

94 OCT 13 12:12



**Chevron**

October 13, 1994

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

**Site Assessment & Remediation Group**  
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 September 26, 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. Concentrations observed in MW-1 and MW-7 were slightly higher than last quarter. We will observe these wells closely during subsequent monitoring events to evaluate possible trends.

Ground water samples collected from monitor wells MW-3 and MW-5 were also analyzed for purgeable halocarbons (EPA Method 601). Laboratory reports indicate trace concentrations of these constituents were detected in both of these wells.

Depth to ground water was measured at approximately 4.8 to 7.1 feet below grade, and the direction of flow is to the west-southwest.

As approved 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

Page 2  
October 13, 1994  
Former SS#9-0019

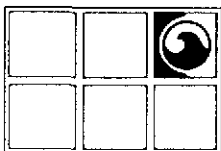
Enclosure

cc: Ms. B.C. Owen  
Mr. Eric Anderson, Weiss Associates

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 QM9



# GROUNDWATER TECHNOLOGY, INC.

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

FAX: (415) 685-9148

September 26, 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 September 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

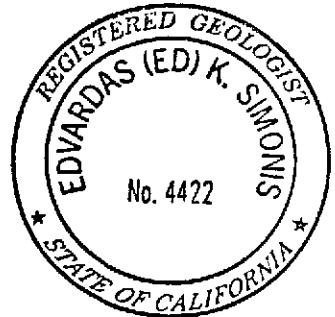
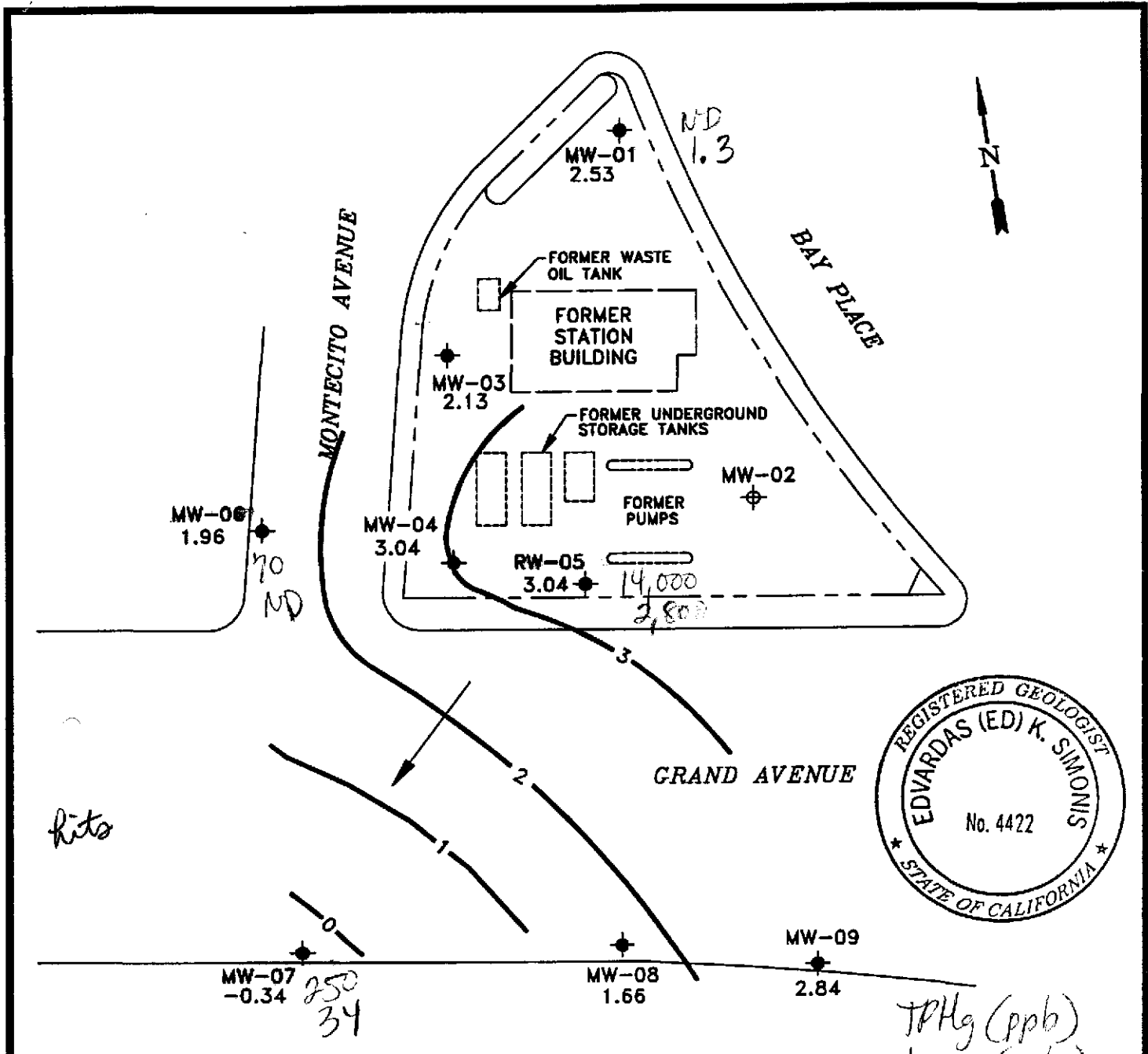
  
