

RD-258

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Customer-Focused Solutions

January 25, 2005

ConocoPhillips Company  
76 Broadway  
Sacramento, CA 95818

FEB 01 2005

ATTN: MS. SHELBY LATHROP  
SITE: 76 STATION 6034  
4700 FIRST STREET  
LIVERMORE, CALIFORNIA  
RE: SEMI-ANNUAL MONITORING REPORT  
JULY THROUGH DECEMBER 2004

Dear Ms. Lathrop:

Please find enclosed our Semi-Annual Monitoring Report for 76 Station 6034, located at 4700 First Street, Livermore, California. If you have any questions regarding this report, please call us at (949) 753-0101.

Sincerely,

TRC

Anju Farfan  
QMS Operations Manager

CC: Don Hwang, Alameda County Health Care Services  
Roger Batra, TRC

Enclosures  
20-0400/6034R03.QMS





**SEMI-ANNUAL MONITORING REPORT  
JULY THROUGH DECEMBER 2004**

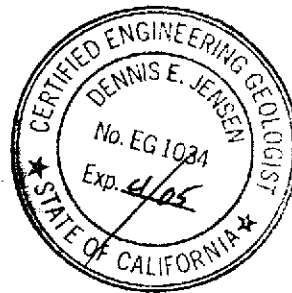
76 Station 6034  
4700 First Street  
Livermore, California

Prepared For:

Ms. Shelby Lathrop  
CONOCOPHILLIPS COMPANY  
76 Broadway  
Sacramento, California 95818

By:

A handwritten signature in black ink that reads 'Dennis E. Jensen'. The signature is fluid and cursive.



Senior Project Geologist, Irvine Operations  
January 24, 2005

### LIST OF ATTACHMENTS

Summary Sheet	Summary of Gauging and Sampling Activities
Tables	Table Key Table 1: Current Fluid Levels and Selected Analytical Results Table 2: Historic Fluid Levels and Selected Analytical Results Table 3: Additional Analytical Results
Figures	Figure 1: Vicinity Map Figure 2: Groundwater Elevation Contour Map Figure 3: Dissolved-Phase TPPH Concentration Map Figure 4: Dissolved-Phase Benzene Concentration Map Figure 5: Dissolved-Phase MTBE Concentration Map
Graphs	Groundwater Elevations vs. Time Benzene Concentrations vs. Time
Field Activities	General Field Procedures Groundwater Sampling Field Notes
Laboratory Reports	Official Laboratory Reports Quality Control Reports Chain of Custody Records
Statements	Purge Water Disposal Limitations

**Summary of Gauging and Sampling Activities**  
**July 2004 through December 2004**  
**76 Station 6034**  
**4700 First Street**  
**Livermore, CA**

Project Coordinator: **Shelby Lathrop**  
Telephone: **916-558-7609**

Water Sampling Contractor: **TRC**  
Compiled by: **Valentina Tobon**

Date(s) of Gauging/Sampling Event: **12/01/04**

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**Sample Points**

Groundwater wells: **7** onsite, **0** offsite      Wells gauged: **7**      Wells sampled: **2**  
Purging method: **Diaphragm pump**  
Purge water disposal: **Onyx/Rodeo Unit 100**  
Other Sample Points: **0**      Type: **n/a**

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**Liquid Phase Hydrocarbons (LPH)**

Wells with LPH: **0**      Maximum thickness (feet): **n/a**  
LPH removal frequency: **n/a**      Method: **n/a**  
Treatment or disposal of water/LPH: **n/a**

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**Hydrogeologic Parameters**

Depth to groundwater (below TOC):      Minimum: **14.17 feet**      Maximum: **15.81 feet**  
Average groundwater elevation (relative to available local datum): **504.81 feet**  
Average change in groundwater elevation since previous event: **-0.15 feet**  
Interpreted groundwater gradient and flow direction:  
    Current event: **0.007 ft/ft, northwest**  
    Previous event: **0.006 ft/ft, northwest (04/30/04)**

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**Selected Laboratory Results**

Wells with detected **Benzene**: **0**      Wells above MCL (1.0 µg/l): **n/a**  
    Maximum reported benzene concentration: **n/a**

Wells with **TPPH 8260B**      **2**      Maximum: **4,700 µg/l (MW-2)**  
Wells with **MTBE**      **2**      Maximum: **5.9 µg/l (MW-2)**

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**Notes:**

MW-1=Sampled Semi-Annually, MW-3=Sampled Semi-Annually, MW-5=Sampled Semi-Annually,  
MW-6=Dry well, MW-7=Sampled Semi-Annually,

# TABLES

## TABLE KEY

### STANDARD ABBREVIATIONS

--	=	not analyzed, measured, or collected
LPH	=	liquid-phase hydrocarbons
Trace	=	less than 0.01 foot of LPH in well
µg/l	=	micrograms per liter (approx. equivalent to parts per billion, ppb)
mg/l	=	milligrams per liter (approx. equivalent to parts per million, ppm)
ND <	=	not detected at or above laboratory detection limit
TOC	=	top of casing (surveyed reference elevation)

### ANALYTES

BTEX	=	benzene, toluene, ethylbenzene, and (total) xylenes
DIPE	=	di-isopropyl ether
ETBE	=	ethyl tertiary butyl ether
MTBE	=	methyl tertiary butyl ether
PCB	=	polychlorinated biphenyls
PCE	=	tetrachloroethene
TBA	=	tertiary butyl alcohol
TCA	=	trichloroethane
TCE	=	trichloroethene
TPH-G	=	total petroleum hydrocarbons with gasoline distinction
TPH-D	=	total petroleum hydrocarbons with diesel distinction
TPPH	=	total purgeable petroleum hydrocarbons
TRPH	=	total recoverable petroleum hydrocarbons
TAME	=	tertiary amyl methyl ether
1,1-DCA	=	1,1-dichloroethane
1,2-DCA	=	1,2-dichloroethane (same as EDC, ethylene dichloride)
1,1-DCE	=	1,1-dichloroethene
1,2-DCE	=	1,2-dichloroethene (cis- and trans-)

### NOTES

1. Elevations are in feet above mean sea level. Depths are in feet below surveyed top-of-casing.
2. Groundwater elevations for wells with LPH are calculated as:  $\text{Surface Elevation} - \text{Measured Depth to Water} + \frac{(\text{Dp} \times \text{LPH Thickness})}{1}$ , where Dp is the density of the LPH, if known. A value of 0.75 is used for gasoline and when the density is not known. A value of 0.83 is used for diesel.
3. Wells with LPH are generally not sampled for laboratory analysis (see General Field Procedures).
4. Comments shown on tables are general. Additional explanations may be included in field notes and laboratory reports, both of which are included as part of this report.
5. A "J" flag indicates that a reported analytical result is an estimated concentration value between the method detection limit (MDL) and the practical quantification limit (PQL) specified by the laboratory.
6. Other laboratory flags (qualifiers) may have been reported. See the official laboratory report (attached) for a complete list of laboratory flags.
7. Concentration graphs based on tables (presented following Figures) show non-detect results prior to the Second Quarter 2000 plotted at fixed values for graphical display. Non-detect results reported since that time are plotted at reporting limits stated in the official laboratory report.
8. Groundwater vs. Time graphs may be corrected for apparent level changes due to re-survey.
9. Historical data has been validated for this report. Values presented in the following tables supersede those from previous reports.

### REFERENCE

TRC began groundwater monitoring and sampling for 76 Station 6034 in October 2003. Historical data compiled prior to that time were provided by Gettler-Ryan Inc.

**Table 1**  
**CURRENT FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**December 1, 2004**  
**76 Station 6034**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
<b>MW-1</b>		<b>(Screen Interval in feet: 11.0-28.5)</b>												
12/01/04	520.64	15.81	0.00	504.83	-0.16	--	--	--	--	--	--	--	--	Sampled Semi-Annually
<b>MW-2</b>		<b>(Screen Interval in feet: 11.0-25.0)</b>												
12/01/04	519.82	15.37	0.00	504.45	-0.12	--	4700	ND<1.0	ND<1.0	81	240	--	5.9	
<b>MW-3</b>		<b>(Screen Interval in feet: 11.0-25.0)</b>												
12/01/04	519.66	14.37	0.00	505.29	-0.17	--	--	--	--	--	--	--	--	Sampled Semi-Annually
<b>MW-4</b>		<b>(Screen Interval in feet: 11.0-25.0)</b>												
12/01/04	519.61	14.17	0.00	505.44	-0.05	--	130	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	1.6	
<b>MW-5</b>		<b>(Screen Interval in feet: 10.0-24.0)</b>												
12/01/04	520.27	15.62	0.00	504.65	-0.07	--	--	--	--	--	--	--	--	Sampled Semi-Annually
<b>MW-6</b>		<b>(Screen Interval in feet: 10.0-24.0)</b>												
12/01/04	518.75	--	--	--	--	--	--	--	--	--	--	--	--	Dry well
<b>MW-7</b>		<b>(Screen Interval in feet: 10.0-24.0)</b>												
12/01/04	518.83	14.66	0.00	504.17	-0.31	--	--	--	--	--	--	--	--	Sampled Semi-Annually

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**November 1989 Through December 2004**  
**76 Station 6034**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
<b>MW-1 (Screen Interval in feet: 11.0-28.5)</b>														
11/18/1989	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
3/8/1990	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
6/5/1990	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
9/7/1990	--	--	--	--	--	ND	--	ND	1.2	ND	ND	--	--	
12/24/1990	--	--	--	--	--	ND	--	ND	ND	ND	0.4	--	--	
4/10/1991	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
7/10/1991	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
4/22/1993	520.88	15.47	0.00	505.41	--	--	--	--	--	--	--	--	--	
7/20/1993	520.88	18.04	0.00	502.84	-2.57	--	--	--	--	--	--	--	--	
10/20/1993	520.64	15.69	0.00	504.95	2.11	--	--	--	--	--	--	--	--	
1/20/1994	520.64	15.65	0.00	504.99	0.04	--	--	--	--	--	--	--	--	
4/21/1994	520.64	15.58	0.00	505.06	0.07	ND	--	ND	ND	ND	ND	--	--	
7/21/1994	520.64	15.62	0.00	505.02	-0.04	--	--	--	--	--	--	--	--	Sampled Annually
10/19/1994	520.64	15.28	0.00	505.36	0.34	--	--	--	--	--	--	--	--	
1/18/1995	520.64	14.56	0.00	506.08	0.72	--	--	--	--	--	--	--	--	
4/17/1995	520.64	14.82	0.00	505.82	-0.26	ND	--	ND	ND	ND	ND	--	--	
7/18/1995	520.64	14.78	0.00	505.86	0.04	--	--	--	--	--	--	--	--	
10/17/1995	520.64	14.83	0.00	505.81	-0.05	--	--	--	--	--	--	--	--	
1/17/1996	520.64	14.96	0.00	505.68	-0.13	--	--	--	--	--	--	--	--	
4/17/1996	520.64	14.47	0.00	506.17	0.49	ND	--	ND	ND	ND	ND	ND	--	
7/16/1996	520.64	14.57	0.00	506.07	-0.10	--	--	--	--	--	--	--	--	
10/16/1996	520.64	14.50	0.00	506.14	0.07	--	--	--	--	--	--	--	--	
4/8/1997	520.64	15.05	0.00	505.59	--	--	--	--	--	--	--	--	--	Sampling Discontinued
10/6/1997	520.64	15.00	0.00	505.64	0.05	--	--	--	--	--	--	--	--	



