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Chevron

April 14, 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. Susan Hugo
Alameda County Health Care Services
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

**Re: Former Chevron Service Station #9-1026
3701 Broadway, Oakland, CA**

Dear Ms. Hugo:

Enclosed is the Groundwater Monitoring and Sampling Activities report dated January 28, 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 B-1, B-2, B-3, and B-4 at concentrations of 6.7, 21000, 18000, and 12000 ppb, respectively. Depth to ground water was measured at approximately 11.3 feet to 16.6 feet below grade and the direction of flow is to the south-southwest.

Separate phase hydrocarbons (SPH) were observed in monitor well B at a measured thickness of 0.12 feet. No measurable SPH could be removed from this well during this sampling event. The results of the bailing program are summarized in Table 2 of the enclosed report.

At this time we do not feel that ground water remediation is an appropriate corrective action to implement based on known upgradient sources of hydrocarbons in the ground water. Implementing remedial measures to address the contamination present in the ground water beneath the referenced site will not address the impacts from the upgradient sources as it is undetermined what extent has migrated beneath the Chevron site.

Based on discussions in our meeting of November 9, 1993, we are currently evaluating appropriate remedial measures for the site. Chevron will continue to monitor and sample all wells at this site on a quarterly basis.

If you have any questions or comments, please do not hesitate to contact me at (510) 842-8134.

Sincerely,
CHEVRON U.S.A. PRODUCTS COMPANY

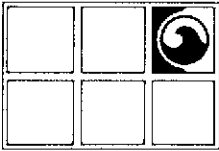
Mark A. Miller
Site Assessment and Remediation Engineer

Enclosure

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

Mr. W. Bruce Bercovich
Kay & Merkel
100 The Embarcadero, 3rd Floor
San Francisco, CA 94105

File: 9-1026 QM4



GROUNDWATER TECHNOLOGY, INC.

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

FAX: (415) 685-9148

January 28, 1994

Project No. 020104090

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. 9-1026
3701 Broadway, Oakland, California

Dear Mr. Miller:

Groundwater Technology, Inc. presents the attached quarterly groundwater monitoring and sampling data collected on December 21, 1993. Nine of the ten 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 detected in monitoring well B at a thickness of 0.12. Monitoring well A is covered by a building; and was not purged or sampled. A potentiometric surface map (Figure 1) and a summary of groundwater monitoring data (Table 1) are presented in Attachments 1 and 2, respectively. Table 2 presents the results of the product recovery program. After the DTW was measured, each monitoring well was purged and sampled, except monitoring wells A and B. Field data sheets are presented in Attachment 3. The groundwater samples were analyzed for benzene, toluene, ethylbenzene, and 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 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

