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

June 5, 1990

Marketing Operations

D. Moller
Manager, Operations
S. L. Patterson
Area Manager, Operations
C. G. Trimbach
Manager, Engineering

Mr. Rafat Shahid
Alameda County
Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

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

Dear Mr. Shahid:

Enclosed we are forwarding the Quarterly Groundwater Sampling report dated May 24, 1990, conducted by our consultant, Western Geologic Resources, Inc., for the above referenced site.

Chevron is still in the process of securing encroachment permits to install additional offsite monitoring wells to complete definition of hydrocarbon contamination below the site. This has been a lengthy process due to the City of Oakland's permit requirements. We do expect approval soon. When received, Chevron will proceed with the installation of the wells. A formal report of findings will be forwarded to your office.

I declare under penalty of perjury that the information contained in the attached report is true and correct, and that any recommended actions are appropriate under the circumstances, to the best of my knowledge.

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

Very truly yours,
C. G. Trimbach

By Dan Vukelich
Nancy Vukelich

NLV/jmr
Enclosure

cc: Mr. Lester Feldman
RWQCB-Bay Area
1800 Harrison Street
Suite # 700
Oakland, CA 94612

WESTERN GEOLOGIC RESOURCES INC.

2169 E. FRANCISCO BLVD., SUITE B / SAN RAFAEL
CALIFORNIA 94901 / FAX 415.457.8521
TELE 415.457.7595

24 May 1990

Mr. John Randall
Chevron USA
2410 Camino Ramon
San Ramon, California 94583-0804

Re: Quarterly Groundwater Monitoring
Sampled April 1990
Former Chevron Service Station #90020
17th and Harrison Streets
Oakland, California
WGR Project #1-012.03

Dear Mr. Randall:

This letter report presents the results of the quarterly groundwater monitoring performed on 18 April 1990 by Western Geologic Resources, Inc. (WGR) at the subject site (Figures 1 and 2).

GROUNDWATER SAMPLING

On 18 April 1990, WGR staff measured depth-to-water and purged monitor wells MW-1 through MW-8 with dedicated sampling systems. Three well-casing volumes were purged from wells MW-1 through MW-4, MW-6 and MW-8, before they were sampled. Monitor wells MW-5 and MW-7 were purged dry before three well-casing volumes could be evacuated and the wells were allowed to recover. Wells MW-5 and MW-7 were then sampled after recovering to 90% and 47.5% of their original static water levels, respectively. All groundwater samples were collected according to the WGR standard operating procedure for groundwater sampling included as Attachment A; field sampling and monitoring forms are included as Attachment B.

All purged water was temporarily stored on-site in 55-gallon drums pending analytic results. The groundwater samples and a laboratory-supplied travel blank, consisting of deionized water, were shipped under chain-of-custody to GTEL Environmental Laboratories, Inc. (GTEL) of Concord, California.

GROUNDWATER FLOW

Figure 3 shows the potentiometric surface of shallow groundwater, based on depth-to-water measurements taken on 18 April 1990. Groundwater-elevation data are presented in Table 1. Hydrographs showing groundwater elevations over time are included as Attachment C. Average groundwater flow direction for 18 April 1990 was to the east at a gradient of about 0.4%.

ANALYTIC RESULTS

Groundwater samples from monitor wells MW-1 through MW-8 were analyzed for total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene and total xylenes by EPA Methods 8015 and 8020, respectively, and halocarbons by EPA Method 601. Analytic results for past sampling events and this round of sampling are presented in Table 2. The chain-of-custody form and laboratory reports with quality assurance/quality control documents are included as Attachments D and E, respectively. A distribution map for tetrachloroethene (PCE) in shallow groundwater is presented as Figure 4.

COMMENTS

Groundwater flow direction and analytic results were similar to those during previous sampling events. Concentrations of TPH, benzene, toluene, ethylbenzene and total xylenes were not detected in the groundwater samples from monitor wells MW-1 though MW-6 and MW-8. The groundwater sample from monitor well MW-7 contained detectable concentrations of TPH, benzene, toluene, ethylbenzene and total xylenes consistent with results for previous samplings. Halocarbons continue to be present in the groundwater samples from wells MW-1 through MW-8 with PCE present at the highest concentration.

Western Geologic Resources, Inc. is pleased to provide geologic and environmental consulting services for Chevron and trusts that this report meets your needs. Please call us at (415) 457-7595 if you have any questions.

Sincerely,
Western Geologic Resources, Inc.

David D. Reichard

David D. Reichard
Staff Geologist

Leonard P. Niles

Leonard P. Niles
Project Geologist

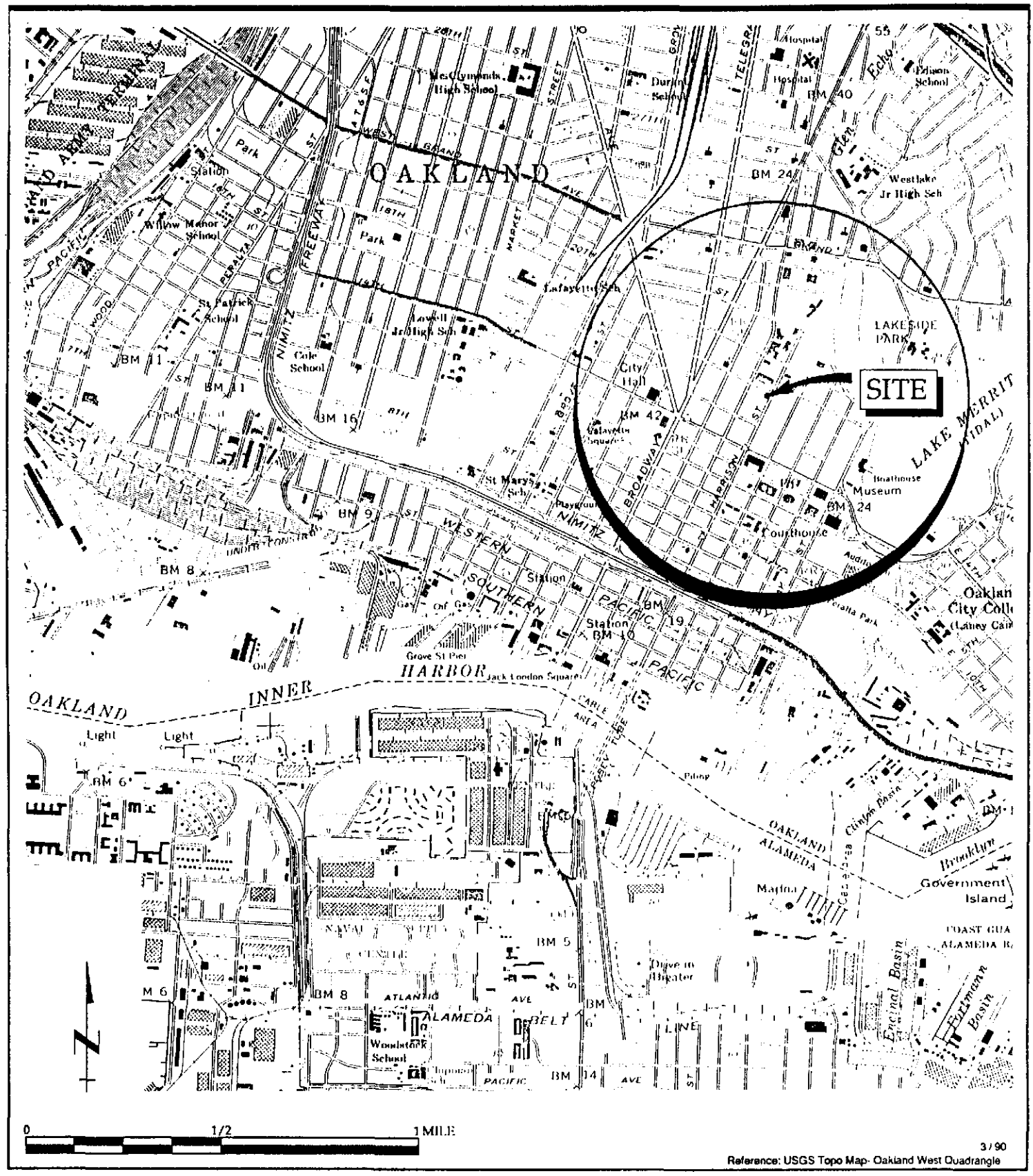
012L2MY0.WP

FIGURES

TABLES

ATTACHMENTS

FIGURES



3/90

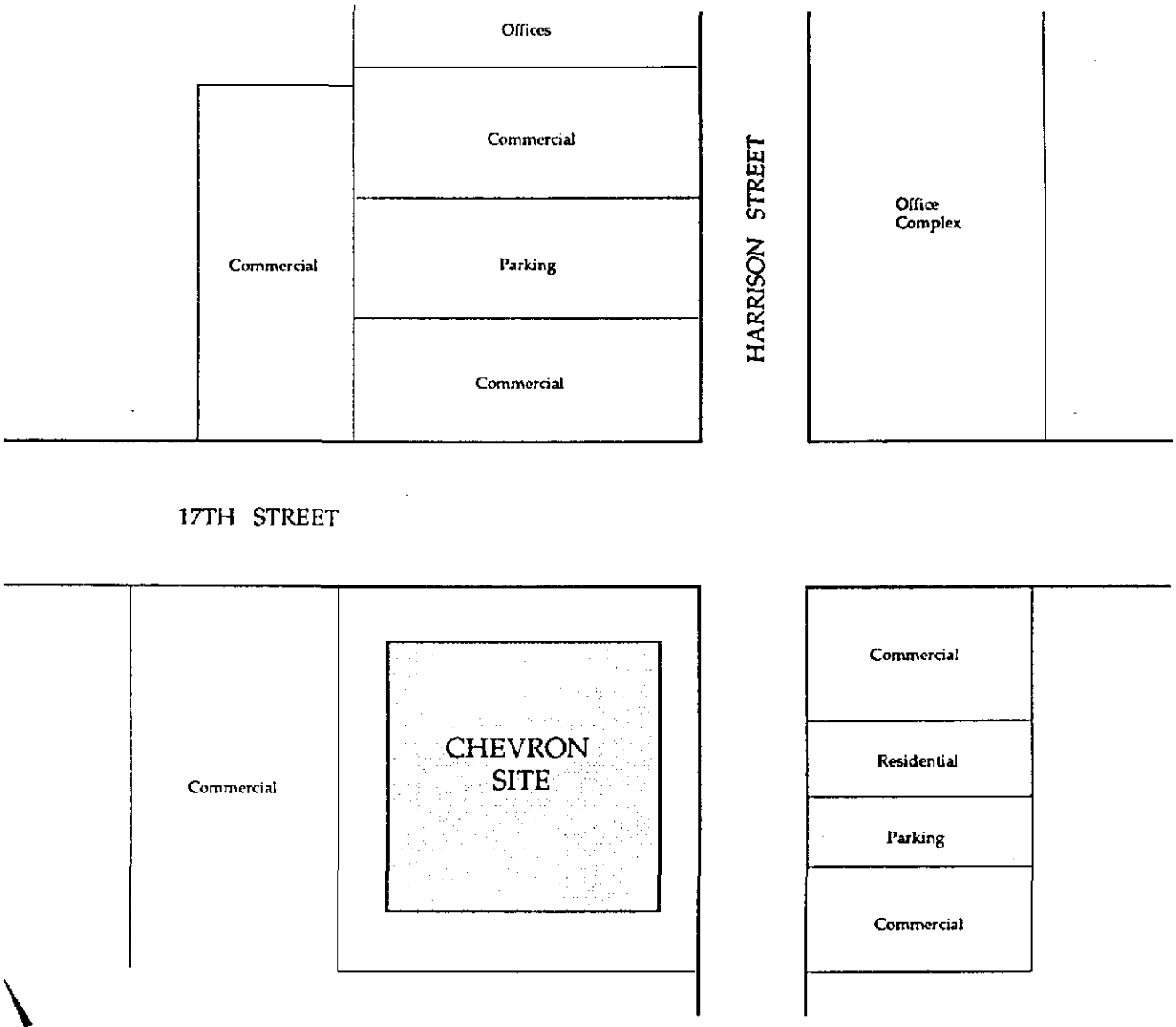
Reference: USGS Topo Map- Oakland West Quadrangle

Site Location Map
Chevron Service Station #90020
17th and Harrison Streets, Oakland, California

FIGURE
1

WESTERN GEOLOGIC RESOURCES, INC.

