



Chevron

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June 6, 1994

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
P.O. Box 5004
San Ramon, CA 94583-0804

Marketing Department
Phone 510 842 9500

**Re: Former Chevron Service Station #9-0019
210 Grand Avenue, Oakland, CA**

Dear Ms. Eberle:

Enclosed is the Groundwater Monitoring and Sampling Activities report dated April 15, 1994, prepared by our consultant Groundwater Technology, Inc. for the above referenced site. As indicated in the report, ground water samples collected from all wells were analyzed for total petroleum hydrocarbons as gasoline (TPH-G), and BTEX. Concentrations of dissolved hydrocarbon constituents in the ground water samples collected were consistent with previous observations at the site. Ground water samples collected from monitor wells MW-3 and MW-5 were also analyzed for purgeable halocarbons (EPA Method 601). Laboratory reports indicate concentrations of these constituents were below method detection limits.

Depth to ground water was measured at approximately 3.0 to 6.8 feet below grade, and the direction of flow is to the west.

As agreed to in your letter of January 13, 1994, we have temporarily discontinued operating the ground water extraction system. Following the next quarterly monitoring and sampling event, we will evaluate all historical site data to determine if natural attenuation mechanisms are providing hydraulic containment of the hydrocarbon plume. If this is shown to be the case, we will instruct our consultant to prepare a management plan which evaluates the applicability of alternative compliance points to the site. If a review of the site data at that time indicates that hydraulic control is not naturally maintained, we will evaluate and propose appropriate alternatives.

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

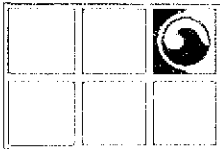
Enclosure

cc: Mr. Rich Hiatt, RWQCB - Bay Area
Ms. B.C. Owen

Mr. Frank Fanelli
City of Oakland
Real Estate Department
1330 Broadway, Suite #101
Oakland, CA 94612

Mr. Ron Basarich
City of Oakland
Real Estate Department
1330 Broadway, Suite #101
Oakland, CA 94612

File: 9-0019 QM7



GROUNDWATER TECHNOLOGY, INC.

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

FAX: (415) 685-9148

April 15, 1994

Project No. 020104096

Mr. Mark Miller
Chevron U.S.A. Products Company
2410 Camino Ramon
San Ramon, CA 94583-0804

SUBJECT: *Groundwater Monitoring and Sampling Activities*
Chevron Service Station No. 9-0019
210 Grand Avenue, Oakland, California

Dear Mr. Miller:

Groundwater Technology, Inc. presents the quarterly groundwater monitoring and sampling data collected on March 7, 1994. The eight groundwater monitoring wells at this site were gauged to measure depth to groundwater (DTW) and to check for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were not detected in the monitoring wells. A potentiometric surface map and a summary of groundwater monitoring data are presented in Attachments 1 and 2, respectively. After the DTW was measured, each monitoring well was purged and sampled. Field data sheets are presented in Attachment 3. The groundwater samples were analyzed for benzene, toluene, ethylbenzene, xylenes and for total petroleum hydrocarbons-as-gasoline. Additional samples collected from monitoring wells MW-3 and MW-5 were analyzed for purgeable halocarbons. Results of the chemical analyses are summarized in Table 2. The laboratory report and chain-of-custody record are included in Attachment 4. 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

