



Customer-Focused Solutions

increase in [TPH] in MW-2
for 9/01

October 25, 2001

Project No. 41-0362

Ms. Eva Chu
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Room 250
Alameda, California 94502

SITE: BEACON STATION NO. 3604
1619 WEST FIRST STREET
LIVERMORE, CALIFORNIA

RE: QUARTERLY PROGRESS REPORT
THIRD QUARTER 2001

OCT 30 2001

Dear Ms. Chu:

TRC has prepared this report to document the results of quarterly groundwater monitoring conducted on September 26, 2001 at the subject site (Figure 1). The monitoring, conducted by Doulos Environmental (Doulos), included measurements of depth to groundwater, subjective analysis for the presence or absence of free product, groundwater purging, and collection of groundwater samples. According to Doulos, all field activities were conducted in accordance with the Ultramar Field Procedures described in Attachment A.

1.0 GROUNDWATER ELEVATIONS

Prior to purging, Doulos collected depth-to-groundwater measurements. Copies of Doulos' field data sheets are included in Attachment B. Groundwater elevation data collected since June 1993 are summarized in Table 1. Based on groundwater levels measured on September 26, 2001, the water table is characterized by a depression centered around MW-3 (Figure 2). Groundwater levels have decreased an average of 7.05 feet compared to the second quarter 2001 monitoring event.

2.0 GROUNDWATER SAMPLING AND ANALYSIS

Groundwater samples were collected from four monitoring wells (MW-1, MW-2, MW-5, and MW-7) on September 26, 2001. MW-6 was dry and could not be sampled. All groundwater samples were analyzed using EPA Method 8260B for concentrations of:

- total petroleum hydrocarbons as gasoline (TPH-G);
- benzene, toluene, ethyl benzene, and total xylenes (BTEX); and
- methyl tert butyl ether (MTBE).

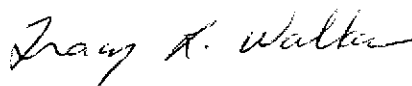
Analytical results collected since June 1993 are summarized in Table 1. The laboratory reports and chain-of-custody forms for the current sampling event are contained in Attachment C.

Benzene was detected in monitoring wells MW-2 and MW-7 at concentrations of 8,500 µg/l (micrograms per liter) and 16 µg/l, respectively. Benzene was not detected in MW-1 and MW-5. Figure 3 shows the distribution of dissolved-phase benzene based on the current data.

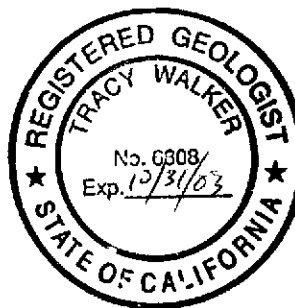
The interpretations and/or conclusions that may be contained within this report represent our professional opinions. These opinions are based on currently available information. Other than this, no warranty is implied or intended. This report has been prepared solely for the use of Ultramar Inc. Any reliance on this report by third parties will be at such parties' sole risk.

If you have any questions or comments, please contact me at (925) 688-2476.

Sincerely,



Tracy L. Walker, RG
Associate



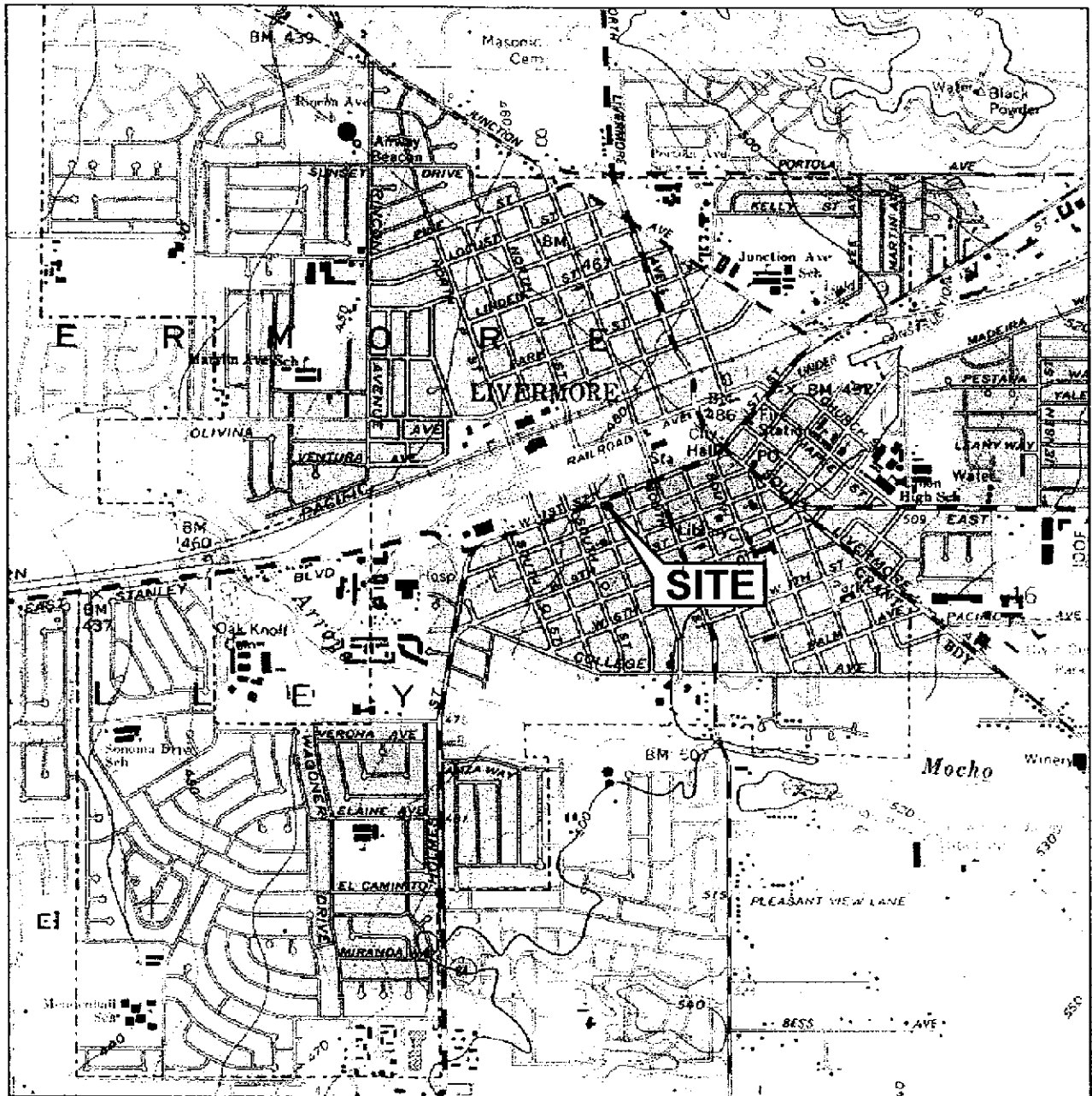
ATTACHMENTS:

- Figure 1: Vicinity Map
- Figure 2: Groundwater Elevation Contour Map – September 26, 2001
- Figure 3: Dissolved-Phase Benzene Concentrations – September 26, 2001

Table 1: Summary of Groundwater Monitoring and Chemical Analysis

- Appendix A: Ultramar Field Procedures
- Appendix B: Doulos Environmental Field Data Sheets
- Appendix C: Official Laboratory Reports and Chain-of-Custody Records

cc: Mr. Joseph A. Aldridge, Ultramar Inc.
Mr. Cecil Fox, Regional Water Quality Control Board, San Francisco Bay Region



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SCALE 1 : 24,000



SOURCE:

United States Geological Survey
7.5 Minute Topographic Maps:
Livermore Quadrangle



