ALCO
HAZMAT

94 JUN 22 PM 12:41

Chevron

June 17, 1994

STID 2047

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. Susan Hugo
Alameda County Health Care Services
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

Re: Chevron Service Station #9-1583
5509 Martin Luther King Way, Oakland, CA

Dear Ms. Hugo:

Enclosed is the quarterly Groundwater Monitoring and Sampling Activities report dated May 20, 1994, prepared by our consultant Groundwater Technology, Inc. for the above referenced site. As indicated in the report, ground water samples collected were analyzed for total petroleum hydrocarbons as gasoline (TPH-G) and BTEX. Benzene was detected in monitor wells MW-1 and MW-3 at concentrations of 37 and 250 ppb, respectively. Depth to ground water was measured at approximately 9.4 feet to 12.9 feet below grade, and the direction of flow is to the north-northeast.

Chevron will continue to monitor and sample all wells at this site on a quarterly basis. Sampling of recently installed ground water monitor wells MW-7 and MW-8 was inadvertently overlooked during this sampling round, however will be sampled during all subsequent sampling events. Following the next quarterly sampling event we will evaluate what additional assessment activities are required.

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. S.A. Willer

File: 9-1583 QM8

MAY 24 '94 J.M.M.

GROUNDWATER TECHNOLOGY, INC.

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

May 20, 1994

Project No. 020104101

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. 9-1583
5509 Martin Luther King Jr. Way, Oakland, California

Dear Mr. Miller:

Groundwater Technology, Inc. presents the quarterly groundwater monitoring and sampling data collected on April 8, 1994. Five of the six groundwater monitoring wells at the site were gauged to measure depth to groundwater (DTW) and to check for the presence of separate-phase hydrocarbons. Monitoring well MW-6 was not accessible to monitor or sample. 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 except MW-6. 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. Results of the chemical analyses are summarized in Table 1. 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 with 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

