



Chevron

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

December 15, 1994

Mr. Scott Seery
Alameda County Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

Re: Former Chevron Station # 9-5607, 5269 Crow Canyon Road, Castro Valley, CA
Attached groundwater monitoring report (GTI, 11/4/94)

Dear Mr. Seery:

Please find attached a report dated November 4, 1994, which was prepared by Chevron's consultant, Groundwater Technology Inc. (GTI), to describe quarterly groundwater monitoring performed at the subject site on October 7, 1994.

During their October site visit GTI gauged all fifteen site-related wells. The measured direction of groundwater flow was generally toward the west. Ten of the fifteen site-related monitoring wells were sampled and analyzed for the presence of TPHGas and BTEX constituents. Detectable levels of dissolved hydrocarbons were measured at five of the ten wells. Except at well MW-15, the measured concentrations were consistent with those detected during previous site monitoring events. The measured level of benzene detected at well MW-15 was slightly higher than those measured during previous quarters. Next quarter's data will be used to confirm the apparent change in the established trend at MW-15.

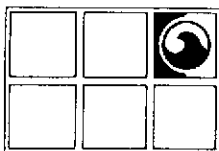
If you have any questions or comments, I can be reached at (510) 842-8695.

Sincerely,

Brett L. Hunter
Environmental Engineer
Site Assessment and Remediation

Attachment

cc: Rich Hiett, San Francisco Bay RWQCB, Oakland, CA
Kevin Hinckley, 5269 Crow Canyon Road, Castro Valley, CA 94546
Paul Hehn, Geraghty & Miller, 1050 Marina Way South, Richmond, CA 94804
Bette Owen, Chevron USA, Products Company, San Ramon, CA (w/o attachment)



GROUNDWATER TECHNOLOGY, INC.

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

FAX: (415) 685-9148

November 4, 1994

Project No. 02010 4228

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

SUBJECT: *Quarterly Monitoring and Sampling Activities*
Chevron Service Station No. 9-5607
5269 Crow Canyon Road
Castro Valley, California

Dear Mr. Hunter:

Groundwater Technology, Inc. presents the quarterly groundwater monitoring and sampling data collected on October 7, 1994. Fifteen groundwater monitoring wells were gauged to determine depth to groundwater (DTW) and to check for the presence of separate-phase petroleum 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 measuring DTW, monitoring wells C-1, C-3, C-6, C-8, C-10a, C-10b, C-11, C-12, C-15 and C-16 were 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 total petroleum hydrocarbons-as-gasoline. Laboratory reports and chain-of-custody records 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, Inc. is pleased to assist Chevron on this project. If you have any questions or comments please call our Concord office at (510) 671-2387.

Sincerely,
Groundwater Technology, Inc.
Written/Submitted by

Kenneth P. Johnson
Project Manager

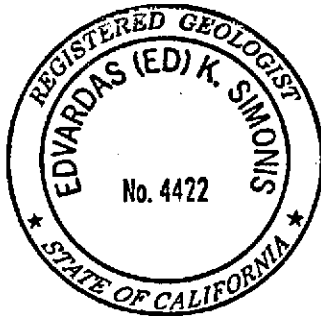
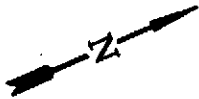
PR

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

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

ATTACHMENT 1

Figure

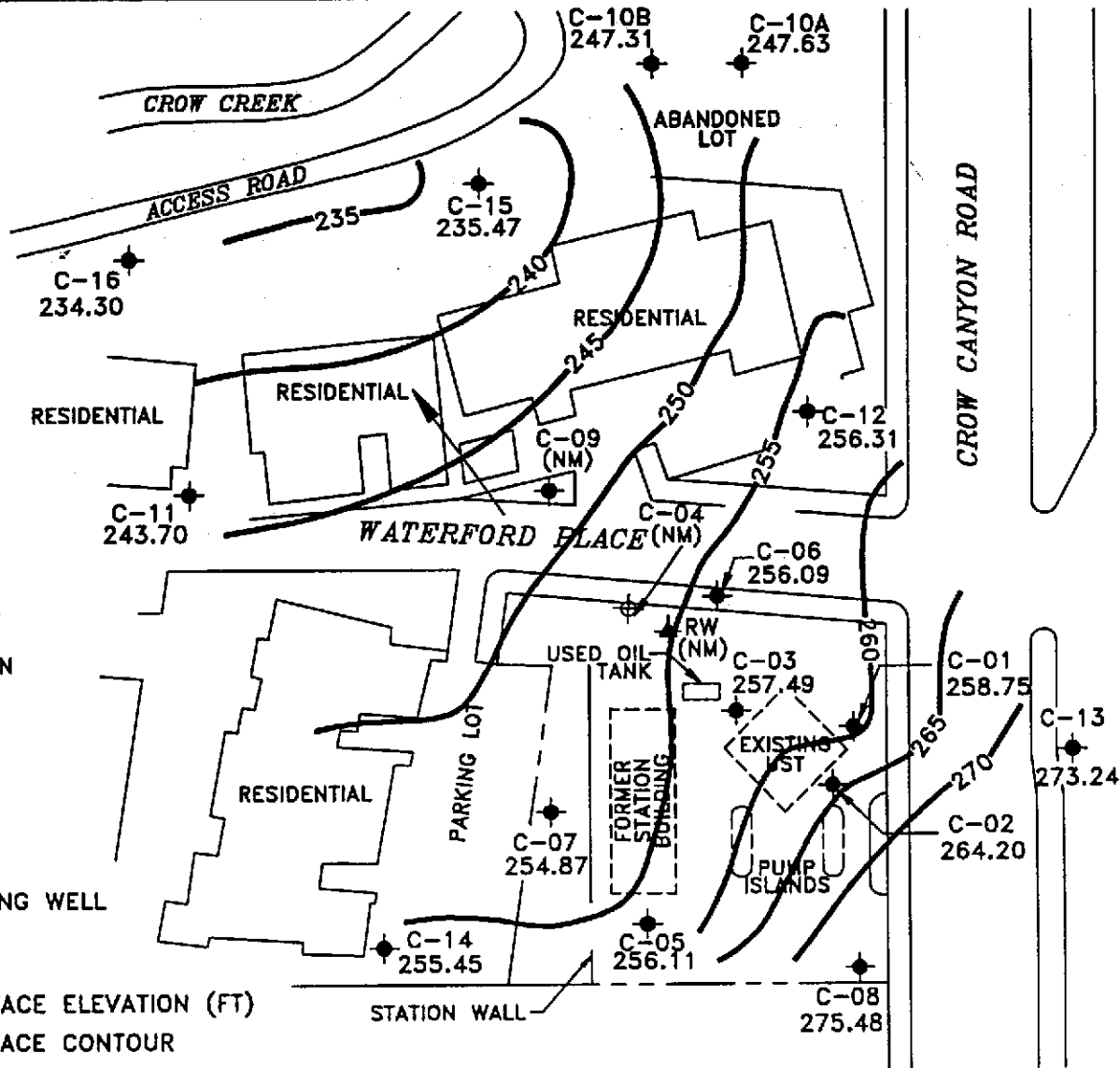


NOTE:

1. CONTOURS REPRESENT APPROXIMATE ELEVATIONS ABOVE MEAN SEA LEVEL
2. ALL STRUCTURES AND UNDERGROUND GASOLINE STORAGE TANKS HAVE BEEN REMOVED AND DASHED FOR CLARITY.

