Chevron

Chevron

HAZMAT

94 SEP -2 PM 2:37

August 31, 1994

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

Marketing – Northwest Region
Phone 510 842 9500

Ms. Jennifer Eberle
Alameda County Health Care Services
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

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 August 4, 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 in MW-3 and trace concentrations were detected in MW-5.

Depth to ground water was measured at approximately 4.1 to 7.0 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. Based on historical sampling data, it appears that natural attenuation mechanisms are providing hydraulic containment of the hydrocarbon plume. We will instruct our consultant to perform a comprehensive site review and prepare recommendations regarding further actions for this site. It is anticipated that we will establish a Non Attainment Area for ground water at this site. We expect to forward this report to you by the end of 1994.

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. Kevin Graves, 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 QM8

GROUNDWATER TECHNOLOGY, INC.

4057 Port Chicago Highway, Concord, CA 94520 (415) 671-2387
FAX: (415) 685-9148

August 4, 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

why 2 sep. days?

Dear Mr. Miller:

Groundwater Technology, Inc. presents the quarterly groundwater monitoring and sampling data collected on June 16 and July 8, 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. Groundwater monitoring and sample collection protocol and 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 RW-5 were analyzed for purgeable halocarbons. Results of the chemical analyses are summarized in attachment 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

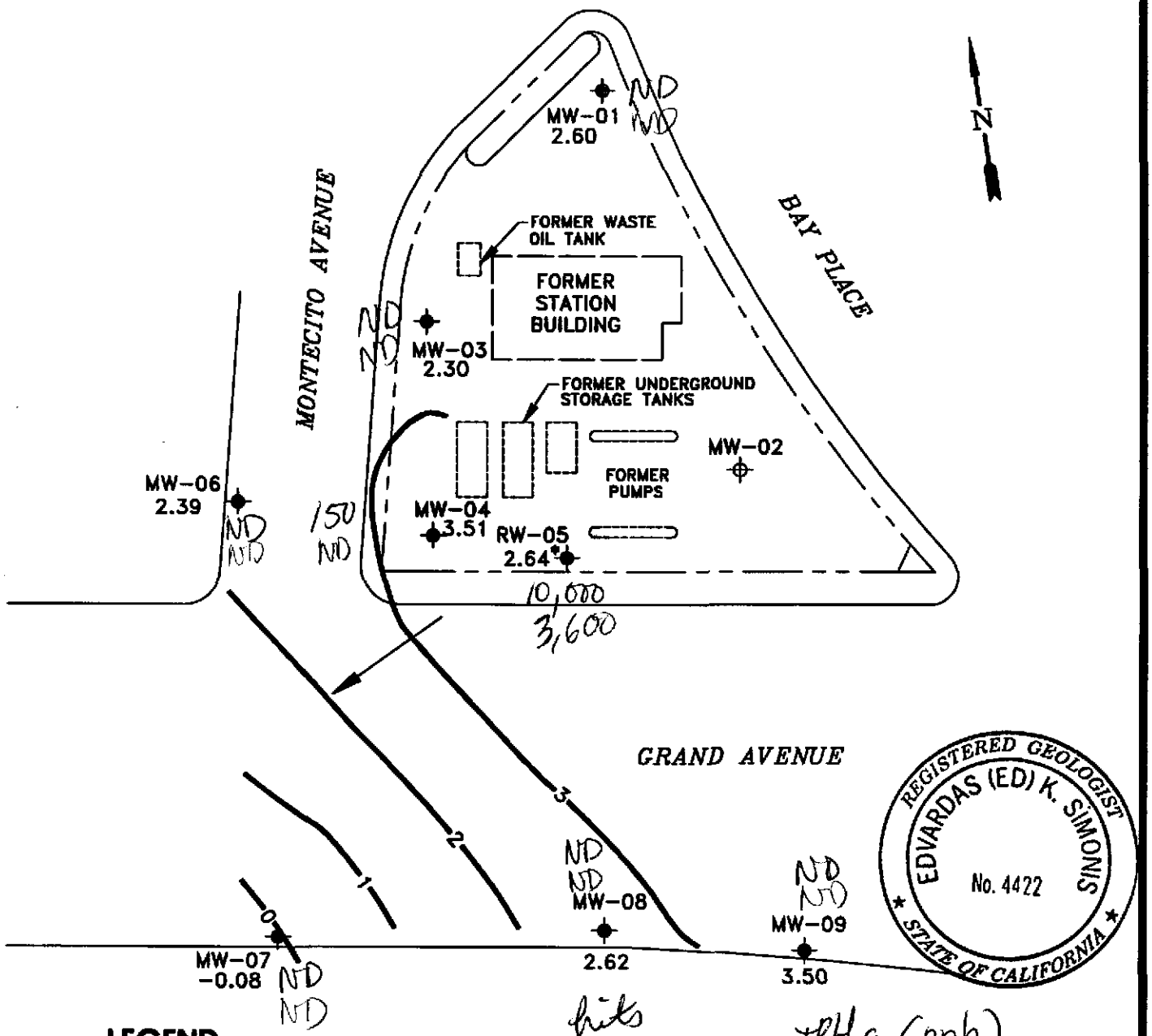
Kenneth P. Johnson
Project Manager

PR

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

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

4096qmsr.294



REGISTERED GEOLOGIST
EDVARDAS (ED) K. SIMONIS
No. 4422
STATE OF CALIFORNIA

LEGEND

- PROPERTY LINE
- MONITORING WELL
- ABANDONED MONITORING WELL
- X.XX — POTENTIOMETRIC SURFACE ELEVATION (FT)
- ANOMALOUS DATA; NOT USED IN CONTOURING
- POTENTIOMETRIC SURFACE CONTOUR
- GROUNDWATER FLOW DIRECTION

NOTE:

1. CONTOURS REPRESENT APPROXIMATE ELEVATIONS RELATIVE TO MEAN SEA LEVEL.

GROUNDWATER TECHNOLOGY

0 FEET 40
SCALE

POTENTIOMETRIC SURFACE MAP (6/23/94)

CLIENT: CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION No. 9-0019	FILE: 4096PSM, (1:40)	PROJECT NO.: 02010-4096	PM: KJ	PE/RG: EKS
LOCATION: 210 GRAND AVENUE OAKLAND, CALIFORNIA	REV.			FIGURE: 1
	DES.: SS	DET.: SS	DATE: 6/23/94	

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	03/14/89	6.74	0.00	2.89
9.63	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
	06/16/94	7.03	0.00	2.60
MW-2	03/14/89	6.08	0.00	2.91
8.99	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
9.01	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)		

GROUNDWATER TECHNOLOGY, INC.

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	03/14/89	6.02	0.00	2.16
8.19	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
8.19	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