Kenneth P. Johnson  
Project Manager

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



*fits*

*TPHg (ppb)  
benz (ppb)*

**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 RELATIVE TO MEAN SEA LEVEL.

				<b>POTENTIOMETRIC SURFACE MAP (9/8/94)</b>				
CLIENT: <b>CHEVRON U.S.A. PRODUCTS CO.          SERVICE STATION No. 9-0019</b>			FILE: <b>4096PSM, (1:40)</b>		PROJECT NO.: <b>02010-4096</b>		PM <i>KS</i>	PE/RG, <i>EDS</i>
LOCATION: <b>210 GRAND AVENUE          OAKLAND, CALIFORNIA</b>			REV.		DATE: <b>9/12/94</b>		FIGURE: <b>1</b>	
			DES. SS	DET. SS				

**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	
06/16/94	7.03	0.00	2.60	
09/08/94	7.10	0.00	2.53	
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	
06/16/94	5.89	0.00	2.30	
09/08/94	6.06	0.00	2.13	
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	
06/16/94	4.08	0.00	3.51	
09/08/94	4.55	0.00	3.04	

**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 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
	06/16/94	5.71	0.00	2.64
	07/08/94	5.92	0.00	2.43
	09/08/94	5.31	Sheen	3.04
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
	06/16/94	4.17	0.00	2.39
	09/08/94	4.60	0.00	1.96

**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 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
	06/16/94	5.07	0.00	-0.08
09/08/94	5.33	0.00	-0.34	
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
	06/16/94	4.15	0.00	2.62
09/08/94	5.11	0.00	1.66	



**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 7.63	07/06/90	4.61	0.00	3.02
	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
	09/08/94	4.79	0.00	2.84

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	---	---	---	---	---	
09/08/94	<50	1.3	1.5	<0.5	1.7	---	---	---	---	---	
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 <sup>a</sup>	---	---	---	---	---	---	---	---	---	---
	08/23/91 <sup>a</sup>	---	---	---	---	---	---	---	---	---	---
	11/22/91 <sup>f</sup>	---	---	---	---	---	---	---	---	---	---

**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
09/08/94	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5 <sup>o</sup>	

**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	---	---	---	---	---
09/08/94	<50	<0.5	<0.5	<0.5	1.2	---	---	---	---	---	

**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 <sup>b</sup>	>290 <sup>b</sup>	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 <sup>c</sup>
	10/03/90	29,000	6,000	790	270	1,500	---	<0.5	<0.5	---	<0.5 <sup>d</sup>
	08/23/91	36,000	6,100	1,200	460	2,600	---	<0.5	3.9	---	<0.5 <sup>e</sup>
	11/22/91	21,000	8,000	1,500	530	2,600	---	<0.5	3.9	<0.5	<0.5 <sup>lm</sup>
	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 <sup>f</sup>
	09/08/94	14,000	2,800	270	170	360	---	<0.5	2.8	---	<0.5 <sup>g</sup>

*CWE* →

*stopped CW* →

**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	---	---	---	---	---
	09/08/94	<b>70</b>	<0.5	0.6	<0.5	2.3	---	---	---	---	---
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	---	---	---	---	---
	09/08/94	<b>250</b>	<b>34</b>	40	4.4	26	---	---	---	---	---

**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-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	---	---	---	---	---
09/08/94	<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	---	---	---	---	---
09/08/94	<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	---	---	---	---	---
	09/08/94	<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 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.  
 o = Tetrachloroethene detected at 1.0ppb in MW-3 and 1.2ppb in RW-5.