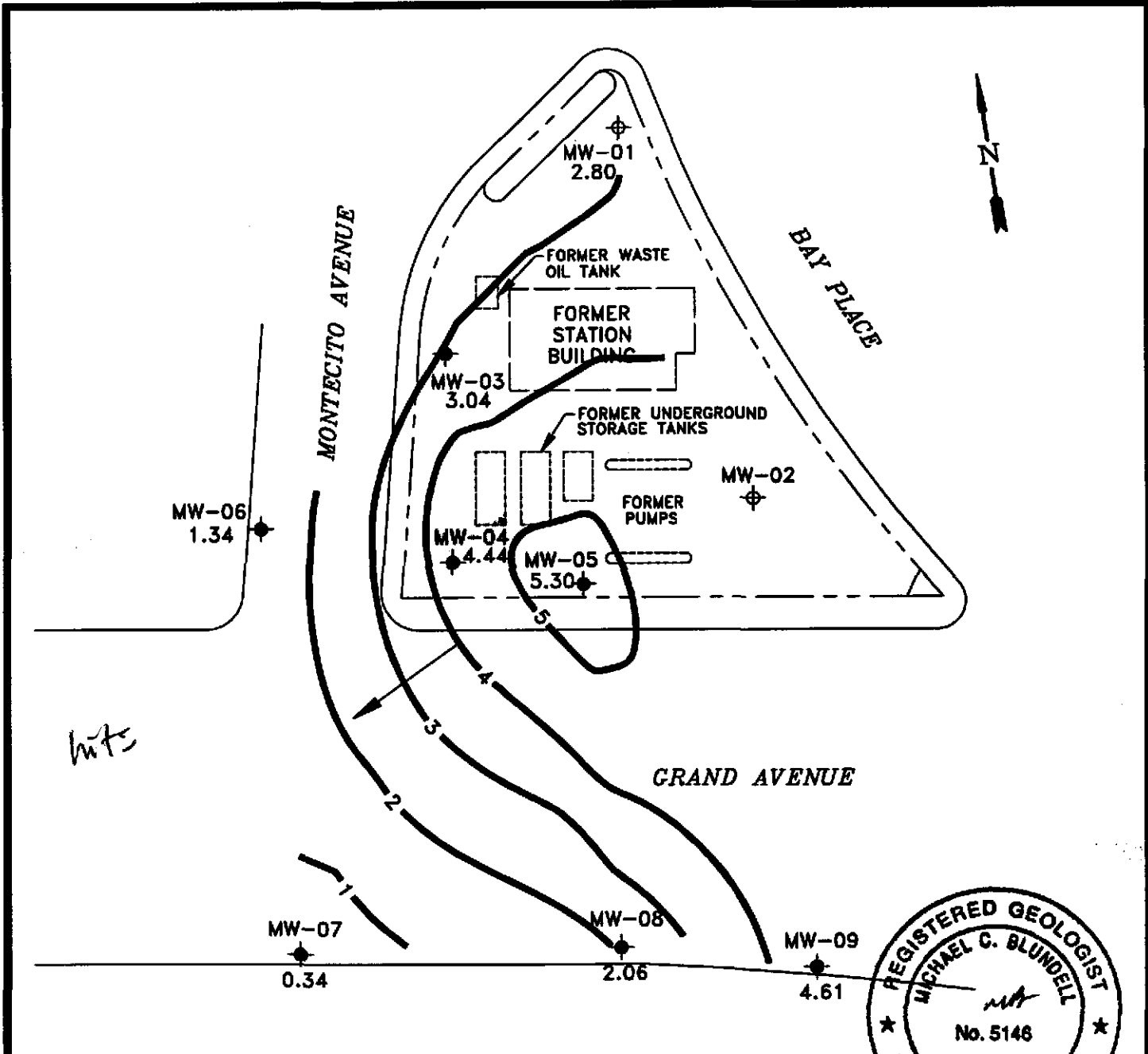
Tim Watchers
Project Manager

PR KJ

Attachment 1 Figure
Attachment 2 Tables
Attachment 3 Field Data Sheets
Attachment 4 Laboratory Report

For:
Wendell C. Lantz
Vice President, General Manager
West Region

4096qmsr.194



hnt

LEGEND

- PROPERTY LINE
- MONITORING WELL
- ⊕ ABANDONED MONITORING WELL
- X.XX POTENTIOMETRIC SURFACE ELEVATION (FT)
- POTENTIOMETRIC SURFACE CONTOUR
- GROUNDWATER FLOW DIRECTION

NOTE:

1. CONTOURS REPRESENT APPROXIMATE ELEVATIONS ABOVE MEAN SEA LEVEL.



GROUNDWATER TECHNOLOGY



POTENTIOMETRIC SURFACE MAP (3/7/94)

CLIENT: CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION No. 9-0019	FILE: 4096PSM, (1:40)	PROJECT NO.:	02010-4096	PM <i>[Signature]</i>	PE/RG <i>[Signature]</i>
	REV.			FIGURE: 1	
LOCATION: 210 GRAND AVENUE OAKLAND, CALIFORNIA	DES. TW	DET. SS	DATE: 4/4/94		

TABLE 1
GROUNDWATER MONITORING DATA
Chevron Service Station No. 9-0019
210 Grand Avenue, Oakland, California

Well ID/ Elevation	Date	DTW (ft)	SPT (ft)	WTE (ft)
MW-1 9.63	03/14/89	6.74	0.00	2.89
	06/08/89	7.14	0.00	2.49
	09/14/89	7.21	0.00	2.42
	12/08/89	7.29	0.00	2.34
	03/19/90	7.00	0.00	2.63
	07/06/90	7.13	0.00	2.50
	10/03/90	7.53	0.00	2.10
	08/23/91	7.06	0.00	2.57
	11/22/91	7.47	0.00	2.16
	02/26/92	6.69	0.00	2.94
	05/22/92	6.96	0.00	2.67
	09/29/92	7.19	0.00	2.44
	12/23/92	7.03	0.00	2.60
	03/22/93	6.60	0.00	3.03
	06/07/93	6.97	0.00	2.66
09/10/93	7.08	0.00	2.55	
03/07/94	6.83	0.00	2.80	
MW-2 8.99 9.01	03/14/89	6.08	0.00	2.91
	06/08/89	5.22	0.00	3.77
	09/14/89	5.95	0.00	3.04
	12/08/89	9.25	0.00	-0.26
	03/19/90	5.92	0.00	3.07
	07/06/90	6.79	0.00	2.22
	10/03/90	---	---	---
	08/23/91	---	---	---
	03/22/93	---	---	---
	11/22/91	Well destroyed (11/15/91)		

TABLE 1
GROUNDWATER MONITORING DATA
Chevron Service Station No. 9-0019
210 Grand Avenue, Oakland, California