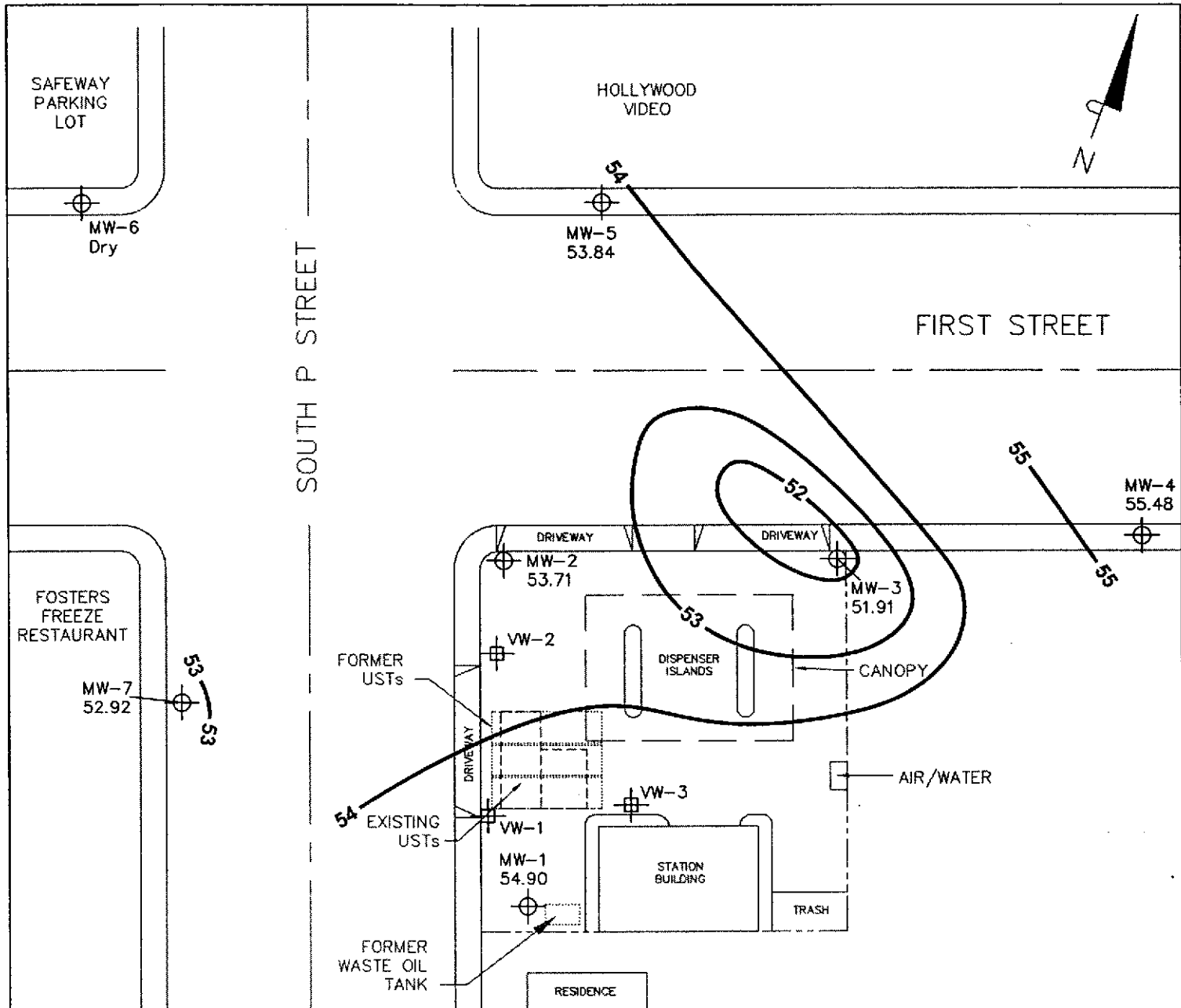
QUADRANGLE
LOCATION

VICINITY MAP

Beacon Station 3604
1619 West First Street
Livermore, California

TRC

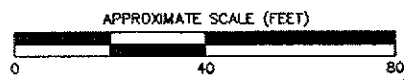
FIGURE 1



LEGEND

- Property line
- ⊕ Groundwater monitoring well
- ⊕ Vapor extraction well
- 54.90 Groundwater elevation (in feet above mean sea level)
- 54 ——— Groundwater elevation contour line

NOTES: Contour lines are interpretive based on fluid level measurements taken on September 26, 2001. Contour interval = 1 foot.

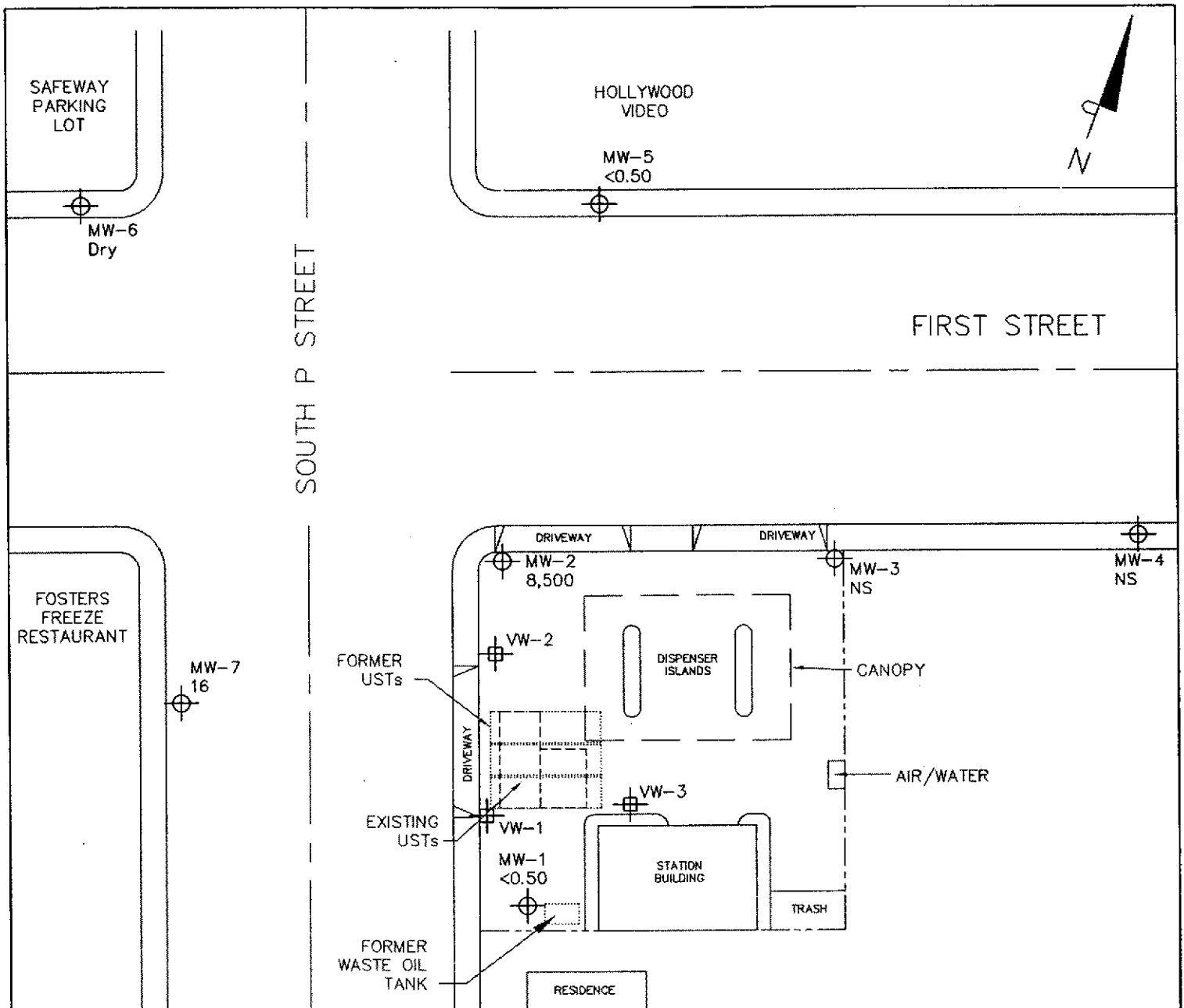


GROUNDWATER ELEVATION CONTOUR MAP
September 26, 2001
 Beacon Station 3604
 1619 West First Street
 Livermore, California

SOURCE: Doulos Environmental, Inc. site plan.