# 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:

$$(\text{Product thickness}) \times (0.8) + (\text{Water elevation}) = \text{Corrected water elevation}$$

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 triple 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 - Grand

Date: 9/8/94

Site Address: 210 Grand Ave., Oakland

Page 5 of 8

Project Number: 020104096.0610

Project Manager: Ken Johnson

Well ID: MW-1

DTW Measurements:

Well Diameter: 4"

Initial:        Calc Well Volume: 336 gal  
Recharge:   /   Well Volume: 3 10.0 gal

Purge Method      Pump Depth \_\_\_\_\_ ft.  
Peristaltic \_\_\_\_\_ Hand Bailed \_\_\_\_\_  
Gear Drive \_\_\_\_\_ Air Lift \_\_\_\_\_  
Submersible X \_\_\_\_\_ Other \_\_\_\_\_

Instruments Used  
YSI: \_\_\_\_\_ Other: \_\_\_\_\_  
Hydac: \_\_\_\_\_  
Omega: X \_\_\_\_\_

Time	Temp		Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
	°C	°F					
10:34	17.7	64	1.45	6.31	0		clear
10:36	17.9	64	1.55	6.31	4		"
10:38	18.1	64	2.10	6.31	5		"

DRY

Project Name: Chevron - Grand

Date: 7/8/94

Site Address: 210 Grand Ave., Oakland

Page \_\_\_\_\_ of \_\_\_\_\_

Project Number: 020104096.0610

Project Manager: Ken Johnson

Well ID: MW-6

DTW Measurements:

Well Diameter: 2"

Initial: /

Calc Well Volume: 80 gal

Recharge: /

Well Volume: 3 2.4 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
	$\times$ C F					
10:50	16.4	1.54	6.71	0		Clear
10:51	16.5	1.52	6.74	1		"
10:52	16.6	1.51	6.74	2		"
	<del>16.6</del>	<del>1.51</del>		<del>2</del>		"







**ATTACHMENT 4**

**Laboratory Report**



# 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

September 19, 1994

Ken Johnson  
Groundwater Technology, Inc.  
4057 Port Chicago Hwy  
Concord, CA 94520

---

RE: GTEL Client ID: 020104096  
Login Number: C4090113  
Project ID (number): 020104096.0610  
Project ID (name): CHEVRON/#9-0019, Oakland, CA

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Dear Ken Johnson:

Enclosed please find the analytical results for the samples received by GTEL Environmental Laboratories, Inc. on 09/09/94.

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 Department of Health Service under Certification Number E1075.

If you have any questions regarding 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

GTEL Client ID: 020104096  
 Login Number: C4090113  
 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	C4090113-01	C4090113-02	C4090113-03	C4090113-04
Client ID	MW-7	MW-9	MW-3	MW-8
Date Sampled	09/08/94	09/08/94	09/08/94	09/08/94
Date Analyzed	09/13/94	09/13/94	09/13/94	09/13/94
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting		Concentration:			
	Limit	Units				
Benzene	0.5	ug/L	34.	< 0.5	< 0.5	< 0.5
Toluene	0.5	ug/L	40.	< 0.5	< 0.5	< 0.5
Ethylbenzene	0.5	ug/L	4.4	< 0.5	< 0.5	< 0.5
Xylenes (total)	0.5	ug/L	26.	< 0.5	< 0.5	< 0.5
TPH as GAS	50.	ug/L	250	< 50.	< 50.	< 50.
BFB (Surrogate)	--	%	114.	105.	104.	104.

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%. Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual protocols, May 1988 revision.