	06/16/94	5.89	0.00	2.30
MW-4	03/14/89	5.52	0.00	2.08
7.60	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
7.59	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
	06/16/94	4.08	0.00	3.51

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)
RW-5	03/14/89	6.98	0.00	1.37
8.35	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
	06/16/94	5.71	0.00	2.64
	07/08/94	5.92	0.00	2.43
MW-6	07/06/90	9.09	0.00	-2.53
6.56	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
	06/16/94	4.17	0.00	2.39

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-7	07/06/90	5.85	0.00	-0.86
4.99	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
	06/16/94	5.07	0.00	-0.08
MW-8	07/06/90	3.98	0.00	2.79
6.77	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
	06/16/94	4.15	0.00	2.62

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-9	07/06/90	4.61	0.00	3.02
7.63	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
	06/16/94	4.13	0.00	3.50

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-form	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	1	---	---	---	---	---
	06/16/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
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[f]	---	---	---	---	---	---	---	---	---	---

GROUNDWATER TECHNOLOGY, INC.

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-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
	06/16/94	<50	<0.5	<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	---	---	---	---	---
	06/16/94	150	<0.5	0.6	1.5	0.7	---	---	---	---	---

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
RW-5	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
(D)	06/09/89	12,000	5,100	300	240	700	---	<200	<50	<20	<50
	09/14/89	15,000	>730	>320[b]	>290[b]	440	---	<10	<2	<20	<2
(D)	09/14/89	15,000	3,300	450	490	730	---	<100	<20	100	<20
(T)	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
	06/16/94	---	---	---	---	---	---	---	---	---	---
	07/08/94	10,000	3,600	360	210	460	---	<0.5	<0.5	---	<0.5[n]

GROUNDWATER TECHNOLOGY ®

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-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	---	---	---	---	---
	06/07/93	85	<0.5	<0.5	2	1	---	---	---	---	---
	09/10/93	<50	<0.5	<0.5	1	<0.5	---	---	---	---	---
	03/07/94	<50	<0.5	<0.5	<0.5	0.8	---	---	---	---	---
	06/16/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
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	---	---	---	---	---
	06/16/94	<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	Chloro-form	1,2-DCA	F113	TCA
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	---	---	---	---	---
	06/16/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
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	---	---	---	---	---
	06/16/94	<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	Chloro-form	1,2-DCA	F113	TCA
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	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	---	---	---	---	---
	06/16/94	<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	Chloro-form	1,2-DCA	F113	TCA
Bailer Blank	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,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.
n = 1,2 Dichloroethene was detected at 2 ppb.