Well ID/ Elevation	Date	DTW (ft)	SPT (ft)	WTE (ft)
MW-3 8.19 8.19	03/14/89	6.02	0.00	2.16
	06/08/89	5.88	0.00	2.30
	09/14/89	6.30	0.00	1.88
	12/08/89	9.52	0.00	-1.34
	03/19/90	6.17	0.00	2.01
	07/06/90	7.52	0.00	0.67
	10/03/90	7.31	0.00	0.88
	08/23/91	5.65	0.00	2.53
	11/22/91	6.78	0.00	1.41
	02/26/92	4.65	0.00	3.54
	05/22/92	5.56	0.00	2.63
	09/29/92	6.23	0.00	1.96
	12/23/92	5.82	0.00	2.37
	03/22/93	4.92	0.00	3.27
	06/07/93	5.69	0.00	2.50
	09/10/93	6.04	0.00	2.15
	03/07/94	5.15	0.00	3.04
MW-4 7.60 7.59	03/14/89	5.52	0.00	2.08
	06/08/89	4.19	0.00	3.41
	09/14/89	4.80	0.00	2.80
	12/08/89	4.86	0.00	2.74
	03/19/90	4.65	0.00	2.95
	07/06/90	6.42	0.00	1.17
	10/03/90	6.39	0.00	1.20
	08/23/91	4.42	0.00	3.17
	11/22/91	5.38	0.00	2.21
	02/26/92	2.65	0.00	4.94
	05/22/92	3.96	0.00	3.63
	09/29/92	4.68	0.00	2.91
	12/23/92	3.63	0.00	3.96
	03/22/93	2.90	0.00	4.69
	06/07/93	3.89	0.00	3.70
	09/10/93	4.52	0.00	3.07
	03/07/94	3.15	0.00	4.44

TABLE 1
GROUNDWATER MONITORING DATA
 Chevron Service Station No. 9-0019
 210 Grand Avenue, Oakland, California

Well ID/ Elevation	Date	DTW (ft)	SPT (ft)	WTE (ft)
MW-5 8.35	03/14/89	6.98	0.00	1.37
	06/08/89	4.73	0.00	3.62
	09/14/89	5.37	0.00	2.98
	12/08/89	9.13	0.00	-0.78
	03/19/90	5.12	0.00	3.23
	07/06/90	5.81	0.00	2.54
	10/03/90	6.90	0.00	1.45
	08/23/91	5.05	0.00	3.30
	11/22/91	6.25	0.00	2.10
	02/26/92	3.00	0.00	5.35
	05/22/92	4.49	0.00	3.86
	09/29/92	4.85	0.00	3.50
	12/23/92	3.58	0.00	4.77
	03/22/93	---	---	---
	06/07/93	12.17	0.00	-3.82
09/10/93	8.50	0.00	-0.15	
03/07/94	3.05	0.00	5.30	
MW-6 6.56	07/06/90	9.09	0.00	-2.53
	10/03/90	5.78	0.00	0.78
	08/23/91	7.49	0.00	-0.93
	11/22/91	7.63	0.00	-1.07
	02/26/92	5.55	0.00	1.01
	05/22/92	6.94	0.00	-0.38
	09/29/92	6.80	0.00	-0.24
	12/23/92	5.99	0.00	0.57
	03/22/93	7.07	0.00	-0.51
	06/07/93	7.61	0.00	-1.05
	09/10/93	4.68	0.00	1.88
03/07/94	5.22	0.00	1.34	
MW-7 4.99	07/06/90	5.85	0.00	-0.86
	10/03/90	6.25	0.00	-1.26
	08/23/91	5.50	0.00	-0.51
	11/22/91	5.73	0.00	-0.74
	02/26/92	4.84	0.00	0.15
	05/22/92	4.89	0.00	0.10
	09/29/92	5.55	0.00	-0.56
	12/23/92	4.87	0.00	0.12
	03/22/93	4.05	0.00	0.94
	06/07/93	4.63	0.00	0.36
	09/10/93	5.56	0.00	-0.57
03/07/94	4.65	0.00	0.34	

TABLE 1
GROUNDWATER MONITORING DATA
Chevron Service Station No. 9-0019
210 Grand Avenue, Oakland, California

Well ID/ Elevation	Date	DTW (ft)	SPT (ft)	WTE (ft)
MW-8 6.77	07/06/90	3.98	0.00	2.79
	10/03/90	4.73	0.00	2.04
	08/23/91	4.76	0.00	2.01
	11/22/91	5.73	0.00	1.04
	02/26/92	4.30	0.00	2.47
	05/22/92	3.66	0.00	3.11
	09/29/92	---	---	---
	12/23/92	2.83	0.00	3.94
	03/22/93	4.38	0.00	2.39
	06/07/93	5.17	0.00	1.60
	09/10/93	5.16	0.00	1.61
	03/07/94	4.71	0.00	2.06
	MW-9 7.63	07/06/90	4.61	0.00
10/03/90		5.14	0.00	2.49
08/23/91		5.45	0.00	2.18
11/22/91		5.48	0.00	2.15
02/26/92		2.63	0.00	5.00
05/22/92		4.00	0.00	3.63
09/29/92		4.70	0.00	2.93
12/23/92		3.76	0.00	3.87
03/22/93		2.11	0.00	5.52
06/07/93		3.28	0.00	4.35
09/10/93		5.18	0.00	2.45
03/07/94		3.02	0.00	4.61