1-012.03



12/89

NOT TO SCALE

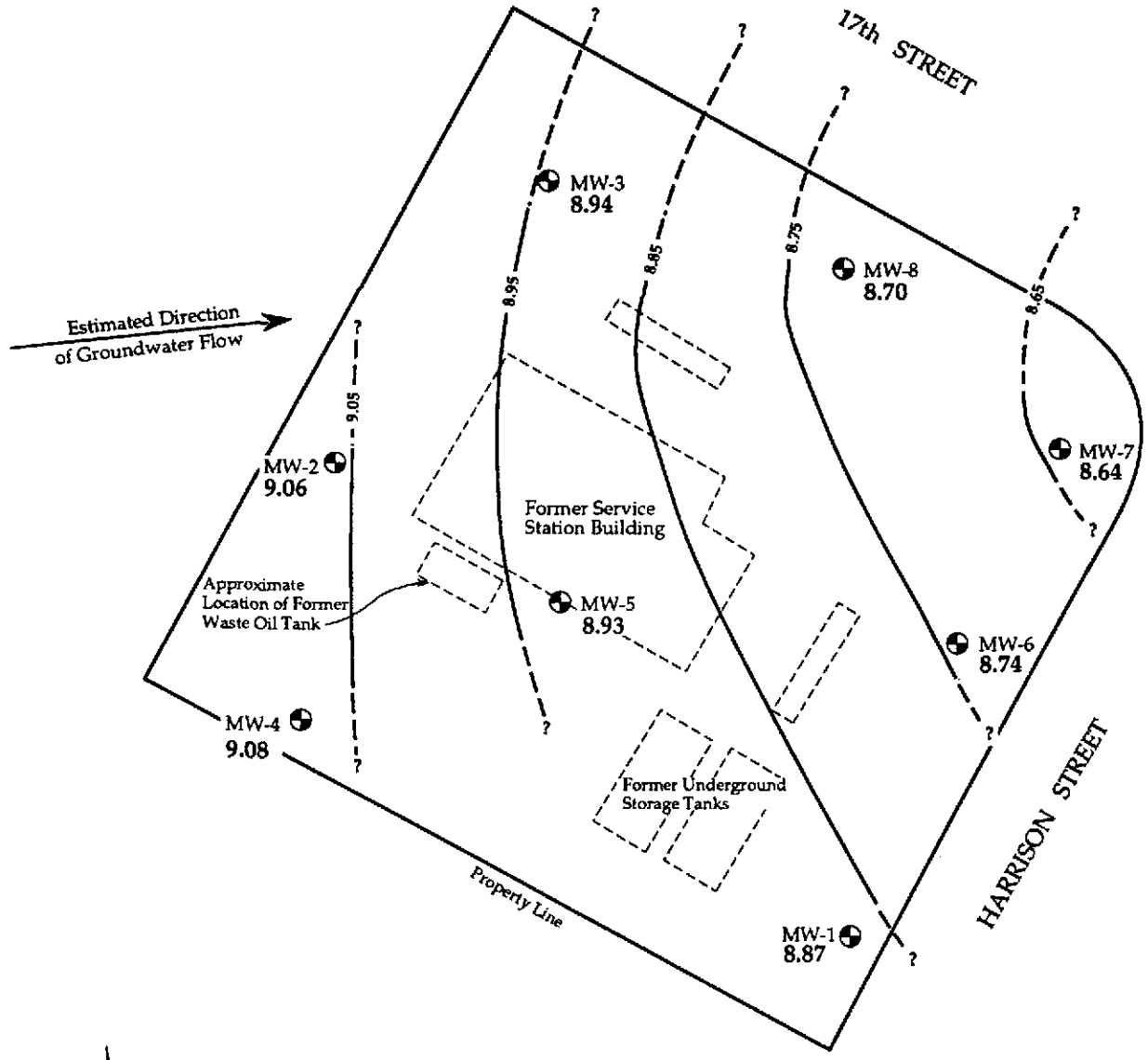
Source: EA Engineering SVCA 1988

Vicinity Map
Chevron Service Station #90020
17th and Harrison Streets, Oakland, California

FIGURE
2

WESTERN GEOLOGIC RESOURCES, INC.

1-012.03



12 / 89

LEGEND

MW-8 8.70 — Monitor Well Location and groundwater elevation, feet above mean sea level

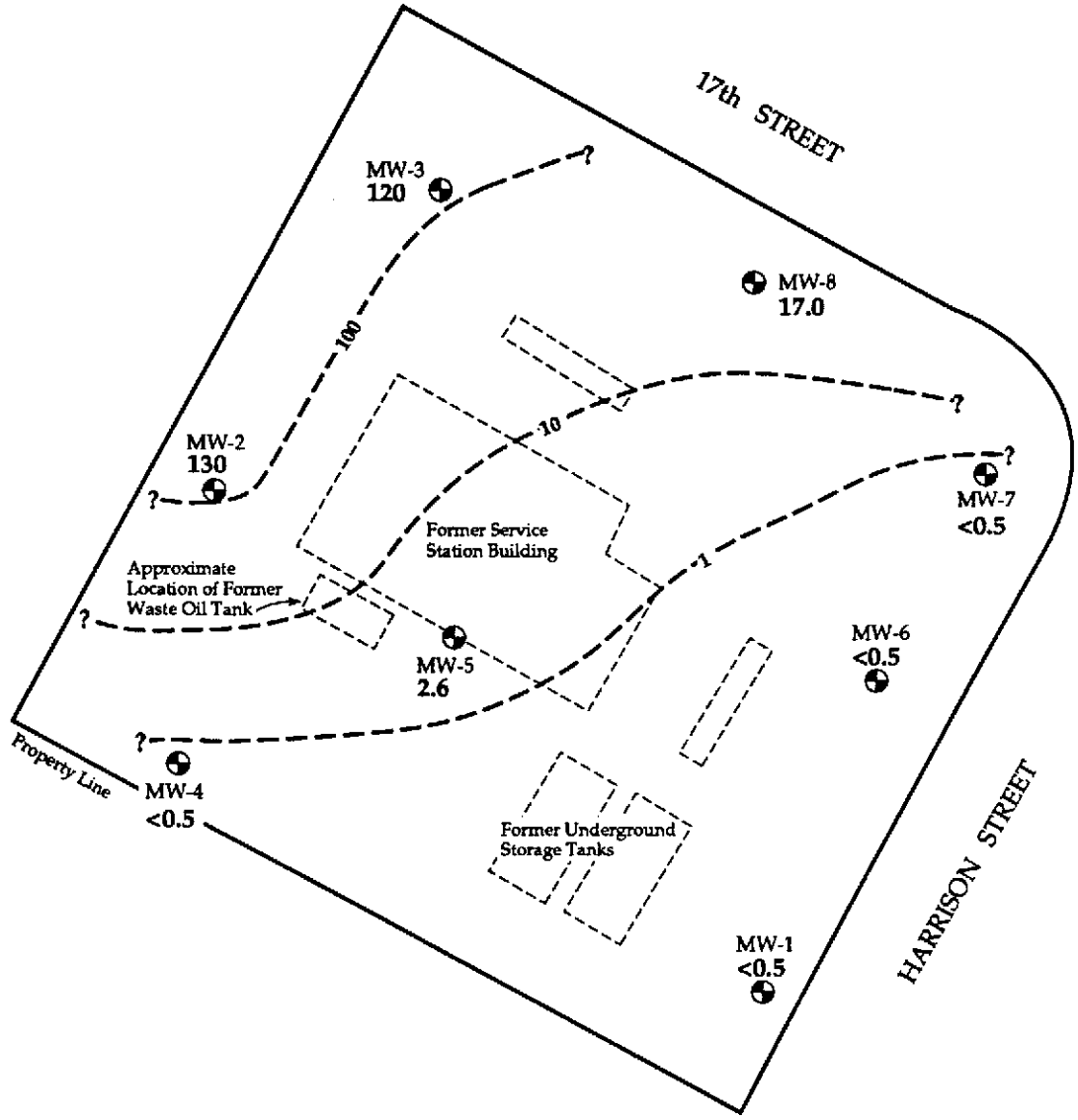
8.85 — — — ? — Groundwater elevation contour, feet above mean sea level, dashed where inferred, queried where uncertain

Potentiometric Surface of Shallow Groundwater, 18 April 1990
Chevron Service Station #90020
17th and Harrison Streets, Oakland, California

FIGURE 3

WESTERN GEOLOGIC RESOURCES, INC.

1-012.03



LEGEND

MW-4 17.0	Monitor Well Location and PCE Concentration in parts-per-billion
10 — —?	Groundwater Elevation Contour, feet above mean sea level, dashed where inferred, querried where uncertain

Distribution of Tetrachloroethene (PCE) in Shallow Groundwater
18 April 1990
Chevron Service Station #90020
17th and Harrison Streets
Oakland, California

FIGURE
4

WESTERN GEOLOGIC RESOURCES, INC.

1-012.03

TABLES

Table 1. Groundwater and Top-of-Casing Elevations
Former Chevron Service Station #90020
17th/Harrison, Oakland, California

Monitor Well	Date	TOC	DTW	Elev.-W
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-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-3	3 Nov 89	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-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-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

Table 1. Groundwater and Top-of-Casing Elevations (continued)
Former Chevron Service Station #90020
17th/Harrison, Oakland, California

Monitor Well	Date	TOC	DTW	Elev.-W
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-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-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

NOTES:

TOC = Top-of-Casing Elevation, feet above mean sea level
DTW = Depth-to-water, feet
Elev.W = Elevation of water, feet above mean sea level

TABLE 2. Analytic Results for Groundwater
TFH, TPH/TPPH, BTEX AND O&G
Former Chevron Service Station 90020
17th/Harrison, Oakland, California

Monitor Well	Date	EPA Method	Lab	FC	TFH	TPH/TPPH	Benzene	Toluene	E-Benzene	Xylenes	O & G
					<--------		ppb			-------->	ppm
MW-1	03 Nov 88	624/8015	BC	---	<1000	---	<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
MW-1	28 Jul 89	8260	CCAS	---	---	<50	<0.1	<0.5	<0.2	<0.5	<3
MW-1	30 Oct 89	8020/8015	GTEL	---	---	<500	<0.3	<0.3	<0.3	<0.6	---
MW-1	09 Jan 90	8020/8015	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-1	18 Apr 90	8020/8015	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-2	03 Nov 88	624/8015	BC	---	<1000	---	<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
MW-2	28 Jul 89	8260	CCAS	---	---	<100	<0.2	<1.0	<0.2	<0.4	<3
MW-2	30 Oct 89	8020/8015	GTEL	---	---	<500	<0.3	<0.3	<0.3	<0.6	---
MW-2	09 Jan 90	8020/8015	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-2	18 Apr 90	8020/8015	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-3	03 Nov 88	624/8015	BC	---	<1000	---	<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
MW-3	28 Jul 89	8260	CCAS	---	---	<100	<0.2	<1.0	<0.2	<0.4	<3
MW-3	30 Oct 89	8020/8015	GTEL	---	---	<500	<0.3	<0.3	<0.3	<0.6	---
MW-3	09 Jan 90	8020/8015	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-3	18 Apr 90	8020/8015	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-4	24 Apr 89	524.2/8260	CCAS	---	---	<50	<0.5	<1.0	<1.0	<1.0	<3
MW-4	28 Jul 89	8260	CCAS	---	---	<50	<0.1	<0.5	<0.1	<0.2	<3
MW-4	30 Oct 89	8020/8015	GTEL	---	---	<500	<0.3	<0.3	<0.3	<0.6	---

TABLE 2. Analytic Results for Groundwater (continued)
TFH, TPH/TPPH and BTEX
Former Chevron Service Station 90020
17th/Harrison, Oakland, California

Monitor Well	Date	EPA Method	Lab	FC	TFH	TPH/TPPH	Benzene	Toluene	E-Benzene	Xylenes	O & G
					<----	----	---- ppb	----	----	---->	ppm
MW-4	09 Jan 90	8020/8015	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-4	18 Apr 90	8020/8015	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-5	24 Apr 89	524.2/8260	CCAS	---	---	<50	<0.5	<1.0	<1.0	<1.0	<3
MW-5	28 Jul 89	8260	CCAS	---	---	<100	<0.2	<1.0	<0.2	<0.4	<3
MW-5	30 Oct 89	8020/8015	GTEL	---	---	<500	<0.3	<0.3	<0.3	<0.6	---
MW-5	09 Jan 90	8020/8015	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-5	18 Apr 90	8020/8015	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-6	24 Apr 89	524.2/8260	CCAS	---	---	<50	<0.5	<1.0	<1.0	<1.0	<3
MW-6	28 Jul 89	8260	CCAS	---	---	<100	<0.2	<1.0	<0.2	<0.4	<3
MW-6	30 Oct 89	8020/8015	GTEL	---	---	<500	<0.3	<0.3	<0.3	<0.6	---
MW-6	09 Jan 90	8020/8015	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-6	18 Apr 90	8020/8015	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-7	24 Apr 89	524.2/8260	CCAS	GAS	---	8400	100	260	160	1300	3**
MW-7	28 Jul 89	8260	CCAS	GAS	---	7000	230	90	70	440	<3
MW-7D	28 Jul 89	8260	CCAS	GAS	---	6000	280	180	58	430	---
MW-7	30 Oct 89	8020/8015	GTEL	GAS	---	10000	570	55	160	400	---
MW-7D	30 Oct 89	8020/8015	GTEL	GAS	---	9900	520	82	180	410	---
MW-7	09 Jan 90	8020/8015	GTEL	GAS	---	3400	290	72	9	200	---
MW-7	18 Apr 90	8020/8015	GTEL	GAS	---	6800	350	140	110	400	---