TRC

FIGURE 2



NOTES: Results are based on laboratory analysis of groundwater samples collected on September 26, 2001. $\mu\text{g/l}$ = micrograms per liter (parts per billion); < = not detected at or above the stated method detection limit; NS = not sampled.



LEGEND	
---	Property line
⊕	Groundwater monitoring well
⊕	Vapor extraction well
<0.50	Dissolved-phase benzene concentration ($\mu\text{g/l}$)

DISSOLVED-PHASE BENZENE CONCENTRATIONS
September 26, 2001
 Beacon Station 3604
 1619 West First Street
 Livermore, California

SOURCE: Doulos Environmental, Inc. site plan.

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FIGURE 3

Table 1
Summary of Groundwater Levels and Chemical Analysis

Beacon Station 3604 - 1619 West First Street, Livermore

Well ID	Date	Reference Elevation ¹ (feet)	Depth to Water ¹ (feet)	Groundwater			Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8260 (µg/l)	
				Elevation (feet-MSL)	TPH-G (µg/l)	Benzene (µg/l)				Toluene (µg/l)
MW-1	06/01/93	100.00	37.50	62.50	27,000	2,200	400	<0.50	4,900	—
MW-1	06/22/93	100.00	38.46	61.54	87,000	8,000	10,000	260	10,000	—
MW-1	10/06/93	100.00	42.22	57.78	40,000	4,700	6,500	740	5,300	—
MW-1	01/13/94	100.00	34.52	65.48	9,400	1,300	9,500	110	850	—
MW-1	03/30/94	100.00	31.93	68.07	—	—	—	—	—	—
MW-1	04/25/94	100.00	33.49	66.51	11,000	1,500	1,800	290	1,700	—
MW-1	08/12/94	100.00	41.03	58.97	11,000	550	330	260	1,400	—
MW-1	12/14/94	100.00	38.63	61.37	11,000	1,000	1,200	320	1,500	—
MW-1	02/10/95	100.00	30.80	69.20	9,300	1,200	1,500	280	1,500	—
MW-1	06/15/95	100.00	25.46	74.54	140	5.6	<0.50	<0.50	<0.50	—
MW-1	09/26/95	100.00	31.05	68.95	410	140	<0.50	<0.50	43	—
MW-1	12/15/95	100.00	28.11	71.89	740	250	<1.3	<1.3	87	—
MW-1	03/21/96	100.00	17.67	82.33	<50	0.52	<0.50	<0.50	0.51	—
MW-1	06/13/96	100.00	22.86	77.14	240*	<0.50	<0.50	<0.50	<0.50	—
MW-1	09/16/96	100.00	30.04	69.96	720	70	<0.50	1.0	5.1	<5.0
MW-1	12/02/96	100.00	26.74	73.26	<50	<0.50	<0.50	<0.50	<0.50	<5.0
MW-1	03/07/97	100.00	20.84	79.16	600	6.7	<0.50	1.2	1.8	<5.0
MW-1	06/12/97	100.00	28.71	71.29	18,000	180	800	410	1,800	<5.0
MW-1	09/29/97	100.00	33.91	66.09	350	120	1.5	<0.50	12	<5.0
MW-1	12/01/97	100.00	34.88	65.12	<50	7.0	<0.50	<0.50	<0.50	<5.0
MW-1	03/19/98	100.00	19.83	80.17	<50	<0.50	<0.50	<0.50	<0.50	<5.0
MW-1	05/29/98	100.00	21.57	78.43	<50	<0.50	<0.50	<0.50	<0.50	<5.0
MW-1	09/15/98	100.00	31.68	68.32	<50	<0.50	<0.50	<0.50	<0.50	<5.0
MW-1	11/30/98	100.00	36.80	63.20	<50	<0.50	<0.50	<0.50	<0.50	<5.0
MW-1	01/17/99	100.00	30.02	69.98	<50	<0.50	<0.50	<0.50	<0.50	<5.0
MW-1	06/10/99	100.00	29.30	70.70	<50	<0.50	<0.50	<0.50	<0.50	<5.0
MW-1	09/07/99	100.00	31.41	68.59	<50	<0.50	<0.50	<0.50	<0.50	<5.0
MW-1	12/13/99	100.00	32.95	67.05	<50	<0.50	<0.50	<0.50	<0.50	<5.0
MW-1	03/13/00	100.00	25.74	74.26	<50	<0.50	<0.50	<0.50	<0.50	<5.0
MW-1	06/12/00	100.00	28.24	71.76	<50	<0.50	<0.50	<0.50	<0.50	<5.0
MW-1	11/10/00	100.00	30.56	69.44	<50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-1	12/31/00	100.00	31.71	68.29	<50	<0.50	<0.50	<0.50	<0.50	<0.50

Table 1
Summary of Groundwater Levels and Chemical Analysis

Beacon Station 3604 - 1619 West First Street, Livermore

Well ID	Date	Reference Elevation ¹ (feet)	Depth to Water ¹ (feet)	Groundwater			Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8260 (µg/l)	
				Elevation (feet-MSL)	TPH-G (µg/l)	Benzene (µg/l)				Toluene (µg/l)
MW-1	03/27/01	100.00	30.43	69.57	<50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-1	06/30/01	100.00	36.61	63.39	<50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-1	09/26/01	100.00	45.10	54.90	90	<0.50	<0.50	<0.50	<0.50	<0.50
MW-2	06/01/93	98.68	38.02	60.66	170,000	20,000	21,000	3,300	18,000	—
MW-2	06/22/93	98.68	39.07	59.61	160,000	19,000	22,000	3,500	18,000	—
MW-2	10/06/93	98.68	43.72	54.96	110,000	17,000	17,000	3,000	15,000	—
MW-2	01/13/94	98.68	35.85	62.83	93,000	20,000	19,000	2,300	14,000	—
MW-2	03/30/94	98.68	32.82	65.86	—	—	—	—	—	—
MW-2	04/25/94	98.68	34.76	63.92	41,000	9,600	7,300	840	7,800	—
MW-2	08/12/94	98.68	44.33	54.35	59,000	11,000	11,000	2,300	11,000	—
MW-2	12/14/94	98.68	40.00	58.68	63,000	13,000	13,000	2,200	12,000	—
MW-2	02/10/95	98.68	32.16	66.52	63,000	12,000	12,000	2,200	11,000	—
MW-2	06/15/95	98.68	25.93	72.75	61,000	11,000	12,000	1,900	11,000	—
MW-2	09/26/95	98.68	32.42	66.26	61,000	9,400	11,000	2,300	12,000	—
MW-2	12/15/95	98.68	29.41	69.27	48,000	8,000	8,300	2,200	12,000	—
MW-2	03/21/96	98.68	17.47	81.21	48,000	8,000	7,700	2,400	12,000	—
MW-2	06/13/96	98.68	23.69	74.99	33,000	7,300	8,800	1,900	12,000	<250
MW-2	09/16/96	98.68	31.24	67.44	8,600	510	640	180	1,300	<250
MW-2	12/02/96	98.68	26.90	71.78	29,000	4,400	4,000	1,300	6,100	<130
MW-2	03/07/97	98.68	21.33	77.35	13,000	1,800	1,100	270	2,000	<250
MW-2	06/12/97	98.68	29.94	68.74	68,000	7,800	6,600	2,300	11,000	<500
MW-2	09/29/97	98.68	34.22	64.46	15,000	1,500	97	740	1,800	<250
MW-2	12/01/97	98.68	35.94	62.74	13,000	900	37	860	2,400	<250
MW-2	03/19/98	98.68	20.34	78.34	42,000	5,000	3,600	2,000	8,300	<250
MW-2	05/29/98	98.68	22.63	76.05	68,000	5,600	4,700	2,400	11,000	<250
MW-2	09/15/98	98.68	32.30	66.38	36,000	3,900	1,200	1,400	7,800	<250
MW-2	11/30/98	98.68	36.90	61.78	16,000	2,200	59	1,200	1,500	<250
MW-2	01/17/99	98.68	30.17	68.51	30,000	4,000	2,200	2,100	9,500	<250
MW-2	06/10/99	98.68	29.98	68.70	70,000	6,300	1,800	3,600	14,000	<500
MW-2	09/07/99	98.68	31.85	66.83	42,000	3,800	840	1,900	8,000	150
MW-2	12/13/99	98.68	33.72	64.96	14,000	1,400	87	690	110	34

