

ALCO
HAZMAT



Chevron

December 8, 1993

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Ms. Jennifer Eberle
Alameda County Health Care Services
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

Chevron U.S.A. Products Company
2410 Camino Ramon
San Ramon, CA 94583

Marketing Department
Phone 510 842 9500

Site Assessment & Remediation

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

Dear Ms. Eberle:

Enclosed is the ~~Groundwater Monitoring and Sampling~~ Activities report dated November 3, 1993, prepared by our consultant Groundwater Technology, Inc. for the above referenced site. As indicated in the report, ground water samples collected were analyzed for total petroleum hydrocarbons as gasoline (TPH-G), and BTEX. Monitor well MW-2 was not accessible during this monitoring event due to a vehicle parked over the well. Monitor well MW-7 could not be sampled due to remediation equipment in the well. Per prior agreement between Chevron and Alameda County Health Care Services, monitor wells MW-5, MW-6, MW-8, MW-12, and MW-14 were not sampled.

Benzene was detected in monitor wells MW-9, MW-13, and MW-15 at concentrations of 110, 3, and 2 ppb. Depth to ground water was measured at approximately 19.6 feet to 21.5 feet below grade, and the ~~direction of flow is to the east-northeast~~.

Concentrations observed in ground water monitor well MW-11 have been below method detection limits for four consecutive quarters. This is an off-site cross-gradient well located in 17th Street. Currently, on-site monitor well MW-3 has contained concentrations below method detection limits for five consecutive quarters and provides adequate cross-gradient delineation in this direction. Thus, we ~~recommend discontinuing sampling of monitor well MW-11~~. Depth to water measurements will continue to be collected from this well on a quarterly basis. We would appreciate your concurrence with this recommendation. ok

As we discussed yesterday, the dewatering system and the soil vapor extraction (SVE) system at this site were started up in July of 1993. Flow rates observed upon startup of the SVE system were around 5 to 10 scfm, which is quite lower than anticipated. At this time it is not clear whether the cause of the low flow rates is the well construction or the subsurface geology.

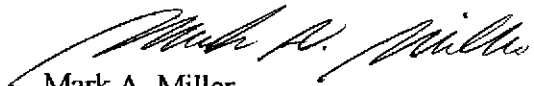
We will instruct our consultant to prepare a brief work plan for the installation of two additional SVE wells. Boring logs from these wells will assist in determining the cause of the low air flow rates observed. Additionally, the new wells will augment the current extraction well, MW-7, and increase air flow rates through the subsurface.

I have also enclosed for your reference, the **Quarterly Groundwater Treatment System Compliance Report** dated October 25, 1993, prepared by our consultant Geraghty & Miller. The report documents the operation of the dewatering system at the site. **We will forward copies of all EBMUD and BAAQMD compliance reports to update your office on the progress of the remediation.**

Page 2
December 8, 1993
Former SS#9-0020

Chevron will continue to monitor and sample this site on a quarterly basis. If you have any questions or comments, please do not hesitate to contact me at (510) 842-8134.

Sincerely,
CHEVRON U.S.A. PRODUCTS COMPANY

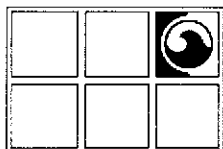


Mark A. Miller
Site Assessment and Remediation Engineer

Enclosure

cc: Mr. Rich Hiatt, RWQCB - Bay Area
Ms. B.C. Owen
File (9-0020 QM1)

The Oakland Housing Authority
Attn: Mr. Harold Davis
1619 Harrison Street
Oakland, CA 94612



GROUNDWATER TECHNOLOGY, INC.

4057 Port Chicago Highway, Concord, CA 94520 (415) 671-2387

FAX: (415) 685-9148

November 3, 1993

Project No. 020204081

Ms. Nancy Vukelich
Chevron U.S.A. Products Company
2410 Camino Ramon
San Ramon, CA 94583-0804

SUBJECT: *Groundwater Monitoring and Sampling Activities*
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Dear Ms. Vukelich:

Groundwater Technology, Inc. presents the attached quarterly groundwater monitoring and sampling data collected on September 10 and 27, 1993. Fifteen of the sixteen groundwater monitoring wells at this site were gauged to measure depth to groundwater (DTW) and to check for the presence of separate-phase hydrocarbons on September 27, 1993. Separate-phase hydrocarbons were not detected in the monitoring wells. Monitoring well MW-7 was not gauged or sampled because of a pump in the well. Access to monitoring well MW-2 was blocked by a vehicle after gauging. A potentiometric surface map (Figure 1) and a summary of groundwater monitoring data collected on September 27, 1993, (Table 1) are presented in Attachments 1 and 2, respectively. After the DTW was measured, monitoring wells MW-3, MW-9, MW-10, MW-13, and MW-16 were purged and sampled on September 10, 1993. Monitoring wells MW-1, MW-4, MW-11 and MW-15 were purged and sampled on September 27, 1993. Groundwater monitoring wells MW-5, MW-6, MW-8, MW-12, and MW-14 are suspended from the sampling program as requested by Chevron. The groundwater samples collected were analyzed for benzene, toluene, ethylbenzene, and xylenes and for total petroleum hydrocarbons-as-gasoline. Results of the chemical analyses are summarized in Table 1. The laboratory report and chain-of-custody record are included in Attachment 3. Table 2 contains historical groundwater analytical results for halogenated volatile organics. Monitoring-well purge water was transported by Groundwater Technology to the Chevron Terminal in Richmond, California, for recycling.

Groundwater Technology is pleased to assist Chevron on this project. If you have any questions or comments, please contact our Concord office at (510) 671-2387.

Sincerely,
Groundwater Technology, Inc.
Written/Submitted by

Tim Watchers

Tim Watchers
Project Geologist

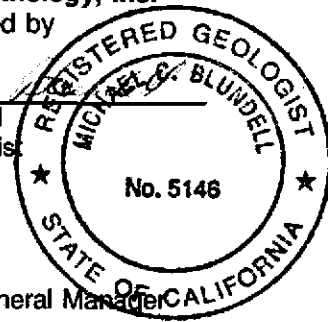
PR *Jm*

Attachment 1 Figures
Attachment 2 Tables
Attachment 3 Laboratory Report

Groundwater Technology, Inc.
Reviewed/Approved by

Michael C. Blundell
Michael C. Blundell
Registered Geologist
No. 5146

For:
Wendell W. Lattz
Vice President, General Manager
West Region



4081R023.020

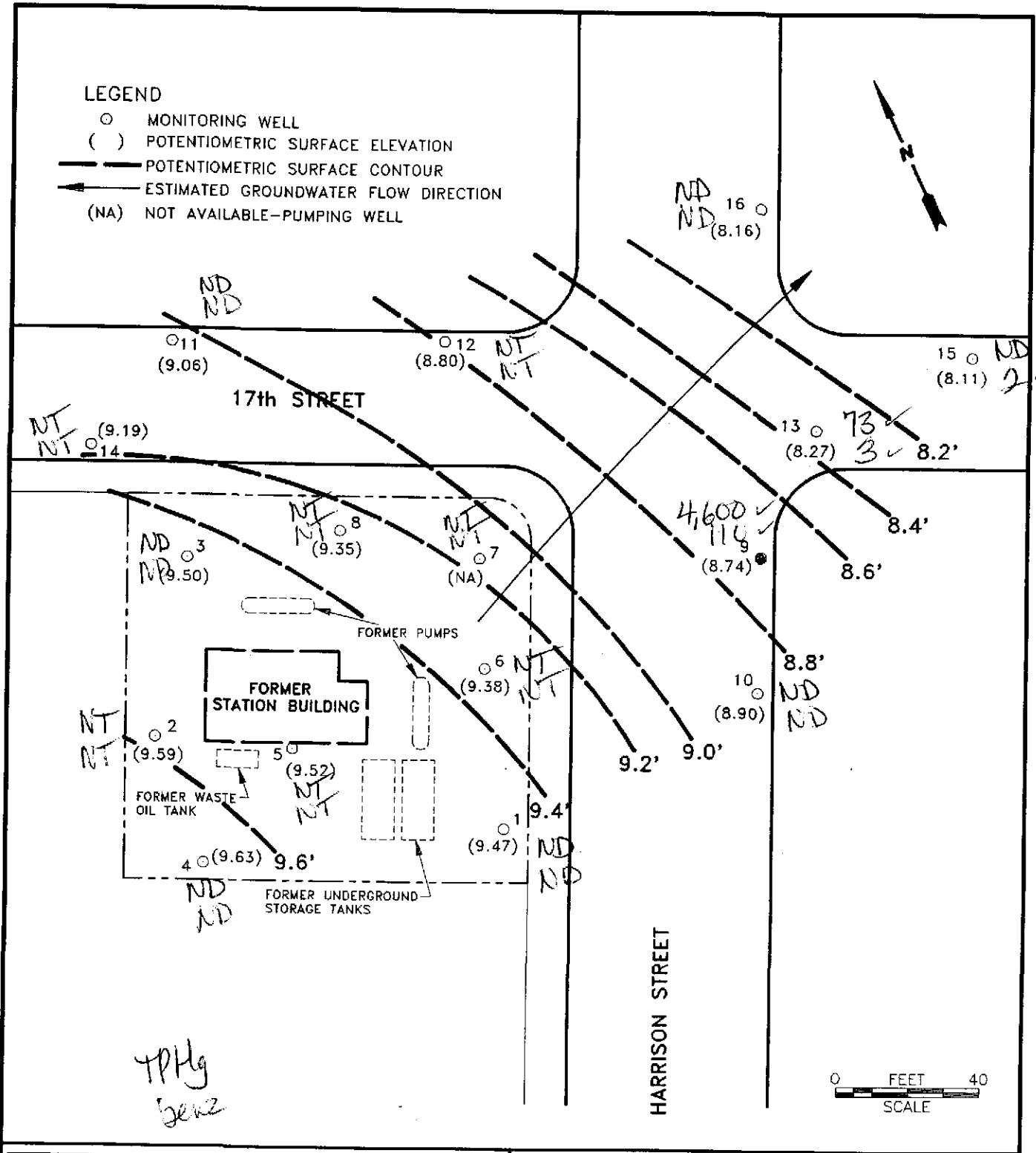
ATTACHMENT 1

Figure

4081R023.020

LEGEND

- MONITORING WELL
- () POTENTIOMETRIC SURFACE ELEVATION
- POTENTIOMETRIC SURFACE CONTOUR
- ESTIMATED GROUNDWATER FLOW DIRECTION
- (NA) NOT AVAILABLE—PUMPING WELL



