GROUNDWATER TECHNOLOGY, INC.

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

May 27, 1994

Project No. 02010 4233

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. 9-1924
4904 Southfront Road
Livermore, California

Dear Mr. Hunter:

Groundwater Technology, Inc. presents the quarterly groundwater monitoring and sampling data collected on April 21, 1994. Seventeen of eighteen 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. The April 21, 1994, potentiometric surface map includes the data collected the same day by Kaprealian Engineering, Inc. for the Unocal station northwest of the Chevron site. Monitoring well MW-14 was not sampled due to insufficient water and monitoring well MW-18 is paved over. After measuring DTW, the monitoring wells 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 (BTEX), and total petroleum hydrocarbons-as-gasoline (TPH-G). 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

T. Watchers

Tim Watchers
Project Manager

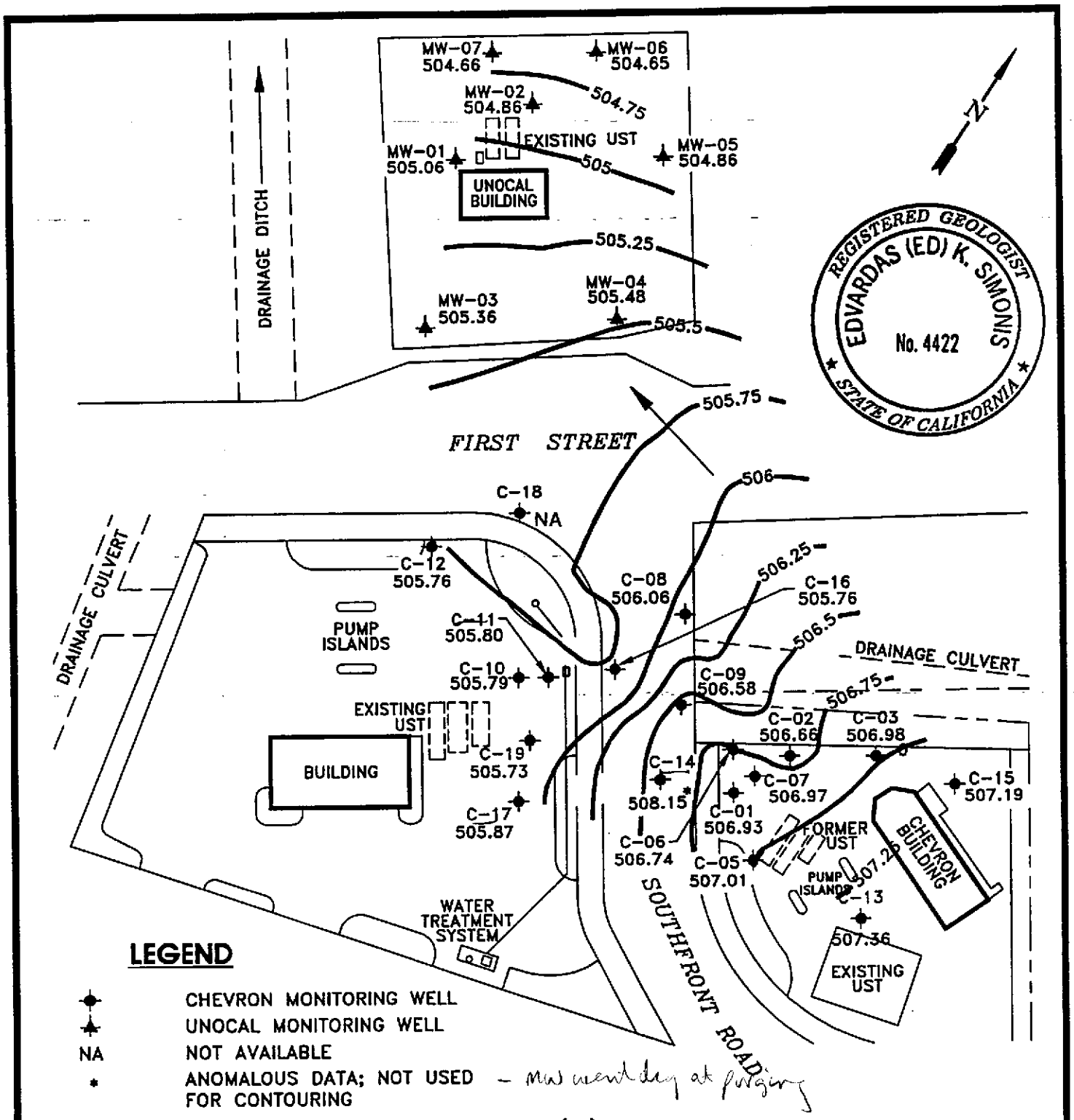
PR KJ
Attachment 1 Figure
Attachment 2 Table
Attachment 3 Protocol and Field Data Sheets
Attachment 4 Laboratory Report

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

QM&SR

ATTACHMENT 1

Figure



LEGEND

- ✦ CHEVRON MONITORING WELL
- ✦ UNOCAL MONITORING WELL
- NA NOT AVAILABLE
- * ANOMALOUS DATA; NOT USED FOR CONTOURING — MW went dry at purging
- 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 80
SCALE

POTENTIOMETRIC SURFACE MAP (4/21/94)

CLIENT: CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION NO. 9-1924	FILE: 4233PSM	PROJECT NO.: 02010-4233	PM	PE/RG: EKS
LOCATION: 4904 SOUTHFRONT ROAD LIVERMORE, CALIFORNIA	REV.			FIGURE: 1
	DES.: TW	DET.: SS	DATE: 4/28/94	

ATTACHMENT 2

Table

Table
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA

CHEVRON SERVICE STATION #9-1924 -
4904 SOUTHFRONT ROAD, LIVERMORE, CALIFORNIA

WELL ID/ ELEVATION (TOC)	DATE	BENZENE (ppb)	TOLUENE (ppb)	ETHYL-BENZENE (ppb)	XYLENES (ppb)	TPH-G (ppb)	TOG (ppb)	1,2-DCA (ppb)	OTHER (ppb)	MC (ppb)	1,1,1-TCA (ppb)	1,1-DCA (ppb)	PCE (ppb)	DTW (feet)	SPT (feet)	WTE (feet)
C-1	03/28/86													11.75	0.00	508.64
520.39	03/15/88	770	87	610	2,100	27,000								13.50	0.00	506.89
	05/10/88													13.65	0.00	506.74
	06/10/88													14.72	0.00	505.67
	07/25/88													13.50	0.00	506.89
	10/13/88	220	11	62	130	3,200								12.89	0.00	507.50
	01/01/89													12.89	0.00	507.50
	01/12/89	820	43	490	260	4,000										
	04/10/89	100	ND	70	50	4,000	ND	ND						13.65	0.00	506.74
	04/10/89	100	ND	60	50	4,000		ND						13.65	0.00	506.74
	06/26/89	97	20	60	50	600	ND	3						13.94	0.00	506.45
	06/26/89	86	15	44	35	570		1.7						13.94	0.00	506.45
	10/13/89	64	ND	51	48	1,600	ND	ND	5					13.92	0.00	506.47
	01/03/90	36	0.68	30	30	1,100		1						13.80	0.00	506.59
	05/08/90	37	9.2	40	32	1,300		1.2		ND		ND		13.91	0.00	506.48
	09/29/90	19	1.2	32	31	350		ND	ND	0.7	1.4	ND		13.93	0.00	506.46
	01/03/91	12	ND	17	14	400		ND	ND	ND	ND	ND	ND	13.85	0.00	506.54
	04/12/91													13.51	0.00	506.88
	09/04/91													14.10	0.00	506.29
	04/06/92	12	0.8	31	31	1,000		ND	ND	ND	ND	ND	ND	13.06	0.00	507.33
	07/28/92	47	110	96	260	4,200								13.93	0.00	506.46
	10/16/92	11	ND	32.0	55.0	1,800								14.45	0.00	505.94
	01/14/93*	24	ND	98	62	2,000								11.23	0.00	509.16
	03/26/93	21	12	120	100	4,400								10.94	0.00	509.45
	04/22/93	26	44	580	330	18,000								16.25	SHEEN	504.14
	07/20,21/93	73	11	470	470	7,100**								15.29	0.00	505.10
	10/20/93	19	26	260	190	880**								13.50	0.00	506.89
	01/20/94	13	10	130	60	2,900								13.26	0.00	507.13
	04/21/94	8.8	7.8	82	34	1,400								13.46	0.00	506.93
C-2	03/28/86													11.98	0.00	508.78
520.76	03/15/88	3,900	1,900	1,200	1,200	22,000								13.77	0.00	506.99
	05/10/88													14.03	0.00	506.73
	06/10/88													15.12	0.00	505.64
	07/25/88													13.86	0.00	506.90
	10/13/88	ND	ND	ND	ND	ND								14.11	0.00	506.65
	01/01/89													12.83	0.00	507.93
	01/12/89	25	3	83	59	1,000										
	04/10/89	2.5	ND	15	12	600	ND	ND						14.04	0.00	506.72
	04/10/89	ND	ND	11	11	ND		ND						14.04	0.00	506.72
	06/26/89	5.3	8	18	14	640	ND	ND						14.34	0.00	506.42
	06/26/89	3.7	0.6	13	8.2	750		2						14.34	0.00	506.42
	10/13/89	ND	ND	17	10	630		ND						13.92	0.00	506.84
	01/03/90	3	ND	19	17	880		1						14.11	0.00	506.65
	05/08/90	1.3	2.7	8.4	11	340		1.1		ND		ND		14.28	0.00	506.48
	09/29/90	ND	ND	4.6	1.8	74		ND	ND	1.7	0.5	ND		14.25	0.00	506.51
	01/03/91	270	ND	79	93	2,000		ND	ND	ND	ND	ND	ND	14.15	0.00	506.61
	04/12/91													13.86	0.00	506.90
	09/04/91													14.50	0.00	506.26
	04/06/92	ND	ND	54.0	6.1	1,200		ND	ND	ND	ND	ND	ND	13.47	0.00	507.29
	07/28/92	5.2	2.9	26	16	1,000								14.35	0.00	506.41
	10/16/92	ND	2.2	20	10	2,000								14.84	0.00	505.92
	01/14/93*	49	50	31	29	1,800								11.22	0.00	509.54
	03/26/93	15	12	14	6	820**								10.77	0.00	509.99
	04/22/93	12	12	28	29	2,000								12.93	0.00	507.83
	07/20,21/93	28	8	4	4	1,100**								16.02	0.00	504.74
	10/20/93	140	18	22	27	1,600**								13.84	0.00	506.92
	01/20/94	36	3	7	3	760								13.60	0.00	507.16
	04/21/94	23	2.8	6.8	6.8	430								14.10	0.00	506.66