Table 1
Summary of Groundwater Levels and Chemical Analysis

Beacon Station 3604 - 1619 West First Street, Livermore

Well ID	Date	Reference Elevation ¹ (feet)	Depth to Water ¹ (feet)	Groundwater			Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8260 (µg/l)	
				Elevation (feet-MSL)	TPH-G (µg/l)	Benzene (µg/l)				Toluene (µg/l)
MW-2	03/13/00	98.68	26.54	72.14	38,000	2,400	2,300	1,600	6,400	2,400
MW-2	06/12/00	98.68	28.44	70.24	56,000	4,000	950	2,300	7,200	<50
MW-2	11/10/00	98.68	31.31	67.37	35,000	5,100	850	1,500	3,200	230
MW-2	12/31/00	98.68	32.68	66.00	21,000	3,200	420	1,300	1,200	440
MW-2	03/27/01	98.68	30.81	67.87	3,500	420	64	16	280	120
MW-2	06/30/01	98.68	37.58	61.10	1,200	88	4.5	65	37	29
MW-2	09/26/01	98.68	44.97	53.71	53,000	8,500	1,500	2,400	4,600	270
MW-3	06/01/93	97.08	36.18	60.90	270	4.6	<0.50	<0.50	1.9	—
MW-3	06/22/93	97.08	37.11	59.97	160	8.2	<0.50	<0.50	0.72	—
MW-3	10/06/93	97.08	41.15	55.93	740	57	110	24	120	—
MW-3	01/13/94	97.08	33.95	63.13	83	2.6	0.67	0.78	4.2	—
MW-3	03/30/94	97.08	30.97	66.11	—	—	—	—	—	—
MW-3	04/25/94	97.08	32.46	64.62	60	0.75	3.2	0.50	3.6	—
MW-3	08/12/94	97.08	41.72	55.36	310	7.3	14	2.6	13	—
MW-3	12/14/94	97.08	37.62	59.46	75	<0.50	<0.50	<0.50	<0.50	—
MW-3	02/10/95	97.08	29.96	67.12	96	1.4	<0.50	<0.50	1.8	—
MW-3	06/15/95	97.08	23.66	73.42	<50	<0.50	<0.50	<0.50	<0.50	—
MW-3	09/26/95	97.08	29.62	67.46	<50	<0.50	<0.50	<0.50	<0.50	—
MW-3	12/15/95	97.08	27.10	69.98	<50	<0.50	<0.50	<0.50	<0.50	—
MW-3	03/21/96	97.08	15.85	81.23	—	—	—	—	—	—
MW-3	06/13/96	97.08	21.31	75.77	—	—	—	—	—	—
MW-3	09/16/96	97.08	28.62	68.46	—	—	—	—	—	—
MW-3	12/02/96	97.08	25.55	71.53	—	—	—	—	—	—
MW-3	03/07/97	97.08	19.77	77.31	—	—	—	—	—	—
MW-3	06/12/97	97.08	27.67	69.41	—	—	—	—	—	—
MW-3	09/29/97	97.08	29.60	67.48	—	—	—	—	—	—
MW-3	12/01/97	97.08	33.37	63.71	—	—	—	—	—	—
MW-3	03/19/98	97.08	18.76	78.32	—	—	—	—	—	—
MW-3	05/29/98	97.08	20.64	76.44	—	—	—	—	—	—
MW-3	09/15/98	97.08	30.70	66.38	—	—	—	—	—	—
MW-3	11/30/98	97.08	34.96	62.12	—	—	—	—	—	—

Table 1
Summary of Groundwater Levels and Chemical Analysis

Beacon Station 3604 - 1619 West First Street, Livermore

Well ID	Date	Reference Elevation ¹ (feet)	Depth to Water ¹ (feet)	Groundwater			Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8260 (µg/l)
				Elevation (feet-MSL)	TPH-G (µg/l)	Benzene (µg/l)			
MW-3	01/17/99	97.08	28.81	68.27	—	—	—	—	—
MW-3	06/10/99	97.08	28.10	68.98	—	—	—	—	—
MW-3	09/07/99	97.08	30.38	66.70	—	—	—	—	—
MW-3	12/13/99	97.08	31.46	65.62	—	—	—	—	—
MW-3	03/13/00	97.08	24.28	72.80	—	—	—	—	—
MW-3	06/12/00	97.08	26.80	70.28	—	—	—	—	—
MW-3	11/10/00	97.08	29.47	67.61	—	—	—	—	—
MW-3	12/31/00	97.08	31.38	65.70	—	—	—	—	—
MW-3	03/27/01	97.08	29.94	67.14	—	—	—	—	—
MW-3	06/30/01	97.08	37.54	59.54	—	—	—	—	—
MW-3	09/26/01	97.08	45.17	51.91	—	—	—	—	—
MW-4	03/30/94	99.35	31.56	67.79	120	4.2	15	2.5	26
MW-4	04/25/94	99.35	32.73	66.62	65	<0.50	1.8	<0.50	2.1
MW-4	08/12/94	99.35	41.61	57.74	<50	<0.50	<0.50	<0.50	<0.50
MW-4	12/14/94	99.35	38.11	61.24	<50	<0.50	<0.50	<0.50	<0.50
MW-4	02/10/95	99.35	30.50	68.85	<50	<0.50	<0.50	<0.50	<0.50
MW-4	06/15/95	99.35	23.63	75.72	<50	<0.50	<0.50	<0.50	<0.50
MW-4	09/26/95	99.35	29.70	69.65	<50	<0.50	<0.50	<0.50	<0.50
MW-4	12/15/95	99.35	27.56	71.79	<50	<0.50	<0.50	<0.50	<0.50
MW-4	03/21/96	99.35	15.63	83.72	—	—	—	—	—
MW-4	06/13/96	99.35	21.07	78.28	—	—	—	—	—
MW-4	09/16/96	99.35	28.99	70.36	—	—	—	—	—
MW-4	12/02/96	99.35	26.04	73.31	—	—	—	—	—
MW-4	03/07/97	99.35	19.69	79.66	—	—	—	—	—
MW-4	06/12/97	99.35	28.04	71.31	—	—	—	—	—
MW-4	09/29/97	99.35	29.91	69.44	—	—	—	—	—
MW-4	12/01/97	99.35	33.88	65.47	—	—	—	—	—
MW-4	03/19/98	99.35	18.67	80.68	—	—	—	—	—
MW-4	05/29/98	99.35	20.16	79.19	—	—	—	—	—
MW-4	09/15/98	99.35	30.46	68.89	—	—	—	—	—
MW-4	11/30/98	99.35	34.50	64.85	—	—	—	—	—