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



Tim Watchers
Project Manager

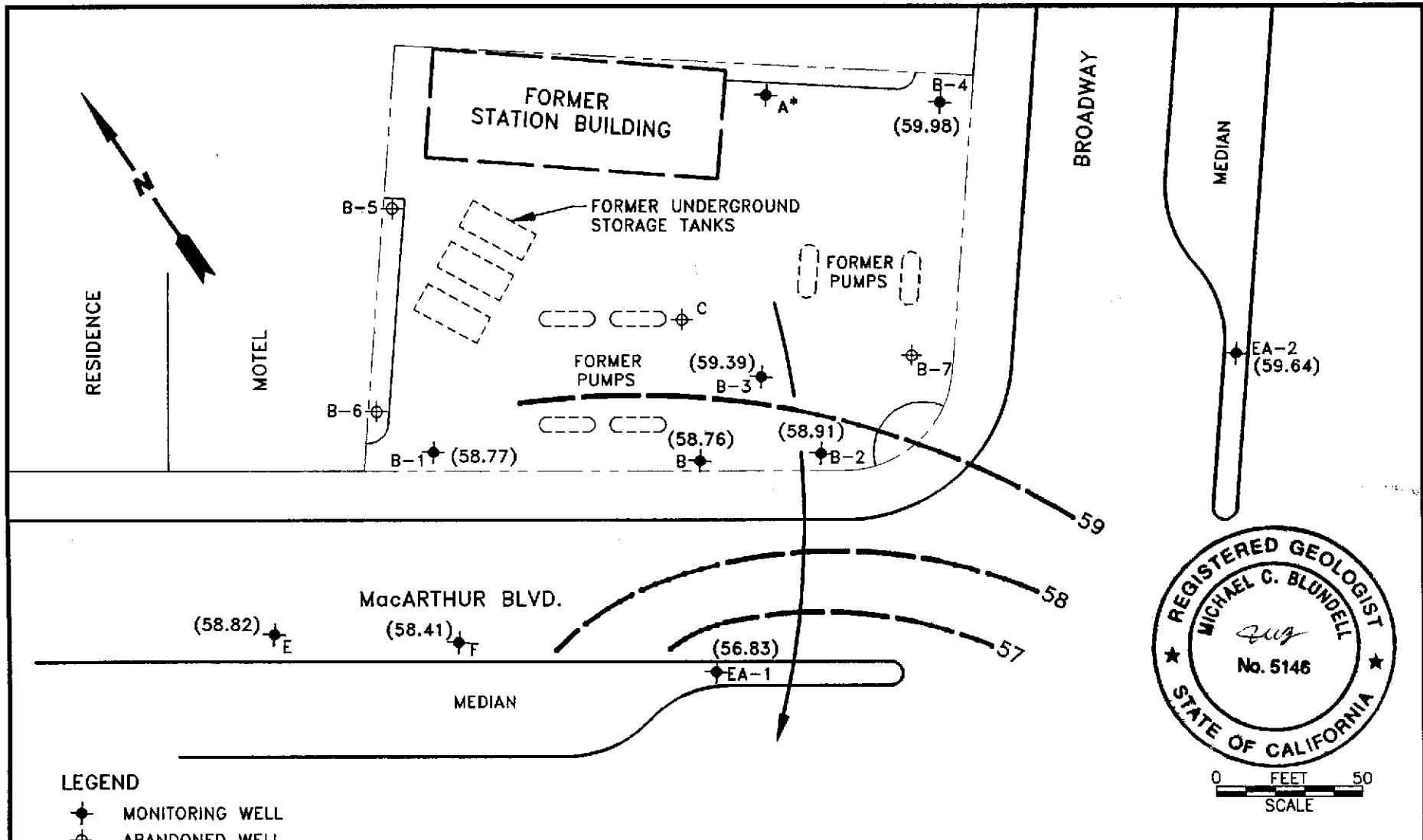
For:
Wendell W. Lattz
Vice President, General Manager
West Region

PR MAC

4090R014.010

ATTACHMENT 1

Figure



GROUNDWATER TECHNOLOGY		4057 PORT CHICAGO HWY CONCORD, CA 94520 (510) 671-2387		POTENTIOMETRIC SURFACE MAP (12/21/93)		
CLIENT: CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION No. 9-1026			LOCATION: 3701 BROADWAY OAKLAND, CALIFORNIA		REV. NO.: 1	DATE: 1/17/94
PM <i>JAW</i>	PE/RG <i>MB</i>	DESIGNED TW	DETAILED CY	ACAD FILE: PSM194	PROJECT NO.: 020202782	FIGURE: 1

ATTACHMENT 2

Tables

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-1026
3701 Broadway, Oakland, California

Well ID/ Elevation	Date	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	DTW (ft)	SPT (ft)	WTE (ft)
A 75.28	05/09/89	11,000	260	<2	94	230	13.92	0.00	61.36
	08/09/89	12,000	370	<1.5	100	240	15.62	0.00	59.66
	11/09/89	16,000	690	10	180	350	15.95	0.00	59.33
	02/08/90	14,000	600	7	120	270	14.73	0.00	60.55
	05/10/90	16,000	840	4.8	140	340	15.48	0.00	59.80
	08/09/90	17,000	510	40.0	170	280	15.66	0.00	59.62
	11/13/90	9,000	570	3.1	86	170	16.48	0.00	58.80
	03/27/91	8,000	660	<5	110	250	---	---	---
	04/05/91	---	---	---	---	---	13.22	0.00	62.06
	06/19/91	8,900	740	<3	120	280	15.37	0.00	59.91
	08/21/91	6,800	620	23	85	200	15.99	0.00	59.29
	11/08/91	4,000	640	<5	77	160	16.15	0.00	59.13
	02/13/92	8,000	860	<5	120	390	14.58	0.00	60.70
	05/01/92	13,000	870	19	220	780	14.26	0.00	61.02
	11/18/92	12,000	1,500	83	360	530	16.38	0.00	58.91
	03/19/93	14,000	820	6.1	180	420	12.16	0.00	63.13
	06/10/93	9,000	700	13	170	310	14.25	0.00	61.04
09/08/93	---	---	---	---	---	---	---	---	
12/21/93	---	---	---	---	---	---	---	---	
B 73.39	05/09/89	---	---	---	---	---	13.97	0.20	59.58
	08/09/89	---	---	---	---	---	15.69	0.20	57.86
	11/09/89	---	---	---	---	---	15.29	0.08	58.16
	02/08/90	---	---	---	---	---	14.46	0.00	58.93
	05/10/90	---	---	---	---	---	15.07	0.00	58.32
	08/09/90	---	---	---	---	---	15.12	0.00	58.27
	11/13/90	---	---	---	---	---	15.76	0.00	57.63
	04/05/91	---	---	---	---	---	13.38	0.00	60.01
	06/19/91	26,000	7,100	370	430	1,000	15.14	0.00	58.25
	08/21/91	16,000	4,900	270	390	640	15.58	0.00	57.81
	11/08/91	11,000	2,400	48	280	160	15.71	0.00	57.68
	02/13/92	6,800	2,400	60	220	140	14.66	0.00	58.73
	05/01/92	16,000	6,000	180	370	460	14.50	Sheen	58.89
	11/18/92	28,000	2,200	150	920	4,300	15.60	0.00	57.79
	03/19/93	---	---	---	---	---	13.29	0.03	60.12
	06/10/93	---	---	---	---	---	14.30	0.03	59.11
	09/08/93	---	---	---	---	---	15.33	0.24	58.25
12/21/93	---	---	---	---	---	14.73	0.12	58.76	