GROUNDWATER TECHNOLOGY
 4057 PORT CHICAGO HWY.
 CONCORD, CA 94520
 (510) 671-2387

**POTENTIOMETRIC SURFACE MAP
 (9/27/93)**

CLIENT: CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION No. 9-0020		LOCATION: 1633 HARRISON STREET OAKLAND, CALIFORNIA		REV. NO.: 0	DATE: 10/6/93
PM <i>LHW</i>	PE/RG <i>PRK</i>	DESIGNED TW	DETAILED ML	ACAD FILE: PSM02793/SP193	PROJECT NO.: 020204084
					FIGURE: 1

ATTACHMENT 2

Tables

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID/ Elevation	Date	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	TOG	DTW (ft)	SPT (ft)	WTE (ft)
MW-1 29.82	11/03/88	<1,000 ¹	<1.0	<1.0	<1.0	<1.0	---	20.40	0.0	9.42
	02/02/89	---	---	---	---	---	---	20.71	0.0	9.11
	02/10/89	<100	<0.2	<0.2	<0.2	<0.4	---	---	---	---
	04/23/89	---	---	---	---	---	---	20.34	0.0	9.48
	04/24/89	<50	<0.5	<1.0	<1.0	<1.0	<3,000	---	---	---
	07/28/89	<50	<0.1	<0.5	<0.2	<0.5	<3,000	20.58	0.0	9.24
	10/30/89	<500	<0.3	<0.3	<0.3	<0.6	---	20.52	0.0	9.30
	01/09/90	<50	<0.3	<0.3	<0.3	<0.6	---	20.77	0.0	9.05
	04/18/90	<50	<0.3	<0.3	<0.3	<0.6	---	20.95	0.0	8.87
	06/22/90	---	---	---	---	---	---	21.00	0.0	8.82
	08/09/90	<50	<0.3	<0.3	<0.3	<0.6	---	20.94	0.0	8.88
	11/13/90	<50	<0.5	<0.5	<0.5	<0.5	---	20.98	0.0	8.84
	05/15/91	<50	<0.5	<0.5	<0.5	<0.5	---	20.64	0.0	9.18
	08/27/91	110 ²	<0.5	<0.5	<0.5	<0.5	---	20.79	0.0	9.03
	11/15/91	<50	<0.5	<0.5	<0.5	<0.5	---	20.75	0.0	9.07
29.82	02/20/92	<50	0.5	0.6	<0.5	0.9	---	20.90	0.0	8.92
	06/15/92	<50	<0.5	<0.5	<0.5	<0.5	---	20.64	0.0	9.18
	12/16/92	<50	<0.5	<0.5	<0.5	<0.5	---	20.84	0.0	8.98
	04/07/93	<50	<0.5	<0.5	<0.5	<1.5	---	19.91	0.0	9.91
	06/09/93	---	---	---	---	---	---	19.85	0.0	9.97
	09/10/93	---	---	---	---	---	---	---	---	---
	09/27/93	<50	<0.5	<0.5	<0.5	<0.5	---	20.35	0.0	9.47

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID/ Elevation	Date	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	TOG	DTW (ft)	SPT (ft)	WTE (ft)
MW-2 30.59	11/03/88	<1,000 ¹	<1.0	<1.0	<1.0	<1.0	---	20.89	0.0	9.70
	02/02/89	---	---	---	---	---	---	21.21	0.0	9.38
	02/10/89	<100	<0.2	<0.2	<0.2	<0.4	---	---	---	---
	04/23/89	---	---	---	---	---	---	20.82	0.0	9.77
	04/24/89	<50	<0.5	<1.0	<1.0	<1.0	<3,000	---	---	---
	07/28/89	<100	<0.2	<1.0	<0.2	<0.4	<3,000	21.02	0.0	9.57
	10/30/89	<500	<0.3	<0.3	<0.3	<0.6	---	20.96	0.0	9.63
	01/09/90	<50	<0.3	<0.3	<0.3	<0.6	---	21.25	0.0	9.34
	04/18/90	<50	<0.3	<0.3	<0.3	<0.6	---	21.53	0.0	9.06
	06/22/92	---	---	---	---	---	---	21.57	0.0	9.02
	08/09/90	<50	<0.3	<0.3	<0.3	<0.6	---	21.55	0.0	9.04
	11/13/90	<50	<0.5	0.8	<0.5	0.9	---	21.54	0.0	9.05
	05/15/91	83 ²	<0.5	<0.5	<0.5	<0.5	---	21.15	0.0	9.44
30.56	08/27/91	97 ²	<0.5	<0.5	<0.5	<0.5	---	21.27	0.0	9.32
	11/15/91	<50	0.5	1.5	0.8	3.6	---	21.30	0.0	9.29
	02/20/92	<50	<0.5	<0.5	<0.5	<0.5	---	21.43	0.0	9.13
	06/15/92	<50	<0.5	<0.5	<0.5	<0.5	---	21.18	0.0	9.41
	12/16/92	<50	<0.5	<0.5	<0.5	<0.5	---	21.47	0.0	9.09
	04/07/93	66*	<0.5	<0.5	<0.5	<1.5	---	20.53	0.0	10.03
	06/09/93	<50	<0.5	<0.5	<0.5	<0.5	---	20.45	0.0	10.11
	09/10/93	---	---	---	---	---	---	---	---	---
09/27/93	---	---	---	---	---	---	20.97	0.0	9.59	

car parked over MW this Q.

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID/ Elevation	Date	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	TOG	DTW (ft)	SPT (ft)	WTE (ft)
MW-3 30.09	11/03/88	<1,000 ¹	<1.0	<1.0	<1.0	<1.0	---	20.54	0.0	9.55
	02/02/89	---	---	---	---	---	---	20.85	0.0	9.24
	02/10/89	<100	<0.2	<0.2	<0.2	<0.4	---	---	---	---
	04/23/89	---	---	---	---	---	---	20.43	0.0	9.66
	04/24/92	<50	<0.5	<1.0	<1.0	<1.0	<3,000	---	---	---
	07/28/89	<100	<0.2	<1.0	<0.2	<0.4	<3,000	20.64	0.0	9.45
	10/30/89	<500	<0.3	<0.3	<0.3	<0.6	---	20.61	0.0	9.48
	01/09/90	<50	<0.3	<0.3	<0.3	<0.6	---	20.88	0.0	9.21
	04/18/90	<50	<0.3	<0.3	<0.3	<0.6	---	21.15	0.0	8.94
	06/22/90	---	---	---	---	---	---	21.20	0.0	8.89
	08/09/90	<50	<0.3	<0.3	<0.3	<0.6	---	21.18	0.0	8.91
	11/13/90	51 ²	<0.5	<0.5	<0.5	<0.5	---	21.15	0.0	8.94
	05/15/91	85 ²	<0.5	<0.5	<0.5	<0.5	---	20.91	0.0	9.18
	08/27/91	91 ²	<0.5	<0.5	<0.5	<0.5	---	20.89	0.0	9.20
30.08	11/15/91	<50	<0.5	0.7	<0.5	1.3	---	21.02	0.0	9.07
	02/02/92	<50	<0.5	<0.5	<0.5	0.9	---	21.07	0.0	9.02
	06/15/92	50 ²	<0.5	<0.5	<0.5	<0.5	---	20.82	0.0	9.27
	12/16/92	<50	<0.5	<0.5	<0.5	<0.5	---	21.07	0.0	9.07
	04/07/93	<50	<0.5	<0.5	<0.5	<1.5	---	20.13	0.0	9.95
	06/09/93	<50	<0.5	<0.5	<0.5	<0.5	---	20.05	0.0	10.03
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	09/27/93	---	---	---	---	---	---	20.58	0.0	9.50

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID/ Elevation	Date	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	TOG	DTW (ft)	SPT (ft)	WTE (ft)
MW-4	04/23/89	--	--	--	--	--	--	21.33	0.0	9.84
	04/24/89	<50	<0.5	<1.0	<1.0	<1.0	<3,000	--	--	--
31.17	07/28/89	<50	<0.1	<0.5	<0.1	<0.2	<3,000	21.58	0.0	9.59
	10/30/89	<500	<0.3	<0.3	<0.3	<0.6	--	21.54	0.0	9.63
	01/09/90	<50	<0.3	<0.3	<0.3	<0.6	--	21.82	0.0	9.35
	04/18/90	<50	<0.3	<0.3	<0.3	<0.6	--	22.09	0.0	9.08
	06/22/90	--	--	--	--	--	--	22.12	0.0	9.05
	08/09/90	<50	<0.3	<0.3	<0.3	<0.6	--	22.11	0.0	9.06
	11/13/90	<50	<0.5	1	0.5	1	--	22.10	0.0	9.07
	05/15/91	<50	<0.5	<0.5	<0.5	<0.5	--	21.71	0.0	9.46
	08/27/91	<50	<0.5	<0.5	<0.5	<0.5	--	21.87	0.0	9.30
	11/15/91	97	<0.5	0.9	<0.5	1.9	--	21.80	0.0	9.37
	02/20/92	<50	<0.5	<0.5	<0.5	<0.5	--	21.99	0.0	9.18
	06/15/92	<50	<0.5	<0.5	<0.5	<0.5	--	21.74	0.0	9.43
31.17	12/16/92	<50	0.7	0.5	0.5	1.3	--	22.05	0.0	9.12
	04/07/93	<50	<0.5	<0.5	<0.5	<1.5	--	21.11	0.0	10.06
	06/09/93	--	--	--	--	--	--	--	--	--
	09/10/93	--	--	--	--	--	--	--	--	--
	09/27/93	<50	<0.5	<0.5	<0.5	<0.5	--	21.54	0.0	9.63