DTW = Depth to water
SPT = Separate-phase hydrocarbon thickness
WTE = Water-table elevation
--- = Not applicable, not sampled, not measured

Measurements referenced relative to mean sea level

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0019
210 Grand Avenue, Oakland, California

Well	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG	Chloro-fom	1,2-DCA	F113	TCA
MW-1	03/14/89	600	<0.2	<0.2	3.2	1.7	<3,000	1.0	<0.2	<20.0	<0.2
	06/08/89	<50	<0.1	<0.5	<0.1	<0.2	---	<0.5	<0.1	<20.0	<0.1
	09/14/89	<50	<0.2	<1.0	<0.2	<0.4	---	<1.0	<0.2	<1.0	0.7
	12/08/89	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	03/19/90	190	0.8	<0.3	7	3	---	<0.5	<0.5	---	<0.5
	07/06/90	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	10/03/90	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	08/23/91	150	5.0	11	3.5	10	---	<0.5	<0.5	---	<0.5
	11/22/91	86	7.2	11	2.9	13	---	<0.5	<0.5	<0.5	<0.5
	02/26/92	<50	<0.5	<0.5	<0.5	1.4	---	<0.5	<0.5	<0.5	<0.5
	05/22/92	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
	09/29/92	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5
	12/23/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	03/22/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	06/07/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	03/07/94	<50	<0.5	<0.5	<0.5	<0.5	1	---	---	---	---
MW-2	03/14/89	<100	6.7	7.1	0.5	4.6	<3,000	<1.0	0.7	<20.0	<0.2
	06/09/89	<100	<0.2	<1.0	<0.2	<0.4	---	<1.0	<0.2	<20.0	<0.2
	09/14/89	<50	<0.2	<1.0	<0.2	<0.4	---	<1.0	<0.2	<1.0	<0.2
	12/08/89	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	03/19/90	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	07/06/90	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	10/03/90 ^a	---	---	---	---	---	---	---	---	---	---
	08/23/91 ^a	---	---	---	---	---	---	---	---	---	---
	11/22/91 ¹	---	---	---	---	---	---	---	---	---	---

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0019
210 Grand Avenue, Oakland, California

Well	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG	Chloroform	1,2-DCA	F113	TCA
MW-3	03/14/89	<100	2.1	0.8	<0.2	2	<3,000	<1	3	<20	<0.2
	06/09/89	<100	<0.5	<1.0	<0.2	<0.4	---	<1	3.3	<20	<0.2
	09/14/89	<50	<0.2	<1.0	<0.2	<0.4	---	<1.0	2.2	<1	<0.2
	12/08/89	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	1.3	---	<0.5
	03/19/90	<50	<0.3	<0.3	<0.3	<0.6	---	0.5	1.3	---	<0.5
	07/06/90	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	10/03/90	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	0.83	---	<0.5
	08/23/91	220	16	22	5.5	16	---	<0.5	0.6	---	<0.5
	11/22/91	<50	<0.5	<0.5	<0.5	0.6	---	0.6	1.0	<0.5	<0.5
	02/26/92	<50	4.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
	05/22/92	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
	09/29/92	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5
	12/23/92	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5
	03/22/93	<50	7	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5
	06/07/93	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5
	03/07/94	<50	1	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0019
210 Grand Avenue, Oakland, California

Well	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG	Chloro-form	1,2-DCA	F113	TCA
MW-4	03/14/89	3,000	810	200	30	130	<3,000	<20.0	<5.0	<20	<5
	06/09/89	900	440	13	22	40	---	<20.0	<5.0	60	<5
	09/14/89	540	220	2	6.1	9.3	---	<1.0	2.3	<1	<0.2
	12/08/89	150	18	<0.3	1	<0.6	---	<0.5	1.9	---	<0.5
	03/19/90	270	50	<0.3	0.7	<0.6	---	<0.5	0.8	---	<0.5
	07/06/90	140	0.7	<0.3	0.5	<0.6	---	<0.5	0.79	---	<0.5
	10/03/90	180	<0.3	<0.3	2	<0.6	---	<0.5	0.5	---	<0.5
	08/23/91	400	9.9	6.8	3.1	7.1	---	<0.5	<0.5	---	<0.5
	11/22/91	130	3.4	1.3	3.5	6	---	<0.5	<0.5	<0.5	<0.5
	02/26/92	520	15	2.7	6.1	8.6	---	<0.5	<0.5	<0.5	<0.5
	05/22/92	460	20	2.8	5	6.9	---	<0.5	<0.5	<0.5	<0.5
	09/29/92	160	1.1	1.7	0.8	2.8	---	<0.5	<0.5	---	<0.5
	12/23/92	110	0.7	0.5	0.9	1.7	---	---	---	---	---
	03/22/93	930	9	3	7	8	---	---	---	---	---
	06/07/93	240	2	0.9	3	3	---	---	---	---	---
	09/10/93	<50	<0.5	<0.5	0.8	<0.5	---	---	---	---	---
	03/07/94	550	3	3	8	12	---	---	---	---	---

