

Letter of Transmittal



Chevron U.S.A. Products Company
6001 Bollinger Canyon Rd., Bldg. L
P.O. Box 5004
San Ramon, CA 94583-0804

Site Assessment & Remediation Group
Phone (510) 842-9500

September 29, 1995

Mr. Ravi Arulananthum
San Francisco Bay RWQCB - Oakland Office

Subject: Chevron Facility 1001067
Groundwater Monitoring Reports, dated May 26, 1995
Second Quarter 1995 Sampling Event
Prepared by Gettler-Ryan Inc.

Ms. Christian:

Attached are monitoring results for the former Chevron Asphalt Plant and Terminal. Groundwater conditions remain consistent with those of last quarter reported. Please call if you have any questions. My phone number is (510) 842-9655

R. J. (Bob) Cochran
Project Manager

rjco: (1001067)

cc: Ms. Susan Hugo - Alameda County Health Agency





GETTLER-RYAN INC.

May 26, 1995

Robert Cochran
Chevron USA Products Company
P.O. Box 5004
San Ramon, CA 94583

Re: Former Chevron Asphalt Plant and
Terminal #1001067
Powell @ Landgren
Emeryville, CA
Job #5161.85

Dear Mr. Cochran:

This report documents the quarterly groundwater sampling event performed by Gettler-Ryan (G-R) personnel. On April 19, 1995, field personnel were on-site to gauge and sample eight wells (MW-7, MW-10, MW-11, MW-13, MW-15 and MW-17 through MW-19) at Former Chevron Asphalt Plant and Terminal located at Powell at Landgren Street in Modesto, California.

Static groundwater levels were measured on April 19, 1995. All wells were checked for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were present in one of the site wells, MW-2. Static water level data and groundwater elevations are presented in Table 1. A potentiometric map is included as Figure 1.

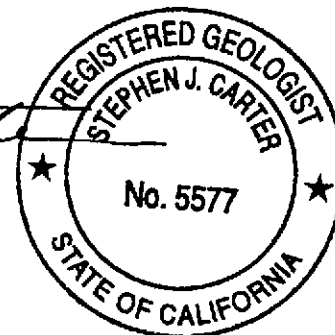
Groundwater samples were collected from the monitoring wells as specified by G-R Standard Operating Procedure - Quarterly Groundwater Sampling (attached). The field data sheets for this event are also attached. The samples were analyzed by Superior Precision Analytical, Inc. Analytic results are presented in Tables 1 and 2. The chain of custody document and laboratory analytic reports are enclosed. G-R is not responsible for laboratory omissions or errors.

Thank you for allowing Gettler-Ryan to provide environmental services to Chevron. Please call if you have any questions or comments regarding this report.

Respectfully submitted,

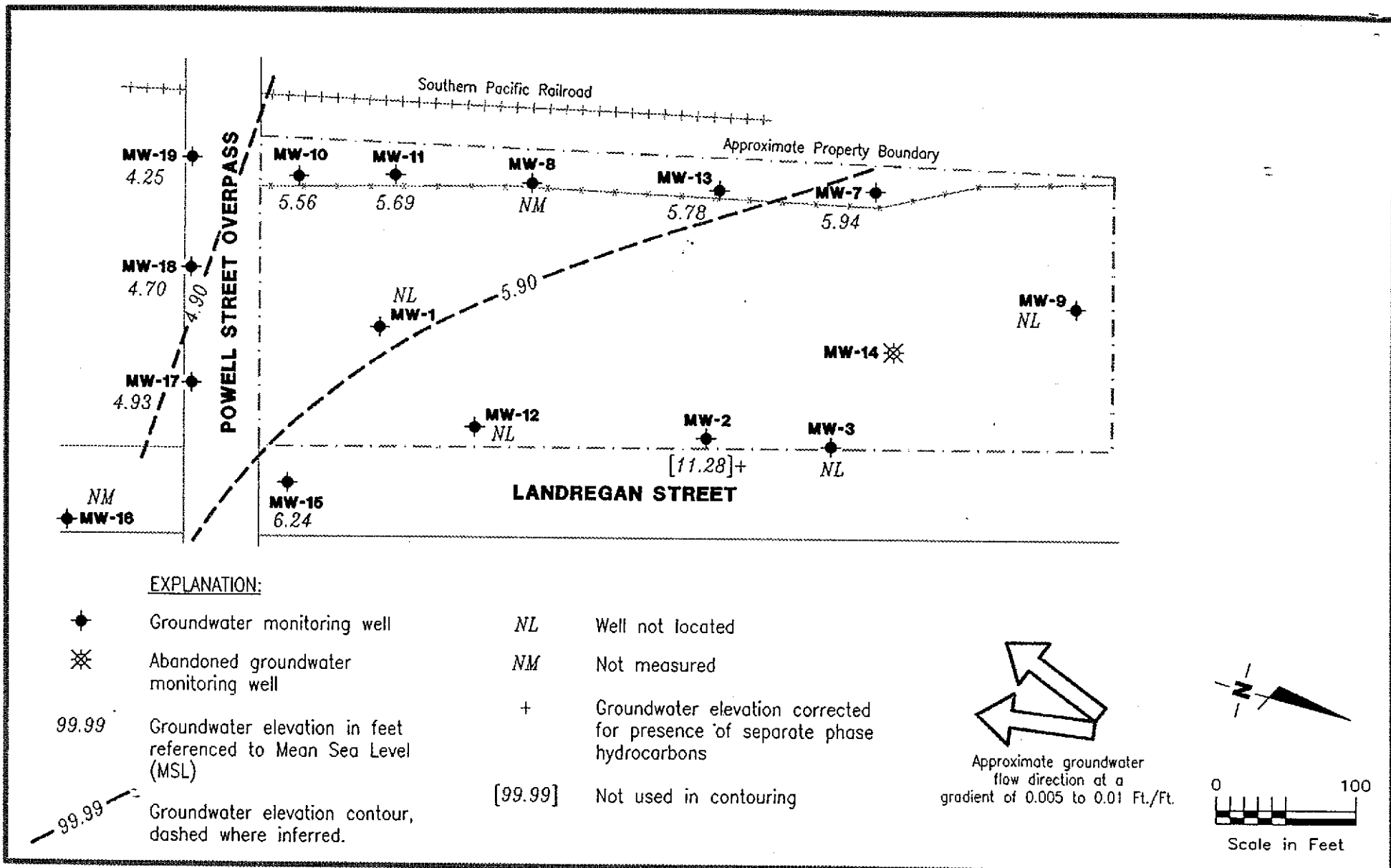
Argy Leyton
Argy Leyton
Environmental Project Manager

Stephen J. Carter
Stephen J. Carter
Senior Geologist, R.G. 5577



AML/SJC/aml
5161.QML

Figure 1: Potentiometric Map
Table 1: Water Level Data and Groundwater Analytic Results
Table 2: Analytic Results for Groundwater - Halogenated Volatile Organic Compounds
Attachments: Standard Operating Procedure
Field Data Sheets
Chain of Custody Document and Laboratory Analytic Reports



Gertler - Ryan Inc.

6747 Sierra Ct., Suite J (510) 551-7555
Dublin, CA 94568

POTENTIOMETRIC MAP
Former Chevron Asphalt Plant
and Terminal No. 1001067
Emeryville, California

FIGURE

1

JOB NUMBER
5161.85

REVIEWED BY
[Signature]

DATE
April 19, 1995

REVISED DATE



Table 1. Water Level Data and Groundwater Analytic Results - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California

Well ID/ TOC (ft) ¹	Date	DTW (ft)	GWE ¹ (msl)	Product Thickness ² (ft)	Analytic Method	TPPH(G) <----->	ppb				O&G <ppm>
							B	T	E	X	
MW-1/ 10.67	4/26/85	---	---	---	---	---	99	---	---	6.0	---
	9/11/87	---	---	---	---	---	63	---	---	---	---
	7/7/88	---	---	---	---	<100	55	---	---	---	---
	4/13/89	3.72	6.95	---	---	---	---	---	---	---	---
	4/14/89	---	---	---	8260	<5,000	34	<5.0	<5.0	<10	---
	7/31/89	5.72	4.95	0	8260	7,000	57	1.2	<0.2	1.6	---
	12/8/89	4.80	5.87	0	8015/8020	---	26	0.4	0.9	2.0	---
	3/21/90	4.74	5.93	0	8015/8020	3,500	120	9.0	3.0	3.0	---
	6/19/90	4.75	5.92	0	8015/8020	2,700	100	<0.3	<0.3	7.0	---
	9/20/90	5.07	5.60	---	---	---	---	---	---	---	---
	9/21/90	---	---	---	8015/8020	2,200	120	2.0	2.0	0.79	---
	12/28/90	4.91	5.76	0	8015/8020	720	44	2.0	<0.5	9.0	---
	5/10/91	5.30	5.37	0	8015/8020	530	47	2.0	0.5	8.0	---
	8/8/91	5.85	4.82	0	8015/8020	1,400	37	8.3	3.7	12	---
	11/27/91	5.13	5.54	0	8015/8020	840	16	7.1	4.5	11	---
	1/29/92	4.82	5.85	0	8015/8020	350	18	9.3	3.7	7.7	---
	3/26/92	4.32	6.35	0	8015/8020	420 ¹¹	19	2.2	1.2	4.0	---
	7/23/92	5.42	5.25	0	8015/8020	4,000 ¹²	50	82	40	160	---
	10/28/92	5.56	5.11	0	8015/8020	980	36	6.7	3.0	10	---
	5/4/93	6.30	4.37	0	8015/8020	650	9.4	2.4	1.2	4.5	---
1/5/94 ¹⁰	---	---	---	---	---	---	---	---	---	---	
MW-2/ 13.78	4/26/85	---	---	---	---	---	<10	---	---	---	---
	9/11/87	---	---	---	---	---	---	---	---	---	---
	7/7/88	---	---	---	---	<100	<5.0	---	---	---	---
	4/13/89	2.62	11.16	---	---	---	---	---	---	---	---
	4/14/89	---	---	---	8260	<100	<0.2	<0.2	<0.2	<0.4	<3,000
	7/31/89	4.63	9.15	0	8260	<100	<0.2	<1.0	<0.2	<0.4	---
	12/8/89	5.98	7.80	0	8015/8020	---	<0.3	<0.3	<0.3	<0.6	---
	3/21/90	5.85	7.93	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---
	6/19/90	5.95	7.83	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---
	9/20/90	6.86	6.92	---	---	---	---	---	---	---	---
	9/21/90	---	---	---	8015/8020	<50	<1.5	<1.5	<1.5	<4.5	---
	12/28/90	6.34	7.44	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	5/10/91	5.96	7.82	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	8/8/91	7.66	6.12	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	11/27/91	8.04	5.74	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	1/29/92	6.01	7.77	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---



Table 1. Water Level Data and Groundwater Analytic Results - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California (continued)

Well ID/ TOC (ft) ¹	Date	DTW (ft)	GWE ¹ (msl)	Product Thickness ² (ft)	Analytic Method	TPPH(G) ←-----ppb----->	B	T	E	X	O&G ←ppm→
MW-2 (cont)	3/26/92	6.10	7.68	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	7/23/92	7.39	6.39	0	8015/8020	<50	<0.5	<0.5	<0.5	0.8	—
	10/28/92	7.51	6.27	0	8015/8020	55	1.3	6.9	1.1	5.1	—
	5/4/93 ⁸	—	—	—	—	—	—	—	—	—	—
	1/5/94 ¹⁰	—	—	—	—	—	—	—	—	—	—
	10/24/94	Dry	—	—	—	—	—	—	—	—	—
	4/19/95	2.51	11.28 ¹⁴	0.01	—	—	—	—	—	—	—
MW-3/ 11.73	4/26/85	—	—	—	—	—	<10	—	—	—	—
	9/11/87	—	—	—	—	—	<0.5	—	—	—	—
	7/7/88	—	—	—	—	<100	<5.0	—	—	—	—
	4/13/89	2.34	9.39	—	—	—	—	—	—	—	—
	4/14/89	—	—	—	8260	<100	<0.2	<0.2	<0.2	<0.4	<3,000
	7/31/89	4.79	6.94	0	8260	<100	<0.2	<1.0	<0.2	<0.4	—
	12/8/89	3.03	8.70	0	8015/8020	—	<0.3	<0.3	<0.3	<0.6	—
	3/21/90	2.55	9.18	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	—
	6/19/90	2.76	8.97	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	—
	9/20/90	4.43	7.30	—	—	—	—	—	—	—	—
	9/21/90	—	—	—	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	—
	12/28/90	3.67	8.06	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	5/10/91	2.83	8.90	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	8/8/91	5.09	6.64	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	11/27/91	5.37	6.36	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	1/29/92	3.46	8.27	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	3/26/92	2.10	9.63	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	7/23/92	4.60	7.13	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	10/28/92	5.07	6.66	0	8015/8020	92	1.8	12	2.0	10	—
	5/4/93 ⁸	—	—	—	—	—	—	—	—	—	—
1/5/94 ¹⁰	—	—	—	—	—	—	—	—	—	—	
MW-4	4/26/85	—	—	—	—	3,100	<10	—	—	—	—
	9/11/87	—	—	—	—	—	<0.5	—	—	—	—
	7/7/88	—	—	—	—	<100	<5.0	—	—	—	—
	4/13/89 ³	2.12	—	—	—	—	—	—	—	—	—
	4/14/89 ⁴	—	—	—	8260	380 ¹³	<0.5	<1.0	<1.0	<1.0	<3,000