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-1026
3701 Broadway, Oakland, California

Well ID/ Elevation	Date	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	DTW (ft)	SPT (ft)	WTE (ft)
B-1 71.77	05/09/89	16,000	2,300	260	81	740	12.58	0.00	59.19
	08/09/89	12,000	2,600	340	100	870	14.09	0.00	57.68
	11/09/89	17,000	340	140	110	760	14.06	0.00	57.71
	02/08/90	5,500	70	19	17	150	12.65	0.00	59.12
	05/10/90	18,000	770	110	73	600	13.62	0.00	58.15
	08/09/90	82,000	750	66	95	980	13.87	0.00	57.90
	11/13/90	43,000	1,300	120	74	760	14.38	0.00	57.39
	03/27/91	18,000	580	92	94	770	---	---	---
	04/05/91	---	---	---	---	---	11.73	0.00	60.04
	06/19/91	21,000	910	56	96	810	13.56	0.00	58.21
	08/21/91	50,000	2,400	610	300	1,800	13.90	0.00	57.87
	11/08/91	540,000	3,600	1,500	1,900	5,900	14.05	0.00	57.72
	02/13/92	20,000	500	100	150	920	12.68	0.00	59.09
	05/01/92	27,000	2,800	200	310	1,900	12.92	Sheen	58.85
72.30	11/18/92	300	9.7	3.4	2.3	21	14.30	0.00	58.00
	03/19/93	130	23	0.9	<0.5	5.6	12.28	0.00	60.02
	06/10/93	170	21	1.1	0.8	6.6	13.04	0.00	59.26
	09/08/93	---	---	---	---	---	13.88	0.05	58.46
	12/21/93	<50	6.7	0.5	<0.5	1.2	13.53	0.00	58.77
	B-2 74.51	05/09/89	170,000	30,000	8,400	2,300	12,000	14.58	0.00
08/09/89		60,000	29,000	8,700	2,400	12,000	16.06	0.00	58.45
11/09/89		110,000	32,000	5,500	2,800	12,000	16.95	0.00	57.56
02/08/90		67,000	28,000	5,900	2,300	11,000	15.56	0.00	58.95
05/10/90		69,000	24,000	4,800	2,000	11,000	15.94	0.00	58.57
08/09/90		100,000	33,000	4,000	2,100	12,000	15.97	0.00	58.54
11/13/90		110,000	33,000	4,300	2,900	13,000	16.70	0.00	57.81
03/27/91		160,000	26,000	3,200	2,600	15,000	---	---	---
04/05/91		---	---	---	---	---	14.20	0.00	60.31
06/19/91		100,000	22,000	2,500	2,000	11,000	15.83	0.00	58.68
08/21/91		80,000	28,000	2,800	2,400	12,000	16.31	0.00	58.20
11/08/91		94,000	29,000	1,900	2,200	11,000	16.60	0.00	57.91
02/13/92		280,000	34,000	2,500	4,600	23,000	15.93	0.00	58.58
05/01/92		29,000	1,700	300	1,100	4,300	14.94	Sheen	59.57
11/18/92		26,000	11,000	170	870	950	16.71	0.00	57.81
03/19/93		110,000	28,000	1,200	2,200	12,000	14.06	0.00	60.46
06/10/93		140,000	15,000	930	1,900	8,800	14.88	0.00	59.64
09/08/93	---	---	---	---	---	16.03	0.04	58.52	
12/21/93	980,000	21,000	30,000	9,100	71,000	15.61	0.00	58.91	