FOR
Tim Watchers
Project Manager

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

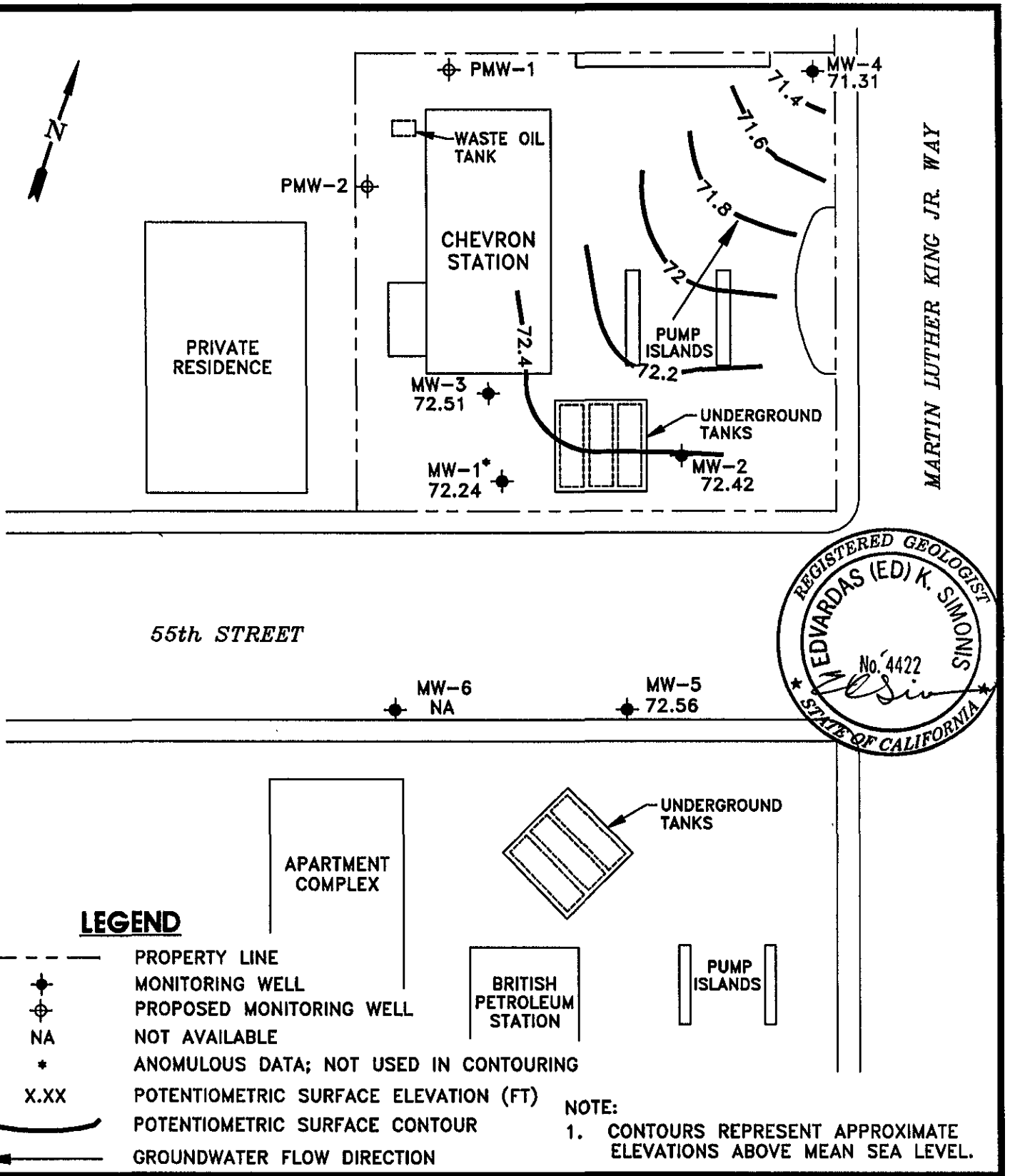
PR KJ

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

4101qmsr 294

ATTACHMENT 1

Figure



LEGEND

— — — —	PROPERTY LINE
✦	MONITORING WELL
⊕	PROPOSED MONITORING WELL
NA	NOT AVAILABLE
*	ANOMULOUS DATA; NOT USED IN CONTOURING
X.XX	POTENTIOMETRIC SURFACE ELEVATION (FT)
⌒	POTENTIOMETRIC SURFACE CONTOUR
←	GROUNDWATER FLOW DIRECTION

NOTE:
1. CONTOURS REPRESENT APPROXIMATE ELEVATIONS ABOVE MEAN SEA LEVEL.

GROUNDWATER TECHNOLOGY

0 FEET 40
SCALE

POTENTIOMETRIC SURFACE MAP (4/8/94)

CLIENT: CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION NO. 9-1583	FILE: 4101PSM, (1:40)	PROJECT NO.: 02010-4101	PM KJ	PE/RG
LOCATION: 5509 MARTIN LUTHER KING JR. WAY OAKLAND, CALIFORNIA	REV.			FIGURE: 1
	DES. TW	DET. SS	DATE: 5/16/94	

ATTACHMENT 2

Table

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-1583
5509 Martin Luther King Jr. Way, Oakland, California

Well ID/ Elev	Date	TPH-as-Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	DTW (ft)	SPT (ft)	WTE (ft)
MW-1	12/22/83	---	---	---	---	---	10.25	0.00	71.72
	12/30/83	---	---	---	---	---	9.17	0.00	72.80
*81.97/	03/12/90	50,000	3,000	7,300	1,900	18,000	10.08	0.00	71.89
82.42	03/25/90	---	---	---	---	---	10.46	0.00	71.51
	10/18/90	---	---	---	---	---	---	---	---
	10/31/90	---	---	---	---	---	---	---	---
	11/16/90	---	---	---	---	---	11.58	0.00	70.84
	02/08/91	100,000	4,200	8,400	16,000	2,600	10.11	0.00	72.31
	05/08/91	31,000	200	66	670	2,000	10.45	0.00	71.97
	08/12/91	17,000	81	7.2	270	710	11.23	0.00	71.19
	11/07/91	7,100	24	6	130	170	10.70	0.00	71.72
	02/05/92	110,000	8,900	14,000	2,700	12,000	10.37	0.00	72.05
	05/13/92	19,000	450	85	480	870	10.58	0.00	71.84
	07/17/92	8,500	170	<10	360	600	11.05	0.00	71.37
	10/05/92	22,000	4,300	5,100	570	2,900	11.41	0.00	71.01
	11/11/92	---	---	---	---	---	---	---	---
	11/17/92	---	---	---	---	---	---	---	---
	11/24/92	---	---	---	---	---	---	---	---
	12/01/92	---	---	---	---	---	---	---	---
	12/29/92	---	---	---	---	---	---	---	---
	01/05/93	---	---	---	---	---	---	---	---
	01/08/93	14,000,000	12,000	79,000	270,000	1,300,000	8.11	0.00	74.31
	02/02/93	---	---	---	---	---	---	---	---
	04/14/93	***48,000	670	1,100	1,600	6,300	9.85	0.00	72.57
	08/06/93	44,000	660	990	1,600	6,100	10.83	0.00	71.59
	10/21/93	18,000	270	460	1,300	4,700	10.90	0.00	71.52
	01/05/94	***22,000	160	160	630	2,300	10.33	0.00	72.09
	04/08/94	21,000	37	110	570	1,400	10.18	0.00	72.24