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID/ Elevation	Date	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	TOG	DTW (ft)	SPT (ft)	WTE (ft)
MW-5	04/23/89	—	—	—	—	—	—	20.62	0.0	9.66
	04/24/89	<50	<0.5	<1.0	<1.0	<1.0	<3,000	—	0.0	—
	07/28/89	<100	<0.2	<1.0	<0.2	<0.4	<3,000	20.86	0.0	9.42
30.28	10/30/89	<500	<0.3	<0.3	<0.3	<0.6	—	20.82	0.0	9.46
	01/09/90	<50	<0.3	<0.3	<0.3	<0.6	—	21.07	0.0	9.21
	04/18/90	<50	<0.3	<0.3	<0.3	<0.6	—	21.35	0.0	8.93
	06/22/90	—	—	—	—	—	—	21.38	0.0	8.90
	08/09/90	<50	<0.3	<0.3	<0.3	<0.6	—	21.36	0.0	8.92
	11/13/90	<50	<0.5	1	<0.5	1	—	21.35	0.0	8.93
	05/15/91	<50	<0.5	<0.5	<0.5	<0.5	—	21.29	0.0	8.99
	08/27/91	94	3.0	5.0	1.5	5.5	—	21.11	0.0	9.17
	11/15/91	<50	0.9	1.7	<0.5	2.2	—	21.18	0.0	9.10
	02/20/92	<50	<0.5	<0.5	<0.5	<0.5	—	21.25	0.0	9.03
	06/15/92	<50	<0.5	<0.5	<0.5	<0.5	—	21.00	0.0	9.28
30.28	12/16/92	<50	<0.5	<0.5	<0.5	<0.5	—	21.23	0.0	9.05
	04/07/93	<50	<0.5	<0.5	<0.5	<1.5	—	20.31	0.0	9.97
	06/09/93	—	—	—	—	—	—	—	—	—
	09/10/93	—	—	—	—	—	—	—	—	—
OK	09/27/93	—	—	—	—	—	—	20.76	0.0	9.52

TABLE 1
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Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID/ Elevation	Date	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	TOG	DTW (ft)	SPT (ft)	WTE (ft)
MW-6	04/23/89	--	--	--	--	--	--	20.05	0.0	9.41
	04/24/89	<50	<0.5	<1.0	<1.0	<1.0	<3	--	--	--
	07/28/89	<100	<0.2	<1.0	<0.2	<0.4	<3	20.30	0.0	9.16
29.46	10/30/89	<500	<0.3	<0.3	<0.3	<0.6	--	20.32	0.0	9.14
	01/09/90	<50	<0.3	<0.3	<0.3	<0.6	--	20.51	0.0	8.95
	04/18/90	<50	<0.3	<0.3	<0.3	<0.6	--	20.72	0.0	8.74
	06/22/90	--	--	--	--	--	--	20.77	0.0	8.69
	08/09/90	<50	<0.3	<0.3	<0.3	<0.6	--	20.74	0.0	8.72
	11/13/90	<50	3	5	0.5	2	--	20.75	0.0	8.71
	05/15/91	<50	<0.5	<0.5	<0.5	<0.5	--	20.61	0.0	8.85
	08/27/91	180	6.1	12	3.8	14	--	20.53	0.0	8.93
	11/15/91	<50	<0.5	0.6	<0.5	<0.5	--	20.53	0.0	8.93
	02/20/92	<50	0.9	1.1	<0.5	1.4	--	20.69	0.0	8.77
	06/15/92	<50	<0.5	<0.5	<0.5	<0.5	--	20.38	0.0	9.08
29.45	12/16/92	<50	<0.5	<0.5	<0.5	<0.5	--	20.57	0.0	8.88
	04/07/93	<50	<0.5	<0.5	<0.5	<1.5	--	19.59	0.0	9.86
	06/09/93	<50	<0.5	<0.5	<0.5	<0.5	--	19.50	0.0	9.95
	09/10/93	--	--	--	--	--	--	--	--	--
OK	09/27/93	--	--	--	--	--	--	20.07	0.0	9.38

TABLE 1
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Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID/ Elevation	Date	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	TOG	DTW (ft)	SPT (ft)	WTE (ft)
MW-7	04/23/89	---	---	---	---	---	---	18.99	0.0	10.02
	04/24/89	8,400 ³	100	260	160	1,300	3 ^d	---	---	---
29.01	07/28/89	7,000 ³	230	90	70	440	<3,000	19.94	0.0	9.07
(D)	07/28/89	6,000 ³	280	180	58	430	---	---	---	---
	10/30/89	10,000 ³	570	55	160	400	---	19.97	0.0	9.04
(D)	10/30/89	9,900 ³	520	82	180	410	---	---	---	---
	01/09/90	3,400 ³	290	72	9	200	---	20.15	0.0	8.86
	04/18/90	6,800 ³	350	140	110	400	---	20.37	0.0	8.64
	06/22/90	---	---	---	---	---	---	20.40	0.0	8.61
	08/09/90	11,000 ³	360	130	14	660	---	20.38	0.0	8.63
	11/13/90	6,500	230	110	97	460	---	20.41	0.0	8.60
	05/15/91	4,600	180	55	46	300	---	20.47	0.0	8.54
	08/27/91	7,000	220	53	63	340	---	20.14	0.0	8.87
	11/15/91	3,300	150	19	4.9	200	---	20.22	0.0	8.79
	02/20/92	5,200	520	150	100	380	---	20.32	0.0	8.69
	06/15/92	10,000	760	430	320	1,100	---	19.98	0.0	9.03
29.01	12/16/92	11,000	810	350	280	1,100	---	20.14	0.0	8.87
	04/07/93	150	1.4	0.9	0.9	4.5	---	19.14	0.0	9.87
	06/09/93	180	4	1	1	3	---	19.05	0.0	9.96
	09/10/93	---	---	---	---	---	---	---	---	---
	09/27/93	---	---	---	---	---	---	---	---	---

remediation equip. in MW.

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID/ Elevation	Date	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	TOG	DTW (ft)	SPT (ft)	WTE (ft)
MW-8	04/23/89	---	---	---	---	---	---	20.14	0.0	9.43
	04/24/89	<50	<0.5	<1.0	<1.0	<1.0	3,000	---	---	---
29.57	04/24/89	<50	<0.5	<1.0	<1.0	<1.0	---	---	---	---
	07/28/89	<100	<0.2	<1.0	<0.2	<0.4	<3,000	20.37	0.0	9.20
	10/30/89	<500	<0.3	<0.3	<0.3	<0.6	---	20.32	0.0	9.25
	01/09/90	<50	<0.3	<0.3	<0.3	<0.6	---	20.60	0.0	8.97
	04/18/90	<50	<0.3	<0.3	<0.3	<0.6	---	20.87	0.0	8.70
	06/22/90	---	---	---	---	---	---	20.34	0.0	9.23
	08/09/90	<50	<0.3	<0.3	<0.3	<0.6	---	20.89	0.0	8.68
	11/13/90	<50	<0.5	0.8	<0.5	2	---	20.86	0.0	8.71
	05/15/91	<50	<0.5	<0.5	<0.5	<0.5	---	20.49	0.0	9.08
	08/27/91	73 ²	<0.5	<0.5	<0.5	<0.5	---	20.60	0.0	8.97
	11/15/91	<50	<0.5	0.7	<0.5	2.1	---	20.62	0.0	8.95
	02/20/92	<50	<0.5	<0.5	<0.5	<0.5	---	20.80	0.0	8.77
	06/15/92	<50	<0.5	<0.5	<0.5	<0.5	---	20.48	0.0	9.09
29.57	12/16/92	<50	<0.5	<0.5	<0.5	<0.5	---	20.68	0.0	8.89
	04/07/93	<50	<0.5	<0.5	<0.5	<1.5	---	19.70	0.0	9.87
	06/09/93	<50	<0.5	<0.5	<0.5	<0.5	---	19.60	0.0	9.97
	09/10/93	---	---	---	---	---	---	---	---	---
OK	09/27/93	---	---	---	---	---	---	20.22	0.0	9.35