GTEL Concord, CA  
 C4090113:1



GTEL Client ID: 020104096  
 Login Number: C4090113  
 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	C4090113-05	C4090113-06	C4090113-07	C4090113-08
Client ID	MW-1	MW-6	MW-4	MW-5
Date Sampled	09/08/94	09/08/94	09/08/94	09/08/94
Date Analyzed	09/13/94	09/12/94	09/13/94	09/13/94
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting		Concentration:			
	Limit	Units				
Benzene	0.5	ug/L	1.3	< 0.5	< 0.5	2800
Toluene	0.5	ug/L	1.5	0.6	< 0.5	270
Ethylbenzene	0.5	ug/L	< 0.5	< 0.5	< 0.5	170
Xylenes (total)	0.5	ug/L	1.7	2.3	1.2	360
TPH as GAS	50	ug/L	< 50	70	< 50	14000
BFB (Surrogate)	--	%	103	111	111	86.5

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%. Modification for TPH as gasoline as per California State Water Resources Board (UFT Manual) protocols, May 1988 revision.

GTEL Concord, CA  
 C4090113:2



GTEL Client ID: 020104096 ANALYTICAL RESULTS  
 Login Number: C4090113  
 Project ID (number): 020104096.0610  
 Project ID (name): CHEVRON/#9-0019, Oakland, CA

Volatile Organics  
 Method: EPA 8020  
 Matrix: Aqueous

GTEL Sample Number	C4090113-09	--	--	--
Client ID	TBLB	--	--	--
Date Sampled	09/08/94	--	--	--
Date Analyzed	09/12/94	--	--	--
Dilution Factor	1.00	--	--	--

Analyte	Reporting Limit	Units	Concentration:			
Benzene	0.5	ug/L	< 0.5	--	--	--
Toluene	0.5	ug/L	< 0.5	--	--	--
Ethylbenzene	0.5	ug/L	< 0.5	--	--	--
Xylenes (total)	0.5	ug/L	< 0.5	--	--	--
TPH as GAS	50.	ug/L	< 50.	--	--	--
BFB (Surrogate)	--	%	102.	--	--	--

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%. Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual protocols, May 1988 revision.

GTEL Concord, CA  
 C4090113:3



GTEL Client ID: 020104096  
Login Number: C4090113  
Project ID (number): 020104096.0610  
Project ID (name): CHEVRON/#9-0019, Oakland, CA

QUALITY CONTROL RESULTS

Volatile Organics  
Method: EPA 8020  
Matrix: Aqueous

Method Blank Results

QC Batch No: G091294-5  
Date Analyzed: 12-SEP-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.	

Notes:



GTEL Client ID: 020104096  
 Login Number: C4090113  
 Project ID (number): 020104096.0610  
 Project ID (name): CHEVRON/#9-0019, Oakland, CA

QUALITY CONTROL RESULTS

Volatile Organics  
 Method: EPA 8020  
 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, %	Recovery, %
EPA 8020	GTEL Sample ID: C4090085-09		Spike ID: G091294-1		Dup. ID: G091294-2				
Units: ug/L	Analysis Date: 12-SEP-94		13-SEP-94		13-SEP-94			Client ID: Batch QC	
Benzene	< 0.50	20.0	16.4	82.0	16.2	81.0	1.2	34	57.3-138%
Toluene	< 0.50	20.0	17.6	88.0	17.0	85.0	3.4	31	63-134%
Ethylbenzene	< 0.50	20.0	15.9	79.5	15.2	76.0	4.5	38	59.3-137%
Xylenes (Total)	< 0.50	60.0	51.2	85.3	50.0	83.3	2.3	31	59.3-144%

Notes:

GTEL Client ID: 020104096  
 Login Number: C4090113  
 Project ID (number): 020104096.0610  
 Project ID (name): CHEVRON/#9-0019, Oakland, CA

ANALYTICAL RESULTS

Volatile Organics  
 Method: EPA 8010A  
 Matrix: Aqueous

GTEL Sample Number	C4090113-03	C4090113-08		
Client ID	MW-3	RW-5		
Date Sampled	09/08/94	09/08/94		
Date Analyzed	09/16/94	09/16/94		
Dilution Factor	1.00	1.00		

