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Chevron

June 20, 1994

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

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

**Re: Chevron Service Station #9-0121
3026 Lakeshore Avenue, Oakland, CA**

Dear Ms. Eberle:

Enclosed is the Groundwater Monitoring and Sampling Report dated April 15, 1994, prepared by our consultant Groundwater Technology Inc. (GTI) for the above referenced site. As indicated in the report, ground water samples collected were analyzed for total petroleum hydrocarbons as gasoline (TPH-G), total petroleum hydrocarbons as diesel (TPH-D), and BTEX. Benzene was detected in monitor wells MW-1, MW-2, MW-3, and MW-4, at concentrations of 1100, 5700, 260, and 290 ppb, respectively. Depth to ground water was measured at 2.6 to 11.3 feet below grade and the direction of flow is to the west-southwest.

An uncategorized compound was observed in the chromatogram for the sample collected from monitor well MW-4 this quarter. During the previous quarter, an uncategorized compound was detected in the chromatograms for samples collected from MW-1 and MW-4. We instructed GTI to have samples from these two wells analyzed for EPA Method 8240 compounds including MTBE. As indicated in the enclosed report, MTBE was confirmed to be present in monitor wells MW-1 and MW-4 at concentrations of 12,000 and 22,000 ppb, respectively.

It was suspected that the presence of MTBE might indicate a recent spill or leak. The results of the most recent tank test conducted on July 6, 1993, indicate all tanks and lines are tight. On April 18, 1994, Chevron conducted an inspection at the facility to determine if any potential source areas could be identified. The inspection included investigating the areas underneath the product dispensers and areas around the sub-pumps and fill risers of the underground storage tanks. No apparent leaks were found.

During the inspection, it was noted that ~~overspill containment was not present around the fill risers of the underground storage tanks.~~ While the source of the MTBE has not been positively identified, the uncontained fill risers present a potential pathway for hydrocarbons to inadvertently enter the subsurface. ~~I have made the recommendation to our maintenance department that overspill containment be installed~~ to eliminate the potential for product overflowing into the soil and ground water from filling the tanks. I will keep you informed of the schedule for installing the overspill containment as it develops.

On June 8, 1994, a customer drove away from one of the dispensers with the filling nozzle still connected to the vehicle. The hose was pulled out of the dispenser meter and caused approximately 1-2 gallons of product to spill out onto the concrete surface. Some of this product entered the subsurface underneath the dispenser. The emergency shutoff switch was immediately

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June 20, 1994
Chevron SS#9-0121


activated and the surface spill was cleaned up by service station personnel and the Oakland Fire Department.

The Remediation Feasibility Study dated October 4, 1994³, prepared by our consultant Pacific Environmental Group, recommended implementing Alternative Points of Compliance (Non-Attainment Zones) at this site. Based on the detection of MTBE in ground water and the recent drive off incident, we feel it is inappropriate to implement alternative points of compliance at this time.

Chevron will continue to monitor and sample all wells at this site on a quarterly basis to determine what impact these recent developments have on ground water. We will continue to sample MW-1 and MW-4 for the presence of MTBE. Additionally, if abnormal chromatograms are observed in any other wells, an analysis for MTBE will be performed.

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



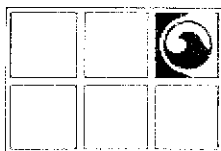
Mark A. Miller
Site Assessment and Remediation Engineer

Enclosure

cc: Mr. Kevin Graves, RWQCB - Bay Area
Mr. Steve Krcik, Pacific Environmental Group
Mr. S.A. Willer

File: 9-0121 QM7

APR 28 '94 J.M.M.



GROUNDWATER TECHNOLOGY, INC.