GROUNDWATER TECHNOLOGY ®

Table
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA

CHEVRON SERVICE STATION #9-1924
4904 SOUTHFRONT ROAD, LIVERMORE, CALIFORNIA

WELL ID/ ELEVATION (TOC)	DATE	BENZENE (ppb)	TOLUENE (ppb)	ETHYL-BENZENE (ppb)	XYLENES (ppb)	TPH-G (ppb)	TOG (ppb)	1,2-DCA (ppb)	OTHER (ppb)	MC (ppb)	1,1,1-TCA (ppb)	1,1-DCA (ppb)	PCE (ppb)	DTW (feet)	SPT (feet)	WTE (feet)
C-3	03/28/86													12.24	0.00	509.07
521.31	03/15/88	86	8	30	36.0	2,100								14.21	0.00	507.10
	05/10/88													14.43	0.00	506.88
	06/10/88													15.53	0.00	505.78
	07/25/88													14.22	0.00	507.09
	10/13/88	ND	ND	ND	ND	ND								14.10	0.00	507.21
	01/01/89													12.70	0.00	508.61
	04/10/89	2.1	ND	4.4	2.6	200	ND	1.4						14.36	0.00	506.95
	06/26/89	1.1	0.7	4.9	1.6	260	ND	1.5						14.74	0.00	506.57
	10/13/89	ND	ND	ND	ND	ND		ND						14.70	0.00	506.61
	01/03/90	ND	ND	0.9	1.4	ND		0.7						14.42	0.00	506.89
	05/08/90	ND	ND	ND	ND	ND		0.7		ND		ND		14.65	0.00	506.66
	09/27/90	ND	1.0	ND	ND	71		ND	ND	1.1	1.6	ND		14.67	0.00	506.64
	01/03/91	ND	ND	ND	ND	57		ND	ND	ND	ND	ND	ND	14.58	0.00	506.73
	04/12/91	ND	ND	1.6	ND	98		ND	ND	ND	ND	ND	ND	14.23	0.00	507.08
	09/04/91	ND	ND	ND	ND	64		ND	ND	ND	ND	ND	ND	14.88	0.00	506.43
	04/06/92	ND	ND	0.8	ND	88		ND	ND	ND	ND	ND	ND	13.83	0.00	507.48
	07/28/92	ND	ND	0.5	1.1	80								14.80	0.00	506.51
	10/16/92	ND	ND	6.6	11	1,400								15.23	0.00	506.08
	01/14/93*	ND	ND	ND	1.3	100								11.45	0.00	509.86
	03/26/93	0.7	1	ND	ND	74								11.27	0.00	510.04
	04/22/93	ND	ND	ND	ND	ND***								12.61	0.00	508.70
	07/20,21/93	ND	ND	ND	ND	ND								16.17	0.00	505.14
	10/20/93	ND	1	ND	0.8	ND								14.23	0.00	507.08
	01/20/94	ND	ND	ND	ND	ND								14.01	0.00	507.30
	04/21/94	ND	ND	ND	ND	ND								14.33	0.00	506.98
C-5	03/28/86													12.00	0.00	508.82
520.82	03/15/88	82	7	77	95	1,600								13.75	0.00	507.07
	05/10/88													13.92	0.00	506.90
	07/10/88													13.72	0.00	507.10
	07/25/88													13.72	0.00	507.10
	10/13/88	ND	ND	ND	ND	2,500								13.84	0.00	506.98
	01/01/89													13.41	0.00	507.41
	01/12/89	42	3	44	52	ND									0.00	520.82
	04/10/89	2.6	ND	6.2	5.5	180	ND	1.4						13.88		
	06/26/89	7.6	0.8	40	56	420	ND	1.5						14.14	0.00	506.68
	10/13/89	ND	ND	10	ND	620	ND	ND						14.15	0.00	506.67
	01/03/90	0.7	ND	8	6	ND		ND						14.10	0.00	506.72
	05/08/90	0.6	0.8	11	7.2	140		0.8		ND		ND		14.00	0.00	506.82
	09/27/90	ND	3.2	5.2	6.4	360		ND	ND	0.7	ND	ND		14.00	0.00	506.82
	01/03/91	ND	ND	ND	3	90		ND	ND	ND	ND	ND	ND	14.00	0.00	506.82
	04/12/91	12	ND	19	7	270		0.6	ND	ND	ND	ND	ND	13.71	0.00	507.11
	09/04/91	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	14.30	0.00	506.52
	04/06/92	12	ND	40	ND	670		ND	ND	ND	ND	ND	ND	13.29	0.00	507.53
	07/28/92	15	ND	1.8	0.5	130								14.13	0.00	506.69
	10/16/92	ND	ND	ND	1.2	ND								14.68	0.00	506.14
	01/14/93*	13	ND	110	10	2,300								11.87	0.00	508.95
	03/26/93															
	04/22/93	220	18	120	65	2,300**								12.12	0.00	508.70
	07/20,21/93	18	5	8	14	970**								16.04	0.00	504.78
	10/20/93	7	5	3	15	2,200								14.10	0.00	506.72
	01/20/94	2	1	11	0.6	440								13.60	0.00	507.22
	04/21/94	2.7	2.6	21	1.5	490								13.81	0.00	507.01

GROUNDWATER TECHNOLOGY ®

Table
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA

CHEVRON SERVICE STATION #9-1924-
4904 SOUTHFRONT ROAD, LIVERMORE, CALIFORNIA

WELL ID/ ELEVATION (TOC)	DATE	BENZENE (ppb)	TOLUENE (ppb)	ETHYL-BENZENE (ppb)	XYLENES (ppb)	TPH-G (ppb)	TOG (ppb)	1,2-DCA (ppb)	OTHER (ppb)	MC (ppb)	1,1,1-TCA (ppb)	1,1-DCA (ppb)	PCE (ppb)	DTW (feet)	SPT (feet)	WTE (feet)
C-6	03/26/86													11.12	0.00	508.50
519.62	03/15/88	870	4,600	1,500	8,200	46,000								12.93	0.00	506.69
	05/10/88	1,400	10,000	3,000	19,000	86,000								13.03	0.00	506.59
	06/10/88													14.11	0.00	505.51
	07/25/88													12.95	0.00	506.67
	10/13/88	300	600	260	1,600	5,300								13.14	0.00	506.48
	01/01/89													12.14	0.00	507.48
	01/12/89	260	110	270	720	5,000										
	04/12/89	90	190	190	680	5,000	4.0	ND						12.98	0.00	506.64
	06/26/89	77	250	140	610	3,600	ND	ND						13.39	0.00	506.23
	10/13/89	32	81	100	530	3,500	ND	ND						13.40	0.00	506.22
	01/03/90	20	97	65	410	3,200		1						13.18	0.00	506.44
	05/08/90	17	140	ND	400	1,800		1.6		ND		ND		13.39	0.00	506.23
	09/29/90	58	210	260	2,100	8,000		1.0	ND	ND	2.4	1.6		13.32	0.00	506.30
	01/03/91	4	79	59	380	2,300		0.5	ND	ND	ND	ND	ND	13.19	0.00	506.43
	04/12/91													12.91	0.00	506.71
	09/04/91													13.56	0.00	506.06
	04/06/92	ND	120	740	3,400	44,000		ND	ND	ND	ND	ND	ND	12.48	0.00	507.14
	07/28/92	220	1,100	3,000	13,000	120,000								13.47	0.00	506.15
	10/16/92	ND	830	3,300	9,600	570,000								13.95	0.00	505.67
	01/14/93*	ND	25	460	980	19,000								10.39	0.00	509.23
	03/26/93	30	90	290	1,100	11,000**								9.83	0.00	509.79
	04/22/93	29	170	640	2,400	20,000								11.32	0.00	508.30
	07/20,21/93	130	490	1,000	4,900	32,000**								14.92	TRACE	504.70
	10/20/93	290	790	2,500	7,600	77,000**								12.91	0.00	506.71
	01/20/94	10	86	510	29	22,000								12.68	TRACE	506.94
	04/21/94	17	42	160	210	6500								12.88	0.00	506.74
C-7	03/28/86													11.67	0.00	508.63
520.30	03/15/88	98	690	120	120	8,000								13.48	0.00	506.82
	05/10/88													13.60	0.00	506.70
	06/10/88													14.68	0.00	505.62
	07/25/88													13.43	0.00	506.87
	10/13/88	4,400	220	1,000	3,000	16,000								13.61	0.00	506.69
	01/01/89													12.66	0.00	507.64
	01/12/89	950	47	670	640	8,000										
	04/12/89	1,100	30	760	370	6,000	ND	ND						13.60	0.00	506.70
	06/26/89	1,300	50	600	340	6,000	ND	ND						13.88	0.00	506.42
	10/13/89	1,300	ND	160	150	3,900		ND						13.81	0.00	506.49
	01/03/90	1,200	13	180	200	5,600		1						13.71	0.00	506.59
	05/08/90	1,100	15	110	140	3,500		1.7		ND		ND		13.85	0.00	506.45
	09/29/90	580	ND	46	68	2,400		0.7	ND	ND	ND	ND	ND	13.80	0.00	506.50
	01/03/91	300	2	110	120	2,500		0.7	ND	ND	ND	ND	ND	13.71	0.00	506.59
	04/12/91	190	1	81	87	2,300		0.6	ND	ND	ND	ND	ND	13.46	0.00	506.84
	09/04/91													14.09	0.00	506.21
	10/07/91	170	1.9	97	59	4,700		ND	ND	24	ND	ND	ND			
	04/06/92	95	0.8	110	100	2,400		ND	ND	ND	ND	ND	ND	13.02	0.00	507.28
	07/28/92	120	3.4	110	110	2,000								13.76	0.00	506.54
	10/16/92	130	4.2	68	74	2,700								14.42	0.00	505.88
	01/14/93*	160	33	380	210	7,800								10.98	0.00	509.32
	03/26/93	39	9	28	15	1,400								10.61	0.00	509.69
	04/22/93	130	18	43	36	3,800								11.84	0.00	508.46
	07/20,21/93	35	18	61	87	1,900								15.36	SHEEN	504.94
	10/20/93	72	26	250	160	5,500								13.41	0.00	506.89
	01/20/94	12	12	150	69	3,600								13.19	SHEEN	507.11
	04/21/94	62	11	170	68	2,100								13.33	0.00	506.97