TABLE 2. Analytic Results for Groundwater *(continued)*
TFH, TPH/TPPH and BTEX
Former Chevron Service Station 90020
17th/Harrison, Oakland, California

Monitor Well	Date	EPA Method	Lab	FC	TFH	TPH/TPPH	Benzene	Toluene	E-Benzene	Xylenes	O & G
					<-----ppb----->						ppm
MW-8	24 Apr 89	524.2/8260	CCAS	---	---	<50	<0.5	<1.0	<1.0	<1.0	3
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
MW-8	30 Oct 89	8020/8015	GTEL	---	---	<500	<0.3	<0.3	<0.3	<0.6	---
MW-8	09 Jan 90	8020/8015	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
MW-8	18 Apr 90	8020/8015	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
TB	03 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	8020/8015	GTEL	---	---	<500	<0.3	<0.3	<0.3	<0.6	---
TB	09 Jan 90	8020/8015	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---
TB	18 Apr 90	8020/8015	GTEL	---	---	<50	<0.3	<0.3	<0.3	<0.6	---

Notes:

ppb = parts-per-billion
ppm = parts-per-million
O & G = Oil and Grease by California Standard Method 503E
* = Analyzed by EPA Method 601
** = Acetone 50 ppb, 2-Butanone 160 ppb
FC = Fuel characterization
GAS = Gasoline
TFH = Total fuel hydrocarbons
TPH/TPPH = Total petroleum hydrocarbons/Total purgeable petroleum hydrocarbons
BTEX = Benzene, Toluene, Ethylbenzene, Total Xylenes
E-Benzene = Ethyl benzene
TB = Travel blank
D = Duplicate analysis
BC = Brown and Caldwell Laboratories
CCAS = Central Coast Analytical Services
GTEL = Groundwater Technology Environmental Laboratories

TABLE 3. Analytic Results for Groundwater
Selected Halocarbons
Former Chevron Service Station #90020
17th/Harrison, Oakland, California

Monitor Well	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	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	09 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-2	03 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	09 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-3	03 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	09 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-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*	---	---

TABLE 3. Analytic Results for Groundwater (continued)
Selected Halocarbons
Former Chevron Service Station #90020
17th/Harrison, Oakland, California

Monitor Well	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-4	09 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-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	09 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-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	09 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-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	09 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

TABLE 3. Analytic Results for Groundwater (continued)
Selected Halocarbons
Former Chevron Service Station #90020
17th/Harrison, Oakland, California

Monitor Well	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-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	09 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
TB	03 Nov 88	624/8015	BC	<1.0	<1.0	<1.0	<1.0	---	<1.0	000	<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	09 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

TABLE 3. Analytic Results for Groundwater (continued)
Selected Halocarbons
Former Chevron Service Station #90020
17th/Harrison, Oakland, California

Notes:

ppb	= parts-per-billion
Carb Tet	= Carbon tetrachloride
Chlor	= Chloroform
PCE	= Tetrachloroethene
TCE	= Trichloroethene
*	= cis and trans isomers
1,2 DCE	= 1,2-Dichloroethene
t	= trans
c	= cis
TCA	= 1,1,1-Trichloroethane
D	= Duplicate analysis
TB	= Travel blank
BC	= Brown and Caldwell Laboratories
CCAS	= Central Coast Analytical Services
GTEL	= Groundwater Technology Environmental Laboratories
1,2 DCA	= 1,2-Dichloroethene
1,2 DCP	= 1,2-Dichloropropane
M-C	= Methylene Chloride

ATTACHMENT A

SOP-4: GROUNDWATER PURGING AND SAMPLING

STANDARD OPERATING PROCEDURES
RE: GROUNDWATER PURGING AND SAMPLING
SOP-4

Prior to water sampling, each well is purged by evacuating a minimum of three well-casing volumes of groundwater or until the discharge water temperature, conductivity, and pH stabilize. The groundwater sample should be taken when the water level in the well recovers to 80% of its static level.

The sampling equipment used consists of either a teflon bailer or a stainless steel bladder pump with a teflon bladder. If the sampling system is dedicated to the well, then the bailer is made of teflon, but the bladder pump is PVC with a polypropylene bladder. Forty milliliter (ml) glass volatile-organic-analysis (VOA) vials, with teflon septa, are used as sample containers.

The groundwater sample is decanted into each VOA vial in such a manner that there is a meniscus at the top of the vial. The cap is quickly placed over the top of the vial and securely tightened. The VOA vial is then inverted and tapped to see if air bubbles are present. If none are present, the sample is labeled and refrigerated for delivery under chain-of-custody to the laboratory. Label information should include a sample identification number, job identification number, date, time, type of analysis requested, and the sampler's name.

For quality control purposes, a duplicate water sample is collected from each well. This sample is put on hold at the laboratory. A trip blank is prepared at the laboratory and placed in the transport cooler. It remains with the cooler and is analyzed by the laboratory along with the groundwater samples. A field blank is prepared in the field when sampling equipment is not dedicated. The field blank is prepared after a pump or bailer has been steam-cleaned, prior to use in a second well, and is analyzed along with the other samples. The field blank demonstrates the quality of in-field cleaning procedures to prevent cross-contamination.

To minimize the potential for cross-contamination between wells, all the well-development and water-sampling equipment that is not dedicated to a well is steam-cleaned between each well. As a second precautionary measure, wells will be sampled in order of least to highest concentrations as established by previous analyses.

ATTACHMENT B

FIELD SAMPLING AND MONITORING FORMS

LIQUID-LEVEL DATA SHEET

Job 17th Ave. Date 4/18/90
Job # 1-[illegible]-2.03 Initials JC/JRS

WELL	HISTORIC DATA/ DATE: DTW	DTLH	LHT	CURRENT DATA DTW	DTLH	LHT	METHOD WLP, PB or IP*	TIME	COMMENTS
MW1				20.95				734	
2				21.53				730	
3				[illegible]	21.15			[illegible]	738
4				22.09				731	
5				21.35				733	
6				20.32				735	
7				20.37				736	
8				20.87				737	

PAGE 1 OF 1

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

WGR

WATER SAMPLING DATA Well Name MW1 Date 4/18/90 Time ______
Job Name 17th / Harrison Job Number 1-012.03 Initials CDS
WELL DATA: Well type M (M=monitoring well; Describe ______)
Depth to Water 20.95 ft.
Well Depth 29 ft. (spec.) Sounded Depth — ft.
Well Diameter 4 in. Date — Time —

EVACUATION: Sampling Equipment:
PVC Bailer: — in. Dedicated: Bladder Pump ✓ ;Bailer —
Sampling Port:Number — Rate — gpm. Volume — gal.
Other —
Initial Height of Water in Casing 8.05 ft; Volume 5.25 gal.
Volume To Be Evacuated = 15.8 gal. (initial volume x3 ✓, x4 ____)

	Evacuated	Evacuated	Evacuated
Time: Stop	1007		
Start	947		
Total minutes	20		
Amount Evacuated	16.0		
Total Evacuated	gal.		
Evacuation Rate	0.8 gpm.		

Formulas / Conversions
r = well radius in ft
h = ht of water col in ft
vol. of col. = $\pi r^2 h$
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 = 1.47 gal/ft
V_8" casing = 2.61 gal/ft

Depth to water during pumping 22.16 ft. 9.57 time
Pumped dry? NO After ______ gal. Recovery rate ______
Depth to water for 80% recovery ______ ft.

CHEMICAL DATA: Temp. Probe # ____ Ph Probe # ____ Cond.Probe # ____

Time		°C		umhos
	1			
	2			
	3			
	4			

SAMPLING: Point of collection: PE Hose ✓; End of bailer ___; Other ______
Samples taken 1010 time Depth to water 21.71 ft. Refrigerated: ______
Sample description: Water color Clear Odor none
Sediment/Foreign matter none

Sample ID no.		Container (VOA)/ other	Preservative NaHSO₄/Azide/other	Analysis	Lab
04180-01A	40 ml	VOA	HCl	OA w/FOIS	GTEL
B	ml	↓	↓	↓	↓
C	ml	↓	None	601	↓
D	ml	↓	↓	↓	↓
	ml				
	ml				
	ml				
	ml				

Container codes: P = plastic bottle; C or B = clear/brown glass; Describe

COMMENTS: ______

WGR

WATER SAMPLING DATA Well Name MW2 Date 4/18/90 Time ____
Job Name 17th / Harrison Job Number 1-012.03 Initials RDS
WELL DATA: Well type M (M=monitoring well; Describe ____)
Depth to Water 21.83 ft.
Well Depth 28.5 ft. (spec.) Sounded Depth - ft.
Well Diameter 4 in. Date - Time -

EVACUATION: Sampling Equipment:
PVC Bailer: - in. Dedicated: Bladder Pump ✓ ; Bailer -
Sampling Port: Number - Rate - gpm. Volume - gal.
Other -
Initial Height of Water in Casing 6.97 ft; Volume 4.55 gal.
Volume To Be Evacuated = 13.65 gal. (initial volume x3 ✓, x4 ____)

	Evacuated	Evacuated	Evacuated
Time: Stop	1046		
Start	1031		
Total minutes	15		
Amount Evacuated	14.0		
Total Evacuated	____ gal.		
Evacuation Rate	0.93 gpm.		

Formulas / Conversions
r = well radius in ft
h = ht of water col in ft
vol. of col. = $\pi r^2 h$
7.48 gal/ft³
2" casing = 0.163 gal/ft
3" casing = 0.367 gal/ft
4" casing = 0.653 gal/ft
5" casing = 0.826 gal/ft
6" casing = 1.47 gal/ft
8" casing = 2.61 gal/ft

Depth to water during pumping 23.32 ft. 1044 time
Pumped dry? No After ____ gal. Recovery rate ____
Depth to water for 80% recovery ____ ft.

CHEMICAL DATA: Temp. Probe # ____ Ph Probe # ____ Cond. Probe # ____

Time		°C		umhos
____	1 ____		____	
____	2 ____		____	
____	3 ____		____	
____	4 ____		22.28' ____	

SAMPLING: Point of collection: PE Hose ✓ ; End of bailer - ; Other -
Samples taken 1056 time Depth to water 22.24 ft. Refrigerated: yes
Sample description: Water color clear Odor none
Sediment/Foreign matter none

Sample ID no.			Container (VOA)/ other	Preservative $NaHSO_4$/Azide/other	Analysis	Lab
04MW-02A	40	ml		HCl	EPA 602/8010	C-tel
B		ml				
C		ml		None	601	
D		ml				
		ml				
		ml				
		ml				
		ml				

Container codes: P = plastic bottle; C or B = clear/brown glass; Describe

COMMENTS: ____

All Sampled

WGR

WATER SAMPLING DATA Well Name MW3 Date 4/14/90 Time 945
Job Name 17th / Harrison Job Number 1-012.03 Initials TL
WELL DATA: Well type M (M=monitoring well; Describe —)
Depth to Water 21.15 ft.
Well Depth 32 ft. (spec.) Sounded Depth ____ ft.
Well Diameter 4 in. Date ____ Time ____

EVACUATION: Sampling Equipment:
PVC Bailer: — in. Dedicated: Bladder Pump ✓ ;Bailer —
Sampling Port:Number — Rate — gpm. Volume — gal.
Other —
Initial Height of Water in Casing 10.85 ft; Volume 7.05 gal.
Volume To Be Evacuated = 21.2 gal. (initial volume x3 ✓, x4 ____)

	Evacuated	Evacuated	Evacuated
Time: Stop	1017		
Start	946		
Total minutes	31		
Amount Evacuated	21.5		
Total Evacuated	21.5 gal.		
Evacuation Rate	.67 gpm.		