LEGEND

- PROPERTY LINE
- MONITORING WELL
- ABANDONED MONITORING WELL
- RECOVERY WELL
- NOT MONITORED
- POTENTIOMETRIC SURFACE ELEVATION (FT)
- POTENTIOMETRIC SURFACE CONTOUR
- GROUNDWATER FLOW DIRECTION



GROUNDWATER TECHNOLOGY



CLIENT:
CHEVRON U.S.A. PRODUCTS CO.
FORMER S.S. NO. 9-5607

LOCATION:
5269 CROW CANYON ROAD
CASTRO VALLEY, CALIFORNIA

**POTENTIOMETRIC SURFACE MAP
(10/7/94)**

FILE: 4228PSM, (1:60)

PROJECT NO.: 02010-4228

DES.: KM DET.: KM DATE: 11/2/94

PM:

PE/RG:

FIGURE:

ES
11/11/94

1

ATTACHMENT 2

Table

**Table
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA**

FORMER CHEVRON SERVICE STATION NO. 9-5607
5269 CROW CANYON ROAD, CASTRO VALLEY, CALIFORNIA

WELL ID/ ELEVATION (TOC)	DATE	BENZENE (ppb)	TOLUENE (ppb)	ETHYL- BENZENE (ppb)	XYLENES (ppb)	TPH-G (ppb)	ORGANIC LEAD (ppb)	DTW (feet)	SPT (feet)	WTE (feet)
C-1 283.46	03/26/85							22.83	0.00	260.63
	07/03/86							23.58	0.00	259.88
	03/26/87							20.50	0.00	262.96
	03/28/88							26.00	0.00	257.46
	03/10/89							15.86	0.00	267.60
	04/03/89							16.85	0.00	266.61
	05/08/89							22.68	0.00	260.78
	06/05/89							24.66	0.00	258.80
	07/12/90							25.56	0.00	257.90
	08/10/90							25.89	0.00	257.57
	09/13/89	3,600	1,100	1,000	3,500	22,000		26.55	0.00	256.91
	10/04/89							25.24	0.00	258.22
	11/03/89							25.03	0.00	258.43
	12/04/89	2,000	550	610	1,600	13,000		26.37	0.00	257.09
	03/07/90							22.48	0.00	260.98
	03/09/90									
	06/12/90	3,500	1,400	840	4,000	21,000		24.35	0.00	259.11
	09/20/90	2,100	1,200	860	5,000	23,000		26.27	0.00	257.19
	12/20/90	760	410	260	1,100	8,200		22.59	0.00	260.87
	03/27/91							19.08	0.00	264.38
	06/18/91							27.11	0.00	256.35
	09/12/91							28.22	0.00	255.24
	01/23/92							26.65	0.00	256.81
	04/13/92	3,100	1,300	850	3,100	38,000		22.16	0.00	261.30
	08/03/92	1,300	470	550	1,600	13,000	ND	26.15	0.00	257.31
	10/22/92	3,500	1,400	1,500	4,300	24,000		26.79	0.00	256.67
	01/18/93	6,900	8,900	3,100	23,000	370,000		18.60	0.00	264.86
	04/19/93	8,000	7,000	1,400	10,000	51,000		21.12	0.00	262.34
	07/21,22/93	3,400	1,000	890	3,100	22,000		23.28	0.00	260.18
	10/25/93	2,000	550	790	2,300	14,000		24.66	0.00	258.80
01/21/94	350	6	3	15	1,100		20.47	0.00	262.99	
04/18/94	3,200	1,000	1,000	3,100	24,000		23.10	0.00	260.36	
07/06-07/94	6,500	4,200	1,600	9,300	65,000		22.90	0.00	260.56	
10/07/94	5,100	1,200	1,400	4,300	27,000		24.71	0.00	258.75	

**Table
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA**

FORMER CHEVRON SERVICE STATION NO. 9-5607
5269 CROW CANYON ROAD, CASTRO VALLEY, CALIFORNIA

WELL ID/ ELEVATION (TOC)	DATE	BENZENE (ppb)	TOLUENE (ppb)	ETHYL- BENZENE (ppb)	XYLENES (ppb)	TPH-G (ppb)	ORGANIC LEAD (ppb)	DTW (feet)	SPT (feet)	WTE (feet)
C-2 284.37	03/26/85									
	07/03/86							19.89	0.00	264.68
	03/26/87							15.45	0.00	268.92
	03/28/88							20.92	0.00	263.45
	03/10/89							12.80	0.00	271.57
	04/03/89							14.26	0.00	270.11
	05/08/89							18.42	0.00	265.95
	06/05/89							20.09	0.00	264.28
	07/12/90							20.79	0.00	263.58
	08/10/90							21.40	0.00	262.97
	09/13/89	62	4	10	14	320		21.86	0.00	262.51
	10/04/89							19.89	0.00	264.48
	11/03/89							20.76	0.00	263.61
	12/04/89	240	37	66	130	1,000		20.82	0.00	263.55
	03/07/90							17.83	0.00	266.54
	03/09/90	280	35	27	50	390		17.83	0.00	266.54
	06/12/90	260	34	28	55	700		19.89	0.00	264.48
	09/20/90							21.97	0.00	262.40
	12/20/90							17.73	0.00	266.64
	03/27/91							15.10	0.00	269.27
	06/18/91							22.68	0.00	261.69
	09/12/91							23.92	0.00	260.45
	01/23/92							21.24	0.00	263.13
	04/13/92	120	76	17	72	1,100		17.54	0.00	266.83
	08/03/92							22.05	0.00	262.32
	10/22/92							23.03	0.00	261.34
	01/18/93	6.4	ND	ND	ND	70		14.86	0.00	269.51
	04/19/93							16.80	0.00	267.57
	07/21,22/93							19.25	0.00	265.12
	10/25/93							19.65	0.00	264.72
01/21/94	5,100	1,800	2,000	6,800	43,000		25.57	0.00	258.80	
04/18/94							9.76	0.00	274.61	
07/06-07/94							18.76	0.00	265.61	
10/07/94							20.17	0.00	264.20	

Table
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA

FORMER CHEVRON SERVICE STATION NO. 9-5607
5269 CROW CANYON ROAD, CASTRO VALLEY, CALIFORNIA

WELL ID/ ELEVATION (TOC)	DATE	BENZENE (ppb)	TOLUENE (ppb)	ETHYL- BENZENE (ppb)	XYLENES (ppb)	TPH-G (ppb)	ORGANIC LEAD (ppb)	DTW (feet)	SPT (feet)	WTE (feet)
C-3 285.98	03/26/85	-	-	-	-	-	-	-	-	-
	07/03/86	-	-	-	-	-	-	26.04	0.00	259.94
	03/26/87	-	-	-	-	-	-	25.64	0.00	260.34
	03/28/88	-	-	-	-	-	-	28.82	0.00	257.16
	03/10/89	-	-	-	-	-	-	22.78	0.00	263.20
	04/03/89	-	-	-	-	-	-	22.71	0.00	263.27
	05/08/89	-	-	-	-	-	-	25.95	0.00	260.03
	06/05/89	-	-	-	-	-	-	27.62	0.00	258.36
	07/12/90	-	-	-	-	-	-	28.29	0.00	257.69
	08/10/90	-	-	-	-	-	-	28.46	0.00	257.52
	09/13/89	1,400	6,800	2,300	10,000	60,000	-	29.33	0.00	256.65
	10/04/89	-	-	-	-	-	-	28.97	0.00	257.01
	11/03/89	-	-	-	-	-	-	28.72	0.00	257.26
	12/04/89	1,300	3,300	1,400	2,700	56,000	-	29.01	0.00	256.97
	03/07/90	-	-	-	-	-	-	27.69	0.00	258.29
	03/09/90	1,100	5,700	1,600	7,800	42,000	-	27.69	0.00	258.29
	06/12/90	1,400	7,100	3,400	16,000	160,000	-	28.09	0.00	257.89
	09/24/90	850	7,700	2,000	10,000	53,000	-	29.18	0.00	256.80
	12/20/90	1,200	5,400	5,400	33,000	520	-	28.27	0.00	257.71
	03/27/91	1,300	3,100	1,200	11,000	92,000	-	24.80	0.00	261.18
	06/18/91	-	-	-	-	-	-	30.84	0.00	255.14
	09/12/91e	-	-	-	-	-	-	31.64	0.03	254.34
	01/23/92	-	-	-	-	-	-	30.52	SHEEN	255.46
	04/13/92e	-	-	-	-	-	-	26.94	0.01	259.04
	08/03/92	1,300	2,800	3,100	17,000	220,000	ND	30.00	0.00	255.98
	10/22/92e	SP	SP	SP	SP	SP	-	30.62	0.03	255.38
	01/18/93	2,400	5,300	10,000	61,000	1,000,000	-	23.91	0.00	262.07
	04/19/93	33,000	22,000	1,600	9,200	94,000	-	25.00	0.00	260.98
	07/21,22/93	2,600	5,500	1,300	6,900	44,000	-	26.55	0.00	259.43
	10/25/93	3,900	2,400	1,100	6,600	35,000	-	28.72	0.00	257.26
01/21/94	4,200	2,200	2,000	11,000	120,000	-	29.66	0.00	256.32	
04/18/94	1,200	310	520	2,000	29,000	-	26.74	0.00	259.24	
07/06-07/94	2,700	1,400	1,400	9,700	84,000	-	26.36	0.00	259.62	
10/07/94	1,600	390	1,200	6,100	40,000	-	28.49	0.00	257.49	