**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**November 1989 Through December 2004**  
**76 Station 6034**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
<b>MW-1 continued</b>														
4/2/1998	520.64	14.80	0.00	505.84	0.20	--	--	--	--	--	--	--	--	
10/7/1998	520.64	14.72	0.00	505.92	0.08	--	--	--	--	--	--	--	--	
4/14/1999	520.64	14.89	0.00	505.75	-0.17	--	--	--	--	--	--	--	--	
10/12/1999	520.64	14.79	0.00	505.85	0.10	--	--	--	--	--	--	--	--	
4/10/2000	520.64	14.93	0.00	505.71	-0.14	--	--	--	--	--	--	--	--	
10/2/2000	520.64	15.18	0.00	505.46	-0.25	--	--	--	--	--	--	--	--	
4/2/2001	520.64	14.72	0.00	505.92	0.46	--	--	--	--	--	--	--	--	
10/5/2001	520.64	15.51	0.00	505.13	-0.79	--	--	--	--	--	--	--	--	
4/1/2002	520.64	15.40	0.00	505.24	0.11	--	--	--	--	--	--	--	--	
10/16/2002	520.64	15.54	0.00	505.10	-0.14	--	--	--	--	--	--	--	--	
4/3/2003	520.64	15.41	0.00	505.23	0.13	--	--	--	--	--	--	--	--	
10/2/2003	520.64	15.58	0.00	505.06	-0.17	--	--	--	--	--	--	--	--	Monitored Only
4/30/2004	520.64	15.65	0.00	504.99	-0.07	--	--	--	--	--	--	--	--	Monitored only
12/1/2004	520.64	15.81	0.00	504.83	-0.16	--	--	--	--	--	--	--	--	Sampled Semi-Annually
<b>MW-2 (Screen Interval in feet: 11.0-25.0)</b>														
11/18/1989	--	--	--	--	--	53000	--	540	500	130	22000	--	--	
3/8/1990	--	--	--	--	--	26000	--	230	410	1300	2100	--	--	
6/5/1990	--	--	--	--	--	31000	--	250	460	950	9200	--	--	
9/7/1990	--	--	--	--	--	ND	--	ND	1.5	ND	ND	--	--	
12/24/1990	--	--	--	--	--	32000	--	440	340	460	13000	--	--	
4/10/1991	--	--	--	--	--	22000	--	170	190	490	6200	--	--	
7/10/1991	--	--	--	--	--	14000	--	70	160	570	5400	--	--	
10/14/1991	--	--	--	--	--	11000	--	79	130	660	4700	--	--	
1/14/1992	--	--	--	--	--	5600	--	36	120	450	2600	--	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**November 1989 Through December 2004**  
**76 Station 6034**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
<b>MW-2 continued</b>														
4/6/1992	--	--	--	--	--	760	--	6.3	2.1	ND	130	--	--	
7/7/1992	--	--	--	--	--	44000	--	160	1100	1000	17000	--	--	
10/16/1992	--	--	--	--	--	290	--	2.3	ND	5.1	15	--	--	
1/14/1993	--	--	--	--	--	19000	--	75	430	900	8400	--	--	
4/22/1993	520.17	14.98	0.00	505.19	--	49000	--	150	1000	3000	18000	--	--	
7/20/1993	520.17	17.41	0.00	502.76	-2.43	25000	--	68	94	1000	6200	--	--	
10/20/1993	519.82	15.08	0.00	504.74	1.98	12000	--	27	10	100	3000	--	--	
1/20/1994	519.82	15.02	0.00	504.80	0.06	20000	--	ND	ND	270	3300	--	--	
4/21/1994	519.82	14.96	0.00	504.86	0.06	27000	--	85	65	880	5300	--	--	
7/21/1994	519.82	14.99	0.00	504.83	-0.03	31000	--	58	29	940	6200	--	--	
10/19/1994	519.82	14.80	0.00	505.02	0.19	4100	--	16	3.5	8.6	1100	--	--	
1/18/1995	519.82	14.10	0.00	505.72	0.70	5100	--	6.8	7.3	100	1500	--	--	
4/17/1995	519.82	14.13	0.00	505.69	-0.03	320	--	1.3	0.67	6.6	74	--	--	
7/18/1995	519.82	14.11	0.00	505.71	0.02	12000	--	25	24	550	3700	--	--	
10/17/1995	519.82	14.15	0.00	505.67	-0.04	77000	--	60	58	760	8300	220	--	
1/17/1996	519.82	14.35	0.00	505.47	-0.20	7000	--	15	ND	150	1600	370	--	
4/17/1996	519.82	13.93	0.00	505.89	0.42	19000	--	ND	ND	600	4900	6100	--	
7/16/1996	519.82	14.00	0.00	505.82	-0.07	23000	--	16	22	900	4500	410	--	
10/16/1996	519.82	14.12	0.00	505.70	-0.12	14000	--	28	31	1600	6900	9600	--	
1/13/1997	519.82	--	--	--	--	4300	--	12	5.0	28	890	1300	--	
4/8/1997	519.82	14.49	0.00	505.33	--	4700	--	ND	6.5	170	830	290	--	
10/6/1997	519.82	14.41	0.00	505.41	0.08	5800	--	14	ND	19	860	570	--	
4/2/1998	519.82	14.26	0.00	505.56	0.15	24000	--	ND	ND	980	5200	6800	--	
10/7/1998	519.82	14.35	0.00	505.47	-0.09	41000	--	ND	ND	2100	7800	3700	2700	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**November 1989 Through December 2004**  
**76 Station 6034**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
<b>MW-2 continued</b>														
4/14/1999	519.82	14.54	0.00	505.28	-0.19	720	--	1.2	ND	29	260	95	57	
10/12/1999	519.82	14.50	0.00	505.32	0.04	2200	--	ND	ND	78	480	52	11	
4/10/2000	519.82	14.72	0.00	505.10	-0.22	ND	--	ND	ND	0.815	2.99	28.5	40.1	
10/2/2000	519.82	14.91	0.00	504.91	-0.19	ND	--	ND	ND	0.71	1.0	9.2	11	
4/2/2001	519.82	14.12	0.00	505.70	0.79	ND	--	ND	ND	ND	ND	ND	ND	
10/5/2001	519.82	15.02	0.00	504.80	-0.90	1300	--	4.4	ND<2.5	29	79	ND<25	12	
4/1/2002	519.82	14.94	0.00	504.88	0.08	3500	--	5.1	ND<5.0	120	460	ND<50	14	
10/16/2002	519.82	15.06	0.00	504.76	-0.12	240	--	ND<0.50	ND<0.50	8.2	15	--	ND<2.0	
4/3/2003	519.82	14.96	0.00	504.86	0.10	1300	--	1.5	1.8	23	160	--	6.6	
10/2/2003	519.82	15.11	0.00	504.71	-0.15	--	15000	ND<13	ND<13	290	1400	--	ND<50	
4/30/2004	519.82	15.25	0.00	504.57	-0.14	--	8000	ND<13	ND<13	140	550	--	ND<13	
12/1/2004	519.82	15.37	0.00	504.45	-0.12	--	4700	ND<1.0	ND<1.0	81	240	--	5.9	
<b>MW-3 (Screen Interval in feet: 11.0-25.0)</b>														
11/18/1989	--	--	--	--	--	ND	--	0.35	ND	ND	ND	--	--	
3/8/1990	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
6/5/1990	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
9/7/1990	--	--	--	--	--	1100	--	11	ND	6.6	16	--	--	
12/24/1990	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
4/10/1991	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
7/10/1991	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
10/14/1991	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
1/14/1992	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
4/6/1992	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
7/7/1992	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**November 1989 Through December 2004**  
**76 Station 6034**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
<b>MW-3 continued</b>														
10/16/1992	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
1/14/1993	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
4/22/1993	519.91	14.33	0.00	505.58	--	ND	--	ND	ND	ND	ND	--	--	
7/20/1993	519.91	16.90	0.00	503.01	-2.57	ND	--	ND	ND	ND	ND	--	--	
10/20/1993	519.66	14.42	0.00	505.24	2.23	ND	--	ND	ND	ND	ND	--	--	
1/20/1994	519.66	14.37	0.00	505.29	0.05	--	--	--	--	--	--	--	--	Sampled Annually
4/21/1994	519.66	14.30	0.00	505.36	0.07	ND	--	ND	ND	ND	ND	--	--	
7/21/1994	519.66	14.34	0.00	505.32	-0.04	--	--	--	--	--	--	--	--	Sampled Semi-Annually
10/19/1994	519.66	14.08	0.00	505.58	0.26	ND	--	ND	0.61	ND	0.51	--	--	
1/18/1995	519.66	13.23	0.00	506.43	0.85	--	--	--	--	--	--	--	--	
4/17/1995	519.66	13.20	0.00	506.46	0.03	ND	--	ND	ND	ND	ND	--	--	
7/18/1995	519.66	13.19	0.00	506.47	0.01	--	--	--	--	--	--	--	--	
10/17/1995	519.66	13.24	0.00	506.42	-0.05	ND	--	ND	ND	ND	ND	ND	--	Sampled Annually
1/17/1996	519.66	13.68	0.00	505.98	-0.44	--	--	--	--	--	--	--	--	
4/17/1996	519.66	13.04	0.00	506.62	0.64	ND	--	ND	ND	ND	ND	ND	--	
7/16/1996	519.66	13.24	0.00	506.42	-0.20	--	--	--	--	--	--	--	--	
10/16/1996	519.66	13.10	0.00	506.56	0.14	--	--	--	--	--	--	--	--	
4/8/1997	519.66	13.73	0.00	505.93	--	--	--	--	--	--	--	--	--	Sampling Discontinued
10/6/1997	519.66	13.70	0.00	505.96	0.03	--	--	--	--	--	--	--	--	
4/2/1998	519.66	13.43	0.00	506.23	0.27	--	--	--	--	--	--	--	--	
10/7/1998	519.66	13.33	0.00	506.33	0.10	--	--	--	--	--	--	--	--	
4/14/1999	519.66	13.47	0.00	506.19	-0.14	--	--	--	--	--	--	--	--	
10/12/1999	519.66	13.38	0.00	506.28	0.09	--	--	--	--	--	--	--	--	
4/10/2000	519.66	13.51	0.00	506.15	-0.13	--	--	--	--	--	--	--	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**November 1989 Through December 2004**  
**76 Station 6034**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
<b>MW-3 continued</b>														
10/2/2000	519.66	13.62	0.00	506.04	-0.11	--	--	--	--	--	--	--	--	
4/2/2001	519.66	13.38	0.00	506.28	0.24	--	--	--	--	--	--	--	--	
10/5/2001	519.66	14.10	0.00	505.56	-0.72	--	--	--	--	--	--	--	--	
4/1/2002	519.66	13.98	0.00	505.68	0.12	--	--	--	--	--	--	--	--	
10/16/2002	519.66	14.16	0.00	505.50	-0.18	--	--	--	--	--	--	--	--	
4/3/2003	519.66	13.98	0.00	505.68	0.18	--	--	--	--	--	--	--	--	
10/2/2003	519.66	14.15	0.00	505.51	-0.17	--	--	--	--	--	--	--	--	Monitored Only
4/30/2004	519.66	14.20	0.00	505.46	-0.05	--	--	--	--	--	--	--	--	Monitored only
12/1/2004	519.66	14.37	0.00	505.29	-0.17	--	--	--	--	--	--	--	--	Sampled Semi-Annually
<b>MW-4 (Screen Interval in feet: 11.0-25.0)</b>														
11/18/1989	--	--	--	--	--	990	--	9.8	10	7.1	4.7	--	--	
3/8/1990	--	--	--	--	--	1200	--	18	8.4	37	28	--	--	
6/5/1990	--	--	--	--	--	1400	--	1.2	4.7	24	12	--	--	
9/7/1990	--	--	--	--	--	15000	--	100	140	210	4600	--	--	
12/24/1990	--	--	--	--	--	1400	--	ND	8.7	15	10	--	--	
4/10/1991	--	--	--	--	--	950	--	0.84	4.3	9.6	5.0	--	--	
7/10/1991	--	--	--	--	--	830	--	8.4	19	7.7	7.2	--	--	
10/14/1991	--	--	--	--	--	880	--	3.8	2.2	8.6	5.8	--	--	
1/14/1992	--	--	--	--	--	1500	--	4.2	7.1	18	9.2	--	--	
4/6/1992	--	--	--	--	--	660	--	1.3	3.8	2.9	4.1	--	--	
7/7/1992	--	--	--	--	--	340	--	ND	2.2	2.4	2.4	--	--	
10/16/1992	--	--	--	--	--	300	--	2.1	ND	4.8	13	--	--	
1/14/1993	--	--	--	--	--	920	--	ND	6.3	12	3.9	--	--	
4/22/1993	520.12	14.30	0.00	505.82	--	1100	--	8.8	1.0	7.2	6.0	--	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**November 1989 Through December 2004**  
**76 Station 6034**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
<b>MW-4 continued</b>														
7/20/1993	520.12	16.35	0.00	503.77	-2.05	--	--	--	--	--	--	--	--	Not sampled - Sampling access denied
10/20/1993	519.61	14.16	0.00	505.45	1.68	640	--	ND	2.5	2.3	1.9	--	--	
1/20/1994	519.61	14.15	0.00	505.46	0.01	1200	--	ND	2.6	4.7	7.4	--	--	
4/21/1994	519.61	14.13	0.00	505.48	0.02	380	--	0.83	1.2	1.2	1.7	--	--	
7/21/1994	519.61	14.26	0.00	505.35	-0.13	320	--	0.51	1.4	1.0	1.6	--	--	
10/19/1994	519.61	13.95	0.00	505.66	0.31	750	--	ND	3.6	4.2	3.4	--	--	
1/18/1995	519.61	13.16	0.00	506.45	0.79	790	--	1.5	3.3	1.2	2.6	--	--	
4/17/1995	519.61	13.19	0.00	506.42	-0.03	570	--	2.8	ND	3.3	3.9	--	--	
7/18/1995	519.61	13.21	0.00	506.40	-0.02	340	--	1.0	1.9	2.8	2.7	--	--	
10/17/1995	519.61	13.22	0.00	506.39	-0.01	260	--	1.1	0.57	0.69	1.6	2.0	--	
1/17/1996	519.61	13.02	0.00	506.59	0.20	--	--	--	--	--	--	--	--	Sampled Semi-Annually
4/17/1996	519.61	13.08	0.00	506.53	-0.06	720	--	3.0	2.6	6.1	6.9	ND	--	
7/16/1996	519.61	12.91	0.00	506.70	0.17	--	--	--	--	--	--	--	--	
10/16/1996	519.61	12.98	0.00	506.63	-0.07	1100	--	6.6	23	24	85	15	--	
1/13/1997	519.61	--	0.00	--	--	--	--	--	--	--	--	--	--	
4/8/1997	519.61	13.36	0.00	506.25	--	470	--	1.2	1.9	1.2	6.9	ND	--	
10/6/1997	519.61	13.42	0.00	506.19	-0.06	240	--	ND	0.85	0.83	2.3	ND	--	
4/2/1998	519.61	12.76	0.00	506.85	0.66	270	--	ND	1.2	ND	4.5	10	--	
10/7/1998	519.61	13.04	0.00	506.57	-0.28	350	--	ND	ND	ND	4.8	ND	--	
4/14/1999	519.61	13.21	0.00	506.40	-0.17	250	--	1.6	ND	3.1	5.6	ND	16	
10/12/1999	519.61	13.16	0.00	506.45	0.05	200	--	1.4	ND	2.3	3.9	ND	--	
4/10/2000	519.61	13.48	0.00	506.13	-0.32	52.8	--	ND	ND	ND	ND	ND	--	
10/2/2000	519.61	13.25	0.00	506.36	0.23	57	--	ND	ND	0.50	0.90	30	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**November 1989 Through December 2004**  
**76 Station 6034**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
<b>MW-4 continued</b>														
4/2/2001	519.61	13.11	0.00	506.50	0.14	ND	--	ND	ND	ND	ND	ND	--	
10/5/2001	519.61	14.04	0.00	505.57	-0.93	150	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	--	
4/1/2002	519.61	13.76	0.00	505.85	0.28	130	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	--	
10/16/2002	519.61	14.10	0.00	505.51	-0.34	130	--	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	3.8	
4/3/2003	519.61	13.69	0.00	505.92	0.41	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	3.6	
10/2/2003	519.61	14.20	0.00	505.41	-0.51	--	81	ND<0.50	0.86	4.1	9.4	--	ND<2.0	
4/30/2004	519.61	14.12	0.00	505.49	0.08	--	51	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	1.5	
12/1/2004	519.61	14.17	0.00	505.44	-0.05	--	130	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	1.6	
<b>MW-5 (Screen Interval in feet: 10.0-24.0)</b>														
4/10/1991	--	--	--	--	--	630	--	35	14	47	30	--	--	
7/10/1991	--	--	--	--	--	220	--	5.1	8.7	9.1	9.7	--	--	
10/14/1991	--	--	--	--	--	660	--	55	4.4	50	66	--	--	
1/14/1992	--	--	--	--	--	99	--	1.0	1.2	ND	0.32	1.2	--	
4/6/1992	--	--	--	--	--	240	--	ND	ND	0.35	ND	--	--	
7/7/1992	--	--	--	--	--	76	--	0.48	1.1	0.32	1.3	1.5	--	
10/16/1992	--	--	--	--	--	180	--	7.8	1.1	17	6.4	2.0	--	
1/14/1993	--	--	--	--	--	91	--	ND	0.53	1.2	11	--	--	
4/22/1993	520.58	15.24	0.00	505.34	--	94	--	1.2	ND	ND	1.3	0.82	--	
7/20/1993	520.58	17.38	0.00	503.20	-2.14	89	--	1.1	0.51	ND	1.8	2.2	--	
10/20/1993	520.27	15.56	0.00	504.71	1.51	110	--	0.8	ND	ND	ND	--	--	
1/20/1994	520.27	15.39	0.00	504.88	0.17	ND	--	ND	ND	ND	ND	--	--	
4/21/1994	520.27	15.41	0.00	504.86	-0.02	ND	--	ND	ND	ND	ND	--	--	
7/21/1994	520.27	15.55	0.00	504.72	-0.14	ND	--	ND	ND	ND	ND	--	--	
10/19/1994	520.27	15.20	0.00	505.07	0.35	ND	--	ND	0.71	ND	0.57	--	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**November 1989 Through December 2004**  
**76 Station 6034**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
<b>MW-5 continued</b>														
1/18/1995	520.27	14.52	0.00	505.75	0.68	ND	--	ND	ND	ND	ND	--	--	
4/17/1995	520.27	14.50	0.00	505.77	0.02	ND	--	ND	ND	ND	ND	--	--	
7/18/1995	520.27	14.41	0.00	505.86	0.09	ND	--	ND	ND	ND	1.1	--	--	
10/17/1995	520.27	14.46	0.00	505.81	-0.05	ND	--	ND	ND	ND	ND	ND	--	
1/17/1996	520.27	14.48	0.00	505.79	-0.02	--	--	--	--	--	--	--	--	Sampled Annually
4/17/1996	520.27	14.22	0.00	506.05	0.26	ND	--	ND	ND	ND	ND	ND	--	
7/16/1996	520.27	14.27	0.00	506.00	-0.05	--	--	--	--	--	--	--	--	
10/16/1996	520.27	14.15	0.00	506.12	0.12	--	--	--	--	--	--	--	--	
4/8/1997	520.27	14.71	0.00	505.56	--	--	--	--	--	--	--	--	--	Sampling Discontinued
10/6/1997	520.27	14.71	0.00	505.56	0.00	--	--	--	--	--	--	--	--	
4/2/1998	520.27	14.28	0.00	505.99	0.43	--	--	--	--	--	--	--	--	
10/7/1998	520.27	14.40	0.00	505.87	-0.12	--	--	--	--	--	--	--	--	
4/14/1999	520.27	14.63	0.00	505.64	-0.23	--	--	--	--	--	--	--	--	
10/12/1999	520.27	14.48	0.00	505.79	0.15	--	--	--	--	--	--	--	--	
4/10/2000	520.27	14.76	0.00	505.51	-0.28	--	--	--	--	--	--	--	--	
10/2/2000	520.27	14.65	0.00	505.62	0.11	--	--	--	--	--	--	--	--	
4/2/2001	520.27	14.20	0.00	506.07	0.45	--	--	--	--	--	--	--	--	
10/5/2001	520.27	15.47	0.00	504.80	-1.27	--	--	--	--	--	--	--	--	
4/1/2002	520.27	15.18	0.00	505.09	0.29	--	--	--	--	--	--	--	--	
10/16/2002	520.27	15.50	0.00	504.77	-0.32	--	--	--	--	--	--	--	--	
4/3/2003	520.27	15.14	0.00	505.13	0.36	--	--	--	--	--	--	--	--	
10/2/2003	520.27	15.66	0.00	504.61	-0.52	--	--	--	--	--	--	--	--	Monitored Only
4/30/2004	520.27	15.55	0.00	504.72	0.11	--	--	--	--	--	--	--	--	Monitored only
12/1/2004	520.27	15.62	0.00	504.65	-0.07	--	--	--	--	--	--	--	--	Sampled Semi-Annually