Table 1
Summary of Groundwater Levels and Chemical Analysis

Beacon Station 3604 - 1619 West First Street, Livermore

Well ID	Date	Reference Elevation ¹ (feet)	Depth to Water ¹ (feet)	Groundwater			Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8260 (µg/l)	
				Elevation (feet-MSL)	TPH-G (µg/l)	Benzene (µg/l)				Toluene (µg/l)
MW-4	01/17/99	99.35	28.30	71.05	—	—	—	—	—	
MW-4	06/10/99	99.35	27.60	71.75	—	—	—	—	—	
MW-4	09/07/99	99.35	30.79	68.56	—	—	—	—	—	
MW-4	12/13/99	99.35	31.60	67.75	—	—	—	—	—	
MW-4	03/13/00	99.35	24.35	75.00	—	—	—	—	—	
MW-4	06/12/00	99.35	26.91	72.44	—	—	—	—	—	
MW-4	11/10/00	99.35	29.71	69.64	—	—	—	—	—	
MW-4	12/31/00	99.35	31.79	67.56	—	—	—	—	—	
MW-4	03/27/01	99.35	29.98	69.37	—	—	—	—	—	
MW-4	06/30/01	99.35	36.88	62.47	—	—	—	—	—	
MW-4	09/26/01	99.35	43.87	55.48	—	—	—	—	—	
MW-5	03/30/94	98.37	32.07	66.30	7,500	1,300	20	<13	160	—
MW-5	04/25/94	98.37	33.65	64.72	6,500	1,100	41	130	740	—
MW-5	08/12/94	98.37	42.73	55.64	4,000	420	2.9	41	98	—
MW-5	12/14/94	98.37	38.89	59.48	4,800	660	<2.5	33	13	—
MW-5	02/10/95	98.37	31.44	66.93	5,200	490	<13	23	19	—
MW-5	06/15/95	98.37	24.99	73.38	460	<0.50	<0.50	<0.50	<0.50	—
MW-5	09/26/95	98.37	30.20	68.17	1,400	61	<0.50	3.1	<0.50	—
MW-5	12/15/95	98.37	28.56	69.81	2,100	77	1.5	10	1.5	—
MW-5	03/21/96	98.37	16.82	81.55	930	35	2.0	2.0	18	—
MW-5	06/13/96	98.37	22.61	75.76	610	38	0.72	1.9	2.0	<5.0
MW-5	09/16/96	98.37	29.78	68.59	380	29	<0.50	0.95	<0.50	<5.0
MW-5	12/02/96	98.37	26.51	71.86	200	1.1	0.64	<0.50	<0.50	<5.0
MW-5	03/07/97	98.37	21.91	76.46	520	74	<0.50	0.58	1.5	<5.0
MW-5	06/12/97	98.37	—	—	140	5.3	<0.50	<0.50	<0.50	<5.0
MW-5	09/29/97	98.37	31.74	66.63	<50	<0.50	<0.50	<0.50	<0.50	<5.0
MW-5	12/01/97	98.37	34.05	64.32	<50	<0.50	<0.50	<0.50	<0.50	<5.0
MW-5	03/19/98	98.37	20.93	77.44	<50	<0.50	<0.50	<0.50	<0.50	<5.0
MW-5	05/29/98	98.37	21.30	77.07	540	4.1	<0.50	<0.50	0.52	<5.0
MW-5	09/15/98	98.37	31.32	67.05	67	<0.50	<0.50	<0.50	<0.50	<5.0
MW-5	11/30/98	98.37	35.44	62.93	430	<0.50	<0.50	<0.50	<0.50	<5.0

Table 1
Summary of Groundwater Levels and Chemical Analysis

Beacon Station 3604 - 1619 West First Street, Livermore

Well ID	Date	Reference Elevation ¹ (feet)	Depth to Water ¹ (feet)	Groundwater			Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8260 (µg/l)	
				Elevation (feet-MSL)	TPH-G (µg/l)	Benzene (µg/l)				Toluene (µg/l)
MW-5	01/17/99	98.37	29.59	68.78	500	<0.50	<0.50	<0.50	<0.50	<5.0
MW-5	06/10/99	98.37	28.05	70.32	66	<0.50	<0.50	<0.50	<0.50	<5.0
MW-5	09/07/99	98.37	31.11	67.26	820	46	1.7	10	21	<5.0
MW-5	12/13/99	98.37	32.66	65.71	<50	<0.50	<0.50	<0.50	<0.50	<5.0
MW-5	03/13/00	98.37	25.87	72.50	270	<0.50	<0.50	<0.50	<0.50	<5.0
MW-5	06/12/00	98.37	28.15	70.22	<50	<0.50	<0.50	<0.50	<0.50	<5.0
MW-5	11/10/00	98.37	30.05	68.32	2,200	42	1.1	25	30	8.6
MW-5	12/31/00	98.37	31.81	66.56	1,300	21	<0.50	4.3	2.6	10
MW-5	03/27/01	98.37	30.57	67.80	1,200	11	<0.50	2.6	<0.50	21
MW-5	06/30/01	98.37	37.24	61.13	1,400	4.8	<0.50	1.5	0.56	14
MW-5	09/26/01	98.37	44.53	53.84	660	<0.50	<0.50	<0.50	<0.50	3.0
MW-6	03/30/94	97.62	33.38	64.24	63,000	21,000	8,600	1,700	12,000	—
MW-6	04/25/94	97.62	35.49	62.13	77,000	22,000	12,000	2,300	16,000	—
MW-6	08/12/94	97.62	45.14	52.48	65,000	12,000	8,100	2,200	16,000	—
MW-6	12/14/94	97.62	40.99	56.63	65,000	18,000	9,500	2,200	14,000	—
MW-6	02/10/95	97.62	33.34	64.28	63,000	21,000	8,400	2,000	14,000	—
MW-6	06/15/95	97.62	26.88	70.74	75,000	20,000	11,000	2,100	15,000	—
MW-6	09/26/95	97.62	33.55	64.07	62,000	15,000	9,600	1,700	12,000	—
MW-6	12/15/95	97.62	30.32	67.30	61,000	15,000	9,000	2,300	15,000	—
MW-6	03/21/96	97.62	18.89	78.73	65,000	18,000	9,800	2,400	16,000	—
MW-6	06/13/96	97.62	24.62	73.00	29,000	8,600	3,300	2,200	12,000	<250
MW-6	09/16/96	97.62	32.64	64.98	42,000	6,400	1,800	2,100	11,000	<250
MW-6	12/02/96	97.62	27.42	70.20	28,000	3,000	1,100	970	8,300	<500
MW-6	03/07/97	97.62	22.13	75.49	12,000	2,000	190	520	2,300	<250
MW-6	06/12/97	97.62	31.02	66.60	37,000	3,900	470	1,600	6,200	<100
MW-6	09/29/97	97.62	35.77	61.85	34,000	3,500	370	1,600	5,200	<100
MW-6	12/01/97	97.62	37.14	60.48	20,000	2,100	<10	1,200	2,200	<100
MW-6	03/19/98	97.62	21.10	76.52	24,000	2,900	460	1,100	3,400	<100
MW-6	05/29/98	97.62	23.26	74.36	38,000	3,500	700	1,800	5,200	<100
MW-6	09/15/98	97.62	33.50	64.12	22,000	1,900	110	1,400	3,000	<100
MW-6	11/30/98	97.62	38.73	58.89	9,900	770	16	820	710	<100