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

FAX: (415) 685-9148

April 15, 1994

Project No. 020104097

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

SUBJECT: *Groundwater Monitoring and Sampling Report*
Chevron Service Station No. 9-0121
3026 Lakeshore Avenue, Oakland, California

Dear Mr Miller:

Groundwater Technology, Inc. presents the quarterly groundwater monitoring and sampling data collected on March 7, 1994. The eight monitoring wells at this site were gauged to measure depth to groundwater (DTW) and to check for 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, total petroleum hydrocarbons-as-gasoline and for total petroleum hydrocarbons-as-diesel. Additional samples were collected from monitoring wells MW-1 and MW-4 and analyzed for volatile organics. Results of the chemical analyses are summarized in Table 1. The laboratory reports and chain-of-custody records are included in Attachment 4. Monitoring-well purge water was removed by Groundwater Technology and transported 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

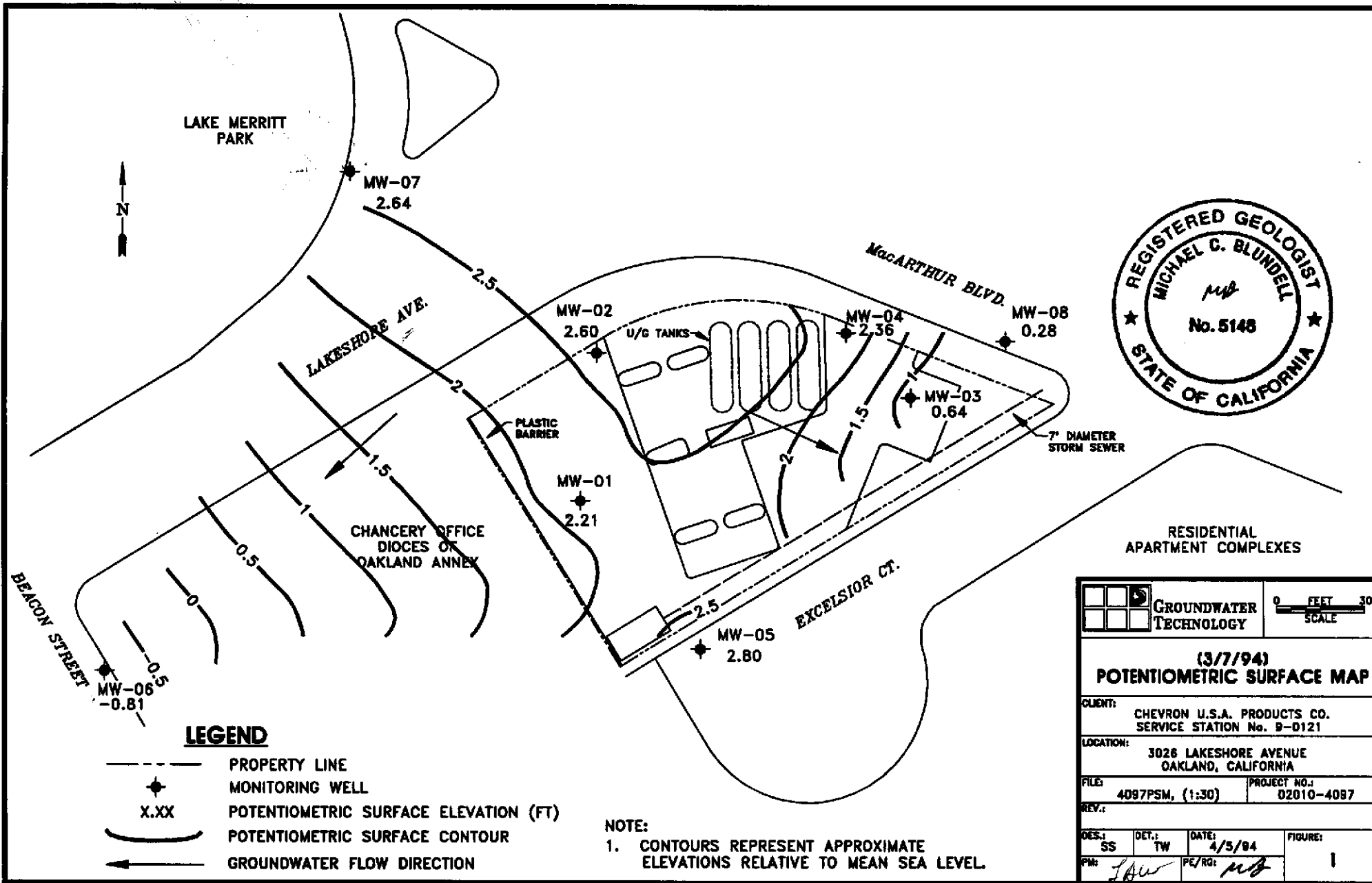
PR KJ
Attachment 1 Figure
Attachment 2 Table
Attachment 3 Field Data Sheets
Attachment 4 Laboratory Report

