Chevron U.S.A. Inc.
2410 Camino Ramon, San Ramon, California • Phone (415) 842-9500
Mail Address: P.O. Box 5004, San Ramon, CA 94583-0804

April 22, 1991

Mr. Paul Smith
Alameda County
Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

Re: Former Chevron Service Station #9-0020
17th and Harrison
Oakland, CA

Dear Mr. Shahid:

Enclosed we are forwarding the Quarterly Groundwater Sampling Report dated April 16, 1991, conducted by our consultant, Western Geologic Resources, Inc., for the above referenced site. As indicated in the report, groundwater samples collected were analyzed for Total Petroleum Hydrocarbons as gasoline (TPH-G), BTEX, and Halogenated Volatile Organics. The concentration levels detected are consistent with previous sampling results.

Chevron is in the process of permitting and installing an additional off-site groundwater monitoring well to delineate the extent of the hydrocarbon contamination. This phase of the assessment has been held up while required documentation is being compiled as part of the City of Oakland's encroachment permitting requirements. We anticipate installing this well within the month of June, 1991. The data collected from this well will assist in our assessment of an appropriate remedial approach. The technical report documenting the well installation will incorporate our proposed remediation.

If you have any questions or comments please do not hesitate to contact me at (415) 842-9581.

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

Nancy Vukelich
Environmental Engineer

Enclosure

cc: Mr. Rich Hiett, RWQCB-Bay Area
Mr. W.T. Scudder
File (9-0020Q5 Listing)

WESTERN GEOLOGIC RESOURCES INC.

16 DIGITAL DRIVE, SUITE 108
NOVATO, CALIFORNIA 94949 / FAX 415.382.7415
TELE 415.382.7400

16 April 1991

Ms. Nancy Vukelich
Chevron USA
2410 Camino Ramon
San Ramon, California 94583-0804

Re: Quarterly Groundwater Monitoring
Sampled March 1991
Former Chevron Service Station #90020
1633 Harrison Street
Oakland, California 94612
WGR Project #1-012.05

Dear Ms. Vukelich

This letter reports presents the results of the quarterly groundwater monitoring performed on 7 March 1991 by Western Geologic Resources, Inc. (WGR) at the subject site (Figure 1).

On 7 March 1991, WGR staff measured depth to water, purged, and sampled monitor wells MW-1 through MW-12. The WGR standard operating procedure for groundwater sampling, SOP-4, and the WGR standard operating procedure for taking liquid levels, SOP-8, are attached; the field sampling and monitoring forms are also attached.

All purged water was temporarily stored on-site in 55-gallon drums pending receipt of analytic reports. Chevron personnel were notified that 160 gallons of water could be picked up for disposal.

The groundwater-elevation measurements are shown in Table 1, along with the measurements from past site monitorings. Figure 2 shows the potentiometric surface of shallow groundwater and the groundwater flow direction at the site on 7 March 1991. Table 2 presents a compilation of the laboratory analyses performed this quarter by Superior Analytical Laboratory, as well as past analytical results.

The next quarterly sampling event is scheduled for June 1991.

Western Geologic Resources, Inc. is pleased to provide geologic and environmental consulting services for Chevron and trusts that this reports meets your needs. Please call us at (415) 382-7400 if you have any questions.

Sincerely,
Western Geologic Resources, Inc.

Jennifer Krebs
Environmental Scientist

Leonard P. Niles
Senior Staff Geologist

ENCLOSURES

Figure 1: Site Location Map
Figure 2: Potentiometric Surface of Shallow Groundwater, 7 March 1991
Figure 3: Distribution of Total Purgeable Petroleum Hydrocarbons (TPPH) in Shallow Groundwater, 7 March 1991
Figure 4: Distribution of Benzene in Shallow Groundwater, 7 March 1991
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Table 3: Analytic Results: Groundwater Samples - Selected Halocarbons
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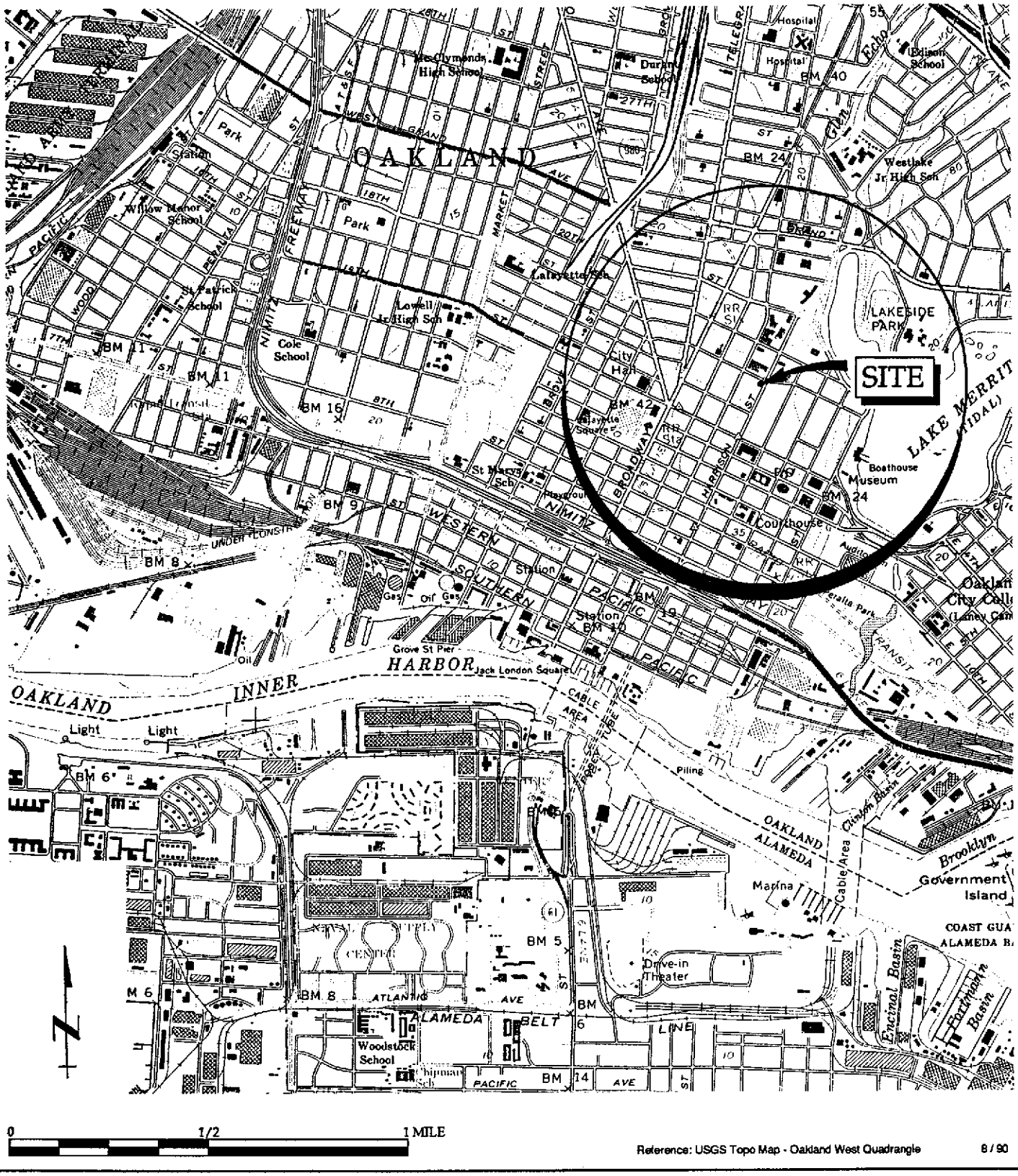
SOP-8: Gauging Liquid Levels Using Water Level Probe or Interface Probe
Field Sampling and Monitoring Forms
Chain-of-Custody
Laboratory Analytic Reports

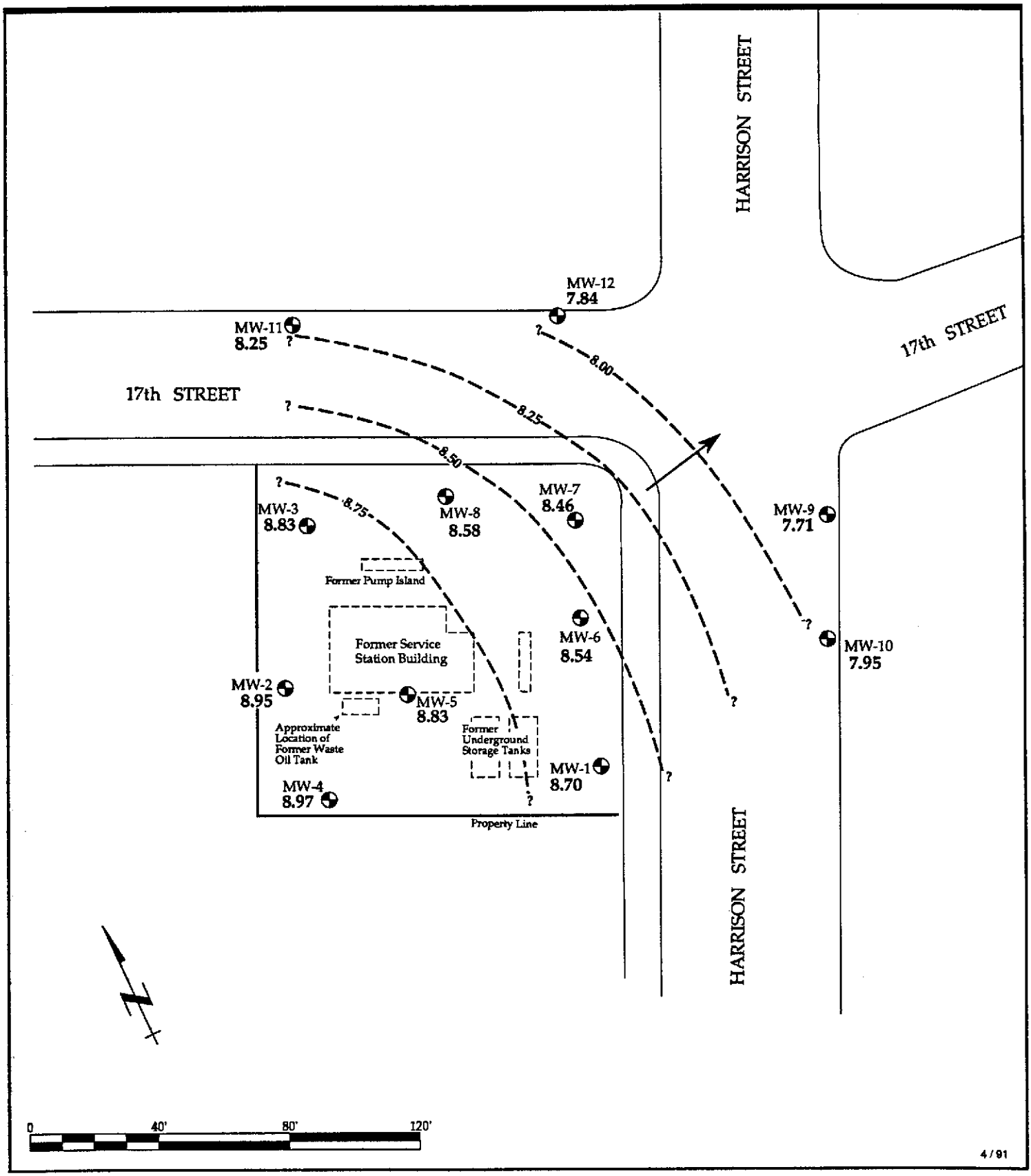
012Q1MR1.vw



Site Location Map
Former Chevron Service Statin #90020
1633 Harrison Street
Oakland, California

FIGURE
1

WESTERN GEOLOGIC RESOURCES, INC.
1-012.04



EXPLANATION

MW-1 8.70 — Monitor Well location and groundwater elevation, feet above mean sea level (MSL)

8.00 — — · ? — Groundwater surface contour in feet above MSL, dashed where inferred

← — Estimated direction of groundwater flow

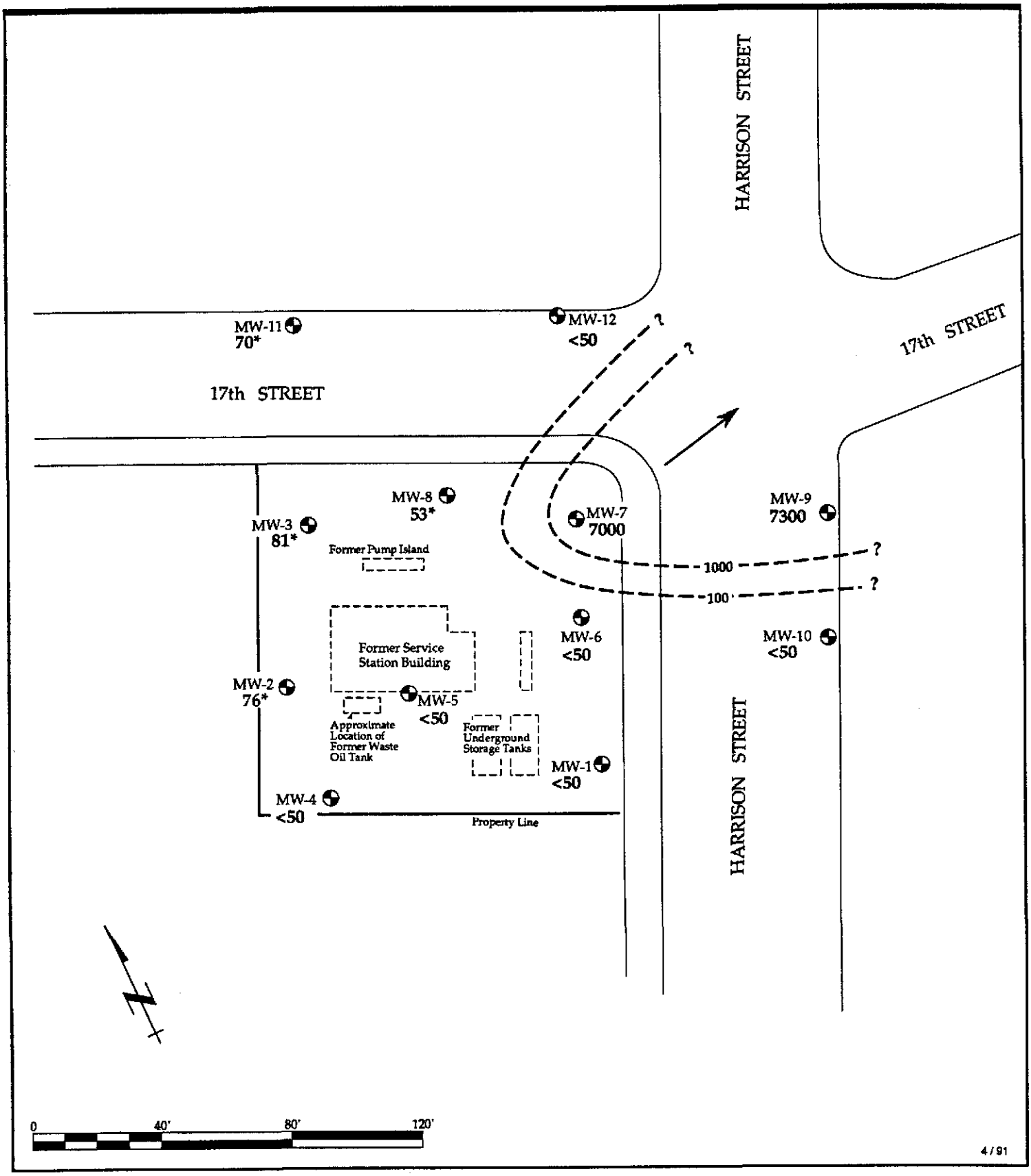
4

Potentiometric Surface of Shallow Groundwater
7 March 1991
Former Chevron Service Station #90020
1633 Harrison Street, Oakland, California

FIGURE
2

WESTERN GEOLOGIC RESOURCES, INC.