**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**November 1989 Through December 2004**  
**76 Station 6034**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
<b>MW-6 (Screen Interval in feet: 10.0-24.0)</b>														
4/10/1991	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
7/10/1991	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
10/14/1991	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
1/14/1992	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
4/6/1992	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
7/7/1992	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
10/16/1992	--	--	--	--	--	--	--	--	--	--	--	--	--	Obstructed
1/14/1993	--	--	--	--	--	--	--	--	--	--	--	--	--	Obstructed
4/22/1993	519.34	--	0.00	--	--	--	--	--	--	--	--	--	--	Obstructed
7/20/1993	519.34	--	0.00	--	--	--	--	--	--	--	--	--	--	Obstructed
10/20/1993	518.75	14.20	0.00	504.55	--	ND	--	ND	ND	ND	ND	--	--	
1/20/1994	518.75	14.14	0.00	504.61	0.06	ND	--	ND	ND	ND	ND	--	--	
4/21/1994	518.75	14.10	0.00	504.65	0.04	ND	--	ND	ND	ND	ND	--	--	
7/21/1994	518.75	14.12	0.00	504.63	-0.02	ND	--	ND	ND	ND	ND	--	--	
10/19/1994	518.75	--	--	--	--	--	--	--	--	--	--	--	--	Obstructed by roots
1/18/1995	518.75	--	--	--	--	--	--	--	--	--	--	--	--	Obstructed by roots
4/17/1995	518.75	13.82	0.00	504.93	--	ND	--	ND	ND	ND	ND	--	--	
7/18/1995	518.75	13.84	0.00	504.91	-0.02	ND	--	ND	ND	ND	ND	--	--	
10/17/1995	518.75	13.90	0.00	504.85	-0.06	ND	--	ND	ND	ND	ND	2.2	--	
1/17/1996	518.75	--	--	--	--	--	--	--	--	--	--	--	--	Sampled Annually - Obstructed by roots
4/17/1996	518.75	13.66	0.00	505.09	--	ND	--	ND	ND	ND	ND	ND	--	
7/16/1996	518.75	--	--	--	--	--	--	--	--	--	--	--	--	Obstructed by roots
10/16/1996	518.75	13.72	0.00	505.03	--	--	--	--	--	--	--	--	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**November 1989 Through December 2004**  
**76 Station 6034**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
<b>MW-6 continued</b>														
4/8/1997	518.75	--	--	--	--	--	--	--	--	--	--	--	--	Obstructed by roots
10/6/1997	518.75	--	--	--	--	--	--	--	--	--	--	--	--	Obstructed by roots
4/2/1998	518.75	--	--	--	--	--	--	--	--	--	--	--	--	Obstructed by roots
10/7/1998	518.75	--	--	--	--	--	--	--	--	--	--	--	--	Obstructed by roots
4/14/1999	518.75	13.82	0.00	504.93	--	--	--	--	--	--	--	--	--	
10/12/1999	518.75	13.72	0.00	505.03	0.10	--	--	--	--	--	--	--	--	
4/10/2000	518.75	13.40	0.00	505.35	0.32	--	--	--	--	--	--	--	--	
10/2/2000	518.75	13.63	0.00	505.12	-0.23	--	--	--	--	--	--	--	--	
4/2/2001	518.75	13.31	0.00	505.44	0.32	--	--	--	--	--	--	--	--	
10/5/2001	518.75	--	--	--	--	--	--	--	--	--	--	--	--	Obstruction in Well
4/1/2002	518.75	--	--	--	--	--	--	--	--	--	--	--	--	Obstruction in Well
10/16/2002	518.75	--	--	--	--	--	--	--	--	--	--	--	--	Dry
4/3/2003	518.75	--	--	--	--	--	--	--	--	--	--	--	--	Dry
10/2/2003	518.75	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible
4/30/2004	518.75	--	--	--	--	--	--	--	--	--	--	--	--	Unable to locate
12/1/2004	518.75	--	--	--	--	--	--	--	--	--	--	--	--	Dry well
<b>MW-7 (Screen Interval in feet: 10.0-24.0)</b>														
4/10/1991	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
7/10/1991	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
10/14/1991	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
1/14/1992	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
4/6/1992	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
7/7/1992	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
10/16/1992	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**November 1989 Through December 2004**  
**76 Station 6034**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
<b>MW-7 continued</b>														
1/14/1993	--	--	--	--	--	ND	--	ND	ND	ND	ND	--	--	
4/22/1993	519.37	14.25	0.00	505.12	--	ND	--	ND	ND	ND	ND	--	--	
7/20/1993	519.37	16.68	0.00	502.69	-2.43	ND	--	ND	ND	ND	ND	--	--	
10/20/1993	518.83	14.29	0.00	504.54	1.85	ND	--	ND	ND	ND	ND	--	--	
1/20/1994	518.83	14.22	0.00	504.61	0.07	ND	--	ND	ND	ND	ND	--	--	
4/21/1994	518.83	14.17	0.00	504.66	0.05	ND	--	ND	ND	ND	ND	--	--	
7/21/1994	518.83	14.21	0.00	504.62	-0.04	ND	--	ND	ND	ND	ND	--	--	
10/19/1994	518.83	14.05	0.00	504.78	0.16	ND	--	ND	0.87	ND	0.61	--	--	
1/18/1995	518.83	13.34	0.00	505.49	0.71	ND	--	ND	ND	ND	ND	--	--	
4/17/1995	518.83	13.38	0.00	505.45	-0.04	ND	--	ND	ND	ND	ND	--	--	
7/18/1995	518.83	13.36	0.00	505.47	0.02	ND	--	ND	ND	ND	ND	--	--	
10/17/1995	518.83	13.41	0.00	505.42	-0.05	ND	--	ND	ND	ND	ND	3.5	--	
1/17/1996	518.83	13.56	0.00	505.27	-0.15	--	--	--	--	--	--	--	--	Sampled Annually
4/17/1996	518.83	13.21	0.00	505.62	0.35	ND	--	ND	ND	ND	ND	ND	--	
7/16/1996	518.83	13.22	0.00	505.61	-0.01	--	--	--	--	--	--	--	--	
10/16/1996	518.83	13.58	0.00	505.25	-0.36	--	--	--	--	--	--	--	--	
4/8/1997	518.83	13.73	0.00	505.10	--	--	--	--	--	--	--	--	--	Sampling Discontinued
10/6/1997	518.83	13.65	0.00	505.18	0.08	--	--	--	--	--	--	--	--	
4/2/1998	518.83	13.55	0.00	505.28	0.10	--	--	--	--	--	--	--	--	
10/7/1998	518.83	13.64	0.00	505.19	-0.09	--	--	--	--	--	--	--	--	
4/14/1999	518.83	13.75	0.00	505.08	-0.11	--	--	--	--	--	--	--	--	
10/12/1999	518.83	13.61	0.00	505.22	0.14	--	--	--	--	--	--	--	--	
4/10/2000	518.83	13.85	0.00	504.98	-0.24	--	--	--	--	--	--	--	--	
10/2/2000	518.83	14.19	0.00	504.64	-0.34	--	--	--	--	--	--	--	--	

**Table 2**  
**HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS**  
**November 1989 Through December 2004**  
**76 Station 6034**

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (µg/l)	TPPH 8260B (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE 8021B (µg/l)	MTBE 8260B (µg/l)	Comments
<b>MW-7 continued</b>														
4/2/2001	518.83	13.86	0.00	504.97	0.33	--	--	--	--	--	--	--	--	Sampling Discontinued
10/5/2001	518.83	14.30	0.00	504.53	-0.44	--	--	--	--	--	--	--	--	
4/1/2002	518.83	14.23	0.00	504.60	0.07	--	--	--	--	--	--	--	--	
10/16/2002	518.83	14.30	0.00	504.53	-0.07	--	--	--	--	--	--	--	--	
4/3/2003	518.83	14.27	0.00	504.56	0.03	--	--	--	--	--	--	--	--	
10/2/2003	518.83	14.35	0.00	504.48	-0.08	--	--	--	--	--	--	--	--	Monitored Only
4/30/2004	518.83	14.35	0.00	504.48	0.00	--	--	--	--	--	--	--	--	Monitored only
12/1/2004	518.83	14.66	0.00	504.17	-0.31	--	--	--	--	--	--	--	--	Sampled Semi-Annually