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0019
210 Grand Avenue, Oakland, California

Well	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG	Chloroform	1,2-DCA	F113	TCA
MW-5 (D) (D) (T)	03/14/89	20,000	6,600	1,600	270	1,100	<3,000	<100	<20	<20	<20
	06/09/89	15,000	>2,800	270	240	640	---	<20	28	<20	<5
	06/09/89	12,000	5,100	300	240	700	---	<200	<50	<20	<50
	09/14/89	15,000	>730	>320 ^p	>290 ^p	440	---	<10	<2	<20	<2
	09/14/89	15,000	3,300	450	490	730	---	<100	<20	100	<20
	09/14/89	16,000	3,100	550	400	690	---	<50	<10	<50	<10
	12/08/89	20,000	4,600	640	390	1,300	---	<0.5	27	---	<0.5
	03/19/90	25,000	6,500	1,200	450	2,200	---	<0.5	10	---	0.7
	06/06/90	30,000	5,600	890	210	1,400	---	<0.5	<0.5	---	<0.5 ^c
	10/03/90	29,000	6,000	790	270	1,500	---	<0.5	<0.5	---	<0.5 ^d
	08/23/91	36,000	6,100	1,200	460	2,600	---	<0.5	3.9	---	<0.5 ^e
	11/22/91	21,000	8,000	1,500	530	2,600	---	<0.5	3.9	<0.5	<0.5 ^{l,m}
	02/26/92	43,000	14,000	1,600	640	4,700	---	<0.5	2.0	<0.5	<0.5
	05/22/92	72,000	18,000	8,100	920	10,000	---	<0.5	6.8	<0.5	<0.5
	09/29/92	54,000	14,000	1,400	740	8,100	---	<0.5	4.4	---	<0.5
	12/23/92	38,000	8,400	910	530	5,300	---	<0.5	2.9	---	<0.5
	03/22/93	---	---	---	---	---	---	---	---	---	---
	06/07/93	24,000	3,000	280	360	1,200	---	<0.5	<0.5	---	<0.5
	09/10/93	8,900	860	160	100	320	---	<5	<5	---	<5
03/07/94	9,600	2,100	380	120	290	---	<12.5	<12.5	---	<12.5	
MW-6	07/06/90	210	<0.3	<0.3	3	7	---	<0.5	<0.5	---	<0.5
	10/03/90	320	<0.3	0.3	1	<0.6	---	<0.5	<0.5	---	<0.5
	08/23/91	320	1.7	<0.5	2.1	<0.5	---	<0.5	<0.5	---	<0.5
	11/22/91	190	1.9	2.2	5.4	7.7	---	<0.5	<0.5	<0.5	<0.5
	02/26/92	120	2.0	1.5	3.5	5.1	---	<0.5	<0.5	<0.5	<0.5
	05/22/92	160	1.1	0.6	0.9	1	---	<0.5	<0.5	<0.5	<0.5
	09/29/92	65	0.5	1.4	0.5	0.64	---	<0.5	<0.5	---	<0.5
	12/23/92	140	0.7	0.7	0.9	2.1	---	---	---	---	---
	03/22/93	71	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---
	06/07/93	85	<0.5	<0.5	<0.5	2	---	---	---	---	---
	09/10/93	<50	<0.5	<0.5	1	<0.5	---	---	---	---	---
	03/07/94	<50	<0.5	<0.5	<0.5	<0.5	0.8	---	---	---	---

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0019
210 Grand Avenue, Oakland, California

Well	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG	Chloro-form	1,2-DCA	F113	TCA
MW-7	07/06/90	<50	<0.3	<0.3	<0.3	<0.6	<1,000	<0.5	<0.5	---	<0.5
	10/03/90	<50	<1.5	<1.5	<1.5	<3	---	<0.5	<0.5	---	<0.5
	08/23/91	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5
	11/22/91	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
	02/26/92	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
	05/22/92	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
	09/29/92	<50	<0.5	<0.5	<0.5	0.6	---	<0.5	<0.5	---	<0.5
	12/23/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	03/22/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	06/07/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	03/07/94	<50	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---
MW-8	07/06/90	<50	<0.3	<0.3	<0.3	<0.6	<1,000	<0.5	<0.5	---	<0.5
	10/03/90	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	08/23/91	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5
	11/22/91	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
	02/26/92	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
	05/22/92	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
	09/29/92	---	---	---	---	---	---	---	---	---	---
	12/23/92	<50	<0.5	7.2	0.6	2.5	---	---	---	---	---
	03/22/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	06/07/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	03/07/94	<50	<0.5	<0.5	<0.5	<0.5	<0.5	---	---	---	---

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0019
210 Grand Avenue, Oakland, California