Formulas / Conversions
r = well radius in ft
h = ht of water col in ft
vol. of col. = $\pi r^2 h$
7.48 gal/ft³
2" casing = 0.163 gal/ft
3" casing = 0.367 gal/ft
4" casing = 0.653 gal/ft
5" casing = 0.826 gal/ft
6" casing = 1.47 gal/ft
8" casing = 2.61 gal/ft

Depth to water during pumping 21.73 ft. 1005 time
Pumped dry? NO After — gal. Recovery rate —
Depth to water for 80% recovery — ft.

CHEMICAL DATA: Temp. Probe # ____ Ph Probe # ____ Cond.Probe # ____

Time		°C	umhos
1			
2			
3			
4			

SAMPLING: Point of collection: PE Hose ✓; End of bailer ___; Other ____
Samples taken 1015 time Depth to water 21.43 ft. Refrigerated: ✓
Sample description: Water color clear Odor ~~~
Sediment/Foreign matter 0

Sample ID no.		Container VOA / other	Preservative NaHSO₄/Azide/other	Analysis	Lab
04150-034	40 ml		HCl	624 602/8021	GTEL
B	ml		↓	↓	↓
C	ml		None	601	
D	ml		↓	↓	
	ml				
	ml				
	ml				
	ml				

Container codes: P = plastic bottle; C or B = clear/brown glass; Describe

COMMENTS: ____

1st Sample

WGR

WATER SAMPLING DATA Well Name MW4 Date 4/18/90 Time 9:00
Job Name 13th /Harrison Job Number 1-012.03 Initials JL
WELL DATA: Well type M (M=monitoring well; Describe —)
Depth to Water 22.09 ft.
Well Depth 33.5 ft. (spec.) Sounded Depth ____ ft.
Well Diameter 4 in. Date ____ Time ____

EVACUATION: Sampling Equipment:
PVC Bailer: — in. Dedicated: Bladder Pump ✓ ;Bailer ____
Sampling Port:Number - Rate - gpm. Volume - gal.
Other —
Initial Height of Water in Casing 11.41 ft; Volume 7.45 gal.
Volume To Be Evacuated = 22.3 gal. (initial volume x3 ✓, x4 ____)

	Evacuated	Evacuated	Evacuated
Time: Stop	9:28		
Start	9:00		
Total minutes	28		
Amount Evacuated	22.5		
Total Evacuated	22.5 gal.		
Evacuation Rate	.80 gpm.		

Formulas / Conversions
r = well radius in ft
h = ht of water col in ft
vol. of col. = $\pi r^2 h$
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 = 1.47 gal/ft
V_8" casing = 2.61 gal/ft

Depth to water during pumping 24.15 ft. 9:27 time
Pumped dry? No After ____ gal. Recovery rate —
Depth to water for 80% recovery — ft.

CHEMICAL DATA: Temp. Probe # ____ Ph Probe # ____ Cond.Probe # ____

Time		Temp.	Ph	Cond.
	1			umhos
	2			
	3			
	4			

SAMPLING: Point of collection: PE Hose ✓; End of bailer -; Other —
Samples taken 9:31 time Depth to water 23.32 ft. Refrigerated: ✓
Sample description: Water color clear Odor —
Sediment/Foreign matter —

Sample ID no.		Container VOA / other	Preservative NaHSO₄/Azide/other	Analysis	Lab
0418-01A	40 ml	VOA	HCl	624 602/602	G.I.C.
B	ml	↓	↓	↓	
C	ml		Na	601	
↓ D	↓ ml	↓	↓	↓	
	ml				
	ml				
	ml				
	ml				

Container codes: P = plastic bottle; C or B = clear/brown glass; Describe

COMMENTS:

WGR

WATER SAMPLING DATA Well Name MW5 Date 4/18/90 Time 5:36
Job Name 17th Harrison Job Number 1-012.07 Initials JK (JS)
WELL DATA: Well type M (M=monitoring well; Describe _____)
Depth to Water 21.35 ft.
Well Depth 32 ft. (spec.) Sounded Depth - ft.
Well Diameter 4 in. Date - Time _____

EVACUATION: Sampling Equipment:
PVC Bailer: - in. Dedicated: Bladder Pump ✓ ; Bailer -
Sampling Port: Number - Rate - gpm. Volume - gal.
Other -
Initial Height of Water in Casing 10.65 ft; Volume 6.9 gal.
Volume To Be Evacuated = 20.8 gal. (initial volume x3 ✓, x4 ___)

	Evacuated	Evacuated	Evacuated
Time: Stop	8:46		
Start	8:34		
Total minutes	12		
Amount Evacuated	9		

Total Evacuated _____ gal.
Evacuation Rate 0.75 gpm.

Formula: $\pi r^2 h$ (conversions)
r = well radius in ft
h = ht of water col in ft
vol. of col. in ft³
7.48 gal/ft³
2" casing = 0.163 gal/ft
3" casing = 0.367 gal/ft
4" casing = 0.653 gal/ft
5" casing = 0.826 gal/ft
6" casing = 1.47 gal/ft
8" casing = 2.61 gal/ft

Depth to water during pumping - ft. - time
Pumped dry? ✓ After 9 gal. Recovery rate .079
Depth to water for 80% recovery 23.48 ft.

CHEMICAL DATA: Temp. Probe # ____ Ph Probe # ____ Cond. Probe # ____

Time		Temp. °C	Ph	Cond. umhos
	1			
	2			
	3			
	4			

SAMPLED AT 90% Recovery

SAMPLING: Point of collection: PE Hose ✓; End of bailer -; Other _____
Samples taken 1122 time Depth to water 24.22 ft. Refrigerated: ✓
Sample description: Water color cloudy Odor none
Sediment/Foreign matter some amount of silt

Sample ID no.		Container (VOA) / other	Preservative NaHSO₄/Azide/other	Analysis	Lab
041290-05A	40 ml		HCl	EPA 602/8020	GTEL
B	ml		↓	↓	↓
C	ml		None	601	
D	ml		↓	↓	
	ml				
	ml				
	ml				
	ml				

Container codes: P = plastic bottle; C or B = clear/brown glass; Describe

COMMENTS: DTW = 31.16' at 8:49
30.55' at 8:54
22.41' at 11:10 (is at 90% recovery)

WGR

WATER SAMPLING DATA Well Name MW6 Date 4/18/90 Time ______
Job Name 17th Harrison Job Number 1-012.03 Initials RJS
WELL DATA: Well type M (M=monitoring well; Describe ______)
Depth to Water 20.72 ft.
Well Depth 26 ft. (spec.) Sounded Depth – ft.
Well Diameter 4 in. Date – Time ______

EVACUATION: Sampling Equipment:
PVC Bailer: – in. Dedicated: Bladder Pump ✓ ;Bailer –
Sampling Port:Number – Rate – gpm. Volume – gal.
Other –
Initial Height of Water in Casing 5.3 ft; Volume ______ gal.
Volume To Be Evacuated = 15.8 gal. (initial volume x3 ✓, x4 ____)

	Evacuated	Evacuated	Evacuated
Time: Stop	924		
Start	906		
Total minutes	18		
Amount Evacuated	16.0		
Total Evacuated	gal.		
Evacuation Rate	0.89 gpm.		

Formulas / Conversions
r = well radius in ft
h = ht of water col in ft
vol. of col. = $\pi r^2 h$
7.48 gal/ft³
V casing = 0.163 gal/ft
V casing = 0.367 gal/ft
V casing = 0.653 gal/ft
V casing = 0.826 gal/ft
V casing = 1.47 gal/ft
V casing = 2.61 gal/ft

Depth to water during pumping 23.34 ft. 916 time
Pumped dry? NO After ______ gal. Recovery rate ______
Depth to water for 80% recovery ______ ft.

CHEMICAL DATA: Temp. Probe # ___ Ph Probe # ___ Cond.Probe # ___

Time		Temp. °C	pH	umhos
	1			
	2			
	3			
	4			

SAMPLING: Point of collection: PE Hose ✓; End of bailer –; Other ______
Samples taken 928 time Depth to water 23.33 ft. Refrigerated: yes
Sample description: Water color tan Odor none
Sediment/Foreign matter some silt

Sample ID no.		Container (VOA)/ other	Preservative NaHSO₄/Azide/other	Analysis	Lab
0418006A	40 ml	VOA	HCl	EPA 602/8015	GRC
B	40 ml	VOA	HCl	EPA 602/8015	GRC
C	40 ml	VOA	None	601	GRC
D	40 ml	VOA	None	601	GRC
	ml				
	ml				
	ml				
	ml				

Container codes: P = plastic bottle; C or B = clear/brown glass; Describe

COMMENTS: ______

WGR

WATER SAMPLING DATA Well Name MW7 Date 4/18/90 Time ____
Job Name 17th + Harrison Job Number 1-012.03 Initials CBS
WELL DATA: Well type M (M=monitoring well; Describe ____)
Depth to Water 20.37 ft.
Well Depth ~~27~~ ft. (spec.) Sounded Depth — ft.
Well Diameter 4 in. Date — Time —

EVACUATION: Sampling Equipment:
PVC Bailer: — in. Dedicated: Bladder Pump ✓ ; Bailer —
Sampling Port: Number — Rate — gpm. Volume — gal.
Other —
Initial Height of Water in Casing 6.63 ft; Volume 4.33 gal.
Volume To Be Evacuated = 13.0 gal. (initial volume x3 ✓, x4 ____)

	Evacuated	Evacuated	Evacuated
Time: Stop	845		
Start	836		
total minutes	9		
Amount Evacuated	6.25		
Total Evacuated	____ gal.		
Evacuation Rate	0.69 gpm.		

Formulas / Conversions
r = well radius in ft
h = ht of water col in ft
vol. of col. = $\pi r^2 h$
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_5" casing = 0.826 gal/ft
V_6" casing = 1.47 gal/ft
V_8" casing = 2.61 gal/ft

Depth to water during pumping ____ ft. ____ time
Pumped dry? YES After 6.25 gal. Recovery rate 0.03 gal/min
Depth to water for 80% recovery 21.69 ft.

CHEMICAL DATA: Temp. Probe # ____ Ph Probe # ____ Cond. Probe # ____

Time		°C		umhos
	1			
	2			
	3			
	4			

SAMPLING: Point of collection: PE Hose ✓; End of bailer —; Other ____
Samples taken 11:19 time Depth to water 25.91 ft. Refrigerated: yes
Sample description: Water color ~~clear~~ cloudy Odor yes - slight
Sediment/foreign matter zero

Sample ID no.			Container (VOA)/ other	Preservative $NaHSO_4$/Azide/other	Analysis	Lab
0418D-07A	90	ml		AU	EPA 602/8015	GTEL
B		ml		↓	↓	↓
C		ml		None	601	
D	↓	ml	↓	↓	↓	
		ml				
		ml				
		ml				
		ml				

Container codes: P = plastic bottle; C or B = clear/brown glass; Describe

COMMENTS: 25.97' @ 853
25.73' @ 858
23.85 at 11:00 = 45% recovered

WGR

WATER SAMPLING DATA Well Name MW8 Date ~~4/15/10~~ 4/18/10 Time 1050
Job Name 17th Harrison Job Number 1-012.03 Initials SK
WELL DATA: Well type M (M=monitoring well; Describe —)
Depth to Water 20.87 ft.
Well Depth 26 ft. (spec.) Sounded Depth ____ ft.
Well Diameter 4 in. Date ____ Time ____

EVACUATION: Sampling Equipment:
PVC Bailer: — in. Dedicated: Bladder Pump ✓ ;Bailer —
Sampling Port:Number — Rate — gpm. Volume — gal.
Other —
Initial Height of Water in Casing 5.13 ft; Volume 3.3 gal.
Volume To Be Evacuated = 10.0 gal. (initial volume x3 ✓, x4 ____)

	Evacuated	Evacuated	Evacuated
Time: Stop	1044		
Start	1031		
Total minutes	13		
Amount Evacuated			
Total Evacuated	10 gal.		
Evacuation Rate	.77 gpm.		

Formula: / Conversions:
r = well radius in ft
h = ht of water col in ft
vol. of col. = $\pi r^2 h$
7.48 gal/ft³
2" casing = 0.163 gal/ft
3" casing = 0.367 gal/ft
4" casing = 0.653 gal/ft
5" casing = 0.826 gal/ft
6" casing = 1.47 gal/ft
8" casing = 2.61 gal/ft

Depth to water during pumping 22.62 ft. 1037 time
Pumped dry? ~~NAVD~~ NO After — gal. Recovery rate —
Depth to water for 80% recovery — ft.