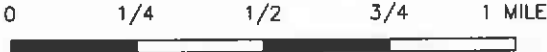
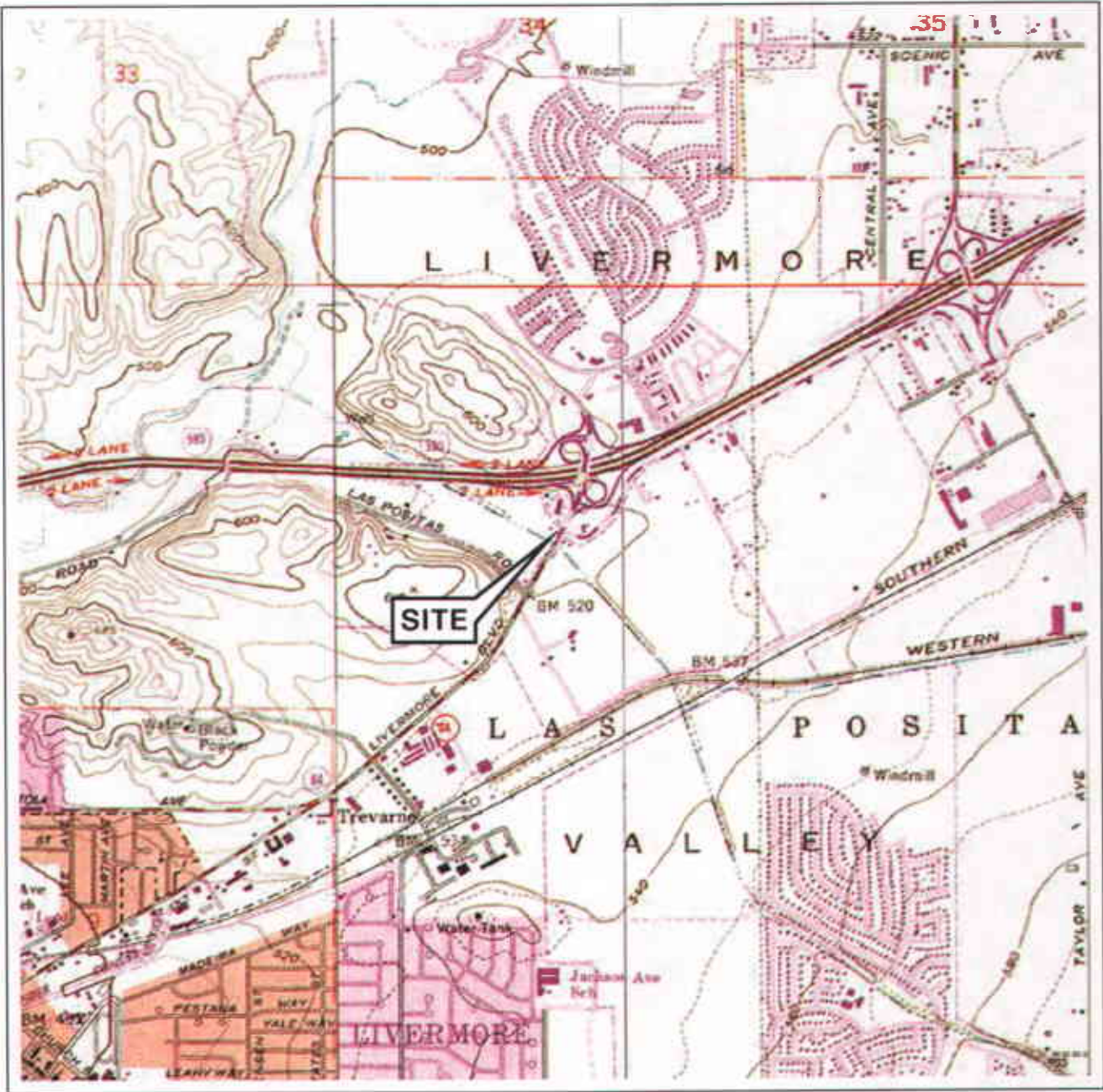
**Table 3**  
**ADDITIONAL ANALYTICAL RESULTS**  
**76 Station 6034**

Date Sampled	EDC (µg/l)	Chloroform (µg/l)	TCE (µg/l)	EDB (µg/l)	Pre-Purge DO (mg/l)	Post Purge DO (mg/l)	TAME 8260B (µg/l)	TBA 8260B (µg/l)	DIPE 8260B (µg/l)	ETBE 8260B (µg/l)	Ethanol 8260B (µg/l)	TOG (mg/l)
<b>MW-1</b>												
3/8/1990	--	ND	ND	--	--	--	--	--	--	--	--	4.7
6/5/1990	--	ND	ND	--	--	--	--	--	--	--	--	ND
9/7/1990	--	ND	ND	--	--	--	--	--	--	--	--	ND
12/24/1990	--	ND	ND	--	--	--	--	--	--	--	--	ND
4/10/1991	--	ND	ND	--	--	--	--	--	--	--	--	ND
7/10/1991	--	ND	ND	--	--	--	--	--	--	--	--	ND
4/21/1994	--	ND	ND	--	--	--	--	--	--	--	--	ND
4/17/1995	--	0.69	ND	--	--	--	--	--	--	--	--	ND
4/17/1996	--	ND	ND	--	--	--	--	--	--	--	--	ND
7/16/1996	--	--	--	--	4.24	4.28	--	--	--	--	--	--
<b>MW-2</b>												
7/18/1995	--	--	--	--	--	4.22	--	--	--	--	--	--
10/17/1995	--	--	--	--	--	3.96	--	--	--	--	--	--
1/17/1996	--	--	--	--	--	5.25	--	--	--	--	--	--
4/17/1996	--	--	--	--	--	2.59	--	--	--	--	--	--
7/16/1996	--	--	--	--	4.46	4.35	--	--	--	--	--	--
10/16/1996	--	--	--	--	3.87	2.92	--	--	--	--	--	--
1/13/1997	--	--	--	--	4.76	--	--	--	--	--	--	--
4/8/1997	--	--	--	--	3.76	3.42	--	--	--	--	--	--
10/6/1997	--	--	--	--	4.13	3.59	--	--	--	--	--	--
4/2/1998	--	--	--	--	6.32	3.16	--	--	--	--	--	--
10/7/1998	--	--	--	--	3.85	--	--	--	--	--	--	--
4/14/1999	ND	--	--	ND	3.14	--	ND	ND	ND	ND	ND	--
10/12/1999	--	--	--	--	2.96	--	ND	ND	ND	ND	ND	--
4/10/2000	ND	--	--	ND	3.47	--	ND	ND	ND	ND	ND	--
10/2/2000	ND	--	--	ND	3.77	--	ND	ND	ND	ND	ND	--

**Table 3**  
**ADDITIONAL ANALYTICAL RESULTS**  
**76 Station 6034**

Date Sampled	EDC (µg/l)	Chloro- form (µg/l)	TCE (µg/l)	EDB (µg/l)	Pre-Purge DO (mg/l)	Post Purge DO (mg/l)	TAME 8260B (µg/l)	TBA 8260B (µg/l)	DIPE 8260B (µg/l)	ETBE 8260B (µg/l)	Ethanol 8260B (µg/l)	TOG (mg/l)
<b>MW-2 continued</b>												
4/2/2001	ND	--	--	ND	3.95	--	ND	ND	ND	ND	ND	--
10/5/2001	ND<2	--	--	ND<2	2.89	--	ND<2	ND<100	ND<2	ND<2	ND<1000	--
4/1/2002	ND<2	--	--	ND<2	3.15	--	ND<2	ND<100	ND<2	ND<2	ND<500	--
10/16/2002	ND<2	--	--	ND<2	3.08	--	ND<2	ND<100	ND<2	ND<2	ND<500	--
4/3/2003	ND<2	--	--	ND<2	2.60	--	ND<2	ND<100	ND<2	ND<2	ND<500	--
10/2/2003	ND<50	--	--	ND<50	--	--	ND<50	ND<2500	ND<50	ND<50	ND<13000	--
4/30/2004	ND<13	--	--	ND<13	--	--	ND<13	ND<130	ND<25	ND<13	ND<1300	--
12/1/2004	ND<1.0	--	--	ND<1.0	--	--	ND<1.0	32	ND<2.0	ND<1.0	ND<100	--
<b>MW-3</b>												
7/16/1996	--	--	--	--	4.19	4.20	--	--	--	--	--	--
<b>MW-4</b>												
7/16/1996	--	--	--	--	4.25	4.30	--	--	--	--	--	--
1/13/1997	--	--	--	--	4.97	--	--	--	--	--	--	--
4/14/1999	ND	--	--	ND	--	--	ND	ND	ND	ND	ND	--
10/2/2003	--	--	--	--	--	--	--	--	--	--	ND<500	--
4/30/2004	--	--	--	--	--	--	--	--	--	--	ND<50	--
12/1/2004	--	--	--	--	--	--	--	--	--	--	ND<50	--
<b>MW-5</b>												
7/16/1996	--	--	--	--	4.18	4.21	--	--	--	--	--	--
<b>MW-7</b>												
7/16/1996	--	--	--	--	4.20	4.19	--	--	--	--	--	--

# FIGURES



SCALE 1: 24,000



**VICINITY MAP**

76 Station 6034  
 4700 First Street  
 Livermore, California

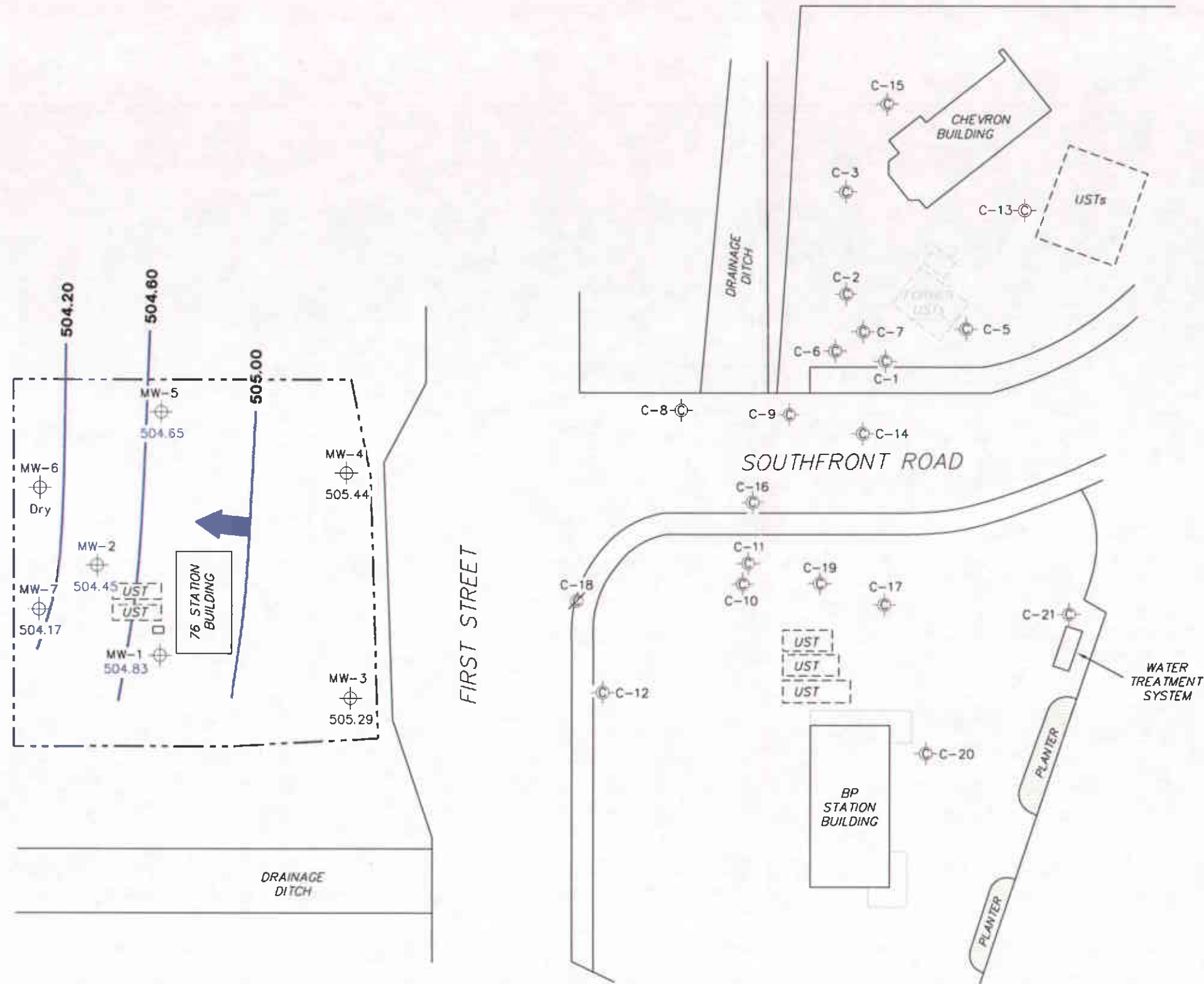
**SOURCE:**  
 United States Geological Survey  
 7.5 Minute Topographic Map:  
 Livermore & Altamont Quadrangles