GROUNDWATER TECHNOLOGY GROUNDWATER MONITORING AND SAMPLE COLLECTION PROTOCOL

Groundwater Monitoring

Groundwater monitoring is accomplished using a INTERFACE PROBE™ Well Monitoring System. The INTERFACE PROBE™ Well Monitoring System is a hand held, battery operated device for measuring the depth to separate-phase hydrocarbons and depth to water. The INTERFACE PROBE™ Well Monitoring System consists of a dual-sensing probe which utilizes an optical liquid sensor and electrical conductivity to distinguish between water and petroleum products.

Monitoring is accomplished by measuring from the surveyed top of well casing or grade to groundwater and separate-phase hydrocarbons if present. The static water elevation is then calculated for each well and a potentiometric surface map is constructed. If separate-phase hydrocarbons are detected the water elevation is adjusted by the following calculation:

(Product thickness) x (0.8) + (Water elevation) = Corrected water elevation

Groundwater monitoring wells are monitored in order of wells with lowest concentrations of volatile organic compounds to wells with the highest concentrations, based upon historical concentrations. If separate-phase hydrocarbons are encountered in a well, the product is visually inspected to confirm and note color, amount, and viscosity. Monitoring equipment is washed with laboratory grade detergent and rinsed with distilled or deionized water before monitoring each well.

Groundwater Sampling

Before groundwater samples are collected, sufficient water is purged from each well to ensure representative formation water is entering the well. Wells are purged and sampled in the same order as monitoring, from wells with the lowest concentrations of volatile organic compounds to wells with the highest concentrations. Wells are purged using either a polyvinyl chloride (PVC) bailer fitted with a check valve or with a stainless steel submersible Grundfos pump. The purge equipment is decontaminated before use in each well by washing with laboratory grade detergent and tripled rinsing with deionized or distilled water. A minimum of 3 well-casing volumes of water are removed from each well while pH, electrical conductivity, and temperature are recorded to verify that "fresh" formation water is being sampled and the parameters have stabilized. If the well is low yielding, it may be purged dry and sampled before 3 casing volumes are purged. The wells are then allowed to recharge to approximately 80 percent of the initial water level before a sample is collected.

Groundwater samples are collected from each well using a new, prepackaged disposable bailer and string. The water sample is decanted from the bailer into laboratory-provided containers (appropriate for the analyses required) so that there is no headspace in the containers. Samples collected for benzene, toluene, ethylbenzene, xylene, and total petroleum hydrocarbons (TPH)-as-gasoline analyses are collected in 40-milliliter vials fitted with Teflon® septum lids. Samples are preserved with hydrochloric acid (HCL) to a pH of less than 2. Dissolved metals samples are filtered through a 0.45-micron paper filter in the field and preserved as required before submitting to the laboratory for analyses. All samples are labeled immediately upon collection and logged on the chain-of-custody record. Sample label and chain-of-custody recorded information includes the project name and number, sample identification, date and time of collection, analyses requested, and the sampler's name. Sample bottles are placed in plastic bags (to protect the bottles and labels) and on ice (frozen water) in an insulated cooler and are shipped under chain-of-custody protocol to the laboratory.

The chain-of-custody record documents who has possession of the samples until the analyses is performed. Other pertinent information is also noted for the laboratory use on the chain-of-custody record.

Trip blanks (TBLBs) are used for each project as a quality assurance/quality control measure. The TBLBs are prepared by the laboratory and are placed in the insulated cooler and accompany the field samples throughout the sampling event.