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID/ Elevation	Date	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	TOG	DTW (ft)	SPT (ft)	WTE (ft)	
MW-9 28.67	06/22/90	5,700 ³	47	31	280	530	<1,000	20.80	0.0	7.87	
	08/09/90	8,000 ³	<0.3	17	210	480	---	20.74	0.0	7.93	
	11/13/90	6,400	<3	20	240	450	---	20.78	0.0	7.89	
	05/15/91	5,700	2	16	190	390	---	20.48	0.0	8.19	
	08/27/91	6,700	<3	31	180	350	---	20.55	0.0	8.12	
	11/15/91	4,000	8.8	26	150	280	---	20.57	0.0	8.10	
	02/20/92	3,400	13	30	230	460	---	21.77	0.0	6.90	
	06/15/92	4,500	19	72	280	560	---	20.37	0.0	8.30	
	12/16/92	9,900	380	220	380	1,300	---	20.29	0.0	8.39	
	04/07/93	8,700	51	150	360	1,000	---	19.32	0.0	9.36	
28.68	06/09/93	8,900	170	160	350	1,100	---	19.16	0.0	9.52	
	09/10/93	4,500	110	63	190	350	---	---	---	---	
	09/27/93	---	---	---	---	---	---	19.94	0.0	8.74	
	MW-10	06/22/90	<50 ³	<0.5	<0.5	<0.5	<0.5	<1,000	20.48	0.0	8.12
		08/09/90	<50	<0.3	<0.3	<0.3	<0.6	---	20.45	0.0	8.15
11/13/90		<50	<0.5	2	0.5	2	---	20.47	0.0	8.13	
05/15/91		<50	<0.5	<0.5	<0.5	<0.5	---	20.15	0.0	8.45	
08/27/91		<50	<0.5	<0.5	<0.5	<0.5	---	20.27	0.0	8.33	
11/15/91		<50	<0.5	<0.5	<0.5	<0.5	---	20.33	0.0	8.27	
02/20/92		<50	2.0	2.2	<0.5	2.1	---	21.45	0.0	7.15	
06/15/92		<50	<0.5	<0.5	<0.5	<0.5	---	21.30	0.0	7.30	
12/16/92		<50	<0.5	<0.5	<0.5	<0.5	---	20.17	0.0	8.45	
04/07/93		<50	<0.5	<0.5	<0.5	<1.5	---	19.26	0.0	9.41	
28.62	06/09/93	<50	<0.5	<0.5	<0.5	<0.5	---	19.07	0.0	9.55	
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	
	09/24/93	---	---	---	---	---	---	19.72	0.0	8.90	

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID/ Elevation	Date	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	TOG	DTW (ft)	SPT (ft)	WTE (ft)	
MW-11 29.37	06/22/90	<50 ³	<0.5	<0.5	<0.5	<0.5	<1,000	21.03	0.0	8.34	
	08/09/90	<50	<0.3	<0.3	<0.3	<0.6	—	21.02	0.0	8.35	
	11/13/90	76	0.6	1	0.9	4	—	20.93	0.0	8.44	
	05/15/91	78 ²	<0.5	<0.5	<0.5	<0.5	—	20.61	0.0	8.76	
	08/27/91	110 ²	<0.5	<0.5	<0.5	<0.5	—	20.70	0.0	8.67	
	11/15/91	<50	<0.5	<0.5	<0.5	<0.5	—	20.68	0.0	8.69	
	02/20/92	<50	1.9	2.1	1.0	4.4	—	21.91	0.0	7.46	
	06/15/92	—	—	—	—	—	—	20.56	0.0	8.81	
	12/16/92	<50	<0.5	<0.5	<0.5	<0.5	—	20.75	0.0	8.64	
	04/07/93	<50	<0.5	<0.5	<0.5	<1.5	—	19.83	0.0	9.56	
MW-12 28.43	06/09/93	<50	<0.5	<0.5	<0.5	<0.5	—	19.67	0.0	9.72	
	09/10/93	—	—	—	—	—	—	—	—	—	
	09/27/93	<50	<0.5	<0.5	<0.5	<0.5	—	20.33	0.0	9.06	
	28.43	06/22/90	<50 ³	<0.5	<0.5	<0.5	<0.5	<1,000	20.45	0.0	7.98
		08/09/90	<50	<0.3	<0.3	<0.3	<0.6	—	20.43	0.0	8.00
		11/13/90	<50	<0.5	<0.5	<0.5	<0.5	—	20.45	0.0	7.98
		05/15/91	<50	<0.5	<0.5	<0.5	<0.5	—	20.07	0.0	8.36
08/27/91		56 ²	<0.5	<0.5	<0.5	<0.5	—	20.15	0.0	8.28	
11/15/91		<50	<0.5	<0.5	<0.5	<0.5	—	20.25	0.0	8.18	
28.43	02/20/92	<50	2.5	3.1	0.7	3.0	—	21.37	0.0	7.06	
	06/15/92	<50	<0.5	<0.5	<0.5	<0.5	—	19.90	0.0	8.53	
	12/16/92	<50	<0.5	<0.5	<0.5	<0.5	—	19.80	0.0	8.63	
	04/07/93	<50	<0.5	<0.5	<0.5	<1.5	—	18.75	0.0	9.68	
	06/09/93	—	—	—	—	—	—	—	—	—	
	09/10/93	—	—	—	—	—	—	—	—	—	
	09/27/93	—	—	—	—	—	—	19.63	0.0	8.80	

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID/ Elevation	Date	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	TOG	DTW (ft)	SPT (ft)	WTE (ft)
MW-13 28.63 28.62	11/15/91	3,100	68	40	110	270	---	21.07	0.0	7.56
	02/20/92	3,100	120	50	240	400	---	22.17	0.0	6.46
	06/15/92	3,200	35	33	210	300	---	20.67	0.0	7.96
	12/16/92	87,000	1,400	540	2,400	11,000	---	20.34	0.0	8.28
	04/07/93	1,500	72	12	70	160	---	19.41	0.0	9.21
	06/09/93	210	6	2	7	16	---	19.20	0.0	9.42
	09/27/93	---	---	---	---	---	---	20.35	0.0	8.27
MW-14 29.46 29.45 ok	11/15/91	<50	<0.5	<0.5	<0.5	<0.5	---	20.33	0.0	9.13
	02/20/92	<50	1.3	1.8	1.1	5.2	---	21.41	0.0	8.05
	06/15/92	---	---	---	---	---	---	---	---	---
	12/16/92	<50	<0.5	<0.5	<0.5	<0.5	---	20.66	0.0	8.79
	04/07/93	---	---	---	---	---	---	---	---	---
	06/09/93	---	---	---	---	---	---	---	---	---
	09/27/93	---	---	---	---	---	---	20.26	0.0	9.19
MW-15 28.04	12/16/92	<50	<0.5	<0.5	<0.5	<0.5	---	19.74	0.0	8.30
	04/07/93	<50	1.3	<0.5	<0.5	<1.5	---	18.80	0.0	9.24
	06/09/93	<50	<0.5	<0.5	<0.5	<0.5	---	18.60	0.0	9.44
	09/10/93	---	---	---	---	---	---	---	---	---
	09/27/93	<50	<0.5	<0.5	<0.5	<0.5	---	19.93	0.0	8.11
MW-16 28.32	12/16/92	---	---	---	---	---	---	19.58	0.0	8.74
	12/21/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	04/07/93	<50	<0.5	6.8	<0.5	<0.5	---	18.41	0.0	9.91
	06/09/93	<50	<0.5	<0.5	<0.5	<0.5	---	18.25	0.0	10.07
	09/27/93	<50	<0.5	<0.5	<0.5	<0.5	---	20.16	0.0	8.16

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID/ Elevation	Date	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	TOG	DTW (ft)	SPT (ft)	WTE (ft)
TB/LB	11/03/88	—	<1.0	<1.0	<1.0	<1.0	—	—	—	—
	02/10/89	<50	<0.1	<0.1	<0.1	<0.2	—	—	—	—
	04/24/89	<50	<0.5	<0.5	<1.0	<1.0	—	—	—	—
	07/28/89	<50	<0.1	<0.1	<0.1	<0.2	—	—	—	—
	10/30/89	<500	<0.3	<0.3	<0.3	<0.6	—	—	—	—
	01/09/90	<50	<0.3	<0.3	<0.3	<0.6	—	—	—	—
	04/18/90	<50	<0.3	<0.3	<0.3	<0.6	—	—	—	—
	06/22/90	<50	<0.5	<0.5	<0.5	<0.5	—	—	—	—
	08/09/90	<50	<0.3	<0.3	<0.3	<0.6	—	—	—	—
	11/13/90	<50	<0.5	<0.5	<0.5	<0.5	—	—	—	—
	05/15/91	<50	<0.5	<0.5	<0.5	<0.5	—	—	—	—
	08/27/91	<50	<0.5	<0.5	<0.5	<0.5	—	—	—	—
	11/15/91	<50	<0.5	<0.5	<0.5	<0.5	—	—	—	—
	02/20/92	<50	<0.5	<0.5	<0.5	<0.5	—	—	—	—
	06/15/92	<50	<0.5	<0.5	<0.5	<0.5	—	—	—	—
	12/16/92	<50	<0.5	<0.5	<0.5	<0.5	—	—	—	—
	04/07/93	<50	<0.5	<0.5	<0.5	<1.5	—	—	—	—
	06/09/93	<50	<0.5	<0.5	<0.5	<0.5	—	—	—	—
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5	—	—	—	—
09/27/93	<50	<0.5	<0.5	<0.5	<0.5	—	—	—	—	

NOTES FOR TABLE 1
CHEVRON SERVICE STATION No. 9-6991
1633 HARRISON STREET, OAKLAND, CALIFORNIA

Concentrations in parts per billion.

All elevations are presented as feet above mean sea level.

TPH-G = Total petroleum hydrocarbons-as-gasoline

TOG = Total oil and grease

DTW = Depth to groundwater

SPT = Separate-phase hydrocarbon thickness

WTE = Water-table elevation

TB-LB = Trip blank/Lab blank

--- = Not applicable, not sampled, not measured

(D) = Duplicate analysis

* = Gasoline range concentration reported. The chromatogram indicates only a single peak in the gasoline range.

1 = Analyzed for total fuel hydrocarbons

2 = Laboratory reported that peaks did not match typical gasoline pattern.

3 = Fuel characterized as gasoline

4 = Acetone and 2-butanone were detected at 5 ppb and 160 ppb, respectively.