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

4097qmsr.194

ATTACHMENT 1

Figures



ATTACHMENT 2

Table

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0121
3026 Lakeshore Avenue, Oakland, California

Well	Casing Elevation	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylene	TPH-D	TDS	MTBE	DTW (ft)	SPT (ft)	WTE (ft)	
MW-1		08/20/91	5,100	1,700	21	220	34	260	---	---	5.20	0.00	1.62	
	6.82	09/30/91	Separate-phase hydrocarbons present						---	---	---	5.67	Sheen	1.15
		10/28/91							---	---	---	5.30	0.03	1.50
	6.89	01/08/92	5,400	770	13	95	31	---	---	---	---	5.15	Sheen	1.67
		01/13/92	---	---	---	---	---	---	*4,400	---	---	---	---	---
		06/23/92	7,700	1,500	40	230	100	*2,000	---	---	---	5.41	0.00	1.48
		08/24/92	---	---	---	---	---	---	---	---	---	5.77	0.00	1.12
		09/21/92	3,500	1,700	28	190	78	<50	---	---	---	5.89	0.00	1.00
		10/26/92	---	---	---	---	---	---	---	---	---	5.94	0.00	.95
		12/23/92	60,000	7,100	240	2,000	1,300	*5,500	---	---	---	4.71	0.00	2.18
		01/08/93	---	---	---	---	---	---	---	---	---	---	---	---
		03/25/93	***530	1,100	41	67	79	<10	---	---	---	4.72	0.00	2.17
		06/11/93	****7,000	1,900	33	120	69	---	840	9,600	---	5.07	0.00	5.37
		09/29/93	6,600	1,600	28	43	74	<10	---	---	---	5.76	0.00	1.13
	12/20/93	****6,300	1,900	36	82	65	<10	---	---	---	5.15	0.00	1.74	
	03/07/94	7,700	1,100	55	66	38	*<10	---	---	12,000	4.68	0.00	2.21	

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0121
3026 Lakeshore Avenue, Oakland, California