Table 1. Water Level Data and Groundwater Analytic Results - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California (continued)

Well ID/ TOC (ft) ¹	Date	DTW (ft)	GWE ¹ (msl)	Product Thickness ² (ft)	Analytic Method	TPPH(G) <-----ppb----->	B	T	E	X	O&G <ppm>
MW-5	4/26/85	—	—	—	—	1,600	<100	—	—	—	—
	9/11/87	—	—	—	—	—	<10	—	—	—	—
	7/7/88	—	—	—	—	<100	<5.0	—	—	—	—
	4/13/89 ³	2.79	—	—	—	—	—	—	—	—	—
	4/14/89 ⁴	—	—	—	8260	4,300 ¹³	<0.5	<1.0	<1.0	<1.0	<3,000
MW-6	4/26/85	—	—	—	—	580	<100	—	—	—	—
	9/11/87	—	—	—	—	—	<10	—	—	—	—
	7/7/88	—	—	—	—	8,000	<5.0	—	—	—	—
	4/13/89 ³	1.90	—	—	—	—	—	—	—	—	—
	4/14/89 ⁴	—	—	—	8260	3,300 ¹³	<0.5	<1.0	<1.0	<1.0	<3,000
MW-7/ 10.47	4/26/85	—	—	—	—	700	ND	—	—	—	—
	9/11/87	—	—	—	—	—	<10	—	—	—	—
	7/7/88	—	—	—	—	17,000	<5.0	—	—	—	—
	4/13/89	1.90	8.57	—	—	—	—	—	—	—	—
	4/14/89	—	—	—	8260	<50	<0.5	<1.0	<1.0	<1.0	<3,000
	7/31/89	4.24	6.23	—	8260	160 ¹³	<0.1	<0.5	<0.1	<0.2	—
	7/31/89	—	—	—	8260	100 ¹³	<0.1	<0.5	<0.1	<0.2	—
	12/8/89	2.65	7.82	0	8015/8020	—	<0.3	<0.3	<0.3	<0.6	—
	3/21/90	2.76	7.71	0	8015/8020	<50	<0.3	<0.3	<0.3	0.6	—
	6/19/90	3.24	7.23	0	8015/8020	<50	<0.3	<0.3	<0.3	0.6	—
	9/20/90	4.57	5.90	—	—	—	—	—	—	—	—
	9/21/90	—	—	—	8015/8020	<50	1.5	<0.3	<0.3	<0.6	—
	12/28/90	3.12	7.35	0	8015/8020	<50	0.7	<0.5	<0.5	0.7	—
	5/10/91	3.53	6.94	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	8/8/91	4.64	5.83	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	11/27/91	3.66	6.81	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	1/29/92	3.24	7.23	0	8015/8020	<50	<0.5	<0.5	<0.5	0.9	—
	3/26/92	2.61	7.86	0	8015/8020	<50	<0.5	<0.5	<0.5	0.9	—
	7/23/92	4.19	6.28	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	10/28/92	4.39	6.08	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	5/4/93 ⁸	—	—	—	—	—	—	—	—	—	—
1/5/94 ¹⁰	—	—	—	—	—	—	—	—	—	—	
5/13/94	4.41	6.06	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—	
10/24/94	5.03	5.44	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—	
4/19/95	4.53	5.94	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—	



Table 1. Water Level Data and Groundwater Analytic Results - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California (continued)

Well ID/ TOC (ft) ¹	Date	DTW (ft)	GWE ¹ (msl)	Product Thickness ² (ft)	Analytic Method	TPPH(G) ←-----ppb----->	B	T	E	X	O&G ³ ←ppm→
MW-8/ 10.46	4/26/85	--	--	--	--	--	ND	--	--	--	--
	9/11/87	--	--	--	--	--	<10	--	--	--	--
	7/7/88	--	--	--	--	20,000	<5.0	--	--	--	--
	4/13/89	2.80	7.66	--	--	--	--	--	--	--	--
	4/14/89	--	--	--	8260	<50	<0.5	<1.0	<1.0	<1.0	<3,000
	7/31/89	5.70	4.76	0	8260	<50	<0.1	<0.5	<0.1	<0.2	--
	12/8/89	4.13	6.33	0	8015/8020	--	<0.3	<0.3	<0.3	<0.6	--
	3/21/90	4.07	6.39	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	--
	6/19/90	4.25	6.21	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	--
	9/20/90	4.99	5.47	--	--	--	--	--	--	--	--
	9/21/90	--	--	--	8015/8020	<50	6.0	<0.3	<0.3	<0.6	--
	12/28/90	4.39	6.07	--	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	5/10/91	4.13	6.33	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	8/8/91	5.53	4.93	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	11/27/91	4.59	5.87	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	1/29/92	5.30	5.16	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	3/26/92	3.59	6.87	0	8015/8020	<50	<0.5	<0.5	<0.5	0.7	--
	7/23/92	5.06	5.40	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	10/28/92 ⁷	--	--	--	--	--	--	--	--	--	--
	5/4/93 ⁸	--	--	--	--	--	--	--	--	--	--
	1/5/94 ⁸	--	--	--	--	--	--	--	--	--	--
	5/13/94	5.59	4.87	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	10/24/94 ⁷	--	--	--	--	--	--	--	--	--	--
	4/19/95 ⁴	--	--	--	--	--	--	--	--	--	--
MW-9	4/26/85	--	--	--	--	--	--	--	--	--	--
	9/11/87	--	--	--	--	--	--	--	--	--	--
	7/7/88	--	--	--	--	400	--	--	--	--	--
	5/10/91 ⁹	--	--	--	--	--	--	--	--	--	--
MW-10/ 10.82	7/7/88	--	--	--	--	--	<5.0	--	--	--	--
	4/14/89	--	--	--	8260	<50	<0.5	<1.0	<1.0	<1.0	<3,000
	7/31/89	--	--	--	8260	<50	<0.1	<0.5	<0.1	<0.2	--
	12/8/89	--	--	--	8015/8020	--	<0.3	<0.3	<0.3	<0.6	--
	3/21/90	4.60	6.22	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	--
	6/19/90	4.89	5.93	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	--



Table 1. Water Level Data and Groundwater Analytic Results - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California (continued)

Well ID/ TOC (ft) ¹	Date	DTW (ft)	GWE ¹ (msl)	Product Thickness ² (ft)	Analytic Method	TPPH(G) ←-----ppb----->	B	T	E	X	O&G ←ppm→
MW-10 (cont)	9/20/90	5.77	5.05	--	--	--	--	--	--	--	--
	9/21/90	--	--	--	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	--
	12/28/90	4.99	5.83	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	5/10/91	5.80	5.02	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	8/8/91	5.86	4.96	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	11/27/91	5.39	5.43	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	1/29/92	5.44	5.38	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	3/26/92	4.96	5.86	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	7/23/92	5.80	5.02	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	10/28/92	6.06	4.76	0	8015/8020	<50	0.6	1.8	0.5	1.9	--
	5/4/93 ^a	--	--	--	--	--	--	0.7	<0.5	1.2	--
	1/5/94	5.92	4.90	0	8015/8020	<50	<0.5	<0.5	<0.5	0.6	--
	5/13/94	5.09	5.73	0	8015/8020	140	<0.5	<0.5	<0.5	1.3	--
	10/24/94	6.24	4.58	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	4/19/95	5.26	5.56	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
MW-11/ 11.38	7/7/88	--	--	--	--	--	<5.0	--	--	--	--
	4/14/89	--	--	--	8260	<50	<0.5	<1.0	<1.0	<1.0	<3,000
	7/31/89	--	--	--	8260	<100	<0.2	<0.2	<0.2	<0.2	--
	12/8/89	--	--	--	8015/8020	--	<0.3	<0.3	<0.3	<0.6	--
	3/21/90	4.82	6.56	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	--
	6/19/90	5.14	6.24	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	--
	9/20/90	6.11	5.27	--	--	--	--	--	--	--	--
	9/21/90	--	--	--	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	--
	12/28/90	5.16	6.22	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	5/10/91	7.83	3.55	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	8/8/91	6.32	5.06	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	11/27/91	5.67	5.71	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	1/29/92	5.83	5.55	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	3/26/92	4.09	7.29	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	7/23/92	6.19	5.19	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	10/28/92	6.51	4.87	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	5/4/93 ^a	--	--	--	--	--	--	--	--	--	--
	1/5/94 ^a	--	--	--	--	--	--	--	--	--	--
	5/13/94	5.67	5.71	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	10/24/94	6.79	4.59	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	4/19/95	5.69	5.69	0	8015/8020	58 ^{bb}	0.6	<0.5	<0.5	0.5	--



Table 1. Water Level Data and Groundwater Analytic Results - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California (continued)

Well ID/ TOC (ft) ¹	Date	DTW (ft)	GWE ¹ (msl)	Product Thickness ² (ft)	Analytic Method	TPPH(G) <-----ppb----->	B	T	E	X	O&G <ppm>
MW-12/ 13.03	7/7/88	--	--	--	--	<100	<5.0	--	--	--	--
	4/14/89	--	--	--	8260	<50	<0.5	<1.0	<1.0	<1.0	<3,000
	7/31/89	--	--	--	8260	<100	<0.1	<0.5	<0.1	<0.2	--
	12/8/89	--	--	--	8015/8020	--	<0.3	<0.3	<0.3	<0.6	--
	3/21/90	6.76	6.27	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.3	--
	6/19/90	6.62	6.41	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.3	--
	9/20/90	5.00	8.03	--	--	--	--	--	--	--	--
	9/21/90	--	--	--	8015/8020	<50	<0.3	<0.3	<0.3	<0.3	--
	12/28/90	6.62	6.41	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	5/10/91	6.48	6.55	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	8/8/91	8.01	5.02	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	11/27/91	7.95	5.08	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	1/29/92	7.68	5.35	0	8015/8020	<50	<0.5	<0.5	<0.5	1.0	--
	3/26/92	6.60	6.43	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	7/23/92 ^e	--	--	--	--	--	--	--	--	--	--
MW-13/ 11.15	3/21/90	4.08	7.07	0	8015/8020	480	<0.3	<0.3	1.0	5.0	--
	6/19/90	4.34	6.81	0	8015/8020	180	<0.3	<0.3	0.8	3.0	--
	9/20/90	5.31	5.84	0	8015/8020	150	<0.3	<0.3	<0.3	0.54	--
	12/28/90	4.79	6.36	0	8015/8020	160	<0.5	<0.5	<0.5	1.0	--
	5/10/91	4.20	6.95	0	8015/8020	110	<0.5	<0.5	<0.5	2.0	--
	8/8/91	5.13	6.02	0	8015/8020	220 ^d	<0.5	<0.5	<0.5	1.8	--
	11/27/91	4.72	6.43	0	8015/8020	70	<0.5	<0.5	<0.5	1.2	--
	1/29/92	4.69	6.46	0	8015/8020	150	<0.5	<0.5	3.1	7.1	--
	3/26/92	4.04	7.11	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	7/23/92	5.12	6.03	0	8015/8020	190	<0.5	<0.5	<0.5	2.1	--
	10/28/92	5.30	5.85	0	8015/8020	190	<0.5	<0.5	<0.5	2.0	--
	5/4/93 ^a	--	--	--	--	--	--	--	--	--	--
	1/5/94 ^a	--	--	--	--	--	--	--	--	--	--
	5/13/94	5.28	5.87	0	8015/8020	220	<0.5	1.2	<0.5	1.7	--
	10/24/94	6.04	5.11	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	--
	4/19/95	5.37	5.78	0	8015/8020	140 ^b	<0.5	<0.5	<0.5	1.2	--
MW-14/ 9.78	3/21/90	0.91	8.87	0	8015/8020	170	<0.3	<0.3	<0.4	2.0	--
	6/19/90	1.03	8.75	0	8015/8020	77	<0.3	<0.3	<0.3	<0.6	--



Table 1. Water Level Data and Groundwater Analytic Results - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California (continued)