**FIGURE 1**

**TRC**

PS = 1:1





**LEGEND**

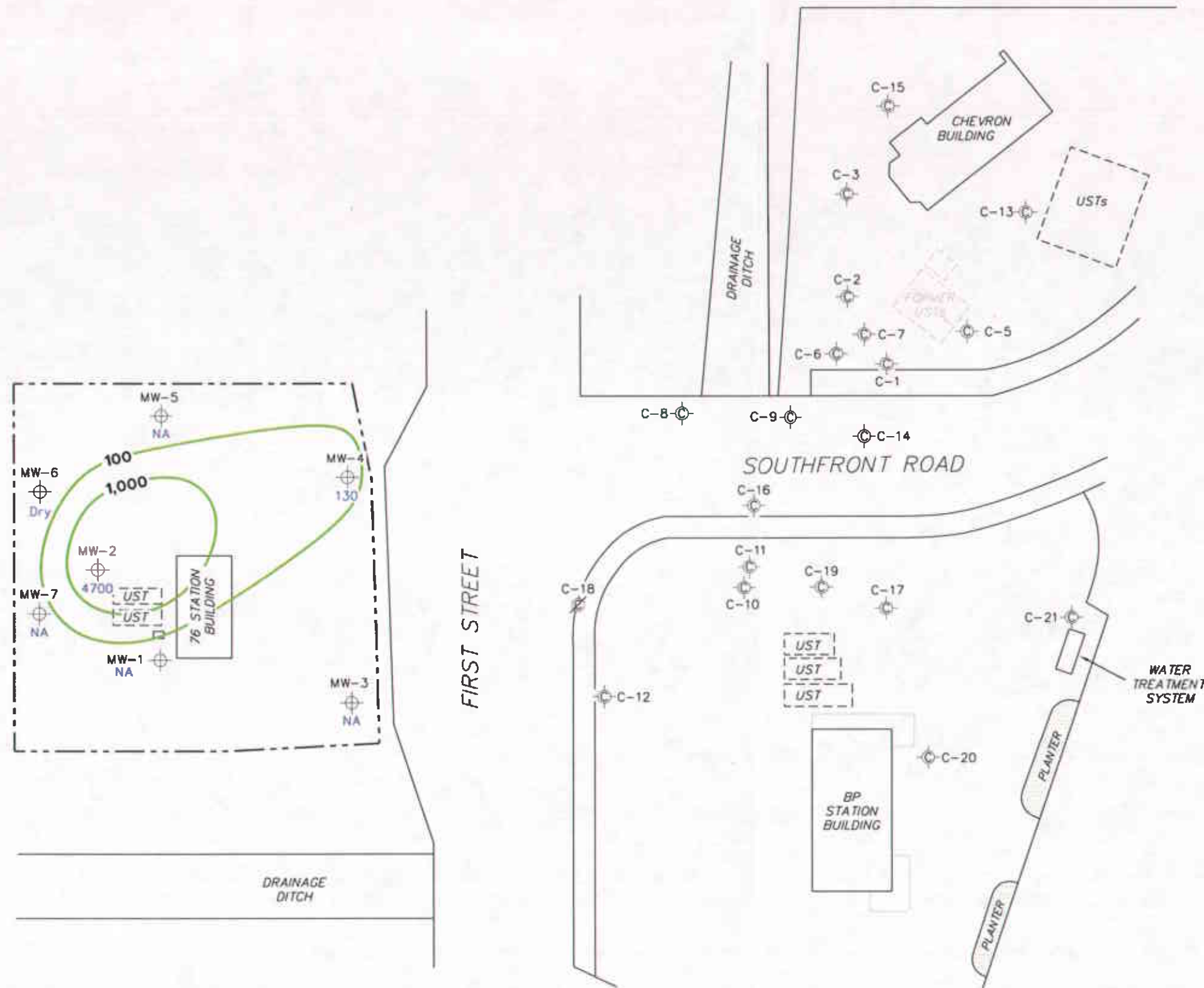
- MW-7 Monitoring Well with Groundwater Elevation (feet)
- C-21 Chevron Monitoring Well
- C-18 Abandoned Chevron Well
- 505.00 — Groundwater Elevation Contour
- General Direction of Groundwater Flow

**NOTES:**  
 Contour lines are interpretive and based on fluid levels measured in monitoring wells. Elevations are in feet above mean sea level. UST = underground storage tank.

**GROUNDWATER ELEVATION  
 CONTOUR MAP  
 December 1, 2003**

76 Station 6034  
 4700 First Street  
 Livermore, California

PS=1:1 6034-003



**LEGEND**

- MW-7 ⊕ Monitoring Well with Dissolved-Phase TPPH Concentration (µg/l)
- C-21 ⊕ Chevron Monitoring Well
- C-18 ⊕ Abandoned Chevron Well
- 1,000 — Dissolved-Phase TPPH Contour (µg/l)

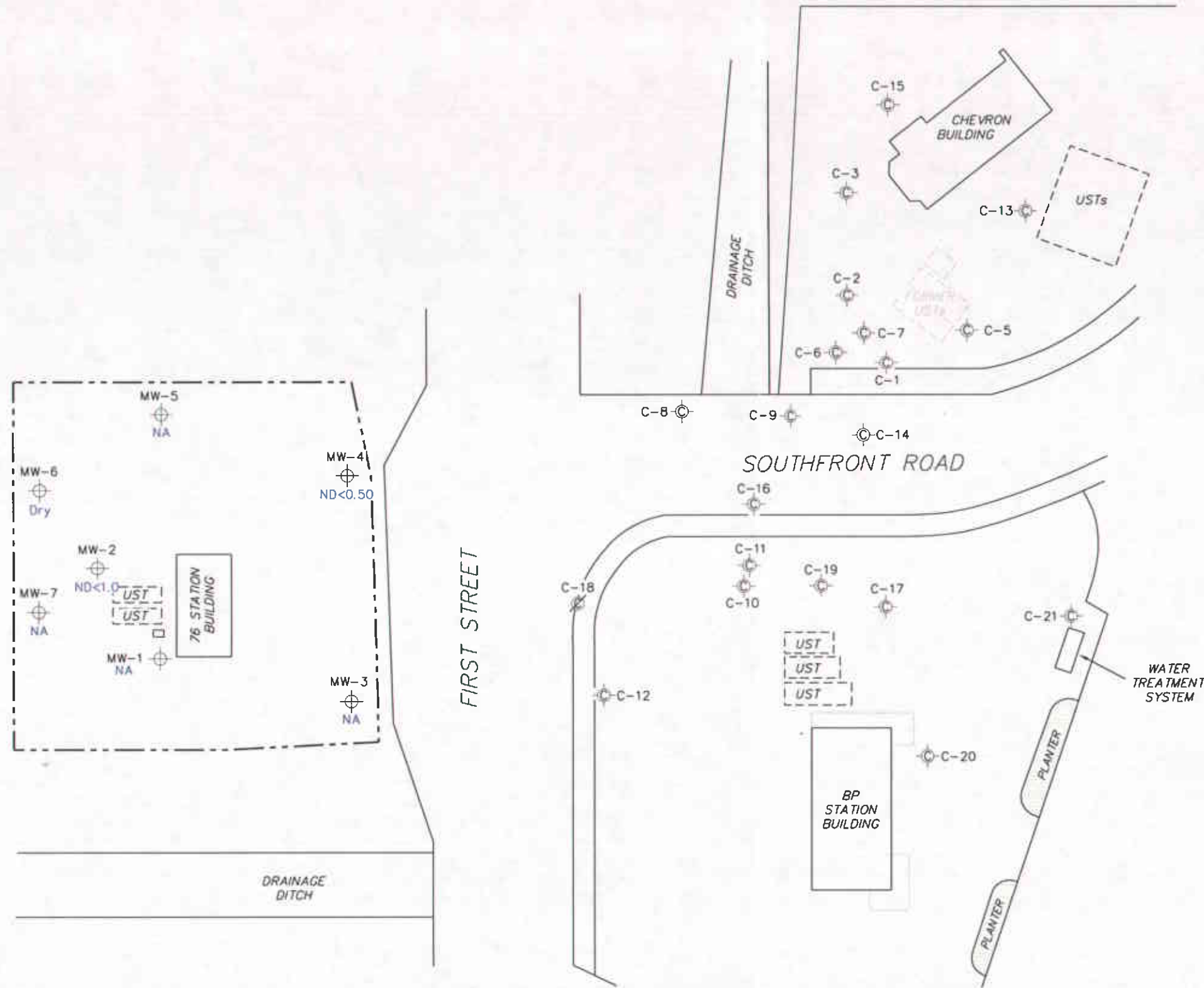
**NOTES:**  
 Contour lines are interpretive and based on laboratory analysis results of groundwater samples. TPPH = total purgeable petroleum hydrocarbons. µg/l = micrograms per liter. UST = underground storage tank. NA = not analyzed, measured, or collected. Results obtained using EPA Method 8260B.

**DISSOLVED-PHASE TPPH CONCENTRATION MAP**  
 December 1, 2004

76 Station 6034  
 4700 First Street  
 Livermore, California



**FIGURE 3**



**LEGEND**

- MW-7 Monitoring Well with Dissolved-Phase Benzene Concentration ( $\mu\text{g}/\text{l}$ )
- C-21 Chevron Monitoring Well
- C-18 Abandoned Chevron Well

**NOTES:**

$\mu\text{g}/\text{l}$  = micrograms per liter. ND = not detected at limit indicated on official laboratory report.  
 NA = not analyzed, measured, or collected.  
 UST = underground storage tank.

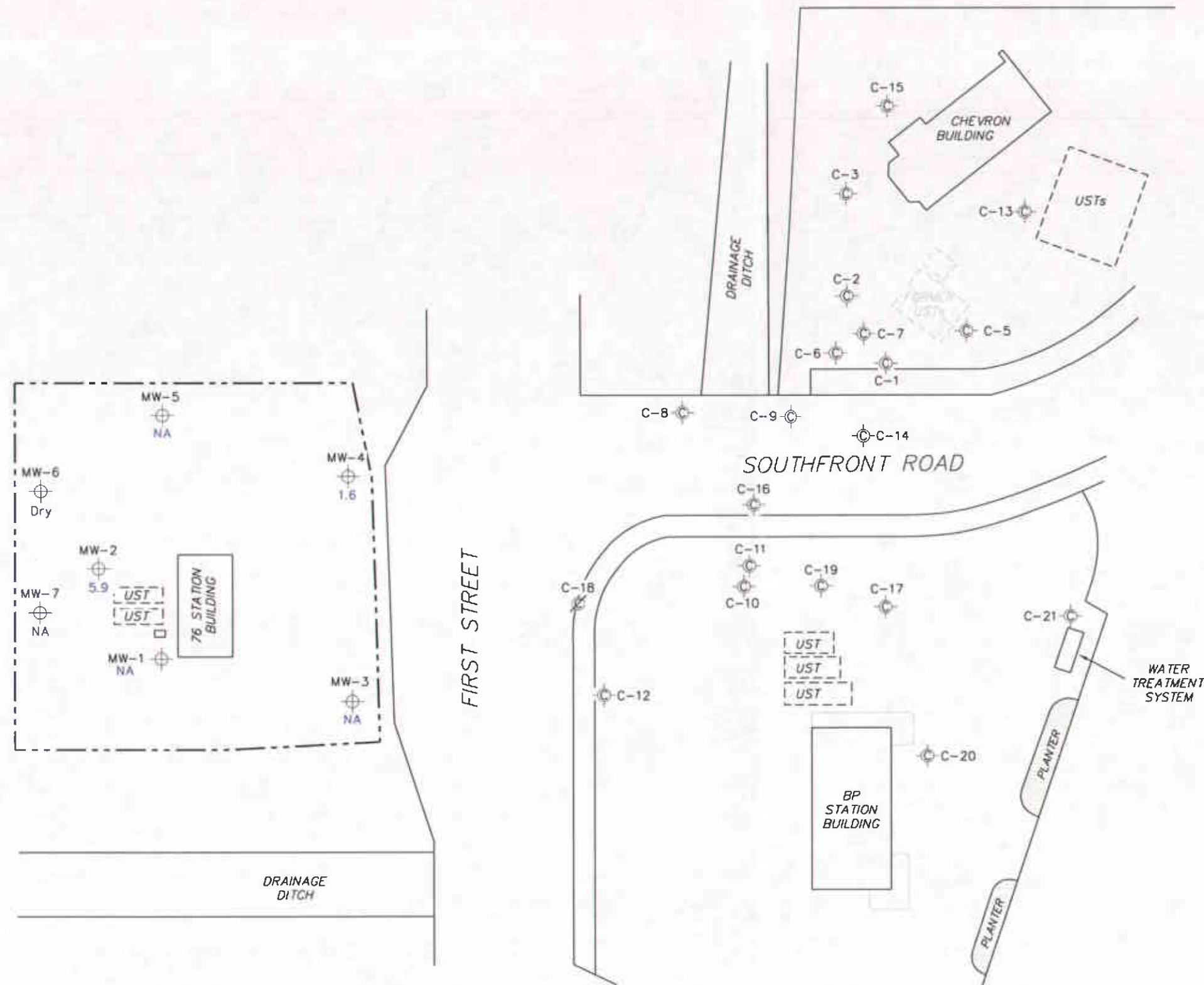
**DISSOLVED-PHASE BENZENE CONCENTRATION MAP**  
 December 1, 2004

76 Station 6034  
 4700 First Street  
 Livermore, California



**FIGURE 4**

PS=1:1 6034-003



**LEGEND**

- MW-7 ⊕ Monitoring Well with Dissolved-Phase MTBE Concentration (µg/l)
- C-21 ⊕ Chevron Monitoring Well
- C-18 ⊗ Abandoned Chevron Well

**NOTES:**  
 MTBE = methyl tertiary butyl ether. µg/l = micrograms per liter. NA = not analyzed, measured, or collected. UST = underground storage tank. Results obtained using EPA Method 8260B.