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-1583
5509 Martin Luther King Jr. Way, Oakland, California

Well ID/ Elev	Date	TPH-as-Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	DTW (ft)	SPT (ft)	WTE (ft)
MW-2	12/22/83	---	---	---	---	---	10.50	0.00	72.98
	12/30/83	---	---	---	---	---	9.92	0.00	73.56
83.48	03/12/90	800	400	22	18	55	11.02	0.00	72.46
	03/25/90	---	---	---	---	---	11.33	0.00	72.15
	10/18/90	---	---	---	---	---	12.31	0 00	71.17
	10/31/90	---	---	---	---	---	---	---	---
	11/16/90	---	---	---	---	---	---	---	---
	02/08/91	4,600	820	440	720	210	11.05	0.00	72.43
	05/08/91	<50	5	<0.5	<0.5	<0 5	11.36	0.00	72.12
	08/12/91	<50	<0.5	<0.5	<0.5	<0.5	11.97	0.00	71.51
	11/07/91	<50	<0.5	<0.5	<0.5	<0.5	11.50	0.00	71.98
	02/05/92	1,700	390	170	60	200	11.19	0.00	72.29
	05/13/92	**74	9.3	<0.5	<0.5	<0.5	11.49	0.00	71.99
	07/17/92	<50	2.0	<0.5	<0.5	<0.5	11.85	0.00	71.63
	10/05/92	3,500	1,200	530	86	220	12.00	0.00	71.48
	11/11/92	---	---	---	---	---	---	---	---
	11/17/92	---	---	---	---	---	---	---	---
	11/24/92	---	---	---	---	---	---	---	---
	12/01/92	---	---	---	---	---	---	---	---
	12/29/92	---	---	---	---	---	---	---	---
	01/05/93	---	---	---	---	---	---	---	---
	01/08/93	390	140	0.8	7 7	26	8.83	0.00	74.65
	02/02/93	---	---	---	---	---	---	---	---
	04/14/93	<50	5	<0.5	<0.5	<0.5	10.79	0.00	72.69
	08/06/93	<50	1	<0.5	<0.5	<0.5	11.71	0.00	71.77
	10/21/93	***<50	1	<0.5	9	<0.5	11.74	0.00	71.74
	01/05/94	<50	0.7	<0 5	<0.5	0.9	11.18	0.00	72 30
	04/08/94	<50	<0.5	<0.5	<0.5	<0.5	11.06	0.00	72.42

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-1583
5509 Martin Luther King Jr. Way, Oakland, California