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-1026
3701 Broadway, Oakland, California

Well ID/ Elevation	Date	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	DTW (ft)	SPT (ft)	WTE (ft)
B-3 74.12	05/09/89	70,000	12,000	9,500	1,400	8,900	14.02	0.00	60.01
	08/09/89	---	---	---	---	---	15.38	0.00	58.74
	11/09/89	---	---	---	---	---	15.55	0.05	58.61
	02/08/90	---	---	---	---	---	14.68	<0.01	59.44
	05/10/90	---	---	---	---	---	15.15	0.02	58.99
	08/09/90	---	---	---	---	---	15.27	<0.01	58.85
	11/13/90	---	---	---	---	---	16.04	0.06	58.13
	04/05/91	---	---	---	---	---	13.30	<0.01	60.82
	06/19/91	260,000	20,000	9,000	2,200	16,000	15.16	0.00	58.96
	08/21/91	70,000	28,000	11,000	1,800	11,000	15.61	0.00	58.51
	11/08/91	150,000	29,000	9,700	2,200	13,000	15.77	0.00	58.35
	02/13/92	100,000	27,000	9,906	2,000	11,000	14.88	0.00	59.24
	05/01/92	---	---	---	---	---	14.20	0.01	59.93
74.13	11/18/92	---	---	---	---	---	15.68	0.03	58.47
	03/19/93	---	---	---	---	---	13.75	1.08	61.24
	06/10/93	---	---	---	---	---	14.79	0.87	60.04
	09/08/93	---	---	---	---	---	15.38	0.08	58.81
	12/21/93	1,100,000	18,000	29,000	8,900	59,000	14.74	0.00	59.39
	B-4 76.43	05/09/89	3,600	840	34	120	200	14.93	0.00
08/09/89		<500	4,200	130	370	260	16.65	0.00	59.78
11/09/89		5,000	4,200	83	400	250	---	---	---
02/08/90		14,000	6,000	70	530	300	16.99	0.00	59.44
05/10/90		12,000	5,400	130	460	320	16.05	0.00	60.38
08/09/90		16,000	7,400	120	530	350	16.49	0.00	59.94
11/13/90		21,000	7,000	100	550	320	16.64	0.00	59.79
03/27/91		17,000	8,500	120	500	300	17.42	0.00	59.01
04/05/91		14,000	7,700	75	610	210	14.66	0.00	61.77
06/19/91		16,000	7,800	110	550	340	16.48	0.00	59.95
08/21/91		18,000	11,000	110	450	340	17.00	0.00	59.43
11/08/91		18,000	6,800	98	500	620	17.38	0.00	59.05
02/13/92		15,000	9,100	86	570	350	16.42	0.00	60.01
05/01/92		36,000	16,000	180	990	690	15.50	0.00	60.93
03/19/93		26,000	15,000	150	900	790	14.11	0.00	62.32
06/10/93	35,000	14,000	180	940	590	15.44	0.00	60.99	
09/08/93	34,000	15,000	170	1,100	870	16.65	0.00	59.78	
12/21/93	30,000	12,000	74	610	340	16.45	0.00	59.98	
B-6 72.66	05/09/89	26,000	120	110	250	1,300	12.11	0.00	60.55
	08/09/89	19,000	470	150	440	1,400	14.72	0.00	57.94
	11/09/89	13,000	70	36	36	440	13.85	0.00	58.81
	02/08/90	2,900	16	5	10	58	7.73	0.00	64.93
	05/10/90	---	---	---	---	---	---	---	---
	08/09/90	14,000	55	3	130	500	14.51	0.00	58.15
	11/13/90	---	---	---	---	---	14.86	0.00	57.80
	04/05/91	---	---	---	---	---	10.43	0.00	62.23
Abandoned	06/19/91	---	---	---	---	---	---	---	

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-1026
3701 Broadway, Oakland, California