Well	Casing Elevation	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylene	TPH-D	TDS	MTBE	DTW (ft)	SPT (ft)	WTE (ft)		
MW-2	6.27	08/20/91	9,300	3,700	55	530	75	600	---	---	---	4.35	0.00	1.92	
		09/30/91	3,500	2,600	47	440	68	---	---	---	---	4.99	0.00	1.28	
		10/28/91	4,600	1,800	29	290	53	---	---	---	---	4.91	0.00	1.36	
		01/08/92	14,000	4,300	70	<25	130	---	---	---	---	4.64	Sheen	1.63	
		01/13/92	---	---	---	---	---	---	*38,000	---	---	---	---	---	
		06/23/92	---	---	---	---	---	---	---	---	---	4.64	0.02	1.63	
		08/24/92	Separate-phase hydrocarbons present							---	---	---	4.94	0.02	1.34
		09/21/92								---	---	---	5.08	0.01	1.20
		10/26/92	---	---	---	---	---	---	---	---	---	---	5.93	0.00	.34
		12/23/92	21,000	5,400	59	1,300	160	160,000	---	---	---	---	---	---	---
		01/08/93	---	---	---	---	---	---	---	---	---	3.70	0.00	2.57	
		03/25/93	---	---	---	---	---	---	---	---	---	3.38	Sheen	2.89	
		06/11/93	5,900	1,100	23	240	51	---	---	2,300	---	4.18	0.00	2.09	
		09/29/93	---	---	---	---	---	---	---	---	---	6.20	0.00	0.07	
		12/20/93	---	---	---	---	---	---	---	---	---	4.35	---	1.94	
		03/07/94	---	---	170	1000	150	*<10	---	---	---	3.67	0.00	2.60	
		MW-3	8.71	08/20/91	3,100	200	13	15	12	200	---	---	---	8.45	0.00
09/30/91	1,000			150	8.3	13	6.7	---	---	---	---	8.74	0.00	-0.03	
10/28/91	1,200			120	6.7	11	7.5	---	---	---	---	8.76	0.00	-0.05	
01/08/92	410			120	0.9	4.1	3.4	---	---	---	---	8.77	0.00	-0.06	
01/13/92	---			---	---	---	---	---	*220	---	---	---	---	---	
06/23/92	630			43	0.8	8.2	3.4	<50	---	---	---	8.68	0.00	0.03	
08/24/92	---			---	---	---	---	---	---	---	---	8.85	0.00	-0.14	
09/21/92	1,800			730	1.4	66	39	<50	---	---	---	8.94	0.00	-0.23	
10/26/92	---			---	---	---	---	---	---	---	---	9.07	0.00	-0.36	
12/23/92	840			270	3.4	15	4.2	*850	---	---	---	---	---	---	
01/08/93	---			---	---	---	---	---	---	---	---	7.69	0.00	1.02	
03/25/93	760			270	4	10	5	<10	---	---	---	7.74	0.00	0.97	
06/11/93	200			32	1	5	2	---	---	5,600	---	8.52	0.00	0.19	
09/29/93	9,300			2,800	60	270	62	---	---	---	---	6.05	0.00	2.66	
12/20/93	****460			250	4	8	4	<10	---	---	---	8.83	0.00	-0.12	
03/07/94	---	---	13	35	18	*<10	---	---	---	8.07	0.00	0.64			

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0121
3026 Lakeshore Avenue, Oakland, California

Well	Casing Elevation	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylene	TPH-D	TDS	MTBE	DTW (ft)	SPT (ft)	WTE (ft)
MW-4	7.37	08/20/91	1,800	870	4	3	9	160	---	---	5.05	0.00	1.32
		09/30/91	670	830	5.5	2.7	12	---	---	---	5.67	0.00	1.70
		10/28/91	2,800	990	5.8	4.8	19	---	---	---	5.81	0.00	1.56
		01/08/92	2,900	1,200	10	7	18	---	---	---	5.34	0.00	2.03
		01/13/92	---	---	---	---	---	---	*1,000	---	---	---	---
		06/23/92	1,600	380	6.5	3	12	<50	---	---	5.37	0.00	2.00
		08/24/92	---	---	---	---	---	---	---	---	5.75	0.00	1.62
		09/21/92	1,200	480	5.6	3.7	11	<50	---	---	5.95	0.00	1.42
		10/26/92	---	---	---	---	---	---	---	---	5.96	0.00	1.41
		12/23/92	1,500	700	3.6	3.2	11	*1,800	---	---	---	---	---
		01/08/93	---	---	---	---	---	---	---	---	4.64	0.00	2.73
		03/25/93	***520	160	3	1	4	<10	---	---	4.42	0.00	2.95
		06/11/93	****1,200	430	5	6	11	---	2,600	---	5.12	0.00	2.25
		09/29/93	1,300	210	8	2	14	---	---	---	5.80	0.00	1.57
		12/20/93	****570	230	5	4	8	3,900	---	---	5.10	0.00	2.27
		03/07/94	***2,000	200	18	2.5	11	2,600	---	22,000	5.01	0.00	2.36
MW-5	14.14	06/23/92	<50	<0.5	<0.5	<0.5	<0.5	<50	---	---	12.24	0.00	1.90
		08/24/92	---	---	---	---	---	---	---	---	12.29	0.00	1.85
		09/21/92	<50	<0.5	<0.5	<0.5	<0.5	*60	---	---	12.46	0.00	1.68
		10/26/92	---	---	---	---	---	---	---	---	12.52	0.00	1.62
		12/23/92	---	---	---	---	---	---	---	---	11.12	0.00	3.02
		01/08/93	---	---	---	---	---	---	---	---	---	---	---
		03/25/93	<50	<0.5	<0.5	<0.5	0.9	<10	---	---	9.74	0.00	4.40
		06/11/93	<50	<0.5	<0.5	<0.5	<0.5	---	770	---	10.44	0.00	3.70
		09/29/93	<50	<0.5	0.6	<0.5	0.6	<10	---	---	11.92	0.00	2.22
		12/20/93	---	---	---	---	---	---	---	---	---	---	---
03/07/94	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<10	---	---	11.34	0.00	2.80	