1-012.05



EXPLANATION

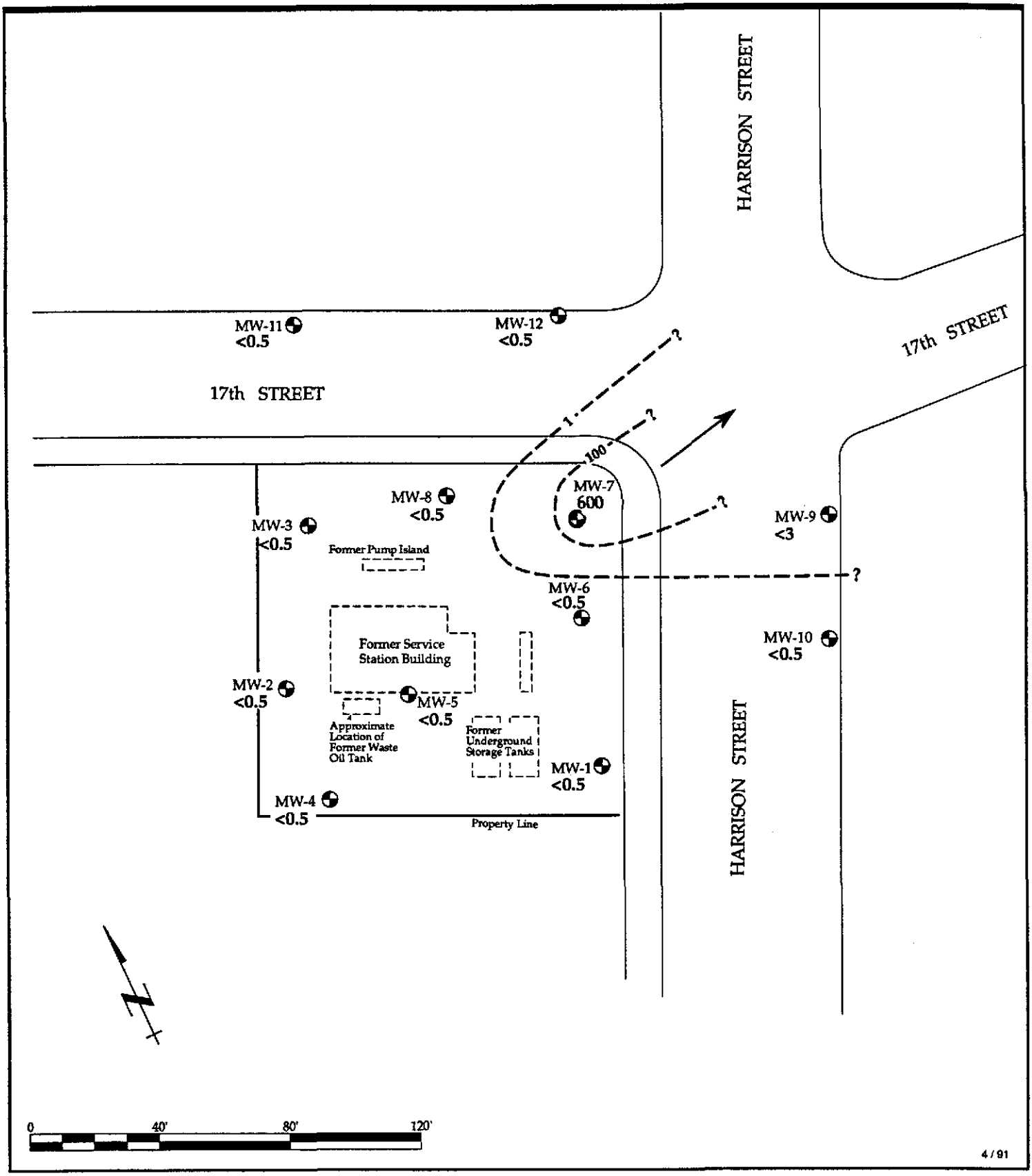
- MW-1 <50 — Monitor Well location and TPPH concentration in parts-per-billion (ppb) EPA method 8015
- * — Does not match gasoline pattern, single peak in gasoline range can be identified from EPA method 8010 results
- 100 — — ? — Isoconcentration contour for TPPH in ppb, dashed where inferred, queried where uncertain
- 5 ← — Estimated direction of groundwater flow

Distribution of Total Purgeable Petroleum Hydrocarbons (TPPH) in Shallow Groundwater
7 March 1991
Former Chevron Service Station #90020
1633 Harrison Street,
Oakland, California

FIGURE 3

WESTERN GEOLOGIC RESOURCES, INC.

1-012.05



EXPLANATION

MW-1 <0.5 — Monitor Well location and benzene concentration in parts-per-billion (ppb) EPA method 8020

100 — ? — Isoconcentration contour for benzene in ppb, dashed where inferred, queried where uncertain

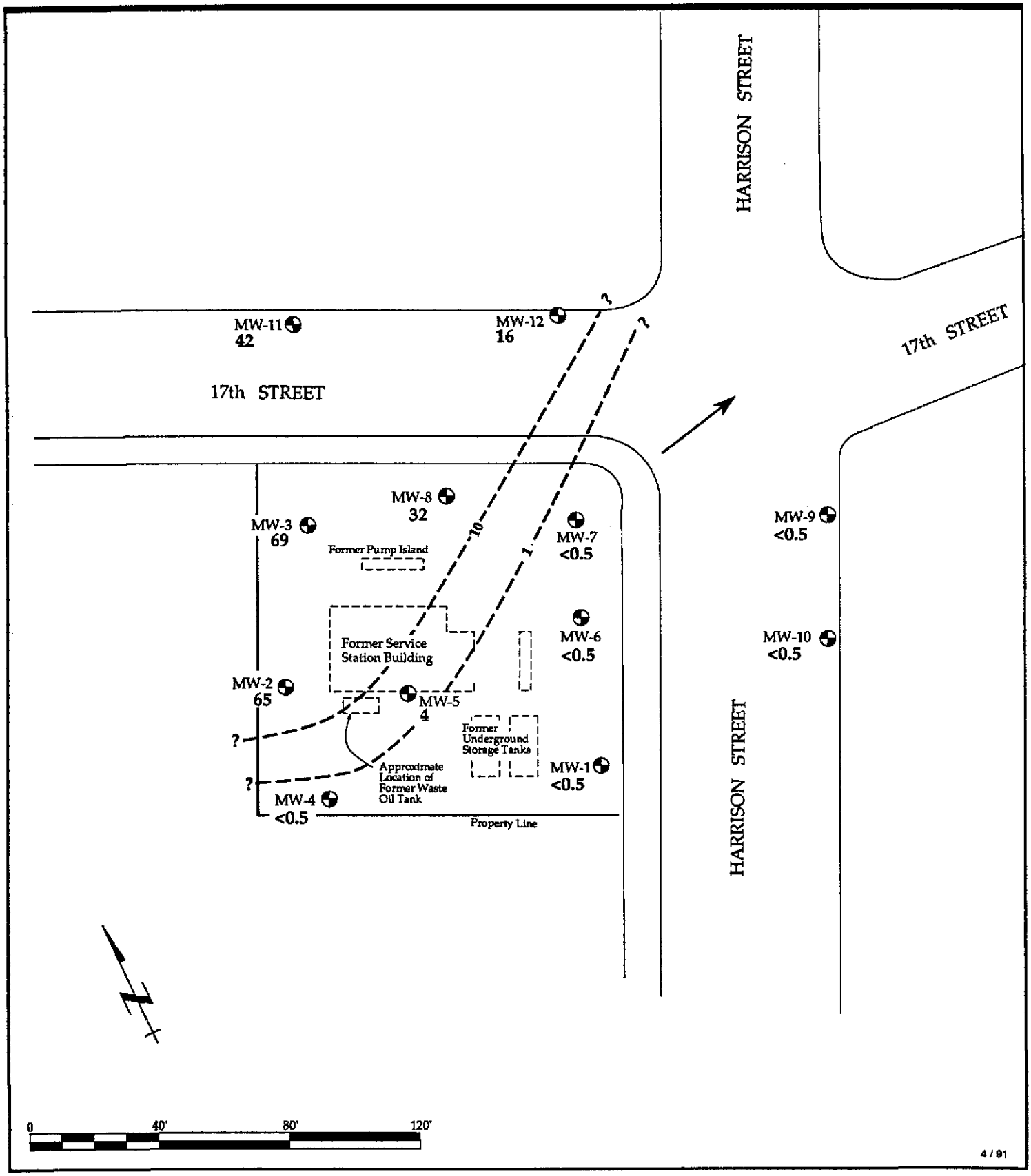
Estimated direction of groundwater flow

Distribution of Benzene in Shallow Groundwater
7 March 1991
Former Chevron Service Station #90020
1633 Harrison Street,
Oakland, California

FIGURE
4

WESTERN GEOLOGIC RESOURCES, INC.

1-012.05



EXPLANATION

- MW-1 <0.5 — Monitor Well location and PCE concentration in parts-per-billion (ppb) EPA method 8010
- 10 — — - ? — Isoconcentration contour for PCE in ppb, dashed where inferred, queried where uncertain
- 7 ← — Estimated direction of groundwater flow

Distribution of Tetrachloroethene (PCE) in Shallow Groundwater
7 March 1991
Former Chevron Service Station #90020
1633 Harrison Street,
Oakland, California

FIGURE
5

WESTERN GEOLOGIC RESOURCES, INC.

1-012.05

TABLE 1. Groundwater-Elevation Data
Former Chevron Service Station #90020
1633 Harrison Street
Oakland, California

Well ID #	Date	TOC	DTW	Elev.-W
		<----------ft---------->		
MW-1	3 Nov 88	29.82	20.40	9.42
MW-1	2 Feb 89	29.82	20.71	9.11
MW-1	23 Apr 89	29.82	20.34	9.48
MW-1	28 Jul 89	29.82	20.58	9.24
MW-1	30 Oct 89	29.82	20.52	9.30
MW-1	9 Jan 90	29.82	20.77	9.05
MW-1	18 Apr 90	29.82	20.95	8.87
MW-1	22 Jun 90	29.82	21.00	8.82
MW-1	9 Aug 90	29.82	20.94	8.88
MW-1	13 Nov 90	29.82	20.98	8.84
MW-1	7 Mar 91	29.82	21.12	8.70
MW-2	3 Nov 88	30.59	20.89	9.70
MW-2	2 Feb 89	30.59	21.21	9.38
MW-2	23 Apr 89	30.59	20.82	9.77
MW-2	28 Jul 89	30.59	21.02	9.57
MW-2	30 Oct 89	30.59	20.96	9.63
MW-2	9 Jan 90	30.59	21.25	9.34
MW-2	18 Apr 90	30.59	21.53	9.06
MW-2	22 Jun 90	30.59	21.57	9.02
MW-2	9 Aug 90	30.59	21.55	9.04
MW-2	13 Nov 90	30.59	21.54	9.05
MW-2	7 Mar 91	30.59	21.64	8.95
MW-3	3 Nov 88	30.09	20.54	9.55
MW-3	2 Feb 89	30.09	20.85	9.24
MW-3	23 Apr 89	30.09	20.43	9.66
MW-3	28 Jul 89	30.09	20.64	9.45
MW-3	30 Oct 89	30.09	20.61	9.48
MW-3	9 Jan 90	30.09	20.88	9.21
MW-3	18 Apr 90	30.09	21.15	8.94
MW-3	22 Jun 90	30.09	21.20	8.89
MW-3	9 Aug 90	30.09	21.18	8.91
MW-3	13 Nov 90	30.09	21.15	8.94
MW-3	7 Mar 91	30.09	21.26	8.83

1-012.05/G1MR1.wk1

TABLE 1. Groundwater-Elevation Data (continued)
Former Chevron Service Station #90020
1633 Harrison Street
Oakland, California

Well ID #	Date	TOC	DTW	Elev.-W
		<----------ft---------->		
MW-4	23 Apr 89	31.17	21.33	9.84
MW-4	28 Jul 89	31.17	21.58	9.59
MW-4	30 Oct 89	31.17	21.54	9.63
MW-4	9 Jan 90	31.17	21.82	9.35
MW-4	18 Apr 90	31.17	22.09	9.08
MW-4	22 Jun 90	31.17	22.12	9.05
MW-4	9 Aug 90	31.17	22.11	9.06
MW-4	13 Nov 90	31.17	22.10	9.07
MW-4	7 Mar 91	31.17	22.20	8.97
MW-5	23 Apr 89	30.28	20.62	9.66
MW-5	28 Jul 89	30.28	20.86	9.42
MW-5	30 Oct 89	30.28	20.82	9.46
MW-5	9 Jan 90	30.28	21.07	9.21
MW-5	18 Apr 90	30.28	21.35	8.93
MW-5	22 Jun 90	30.28	21.38	8.90
MW-5	9 Aug 90	30.28	21.36	8.92
MW-5	13 Nov 90	30.28	21.35	8.93
MW-5	7 Mar 91	30.28	21.45	8.83
MW-6	23 Apr 89	29.46	20.05	9.41
MW-6	28 Jul 89	29.46	20.30	9.16
MW-6	30 Oct 89	29.46	20.32	9.14
MW-6	9 Jan 90	29.46	20.51	8.95
MW-6	18 Apr 90	29.46	20.72	8.74
MW-6	22 Jun 90	29.46	20.77	8.69
MW-6	9 Aug 90	29.46	20.74	8.72
MW-6	13 Nov 90	29.46	20.75	8.71
MW-6	7 Mar 91	29.46	20.92	8.54
MW-7	23 Apr 89	29.01	18.99	10.02
MW-7	28 Jul 89	29.01	19.94	9.07
MW-7	30 Oct 89	29.01	19.97	9.04
MW-7	9 Jan 90	29.01	20.15	8.86
MW-7	18 Apr 90	29.01	20.37	8.64
MW-7	22 Jun 90	29.01	20.40	8.61
MW-7	9 Aug 90	29.01	20.38	8.63
MW-7	13 Nov 90	29.01	20.41	8.60
MW-7	7 Mar 91	29.01	20.55	8.46

1-012.05/G1MR1.wk1

TABLE 1. Groundwater-Elevation Data (continued)
Former Chevron Service Station #90020
1633 Harrison Street
Oakland, California

Well ID #	Date	TOC	DTW	Elev.-W
		<----------ft---------->		
MW-8	23 Apr 89	29.57	20.14	9.43
MW-8	28 Jul 89	29.57	20.37	9.20
MW-8	30 Oct 89	29.57	20.32	9.25
MW-8	9 Jan 90	29.57	20.60	8.97
MW-8	18 Apr 90	29.57	20.87	8.70
MW-8	22 Jun 90	29.57	20.34*	9.23*
MW-8	9 Aug 90	29.57	20.89	8.68
MW-8	13 Nov 90	29.57	20.86	8.71
MW-8	7 Mar 91	29.57	20.99	8.58
MW-9	22 Jun 90	28.67	20.80	7.87
MW-9	9 Aug 90	28.67	20.74	7.93
MW-9	13 Nov 90	28.67	20.78	7.89
MW-9	7 Mar 91	28.67	20.96	7.71
MW-10	22 Jun 90	28.60	20.48	8.12
MW-10	9 Aug 90	28.60	20.45	8.15
MW-10	13 Nov 90	28.60	20.47	8.13
MW-10	7 Mar 91	28.60	20.65	7.95
MW-11	22 Jun 90	29.37	21.03	8.34
MW-11	9 Aug 90	29.37	21.02	8.35
MW-11	13 Nov 90	29.37	20.93	8.44
MW-11	7 Mar 91	29.37	21.12	8.25
MW-12	22 Jun 90	28.43	20.45	7.98
MW-12	9 Aug 90	28.43	20.43	8.00
MW-12	13 Nov 90	28.43	20.45	7.98
MW-12	7 Mar 91	28.43	20.59	7.84