Well ID/ Elev	Date	TPH-as-Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	DTW (ft)	SPT (ft)	WTE (ft)
MW-3	12/22/83	---	---	---	---	---	11.58	0.00	72.78
	12/30/83	---	---	---	---	---	11.17	0.00	73.19
84.36/	03/12/90	47,000	1,000	9,900	1,700	9,800	12.14	0.00	72.22
84.38	03/25/90	---	---	---	---	---	12.55	0.00	71.81
	10/18/90	---	---	---	---	---	---	---	---
	10/31/90	---	---	---	---	---	---	---	---
	11/16/90	---	---	---	---	---	13.62	0.00	70.76
	02/08/91	58,000	4,900	5,200	9,500	2,000	12.18	0.00	72.20
	05/08/91	50,000	2,100	1,400	2,000	9,400	12.52	0.00	71.86
	08/12/91	15,000	1,300	160	920	1,900	13.27	0.00	71.11
	11/07/91	26,000	1,000	310	1,900	5,900	12.81	0.00	71.57
	02/05/92	35,000	2,800	1,300	1,500	4,700	12.47	0.00	71.91
	05/13/92	47,000	1,500	1,200	1,100	4,800	12.62	0.00	71.76
	07/17/92	15,000	120	11	88	140	13.13	0.00	71.25
	10/05/92	---	---	---	---	---	13.62	0.24	70.95
	11/11/92	---	---	---	---	---	12.89	0.17	71.63
	11/17/92	---	---	---	---	---	12.89	0.06	71.54
	11/24/92	---	---	---	---	---	12.86	0.05	71.56
	12/01/92	---	---	---	---	---	12.92	0.03	71.48
	12/29/92	---	---	---	---	---	11.24	Sheen	73.14
	01/05/93	---	---	---	---	---	11 15	Sheen	73.23
	01/08/93	250,000	5,000	17,000	5,500	28,000	10.10	0.00	74.28
	02/02/93	---	---	---	---	---	---	---	---
	04/14/93	---	---	---	---	---	11.91	0.01	72.48
	08/06/93	150,000	3,800	6,600	3,700	17,000	12.90	0.01	71.48
	10/21/93	***22,000	2,300	1,700	1,400	5,100	12.97	0.00	71.41
	01/05/94	***37,000	1,600	1,100	1,300	6,500	12.42	0.00	71.96
	04/08/94	16,000	250	310	500	2,500	11.87	0.00	72.51

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-1583
5509 Martin Luther King Jr. Way, Oakland, California

Well ID/ Elev	Date	TPH-as-Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	DTW (ft)	SPT (ft)	WTE (ft)
MW-4	10/18/90	---	---	---	---	---	15.75	0.00	68.50
	10/31/90	<50	<0.5	<0.5	<0.5	1	13.90	0.00	70.35
84.25	11/16/90	---	---	---	---	---	14.25	0.00	70.00
	02/08/91	60	17	2	12	<0.5	12.32	0.00	71.93
	05/08/91	65	<0.5	<0.5	<0.5	<0.5	12.23	0.00	72.02
	08/12/91	<50	<0.5	<0.5	<0.5	<0.5	13.93	0.00	70.32
	11/07/91	<50	<0.5	<0.5	<0.5	<0.5	13.42	0.00	70.83
	02/05/92	<50	<0.5	<0.5	<0.5	<0.5	12.83	0.00	71.42
	05/13/92	<50	<0.5	<0.5	<0.5	<0.5	13.28	0.00	70.97
	07/17/92	<50	<0 5	<0.5	<0.5	<0.5	13.98	0.00	70.27
	10/05/92	<50	<0.5	<0.5	<0.5	<0.5	14.23	0.00	70.02
	11/11/92	---	---	---	---	---	---	---	---
	11/17/92	---	---	---	---	---	---	---	---
	11/24/92	---	---	---	---	---	---	---	---
	12/01/92	---	---	---	---	---	---	---	---
	12/29/92	---	---	---	---	---	---	---	---
	01/05/93	---	---	---	---	---	---	---	---
	01/08/93	<50	<0.5	<0.5	<0.5	<0.5	10.16	0.00	74.09
	02/02/93	---	---	---	---	---	---	---	---
	04/14/93	<50	<0.5	<0.5	<0.5	<0.5	12.04	0.00	72.21
	08/06/93	<50	<0.5	<0.5	<0.5	<0.5	13.91	0.00	70.34
	10/21/93	<50	<0.5	<0.5	<0.5	1	13.99	0.00	70.26
	01/05/94	<50	<0.5	<0.5	<0.5	<0.5	12.95	0.00	71.30
	04/08/94	<50	<0.5	<0 5	<0.5	<0.5	12.94	0.00	71.31

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-1583
5509 Martin Luther King Jr. Way, Oakland, California