CHEMICAL DATA: Temp. Probe # ____ pH Probe # ____ Cond. Probe # ____

Time		°C		umhos
	1			
	2			
	3			
	4			

SAMPLING: Point of collection: PE Hose ✓; End of bailer —; Other ____
Samples taken 1047 time Depth to water 21.90 ft. Refrigerated: yes
Sample description: Water color clear Odor ⊖
Sediment/Foreign matter ⊖

Sample ID no.			Container (VOA)/ other	Preservative NaHSO₄/Azide/other	Analysis	Lab
0415-05A	40	ml		HCl	EPA 602/8015	6 HCl
↓	↓	ml		↓	↓	↓
B	↓	ml		None	601	
↓	↓	ml	↓	↓	↓	
		ml				
		ml				
		ml				
		ml				

Container codes: P = plastic bottle; C or B = clear/brown glass; Describe

COMMENTS: ____

WGR

WATER SAMPLING DATA Well Name Travel Blanks Date ________ Time 7:30
Job Name 17th Harrison Job Number 1-012.03 Initials JL
WELL DATA: Well type M (M=monitoring well; Describe ________)
Depth to Water ________ ft.
Well Depth ________ ft. (spec.) Sounded Depth ________ ft.
Well Diameter ____ in. Date ________ Time ________

EVACUATION: Sampling Equipment:
PVC Bailer: ________ in. Dedicated: Bladder Pump ______ ;Bailer ______
Sampling Port:Number ________ Rate ________ gpm. Volume ________ gal.
Other ________
Initial Height of Water in Casing ________ ft; Volume ________ gal.
Volume To Be Evacuated = ________ gal. (initial volume x3 ____, x4 ____)

	Evacuated	Evacuated	Evacuated
Time: Stop			
Start			
Total minutes			
Amount Evacuated			
Total Evacuated	gal.		
Evacuation Rate	gpm.		

Formulas / Conversions
r = well radius in ft
h = ht of water col in ft
vol. of col. = $\pi r^2 h$
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 = 1.47 gal/ft
V_8" casing = 2.61 gal/ft

Depth to water during pumping _____ ft. _____ time
Pumped dry? _____ After _____ gal. Recovery rate ________
Depth to water for 80% recovery ________ ft.

CHEMICAL DATA: Temp. Probe # ____ Ph Probe # ____ Cond.Probe # ____

Time		°C		umhos
	1			
	2			
	3			
	4			

SAMPLING: Point of collection: PE Hose ___; End of bailer ___; Other ________
Samples taken 7:30 time Depth to water ________ ft. Refrigerated: ______
Sample description: Water color ________ Odor ________
Sediment/Foreign matter ________

Sample ID no.			Container VOA / other	Preservative NaHSO₄/Azide/other	Analysis	Lab
04170 07A	40	ml	VOA		EPA 601/8015	4TCL
4B	4	ml			601	
		ml				
		ml				
		ml				
		ml				
		ml				
		ml				

Container codes: P = plastic bottle; C or B = clear/brown glass; Describe

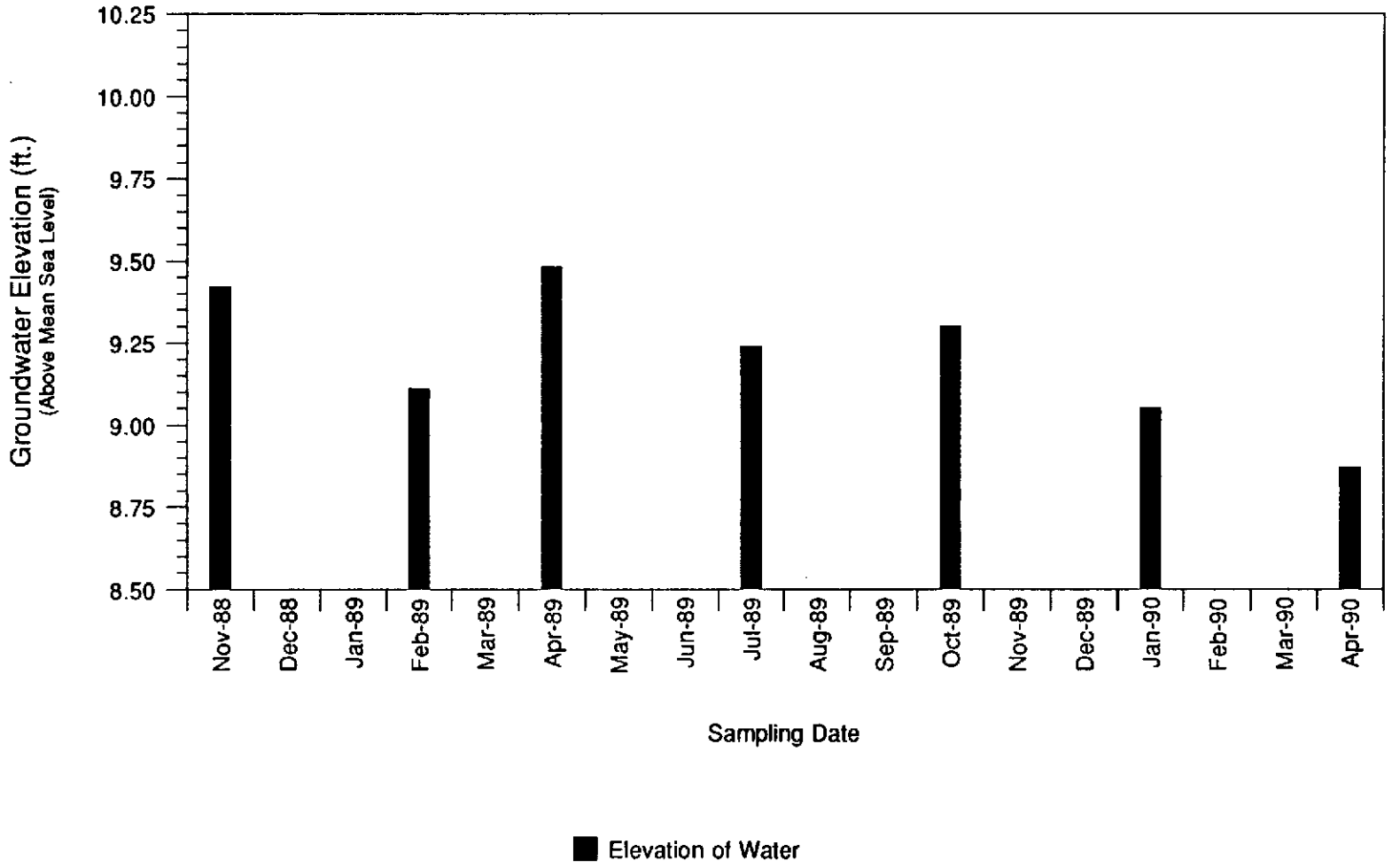
COMMENTS: ________

ATTACHMENT C

HYDROGRAPHS

GROUNDWATER MONITOR WELL MW-1

Chevron Service Station #90020 17th & Harrison Sts., Oakland, California

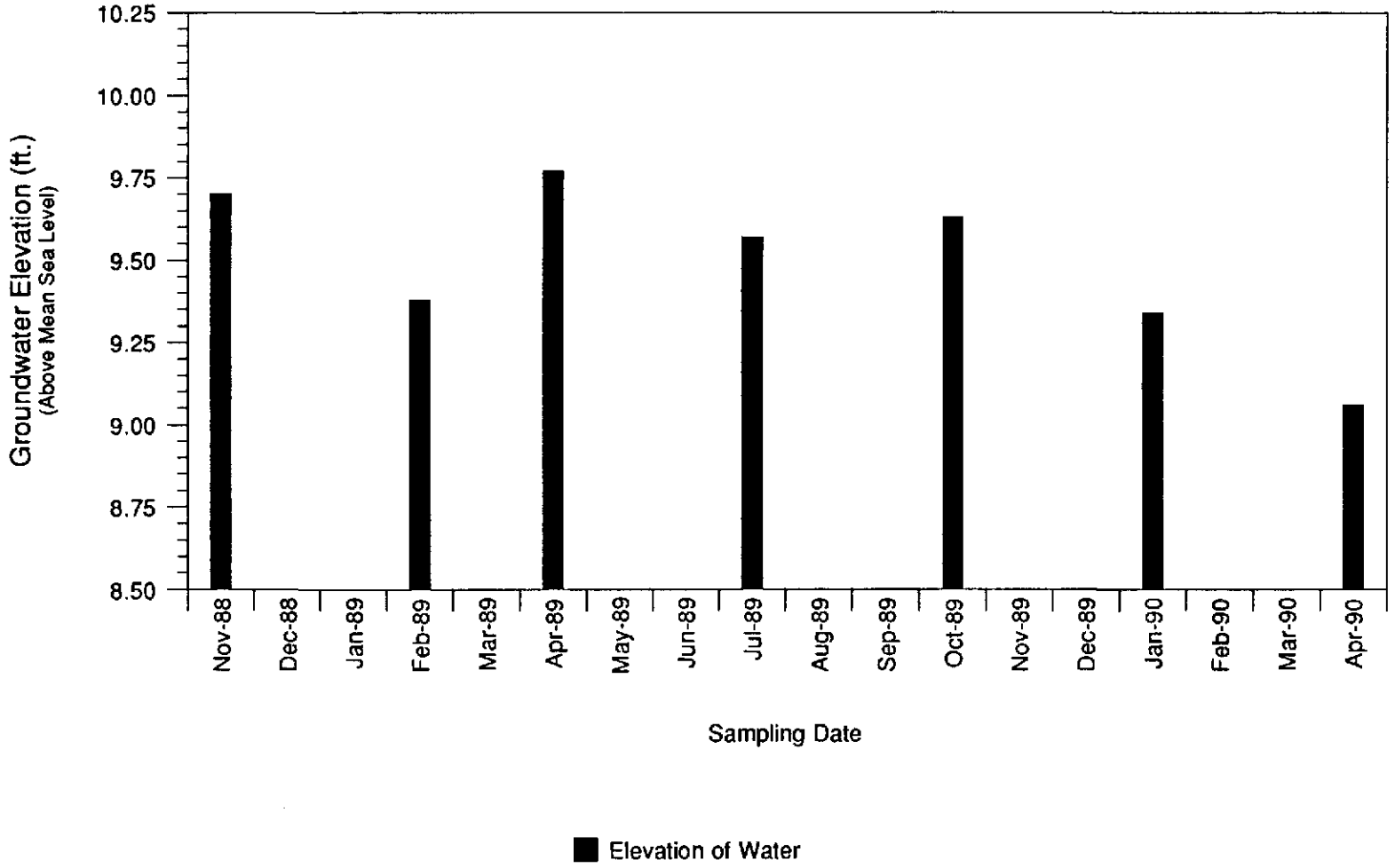


WGR #1-012.03

WESTERN GEOLOGIC RESOURCES, INC.

GROUNDWATER MONITOR WELL MW-2

Chevron Service Station #90020 17th & Harrison Sts., Oakland, California

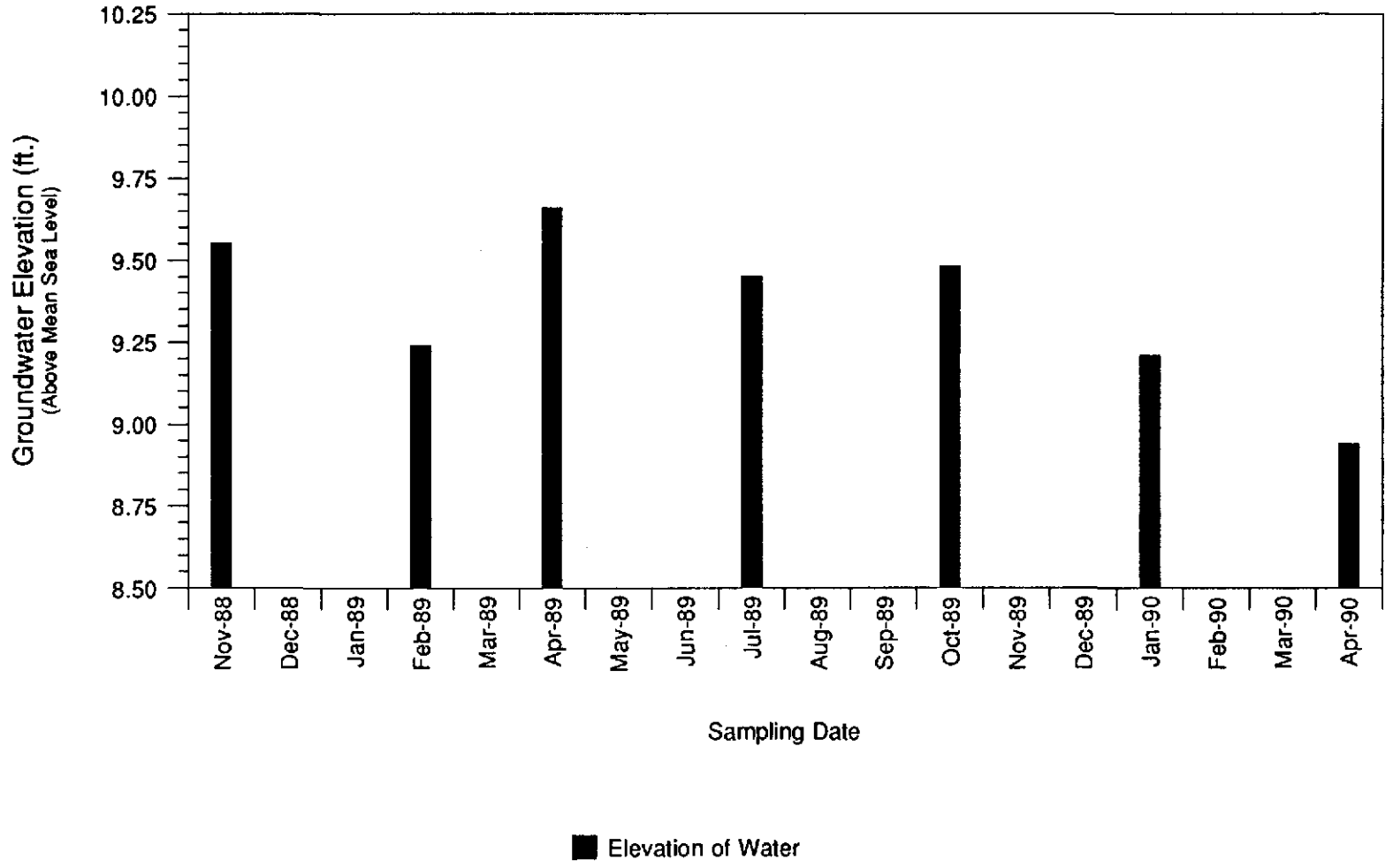


WGR #1-012.03

WESTERN GEOLOGIC RESOURCES, INC.