Project Name: Chevron - ~~West Jackson~~ GRAND
210 GRAND AVE, OAKLAND
Site Address: ~~895 West Jackson, Hayward~~

Date: 7/8/94

Page _____ of _____

Project Number: 020104110.0610

Project Manager: Ken Johnson

Well ID: RW-5

Well Diameter: 4

DTW Measurements: DTB = 14.30
Initial: 5.92 Calc Well Volume: 16.59 gal
Recharge: _____ Well Volume: _____ gal

Purge Method
Peristaltic _____
Gear Drive _____
Submersible _____

Pump Depth _____ ft.
Hand Bailed X
Air Lift _____
Other _____

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

Time	Temp (C) F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
13:00	23.1	1.23	6.79	4	CLEAR	STRONG PRODUCT ODOR
13:04	21.4	1.25	6.82	8	CLEAR	
13:06	21.6	1.24	6.80	12	CLEAR	
13:08	21.2	1.26	6.80	17	HAZY	

SAMPLED AT 13:20

Project Name: Chevron - Grand

Date: 6-16-94

Site Address: 210 Grand Ave., Oakland

Page 1 of 8

Project Number: 020204084.0610

Project Manager: Tim Watchers

Well ID: MW-7

Well Diameter: 2

DTW Measurements:
Initial: _____ Calc Well Volume: 3 gal
Recharge: _____ Well Volume: _____ gal

CALIBRATED YSI TO 4+7 BUFFER SOLUTION ON 4/16/94 @ 8:00AM

Purge Method
Peristaltic _____
Gear Drive _____
Submersible _____

Pump Depth _____ ft.
Hand Bailed X
Air Lift _____
Other _____

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

Time	Temp X C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
8:01	18.3	8.84	6.61	0		Clear, No odor
8:02	18.2	4.20	6.96	1		↓
8:03	17.8	5.56	7.10	2		↓
8:04	17.8	6.24	7.17	3		↓

Project Name: Chevron - Grand

Site Address: 210 Grand Ave., Oakland

Project Number: 020204084.0610

Date: 6/16/94

Page 2 of 8

Project Manager: Tim Watchers

Well ID: MW-9

Well Diameter: 2

DTW Measurements:
Initial: _____ Calc Well Volume: _____ gal
Recharge: _____ Well Volume: 2 gal

Purge Method
Peristaltic _____
Gear Drive _____
Submersible _____

Pump Depth _____ ft.
Hand Bailed X
Air Lift _____
Other _____

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

Time	Temp X C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
8:19	19.6	0.92	6.71	0		cloudy, no odor
8:20	19.3	0.91	6.65	1		↓
8:21	19.1	0.88	6.67	2		↓

Project Name: Chevron - Grand

Site Address: 210 Grand Ave., Oakland

Project Number: 020204084.0610

Date: 6/16/94

Page 3 of 8

Project Manager: Tim Watchers

Well ID: MW-3

Well Diameter: 4"

DTW Measurements:
Initial: _____ Calc Well Volume: _____ gal
Recharge: _____ Well Volume: ~~20~~ gal

Purge Method
Peristaltic _____
Gear Drive _____
Submersible X

Pump Depth _____ ft.
~~Hand Bailed~~ X
Air Lift _____
Other _____

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

Time	Temp ~~X~~ C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
9:10	19.2	1,40	6.60	2		Cloudy, no odor
9:12	20.5	1,41	6.51	4		
9:16	20.3	1,35	6.59	~~8~~		
9:18	20.3	1,40	6.62	~~12~~ 13		
9:22	20.2	1,41	6.63	18		Dry at 18 gal
				20		

Project Name: Chevron - Grand

Site Address: 210 Grand Ave., Oakland

Project Number: 020204084.0610

Date: 6/16/94

Page 4 of 8

Project Manager: Tim Watchers

Well ID: MW-8

Well Diameter: 2

DTW Measurements:
Initial: _____ Calc Well Volume: _____ gal
Recharge: _____ Well Volume: 2 gal

Purge Method
Peristaltic _____
Gear Drive _____
Submersible _____

Pump Depth _____ ft.
Hand Bailed X
Air Lift _____
Other _____

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

Time	Temp X C F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
8:10	21.0	1.43	6.96	0		Clear, no odor
8:11	20.0	1.34	6.97	1		cloudy, no odor
8:12	19.8	~~0.89~~	7.03	2		Dry at 2 gallons.