GROUNDWATER TECHNOLOGY ®

Table
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA

CHEVRON SERVICE STATION #9-1924
4904 SOUTHFRONT ROAD, LIVERMORE, CALIFORNIA

WELL ID/ ELEVATION (TOC)	DATE	BENZENE (ppb)	TOLUENE (ppb)	ETHYL-BENZENE (ppb)	XYLENES (ppb)	TPH-G (ppb)	TOG (ppb)	1,2-DCA (ppb)	OTHER (ppb)	MC (ppb)	1,1,1-TCA (ppb)	1,1-DCA (ppb)	PCE (ppb)	DTW (feet)	SPT (feet)	WTE (feet)
C-8	03/28/86													11.78	0.00	507.96
519.74	03/15/88	360	25	10	ND	7,500								13.63	0.00	506.11
	05/10/88													13.74	0.00	506.00
	06/10/88													14.89	0.00	504.85
	07/25/88													13.65	0.00	506.09
	10/13/88	6	5.3	ND	ND	ND								13.78	0.00	505.96
	01/01/89													12.68	0.00	507.06
	01/12/89	37	4	1	5	ND										
	04/12/89	13	ND	ND	ND	3,000	12.0	5						13.77	0.00	505.97
	06/26/89	14	6	ND	6	780	ND	4						14.03	0.00	505.71
	10/13/89	ND	ND	ND	ND	ND	ND	ND						14.06	0.00	505.68
	01/03/90	ND	ND	1	1	910		1.5						13.74	0.00	506.00
	05/07/90	3.9	6	0.5	3.4	620		1.9		ND		ND		14.10	0.00	505.64
	09/29/90	ND	1.4	ND	ND	77		ND	ND	0.6	ND	ND		13.97	0.00	505.77
	01/03/91	2	2	ND	2	67		ND	ND	0.7	ND	ND	ND	13.81	0.00	505.93
	04/12/91	4	ND	ND	ND	180		0.6	ND	ND	ND	ND	ND	13.60	0.00	506.14
	09/04/91	1.8	4.7	0.8	4.8	140		ND	ND	ND	ND	ND	ND	14.14	0.00	505.60
	04/06/92	ND	ND	ND	ND	150		ND	ND	ND	ND	ND	ND	13.12	0.00	506.62
	07/28/92	ND	ND	ND	0.8	90								14.10	0.00	505.64
	10/16/92	ND	ND	ND	ND	51								14.57	0.00	505.17
	01/14/93*	ND	1.6	1.0	3.5	120								10.95	0.00	508.79
	03/26/93															
	04/22/93	ND	0.6	0.6	0.8	68**								12.07	0.00	507.67
	07/20,21/93	ND	ND	ND	ND	ND								15.70	0.00	504.04
	10/20/93	ND	ND	ND	ND	ND								13.51	0.00	506.23
	01/20/94	ND	ND	ND	ND	ND								13.51	0.00	506.23
	04/21/94	ND	ND	ND	ND	ND								13.68	0.00	506.06
C-9	03/28/86													11.24	0.00	508.28
519.52	03/15/88	540	560	580	3,900	29,000								12.92	0.00	506.60
	05/10/88													13.12	0.00	506.40
	06/10/88													14.16	0.00	505.36
	07/25/88													13.00	0.00	506.52
	10/13/88	57	8	20	150	2,200								13.13	0.00	506.39
	01/01/89													12.19	0.00	507.33
	01/12/89	39	12	51	46	2,000										
	04/12/89	16	20	55	240	6,000	ND	2.1						13.11	0.00	506.41
	04/11/89	14	25	45	290	6,000		ND						13.11	0.00	506.41
	06/26/89	37	63	140	690	3,900	ND	ND						13.40	0.00	506.12
	10/13/89	7	ND	26	50	1,300	ND	ND						13.46	0.00	506.06
	01/03/90	ND	0.7	202	37	1,500		1.5						13.30	0.00	506.22
	05/07/90	21	33	89	500	7,100		1.9		ND		ND		13.48	0.00	506.04
	09/29/90	21	3.9	31	110	1,000		1.0	ND	0.7	1.8	1.0		13.39	0.00	506.13
519.72	01/03/91	ND	ND	32	140	3,200		0.8	ND	ND	ND	ND	ND	13.28	0.00	506.44
	04/12/91													13.00	0.00	506.72
	09/04/91													13.61	0.00	506.11
	04/06/92	ND	ND	33	130	2,800		ND	ND	ND	ND	ND	ND	12.54	0.00	507.18
	07/28/92	6.5	2.4	17	37	1,000								13.45	0.00	506.27
	10/16/92	ND	730	960	2,000	190,000								13.98	0.00	505.74
	01/14/93*	ND	ND	27	77	2,200								10.44	0.00	509.28
	03/26/93															
	04/22/93	60	40	68	98	7,300								11.43	0.00	508.29
	07/20,21/93	160	130	450	1,100	30,000**								15.20	0.00	504.52
	10/20/93	22	200	440	930	36,000								12.96	0.00	506.76
	01/20/94	55	57	27	210	12,000								12.84	0.00	506.88
	04/21/94	11	12	23	19	2,200								13.14	0.00	506.58

GROUNDWATER TECHNOLOGY ®

Table
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA

CHEVRON SERVICE STATION #9-1924-
4904 SOUTHFRONT ROAD, LIVERMORE, CALIFORNIA

WELL ID/ ELEVATION (TOC)	DATE	BENZENE (ppb)	TOLUENE (ppb)	ETHYL-BENZENE (ppb)	XYLENES (ppb)	TPH-G (ppb)	TOG (ppb)	1,2-DCA (ppb)	OTHER (ppb)	MC (ppb)	1,1,1-TCA (ppb)	1,1-DCA (ppb)	PCE (ppb)	DTW (feet)	SPT (feet)	WTE (feet)
C-10	03/28/86															
520.41	03/15/88	7	ND	ND	ND	90								14.86	0.00	505.55
	05/10/88													14.90	0.00	505.51
	06/10/88													15.94	0.00	504.47
	07/25/88													14.85	0.00	505.56
	10/13/88	ND	ND	ND	ND	ND								14.90	0.00	505.51
	01/01/89													14.83	0.00	505.58
	01/12/89	ND	ND	ND	ND	ND										
	04/11/89	4.8	ND	ND	ND	ND	ND	6.1						14.90	0.00	505.51
	06/26/89	0.7	ND	ND	1.5	ND	4.0	ND						15.12	0.00	505.29
	10/13/89	ND	ND	ND	ND	ND	ND	ND						15.11	0.00	505.30
	01/03/90	ND	ND	ND	ND	ND		3						15.01	0.00	505.40
	05/07/90	ND	ND	ND	ND	ND		ND		ND		ND		15.53	0.00	504.88
	09/27/90	ND	ND	ND	ND	ND		ND	ND	1.2	ND	ND		15.20	0.00	505.21
	01/03/91	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	15.06	0.00	505.35
	04/12/91	16	ND	2.9	2.7	110		1	ND	ND	ND	ND	ND	14.86	0.00	505.55
	09/04/91	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	15.22	0.00	505.19
	04/06/92	ND	ND	ND	ND	57		1.1	ND	ND	ND	ND	ND	14.21	0.00	506.20
	07/28/92	ND	ND	ND	ND	ND								14.78	0.00	505.63
	10/16/92	ND	ND	ND	ND	ND								15.51	0.00	504.90
	01/14/93*	4.7	ND	2.3	1.6	88								13.44	0.00	506.97
	03/26/93	ND	ND	ND	ND	ND								12.55	0.00	507.86
	04/22/93	ND	ND	ND	ND	ND								13.74	0.00	506.67
	07/20,21/93	ND	ND	ND	ND	100								16.49	0.00	503.92
	10/20/93	ND	ND	ND	ND	ND								14.64	0.00	505.77
	01/20/94	ND	ND	ND	ND	ND								14.39	0.00	506.02
	04/21/94	0.8	ND	ND	ND	ND								14.62	0.00	505.79
C-11	03/28/86													13.82	0.00	506.22
520.04	03/15/88													14.49	0.00	505.55
	05/10/88													14.31	0.00	505.73
	06/10/88													15.47	0.00	504.57
	07/25/88													13.60	0.00	506.44
	10/14/88	240	33	4.7	67	2								14.53	0.00	505.51
	01/01/89													14.10	0.00	505.94
	01/12/89	ND	0.8	ND	ND	ND										
	04/12/89	4.3	ND	ND	ND	ND	ND	ND						14.36	0.00	505.68
	06/26/89	2	ND	ND	ND	ND	4.0	ND						14.58	0.00	505.46
	10/13/89	ND	ND	ND	ND	ND	ND	ND						14.71	0.00	505.33
	01/03/90	ND	ND	ND	0.7	ND		ND						14.61	0.00	505.43
	05/08/90	12	11	0.9	22	110		ND		ND		ND		15.53	0.00	504.51
	09/28/90	2.0	1.4	ND	3.3	ND		ND	ND	1.2	ND	ND		15.51	0.00	504.53
	01/03/91	2	ND	ND	2	ND		ND	ND	ND	ND	ND	1	14.63	0.00	505.41
	04/12/91													14.30	0.00	505.74
	09/04/91													14.84	0.00	505.20
	04/06/92	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	13.56	0.00	506.48
	07/28/92	ND	ND	ND	ND	ND								14.39	0.00	505.65
	10/16/92	ND	ND	ND	ND	ND								15.79	0.00	504.25
	01/14/93*	ND	1.3	0.7	6	94								12.14	0.00	507.90
	03/26/93	2	ND	0.6	1	130								11.81	0.00	508.23
	04/22/93	0.8	ND	ND	ND	ND								12.94	0.00	507.10
	07/20,21/93	3	1	ND	1	1,200								16.48	0.00	503.56
	10/20/93	2	ND	ND	ND	ND**								14.46	0.00	505.58
	01/20/94	5	0.6	3	4	140								14.12	0.00	505.92
	04/21/94	1.7	0.6	1.2	1.6	86								14.24	0.00	505.80