Well ID/ Elev	Date	TPH-as-Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	DTW (ft)	SPT (ft)	WTE (ft)
MW-5	10/18/90	---	---	---	---	---	10.78	0.00	71.17
	10/31/90	110	<0.5	<0.5	<0.5	<0.5	10.63	0.00	71.32
81.95	11/16/90	---	---	---	---	---	10.68	0.00	71.27
	02/08/91	<50	<0.5	<0.5	<0.5	<0.5	9.17	0.00	72.78
	05/08/91	<50	<0.5	<0.5	<0.5	<0.5	8.68	0.00	73.27
	08/12/91	<50	<0.5	<0.5	<0.5	<0.5	10.33	0.00	71.62
	11/07/91	<50	<0.5	<0.5	<0.5	<0.5	9.76	0.00	72.19
	02/05/92	**69	<0.5	<0.5	<0.5	<0.5	9.47	0.00	72.48
	05/13/92	**74	<0.5	<0.5	<0.5	<0.5	9.70	0.00	72.25
	07/17/92	880	2.6	<1.2	4.6	11	10.21	0.00	71.74
	10/05/92	120	<0.5	<0.5	0.6	4.9	10.61	0.00	71.34
	11/11/92	---	---	---	--	---	---	---	---
	11/17/92	---	---	---	---	---	---	---	---
	11/24/92	---	---	---	---	---	---	---	---
	12/01/92	---	---	---	---	---	---	---	---
	12/29/92	---	---	---	---	---	---	---	---
	01/05/93	---	---	---	---	---	---	---	---
	01/08/93	**61	<0.5	<0.5	<0.5	<0.5	7.34	0.00	74.61
	02/02/93	---	---	---	---	---	---	---	---
	04/14/93	---	---	---	---	---	---	---	---
	08/06/93	<50	<0.5	<0.5	<0.5	<0.5	9.96	0.00	71.99
	10/21/93	<50	<0.5	<0.5	2	4	10.06	0.00	71.89
	01/05/94	<50	<0.5	<0.5	<0.5	<0.5	9.43	0.00	72.52
	04/08/94	<50	<0.5	<0.5	<0.5	<0.5	9.39	0.00	72.56

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-1583
5509 Martin Luther King Jr. Way, Oakland, California

Well ID/ Elev	Date	TPH-as-Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	DTW (ft)	SPT (ft)	WTE (ft)
MW-6	10/18/90	---	---	---	---	---	9.79	0.00	70.81
	10/31/90	<50	<0.5	<0.5	<0.5	3	9.69	0.00	70.91
80.60	11/16/90	---	---	---	---	---	9.74	0.00	70.86
	02/08/91	---	---	---	---	---	---	---	---
	05/08/91	56	<0.5	<0.5	<0.5	<0.5	9.54	0.00	71.06
	08/12/91	<50	<0.5	<0.5	<0.5	<0.5	9.50	0.00	71.10
	11/07/91	<50	<0.5	<0.5	<0.5	<0.5	8.89	0.00	71 71
	02/05/92	<50	<0.5	<0.5	<0.5	<0.5	8.59	0.00	72.01
	05/13/92	---	---	---	---	---	---	---	---
	07/17/92	---	---	---	---	---	---	---	---
	10/05/92	---	---	---	---	---	---	---	---
	11/11/92	---	---	---	---	---	---	---	---
	11/17/92	---	---	---	---	---	---	---	---
	11/24/92	---	---	---	---	---	---	---	---
	12/01/92	---	---	---	---	---	---	---	---
	12/29/92	---	---	---	---	---	---	---	---
	01/05/93	---	---	---	---	---	---	---	---
	01/08/93	---	---	---	---	---	---	---	---
	02/02/93	<50	2.1	<0.5	<0.5	2.2	7.71	0.00	72.89
	04/14/93	**<50	1	<0 5	<0.5	<0.5	8.19	0.00	72.41
	08/06/93	***<50	<0.5	<0 5	<0.5	<0.5	9.08	0.00	71.52
	10/21/93	***<50	<0.5	<0.5	<0.5	<0.5	9.14	0.00	71.46
	01/05/94	***<50	4	<0.5	<0.5	<0.5	8.54	0.00	72.06
	04/08/94	---	---	---	---	---	---	---	---