Well ID/ TOC (ft) ¹	Date	DTW (ft)	GWE ¹ (msl)	Product Thickness ² (ft)	Analytic Method	TPPH(G)	←-----ppb----->				O&G ←µm→
							B	T	E	X	
MW-14 (cont)	9/20/90	2.53	7.25	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---
	12/28/90	1.61	8.17	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	5/10/91	1.22	8.56	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	8/8/91	2.45	7.33	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	11/27/91	2.59	7.19	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	1/29/92	1.10	8.68	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	3/26/92	0.74	9.04	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	7/23/92	2.30	7.48	0	8015/8020	<50	0.6	<0.5	<0.5	0.8	---
	10/28/92	2.76	7.02	0	8015/8020	56	0.7	4.0	0.8	3.8	---
	5/4/93 ⁹	---	---	---	---	---	---	---	---	---	---
MW-15/ 11.01	3/21/90	4.72	6.29	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---
	6/19/90	4.78	6.23	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---
	9/20/90	4.98	6.03	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---
	12/28/90	4.84	6.17	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	5/10/91	4.58	6.43	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	8/8/91	5.03	5.98	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	11/27/91	5.88	5.13	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	1/29/92	4.82	6.19	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	3/26/92	4.35	6.66	0	8015/8020	<50	1.9	2.6	0.8	2.6	---
	7/23/92	5.04	5.97	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	10/28/92	5.17	5.84	0	8015/8020	<50	<0.5	<0.5	<0.5	0.5	---
	5/4/93 ⁸	---	---	---	---	---	---	---	---	<0.5	---
	1/5/94 ¹⁰	---	---	---	---	---	---	---	---	---	---
	5/13/94	4.50	6.51	0	8015/8020	110	<0.5	0.7	<0.5	2.0	---
	10/24/94	5.17	5.84	0	8015/8020	<50	2.3	1.1	<0.5	<0.5	---
	4/19/95	4.77	6.24	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
MW-16/ 11.11	3/21/90	5.84	5.27	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---
	6/19/90	5.90	5.21	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---
	9/20/90	6.36	4.75	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	---
	12/28/90	5.98	5.13	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	5/10/91	5.89	5.22	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	8/8/91	6.28	4.83	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	11/27/91	5.62	5.49	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	---
	1/29/92	5.88	5.23	0	8015/8020	65	3.6	6.2	1.9	6.6	---



Table 1. Water Level Data and Groundwater Analytic Results - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California (continued)

Well ID/ TOC (ft) ¹	Date	DTW (ft)	GWE ¹ (msl)	Product Thickness ² (ft)	Analytic Method	TPPH(G) <-----ppb----->	B	T	E	X	O&G <µm>
MW-16 (cont)	3/26/92	5.56	5.55	0	8015/8020	270 ³	21	27	9.5	41	—
	7/23/92	6.29	4.82	0	8015/8020	<50	<0.5	<0.5	<0.5	0.7	—
	10/28/92	6.29	4.82	0	8015/8020	<50	0.9	1.4	<0.5	1.1	—
	5/4/93	5.75	5.36	0	8015/8020	51	<0.5	1.0	0.6	1.7	—
	1/5/94 ¹⁰	—	—	—	—	—	—	—	—	—	—
MW-17/ 10.41	3/21/90	5.61	4.80	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	—
	6/19/90	—	—	—	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	—
	9/20/90	6.02	4.39	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	—
	12/28/90	5.73	4.68	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	5/10/91	5.65	4.76	0	8015/8020	<50	<0.5	<0.5	<0.5	0.8	—
	8/8/91	5.94	4.47	0	8015/8020	82	1.9	2.5	0.9	5.4	—
	11/27/91	6.00	4.41	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	1/29/92	5.61	4.80	0	8015/8020	<50	<0.5	0.9	<0.5	0.5	—
	3/26/92	5.31	5.10	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	7/23/92	5.97	4.44	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	10/28/92	5.96	4.45	0	8015/8020	78	1.0	7.1	1.4	6.5	—
	5/4/93	7.53	2.88	0	8015/8020	60	0.8	1.7	1.1	3.0	—
	1/5/94	5.50	4.91	0	8015/8020	<50	<0.5	0.7	<0.5	<0.5	—
	5/13/94	5.17	5.24	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	10/24/94	6.08	4.33	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	4/19/95	5.48	4.93	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
MW-18/ 9.80	3/21/90	5.15	4.65	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	—
	6/19/90	5.19	4.61	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	—
	9/20/90	5.54	4.26	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	—
	12/28/90	5.26	4.54	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	5/10/91	5.18	4.62	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	8/8/91	5.45	4.35	0	8015/8020	52	<0.5	<0.5	<0.5	<0.5	—
	11/27/91	5.24	4.56	0	8015/8020	<50	0.6	1.5	0.6	2.1	—
	1/29/92	5.12	4.68	0	8015/8020	67	3.7	5.2	1.5	5.0	—
	3/26/92	4.84	4.96	0	8015/8020	80 ³	<0.5	<0.5	<0.5	0.8	—
	7/23/92	5.49	4.31	0	8015/8020	50 ³	1.3	2.1	0.5	3.0	—
	10/28/92	5.47	4.33	0	8015/8020	54	<0.5	1.3	<0.5	1.1	—
	5/4/93	5.07	4.73	0	8015/8020	<50	<0.5	<0.5	<0.5	<1.5	—
	1/5/94	5.05	4.75	0	8015/8020	<50	<0.5	0.5	<0.5	0.6	—



Table 1. Water Level Data and Groundwater Analytic Results - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California (continued)

Well ID/ TOC (ft) ¹	Date	DTW (ft)	GWE ¹ (msl)	Product Thickness ² (ft)	Analytic Method	TPPH(G) <-----ppb----->	B	T	E	X	O&G <µm>
MW-18 (cont)	5/13/94	4.76	5.04	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	10/24/94	5.65	4.15	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	4/19/95	5.10	4.70	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
MW-19/ 8.45	3/21/90	5.00	3.45	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	—
	6/19/90	5.06	3.39	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	—
	9/20/90	5.25	3.20	0	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	—
	12/28/90	5.07	3.38	0	8015/8020	66	<0.5	<0.5	<0.5	<0.5	—
	5/10/91	5.02	3.43	0	8015/8020	60 ⁴	<0.5	<0.5	<0.5	<0.5	—
	8/8/91	5.17	3.28	0	8015/8020	58	<0.5	<0.5	<0.5	<0.5	—
	11/27/91	5.06	3.39	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	1/29/92	4.93	3.52	0	8015/8020	<50	1.7	2.6	0.7	2.1	—
	3/26/92	4.79	3.66	0	8015/8020	80 ⁵	<0.5	<0.5	<0.5	<0.5	—
	7/23/92	5.22	3.23	0	8015/8020	70 ⁵	0.6	0.5	<0.5	1.5	—
	10/28/92	5.16	3.29	0	8015/8020	170	4.3	28	5.1	24	—
	5/4/93	4.93	3.52	0	8015/8020	120	2.0	4.7	2.8	8.1	—
	1/5/94	4.91	3.54	0	8015/8020	<50	2.0	1.4	1.7	2.5	—
	5/13/94	4.18	4.27	0	8015/8020	<50	<0.5	0.9	<0.5	<0.5	—
	10/24/94	4.85	3.60	0	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	4/19/95	4.20	4.25	0	8015/8020	270 ¹⁵	<0.5	<0.5	<0.5	<0.5	—
	Trip Blank AA	4/14/89	—	—	—	8260	<50	<0.5	<1.0	<1.0	<1.0
	7/31/89	—	—	—	8260	<50	<0.1	<0.5	<0.5	<0.2	—
	12/8/89	—	—	—	8015/8020	—	<0.3	<0.3	<0.3	<0.6	—
	3/21/90	—	—	—	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	—
	3/26/90	—	—	—	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	—
	6/19/90	—	—	—	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	—
	9/21/90	—	—	—	8015/8020	<50	<0.3	<0.3	<0.3	<0.6	—
	12/28/90	—	—	—	8015/8020	<50	<0.5	<0.5	<0.5	<0.6	—
	5/10/91	—	—	—	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	8/8/91	—	—	—	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	11/27/91	—	—	—	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	1/29/92	—	—	—	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	3/26/92	—	—	—	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
TB-LB	7/23/92	—	—	—	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	10/28/92	—	—	—	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—



Table 1. Water Level Data and Groundwater Analytic Results - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California (continued)

Well ID/ TOC (ft) ¹	Date	DTW (ft)	GWE ¹ (msl)	Product Thickness ² (ft)	Analytic Method	TPPH(G)	B T E X				O&G <µm>
							-----ppb-----				
TB-LB (cont)	5/4/93	—	—	—	8015/8020	<50	<0.5	<0.5	<0.5	<1.5	—
	1/5/94	—	—	—	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	5/13/94	—	—	—	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	10/24/94	—	—	—	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	4/19/95	—	—	—	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
Bailer Blank											
BB	5/10/91	—	—	—	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	8/8/91	—	—	—	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	11/27/91	—	—	—	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	1/29/92	—	—	—	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	3/26/92	—	—	—	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	7/23/92	—	—	—	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	10/28/92	—	—	—	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	5/4/93	—	—	—	8015/8020	<50	<0.5	<0.5	<0.5	<1.5	—
	1/5/94	—	—	—	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—
	5/13/94	—	—	—	8015/8020	<50	<0.5	<0.5	<0.5	<0.5	—



Table 1. Water Level Data and Groundwater Analytic Results - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California
(continued)

EXPLANATION:

DTW = Depth to water
TOC = Top of casing elevation
GWE = Groundwater elevation
msl = Measurements referenced relative to mean sea level
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
ppm = Parts per million
-- = Not available/not applicable

ANALYTIC METHODS:

8260 = EPA Method 8260 for TPPH(G) & BTEX
8015 = EPA Method 8015/8030 for TPPH(G)
8020 = EPA Method 8020 for BTEX

NOTES:

Water level elevation data and laboratory analytic results prior to April 19, 1995 were compiled from the quarterly groundwater monitoring reports prepared for Chevron by Sierra Environmental Services.

NOTES (continued):

- ¹ 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.
- ² 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.
- ³ Well construction details for this well is not available for inclusion in this report.
- ⁴ Monitoring well was destroyed during soil excavation in 1989.
- ⁵ 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.
- ⁶ Well MW-12 could not be located after building demolition.
- ⁷ Well was obstructed.
- ⁸ Monitoring well obstructed due to on-site construction activities.
- ⁹ Monitoring well abandoned on March 10, 1993 by Soils Exploration Services of Benicia, California.
- ¹⁰ Well covered with asphalt during construction activities.
- ¹¹ Does not match a typical gasoline pattern.
- ¹² Gasoline range concentration reported. Chromatogram shows only a single peak in the gasoline range.
- ¹³ TPH was reported as Diesel #2.
- ¹⁴ GWE was corrected for the presence of separate-phase hydrocarbons using: $GWE = [(TOC-DTW) + (Prod\ Thickness)(0.8)]$. 0.8 is the assumed specific gravity of separate-phase hydrocarbons.
- ¹⁵ Laboratory report indicates that hydrocarbons were found in the range of gasoline, but do not resemble a gasoline fingerprint.



Table 2. Analytic Results for Groundwater - Halogenated Volatile Organic Compounds - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California

Well ID	Date Sampled	Analytic Lab	Analytic Method	1,1-DCE	1,2-DCE	t-1,2-DCE	c-1,2-DCE	1,1-DCA	1,1,1-TCA	TCE	PCE	CF	VC	Other HVOCs
MW-3 (cont)	6/19/90	GTEL	8010	<0.2	<0.5	—	—	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	—
	9/21/90	GTEL	8010	<0.2	<0.5	—	—	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	—
	12/28/90	SAL	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	—
	5/10/91	SAL	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	8/8/91	SAL	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	11/27/91	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	1/29/92	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	3/26/92	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	7/23/92	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	10/28/92	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND ¹⁴
	5/4/93 ²⁴	—	—	—	—	—	—	—	—	—	—	—	—	—
	1/5/94 ²⁴	—	—	—	—	—	—	—	—	—	—	—	—	—
	5/13/94 ²¹	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-4	4/14/89 ⁷	CCAS	8010	<1.0	<1.0	—	—	2.0	<1.0	<1.0	<1.0	<2.0	<1.0	—
MW-5	4/14/89 ⁷	CCAS	8010	<1.0	<1.0	—	—	2.0	<1.0	<1.0	<1.0	<2.0	<1.0	—
MW-6	4/14/89 ⁷	CCAS	8010	<1.0	<1.0	—	—	2.0	<1.0	<1.0	<1.0	<2.0	<1.0	—
MW-7 (D)	4/14/89	CCAS	8010	<1.0	<1.0	—	—	1.0	1.0	<1.0	<1.0	<2.0	<1.0	—
	7/31/89	CCAS	8010	<0.1	0.3	—	—	0.3	4.5	<0.1	<0.1	<0.5	<0.1	ND ⁸
	7/31/89	GTEL	8010	<0.1	0.4	—	—	0.2	2.6	<0.1	<0.1	<0.5	<0.1	ND ⁸
	12/8/89	GTEL	8010	<0.2	<0.5	—	—	<0.5	0.67	<0.5	<0.5	<0.5	<1.0	—
	3/21/90	GTEL	8010	<0.2	<0.5	—	—	<0.5	1.4	<0.5	<0.5	<0.5	<1.0	—
	6/19/90	GTEL	8010	<0.2	<0.5	—	—	<0.5	0.67	<0.5	<0.5	<0.5	<1.0	—
	9/21/90	GTEL	8010	<0.2	<0.5	—	—	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	—
	12/28/90	SAL	8010	<0.5	—	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	<1.0	—
	5/10/91	SAL	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	8/8/91	SAL	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	11/27/91	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	1/29/92	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	3/26/92	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	7/23/92	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	10/28/92	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND ¹⁴
	5/4/93 ²⁴	—	—	—	—	—	—	—	—	—	—	—	—	—
	1/5/94 ²⁴	—	—	—	—	—	—	—	—	—	—	—	—	—
5/13/94	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND ⁸
10/24/94	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND ⁸
4/19/95	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND ¹⁴