Table
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA

CHEVRON SERVICE STATION #9-1924-
4904 SOUTHFRONT ROAD, LIVERMORE, CALIFORNIA

WELL ID/ ELEVATION (TOC)	DATE	BENZENE (ppb)	TOLUENE (ppb)	ETHYL-BENZENE (ppb)	XYLENES (ppb)	TPH-G (ppb)	TOG (ppb)	1,2-DCA (ppb)	OTHER (ppb)	MC (ppb)	1,1,1-TCA (ppb)	1,1-DCA (ppb)	PCE (ppb)	DTW (feet)	SPT (feet)	WTE (feet)
C-12	03/28/86	-	-	-	-	-	-	-	-	-	-	-	-	13.61	0.00	506.21
519.82	03/15/88	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	14.55	0.00	505.27
	05/10/88	-	-	-	-	-	-	-	-	-	-	-	-	14.57	0.00	505.25
	06/10/88	-	-	-	-	-	-	-	-	-	-	-	-	15.63	0.00	504.19
	07/25/88	-	-	-	-	-	-	-	-	-	-	-	-	14.51	0.00	505.31
	10/13/88	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	14.60	0.00	505.22
	01/12/89	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	14.62	0.00	505.20
	04/11/89	ND	ND	ND	ND	ND	ND	ND	-	-	-	-	-	14.61	0.00	505.21
	06/26/89	ND	ND	ND	ND	ND	ND	ND	-	-	-	-	-	14.75	0.00	505.07
	10/13/89	ND	ND	ND	ND	ND	ND	ND	-	-	-	-	-	14.77	0.00	505.05
	01/03/90	ND	ND	ND	0.6	ND	-	ND	-	-	-	-	-	14.85	0.00	504.97
	05/07/90	ND	ND	ND	ND	ND	-	ND	-	ND	-	ND	-	14.75	0.00	505.07
	09/27/90	ND	ND	ND	ND	ND	-	ND	ND	1.2	ND	ND	-	14.61	0.00	505.21
	01/03/91	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	14.70	0.00	505.12
	04/12/91	-	-	-	-	-	-	-	-	-	-	-	-	14.52	0.00	505.30
	09/04/91	-	-	-	-	-	-	-	-	-	-	-	-	14.83	0.00	504.99
	04/06/92	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	13.81	0.00	506.01
	07/28/92	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	14.32	0.00	505.50
	10/16/92	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	15.12	0.00	504.70
	01/14/93*	ND	ND	ND	1.7	65	-	-	-	-	-	-	-	13.23	0.00	506.59
	03/26/93	0.9	ND	ND	ND	ND	-	-	-	-	-	-	-	12.20	0.00	507.62
	04/22/93	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	13.21	0.00	506.61
	07/20,21/93	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	16.71	0.00	503.11
	10/20/93	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	14.19	0.00	505.63
	01/20/94	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	14.05	0.00	505.77
	04/21/94	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	14.06	0.00	505.76
C-13	03/28/86	-	-	-	-	-	-	-	-	-	-	-	-	12.95	0.00	509.29
522.24	03/15/88	2	ND	9	3	250	-	-	-	-	-	-	-	14.82	0.00	507.42
	05/10/88	-	-	-	-	-	-	-	-	-	-	-	-	15.03	0.00	507.21
	06/10/88	-	-	-	-	-	-	-	-	-	-	-	-	16.10	0.00	506.14
	07/25/88	-	-	-	-	-	-	-	-	-	-	-	-	14.73	0.00	507.51
	10/13/88	1.9	ND	ND	ND	ND	-	-	-	-	-	-	-	14.91	0.00	507.33
	01/01/89	-	-	-	-	-	-	-	-	-	-	-	-	14.10	0.00	508.14
	01/12/89	ND	0.6	4	ND	ND	-	-	-	-	-	-	-	-	-	-
	04/10/89	ND	ND	8	ND	ND	ND	ND	-	-	-	-	-	14.99	0.00	507.25
	06/26/89	0.3	ND	ND	ND	ND	ND	ND	-	-	-	-	-	15.16	0.00	507.08
	10/13/89	ND	ND	ND	ND	ND	ND	ND	-	-	-	-	-	15.23	0.00	507.01
	01/03/90	ND	ND	0.5	0.6	ND	-	ND	-	-	-	-	-	15.15	0.00	507.09
	05/08/90	ND	ND	ND	ND	ND	-	ND	-	ND	-	ND	-	15.02	0.00	507.22
	09/27/90	ND	0.6	ND	ND	ND	-	ND	ND	1.7	ND	ND	-	15.11	0.00	507.13
	01/03/91	ND	ND	ND	0.6	ND	-	ND	ND	ND	ND	ND	ND	15.08	0.00	507.16
	04/12/91	-	-	-	-	-	-	-	-	-	-	-	-	14.77	0.00	507.47
	09/04/91	-	-	-	-	-	-	-	-	-	-	-	-	15.43	0.00	506.81
	04/06/92	ND	ND	ND	ND	66	-	ND	ND	ND	ND	ND	ND	14.43	0.00	507.81
	07/28/92	8.2	ND	ND	1.1	60	-	-	-	-	-	-	-	15.37	0.00	506.87
	10/16/92	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	15.87	0.00	506.37
	01/14/93*	ND	ND	ND	1.3	100	-	-	-	-	-	-	-	12.83	0.00	509.41
	03/26/93	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	12.59	0.00	509.65
	04/22/93	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	13.16	0.00	509.08
	07/20,21/93	4	13	2	7	99	-	-	-	-	-	-	-	16.52	0.00	505.72
	10/20/93	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	15.13	0.00	507.11
	01/20/94	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	14.65	0.00	507.59
	04/21/94	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	14.88	0.00	507.36