Well	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG	Chloroform	1,2-DCA	F113	TCA
MW-9	07/06/90	<50	<0.3	<0.3	<0.3	<0.6	<1,000	<0.5	<0.5	---	<0.5
	10/03/90	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	08/23/91	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5
	11/22/91	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
	02/26/92	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
	05/22/92	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
	09/29/92	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5
	12/23/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	03/22/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	06/07/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	03/07/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
TBLB	12/08/89	<100	<0.1	<0.2	<0.1	<0.2	---	<0.5	<0.1	---	<0.1
	06/09/89	<50	<0.5	<0.5	<0.1	<0.2	---	<0.5	<0.1	<20.0	<0.1
	09/14/89	<50	<0.1	<0.5	<0.1	<0.2	---	<0.5	<0.1	<0.5	<0.1
	12/08/89	<50	<0.3	<0.3	<0.3	<0.6	---	4.4	<0.5	---	1.9
	03/19/90	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	07/06/90	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	10/03/90	<50	<0.3	<0.3	<0.3	1	---	<0.5	<0.5	---	<0.5
	08/23/91	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	11/22/91	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	<0.5	g,h,i
	02/26/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	05/22/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	09/29/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	12/23/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	03/22/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	06/07/93	<50	<0.5	<0.5	<0.5	<0.5	1	---	---	---	---
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	03/07/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0019
210 Grand Avenue, Oakland, California

Well	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG	Chloroform	1,2-DCA	F113	TCA
Bailer	08/23/91	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
Blank	11/22/91	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	<0.5	g,j,k
	02/26/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	05/22/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---

TPH-G = Total petroleum hydrocarbons-as-gasoline
 TOG = Total oil and grease
 1,2-DCA = 1,2-Dichloroethane
 F113 = Trichlorotrifluoroethane (Freon 113)
 TCA = 1,1,1-Trichloroethane
 TB-LB = Trip blank/Laboratory blank
 --- = Not analyzed, not applicable
 (D) = Duplicate sample
 (T) = Triplicate sample

Data before May 22, 1992, were taken from a report prepared by Sierra Environmental Services, March 13, 1992. Results in parts per billion.

a = Well obstructed during site demolition.
 b = Saturated column.
 c = 1,2-Dichloropropane was detected at 1.2 ppb.
 d = 1,2-Dichloropropane and trichloroethane were detected at 2 ppb and 0.74 ppb, respectively.
 e = 1,2-Dichloropropane was detected at 0.9 ppb.
 f = Well destroyed November 15, 1991.
 g = Bromodichloromethane was detected at 2.4 ppb.
 h = Dibromochloromethane was detected at 2.4 ppb.
 i = Bromoform was detected at 4.8 ppb.
 j = Dibromochloromethane was detected at 2.2 ppb.
 k = Bromoform was detected at 4.8 ppb.
 l = TCE was detected at 1.0 ppb.
 m = 1,2-Dichloropropane was detected at 0.8 ppb.

Project Name: Chevron - Grand

Date: 2/7/94

Site Address: 210 Grand Ave., Oakland

Page 3 of 8

Project Number: 020104096.0610

Project Manager: Tim Watchers

Well ID: MW-3

DTW Measurements:

Initial: 5.15

Calc Well Volume: 7 gal

Well Diameter: 4"

Recharge: _____

Well Volume: 21 gal

Purge Method _____ Pump Depth _____ ft.
 Peristaltic _____ Hand Bailed _____
 Gear Drive _____ Air Lift _____
 Submersible Other _____

Instruments Used
 YSI: _____ Other: _____
 Hydac: _____
 Omega: _____

Time	Temp	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
	<input checked="" type="checkbox"/> C _____ F					
1015	19.3	1.36	6.56	4	clear	clear/no odor
1017	18.4	1.32	6.42	8	"	"
1019	18.2	1.19	6.41	12	"	"
1021	18.8	1.24	6.51	16	"	"
1022	19.1	1.29	6.60	21	"	"

Project Name: Chevron - Grand

Date: 3/7/94

Site Address: 210 Grand Ave., Oakland

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Project Number: 020104096.0610

Project Manager: Tim Watchers

Well ID: MW-421

DTW Measurements:

Well Diameter: 4"

Initial: 6.83 Calc Well Volume: 4 gal
Recharge: _____ Well Volume: 12 gal

Purge Method Submersible ✓ Pump Depth _____ ft.
Peristaltic _____ Hand Bailed _____
Gear Drive _____ Air Lift _____
Other _____

Instruments Used
YSI: ✓ Other: _____
Hydac: _____
Omega: _____

Time	Temp C F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
1039	23.7	1.29	6.45	2	clear	slight clear color
1041	19.7	1.20	6.28	4	"	"
1043	19.3	1.15	6.26	6	"	"
1045	19.0	1.12	6.21	8	"	"
1047	19.2	1.06	6.20	12	"	"

Project Name: Chevron - Grand

Date: 3/7/94

Site Address: 210 Grand Ave., Oakland

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Project Number: 020104096.0610

Project Manager: Tim Watchers

Well ID: MW-4

DTW Measurements:

Well Diameter: 4"

Initial: 2.15

Calc Well Volume: 7 gal

Recharge: _____

Well Volume: 21 gal

Purge Method _____ Pump Depth _____ ft.
 Peristaltic _____ Hand Bailed _____
 Gear Drive _____ Air Lift _____
 Submersible Other _____