Table
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA

FORMER CHEVRON SERVICE STATION NO. 9-5607
5269 CROW CANYON ROAD, CASTRO VALLEY, CALIFORNIA

WELL ID/ ELEVATION (TOG)	DATE	BENZENE (ppb)	TOLUENE (ppb)	ETHYL- BENZENE (ppb)	XYLENES (ppb)	TPH-G (ppb)	ORGANIC LEAD (ppb)	DTW (feet)	SPT (feet)	WTE (feet)
C-4 273.01	03/26/85							15.14	0.00	257.87
	07/03/86							15.37	0.00	257.64
	03/26/87									
	03/28/88							18.04	0.00	264.97
	03/10/89									
	04/03/89							13.34	0.00	259.67
	05/08/89							15.60	0.00	257.41
	06/05/89							16.51	0.00	256.50
	07/12/90							16.99	0.00	256.02
	08/10/90							17.27	0.00	255.74
	09/13/89	21,000	3,100	3,200	11,000	57,000		18.16	0.00	254.85
	10/04/89							18.24	0.00	254.77
	11/03/89							18.17	0.00	254.84
	12/04/89	17,000	2,200	2,800	8,800	48,000		18.45	0.00	254.56
	03/07/90							17.20	0.00	255.81
	03/09/90	20,000	2,300	2,800	11,000	43,000		17.20	0.00	255.81
06/12/90	21,000	2,400	4,000	16,000	82,000		16.66	0.00	256.35	
09/24/90							18.11	0.00	254.90	
12/20/90b										
C-5 287.95	03/26/85							25.33	0.00	262.62
	07/03/86							26.41	0.00	261.54
	03/26/87							24.96	0.00	262.99
	03/28/88							29.80	0.00	258.15
	03/10/89							25.89	0.00	262.06
	04/03/89							24.38	0.00	263.57
	05/08/89							27.80	0.00	260.15
	06/05/89							29.42	0.00	258.53
	07/12/90							29.86	0.00	258.09
	08/10/90							29.77	0.00	258.18
	09/13/89	ND	ND	ND	ND	310		30.95	0.00	257.00
	10/04/89							31.48	0.00	256.47
	11/03/89							31.32	0.00	256.63
	12/04/89	ND	ND	ND	ND	ND		31.70	0.00	256.25
	03/07/90							30.28	0.00	257.67
	03/09/90	ND	ND	ND	ND	ND		30.28	0.00	257.67
	06/12/90	ND	ND	ND	ND	90		30.48	0.00	257.47
	09/24/90	ND	ND	ND	ND	ND		31.78	0.00	256.17
	12/20/90	ND	ND	1.0	0.7	170		33.29	0.00	254.66
	03/27/91							27.98	0.00	259.97
	06/18/91							32.52	0.00	255.43
	09/12/91							33.37	0.00	254.58
	01/23/92							32.67	0.00	255.28
	04/13/92	ND	ND	0.7	ND	140		28.48	0.00	259.47
	08/03/92	ND	ND	ND	ND	ND	ND	32.50	0.00	255.45
	10/22/92							33.98	0.00	253.97
	01/18/93	6.6	2.2	3.4	2.2	230		27.02	0.00	260.93
	04/18/93							24.81	0.00	263.14
	07/21,22/93	ND	0.6	ND	ND	130		29.06	0.00	258.89
	10/25/93							30.95	0.00	257.00
01/21/94	ND	ND	ND	ND	ND		31.91	0.00	256.04	
04/18/94							30.15	0.00	257.80	
07/06-07/94	ND	ND	ND	ND	ND		29.04	0.00	258.91	
10/07/94							31.84	0.00	256.11	

**Table
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA**

FORMER CHEVRON SERVICE STATION NO. 9-5607
5269 CROW CANYON ROAD, CASTRO VALLEY, CALIFORNIA

WELL ID/ ELEVATION (TOC)	DATE	BENZENE (ppb)	TOLUENE (ppb)	ETHYL- BENZENE (ppb)	XYLENES (ppb)	TPH-G (ppb)	ORGANIC LEAD (ppb)	DTW (feet)	SPT (feet)	WTE (feet)
C-6 275.28	03/26/85							16.74		
	07/03/86							17.46	0.00	257.82
	03/26/87							18.37	0.00	256.91
	03/28/88							29.84	0.00	245.44
	03/10/89							14.44	0.00	260.84
	04/03/89							14.44	0.00	260.84
	05/08/89							17.16	0.00	258.12
	06/05/89							18.51	0.00	256.77
	07/12/90							18.71	0.00	256.57
	08/10/90							19.32	0.00	255.96
	09/13/89	5,600	3,000	2,400	10,000	47		19.95	0.00	255.33
	10/04/89							19.87	0.00	255.41
	11/03/89							19.35	0.00	255.93
	12/04/89	8,100	1,800	1,700	7,500	40,000		19.59	0.00	255.69
	03/07/90							18.39	0.00	256.89
	03/09/90	23,000	5,900	3,400	17,000	73,000		18.39	0.00	256.89
	06/12/90	19,000	6,500	3,400	16,000	85,000		18.87	0.00	256.41
	09/24/90	15,000	3,200	2,600	11,000	72,000		19.99	0.00	255.29
	12/20/90	11,000	4,200	3,400	16,000	100,000		21.57	0.00	253.71
	03/27/91	11,000	4,400	2,300	11,000	100,000		16.32	0.00	258.96
	06/18/91							23.33	0.00	251.95
	09/12/91							23.96	0.00	251.32
	01/23/92							12.08	0.00	263.20
	04/13/92							19.85	SHEEN	255.43
	08/03/92	16,000	1,100	2,300	15,000	120,000	ND	14.72	0.00	260.56
	10/22/92	7,400	920	1,800	14,000	63,000		14.91	0.00	260.37
	01/18/93	13,000	1,600	2,700	12,000	77,000		15.44	0.00	259.84
	04/19/93	14,000	1,100	2,400	9,100	56,000		9.25	0.00	266.03
	07/21, 22/93	6,600	610	1,500	5,800	38,000		17.35	0.00	257.93
	10/25/93	11,000	800	2,200	8,200	42,000		21.03	0.00	254.25
01/21/94	11,000	940	2,300	9,800	57,000		21.57	0.00	253.71	
04/18/94	9,800	830	1,900	7,500	48,000		18.11	0.00	257.17	
07/06-07/94	6,800	610	900	6,200	46,000		17.00	0.00	258.28	
10/07/94	5,900	410	1,400	3,800	35,000		19.19	0.00	256.09	