Project Name: Chevron - Grand

Site Address: 210 Grand Ave., Oakland

Project Number: 020204084.0610

Date: 6/16/94

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Project Manager: Tim Watchers

Well ID: MW-1

Well Diameter: 4

DTW Measurements:
Initial: _____ Calc Well Volume: _____ gal
Recharge: _____ Well Volume: 10 gal

Purge Method
Peristaltic _____
Gear Drive _____
Submersible _____

Pump Depth _____ ft.
Hand Bailed X
Air Lift _____
Other _____

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

Time	Temp X C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
8:48	18.0	1,35	6,34	0		cloudy, Noodor.
8:49	17.7	1.33	6,25	2		↓
8:50	17,3	1,35	6,27	4		
8:51	17,2	1,36	6,29	6		
8:52	17.3	1,34	6.31	8		
8:53	17.1	1.30	6 30	10		↓

Project Name: Chevron - Grand

Site Address: 210 Grand Ave., Oakland

Project Number: 020204084.0610

Date: 6/16/94

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Project Manager: Tim Watchers

Well ID: MW-6

Well Diameter: 2

DTW Measurements:
Initial: _____ Calc Well Volume: _____ gal
Recharge: _____ Well Volume: 3 gal

Purge Method
Peristaltic _____
Gear Drive _____
Submersible _____

Pump Depth _____ ft.
Hand Bailed X
Air Lift _____
Other _____

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

Time	Temp X C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
8:39	22.5	1,70	6.48	0		cloudy, No odor
8:40	21.2	2.16	6.64	1		↓
8:41	21.7	2.30	6.71	2		↓
8:42	21.7	2.30	6.71	3		↓

Project Name: Chevron - Grand

Site Address: 210 Grand Ave., Oakland

Project Number: 020204084.0610

Date: 6/16/94

Page 8 of 8

Project Manager: Tim Watchers

Well ID: MW-5

Well Diameter: 4

DTW Measurements:
Initial: _____ Calc Well Volume: _____ gal
Recharge: _____ Well Volume: 17 gal

Purge Method
Peristaltic _____
Gear Drive _____
Submersible X

Pump Depth _____ ft.
Hand Bailed _____
Air Lift _____
Other _____

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

Time	Temp X C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
9:43	20.5	1,30	6.74	2		cloudy/slight
9:47	21.2	1,09	6.98	8		ODOR
9:52	21.3	1117	6.98	12		↓
9:54	20.9	1,39	6.86	14		DRY at 14 gal
				17		

Project Name: Chevron - Grand

Site Address: 210 Grand Ave., Oakland

Project Number: 020204084.0610

Date: 6/16/94

Page 2 of 3

Project Manager: Tim Watchers

Well ID: MW-4

Well Diameter: 4

DTW Measurements:
Initial: _____ Calc Well Volume: _____ gal
Recharge: _____ Well Volume: 20 gal

Purge Method
Peristaltic _____
Gear Drive _____
Submersible X

Pump Depth _____ ft.
Hand Bailed _____
Air Lift _____
Other _____

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

Time	Temp X C F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
9:28	20.3	2.04	6.66	2		
9:32	21.4	1.69	6.90	5		
9:36	20.7	2.00	6.84	10		DRY at 10 gallons
C				15		
				20		

ATTACHMENT 4

Laboratory Report

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

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

Client Number: 020104096
Consultant Project Number: 020104096
Facility Number: 9-0019
Project ID: 210 Grand Ave., Oakland
Work Order Number: C4-06-0380

June 29, 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 06/22/94.

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.

Rashmi Shah
Laboratory Director

Client Number: 020104096
Consultant Project Number: 020104096
Facility Number: 9-0019
Project ID: 210 Grand Ave., Oakland
Work Order Number: C4-06-0380

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	MW7	MW9	MW3
Date Sampled		06/16/94	06/16/94	06/16/94	06/16/94
Date Analyzed		06/25/94	06/25/94	06/25/94	06/25/94
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
TPH as Gasoline	50	<50	<50	<50	<50
Detection Limit Multiplier		1	1	1	1
BFB surrogate, % recovery		101	99.9	102	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%.

Client Number: 020104096
Consultant Project Number: 020104096
Facility Number: 9-0019
Project ID: 210 Grand Ave., Oakland
Work Order Number: C4-06-0380

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		MW8	MW1	MW6	MW4
Date Sampled		06/16/94	06/16/94	06/16/94	06/16/94
Date Analyzed		06/26/94	06/25/94	06/25/94	06/25/94
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	0.6
Ethylbenzene	0.5	<0.5	<0.5	<0.5	1.5
Xylene, total	0.5	<0.5	<0.5	<0.5	0.7
TPH as Gasoline	50	<50	<50	<50	150
Detection Limit Multiplier		1	1	1	1
BFB surrogate, % recovery		99.2	101	101	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 Board LUFT Manual procedures. Bromofluorobenzene surrogate recovery acceptability limits are 70-130%.