NOTES:

TOC = Top-of-Casing elevation, in feet above mean sea level
DTW = Depth to Water
Elev.-W = Elevation of Water, in feet above mean sea level
* = Anomalous data
ft = feet

1-012.05/G1MR1.wk1

TABLE 2. Analytic Results: Groundwater Samples - Petroleum Hydrocarbons
Former Chevron Service Station 90020
1633 Harrison Street
Oakland, California

Well ID #	Date	EPA Method	Lab	FC	TFH	TPH/TPPH	Benzene	Toluene	E-Benzene	Xylenes	O&G
					<----------ppb---------->						
MW-1	3 Nov 88	624/8015	BC	---	<1,000	---	<1.0	<1.0	<1.0	<1.0	---
MW-1	10 Feb 89	524.2/8240	CCAS	---	---	<100	<0.2	<0.2	<0.2	<0.4	---
MW-1	24 Apr 89	524.2/8260	CCAS	---	---	<50	<0.5	<1.0	<1.0	<1.0	<3,000
MW-1	28 Jul 89	8260	CCAS	---	---	<50	<0.1	<0.5	<0.2	<0.5	<3,000
MW-1	30 Oct 89	8015/8020	GTEL	---	---	<500	<0.3	<0.3	<0.3	<0.6	---
MW-1	9 Jan 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-1	18 Apr 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-1	9 Aug 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-1	13 Nov 90	8015/8020	SAL	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
MW-1	7 Mar 91	8015/8020	SAL	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
MW-2	3 Nov 88	624/8015	BC	---	<1,000	---	<1.0	<1.0	<1.0	<1.0	---
MW-2	10 Feb 89	524.2/8240	CCAS	---	---	<100	<0.2	<0.2	<0.2	<0.4	---
MW-2	24 Apr 89	524.2/8260	CCAS	---	---	<50	<0.5	<1.0	<1.0	<1.0	<3,000
MW-2	28 Jul 89	8260	CCAS	---	---	<100	<0.2	<1.0	<0.2	<0.4	<3,000
MW-2	30 Oct 89	8015/8020	GTEL	---	---	<500	<0.3	<0.3	<0.3	<0.6	---
MW-2	9 Jan 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-2	18 Apr 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-2	9 Aug 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-2	13 Nov 90	8015/8020	SAL	---	---	<50	<0.5	0.8	<0.5	0.9	---
MW-2	7 Mar 91	8015/8020	SAL	---	---	76*	<0.5	<0.5	<0.5	<0.5	---

TABLE 2. Analytic Results: Groundwater Samples - Petroleum Hydrocarbons (continued)
Former Chevron Service Station 90020
1633 Harrison Street
Oakland, California

Well ID #	Date	EPA Method	Lab	FC	TFH	TPH/TPPH	Benzene	Toluene	E-Benzene	Xylenes	O&G
					<----------ppb---------->						
MW-3	3 Nov 88	624/8015	BC	---	<1,000	---	<1.0	<1.0	<1.0	<1.0	---
MW-3	10 Feb 89	524.2/8240	CCAS	---	---	<100	<0.2	<0.2	<0.2	<0.4	---
MW-3	24 Apr 89	524.2/8260	CCAS	---	---	<50	<0.5	<1.0	<1.0	<1.0	<3,000
MW-3	28 Jul 89	8260	CCAS	---	---	<100	<0.2	<1.0	<0.2	<0.4	<3,000
MW-3	30 Oct 89	8015/8020	GTEL	---	---	<500	<0.3	<0.3	<0.3	<0.6	---
MW-3	9 Jan 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-3	18 Apr 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-3	9 Aug 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-3	13 Nov 90	8015/8020	SAL	---	---	51*	<0.5	<0.5	<0.5	<0.5	---
MW-3	7 Mar 91	8015/8020	SAL	---	---	81*	<0.5	<0.5	<0.5	<0.5	---
MW-4	24 Apr 89	524.2/8260	CCAS	---	---	<50	<0.5	<1.0	<1.0	<1.0	<3,000
MW-4	28 Jul 89	8260	CCAS	---	---	<50	<0.1	<0.5	<0.1	<0.2	<3,000
MW-4	30 Oct 89	8015/8020	GTEL	---	---	<500	<0.3	<0.3	<0.3	<0.6	---
MW-4	9 Jan 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-4	18 Apr 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-4	9 Aug 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-4	13 Nov 90	8015/8020	SAL	---	---	<50	<0.5	1	0.5	1	---
MW-4	7 Mar 91	8015/8020	SAL	---	---	<50	<0.5	<0.5	<0.5	<0.5	---

TABLE 2. Analytic Results: Groundwater Samples - Petroleum Hydrocarbons (continued)
Former Chevron Service Station 90020
1633 Harrison Street
Oakland, California

Well ID #	Date	EPA Method	Lab	FC	TFH	TPH/TPPH	Benzene	Toluene	E-Benzene	Xylenes	O&G
					<----------ppb---------->						
MW-5	24 Apr 89	524.2/8260	CCAS	---	---	<50	<0.5	<1.0	<1.0	<1.0	<3,000
MW-5	28 Jul 89	8260	CCAS	---	---	<100	<0.2	<1.0	<0.2	<0.4	<3,000
MW-5	30 Oct 89	8015/8020	GTEL	---	---	<500	<0.3	<0.3	<0.3	<0.6	---
MW-5	9 Jan 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-5	18 Apr 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-5	9 Aug 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-5	13 Nov 90	8015/8020	SAL	---	---	<50	<0.5	1	<0.5	1	---
MW-5	7 Mar 91	8015/8020	SAL	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
MW-6	24 Apr 89	524.2/8260	CCAS	---	---	<50	<0.5	<1.0	<1.0	<1.0	<3,000
MW-6	28 Jul 89	8260	CCAS	---	---	<100	<0.2	<1.0	<0.2	<0.4	<3,000
MW-6	30 Oct 89	8015/8020	GTEL	---	---	<500	<0.3	<0.3	<0.3	<0.6	---
MW-6	9 Jan 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-6	18 Apr 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-6	9 Aug 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-6	13 Nov 90	8015/8020	SAL	---	---	<50	3	5	0.5	2	---
MW-6	7 Mar 91	8015/8020	SAL	---	---	<50	<0.5	<0.5	<0.5	<0.5	---

TABLE 2. Analytic Results: Groundwater Samples - Petroleum Hydrocarbons (continued)
Former Chevron Service Station 90020
1633 Harrison Street
Oakland, California

Well ID #	Date	EPA Method	Lab	FC	TFH	TPH/TPPH	Benzene	Toluene	E-Benzene	Xylenes	O&G
					<--------		ppb				-------->
MW-7	24 Apr 89	524.2/8260	CCAS	Gas	---	8,400	100	260	160	1,300	3,000**
MW-7	28 Jul 89	8260	CCAS	Gas	---	7,000	230	90	70	440	3,000
MW-7D	28 Jul 89	8260	CCAS	Gas	---	6,000	280	180	58	430	---
MW-7	30 Oct 89	8015/8020	GTEL	Gas	---	10,000	570	55	160	400	---
MW-7D	30 Oct 89	8015/8020	GTEL	Gas	---	9,900	520	82	180	410	---
MW-7	9 Jan 90	8015/8020	GTEL	Gas	---	3,400	290	72	9	200	---
MW-7	18 Apr 90	8015/8020	GTEL	Gas	---	6,800	350	140	110	400	---
MW-7	9 Aug 90	8015/8020	GTEL	Gas	---	11,000	360	130	14	660	---
MW-7	13 Nov 90	8015/8020	SAL	Gas	---	6,500	230	110	97	460	---
MW-7	7 Mar 91	8015/8020	SAL	Gas	---	7,000	440	88	85	470	---
MW-7D	7 Mar 91	8015/8020	SAL	Gas	---	5,800	600	120	120	540	---
MW-8	24 Apr 89	524.2/8260	CCAS	---	---	<50	<0.5	<1.0	<1.0	<1.0	3,000
MW-8D	24 Apr 89	524.2/8260	CCAS	---	---	<50	<0.5	<1.0	<1.0	<1.0	---
MW-8	28 Jul 89	8260	CCAS	---	---	<100	<0.2	<1.0	<0.2	<0.4	3,000
MW-8	30 Oct 89	8015/8020	GTEL	---	---	<500	<0.3	<0.3	<0.3	<0.6	---
MW-8	9 Jan 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-8	18 Apr 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-8	9 Aug 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-8	13 Nov 90	8015/8020	SAL	---	---	<50	<0.5	0.8	<0.5	2	---
MW-8	7 Mar 91	8015/8020	SAL	---	---	53*	<0.5	<0.5	<0.5	<0.5	---
MW-9	22 Jun 90	8015/8020	PACE	Gas	---	5,700	47	31	280	530	<1,000
MW-9	9 Aug 90	8015/8020	GTEL	Gas	---	8,000	<0.3	17	210	480	---
MW-9	13 Nov 90	8015/8020	SAL	Gas	---	6,400	<3	20	240	450	---
MW-9	7 Mar 91	8015/8020	SAL	Gas	---	7,300	<3	18	210	400	---

TABLE 2. Analytic Results: Groundwater Samples - Petroleum Hydrocarbons (continued)
Former Chevron Service Station 90020
1633 Harrison Street
Oakland, California

Well ID #	Date	EPA Method	Lab	FC	TFH	TPH/TPPH	Benzene	Toluene	E-Benzene	Xylenes	O&G
					<----------ppb---------->						
MW-10	22 Jun 90	8015/8020	PACE	Gas	---	<50	<0.5	<0.5	<0.5	<0.5	<1,000
MW-10	9 Aug 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-10	13 Nov 90	8015/8020	SAL	---	---	<50	<0.5	2	0.5	2	---
MW-10	7 Mar 91	8015/8020	SAL	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
MW-11	22 Jun 90	8015/8020	PACE	Gas	---	<50	<0.5	<0.5	<0.5	<0.5	<1,000
MW-11	9 Aug 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-11	13 Nov 90	8015/8020	SAL	---	---	76	0.6	1	0.9	4	---
MW-11	7 Mar 91	8015/8020	SAL	---	---	70*	<0.5	<0.5	<0.5	<0.5	---
MW-12	22 Jun 90	8015/8020	PACE	Gas	---	<50	<0.5	<0.5	<0.5	<0.5	<1,000
MW-12	9 Aug 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-12	13 Nov 90	8015/8020	SAL	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
MW-12	7 Mar 91	8015/8020	SAL	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
ER	7 Mar 91	8015/8020	SAL	---	---	<50	<0.5	0.8	<0.5	0.9	---

TABLE 2. Analytic Results: Groundwater Samples - Petroleum Hydrocarbons (continued)
Former Chevron Service Station 90020
1633 Harrison Street
Oakland, California

Well ID #	Date	EPA Method	Lab	FC	TFH	TPH/TPPH	Benzene	Toluene	E-Benzene	Xylenes	O&G
					<----------ppb---------->						
TB	3 Nov 88	624/8015	BC	---	---	---	<1.0	<1.0	<1.0	<1.0	---
TB	10 Feb 89	524.2/8240	CCAS	---	---	<50	<0.1	<0.1	<0.1	<0.2	---
TB	24 Apr 89	524.2/8260	CCAS	---	---	<50	<0.5	<1.0	<1.0	<1.0	---
TB	28 Jul 89	8260	CCAS	---	---	<50	<0.1	<0.5	<0.1	<0.2	---
TB	30 Oct 89	8015/8020	GTEL	---	---	<500	<0.3	<0.3	<0.3	<0.6	---
TB	9 Jan 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
TB	18 Apr 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
TB	22 Jun 90	8015/8020	PACE	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
TB	9 Aug 90	8015/8020	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
TB	13 Nov 90	8015/8020	SAL	---	---	<50	<0.5	<0.5	<0.5	<0.5	---
TB	7 Mar 91	8015/8020	SAL	---	---	<50	<0.5	<0.5	<0.5	<0.5	---

NOTES:

FC = Fuel Characterization
TFH = Total Fuel Hydrocarbons
TPH/TPPH = Total Petroleum Hydrocarbons/ Total Purgeable Petroleum Hydrocarbons
E-Benzene = Ethylbenzene
O&G = Oil and Grease by California Standard Method 503E
ppb = parts-per-billion
D = Duplicate analysis
* = Single peak in gasoline range; does not match gasoline pattern
** = Acetone 50 ppb, 2-butanone 160 ppb

TB = Travel Blank
--- = Not analyzed or characterized
< = Less than listed detection limit
Gas = Gasoline
BC = Brown and Caldwell Laboratories
CCAS = Central Coast Analytical Services
GTEL = Groundwater Technology Environmental Laboratories
PACE = Pace Incorporated
SAL = Superior Analytical Laboratory

TABLE 3. Analytic Results: Groundwater Samples - Selected Halocarbons
Former Chevron Service Station #90020
1633 Harrison Street
Oakland, California

Well ID #	Date	EPA Method	LAB	Carb Tet	Chlor	PCE	TCE	1,2-DCE*	t-1,2-DCE	c-1,2-DCE	TCA	1,2-DCA	1,2-DCP	M-C
				<--------				ppb						-------->
MW-1	3 Nov 88	624/8015	BC	18.0	7.0	<1.0	<1.0	---	<1.0	---	<1.0	<1.0	---	---
MW-1	10 Feb 89	524.2/8240	CCAS	17.0	6.0	<0.2	<0.2	---	<0.2	<0.2	<0.2	<0.2	---	---
MW-1	24 Apr 89	524.2/8260	CCAS	16.0	6.0	<1.0	<1.0	<1.0	---	---	<1.0	<1.0	---	---
MW-1	28 Jul 89	8260	CCAS	20.0	6.4	<0.1	<0.1	---	<0.1	<0.1	0.3	<0.1	---	---
MW-1	30 Oct 89	601	GTEL	11.0	4.9	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	---	---
MW-1	9 Jan 90	601	GTEL	24.0	7.2	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	---	---
MW-1	18 Apr 90	601	GTEL	23.0	5.5	<0.5	<0.5	<0.5	---	---	1.4	<0.5	<0.5	<0.5
MW-1	9 Aug 90	601	GTEL	32.0	11.0	0.76	<0.5	<0.5	---	---	<0.5	<0.5	<0.5	<0.5
MW-1	13 Nov 90	8010	SAL	24	7	0.7	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-1	7 Mar 91	8010	SAL	21	7	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-2	3 Nov 88	624/8015	BC	3.0	2.0	34.0	3.0	---	10.0	---	<1.0	<1.0	---	---
MW-2	10 Feb 89	524.2/8240	CCAS	1.4	1.0	17.2	<0.2	---	<0.2	6.3	<0.2	<0.2	---	---
MW-2	24 Apr 89	524.2/8260	CCAS	2.0	2.0	38.0	3.0	9.0	---	---	<1.0	<1.0	---	---
MW-2	28 Jul 89	8260	CCAS	3.7	2.0	46.0	2.6	---	<0.2	<0.2	<0.2	<0.2	---	---
MW-2	30 Oct 89	601	GTEL	1.4	2.6	53.0	1.1	14.0	---	---	<0.5	<0.5	---	---
MW-2	9 Jan 90	601	GTEL	3.6	3.9	78.0	5.3	16.0	---	---	<0.5	<0.5	---	---
MW-2	18 Apr 90	601	GTEL	1.5	2.7	130.0	3.9	19.0	---	---	<0.5	<0.5	<0.5	<0.5
MW-2	9 Aug 90	601	GTEL	2.1	2.1	74.0	6.1	15.0	---	---	<0.5	<0.5	<0.5	<0.5
MW-2	13 Nov 90	8010	SAL	<0.5	2	40	4	---	<0.5	10	<0.5	<0.5	<0.5	<0.5
MW-2	7 Mar 91	8010	SAL	3	2	65	4	---	<0.5	11	<0.5	<0.5	<0.5	<0.5