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3026 Lakeshore Avenue, Oakland, California

Well	Casing Elevation	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylene	TPH-D	TDS	MTBE	DTW (ft)	SPT (ft)	WTE (ft)		
MW-6	4.46	06/23/92	<50	4.3	<0.5	0.8	0.9	120	---	---	5.14	0.00	-0.68		
		08/24/92	---	---	---	---	---	---	---	---	4.95	0.00	-0.49		
		09/21/92	<250	<2.5	<2.5	<2.5	<2.5	<2.5	<50	---	---	4.90	0.00	-0.44	
		10/26/92	---	---	---	---	---	---	---	---	5.52	0.00	-1.06		
		12/23/92	<50	<0.5	<0.5	<0.5	<0.5	<0.5	81	---	---	5.40	0.00	-0.94	
		01/08/93	---	---	---	---	---	---	---	---	---	---	---	---	
		03/25/93	<50	<0.5	<0.5	<0.5	<0.5	0.7	<10	---	---	6.10	0.00	-1.64	
		06/11/93	<50	<0.5	<0.5	<0.5	<0.5	<0.5	---	15,000	---	6.56	0.00	-2.10	
		09/29/93	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<10	---	---	5.17	0.00	-0.71	
		12/20/93	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<10	---	---	5.93	0.00	-1.47	
		03/07/94	<50	<0.5	<0.5	<0.5	<0.5	0.6	<10	---	---	5.27	0.00	-0.81	
		MW-7	5.26	06/23/92	<50	4.7	<0.5	<0.5	<0.5	<50	---	---	4.38	0.00	0.88
				08/24/92	---	---	---	---	---	---	---	---	5.55	0.00	-0.29
09/21/92	<50			<0.5	<0.5	<0.5	<0.5	<0.5	<50	---	---	5.65	0.00	-0.39	
10/26/92	---			---	---	---	---	---	---	---	5.51	0.00	-0.25		
12/23/92	<50			2.9	<0.5	<0.5	<0.5	<0.5	60	---	---	3.95	0.00	1.31	
01/08/93	---			---	---	---	---	---	---	---	---	---	---	---	
03/25/93	<50			<0.5	<0.5	<0.5	<0.5	<0.5	<10	---	---	2.50	0.00	2.76	
06/11/93	<50			0.6	<0.5	<0.5	<0.5	<0.5	---	2,200	---	3.46	0.00	1.80	
09/29/93	<50			2	1	1	7	<10	---	---	---	5.52	0.00	-0.26	
12/20/93	<50			2	<0.5	<0.5	<0.5	<0.5	<10	---	---	4.41	0.00	0.85	
03/07/94	<50			<0.5	<0.5	<0.5	<0.5	<0.5	<10	---	---	2.62	0.00	2.64	
MW-8	8.94			06/23/92	<50	<0.5	<0.5	<0.5	<0.5	<50	---	---	24.14	0.00	-15.20
				08/24/92	---	---	---	---	---	---	---	---	8.60	0.00	0.34
		09/21/92	**94	<0.5	<0.5	<0.5	<0.5	<50	---	---	8.39	0.00	0.55		
		10/26/92	---	---	---	---	---	---	---	---	9.12	0.00	-0.18		
		12/23/92	<50	0.7	5.0	0.7	2.9	79	---	---	8.11	0.00	0.63		
		01/08/93	---	---	---	---	---	---	---	---	---	---	---	---	
		03/25/93	---	---	---	---	---	---	---	---	---	---	---	---	
		06/11/93	<50	<0.5	<0.5	<0.5	<0.5	<0.5	---	3,500	---	8.39	0.00	0.55	
		09/29/93	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<10	---	---	8.25	0.00	0.69	
		12/20/93	<50	<0.5	0.6	<0.5	<0.5	1	<10	---	---	8.46	0.00	0.48	
		03/07/94	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<10	---	---	8.66	0.00	0.28	