Table
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA

FORMER CHEVRON SERVICE STATION NO. 9-5607
5269 CROW CANYON ROAD, CASTRO VALLEY, CALIFORNIA

WELL ID/ ELEVATION (TOC)	DATE	BENZENE (ppb)	TOLUENE (ppb)	ETHYL- BENZENE (ppb)	XYLENES (ppb)	TPH-G (ppb)	ORGANIC LEAD (ppb)	DTW (feet)	SPT (feet)	WTE (feet)
C-7 270.70	03/26/85	-	-	-	-	-	-	9.61	-	-
	07/03/86	-	-	-	-	-	-	10.74	0.00	259.96
	03/26/87	-	-	-	-	-	-	10.08	0.00	260.62
	03/28/88	-	-	-	-	-	-	13.79	0.00	256.91
	03/10/89	-	-	-	-	-	-	10.42	0.00	260.28
	04/03/89	-	-	-	-	-	-	9.14	0.00	261.56
	05/08/89	-	-	-	-	-	-	11.91	0.00	258.79
	06/05/89	-	-	-	-	-	-	11.54	0.00	259.16
	07/12/90	-	-	-	-	-	-	13.45	0.00	257.25
	08/10/90	-	-	-	-	-	-	13.37	0.00	257.33
	09/13/89	1.3	ND	10	ND	410	-	14.60	0.00	256.10
	10/04/89	-	-	-	-	-	-	15.17	0.00	255.53
	11/03/89	-	-	-	-	-	-	15.28	0.00	255.42
	12/04/89	1	ND	5	ND	1,000	-	15.70	0.00	255.00
	03/07/90	-	-	-	-	-	-	14.22	0.00	256.48
	03/09/90	2.8	2.4	3.5	2	590	-	14.22	0.00	256.48
	06/12/90	ND	5	8.2	3.2	1,200	-	14.18	0.00	256.52
	09/24/90	1.4	1.9	1.4	2.2	400	-	15.44	SHEEN	255.26
	09/24/90D	ND	2.4	1.4	1.5	580	-	15.44	SHEEN	255.26
	12/20/90	ND	6.5	4.7	9.3	2,300	-	17.08	0.00	253.62
	03/27/91	ND	2.4	9.1	3	980	-	12.65	0.00	258.05
	06/18/91	-	-	-	-	-	-	16.44	0.00	254.26
	09/12/91	ND	3.1	6.5	2.7	1,200c	-	17.05	0.00	253.65
	01/23/92	-	-	-	-	-	-	16.92	0.00	253.78
	04/13/92	ND	1	7.8	1.2	830	-	13.00	0.00	257.70
	08/03/92	-	-	-	-	-	-	-	-	-
	10/22/92b	-	-	-	-	-	-	-	-	-
	01/18/93b	-	-	-	-	-	-	-	-	-
	04/19/93b	-	-	-	-	-	-	-	-	-
	07/21, 22/93	0.9	3	4	4	890	-	12.94	0.00	257.76
	10/25/93	-	-	-	-	-	-	14.83	0.00	255.87
	01/21/94	ND	6	1	3	660	-	15.94	0.00	254.76
	04/18/94	-	-	-	-	-	-	14.98	0.00	255.72
07/06-07/94	ND	5.8	4.2	8.2	960	-	12.94	0.00	257.76	
10/07/94	-	-	-	-	-	-	15.83	0.00	254.87	

**Table
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA**

FORMER CHEVRON SERVICE STATION NO. 9-5607
5269 CROW CANYON ROAD, CASTRO VALLEY, CALIFORNIA

WELL ID/ ELEVATION (TOG)	DATE	BENZENE (ppb)	TOLUENE (ppb)	ETHYL- BENZENE (ppb)	XYLENES (ppb)	TPH-G (ppb)	ORGANIC LEAD (ppb)	DTW (feet)	SPT (feet)	WTE (feet)
C-8 288.40	03/26/85	-	-	-	-	-	-	8.68	-	-
	07/03/86	-	-	-	-	-	-	13.89	0.00	274.61
	03/26/87	-	-	-	-	-	-	6.01	0.00	282.39
	03/28/88	-	-	-	-	-	-	10.66	0.00	277.74
	03/10/89	-	-	-	-	-	-	6.61	0.00	281.79
	04/03/89	-	-	-	-	-	-	6.46	0.00	281.94
	05/08/89	-	-	-	-	-	-	8.97	0.00	279.43
	06/05/89	-	-	-	-	-	-	10.88	0.00	277.52
	07/12/90	-	-	-	-	-	-	12.15	0.00	276.25
	08/10/90	-	-	-	-	-	-	12.46	0.00	275.94
	09/13/89	ND	ND	ND	ND	ND	ND	12.78	0.00	275.62
	10/04/89	-	-	-	-	-	-	12.51	0.00	275.89
	11/03/89	-	-	-	-	-	-	14.63	0.00	273.77
	12/04/89	0.6	0.6	ND	1	64	-	9.59	0.00	278.81
	03/07/90	-	-	-	-	-	-	8.80	0.00	279.60
	03/09/90	ND	ND	ND	ND	ND	ND	8.80	0.00	279.60
	06/12/90	2.5	1.2	1	1.4	120	-	8.94	0.00	279.46
	09/24/90	-	-	-	-	-	-	13.54	0.00	274.86
	12/20/90	-	-	-	-	-	-	9.33	0.00	279.07
	03/27/91	0.7	ND	0.7	1.9	54	-	6.10	0.00	282.30
	06/18/91	-	-	-	-	-	-	11.96	0.00	276.44
	09/12/91	ND	ND	ND	ND	ND	ND	13.60	0.00	274.80
	09/12/91D	ND	ND	ND	ND	ND	ND	13.60	0.00	274.80
	01/23/92	-	-	-	-	-	-	24.20	0.00	264.20
	04/13/92	ND	ND	ND	ND	ND	ND	8.35	0.00	280.05
	08/03/92	ND	ND	ND	ND	ND	ND	12.58	0.00	275.82
	10/22/92	ND	ND	ND	ND	ND	ND	13.10	0.00	275.30
	01/18/93	ND	ND	ND	ND	ND	ND	6.12	0.00	282.28
	04/19/93	ND	ND	ND	ND	ND	ND	7.05	0.00	281.35
	07/21,22/93	ND	ND	ND	ND	ND	ND	11.35	0.00	277.05
10/25/93	ND	ND	ND	ND	ND	ND	12.85	0.00	275.55	
01/21/94	ND	ND	ND	ND	ND	ND	10.55	0.00	277.85	
04/18/94	1.2	0.9	ND	1.6	ND	ND	9.51	0.00	278.89	
07/06-07/94	ND	ND	ND	ND	ND	ND	11.38	0.00	277.02	
10/07/94	ND	ND	ND	ND	ND	ND	12.92	0.00	275.48	

Table
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA

FORMER CHEVRON SERVICE STATION NO. 9-5607
 5269 CROW CANYON ROAD, CASTRO VALLEY, CALIFORNIA

WELL ID/ ELEVATION (TOC)	DATE	BENZENE (ppb)	TOLUENE (ppb)	ETHYL- BENZENE (ppb)	XYLENES (ppb)	TPH-G (ppb)	ORGANIC LEAD (ppb)	DTW (feet)	SPT (feet)	WTE (feet)
C-9 268.46	07/03/86	-	-	-	-	-	-	13.89	0.00	254.57
	03/26/87	-	-	-	-	-	-	13.74	0.00	254.72
	03/28/88	-	-	-	-	-	-	14.99	0.00	253.47
	03/10/89	-	-	-	-	-	-	13.39	0.00	255.07
	04/03/89	-	-	-	-	-	-	12.84	0.00	255.62
	05/08/89	-	-	-	-	-	-	14.38	0.00	254.08
	06/05/89	-	-	-	-	-	-	15.36	0.00	253.10
	07/12/90	-	-	-	-	-	-	15.65	0.00	252.81
	08/10/90	-	-	-	-	-	-	15.80	0.00	252.66
	09/13/89	14,000	1,100	2,800	4,200	42,000	-	16.53	0.00	251.93
	10/04/89	-	-	-	-	-	-	16.52	0.00	251.94
	11/03/89	-	-	-	-	-	-	16.51	0.00	251.95
	12/04/89	11,000	670	2,500	3,800	36,000	-	16.79	0.00	251.67
	03/07/90	-	-	-	-	-	-	16.22	0.00	252.24
	03/09/90	12,000	940	3,000	4,700	28,000	-	16.22	0.00	252.24
	06/12/90	11,000	1,600	2,300	4,800	39,000	-	14.88	0.00	253.58
	09/24/90	13,000	1,600	3,700	6,800	120,000	-	16.30	0.00	252.16
	12/20/90	9,300	560	2,800	3,300	51,000	-	17.23	0.00	251.23
	12/20/90D	12,000	580	2,800	3,500	44,000	-	17.23	0.00	251.23
	03/27/91	3,400	5,000	1,600	5,600	56,000	-	13.78	0.00	254.68
06/18/91	-	-	-	-	-	-	18.64	0.00	249.82	
09/12/91d	-	-	-	-	-	-	-	-	-	-