TABLE 3. Analytic Results: Groundwater Samples - Selected Halocarbons (continued)
Former Chevron Service Station #90020
1633 Harrison Street
Oakland, California

Well ID #	Date	EPA Method	LAB	Carb Tet	Chlor	PCE	TCE	1,2-DCE*	t-1,2-DCE	c-1,2-DCE	TCA	1,2-DCA	1,2-DCP	M-C
				<--------				ppb						-------->
MW-3	3 Nov 88	624/8015	BC	8.0	6.0	84.0	3.0	---	5.0	---	<1.0	<1.0	---	---
MW-3	10 Feb 89	524.2/8240	CCAS	5.8	4.0	53.0	1.9	---	<0.2	9.0	<0.2	<0.2	---	---
MW-3	24 Apr 89	524.2/8260	CCAS	7.0	6.0	110.0	3.0	11.0	---	---	<1.0	<1.0	---	---
MW-3	28 Jul 89	8260	CCAS	8.6	5.0	49.0	2.1	---	<0.2	11.0	<0.2	<0.1	---	---
MW-3	30 Oct 89	601	GTEL	5.6	5.3	62.0	0.77	8.2	---	---	<0.5	<0.5	---	---
MW-3	9 Jan 90	601	GTEL	8.6	6.1	81.0	3.8	8.7	---	---	<0.5	<0.5	---	---
MW-3	18 Apr 90	601	GTEL	7.6	5.8	120.0	2.4	11.0	---	---	<0.5	<0.5	<0.5	<0.5
MW-3	9 Aug 90	601	GTEL	11.0	6.7	81.0	5.1	11.0	---	---	<0.5	<0.5	<0.5	<0.5
MW-3	13 Nov 90	8010	SAL	7	5	43	4	---	<0.5	9	<0.5	<0.5	<0.5	<0.5
MW-3	7 Mar 91	8010	SAL	8	5	69	4	---	<0.5	9	<0.5	<0.5	<0.5	<0.5
MW-4	24 Apr 89	524.2/8260	CCAS	35.0	11.0	<1.0	<1.0	<1.0	---	---	<1.0	<1.0	---	---
MW-4	28 Jul 89	8260	CCAS	32.0	9.3	<0.1	<0.1	---	<0.1	<0.1	<0.1	<0.1	---	---
MW-4	30 Oct 89	601	GTEL	32.0	8.5	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	---	---
MW-4	9 Jan 90	601	GTEL	36.0	9.8	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	---	---
MW-4	18 Apr 90	601	GTEL	41.0	9.5	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	<0.5	<0.5
MW-4	9 Aug 90	601	GTEL	38.0	11.0	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	<0.5	<0.5
MW-4	13 Nov 90	8010	SAL	40	11	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-4	7 Mar 91	8010	SAL	46	14	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

TABLE 3. Analytic Results: Groundwater Samples - Selected Halocarbons (continued)
Former Chevron Service Station #90020
1633 Harrison Street
Oakland, California

Well ID #	Date	EPA Method	LAB	Carb Tet	Chlor	PCE	TCE	1,2-DCE*	t-1,2-DCE	c-1,2-DCE	TCA	1,2-DCA	1,2-DCP	M-C
				<----------ppb---------->										
MW-5	24 Apr 89	524.2/8260	CCAS	4.0	5.0	4.0	<1.0	2.0	---	---	<1.0	<1.0	---	---
MW-5	28 Jul 89	8260	CCAS	5.6	4.0	5.3	0.3	---	0.2	2.3	0.5	<0.2	---	---
MW-5	30 Oct 89	601	GTEL	2.9	2.0	2.7	<0.5	0.86	---	---	<0.5	<0.5	---	---
MW-5	9 Jan 90	601	GTEL	8.2	4.6	7.8	0.6	3.1	---	---	<0.5	<0.5	---	---
MW-5	18 Apr 90	601	GTEL	6.3	2.8	2.6	<0.5	1.7	---	---	<0.5	<0.5	<0.5	<0.5
MW-5	9 Aug 90	601	GTEL	11.0	4.8	6.0	<0.5	2.3	---	---	<0.5	<0.5	<0.5	<0.5
MW-5	13 Nov 90	8010	SAL	7	3	5	<0.5	---	<0.5	1	<0.5	<0.5	<0.5	<0.5
MW-5	7 Mar 91	8010	SAL	7	4	4	<0.5	---	<0.5	1	<0.5	<0.5	<0.5	<0.5
MW-6	24 Apr 89	524.2/8260	CCAS	13.0	7.0	<1.0	<1.0	<1.0	---	---	<1.0	<1.0	---	---
MW-6	28 Jul 89	8260	CCAS	9.6	4.0	<0.2	<0.2	---	<0.2	<0.2	0.5	0.6	---	---
MW-6	30 Oct 89	601	GTEL	8.2	3.6	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	---	---
MW-6	9 Jan 90	601	GTEL	10.0	4.2	<0.5	<0.5	<0.5	---	---	<0.5	1.8	---	---
MW-6	18 Apr 90	601	GTEL	11.0	3.8	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	<0.5	<0.5
MW-6	9 Aug 90	601	GTEL	20.0	6.6	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	<0.5	<0.5
MW-6	13 Nov 90	8010	SAL	15	5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-6	7 Mar 91	8010	SAL	20	7	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

TABLE 3. Analytic Results: Groundwater Samples - Selected Halocarbons (continued)
Former Chevron Service Station #90020
1633 Harrison Street
Oakland, California

Well ID #	Date	EPA Method	LAB	Carb Tet	Chlor	PCE	TCE	1,2-DCE*	t-1,2-DCE	c-1,2-DCE	TCA	1,2-DCA	1,2-DCP	M-C
				<--------				ppb						-------->
MW-7	24 Apr 89	524.2/8260	CCAS	3.0	9.0	<1.0	<1.0	<1.0	---	---	<1.0	<1.0	---	---
MW-7	28 Jul 89	8260	CCAS	<2.0	<10.0	<2.0	<2.0	---	<2.0	<2.0	<10.0	6.0	---	---
MW-7D	28 Jul 89	8260	CCAS	<5.0	<20.0	<5.0	<5.0	---	<5.0	<5.0	<5.0	<5.0	---	---
MW-7	30 Oct 89	601	GTEL	<1.0	3.9	<1.0	<1.0	<1.0	---	---	<1.0	6.4	---	---
MW-7D	30 Oct 89	601	GTEL	<1.0	3.1	<1.0	<1.0	<1.0	---	---	<1.0	6.2	---	---
MW-7	9 Jan 90	601	GTEL	<0.5	3.0	<0.5	<0.5	<0.5	---	---	<0.5	8.4	---	---
MW-7	18 Apr 90	601	GTEL	<0.5	3.2	<0.5	<0.5	<0.5	---	---	<0.5	7.7	0.6	0.6
MW-7	9 Aug 90	601	GTEL	3.3	7.7	<0.5	<0.5	<0.5	---	---	<0.5	8.4	<0.5	1.8
MW-7	13 Nov 90	8010	SAL	0.6	3	<0.5	<0.5	---	<0.5	<0.5	<0.5	4	<0.5	<0.5
MW-7	7 Mar 91	8010	SAL	<0.5	2	<0.5	<0.5	---	<0.5	<0.5	<0.5	4	<0.5	<0.5
MW-7D	7 Mar 91	8010	SAL	0.8	3	<0.5	<0.5	---	<0.5	<0.5	<0.5	4	<0.5	<0.5
MW-8	24 Apr 89	524.2/8260	CCAS	2.0	3.0	6.0	<1.0	4.0	---	---	<1.0	<1.0	---	---
MW-8D	24 Apr 89	524.2/8260	CCAS	2.0	2.0	6.0	<1.0	3.0	---	---	<1.0	<1.0	---	---
MW-8	28 Jul 89	8260	CCAS	2.3	2.0	5.6	<0.2	---	<0.2	3.8	<0.2	<0.2	---	---
MW-8	30 Oct 89	601	GTEL	2.5	2.6	8.0	<0.5	5.5	---	---	<0.5	<0.5	---	---
MW-8	9 Jan 90	601	GTEL	4.9	3.9	19.0	0.9	6.6	---	---	<0.5	<0.5	---	---
MW-8	18 Apr 90	601	GTEL	3.8	2.8	17.0	0.6	5.7	---	---	<0.5	<0.5	<0.5	<0.5
MW-8	9 Aug 90	601	GTEL	5.3	4.4	27.0	1.2	9.2	---	---	<0.5	<0.5	<0.5	<0.5
MW-8	13 Nov 90	8010	SAL	3	2	21	0.7	---	<0.5	6	<0.5	<0.5	<0.5	<0.5
MW-8	7 Mar 91	8010	SAL	3	2	32	1	---	<0.5	7	<0.5	<0.5	<0.5	<0.5
MW-9	22 Jun 90	8010	PACE	<0.5	<0.5	<0.5	<0.5	---	<0.5	---	<0.5	<0.5	<0.5	<0.5
MW-9	9 Aug 90	601	GTEL	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	<0.5	0.71	<0.5	<0.5
MW-9	13 Nov 90	8010	SAL	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	1	<0.5	<0.5
MW-9	7 Mar 91	8010	SAL	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	0.7	<0.5	<0.5

TABLE 3. Analytic Results: Groundwater Samples - Selected Halocarbons (continued)
Former Chevron Service Station #90020
1633 Harrison Street
Oakland, California

Well ID #	Date	EPA Method	LAB	Carb Tet	Chlor	PCE	TCE	1,2-DCE*	t-1,2-DCE	c-1,2-DCE	TCA	1,2-DCA	1,2-DCP	M-C
				<----------ppb---------->										
MW-10	22 Jun 90	8010	PACE	9.6	8.9	<0.5	<0.5	---	<0.5	---	<0.5	<0.5	<0.5	<0.5
MW-10	9 Aug 90	601	GTEL	11.0	7.8	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	<0.5	<0.5
MW-10	13 Nov 90	8010	SAL	5	4	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-10	7 Mar 91	8010	SAL	6	5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-11	22 Jun 90	8010	PACE	4.6	6.5	73	1.3	---	<0.5	8.9	<0.5	<0.5	<0.5	<0.5
MW-11	9 Aug 90	601	GTEL	8.1	6.8	84	2.0	4.6	---	---	<0.5	<0.5	<0.5	<0.5
MW-11	13 Nov 90	8010	SAL	<0.5	<0.5	39	<0.5	---	<0.5	2	5	<0.5	<0.5	<0.5
MW-11	7 Mar 91	8010	SAL	4	4	42	1	---	<0.5	3	<0.5	<0.5	<0.5	<0.5
MW-12	22 Jun 90	8010	PACE	6.0	7.3	7.4	<0.5	---	<0.5	13	<0.5	<0.5	<0.5	<0.5
MW-12	9 Aug 90	601	GTEL	8.0	7.0	6.7	<0.5	5.8	---	---	<0.5	<0.5	<0.5	<0.5
MW-12	13 Nov 90	8010	SAL	<0.5	<0.5	9	<0.5	---	<0.5	3	3	<0.5	<0.5	<0.5
MW-12	7 Mar 91	8010	SAL	6	7	16	<0.5	---	<0.5	<0.5	3	<0.5	<0.5	<0.5
TB	3 Nov 88	624/8015	BC	<1.0	<1.0	<1.0	<1.0	---	<1.0	---	<1.0	<1.0	---	---
TB	10 Feb 89	524.2/8240	CCAS	<0.1	<0.5	<0.1	<0.1	---	<0.1	<0.1	<0.1	<0.1	---	---
TB	24 Apr 89	524.2/8260	CCAS	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	<1.0	<1.0	---	---
TB	28 Jul 89	8260	CCAS	<0.1	<0.5	<0.1	<0.1	<0.1	---	<0.1	<0.1	<0.1	---	---
TB	30 Oct 89	601	GTEL	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	---	---
TB	9 Jan 90	601	GTEL	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	---	---
TB	18 Apr 90	601	GTEL	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	<0.5	<0.5
TB	22 Jun 90	8010	PACE	<0.5	<0.5	<0.5	<0.5	---	<0.5	---	<0.5	<0.5	<0.5	<0.5
TB	9 Aug 90	8010	GTEL	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	<0.5	<0.5
TB	13 Nov 90	8010	SAL	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TB	7 Mar 91	8010	SAL	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

TABLE 3. Analytic Results: Groundwater Samples - Selected Halocarbons (continued)
Former Chevron Service Station #90020
1633 Harrison Street

Well ID #	Date	EPA Method	LAB	Carb Tet	Chlor	PCE	TCE	1,2-DCE*	t-1,2-DCE	c-1,2-DCE	TCA	1,2-DCA	1,2-DCP	M-C
				<--------				ppb						-------->
ER	7 Mar 91	8010	SAL	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

NOTES:

Carb Tet = Carbon tetrachloride
Chlor = Chloroform
PCE = Tetrachloroethene
TCE = Trichloroethene
1,2-DCE = 1,2-Dichloroethene
t-1,2-DCE = trans-1,2-Dichloroethene
c-1,2-DCE = cis-1,2-Dichloroethene
TCA = 1,1,1-Trichloroethane
1,2-DCA = 1,2-Dichloroethane
1,2-DCP = 1,2-Dichloropropane
M-C = Methylene Chloride
ppb = parts-per-billion
D = Duplicate analysis
TB = Travel blank
< = Less than listed detection limit
--- = Not analyzed or characterized
BC = Brown and Caldwell Laboratories
CCAS = Central Coast Analytical Services
GTEL = Groundwater Technology Environmental Laboratories
PACE = Pace Laboratory, Inc.
SAL = Superior Analytical Laboratories, Inc.

*cis and trans isomers: GTEL does not speciate 1,2-dichloroethene; however, the analytical reports incorrectly state levels for trans-1,2-dichloroethene

LIQUID-LEVEL DATA SHEET

Project No.	Project Name	Date	Initials
1-012-05	DTH HARRISON	3/7/91	DO / AD

Well No.	HISTORIC DATA/DATE: DTLH	DTW	LHT	Sounded Depth	CURRENT DATA: DTLH	DTW	LHT	Sounded Depth	Method WLP / PB / IP*	Time	Comments
MW-1					-	21.12				7:37	
MW-2					-	21.04				7:43	
MW-3					-	21.26				7:45	
MW-4					-	22.20				7:41	
MW-5					-	21.45				7:39	
MW-6					-	20.92				7:35	water inside C. box
MW-7					-	20.55				7.33	water inside C. box
MW-8					-	20.99				7:47	water inside C. box
MW-9						20.96				7:53	
MW-10						20.05				7:55	
MW-11						21.12				7:49	water inside C. box
MW-12						20.59				7:51	water inside C. box

* WLP = Water-Level Probe
PB = Product Bailer
IP = Interface Probe

WATER SAMPLING DATA

Project No.	Project Name	Well Name	Date	Time	Initials
1-012.05	17TH HARRISON	MW-1	3/7/91	10:05	DO

WELL DATA

Well Depth (ft.) 29	Sounded Depth (ft.)	Well Type: ☑ Monitor Well ☐ Sampling Port ☐ Other (describe)
DTW (ft.) 21.12	Date/Time	
Well Diam. (in.) 4	LHC Present? ☐ Yes ☑ No	LHC Thickness

EVACUATION

Initial Height of Water in Casing (ft) 7.88	Formulas and Conversions: r = well radius in ft. h = ht. of water column in ft. vol. of column = π r² h; 7.48 gal / ft³	Sampling Equipment: Dedicated System ☑ Bladder Pump ☐ Bailer	
Volume (gal) 5.14	V_2 " casing = 0.163 gal / ft.	PVC Bailer ☐ 1/2 in.	
Volume to be Evacuated ☑ x3 ☐ x4 15.43	V_3 " casing = 0.367 gal / ft.	☐ 1 1/4 in.	
	V_4 " casing = 0.653 gal / ft.	☐ 3 in.	
	$V_{4.5}$ " casing = 0.826 gal / ft.	Sampling Port No.	
	V_5 " casing = 1.470 gal / ft.	Volume (gal)	Rate (gpm)
	V_6 " casing = 2.610 gal / ft.		
	V_{10} " casing = 4.080 gal / ft.		