Table 1
Summary of Groundwater Levels and Chemical Analysis

Beacon Station 3604 - 1619 West First Street, Livermore

Well ID	Date	Reference Elevation ¹ (feet)	Depth to Water ¹ (feet)	Groundwater				Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8260 (µg/l)
				Elevation (feet-MSL)	TPH-G (µg/l)	Benzene (µg/l)	Toluene (µg/l)			
MW-6	01/17/99	97.62	32.05	65.57	14,000	2,200	160	1,700	3,600	<100
MW-6	06/10/99	97.62	31.44	66.18	22,000	1,600	160	1,400	2,900	5.5
MW-6	09/07/99	97.62	33.94	63.68	17,000	1,400	33	1,300	1,800	<50
MW-6	12/13/99	97.62	35.84	61.78	16,000	790	9.2	840	780	<25
MW-6	03/13/00	97.62	28.45	69.17	16,000	790	85	780	1,600	<25
MW-6	06/12/00	97.62	30.52	67.10	24,000	1,100	150	1,300	2,300	5,600
MW-6	11/10/00	97.62	32.99	64.63	13,000	440	6.6	760	350	1,000
MW-6	12/31/00	97.62	34.95	62.67	12,000	680	7.6	820	190	1,400
MW-6	03/27/01	97.62	32.72	64.90	14,000	330	17	940	670	380
MW-6	06/30/01	97.62	39.86	57.76	750	45	0.93	47	14	54
MW-6	09/26/01	97.62	Dry	—	—	—	—	—	—	—
MW-7	03/30/94	98.03	31.98	66.05	43,000	7,200	2,400	1,600	11,000	—
MW-7	04/25/94	98.03	33.56	64.47	30,000	3,900	1,000	940	6,900	—
MW-7	08/12/94	98.03	43.35	54.68	30,000	3,800	1,400	1,300	7,500	—
MW-7	12/14/94	98.03	39.34	58.69	31,000	3,600	1,200	900	6,400	—
MW-7	02/10/95	98.03	32.11	65.92	27,000	4,000	900	890	5,100	—
MW-7	06/15/95	98.03	25.51	72.52	17,000	920	680	740	4,100	—
MW-7	09/26/95	98.03	31.43	66.60	7,000	200	150	170	810	—
MW-7	12/15/95	98.03	28.97	69.06	11,000	350	170	540	1,900	—
MW-7	03/21/96	98.03	17.36	80.67	12,000	320	100	730	2,500	—
MW-7	06/13/96	98.03	23.47	74.56	5,900	98	19	370	620	<50
MW-7	09/16/96	98.03	31.35	66.68	7,800	140	43	440	590	<25
MW-7	12/02/96	98.03	27.11	70.92	6,300	87	29	290	430	<50
MW-7	03/07/97	98.03	21.33	76.70	4,500	35	19	360	470	<25
MW-7	06/12/97	98.03	29.90	68.13	3,900	29	5.2	170	48	<5.0
MW-7	09/29/97	98.03	34.37	63.66	6,100	56	9	340	190	<25
MW-7	12/01/97	98.03	36.46	61.57	6,500	24	<2.5	400	250	<25
MW-7	03/19/98	98.03	20.33	77.70	2,000	20	<2.5	73	79	<25
MW-7	05/29/98	98.03	22.30	75.73	5,700	22	7.3	290	350	<25
MW-7	09/15/98	98.03	32.54	65.49	1,700	15	<2.5	44	5.1	<25
MW-7	11/30/98	98.03	37.96	60.07	4,800	42	12	270	640	<25

Table 1
Summary of Groundwater Levels and Chemical Analysis

Beacon Station 3604 - 1619 West First Street, Livermore

Well ID	Date	Reference	Depth to	Groundwater			Ethyl-	Total	MTBE	
		Elevation ¹ (feet)	Water ¹ (feet)	Elevation (feet-MSL)	TPH-G (µg/l)	Benzene (µg/l)	Toluene (µg/l)	benzene (µg/l)	Xylenes (µg/l)	8260 (µg/l)
MW-7	01/17/99	98.03	31.04	66.99	3,400	33	<5.0	200	190	<50
MW-7	06/10/99	98.03	29.89	68.14	1,700	7.8	1.5	23	4.1	<5.0
MW-7	09/07/99	98.03	32.38	65.65	1,900	9.7	2.1	70	2.9	<5.0
MW-7	12/13/99	98.03	33.98	64.05	1,900	8.0	1.1	10	1.1	<5.0
MW-7	03/13/00	98.03	27.09	70.94	1,500	7.5	<0.50	6.7	2.9	<5.0
MW-7	06/12/00	98.03	28.76	69.27	1,200	5.4	<0.50	5.2	1.0	<5.0
MW-7	11/10/00	98.03	31.54	66.49	1,000	3.9	<0.50	<0.50	<0.50	<0.50
MW-7	12/31/00	98.03	32.76	65.27	620	1.8	<0.50	<0.50	<0.50	<0.50
MW-7	03/27/01	98.03	30.97	67.06	1,200	4.8	<0.50	6.7	0.94	<0.50
MW-7	06/30/01	98.03	37.50	60.53	2,800	10	1.7	75	170	<0.50
MW-7	09/26/01	98.03	45.11	52.92	1,900	16	0.89	2.3	25	<0.50
MW-A	01/17/99	—	30.13	—	5,800	1,700	85	65	320	<5.0
MW-A	06/10/99	Well abandoned								
MW-B	01/17/99	—	30.29	—	4,400	240	30	21	39	<5.0
MW-B	06/10/99	Well abandoned								
MW-C	01/17/99	—	30.60	—	—	—	—	—	—	—
MW-C	06/10/99	Well abandoned								
MW-D	01/17/99	—	31.32	—	5,600	1,600	130	66	220	<5.0
MW-D	06/10/99	Well abandoned								
MW-E	01/17/99	—	31.36	—	5,700	1,600	180	180	310	<50
MW-E	06/10/99	—	—	—	5,000	1,300	130	320	450	<25
MW-E	09/07/99	Well abandoned								
MW-W	01/17/99	—	30.91	—	23,000	7,600	760	1,400	5,000	<50
MW-W	06/10/99	—	—	—	16,000	4,100	420	1,300	4,000	<50
MW-W	09/07/99	Well abandoned								

Table 1
Summary of Groundwater Levels and Chemical Analysis

Beacon Station 3604 - 1619 West First Street, Livermore

Well ID	Date	Reference	Depth to	Groundwater			Ethyl-	Total	MTBE	
		Elevation ¹	Water ¹	Elevation	TPH-G	Benzene	Toluene	benzene	Xylenes	8260
		(feet)	(feet)	(feet-MSL)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)

NOTES:

1 Measurement and reference elevation taken from notch/mark on top of well casing.

MSL = Mean sea level

µg/l = micrograms per liter (parts per billion)

— = not measured / not analyzed

TPH-G = total petroleum hydrocarbons as gasoline

MTBE = methyl tert butyl ether

< = not detected at or above the stated method detection limit

* = product is not typical gasoline

APPENDIX A
ULTRAMAR FIELD PROCEDURES

ULTRAMAR FIELD PROCEDURES

The following section describes procedures used by field personnel in the performance of groundwater sampling at Ultramar Inc. sites.

Groundwater Level and Total Depth Determination

A water level indicator is lowered down the well and a measurement of the depth to water from an established reference point on the casing is taken. The indicator probe is used to sound the bottom of the well and a measurement of the total depth of the well is taken. Both the water level and total depth measurements are taken to the nearest 0.01-foot.

Visual Analysis of Groundwater

Prior to purging and sampling groundwater monitoring wells, a water sample is collected from each well for subjective analysis. The visual analysis involves gently lowering a clean, disposable polyethylene bailer to approximately one-half the bailer length past the water table interface. The bailer is then retrieved, and the sample contained within the bailer is examined for floating product or the appearance of a petroleum product sheen. If measurable free product is noted in the bailer, a water/product interface probe is used to determine the thickness of the free product to the nearest 0.01-foot. The thickness of free product is determined by subtracting the depth to product from the depth to water.