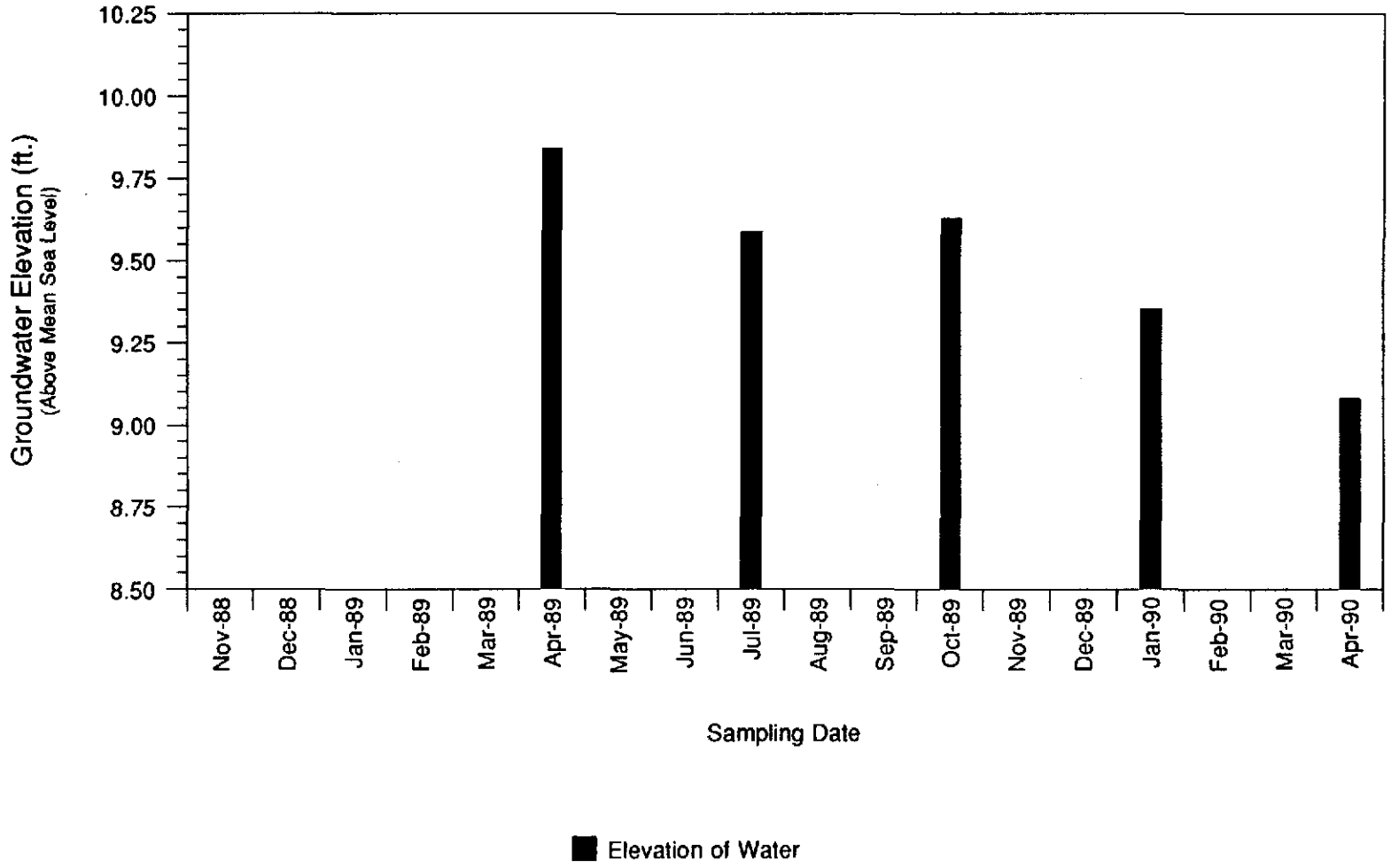
GROUNDWATER MONITOR WELL MW-3

Chevron Service Station #90020 17th & Harrison Sts., Oakland, California



GROUNDWATER MONITOR WELL MW-4

Chevron Service Station #90020 17th & Harrison Sts., Oakland, California

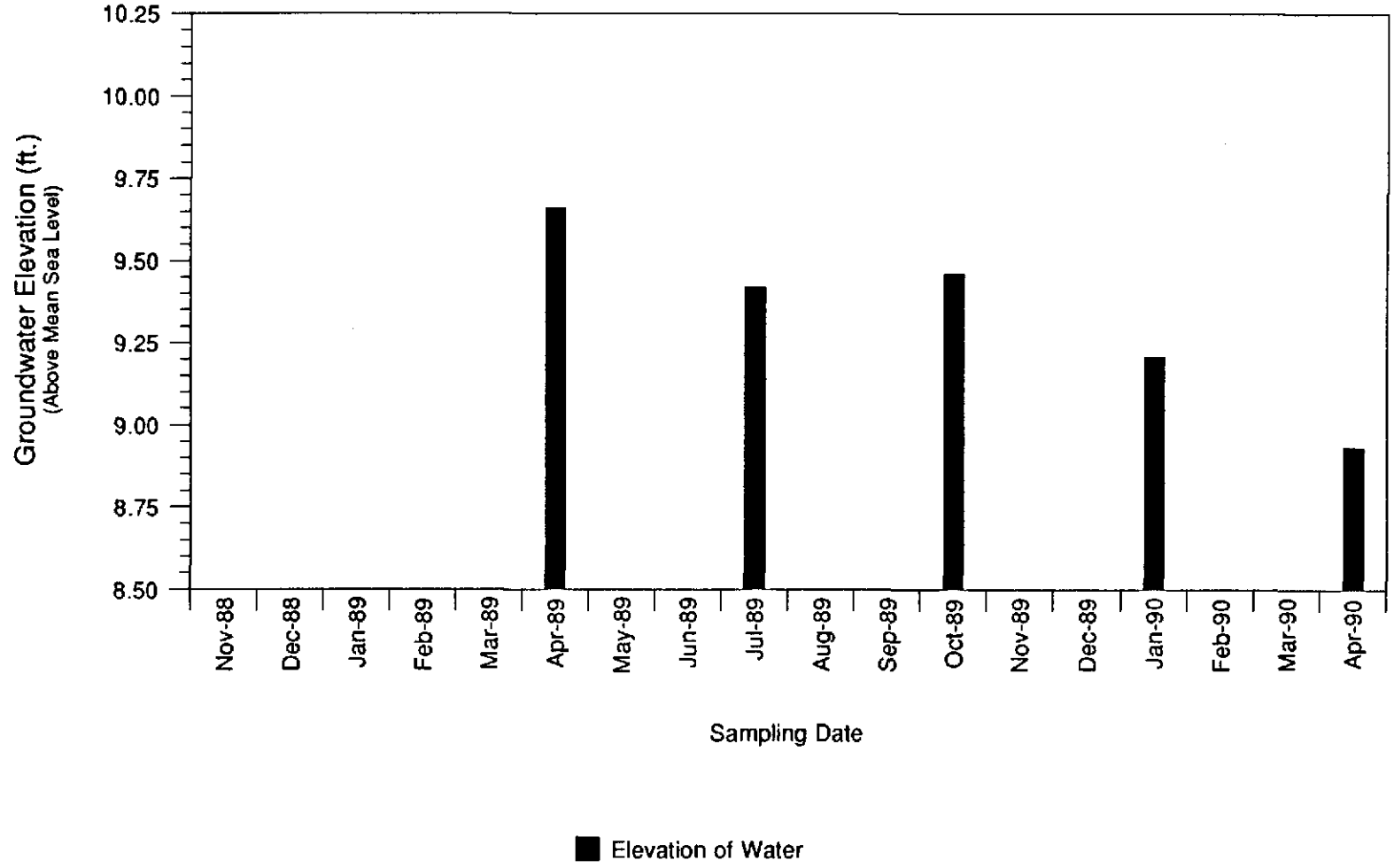


WGR #1-012.03

WESTERN GEOLOGIC RESOURCES, INC.

GROUNDWATER MONITOR WELL MW-5

Chevron Service Station #90020 17th & Harrison Sts., Oakland, California

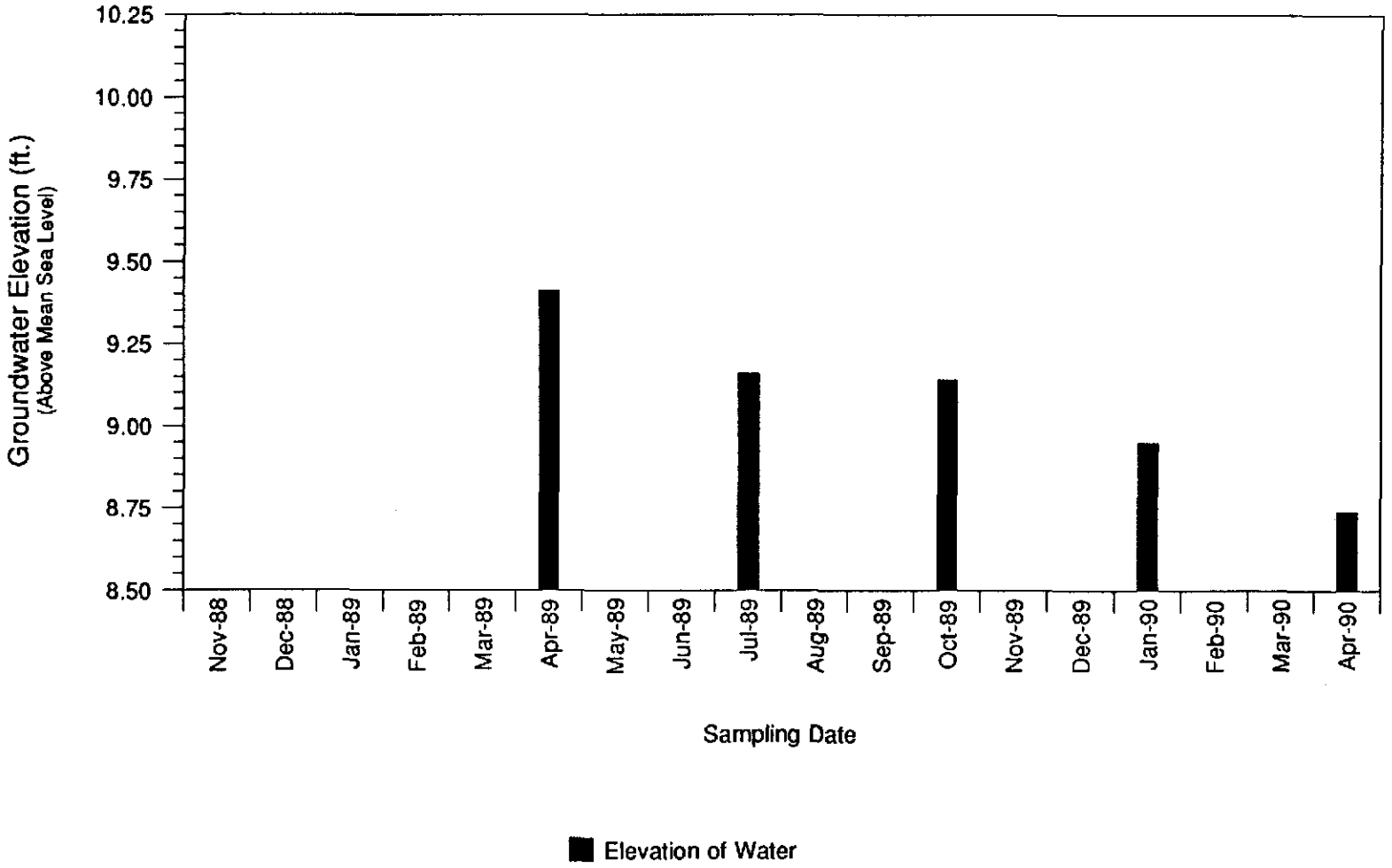


WGR #1-012.03

WESTERN GEOLOGIC RESOURCES, INC.