Evacuation

	Evacuated	Evacuated	Evacuated	Evacuated
Stop Time	10:32			
Start Time	10:08			
Minutes	24			
Amt Evac'd	16 gal	gal	gal	gal
Total Evac'd	16 gal			
Total Minutes	24 min			
Evac Rate	.67 gpm			

Pumped Dry? ☐ Yes ☑ No	After (gal)	Recovery Time	DTW
Depth to Water During Pumping (ft) 22.35	Time @ 10:15	1	
Depth to Water for 80% Recovery	Recovery Rate (gpm)	2	
Sampled After: ☐ 80% Rec. ☐ 2 hours	% Recovery at Time of Sampling	3	
		4	
		5	

CHEMICAL DATA

	Time	Ph Probe No.	Temp Probe No.	Cond Probe No.
1				umhos
2				
3				

SAMPLING

Point of Collection: ☑ PE Hose ☐ End of Bailer ☐ Other:

Time Samples Taken 10:35 Date 3/7/91

Depth to Water (ft) 22.50 Refrigerated? ☑ Yes ☐ No

Sample Color clear Odor none

Sediment / Foreign Matter none

Sampling Sequence 6

Sample ID No.	Volume (ml)	Container	Preservative	Analysis	Lab
0307L.01A	40	V	HCl	EPA 602/8015	SAL
01B	"	"	"	"	"
01C	"	"	None	EPA 601	"
01D	"	"	"	"	"

Container Codes: P = Plastic Bottle; V = VOA; B = Brown Glass; C = Clear Glass; Other: Describe

COMMENTS

25

WATER SAMPLING DATA

Project No.	Project Name	Well Name	Date	Time	Initials
1-012.05	17th & Harrison	MW2	3/7/91	11:34	GD

WELL DATA

Well Depth (ft.) 28.5	Sounded Depth (ft.)	Well Type ☑ Monitor Well ☐ Sampling Port ☐ Other (describe)
DTW (ft.) 21.64	Date/Time	
Well Diam. (in.) 4	LHC Present? ☐ Yes ☑ No	LHC Thickness

CHEMICAL DATA

	Time	Ph Probe No.	Temp Probe No.	Cond Probe No.	
1					umhos
2					
3					

EVACUATION

Initial Height of Water in Casing (ft): 6.86

Volume (gal): 4.48

Volume to be Evacuated ☑ x3 ☐ x4: 13.44

Formulas and Conversions

r = well radius in ft.
h = ht. of water column in ft.
vol. of column = $\pi r^2 h$
7.48 gal / ft³

V_2 " casing = 0.163 gal / ft.
V_3 " casing = 0.367 gal / ft.
V_4 " casing = 0.653 gal / ft.
$V_{4.5}$ " casing = 0.826 gal / ft.
V_5 " casing = 1.470 gal / ft.
V_6 " casing = 2.610 gal / ft.
V_{10} " casing = 4.080 gal / ft.

Sampling Equipment

Dedicated System ☑ Bladder Pump ☐ Bailer
PVC Bailer ☐ 1/2 in. ☐ 1 1/4 in. ☐ 3 in.

Sampling Port No.

Volume (gal) | Rate (gpm)

Evacuation

	Evacuated	Evacuated	Evacuated	Evacuated
Stop Time	11:56			
Start Time	11:34			
Minutes	22			
Amt Evac'd	13.5 gal	gal	gal	gal

Total Evac'd: 13.5 gal
Total Minutes: 22 min
Evac Rate: .61 gpm

Pumped Dry? ☐ Yes ☑ No — After (gal)

Depth to Water During Pumping (ft): 22.77 — Time: 11:45

Depth to Water for 80% Recovery — Recovery Rate (gpm)

Sampled After: ☐ 80% Rec. ☐ 2 hours — % Recovery at Time of Sampling

Recovery

	Time	DTW
1		
2		
3		
4		
5		

SAMPLING

Point of Collection: ☑ PE Hose ☐ End of Bailer ☐ Other:

Time Samples Taken: 11:54 — Date: 3/7/91

Depth to Water (ft): 22.31 — Refrigerated? ☑ Yes ☐ No

Sample Color: Clear — Odor: none

Sediment / Foreign Matter: none

Sampling Sequence: 10

Sample ID No.	Volume (ml)	Container	Preservative	Analysis	Lab
030791.02A	40	VOA	HCL	EPA 602 8015	S4L
B			↓	↓	
C			none	EPA 601	
D			↓	↓	

Container Codes: P = Plastic Bottle, V = VOA, B = Brown Glass, C = Clear Glass, Other: Describe

COMMENTS

26

WATER SAMPLING DATA

Project No.	Project Name	Well Name	Date	Time	Initials
1-012.05	17th + Hamilton	MW3	3/7/91	12:10	GD

WELL DATA

Well Depth (ft.)	Sounded Depth (ft.)	Well Type
32		☒ Monitor Well ☐ Sampling Port ☐ Other (describe)
DTW (ft.) 21.26	**Date/Time**	
Well Diam. (in.) 4	**LHC Present?** ☐ Yes ☒ No	**LHC Thickness**

CHEMICAL DATA

Time	Ph Probe No.	Temp Probe No.	Cond Probe No.	
1				umhos
2				
3				

EVACUATION

Initial Height of Water in Casing (ft)	Formulas and Conversions	Sampling Equipment
10.74	r = well radius in ft. h = ht. of water column in ft. vol. of column = $\pi r^2 h$ 7.48 gal / ft³	Dedicated System: ☒ Bladder Pump ☐ Bailer
Volume (gal) 7.01	V_2 * casing = 0.163 gal / ft. V_3 * casing = 0.367 gal / ft. V_4 * casing = 0.653 gal / ft. $V_{4.5}$ * casing = 0.826 gal / ft. V_5 * casing = 1.470 gal / ft. V_6 * casing = 2.610 gal / ft. V_{10} * casing = 4.080 gal / ft.	PVC Bailer: ☐ 1/2 in. ☐ 1 1/4 in. ☐ 3 in.
Volume to be Evacuated ☒ x3 ☐ x4 21.03		**Sampling Port No.**
		Volume (gal) / **Rate (gpm)**

Evacuation

	Evacuated	Evacuated	Evacuated	Evacuated
Stop Time	12:37			
Start Time	12:10			
Minutes	27			
Amt Evac'd	21 gal	gal	gal	gal
Total Evac'd	21 gal			
Total Minutes	27 min			
Evac Rate	.78 gpm			

Pumped Dry?	After (gal)
☐ Yes ☒ No	
Depth to Water During Pumping (ft) 22.39	**Time** 12:24
Depth to Water for 80% Recovery	**Recovery Rate (gpm)**
Sampled After: ☐ 80% Rec. ☐ 2 hours	**% Recovery at Time of Sampling**

Recovery

	Time	DTW
1		
2		
3		
4		
5		

SAMPLING

Point of Collection	Time Samples Taken	Date
☒ PE Hose ☐ End of Bailer ☐ Other:	12:39	3/7/91
	Depth to Water (ft) 21.56	**Refrigerated?** ☒ Yes ☐ No
Sample Color clear	**Odor** none	
Sediment / Foreign Matter none		
Sampling Sequence 1		

Sample ID No.	Volume (ml)	Container	Preservative	Analysis	Lab
03071.034	40	VOA	HCL	EPA 602 8015	SAL
B	↓	↓	↓	↓	↓
C			none	EPA 601	
D			↓	↓	

Container Codes: P = Plastic Bottle, V = VOA, B = Brown Glass, C = Clear Glass, Other: Describe

COMMENTS

WATER SAMPLING DATA

Project No.	Project Name	Well Name	Date	Time	Initials
1-012.05	17th & Harrison	MW4	3/7/91	10:24	GD

WELL DATA

Well Depth (ft) 33.5	Sounded Depth (ft)	Well Type: ☒ Monitor Well ☐ Sampling Port ☐ Other (describe)
DTW (ft) 22.20	Date/Time	
Well Diam. (in.) 4	LHC Present? ☐ Yes ☒ No	LHC Thickness

EVACUATION

Initial Height of Water in Casing (ft) 11.3	Formulas and Conversions: r = well radius in ft.; h = ht. of water column in ft.; vol. of column = $\pi r^2 h$; 7.48 gal / ft³	Sampling Equipment: Dedicated System ☒ Bladder Pump ☐ Bailer; PVC Bailer ☐ 1/2 in. ☐ 1 1/4 in. ☐ 3 in.
Volume (gal) 7.38	V_2 * casing = 0.163 gal / ft. V_3 * casing = 0.367 gal / ft. V_4 * casing = 0.653 gal / ft. $V_{4.5}$ * casing = 0.826 gal / ft. V_5 * casing = 1.470 gal / ft. V_6 * casing = 2.610 gal / ft. V_{10} * casing = 4.080 gal / ft.	Sampling Port No.
Volume to be Evacuated ☒ x3 ☐ x4 22.14		Volume (gal) / Rate (gpm)

Evacuation

	Evacuated	Evacuated	Evacuated	Evacuated
Stop Time	10:58			
Start Time	10:24			
Minutes	34			
Amt Evac'd	22 gal	gal	gal	gal
Total Evac'd	22 gal			
Total Minutes	34 min			
Evac Rate	.65 gpm			

Pumped Dry? ☐ Yes ☐ No	After (gal)
Depth to Water During Pumping (ft) 23.71	Time 10:41
Depth to Water for 80% Recovery	Recovery Rate (gpm)
Sampled After: ☐ 80% Rec. ☐ 2 hours	% Recovery at Time of Sampling

Recovery

	Time	DTW
1		
2		
3		
4		
5		

CHEMICAL DATA

	Time	Ph Probe No.	Temp Probe No.	Cond Probe No.
1				umhos
2				
3				

SAMPLING

Point of Collection	Time Samples Taken	Date
☒ PE Hose ☐ End of Bailer ☐ Other:	11:00	3/7/91
	Depth to Water (ft) 22.55	Refrigerated? ☒ Yes ☐ No
Sample Color Clear	Odor None	
Sediment / Foreign Matter None		
Sampling Sequence 8		

Sample ID No.	Volume (ml)	Container	Preservative	Analysis	Lab
030 7.04A	40	VOA	HCL	EPA WQ 8015	SAL
B	↓	↓	↓	↓	↓
C	↓	↓	None	EPA 601	↓
D	↓	↓	↓	↓	↓

Container Codes: P = Plastic Bottle; B = Brown Glass; V = VOA; C = Clear Glass; Other: Describe

COMMENTS

28

WATER SAMPLING DATA

Project No.	Project Name	Well Name	Date	Time	Initials
1-012.05	17th + Harrison	MW5	3/7/91	9:35	AD

WELL DATA

Well Depth (ft)	Sounded Depth (ft)	Well Type
32		☒ Monitor Well ☐ Sampling Port ☐ Other (describe)
DTW (ft) 21.45	**Date/Time**	
Well Diam. (in.) 4	**LHC Present?** ☐ Yes ☒ No	**LHC Thickness**

CHEMICAL DATA

Time	Ph Probe No.	Temp Probe No.	Cond Probe No.	
1				umhos
2				
3				

EVACUATION

Initial Height of Water in Casing (ft): 10.55

Volume (gal): 6.89

Volume to be Evacuated ☒ x3 ☐ x4: 20.67

Formulas and Conversions
r = well radius in ft.
h = ht. of water column in ft.
vol. of column = $\pi r^2 h$
7.48 gal / ft³

- V_2 " casing = 0.163 gal / ft.
- V_3 " casing = 0.367 gal / ft.
- V_4 " casing = 0.653 gal / ft.
- $V_{4.5}$ " casing = 0.826 gal / ft.
- V_6 " casing = 1.470 gal / ft.
- V_8 " casing = 2.610 gal / ft.
- V_{10} " casing = 4.080 gal / ft.

Sampling Equipment
Dedicated System: ☒ Bladder Pump ☐ Bailer
PVC Bailer: ☐ 1/2 in. ☐ 1 1/4 in. ☐ 3 in.

Sampling Port No.

Volume (gal)	Rate (gpm)

Evacuation

	Evacuated	Evacuated	Evacuated	Evacuated
Stop Time	9:55			
Start Time	9:39			
Minutes	16			
Amt Evac'd	~~10~~ 10 gal	gal	gal	gal
Total Evac'd	~~10~~ 10 gal			
Total Minutes	~~16~~ 16 min			
Evac Rate	.625 ~~gpm~~ gpm			

Pumped Dry? ☒ Yes ☐ No — **After (gal):** 10

Depth to Water During Pumping (ft): — **Time:**

Depth to Water for 80% Recovery: 23.56 — **Recovery Rate (gpm):** .12

Sampled After: ☐ 80% Rec. ☐ 2 hours — **% Recovery at Time of Sampling:** 96.79 %

Recovery

	Time	DTW
1	~~10:09~~	30.10
2	10:05	29.19
3	11:20	23.60
4	13:50	21.79
5		

SAMPLING

Point of Collection: ☒ PE Hose ☐ End of Bailer ☐ Other:

Time Samples Taken: 12:55 — **Date:** 3/7/91

Depth to Water (ft): 22.39 — **Refrigerated?** ☒ Yes ☐ No

Sample Color: light grey — **Odor:** none

Sediment / Foreign Matter: fine sediment

Sampling Sequence: 12

Sample ID No.	Volume (ml)	Container	Preservative	Analysis	Lab
030715A	40	VOA	HCL	EPA 602, 8015	SAL
B	↓	↓	↓	↓	↓
C	↓	↓	none	EPA 601	↓
D	↓	↓	↓	↓	↓

Container Codes: P = Plastic Bottle, V = VOA, B = Brown Glass, C = Clear Glass, Other: Describe

COMMENTS

30

WATER SAMPLING DATA

Project No.	Project Name	Well Name	Date	Time	Initials
1-012.05	17TH HARRISON	MW-6	3/7/91	9:25	DO

WELL DATA

Well Depth (ft.) 26	Sounded Depth (ft.)	Well Type: ☒ Monitor Well ☐ Sampling Port ☐ Other (describe)
DTW (ft.) 20.92	Date/Time	
Well Diam. (in.) 4	LHC Present? ☐ Yes ☒ No	LHC Thickness

CHEMICAL DATA

	Time	Ph Probe No.	Temp Probe No.	Cond Probe No.
1				umhos
2				
3				

EVACUATION

Initial Height of Water in Casing (ft) 5.08

Volume (gal) 3.31

Volume to be Evacuated ☒ x3 ☐ x4 — 9.95

Formulas and Conversions

r = well radius in ft.
h = ht. of water column in ft.
vol. of column = $\pi r^2 h$
7.48 gal / ft³

V_2 " casing = 0.163 gal / ft.
V_3 " casing = 0.367 gal / ft.
V_4 " casing = 0.653 gal / ft.
$V_{4.5}$ " casing = 0.826 gal / ft.
V_6 " casing = 1.470 gal / ft.
V_8 " casing = 2.610 gal / ft.
V_{10} " casing = 4.080 gal / ft.