Client Number: 020104096
Consultant Project Number: 020104096
Facility Number: 9-0019
Project ID: 210 Grand Ave., Oakland
Work Order Number: C4-06-0380

ANALYTICAL RESULTS

Aromatic Volatile Organics and

Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015[a]

GTEL Sample Number		Q062594-4			
Client Identification		METHOD BLANK			
Date Sampled		--			
Date Analyzed		06/25/94			
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			
TPH as Gasoline	50	<50			
Detection Limit Multiplier		1			
BFB surrogate, % recovery		98.2			

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

Client Number: 020104096
Consultant Project Number: 020104096
Facility Number: 9-0019
Project ID: 210 Grand Ave., Oakland
Work Order Number: C4-06-0380

ANALYTICAL RESULTS

Purgeable Halocarbons in Water

EPA Method 8010[a]

GTEL Sample Number		04	C062394		
Client Identification		MW3	METHOD BLANK		
Date Sampled		06/16/94	–		
Date Analyzed		06/23/94	06/23/94		
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Chloromethane	0.5	<0.5	<0.5		
Bromomethane	0.5	<0.5	<0.5		
Vinyl chloride	1	<1	<1		
Chloroethane	0.5	<0.5	<0.5		
Methylene chloride	0.5	<0.5	<0.5		
1,1-Dichloroethene	0.5	<0.5	<0.5		
1,1-Dichloroethane	0.5	<0.5	<0.5		
1,2-Dichloroethene	0.5	<0.5	<0.5		
Chloroform	0.5	<0.5	<0.5		
1,2-Dichloroethane	0.5	<0.5	<0.5		
1,1,1-Trichloroethane	0.5	<0.5	<0.5		
Carbon tetrachloride	0.5	<0.5	<0.5		
Bromodichloromethane	0.5	<0.5	<0.5		
1,2-Dichloropropane	0.5	<0.5	<0.5		
cis-1,3-Dichloropropene	0.5	<0.5	<0.5		
Trichloroethene	0.5	<0.5	<0.5		
Dichlorodifluoromethane	0.5	<0.5	<0.5		
Dibromochloromethane	0.5	<0.5	<0.5		
1,1,2-Trichloroethane	0.5	<0.5	<0.5		
trans-1,3-Dichloropropene	0.5	<0.5	<0.5		
2-Chloroethylvinyl ether	1	<1	<1		
Bromoform	0.5	<0.5	<0.5		
Tetrachloroethene	0.5	<0.5	<0.5		
1,1,2,2-Tetrachloroethane	0.5	<0.5	<0.5		
Chlorobenzene	0.5	<0.5	<0.5		
1,2-Dichlorobenzene	0.5	<0.5	<0.5		
1,3-Dichlorobenzene	0.5	<0.5	<0.5		
1,4-Dichlorobenzene	0.5	<0.5	<0.5		
Trichlorofluoromethane	0.5	<0.5	<0.5		
Detection Limit Multiplier		1	1		
BFB surrogate, % recovery		89.2	87.2		

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%.

Client Number: 020104096
Consultant Project Number: 020104096
Facility Number: 9-0019
Project ID: 210 Grand Ave., Oakland
Work Order Number: C4-06-0380

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	C4060376-8	20.0	ug/L	96.6	97.1	0.5	57.3 - 138
Toluene	C4060376-8	20.0	ug/L	96.0	97.0	1	63.0 - 134
Ethylbenzene	C4060376-8	20.0	ug/L	95.7	95.7	0	59.3 - 137
Xylene, total	C4060376-8	60.0	ug/L	90.3	89.8	0.5	59.3 - 144
EPA 8010/8020:							
Chlorobenzene	C4060380-4	20.0	ug/L	107	103	3.8	63.5 - 129
Benzene	C4060380-4	20.0	ug/L	115	113	1.8	57.3 - 138
Toluene	C4060380-4	20.0	ug/L	114	110	3.6	63 - 134
Ethylbenzene	C4060380-4	20.0	ug/L	120	116	3.4	59.3 - 137
Xylene, total	C4060380-4	60.0	ug/L	120	116	3.4	59.3 - 144
1,1-Dichloroethene	C4060380-4	20.0	ug/L	104	100	3.9	44.6 - 150
Trichloroethene	C4060380-4	20.0	ug/L	114	114	0	61.5 - 133