Well ID/ Elevation	Date	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	DTW (ft)	SPT (ft)	WTE (ft)
B-7 75.40	05/09/89	210,000	13,000	19,000	2,000	20,000	14.73	0.00	60.67
	08/09/89	672,000	8,700	17,000	2,700	30,000	16.36	0.00	59.04
	11/09/89	150,000	7,000	12,000	1,800	16,000	16.64	0.00	58.76
	02/08/90	41,000	2,500	6,900	1,100	11,000	15.69	0.00	59.71
	05/10/90	—	—	—	—	—	—	—	—
	08/09/90	50,000	1,100	3,900	640	7,200	16.31	0.00	59.09
	11/13/90	---	---	---	---	---	17.09	0.00	58.31
	04/05/91	---	---	---	---	---	14.36	0.00	61.04
	Abandoned	06/19/91	---	---	---	---	---	---	---
E 70.07	11/18/92	280	2.7	2.4	3.0	12	12.20	0.00	57.87
	03/19/93	<50	<0.5	<0.5	<0.5	<1.5	9.97	0.00	60.10
	06/10/93	<50	<0.5	<0.5	<0.5	<1.5	10.98	0.00	59.09
	09/08/93	---	---	---	---	---	11.80	0.03	58.29
	12/21/93	<50	<0.5	<0.5	<0.5	<0.5	11.25	0.00	58.82
EA-1 73.94	05/09/89	<500	<0.5	<0.5	<0.5	<0.5	14.56	0.00	59.38
	08/09/89	<500	<0.5	<0.5	<0.5	<0.5	16.09	0.00	57.85
	11/09/89	<500	<0.5	<0.5	<0.5	<0.5	15.84	0.00	58.10
	02/08/90	<50	<0.3	<0.3	<0.3	<0.6	15.05	0.00	58.89
	05/10/90	<50	1	<0.3	<0.3	<0.6	15.65	0.00	58.29
	08/09/90	<50	<0.3	<0.3	<0.3	<0.6	15.67	0.00	58.27
	11/13/90	<50	<0.4	<0.3	<0.3	<0.4	16.32	0.00	57.62
	03/27/91	<50	0.7	<0.5	<0.5	<0.5	---	---	---
	04/05/91	---	---	---	---	---	14.03	0.00	59.91
	06/19/91	<50	<0.5	<0.5	<0.5	<0.5	15.56	0.00	58.38
	08/21/91	<50	<0.4	<0.3	<0.3	<0.4	15.99	0.00	57.95
	11/08/91	<50	<0.5	<0.5	<0.5	<0.5	16.13	0.00	57.81
	02/13/92	<50	<0.5	<0.5	<0.5	<0.5	15.10	0.00	58.84
	05/01/92	<50	2.7	<0.5	<0.5	<0.5	18.80	0.00	55.14
	11/18/92	<10	<0.3	<0.3	<0.3	<0.5	15.97	0.00	55.88
	03/19/93	<50	<0.5	<0.5	<0.5	<1.5	13.66	0.00	58.19
	06/10/93	<50	<0.5	<0.5	<0.5	<1.5	14.71	0.00	57.14
	09/08/93	---	---	---	---	---	15.58	0.08	56.33
	12/21/93	<50	<0.5	<0.5	<0.5	<0.5	15.02	0.00	56.83
EA-2 75.24	05/09/89	760	<0.5	<0.5	1.1	<0.5	15.95	0.00	59.29
	08/09/89	<500	<0.5	<0.5	<0.5	<0.5	17.45	0.00	57.79
	11/09/89	<500	<0.5	1	<0.5	<0.5	17.41	0.00	57.83
	02/08/90	190	<0.3	<0.3	<0.3	<0.6	16.57	0.00	58.67
	05/10/90	<50	<0.3	<0.3	<0.3	<0.6	17.12	0.00	58.12
	08/09/90	120	<0.3	<0.3	<0.3	<0.6	17.20	0.00	58.04
	11/13/90	160	<0.4	1.0	<0.3	<0.4	17.88	0.00	57.36
	03/27/91	110	<0.5	<0.5	<0.5	<0.5	---	---	---
	04/05/91	---	---	---	---	---	15.54	0.00	59.70
	06/19/91	<50	<0.5	<0.5	<0.5	<0.5	17.07	0.00	58.17
	08/21/91	70	0.8	1.4	<0.3	<0.4	17.46	0.00	57.78
	11/08/91	<50	<0.5	0.7	<0.5	<0.5	17.58	0.00	57.66
	02/13/92	<50	<0.5	<0.5	<0.5	<0.5	16.69	0.00	58.55
	05/01/92	340	<0.5	2.6	0.7	<0.5	16.16	0.00	59.08
	11/18/92	450	<0.5	3.3	<0.5	0.8	17.61	0.00	58.63
	03/19/93	450	<0.5	2.3	0.6	<1.5	15.00	0.00	61.24
	06/10/93	250	<0.5	1.3	<0.5	<1.5	16.08	0.00	60.16
	09/08/93	<50	<0.5	<0.5	<0.5	<1.5	17.07	0.00	59.17
	12/21/93	170	<0.5	1.3	<0.5	<0.5	16.60	0.00	59.64