Sampling Equipment

Dedicated System ☒ Bladder Pump ☐ Bailer
PVC Bailer ☐ 1/2 in. ☐ 1 1/4 in. ☐ 3 in.

Sampling Port No.

Volume (gal) | Rate (gpm)

Evacuation

	Evacuated	Evacuated	Evacuated	Evacuated
Stop Time	9:50			
Start Time	9:30			
Minutes	20			
Amt Evac'd	12 gal	gal	gal	gal
Total Evac'd	12 gal			
Total Minutes	20 min			
Evac Rate	.60 gpm			

Pumped Dry? ☐ Yes ☒ No — After (gal)

Depth to Water During Pumping (ft) 22.5 — Time @ 9:40

Depth to Water for 80% Recovery — Recovery Rate (gpm)

Sampled After: ☐ 80% Rec. ☐ 2 hours — % Recovery at Time of Sampling

Recovery

	Time	DTW
1		
2		
3		
4		
5		

SAMPLING

Point of Collection: ☒ PE Hose ☐ End of Bailer ☐ Other;

Time Samples Taken 9:55 — Date 3/7/91

Depth to Water (ft) 21.75 — Refrigerated? ☒ Yes ☐ No

Sample Color: Cloudy — Odor: None

Sediment / Foreign Matter: None

Sampling Sequence: 5

Sample ID No.	Volume (ml)	Container	Preservative	Analysis	Lab
03071.06A	40	V	HCl	EPA 602/8015	SPL
06B	↓	↓	"	"	↓
06C			None	EPA 601	
06D	↓	↓	"	"	↓

Container Codes: P = Plastic Bottle, V = VOA, B = Brown Glass, C = Clear Glass, Other: Describe

COMMENTS

30

WATER SAMPLING DATA

Project No.	Project Name	Well Name	Date	Time	Initials
1-012.05	17TH AVE ALLISON	MW-7	3/7/91	9:05	DO

WELL DATA

Well Depth (ft.) 27	Sounded Depth (ft.)	Well Type: ☑ Monitor Well ☐ Sampling Port ☐ Other (describe)
DTW (ft.) 20.55	Date/Time	
Well Diam. (in.) 4	LHC Present? ☐ Yes ☒ No	LHC Thickness

CHEMICAL DATA

	Time	Ph Probe No.	Temp Probe No.	Cond Probe No.
1				umhos
2				
3				

EVACUATION

Initial Height of Water in Casing (ft) 6.45

Volume (gal) 9.21

Volume to be Evacuated ☑ x3 ☐ x4 12.63

Formulae and Conversions

r = well radius in ft.
h = ht. of water column in ft.
vol. of column = $\pi r^2 h$
7.48 gal / ft³

- V_{2} " casing = 0.163 gal / ft.
- V_{3} " casing = 0.367 gal / ft.
- V_{4} " casing = 0.653 gal / ft.
- $V_{4.5}$ " casing = 0.826 gal / ft.
- V_{5} " casing = 1.470 gal / ft.
- V_{6} " casing = 2.610 gal / ft.
- V_{10} " casing = 4.080 gal / ft.

Sampling Equipment

Dedicated System: ☑ Bladder Pump ☐ Bailer

PVC Bailer: ☐ 1/2 in. ☐ 1 1/4 in. ☐ 3 in.

Sampling Port No.

Volume (gal) | Rate (gpm)

Evacuation

	Evacuated	Evacuated	Evacuated	Evacuated
Stop Time	9:18			
Start Time	9:10			
Minutes	8			
Amt Evac'd	6 gal	gal	gal	gal

Total Evac'd 6 gal

Total Minutes 8 min

Evac Rate .75 gpm

DUPLICATES

Pumped Dry? ☒ Yes ☐ No After (gal) 6 GAL.

Depth to Water During Pumping (ft) NA Time

Depth to Water for 80% Recovery 21.84 Recovery Rate (gpm) .04

Sampled After: ☐ 80% Rec. ☒ 2 hours % Recovery at Time of Sampling 49.61 %

Recovery

	Time	DTW
1	9:18	26.1
2	9:33	25.8
3	11:15	23.90
4		
5		

SAMPLING

Point of Collection: ☑ PE Hose ☐ End of Bailer ☐ Other:

Time Samples Taken 11:18 Date 3/7/91

Depth to Water (ft) 25.35 Refrigerated? ☑ Yes ☐ No

Sample Color clear Odor none mild

Sediment / Foreign Matter none

Sampling Sequence 9

Sample ID No.	Volume (ml)	Container	Preservative	Analysis	Lab
03071.07A	40	V	HCl	EPA 602/8015	GAL
07B	↓	↓	"	"	↓
07C			NONE	EPA 601	
07D	↓	↓	"		↓
03071.094A	40	V	HCl	EPA 602/8015	GAL
.014B	↓	↓	"	"	↓
.014C			NONE	EPA 601	
.014B	↓	↓	"	"	↓

Container Codes: P = Plastic Bottle V = VOA B = Brown Glass C = Clear Glass Other: Describe

COMMENTS

31

WATER SAMPLING DATA

Project No.	Project Name	Well Name	Date	Time	Initials
1-012.05	BTH HARRISON	MW-8	3/7/91	10:30	DO

WELL DATA

Well Depth (ft.) 26	Sounded Depth (ft.)	Well Type: ☐ Monitor Well ☐ Sampling Port ☐ Other (describe)
DTW (ft.) 20.99	Date/Time	
Well Diam. (in.) 4	LHC Present? ☐ Yes ☐ No	LHC Thickness

CHEMICAL DATA

	Time	Ph Probe No.	Temp Probe No.	Cond Probe No.
1				umhos
2				
3				

EVACUATION

Initial Height of Water in Casing (ft): 5.01

Volume (gal): 3.27

Volume to be Evacuated: ☒ x3 ☐ x4 — 9.81

Formulas and Conversions

r = well radius in ft.
h = ht. of water column in ft.
vol. of column = $\pi r^2 h$
7.48 gal / ft³

V_{1} " casing = 0.163 gal / ft.
V_{2} " casing = 0.367 gal / ft.
V_{3} " casing = 0.653 gal / ft.
V_{4} " casing = 0.826 gal / ft.
$V_{4.5}$ " casing = 1.470 gal / ft.
V_{6} " casing = 2.610 gal / ft.
V_{8} " casing = 4.080 gal / ft.

Sampling Equipment

Dedicated System: ☒ Bladder Pump ☐ Baller

PVC Baller: ☐ 1/2 in. ☐ 1 1/4 in. ☐ 3 in.

Sampling Port No.

Volume (gal) | Rate (gpm)

Evacuation

	Evacuated	Evacuated	Evacuated	Evacuated
Stop Time	10:55			
Start Time	10:42			
Minutes	13			
Amt Evac'd	10 gal	gal	gal	gal
Total Evac'd	10 gal			
Total Minutes	13 min			
Evac Rate	.77 gpm			

Pumped Dry? ☐ Yes ☒ No — After (gal)

Depth to Water During Pumping (ft): 22.97 — Time: @ 10:50

Depth to Water for 80% Recovery | Recovery Rate (gpm)

Sampled After: ☐ 80% Rec. ☐ 2 hours | % Recovery at Time of Sampling

Recovery

	Time	DTW
1		
2		
3		
4		
5		

SAMPLING

Point of Collection: ☒ PE Hose ☐ End of Baller ☐ Other:

Time Samples Taken: 11:00 — Date: 3/7/91

Depth to Water (ft): 22.20 — Refrigerated? ☒ Yes ☐ No

Sample Color: Clear — Odor: NONE

Sediment / Foreign Matter: none

Sampling Sequence: 7

Sample ID No.	Volume (ml)	Container	Preservative	Analysis	Lab
0307/08A	40	√	HCl	EPA 602/8015	GAL
08B	↓	↓	"	"	↓
08C			None	EPA 601	
08D			"	"	

Container Codes: P = Plastic Bottle, V = VOA, B = Brown Glass, C = Clear Glass, Other: Describe

COMMENTS

23

WATER SAMPLING DATA

Project No.	Project Name	Well Name	Date	Time	Initials
1-012.05	7TH HARRISON	MW-9	3/7/91	8:00	DO

WELL DATA

Well Depth (ft): 24.1	Sounded Depth (ft):	Well Type: ☑ Monitor Well ☐ Sampling Port ☐ Other (describe)
DTW (ft): 20.96	Date/Time:	
Well Diam. (in.): 2	LHC Present? ☐ Yes ☑ No	LHC Thickness:

CHEMICAL DATA

	Time	Ph Probe No.	Temp Probe No.	Cond Probe No.
1				umhos
2				
3				

EVACUATION

Initial Height of Water in Casing (ft): 3.14

Volume (gal): .51

Volume to be Evacuated: ☑ x3 ☐ x4: 1.53

Formulas and Conversions

r = well radius in ft.
h = ht. of water column in ft.
vol. of column = $\pi r^2 h$
7.48 gal / ft³

- (V) 1" casing = 0.163 gal / ft.
- $V_{1.5}$ 1.5" casing = 0.367 gal / ft.
- V_2 2" casing = 0.653 gal / ft.
- $V_{2.5}$ 2.5" casing = 0.826 gal / ft.
- V_3 3" casing = 1.470 gal / ft.
- V_4 4" casing = 2.610 gal / ft.
- V_6 6" casing = 4.080 gal / ft.

Sampling Equipment

Dedicated System: ☐ Bladder Pump ☐ Bailer

PVC Bailer: ☐ 1/2 in. ☑ 1 1/4 in. ☐ 3 in.

Sampling Port No.:

Volume (gal): Rate (gpm):

Evacuation

	Evacuated	Evacuated	Evacuated	Evacuated
Stop Time	8:10			
Start Time	8:02			
Minutes	8			
Amt Evac'd	1.75 gal	gal	gal	gal

Total Evac'd: 1.75 gal

Total Minutes: 8 min

Evac Rate: .22 gpm

Pumped Dry? ☐ Yes ☑ No — After (gal):

Depth to Water During Pumping (ft): 21.62 — Time: @ 8:08

Depth to Water for 80% Recovery:

Recovery Rate (gpm):

Sampled After: ☐ 80% Rec. ☐ 2 hours

% Recovery at Time of Sampling:

Recovery

	Time	DTW
1		
2		
3		
4		
5		

SAMPLING

Point of Collection: ☐ PE Hose ☐ Other: ☑ End of Bailer

Time Samples Taken: 8:12 — Date: 3/7/91

Depth to Water (ft): 21.45 — Refrigerated? ☑ Yes ☐ No

Sample Color: Slightly Cloudy — Odor: NONE

Sediment / Foreign Matter: White sediment

Sampling Sequence: 1

Sample ID No.	Volume (ml)	Container	Preservative	Analysis	Lab
030791.09A	40	V	HCl	EPA 602/8015	STL
09B	↓	↓	"	"	↓
09C			NONE	EPA 601	
09D	↓	↓	"	"	↓

Container Codes: P = Plastic Bottle, V = VOA, B = Brown Glass, C = Clear Glass, Other: Describe

COMMENTS

WATER SAMPLING DATA

Project No.	Project Name	Well Name	Date	Time	Initials
1-012.05	17TH HARRISON	MW 10	3/7/91	8:15	DO

WELL DATA

Well Depth (ft.) 23.5	Sounded Depth (ft.)	Well Type ☑ Monitor Well ☐ Sampling Port ☐ Other (describe)
DTW (ft.) 20.45	Date/Time	
Well Diam. (in.) 2	LHC Present? ☐ Yes ☑ No	LHC Thickness

CHEMICAL DATA

	Time	Ph Probe No.	Temp Probe No.	Cond Probe No.
1				umhos
2				
3				

EVACUATION

Initial Height of Water in Casing (ft): 2.85

Volume (gal): 1.46

Volume to be Evacuated ☑ x3 ☐ x4: 1.39

Formulas and Conversions

r = well radius in ft.
h = ht. of water column in ft.
vol. of column = $\pi r^2 h$
7.48 gal / ft³

- (V) " casing = 0.163 gal / ft.
- $V_{\frac{3}{4}}$ " casing = 0.367 gal / ft.
- V_1 " casing = 0.653 gal / ft.
- $V_{1.25}$ " casing = 0.826 gal / ft.
- $V_{1.5}$ " casing = 1.470 gal / ft.
- V_2 " casing = 2.610 gal / ft.
- V_{10} " casing = 4.080 gal / ft.

Sampling Equipment

Dedicated System ☐ Bladder Pump ☐ Bailer

PVC Bailer ☐ 1/2 in. ☑ 1 1/4 in. ☐ 3 in.

Sampling Port No.

Volume (gal) / Rate (gpm)

Evacuation

	Evacuated	Evacuated	Evacuated	Evacuated
Stop Time	8:35			
Start Time	8:25			
Minutes	10			
Amt Evac'd	1.5 gal	gal	gal	gal
Total Evac'd	1.5 gal			
Total Minutes	10 min			
Evac Rate	.15 gpm			

ER

Pumped Dry? ☐ Yes ☑ No — After (gal)

Depth to Water During Pumping (ft): 21.60 — Time: @ 8:30

Depth to Water for 80% Recovery — Recovery Rate (gpm)

Sampled After: ☐ 80% Rec. ☐ 2 hours — % Recovery at Time of Sampling

Recovery

	Time	DTW
1		
2		
3		
4		
5		

SAMPLING

Point of Collection: ☐ PE Hose ☐ Other: ☑ End of Bailer

Time Samples Taken: 8:40 — Date: 3/7/91

Depth to Water (ft): 21.40 — Refrigerated? ☑ Yes ☐ No

Sample Color: cloudy — Odor: NONE

Sediment / Foreign Matter: brown silt

Sampling Sequence: 3

Sample ID No.	Volume (ml)	Container	Preservative	Analysis	Lab
03071.10A	40	V	HCl	EPA 602/8015	SAL
10B			"	"	
10C			NONE	EPA 601	
10D			"	"	
03071.15A	40	V	HCl	EPA 602/8015	SAL
15B			"	"	
15C			NONE	EPA 601	
15D			"	"	

Container Codes: P = Plastic Bottle, V = VOA, B = Brown Glass, C = Clear Glass, Other: Describe

COMMENTS

WATER SAMPLING DATA

Project No.	Project Name	Well Name	Date	Time	Initials
1-012.05	17th + Harrison	MW 11	3/7/91	8:10	GD

WELL DATA

Well Depth (ft.) 25.35	Sounded Depth (ft.)	Well Type ☒ Monitor Well ☐ Sampling Port ☐ Other (describe)
DTW (ft.) 21.12	Date/Time	
Well Diam. (in.) 2	LHC Present? ☐ Yes ☒ No	LHC Thickness

CHEMICAL DATA

Time	Ph Probe No.	Temp Probe No.	Cond Probe No.
1			umhos
2			
3			

EVACUATION

Initial Height of Water In Casing (ft)	Formulas and Conversions	Sampling Equipment
4.23	r = well radius in ft. h = ht. of water column in ft. vol. of column = $\pi r^2 h$ 7.48 gal / ft³	Dedicated System ☐ Bladder Pump ☐ Bailer
Volume (gal) .68	V_2 * casing = 0.163 gal / ft. V_3 * casing = 0.367 gal / ft.	PVC Bailer ☐ 1/2 in. ☒ 1 1/4 in. ☐ 3 in.
Volume to be Evacuated ☒ x3 ☐ x4 2.07	V_4 * casing = 0.653 gal / ft. $V_{4.5}$ * casing = 0.826 gal / ft. V_5 * casing = 1.470 gal / ft. V_6 * casing = 2.610 gal / ft. V_{10} * casing = 4.080 gal / ft.	Sampling Port No.
		Volume (gal) / Rate (gpm)