Instruments Used
 YSI: _____ Other: _____
 Hydac: _____
 Omega: _____

Time	Temp <input checked="" type="checkbox"/> C _____ F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
1102	17.9	1.01	6.53	5	clear	clear / very slight odor
1103	17.4	.99	6.49	12	"	"
1104	17.3	.99	6.48	15	"	"
1105	18.0	1.00	6.51	18	"	"
1106	18.0	1.02	6.53	21	"	"

Project Name: Chevron - Grand

Date: _____

Site Address: 210 Grand Ave., Oakland

Page 8 of 8

Project Number: 020104096.0610

Project Manager: Tim Watchers

Well ID: MW-5

DTW Measurements:

Well Diameter: 4"

Initial: 3.05

Calc Well Volume: 7.34 gal

Recharge: _____

Well Volume: 22 gal

Purge Method _____ Pump Depth _____ ft.
 Peristaltic _____ Hand Bailed _____
 Gear Drive Air Lift _____
 Submersible _____ Other _____

Instruments Used
 YSI: _____ Other: _____
 Hydac: _____
 Omega: _____

Time	Temp F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
1115	19.2	1.19	6.91	5	clear	clear/odor
1117	18.2	1.15	6.80	10	"	"
1119	17.8	1.14	6.76	15	"	"
1121	17.8	1.07	6.75	20	"	"
1123	17.8	1.03	6.71	22	"	"

ATTACHMENT 4

Laboratory Report



Client Number: 020104096
Consultant Project Number: 020104096.0610
Facility Number: 9-0019
Project ID: 210 Grand Ave.
Work Order Number: C4-03-0162

Northwest Region

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

March 16, 1994

Tim Watchers

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 03/08/94.

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.

A handwritten signature in cursive script, appearing to read 'Rashmi Shah', is written over a horizontal line.

Rashmi Shah
Laboratory Director

ANALYTICAL RESULTS
Aromatic Volatile Organics and
Total Petroleum Hydrocarbons as Gasoline in Water
EPA Methods 5030, 8020, and Modified 8015a

GTEL Sample Number		01	02	03	04
Client Identification		MW-7	MW-9	MW-3	MW-8
Date Sampled		03/07/94	03/07/94	03/07/94	03/07/94
Date Analyzed		03/10/94	03/10/94	03/11/94	03/11/94
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	<0.5	<0.5	1	<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
TPH as Gasoline	50	<50	<50	<50	<50
Detection Limit Multiplier		1	1	1	1
BFB surrogate, % recovery		99.5	95.7	97.6	94.3

- 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 Board LUFT Manual procedures. Bromofluorobenzene surrogate recovery acceptability limits are 70-130%.

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	06	07	08
Client Identification		MW-1	MW-6	MW-4	MW-5
Date Sampled		03/07/94	03/07/94	03/07/94	03/07/94
Date Analyzed		03/10/94	03/11/94	03/11/94	03/11/94
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	<0.5	<0.5	3	2100
Toluene	0.5	<0.5	<0.5	3	380
Ethylbenzene	0.5	<0.5	<0.5	8	120
Xylene, total	0.5	1	0.8	12	290
TPH as Gasoline	50	<50	<50	550	9600
Detection Limit Multiplier		1	1	1	10
BFB surrogate, % recovery		83.3	94.2	102	86.1

- 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 Board LUFT Manual procedures. Bromofluorobenzene surrogate recovery acceptability limits are 70-130%.

ANALYTICAL RESULTS
Aromatic Volatile Organics and
Total Petroleum Hydrocarbons as Gasoline in Water
EPA Methods 5030, 8020, and Modified 8015a

GTEL Sample Number		09	G031094		
Client Identification		TB	METHOD BLANK		
Date Sampled		03/07/94	-		
Date Analyzed		03/10/94	03/10/94		
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	<0.5	<0.5		
Toluene	0.5	<0.5	<0.5		
Ethylbenzene	0.5	<0.5	<0.5		
Xylene, total	0.5	<0.5	<0.5		
TPH as Gasoline	50	<50	<50		
Detection Limit Multiplier		1	1		
BFB surrogate, % recovery		98.2	101		

- 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 Board LUFT Manual procedures. Bromofluorobenzene surrogate recovery acceptability limits are 70-130%.