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0121
3026 Lakeshore Avenue, Oakland, California

Well	Casing Elevation	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylene	TPH-D	TDS	MTBE	DTW (ft)	SPT (ft)	WTE (ft)
TBLB		08/24/92	---	---	---	---	---	---	---	---	---	---	---
		09/21/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---	---
		10/26/92	---	---	---	---	---	---	---	---	---	---	---
		12/23/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---	---
		01/08/93	---	---	---	---	---	---	---	---	---	---	---
		03/25/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---	---
		06/11/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---	---
		09/29/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---	---
		12/20/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---	---
		03/07/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---	---

- TPH-G = Total petroleum hydrocarbons-as-gasolines
 TPH-D = Total petroleum hydrocarbons-as-diesel fuel
 TDS = Total dissolved solids
 MTBE = Methyl-tert-butyl-ether
 DTW = Depth to groundwater
 SPT = Separate-phase hydrocarbon thickness
 WTE = Water-table elevation
 TB-LB = Trip blank/Lab blank
 * = Diesel fuel range concentration reported. The laboratory reported that the majority of peaks were observed in the gasoline range of the chromatogram, or that the pattern observed in the chromatogram was not typical of diesel fuel.
 ** = Gasoline range concentration reported. A nonstandard gasoline pattern was observed in the chromatogram.
 *** = Miscellaneous peak not included in gasoline total.
 **** = Uncategorized compound is not included in gasoline hydrocarbon total.
 # = Uncategorized compounds not indicative of diesel.
 --- = Not applicable, not analyzed, not measured

ATTACHMENT 3

Field Data Sheets

Project Name: Chevron - Lakeshore

Date: 3/7/94

Site Address: 3026 Lakeshore, Oakland

Page 5, 6, 7 of 8

Project Number: 020104096.0610

Project Manager: Tim Watchers

Well ID: MW-4, 3, 2

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

Well Diameter: 3/4

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

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

Time	Temp C E	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
MW-4				1500 gal	2000 ml	DRY
MW-3				1500 ml	500 ml	DRY
MW-2					500 ml	DRY

ATTACHMENT 4

Laboratory Reports



Client Number: 020104097
Consultant Project Number: 020104097
Facility Number: 9-0121
Project ID: 3026 Lakeshore Oakland
Work Order Number: C4-03-0175

Northwest Region

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

March 22, 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.

Edwin Pashki

Toy

Rashmi Shah
Laboratory Director

ANALYTICAL RESULTS
Volatile Organics in Water
EPA Method 8240^a

GTEL Sample Number		06 ^b	08 ^b	031694 MSC-1	031794 MSA-1
Client Identification		MW-4	MW-1	METHOD BLANK	METHOD BLANK
Date Sampled		03/07/94	03/07/94	-	-
Date Analyzed		03/16/94	03/16/94	03/16/94	03/17/94
Analyte	Quantitation Limit, ug/L	Concentration, ug/L			
Chloromethane	10	<100	<100	<10	<10
Bromomethane	10	<100	<100	<10	<10
Vinyl chloride	10	<100	<100	<10	<10
Chloroethane	10	<100	<100	<10	<10
Methylene chloride	5	<50	<50	<5	<5
Acetone	20	<200	<200	<20	<20
Carbon disulfide	5	<50	<50	<5	<5
1,1-Dichloroethene	5	<50	<50	<5	<5
1,1-Dichloroethane	5	<50	<50	<5	<5
1,2-Dichloroethene, total	5	<50	<50	<5	<5
Chloroform	5	<50	<50	<5	<5
1,2-Dichloroethane	5	<50	<50	<5	<5
2-Butanone	20	<200	<200	<20	<20
1,1,1-Trichloroethane	5	<50	<50	<5	<5
Carbon tetrachloride	5	<50	<50	<5	<5
Vinyl acetate	50	<500	<500	<50	<50
Bromodichloromethane	5	<50	<50	<5	<5
1,2-Dichloropropane	5	<50	<50	<5	<5
cis-1,3-Dichloropropene	5	<50	<50	<5	<5
Trichloroethene	5	<50	<50	<5	<5
Dibromochloromethane	5	<50	<50	<5	<5
1,1,2-Trichloroethane	5	<50	<50	<5	<5