Analyte	Reporting Limit	Units	Concentration:			
Dichlorodifluoromethane	0.5	ug/L	< 0.5	< 0.5	--	--
Chloromethane	0.5	ug/L	< 0.5	< 0.5	--	--
Vinyl chloride	1.0	ug/L	< 1.0	< 1.0	--	--
Bromomethane	0.5	ug/L	< 0.5	< 0.5	--	--
Chloroethane	0.5	ug/L	< 0.5	< 0.5	--	--
Trichlorofluoromethane	0.5	ug/L	< 0.5	< 0.5	--	--
1,1-Dichloroethene	0.5	ug/L	< 0.5	< 0.5	--	--
Methylene chloride	0.5	ug/L	< 0.5	< 0.5	--	--
1,2-Dichloroethene (total)	0.5	ug/L	< 0.5	< 0.5	--	--
1,1-Dichloroethane	0.5	ug/L	< 0.5	< 0.5	--	--
Chloroform	0.5	ug/L	< 0.5	< 0.5	--	--
1,1,1-Trichloroethane	0.5	ug/L	< 0.5	< 0.5	--	--
Carbon tetrachloride	0.5	ug/L	< 0.5	< 0.5	--	--
1,2-Dichloroethane	0.5	ug/L	< 0.5	2.8	--	--
Trichloroethene	0.5	ug/L	< 0.5	< 0.5	--	--
1,2-Dichloropropane	0.5	ug/L	< 0.5	< 0.5	--	--
Bromodichloromethane	0.5	ug/L	< 0.5	< 0.5	--	--
2-Chloroethyl vinyl ether	1.0	ug/L	< 1.0	< 1.0	--	--
cis-1,3-Dichloropropene	0.5	ug/L	< 0.5	< 0.5	--	--
trans-1,3-Dichloropropene	0.5	ug/L	< 0.5	< 0.5	--	--
1,1,2-Trichloroethane	0.5	ug/L	< 0.5	< 0.5	--	--
Tetrachloroethene	0.5	ug/L	1.0	1.2	--	--
Dibromochloromethane	0.5	ug/L	< 0.5	< 0.5	--	--
Chlorobenzene	0.5	ug/L	< 0.5	< 0.5	--	--
Bromoform	0.5	ug/L	< 0.5	< 0.5	--	--
1,1,2,2-Tetrachloroethane	0.5	ug/L	< 0.5	< 0.5	--	--
1,3-Dichlorobenzene	0.5	ug/L	< 0.5	< 0.5	--	--
1,4-Dichlorobenzene	0.5	ug/L	< 0.5	< 0.5	--	--
1,2-Dichlorobenzene	0.5	ug/L	< 0.5	< 0.5	--	--
BFB (surrogate)	--	%	95.0	97.7	--	--

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8010A:

"Test Methods for Evaluating Solid Waste. Physical and Chemical Methods, SW-846". Third Edition, Revision 1. US EPA July 1992. 1,2-Dichloroethene (total) is the sum of cis-and trans 1,2-Dichloroethene BFB surrogate recovery acceptability limits are 65 - 130%.

GTEL Concord, CA  
 C4090113:1



GTEL Client ID: 020104096  
Login Number: C4090113  
Project ID (number): 020104096.0610  
Project ID (name): CHEVRON/#9-0019, Oakland, CA

QUALITY CONTROL RESULTS

Volatile Organics  
Method: EPA 8010A  
Matrix: Aqueous

Method Blank Results

QC Batch No: C091394S0-1  
Date Analyzed: 13-SEP-94

Analyte	Method: EPA 8010A	Concentration: ug/L
Dichlorodifluoromethane	< 0.50	
Chloromethane	< 0.50	
Vinyl chloride	< 1.0	
Bromomethane	< 0.50	
Chloroethane	< 0.50	
Trichlorofluoromethane	< 0.50	
1,1-Dichloroethene	< 0.50	
Methylene chloride	0.986*	
1,2-Dichloroethene (total)	< 0.50	
1,1-Dichloroethane	< 0.50	
Chloroform	< 0.50	
1,1,1-Trichloroethane	< 0.50	
Carbon tetrachloride	< 0.50	
1,2-Dichloroethane	< 0.50	
Trichloroethene	< 0.50	
1,2-Dichloropropane	< 0.50	
Bromodichloromethane	< 0.50	
2-Chloroethyl vinyl ether	< 1.0	
cis-1,3-Dichloropropene	< 0.50	
trans-1,3-Dichloropropene	< 0.50	
1,1,2-Trichloroethane	< 0.50	
Tetrachloroethene	< 0.50	
Dibromochloromethane	< 0.50	
Chlorobenzene	< 0.50	
Bromoform	< 0.50	
1,1,2,2-Tetrachloroethane	< 0.50	
1,3-Dichlorobenzene	< 0.50	
1,4-Dichlorobenzene	< 0.50	
1,2-Dichlorobenzene	< 0.50	
Benzene	< 0.50	
Toluene	< 0.50	
Ethylbenzene	< 0.50	
Xylenes (Total)	0.674*	