Monitoring Well Purging and Sampling

Monitoring wells are purged by removing approximately four casing volumes of water from the well using a clean disposable bailer or electrical submersible purge pump. Purge volumes are calculated prior to purging. During purging, the temperature, pH, and electrical conductivity of the purge water are monitored. The well is considered to be sufficiently purged when the four casing volumes have been removed; the temperature, pH, and conductivity values have stabilized to within 10% of the initial readings; and the groundwater being removed is relatively free of suspended solids. After purging, groundwater levels are allowed to stabilize to within 80% of the initial water level reading. A water sample is then collected from each well with a clean, disposable polyethylene bailer. If the well is bailed or pumped dry prior to removing the minimum amount of water, the groundwater is allowed to recharge. If the well has recharged to within 80% of the initial depth to water reading within two hours, the well will continue to be purged until the minimum volume of water has been removed. If the well has not recharged to at least 80% of the initial depth to water reading within two hours, the well is considered to contain formational water and a groundwater sample is collected. Groundwater removed from the well is stored in 55-gallon drums at the site and labeled pending disposal.

In wells where free product is detected, the wells will be bailed to remove the free product. An estimate of the volume of product and water will be recorded. If the free product thickness is reduced to the point where a measurable thickness is no longer present in the well, a groundwater sample will be collected. If free product persists throughout the purging process, a final free product thickness measurement will be taken and a groundwater sample will not be collected.

Groundwater samples are stored in 40-milliliter vials so that air passage through the sample is minimized (to prevent volatilization of the sample). The vial is tilted and filled slowly until an upward convex meniscus forms over the mouth of the vial. The Teflon™ side of the septum (in cap) is then placed against the meniscus, and the cap is screwed on tightly. The sample is then inverted and the bottle is tapped lightly to check for air bubbles. If an air bubble is present in the vial, the cap is removed and more sample is transferred from the bailer. The vial is then resealed and rechecked for air bubbles. The sample is then appropriately labeled and stored on ice from the time of collection through the time of delivery to the laboratory. The chain-of-custody form is completed to ensure sample integrity. Groundwater samples are transported to a state-certified laboratory and analyzed within the U.S. Environmental Protection Agency-specified hold times for the specified analytes.

APPENDIX B

DOULOS ENVIRONMENTAL FIELD DATA SHEETS

DOULOS ENVIRONMENTAL, INC.
GROUNDWATER/LIQUID LEVEL DATA
(measurements in feet)

Project Address: Beacon # 3604 1619 First St. 10299 Folsom Blvd.
Livermore, Ca.

Date: 9-26-01

Project No.: 3604-60

Recorded by: Hal Hansen

Well No.	Time	Well Elev. TOC	Depth to Groundwater	Measured Total Depth	Groundwater Elevation	Depth to Product	Product Thickness	Comments
MW-1	446		45.10	69.57				
MW-2	435		44.97	67.87				
MW-3	424		45.17	67.14				
MW-4	414		43.87	69.37				
MW-5	344		44.53	67.80				
MW-6	354		dry	47.56				
MW-7	404		45.11	67.06				

Notes:

Client: Ultramar
 Site: Beacon #3604
1619 First St.
Livermore, Ca.

Sampling Date: 9-26-01
 Project No.: _____
 Well Designation: MW-1

Is setup of traffic control devices required? NO YES
 Is there standing water in the well box? NO YES
 Is top of casing cut level? NO YES
 Is well cap sealed and locked? NO YES
 Height of well casing riser (in inches): _____
 Well cover type: 8" or 12" UV _____ 12" EMCO _____ 8" or 12" BK _____ 8" Christy _____
 12" Christy _____ 8" M&D _____ 12" M&D _____ 12" DWP _____
 12" CNI 36" CNI _____ 12" Pomeco _____ Other: _____
 General condition of wellhead assembly: Excellent _____ Good Fair _____ Poor _____

Purging Equipment: _____ 2" disposable bailer _____ Submersible pump
 _____ 2" PVC bailer _____ Dedicated bailer
 _____ 4" PVC bailer _____ Centrifugal pump
 Sampled with: Disposable bailer Teflon bailer _____ Disposable Tubing _____

Well Diameter: 2" _____ 4" 6" _____ 8" _____
 Purge Vol. Multiplier: 0.16 0.65 1.47 2.61 gal/ft.
Initial Measurement Recharge Measurement
 Time: 1446 Time: NA Calculated purge: NA
 Depth of well: 89.57 Depth to water: NA Actual purge: NA
 Depth to water: 45.10

Start purge: NA Sampling time: 1446

Time	Temperature	E.C.	pH	Turbidity	Volume

Sample appearance: clear Lock: dolphin

Equipment replaced: (check all that apply) Note condition of replaced item(s)
 2" Locking Cap: _____ Lock: _____ 7/32 Allenhead: _____
 4" Locking Cap: _____ Lock-Dolphin: _____ 9/16 Bolt: _____
 6" Locking Cap: _____ Pinned Allenhead (DWP): _____

Remarks: _____

Signature: [Signature]

Client: Ultramar
Site: Beacon #3604
1619 First St.
Livermore, Ca.

Sampling Date: 9-26-01
Project No.:
Well Designation: MW-2

Is setup of traffic control devices required? NO YES
Is there standing water in the well box? NO YES
Is top of casing cut level? NO YES
Is well cap sealed and locked? NO YES
Height of well casing riser (in inches): 4
Well cover type: 8" or 12" UV 12" EMCO 8" or 12" BK 8" Christy
12" Christy 8" M&D 12" M&D 12" DWP
12" CNI 36" CNI 12" Pomeco Other:
General condition of wellhead assembly: Excellent Good Fair Poor

Purging Equipment: 2" disposable bailer Submersible pump
2" PVC bailer Dedicated bailer
4" PVC bailer Centrifugal pump
Sampled with: Disposable bailer Teflon bailer Disposable Tubing

Well Diameter: 2" 4" 6" 8"
Purge Vol. Multiplier: 0.16 0.65 1.47 2.61 gal/ft.
Initial Measurement Recharge Measurement
Time: 4:15 Time:
Depth of well: 67.87 Depth to water:
Depth to water: 44.97 Calculated purge: NA
Actual purge: NA

Start purge: NA Sampling time: 4:15

Time	Temperature	E.C.	pH	Turbidity	Volume

Sample appearance: clear Lock: dolph-in

Equipment replaced: (check all that apply) Note condition of replaced item(s)
2" Locking Cap: Lock: 7/32 Allenhead:
4" Locking Cap: Lock-Dolphin: 9/16 Bolt:
6" Locking Cap: Pinned Allenhead (DWP):

Remarks:

Signature:

Client: Ultramar
Site: Beacon #3604
1619 First St.
Livermore, Ca.

Sampling Date: 9-26-01
Project No.:
Well Designation: MW-5

Is setup of traffic control devices required? NO YES
Is there standing water in the well box? NO YES
Is top of casing cut level? NO YES
Is well cap sealed and locked? NO YES
Height of well casing riser (in inches): 4
Well cover type: 8" or 12" UV 12" EMCO 8" or 12" BK 8" Christy
12" Christy 8" M&D 12" M&D 12" DWP
12" CNI 36" CNI 12" Pomeco Other:
General condition of wellhead assembly: Excellent Good Fair Poor

Purging Equipment: 2" disposable bailer Submersible pump
2" PVC bailer Dedicated bailer
4" PVC bailer Centrifugal pump
Sampled with: Disposable bailer Teflon bailer Disposable Tubing

Well Diameter: 2" 4" 6" 8"
Purge Vol. Multiplier: 0.16 0.65 1.47 2.61 gal/ft.
Initial Measurement Recharge Measurement
Time: 344 Time: Calculated purge: NA
Depth of well: 67.80 Depth to water: Actual purge: NA
Depth to water: 44.53

Start purge: Sampling time: 344

Time	Temperature	E.C.	pH	Turbidity	Volume

Sample appearance: clear Lock: Dolphin

Equipment replaced: (check all that apply) Note condition of replaced item(s)
2" Locking Cap: Lock: 7/32 Allenhead:
4" Locking Cap: Lock-Dolphin: 9/16 Bolt:
6" Locking Cap: Pinned Allenhead (DWP):

Remarks:

Signature: [Handwritten Signature]

Client: Ultramar
 Site: Beacon #3604
1619 First St.
Livermore, Ca.