GROUNDWATER TECHNOLOGY

Table
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA

CHEVRON SERVICE STATION #9-1924
4904 SOUTHFRONT ROAD, LIVERMORE, CALIFORNIA

WELL ID/ ELEVATION (TOC)	DATE	BENZENE (ppb)	TOLUENE (ppb)	ETHYL-BENZENE (ppb)	XYLENES (ppb)	TPH-G (ppb)	TOG (ppb)	1,2-DCA (ppb)	OTHER (ppb)	MC (ppb)	1,1,1-TCA (ppb)	1,1-DCA (ppb)	PCE (ppb)	DTW (feet)	SPT (feet)	WTE (feet)
C-14	03/28/86															
520.08	03/15/88															
	05/10/88	13,000	29,000	2,700	18	120,000								13.39	0.00	506.69
	06/10/88													14.65	0.00	505.43
	07/25/88													13.47	0.00	506.61
	10/13/88	ND	ND	ND	ND	ND								13.58	0.00	506.50
	01/01/89													13.00	0.00	507.08
	01/12/89	ND	ND	ND	ND	NS										
	04/12/89	ND	ND	ND	ND	NS	ND	ND						13.47	0.00	506.61
	06/26/89	14,000	25,000	3,400	26,000	140,000		30						13.80	0.00	506.28
	10/13/89	12,000	16,000	1,600	13,000	86,000								13.62	0.00	506.46
	01/03/90	9,500	16,000	1,800	13,000	120,000		25	3					13.91	0.00	506.17
	01/04/90	3,900	8,100	1,200	7,700	76,000		18	1					13.91	0.00	506.17
	05/08/90	7,500	17,000	1,400	14,000	62,000		13		ND		ND		13.89	0.00	506.19
	09/27/90													13.78	0.00	506.30
	01/03/91													13.72	0.00	506.36
	04/12/91	750	3,800	720	9,200	60,000		ND	ND	ND	ND	ND	ND	12.97	0.00	507.11
	09/04/91	2,800	11,000	1,300	13,000	110,000								13.84	0.00	506.24
	04/06/92	190	1,800	440	5,100	41,000		ND	ND	ND	ND	ND	ND	12.44	0.00	507.64
	07/28/92	2,300	9,700	1,800	15,000	130,000								13.70	0.00	506.38
	10/16/92													14.38	0.00	505.70
	01/14/93*	220	790	220	2,700	27,000								8.80	0.00	511.28
	03/26/93	330	1,600	460	4,000	23,000**								9.12	0.00	510.96
	04/22/93	840	2,300	130	3,500	17,000								12.10	SHEEN	507.98
TRAFFIC #	07/20,21/93															
	10/20/93													14.31	0.00	505.77
	01/20/94	130	790	270	2,400	22,000								12.14	0.00	507.94
	04/21/94	88	330	72	960	9,400								11.93	0.00	508.15
C-15	03/28/86													13.14	0.00	509.27
522.41	03/15/88	ND	ND	ND	ND	ND								15.13	0.00	507.28
	05/10/88													15.40	0.00	507.01
	06/10/88													16.49	0.00	505.92
	07/25/88													15.17	0.00	507.24
	10/13/88	ND	ND	ND	ND	ND								15.33	0.00	507.08
	01/01/89													13.70	0.00	508.71
	01/12/89	ND	ND	ND	ND	ND										
	04/12/89	ND	ND	ND	ND	ND	ND	ND						15.34	0.00	507.07
	06/26/89	ND	ND	ND	ND	ND	ND	ND						15.72	0.00	506.69
	10/13/89	ND	ND	ND	ND	ND	ND	ND						15.96	0.00	506.45
	01/03/90	ND	ND	ND	ND	ND		ND						15.42	0.00	506.99
	05/08/90	ND	ND	ND	ND	ND		ND		ND		ND		15.62	0.00	506.79
	09/27/90	ND	ND	ND	ND	ND		ND	ND	2.9	ND	ND		15.59	0.00	506.82
	01/03/91	ND	ND	ND	0.6	ND		ND	ND	ND	ND	ND	ND	15.50	0.00	506.91
	04/12/91													15.21	0.00	507.20
	09/04/91													15.90	0.00	506.51
	04/06/92	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	14.88	0.00	507.53
	07/28/92	ND	ND	ND	ND	ND								15.82	0.00	506.59
	10/16/92	ND	ND	ND	ND	ND								16.25	0.00	506.16
	01/14/93*	ND	1.9	0.8	5.1	61								12.48	0.00	509.93
	03/26/93	ND	ND	ND	1	ND								12.67	0.00	509.74
	04/22/93	ND	ND	ND	ND	ND								13.60	0.00	508.81
	07/20,21/93	ND	ND	ND	ND	ND								16.87	0.00	505.54
	10/20/93	ND	ND	ND	ND	ND								15.24	0.00	507.17
	01/20/94	ND	ND	ND	ND	ND								15.01	0.00	507.40
	04/21/94	ND	ND	ND	ND	ND								15.22	0.00	507.19

GROUNDWATER TECHNOLOGY

Table
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA

CHEVRON SERVICE STATION #9-1924
4904 SOUTHFRONT ROAD, LIVERMORE, CALIFORNIA

WELL ID/ ELEVATION (TOC)	DATE	BENZENE (ppb)	TOLUENE (ppb)	ETHYL-BENZENE (ppb)	XYLENES (ppb)	TPH-G (ppb)	TOG (ppb)	1,2-DCA (ppb)	OTHER (ppb)	MC (ppb)	1,1,1-TCA (ppb)	1,1-DCA (ppb)	PCE (ppb)	DTW (feet)	SPT (feet)	WTE (feet)
C-16	03/28/86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
519.68	03/15/88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	05/10/88	1,000	73	140	180	4,500	-	-	-	-	-	-	-	13.78	0.00	505.90
	06/10/88	-	-	-	-	-	-	-	-	-	-	-	-	14.88	0.00	504.80
	07/25/88	-	-	-	-	-	-	-	-	-	-	-	-	13.69	0.00	505.99
	10/13/88	16	5.5	ND	16	1,600	-	-	-	-	-	-	-	13.80	0.00	505.88
	01/01/89	-	-	-	-	-	-	-	-	-	-	-	-	13.45	0.00	506.23
	01/12/89	360	11	78	51	1,000	-	-	-	-	-	-	-	-	-	-
	04/11/89	130	4	21	19	15,800	ND	8	-	-	-	-	-	13.78	0.00	505.90
	06/26/89	170	8	37	43	1,300	ND	ND	-	-	-	-	-	14.02	0.00	505.66
	10/13/89	20	ND	7	ND	1,000	ND	ND	-	-	-	-	-	14.01	0.00	505.67
	01/03/90	150	3	41	24	1,300	-	5	-	-	-	-	-	13.97	0.00	505.71
	05/07/90	49	4.4	29	13	480	-	4.5	-	ND	-	ND	-	14.45	0.00	505.23
	09/29/90	18	2.1	11	8.0	360	-	1.8	ND	ND	ND	ND	-	14.32	0.00	505.36
	01/03/91	12	ND	6	6	230	-	2	ND	0.8	ND	ND	ND	13.96	0.00	505.72
	04/12/91	-	-	-	-	-	-	-	-	-	-	-	-	13.74	0.00	505.94
	09/04/91	-	-	-	-	-	-	-	-	-	-	-	-	14.22	0.00	505.46
	04/06/92	30	ND	14	12.0	360	-	1.0	ND	ND	ND	ND	ND	13.18	0.00	506.50
	07/28/92	31	ND	6.8	16	210	-	-	-	-	-	-	-	13.93	0.00	505.75
	10/16/92	11	ND	5.1	3.4	140	-	-	-	-	-	-	-	14.92	0.00	504.76
	01/14/93*	24	ND	36	21	740	-	-	-	-	-	-	-	11.81	0.00	507.87
	03/26/93	22	2	16	10	730	-	-	-	-	-	-	-	11.36	0.00	508.32
	04/22/93	46	ND	24	6	850	-	-	-	-	-	-	-	12.30	0.00	507.38
TRAFFIC	07/20,21/93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/20/93	18	2	16	17	290**	-	-	-	-	-	-	-	14.00	0.00	505.68
	01/20/94	10	1	12	9	360	-	-	-	-	-	-	-	13.5	0.00	506.20
	04/21/94	15	ND	13	11	220	-	-	-	-	-	-	-	13.92	0.00	505.76

GROUNDWATER TECHNOLOGY

Table
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA

CHEVRON SERVICE STATION #9-1924
4904 SOUTHFRONT ROAD, LIVERMORE, CALIFORNIA

WELL ID/ ELEVATION (TOC)	DATE	BENZENE (ppb)	TOLUENE (ppb)	ETHYL-BENZENE (ppb)	XYLENES (ppb)	TPH-G (ppb)	TOG (ppb)	1,2-DCA (ppb)	OTHER (ppb)	MC (ppb)	1,1,1-TCA (ppb)	1,1-DCA (ppb)	PCE (ppb)	DTW (feet)	SPT (feet)	WTE (feet)
C-17	03/28/86	--	--	--	--	--	--	--	--	--	--	--	--	13.48	0.00	507.34
520.82	03/15/88	--	--	--	--	--	--	--	--	--	--	--	--	14.76	0.00	506.06
	05/10/88	--	--	--	--	--	--	--	--	--	--	--	--	14.77	0.00	506.05
	06/10/88	--	--	--	--	--	--	--	--	--	--	--	--	15.84	0.00	504.98
	07/25/88	--	--	--	--	--	--	--	--	--	--	--	--	14.63	0.00	506.19
	10/13/88	18	900	760	5,500	270,000	--	--	--	--	--	--	--	14.83	0.00	505.99
	01/01/89	--	--	--	--	--	--	--	--	--	--	--	--	14.78	0.00	506.04
	01/12/89	ND	490	2,100	6,700	190,000	--	--	--	--	--	--	--	--	--	--
	04/11/89	30	150	320	1,000	27,000	6.0	ND	--	--	--	--	--	14.83	0.00	505.99
	06/26/89	50	390	660	2,000	20,000	ND	ND	--	--	--	--	--	15.03	0.00	505.79
	06/26/89	40	420	740	2,200	27,000	--	ND	--	--	--	--	--	15.03	0.00	505.79
	10/13/89	ND	48	230	480	17,000	ND	ND	--	--	--	--	--	15.02	0.00	505.80
	01/03/90	ND	29	120	210	14,000	--	ND	--	--	--	--	--	15.10	0.00	505.72
	05/08/90	25	130	210	470	9,500	--	ND	--	ND	--	ND	--	15.12	0.00	505.70
	09/29/90	ND	ND	ND	ND	ND	--	ND	ND	ND	1.9	ND	--	14.99	0.00	505.83
	09/29/90	ND	3.4	ND	ND	ND	--	ND	ND	1.8	1.9	ND	--	14.99	0.00	505.83
	01/03/91	ND	28	56	140	3,700	--	ND	ND	1.8	1.9	ND	ND	14.92	0.00	505.90
	01/03/91	ND	10	59	150	8,600	--	ND	ND	ND	ND	ND	ND	14.92	0.00	505.90
	04/12/91	ND	5	47	120	8,600	--	ND	ND	ND	ND	ND	ND	14.71	0.00	506.11
	04/12/91	ND	11	48	120	4,400	--	ND	ND	ND	ND	ND	ND	14.71	0.00	506.11
	09/04/91	ND	27	49	79	5,800	--	ND	ND	ND	ND	ND	ND	15.17	0.00	505.65
	09/04/91	ND	21	36	61	4,100	--	ND	ND	ND	ND	ND	ND	15.17	0.00	505.65
	04/06/92	ND	5.8	27	29	2,300	--	ND	ND	ND	ND	ND	ND	14.14	0.00	506.68
	07/28/92	99	180	170	430	11,000	--	--	--	--	--	--	--	15.18	0.00	505.64
	10/16/92	ND	4,800	3,900	6,600	1,200,000	--	--	--	--	--	--	--	15.76	0.00	505.06
	01/14/93*	9.3	9.1	23	34	3,500	--	--	--	--	--	--	--	13.44	0.00	507.38
	03/26/93	ND	19	20	35	3,700**	--	--	--	--	--	--	--	12.46	0.00	508.36
	04/22/93	16	68	44	97	8,900	--	--	--	--	--	--	--	13.30	0.00	507.52
	07/20,21/93	5	35	33	62	4,200	--	--	--	--	--	--	--	17.21	0.00	503.61
	10/20/93	5	12	43	64	4,500	--	--	--	--	--	--	--	15.09	0.00	505.73
	01/20/94	4	42	24	73	1,900	--	--	--	--	--	--	--	14.47	0.00	506.35
	04/21/94	5.0	20	23	42	1,100	--	--	--	--	--	--	--	14.95	0.00	505.87