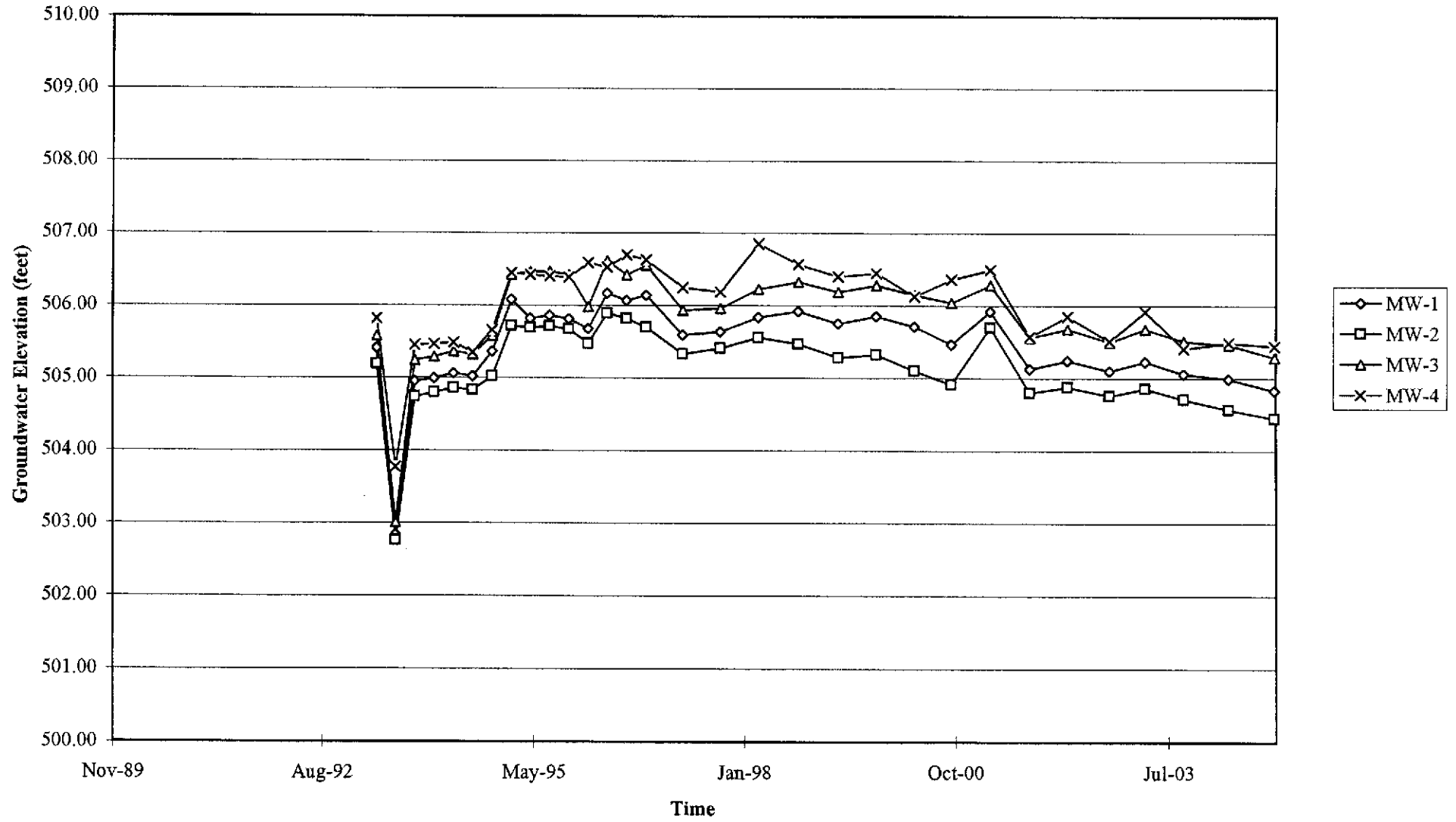
**DISSOLVED-PHASE MTBE CONCENTRATION MAP**  
 December 1, 2004

76 Station 6034  
 4700 First Street  
 Livermore, California

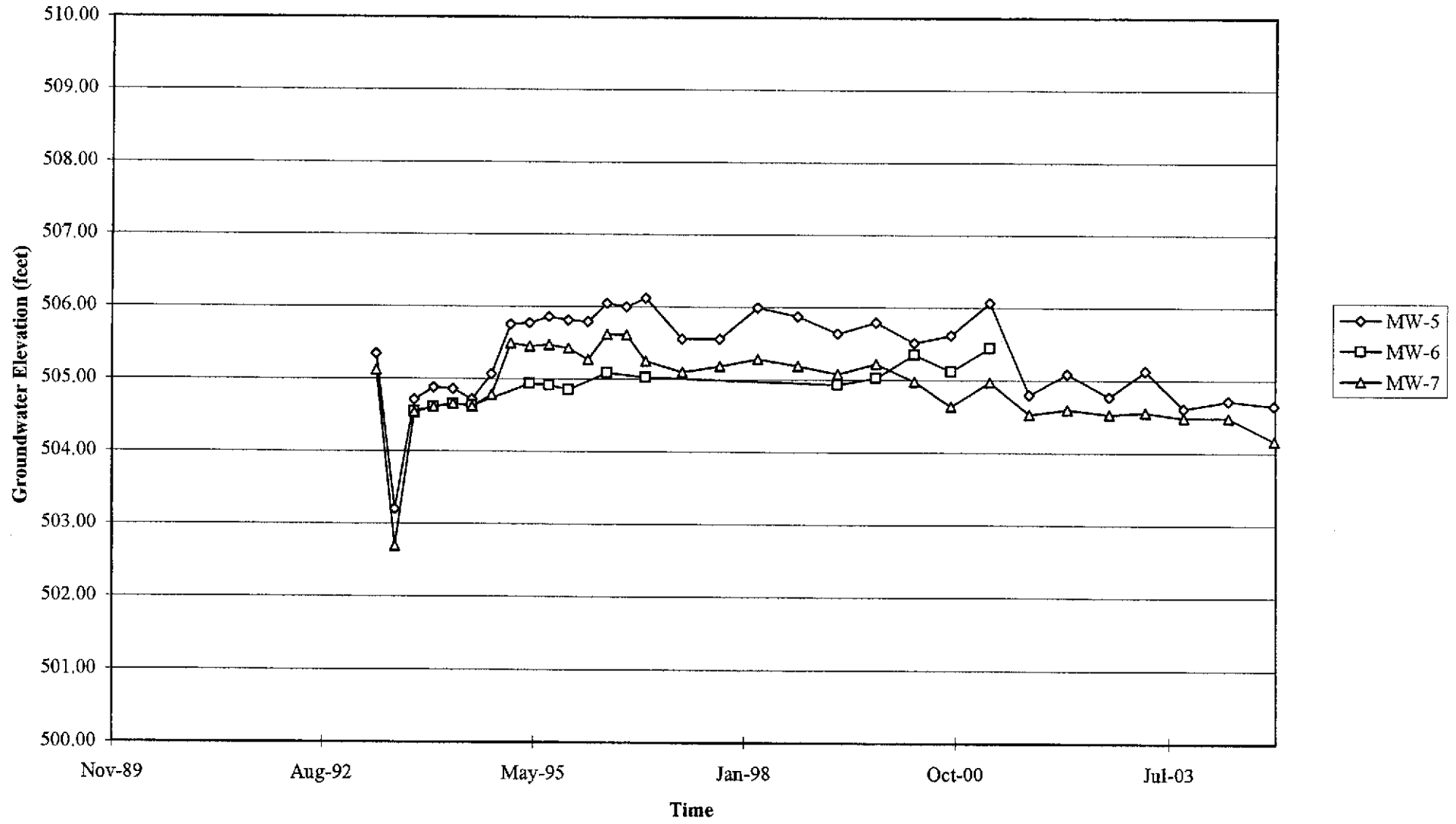


# GRAPHS

Groundwater Elevations vs. Time  
76 Station 6034

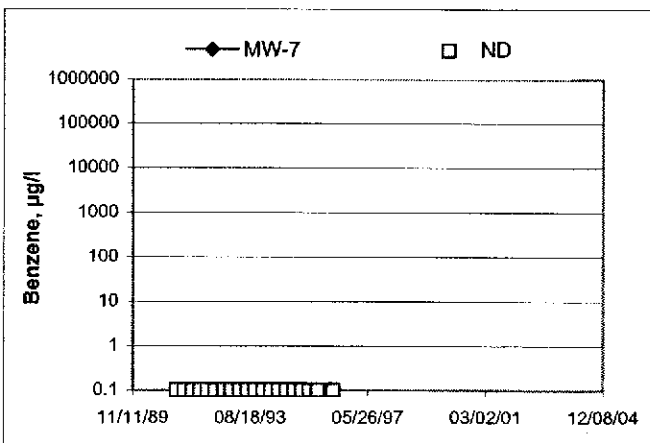
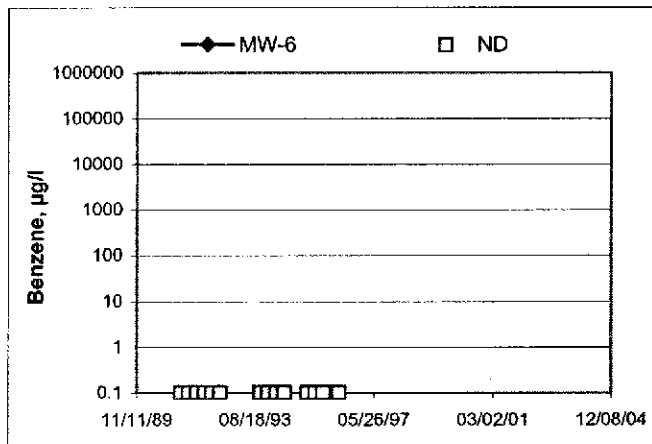
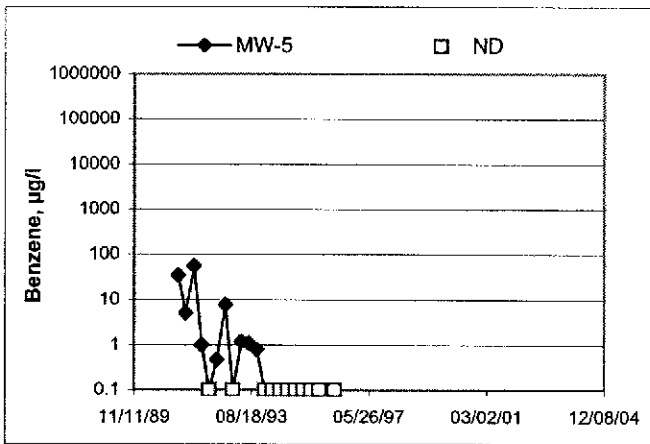
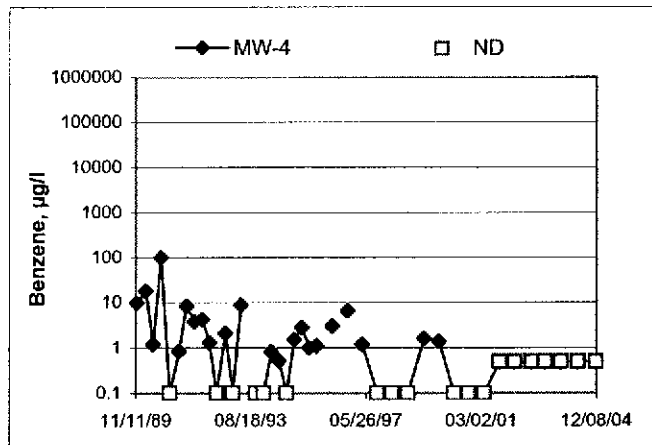
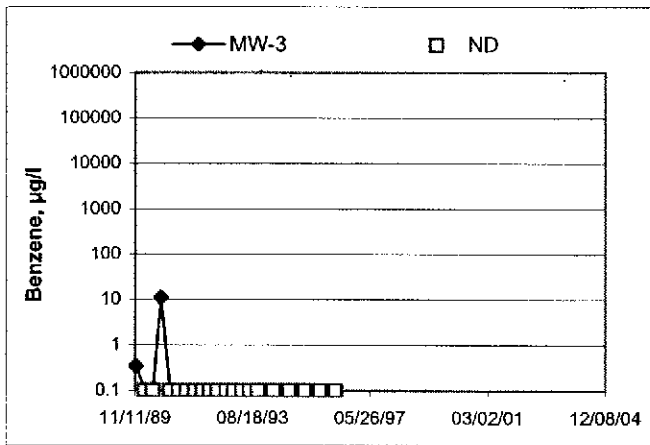
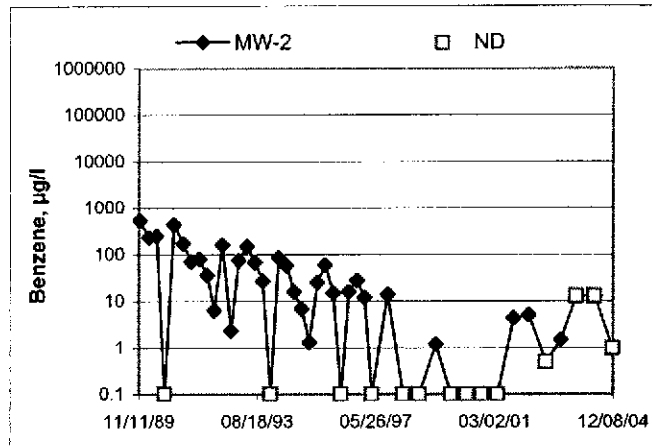
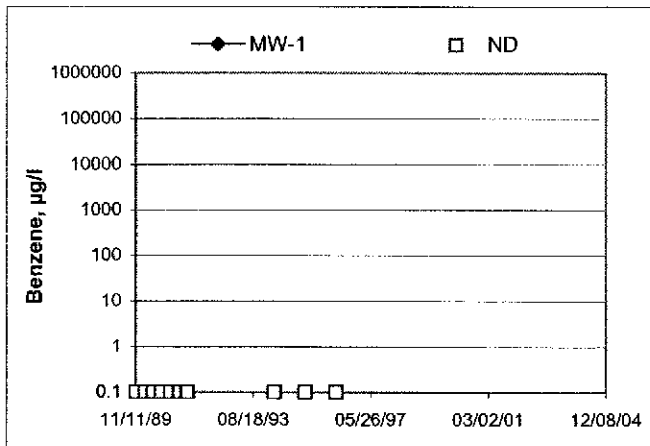


Groundwater Elevations vs. Time  
76 Station 6034



# Benzene Concentrations vs Time

76 Station 6034





## GENERAL FIELD PROCEDURES

### **Groundwater Monitoring and Sampling Assignments**

For each site, TRC technicians are provided with a Technical Service Request (TSR) that specifies activities required to complete the groundwater monitoring and sampling assignment for the site. TSRs are based on client directives, instructions from the primary environmental consultant for the site, regulatory requirements, and TRC's previous experience with the site.