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-1583
5509 Martin Luther King Jr. Way, Oakland, California

Well ID/ Elev	Date	TPH-as-Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	DTW (ft)	SPT (ft)	WTE (ft)
TBLB	03/12/90	<50	<0.3	<0.3	<0.3	<0.6	---	---	---
	02/08/91	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	05/08/91	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	08/12/91	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	11/07/91	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	02/05/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	05/13/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	07/17/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	10/05/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	11/11/92	---	---	<0.5	---	---	---	---	---
	11/17/92	---	---	---	---	---	---	---	---
	11/29/92	---	---	---	---	---	---	---	---
	12/01/92	---	---	---	---	---	---	---	---
	12/29/92	---	---	---	---	---	---	---	---
	01/05/93	---	---	---	---	---	---	---	---
	01/08/93	<50	<0.5	---	<0.5	<0.5	---	---	---
	02/02/93	---	---	<0.5	---	---	---	---	---
	04/14/93	<50	<0.5	---	<0.5	<0.5	---	---	---
	08/06/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	10/21/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	01/05/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	04/08/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
Rinsate	01/05/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---

TPH = Total petroleum hydrocarbons
DTW = Depth to water
SPT = Separate-phase hydrocarbon thickness
WTE = Water-table elevation
--- = Not applicable/not sampled/not measured
*81.97/82.42 = March 3, 1990, survey/November 30, 1990, survey
** = The laboratory reported that a nonstandard gasoline pattern was observed in the chromatogram.
*** = Uncategorized compound is not included in gasoline hydrocarbon total.

All elevations are presented as feet above mean sea level.
Analytical results in micrograms per liter, equivalent to parts per billion.

ATTACHMENT 3

Groundwater Monitoring and Sample Collection Protocol
and
Field Data Sheets

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 - Martin Luther King

Site Address: 5509 MLK Jr., Oakland

Project Number: 020104101.0610

Date: 4/8/94

Page 1 **of** 5

Project Manager: Tim Watchers

Well ID: MW-4

Well Diameter: 2

DTW Measurements:
Initial: 12.94
Recharge:

Calc Well Volume: 7 gal
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 X C F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
0 8:28	17.6	.49	7.92	2	clear	
0 8:30	18.4	.49	7.57	3	↓	
0 8:31	18.7	148	7.52	5	↓	DRY
				7		

Project Name: Chevron - Martin Luther King

Site Address: 5509 MLK Jr., Oakland

Project Number: 020104101.0610

Date: 4/8/94

Page 2 **of** 5

Project Manager: Tim Watchers

Well ID: MW-5

Well Diameter: 2

DTW Measurements:
Initial: 9.39
Recharge:

Calc Well Volume: 6 gal
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 X C F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
08:53	18.1	.49	7.45	2	dark brown	
08:54	18.8	.46	7.33	3	↓	
08:55	18.5	.40	7.25	4	↓	
08:57	18.2	.41	7.20	6	↓	

Project Name: Chevron - Martin Luther King

Site Address: 5509 MLK Jr., Oakland

Project Number: 020104101.0610

Date: 4/8/94

Page 3 **of** 5

Project Manager: Tim Watchers

Well ID: MW-2

Well Diameter: 3

DTW Measurements:
Initial: 11.06
Recharge:

Calc Well Volume: 11 gal
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 X C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
09:17	18.6	.43	7.09	2	clear	
09:19	19.3	.42	7.06	4	brown	
09:23	20.3	.40	7.01	8	↓	DRY
				11		

Project Name: Chevron - Martin Luther King

Site Address: 5509 MLK Jr., Oakland

Project Number: 020104101.0610

Date: 4/8/94

Page 4 **of** 5

Project Manager: Tim Watchers

Well ID: MW-1

Well Diameter: 3

DTW Measurements:
Initial: 10.18
Recharge: _____

Calc Well Volume: 12 gal
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 X C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
09:48	18.2	.49	7.28	2	Grey	
09:50	19.3	.49	6.86	4	↓	
09:53	19.5	.49	6.94	8	clear	
09:56	19.9	.51	7.00	12		