GROUNDWATER TECHNOLOGY

Table
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA

CHEVRON SERVICE STATION #9-1924
4904 SOUTHFRONT ROAD, LIVERMORE, CALIFORNIA

WELL ID/ ELEVATION (TOC)	DATE	BENZENE (ppb)	TOLUENE (ppb)	ETHYL-BENZENE (ppb)	XYLENES (ppb)	TPH-G (ppb)	TOG (ppb)	1,2-DCA (ppb)	OTHER (ppb)	MC (ppb)	1,1,1-TCA (ppb)	1,1-DCA (ppb)	PCE (ppb)	DTW (feet)	SPT (feet)	WTE (feet)
C-18	03/28/86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
518.96	03/15/88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	05/10/88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	06/10/88	-	-	-	-	-	-	-	-	-	-	-	-	14.89	0.00	504.07
	07/25/88	-	-	-	-	-	-	-	-	-	-	-	-	13.79	0.00	505.17
	10/13/88	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	13.86	0.00	505.10
	01/01/89	-	-	-	-	-	-	-	-	-	-	-	-	13.94	0.00	505.02
	01/12/89	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	-	0.00	518.96
	04/11/89	ND	ND	ND	ND	ND	ND	3.6	-	-	-	-	-	14.86	0.00	504.10
	06/26/89	ND	ND	ND	ND	ND	ND	3.1	-	-	-	-	-	14.02	0.00	504.94
	10/13/89	ND	ND	ND	ND	ND	ND	ND	-	-	-	-	-	15.06	0.00	503.90
	01/03/90	ND	ND	ND	ND	ND	-	1	-	-	-	-	-	14.07	0.00	504.89
	05/07/90	ND	ND	ND	ND	ND	-	ND	-	ND	-	ND	-	14.01	0.00	504.95
	09/27/90	ND	ND	ND	ND	ND	-	ND	ND	0.6	ND	ND	-	13.91	0.00	505.05
	01/03/91	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	13.98	0.00	504.98
	04/12/91	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	13.83	0.00	505.13
	09/04/91	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	14.20	0.00	504.76
	04/06/92	ND	ND	ND	ND	ND	-	ND	ND	ND	ND	ND	ND	13.07	0.00	505.89
	07/28/92	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	13.55	0.00	505.41
	10/16/92	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	14.38	0.00	504.58
	01/14/93*	ND	ND	ND	1.8	56	-	-	-	-	-	-	-	12.46	0.00	506.50
	03/26/93	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	11.46	0.00	507.50
	04/22/93	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	12.58	0.00	506.38
	07/20,21/93	ND	0.5	ND	ND	92	-	-	-	-	-	-	-	15.64	0.00	503.32
PAVED OVER?	10/20/93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	01/20/94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	04/21/94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

GROUNDWATER TECHNOLOGY ®

Table
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA

CHEVRON SERVICE STATION #9-1924
4904 SOUTHFRONT ROAD, LIVERMORE, CALIFORNIA

WELL ID/ ELEVATION (TOC)	DATE	BENZENE (ppb)	TOLUENE (ppb)	ETHYL-BENZENE (ppb)	XYLENES (ppb)	TPH-G (ppb)	TOG (ppb)	1,2-DCA (ppb)	OTHER (ppb)	MC (ppb)	1,1,1-TCA (ppb)	1,1-DCA (ppb)	PCE (ppb)	DTW (feet)	SPT (feet)	WTE (feet)
C-19	03/28/86	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
520.99	03/15/88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	05/10/88	1,400	360	350	1,300	18	--	--	--	--	--	--	--	15.23	0.00	505.76
	06/10/88	--	--	--	--	--	--	--	--	--	--	--	--	16.58	0.00	504.41
	07/25/88	--	--	--	--	--	--	--	--	--	--	--	--	15.19	0.00	505.80
	10/13/88	8.3	4.7	4.4	ND	ND	--	--	--	--	--	--	--	15.27	0.00	505.72
	01/01/89	--	--	--	--	--	--	--	--	--	--	--	--	15.20	0.00	505.79
	01/12/89	5	4	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
	04/11/89	1.8	ND	ND	ND	ND	ND	13	--	--	--	--	--	15.24	0.00	505.75
	04/11/89	1.2	ND	0.6	0.6	500	--	14	--	--	--	--	--	15.24	0.00	505.75
	06/26/89	2.5	ND	ND	ND	500	ND	26	--	--	--	--	--	15.44	0.00	505.55
	10/13/89	ND	ND	ND	ND	540	ND	13	13	--	--	--	--	15.47	0.00	505.52
	01/03/90	1.2	0.7	1.3	0.9	ND	--	11	--	--	--	--	--	15.45	0.00	505.54
	05/07/90	ND	ND	ND	ND	ND	--	4.6	--	ND	--	ND	--	15.68	0.00	505.31
	09/28/90	ND	ND	ND	ND	ND	--	ND	ND	1.2	ND	ND	--	15.52	0.00	505.47
	01/03/91	ND	ND	ND	ND	66	--	1	ND	ND	ND	ND	0.9	15.56	0.00	505.43
	04/12/91	--	--	--	--	--	--	--	--	--	--	--	--	15.20	0.00	505.79
	09/04/91	--	--	--	--	--	--	--	--	--	--	--	--	15.60	0.00	505.39
	04/06/92	0.7	ND	1.0	ND	110	--	1.9	ND	ND	ND	ND	ND	14.58	0.00	506.41
	07/28/92	1.4	ND	1.0	4.2	ND	--	--	--	--	--	--	--	15.26	0.00	505.73
	10/16/92	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	16.00	0.00	504.99
	01/14/93*	1.1	ND	0.9	0.9	100	--	--	--	--	--	--	--	13.69	0.00	507.30
	03/26/93	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	12.96	0.00	508.03
	04/22/93	0.8	1	1	1	250**	--	--	--	--	--	--	--	14.18	0.00	506.81
	07/20,21/93	ND	ND	0.8	2	390**	--	--	--	--	--	--	--	16.58	0.00	504.41
	10/20/93	ND	ND	ND	ND	ND**	--	--	--	--	--	--	--	15.23	0.00	505.76
	01/20/94	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	14.84	0.00	506.15
	04/21/94	ND	ND	1.0	ND	60	--	--	--	--	--	--	--	15.26	0.00	505.73

Explanation

Elevations are expressed as feet above mean sea level.
TOC = Top of casing
WTE = Water table elevation (well elevation - (DTW-(SPT x 0.8))
DTW = Depth to water
SPT = Separate-phase hydrocarbon thickness
TPH-G = Total Petroleum Hydrocarbons as Gasoline (ppb)
TOG = Total Oil & Grease (EPA Method 503D & 503E)
* = Rinsate sample contaminated; resampled 03/26/93
** = Uncategorized compound not included in gasoline hydrocarbon total
*** = Hydrocarbon pattern uncharacteristic of fresh gasoline
# = Not enough water to purge and sample

PCE = Tetrachloroethene
1,2-DCA = 1,2-Dichloroethane
MC = Methylene Chloride
TCA = 1,1,1-Trichloroethane
1,1-DCA = 1,1-Dichloroethane
ND = Not detected at or above the minimum quantitation limit (MQL)
-- = Not sampled, not monitored, inaccessible
OTHER = 5 ppb Carbon Disulfide detected in C-1 on 10/13/89
3 ppb Vinyl Chloride detected in C-14 on 1/3/90
1 ppb Vinly Chloride detected in C-14 on 1/4/90
13 ppb Carbon Disulfide detected in C-19 on 10/13/89

GARTAB1.WK1

GROUNDWATER TECHNOLOGY

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 -Livermore

Date: 7/21/04

Site Address: 4904 Southfront St.., Livermore

Page 1 of 17

Project Number: 020104233.0610

Project Manager: Tim Watchers

Well ID: C-11

Well Diameter: 3

DTW Measurements:
Initial: 14.24
Recharge:

Calc Well Volume: 6 gal
Well Volume: gal

Purge Method
Peristaltic
Gear Drive
Submersible X

Pump Depth 18 ft.
Hand Bailed
Air Lift
Other

Instruments Used
YSI: X
Hydac:
Omega:

Other:

Time	Temp X C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
0910	18.6	1.18	7.37	1	Light Grey	
0914	17.9	1,25	6.46	2	↓	
0912	17.5	1.36	6.48	4	↓	DRY