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-1026
3701 Broadway, Oakland, California

Well ID/ Elevation	Date	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	DTW (ft)	SPT (ft)	WTE (ft)
F 72.01	05/09/89	<500	<0.5	<0.5	0.6	1.0	18.70	0.00	53.31
	08/09/89	---	---	---	---	---	19.03	0.00	52.98
	11/09/89	---	---	---	---	---	19.02	0.00	52.99
	02/08/90	<50	0.4	<0.3	0.3	<0.6	18.70	0.00	53.31
	05/10/90	---	---	---	---	---	18.98	0.00	53.03
	08/09/90	---	---	---	---	---	18.95	0.00	53.06
	11/13/90	---	---	---	---	---	19.10	0.00	52.91
	03/27/91	64	<0.5	<0.5	<0.5	1	---	---	---
	06/19/91	---	---	---	---	---	18.95	0.00	53.06
	08/21/91	---	---	---	---	---	>19.94	0.00	<52.07
	11/08/91	---	---	---	---	---	>19.94	0.00	<52.07
	02/13/92	<50	<0.5	<0.5	<0.5	<0.5	18.60	0.00	53.41
	05/01/92	---	---	---	---	---	Dry	---	---
71.72	11/18/92	<50	<0.5	<0.5	<0.5	<0.5	14.85	0.00	56.87
	03/19/93	<50	<0.5	<0.5	<0.5	<1.5	14.25	0.00	57.47
	06/10/93	<50	<0.5	<0.5	<0.5	<1.5	13.92	0.00	57.80
	09/08/93	---	---	---	---	---	14.80	0.04	56.95
	12/21/93	<50	<0.5	<0.5	<0.5	<0.5	13.31	0.00	58.41

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-1026
3701 Broadway, Oakland, California

Well ID/ Elevation	Date	TPH-G	Benzene	Toluene	Ethyl- benzene	Xylenes	DTW (ft)	SPT (ft)	WTE (ft)
TB-LB	05/09/89	<500	<0.5	<0.5	<0.5	<0.5	---	---	---
	08/09/89	<500	<0.5	<0.5	<0.5	<0.5	---	---	---
	11/09/89	<500	<0.5	<0.5	<0.5	<0.5	---	---	---
	02/08/90	<50	<0.3	<0.3	<0.3	<0.6	---	---	---
	05/10/90	<50	<0.3	<0.3	<0.3	<0.6	---	---	---
	08/09/90	<50	<0.3	<0.3	<0.3	<0.6	---	---	---
	11/13/90	<50	<0.4	<0.3	<0.3	<0.4	---	---	---
	03/27/91	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	06/19/91	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	08/21/91	<50	<0.4	<0.3	<0.3	<0.4	---	---	---
	11/08/91	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	02/13/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	05/01/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	11/18/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---
	03/19/93	<50	<0.5	<0.5	<0.5	<1.5	---	---	---
06/10/93	<50	<0.5	<0.5	<0.5	<1.5	---	---	---	
09/08/93	<50	<0.5	<0.5	<0.5	<1.5	---	---	---	
12/21/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	
RB	12/21/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---

TPH-G = Total petroleum hydrocarbons-as-gasoline
DTW = Depth to groundwater
SPT = Separate-phase hydrocarbon thickness
WTE = Water-table elevation
TB-LB = Trip blank, lab blank
RB = Rinsate blank
--- = Not applicable, not sampled, not measured

Note: The product recorded in monitoring wells F, EA-1, E, B-2 and B-1 on September 8, 1993, was biogrowth on the top of the water column.

Data from May 9, 1989, through February 13, 1992, taken from *First Quarter 1992 Groundwater Monitoring Report*, dated February 28, 1992 (Weiss Associates).

All elevations are given as feet above mean sea level.
Concentrations shown in parts per billion.