Notes:

GTEL Client ID: TRD01TRD01  
 Login Number: C4090103  
 Project ID (number): 1609.01  
 Project ID (name): Schlage

QUALITY CONTROL RESULTS

Volatile Organics  
 Method: EPA8010/20  
 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, %	Recovery, %
EPA8010/20	GTEL Sample ID:C4090122-06		Spike ID:C091394S0-3		Dup. ID:C091394S0-4				
Units: ug/L	Analysis Date:14-SEP-94		14-SEP-94		14-SEP-94		Client ID:Batch QC		
1,1-Dichloroethene	25.	20.0	47.5	112.0	41.3	81.00	14	30	44.6-150%
Chloroform	2.0	20.0	24.5	113.	24.5	113.	0	30	61.5-133%
Trichloroethene	14000	20.0	1150	-64800*@	1150	-64800*@	0	30	61.5-133%
Chlorobenzene	1.5	20.0	10.7	46.0*	10.5	45.0*	2.2	30	63.5-129%
Benzene	1.4	20.0	19.0	87.8	19.3	89.3	1.6	30	57.3-138%
Toluene	14.	20.0	33.9	100.	34.6	104.	3.9	30	63-134%
Ethylbenzene	< 0.50	20.0	12.2	60.4	12.1	59.9	0.8	30	59.3-137%
Xylenes (Total)	< 0.50	60.0	50.6	83.9	53.9	89.4	6.3	30	59.3-144%

Notes:

@: Due to the high sample background relative to spike concentration the recovery data reported may not be truly indicative of the accuracy and/or actual matrix interferences of the procedure. RPD values are calculated from spike concentrations rather than percent recovery.

C091394S0-3: Note: High Tetrachloroethene concentration interfered with the Chlorobenzene peak.

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 020104096.0610  
Consultant Name GROUNDEWATER TECHNOLOGY  
Address 4057 PORT CHICAGO HWY CONCORD, CA  
Project Contact (Name) KEN JOHNSON  
(Phone) 671-2387 (Fax Number)

Chevron Contact (Name) MARK MILLER  
(Phone) 510-842-8139  
Laboratory Name GTEL LAB  
Laboratory Release Number 876.6990  
Samples Collected by (Name) MARK GARCIA  
Collection Date 9.8.94  
Signature Mark Garcia

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iod (Yes or No)	Analysis To Be Performed										NOTE: Do Not BILL TB-LB SAMPLE:  30  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)							
MW-7	01		W		11:35	HCl	Y	X														
MW-9	02				11:40	HCl		X														
MW-3	03				11:45	NONE/HCl		X			X											
MW-8	04				11:50	HCl		X														
MW-1	05				11:55	HCl		X														
MW-6	06				12:00	HCl		X														
MW-4	07				12:05	HCl		X														
MW-5	08				12:10	NONE/HCl		X			X											
TBLB	09				-	HCl		X														

Relinquished By (Signature) <u>Mark Garcia</u>	Organization <u>GTEL</u>	Date/Time <u>0900 9-9-94</u>	Received By (Signature) <u>John Weber</u>	Organization <u>GTEL</u>	Date/Time <u>0900 9-9-94</u>	Turn Around Time (Circle Choice) 24 hrs. 48 hrs. 5 Days 10 Days <u>As Contracted</u>
Relinquished By (Signature) <u>John Weber</u>	Organization <u>GTEL</u>	Date/Time <u>11:30 9-9-94</u>	Received By (Signature)	Organization	Date/Time	
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) <u>Ken Johnson</u>	Organization	Date/Time <u>11:30 9-9-94</u>	

C4090113