Project Name: Chevron - Martin Luther King

Site Address: 5509 MLK Jr., Oakland

Project Number: 020104101.0610

Date: 4/3/94

Page 5 **of** 5

Project Manager: Tim Watchers

Well ID: MW-3

Well Diameter: 3

DTW Measurements:
Initial: 11.87
Recharge:

Calc Well Volume: 11 gal
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 X C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
10:26	18.6	.49	7.24	2	black	
10:28	18.7	.16	7.13	4	↓	
10:31	18.7	.23	7.04	8	↓	
10:34	18.7	.24	7.04	11	↓	

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

Client Number: 020104101
Consultant Project Number: 020104101
Facility Number: 9-1583
Project ID: 5509 M.L.K. Oakland
Work Order Number: C4-04-0157

April 18, 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 04/11/94.

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.

William Sobota
for
Rashmi Shah
Laboratory Director

Client Number: 020104101
Consultant Project Number: 020104101
Facility Number: 9-1583
Project ID: 5509 M.L.K. Oakland
Work Order Number: C4-04-0157

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		TBLB	MW-4	MW-5	MW-2
Date Sampled		04/08/94	04/08/94	04/08/94	04/08/94
Date Analyzed		04/11/94	04/11/94	04/11/94	04/12/94
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		94.0	89.6	87.5	84.4

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: 020104101
Consultant Project Number: 020104101
Facility Number: 9-1583
Project ID: 5509 M.L.K. Oakland
Work Order Number: C4-04-0157

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[b]	06[b]	M041294	
Client Identification		MW-1	MW-3	METHOD BLANK	
Date Sampled		04/08/94	04/08/94	--	
Date Analyzed		04/12/94	04/12/94	04/11/94	
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	37	250	<0.5	
Toluene	0.5	110	310	<0.5	
Ethylbenzene	0.5	570	500	<0.5	
Xylene, total	0.5	1400	2500	<0.5	
TPH as Gasoline	50	21000	16000	<50	
Detection Limit Multiplier		10	10	1	
BFB surrogate, % recovery		94.4	95.4	100	

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%.

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

Client Number: 020104101
Consultant Project Number: 020104101
Facility Number: 9-1583
Project ID: 5509 M.L.K. Oakland
Work Order Number: C4-04-0157

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	C4040136-2	20.0	ug/L	95.5	93.0	2.6	57.3 - 138
Toluene	C4040136-2	20.0	ug/L	97.0	93.0	4.2	63.0 - 134
Ethylbenzene	C4040136-2	20.0	ug/L	94.0	90.5	3.7	59.3 - 137
Xylene, total	C4040136-2	60.0	ug/L	95.5	92.5	3.1	59.3 - 144

Fax copy of Lab Report and COC to Chevron Contact: ☐ 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 9-1583
Facility Address 5509 M.L.K. Oakland
Consultant Project Number 20104101
Consultant Name Groundwater Technology, Inc.
Address 4057 Port Chicago Hwy, Concord, CA. 94520
Project Contact (Name) Tim Watchers
(Phone) 510-671-2387 (Fax Number)

Chevron Contact (Name) Mark Miller
(Phone) 510 842 8134
Laboratory Name GTEL
Laboratory Release Number 876-6770
Samples Collected by (Name) Greg Mason
Collection Date 4/8/94
Signature Greg Mason

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)	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)				
TBLB	01	2	W	D	11:30	HCl	Y	X											
MW-4	02	3			11:30			X											
MW-5	03	3			11:40			X											
MW-2	04	3			11:50			X											
MW-1	05	3			12:00			X											
MW-3	06	3	↓	↓	12:10	↓	↓	X											

NOTE:
DO NOT BILL
TB-LB SAMPLES
5°
seals
intact
Remarks

F-2
C4040157

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Greg Mason	GTI	4/11 1:00	Clayton Langdon	GTI	4-11-94
Relinquished By (Signature)	Organization	Date/Time 11:30	Received By (Signature)	Organization	Date/Time 1130
Clayton Langdon	GTI	4-11-94	John Weber	GTEL	4-11-94
Relinquished By (Signature)	Organization	Date/Time 11:40	Received For Laboratory By (Signature)		Date/Time 12:15
John Weber	GTEL	4-11-94	Karen Molander		4-11-94

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