Table
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA

FORMER CHEVRON SERVICE STATION NO. 9-5607
5269 CROW CANYON ROAD, CASTRO VALLEY, CALIFORNIA

WELL ID/ ELEVATION (TOC)	DATE	BENZENE (ppb)	TOLUENE (ppb)	ETHYL- BENZENE (ppb)	XYLENES (ppb)	TPH-G (ppb)	ORGANIC LEAD (ppb)	DTW (feet)	SPT (feet)	WTE (feet)
C-10A 264.84	03/07/90	--	--	--	--	--	--	20.21	0.00	244.63
	03/09/90	1.6	0.7	0.8	3.5	ND	--	--	--	--
	06/12/90	ND	ND	ND	ND	ND	--	19.70	0.00	245.14
	09/24/90	ND	ND	ND	ND	ND	--	19.54	0.00	245.30
	12/20/90	ND	ND	ND	ND	ND	--	19.84	0.00	245.00
	03/27/91	--	--	--	--	--	--	18.01	0.00	246.83
	06/18/91	ND	ND	ND	ND	ND	--	20.16	0.00	244.68
	09/12/91	ND	ND	ND	ND	ND	--	20.57	0.00	244.27
	01/23/92	ND	ND	ND	ND	ND	--	20.67	0.00	244.17
	04/13/92	0.9	1.3	ND	1	53	--	19.40	0.00	245.44
	08/03/92	ND	ND	ND	ND	ND	ND	19.81	0.00	245.03
	10/22/92	ND	ND	ND	0.5	ND	--	19.83	0.00	245.01
	01/18/93	ND	ND	ND	ND	ND	--	17.04	0.00	247.80
	04/19/93	ND	ND	ND	ND	ND	--	17.77	0.00	247.07
	04/19/93	ND	ND	ND	ND	ND	--	17.56	0.00	247.28
	10/25/93	ND	ND	ND	ND	ND	--	17.77	0.00	247.07
01/21/94	ND	ND	ND	ND	ND	--	17.91	0.00	246.93	
04/18/94	3.0	3.0	1.4	5.5	ND	--	17.03	0.00	247.81	
07/06-07/94	ND	ND	ND	ND	ND	--	16.78	0.00	248.06	
10/07/94	ND	ND	ND	ND	ND	--	17.21	0.00	247.63	
C-10B 264.85	03/07/90	--	--	--	--	--	--	21.44	0.00	243.41
	06/12/90	ND	ND	ND	ND	ND	--	19.94	0.00	244.91
	09/24/90	ND	ND	ND	ND	ND	--	19.77	0.00	245.08
	12/20/90	ND	ND	ND	ND	ND	--	20.00	0.00	244.85
	03/27/91	--	--	--	--	--	--	18.23	0.00	246.62
	06/18/91	--	--	--	--	--	--	20.44	0.00	244.41
	09/12/91	ND	ND	ND	ND	ND	--	20.82	0.00	244.03
	01/23/92	ND	ND	ND	ND	ND	--	20.92	0.00	243.93
	04/13/92	ND	ND	ND	ND	ND	--	19.68	0.00	245.17
	08/03/92	ND	ND	ND	ND	ND	ND	20.07	0.00	244.78
	10/22/92	ND	ND	ND	ND	ND	--	20.12	0.00	244.73
	01/18/93	3.3	11	2.1	8.9	60	--	17.36	0.00	247.49
	04/19/93	ND	ND	ND	ND	ND	--	17.90	0.00	246.95
	07/21-22/93	ND	ND	ND	ND	ND	--	17.86	0.00	246.99
	10/25/93	ND	ND	ND	ND	ND	--	18.10	0.00	246.75
	01/21/94	ND	ND	ND	ND	ND	--	18.23	0.00	246.99
04/18/94	ND	ND	ND	0.5	ND	--	17.36	0.00	247.49	
07/06-07/94	ND	ND	ND	ND	ND	--	17.05	0.00	247.80	
10/07/94	ND	ND	ND	ND	ND	--	17.54	0.00	247.31	

Table
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA

FORMER CHEVRON SERVICE STATION NO. 9-5607
5269 CROW CANYON ROAD, CASTRO VALLEY, CALIFORNIA

WELL ID/ ELEVATION (TOC)	DATE	BENZENE (ppb)	TOLUENE (ppb)	ETHYL- BENZENE (ppb)	XYLENES (ppb)	TPH-G (ppb)	ORGANIC LEAD (ppb)	DTW (feet)	SPT (feet)	WTE (feet)
C-11 265.30	03/07/90	-	-	-	-	-	-	22.74	0.00	242.56
	03/09/90	1.2	0.7	ND	1.4	ND	-	-	-	-
	06/12/90	ND	ND	ND	ND	ND	-	21.98	0.00	243.32
	09/24/90	ND	ND	ND	ND	ND	-	21.88	0.00	243.42
	12/20/90	ND	ND	ND	ND	ND	-	23.18	0.00	242.12
	03/27/91	ND	ND	ND	1.5	ND	-	21.52	0.00	243.78
	06/18/91	-	-	-	-	-	-	21.90	0.00	243.40
	09/12/91	ND	ND	ND	ND	ND	-	22.70	0.00	242.60
	01/23/92	ND	ND	ND	ND	ND	-	23.46	0.00	241.84
	04/13/92	ND	ND	ND	ND	ND	-	21.57	0.00	243.73
	08/03/92	ND	ND	ND	ND	ND	ND	22.67	0.00	242.63
	10/22/92	ND	ND	ND	ND	ND	-	23.29	0.00	242.01
	01/18/93	ND	1.2	ND	2.2	ND	-	21.36	0.00	243.94
	04/19/93	ND	ND	ND	ND	ND	-	19.97	0.00	245.33
	07/21, 22/93	ND	ND	ND	ND	ND	-	20.65	0.00	244.65
	10/25/93	ND	ND	ND	ND	ND	-	20.75	0.00	244.55
	01/21/94	ND	ND	ND	ND	ND	-	21.61	0.00	243.69
04/18/94	ND	ND	ND	ND	ND	-	20.78	0.00	244.52	
07/06-07/94	ND	ND	ND	ND	ND	-	20.42	0.00	244.88	
10/07/94	ND	ND	ND	ND	ND	-	21.60	0.00	243.70	
C-12 269.66	03/07/90	-	-	-	-	-	-	14.92	0.00	254.74
	03/09/90	230	140	33	180	1,400	-	-	-	-
	06/12/90	190	71	18	73	720	-	14.79	0.00	254.87
	09/24/90	1.1	ND	ND	0.6	ND	-	15.72	0.00	253.94
	12/20/90	210	26	8.2	23	810	-	15.26	0.00	254.40
	03/27/91	350	220	52	210	2,900	-	12.11	0.00	257.55
	06/18/91	-	-	-	-	-	-	16.38	0.00	253.28
	09/12/91	59	12	4.5	8.5	350	-	17.55	0.00	252.11
	01/23/92	110	31	7.9	22	450	-	17.11	0.00	252.55
	04/13/92	1,100	76	100	200	5,000	-	14.40	0.00	255.26
	08/03/92	200	21	13	25	520	ND	15.83	0.00	253.83
	10/22/92	310	66	35	56	1,300	-	16.14	0.00	253.52
	01/18/93	1,200	430	220	610	5,600	-	11.70	0.00	257.96
	04/19/93	600	99	96	170	2,000	-	13.05	0.00	256.61
	07/21, 22/93	95	36	18	56	540	-	12.84	0.00	256.82
	10/25/93	90	29	20	50	350	-	14.03	0.00	255.63
	01/21/94	73	18	14	37	450	-	14.15	0.00	255.51
04/18/94	70	21	12	39	370	-	12.95	0.00	256.71	
07/06-07/94	200	35	28	66	840	-	12.31	0.00	257.35	
10/07/94	85	29	17	63	830	-	13.35	0.00	256.31	