Evacuation

	Evacuated	Evacuated	Evacuated	Evacuated
Stop Time	8:16			
Start Time	8:10			
Minutes	6			
Amt Evac'd	2.07 gal	gal	gal	gal
Total Evac'd	2.07 gal			
Total Minutes	6 min			
Evac Rate	.345 gpm			

Pumped Dry? ☐ Yes ☒ No	After (gal)
Depth to Water During Pumping (ft) 21.88	Time 8:16
Depth to Water for 80% Recovery	Recovery Rate (gpm)
Sampled After: ☐ 80% Rec. ☐ 2 hours	% Recovery at Time of Sampling

Recovery

	Time	DTW
1		
2		
3		
4		
5		

SAMPLING

Point of Collection	Time Samples Taken	Date
☐ PE Hose ☒ End of Bailer ☐ Other:	8:25	3/7/91
	Depth to Water (ft) 21.63	Refrigerated? ☒ Yes ☐ No

Sample Color: light brown Odor: none

Sediment / Foreign Matter: fine sediment

Sampling Sequence: 2

Sample ID No.	Volume (ml)	Container	Preservative	Analysis	Lab
030711A	40	VOA	HCL	EPA 602 8015	S&L
B	↓	↓	↓	↓	↓
C			none	EPA 601	
D	↓	↓	↓	↓	↓

Container Codes: P = Plastic Bottle, V = VOA, B = Brown Glass, C = Clear Glass, Other: Describe

COMMENTS

35

WATER SAMPLING DATA

Project No.	Project Name	Well Name	Date	Time	Initials
1-012.05	17th + Harrison	MW 12	317191	8:45	AD

WELL DATA

Well Depth (ft)	Sounded Depth (ft)	Well Type
25.4		☒ Monitor Well ☐ Sampling Port ☐ Other (describe)
DTW (ft) 20.59	**Date/Time**	
Well Diam. (in.) 2	**LHC Present?** ☐ Yes ☒ No	**LHC Thickness**

CHEMICAL DATA

	Time	Ph Probe No.	Temp Probe No.	Cond Probe No.
1				umhos
2				
3				

EVACUATION

Initial Height of Water in Casing (ft)	Formulas and Conversions	Sampling Equipment
4.81	r = well radius in ft. h = ht. of water column in ft. vol. of column = $\pi r^2 h$ 7.48 gal / ft³	Dedicated System ☐ Bladder Pump ☐ Bailer PVC Bailer ☐ 1/2 in. ☒ 1 1/4 in. ☐ 3 in.
Volume (gal) .78	V_1 * casing = 0.163 gal / ft. V^2 * casing = 0.367 gal / ft. V^3 * casing = 0.653 gal / ft. $V^{4.5}$ * casing = 0.826 gal / ft. V^6 * casing = 1.470 gal / ft. V^8 * casing = 2.610 gal / ft. V^{10} * casing = 4.080 gal / ft.	**Sampling Port No.**
Volume to be Evacuated ☒ x3 ☐ x4 2.35		**Volume (gal)** / **Rate (gpm)**

Evacuation

	Evacuated	Evacuated	Evacuated	Evacuated
Stop Time	8:55			
Start Time	8:46			
Minutes	9			
Amt Evac'd	2.5 gal	gal	gal	gal

Total Evac'd: 2.5 gal
Total Minutes: 9 min
Evac Rate: .28 gpm

Pumped Dry?	After (gal)
☐ Yes ☒ No	
Depth to Water During Pumping (ft) 21.22	**Time** 8:53
Depth to Water for 80% Recovery	**Recovery Rate (gpm)**
Sampled After: ☐ 80% Rec. ☐ 2 hours	**% Recovery at Time of Sampling**

Recovery

	Time	DTW
1		
2		
3		
4		
5		

SAMPLING

Point of Collection	Time Samples Taken	Date
☐ PE Hose ☒ End of Bailer ☐ Other:	9:00	317191
	Depth to Water (ft) 20.83	**Refrigerated?** ☒ Yes ☐ No

Sample Color light gray **Odor** none

Sediment / Foreign Matter fine sediment

Sampling Sequence 4

Sample ID No.	Volume (ml)	Container	Preservative	Analysis	Lab
[redacted]					
031712A	40	VOA	HCL	EPA 602/8015	S&L
B			↓	↓	↓
C			none	EPA 601	
D	↓	↓	↓	↓	

Container Codes: P = Plastic Bottle; V = VOA; B = Brown Glass; C = Clear Glass; Other: Describe

COMMENTS

WATER SAMPLING DATA

Project No.	Project Name	Well Name	Date	Time	Initials
1-012.05	17th & Harrison	T. Blank	3/7/91	—	JO

WELL DATA

Well Depth (ft.)	Sounded Depth (ft.)	Well Type ☐ Monitor Well ☐ Sampling Port ☐ Other (describe)
DTW (ft.)	Date/Time	
Well Diam. (in.)	LHC Present? ☐ Yes ☐ No	LHC Thickness

CHEMICAL DATA

	Time	Ph Probe No.	Temp Probe No.	Cond Probe No.
1				umhos
2				
3				

EVACUATION

Initial Height of Water in Casing (ft)	Formulas and Conversions: r = well radius in ft., h = ht. of water column in ft., vol. of column = π r² h, 7.48 gal / ft³	Sampling Equipment: Dedicated System ☐ Bladder Pump ☐ Bailer; PVC Bailer ☐ 1/2 in. ☐ 1 1/4 in. ☐ 3 in.
Volume (gal)	V_2 " casing = 0.163 gal / ft. V_3 " casing = 0.367 gal / ft. V_4 " casing = 0.653 gal / ft. $V_{4.5}$ " casing = 0.826 gal / ft. V_6 " casing = 1.470 gal / ft. V_8 " casing = 2.610 gal / ft. V_{10} " casing = 4.080 gal / ft.	Sampling Port No.
Volume to be Evacuated ☐ x 3 ☐ x 4		Volume (gal) / Rate (gpm)

Evacuation

	Evacuated	Evacuated	Evacuated	Evacuated
Stop Time				
Start Time				
Minutes				
Amt Evac'd	gal	gal	gal	gal
Total Evac'd	gal	gal	gal	gal
Total Minutes	min	min	min	min
Evac Rate	gpm	gpm	gpm	gpm

Pumped Dry? ☐ Yes ☐ No	After (gal)
Depth to Water During Pumping (ft)	Time
Depth to Water for 80% Recovery	Recovery Rate (gpm)
Sampled After: ☐ 80% Rec. ☐ 2 hours	% Recovery at Time of Sampling

Recovery

	Time	DTW
1		
2		
3		
4		
5		

SAMPLING

Point of Collection ☐ PE Hose ☐ End of Bailer ☐ Other:	Time Samples Taken / Date
	Depth to Water (ft) / Refrigerated? ☐ Yes ☐ No
Sample Color	Odor
Sediment / Foreign Matter	
Sampling Sequence	

Sample ID No.	Volume (ml)	Container	Preservative	Analysis	Lab
0307.13A	40	V	HCl	EPA 602/8015 & EPA 601	SAL
13B	″	″	″	″	″
13C	″	″	″	″	″
13D	″	″	″	″	″

Container Codes: P = Plastic Bottle; V = VOA; B = Brown Glass; C = Clear Glass; Other: Describe

COMMENTS

SH# 1597

Chain-of-Custody Record

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

Chevron Facility Number 90020
Consultant Release Number —
Consultant Project Number 1-012.05
Consultant Name WGR
Address 2109 E. FRANCISCO BLVD San Rafael CA 94901 Suite B
Fax Number 415-457-8521
Project Contact (Name) K. Sala / L. Niles
(Phone) (415) 457-7595

Chevron Contact (Name) Nancy Yukelich
(Phone) 842-9581
Laboratory Name SAL
Contract Number 136866 09
Samples Collected by (Name) D. OSAKI / A. Douglas
Collection Date 3/7/91
Signature Diane Osaki

Sample Number	Lab Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite	Time	Sample Preservation	Iced	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline + Diesel	503 Oil and Grease	Arom. Volatiles - BTXE Soil: 8020 Wtr.: 602	Arom. Volatiles - BTXE Soil: 8240/Wtr.: 624	Total Lead DHS-Luft	EDB DHS-AB 1803	EPA 601	Remarks
D3071.01	ABCD	4	W		10:35	Please	X	X			X				X	A,B-Samples for EPA 602/8015 (HCl preser.)
	02 ABCD				11:54	See										
	03 ABCD				12:39	Remarks										
	04 ABCD				11:00											
	05 ABCD				12:55											
	06 ABCD				9:55											C,D-Samples for EPA 601 (no preser.)
	07 ABCD				11:18											
	08 ABCD				11:00											
	09 ABCD				8:12											
	10 ABCD				8:40											
	11 ABCD				8:25											
	12 ABCD				9:00											
	13 ABCD				—											

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
[signature]	WGR	3/7/91 19:00	[signature]	EXP. IT	3/7 1540
[signature]	EXP. IT	3/7/91 1640			
			Received For Laboratory By (Signature)		Date/Time

Turn Around Time (Circle Choice)
24 Hrs
48 Hrs
5 Days
(10 Days)

Printed in U.S.A.

White / Project File Canary / Sampler Pink / Lab

SA# 11597

Chain-of-Custody Record

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

Chevron Facility Number 90020
Consultant Release Number —
Consultant Project Number 1-012.05
Consultant Name UGR
Address 2609 E. FRANCISCO BLVD. SUITE B SAN RAFAEL 94901
Fax Number (415) 457-7595
Project Contact (Name) K. Spalla / L. Niles
(Phone) (415) 457-7595

Chevron Contact (Name) Nancy Vukelich
(Phone) (510) 842-9581
Laboratory Name SRL
Contract Number 43686060
Samples Collected by (Name) D. OSAKI / A. Douglas
Collection Date 3/7/91
Signature Dick Osaki

Sample Number	Lab Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite	Time	Sample Preservation	Iced	Analyses To Be Performed: Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline + Diesel	503 Oil and Grease	Arom. Volatiles - BTXE Soil: 8020/Wtr.: 602	Arom. Volatiles - BTXE Soil: 8240/Wtr.: 624	Total Lead DHS-Luft	EDB DHS-AB 1803	EPA 601			Remarks
03071.	14ABCD	4	W		11:18	See Remarks	X	X			X				X			A,B-Samples for EPA 602/8015 (HCl preser.)
	15ABCD	4	↓		9:27		↓	↓			↓				↓			C,D-Samples for EPA 601 (no preser.)

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice)
[signature]	UGR	3/7/91 19:00	[signature]	EXP-IT	3-7 1400	24 Hrs
[signature]	EXP-IT	3/7/91 1640				48 Hrs
						5 Days
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time	10 Days
			[signature]	3/7/91	17:40	

Printed in U.S.A.

White / Project File Canary / Sampler Pink / Lab

SUPERIOR ANALYTICAL LABORATORY, INC.
1555 BURKE, UNIT I · SAN FRANCISCO, CA 94124 · PHONE (415) 647-2081 DOHS #1332

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 11597
CLIENT: Western Geologic Resources
CLIENT JOB NO.: 1-012.05

DATE RECEIVED: 03/07/91
DATE REPORTED: 03/15/91

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
11597- 1	03071.01	03/07/91	03/13/91
11597- 2	03071.02	03/07/91	03/13/91
11597- 3	03071.03	03/07/91	03/13/91
11597- 4	03071.04	03/07/91	03/13/91
11597- 5	03071.05	03/07/91	03/13/91
11597- 6	03071.06	03/07/91	03/13/91
11597- 7	03071.07	03/07/91	03/13/91
11597- 8	03071.08	03/07/91	03/13/91
11597- 9	03071.09	03/07/91	03/14/91
11597-10	03071.10	03/07/91	03/13/91

Laboratory Number:	11597 1	11597 2	11597 3	11597 4	11597 5
ANALYTE LIST	Amounts/Quantitation Limits (ug/l)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	ND<50	76*	81*	ND<50	ND<50
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
TOLUENE:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
ETHYL BENZENE:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
XYLENES:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5

Laboratory Number:	11597 6	11597 7	11597 8	11597 9	11597 10
ANALYTE LIST	Amounts/Quantitation Limits (ug/l)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	ND<50	7000	53*	7300	ND<50
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	ND<0.5	440	ND<0.5	ND<3	ND<0.5
TOLUENE:	ND<0.5	88	ND<0.5	18	ND<0.5
ETHYL BENZENE:	ND<0.5	85	ND<0.5	210	ND<0.5
XYLENES:	ND<0.5	470	ND<0.5	400	ND<0.5

SUPERIOR ANALYTICAL LABORATORY, INC.
1555 BURKE, UNIT I · SAN FRANCISCO, CA 94124 · PHONE (415) 647-2081 DOHS #1332

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 11597
CLIENT: Western Geologic Resources
CLIENT JOB NO.: 1-012.05

DATE RECEIVED: 03/07/91
DATE REPORTED: 03/15/91

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
11597-11	03071.11	03/07/91	03/13/91
11597-12	03071.12	03/07/91	03/13/91
11597-13	03071.13	03/07/91	03/13/91
11597-14	03071.14	03/07/91	03/13/91
11597-15	03071.15	03/07/91	03/13/91

Laboratory Number:	11597 11	11597 12	11597 13	11597 14	11597 15
ANALYTE LIST	Amounts/Quantitation Limits (ug/l)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	70*	ND<50	ND<50	5800	ND<50
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	ND<0.5	ND<0.5	ND<0.5	600	ND<0.5
TOLUENE:	ND<0.5	ND<0.5	ND<0.5	120	0.8
ETHYL BENZENE:	ND<0.5	ND<0.5	ND<0.5	120	ND<0.5
XYLENES:	ND<0.5	ND<0.5	ND<0.5	540	0.9

SUPERIOR ANALYTICAL LABORATORY, INC.
1555 BURKE, UNIT I · SAN FRANCISCO, CA 94124 · PHONE (415) 647-2081 DOHS #1332

CERTIFICATE OF ANALYSIS

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

QA/QC INFORMATION
SET: 11597

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

OIL AND GREASE ANALYSIS By Standard Methods Method 503E:
Minimum Detection Limit in Water: 5000ug/L

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

EPA-SW846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Water: 50ug/l
Standard Reference: 08/24/90

SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Water: 0.5ug/l
Standard Reference: 01/28/91

ANALYTE	REFERENCE	SPIKE LEVEL	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Oil & Grease	NA	NA	NA	NA	NA
Diesel	NA	NA	NA	NA	NA
Gasoline	08/24/90	200ng	97/92	4.9	63-111
Benzene	01/28/91	200ng	107/105	2.4	72-119
Toluene	01/28/91	200ng	99/97	2.1	70-116
Ethyl Benzene	01/28/91	200ng	102/100	2.0	73-119
Total Xylene	01/28/91	600ng	103/102	1.3	71-118

* Does not match gasoline pattern, single peak in gasoline range.
The single peak can be identified from the 8010 results.