Project Name: Chevron -Livermore

Date: 4/21/94

Site Address: 4904 Southfront St., Livermore

Page 2 of 17

Project Number: 020104233.0610

Project Manager: Tim Watchers

Well ID: C-12

Well Diameter: 3"

DTW Measurements:
Initial: 14.06
Recharge:

Calc Well Volume: 6 gal
Well Volume: gal

Purge Method
Peristaltic
Gear Drive
Submersible X

Pump Depth 17 ft.
Hand Bailed
Air Lift
Other

Instruments Used
YSI: X
Hydac:
Omega:

Other:

Time	Temp X C F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
0920	17.3	1.26	6.29	1	Light Grey	
0921	17.7	1.20	6.29	2		
0922	17.9	1.19	6.39	4		
0923	18.1	1.19	6.43	6		

Project Name: Chevron -Livermore

Date: 4/21/94

Site Address: 4904 Southfront St., Livermore

Page 3 of 17

Project Number: 020104233.0610

Project Manager: Tim Watchers

Well ID: C-15

Well Diameter: 3

DTW Measurements:
Initial: 15.22 Calc Well Volume: 6 gal
Recharge: _____ Well Volume: _____ gal

Purge Method
Peristaltic _____
Gear Drive _____
Submersible X

Pump Depth 20 ft.
Hand Bailed _____
Air Lift _____
Other _____

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

Time	Temp X C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
0930	18.2	1.64	6.48	1	Light Grey	
0931	19.3	1.63	6.14	2		
0932	19.5	1.63	6.12	4		
0933	19.6	1.63	6.11	6		

Project Name: Chevron -Livermore

Date: 4/21/94

Site Address: 4904 Southfront St.., Livermore

Page 4 of 17

Project Number: 020104233.0610

Project Manager: Tim Watchers

Well ID: G-10

DTW Measurements:
Initial: 14.62
Recharge:

Calc Well Volume: 21 gal
Well Volume: gal

Well Diameter: 3

Purge Method
Peristaltic
Gear Drive
Submersible X

Pump Depth 32 ft.
Hand Bailed
Air Lift
Other

Instruments Used
YSI: X
Hydac:
Omega:

Other:

Time	Temp X C F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
0940	18.9	1.29	6.17	5	clear	
0942	19.0	1.30	6.17	10	↓	
0944	19.1	1.30	6.17	15	↓	
0946	19.1	1.31	6.17	21	↓	

Project Name: **Chevron -Livermore** Date: 4/21/94

Site Address: **4904 Southfront St.., Livermore** Page 5 of 17

Project Number: **020104233.0610** Project Manager: **Tim Watchers**

Well ID: C-13

Well Diameter: 3"

DTW Measurements:
Initial: 14.88 Calc Well Volume: 6 gal
Recharge: _____ Well Volume: _____ gal

Purge Method
Peristaltic _____
Gear Drive _____
Submersible X

Pump Depth 17 ft.
Hand Bailed _____
Air Lift _____
Other _____

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

Time	Temp X C F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
0955	19.3	1.46	6.17	1	clear	
0956	19.6	1.45	6.17	2	↓	
0957	19.8	1.45	6.19	4	↓	
0958	19.9	1.44	6.21	6	↓	

Project Name: Chevron -Livermore

Site Address: 4904 Southfront St., Livermore

Project Number: 020104233.0610

Date: 4/21/94

Page 6 of 17

Project Manager: Tim Watchers

Well ID: C-3

Well Diameter: 3

DTW Measurements:
Initial: 14.33
Recharge: .

Calc Well Volume: 5 gal
Well Volume: _____ gal

Purge Method
Peristaltic _____
Gear Drive _____
Submersible X

Pump Depth 17 ft.
Hand Bailed _____
Air Lift _____
Other _____

Instruments Used
YSI: X
Hydac: _____
Omega: _____

Other: _____

Time	Temp X C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
1006	20.0	1.47	6.23	1	Light Grey	
1007	19.8	1.48	6.22	2		
1008	19.8	1.48	6.21	3		
1009	19.8	1.48	6.21	5		

Project Name: Chevron -Livermore

Date: 4/21/94

Site Address: 4904 Southfront St., Livermore

Page 7 of 17

Project Number: 020104233.0610

Project Manager: Tim Watchers

Well ID: C-19

Well Diameter: ~~6~~ 2

DTW Measurements:
Initial: 15.26
Recharge:

Calc Well Volume: 6 gal
Well Volume: 1 gal

Purge Method
Peristaltic
Gear Drive
Submersible X

Pump Depth 23 ft.
Hand Bailed
Air Lift
Other

Instruments Used
YSI: X
Hydac:
Omega:

Other:

Time	Temp X C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
1017	20.1	1.36	6.20	1	Light Grey	
1018	20.0	1.35	6.16	2		
1019	19.8	1.36	6.17	4		
1020	19.7	1.36	6.16	6		

Project Name: Chevron -Livermore

Date: 4/21/94

Site Address: 4904 Southfront St., Livermore

Page 8 of 17

Project Number: 020104233.0610

Project Manager: Tim Watchers

Well ID: C-8

Well Diameter: 3

DTW Measurements:
Initial: 13.68
Recharge:

Calc Well Volume: 9 gal
Well Volume: gal

Purge Method
Peristaltic
Gear Drive
Submersible X

Pump Depth 21 ft.
Hand Bailed
Air Lift
Other

Instruments Used
YSI: X
Hydac:
Omega:

Other:

Time	Temp X C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
1031	19.0	.95	6.20	2	clear	
1032	16.7	.98	6.38	5	↓	
1033	16.6	.99	6.39	7	↓	
1034	16.7	.99	6.39	9	↓	

Project Name: Chevron -Livermore

Site Address: 4904 Southfront St.., Livermore

Project Number: 020104233.0610

Date: 4/21/04

Page 9 of 17

Project Manager: Tim Watchers

Well ID: C-16

Well Diameter: 3

DTW Measurements:
Initial: 13.92
Recharge:

Calc Well Volume: 15 gal
Well Volume: gal

Purge Method
Peristaltic
Gear Drive
Submersible X

Pump Depth 27 ft.
Hand Bailed
Air Lift
Other

Instruments Used
YSI: X
Hydac:
Omega:

Other:

Time	Temp X C F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
1045	18.5	.99	6.27	4	clear	
1046	18.6	1.00	6.26	8	"	
1047	18.6	1.03	6.23	11	"	
1048	18.9	.99	6.26	15	"	

Project Name: Chevron -Livermore

Date: 4/21/04

Site Address: 4904 Southfront St.., Livermore

Page 10 of 17

Project Number: 020104233.0610

Project Manager: Tim Watchers

Well ID: C-5

Well Diameter: 3

DTW Measurements:
Initial: 13.81
Recharge:

Calc Well Volume: 6 gal
Well Volume: gal

Purge Method
Peristaltic
Gear Drive
Submersible X

Pump Depth 18 ft.
Hand Bailed
Air Lift
Other

Instruments Used
YSI: X
Hydac:
Omega:

Other:

Time	Temp X C F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
1059	19.9	1.34	6.22	1		
1100	20.1	1.33	6.16	2		
1101	20.5	1.34	6.11	4		
1102	20.6	1.34	6.11	6		

Project Name: Chevron -Livermore

Date: 4/21/94

Site Address: 4904 Southfront St., Livermore

Page 11 of 17

Project Number: 020104233.0610

Project Manager: Tim Watchers

Well ID: C-1

Well Diameter: 3

DTW Measurements:
Initial: 13.46
Recharge:

Calc Well Volume: 4 gal
Well Volume: gal

Purge Method
Peristaltic
Gear Drive
Submersible ✓

Pump Depth 15 ft.
Hand Bailed
Air Lift
Other

Instruments Used
YSI: ✓
Hydac:
Omega:

Other:

Time	Temp X C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
1112	20.8	1.27	6.16	1	Grey	
1113	20.9	1.26	6.17	2	↓	
1114	20.9	1.26	6.17	3		
1115	21.0	1.26	6.17	4		

Project Name: Chevron -Livermore

Date: 4/21/94

Site Address: 4904 Southfront St., Livermore

Page 18 of 17

Project Number: 020104233.0610

Project Manager: Tim Watchers

Well ID: C-2

Well Diameter: 3

DTW Measurements:
Initial: 14.10
Recharge:

Calc Well Volume: 12 gal
Well Volume: gal

Purge Method
Peristaltic
Gear Drive
Submersible ✓

Pump Depth 23 ft.
Hand Bailed
Air Lift
Other

Instruments Used
YSI: X
Hydac:
Omega:

Other:

Time	Temp X C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
1122	21.6	1.26	6.21	2	clear	
1123	20.3	1.30	6.22	5		
1124	20.3	1.30	6.23	8		
1125	20.4	1.30	6.24	12		

Project Name: Chevron -Livermore

Site Address: 4904 Southfront St., Livermore

Project Number: 020104233.0610

Date: 4/21/94

Page 13 of 17

Project Manager: Tim Watchers

Well ID: C-17

Well Diameter: 3

DTW Measurements:
Initial: 14.95
Recharge:

Calc Well Volume: 6 gal
Well Volume: gal

Purge Method
Peristaltic
Gear Drive
Submersible X

Pump Depth 19 ft.
Hand Bailed
Air Lift
Other

Instruments Used
YSI: X
Hydac:
Omega:

Other:

Time	Temp X C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
1134	20.3	1.06	6.23	1	Grey	
1135	20.0	.98	6.24	2		
1136	19.9	.98	6.26	4		
1137	19.9	.98	6.27	6		DRY