ANALYTICAL RESULTS
Purgeable Halocarbons in Water
EPA Method 8010^a

GTEL Sample Number		03	08 ^b	PO30994
Client Identification		MW-3	MW-5	METHOD BLANK
Date Sampled		03/07/94	03/07/94	-
Date Analyzed		03/09/94	03/11/94	03/09/94
Analyte	Detection Limit, ug/L	Concentration, ug/L		
Chloromethane	0.5	<0.5	<12.5	<0.5
Bromomethane	0.5	<0.5	<12.5	<0.5
Vinyl chloride	1	<1	<25	<1
Chloroethane	0.5	<0.5	<12.5	<0.5
Methylene chloride	0.5	<0.5	<12.5	<0.5
1,1-Dichloroethene	0.5	<0.5	<12.5	<0.5
1,1-Dichloroethane	0.5	<0.5	<12.5	<0.5
1,2-Dichloroethene	0.5	<0.5	<12.5	<0.5
Chloroform	0.5	<0.5	<12.5	<0.5
1,2-Dichloroethane	0.5	<0.5	<12.5	<0.5
1,1,1-Trichloroethane	0.5	<0.5	<12.5	<0.5
Carbon tetrachloride	0.5	<0.5	<12.5	<0.5
Bromodichloromethane	0.5	<0.5	<12.5	<0.5
1,2-Dichloropropane	0.5	<0.5	<12.5	<0.5
cis-1,3-Dichloropropene	0.5	<0.5	<12.5	<0.5
Trichloroethene	0.5	<0.5	<12.5	<0.5
Dichlorodifluoromethane	0.5	<0.5	<12.5	<0.5
Dibromochloromethane	0.5	<0.5	<12.5	<0.5
1,1,2-Trichloroethane	0.5	<0.5	<12.5	<0.5
trans-1,3-Dichloropropene	0.5	<0.5	<12.5	<0.5
2-Chloroethylvinyl ether	1	<1	<25	<1
Bromoform	0.5	<0.5	<12.5	<0.5
Tetrachloroethene	0.5	<0.5	<12.5	<0.5
1,1,2,2-Tetrachloroethane	0.5	<0.5	<12.5	<0.5
Chlorobenzene	0.5	<0.5	<12.5	<0.5
1,2-Dichlorobenzene	0.5	<0.5	<12.5	<0.5
1,3-Dichlorobenzene	0.5	<0.5	<12.5	<0.5
1,4-Dichlorobenzene	0.5	<0.5	<12.5	<0.5
Trichlorofluoromethane	0.5	<0.5	<12.5	<0.5
Detection Limit Multiplier		1	25	1
BFB surrogate, % recovery		78.7	72.0	75.2

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Bromofluorobenzene surrogate recovery acceptability limits are 65-135%.
- b. Detection limit raised due to high levels of hydrocarbons.

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	MS03013502	20.0	ug/L	104	91.0	12.9	57.3 - 138
Toluene	MS03013502	20.0	ug/L	102	89.0	13.1	63.0 - 134
Ethylbenzene	MS03013502	20.0	ug/L	100	86.5	14.5	59.3 - 137
Xylene, total	MS03013502	60.0	ug/L	100	86.8	14.1	59.3 - 144
EPA 8010/8020:							
Chlorobenzene	C403016203	20.0	ug/L	101	94.5	6.6	63.5 - 129
Benzene	C403016203	20.0	ug/L	105	106	0.9	57.3 - 138
Toluene	C403016203	20.0	ug/L	107	107	0	63 - 134
Ethylbenzene	C403016203	20.0	ug/L	108	107	0.9	59.3 - 137
Xylene, total	C403016203	60.0	ug/L	107	107	0	59.3 - 144
1,1-Dichloroethene	C403016203	20.0	ug/L	93.5	90.0	3.8	44.6 - 150
Trichloroethene	C403016203	20.0	ug/L	103	111	7.5	61.5 - 133

Copy of Lab Report and COC to Chevron Contact: Yes No

Chain-of-Custody-Record

Chevron Facility Number 9-0019 ✓
 Facility Address 210 Grand Ave
 Consultant Project Number 020104096-0610 ✓
 Consultant Name Groundwater Technology, Inc.
 Address 4057 Port Chicago Hwy, Concord, CA 94520
 Project Contact (Name) Tim Watchers ✓
 (Phone) 510-671-2387 (Fax Number) _____

Chevron Contact (Name) Mark Miller
 (Phone) 510/842-8134
 Laboratory Name GTEL
 Laboratory Release Number 876-6990
 Samples Collected by (Name) Tracy Long
 Collection Date 3/7/94
 Signature [Signature]

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type C = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed														
								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)							
MW-7	01 ✓	3	W	G	1200	HCL	Y	X														
MW-9	02 ✓	3			1210			X														
MW-3	03 ✓	6			1220			X														
MW 8	04 ✓	3			1230			X			X											
MW-1	05 ✓	3			1240			X														
MW-6	06 ✓	3			1250			X														
MW-4	07 ✓	3			1300			X														
MW-5	08 ✓	6	✓	✓	1310	✓	✓	X														
TB	09	1			1150			X				X										

NOTE:
 Do NOT BILL
 TB-LB SAMPLES
 4° seals
 intact
 Remarks

Unleashed By (Signature) <u>[Signature]</u>	Organization <u>GTI</u>	Date/Time _____	Received By (Signature) <u>[Signature]</u>	Organization <u>GTI</u>	Date/Time <u>3-8-94</u>
Unleashed By (Signature) <u>[Signature]</u>	Organization <u>GTL</u>	Date/Time <u>15:00</u>	Received By (Signature) <u>[Signature]</u>	Organization <u>GTEL</u>	Date/Time <u>1500</u>
Unleashed By (Signature) <u>[Signature]</u>	Organization <u>GTEL</u>	Date/Time <u>8:30</u>	Received For Laboratory By (Signature) <u>[Signature]</u>		Date/Time <u>3-8-94</u>
					Date/Time <u>3/8/94 18:00</u>

Turn Around Time (Circle Choice)

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

F-2
 C4030/62

\$376 Continental

4h. pm SFO
6-7 10:30pm

to Sun 10pm