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS FOR HALOGENATED VOLATILE ORGANICS
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID	Date	Carbon Tet	Chloro-form	PCE	TCE	1,2-DCE	1,1,2-DCE	1,1,1-DCE	1,1,1-TCA	1,2-DCA	1,2-DCP	MC	Other ² HVOCs
MW-1	11/03/88	18.0	7.0	<1.0	<1.0	---	<1.0	---	<1.0	<1.0	---	---	---
	02/10/89	17.0	6.0	<0.2	<0.2	---	<0.2	<0.2	<0.2	<0.2	---	---	---
	04/24/89	16.0	6.0	<1.0	<1.0	<1.0	---	---	<1.0	<1.0	---	---	---
	07/28/89	20.0	6.4	<0.1	<0.1	---	<0.1	<0.1	0.3	<0.1	---	---	---
	10/30/89	11.0	4.9	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	---	---	---
	01/09/90	24.0	7.2	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	---	---	---
	04/18/90	23.0	5.5	<0.5	<0.5	<0.5	---	---	1.4	<0.5	<0.5	<0.5	---
	08/09/90	32.0	11.0	0.7	<0.5	<0.5	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/13/90	24	7	60.7	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---
	05/15/91	15	5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	08/27/91	18	4.2	<0.5	<0.5	---	---	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	11/15/91	21	7.9	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	02/20/92	24	7.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	06/15/92	10	3.2	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
MW-2	11/03/88	3.0	2.0	34.0	3.0	---	10.0	---	<1.0	<1.0	---	---	---
	02/10/89	1.4	1.0	17.2	<0.2	---	<0.2	6.3	<0.2	<0.2	---	---	---
	04/24/89	2.0	2.0	38.0	3.0	9.0	---	---	<1.0	<1.0	---	---	---
	07/28/89	3.7	2.0	46.0	2.6	---	<0.2	<0.2	<0.2	<0.2	---	---	---
	10/30/89	1.4	2.6	53.0	1.1	14.0	---	---	<0.5	<0.5	---	---	---
	01/09/90	3.6	3.9	78.0	5.3	16.0	---	---	<0.5	<0.5	---	---	---
	04/18/90	1.5	2.7	130.0	3.9	19.0	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/09/90	2.1	2.1	74.0	6.1	15.0	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/13/90	<0.5	2	40	4	---	<0.5	10	<0.5	<0.5	<0.5	<0.5	---
	05/15/91	2	2	56	6	---	<0.5	15	<0.5	<0.5	<0.5	<0.5	ND
	08/27/91	1.1	0.9	46	3.9	---	---	8.0	<0.5	<0.5	<0.5	<0.5	ND
	11/15/91	0.6	1.1	58	3.1	---	<0.5	6.3	<0.5	<0.5	<0.5	<0.5	ND
	02/20/92	11	<2.5	62	3.1	---	<2.5	4.3	<2.5	<2.5	<2.5	<2.5	ND
	06/15/92	<0.5	1.2	45	3.1	---	<0.5	4.8	<0.5	<0.5	<0.5	<0.5	ND

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS FOR HALOGENATED VOLATILE ORGANICS
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID	Date	Carbon Tet	Chloroform	PCE	TCE	1,2-DCE	1-1,2-DCE	c-1,2-DCE	1,1,1-TCA	1,2-DCA	1,2-DCP	MC	Other ^a HVOCs
MW-3	11/03/88	8.0	6.0	84.0	3.0	--	5.0	--	<1.0	<1.0	--	--	--
	02/10/89	5.8	4.0	53.0	1.9	--	<0.2	9.0	<0.2	<0.2	--	--	--
	04/24/89	7.0	6.0	110.0	3.0	11.0	--	--	<1.0	<1.0	--	--	--
	07/28/89	8.6	5.0	49.0	2.1	--	<0.2	11.0	<0.2	<0.1	--	--	--
	10/30/89	5.6	5.3	62.0	0.7	8.2	--	--	<0.5	<0.5	--	--	--
	01/09/90	8.6	6.1	81.0	73.8	8.7	--	--	<0.5	<0.5	--	--	--
	04/18/90	7.6	5.8	120.0	2.4	11.0	--	--	<0.5	<0.5	<0.5	<0.5	--
	08/09/90	11.0	6.7	81.0	5.1	11.0	--	--	<0.5	<0.5	<0.5	<0.5	--
	11/13/90	7	5	43	4	--	<0.5	9	<0.5	<0.5	<0.5	<0.5	--
	05/15/91	6	4	46	3	--	<0.5	8	<0.5	<0.5	<0.5	<0.5	ND
	08/27/91	5.5	3.8	43	2.6	--	--	8.1	<0.5	<0.5	<0.5	<0.5	c,d,e,f
	11/15/91	6.3	5.0	67	3.4	--	0.8	7.4	0.9	<0.5	<0.5	<0.5	ND
	02/20/92	2.8	4.0	96	3.0	--	<2.5	6.1	<2.5	<2.5	<2.5	<0.5	ND
	06/15/92	5.0	3.9	86	2.9	--	<0.5	7.5	<0.5	<0.5	<0.5	<0.5	ND
MW-4	04/24/89	35.0	11.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	--	--	--
	07/28/89	32.0	9.3	<0.1	<0.1	--	<0.1	<0.1	<0.1	<0.1	--	--	--
	10/30/89	32.0	8.5	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	--	--	--
	01/09/90	36.0	9.8	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	--	--	--
	04/18/90	41.0	9.5	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	--
	08/09/90	38.0	11.0	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	--
	11/13/90	40	11	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--
	05/15/91	35	10	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	08/27/91	28	6.1	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	11/15/91	23	9.1	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	02/20/92	400	140	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
06/15/92	38	11	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS FOR HALOGENATED VOLATILE ORGANICS
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID	Date	Carbon Tet	Chloro-form	PCE	TCE	1,2-DCE	1-1,2-DCE	o-1,2-DCE	1,1,1-TCA	1,2-DCA	1,2-DCP	MC	Other ^a HVOCs
MW-5	04/24/89	4.0	5.0	4.0	<1.0	2.0	--	--	<1.0	<1.0	--	--	--
	07/28/89	5.6	4.0	5.3	0.3	--	0.2	2.3	0.5	<0.2	--	--	--
	10/30/89	2.9	2.0	2.7	<0.5	0.86	--	--	<0.5	<0.5	--	--	--
	01/09/90	8.2	4.6	7.8	0.6	3.1	--	--	<0.5	<0.5	--	--	--
	04/18/90	6.3	2.8	2.6	<0.5	1.7	--	--	<0.5	<0.5	<0.5	<0.5	--
	08/09/90	11.0	4.8	6.0	<0.5	2.3	--	--	<0.5	<0.5	<0.5	<0.5	--
	11/13/90	7	3	5	<0.5	--	<0.5	1	<0.5	<0.5	<0.5	<0.5	--
	05/15/91	4	2	3	<0.5	--	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	ND
	08/27/91	3.3	1.1	2.3	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	11/15/91	5.7	2.8	5.5	<0.5	--	<0.5	1.7	<0.5	<0.5	<0.5	<0.5	ND
	02/20/92	4.0	2.0	3.9	<0.5	--	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	ND
	06/15/92	4.0	2.0	5.0	<0.5	--	<0.5	1.4	<0.5	<0.5	<0.5	<0.5	ND
MW-6	04/24/89	13.0	7.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	--	--	--
	07/28/89	9.6	4.0	<0.2	<0.2	--	<0.2	<0.2	0.5	0.6	--	--	--
	10/30/89	8.2	3.6	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	--	--	--
	01/09/90	10.0	4.2	<0.5	<0.5	<0.5	--	--	<0.5	1.8	--	--	--
	04/18/90	11.0	3.8	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	--
	08/09/90	20.0	6.6	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	--
	11/13/90	15	5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--
	05/15/91	11	4	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	08/27/91	8.0	2.2	2.4	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	11/15/91	13	5.4	<0.5	<0.5	--	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	ND
	02/20/92	11	4.0	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	06/15/92	9.6	4.2	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS FOR HALOGENATED VOLATILE ORGANICS
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID	Date	Carbon Tet	Chloroform	PCE	TCE	1,2-DCE	t-1,2-DCE	c-1,2-DCE	1,1,1-TCA	1,2-DCA	1,2-DCP	MC	Other ^a HVOCs
MW-7	04/24/89	3.0	9.0	<1.0	<1.0	<1.0	---	---	<1.0	<1.0	---	---	---
	07/28/89	<2.0	<10.0	<2.0	<2.0	---	<2.0	<2.0	<10.0	6.0	---	---	---
	07/28/89 _b	<5.0	<20.0	<5.0	<5.0	---	<5.0	<0.5	<5.0	<5.0	---	---	---
		<1.0	3.9	<1.0	<1.0	<1.0	---	---	<1.0	6.4	---	---	---
	10/30/89	<1.0	3.1	<1.0	<1.0	<1.0	---	---	<1.0	6.2	---	---	---
	10/30/89 _b	<0.5	3.0	<0.5	<0.5	<0.5	---	---	<0.5	8.4	---	---	---
		<0.5	3.2	<0.5	<0.5	<0.5	---	---	<0.5	7.7	0.6	0.6	---
	01/09/90	3.3	7.7	<0.5	<0.5	<0.5	---	---	<0.5	8.4	<0.5	1.8	---
	04/18/90	0.6	3	<0.5	<0.5	---	<0.5	<0.5	<0.5	4	<0.5	<0.5	---
	08/09/90	2	2	<0.5	<0.5	---	<0.5	<0.5	<0.5	3	<0.5	<0.5	ND
	11/13/90	0.7	2.8	<0.5	<0.5	---	---	<0.5	<0.5	2.7	<0.5	<0.5	ND
	05/15/91	0.8	2.7	<0.5	<0.5	---	<0.5	<0.5	<0.5	3.1	<0.5	0.8	ND
	08/27/91	2.2	1.9	<0.5	<0.5	---	<0.5	<0.5	<0.5	3.3	<0.5	<0.5	ND
	11/15/91	1.1	1.8	<0.5	<0.5	---	<0.5	<0.5	<0.5	4.5	<0.5	<0.5	ND
	02/20/92												
06/15/92													
MW-8	04/24/89	2.0	3.0	6.0	<1.0	4.0	---	---	<1.0	<1.0	---	---	---
	04/24/89 _b	2.0	2.0	6.0	<1.0	3.0	---	---	<1.0	<1.0	---	---	---
		2.3	2.0	5.6	<0.2	---	<0.2	3.8	<0.2	<0.2	---	---	---
	07/28/89	2.5	2.6	8.0	<0.5	5.5	---	---	<0.5	<0.5	---	---	---
	10/30/89	4.9	3.9	19.0	0.9	6.6	---	---	<0.5	<0.5	---	---	---
	01/09/90	3.8	2.8	17.0	0.6	5.7	---	---	<0.5	<0.5	<0.5	<0.5	---
	04/18/90	5.3	4.4	27.0	1.2	9.2	---	---	<0.5	<0.5	<0.5	<0.5	---
	08/09/90	3	2	21	0.7	---	<0.5	6	<0.5	<0.5	<0.5	<0.5	---
	11/13/90	2	2	30	0.9	---	<0.5	6	<0.5	<0.5	<0.5	<0.5	ND
	05/15/91	1.4	1.1	32	1.0	---	---	4.7	<0.5	<0.5	<0.5	<0.5	ND
	08/27/91	1.5	1.9	50	<0.5	---	<0.5	5.8	<0.5	<0.5	2.0	<0.5	ND
	11/15/91	1.3	2.3	68	2.4	---	<0.5	7.6	<0.5	<0.5	<0.5	<0.5	ND
	02/20/92	0.7	1.9	46	1.6	---	<0.5	5.6	<0.5	---	<0.5	<0.5	ND
	06/15/92												