Project Name: Chevron -Livermore

Site Address: 4904 Southfront St., Livermore

Project Number: 020104233.0610

Date: 4/21/94

Page 14 of 17

Project Manager: Tim Watchers

Well ID: C-7

Well Diameter: 3

DTW Measurements:
Initial: 13.33
Recharge:

Calc Well Volume: 9 gal
Well Volume: gal

Purge Method
Peristaltic
Gear Drive
Submersible ✓

Pump Depth 20 ft.
Hand Bailed
Air Lift
Other

Instruments Used
YSI: ✓
Hydac:
Omega:

Other:

Time	Temp C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
1148	21.0	1.28	6.16	2	clear	
1149	21.2	1.28	6.19	4	↓	
1150	21.4	1.28	6.20	6		
1151	21.6	1.27	6.20	9		

Project Name: Chevron -Livermore

Site Address: 4904 Southfront St., Livermore

Project Number: 020104233.0610

Date: 4/21/94

Page 15 of 17

Project Manager: Tim Watchers

Well ID: C-9

Well Diameter: 3

DTW Measurements:
Initial: 13.14
Recharge: _____

Calc Well Volume: 9 gal
Well Volume: _____ gal

Purge Method
Peristaltic _____
Gear Drive _____
Submersible X

Pump Depth 21 ft.
Hand Bailed _____
Air Lift _____
Other _____

Instruments Used
YSI: X
Hydac: _____
Omega: _____

Other: _____

Time	Temp X C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
1215	20.5	.76	6.30	2	Grey Clear	
1216	18.8	.73	6.31	4	↓	
1217	18.7	.78	6.30	7	↓	
1218	18	.84	6.30	9	↓	

Project Name: Chevron -Livermore

Date: 4/21/94

Site Address: 4904 Southfront St., Livermore

Page 16 of 17

Project Number: 020104233.0610

Project Manager: Tim Watchers

Well ID: C-14

Well Diameter: 3

DTW Measurements:
Initial: 11.93
Recharge:

Calc Well Volume: 5 gal
Well Volume: gal

Purge Method
Peristaltic
Gear Drive
Submersible ✓

Pump Depth 13 ft.
Hand Bailed ✓
Air Lift
Other

Instruments Used
YSI: ✓
Hydac:
Omega:

Other:

Time	Temp X C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
1230				1		DRY Not Enough Water for Purge for readings

Project Name: Chevron -Livermore

Date: 4/21/04

Site Address: 4904 Southfront St.., Livermore

Page 17 of 17

Project Number: 020104233.0610

Project Manager: Tim Watchers

Well ID: C-6

Well Diameter: 3

DTW Measurements:
Initial: 12.88
Recharge:

Calc Well Volume: 9 gal
Well Volume: gal

Purge Method
Peristaltic
Gear Drive
Submersible ✓

Pump Depth 21 ft.
Hand Bailed
Air Lift
Other

Instruments Used ✓
YSI:
Hydac:
Omega:

Other:

Time	Temp X C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
1241	22.2	1.16	6.21	2		
1242	20.7	1.18	6.15	4		
1243	20.4	1.18	6.19	7		
1244	20.4	1.18	6.21	9		

ATTACHMENT 4

Laboratory Report

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

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

Client Number: 020104233
Facility Number: C-1924
Project ID: 4904 S. Front
Livermore
Work Order Number: C4-04-0436

May 2, 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 04/25/94.

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.

Rashmi Shah
Laboratory Director

Client Number: 020104233
Facility Number: C-1924
Project ID: 4904 S. Front Livermore
Work Order Number: C4-04-0436

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		C-11	C-12	C-15	C-10
Date Sampled		04/21/94	04/21/94	04/21/94	04/21/94
Date Analyzed		04/27/94	04/27/94	04/27/94	04/27/94
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	1.7	<0.5	<0.5	0.8
Toluene	0.5	0.6	<0.5	<0.5	<0.5
Ethylbenzene	0.5	1.2	<0.5	<0.5	<0.5
Xylene, total	0.5	1.6	<0.5	<0.5	<0.5
TPH as Gasoline	50	86	<50	<50	<50
Detection Limit Multiplier		1	1	1	1
BFB surrogate, % recovery		88.7	90.5	87.5	90.0

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

Client Number: 020104233
Facility Number: C-1924
Project ID: 4904 S. Front Livermore
Work Order Number: C4-04-0436

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015[a]

GTEL Sample Number		05	06	07	08
Client Identification		C-13	C-3	C-9	C-8
Date Sampled		04/21/94	04/21/94	04/21/94	04/21/94
Date Analyzed		04/27/94	04/27/94	04/28/94	04/27/94
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	<0.5	<0.5	11	<0.5
Toluene	0.5	<0.5	<0.5	12	<0.5
Ethylbenzene	0.5	<0.5	<0.5	23	<0.5
Xylene, total	0.5	<0.5	<0.5	19	<0.5
TPH as Gasoline	50	<50	<50	2200	<50
Detection Limit Multiplier		1	1	1	1
BFB surrogate, % recovery		90.1	90.9	114	90.5

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

Client Number: 020104233
Facility Number: C-1924
Project ID: 4904 S. Front Livermore
Work Order Number: C4-04-0436

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015[a]

GTEL Sample Number		09	10	11	12
Client Identification		C-16	C-5	C-1	C-2
Date Sampled		04/21/94	04/21/94	04/21/94	04/21/94
Date Analyzed		04/27/94	04/27/94	04/27/94	04/27/94
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	15	2.7	8.8	23
Toluene	0.5	<0.5	2.6	7.8	2.8
Ethylbenzene	0.5	13	21	82	6.8
Xylene, total	0.5	11	1.5	34	6.8
TPH as Gasoline	50	220	490	1400	430
Detection Limit Multiplier		1	1	1	1
BFB surrogate, % recovery		88.1	91.0	98.3	91.5

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

Client Number: 020104233
Facility Number: C-1924
Project ID: 4904 S. Front Livermore
Work Order Number: C4-04-0436

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015[a]

GTEL Sample Number		13	14	15	16
Client Identification		C-17	C-7	C-19	C-14
Date Sampled		04/21/94	04/21/94	04/21/94	04/21/94
Date Analyzed		04/27/94	04/27/94	04/27/94	04/27/94
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	5.0	62	<0.5	88
Toluene	0.5	20	11	<0.5	330
Ethylbenzene	0.5	23	170	1.0	72
Xylene, total	0.5	42	68	<0.5	960
TPH as Gasoline	10	1100	2100	60	9400
Detection Limit Multiplier		1	1	1	10
BFB surrogate, % recovery		103	99.0	89.6	98.6

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

Client Number: 020104233
Facility Number: C-1924
Project ID: 4904 S. Front Livermore
Work Order Number: C4-04-0436

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015[a]

GTEL Sample Number		17	18	042694	
Client Identification		C-6	TBLB	METHOD BLANK	
Date Sampled		04/21/94	04/21/94	--	
Date Analyzed		04/27/94	04/26/94	04/26/95	
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	17	<0.5	<0.5	
Toluene	0.5	42	<0.5	<0.5	
Ethylbenzene	0.5	160	<0.5	<0.5	
Xylene, total	0.5	210	<0.5	<0.5	
TPH as Gasoline	50	6500	<50	<50	
Detection Limit Multiplier		10	1	1	
BFB surrogate, % recovery		106	94.5	106	

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

Fax copy of Lab Report and COC to Chevron Contact: ☐ Yes ☐ No

Chain-of-Custody-Rec

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

Chevron Facility Number C-192
Facility Address 4904 S. Front Livermore
Consultant Project Number 02010-2133.0610
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) Kurt Hunter
(Phone) 842-8695
Laboratory Name GTEL
Laboratory Release Number 96338 rc
Samples Collected by (Name) Tracy Lacy
Collection Date 4/21/94
Signature

NOTE:
DO NOT BILL
TB-LB SAMPL
6 Seals
Infa

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	Iced (Yes or No)	Analyses To Be Performed: 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)	Remarks
C-11	01	3	W	G	0945	HCL	YES	X	N							
C-12	02				0955				N							
C-15	03				1005				N							
[redacted]																
C-10	04				1010				N							
C-13	05				1020				N							
C-3	06				1030				N							
C-9	07				1040				N							
C-8	08				1050				N							
C-16	09				1100				NL							
C-5	10				1120				NL							
C-1	11				1140				NL							
C-2	12				1150				NL							
C-17	13				1200				NL							

F-2
C40404

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	GTI	4/21/94		GTI	4-25-94
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	GTI	4-25-94		GTEL	4/25/94 1650
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
	GTEL	4/25/94 1700			4/25/94 17:00

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

Fax copy of Lab Report and COC to Chevron Contact: ☐ Yes ☐ No

Chain-of-Custody-Rec

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

Chevron Facility Number 9-1294
Facility Address 4094 S. Front St. Livermore
Consultant Project Number 020104233.0610
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) Brett Hunter
(Phone) 842-8695
Laboratory Name GTEL
Laboratory Release Number 9033280
Samples Collected by (Name) Tim Watchers
Collection Date 4/20/94
Signature

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	Iced (Yes or No)	Analyses To Be Performed: 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)						Remarks
C-7	14	3	W	G	1220	HCl	YES	X	NO												
C-19	15				1230				N												
C-14	16	3			1240				+10												
C-6	17	3			1250				L10												
TBLB	18	Y	X	X																	

NOTE:
DO NOT BI
TB-LB SAM
6°
Sea
in ta

F-2
C40403

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	GTI	4/21/94		GTI	4-25-94
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	GTI	4-25-94		GTEL	4/25/94 1650
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
		4/25/94 1700	Karen Molander		4/25/94 17:00

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