TABLE 2
SEPARATE-PHASE HYDROCARBONS BAILED
MONITORING WELLS B AND B-3
Chevron Service Station No. 9-1026
3701 Broadway, Oakland, California

Well ID	Date	Amount Product Bailed (gallons)	Total Product Bailed (gallons)
B	06/22/93	0.66	0.66
	06/29/93	0.25	0.91
	07/09/93	0.25	1.16
	07/15/93	0.25	1.41
	07/20/93	0.50	1.91
	07/27/93	0.50	2.41
	08/06/93	0.01	2.42
	08/10/93	0.08	2.50
	08/16/83	0.22	2.72
	08/25/93	0.25	2.97
	08/31/93	0.03	3.00
	09/10/93	0.01	3.01
	09/16/93	0.15	3.16
B-3	06/22/93	0.33	0.33
	06/29/93	0.25	0.58
	07/09/93	0.25	0.83
	07/15/93	0.25	1.08
	07/20/93	0.50	1.58
	07/27/93	0.11	1.69
	08/06/93	0.01	1.70
	08/10/93	0.01	1.71
	08/16/93	0.01	1.72
	08/25/93	0.02	1.74
	08/31/93	0.01	1.75
	09/10/93	0.01	1.76
	09/16/93	0.01	1.77

ATTACHMENT 3

Field Data Sheets

Project Name: Chevron - Broadway

Date: 12-1-93

Site Address: 3701 Broadway, Oakland

Page 6 of _____

Project Number: 020204094.0610⁹⁰

Project Manager: Tim Watchers

Well ID: B-2

DTW Measurements:

Well Diameter: 2"

Initial: _____

Calc Well Volume: .552 gal

Recharge: /

Well Volume: 2 gal

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

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

Time	Temp		Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
	C	F					
12:15	Temp		1.78	6.21	0		clear, product odor
12:16	Probe		1.74	6.27	.75		cloudy, product odor
12:18	Broken		1.73	6.28	1.50		"
12:20	↓		1.73	6.27	2		"

6

Project Name: Chevron - Broadway
 Site Address: 3701 Broadway, Oakland
 Project Number: 020204084.0610

Date: 11-21-93
 Page 9 of
 Project Manager: Tim Watchers

Well ID: B-3
 Well Diameter: 2"

DTW Measurements:
 Initial: Calc Well Volume: 694 gal
 Recharge: Well Volume: 3 2 gal

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

Instruments Used
 YSI: X
 Hydac:
 Omega:

Time	Temp		Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
	C	F					
12:30	Temp		.21	5.86	0		Clear, odor
12:32	probe		.36	5.84	.75		production
12:34	Baker		.36	5.83	1.50		u
12:38	↓		.36	5.83	2		"

ATTACHMENT 4

Laboratory Report



Superior Precision Analytical, Inc.

825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

GROUNDWATER TECHNOLOGY, INC.
Attn: TIM WATCHERS

Project 9-1026
Reported 01/04/94

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
30156- 1	TB-LB	12/21/93	12/28/93 Water
30156- 2	RB-EA1	12/21/93	12/28/93 Water
30156- 3	EA-1	12/21/93	12/28/93 Water
30156- 5	F	12/21/93	12/28/93 Water
30156- 7	E	12/21/93	12/28/93 Water
30156- 9	B-1	12/21/93	12/28/93 Water
30156-11	EA-2	12/21/93	12/28/93 Water
30156-13	B-4	12/21/93	12/29/93 Water

RESULTS OF ANALYSIS

Laboratory Number:	30156- 1	30156- 2	30156- 3	30156- 5	30156- 7
--------------------	----------	----------	----------	----------	----------

Gasoline:	ND<50	ND<50	ND<50	ND<50	ND<50
Benzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Toluene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Ethyl Benzene:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Total Xylenes:	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Concentration:	ug/L	ug/L	ug/L	ug/L	ug/L

Laboratory Number:	30156- 9	30156-11	30156-13
--------------------	----------	----------	----------

Gasoline:	ND<50	170	30000
Benzene:	6.7	ND<0.5	12000
Toluene:	0.5	1.3	74
Ethyl Benzene:	ND<0.5	ND<0.5	610
Total Xylenes:	1.2	ND<0.5	340
Concentration:	ug/L	ug/L	ug/L



Superior Precision Analytical, Inc.