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

Chain-of-Custody-Record

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

Chevron Facility Number: 9-0019
Facility Address: 210 GRAND AVE OAKLAND
Consultant Project Number: 0201040960610
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:
Samples Collected by (Name): HUNTER VERINO
Collection Date: 6/1/94
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	Lead (Yes or No)	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)					Remarks
TB-LB	01	2	W	G		HCl	Yes	X												
MW7	02	3			9:55			X												
MW9	03	3			10:00			X												
MW3	04	6			10:10			X			X									
MW8	05	3			10:20			X												
MW1	06	3			10:30			X												
MW6	07	3			10:40			X												
MW4	08	3			10:50			X												
MW5	09	6	↓	↓	11:00	↓	↓	X			X									

NOTE:
DO NOT BILL
TB-LB SAMPLES

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	GTL	6/1/94			
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	GTL	6-22-94 1400	John Weber	GTEL	6-22-94 14:00
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
John Weber	GTEL	6-22-94 16:00	Ronald C Jensen		6/22/94 16:00

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

C406038O

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

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

Client Number: 0204096
Facility Number: 9-0019
Project ID: 210 Grand Ave.
Work Order Number: C4-07-0159

July 18, 1994

Ken Johnson
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 07/11/94.

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.

Rashmi Shah
Laboratory Director

Client Number: 0204096
Facility Number: 9-0019
Project ID: 210 Grand Ave.
Work Order Number: C4-07-0159

ANALYTICAL RESULTS

Purgeable Halocarbons in Water

EPA Method 8010[a]

GTEL Sample Number		01	C071494		
Client Identification		RW-5	METHOD BLANK		
Date Sampled		07/08/94	–		
Date Analyzed		07/15/94	07/14/94		
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Chloromethane	0.5	<0.5	<0.5		
Bromomethane	0.5	<0.5	<0.5		
Vinyl chloride	1	<1	<1		
Chloroethane	0.5	<0.5	<0.5		
Methylene chloride	0.5	<0.5	<0.5		
1,1-Dichloroethene	0.5	<0.5	<0.5		
1,1-Dichloroethane	0.5	<0.5	<0.5		
1,2-Dichloroethene	0.5	2	<0.5		
Chloroform	0.5	<0.5	<0.5		
1,2-Dichloroethane	0.5	<0.5	<0.5		
1,1,1-Trichloroethane	0.5	<0.5	<0.5		
Carbon tetrachloride	0.5	<0.5	<0.5		
Bromodichloromethane	0.5	<0.5	<0.5		
1,2-Dichloropropane	0.5	<0.5	<0.5		
cis-1,3-Dichloropropene	0.5	<0.5	<0.5		
Trichloroethene	0.5	<0.5	<0.5		
Dichlorodifluoromethane	0.5	<0.5	<0.5		
Dibromochloromethane	0.5	<0.5	<0.5		
1,1,2-Trichloroethane	0.5	<0.5	<0.5		
trans-1,3-Dichloropropene	0.5	<0.5	<0.5		
2-Chloroethylvinyl ether	1	<1	<1		
Bromoform	0.5	<0.5	<0.5		
Tetrachloroethene	0.5	<0.5	<0.5		
1,1,2,2-Tetrachloroethane	0.5	<0.5	<0.5		
Chlorobenzene	0.5	<0.5	<0.5		
1,2-Dichlorobenzene	0.5	<0.5	<0.5		
1,3-Dichlorobenzene	0.5	<0.5	<0.5		
1,4-Dichlorobenzene	0.5	<0.5	<0.5		
Trichlorofluoromethane	0.5	<0.5	<0.5		
Detection Limit Multiplier		1	1		
BFB surrogate, % recovery		98.4	104		

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%.