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS FOR HALOGENATED VOLATILE ORGANICS
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID	Date	Carbon Tet	Chloro-form	PCE	TCE	1,2-DCE	t-1,2-DCE	c-1,2-DCE	1,1,1-TCA	1,2-DCA	1,2-DCP	MC	Other ^a HVOCs
MW-9	06/22/90	<0.5	<0.5	<0.5	<0.5	--	<0.5	--	<0.5	<0.5	<0.5	<0.5	--
	08/09/90	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	<0.5	0.71	<0.5	<0.5	--
	11/13/90	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	1	<0.5	<0.5	--
	05/15/91	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	ND
	08/27/91	<0.5	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	11/15/91	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	ND
	02/20/92	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	06/15/92	<0.5	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
MW-10	06/22/90	9.6	8.9	<0.5	<0.5	--	<0.5	--	<0.5	<0.5	<0.5	<0.5	--
	08/09/90	11.0	7.8	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	--
	11/13/90	5	4	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--
	05/15/91	5	4	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	08/27/91	6.9	3.4	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	11/15/91	2.7	3.3	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	02/20/92	3.3	3.4	3.0	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	06/15/92	4.5	2.9	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
MW-11	06/22/90	4.6	6.5	73	1.3	--	<0.5	8.9	<0.5	<0.5	<0.5	<0.5	--
	08/09/90	8.1	6.8	84	2.0	4.6	--	--	<0.5	<0.5	<0.5	<0.5	--
	11/13/90	<0.5	<0.5	39	<0.5	--	<0.5	2	5	<0.5	<0.5	<0.5	--
	05/15/91	1	3	7	0.5	--	<0.5	2	<0.5	<0.5	<0.5	<0.5	ND
	08/27/91	4.1	3.3	73	1.0	--	--	2.4	<0.5	<0.5	<0.5	<0.5	ND
	11/15/91	3.3	3.6	64	0.9	--	<0.5	2.3	<0.5	<0.5	<0.5	<0.5	ND
	02/20/92	<2.5	<2.5	62	<2.5	--	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	ND
	06/15/92	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS FOR HALOGENATED VOLATILE ORGANICS
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID	Date	Carbon Tet	Chloroform	PCE	TCE	1,2-DCE	t-1,2-DCE	c-1,2-DCE	1,1,1-TCA	1,2-DCA	1,2-DCP	MC	Other ^a HVOCs
MW-12	06/22/90	6.0	7.3	7.4	<0.5	---	<0.5	13	<0.5	<0.5	<0.5	<0.5	---
	08/09/90	8.0	7.0	6.7	<0.5	5.8	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/13/90	<0.5	<0.5	9	<0.5	---	<0.5	3	3	<0.5	<0.5	<0.5	---
	05/15/91	4	4	10	<0.5	---	<0.5	3	<0.5	<0.5	<0.5	<0.5	ND
	08/27/91	3.1	2.6	10	<0.5	---	---	2.3	<0.5	<0.5	<0.5	<0.5	ND
	11/15/91	1.9	3.5	8.9	<0.5	---	<0.5	5.9	<0.5	<0.5	<0.5	<0.5	ND
	02/20/92	3.3	3.4	3.7	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	06/15/92	2.2	3.7	13	<0.5	---	<0.5	4.5	<0.5	<0.5	<0.5	<0.5	ND
MW-13	11/15/91	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	^g
	02/20/92	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	06/15/92	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
MW-14	11/15/91	<0.5	5.5	33	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	02/20/92	<0.5	4.3	38	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	06/15/92	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS FOR HALOGENATED VOLATILE ORGANICS
Chevron Service Station No. 9-0020
1633 Harrison Street, Oakland, California

Well ID	Date	Carbon Tet	Chloroform	PCE	TCE	1,2-DCE	t-1,2-DCE	c-1,2-DCE	1,1,1-TCA	1,2-DCA	1,2-DCP	MC	Other ^a HVOCs
Trip	11/03/88	<1.0	<1.0	<1.0	<1.0	---	<1.0	---	<1.0	<1.0	---	---	---
Blank	02/10/89	<0.1	<0.5	<0.1	<0.1	---	<0.1	<0.1	<0.1	<0.1	---	---	---
	04/24/89	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	<1.0	<1.0	---	---	---
	07/28/89	<0.1	<0.5	<0.1	<0.5	<0.1	---	<0.1	<0.1	<0.1	---	---	---
	10/30/89	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	---	---	---
	01/09/90	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	---	---	---
	04/18/90	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	<0.5	<0.5	---
	06/22/90	<0.5	<0.5	<0.5	<0.5	---	<0.5	---	<0.5	<0.5	<0.5	<0.5	---
	08/09/90	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	<0.5	<0.5	<0.5	<0.5	---
	11/13/90	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---
	05/15/91	---	---	---	---	---	---	---	---	---	---	---	---
	08/27/91	---	---	---	---	---	---	---	---	---	---	---	---
	11/15/91	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	---	ND
	02/20/92	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	---	ND
	06/15/92	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND

Carbon Tet = Carbon Tetrachloride
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
1,1,1-TCA = 1,1,1-Trichloroethane
1,2-DCA = 1,2-Dichloroethane
1,2-DCP = 1,2-Dichloropropane
MC = Methylene chloride (dichloromethane)

Other HVOCs = Other halogenated volatile organic compounds
--- = Not applicable, not analyzed, not sampled
ND = Not detected above method detection limit
a = The tabulated analytical results for ground water prior to May 15, 1991 do not specify whether other HVOCs were detected
b = Duplicate analyses
c = Trichlorofluoromethane was detected at 1.4 ppb
d = 1,1-Dichloroethene was detected at 1.3 ppb
e = 1,1-Dichloroethane was detected at 0.5 ppb
f = Chlorobenzene was detected at 0.7 ppb
g = 1,1-Dichloroethane was detected at 0.6 ppb

ATTACHMENT 3

Laboratory Report



Northwest Region

4080-C Pike Lane
Concord, CA 94520
(510) 685-7852
(800) 544-3422 from inside California
(800) 423-7143 from outside California
(510) 825-0720 (FAX)

Client Number: 020204081
Consultant Project Number: 020204081
Facility Number: 9-6991
Project ID: 1633 Harrison St.
Work Order Number: C3-09-0211

October 5, 1993

Nicole Merchant
Groundwater Technology, Inc.
4057 Port Chicago Hwy.
Concord, CA 94520

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 09/10/93.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes.

GTEL is certified by the California State Department of Health Services, Laboratory certification number E1075, to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

Eileen F. Bullen
Laboratory Director

Client Number: 020204081
 Consultant Project Number: 020204081
 Facility Number: 9-6991
 Project ID: 1633 Harrison St.
 Work Order Number: C3-09-0211

Table 1

ANALYTICAL RESULTS

**Aromatic Volatile Organics and
 Total Petroleum Hydrocarbons as Gasoline in Water**

EPA Methods 5030, 8020, and Modified 8015^a

GTEL Sample Number		01	03	05	07
Client Identification		TB-LB	MW3	MW16	MW10
Date Sampled		09/10/93	09/10/93	09/10/93	09/10/93
Date Analyzed		09/23/93	09/25/93	09/24/93	09/24/93
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	<0.5	<0.5	<0.5	<0.5
Toluene	0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	0.5	<0.5	<0.5	<0.5	<0.5
Xylene, total	0.5	<0.5	<0.5	<0.5	<0.5
BTEX, total	--	--	--	--	--
TPH as Gasoline	50	<50	<50	<50	<50
Detection Limit Multiplier		1	1	1	1
BFB surrogate, % recovery		92.1	92.9	87.1	84.2

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Bromofluorobenzene surrogate recovery acceptability limits are 70 - 130%.