Table
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA

FORMER CHEVRON SERVICE STATION NO. 9-5607
5269 CROW CANYON ROAD, CASTRO VALLEY, CALIFORNIA

WELL ID/ ELEVATION (TOC)	DATE	BENZENE (ppb)	TOLUENE (ppb)	ETHYL- BENZENE (ppb)	XYLENES (ppb)	TPH-G (ppb)	ORGANIC LEAD (ppb)	DTW (feet)	SPT (feet)	WTE (feet)
C-13 284.32	03/07/90	-	-	-	-	-	-	11.18	0.00	273.14
	03/09/90	15	3.7	1	6.2	ND	-	-	-	-
	06/12/90	2.6	ND	ND	ND	ND	-	10.70	0.00	273.62
	09/24/90	2.4	ND	ND	ND	ND	-	11.60	0.00	272.72
	12/20/90	1.6	ND	ND	ND	ND	-	10.16	0.00	274.16
	03/27/91	-	-	-	-	-	-	7.64	0.00	276.68
	06/18/91	-	-	-	-	-	-	11.32	0.00	273.00
	09/12/91	ND	ND	ND	ND	ND	-	11.84	0.00	272.48
	01/23/92	-	-	-	-	-	-	10.55	0.00	273.77
	04/13/92	1	ND	ND	ND	ND	-	10.96	0.00	273.36
	08/03/92	ND	ND	ND	ND	ND	ND	10.90	0.00	273.42
	10/22/92	-	-	-	-	-	-	11.18	0.00	273.14
	01/18/93	54	10	5.4	12	290	-	7.40	0.00	276.92
	04/19/93	-	-	-	-	-	-	8.93	0.00	275.39
	07/21, 22/93	ND	ND	ND	ND	ND	-	10.75	0.00	273.57
	10/25/93	-	-	-	-	-	-	10.85	0.00	273.47
	01/21/94	ND	ND	ND	ND	ND	-	11.05	0.00	273.27
04/18/94	-	-	-	-	-	-	10.71	0.00	273.61	
07/06-07/94	0.5	ND	ND	ND	ND	-	10.65	0.00	273.67	
10/07/94	-	-	-	-	-	-	11.08	0.00	273.24	
C-14 270.74	03/07/90	-	-	-	-	-	-	15.18	0.00	255.56
	03/09/90	ND	ND	ND	ND	ND	-	-	-	-
	06/12/90	ND	ND	ND	ND	ND	-	13.42	0.00	257.32
	09/24/90	ND	ND	ND	ND	ND	-	12.84	0.00	257.90
	12/20/90	1.7	0.7	ND	0.7	ND	-	16.72	0.00	254.02
	03/27/91	ND	ND	ND	1.3	ND	-	8.00	0.00	262.74
	06/18/91	-	-	-	-	-	-	15.21	0.00	255.53
	09/12/91	ND	ND	ND	ND	ND	-	15.61	0.00	255.13
	01/23/92	-	-	-	-	-	-	24.64	0.00	246.10
	04/13/92	ND	ND	ND	ND	ND	-	12.21	0.00	258.53
	08/03/92	ND	ND	ND	ND	ND	ND	14.64	0.00	256.10
	10/22/92	-	-	-	-	-	-	16.94	0.00	253.80
	01/18/93	ND	ND	ND	ND	ND	-	5.10	0.00	265.64
	04/19/93	-	-	-	-	-	-	6.88	0.00	263.86
	07/21, 22/93	ND	ND	ND	ND	ND	-	11.16	0.00	259.58
	10/25/93	-	-	-	-	-	-	13.87	0.00	256.87
	01/21/94	ND	ND	ND	ND	ND	-	15.32	0.00	255.42
04/18/94	-	-	-	-	-	-	15.89	0.00	254.85	
07/06-07/94	ND	ND	ND	ND	ND	-	12.08	0.00	258.66	
10/07/94	-	-	-	-	-	-	15.28	0.00	255.45	

**Table
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA**

FORMER CHEVRON SERVICE STATION NO. 9-5607
5269 CROW CANYON ROAD, CASTRO VALLEY, CALIFORNIA

WELL ID/ ELEVATION (TOC)	DATE	BENZENE (ppb)	TOLUENE (ppb)	ETHYL- BENZENE (ppb)	XYLENES (ppb)	TPH-G (ppb)	ORGANIC LEAD (ppb)	DTW (feet)	SPT (feet)	WTE (feet)
C-15 246.15	03/07/90	-	-	-	-	-	-	11.10	0.00	235.05
	03/09/90	ND	1.4	0.5	0.6	410	-	-	-	-
	06/12/90	11	ND	ND	ND	420	-	10.78	0.00	235.37
	09/24/90	ND	1.5	ND	ND	430	-	10.93	0.00	235.22
	12/20/90	1.3	1.1	0.6	1.5	300	-	11.08	0.00	235.07
	03/27/91	4.6	1.1	ND	1	520c	-	8.50	0.00	237.65
	06/18/91	ND	1.1	ND	ND	290	-	10.83	0.00	235.32
	06/18/91D	ND	1.3	ND	ND	320	-	10.83	0.00	235.32
	09/12/91	ND	0.9	ND	ND	330c	-	11.05	0.00	235.10
	01/23/92	ND	0.6	ND	ND	210	-	10.80	0.00	235.35
	01/23/92D	1.2	0.8	ND	ND	190	-	10.80	0.00	235.35
	04/13/92	1.8	ND	ND	ND	430	-	9.58	0.00	236.57
	08/03/92	ND	2.1	0.7	1.3	640	ND	11.21	0.00	234.94
	10/22/92	ND	ND	ND	0.8	420	-	11.65	0.00	234.50
	01/18/93	7.0	3.0	2.9	6.7	640	-	7.12	0.00	239.03
	04/19/93	6.0	2.0	0.7	ND	260c	-	8.93	0.00	237.22
	07/21, 22/93	ND	8	ND	0.6	580f	-	9.78	0.00	236.37
	10/25/93	ND	12	ND	0.6	240	-	9.74	0.00	236.41
01/21/94	0.6	ND	0.6	ND	420f	-	10.37	0.00	235.78	
04/18/94	1.0	4.6	0.6	ND	550	-	9.96	0.00	236.19	
07/06-07/94	0.7	ND	ND	0.7	660	-	10.23	0.00	235.92	
10/07/94	13.0	0.8	ND	1.2	440	-	10.68	0.00	235.47	
C-16 246.69	03/07/90	-	-	-	-	-	-	18.50	0.00	228.19
	03/09/90	ND	ND	ND	ND	ND	-	-	-	-
	06/12/90	ND	ND	ND	ND	ND	-	11.42	0.00	235.27
	09/24/90	ND	ND	ND	ND	ND	-	11.39	0.00	235.30
	12/20/90	ND	ND	ND	0.7	ND	-	11.57	0.00	235.12
	03/27/91	ND	ND	ND	1.3	ND	-	8.76	0.00	237.93
	03/27/91D	ND	ND	ND	1.2	ND	-	8.76	0.00	237.93
	06/18/91	ND	ND	ND	ND	ND	-	11.18	0.00	235.51
	09/12/91	ND	ND	ND	ND	ND	-	11.95	0.00	234.74
	01/23/92	ND	ND	ND	ND	ND	-	12.41	0.00	234.28
	04/13/92	ND	ND	ND	ND	ND	-	10.69	0.00	236.00
	08/03/92	ND	ND	ND	ND	ND	ND	12.20	0.00	234.49
	10/22/92	ND	ND	ND	ND	ND	-	12.60	0.00	234.09
	01/18/93	ND	ND	ND	ND	ND	-	9.00	0.00	237.69
	04/19/93	ND	ND	ND	ND	ND	-	9.89	0.00	236.80
	07/21, 22/93	ND	ND	ND	ND	ND	-	10.25	0.00	236.44
	10/25/93	ND	ND	ND	ND	ND	-	10.96	0.00	235.73
	01/21/94	ND	0.7	ND	1	ND	-	11.76	0.00	234.93
04/18/94	ND	ND	ND	ND	ND	-	11.22	0.00	235.47	
07/06-07/94	ND	ND	ND	ND	ND	-	11.37	0.00	235.32	
10/07/94	ND	ND	ND	ND	ND	-	12.39	0.00	234.30	

**Table
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA**

FORMER CHEVRON SERVICE STATION NO. 9-5607
5269 CROW CANYON ROAD, CASTRO VALLEY, CALIFORNIA

WELL ID/ ELEVATION (TOC)	DATE	BENZENE (ppb)	TOLUENE (ppb)	ETHYL- BENZENE (ppb)	XYLENES (ppb)	TPH-G (ppb)	ORGANIC LEAD (ppb)	DTW (feet)	SPT (feet)	WTE (feet)
RW 274.52	12/04/89	29,000	1,700	1,800	8,800	62,000				
	03/07/90							18.50	0.00	256.02
	06/12/90	15,000	2,000	560	3,100	31,000		18.49	0.00	256.03
	09/24/90									
	12/20/90	0.5	ND	ND	1.2	ND				
	03/27/91									
	06/18/91									
	09/12/91a									
	01/23/92a									
	04/13/92a									
	08/03/92a									
	10/22/92a									
	01/18/93a									
	04/18/93a									
	07/21,22/93a									
	10/25/93									
	01/21/94									
04/18/94										
07/06-07/94										
10/07/94										

Explanation

Top of casing and groundwater elevations are expressed as feet above mean sea level.