### **Fluid Level Measurements**

Initial site activities include determination of well locations based on a site map provided with the TSR. Well boxes are opened and caps are removed. Indications of well or well box damage, or of pressure buildup in the well are noted.

Fluid levels in each well are measured using a coated cloth tape equipped with an electronic interface probe, which distinguishes between liquid phase hydrocarbon (LPH) and water. The depth to LPH (if it is present), to water, and to the bottom of the well are measured from the top of the well casing (surveyors mark or notch if present) to the nearest 0.01 foot. Unless otherwise instructed, a well with less than 0.67 foot between the measured top of water and the measured bottom of the well casing is considered dry, and is not sampled. If the well contains 0.67 foot or more of water, an attempt is made to bail and/or sample as specified on the TSR.

Wells that are found to contain LPH are not purged or sampled. Instead, one casing volume of fluid is bailed from the well and the well is re-sealed. Bailed fluids are placed in a container separate from normal purge water, and properly disposed.

### **Purging and Groundwater Parameter Measurement**

TSR instructions may specify that a well not be purged (no-purge sampling), be purged using low-flow methods, or be purged using conventional pump and/or bail methods. Conventional purging generally consists of pumping or bailing until a minimum of three casing volumes of water have been removed or until the well has been pumped dry. Pumping is generally accomplished using submersible electric or pneumatic diaphragm pumps.

During conventional purging, three groundwater parameters (temperature, pH, and conductivity) are measured after removal of each casing volume. Stabilization of these parameters, to within 10 percent, confirm that sufficient purging has been completed. In some cases, the TSR indicates that other parameters are also to be measured during purging. TRC commonly measures dissolved oxygen (DO), oxidation-reduction potential (ORP), and/or turbidity. Instruments used for groundwater parameter measurement are calibrated daily according to manufacturer's instructions.

Low-flow purging utilizes a bladder or peristaltic pump to remove water from the well at a low rate. Groundwater parameters specified by the TSR are measured continuously until they become stable in general accordance with EPA guidelines.

Purge water is generally collected in labeled drums for disposal. Drums may be left on site for disposal by others, or transported to a collection location for eventual transfer to a licensed treatment or recycling facility. In some cases, purge water may be collected directly from the site by a licensed vacuum truck company, or may be treated on site by an active remediation system, if so directed.

### **Groundwater Sample Collection**

After wells are purged, or not purged, according to TSR instructions, samples are collected for laboratory analysis. For wells that have been purged using conventional pump or bail methods, sampling is conducted after the well has recovered to 80 percent of its original volume or after two hours if the well does not recover to at least 80 percent. If there is insufficient recharge of water in the well after two hours, the well is not sampled.

Samples are collected by lowering a new, disposable, ½-inch to 4-inch polyethylene bottom-fill bailer to just below the water level in the well. The bailer is retrieved and the water sample is carefully transferred to containers specified for the laboratory analytical methods indicated by the TSR. Particular care is given to containers for volatile organic analysis (VOAs) which require filling to zero headspace and fitting with Teflon-sealed caps.

After filling, all containers are labeled with project number (or site number), well designation, sample date, and the samplers initials, and placed in an insulated chest with ice. Samples remain chilled prior to and during transport to a state-certified laboratory for analysis. Sample container descriptions and requested analyses are entered onto a chain-of-custody form in order to provide instructions to the laboratory. The chain-of-custody form accompanies the samples during transportation to provide a continuous record of possession from the field to the laboratory. If a freight or overnight carrier transports the samples, the carrier is noted on the form.

For wells that have been purged using low-flow methods, sample containers are filled from the effluent stream of the bladder or peristaltic pump. In some cases, if so specified by the TSR, samples are taken from the sample ports of actively pumping remediation wells.

### **Sequence of Gauging, Purging, and Sampling**

The sequence in which monitoring activities are conducted are specified on the TSR. In general, wells are gauged beginning with the least-affected well and ending with the well that has highest concentration based on previous analytic results. After all gauging for the site is completed, wells are purged and/or sampled from the least-affected well to the most-affected well.

### **Decontamination**

In order to reduce the possibility of cross-contamination between wells, strict isolation and decontamination procedures are observed. Portable pumps are not used in wells with LPH. Technicians wear nitrile gloves during all gauging, purging and sampling activities. Gloves are changed between wells and more often if warranted. Any equipment that could come in contact with fluids are either dedicated to a particular well, decontaminated prior to each use, or discarded after a single use. Decontamination consists of washing in a solution of Liqui-nox and water and rinsing twice. The final rinse is in deionized water.

### **Exceptions**

Additional tasks or non-standard procedures, if any, that may be requested or required for a particular site, and noted on the site TSR, are documented in field notes on the following pages.



**GROUNDWATER SAMPLING FIELD NOTES**

Technician: Alex

Site: 6034

Project No.: 41050001

Date: 12-01-04

Well No.: MW-2

Purge Method: P

Depth to Water (feet): 15.37

Depth to Product (feet): ✓

Total Depth (feet): 25.59

LPH & Water Recovered (gallons): ✓

Water Column (feet): 10.22

Casing Diameter (Inches): 2"

80% Recharge Depth (feet): 17.41

1 Well Volume (gallons): 2

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conduc-tivity (uS/cm)	Temperature (F. °C)	pH	Turbidity	D.O.
0708			2	1.223 ms	14.6	7.28		5.92
			4	1.299 ms	17.3	7.67		4.39
	0722		6	1.289 ms	11.4	7.95		5.66
Static at Time Sampled			Total Gallons Purged		Time Sampled			
15.39			6		0730			
Comments:								

Well No.: MW-4

Purge Method: D

Depth to Water (feet): 14.17

Depth to Product (feet): ✓

Total Depth (feet): 25.41

LPH & Water Recovered (gallons): ✓

Water Column (feet): 11.24

Casing Diameter (Inches): 2"

80% Recharge Depth (feet): 16.41

1 Well Volume (gallons): 2

Time Start	Time Stop	Depth To Water (feet)	Volume Purged (gallons)	Conduc-tivity (uS/cm)	Temperature (F. °C)	pH	Turbidity	D.O.
0736			2	0.982 ms	15.4	7.68		
			4	0.964 ms	17.3	7.41		
	0740		6	0.967 m	18.5	7.45		
Static at Time Sampled			Total Gallons Purged		Time Sampled			
14.42			6		0752			
Comments:								

TRC Alton Geoscience- Irvine

December 17, 2004

21 Technology Drive  
Irvine, CA 92718

Attn.: Anju Farfan

Project#: 41050001FA20

Project: Conoco Phillips #6034

Site: 4700 First Street, Livermore

Attached is our report for your samples received on 12/02/2004 17:40

This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 01/16/2005 unless you have requested otherwise.

We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.

You can also contact me via email. My email address is: [dsharma@stl-inc.com](mailto:dsharma@stl-inc.com)

Sincerely,



Dimple Sharma  
Project Manager

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* [www.stl-inc.com](http://www.stl-inc.com) \* CA DHS ELAP# 2496

**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience- Irvine

Attn.: Anju Farfan

21 Technology Drive

Irvine, CA 92718

Phone: (949) 341-7440 Fax: (949) 753-0111

Project: 41050001FA20

Conoco Phillips #6034

Received: 12/02/2004 17:40

Site: 4700 First Street, Livermore

Prep(s): 5030B Test(s): 8260B  
 Sample ID: MW-2 Lab ID: 2004-12-0159 - 1  
 Sampled: 12/01/2004 07:30 Extracted: 12/12/2004 17:39  
 Matrix: Water QC Batch#: 2004/12/12-1A.64  
 Analysis Flag: L2 ( See Legend and Note Section )

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	4700	100	ug/L	2.00	12/12/2004 17:39	
Benzene	ND	1.0	ug/L	2.00	12/12/2004 17:39	
Toluene	ND	1.0	ug/L	2.00	12/12/2004 17:39	
Ethylbenzene	81	1.0	ug/L	2.00	12/12/2004 17:39	
Total xylenes	240	2.0	ug/L	2.00	12/12/2004 17:39	
tert-Butyl alcohol (TBA)	32	10	ug/L	2.00	12/12/2004 17:39	
Methyl tert-butyl ether (MTBE)	5.9	1.0	ug/L	2.00	12/12/2004 17:39	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	2.00	12/12/2004 17:39	
Ethyl tert-butyl ether (ETBE)	ND	1.0	ug/L	2.00	12/12/2004 17:39	
tert-Amyl methyl ether (TAME)	ND	1.0	ug/L	2.00	12/12/2004 17:39	
1,2-DCA	ND	1.0	ug/L	2.00	12/12/2004 17:39	
EDB	ND	1.0	ug/L	2.00	12/12/2004 17:39	
Ethanol	ND	100	ug/L	2.00	12/12/2004 17:39	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	107.7	73-130	%	2.00	12/12/2004 17:39	
Toluene-d8	96.9	81-114	%	2.00	12/12/2004 17:39	

**Gas/BTEX Fuel Oxygenates by 8260B**

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Project: 41050001FA20

Conoco Phillips #6034

Received: 12/02/2004 17:40

Site: 4700 First Street, Livermore

Prep(s): 5030B Test(s): 8260B  
 Sample ID: MW-4 Lab ID: 2004-12-0159 - 2  
 Sampled: 12/01/2004 07:52 Extracted: 12/9/2004 01:47  
 Matrix: Water QC Batch#: 2004/12/08-2D.64

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	130	50	ug/L	1.00	12/09/2004 01:47	Q1
Benzene	ND	0.50	ug/L	1.00	12/09/2004 01:47	
Toluene	ND	0.50	ug/L	1.00	12/09/2004 01:47	
Ethylbenzene	ND	0.50	ug/L	1.00	12/09/2004 01:47	
Total xylenes	ND	1.0	ug/L	1.00	12/09/2004 01:47	
Methyl tert-butyl ether (MTBE)	1.6	0.50	ug/L	1.00	12/09/2004 01:47	
Ethanol	ND	50	ug/L	1.00	12/09/2004 01:47	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	96.4	73-130	%	1.00	12/09/2004 01:47	
Toluene-d8	101.8	81-114	%	1.00	12/09/2004 01:47	

**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience- Irvine

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Irvine, CA 92718

Phone: (949) 341-7440 Fax: (949) 753-0111

Project: 41050001FA20

Conoco Phillips #6034

Received: 12/02/2004 17:40

Site: 4700 First Street, Livermore

**Batch QC Report**

Prep(s): 5030B

Method Blank

MB: 2004/12/08-2D.64-006

Water

Test(s): 8260B

QC Batch # 2004/12/08-2D.64

Date Extracted: 12/08/2004 18:06

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	12/08/2004 18:06	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	12/08/2004 18:06	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	12/08/2004 18:06	
Di-isopropyl Ether (DIPE)	ND	1.0	ug/L	12/08/2004 18:06	
Ethyl tert-butyl ether (ETBE)	ND	0.5	ug/L	12/08/2004 18:06	
tert-Amyl methyl ether (TAME)	ND	0.5	ug/L	12/08/2004 18:06	
1,2-DCA	ND	0.5	ug/L	12/08/2004 18:06	
EDB	ND	0.5	ug/L	12/08/2004 18:06	
Benzene	ND	0.5	ug/L	12/08/2004 18:06	
Toluene	ND	0.5	ug/L	12/08/2004 18:06	
Ethylbenzene	ND	0.5	ug/L	12/08/2004 18:06	
Total xylenes	ND	1.0	ug/L	12/08/2004 18:06	
Ethanol	ND	50	ug/L	12/08/2004 18:06	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	92.8	73-130	%	12/08/2004 18:06	
Toluene-d8	98.2	81-114	%	12/08/2004 18:06	