Client Number: 020204081
 Consultant Project Number: 020204081
 Facility Number: 9-6991
 Project ID: 1633 Harrison St.
 Work Order Number: C3-09-0211

Table 1 (Continued)

ANALYTICAL RESULTS

**Aromatic Volatile Organics and
 Total Petroleum Hydrocarbons as Gasoline in Water**

EPA Methods 5030, 8020, and Modified 8015^a

GTEL Sample Number		09	11	M092393	
Client Identification		MW13	MW9	METHOD BLANK	
Date Sampled		09/10/93	09/10/93	--	
Date Analyzed		09/24/93	09/24/93	09/23/93	
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	3 ✓	110 ✓	<0.5	
Toluene	0.5	<0.5	63	<0.5	
Ethylbenzene	0.5	2	190	<0.5	
Xylene, total	0.5	3	350	<0.5	
BTEX, total	--	8	710	--	
TPH as Gasoline	50	73 ✓	4600 ✓	<50	
Detection Limit Multiplier		1	1	1	
BFB surrogate, % recovery		88.5	107	89.5	

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Bromofluorobenzene surrogate recovery acceptability limits are 70 - 130%.

Client Number: 020204081
Consultant Project Number: 020204081
Facility Number: 9-6991
Project ID: 1633 Harrison St.
Work Order Number: C3-09-0211

QC Matrix Spike and Duplicate Spike Results

Matrix: Water

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
Modified EPA 8020:							
Benzene	C3090212-04	20.0	ug/L	95.5	93.5	2.1	55 - 129
Toluene	C3090212-04	20.0	ug/L	99.5	97.0	3.0	72 - 149
Ethylbenzene	C3090212-04	20.0	ug/L	89.5	86.5	3.4	75 - 138
Xylene, total	C3090212-04	60.0	ug/L	105	99.8	5.0	74 - 147

Chevron Facility Number 9-6991
 Facility Address 1633 Harrison St.
 Consultant Project Number 020204081
 Consultant Name Groundwater Technology, Inc.
 Address 4057 Port Chicago Hwy, Concord, CA 94520
 Project Contact (Name) Nicole Merchant
 (Phone) 671-2387 (Fax Number) 685-9148

Chevron Contact (Name) Nancy Vukelich
 (Phone) 842-9581
 Laboratory Name GTEL
 Laboratory Release Number 922-4670
 Samples Collected by (Name) [Signature]
 Collection Date 9/10/93
 Signature [Signature]

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil A = Air W = Water C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iod (Yes or No)	Analyses To Be Performed											Remarks
								BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (ICAP or AA)	Hold			
IB-413	01	2					YES											Do Not Bill IB-413 Pg 1 of 2	
RB MW4																		SEAL IN SACS ON ICE 6/25/93	
FAW4																		9/10/93	
RB MW1																		RED	
FAW1																			
RB MW3	02	1			100														
MW3	03	2			100														
RB MW11																			
FAW11																			
RB MW16	04	1			110														
MW16	05	2			110														
RB MW15																			
FAW15																			

C3090211

Relinquished By (Signature) <u>[Signature]</u>	Organization <u>G-71</u>	Date/Time <u>9/10/93</u>	Received By (Signature) <u>[Signature]</u>	Organization	Date/Time	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 5 Days 10 Days As Contracted
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) <u>[Signature]</u>		Date/Time <u>10/15/93</u> <u>9/10/93</u>	



Client Number: 020204081
Consultant Project Number: 020204081
Facility Number: 9-6991
Project ID: 1633 Harrison St.
Work Order Number: C3-09-0654

Northwest Region
4080 Pike Lane
Suite C
Concord, CA 94520
(510) 685-7852
(800) 544-3422 Inside CA
FAX (510) 825-0720

October 16, 1993

Nicole Merchant
Groundwater Technology, Inc.
4057 Port Chicago Hwy.
Concord, CA 94520

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 09/28/93.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes.

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If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,

GTEL Environmental Laboratories, Inc.

A handwritten signature in cursive script, appearing to read 'Eileen F. Bullen'.

A handwritten signature in cursive script, appearing to read 'Eileen F. Bullen'.

Eileen F. Bullen
Laboratory Director

Client Number: 020204081
 Consultant Project Number: 020204081
 Facility Number: 9-6991
 Project ID: 1633 Harrison St.
 Work Order Number: C3-09-0654

Table 1

ANALYTICAL RESULTS

**Aromatic Volatile Organics and
 Total Petroleum Hydrocarbons as Gasoline in Water**

EPA Methods 5030, 8020, and Modified 8015^a

GTEL Sample Number		01	02	03	04
Client Identification		TB LB	MW-1	MW-4	MW-11
Date Sampled		09/27/93	09/27/93	09/27/93	09/27/93
Date Analyzed		10/09/93	10/09/93	10/09/93	10/09/93
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	<0.5	<0.5	<0.5	<0.5
Toluene	0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	0.5	<0.5	<0.5	<0.5	<0.5
Xylene, total	0.5	<0.5	<0.5	<0.5	<0.5
BTEX, total	--	--	--	--	--
TPH as Gasoline	50	<50	<50	<50	<50
Detection Limit Multiplier		1	1	1	1
BFB surrogate, % recovery		88.0	90.0	88.0	89.0

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Bromofluorobenzene surrogate recovery acceptability limits are 70 - 130%.

Client Number: 020204081
 Consultant Project Number: 020204081
 Facility Number: 9-6991
 Project ID: 1633 Harrison St.
 Work Order Number: C3-09-0654

Table 1 (Continued)

ANALYTICAL RESULTS

**Aromatic Volatile Organics and
 Total Petroleum Hydrocarbons as Gasoline in Water**

EPA Methods 5030, 8020, and Modified 8015^a

GTEL Sample Number		05	100893		
Client Identification		MW-15	METHOD BLANK		
Date Sampled		09/27/93	--		
Date Analyzed		10/09/93	10/08/93		
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	2 ✓	<0.5		
Toluene	0.5	<0.5	<0.5		
Ethylbenzene	0.5	<0.5	<0.5		
Xylene, total	0.5	<0.5	<0.5		
BTEX, total	--	--	--		
TPH as Gasoline	50	<50	<50		
Detection Limit Multiplier		1	1		
BFB surrogate, % recovery		88.0	88.7		

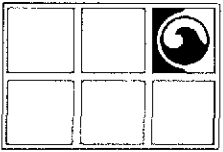
a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Bromofluorobenzene surrogate recovery acceptability limits are 70 - 130%.

Client Number: 020204081
Consultant Project Number: 020204081
Facility Number: 9-6991
Project ID: 1633 Harrison St.
Work Order Number: C3-09-0654

QC Matrix Spike and Duplicate Spike Results

Matrix: Water

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
Modified EPA 8020:							
Benzene	C3090603-03	20.0	ug/L	78.5	82.5	5.0	55 - 129
Toluene	C3090603-03	20.0	ug/L	80.0	85.0	6.1	72 - 149
Ethylbenzene	C3090603-03	20.0	ug/L	75.0	78.5	4.5	75 - 138
Xylene, total	C3090603-03	60.0	ug/L	80.3	81.2	1.1	74 - 147



GROUNDWATER TECHNOLOGY, INC.

4057 Port Chicago Highway, Concord, CA 94520 (415) 671-2387

FAX: (415) 685-9148

November 3, 1993

Mr. Mark Miller
Chevron U.S.A. Products Company
P.O. Box 5004
San Ramon, CA 94583-0804

SUBJECT: Chain of Custody Record
Former Chevron Service Station 9-0020
1633 Harrison Street
Oakland, California

Dear Mr. Miller:

The purpose of this letter is to document and clarify the Chevron facility number reported on the laboratory Chain of Custody Record for the referenced site dated September 10 and 28, 1993.

The laboratory Chain of Custody Record dated September 10 and 28, 1993, for the Former Chevron Facility located at 1633 Harrison Street indicates the Chevron Facility number as 9-6991, however the Chevron Facility number for 1633 Harrison Street is actually 9-0020.

This letter is attached to the Quarterly Monitoring and Sampling reported dated November 3, 1993, to clarify any misrepresentation indicated by the incorrect Chevron Facility Number reported on the Chain of Custody Records dated September 10 and 28, 1993.

Groundwater Technology is pleased to have been of service with this project. If you have any questions or comments about this letter or the letter's intended purpose please contact me at (510) 671-2387.

Sincerely,
Groundwater Technology, Inc.

Tim Watchers
Tim Watchers
Project Geologist

October 25, 1993
Project No. RC0136.003

Mr. Safa Toma
Source Control Division
East Bay Municipal Utility District
EBMUD Mail Slot #702
P.O. Box 24055
Oakland, California 94623

SUBJECT: *FILE* Quarterly Groundwater Treatment System Compliance Report, Former Chevron Service Station #9-0020, 1633 Harrison Street, Oakland, California.

Dear Mr. Toma:

Geraghty & Miller, Inc. (Geraghty & Miller) is submitting this system compliance report for the reporting period from July 1 through September 30, 1993, on behalf of Chevron U.S.A. Products Company (Chevron).

System samples were collected during this reporting period on July 15 and September 9, 1993. ~~The system was not operated between July 22 and September 9.~~ The samples were collected from the system influent, intermediate (between Carbon Vessels 1 and 2), and the effluent immediately prior to discharge to the sewer (Effluent). System startup occurred on July 14, 1993, with notification to and concurrence from Marie Kulka of the East Bay Municipal Utility District (EBMUD). Because of the ~~extremely low flow rate~~, it was agreed by Ms. Kulka and Jeff Stivers of Geraghty & Miller that a representative sample of the flow rate could not be collected until the following day. Therefore, Geraghty & Miller visited the site the following day, July 15, 1993, to collect the first compliance sample. During this visit, Marie Kulka also collected water samples from the system. Operation continued through approximately July 22, 1993, when the system stopped pumping water due to a transfer sump pump failure. This sump pump was replaced on August 30, 1993, and the system was restarted and sampled again on September 9, 1993. Further sampling of the system will continue on a monthly basis, per permit requirements.