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986 (method modified for additional compounds). Sample introduction by EPA Method 5030.
 b. Samples diluted due to high concentration of target compounds.

ANALYTICAL RESULTS
Volatile Organics in Water
EPA Method 8240^a

GTEL Sample Number		06 ^b	08 ^b	031694 MSC-1	031794 MSA-1
Client Identification		MW-4	MW-1	METHOD BLANK	METHOD BLANK
Date Sampled		03/07/94	03/07/94	--	--
Date Analyzed		03/16/94	03/16/94	03/16/94	03/17/94
Analyte	Quantitation Limit, ug/L	Concentration, ug/L			
Benzene	5	350	900	<5	<5
trans-1,3-Dichloropropene	5	<50	<50	<5	<5
2-Chloroethylvinyl ether	10	<100	<100	<10	<10
Bromoform	5	<50	<50	<5	<5
4-Methyl-2-pentanone	20	<200	<200	<20	<20
2-Hexanone	20	<200	<200	<20	<20
Tetrachloroethene	5	<50	<50	<5	<5
1,1,2,2-Tetrachloroethane	5	<50	<50	<5	<5
Toluene	5	<50	<50	<5	<5
Chlorobenzene	5	<50	<50	<5	<5
Ethylbenzene	5	<50	<50	<5	<5
Styrene	5	<50	<50	<5	<5
1,2-Dichlorobenzene	5	<50	<50	<5	<5
1,3-Dichlorobenzene	5	<50	<50	<5	<5
1,4-Dichlorobenzene	5	<50	<50	<5	<5
Xylene, total	5	<50	<50	<5	<5
Trichlorofluoromethane	5	<50	<50	<5	<5
Methyl-tert-butyl-ether	5	22000	12000	<5	<5
Quantitation Limit Multiplier		10	10	1	1
DCE surrogate, % recovery		105	104	98.3	97.2
TOL surrogate, % recovery		104	103	104	101
BFB surrogate, % recovery		98.8	99.5	97.1	96.3

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986 (method modified for additional compounds). Sample introduction by EPA Method 5030.
 b. Samples diluted due to high concentration of target compounds.

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015^a

GTEL Sample Number		01	02	03	04
Client Identification		TB LB	MW-8	MW-7	MW-6
Date Sampled		03/07/94	03/07/94	03/07/94	03/07/94
Date Analyzed		03/11/94	03/11/94	03/11/94	03/13/94
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	0.6
TPH as Gasoline	50	<50	<50	<50	54
Detection Limit Multiplier		1	1	1	1
BFB surrogate, % recovery		97.5	92.3	95.1	99.2

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

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 ^b	07	08
Client Identification		MW-5	MW-4	MW-3	MW-1
Date Sampled		03/07/94	03/07/94	03/07/94	03/07/94
Date Analyzed		03/12/94	03/13/94	03/12/94	03/13/94
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	<0.5	290	260	1100
Toluene	0.5	<0.5	18	13	55
Ethylbenzene	0.5	<0.5	2.5	35	66
Xylene, total	0.5	<0.5	11	18	38
TPH as Gasoline	50	<50	2200	2400	7700
Detection Limit Multiplier		1	2	2	25
BFB surrogate, % recovery		98.0	85.8	99.5	87.3

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 Control Board LUFT Manual protocols, May 1988 revision. Bromofluorobenzene surrogate recovery acceptability limits are 70-130%.

b. Uncategorized compound is not included in gasoline hydrocarbon concentration.