TPH-G = Total petroleum hydrocarbons as gasoline

SP = Separate-phase petroleum hydrocarbons

DTW = Depth to water

SPT = Separate-phase hydrocarbon thickness

WTE = Water table elevation

(adjusted WTE = well elevation - (DTW-(SPT X 0.8))

TOC = Top of casing

ppb = parts per billion

ND = Not detected at or above the minimum quantitation limit

-- = Not analyzed

NOTE: See laboratory reports for minimum quantitation limits.

D = Duplicate

a = Not sampled due to insufficient water in well

b = C-4: Well removed, C-9: Well could not be located

c = Typical gasoline chromatographic pattern not present

d = Not sampled: Well adapted for on-site remediation system

e = Groundwater elevation corrected assuming 0.8 specific

gravity for gasoline

f = Uncategorized compound is not included in gasoline

hydrocarbon total

Sampling frequency:

Quarterly: C-1, C-3, C-4, C-6, C-8, C-10A, C-10B,

C-11, C-12, C-15, and C-16.

Semi-annually (1st & 3rd quarters): C-5, C-7, C-13, and C-14.

Annually (1st quarter): C-2.

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:

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

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 - Castro Valley

Date: 10/2/94

Site Address: 5259 Crow Canyon Rd., Castro Valley

Page 1 of 10

Project Number: 020104228.0610

Project Manager: Ken Johnson

Well ID: C-16

DTW Measurements:

Initial: 12.39

Calc Well Volume: 6.83 gal

Well Diameter: 3

Recharge: _____

Well Volume: 20.49 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
	<input checked="" type="checkbox"/> C <input checked="" type="checkbox"/> F					
1057	19.2	1.12	7.04	4	cloudy	
1058	17.9	0.68	7.10	8	"	
1059	17.8	1.11	7.09	12	dark	
1101	17.6	1.12	7.10	16	"	
1103	17.7	1.12	7.11	21	"	

146 TOT. gals

Project Name: Chevron - Castro Valley

Date: 10/2/94

Site Address: 5269 Crow Canyon Rd., Castro Valley

Page 2 of 10

Project Number: 020104228.0610

Project Manager: Ken Johnson

Well ID: C-15

DTW Measurements: DTB 19.65 8.91
Initial: 10.68 Calc Well Volume: 3.29 gal
Recharge: _____ Well Volume: 9.88 gal

Well Diameter: 3

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

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

Time	Temp	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
	<u>OC</u> F					
11:26	19.8	0.91	7.16	2	cloudy	
11:26	20.5	1.15	7.14	4	cloudy	
11:27	19.2	1.07	6.94	6	less cloudy	
11:28	18.5	1.13	6.92	8	"	dry @ 8 gal Lit Recharge
11:31	18.8	1.16	6.92	109	"	dry @ 9 gal

Project Name: Chevron - Castro Valley

Date: 10 / 7 / 94

Site Address: 5269 Crow Canyon Rd., Castro Valley

Page 4 of 10

Project Number: 020104228.0610

Project Manager: Ken Johnson

Well ID: 106

DTW Measurements: 34'

Well Diameter: 3

Initial: 17.54 Calc Well Volume: 6.04 gal
Recharge: _____ Well Volume: 18.92 gal

Purge Method _____ Pump Depth _____ ft.
Peristaltic _____ Hand Bailed _____
Gear Drive _____ Air Lift _____
Submersible 0 Other _____

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

Time	Temp	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
	C F					
11:37	19.9	0.62	6.94	3	Clear	
11:38	19.4	0.47	7.16	6	Clear	
11:39	19.9	0.47	7.27	9	clear	
11:40	19.6	0.61	7.30	12	Slight cloudy	
11:41	19.5	0.51	7.28	15	"	
11:42	19.6	0.49	7.28	18	"	
11:42	19.7	0.50	7.27	19	"	

Project Name: Chevron - Castro Valley

Date: 10/7/94

Site Address: 5269 Crow Canyon Rd., Castro Valley

Page 5 of 10

Project Number: 020104228.0610

Project Manager: Ken Johnson

Well ID: C-11

DTW Measurements:

Well Diameter: 3"

Initial: 21.60

Calc Well Volume: 4.55 gal

Recharge: _____

Well Volume: 13.65 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
	<u>2</u> C F					
12:02	22.1	0.91	6.77	2	dark	
12:03	20.8	1.36	6.80	5	less dark	
12:04	19.7	1.14	6.74	7	darken	
12:05	19.3	1.40	6.69	9	"	
12:06	19.2	1.41	6.72	11	"	dry @ 11 gal
12:08	19.5	1.43	6.77	13	very dark	Recharging dry @ 13 gal

Project Name: Chevron - Castro Valley

Date: 10/17/94

Site Address: 5269 Crow Canyon Rd., Castro Valley

Page 6 of 10

Project Number: 020104228.0610

Project Manager: Ken Johnson

Well ID: C-8

DTW Measurements:

Initial: 12.92

Calc Well Volume: 1.96 gal

Well Diameter: 2"

Recharge: _____

Well Volume: 5.9 gal

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

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

Time	Temp	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
	<u>X</u> C F					
12:16	20.1	1.20	6.79	2	cloudy	
12:17	21.2	1.04	6.87	3	clear	dry let Recharge
12:22	21.2	0.70	6.91	4	clear	dry @ 4 gal
				8		
				6		

Project Name: Chevron - Castro Valley

Date: 10 17 1994

Site Address: 5269 Crow Canyon Rd., Castro Valley

Page 7 of 10

Project Number: 020104228.0610

Project Manager: Ken Johnson

Well ID: C-18

DTW Measurements:

Well Diameter: 3"

Initial: 13.35 Calc Well Volume: 6.11 gal

Recharge: _____ Well Volume: 18.33 gal

Purge Method _____ Pump Depth _____ ft.

Peristaltic _____ Hand Bailed _____

Gear Drive _____ Air Lift _____

Submersible X Other _____

Instruments Used

YSI: X _____ Other: _____

Hydac: _____

Omega: _____

Time	Temp	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
	<u>X</u> C F					
12:38	22.5	0.90	7.12	4	Cloudy	
12:39	20.4	0.90	7.13	7	less cloudy	
12:40	20.1	0.94	7.08	9	"	
12:41	20.0	0.90	6.99	11	"	
12:42	19.9	0.91	7.01	13	dark	
12:43	19.9	0.92	7.01	15	dark	
12:44	20.1	0.93	7.02	17	dark	
12:45	20.4	0.92	7.03	19	dark	

odor

Project Name: Chevron - Castro Valley

Date: 10/17/94

Site Address: 5269 Crow Canyon Rd., Castro Valley

Page 8 of 10

Project Number: 020104228.0610

Project Manager: Ken Johnson

Well ID: C-1

DTW Measurements:

Well Diameter: 4"

Initial: 24.71 Calc Well Volume: 14.5 gal

Recharge: _____ Well Volume: 43.6 gal

Purge Method _____ Pump Depth _____ ft.