All samples were analyzed for total petroleum hydrocarbons as gasoline (TPH-G) (USEPA Method 8015, modified) and benzene, toluene, ethylbenzene, and xylenes (BTEX) (USEPA Method 8020). All samples were submitted to GTEL Environmental Laboratories, a USEPA-



certified laboratory in Concord, California, for analysis. Copies of the certified laboratory reports and the chain-of-custody documentation are included in Attachment 1.

The volume of water treated and discharged for this reporting period was 407 gallons. A summary of the flow totalizing meter readings is presented in Table 1. Analytical results are presented in Table 2.

The system influent analytical results and system flow rate are used to calculate the carbon loading. Based upon the highest influent TPH-G concentration (15,000 parts per billion) and the total flow to date, with a carbon loading efficiency of 5%, the amount of spent carbon is calculated as follows:

$$\frac{4,400 \mu\text{g/L TPH-G}}{1 \times 10^9 \mu\text{g/L H}_2\text{O}} \times 407 \text{ gal} \times \frac{8.3 \text{ lb H}_2\text{O}}{\text{gal H}_2\text{O}} = 0.015 \text{ lb TPH-G processed}$$

Carbon loading (5% loading of TPH at low concentrations):

$$0.015 \text{ lb TPH-G processed} \times \frac{100 \text{ lb carbon}}{5 \text{ lb TPH-G}} = 0.297 \text{ lb carbon used}$$

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Table 1: Flow Totalizer Readings
 Former Chevron Service Station #9-0020
 1633 Harrison Street, Oakland, California.

Date	Totalizer Reading (Gallons)	Gallons Discharged This Period	Cumulative Gallons	Days Since Previous Reading	Average Discharge Rate (GPM)	Notes
1-Jul-93	0	0	0		0	System nonoperational
14-Jul-93	2,059 (a)	0	0		0	System startup
19-Jul-93	2,218	159	159	5	0.02	O&M, collect air samples
22-Jul-93	2,218	0	159	3	0.00	Shut off system; sump pump failure
9-Sep-93	2,466	248	407	52	0.003	Restart system; collect GW system samples 407 gal. discharged this reporting period

(a) Meter not zeroed when system began operation.

GPM = Gallons per minute

Table 2: Groundwater Analytical Results
 Former Chevron Service Station #9-0020
 1633 Harrison Street, Oakland, California.

Sample	Date	TPH as Gasoline (µg/L) (a)	Benzene (µg/L) (b)	Toluene (µg/L) (b)	Ethylbenzene (µg/L) (b)	Xylenes (µg/L) (b)
Influent	15-Jul-93	4,400	330	260	170	900
	9-Sep-93	220	6	11	9	56
Intermediate	15-Jul-93	NS	NS	NS	NS	NS
	9-Sep-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)
Effluent	15-Jul-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)
	9-Sep-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)
Trip Blank	15-Jul-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)
	9-Sep-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)

(a) Analyzed by USEPA Method 8015, modified.

(b) Analyzed by USEPA Method 8020.

TPH Total petroleum hydrocarbons

µg/L Micrograms per liter

ND() Laboratory method detection limit; limit in parentheses

NS Not sampled



ATTACHMENT 1

**COPIES OF CERTIFIED ANALYTICAL REPORTS
AND CHAIN-OF-CUSTODY DOCUMENTATION**



GTEL

ENVIRONMENTAL
LABORATORIES, INC.

4080 Pike Lane
Concord, CA 94520
(510) 685-7852
(800) 544-3422 Inside CA
(800) 423-7143 Outside CA
(510) 825-0720 FAX

Client Number: GTY01CHV08
Consultant Project Number: RC0136.003
Facility Number: 9-0020
Project ID: 1633 Harrison St.
Oakland
Work Order Number: C3-07-0241

July 20, 1993

Kent O'Brien
Geraghty & Miller, Inc.
1050 Marina Way South
Richmond, CA 94804

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 07/16/93.

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If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

Eileen F. Bullen
Laboratory Director

Client Number: GTY01CHV08
 Consultant Project Number: RC0136.003
 Facility Number: 9-0020
 Project ID: 1633 Harrison St.
 Oakland
 Work Order Number: C3-07-0241

Table 1

ANALYTICAL RESULTS

Aromatic Volatile Organics and
 Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015^a

GTEL Sample Number		01	02	03	S071793
Client Identification		A INFLUENT	C EFFLUENT	TB-LB	METHOD BLANK
Date Sampled		07/15/93	07/15/93	07/15/93	--
Date Analyzed		07/19/93	07/18/93	07/17/93	07/17/93
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	330	<0.5	<0.5	<0.5
Toluene	0.5	260	<0.5	<0.5	<0.5
Ethylbenzene	0.5	170	<0.5	<0.5	<0.5
Xylene, total	0.5	900	<0.5	<0.5	<0.5
BTEX, total	--	1700	--	--	--
TPH as Gasoline	50	4400	<50	<50	<50
Detection Limit Multiplier		10	1	1	1
BFB surrogate, % recovery		119	96.8	104	104

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Bromofluorobenzene surrogate recovery acceptability limits are 70 - 130%.

Client Number: GTY01CHV08
 Consultant Project Number: RC0136.003
 Facility Number: 9-0020
 Project ID: 1633 Harrison St.
 Oakland
 Work Order Number: C3-07-0241

QC Matrix Spike and Duplicate Spike Results

Matrix: Water

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
Modified EPA 8020:							
Benzene	C3070118-06	20.0	ug/L	110	107	2.8	55 - 129
Toluene	C3070118-06	20.0	ug/L	107	104	2.8	72 - 149
Ethylbenzene	C3070118-06	20.0	ug/L	103	101	1.9	75 - 138
Xylene, total	C3070118-06	60.0	ug/L	106	104	1.9	74 - 147



GTEL

ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region

4080-C Pike Lane
Concord, CA 94520
(510) 685-7852
(800) 544-3422 from inside California
(800) 423-7143 from outside California
(510) 825-0720 (FAX)

Client Number: GTY01CHV08
Consultant Project Number: RC0136.003
Facility Number: 9-0020
Project ID: 1633 Harrison St., Oakland
Work Order Number: C3-09-0213

September 24, 1993

Kent O'Brien
Geraghty & Miller, Inc.
1050 Marina Way South
Richmond, CA 94804

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 09/10/93.

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Sincerely,

GTEL Environmental Laboratories, Inc.

Eileen F. Bullen
Laboratory Director

Client Number: GTY01CHV08
 Consultant Project Number: RC0136.003
 Facility Number: 9-0020
 Project ID: 1633 Harrison St., Oakland
 Work Order Number: C3-09-0213

Table 1

ANALYTICAL RESULTS

**Aromatic Volatile Organics and
 Total Petroleum Hydrocarbons as Gasoline in Water**

EPA Methods 5030, 8020, and Modified 8015^a

GTEL Sample Number		01	02	03	04
Client Identification		INFLUENT	INTERMEDIATE	EFFLUENT	TB-LB
Date Sampled		09/09/93	09/09/93	09/09/93	09/09/93
Date Analyzed		09/23/93	09/23/93	09/23/93	09/23/93
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	6	<0.5	<0.5	<0.5
Toluene	0.5	11	<0.5	<0.5	<0.5
Ethylbenzene	0.5	9	<0.5	<0.5	<0.5
Xylene, total	0.5	56	<0.5	<0.5	<0.5
BTEX, total	--	82	--	--	--
TPH as Gasoline	50	220	<50	<50	<50
Detection Limit Multiplier		1	1	1	1
BFB surrogate, % recovery		102	110	99.7	102

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Bromofluorobenzene surrogate recovery acceptability limits are 70 - 130%.

Client Number: GTY01CHV08
 Consultant Project Number: RC0136.003
 Facility Number: 9-0020
 Project ID: 1633 Harrison St., Oakland
 Work Order Number: C3-09-0213

Table 1 (Continued)

ANALYTICAL RESULTS

**Aromatic Volatile Organics and
 Total Petroleum Hydrocarbons as Gasoline in Water**

EPA Methods 5030, 8020, and Modified 8015^a

GTEL Sample Number		S092293			
Client Identification		METHOD BLANK			
Date Sampled		--			
Date Analyzed		09/22/93			
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	<0.5			
Toluene	0.5	<0.5			
Ethylbenzene	0.5	<0.5			
Xylene, total	0.5	<0.5			
BTEX, total	--	--			
TPH as Gasoline	50	<50			
Detection Limit Multiplier		1			
BFB surrogate, % recovery		102			

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Bromofluorobenzene surrogate recovery acceptability limits are 70 - 130%.

Client Number: GTY01CHV08
Consultant Project Number: RC0136.003
Facility Number: 9-0020
Project ID: 1633 Harrison St., Oakland
Work Order Number: C3-09-0213

QC Matrix Spike and Duplicate Spike Results

Matrix: Water

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
Modified EPA 8020:							
Benzene	C3090209-4	20.0	ug/L	122	118	3.3	55 - 129
Toluene	C3090209-4	20.0	ug/L	106	110	3.7	72 - 149
Ethylbenzene	C3090209-4	20.0	ug/L	114	107	6.3	75 - 138
Xylene, total	C3090209-4	60.0	ug/L	124	110	12.0	74 - 147