Table 2. Analytic Results for Groundwater - Halogenated Volatile Organic Compounds - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California

Well ID	Date Sampled	Analytic Lab	Analytic Method	1,1-DCE	1,2-DCE	t-1,2-DCE	c-1,2-DCE	1,1-DCA	ppb					Other HVOCs
									1,1,1-TCA	TCE	PCE	CF	VC	
MW-8	4/14/89	CCAS	8010	<1.0	<1.0	—	—	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	—
	7/31/89	CCAS	8010	<0.1	—	0.6	1.9	1.7	1.7	0.4	<0.1	<0.5	<1.0	ND
	12/8/89	GTEL	8010	<0.2	0.53	—	—	<0.5	0.84	<0.5	<0.5	<0.5	<1.0	—
	3/21/90	GTEL	8010	<0.2	0.96	—	—	<0.5	0.72	<0.5	<0.5	<0.5	<1.0	—
	6/19/90	GTEL	8010	<0.2	0.59	—	—	<0.5	0.67	<0.5	<0.5	<0.5	<1.0	—
	9/21/90	GTEL	8010	<0.2	<0.5	—	—	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	—
	12/28/90	SAL	8010	<0.5	—	<0.5	<0.5	<0.5	2.0	<0.5	<0.5	<0.5	<1.0	—
	5/10/91	SAL	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	8/8/91	SAL	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	11/27/91	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	1/29/92	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	3/26/92	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	7/23/92	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	10/28/92 ²³	—	—	—	—	—	—	—	—	—	—	—	<0.5	ND ²⁴
	5/4/93 ²⁴	—	—	—	—	—	—	—	—	—	—	—	—	—
	1/5/94 ²⁴	—	—	—	—	—	—	—	—	—	—	—	—	—
	5/13/94	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND ²⁵
	10/24/94 ²⁵	—	—	—	—	—	—	—	—	—	—	—	—	—
	4/19/95 ²⁶	—	—	—	—	—	—	—	—	—	—	—	—	—
	MW-9	5/10/91 ⁹	—	—	—	—	—	—	—	—	—	—	—	—
MW-10	4/14/89	CCAS	8010	<1.0	15	—	—	2.0	<1.0	5.0	<1.0	<2.0	<1.0	—
	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	<1.0	—
	6/19/90	GTEL	8010	0.3	33	—	—	2.6	<0.5	6.3	<0.5	<0.5	<1.0	—
	9/21/90	GTEL	8010	<0.2	32	—	—	5.0	<0.5	5.9	<0.5	<0.5	<1.0	—
	12/28/90	SAL	8010	<0.5	—	6.0	19	2.0	<0.5	5.0	<0.5	<0.5	<1.0	—
	5/10/91	SAL	8010	0.6	—	7.0	24	2.0	<0.5	6.0	<0.5	<0.5	<1.0	ND
	8/8/91	SAL	8010	<0.5	—	7.0	33	3.1	<0.5	6.2	<0.5	<0.5	<1.0	ND
	11/27/91	SPA	8010	<0.5	—	6.8	100	<0.5	<0.5	8.5	<0.5	<0.5	<1.0	ND
	1/29/92	SPA	8010	<0.5	—	9.1	30	2.8	<0.5	7.4	<0.5	<0.5	<1.0	ND
	3/26/92	SPA	8010	0.7	—	9.2	29	2.5	<0.5	6.8	<0.5	<0.5	<1.0	ND
	7/23/92	SPA	8010	<0.5	—	6.1	21	1.5	<0.5	4.7	<0.5	<0.5	<0.5	ND ²⁷
	10/28/92	SPA	8010	<0.5	—	4.3	16	2.1	<0.5	4.1	<0.5	<0.5	<1.0	ND
	5/4/93 ²⁴	—	—	—	—	—	—	—	—	—	—	—	—	—
	1/5/94	SPA	8010	<0.5	—	1.3	5.2	0.5	1.0	0.8	<0.5	<0.5	<1.0	ND ²⁸
	5/13/94	SPA	8010	<0.5	—	12	31	2.7	<0.5	4.8	<0.5	<0.5	<0.5	ND ²⁹
	10/24/94 ²⁵	SPA	8010	<10	—	13	44	<10	<10	<10	<10	<10	<10	ND ^{31,33}
	4/19/95	SPA	8010	0.7	—	14	36	<0.5	<0.5	9.2	<0.5	<0.5	<0.5	ND ³²



Table 2. Analytic Results for Groundwater - Halogenated Volatile Organic Compounds - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California

Well ID	Date Sampled	Analytic Lab	Analytic Method	1,1-DCE	1,2-DCE	t-1,2-DCE	c-1,2-DCE	1,1-DCA	1,1,1-TCA	TCE	PCE	CF	VC	Other HVOCs
MW-11	4/14/89	CCAS	8010	<1.0	120	—	—	<1.0	<1.0	4.0	<1.0	<2.0	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 ¹⁰
	6/19/90	GTEL	8010	0.068	140	—	—	1.3	<0.5	5.0	<0.5	<0.5	1.0	—
	9/21/90	GTEL	8010	<0.2	100	—	—	1.1	<0.5	3.8	<0.5	<0.5	<1.0	—
	12/28/90	SAL	8010	<0.5	—	23	43	0.9	0.7	3.0	<0.5	<0.5	<1.0	—
	5/10/91	SAL	8010	0.9	—	44	110	0.5	<0.5	5.0	<0.5	<0.5	<1.0	ND
	8/8/91	SAL	8010	<0.5	—	29	77	0.9	<0.5	2.4	<0.5	<0.5	<1.0	ND
	11/27/91	SPA	8010	<0.5	—	34	240	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	1/29/92	SPA	8010	<5.0	—	33	91	<5.0	<5.0	<5.0	<5.0	<5.0	<10	ND
	3/26/92	SPA	8010	<2.5	—	21	51	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	ND
	7/23/92	SPA	8010	<0.5	—	18	46	0.6	<0.5	1.4	<0.5	<0.5	<0.5	ND ¹⁴
	10/28/92	SPA	8010	0.5	—	36	80	<0.5	<0.5	4.6	<0.5	<0.5	<1.0	ND
	5/4/93 ²⁴	—	—	—	—	—	—	—	—	—	—	—	—	—
	1/5/94 ²⁴	—	—	—	—	—	—	—	—	—	—	—	—	—
	5/13/94	SPA	8010	<0.5	—	62	82	<0.5	<0.5	7.9	<0.5	<0.5	1.7	ND ²⁹
	10/24/94 ³³	SPA	8010	<10	—	28	75	<10	<10	<10	<10	<10	<10	ND ^{31,33}
4/19/95	SPA	8010	<0.5	—	18	39	<0.5	<0.5	6.5	<0.5	1.0	<0.5	ND ³⁴	
MW-12	4/14/89	CCAS	8010	<1.0	1.0	—	—	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	—
	7/31/89	CCAS	8010	<0.1	1.7	—	—	<0.1	<0.1	0.8	<0.1	<0.5	<0.1	ND
	12/8/89	GTEL	8010	<0.2	<0.5	—	—	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	—
	3/21/90	GTEL	8010	<0.2	<0.5	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	—
	6/19/90	GTEL	8010	<0.2	<0.5	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	—
	9/21/90	GTEL	8010	<0.2	<0.5	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	—
	12/28/90	SAL	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	—
	5/10/91	SAL	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	8/8/91	SAL	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	<1.0	ND
	11/27/91	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	1/29/92	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	3/26/92	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
7/23/92 ²²	—	—	—	—	—	—	—	—	—	—	—	—	—	
MW-13	3/21/90	GTEL	8010	<0.2	<0.5	—	—	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	—
	6/19/90	GTEL	8010	<0.2	<0.5	—	—	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	—
	9/20/90	GTEL	8010	<0.2	<0.5	—	—	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	—
	12/28/90	SAL	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	—
	5/10/91	SAL	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND ¹¹
	8/8/91	SAL	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	11/27/91	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND



Table 2. Analytic Results for Groundwater - Halogenated Volatile Organic Compounds - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California

Well ID	Date Sampled	Analytic Lab	Analytic Method	←-----ppb----->										Other HVOCs	
				1,1-DCE	1,2-DCE	t-1,2-DCE	c-1,2-DCE	1,1-DCA	1,1,1-TCA	TCE	PCE	CF	VC		
MW-13 (cont)	1/29/92	SPA	8010	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	3/26/92	SPA	8010	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND ¹⁸
	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	ND ¹⁸
	10/28/92	SPA	8010	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	5/4/93 ²⁴	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1/5/94 ²⁴	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/13/94	SPA	8010	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND ²⁹
	10/24/94	SPA	8010	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND ²⁹
	4/19/95	SPA	8010	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND ¹⁸
MW-14	3/21/90	GTEL	8010	<2.0	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	--
	6/19/90	GTEL	8010	<2.0	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	--
	9/20/90	GTEL	8010	<2.0	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	--
	12/28/90	SAL	8010	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	--
	5/10/91	SAL	8010	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	8/8/91	SAL	8010	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	11/27/91	SPA	8010	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	1/29/92	SPA	8010	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	3/26/92	SPA	8010	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	7/23/92	SPA	8010	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND ¹⁸
	10/28/92	SPA	8010	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	5/4/93 ²⁴	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MW-15	3/21/90	GTEL	8010	<0.2	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0
6/19/90		GTEL	8010	<0.2	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	--
9/20/90		GTEL	8010	<0.2	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	--
12/28/90		SAL	8010	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	--
5/10/91		SAL	8010	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND ¹²
8/8/91		SAL	8010	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
11/27/91		SPA	8010	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
1/29/92		SPA	8010	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
3/26/92		SPA	8010	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
7/23/92		SPA	8010	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND ¹⁸
10/28/92		SPA	8010	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
5/4/93 ²⁴		--	--	--	--	--	--	--	--	--	--	--	--	--	--
1/5/94 ²⁴		--	--	--	--	--	--	--	--	--	--	--	--	--	--
5/13/94		SPA	8010	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND ²⁹
10/24/94		SPA	8010	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	3.1	<0.5	3.8	<0.5	ND ²⁹
4/19/95	SPA	8010	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND ¹⁸	



Table 2. Analytic Results for Groundwater - Halogenated Volatile Organic Compounds - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California