GTEL Client ID: 020104096
Login Number: C4070159
Project ID (number): 020104096.0610
Project ID (name): CHEVRON/#9-0019/Oakland, CA

ANALYTICAL RESULTS

Volatile Organics
Method: EPA 8020
Matrix: Aqueous

GTEL Sample Number	C4070159-01	C4070159-02	--	--
Client ID	RW-5	TBLB	--	--
Date Sampled	07/08/94	07/08/94	--	--
Date Analyzed	07/14/94	07/14/94	--	--
Dilution Factor	25.0	1.00	--	--

Analyte	Reporting Limit	Units	Concentration:			
Benzene	0.5	ug/L	3600	< 0.5	--	--
Toluene	0.5	ug/L	360	< 0.5	--	--
Ethylbenzene	0.5	ug/L	210	< 0.5	--	--
Xylenes (total)	0.5	ug/L	460	< 0.5	--	--
TPH as GAS	50.	ug/L	10000	< 50.	--	--
BFB (Surrogate)	--	%	82.9	81.5	--	--

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8020:

"Test Methods for Evaluating Solid Waste, Physical and Chemical Methods, SW-846", Third Edition, Revision 1, US EPA November 1986. Bromofluorobenzene surrogate recovery acceptability limits are 62-129%. Gasoline range hydrocarbons (TPH) quantitated by GC/FID with purge and trap.

GTEL ENVIRONMENTAL LABORATORIES, INC

GTEL Client ID: 020104096 QUALITY CONTROL RESULTS
Login Number: C4070159 Volatile Organics
Project ID (number): 020104096.0610 Method: EPA 8020
Project ID (name): CHEVRON/#9-0019/Oakland, CA Matrix: Aqueous

Method Blank Results

QC Batch No: G071394-1
Date Analyzed: 13-JUL-94

Analyte	Method: EPA 8020 Concentration: ug/L
Benzene	< 0.30
Toluene	< 0.30
Ethylbenzene	< 0.30
Xylenes (Total)	< 0.50
TPH as Gasoline	< 10.0

Notes:

GTEL ENVIRONMENTAL LABORATORIES, INC

GTEL Client ID: 020104096 QUALITY CONTROL RESULTS
Login Number: C4070159 Volatile Organics
Project ID (number): 020104096.0610 Method: EPA 8020
Project ID (name): CHEVRON/#9-0019/Oakland, CA Matrix: Aqueous

Matrix Spike and Matrix Spike Duplicate Results

Analyte	Original Concentration	Spike Amount	Matrix Spike Concentration	Matrix Spike Recovery, %	Matrix Spike Duplicate Concentration	Matrix Spike Duplicate Recovery, %	RPD, %	Acceptability Limits RPD, %	Acceptability Limits Recovery, %
EPA 8020	GTEL Sample ID:C4070062-20		Spike ID:G071394-3		Dup. ID:G071394-4				
Units: ug/L	Analysis Date:09-JUL-94		13-JUL-94		14-JUL-94		Client ID:Batch QC		
Benzene	< 0.50	20.0	17.3	86.5	17.6	88.0	1.7	34	57.3-138%
Toluene	< 0.50	20.0	16.7	83.5	16.6	83.0	0.6	31	63-134%
Ethylbenzene	< 0.50	20.0	16.2	81.0	16.4	82.0	1.2	38	59.3-137%
Xylenes (Total)	< 0.50	60.0	46.5	77.5	45.7	76.2	1.6	31	59.3-144%

Notes:

GTEL ENVIRONMENTAL LABORATORIES, INC

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

Chain-of-Custody-Record

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

Chevron Facility Number 9-0019
Facility Address 210 GRAND AVENUE
Consultant Project Number 210 4096.C010
Consultant Name GROUNDWATER TECHNOLOGY
Address 4057 PORT CHICAGO HWY CONCORD CA
Project Contact (Name) KEN JOHNSON
(Phone) 671-2387 (Fax Number)

Chevron Contact (Name) MARK MILLER
(Phone) 510/842-8134
Laboratory Name GTEL
Laboratory Release Number 870-6990
Samples Collected by (Name) MARK STAFFER
Collection Date 7/8/94
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	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)					Remarks
RW-5	01	G	W		13:20	HCL	Y	X			X									
TBLB	02	2	W		12:00	HCL	Y	X												

NOTE:
Do Not Bill
TB-LB SAMPLE
4° Seals
Intact

C407015

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Mark Staffer	GTI	7/8/94	Clayton Thomas	GTI	7-8-94
Relinquished By (Signature)	Organization	Date/Time 0930	Received By (Signature)	Organization	Date/Time 0930
Clayton Thomas	GTL	7-11-94	Dolen Weber	GTEL	7-11-94
Relinquished By (Signature)	Organization	Date/Time 0:00	Received For Laboratory By (Signature)		Date/Time 10:00
Dolen Weber	GTEL	7-11-94	Kevin Morlande		7-11-94

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