD 8010

Laboratory Number	Sample Identification	Matrix
86306-11	MW.17	Water
86306-12	MW.11	Water
86306-13	MW.16	Water
86306-14	MW.18	Water
86306-15	MW.19	Water

## RESULTS OF ANALYSIS

Laboratory Number: 86306-11 86306-12 86306-13 86306-14 86306-15

4-Chlorotoluene: 78% 69% 74% 74% 78%



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Project 1-191-04  
Reported 09-August-1992

## EPA METHOD 8010

Laboratory Number	Sample Identification	Matrix
86306-16	MW.1	Water

## RESULTS OF ANALYSIS

Laboratory Number: 86306-16

Chloromethane: ND<50  
Vinyl Chloride: 170  
Bromomethane: ND<50  
Chloroethane: ND<50  
Trichlorofluoromethane: ND<50  
1,1-Dichloroethene: ND<50  
Dichloromethane: ND<50  
c-1,2-Dichloroethene: 2300  
1,1-Dichloroethane: ND<50  
t-1,2-Dichloroethene: ND<50  
Chloroform: ND<50  
1,1,1-Trichloroethane: ND<50  
Carbon tetrachloride: ND<50  
1,2-Dichloroethane: ND<50  
Trichloroethene: ND<50  
1,2-Dichloropropane: ND<50  
Bromodichloromethane: ND<50  
c-1,3-Dichloropropene: ND<50  
t-1,3-Dichloropropene: ND<50  
1,1,2-Trichloroethane: ND<50  
Tetrachloroethene: ND<50  
Dibromochloromethane: ND<50  
Chlorobenzene: ND<50  
Bromoform: ND<50  
1,1,2,2-Tetracl-ethane: ND<50  
1,3-Dichlorobenzene: ND<50  
1,4-Dichlorobenzene: ND<50  
1,2-Dichlorobenzene: ND<50

Concentration: ug/L



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Project 1-191-04  
Reported 09-August-1992

## EPA METHOD 8010

Laboratory Number	Sample Identification	Matrix
86306-16	MW.1	Water

## RESULTS OF ANALYSIS

Laboratory Number: 86306-16

4-Chlorotoluene: 82%



# Superior Precision Analytical, Inc.

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## EPA METHOD 8010 Quality Assurance and Control Data - Water Laboratory Number 86306

Compound	Method Blank (ug/L )	PQL (ug/L )	Average Spike Recovery (%)	Limits (%)	RPD (%)	Spike Level (ug/L )
Chloromethane:	ND<0.5	0.5				
Vinyl Chloride:	ND<0.5	0.5				
Bromomethane:	ND<0.5	0.5				
Chloroethane:	ND<0.5	0.5				
Trichlorofluoromethane:	ND<0.5	0.5				
1,1-Dichloroethene:	ND<0.5	0.5	84%	80-120	45%*	20
Dichloromethane:	ND<0.5	0.5				
c-1,2-Dichloroethene:	ND<0.5	0.5				
1,1-Dichloroethane:	ND<0.5	0.5				
t-1,2-Dichloroethene:	ND<0.5	0.5				
Chloroform:	ND<0.5	0.5				
1,1,1-Trichloroethane:	ND<0.5	0.5				
Carbon tetrachloride:	ND<0.5	0.5				
1,2-Dichloroethane:	ND<0.5	0.5				
Trichloroethene:	ND<0.5	0.5	89%	80-120	2%	20
1,2-Dichloropropane:	ND<0.5	0.5				
Bromodichloromethane:	ND<0.5	0.5				
c-1,3-Dichloropropene:	ND<0.5	0.5				
t-1,3-Dichloropropene:	ND<0.5	0.5				
1,1,2-Trichloroethane:	ND<0.5	0.5				
Tetrachloroethene:	ND<0.5	0.5				
Dibromochloromethane:	ND<0.5	0.5				
Chlorobenzene:	ND<0.5	0.5	98%	80-120	1%	20
Bromoform:	ND<0.5	0.5				
1,1,2,2-Tetracl-ethane:	ND<0.5	0.5				
1,3-Dichlorobenzene:	ND<0.5	0.5				
1,4-Dichlorobenzene:	ND<0.5	0.5				
1,2-Dichlorobenzene:	ND<0.5	0.5				
4-Chlorotoluene:	81%		85%		2%	

### Definitions:

ND = Not Detected  
PQL = Practical Quantitation Limit

RPD = Relative Percent Difference

QC File No. 86306

Senior Analyst

Chevron U.S.A. Inc. P.O. BOX 5004 San Ramon, CA 94583 FAX (415) 842-9591 570	Chevron Facility Number <u>1001067</u> Facility Address <u>1520 POWELL ST, EMERYVILLE</u> Consultant Project Number <u>1-191-04</u> Consultant Name <u>SIERRA ENVIRONMENTAL SERVICES</u> Address <u>P.O. BOX 2546, MARTINEZ 94553</u> Project Contact (Name) <u>JEANNE WAHLER</u> (Phone) <u>510 370-1280</u> (Fax Number) <u>370-7959</u>	Chevron Contact (Name) <u>LUCIA CHOW</u> (Phone) <u>(510) 842-9655</u> Laboratory Name <u>SUPERIOR PRECISION ANALYTICAL</u> Laboratory Release Number <u>5334010</u> Samples Collected by (Name) <u>CAROL EATON + ARGY MENA</u> Collection Date <u>23 JULY '92</u> Signature <u>[Signatures]</u>
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Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type C = Grab C = Composite D = Discrete	Time	Sample Preservation	Lead (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)					
TB-LB	1	6	W	G	1146	HCL	Y	✓												ANALYZE
BB	2				1300															IN ORDER
MW-2	3				1300															
MW-3	4				1315															
MW-7	5				1340															
<del>MW-12</del> ATN																				
MW-13	6				1350															
MW-14	7				1330															
MW-15	8				1342 1400															
MW-8	9				1326															
MW-10	10				1330															
MW-17	11				1245															
MW-11	12				1335															
MW-16	13	↓	↓	↓	1314	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓

Please initial: PA  
 Samples Stored in ice ✓  
 Appropriate containers ✓  
 Samples preserved ✓  
 VOA's without hoodspace ✓  
 Comments: \_\_\_\_\_

NOTE:  
 Do NOT BILL  
 TB-LB SAMPLES

Relinquished By (Signature) <u>[Signature]</u>	Organization <u>SES</u>	Date/Time <u>7/23/92</u>	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice)  24 Hrs. 48 Hrs. 5 Days 10 Days <u>No Contracted</u>
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>5:0</u> <u>7/23/92</u>	