Well ID	Date Sampled	Analytic Lab	Analytic Method	1,1-DCE	1,2-DCE	t-1,2-DCE	c-1,2-DCE	1,1-DCA	1,1,1-TCA	TCE	PCE	CF	VC	Other HVOCs
MW-16	3/21/90	GTEL	8010	<0.2	0.8	—	—	<0.5	<0.5	27	8.0	2.0	<1.0	—
	6/19/90	GTEL	8010	<0.2	<0.5	—	—	<0.5	<0.5	35	7.0	2.0	<1.0	—
	9/20/90	GTEL	8010	<0.2	0.9	—	—	<0.5	<0.5	49	15	4.1	<1.0	—
	12/28/90	SAL	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	29	18	4.0	<1.0	ND ¹⁵
	5/10/91	SAL	8010	<0.5	—	<0.5	0.5	<0.5	<0.5	32	10	4.0	<1.0	ND
	8/8/91	SAL	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	35	13	1.9	<1.0	ND
	11/27/91	SPA	8010	<0.5	—	<0.5	1.3	<0.5	<0.5	47	12	1.8	<1.0	ND ¹⁵
	1/29/92	SPA	8010	<0.5	—	<0.5	0.9	<0.5	<0.5	31	11	1.8	<1.0	ND
	3/26/92	SPA	8010	<0.8	—	<0.8	<0.8	<0.8	<0.8	24	8.5	1.7	<1.7	ND ¹⁹
	7/23/92	SPA	8010	<0.5	—	<0.5	0.9	<0.5	<0.5	37	12	1.0	<0.5	ND ¹⁸
	10/28/92	SPA	8010	<0.5	—	<0.5	1.7	<0.5	<0.5	39	14	1.1	<1.0	ND
	5/4/93	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	32	10	1.1	<1	ND ¹⁸
	1/5/94 ²⁴	—	—	—	—	—	—	—	—	—	—	—	—	—
5/13/94 ²⁷	—	—	—	—	—	—	—	—	—	—	—	—	—	
MW-17	3/21/90	GTEL	8010	<0.2	5.2	—	—	0.7	1.3	32	11	1.1	<1.0	—
	6/19/90	GTEL	8010	<0.2	3.1	—	—	<0.5	1.0	38	13	1.2	<1.0	—
	9/20/90	GTEL	8010	<0.2	2.4	—	—	<0.5	1.4	44	16	2.8	<1.0	—
	12/28/90	SAL	8010	<0.5	—	<0.5	2.0	<0.5	0.6	34	15	2.0	<1.0	—
	5/10/91	SAL	8010	<0.5	—	<0.5	3.0	<0.5	0.6	37	14	1.0	<1.0	ND
	8/8/91	SAL	8010	<0.5	—	<0.5	2.5	<0.5	<0.5	69	15	0.9	<1.0	ND
	11/27/91	SPA	8010	<0.5	—	<0.5	13	<0.5	<0.5	59	14	2.4	<1.0	ND
	1/29/92	SPA	8010	<0.5	—	<0.5	2.9	<0.5	0.8	35	15	1.1	<1.0	ND
	3/26/92	SPA	8010	<0.5	—	<0.5	1.5	<0.5	0.7	41	12	0.6	<1.0	ND
	7/23/92	SPA	8010	<0.5	—	<0.5	1.1	<0.5	<0.5	31	14	0.8	<0.5	ND ¹⁸
	10/28/92	SPA	8010	<0.5	—	<0.5	1.6	<0.5	<0.5	42	11	0.8	<1.0	ND
	5/4/93	SPA	8010	<0.5	—	<0.5	1.1	<0.5	<0.5	26	12	0.6	<1.0	ND ¹⁸
	1/5/94	SPA	8010	<0.5	—	<0.5	1.1	<0.5	<0.5	25	13	0.8	<1.0	ND ¹⁸
5/13/94	SPA	8010	<0.5	—	<0.5	1.0	<0.5	0.6	23	13	<0.5	<0.5	ND ¹⁹	
10/24/94	SPA	8010	<0.5	—	<0.5	1.4	<0.5	<0.5	26	13	<0.5	<0.5	ND ¹⁹	
4/19/95	SPA	8010	<0.5	—	<0.5	0.9	<0.5	1.1	21	12	1.2	<0.5	ND ¹⁸	
MW-18	3/21/90	GTEL	8010	<0.2	1.7	—	—	<0.5	2.4	33	20	0.9	<1.0	—
	6/19/90	GTEL	8010	<0.2	2.7	—	—	<0.5	0.9	63	20	0.73	<1.0	—
	9/20/90	GTEL	8010	<0.2	3.3	—	—	<0.5	1.6	76	25	1.7	<1.0	—
	12/28/90	SAL	8010	<0.5	—	<0.5	2.0	<0.5	0.8	44	21	1.0	<1.0	—
	5/10/91	SAL	8010	<0.5	—	<0.5	2.0	<0.5	0.7	47	20	2.0	<1.0	ND
	8/8/91	SAL	8010	<0.5	—	<0.5	2.0	<0.5	0.7	32	25	1.0	<1.0	ND
	11/27/91	SPA	8010	<0.5	—	<0.5	3.6	<0.5	0.5	60	18	1.5	<1.0	ND
	1/29/92	SPA	8010	<5.0	—	<5.0	<5.0	<5.0	<5.0	67	17	<5.0	<10	ND
3/26/92	SPA	8010	<1.2	—	<1.2	6.4	<1.2	<1.2	130	19	1.7	<2.5	ND	



Table 2. Analytic Results for Groundwater - Halogenated Volatile Organic Compounds - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California

Well ID	Date Sampled	Analytic Lab	Analytic Method	ppb										Other HVOCs
				1,1-DCE	1,2-DCE	t-1,2-DCE	c-1,2-DCE	1,1-DCA	1,1,1-TCA	TCE	PCE	CF	VC	
MW-18 (cont)	7/23/92	SPA	8010	<0.5	—	<0.5	3.0	<0.5	0.5	67	19	0.8	<0.5	ND ¹⁸
	10/28/92	SPA	8010	<0.5	—	<0.5	1.1	<0.5	<0.5	52	14	0.8	<1.0	ND
	5/4/93	SPA	8010	<0.5	—	<0.5	1.9	<0.5	0.7	48	18	2.5	<1.0	ND ²⁶
	1/5/94	SPA	8010	<0.5	—	<0.5	4.0	<0.5	0.8	94	17	1.0	<1.0	ND ¹⁸
	5/13/94	SPA	8010	<0.5	—	<0.5	0.8	<0.5	0.8	16	15	0.8	<0.5	ND ²⁹
	10/27/94	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	22	15	1.2	<0.5	ND ²⁹
	4/19/95	SPA	8010	<0.5	—	<0.5	2.2	<0.5	1.3	46	14	1.1	<0.5	ND ³⁵
MW-19	3/21/90	GTEL	8010	<0.2	10	—	—	<0.5	2.5	41	53	3.2	<1.0	—
	6/19/90	GTEL	8010	<0.2	13	—	—	<0.5	1.5	46	47	2.8	<1.0	—
	9/20/90	GTEL	8010	<0.2	5.8	—	—	<0.5	2.5	39	32	3.1	<1.0	—
	12/28/90	SAL	8010	<0.5	—	0.8	22	<0.5	1.0	40	44	3.0	<1.0	—
	5/10/91	SAL	8010	<0.5	—	2.0	12	<0.5	1.0	47	47	3.0	<1.0	ND
	8/8/91	SAL	8010	<0.5	—	1.1	4.8	<0.5	1.1	41	35	2.8	<1.0	ND
	11/27/91	SPA	8010	<0.5	—	1.9	29	<0.5	0.9	59	31	2.7	<1.0	ND
	1/29/92	SPA	8010	<5.0	—	<5.0	8.9	<5.0	<5.0	51	44	3.0	<1.0	ND
	3/26/92	SPA	8010	<1.2	—	1.7	23	<1.2	1.5	68	130	1.4	<2.5	ND ¹⁷
	7/23/92	SPA	8010	1.1	—	1.4	5.6	<0.5	1.0	61	38	3.3	<0.5	ND ¹⁸
	10/28/92	SPA	8010	<0.5	—	0.9	5.3	<0.5	1.1	46	24	2.2	<1.0	ND
	5/4/93	SPA	8010	<0.5	—	2.5	8.7	0.5	1.1	69	32	3.9	<1.0	ND ¹⁸
	1/5/94	SPA	8010	<0.5	—	1.7	1.7	<0.5	16	49	46	<0.5	<1.0	ND ¹⁸
	5/13/94	SPA	8010	<0.5	—	1.8	22	<0.5	0.7	40	58	<0.5	<0.5	ND ²⁹
	10/24/94 ³⁵	SPA	8010	<50	—	110	54	<50	<50	98	300	<50	<50	ND ^{32,35}
	4/19/95	SPA	8010	<0.5	—	<0.5	65	<0.5	<0.5	130	670	<0.5	<0.5	ND ¹⁸
	Trip Blank AA	4/14/89	CCAS	8010	<1.0	<0.5	—	—	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0
7/31/89		CCAS	8010	<0.1	<0.5	—	—	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	—
12/8/89		GTEL	8010	<0.2	<0.5	—	—	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	—
3/21/90		GTEL	8010	<0.2	<0.5	—	—	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	—
3/26/90		GTEL	8010	<0.2	<0.5	—	—	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	—
6/19/90		GTEL	8010	<0.2	<0.5	—	—	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	—
9/21/90		GTEL	8010	<0.2	<0.5	—	—	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	—
12/28/90		SAL	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	—
5/10/91		SAL	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	—
8/8/91		SAL	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
11/27/91		SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND ¹⁸
1/29/92		SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
3/26/92		SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND



Table 2. Analytic Results for Groundwater - Halogenated Volatile Organic Compounds - Former Chevron Asphalt Plant and Terminal #1001067, Emeryville, California

Well ID	Date Sampled	Analytic Lab	Analytic Method	1,1-DCE	1,2-DCE	t-1,2-DCE	c-1,2-DCE	1,1-DCA	1,1,1-TCA	TCE	PCE	CF	VC	Other HVOCs
TB-LB (cont)	7/23/92	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND ¹⁸
	10/28/92	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	5/4/93	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND ¹⁸
Bailer Blank														
BB	5/10/91	SAL	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	8/8/91	SAL	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	11/27/91	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND ¹⁶
	1/29/92	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	3/26/92	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	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 ¹⁸
	10/28/92	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	ND
	5/4/93	SPA	8010	<0.5	—	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	ND ¹⁸



Table 2. Analytic Results for Groundwater - 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:

Analytic results prior to April 19, 1995 were compiled from the quarterly groundwater monitoring reports prepared for Chevron by Sierra Environmental Services.

- ¹ 6 ppb 1,2-dichloropropane detected; other HVOCs not detected.
- ² 0.6 ppb 1,2-dichloroethane detected; other HVOCs not detected.
- ³ 63 ppb chloromethane and 0.6 ppb methylene chloride detected; other HVOCs not detected; sample contained 1,250 ppb total dissolved solids.

NOTES: (continued)

- ⁴ 0.9 ppb trans-1,3-dichloropropane detected; other HVOCs not detected; sample contained 810 ppb total dissolved solids.
- ⁵ 0.9 ppb trichlorofluoromethane and 1 ppb trans-1,3-dichloropropane detected; other HVOCs not detected.
- ⁶ 11 ppb trans-1,3-dichloropropane detected; other HVOCs not detected.
- ⁷ Monitoring well was destroyed during excavation in 1989.
- ⁸ 0.1 ppb 1,2-dichlorobenzene detected; other HVOCs not detected.
- ⁹ 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.
- ¹⁰ 1.8 ppb 1,2-dichloroethane detected; other HVOCs not detected
- ¹¹ 3 ppb 1,1,2,2-tetrachloroethane detected; other HVOCs not detected.
- ¹² 0.9 ppb 1,2-dichlorobenzene detected; other HVOCs not detected.
- ¹³ 0.5 ppb 1,2-dichloroethane detected; other HVOCs not detected.
- ¹⁴ 3.1 ppb 1,2-dichlorobenzene detected; other HVOCs not detected.
- ¹⁵ 0.9 ppb 1,2-dichloroethane detected; other HVOCs not detected.
- ¹⁶ Trace concentrations of trihalomethane compounds detected in bailer blank.
- ¹⁷ 1,1,2,2-Tetrachloroethane detected at 1.8 ppb; other HVOCs not detected at detection limits of 1.2 to 2.5 ppb.
- ¹⁸ Other HVOCs not detected at detection limit of 0.5 ppb.
- ¹⁹ Other HVOCs not detected at detection limits ranging from 0.8 to 1.7 ppb.
- ²⁰ Other HVOCs not detected at detection limits of 25 ppb.
- ²¹ Other HVOCs not detected at detection limits of 50 ppb.
- ²² Well MW-12 could not be located after building demolition.
- ²³ Well MW-8 was obstructed, therefore ground water samples could not be taken.
- ²⁴ Monitoring well obstructed due to on-site construction activities.
- ²⁵ Monitoring well abandoned on March 10, 1993 by Soils Exploration Services of Benicia, California.
- ²⁶ Dichloromethane detected at 6.2 ppb; other HVOCs not detected at detection limits of 0.5 ppb.
- ²⁷ Well paved over as a result of on-site construction activities.
- ²⁸ Well obstructed.
- ²⁹ Other HVOCs not detected at detection limits of 0.5 to 1.0 ppb.
- ³⁰ Well was dry.
- ³¹ Other HVOCs not detected at detection limits of 10 to 20 ppb.
- ³² Other HVOCs not detected at detection limits of 50 to 100 ppb.
- ³³ Detection limits raised due to sample dilution.
- ³⁴ Chloromethane was detected at 2.4 ppb. Other HVOCs not detected at detection limits of 0.5 ppb.
- ³⁵ Chloromethane was detected at 0.6 ppb. Other HVOCs not detected at detection limits of 0.5 ppb.



STANDARD OPERATING PROCEDURE QUARTERLY GROUNDWATER SAMPLING

Gettler-Ryan field personnel adhere to the following procedures for the collection and handling of groundwater samples prior to analysis by the analytical laboratory. Prior to sample collection, the type of analysis to be performed is determined. Loss prevention of volatile compounds is controlled and sample preservation for subsequent analysis is maintained.