Sampling Date: 9-26-01
 Project No.: _____
 Well Designation: MW-7

Is setup of traffic control devices required? NO YES
 Is there standing water in the well box? NO YES
 Is top of casing cut level? NO YES
 Is well cap sealed and locked? NO YES
 Height of well casing riser (in inches): _____
 Well cover type: 8" or 12" UV 12" EMCO _____ 8" or 12" BK _____ 8" Christy _____
 12" Christy _____ 8" M&D _____ 12" M&D _____ 12" DWP _____
 12" CNI _____ 36" CNI _____ 12" Pomeco _____ Other: _____
 General condition of wellhead assembly: Excellent _____ Good Fair _____ Poor _____

time: _____ hours
 Above TOC _____ Below TOC
 If no, see remarks
 If no, see remarks

Purging Equipment: _____ 2" disposable bailer _____ Submersible pump
 _____ 2" PVC bailer _____ Dedicated bailer
 _____ 4" PVC bailer _____ Centrifugal pump
 Sampled with: Disposable bailer Teflon bailer _____ Disposable Tubing _____

Well Diameter: 2" 4" _____ 6" _____ 8" _____
 Purge Vol. Multiplier: 0.16 _____ 0.65 _____ 1.47 _____ 2.61 gal/ft.
Initial Measurement Recharge Measurement
 Time: 404 _____ Time: NA _____ Calculated purge: NA
 Depth of well: 67.06 _____ Depth to water: NA _____ Actual purge: NA
 Depth to water: 45.11 _____

Start purge: NA _____ Sampling time: 404 _____

Time	Temperature	E.C.	pH	Turbidity	Volume

Sample appearance: clear _____ Lock: dolphin _____

Equipment replaced: (check all that apply) Note condition of replaced item(s)
 2" Locking Cap: _____ Lock: _____ 7/32 Allenhead: _____
 4" Locking Cap: _____ Lock-Dolphin: _____ 9/16 Bolt: _____
 6" Locking Cap: _____ Pinned Allenhead (DWP): _____

Remarks: _____

 Signature: [Signature]

APPENDIX C

OFFICIAL LABORATORY REPORTS AND CHAIN-OF-CUSTODY RECORDS



Report Number : 22623

Date : 10/15/2001

Tracy Walker
TRC Alton Geoscience
5052 Commercial Circle
Concord, CA 94520

Subject : 4 Water Samples
Project Name : Beacon 604
Project Number :
P.O. Number : 3604-60

Dear Mr. Walker,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,



Joel Kiff



Report Number : 22623

Date : 10/15/2001

Project Name : **Beacon 604**

Project Number :

Sample : **MW-1**

Matrix : Water

Lab Number : 22623-01

Sample Date :9/26/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	10/9/2001
Toluene	< 0.50	0.50	ug/L	EPA 8260B	10/9/2001
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	10/9/2001
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	10/9/2001
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	10/9/2001
TPH as Gasoline	90	50	ug/L	EPA 8260B	10/9/2001
Toluene - d8 (Surr)	103		% Recovery	EPA 8260B	10/9/2001
4-Bromofluorobenzene (Surr)	92.2		% Recovery	EPA 8260B	10/9/2001

Sample : **MW-2**

Matrix : Water

Lab Number : 22623-02

Sample Date :9/26/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	8500	25	ug/L	EPA 8260B	10/9/2001
Toluene	1500	25	ug/L	EPA 8260B	10/9/2001
Ethylbenzene	2400	25	ug/L	EPA 8260B	10/9/2001
Total Xylenes	4600	25	ug/L	EPA 8260B	10/9/2001
Methyl-t-butyl ether (MTBE)	270	25	ug/L	EPA 8260B	10/9/2001
TPH as Gasoline	53000	5000	ug/L	EPA 8260B	10/9/2001
Toluene - d8 (Surr)	98.0		% Recovery	EPA 8260B	10/9/2001
4-Bromofluorobenzene (Surr)	100		% Recovery	EPA 8260B	10/9/2001

Approved By:  Joel Kiff



Report Number : 22623

Date : 10/15/2001

Project Name : **Beacon 604**

Project Number :

Sample : **MW-5**

Matrix : Water

Lab Number : 22623-03

Sample Date :9/26/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	10/9/2001
Toluene	< 0.50	0.50	ug/L	EPA 8260B	10/9/2001
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	10/9/2001
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	10/9/2001
Methyl-t-butyl ether (MTBE)	3.0	0.50	ug/L	EPA 8260B	10/9/2001
TPH as Gasoline	660	50	ug/L	EPA 8260B	10/9/2001
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	10/9/2001
4-Bromofluorobenzene (Surr)	105		% Recovery	EPA 8260B	10/9/2001

Sample : **MW-7**

Matrix : Water

Lab Number : 22623-04

Sample Date :9/26/2001

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	16	0.50	ug/L	EPA 8260B	10/9/2001
Toluene	0.89	0.50	ug/L	EPA 8260B	10/9/2001
Ethylbenzene	2.3	0.50	ug/L	EPA 8260B	10/9/2001
Total Xylenes	25	0.50	ug/L	EPA 8260B	10/9/2001
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	10/9/2001
TPH as Gasoline	1900	50	ug/L	EPA 8260B	10/9/2001
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	10/9/2001
4-Bromofluorobenzene (Surr)	106		% Recovery	EPA 8260B	10/9/2001

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Report Number : 22623

Date : 10/15/2001

Project Name : **Beacon 604**

Project Number :

22623 Quality Control Data - Method Blank

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	10/5/2001
Toluene	< 0.50	0.50	ug/L	EPA 8260B	10/5/2001
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	10/5/2001
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	10/5/2001
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	10/5/2001
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	10/5/2001
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	10/5/2001
4-Bromofluorobenzene (Surr)	105		% Recovery	EPA 8260B	10/5/2001

Approved By:  Joel Kiff

Report Number : 22623

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 10/15/2001

Project Name : **Beacon 604**

Project Number :

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Spike Recovery Data														
Benzene	22541-03	<0.50	19.1	19.3	20.4	20.7	ug/L	EPA 8260B	10/4/2001	106	107	0.631	70-130	25
Toluene	22541-03	<0.50	19.1	19.3	20.4	20.9	ug/L	EPA 8260B	10/4/2001	106	108	1.65	70-130	25
Tert-Butanol	22541-03	<5.0	95.7	96.3	91.6	93.7	ug/L	EPA 8260B	10/4/2001	195.8	97.3	1.54	70-130	25
Methyl-t-Butyl Ether	22541-03	<0.50	19.1	19.3	18.0	17.4	ug/L	EPA 8260B	10/4/2001	194.0	90.1	4.16	70-130	25

KIFF ANALYTICAL, LLC

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

Approved By: Joel Kiff



Report Number : 22623

Date : 10/15/2001

QC Report : Laboratory Control Sample (LCS)

Project Name : **Beacon 604**

Project Number :

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	20.0	ug/L	EPA 8260B	10/4/2001	107	70-130
Toluene	20.0	ug/L	EPA 8260B	10/4/2001	108	70-130
Tert-Butanol	100	ug/L	EPA 8260B	10/4/2001	95.4	70-130
Methyl-t-Butyl Ether	20.0	ug/L	EPA 8260B	10/4/2001	94.2	70-130

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720 Olive Drive, Suite D Davis, CA 95616 530-297-4800

Approved By:


Joel Kiff