**Gas/BTEX Fuel Oxygenates by 8260B**

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Phone: (949) 341-7440 Fax: (949) 753-0111

Project: 41050001FA20

Conoco Phillips #6034

Received: 12/02/2004 17:40

Site: 4700 First Street, Livermore

**Batch QC Report**

Prep(s): 5030B

Method Blank

MB: 2004/12/12-1A.64-022

Water

Test(s): 8260B

QC Batch # 2004/12/12-1A.64

Date Extracted: 12/12/2004 13:22

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	12/12/2004 13:22	
tert-Butyl alcohol (TBA)	ND	5.0	ug/L	12/12/2004 13:22	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	12/12/2004 13:22	
Di-isopropyl Ether (DIPE)	ND	1.0	ug/L	12/12/2004 13:22	
Ethyl tert-butyl ether (ETBE)	ND	0.5	ug/L	12/12/2004 13:22	
tert-Amyl methyl ether (TAME)	ND	0.5	ug/L	12/12/2004 13:22	
1,2-DCA	ND	0.5	ug/L	12/12/2004 13:22	
EDB	ND	0.5	ug/L	12/12/2004 13:22	
Benzene	ND	0.5	ug/L	12/12/2004 13:22	
Toluene	ND	0.5	ug/L	12/12/2004 13:22	
Ethylbenzene	ND	0.5	ug/L	12/12/2004 13:22	
Total xylenes	ND	1.0	ug/L	12/12/2004 13:22	
Ethanol	ND	50	ug/L	12/12/2004 13:22	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	93.6	73-130	%	12/12/2004 13:22	
Toluene-d8	99.2	81-114	%	12/12/2004 13:22	

**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience- Irvine  
Attn.: Anju Farfan

21 Technology Drive  
Irvine, CA 92718  
Phone: (949) 341-7440 Fax: (949) 753-0111

Project: 41050001FA20  
Conoco Phillips #6034

Received: 12/02/2004 17:40

Site: 4700 First Street, Livermore

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike

Water

QC Batch # 2004/12/08-2D.64

LCS 2004/12/08-2D.64-043

Extracted: 12/08/2004

Analyzed: 12/08/2004 17:43

LCSD

Compound	Conc. ug/L		Exp. Conc.	Recovery %		RPD	Ctrl. Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Methyl tert-butyl ether (MTBE)	24.4		25	97.6			65-165	20		
Benzene	24.3		25	97.2			69-129	20		
Toluene	24.2		25	96.8			70-130	20		
<b>Surrogates(s)</b>										
1,2-Dichloroethane-d4	454		500	90.8			73-130			
Toluene-d8	490		500	98.0			81-114			

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

12/17/2004 10:32

**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience- Irvine

Attn.: Anju Farfan

21 Technology Drive

Irvine, CA 92718

Phone: (949) 341-7440 Fax: (949) 753-0111

Project: 41050001FA20

Conoco Phillips #6034

Received: 12/02/2004 17:40

Site: 4700 First Street, Livermore

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike

Water

QC Batch # 2004/12/12-1A.64

LCS 2004/12/12-1A.64-059

Extracted: 12/12/2004

Analyzed: 12/12/2004 12:59

LCSD

Compound	Conc. ug/L		Exp. Conc.	Recovery %		RPD	Ctrl. Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Methyl tert-butyl ether (MTBE)	20.5		25	82.0			65-165	20		
Benzene	21.0		25	84.0			69-129	20		
Toluene	21.1		25	84.4			70-130	20		
<b>Surrogates(s)</b>										
1,2-Dichloroethane-d4	458		500	91.6			73-130			
Toluene-d8	490		500	98.0			81-114			

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12/17/2004 10:32

**Gas/BTEX Fuel Oxygenates by 8260B**

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Irvine, CA 92718

Phone: (949) 341-7440 Fax: (949) 753-0111

Project: 41050001FA20

Conoco Phillips #6034

Received: 12/02/2004 17:40

Site: 4700 First Street, Livermore

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260B

**Matrix Spike ( MS / MSD )**

**Water**

**QC Batch # 2004/12/08-2D.64**

MS/MSD

Lab ID: 2004-12-0209 - 003

MS: 2004/12/08-2D.64-028

Extracted: 12/08/2004

Analyzed: 12/08/2004 19:28

Dilution: 1.00

MSD: 2004/12/08-2D.64-050

Extracted: 12/08/2004

Analyzed: 12/08/2004 19:50

Dilution: 1.00

Compound	Conc. ug/L			Spk.Level ug/L	Recovery %			Limits %		Flags	
	MS	MSD	Sample		MS	MSD	RPD	Rec.	RPD	MS	MSD
Methyl tert-butyl ether	23.9	27.0	ND	25	95.6	108.0	12.2	65-165	20		
Benzene	24.4	27.2	ND	25	97.6	108.8	10.9	69-129	20		
Toluene	24.7	27.2	ND	25	98.8	108.8	9.6	70-130	20		
<b>Surrogate(s)</b>											
1,2-Dichloroethane-d4	426	471		500	85.2	94.2		73-130			
Toluene-d8	487	479		500	97.4	95.8		81-114			

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Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

12/17/2004 10:32

**Gas/BTEX Fuel Oxygenates by 8260B**

TRC Alton Geoscience- Irvine

Attn.: Anju Farfan

21 Technology Drive

Irvine, CA 92718

Phone: (949) 341-7440 Fax: (949) 753-0111

Project: 41050001FA20

Conoco Phillips #6034

Received: 12/02/2004 17:40

Site: 4700 First Street, Livermore

**Batch QC Report**

Prep(s): 5030B

Test(s): 8260B

**Matrix Spike ( MS / MSD )**

**Water**

**QC Batch # 2004/12/12-1A.64**

MS/MSD

Lab ID: 2004-12-0336 - 001

MS: 2004/12/12-1A.64-018

Extracted: 12/12/2004

Analyzed: 12/12/2004 14:18

Dilution: 1.00

MSD: 2004/12/12-1A.64-040

Extracted: 12/12/2004

Analyzed: 12/12/2004 14:40

Dilution: 1.00

Compound	Conc. ug/L			Spk.Level ug/L	Recovery %			Limits %		Flags	
	MS	MSD	Sample		MS	MSD	RPD	Rec.	RPD	MS	MSD
Benzene	19.6	21.9	ND	25	78.4	87.6	11.1	69-129	20		
Toluene	20.1	22.4	ND	25	80.4	89.6	10.8	70-130	20		
Methyl tert-butyl ether	18.6	21.7	ND	25	74.4	86.8	15.4	65-165	20		
<b>Surrogate(s)</b>											
1,2-Dichloroethane-d4	428	444		500	85.6	88.8		73-130			
Toluene-d8	490	487		500	98.0	97.4		81-114			

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12/17/2004 10:32

**Gas/BTEX Fuel Oxygenates by 8260B**

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Received: 12/02/2004 17:40

Site: 4700 First Street, Livermore

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**Legend and Notes**

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**Analysis Flag**

L2

Reporting limits were raised due to high level of analyte present in the sample.

**Result Flag**

Q1

Quantit. of unknown hydrocarbon(s) in sample based on gasoline.

STL San Francisco

### Sample Receipt Checklist

Submission #: 2004- 12 - 0159

Checklist completed by: (initials) DSH Date: 12, 05 /04

Courier name:  STL San Francisco  Client \_\_\_\_\_

Custody seals intact on shipping container/samples Yes \_\_\_ No \_\_\_ Not Present

Chain of custody present? Yes  No \_\_\_

Chain of custody signed when relinquished and received? Yes  No \_\_\_

Chain of custody agrees with sample labels? Yes  No \_\_\_

Samples in proper container/bottle? Yes  No \_\_\_

Sample containers intact? Yes  No \_\_\_

Sufficient sample volume for indicated test? Yes  No \_\_\_

All samples received within holding time? Yes  No \_\_\_

Container/Temp Blank temperature in compliance (4° C + 2)? Temp 2 °C Yes  No \_\_\_

Potential reason for > 6°C - Ice melted  Ice in bags  Not enough ice  Not enough blue ice  Samples in boxes

Sampled < 4hr. ago?  Ice not required (e.g. air or bulk sample)  Ice Present Yes  No \_\_\_

Water - VOA vials have zero headspace? No VOA vials submitted \_\_\_ Yes  No \_\_\_

(if bubble is present, refer to approximate bubble size and itemize in comments as S (small ~O), M (medium ~ O) or L (large ~ O))

Water - pH acceptable upon receipt?  Yes  No

pH adjusted- Preservative used:  HNO<sub>3</sub>  HCl  H<sub>2</sub>SO<sub>4</sub>  NaOH  ZnOAc -Lot #(s) \_\_\_\_\_

For any item check-listed "No", provided detail of discrepancy in comment section below:

**Comments:**  
\_\_\_\_\_  
\_\_\_\_\_

#### Project Management [Routing for instruction of indicated discrepancy(ies)]

Project Manager: (initials) \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/04 Client contacted:  Yes  No

Summary of discussion:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Corrective Action (per PM/Client):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# ConocoPhillips Chain Of Custody Record

96250

STL-San Francisco

1220 Quarry Lane

Pleasanton, CA 94566

(925) 484-1919 (925) 484-1096 fax

<b>ConocoPhillips Site Manager:</b> INVOICE REMITTANCE ADDRESS: <b>CONOCOPHILLIPS</b> Attn: Dee Hutchinson 3611 South Harbor, Suite 200 Santa Ana, CA. 92704	<b>ConocoPhillips Work Order Number</b> 1525 TRC 500	DATE: 12-01 PAGE: 1 of 1
2004-12-0159		
<b>ConocoPhillips Cost Object</b>		

<b>SAMPLING COMPANY:</b> TRC	Valid Value ID:	<b>CONOCOPHILLIPS SITE NUMBER</b> 4034	<b>GLOBAL ID NO.:</b> 70600101477
<b>ADDRESS:</b> 21 Technology Drive, Irvine CA 92618	<b>SITE ADDRESS (Street and City):</b> 4700 FIRST ST. LIVERMERE		<b>CONOCOPHILLIPS SITE MANAGER:</b> STELBY LATHROP
<b>PROJECT CONTACT (Hardcopy or PDF Report to):</b> Anju Farfan		<b>EDF DELIVERABLE TO (RP or Designee):</b> Peter Thomson, TRC pthomson@trcsolutions.com	<b>PHONE NO.:</b> 949-341-7408
<b>TELEPHONE:</b> 949-341-7440	<b>FAX:</b> 949-753-0111	<b>E-MAIL:</b> afarfan@trcsolutions.com	<b>E-MAIL:</b> LAB USE ONLY

<b>SAMPLER NAME(S) (Print):</b> AX	<b>CONSULTANT PROJECT NUMBER</b> 41050001/FA20	<b>REQUESTED ANALYSES</b>
---------------------------------------	---	---------------------------

<b>TURNAROUND TIME (CALENDAR DAYS):</b> <input type="checkbox"/> 14 DAYS <input type="checkbox"/> 7 DAYS <input type="checkbox"/> 72 HOURS <input type="checkbox"/> 48 HOURS <input type="checkbox"/> 24 HOURS <input type="checkbox"/> LESS THAN 24 HOURS	<b>SPECIAL INSTRUCTIONS OR NOTES:</b> CHECK BOX IF EDD IS NEEDED <input checked="" type="checkbox"/>
---	--

LAB USE ONLY	Sample Identification/Field Point Name*	SAMPLING		MATRIX	NO. OF CONT.	8015m - TPHd Extractable	8260B - TPHg/BTEX/MBE	8260B - TPHg / BTEX / 8 Oxygenates	8260B - TPHg / BTEX / 8 oxygenates + methanol (8015M)	8260B - Full Scan VOCs (does not include oxygenates)	8270C - Semt-Volatiles	8015M / 8021B - TPHg/BTEX/MBE	Lead <input type="checkbox"/> Total <input type="checkbox"/> STLC <input type="checkbox"/> CLP	TPH by 8260E	BTEX/MBE by 8260E	8 OXS by 8260B	ETHANOL by 8260B	FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes  20C	TEMPERATURE ON RECEIPT C°
		DATE	TIME																
	MW-2	12-01-04	0736	GW	3														3 NOAS w/HCL
	MW-4	12-01-04	0752	GW	1														

Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Date: 12-01-04	Time: 15:30
Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Date: 12-02-04	Time: 1635
Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Date: 12-02-04	Time: 1748



## **STATEMENTS**

### **Purge Water Disposal**

Non-hazardous groundwater produced during purging and sampling was accumulated at TRC's groundwater monitoring facility at Concord, California, for transportation by Onyx Transportation, Inc., to the ConocoPhillips Refinery at Rodeo, California. Disposal at the Rodeo facility was authorized by ConocoPhillips in accordance with "ESD Standard Operating Procedures - Water Quality and Compliance", as revised on February 7, 2003. Documentation of compliance with ConocoPhillips requirements is provided by an ESD Form R-149, which is on file at TRC's Concord Office. Purge water suspected of containing potentially hazardous material, such as liquid-phase hydrocarbons, was accumulated separately in a drum for transportation and disposal by Filter Recycling, Inc.

### **Limitations**

The fluid level monitoring and groundwater sampling activities summarized in this report have been performed under the responsible charge of a California Registered Geologist or Registered Civil Engineer and have been conducted in accordance with current practice and the standard of care exercised by geologists and engineers performing similar tasks in this area. No warranty, express or implied, is made regarding the conclusions and professional opinions presented in this report. The conclusions are based solely upon an analysis of the observed conditions. If actual conditions differ from those described in this report, our office should be notified.