Prior to sampling, the presence or absence of free-phase hydrocarbons is determined using a MMC flexi-dip interface probe. Product thickness, if present, is measured to the nearest 0.01 foot and is noted in the field notes. In addition, static water level measurements are collected with the interface probe and are also recorded in the field notes.

After water levels are collected and prior to sampling, each well is purged a minimum of three well casing volumes of water using pre-cleaned pumps (stack, suction, Grundfos), or polyvinyl chloride bailers. Temperature, pH and electrical conductivity are measured a minimum of three times during purging. Purging continues until these parameters stabilize.

Groundwater samples are collected using Chevron-designated disposable bailers. The water samples are transferred from the bailer into appropriate containers. Pre-preserved containers, supplied by analytic laboratories, are used when possible. When pre-preserved containers are not available, the laboratory is instructed to preserve the sample as appropriate. Duplicate samples are collected for the laboratory to use in maintaining quality assurance/quality control standards. The samples are labeled to include the job number, sample identification, collection date and time, analysis, preservative (if any), and the sample collector's initials. The water samples are placed in cooler maintained at 4 C for transport to the laboratory. Once collected in the field, all samples are maintained under chain of custody until delivery to the laboratory.

The chain of custody document includes the job number, type of preservation, if any, analysis requested, sample identification, date and time collected and the sample collector's name. The chain of custody is signed and dated (including time of transfer) by each person who receives or surrenders the samples, beginning with the field personnel and ending with the laboratory personnel.

A laboratory-supplied trip blank accompanies each sampling set. For sampling sets greater than 20 samples, 5% trip blanks are included. The trip blank is analyzed for some or all of the same compounds as the groundwater samples.

As requested by Chevron USA Products Company, the purge and decontamination water generated during sampling activities is taken to Chevron's Richmond Refinery for disposal.

GETTLER-RYAN INC.

General and Environmental Contractors

WELL SAMPLING FIELD DATA SHEET

COMPANY Chevron # 1001067 JOB # 5161-80
 LOCATION Power & Landgreen DATE 4-19-85
 CITY Emeryville CA TIME _____

Well ID. MW-2 Well Condition Poor
 Well Diameter 3" in. Hydrocarbon Thickness 0.01 ft. Black only
 Total Depth 2.87 ft.
 Depth to Liquid- 2.51 ft.
 (3 # of casing volumes) x 0.36 x (VF) 0.38 = (Estimated Purge Volume) 0.14 gal.

Volume Factor (VF)	2" = 0.17	6" = 1.50	12" = 5.80
	3" = 0.38	8" = 2.60	
	4" = 0.66	10" = 4.10	

Purging Equipment _____

Sampling Equipment W/C only.

Starting Time _____ Purging Flow Rate _____ gpm.
 (Estimated Purge Volume) _____ gal. / (Purging Flow Rate) _____ gpm. = (Anticipated Purging Time) _____ min.

Time	pH	Conductivity	Temperature	Volume
<u>Well appears to be filled in total depth only 2.87'</u>				
<u>other well - 8-20 feet deep while monitoring</u>				
<u>discovered floating product (Black & oily) ≈ 0.01' thick.</u>				
<u>Attempt made to bail well dewater in 2 bails</u>				
<u>Nowater came back in. No plug in well only a cap</u>				
<u>Casing appear shifted ≈ 3' down.</u>				

Did well dewater? _____ If yes, time _____ Volume _____

Sampling Time _____ Weather Conditions _____

Analysis _____ Bottles Used _____

Chain of Custody Number _____

COMMENTS _____

FOREMAN [Signature] ASSISTANT _____

GETTLER-RYAN INC.

General and Environmental Contractors

WELL SAMPLING FIELD DATA SHEET

COMPANY Chevron # 1001067 JOB # 5101.80
 LOCATION Bowell @ Landgren DATE 4-19-95
 CITY Berkeley CA TIME _____

Well ID. MW-7 Well Condition _____
 Well Diameter 3' in. Hydrocarbon Thickness _____ ft.
 Total Depth 13.95 ft.
 Depth to Liquid- 9.53 ft.
 (# of casing volumes) 3 x 9.42 x (VF) 0.38 = (Estimated Purge Volume) 36 10.7 gal.

Volume Factor (VF)	2" = 0.17	6" = 1.50	12" = 5.80
	3" = 0.38	8" = 2.60	
	4" = 0.66	10" = 4.10	

Purging Equipment Suction
 Sampling Equipment Disposask Baker

Starting Time 11:13 Purging Flow Rate _____ gpm.
 (Estimated Purge Volume) _____ gal. / (Purging Flow Rate) _____ gpm. = (Anticipated Purging Time) _____ min.

Time	pH	Conductivity	Temperature	Volume
<u>11:15</u>	<u>7.16</u>	<u>687</u>	<u>62.8</u>	<u>4</u>
<u>11:17</u>	<u>7.37</u>	<u>688</u>	<u>63.1</u>	<u>8</u>
<u>11:19</u>	<u>7.36</u>	<u>694</u>	<u>62.6</u>	<u>12</u>
<u>1300</u>	<u>7.40</u>	<u>690</u>	<u>62.8</u>	<u>12.5</u>

Did well dewater? Yes If yes, time 11:17 Volume 8
 Sampling Time 13:00 Weather Conditions Sunny clear
 Analysis Gas B1X13 8010 Bottles Used 6 x 40ml VCA
 Chain of Custody Number _____

COMMENTS _____
 FOREMAN [Signature] ASSISTANT _____

GETTLER-RYAN INC.

General and Environmental Contractors

WELL SAMPLING FIELD DATA SHEET

COMPANY Chevron # 1001067 JOB # 5161
LOCATION Powell @ Landgren DATE 4-19-95
CITY Emeryville CA TIME _____

Well ID. MW-8 Well Condition _____
Well Diameter 4" in. Hydrocarbon Thickness _____ ft.

Total Depth _____ ft.
Depth to Liquid- _____ ft.
 $\left(\frac{\# \text{ of casing volumes}}{\right)} \times \text{VF} = \left(\frac{\text{Estimated Purge Volume}}{\right)} \text{ gal.}$

Volume Factor (VF)	2" = 0.17	6" = 1.50	12" = 5.80
	3" = 0.38	8" = 2.60	
	4" = 0.66	10" = 4.10	

Purging Equipment _____
Sampling Equipment _____

Starting Time _____ Purging Flow Rate _____ gpm.
 $\left(\frac{\text{Estimated Purge Volume}}{\right)} \text{ gal.} / \left(\frac{\text{Purging Flow Rate}}{\right)} \text{ gpm.} = \left(\frac{\text{Anticipated Purging Time}}{\right)} \text{ min.}$

Time	pH	Conductivity	Temperature	Volume
Unable to locate area where well should be is covered by a temporary construction storage unit				

Did well dewater? _____ If yes, time _____ Volume _____
Sampling Time _____ Weather Conditions _____
Analysis _____ Bottles Used _____
Chain of Custody Number _____

COMMENTS _____
FOREMAN [Signature] ASSISTANT _____

GETTLER-RYAN INC.

General and Environmental Contractors

WELL SAMPLING FIELD DATA SHEET

COMPANY Chevron # 1001067 JOB # 5101.80
 LOCATION Powell @ Landgren DATE 4-19-95
 CITY Berkeley CA TIME _____

Well ID: MW-10 Well Condition Okay
 Well Diameter 4" in. Hydrocarbon Thickness — ft.
 Total Depth 20.32 ft.
 Depth to Liquid- 5.26 ft.

Volume Factor (VF)	2" = 0.17	6" = 1.50	12" = 5.80
	3" = 0.38	8" = 2.60	
	4" = 0.66	10" = 4.10	

 (# of casing volumes) 3 x 15.06 x (VF) 0.66 = (Estimated Purge Volume) 9.9 29.8 gal.
 Purging Equipment Suction
 Sampling Equipment Disposask Bailer

Starting Time 10:38 Purging Flow Rate 3.3 gpm.
 (Estimated Purge Volume) _____ gal. / (Purging Flow Rate) _____ gpm. = (Anticipated Purging Time) _____ min.

Time	pH	Conductivity	Temperature	Volume
<u>10:41</u>	<u>7.28</u>	<u>581</u>	<u>58.8</u>	<u>9.9</u>
<u>10:44</u>	<u>7.06</u>	<u>621</u>	<u>59.5</u>	<u>19.8</u>
<u>10:47</u>	<u>7.10</u>	<u>623</u>	<u>59.6</u>	<u>29.8</u>
<u>10:52</u>	<u>7.09</u>	<u>623</u>	<u>59.5</u>	<u>30.0</u>

Did well dewater? No If yes, time _____ Volume _____
 Sampling Time 10:52 Weather Conditions Sunny clear
 Analysis Gas BTEX 8010 Bottles Used 6 x 40ml UCA
 Chain of Custody Number _____

COMMENTS _____

FOREMAN [Signature] ASSISTANT [Signature]

GETTLER-RYAN INC.

General and Environmental Contractors

WELL SAMPLING FIELD DATA SHEET

COMPANY Chevron # 1001067 JOB # 5101.80
 LOCATION Bowell @ Landgren DATE 4-19-95
 CITY Emeryville CA TIME _____

Well ID. MW-11 Well Condition Okay
 Well Diameter 4" in. Hydrocarbon Thickness — ft.

Total Depth 18' ft.

Volume Factor (VF)	2" = 0.17	6" = 1.50	12" = 5.80
	3" = 0.38	8" = 2.60	
	4" = 0.66	10" = 4.10	

Depth to Liquid- 5.69 ft.
 (# of casing volumes) 3 x 12.31 x (VF) 0.66 = (Estimated Purge Volume) 8.12 24.36 gal.

Purging Equipment Suction
 Sampling Equipment Disposable Bailer

Starting Time 10:53 Purging Flow Rate 2.8 gpm.
 (Estimated Purge Volume) _____ gal. / (Purging Flow Rate) _____ gpm. = (Anticipated Purging Time) _____ min.

Time	pH	Conductivity	Temperature	Volume
<u>10:56</u>	<u>7.13</u>	<u>641</u>	<u>61.0</u>	<u>8.4</u>
<u>10:59</u>	<u>7.33</u>	<u>631</u>	<u>62.2</u>	<u>16.8</u>
<u>11:02</u>	<u>7.39</u>	<u>638</u>	<u>62.4</u>	<u>25.2</u>
<u>11:07</u>	<u>7.35</u>	<u>635</u>	<u>62.3</u>	<u>26</u>

Did well dewater? No If yes, time _____ Volume _____

Sampling Time 11:07 Weather Conditions Sunny clear

Analysis Gas B1X13 8010 Bottles Used 6 x 40ml VCA

Chain of Custody Number _____

COMMENTS _____

FOREMAN [Signature] ASSISTANT _____

GETTLER-RYAN INC.

General and Environmental Contractors

WELL SAMPLING FIELD DATA SHEET

COMPANY Chevron # 1001067 JOB # 5161.80
 LOCATION Bowell @ Landgren DATE 4-19-95
 CITY Emeryville CA TIME _____

Well ID. MW-13 Well Condition Okay
 Well Diameter 3" in. Hydrocarbon Thickness _____ ft.

Total Depth 15.35 ft.
 Depth to Liquid- 5.37 ft.

Volume Factor (VF)	2" = 0.17	6" = 1.50	12" = 5.80
	3" = 0.38	8" = 2.60	
	4" = 0.66	10" = 4.10	

(# of casing volumes) 3 x 9.98 x (VF) 0.38 = (Estimated Purge Volume) 3.8 11.4 gal.

Purging Equipment Suction
 Sampling Equipment Disposask Bailor

Starting Time _____ Purging Flow Rate _____ gpm.
 (Estimated Purge Volume) _____ gal. / (Purging Flow Rate) _____ gpm. = (Anticipated Purging Time) _____ min.

Time	pH	Conductivity	Temperature	Volume
<u>10:04</u>	<u>7.00</u>	<u>1153</u>	<u>62.8</u>	<u>4</u>
<u>10:06</u>	<u>7.22</u>	<u>1152</u>	<u>64.1</u>	<u>8</u>
<u>10:08</u>	<u>7.24</u>	<u>1150</u>	<u>63.1</u>	<u>12</u>
<u>10:13</u>	<u>7.23</u>	<u>1151</u>	<u>63.2</u>	<u>13</u>

Did well dewater? No If yes, time _____ Volume _____

Sampling Time 10:13 Weather Conditions Sunny clear

Analysis Gas B1X13 8010 Bottles Used 6 x 40ml VCA

Chain of Custody Number _____

COMMENTS _____

GETTLER-RYAN INC.

General and Environmental Contractors

WELL SAMPLING FIELD DATA SHEET

COMPANY Chevron # 1001067 JOB # 5101.80
 LOCATION Powell @ Landgren DATE 4-19-95
 CITY Emeryville CA TIME _____

Well ID. MW-15 Well Condition okay
 Well Diameter 4" in. Hydrocarbon Thickness — ft.