GROUNDWATER MONITOR WELL MW-6

Chevron Service Station #90020 17th & Harrison Sts., Oakland, California

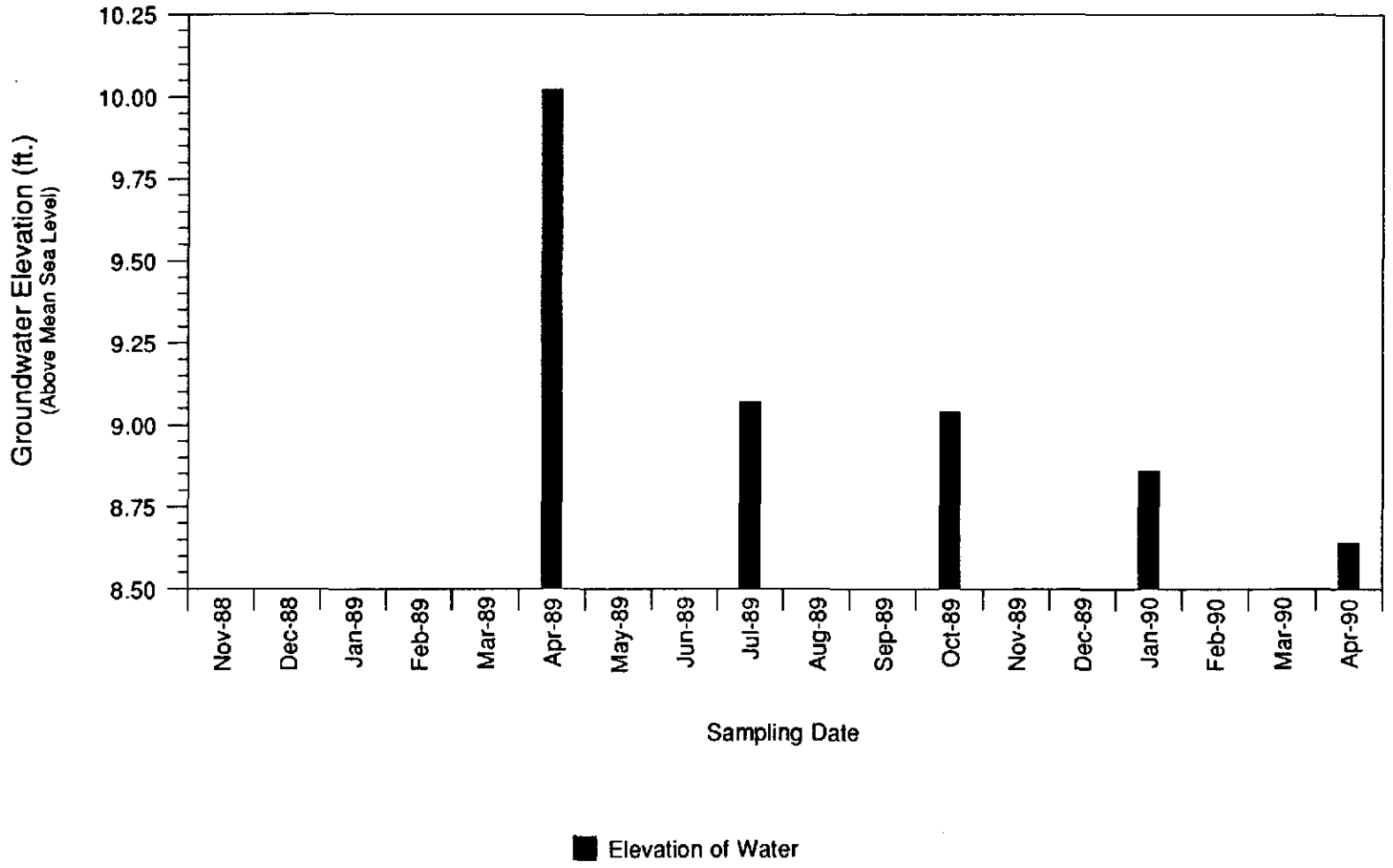


WGR #1-012.03

WESTERN GEOLOGIC RESOURCES, INC.

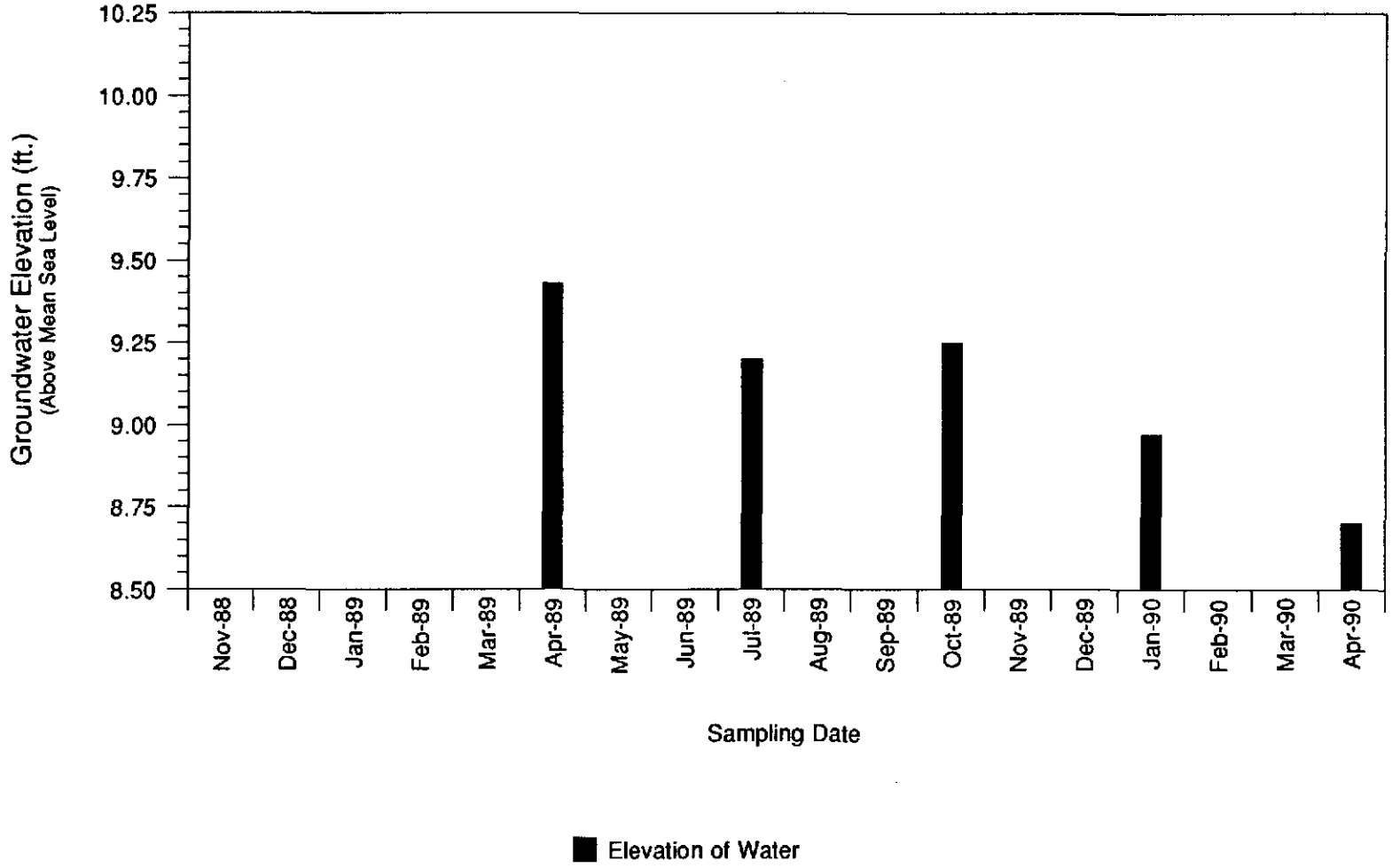
GROUNDWATER MONITOR WELL MW-7

Chevron Service Station #90020 17th & Harrison Sts., Oakland, California



GROUNDWATER MONITOR WELL MW-8

Chevron Service Station #90020 17th & Harrison Sts., Oakland, California



WGR #1-012.03

WESTERN GEOLOGIC RESOURCES, INC.

ATTACHMENT D

CHAIN-OF-CUSTODY FORM

STD 145-0204:42 [illegible] **Chain-of-Custody R[illegible]**

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: 1-012.03
Consultant Name: WGR, Inc
Address: Francisco Blvd
Fax Number:
Project Contact (Name): Tom Howard
(Phone): 415-457-7595

Chevron Contact (Name): John Randall
(Phone): 842-9625
Laboratory Name: G-Tel
Contract Number: 2584790
Samples Collected by (Name): J Krebs / R Smith
Collection Date: 4/18/90
Signature: [signature]

Analyses To Be Performed — project J-BOX

Sample Number	Lab Number	Number of Containers	Matrix S = Soil A = Air W = Water 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
0418O-01AbCD	01	4	W		1010	see remarks	Yes	↓			↓				↓			AB samples HCl pesenved for EPA 602/8015 anal.
02	02	↓	↓		1056		↓											
03	03				1019	↓												
04	04				931													
05	05				1122													CD sample unpresenved for EPA 601 anal
06	06				926													
07	07				1119													
08	08	↓			1047	↓												
09 AB	09	2	↓		730	None	↓	↓			↓				↓			

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice)
[signature]	WGR	4/18/90 1303	[signature]	Concord Carrier	4-18-90 1:10	24 Hrs
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	48 Hrs
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) [signature]		Date/Time 4/18 1:58	~~5 Days~~ (10 Days)

ATTACHMENT E

LABORATORY REPORTS WITH QUALITY ASSURANCE/
QUALITY CONTROL DOCUMENTATION

Project Number: SFB-175-0204.72
Consultant Project Number: 1-012.03
Contract Number: N46CWC0244-9-X
Facility Number: 90020
Work Order Number: D004447
Report Issue Date: April 27, 1990

Table 1

ANALYTICAL RESULTS

Purgeable Aromatics and Total Petroleum Hydrocarbons
as Gasoline in Water
EPA Method 8020/8015[1]

		MW-1	MW-2	MW-3	MW-4
GTEL Sample Number		01	02	03	04
Client Identification		04-180-01 ABCD	04-180-02 ABCD	04-180-03 ABCD	04-180-04 ABCD
Date Sampled		04/18/90	04/18/90	04/18/90	04/18/90
Date Analyzed		04/25/90	04/25/90	04/25/90	04/25/90
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	<0.3	<0.3	<0.3	<0.3
Toluene	0.3	<0.3	<0.3	<0.3	<0.3
Ethylbenzene	0.3	<0.3	<0.3	<0.3	<0.3
Xylene (total)	0.6	<0.6	<0.6	<0.6	<0.6
TPH as Gasoline	50	<50	<50	<50	<50

		MW-5	MW-6	MW-7	MW-8
GTEL Sample Number		05	06	07	08
Client Identification		04-180-05 ABCD	04-180-06 ABCD	04-180-07 ABCD	04-180-08 ABCD
Date Sampled		04/18/90	04/18/90	04/18/90	04/18/90
Date Analyzed		04/25/90	04/25/90	04/25/90	04/25/90
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	<0.3	<0.3	350	<0.3
Toluene	0.3	<0.3	<0.3	140	<0.3
Ethylbenzene	0.3	<0.3	<0.3	110	<0.3
Xylene (total)	0.6	<0.6	<0.6	400	<0.6
TPH as Gasoline	50	<50	<50	6800	<50

1 = Extraction by EPA Method 5030

GTEL ENVIRONMENTAL LABORATORIES, INC.