ANALYTICAL RESULTS

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

EPA Methods 5030, 8020, and Modified 8015^a

GTEL Sample Number		09	G031194		
Client Identification		MW-2	METHOD BLANK		
Date Sampled		03/07/94	--		
Date Analyzed		03/12/94	03/11/94		
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	5700	<0.5		
Toluene	0.5	170	<0.5		
Ethylbenzene	0.5	1000	<0.5		
Xylene, total	0.5	150	<0.5		
TPH as Gasoline	50	26000	<50		
Detection Limit Multiplier		50	1		
BFB surrogate, % recovery		94.4	104		

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

ANALYTICAL RESULTS

TPH as Diesel in Water

Method: Modified EPA 8015^a

GTEL Sample Number		02	03	04	05
Client Identification		MW-8	MW-7	MW-6	MW-5
Date Sampled		03/07/94	03/07/94	03/07/94	03/07/94
Date Extracted		03/11/94	03/11/94	03/11/94	03/11/94
Date Analyzed		03/15/94	03/15/94	03/15/94	03/15/94
Analyte	Detection Limit, ug/L	Concentration, ug/L			
TPH as diesel	10	<10	<10	<10	<10
Detection Limit Multiplier		1	1	1	1
OTP surrogate, % recovery		88.1	88.3	88.7	87.3

GTEL Sample Number		06	07 ^b	08 ^b	09 ^b
Client Identification		MW-4	MW-3	MW-1	MW-2
Date Sampled		03/07/94	03/07/94	03/07/94	03/07/94
Date Extracted		03/11/94	03/11/94	03/11/94	03/11/94
Date Analyzed		03/15/94	03/15/94	03/15/94	03/15/94
Analyte	Detection Limit, ug/L	Concentration, ug/L			
TPH as diesel	10	2600	<10	<10	<10
Detection Limit Multiplier		1	1	1	1
OTP surrogate, % recovery		134	91.8	90.2	135

- a. Test Methods for Evaluating Solid Waste, SW-846, 3rd edition, Rev. O, U.S. EPA, November, 1986. Modification for TPH as diesel as per California State Water Resources Board LUFT Manual procedures. O-Terphenyl surrogate recovery acceptability limits are 50-150%.
- b. Uncategorized compounds not indicative of diesel.

ANALYTICAL RESULTS

TPH as Diesel in Water

Method: Modified EPA 8015^a

GTEL Sample Number		GCI 031494			
Client Identification		METHOD BLANK			
Date Sampled		--			
Date Extracted		03/11/94			
Date Analyzed		03/14/94			
Analyte	Detection Limit, ug/L	Concentration, ug/L			
TPH as diesel	10	<10			
Detection Limit Multiplier		1			
OTP surrogate, % recovery		90.6			

a. Test Methods for Evaluating Solid Waste, SW-846, 3rd edition, Rev. O, U.S. EPA, November, 1986. Modification for TPH as diesel as per California State Water Resources Board LUFT Manual procedures. O-Terphenyl surrogate recovery acceptability limits are 50-150%.

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	MS03015403	20.0	ug/L	104	104	6.5	57.3 - 138
Toluene	MS03015403	20.0	ug/L	109	109	7.1	63.0 - 134
Ethylbenzene	MS03015403	20.0	ug/L	110	102	7.5	59.3 - 137
Xylene, total	MS03015403	60.0	ug/L	114	105	8.1	59.3 - 144
GC-FID:							
Diesel	DI Water	1500	ug/L	102	101	0.98	63 - 127
EPA 8240:							
1,1-Dichloroethene	C4030248-26	50.0	ug/L	76.2	68.0	11.4	61 - 145
Trichloroethene	C4030248-26	50.0	ug/L	110	95.4	14.0	71 - 120
Benezene	C4030248-26	50.0	ug/L	90.2	85.6	5.3	76 - 127
Toluene	C4030248-26	50.0	ug/L	89.0	80.0	10.6	76 - 125
Chlorobenzene	C4030248-26	50.0	ug/L	92.6	86.2	7.2	75 - 130