Richard Srna, Ph.D.
Cecilia G Jaquia (for)
Laboratory Director

OUTSTANDING QUALITY AND SERVICE

SUPERIOR ANALYTICAL LABORATORY, INC.
1555 BURKE. UNIT I · SAN FRANCISCO CA 94124 · PHONE (415) 647-2081 DOHS #1332

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 11597-1
CLIENT: Western Geologic Resources
JOB NO.: 1-012.05

DATE SAMPLED: 03/07/91
DATE RECEIVED: 03/11/91
DATE ANALYZED: 03/13/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: 03071.01

Compound	MDL (ug/L)	RESULTS (ug/l)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene	0.5	ND
Methylene Chloride	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
Chloroform	0.5	7
1,1,1-Trichloroethane	0.5	ND
Carbon tetrachloride	0.5	21
1,2-Dichloroethane	0.5	ND
Trichloroethylene	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
Cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene	0.5	ND
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Cis-1,2-Dichloroethene	0.5	ND

MDL = Method Detection Limit
ug/l = parts per billion (ppb)
QA/QC Summary: Daily Standard %DIFF = <15
MS/MSD average recovery = 93 % :MS/MSD RPD =< 3 %

Richard Srna, Ph.D.

Laboratory Director

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SUPERIOR ANALYTICAL LABORATORY, INC.
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CERTIFICATE OF ANALYSIS

LABORATORY NO.: 11597-2
CLIENT: Western Geologic Resources
JOB NO.: 1-012.05

DATE SAMPLED: 03/07/91
DATE RECEIVED: 03/11/91
DATE ANALYZED: 03/14/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: 03071.02

Compound	MDL (ug/L)	RESULTS (ug/l)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene	0.5	ND
Methylene Chloride	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
Chloroform	0.5	2
1,1,1-Trichloroethane	0.5	ND
Carbon tetrachloride	0.5	3
1,2-Dichloroethane	0.5	ND
Trichloroethylene	0.5	4
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
Cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene	0.5	65
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Cis-1,2-Dichloroethene	0.5	11

MDL = Method Detection Limit
ug/l = parts per billion (ppb)
QA/QC Summary: Daily Standard %DIFF = <15
MS/MSD average recovery = 93 % :MS/MSD RPD =< 3 %

Richard Srna, Ph.D.

Laboratory Director

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SUPERIOR ANALYTICAL LABORATORY, INC.
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CERTIFICATE OF ANALYSIS

LABORATORY NO.: 11597-3
CLIENT: Western Geologic Resources
JOB NO.: 1-012.05

DATE SAMPLED: 03/07/91
DATE RECEIVED: 03/11/91
DATE ANALYZED: 03/14/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: 03071.03

Compound	MDL (ug/L)	RESULTS (ug/l)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene	0.5	ND
Methylene Chloride	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
Chloroform	0.5	5
1,1,1-Trichloroethane	0.5	ND
Carbon tetrachloride	0.5	8
1,2-Dichloroethane	0.5	ND
Trichloroethylene	0.5	4
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
Cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene	0.5	69
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Cis-1,2-Dichloroethene	0.5	9

MDL = Method Detection Limit
ug/l = parts per billion (ppb)
QA/QC Summary: Daily Standard %DIFF = <15
MS/MSD average recovery = 93 % :MS/MSD RPD =< 3 %

Richard Srna, Ph.D.

Laboratory Director

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SUPERIOR ANALYTICAL LABORATORY, INC.
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CERTIFICATE OF ANALYSIS

LABORATORY NO.: 11597-4
CLIENT: Western Geologic Resources
JOB NO.: 1-012.05

DATE SAMPLED: 03/07/91
DATE RECEIVED: 03/11/91
DATE ANALYZED: 03/14/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: 03071.04

Compound	MDL (ug/L)	RESULTS (ug/l)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene	0.5	ND
Methylene Chloride	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
Chloroform	0.5	14
1,1,1-Trichloroethane	0.5	ND
Carbon tetrachloride	0.5	46
1,2-Dichloroethane	0.5	ND
Trichloroethylene	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
Cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene	0.5	ND
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Cis-1,2-Dichloroethene	0.5	ND

MDL = Method Detection Limit
ug/l = parts per billion (ppb)
QA/QC Summary: Daily Standard %DIFF = <15
MS/MSD average recovery = 93 % :MS/MSD RPD =< 3 %

Richard Srna, Ph.D.

Laboratory Director

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CERTIFICATE OF ANALYSIS

LABORATORY NO.: 11597-5
CLIENT: Western Geologic Resources
JOB NO.: 1-012.05

DATE SAMPLED: 03/07/91
DATE RECEIVED: 03/11/91
DATE ANALYZED: 03/13/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: 03071.05

Compound	MDL (ug/L)	RESULTS (ug/l)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene	0.5	ND
Methylene Chloride	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
Chloroform	0.5	4
1,1,1-Trichloroethane	0.5	ND
Carbon tetrachloride	0.5	7
1,2-Dichloroethane	0.5	ND
Trichloroethylene	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
Cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene	0.5	4
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Cis-1,2-Dichloroethene	0.5	1

MDL = Method Detection Limit
ug/l = parts per billion (ppb)
QA/QC Summary: Daily Standard %DIFF = <15
MS/MSD average recovery = 93 % :MS/MSD RPD =< 3 %

Richard Srna, Ph.D.

Laboratory Director

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CERTIFICATE OF ANALYSIS

LABORATORY NO.: 11597-6
CLIENT: Western Geologic Resources
JOB NO.: 1-012.05

DATE SAMPLED: 03/07/91
DATE RECEIVED: 03/11/91
DATE ANALYZED: 03/13/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: 03071.06

Compound	MDL (ug/L)	RESULTS (ug/l)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene	0.5	ND
Methylene Chloride	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
Chloroform	0.5	7
1,1,1-Trichloroethane	0.5	ND
Carbon tetrachloride	0.5	20
1,2-Dichloroethane	0.5	ND
Trichloroethylene	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
Cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene	0.5	ND
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Cis-1,2-Dichloroethene	0.5	ND

MDL = Method Detection Limit
ug/l = parts per billion (ppb)
QA/QC Summary: Daily Standard %DIFF = <15
MS/MSD average recovery = 93 % :MS/MSD RPD =< 3 %

Richard Srna, Ph.D.

Onyi A Nnoyn (for)
Laboratory Director

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SUPERIOR ANALYTICAL LABORATORY, INC.
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CERTIFICATE OF ANALYSIS

LABORATORY NO.: 11597-7
CLIENT: Western Geologic Resources
JOB NO.: 1-012.05

DATE SAMPLED: 03/07/91
DATE RECEIVED: 03/11/91
DATE ANALYZED: 03/13/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: 03071.07

Compound	MDL (ug/L)	RESULTS (ug/l)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene	0.5	ND
Methylene Chloride	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
Chloroform	0.5	2
1,1,1-Trichloroethane	0.5	ND
Carbon tetrachloride	0.5	ND
1,2-Dichloroethane	0.5	4
Trichloroethylene	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
Cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene	0.5	ND
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Cis-1,2-Dichloroethene	0.5	ND

MDL = Method Detection Limit
ug/l = parts per billion (ppb)
QA/QC Summary: Daily Standard %DIFF = <15
MS/MSD average recovery = 93 % :MS/MSD RPD =< 3 %

Richard Srna, Ph.D.

Onyi A Nnoyi (for)
Laboratory Director

OUTSTANDING QUALITY AND SERVICE

SUPERIOR ANALYTICAL LABORATORY, INC.
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CERTIFICATE OF ANALYSIS

LABORATORY NO.: 11597-8
CLIENT: Western Geologic Resources
JOB NO.: 1-012.05

DATE SAMPLED: 03/07/91
DATE RECEIVED: 03/11/91
DATE ANALYZED: 03/13/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: 03071.08

Compound	MDL (ug/L)	RESULTS (ug/l)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene	0.5	ND
Methylene Chloride	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
Chloroform	0.5	2
1,1,1-Trichloroethane	0.5	ND
Carbon tetrachloride	0.5	3
1,2-Dichloroethane	0.5	ND
Trichloroethylene	0.5	1
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
Cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene	0.5	32
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Cis-1,2-Dichloroethene	0.5	7

MDL = Method Detection Limit
ug/l = parts per billion (ppb)
QA/QC Summary: Daily Standard %DIFF = <15
MS/MSD average recovery = 93 % :MS/MSD RPD =< 3 %

Richard Srna, Ph.D.

Onyi A Onoja (for)
Laboratory Director

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CERTIFICATE OF ANALYSIS

LABORATORY NO.: 11597-9
CLIENT: Western Geologic Resources
JOB NO.: 1-012.05

DATE SAMPLED: 03/07/91
DATE RECEIVED: 03/11/91
DATE ANALYZED: 03/13/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: 03071.09

Compound	MDL (ug/L)	RESULTS (ug/l)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene	0.5	ND
Methylene Chloride	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
Chloroform	0.5	ND
1,1,1-Trichloroethane	0.5	ND
Carbon tetrachloride	0.5	ND
1,2-Dichloroethane	0.5	0.7
Trichloroethylene	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
Cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene	0.5	ND
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Cis-1,2-Dichloroethene	0.5	ND

MDL = Method Detection Limit
ug/l = parts per billion (ppb)
QA/QC Summary: Daily Standard %DIFF = <15
MS/MSD average recovery = 93 % :MS/MSD RPD =< 3 %

Richard Srna, Ph.D.

Laboratory Director

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SUPERIOR ANALYTICAL LABORATORY, INC.

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CERTIFICATE OF ANALYSIS

LABORATORY NO.: 11597-10
CLIENT: Western Geologic Resources
JOB NO.: 1-012.05

DATE SAMPLED: 03/07/91
DATE RECEIVED: 03/11/91
DATE ANALYZED: 03/13/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: 03071.10

Compound	MDL (ug/L)	RESULTS (ug/l)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene	0.5	ND
Methylene Chloride	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
Chloroform	0.5	5
1,1,1-Trichloroethane	0.5	ND
Carbon tetrachloride	0.5	6
1,2-Dichloroethane	0.5	ND
Trichloroethylene	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
Cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene	0.5	ND
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Cis-1,2-Dichloroethene	0.5	ND

MDL = Method Detection Limit
ug/l = parts per billion (ppb)
QA/QC Summary: Daily Standard %DIFF = <15
MS/MSD average recovery = 93 % :MS/MSD RPD =< 3 %

Richard Srna, Ph.D.

Laboratory Director

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CERTIFICATE OF ANALYSIS

LABORATORY NO.: 11597-11
CLIENT: Western Geologic Resources
JOB NO.: 1-012.05

DATE SAMPLED: 03/07/91
DATE RECEIVED: 03/11/91
DATE ANALYZED: 03/13/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: 03071.11

Compound	MDL (ug/L)	RESULTS (ug/l)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene	0.5	ND
Methylene Chloride	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
Chloroform	0.5	4
1,1,1-Trichloroethane	0.5	ND
Carbon tetrachloride	0.5	4
1,2-Dichloroethane	0.5	ND
Trichloroethylene	0.5	1
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
Cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene	0.5	42
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Cis-1,2-Dichloroethene	0.5	3

MDL = Method Detection Limit
ug/l = parts per billion (ppb)
QA/QC Summary: Daily Standard %DIFF = <15
MS/MSD average recovery = 93 % :MS/MSD RPD =< 3 %

Richard Srna, Ph.D.

Laboratory Director

OUTSTANDING QUALITY AND SERVICE

SUPERIOR ANALYTICAL LABORATORY, INC.
1555 BURKE. UNIT I · SAN FRANCISCO. CA 94124 · PHONE (415) 647-2081 DOHS #1332

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 11597-12
CLIENT: Western Geologic Resources
JOB NO.: 1-012.05

DATE SAMPLED: 03/07/91
DATE RECEIVED: 03/11/91
DATE ANALYZED: 03/13/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: 03071.12

Compound	MDL (ug/L)	RESULTS (ug/l)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene	0.5	ND
Methylene Chloride	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
Chloroform	0.5	7
1,1,1-Trichloroethane	0.5	ND
Carbon tetrachloride	0.5	6
1,2-Dichloroethane	0.5	ND
Trichloroethylene	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
Cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene	0.5	16
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Cis-1,2-Dichloroethene	0.5	3

MDL = Method Detection Limit
ug/l = parts per billion (ppb)
QA/QC Summary: Daily Standard %DIFF = <15
MS/MSD average recovery = 93 % :MS/MSD RPD =< 3 %

Richard Srna, Ph.D.

Laboratory Director

OUTSTANDING QUALITY AND SERVICE

SUPERIOR ANALYTICAL LABORATORY, INC.
1555 BURKE, UNIT I · SAN FRANCISCO CA 94124 · PHONE (415) 647-2081 DOHS #1332

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 11597-13
CLIENT: Western Geologic Resources
JOB NO.: 1-012.05

DATE SAMPLED: 03/07/91
DATE RECEIVED: 03/11/91
DATE ANALYZED: 03/13/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: 03071.13

Compound	MDL (ug/L)	RESULTS (ug/l)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene	0.5	ND
Methylene Chloride	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
Chloroform	0.5	ND
1,1,1-Trichloroethane	0.5	ND
Carbon tetrachloride	0.5	ND
1,2-Dichloroethane	0.5	ND
Trichloroethylene	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
Cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene	0.5	ND
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Cis-1,2-Dichloroethene	0.5	ND

MDL = Method Detection Limit
ug/l = parts per billion (ppb)
QA/QC Summary: Daily Standard %DIFF = <15
MS/MSD average recovery = 93 % :MS/MSD RPD =< 3 %

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Laboratory Director

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1555 BURKE. UNIT I · SAN FRANCISCO, CA 94124 · PHONE (415) 647-2081 DOHS #1332

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 11597-14
CLIENT: Western Geologic Resources
JOB NO.: 1-012.05

DATE SAMPLED: 03/07/91
DATE RECEIVED: 03/11/91
DATE ANALYZED: 03/13/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: 03071.14

Compound	MDL (ug/L)	RESULTS (ug/l)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene	0.5	ND
Methylene Chloride	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
Chloroform	0.5	3
1,1,1-Trichloroethane	0.5	ND
Carbon tetrachloride	0.5	0.8
1,2-Dichloroethane	0.5	4
Trichloroethylene	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
Cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene	0.5	ND
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Cis-1,2-Dichloroethene	0.5	ND

MDL = Method Detection Limit
ug/l = parts per billion (ppb)
QA/QC Summary: Daily Standard %DIFF = <15
MS/MSD average recovery = 93 % :MS/MSD RPD =< 3 %

Richard Srna, Ph.D.

Laboratory Director

OUTSTANDING QUALITY AND SERVICE

SUPERIOR ANALYTICAL LABORATORY, INC.
1555 BURKE. UNIT I · SAN FRANCISCO. CA 94124 · PHONE (415) 647-2081 DOHS #1332

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 11597-15
CLIENT: Western Geologic Resources
JOB NO.: 1-012.05

DATE SAMPLED: 03/07/91
DATE RECEIVED: 03/11/91
DATE ANALYZED: 03/13/91

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: 03071.15

Compound	MDL (ug/L)	RESULTS (ug/l)
Chloromethane/Vinyl Chloride	1.0	ND
Bromomethane/Chloroethane	1.0	ND
Trichlorofluoromethane	0.5	ND
1,1-Dichloroethene	0.5	ND
Methylene Chloride	0.5	ND
trans-1,2-Dichloroethene	0.5	ND
1,1-Dichloroethane	0.5	ND
Chloroform	0.5	ND
1,1,1-Trichloroethane	0.5	ND
Carbon tetrachloride	0.5	ND
1,2-Dichloroethane	0.5	ND
Trichloroethylene	0.5	ND
1,2-Dichloropropane	0.5	ND
Bromodichloromethane	0.5	ND
Cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
1,1,2-Trichloroethane	0.5	ND
Tetrachloroethene	0.5	ND
Dibromochloromethane	0.5	ND
Chlorobenzene	0.5	ND
Bromoform	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Cis-1,2-Dichloroethene	0.5	ND

MDL = Method Detection Limit
ug/l = parts per billion (ppb)
QA/QC Summary: Daily Standard %DIFF = <15
MS/MSD average recovery = 93 % :MS/MSD RPD =< 3 %

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