Total Depth 7.23 ft.
 Depth to Liquid- 4.77 ft.

Volume Factor (VF)	2" = 0.17	6" = 1.50	12" = 5.80
	3" = 0.38	8" = 2.60	
	4" = 0.66	10" = 4.10	

(# of casing volumes) 3 x 2.46 x (VF) 0.66 = (Estimated Purge Volume) 1.6 4.8 gal.

Purging Equipment Suction
 Sampling Equipment Disposable Baker

Starting Time 10:21 Purging Flow Rate _____ gpm.
 (Estimated Purge Volume) _____ gal. / (Purging Flow Rate) _____ gpm. = (Anticipated Purging Time) _____ min.

Time	pH	Conductivity	Temperature	Volume
<u>10:22</u>	<u>8.10</u>	<u>215</u>	<u>61.5</u>	<u>2</u>
<u>10:23</u>	<u>7.97</u>	<u>217</u>	<u>62.2</u>	<u>4</u>
<u>10:24</u>	<u>7.96</u>	<u>216</u>	<u>62.3</u>	<u>6</u>
<u>10:29</u>	<u>7.95</u>	<u>216</u>	<u>62.3</u>	<u>6.5</u>

Did well dewater? NO If yes, time _____ Volume _____

Sampling Time 10:29 Weather Conditions Sunny clear

Analysis Gas B1X12 8010 Bottles Used 6 x 40ml VCA

Chain of Custody Number _____

COMMENTS _____

FOREMAN [Signature]

GETTLER-RYAN INC.

General and Environmental Contractors

WELL SAMPLING FIELD DATA SHEET

COMPANY Chevron # 1001067 JOB # 5161.80
 LOCATION Bowell @ Landgren DATE 4-19-95
 CITY Bremerville CA TIME _____

Well ID. MW-17 Well Condition Okay
 Well Diameter 2" in. Hydrocarbon Thickness ✓ ft.

Total Depth 11.82 ft.
 Depth to Liquid- 6.48 ft.

Volume Factor (VF)	2" = 0.17	6" = 1.50	12" = 5.80
	3" = 0.38	8" = 2.60	
	4" = 0.66	10" = 4.10	

(# of casing volumes) 3 x 6.34 x (VF) 0.17 = (Estimated Purge Volume) 1.1 3.3 gal.

Purging Equipment Suction
 Sampling Equipment Disposable Baker

Starting Time _____ Purging Flow Rate _____ gpm.
 (Estimated Purge Volume) _____ gal. / (Purging Flow Rate) _____ gpm. = (Anticipated Purging Time) _____ min.

Time	pH	Conductivity	Temperature	Volume
<u>1132</u>	<u>7.20</u>	<u>432</u>	<u>61.2</u>	<u>1.5</u>
<u>1133</u>	<u>7.18</u>	<u>405</u>	<u>61.5</u>	<u>3.0</u>
<u>1134</u>	<u>7.10</u>	<u>400</u>	<u>61.3</u>	<u>4.5</u>
<u>11:39</u>	<u>7.15</u>	<u>395</u>	<u>61.4</u>	<u>5.0</u>

Did well dewater? No If yes, time _____ Volume _____
 Sampling Time 11:39 Weather Conditions Sunny clear
 Analysis Gas BTEX 8010 Bottles Used 6 x 40ml VCA
 Chain of Custody Number _____

COMMENTS _____
 FOREMAN [Signature]

GETTLER-RYAN INC.

General and Environmental Contractors

WELL SAMPLING FIELD DATA SHEET

COMPANY Clevon # 1001067 JOB # 5101.80
 LOCATION Bowell @ Landgren DATE 4-19-95
 CITY Brentville CA TIME _____

Well ID. MW-18 Well Condition —
 Well Diameter 2" in. Hydrocarbon Thickness _____ ft.

Total Depth 10.78 ft.
 Depth to Liquid- 5.10 ft.

Volume Factor (VF)	2" = 0.17	6" = 1.50	12" = 5.80
	3" = 0.38	8" = 2.60	
	4" = 0.66	10" = 4.10	

(# of casing volumes) 3 x 5.68 x (VF) 0.17 = (Estimated Purge Volume) 0.96290 gal.

Purging Equipment Suction
 Sampling Equipment Disposask Bailor

Starting Time _____ Purging Flow Rate _____ gpm.
 (Estimated Purge Volume) _____ gal. / (Purging Flow Rate) _____ gpm. = (Anticipated Purging Time) _____ min.

Time	pH	Conductivity	Temperature	Volume
<u>11:46</u>	<u>6.58</u>	<u>399</u>	<u>60.2</u>	<u>1</u>
<u>11:47</u>	<u>6.44</u>	<u>402</u>	<u>60.3</u>	<u>2</u>
<u>11:48</u>	<u>6.30</u>	<u>404</u>	<u>60.4</u>	<u>3</u>
<u>11:53</u>	<u>6.32</u>	<u>403</u>	<u>60.6</u>	<u>3.5</u>

Did well dewater? No If yes, time _____ Volume _____

Sampling Time 11:53 Weather Conditions Sunny clear

Analysis Gas BXB 8010 Bottles Used 6 x 40ml VOA

Chain of Custody Number _____

COMMENTS _____

FOREMAN [Signature] ASSISTANT _____

GETTLER-RYAN INC.

General and Environmental Contractors

WELL SAMPLING FIELD DATA SHEET

COMPANY Chevron # 1001067 JOB # 5101.80
 LOCATION Bowell @ Landgren DATE 4-19-95
 CITY Berkeley CA TIME _____

Well ID. MW-19 Well Condition okay
 Well Diameter 2' in. Hydrocarbon Thickness _____ ft.
 Total Depth 8.68 ft.
 Depth to Liquid- 4.20 ft.
 (# of casing volumes) 3 x 4.148 x(VF) 0.17 = (Estimated Purge Volume) 0.76 2.3 gal.

Volume Factor (VF)	2" = 0.17	6" = 1.50	12" = 5.80
	3" = 0.38	8" = 2.60	
	4" = 0.66	10" = 4.10	

Purging Equipment Suction
 Sampling Equipment Disposable Bailer

Starting Time _____ Purging Flow Rate _____ gpm.
 (Estimated Purge Volume) _____ gal. / (Purging Flow Rate) _____ gpm. = (Anticipated Purging Time) _____ min.

Time	pH	Conductivity	Temperature	Volume
<u>12:03</u>	<u>6.94</u>	<u>355</u>	<u>61.2</u>	<u>1</u>
<u>12:04</u>	<u>7.08</u>	<u>336</u>	<u>61.0</u>	<u>2</u>
<u>12:05</u>	<u>7.09</u>	<u>325</u>	<u>61.2</u>	<u>3</u>
<u>12:10</u>	<u>7.10</u>	<u>330</u>	<u>61.2</u>	<u>3.5</u>

Did well dewater? Nil If yes, time _____ Volume _____
 Sampling Time 12:10 Weather Conditions Sunny clear
 Analysis Gas BTEX 8010 Bottles Used 6 x 400ml VCA
 Chain of Custody Number _____

COMMENTS _____
 FOREMAN [Signature] ASSISTANT _____

Fax copy of Lab Report and COC to Chevron Contact: Yes No **81273**

Chain-of-Custody-Record

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

Chevron Facility Number: 1001067
Facility Address: Powell & Landgren Emeryville
Consultant Project Number: 5101680
Consultant Name: Gettler-Ryan
Address: 6747 Sierra Ct, Ste J, Dublin 94568
Project Contact (Name): Argy Leyton
(Phone): 510-551-7555 (Fax Number): 510-551-7888

Chevron Contact (Name): Lucia Chouh
(Phone): 842-9655
Laboratory Name: Supvior
Laboratory Release Number: 8734331
Samples Collected by (Name): Frank Cline
Collection Date: 4-19-95
Signature: [Signature]

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water 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)				
TB-6B		2	W	TB	-	HLL	Y	X										Analyze	
MW-7		6		G	1300	HLL		X											
MW-7B					1013			X											
MW-15					1029			X											
MW-10					1052			X											
MW-11					1107			X											
MW-17					1139			X											
MW-18					1153			X											
MW-19					1210			X											

DO NOT BILL
TB-LB ANALYSIS

Relinquished By (Signature): <u>[Signature]</u>	Organization: <u>Co/R</u>	Date/Time: <u>4:00 4-19-95</u>	Received By (Signature): <u>[Signature]</u>	Organization: <u>Co/R</u>	Date/Time: <u>4:00 4-19-95</u>
Relinquished By (Signature): <u>[Signature]</u>	Organization: <u>Co/R</u>	Date/Time: <u>9:05 4/20/95</u>	Received By (Signature): <u>Nancy Miller</u>	Organization: <u>AERO</u>	Date/Time: <u>9:05 4-19-95</u>
Relinquished By (Signature): <u>Nancy Miller</u>	Organization: <u>AERO</u>	Date/Time: <u>10:07 4-20-95</u>	Received For Laboratory By (Signature): <u>[Signature]</u>	Organization: <u>AERO</u>	Date/Time: <u>10:10 4/20/95</u>

Turn Around Time (Circle Choice)

24 Hrs.
48 Hrs.
5 Days
10 Days As Contracted

4/20/95
[Signature]



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

GETTLER RYAN INC.
6747 SIERRA CT, SUITE G
DUBLIN, CA 94568

Date: May 4, 1995

Attn: ARGY LEYTON

Laboratory Number : 81273

Project Number/Name : 5161.80

This report has been reviewed and
approved for release.

Cecilia H. Joaquin 5/4/95
Senior Chemist
Account Manager

Certified Laboratories

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

1555 Burke St., Unit 1
San Francisco, California 94124
(415) 647-2081 / fax (415) 821-7123

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

GETTLER RYAN INC.
Attn: ARGY LEYTON

Project 5161.80
Reported on May 4, 1995

Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

Chronology

Laboratory Number 81273

Sample ID	Sampled	Received	Extract.	Analyzed	QC Batch	LAB #
TB-LB	04/19/95	04/20/95	04/24/95	04/24/95	BD241.05	01
MW-7	04/19/95	04/20/95	04/24/95	04/24/95	BD241.05	02
MW-13	04/19/95	04/20/95	04/24/95	04/24/95	BD241.05	03
MW-15	04/19/95	04/20/95	04/24/95	04/24/95	BD241.05	04
MW-10	04/19/95	04/20/95	04/24/95	04/24/95	BD241.05	05
MW-11	04/19/95	04/20/95	04/24/95	04/24/95	BD241.05	06
MW-17	04/19/95	04/20/95	04/24/95	04/24/95	BD241.05	07
MW-18	04/19/95	04/20/95	04/24/95	04/24/95	BD241.05	08
MW-19	04/19/95	04/20/95	04/24/95	04/24/95	BD241.05	09

QC Samples

QC Batch #	QC Sample ID	TypeRef.	Matrix	Extract.	Analyzed
BD241.05-01	Method Blank	MB	Water	04/24/95	04/24/95
BD241.05-02	C-2B	MS 81251-04	Water	04/24/95	04/24/95
BD241.05-03	C-2B	MSD 81251-04	Water	04/24/95	04/24/95

Certified Laboratories

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GETTLER RYAN INC.
Attn: ARGY LEYTON

Project 5161.80
Reported on May 4, 1995

Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
81273-01	TB-LB	Water	1.0	-
81273-02	MW-7	Water	1.0	-
81273-03	MW-13	Water	1.0	-
81273-04	MW-15	Water	1.0	-

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

Compound	81273-01		81273-02		81273-03		81273-04	
	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
	ug/L		ug/L		ug/L		ug/L	
Gasoline_Range	ND	50	ND	50	140*	50	ND	50
Benzene	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
Ethyl Benzene	ND	0.5	ND	0.5	ND	0.5	ND	0.5
Total Xylenes	ND	0.5	ND	0.5	1.2	0.5	ND	0.5

>> Surrogate Recoveries (%) <<

Trifluorotoluene (SS)	102	99	110	101
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Gasoline Range quantitated as all compounds from C6-C10

LAB ID	Sample ID	Matrix	Dil. Factor	Moisture
81273-05	MW-10	Water	1.0	-
81273-06	MW-11	Water	1.0	-
81273-07	MW-17	Water	1.0	-
81273-08	MW-18	Water	1.0	-

RESULTS OF ANALYSIS

Compound	81273-05		81273-06		81273-07		81273-08	
	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
	ug/L		ug/L		ug/L		ug/L	
Gasoline_Range	ND	50	58*	50	ND	50	ND	50
Benzene	ND	0.5	0.6	0.5	ND	0.5	ND	0.5
Toluene	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
Total Xylenes	ND	0.5	0.5	0.5	ND	0.5	ND	0.5

>> Surrogate Recoveries (%) <<

Trifluorotoluene (SS)	102	104	98	90
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Gasoline Range quantitated as all compounds from C6-C10

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
81273-09	MW-19	Water	1.0	-

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

Compound	81273-09 Conc. RL ug/L
Gasoline_Range	270* 50
Benzene	ND 0.5
Toluene	ND 0.5
Ethyl Benzene	ND 0.5
Total Xylenes	ND 0.5

>> Surrogate Recoveries (%) <<
Trifluorotoluene (SS) 101



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Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

Quality Assurance and Control Data

Laboratory Number: 81273
Method Blank(s)

BD241.05-01
Conc. RL
ug/L

Gasoline_Range	ND	50
Benzene	ND	0.5
Toluene	ND	0.5
Ethyl Benzene	ND	0.5
Total Xylenes	ND	0.5

>> Surrogate Recoveries (%) <<
Trifluorotoluene (SS) 101



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Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

Quality Assurance and Control Data

Laboratory Number: 81273

Compound	Sample conc.	SPK Level	SPK Result	Recovery %	Limits %	RPD %
For Water Matrix (ug/L)						
BD241.05 02 / 03 - Sample Spiked: 81251 - 04						
Gasoline_Range	ND	357	347/322	97/90	65-135	7
Benzene	ND	20	24/23	120/115	65-135	4
Toluene	ND	20	25/23	125/115	65-135	8
Ethyl Benzene	ND	20	24/21	120/105	65-135	13
Total Xylenes	ND	60	71/62	118/103	65-135	14
>> Surrogate Recoveries (%) <<						
Trifluorotoluene (SS)				105/103	50-150	

* - Hydrocarbons were found in the range of gasoline, but do not resemble a gasoline fingerprint.