825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

C E R T I F I C A T E O F A N A L Y S I S

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

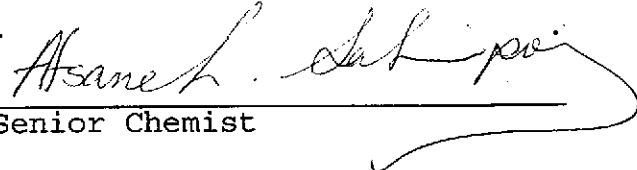
Page 2 of 2
QA/QC INFORMATION
SET: 30156

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
ug/L = parts per billion (ppb)

EPA SW-846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Water: 50ug/L

EPA SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Water: 0.5ug/L

ANALYTE	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	89/82	8%	70-130
Benzene:	92/91	1%	70-130
Toluene:	85/84	1%	70-130
Ethyl Benzene:	92/90	2%	70-130
Total Xylenes:	101/100	1%	70-130


Senior Chemist

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

Chevron Facility Number 9-1026
Facility Address 3701 Broadway Oakland
Consultant Project Number 020204090.0610
Consultant Name Groundwater Technology, Inc.
Address 4057 Port Chicago Hwy, Concord, CA 94520
Project Contact (Name) Tim Watchers
(Phone) 510-671-2387 (Fax Number)

Chevron Contact (Name) M. Muller
(Phone) 842-8134
Laboratory Name Superior
Laboratory Release Number 495-0430
Samples Collected by (Name) Mark Garcia
Collection Date 12-21-93
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	Lead (Yes or No)	Analyses To Be Performed										Hold	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)				
TR-LB	1	2	W		12:45	HLI	Y	X											
RB-EA1	2	1			12:50			X											
EA-1	3	3			12:50			X											
RBF	4	1			1:00														
F	5	3			1:00			X											
RB-E	6	1			1:10														
E	7	3			1:10			X											
RB-B-1	8	1			1:20														
B-1	9	3			1:20			X											
RB-EA-2	10	1			1:30														
EA-2	11	3			1:30			X											
RB-B-4	12	1			1:40														
B-4	13	3			1:40			X											
RB-B-2	14	1			1:50														

NOTE:
Do NOT BILL
TB-LB SAMPLES

Hold
800
400
Samples stored in ice
12/23/93 12:20
12/23/93 12:20

Relinquished By (Signature) <u>Mark Garcia</u>	Organization <u>GTI</u>	Date/Time <u>12-21-93</u>	Received By (Signature) <u>Tim Watchers</u>	Organization <u>GTI</u>	Date/Time <u>12/22/93 17:00</u>	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 5 Days 10 Days As Contracted
Relinquished By (Signature) <u>Tim Watchers</u>	Organization <u>GTI</u>	Date/Time <u>12/22/93</u>	Received By (Signature) <u>Don DeGroot</u>	Organization <u>AERO</u>	Date/Time <u>12/23/93 12:20</u>	
Relinquished By (Signature) <u>Don DeGroot</u>	Organization <u>AERO</u>	Date/Time <u>12/24/93 12:40</u>	Received For Laboratory By (Signature) <u>Mark Garcia</u>	Organization <u>AERO</u>	Date/Time <u>12/23/93</u>	



Superior Precision Analytical, Inc.

825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

GROUNDWATER TECHNOLOGY, INC.
Attn: TIM WATCHERS

Project 9-1026
Reported 01/03/94

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
30154- 1	B-2	12/21/93	12/29/93 Water
30154- 3	B-3	12/21/93	12/29/93 Water

RESULTS OF ANALYSIS

Laboratory Number: 30154- 1 30154- 3

Gasoline:	980000	1100000
Benzene:	21000	18000
Toluene:	30000	29000
Ethyl Benzene:	9100	8900
Total Xylenes:	71000	59000
Concentration:	ug/L	ug/L



Superior Precision Analytical, Inc.

825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

C E R T I F I C A T E O F A N A L Y S I S

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

Page 2 of 2
QA/QC INFORMATION
SET: 30154

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
ug/L = parts per billion (ppb)

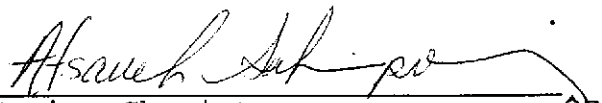
OIL AND GREASE ANALYSIS By Standard Methods Method 5520F:
Minimum Detection Limit in Water: 5000ug/L

Modified EPA SW-846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Water: 50ug/L

EPA SW-846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Water: 50ug/L

EPA SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Water: 0.5ug/L

ANALYTE	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	122/103	17%	70-130
Benzene:	109/102	7%	70-130
Toluene:	108/105	3%	70-130
Ethyl Benzene:	112/104	7%	70-130
Total Xylenes:	123/115	7%	70-130


Senior Chemist