Project Number: SFB-175-0204.72
Consultant Project Number: 1-012.03
Contract Number: N46CWC0244-9-X
Facility Number: 90020
Work Order Number: D004447
Report Issue Date: April 27, 1990

Table 1(continued)

ANALYTICAL RESULTS

Purgeable Aromatics and Total Petroleum Hydrocarbons
as Gasoline in Water
EPA Method 8020/8015[1]
Travel Blank

GTEL Sample Number		09			
Client Identification		04-180-09 AB			
Date Sampled		04/18/90			
Date Analyzed		04/25/90			
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	<0.3			
Toluene	0.3	<0.3			
Ethylbenzene	0.3	<0.3			
Xylene (total)	0.6	<0.6			
TPH as Gasoline	50	<50			

1 = Extraction by EPA Method 5030

GTEL ENVIRONMENTAL LABORATORIES, INC.

Project Number: SFB-175-0204.72
Consultant Project Number: 1-012.03
Contract Number: N46CWC0244-9-X
Facility Number: 90020
Work Order Number: D004447
Report Issue Date: April 27, 1990

QA Conformance Summary

Purgeable Aromatics and Total Petroleum Hydrocarbons as Gasoline in Water EPA Method 8020/8015

1.0 Blanks

Five of 5 target compounds were below detection limits in the reagent blank as shown in Table 2.

2.0 Independent QC Check Sample

The control limits were met for 4 out of 4 QC check compounds as shown in Table 3.

3.0 Surrogate Compound Recoveries

Percent recovery limits were met for the surrogate compound (naphthalene) for all samples as shown in Table 4.

4.0 Matrix Spike (MS) Accuracy

Percent recovery limits were met for 4 of 4 compounds in the MS as shown in Table 5.

5.0 Reagent Water Spike (WS) and Reagent Water Spike (WSD) Duplicate Precision

Relative percent difference (RPD) criteria was met for 4 of 4 analytes in the WS and WSD as shown in Table 6.

6.0 Sample Handling

6.1 Sample handling and holding time criteria were met for all samples.

6.2 There were no exceptional conditions requiring dilution of samples.

Table 2

REAGENT BLANK DATA

Purgeable Aromatics and Total Petroleum Hydrocarbons
as Gasoline in Water
EPA Method 8020/8015

Date of Analysis: 04/25/90

Analyte	Concentration, ug/L
Benzene	<0.3
Toluene	<0.3
Ethylbenzene	<0.3
Xylene (total)	<0.6
Gasoline	<50

< # = Not detected at the indicated detection limit.

Project Number: SFB-175-0204.72
Consultant Project Number: 1-012.03
Contract Number: N46CWC0244-9-X
Facility Number: 90020
Work Order Number: D004447
Report Issue Date: April 27, 1990

Table 3

INDEPENDENT QC CHECK SAMPLE RESULTS

Purgeable Aromatics and Total Petroleum Hydrocarbons
as Gasoline in Water
EPA Method 8020/8015

Date of Analysis: 04/13/90

Analyte	Expected Result, ug/L	Observed Result, ug/L	Recovery, %	Acceptability Limits, %
Benzene	50	50.8	102	85 - 115
Toluene	50	50.1	100	85 - 115
Ethylbenzene	50	47.2	94	85 - 115
Xylene (total)	150	144.7	96	85 - 115

Table 3a

INDEPENDENT QC CHECK SAMPLE SOURCE

Purgeable Aromatics and Total Petroleum Hydrocarbons
as Gasoline in Water
EPA Method 8020/8015

Analyte	Lot Number	Source
Benzene	LA18042	Supelco
Toluene	LA18042	Supelco
Ethylbenzene	LA18042	Supelco
Xylene (total)	LA18042	Supelco

Table 4

SURROGATE COMPOUND RECOVERY

Naphthalene

Purgeable Aromatics and Total Petroleum Hydrocarbons
as Gasoline in Water
EPA Method 8020/8015

Acceptability Limits[1]: 70 - 130 %

GTEL No.	Expected Result, ug/L	Surrogate Result, ug/L	Surrogate Recovery, %
Blank	200	175	88
01	200	195	98
02	200	207	104
03	200	195	98
04	200	199	100
05	200	201	101
06	200	167	84
07	200	203	102
08	200	162	81
09	200	172	86
MS	200	176	88
WS	200	213	107
WSD	200	186	93

MS = Matrix Spike
WS = Reagent Water Spike
WSD = Reagent Water Spike Duplicate
1 = Acceptability limits are derived from the 99% confidence interval of all samples during the previous quarter.

Project Number: SFB-175-0204.72
Consultant Project Number: 1-012.03
Contract Number: N46CWC0244-9-X
Facility Number: 90020
Work Order Number: D004447
Report Issue Date: April 27, 1990

Table 5

MATRIX SPIKE (MS) RECOVERY REPORT

Purgeable Aromatics and Total Petroleum Hydrocarbons
as Gasoline in Water
EPA Method 8020/8015

Date of Analysis: 04/25/90
Sample Spiked: D00491-2B
Client ID: MW19
Units: ug/L

Analyte	Sample Result	Concentration Added	Concentration Recovered	MS Result	MS, % Recovery	Acceptability Limits[1], %
Benzene	<0.3	25	22.6	22.6	90	71 - 123
Toluene	<0.3	25	22.8	22.8	91	69 - 120
Ethylbenzene	<0.3	25	22	22	88	72 - 121
Xylene (total)	<0.6	75	69.4	69.4	93	75 - 123

< # = Not detected at the indicated detection limit.
1 = Acceptability limits are derived from the 99% confidence interval of all samples during the *previous quarter.*

GTEL ENVIRONMENTAL LABORATORIES, INC.

Project Number: SFB-175-0204.72
Consultant Project Number: 1-012.03
Contract Number: N46CWC0244-9-X
Facility Number: 90020
Work Order Number: D004447
Report Issue Date: April 27, 1990

Table 6

REAGENT WATER SPIKE (WS) AND REAGENT WATER SPIKE DUPLICATE (WSD)
RECOVERY AND RELATIVE PERCENT DIFFERENCE (RPD) REPORT

Purgeable Aromatics and Total Petroleum Hydrocarbons
as Gasoline in Water
EPA Method 8020/8015

Date of Analysis: 04/25/90 Units: ug/L

Analyte	Concentration Added	WS Result	WS, % Recovery	WSD Result	WSD, % Recovery
Benzene	25	22.1	88	22.1	88
Toluene	25	22.4	90	22.1	88
Ethylbenzene	25	22	88	21.6	86
Xylene (total)	75	69.3	92	69.1	92

Analyte	RPD, %	Maximum RPD, %	Acceptability Limits[1] % Recovery
Benzene	0	30	84 - 128
Toluene	2	30	83 - 122
Ethylbenzene	2	30	82 - 120
Xylene (total)	0	30	86 - 123

1 = Acceptability limits are derived from the 99% confidence interval of all samples during the previous quarter.

GTEL ENVIRONMENTAL LABORATORIES, INC.

Project Number: SFB-175-0204.72
Consultant Project Number 1-012.03
Contract Number: N46CWC0244-9-X
Facility Number: 90020
Work Order Number: D004448
Report Issue Date: May 7, 1990

Table 1

ANALYTICAL RESULTS

Purgeable Halocarbons in Water
EPA Method 601

		MW-1	MW-2	MW-3	MW-4
Date Sampled		04/18/90	04/18/90	04/18/90	04/18/90
Date Analyzed		04/20/90	04/20/90	04/20/90	04/20/90
Client Identification		04180-01 ABCD	04180-02 ABCD	04180-03 ABCD	04180-04 ABCD
GTEL Sample Number		01	02	03	04
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Chloromethane	0.5	<0.5	<0.5	<0.5	<0.5
Bromomethane	0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	1	<1	<1	<1	<1
Chloroethane	0.5	<0.5	<0.5	<0.5	<0.5
Methylene chloride	0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	0.2	<0.2	<0.2	<0.2	<0.2
1,1-Dichloroethane	0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	0.5	<0.5	19	11	<0.5
Chloroform	0.5	5.5	2.7	5.8	9.5
1,2-Dichloroethane	0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	0.5	1.4	<0.5	<0.5	<0.5
Carbon tetrachloride	0.5	23	1.5	7.6	41
Bromodichloromethane	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	0.5	<0.5	3.9	2.4	<0.5
Dibromochloromethane	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	0.5	<0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	0.5	<0.5	<0.5	<0.5	<0.5
2-Chloroethylvinyl ether	1	<1	<1	<1	<1
Bromoform	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	0.5	<0.5	130	120	<0.5
Chlorobenzene	0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	<0.5

1 = Extraction by EPA Method 5030

Project Number: SFB-175-0204.72
Consultant Project Number 1-012.03
Contract Number: N46CWC0244-9-X
Facility Number: 90020
Work Order Number: D004448
Report Issue Date: May 7, 1990

Table 1(continued)

ANALYTICAL RESULTS

Purgeable Halocarbons in Water
EPA Method 601

		MW-5	MW-6	MW-7	MW-8
Date Sampled		04/18/90	04/18/90	04/18/90	04/18/90
Date Analyzed		04/20/90	04/20/90	04/20/90	04/20/90
Client Identification		04180-05 ABCD	04180-06 ABCD	04180-07 ABCD	04180-08 ABCD
GTEL Sample Number		05	06	07	08
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Chloromethane	0.5	<0.5	<0.5	<0.5	<0.5
Bromomethane	0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	1	<1	<1	<1	<1
Chloroethane	0.5	<0.5	<0.5	<0.5	<0.5
Methylene chloride	0.5	<0.5	<0.5	0.6	<0.5
Trichlorofluoromethane	0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	0.2	<0.2	<0.2	<0.2	<0.2
1,1-Dichloroethane	0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	0.5	1.7	<0.5	<0.5	5.7
Chloroform	0.5	2.8	3.8	3.2	2.8
1,2-Dichloroethane	0.5	<0.5	<0.5	7.7	<0.5
1,1,1-Trichloroethane	0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	0.5	6.3	11	<0.5	3.8
Bromodichloromethane	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	0.5	<0.5	<0.5	0.6	<0.5
trans-1,3-Dichloropropene	0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	0.5	<0.5	<0.5	<0.5	0.6
Dibromochloromethane	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	0.5	<0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	0.5	<0.5	<0.5	<0.5	<0.5
2-Chloroethylvinyl ether	1	<1	<1	<1	<1
Bromoform	0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	0.5	2.6	<0.5	<0.5	17
Chlorobenzene	0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	0.5	<0.5	<0.5	<0.5	<0.5

1 = Extraction by EPA Method 5030

Project Number: SFB-175-0204.72
Consultant Project Number 1-012.03
Contract Number: N46CWC0244-9-X
Facility Number: 90020
Work Order Number: D004448
Report Issue Date: May 7, 1990

Table 1 (continued)

ANALYTICAL RESULTS

Purgeable Halocarbons in Water
EPA Method 601
Travel Blank

Date Sampled		04/18/90			
Date Analyzed		04/20/90			
Client Identification		04180-09 AB			
GTEL Sample Number		09			
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Chloromethane	0.5	<0.5			
Bromomethane	0.5	<0.5			
Dichlorodifluoromethane	0.5	<0.5			
Vinyl chloride	1	<1			
Chloroethane	0.5	<0.5			
Methylene chloride	0.5	<0.5			
Trichlorofluoromethane	0.5	<0.5			
1,1-Dichloroethene	0.2	<0.2			
1,1-Dichloroethane	0.5	<0.5			
trans-1,2-Dichloroethene	0.5	<0.5			
Chloroform	0.5	<0.5			
1,2-Dichloroethane	0.5	<0.5			
1,1,1-Trichloroethane	0.5	<0.5			
Carbon tetrachloride	0.5	<0.5			
Bromodichloromethane	0.5	<0.5			
1,2-Dichloropropane	0.5	<0.5			
trans-1,3-Dichloropropene	0.5	<0.5			
Trichloroethene	0.5	<0.5			
Dibromochloromethane	0.5	<0.5			
1,1,2-Trichloroethane	0.5	<0.5			
cis-1,3-Dichloropropene	0.5	<0.5			
2-Chloroethylvinyl ether	1	<1			
Bromoform	0.5	<0.5			
1,1,2,2-Tetrachloroethane	0.5	<0.5			
Tetrachloroethene	0.5	<0.5			
Chlorobenzene	0.5	<0.5			
1,3-Dichlorobenzene	0.5	<0.5			
1,2-Dichlorobenzene	0.5	<0.5			
1,4-Dichlorobenzene	0.5	<0.5			

1 = Extraction by EPA Method 5030