Definitions:

ND = Not Detected

RL = Reporting Limit

NA = Not Analysed

RPD = Relative Percent Difference

ug/L = parts per billion (ppb)

mg/L = parts per million (ppm)

ug/kg = parts per billion (ppb)

mg/kg = parts per million (ppm)



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Halogenated Volatile Organics by EPA SW-846 Methods 5030/8010

Chronology

Laboratory Number 81273

Sample ID	Sampled	Received	Extract.	Analyzed	QC Batch	LAB #
MW-7	04/19/95	04/20/95	04/24/95	04/24/95	BD241.08	02
MW-13	04/19/95	04/20/95	04/24/95	04/24/95	BD241.08	03
MW-15	04/19/95	04/20/95	04/25/95	04/25/95	BD241.08	04
MW-10	04/19/95	04/20/95	04/25/95	04/25/95	BD241.08	05
MW-11	04/19/95	04/20/95	04/25/95	04/25/95	BD241.08	06
MW-17	04/19/95	04/20/95	04/25/95	04/25/95	BD241.08	07
MW-18	04/19/95	04/20/95	04/25/95	04/25/95	BD251.08	08
MW-19	04/19/95	04/20/95	04/27/95	04/27/95	BD271.08	09

QC Samples

QC Batch #	QC Sample ID	Type	Ref.	Matrix	Extract.	Analyzed
BD241.08-01	Method Blank	MB		Water	04/24/95	04/24/95
BD241.08-02	Laboratory Spike	LS		Water	04/24/95	04/24/95
BD251.08-01	Method Blank	MB		Water	04/25/95	04/25/95
BD251.08-02	Laboratory Spike	LS		Water	04/25/95	04/25/95
BD251.08-03	MW-7	MS	81273-02	Water	04/25/95	04/25/95
BD251.08-04	MW-7	MSD	81273-02	Water	04/25/95	04/25/95
BD271.08-01	Method Blank	MB		Water	04/27/95	04/27/95
BD271.08-02	Laboratory Spike	LS		Water	04/27/95	04/27/95

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Halogenated Volatile Organics by EPA SW-846 Methods 5030/8010

LAB ID	Sample ID	Matrix	Dil. Factor	Moisture
81273-02	MW-7	Water	1.0	-
81273-03	MW-13	Water	1.0	-
81273-04	MW-15	Water	1.0	-
81273-05	MW-10	Water	1.0	-

RESULTS OF ANALYSIS

Compound	81273-02		81273-03		81273-04		81273-05	
	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
	ug/L		ug/L		ug/L		ug/L	
Chloromethane	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
Bromomethane	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
Trichlorofluoromethane	ND	0.5	ND	0.5	ND	0.5	ND	0.5
1,1-Dichloroethene	ND	0.5	ND	0.5	ND	0.5	0.7	0.5
Dichloromethane	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	14	0.5
1,1-Dichloroethane	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	36	0.5
Chloroform	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
Carbon tetrachloride	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
Trichloroethene	ND	0.5	ND	0.5	ND	0.5	9.2	0.5
c-1,3-Dichloropropene	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
t-1,3-Dichloropropene	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
1,1,2-Trichloroethane	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
Dibromochloromethane	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
Bromoform	ND	0.5	ND	0.5	ND	0.5	ND	0.5
1,1,2,2-Tetrachloroethane	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
1,2-Dichlorobenzene	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
>> Surrogate Recoveries (%) <<								
4-Bromofluorobenzene	89		94		91		92	



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Halogenated Volatile Organics by EPA SW-846 Methods 5030/8010

LAB ID	Sample ID	Matrix	Dil. Factor	Moisture
81273-06	MW-11	Water	1.0	-
81273-07	MW-17	Water	1.0	-
81273-08	MW-18	Water	1.0	-
81273-09	MW-19	Water	20.0	-

RESULTS OF ANALYSIS

Compound	81273-06		81273-07		81273-08		81273-09	
	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
	ug/L		ug/L		ug/L		ug/L	
Chloromethane	2.4	0.5	ND	0.5	0.6	0.5	ND	10
Vinyl Chloride	ND	0.5	ND	0.5	ND	0.5	ND	10
Bromomethane	ND	0.5	ND	0.5	ND	0.5	ND	10
Chloroethane	ND	0.5	ND	0.5	ND	0.5	ND	10
Trichlorofluoromethane	ND	0.5	ND	0.5	ND	0.5	ND	10
1,1-Dichloroethene	ND	0.5	ND	0.5	ND	0.5	ND	10
Dichloromethane	ND	0.5	ND	0.5	ND	0.5	ND	10
t-1,2-Dichloroethene	18	0.5	ND	0.5	ND	0.5	ND	10
1,1-Dichloroethane	ND	0.5	ND	0.5	ND	0.5	ND	10
c-1,2-Dichloroethene	39	0.5	0.9	0.5	2.2	0.5	65	10
Chloroform	1.0	0.5	1.2	0.5	1.1	0.5	ND	10
1,1,1-Trichloroethane	ND	0.5	1.1	0.5	1.3	0.5	ND	10
Carbon tetrachloride	ND	0.5	ND	0.5	ND	0.5	ND	10
1,2-Dichloroethane	ND	0.5	ND	0.5	ND	0.5	ND	10
Trichloroethene	6.5	0.5	21	0.5	46	0.5	130	10
c-1,3-Dichloropropene	ND	0.5	ND	0.5	ND	0.5	ND	10
1,2-Dichloropropane	ND	0.5	ND	0.5	ND	0.5	ND	10
t-1,3-Dichloropropene	ND	0.5	ND	0.5	ND	0.5	ND	10
Bromodichloromethane	ND	0.5	ND	0.5	ND	0.5	ND	10
1,1,2-Trichloroethane	ND	0.5	ND	0.5	ND	0.5	ND	10
Tetrachloroethene	ND	0.5	12	0.5	14	0.5	670	10
Dibromochloromethane	ND	0.5	ND	0.5	ND	0.5	ND	10
Chlorobenzene	ND	0.5	ND	0.5	ND	0.5	ND	10
Bromoform	ND	0.5	ND	0.5	ND	0.5	ND	10
1,1,2,2-Tetrachloroethane	ND	0.5	ND	0.5	ND	0.5	ND	10
1,3-Dichlorobenzene	ND	0.5	ND	0.5	ND	0.5	ND	10
1,2-Dichlorobenzene	ND	0.5	ND	0.5	ND	0.5	ND	10
1,4-Dichlorobenzene	ND	0.5	ND	0.5	ND	0.5	ND	10
>> Surrogate Recoveries (%) <<								
4-Bromofluorobenzene	98		97		90		88	



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Halogenated Volatile Organics by EPA SW-846 Methods 5030/8010

Quality Assurance and Control Data

Laboratory Number: 81273

Method Blank(s)

	BD241.08-01		BD251.08-01		BD271.08-01	
	Conc.	RL	Conc.	RL	Conc.	RL
	ug/L		ug/L		ug/L	
Chloromethane	ND	0.5	ND	0.5	ND	0.5
Vinyl Chloride	ND	0.5	ND	0.5	ND	0.5
Bromomethane	ND	0.5	ND	0.5	ND	0.5
Chloroethane	ND	0.5	ND	0.5	ND	0.5
Trichlorofluoromethane	ND	0.5	ND	0.5	ND	0.5
1,1-Dichloroethene	ND	0.5	ND	0.5	ND	0.5
Dichloromethane	ND	0.5	ND	0.5	ND	0.5
t-1,2-Dichloroethene	ND	0.5	ND	0.5	ND	0.5
1,1-Dichloroethane	ND	0.5	ND	0.5	ND	0.5
c-1,2-Dichloroethene	ND	0.5	ND	0.5	ND	0.5
Chloroform	ND	0.5	ND	0.5	ND	0.5
1,1,1-Trichloroethane	ND	0.5	ND	0.5	ND	0.5
Carbon tetrachloride	ND	0.5	ND	0.5	ND	0.5
1,2-Dichloroethane	ND	0.5	ND	0.5	ND	0.5
Trichloroethene	ND	0.5	ND	0.5	ND	0.5
c-1,3-Dichloropropene	ND	0.5	ND	0.5	ND	0.5
1,2-Dichloropropane	ND	0.5	ND	0.5	ND	0.5
t-1,3-Dichloropropene	ND	0.5	ND	0.5	ND	0.5
Bromodichloromethane	ND	0.5	ND	0.5	ND	0.5
1,1,2-Trichloroethane	ND	0.5	0.7	0.5	ND	0.5
Tetrachloroethene	ND	0.5	ND	0.5	ND	0.5
Dibromochloromethane	ND	0.5	ND	0.5	ND	0.5
Chlorobenzene	ND	0.5	ND	0.5	ND	0.5
Bromoform	ND	0.5	ND	0.5	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5	ND	0.5	ND	0.5
1,3-Dichlorobenzene	ND	0.5	ND	0.5	ND	0.5
1,2-Dichlorobenzene	ND	0.5	ND	0.5	ND	0.5
1,4-Dichlorobenzene	ND	0.5	ND	0.5	ND	0.5
>> Surrogate Recoveries (%) <<						
4-Bromofluorobenzene	93		80		70	



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Halogenated Volatile Organics by EPA SW-846 Methods 5030/8010

Quality Assurance and Control Data

Laboratory Number: 81273

Compound	Sample conc.	SPK Level	SPK Result	Recovery %	Limits %	RPD %
For Water Matrix (ug/L)						
BD241.08 02 / - Laboratory Control Spikes						
1,1-Dichloroethene		20	26	130	50-189	
Trichloroethene		20	21	105	53-161	
Chlorobenzene		20	19	95	57-171	
>> Surrogate Recoveries (%) <<						
4-Bromofluorobenzene				100	50-125	
For Water Matrix (ug/L)						
BD251.08 02 / - Laboratory Control Spikes						
1,1-Dichloroethene		20	24	120	50-189	
Trichloroethene		20	21	105	53-161	
Chlorobenzene		20	19	95	57-171	
>> Surrogate Recoveries (%) <<						
4-Bromofluorobenzene				89	50-125	
For Water Matrix (ug/L)						
BD271.08 02 / - Laboratory Control Spikes						
1,1-Dichloroethene		20	24	120	50-189	
Trichloroethene		20	24	120	53-161	
Chlorobenzene		20	24	120	57-171	
>> Surrogate Recoveries (%) <<						
4-Bromofluorobenzene				70	50-125	
For Water Matrix (ug/L)						
BD251.08 03 / 04 - Sample Spiked: 81273 - 02						
1,1-Dichloroethene	ND	20	22/25	110/125	50-189	13
Trichloroethene	ND	20	19/22	95/110	53-161	15
Chlorobenzene	ND	20	19/21	95/105	57-171	10



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Halogenated Volatile Organics by EPA SW-846 Methods 5030/8010

Quality Assurance and Control Data

Laboratory Number: 81273

Compound	Sample conc.	SPK Level	SPK Result	Recovery %	Limits %	RPD %
>> Surrogate Recoveries (%) <<						
4-Bromofluorobenzene				76/67	50-125	

Definitions:

- ND = Not Detected
- RL = Reporting Limit
- NA = Not Analysed
- RPD = Relative Percent Difference
- ug/L = parts per billion (ppb)
- mg/L = parts per million (ppm)

- ug/kg = parts per billion (ppb)
- mg/kg = parts per million (ppm)

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