Peristaltic _____ Hand Bailed _____

Gear Drive _____ Air Lift _____

Submersible X Other _____

Instruments Used

YSI: X

Other: _____

Hydac: _____

Omega: _____

Time	Temp	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
	<u>X</u> C <u>F</u>					
12:52	20.7	1.09	6.71	0	S LIGHT Cloudy	
12:54	21.1	0.73	6.62	16	cloudy	
12:56	20.9	1.23	6.71	24	dark	dye @ 24 gal let Recharge
13:00	21.5	1.24	6.78	26	dark	dye @ 26 gal
13:01	21.6	1.25	6.80	27	dark	dye @ 27 gal

odor

Project Name: Chevron - Castro Valley

Date: 10/12/194

Site Address: 5269 Crow Canyon Rd., Castro Valley

Page 9 of 10

Project Number: 020104228.0610

Project Manager: Ken Johnson

Well ID: C-3

DTW Measurements: 40.30 31.80 (3.31) 46

Well Diameter: 4"

Initial: 28.49

Calc Well Volume: 2.27 gal 2.18

Recharge: _____

Well Volume: 23.13 gal 6.55

Purge Method Pump Depth _____ ft.

Peristaltic _____ Hand Bailed _____

Gear Drive _____ Air Lift _____

Submersible X Other _____

Instruments Used

YSI: _____

Hydac: X

Omega: _____

Other: _____

Time	Temp	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
	<u>X</u> C F					
13:13	22.7	1.24	6.84	2	clear	
13:14	22.9	1.62	6.84	3	slight cloudy	
13:14	22.6	1.57	6.82	4	cloudy	
13:15	21.9	1.58	6.81	6	cloudy	dye @ 6 gal
13:20	22.1	1.62	6.80	7	dary	dye @ 7 gal

Strong color

Project Name: Chevron - Castro Valley

Date: 10/17/94

Site Address: 5269 Crow Canyon Rd., Castro Valley

Page 10 of 10

Project Number: 020104228.0610

Project Manager: Ken Johnson

Well ID: C-6

DTW Measurements:

Well Diameter: 44

Initial: 19.19

Calc Well Volume: 2.21 gal

Recharge: _____

Well Volume: 23.13 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
	C F					
13:31	23.1	1.25	6.86	4	clear	
13:32	20.5	1.24	6.87	8	clear	
13:33	20.4	1.26	6.86	10	slight cloud	dye @ 10 gal
12:35	20.5	1.29	6.85	11	slight cloud	dye @ 11 gal
13:37	20.7	1.30	6.85	12	11	dye @ 12 gal

clear

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

October 22, 1994

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

RE: GTEL Client ID: 020104228
Login Number: C4100163
Project ID (number): 020104228.0610
Project ID (name): CHEVRON/#9-5607, Castro Valley, CA

Dear Ken Johnson:

Enclosed please find the analytical results for the samples received by GTEL Environmental Laboratories, Inc. on 10/10/94.

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: 020104228
 Login Number: C4100163
 Project ID (number): 020104228.0610
 Project ID (name): CHEVRON/#9-5607, Castro Valley, CA

ANALYTICAL RESULTS

Volatile Organics
 Method: EPA 8020
 Matrix: Aqueous

GTEL Sample Number	C4100163-01	C4100163-02	C4100163-03	C4100163-04
Client ID	TBLB	C-16	C-15	C-10A
Date Sampled	10/07/94	10/07/94	10/07/94	10/07/94
Date Analyzed	10/15/94	10/16/94	10/16/94	10/16/94
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting		Concentration:			
	Limit	Units				
Benzene	0.5	ug/L	< 0.5	< 0.5	13.	< 0.5
Toluene	0.5	ug/L	< 0.5	< 0.5	0.8	< 0.5
Ethylbenzene	0.5	ug/L	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes (total)	0.5	ug/L	< 0.5	< 0.5	1.2	< 0.5
TPH as GAS	50	ug/L	< 50	< 50	440	< 50
BFB (Surrogate)	--	%	125.	128.	128.	125.

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8020:

Analyte list modified to include additional compounds. Acceptability limits for recovery in the Bromofluorobenzene (BFB) surrogate is 62-129%.
 Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual protocols, May 1988 revision.

GTEL Concord, CA
 C4100163:1

GTEL Client ID: 020104228
 Login Number: C4100163
 Project ID (number): 020104228.0610
 Project ID (name): CHEVRON/#9-5607.Castro Valley. CA

ANALYTICAL RESULTS

Volatile Organics
 Method: EPA 8020
 Matrix: Aqueous

GTEL Sample Number	C4100163-05	C4100163-06	C4100163-07	C4100163-08
Client ID	C-106	C-11	C-8	C-12
Date Sampled	10/07/94	10/07/94	10/07/94	10/07/94
Date Analyzed	10/16/94	10/16/94	10/16/94	10/18/94
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting		Concentration:			
	Limit	Units				
Benzene	0.5	ug/L	< 0.5	< 0.5	< 0.5	85.
Toluene	0.5	ug/L	< 0.5	< 0.5	< 0.5	29.
Ethylbenzene	0.5	ug/L	< 0.5	< 0.5	< 0.5	17.
Xylenes (total)	0.5	ug/L	< 0.5	< 0.5	< 0.5	63.
TPH as GAS	50.	ug/L	< 50.	< 50.	< 50.	830
BFB (Surrogate)	--	X	125.	128.	125.	88.1

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8020:

Analyte list modified to include additional compounds. Acceptability limits for recovery in the Bromofluorobenzene (BFB) surrogate is 62-129%.
 Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual protocols, May 1988 revision.

GTEL Concord, CA
 C4100163:2



GTEL Client ID: 020104228
 Login Number: C4100163
 Project ID (number): 020104228.0610
 Project ID (name): CHEVRON/#9-5607, Castro Valley, CA

ANALYTICAL RESULTS

Volatile Organics
 Method: EPA 8020
 Matrix: Aqueous

GTEL Sample Number	C4100163-09	C4100163-10	C4100163-11	
Client ID	C-1	C-3	C-5	
Date Sampled	10/07/94	10/07/94	10/07/94	
Date Analyzed	10/17/94	10/17/94	10/17/94	
Dilution Factor	100.	50.0	100.	

Analyte	Reporting		Concentration:			
	Limit	Units				
Benzene	0.5	ug/L	5100	1600	5900	--
Toluene	0.5	ug/L	1200	390	410	--
Ethylbenzene	0.5	ug/L	1400	1200	1400	--
Xylenes (total)	0.5	ug/L	4300	6100	3800	--
TPH as GAS	50.	ug/L	27000	40000	35000	--
BFB (Surrogate)	--	%	125.	127.	123.	--

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8020:

Analyte list modified to include additional compounds. Acceptability limits for recovery in the Bromofluorobenzene (BFB) surrogate is 62-129%.
 Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual protocols, May 1988 revision.

GTEL Concord, CA
 C4100163:3

GTEL Client ID: 020104228
Login Number: C4100163
Project ID (number): 020104228.0610
Project ID (name): CHEVRON/#9-5607, Castro Valley, CA

QUALITY CONTROL RESULTS

Volatile Organics
Method: EPA 8020
Matrix: Aqueous

Method Blank Results

QC Batch No: G101594-5
Date Analyzed: 15-OCT-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: 020104228
 Login Number: C4100163
 Project ID (number): 020104228.0610
 Project ID (name): CHEVRON/#9-5607, Castro Valley, 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: C4100139-02		Spike ID: G101594-1		Dup. ID: G101594-2				
Units: ug/L	Analysis Date: 14-OCT-94		16-OCT-94		16-OCT-94			Client ID: Batch QC	
Benzene	< 0.50	20.0	23.0	115.	23.1	116.	0.8	34	57.3-138%
Toluene	< 0.50	20.0	22.2	111.	21.7	109.	1.8	31	63-134%
Ethylbenzene	< 0.50	20.0	21.3	107.	21.5	108.	0.9	38	59.3-137%
Xylenes (Total)	< 0.50	60.0	67.2	112.	67.1	112.	0	31	59.3-144%

Notes:

