ARCTOS

Arctos Environmental
1332 Peralta Avenue
Berkeley, CA 94702
510 525-2180 PHONE
510 525-2392 FAX

Main Office
3450 E. Spring St., Suite 212
Long Beach, CA 90806
562 988-2755 PHONE
562 988-2759 FAX

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7:59 am, Mar 20, 2007

Alameda County
Environmental Health

15 March 2007
Project No. 01LV

Jerry Wickham
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: Fourth Quarter 2006 Status Report
1619 1st Street, Livermore, California
Tesoro No. 67076 (Former Beacon 3604); ACEH Case No. RO0000434

Dear Mr. Wickham:

Arctos Environmental (Arctos), on behalf of Tesoro Companies, Inc. (Tesoro), has prepared this letter report summarizing project activities for the fourth quarter 2006 at the subject site (Figure 1). From October through December 2006, Arctos completed the following tasks:

- Quarterly groundwater monitoring
- Mobilization for groundwater assessment.

Groundwater Monitoring

Arctos performed groundwater monitoring at the site on 8 November 2006. Samples were collected from wells MW-1 through MW-10, VW-2, VW-3, TP-1, and TP-2 (Figure 2). Groundwater monitoring was performed in accordance with the guidelines of the Regional Water Quality Control Board, San Francisco Bay Region (RWQCB).

Field Activities for Groundwater Sampling
The depth to groundwater of each well was measured and recorded on field data sheets before sampling (Appendix A). Depth to groundwater and groundwater elevations are summarized on Table 1.

During purging, pH, specific conductivity, and temperature were measured and recorded for the evacuated groundwater. Groundwater samples were collected after the

temperature, pH, and specific conductivity of the groundwater had stabilized to within approximately 10 percent of the previous reading and at least 3 casing volumes of groundwater were removed from the well, unless the well purged dry. Well purge water was stored temporarily on site in 55-gallon drums.

Analytical Program

The groundwater samples were analyzed by Kiff Analytical LLC (Kiff), a State-certified laboratory in Davis, California, for total petroleum hydrocarbons as gasoline (TPHg); benzene, toluene, ethylbenzene, and total xylenes (BTEX); methyl tert-butyl ether (MTBE); and other oxygenates and alcohols using EPA Method 8260B.

In addition to the standard groundwater analyses, Kiff analyzed selected samples from groundwater wells located upgradient (wells MW-3 and MW-4) and through the centerline of the plume (wells MW-2, MW-6, and MW-9) for the natural attenuation and general groundwater chemistry parameters listed in Table 2.

Arctos, as Tesoro's Authorized Responsible Party for the site, also has electronically submitted the groundwater monitoring results to the State Water Resources Control Board (SWRCB). The data were submitted in the State-mandated Electronic Data Format (EDF), in accordance with Assembly Bill 2886 requirements for underground storage tank (UST) sites in California.

Summary of Groundwater Results

As indicated in Table 1, the depth to groundwater was approximately 31 to 34 feet below ground surface (436 to 443 feet above mean sea level). Water levels had decreased by 7 to 8 feet since August 2006. The water level data indicate that the general direction of water flow is toward the northwest with an estimated gradient of 0.02 (1 foot/50 feet; Figure 2).

The highest MTBE and benzene concentrations of 38,000 and 1,300 micrograms per liter (µg/l), respectively, were at well TP-2. The highest TPHg concentration of 27,000 µg/l was at well MW-2. Elevated benzene and MTBE concentrations in groundwater (990 and 310 µg/l, respectively) are also present approximately 140 feet downgradient of the site at well MW-6.

The following results for natural attenuation parameters show the presence of biological activity in the groundwater to potentially degrade TPHg, benzene, and MTBE:

- Decreasing concentrations of nitrate and sulfate in the source area (well MW-2) and downgradient (wells MW-6 and MW-9)

- ☐ Increasing concentrations of ferrous iron
- ☐ Decreasing values of ORP.

Historical analytical results for the groundwater samples are summarized in Table 3. Figures 3 and 4 show the isoconcentration contours for benzene and MTBE, respectively. The laboratory report and chain-of-custody form are in Appendix B.

Proposed Groundwater Assessment

As requested in the Alameda County Environmental Health (ACEH) letter to Tesoro dated 23 June 2006, Arctos submitted a work plan, dated 30 September 2006 for lateral assessment of MTBE-impacted groundwater downgradient of boring DB-6. ACEH approved the work plan in a letter dated 9 October 2006. Arctos installed soil boring DB-7 on 4 January 2007 and results will be provided in the first quarter 2007 status report.

If you have questions or comments, please call Mike Purchase at 510/525-2180 or Jeff Gwinn at 562/988-2755.

Very truly yours,

ARCTOS ENVIRONMENTAL

FOR Michael P. Purchase
Senior Project Manager

Jeffrey P. Gwinn, P.E.
Vice President

REGISTERED PROFESSIONAL ENGINEER
JEFFREY P. GWINN
No. C 044742
Exp. 3-31-08
CIVIL
STATE OF CALIFORNIA

Copy: Jeffrey M. Baker, P.E. – Tesoro Companies, Inc.
Colleen Winey – Zone 7 Water Agency

Attachments: Table 1 – Well and Groundwater Elevations
Table 2 – Groundwater Natural Attenuation Parameters
Table 3 – Groundwater Monitoring Analytical Results
Figure 1 – Site Location Map
Figure 2 – Groundwater Elevation Contours
Figure 3 – Benzene Concentration Contours
Figure 4 – MTBE Concentration Contour
Appendix A – Field Data Sheets
Appendix B – Laboratory Analytical Reports and Chain-of-Custody Form

TABLE 1

WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Monitoring Well	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(b)] (feet MSL)	Water Table Elevation[(c)] (feet MSL)
MW-1	6/1/1993	37.50	474.29	436.79
	6/22/1993	38.46		435.83
	10/6/1993	42.22		432.07
	1/13/1994	34.52		439.77
	3/30/1994	31.93		442.36
	4/25/1994	33.49		440.80
	8/12/1994	41.03		433.26
	12/14/1994	38.63		435.66
	2/10/1995	30.80		443.49
	6/15/1995	25.46		448.83
	9/26/1995	31.05		443.24
	12/15/1995	28.11		446.18
	3/21/1996	17.67		456.62
	6/13/1996	22.86		451.43
	9/16/1996	30.04		444.25
	12/2/1996	26.74		447.55
	3/7/1997	20.84		453.45
	6/12/1997	28.71		445.58
	9/29/1997	33.91		440.38
	12/1/1997	34.88		439.41
	3/19/1998	19.83		454.46
	5/29/1998	21.57		452.72
	9/15/1998	31.68		442.61
	11/30/1998	36.80		437.49
	1/17/1999	30.02		444.27
	6/10/1999	29.30		444.99
	9/7/1999	31.41		442.88
	12/13/1999	32.95		441.34
	3/13/2000	25.74		448.55
	6/12/2000	28.24		446.05
	11/10/2000	30.56		443.73
	12/31/2000	31.71		442.58
	3/27/2001	30.43		443.86
	6/30/2001	36.61		437.68
	9/26/2001	45.10		429.19

TABLE 1

WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Monitoring Well	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(b)] (feet MSL)	Water Table Elevation[(c)] (feet MSL)
MW-1	12/18/2001	39.39	474.29	434.90
(cont.)	3/18/2002	38.24		436.05
	8/21/2002	36.71		437.58
	12/3/2002	36.85		437.44
	3/4/2003	33.72		440.57
	6/10/2003	31.31		442.98
	9/9/2003	35.05		439.24
	12/23/2003	30.15		444.14
	3/23/2004	26.61		447.68
	5/10/2004	30.31		443.98
	8/4/2004	34.77		439.52
	11/4/2004	33.93		440.36
	1/12/2005	27.82		446.47
	5/2/2005	24.87		449.42
	7/19/2005	29.26		445.03
	11/21/2005	31.15		443.14
	2/9/2006	26.24		448.05
	5/16/2006	24.87		449.42
	8/9/2006	31.64		442.65
	11/8/2006	31.16		443.13
MW-2	6/1/1993	38.02	472.98	434.96
	6/22/1993	39.07		433.91
	10/6/1993	43.72		429.26
	1/13/1994	35.85		437.13
	3/30/1994	32.82		440.16
	4/25/1994	34.76		438.22
	8/12/1994	44.33		428.65
	12/14/1994	40.00		432.98
	2/10/1995	32.16		440.82
	6/15/1995	25.93		447.05
	9/26/1995	32.42		440.56
	12/15/1995	29.41		443.57
	3/21/1996	17.47		455.51
	6/13/1996	23.69		449.29
	9/16/1996	31.24		441.74

TABLE 1

WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Monitoring Well	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(b)] (feet MSL)	Water Table Elevation[(c)] (feet MSL)
MW-2	12/2/1996	26.90	472.98	446.08
(cont.)	3/7/1997	21.33		451.65
	6/12/1997	29.94		443.04
	9/29/1997	34.22		438.76
	12/1/1997	35.94		437.04
	3/19/1998	20.34		452.64
	5/29/1998	22.63		450.35
	9/15/1998	32.30		440.68
	11/30/1998	36.90		436.08
	1/17/1999	30.17		442.81
	6/10/1999	29.98		443.00
	9/7/1999	31.85		441.13
	12/13/1999	33.72		439.26
	3/13/2000	26.54		446.44
	6/12/2000	28.44		444.54
	11/10/2000	31.31		441.67
	12/31/2000	32.68		440.30
	3/27/2001	30.81		442.17
	6/30/2001	37.58		435.40
	9/26/2001	44.97		428.01
	12/18/2001	40.67		432.31
	3/18/2002	38.94		434.04
	6/5/2002	36.45		436.53
	8/21/2002	37.15		435.83
	12/3/2002	36.76		436.22
	3/4/2003	33.60		439.38
	6/10/2003	32.89		440.09
	9/9/2003	35.45		437.53
	12/23/2003	31.79		441.19
	3/23/2004	28.25		444.73
	5/10/2004	30.91		442.07
	8/4/2004	35.36		437.62
	11/4/2004	34.92		438.06
	1/12/2005	29.46		443.52
	5/2/2005	25.61		447.37

TABLE 1

WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Monitoring Well	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(b)] (feet MSL)	Water Table Elevation[(c)] (feet MSL)
MW-2	7/19/2005	30.11	472.98	442.87
(cont.)	11/21/2005	32.04		440.94
	2/9/2006	27.11		445.87
	5/17/2006	25.18		447.80
	8/9/2006	32.69		440.29
	11/8/2006	33.21		439.77
MW-3	6/1/1993	36.18	473.37	437.19
	6/22/1993	37.11		436.26
	10/6/1993	41.15		432.22
	1/13/1994	33.95		439.42
	3/30/1994	30.97		442.40
	4/25/1994	32.46		440.91
	8/12/1994	41.72		431.65
	12/14/1994	37.62		435.75
	2/10/1995	29.96		443.41
	6/15/1995	23.66		449.71
	9/26/1995	29.62		443.75
	12/15/1995	27.10		446.27
	3/21/1996	15.85		457.52
	6/13/1996	21.31		452.06
	9/16/1996	28.62		444.75
	12/2/1996	25.55		447.82
	3/7/1997	19.77		453.60
	6/12/1997	27.67		445.70
	9/29/1997	29.60		443.77
	12/1/1997	33.37		440.00
	3/19/1998	18.76		454.61
	5/29/1998	20.64		452.73
	9/15/1998	30.70		442.67
	11/30/1998	34.96		438.41
	1/17/1999	28.81		444.56
	6/10/1999	28.10		445.27
	9/7/1999	30.38		442.99
	12/13/1999	31.46		441.91
	3/13/2000	24.28		449.09

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Monitoring Well	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(b)] (feet MSL)	Water Table Elevation[(c)] (feet MSL)
MW-3	6/12/2000	26.80	473.37	446.57
(cont.)	11/10/2000	29.47		443.90
	12/31/2000	31.38		441.99
	3/27/2001	29.94		443.43
	6/30/2001	37.54		435.83
	9/26/2001	45.17		428.20
	12/18/2001	39.41		433.96
	3/18/2002	37.73		435.64
	6/5/2002	35.35		438.02
	8/21/2002	36.21		437.16
	12/3/2002	35.92		437.45
	3/4/2003	32.75		440.62
	6/10/2003	31.26		442.11
	9/9/2003	34.72		438.65
	12/23/2003	30.47		442.90
	3/23/2004	26.67		446.70
	5/10/2004	30.25		443.12
	8/4/2004	34.70		438.67
	11/4/2004	33.94		439.43
	1/12/2005	28.21		445.16
	5/2/2005	24.56		448.81
	7/19/2005	29.39		443.98
	11/21/2005	31.30		442.07
	2/9/2006	26.21		447.16
	5/16/2006	24.36		449.01
	8/9/2006	31.90		441.47
	11/8/2006	31.30		442.07
MW-4	3/30/1994	31.56	473.64	442.08
	4/25/1994	32.73		440.91
	8/12/1994	41.61		432.03
	12/14/1994	38.11		435.53
	2/10/1995	30.50		443.14
	6/15/1995	23.63		450.01
	9/26/1995	29.70		443.94
	12/15/1995	27.56		446.08

TABLE 1

WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Monitoring Well	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(b)] (feet MSL)	Water Table Elevation[(c)] (feet MSL)
MW-4	3/21/1996	15.63	473.64	458.01
(cont.)	6/13/1996	21.07		452.57
	9/16/1996	28.99		444.65
	12/2/1996	26.04		447.60
	3/7/1997	19.69		453.95
	6/12/1997	28.04		445.60
	9/29/1997	29.91		443.73
	12/1/1997	33.88		439.76
	3/19/1998	18.67		454.97
	5/29/1998	20.16		453.48
	9/15/1998	30.46		443.18
	11/30/1998	34.50		439.14
	1/17/1999	28.30		445.34
	6/10/1999	27.60		446.04
	9/7/1999	30.79		442.85
	12/13/1999	31.60		442.04
	3/13/2000	24.35		449.29
	6/12/2000	26.91		446.73
	11/10/2000	29.71		443.93
	12/31/2000	31.79		441.85
	3/27/2001	29.98		443.66
	6/30/2001	36.88		436.76
	9/26/2001	43.87		429.77
	12/18/2001	39.30		434.34
	3/18/2002	37.75		435.89
	6/5/2002	35.68		437.96
	8/21/2002	36.58		437.06
	12/3/2002	35.90		437.74
	3/4/2003	32.73		440.91
	6/10/2003	31.20		442.44
	9/9/2003	34.64		439.00
	12/23/2003	31.30		442.34
	3/23/2004	26.71		446.93
	5/10/2004	30.33		443.31
	8/4/2004	34.87		438.77

TABLE 1

WELL AND GROUNDWATER ELEVATIONS
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Monitoring Well	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(b)] (feet MSL)	Water Table Elevation[(c)] (feet MSL)
MW-4	11/4/2004	34.28	473.64	439.36
(cont.)	1/12/2005	28.67		444.97
	5/2/2005	24.46		449.18
	7/19/2005	29.36		444.28
	11/21/2005	31.80		441.84
	2/9/2006	26.34		447.30
	5/16/2006	24.30		449.34
	8/9/2006	32.05		441.59
	11/8/2006	32.85		440.79
MW-5	3/30/1994	32.07	472.67	440.60
	4/25/1994	33.65		439.02
	8/12/1994	42.73		429.94
	12/14/1994	38.89		433.78
	2/10/1995	31.44		441.23
	6/15/1995	24.99		447.68
	9/26/1995	30.20		442.47
	12/15/1995	28.56		444.11
	3/21/1996	16.82		455.85
	6/13/1996	22.61		450.06
	9/16/1996	29.78		442.89
	12/2/1996	26.51		446.16
	3/7/1997	21.91		450.76
	9/29/1997	31.74		440.93
	12/1/1997	34.05		438.62
	3/19/1998	20.93		451.74
	5/29/1998	21.30		451.37
	9/15/1998	31.32		441.35
	11/30/1998	35.44		437.23
	1/17/1999	29.59		443.08
	6/10/1999	28.05		444.62
	9/7/1999	31.11		441.56
	12/13/1999	32.66		440.01
	3/13/2000	25.87		446.80
	6/12/2000	28.15		444.52
	11/10/2000	30.05		442.62

TABLE 1

WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Monitoring Well	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(b)] (feet MSL)	Water Table Elevation[(c)] (feet MSL)
MW-5	12/31/2000	31.81	472.67	440.86
(cont.)	3/27/2001	30.57		442.10
	6/30/2001	37.24		435.43
	9/26/2001	44.53		428.14
	12/18/2001	40.65		432.02
	3/18/2002	38.75		433.92
	6/5/2002	36.21		436.46
	8/21/2002	36.76		435.91
	12/3/2002	36.12		436.55
	3/4/2003	32.90		439.77
	6/10/2003	33.04		439.63
	9/9/2003	34.20		438.47
	12/23/2003	31.38		441.29
	3/23/2004	27.51		445.16
	5/10/2004	31.12		441.55
	8/4/2004	35.09		437.58
	11/4/2004	34.34		438.33
	1/12/2005	29.19		443.48
	5/2/2005	25.31		447.36
	7/19/2005	30.49		442.18
	11/21/2005	32.35		440.32
	2/9/2006	27.19		445.48
	5/16/2006	25.30		447.37
	8/9/2006	32.68		439.99
	11/8/2006	32.22		440.45
MW-6	3/30/1994	33.38	471.93	438.55
	4/25/1994	35.49		436.44
	8/12/1994	45.14		426.79
	12/14/1994	40.99		430.94
	2/10/1995	33.34		438.59
	6/15/1995	26.88		445.05
	9/26/1995	33.55		438.38
	12/15/1995	30.32		441.61
	3/21/1996	18.89		453.04
	6/13/1996	24.62		447.31

TABLE 1

WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Monitoring Well	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(b)] (feet MSL)	Water Table Elevation[(c)] (feet MSL)
MW-6	9/16/1996	32.64	471.93	439.29
(cont.)	12/2/1996	27.42		444.51
	3/7/1997	22.13		449.80
	6/12/1997	31.02		440.91
	9/29/1997	35.77		436.16
	12/1/1997	37.14		434.79
	3/19/1998	21.10		450.83
	5/29/1998	23.26		448.67
	9/15/1998	33.50		438.43
	11/30/1998	38.73		433.20
	1/17/1999	32.05		439.88
	6/10/1999	31.44		440.49
	9/7/1999	33.94		437.99
	12/13/1999	35.84		436.09
	3/13/2000	28.45		443.48
	6/12/2000	30.52		441.41
	11/10/2000	32.99		438.94
	12/31/2000	34.95		436.98
	3/27/2001	32.72		439.21
	6/30/2001	39.86		432.07
	9/26/2001	Dry		Dry
	12/18/2001	43.36		428.57
	3/18/2002	41.29		430.64
	6/5/2002	38.35		433.58
	8/21/2002	39.02		432.91
	12/3/2002	38.76		433.17
	3/4/2003	35.13		436.80
	6/10/2003	34.15		437.78
	9/9/2003	37.66		434.27
	12/23/2003	33.43		438.50
	3/23/2004	29.96		441.97
	5/10/2004	32.98		438.95
	8/4/2004	37.02		434.91
	11/4/2004	37.03		434.90
	1/12/2005	32.01		439.92

TABLE 1

WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Monitoring Well	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(b)] (feet MSL)	Water Table Elevation[(c)] (feet MSL)
MW-6	5/2/2005	27.30	471.93	444.63
(cont.)	7/19/2005	32.27		439.66
	11/21/2005	33.23		438.70
	2/9/2006	29.07		442.86
	5/17/2006	27.23		444.70
	8/9/2006	35.22		436.71
	11/8/2006	33.41		438.52
MW-7	3/30/1994	31.98	472.33	440.35
	4/25/1994	33.56		438.77
	8/12/1994	43.35		428.98
	12/14/1994	39.34		432.99
	2/10/1995	32.11		440.22
	6/15/1995	25.51		446.82
	9/26/1995	31.43		440.90
	12/15/1995	28.97		443.36
	3/21/1996	17.36		454.97
	6/13/1996	23.47		448.86
	9/16/1996	31.35		440.98
	12/2/1996	27.11		445.22
	3/7/1997	21.33		451.00
	6/12/1997	29.90		442.43
	9/29/1997	34.37		437.96
	12/1/1997	36.46		435.87
	3/19/1998	20.33		452.00
	5/29/1998	22.30		450.03
	9/15/1998	32.54		439.79
	11/30/1998	37.96		434.37
	1/17/1999	31.04		441.29
	6/10/1999	29.89		442.44
	9/7/1999	32.38		439.95
	12/13/1999	33.98		438.35
	3/13/2000	27.09		445.24
	6/12/2000	28.76		443.57
	11/10/2000	31.54		440.79
	12/31/2000	32.76		439.57

TABLE 1

WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Monitoring Well	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(b)] (feet MSL)	Water Table Elevation[(c)] (feet MSL)
MW-7	3/27/2001	30.97	472.33	441.36
(cont.)	6/30/2001	37.50		434.83
	9/26/2001	45.11		427.22
	12/18/2001	41.13		431.20
	3/18/2002	39.22		433.11
	6/5/2002	36.55		435.78
	8/21/2002	36.81		435.52
	12/3/2002	36.52		435.81
	3/4/2003	32.60		439.73
	6/10/2003	31.33		441.00
	9/9/2003	34.71		437.62
	12/23/2003	30.80		441.53
	3/23/2004	26.41		445.92
	5/10/2004	29.86		442.47
	8/4/2004	34.06		438.27
	11/4/2004	34.12		438.21
	1/12/2005	28.83		443.50
	5/2/2005	24.66		447.67
	7/19/2005	29.07		443.26
	11/21/2005	30.42		441.91
	2/9/2006	26.15		446.18
	5/16/2006	24.44		447.89
	8/9/2006	31.77		440.56
	11/8/2006	31.14		441.19
MW-8	12/23/2003	32.01	471.18	439.17
	3/23/2004	28.50		442.68
	5/10/2004	31.44		439.74
	8/4/2004	35.11		436.07
	11/4/2004	34.77		436.41
	1/12/2005	29.66		441.52
	5/2/2005	25.91		445.27
	7/19/2005	30.56		440.62
	11/21/2005	32.48		438.70
	2/9/2006	27.40		443.78
	5/16/2006	25.60		445.58

TABLE 1

WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Monitoring Well	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(b)] (feet MSL)	Water Table Elevation[(c)] (feet MSL)
MW-8	8/9/2006	32.77	471.18	438.41
(cont.)	11/8/2006	32.10		439.08
MW-9	12/23/2003	34.03	470.78	436.75
	3/23/2004	30.01		440.77
	5/10/2004	33.61		437.17
	8/4/2004	37.47		433.31
	11/4/2004	37.44		433.34
	5/2/2005	27.73		443.05
	7/19/2005	32.90		437.88
	11/21/2005	34.15		436.63
	2/9/2006	29.44		441.34
	5/16/2006	27.50		443.28
	8/9/2006	35.85		434.93
	11/8/2006	34.18		436.60
MW-10	12/23/2003	33.80	471.63	437.83
	3/23/2004	28.68		442.95
	5/10/2004	32.15		439.48
	8/4/2004	36.40		435.23
	11/4/2004	36.21		435.42
	1/12/2005	31.64		439.99
	5/2/2005	27.01		444.62
	7/19/2005	31.59		440.04
	11/21/2005	32.96		438.67
	2/9/2006	28.36		443.27
	5/16/2006	26.83		444.80
	8/9/2006	34.37		437.26
	11/8/2006	33.41		438.22
VW-2	8/4/2004	34.13	473.28	439.15
	11/4/2004	34.75		438.53
	1/12/2005	29.35		443.93

TABLE 1

WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Monitoring Well	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(b)] (feet MSL)	Water Table Elevation[(c)] (feet MSL)
VW-2	5/2/2005	25.34	473.28	447.94
(cont.)	7/19/2005	29.76		443.52
	11/21/2005	31.81		441.47
	2/9/2006	27.21		446.07
	5/17/2006	25.26		448.02
	8/9/2006	31.74		441.54
	11/8/2006	33.52		439.76
VW-3	8/4/2004	32.89	474.38	441.49
	11/4/2004	34.78		439.60
	1/12/2005	29.51		444.87
	5/2/2005	24.79		449.59
	7/19/2005	28.91		445.47
	11/21/2005	31.07		443.31
	2/9/2006	26.60		447.78
	5/16/2006	24.19		450.19
	8/9/2006	30.53		443.85
	11/8/2006	31.62		442.76
TP-1	7/19/2005	29.91	472.82	442.91
	11/21/2005	32.28		440.54
	2/9/2006	28.02		444.80
	5/17/2006	25.18		447.64
	8/9/2006	32.81		440.01
	11/8/2006	32.02		440.80
TP-2	7/19/2005	29.67	472.93	443.26
	11/21/2005	31.43		441.50
	2/9/2006	27.27		445.66
	5/17/2006	25.00		447.93
	8/9/2006	31.74		441.19
	11/8/2006	32.80		440.13

TABLE 1

WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Monitoring Well	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(b)] (feet MSL)	Water Table Elevation[(c)] (feet MSL)
MW-A	1/17/1999	30.13	NM[(d)]	NM
MW-B	1/17/1999	30.29	NM	NM
MW-C	1/17/1999	30.60	NM	NM
MW-D	1/17/1999	31.32	NM	NM
MW-E	1/17/1999	31.36	NM	NM
MW-W	1/17/1999	30.91	NM	NM

(a) Difference between Depth to Water and Depth to Free Product.
(b) Elevation of PVC well casing (north edge) surveyed relative to mean sea level (MSL).
Wells were surveyed by Cross Land Surveying, Inc., per AB 2886 requirements on 31 August 2005.
Benchmark K2-741, elevation is 467.835 feet above MSL.
(c) Potentiometric Surface Elevation = (Casing Elevation - Depth to Water) + (0.89)(Free Product Thickness)
assuming a free product specific gravity of 0.89.
(d) NM = Well not surveyed.

TABLE 2

GROUNDWATER NATURAL ATTENUATION PARAMETERS
TESORO - LIVERMORE, 67076

Monitoring Well	Location[a]	Sample Date	DO[b] (mg/l)	ORP[b] (mV)	Conductivity[b] (µS)	Temp[b] (°C)	pH[b]	TOC[c] (mg/l)	COD[d] (mg/l)	Alkalinity[e] (mg/l)	Chloride[f] (mg/l)	Ferrous Iron[g] (mg/l)	Nitrate[f] (mg/l)	Nitrite[f] (mg/l)	Sulfate[f] (mg/l)	Sulfide[h] (mg/l)	Phosphorus[i] (mg/l)	Carbon Dioxide[j] (mg/l)
MW-4	170 ft CG	2/9/2006	0.96	39	1,137	19.4	7.38	8.0	61	430	75	ND<0.1[k]	32	ND<0.1	70	ND<0.05	0.54	41
		8/9/2006	0.50	-8	1,013	23.1	8.20	--	46	400	--	ND<0.1	30	--	61	--	0.10	--
		11/8/2006	0.45	82	945	20.7	7.42	--	ND<7	440	--	ND<0.1	26	--	71	--	1.9	--
MW-3	80 ft CG	2/9/2006	0.90	35	1,052	19.6	7.31	7.0	56	390	98	ND<0.1	4.3	ND<0.1	57	ND<0.05	0.34	70
		8/9/2006	0.31	243	1,041	20.7	7.30	--	21	390	--	ND<0.1	15	--	61	--	0.06	--
		11/8/2006	0.40	58	914	20.4	7.70	--	ND<7	350	--	ND<0.1	13	--	73	--	0.91	--
MW-2	source	2/9/2006	0.89	-82	1,133	19.5	7.07	37	150	530	72	1.4	0.65	ND<0.1	1.5	ND<0.05	0.27	99
		8/9/2006	0.23	-117	1,112	21.7	7.00	--	160	550	--	1.5	ND<0.5	--	1.8	--	0.16	--
		11/8/2006	0.19	-73	1,064	20.5	7.21	--	150	550	--	2.7	ND<0.5	--	0.92	--	0.94	--
MW-6	145 ft DG	2/9/2006	1.01	-53	1,182	20.1	6.97	21	110	550	68	0.87	ND<0.5	ND<0.1	ND<0.5	ND<0.05	0.62	130
		8/9/2006	0.92	-165	1,194	22.4	7.90	--	83	590	--	2.4	ND<0.5	--	ND<0.5	--	0.12	--
		11/8/2006	0.36	-53	1,046	19.9	7.35	--	44	550	--	1.2	ND<0.5	--	ND<0.5	--	1.2	--
MW-9	325 ft DG	2/9/2006	1.00	-51	1,159	22.2	7.32	12	87	450	94	0.20	ND<0.5	ND<0.1	11	ND<0.05	0.59	62
		8/9/2006	1.16	-294	1,014	23.0	8.00	--	110	450	--	0.35	ND<0.5	--	5.5	--	0.06	--
		11/8/2006	0.25	-56	937	21.1	7.31	--	24	450	--	0.36	ND<0.5	--	1.4	--	2.5	--

(a) Samples collected from wells MW-4 (170 feet cross gradient [CG] of source), MW-3 (80 feet CG of source), MW-2 (source area), MW-6 (145 feet downgradient [DG] of source), and MW-9 (325 feet DG of source).
(b) Dissolved oxygen (DO), oxidation reduction potential (ORP), conductivity, temperature, and pH measured using field instruments; reported in milligrams per liter (mg/l), millivolts, micro siemens, and degrees Celsius.
(c) Total organic carbon (TOC) analyzed by EPA Method 415.1.
(d) Chemical oxygen demand (COD) analyzed by EPA Method 410.4.
(e) Alkalinity analyzed by Method SM2320B.
(f) Chloride, nitrate (NO_3), nitrite (NO_2), and sulfate (SO_4) analyzed by EPA Method 300.
(g) Ferrous Iron analyzed by Method SM3500-Fe D.
(h) Sulfide (S_2) analyzed by EPA Method 376.2
(i) Phosphorus analyzed by EPA Method 365.3.
(j) Carbon Dioxide (CO_2) analyzed by Method SM 4500C.
(k) ND - Not detected at the reporting limit indicated.

TABLE 3

GROUNDWATER MONITORING ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (µg/l)	Benzene[b] (µg/l)	Toluene[b] (µg/l)	Ethylbenzene[b] (µg/l)	Xylenes[b] (µg/l)	MTBE[b] (µg/l)	DIPE[b] (µg/l)	ETBE[b] (µg/l)	TAME[b] (µg/l)	TBA[b] (µg/l)	Methanol[b] (µg/l)	Ethanol[b] (µg/l)	1,2-DCA[b] (µg/l)	EDB[b] (µg/l)
MW-1	6/1/1993	27,000	2,200	400	ND<0.5[d]	4,900	-[e]	-	-	-	-	-	-	-	-
	6/22/1993	87,000	8,000	10,000	260	10,000	-	-	-	-	-	-	-	-	-
	10/6/1993	40,000	4,700	6,500	740	5,300	-	-	-	-	-	-	-	-	-
	1/13/1994	9,400	1,300	9,500	110	850	-	-	-	-	-	-	-	-	-
	3/30/1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4/25/1994	11,000	1,500	1,800	290	1,700	-	-	-	-	-	-	-	-	-
	8/12/1994	11,000	550	330	260	1,400	-	-	-	-	-	-	-	-	-
	12/14/1994	11,000	1,000	1,200	320	1,500	-	-	-	-	-	-	-	-	-
	2/10/1995	9,300	1,200	1,500	280	1,500	-	-	-	-	-	-	-	-	-
	6/15/1995	140	5.6	ND<0.5	ND<0.5	ND<0.5	-	-	-	-	-	-	-	-	-
	9/26/1995	410	140	ND<0.5	ND<0.5	43	-	-	-	-	-	-	-	-	-
	12/15/1995	740	250	ND<1.3	ND<1.3	87	-	-	-	-	-	-	-	-	-
	3/21/1996	ND<50	0.52	ND<0.5	ND<0.5	0.51	-	-	-	-	-	-	-	-	-
	6/13/1996	240	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-	-	-	-	-	-	-
	9/16/1996	720	70	ND<0.5	1.0	5.1	ND<5	-	-	-	-	-	-	-	-
	12/2/1996	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-	-	-	-	-
	3/7/1997	600	6.7	ND<0.5	1.2	1.8	ND<5	-	-	-	-	-	-	-	-
	6/12/1997	18,000	180	800	410	1,800	ND<5	-	-	-	-	-	-	-	-
	9/29/1997	350	120	1.5	ND<0.5	12	ND<5	-	-	-	-	-	-	-	-
	12/1/1997	ND<50	7.0	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-	-	-	-	-
	3/19/1998	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-	-	-	-	-
	5/29/1998	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-	-	-	-	-
	9/15/1998	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-	-	-	-	-
	11/30/1998	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-	-	-	-	-
	1/17/1999	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-	-	-	-	-
	6/10/1999	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-	-	-	-	-
	9/7/1999	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-	-	-	-	-
	12/13/1999	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-	-	-	-	-

TABLE 3

GROUNDWATER MONITORING ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (µg/l)	Benzene[b] (µg/l)	Toluene[b] (µg/l)	Ethylbenzene[b] (µg/l)	Xylenes[b] (µg/l)	MTBE[b] (µg/l)	DIPE[b] (µg/l)	ETBE[b] (µg/l)	TAME[b] (µg/l)	TBA[b] (µg/l)	Methanol[b] (µg/l)	Ethanol[b] (µg/l)	1,2-DCA[b] (µg/l)	EDB[b] (µg/l)
MW-1	3/13/2000	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-	-	-	-	-
(cont.)	6/12/2000	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-	-	-	-	-
	11/10/2000	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-	-	-	-	-	-
	12/31/2000	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-	-	-	-	-	-
	3/27/2001	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-	-	-	-	-	-
	6/30/2001	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-	-	-	-	-	-
	9/26/2001	90	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-	-	-	-	-	-
	12/18/2001	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-	-	-	-	-	-
	11/4/2004	4,500	2.5	5.8	79	140	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	1/12/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/2/2005	78	0.80	0.70	0.86	2.4	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<40	ND<5	ND<0.5	ND<0.5
	7/19/2005	290	ND<0.5	ND<0.5	4.0	4.1	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/21/2005	370	ND<0.5	ND<0.5	0.75	1.3	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	2/9/2006	140	ND<0.5	ND<0.5	0.67	1.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/16/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	8/9/2006	100	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/8/2006	400	ND<0.5	ND<0.5	1.7	1.9	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
MW-2	6/1/1993	170,000	20,000	21,000	3,300	18,000	-	-	-	-	-	-	-	-	-
	6/22/1993	160,000	19,000	22,000	3,500	18,000	-	-	-	-	-	-	-	-	-
	10/6/1993	110,000	17,000	17,000	3,000	15,000	-	-	-	-	-	-	-	-	-
	1/13/1994	93,000	20,000	19,000	2,300	14,000	-	-	-	-	-	-	-	-	-
	3/30/1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4/25/1994	41,000	9,600	7,300	840	7,800	-	-	-	-	-	-	-	-	-
	8/12/1994	59,000	11,000	11,000	2,300	11,000	-	-	-	-	-	-	-	-	-
	12/14/1994	63,000	13,000	13,000	2,200	12,000	-	-	-	-	-	-	-	-	-
	2/10/1995	63,000	12,000	12,000	2,200	11,000	-	-	-	-	-	-	-	-	-
	6/15/1995	61,000	11,000	12,000	1,900	11,000	-	-	-	-	-	-	-	-	-
	9/26/1995	61,000	9,400	11,000	2,300	12,000	-	-	-	-	-	-	-	-	-
	12/15/1995	48,000	8,000	8,300	2,200	12,000	-	-	-	-	-	-	-	-	-
	3/21/1996	48,000	8,000	7,700	2,400	12,000	-	-	-	-	-	-	-	-	-
	6/13/1996	33,000	7,300	8,800	1,900	12,000	ND<250	-	-	-	-	-	-	-	-

TABLE 3

GROUNDWATER MONITORING ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (µg/l)	Benzene[b] (µg/l)	Toluene[b] (µg/l)	Ethylbenzene[b] (µg/l)	Xylenes[b] (µg/l)	MTBE[b] (µg/l)	DIPE[b] (µg/l)	ETBE[b] (µg/l)	TAME[b] (µg/l)	TBA[b] (µg/l)	Methanol[b] (µg/l)	Ethanol[b] (µg/l)	1,2-DCA[b] (µg/l)	EDB[b] (µg/l)
MW-2	9/16/1996	8,600	510	640	180	1,300	ND<250	-	-	-	-	-	-	-	-
(cont.)	12/2/1996	29,000	4,400	4,000	1,300	6,100	ND<130	-	-	-	-	-	-	-	-
	3/7/1997	13,000	1,800	1,100	270	2,000	ND<250	-	-	-	-	-	-	-	-
	6/12/1997	68,000	7,800	6,600	2,300	11,000	ND<500	-	-	-	-	-	-	-	-
	9/29/1997	15,000	1,500	97	740	1,800	ND<250	-	-	-	-	-	-	-	-
	12/1/1997	13,000	900	37	860	2,400	ND<250	-	-	-	-	-	-	-	-
	3/19/1998	42,000	5,000	3,600	2,000	8,300	ND<250	-	-	-	-	-	-	-	-
	5/29/1998	68,000	5,600	4,700	2,400	11,000	ND<250	-	-	-	-	-	-	-	-
	9/15/1998	36,000	3,900	1,200	1,400	7,800	ND<250	-	-	-	-	-	-	-	-
	11/30/1998	16,000	2,200	59	1,200	1,500	ND<250	-	-	-	-	-	-	-	-
	1/17/1999	30,000	4,000	2,200	2,100	9,500	ND<250	-	-	-	-	-	-	-	-
	6/10/1999	70,000	6,300	1,800	3,600	14,000	ND<500	-	-	-	-	-	-	-	-
	9/7/1999	42,000	3,800	840	1,900	8,000	150	-	-	-	-	-	-	-	-
	12/13/1999	14,000	1,400	87	690	110	34	-	-	-	-	-	-	-	-
	3/13/2000	38,000	2,400	2,300	1,600	6,400	2,400	-	-	-	-	-	-	-	-
	6/12/2000	56,000	4,000	950	2,300	7,200	ND<50	-	-	-	-	-	-	-	-
	11/10/2000	35,000	5,100	850	1,500	3,200	230	-	-	-	-	-	-	-	-
	12/31/2000	21,000	3,200	420	1,300	1,200	440	-	-	-	-	-	-	-	-
	3/27/2001	3,500	420	64	16	280	120	-	-	-	-	-	-	-	-
	6/30/2001	1,200	88	4.5	65	37	29	-	-	-	-	-	-	-	-
	9/26/2001	53,000	8,500	1,500	2,400	4,600	270	-	-	-	-	-	-	-	-
	12/18/2001	26,000	5,400	900	1,500	2,200	430	-	-	-	-	-	-	-	-
	1/22/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3/18/2002	4,200	240	7.3	200	53	89	-	-	-	-	-	-	-	-
	6/5/2002	25,000	3,500	390	1,400	2,400	550	-	-	-	-	-	-	-	-
	8/21/2002	10,000	1,200	32	620	300	160	-	-	-	-	-	-	-	-
	12/3/2002	3,700	110	2.5	130	11	29	-	-	-	-	-	-	-	-
	3/4/2003	8,700	1,100	77	350	540	230	ND<0.5	ND<0.5	ND<10	21	ND<150	ND<5	ND<0.5	ND<0.5

TABLE 3

GROUNDWATER MONITORING ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (µg/l)	Benzene[b] (µg/l)	Toluene[b] (µg/l)	Ethylbenzene[b] (µg/l)	Xylenes[b] (µg/l)	MTBE[b] (µg/l)	DIPE[b] (µg/l)	ETBE[b] (µg/l)	TAME[b] (µg/l)	TBA[b] (µg/l)	Methanol[b] (µg/l)	Ethanol[b] (µg/l)	1,2-DCA[b] (µg/l)	EDB[b] (µg/l)
MW-2	6/10/2003	6,300	660	35	190	120	410	ND<2.5	ND<2.5	ND<5	ND<25	ND<250	ND<25	ND<2.5	ND<2.5
(cont.)	9/9/2003	6,900	500	ND<20	360	29	9,500	ND<20	ND<20	60	ND<200	ND<2,000	ND<200	ND<20	ND<20
	12/23/2003	22,000	4,900	1,300	720	2,300	1,700	ND<20	ND<20	21	ND<200	ND<2,000	ND<200	ND<20	ND<20
	3/23/2004	45,000	5,200	1,500	1,800	5,000	750	ND<20	ND<20	34	ND<200	ND<2,000	ND<200	ND<20	ND<20
	5/10/2004	7,300	1,000	51	240	290	1,800	ND<5	ND<5	14	ND<50	ND<500	ND<50	ND<5	ND<5
	8/4/2004	45,000	7,200	1,900	1,800	5,100	2,500	ND<25	ND<25	31	ND<250	ND<2,500	ND<250	ND<25	ND<25
	11/4/2004	27,000	4,400	1,100	840	2,200	3,500	ND<9	ND<9	29	ND<50	ND<900	ND<90	ND<9	ND<9
	1/12/2005	16,000	1,900	640	570	1,500	1,900	ND<4	ND<4	19	28[f]	ND<400	ND<40	ND<4	ND<4
	5/2/2005	44,000	5,200	1,100	1,800	4,800	2,200	ND<20	ND<20	30	ND<200	ND<2,000	ND<200	ND<20	ND<20
	7/20/2005	21,000	3,000	500	1,000	1,500	4,400	ND<7	ND<7	32	74[f]	ND<700	ND<70	ND<7	ND<7
	11/22/2005	33,000	4,400	880	1,200	2,600	2,200	ND<9	ND<9	19	480	ND<900	ND<90	ND<9	ND<9
	2/9/2006	25,000	3,300	720	1,300	2,200	2,500	ND<7	ND<7	27	490	ND<700	ND<70	ND<7	ND<7
	5/17/2006	22,000	3,200	240	1,200	2,100	4,600	ND<7	ND<7	46	1000	ND<700	ND<70	ND<7	ND<7
	8/9/2006	34,000	4,200	830	1,300	2,400	2,900	ND<9	ND<9	25	1600	ND<900	ND<90	ND<9	ND<9
	11/8/2006	27,000	3,600	300	1,200	1,800	1,500	ND<9	ND<9	15	1,100	ND<900	ND<90	ND<9	ND<9
MW-3	6/1/1993	270	4.6	ND<0.5	ND<0.5	1.9	-	-	-	-	-	-	-	-	-
	6/22/1993	160	8.2	ND<0.5	ND<0.5	0.72	-	-	-	-	-	-	-	-	-
	10/6/093	740	57	110	24	120	-	-	-	-	-	-	-	-	-
	1/13/1994	83	2.6	0.67	0.78	4.2	-	-	-	-	-	-	-	-	-
	3/30/1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4/25/1994	60	0.75	3.2	0.50	3.6	-	-	-	-	-	-	-	-	-
	8/12/1994	310	7.3	14	2.6	13	-	-	-	-	-	-	-	-	-
	12/14/1994	75	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-	-	-	-	-	-	-
	2/10/1995	96	1.4	ND<0.5	ND<0.5	1.8	-	-	-	-	-	-	-	-	-
	6/15/1995	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-	-	-	-	-	-	-
	9/26/1995	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-	-	-	-	-	-	-
	12/15/1995	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-	-	-	-	-	-	-
	11/4/2004	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	6.4	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	1/12/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	4.4	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/2/2005	140	ND<0.5	ND<0.5	ND<0.5	0.81	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	7/19/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.6	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5

TABLE 3

GROUNDWATER MONITORING ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (µg/l)	Benzene[b] (µg/l)	Toluene[b] (µg/l)	Ethylbenzene[b] (µg/l)	Xylenes[b] (µg/l)	MTBE[b] (µg/l)	DIPE[b] (µg/l)	ETBE[b] (µg/l)	TAME[b] (µg/l)	TBA[b] (µg/l)	Methanol[b] (µg/l)	Ethanol[b] (µg/l)	1,2-DCA[b] (µg/l)	EDB[b] (µg/l)
MW-3	11/21/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	3.4	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
(cont.)	2/9/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	2.9	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/16/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	8/9/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.4	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/8/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.71	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
MW-4	3/30/1994	120	4.2	15	2.5	26	-	-	-	-	-	-	-	-	-
	4/25/1994	65	ND<0.5	1.8	ND<0.5	2.1	-	-	-	-	-	-	-	-	-
	8/12/1994	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-	-	-	-	-	-	-
	12/14/1994	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-	-	-	-	-	-	-
	2/10/1995	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-	-	-	-	-	-	-
	6/15/1995	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-	-	-	-	-	-	-
	9/26/1995	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-	-	-	-	-	-	-
	12/15/1995	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-	-	-	-	-	-	-
	11/4/2004	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	1/12/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/2/2005	ND<50	1.8	1.1	1.4	4.4	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	7/19/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/21/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	2/9/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/16/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	8/9/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/8/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
MW-5	3/30/1994	7,500	1,300	20	ND<13	160	-	-	-	-	-	-	-	-	-
	4/25/1994	6,500	1,100	41	130	740	-	-	-	-	-	-	-	-	-
	8/12/1994	4,000	420	2.9	41	98	-	-	-	-	-	-	-	-	-
	12/14/1994	4,800	660	ND<2.5	33	13	-	-	-	-	-	-	-	-	-
	2/10/1995	5,200	490	ND<13	23	19	-	-	-	-	-	-	-	-	-
	6/15/1995	460	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-	-	-	-	-	-	-
	9/26/1995	1,400	61	ND<0.5	3.1	ND<0.5	-	-	-	-	-	-	-	-	-
	12/15/1995	2,100	77	1.5	10	1.5	-	-	-	-	-	-	-	-	-
	3/21/1996	930	35	2.0	2.0	18	-	-	-	-	-	-	-	-	-
	6/13/1996	610	38	0.72	1.9	2.0	ND<5	-	-	-	-	-	-	-	-
	9/16/1996	380	29	ND<0.5	0.95	ND<0.5	ND<5	-	-	-	-	-	-	-	-
	12/2/1996	200	1.1	0.64	ND<0.5	ND<0.5	ND<5	-	-	-	-	-	-	-	-

TABLE 3

GROUNDWATER MONITORING ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (µg/l)	Benzene[b] (µg/l)	Toluene[b] (µg/l)	Ethylbenzene[b] (µg/l)	Xylenes[b] (µg/l)	MTBE[b] (µg/l)	DIPE[b] (µg/l)	ETBE[b] (µg/l)	TAME[b] (µg/l)	TBA[b] (µg/l)	Methanol[b] (µg/l)	Ethanol[b] (µg/l)	1,2-DCA[b] (µg/l)	EDB[b] (µg/l)
MW-5	3/7/1997	520	74	ND<0.5	0.58	1.5	ND<5	-	-	-	-	-	-	-	-
(cont.)	6/12/1997	140	5.3	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-	-	-	-	-
	9/29/1997	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-	-	-	-	-
	12/1/1997	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-	-	-	-	-
	3/19/1998	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-	-	-	-	-
	5/29/1998	540	4.1	ND<0.5	ND<0.5	0.52	ND<5	-	-	-	-	-	-	-	-
	9/15/1998	67	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-	-	-	-	-
	11/30/1998	430	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-	-	-	-	-
	1/17/1999	500	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-	-	-	-	-
	6/10/1999	66	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-	-	-	-	-
	9/7/1999	820	46	1.7	10	21	ND<5	-	-	-	-	-	-	-	-
	12/13/1999	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-	-	-	-	-
	3/13/2000	270	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-	-	-	-	-
	6/12/2000	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-	-	-	-	-
	11/10/2000	2,200	42	1.1	25	30	8.6	-	-	-	-	-	-	-	-
	12/31/2000	1,300	21	ND<0.5	4.3	2.6	10	-	-	-	-	-	-	-	-
	3/27/2001	1,200	11	ND<0.5	2.6	ND<0.5	21	-	-	-	-	-	-	-	-
	6/30/2001	1,400	4.8	ND<0.5	1.5	0.56	14	-	-	-	-	-	-	-	-
	9/26/2001	660	ND<0.5	ND<0.5	ND<0.5	ND<0.5	3.0	-	-	-	-	-	-	-	-
	12/18/2001	240	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-	-	-	-	-	-
	1/22/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3/18/2002	890	0.65	ND<0.5	ND<0.5	ND<0.5	3.1	-	-	-	-	-	-	-	-
	6/5/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8/21/2002	2,100	20	ND<0.5	63	4	7	-	-	-	-	-	-	-	-
	12/3/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3/4/2003	490	10	ND<0.5	2.2	ND<0.5	1.0	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	6/10/2003	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	9/9/2003	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5

TABLE 3

GROUNDWATER MONITORING ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (µg/l)	Benzene[b] (µg/l)	Toluene[b] (µg/l)	Ethylbenzene[b] (µg/l)	Xylenes[b] (µg/l)	MTBE[b] (µg/l)	DIPE[b] (µg/l)	ETBE[b] (µg/l)	TAME[b] (µg/l)	TBA[b] (µg/l)	Methanol[b] (µg/l)	Ethanol[b] (µg/l)	1,2-DCA[b] (µg/l)	EDB[b] (µg/l)
MW-5	12/23/2003	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(cont.)	3/23/2004	440	2.3	ND<0.5	1.0	5.9	2.4	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/10/2004	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8/4/2004	160	ND<0.5	ND<0.5	ND<0.5	0.71	0.94	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/4/2004	290	0.74	ND<0.5	0.58	1.3	0.61	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	1/12/2005	300	ND<0.5	ND<0.5	0.51	1.6	0.73	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/2/2005	120	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	7/20/2005	330	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.1	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/21/2005	210	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.2	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	2/9/2006	ND<50	ND<0.5	ND<0.5	0.63	1.0	1.0	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/16/2006	140	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.79	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	8/9/2006	220	ND<0.5	ND<0.5	ND<0.5	ND<0.5	7.8	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/8/2006	120	ND<0.5	ND<0.5	ND<0.5	ND<0.5	2.4	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
MW-6	3/30/1994	63,000	21,000	8,600	1,700	12,000	-	-	-	-	-	-	-	-	-
	4/25/1994	77,000	22,000	12,000	2,300	16,000	-	-	-	-	-	-	-	-	-
	8/12/1994	65,000	12,000	8,100	2,200	16,000	-	-	-	-	-	-	-	-	-
	12/14/1994	65,000	18,000	9,500	2,200	14,000	-	-	-	-	-	-	-	-	-
	2/10/1995	63,000	21,000	8,400	2,000	14,000	-	-	-	-	-	-	-	-	-
	6/15/1995	75,000	20,000	11,000	2,100	15,000	-	-	-	-	-	-	-	-	-
	9/26/1995	62,000	15,000	9,600	1,700	12,000	-	-	-	-	-	-	-	-	-
	12/15/1995	61,000	15,000	9,000	2,300	15,000	-	-	-	-	-	-	-	-	-
	3/21/1996	65,000	18,000	9,800	2,400	16,000	-	-	-	-	-	-	-	-	-
	6/13/1996	29,000	8,600	3,300	2,200	12,000	ND<250	-	-	-	-	-	-	-	-
	9/16/1996	42,000	6,400	1,800	2,100	11,000	ND<250	-	-	-	-	-	-	-	-
	12/2/1996	28,000	3,000	1,100	970	8,300	ND<500	-	-	-	-	-	-	-	-
	3/7/1997	12,000	2,000	190	520	2,300	ND<250	-	-	-	-	-	-	-	-
	6/12/1997	37,000	3,900	470	1,600	6,200	ND<100	-	-	-	-	-	-	-	-
	9/29/1997	34,000	3,500	370	1,600	5,200	ND<100	-	-	-	-	-	-	-	-
	12/1/1997	20,000	2,100	ND<10	1,200	2,200	ND<100	-	-	-	-	-	-	-	-
	3/19/1998	24,000	2,900	460	1,100	3,400	ND<100	-	-	-	-	-	-	-	-
	5/29/1998	38,000	3,500	700	1,800	5,200	ND<100	-	-	-	-	-	-	-	-

TABLE 3

GROUNDWATER MONITORING ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (µg/l)	Benzene[b] (µg/l)	Toluene[b] (µg/l)	Ethylbenzene[b] (µg/l)	Xylenes[b] (µg/l)	MTBE[b] (µg/l)	DIPE[b] (µg/l)	ETBE[b] (µg/l)	TAME[b] (µg/l)	TBA[b] (µg/l)	Methanol[b] (µg/l)	Ethanol[b] (µg/l)	1,2-DCA[b] (µg/l)	EDB[b] (µg/l)
MW-6	9/15/1998	22,000	1,900	110	1,400	3,000	ND<100	-	-	-	-	-	-	-	-
(cont.)	11/30/1998	9,900	770	16	820	710	ND<100	-	-	-	-	-	-	-	-
	1/17/1999	14,000	2,200	160	1,700	3,600	ND<100	-	-	-	-	-	-	-	-
	6/10/1999	22,000	1,600	160	1,400	2,900	5.5	-	-	-	-	-	-	-	-
	9/7/1999	17,000	1,400	33	1,300	1,800	ND<50	-	-	-	-	-	-	-	-
	12/13/1999	16,000	790	9.2	840	780	ND<25	-	-	-	-	-	-	-	-
	3/13/2000	16,000	790	85	780	1,600	ND<25	-	-	-	-	-	-	-	-
	6/12/2000	24,000	1,100	150	1,300	2,300	5,600	-	-	-	-	-	-	-	-
	11/10/2000	13,000	440	7	760	350	1,000	-	-	-	-	-	-	-	-
	12/31/2000	12,000	680	8	820	190	1,400	-	-	-	-	-	-	-	-
	3/27/2001	14,000	330	17	940	670	380	-	-	-	-	-	-	-	-
	6/30/2001	750	45	0.93	47	14	54	-	-	-	-	-	-	-	-
	9/26/2001	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12/18/2001	43,000	3,800	350	1,900	3,000	900	-	-	-	-	-	-	-	-
	1/22/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3/18/2002	33,000	2,600	120	1,800	2,800	740	-	-	-	-	-	-	-	-
	6/5/2002	10,000	1,100	16	700	180	600	-	-	-	-	-	-	-	-
	8/21/2002	10,000	1,200	23	710	290	370	-	-	-	-	-	-	-	-
	12/3/2002	16,000	1,700	63	970	630	1,500	-	-	-	-	-	-	-	-
	3/4/2003	16,000	1,700	25	1,200	40	7,700	ND<20	ND<20	ND<70	ND<200	ND<2,000	ND<200	ND<20	ND<20
	6/10/2003	9,500	860	15	380	47	2,600	ND<5	ND<5	18	ND<50	ND<500	ND<50	ND<5	ND<5
	9/9/2003	11,000	1,000	16	630	120	2,500	ND<5	ND<5	20	52	ND<500	ND<50	ND<5	ND<5
	12/23/2003	18,000	2,100	41	1,100	390	4,900	ND<10	ND<10	42	ND<100	ND<1,000	ND<100	ND<10	ND<10
	3/23/2004	24,000	1,400	71	1,500	2,000	7,500	ND<20	ND<20	66	ND<200	ND<2,000	ND<200	ND<20	ND<20
	5/10/2004	6,500	550	<10	71	43	3,700	ND<10	ND<10	31	ND<100	ND<1,000	ND<100	ND<10	ND<10
	8/4/2004	8,200	990	19	300	120	3,300	ND<5	ND<5	23	ND<50	ND<500	ND<50	ND<5	ND<5
	11/4/2004	9,600	1,100	30	320	160	2,200	ND<4	ND<4	18	22[f]	ND<400	ND<40	ND<4	ND<4
	1/12/2005	12,000	1,100	34	600	500	3,600	ND<4	ND<4	31	30[f]	ND<400	ND<40	ND<4	ND<4

TABLE 3

GROUNDWATER MONITORING ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (µg/l)	Benzene[b] (µg/l)	Toluene[b] (µg/l)	Ethylbenzene[b] (µg/l)	Xylenes[b] (µg/l)	MTBE[b] (µg/l)	DIPE[b] (µg/l)	ETBE[b] (µg/l)	TAME[b] (µg/l)	TBA[b] (µg/l)	Methanol[b] (µg/l)	Ethanol[b] (µg/l)	1,2-DCA[b] (µg/l)	EDB[b] (µg/l)
MW-6	5/2/2005	14,000	630	22	610	920	4,000	ND<10	ND<10	32	120[f]	ND<3,000	ND<100	ND<10	ND<10
(cont.)	7/20/2005	9,800	1,200	21	340	150	1,800	ND<2.5	ND<2.5	14	140	ND<500	ND<25	ND<2.5	ND<2.5
	11/21/2005	6,600	150	26	580	640	100	ND<1	ND<1	ND<1	13	ND<100	ND<10	ND<1	ND<1
	2/9/2006	7,100	340	11	370	360	910	ND<2	ND<2	9.3	120	ND<200	ND<20	ND<2	ND<2
	5/17/2006	7,100	270	5.1	320	290	930	ND<2	ND<2	8.4	260	ND<200	ND<20	ND<2	ND<2
	8/9/2006	5,800	440	7.5	120	45	670	ND<2	ND<2	7.3	380	ND<2,000	ND<50	ND<2	ND<2
	11/8/2006	9,200	990	37	390	140	310	ND<2	ND<2	3.2	110	ND<200	ND<20	ND<2	ND<2
MW-7	3/30/1994	43,000	7,200	2,400	1,600	11,000	-	-	-	-	-	-	-	-	-
	4/25/1994	30,000	3,900	1,000	940	6,900	-	-	-	-	-	-	-	-	-
	8/12/1994	30,000	3,800	1,400	1,300	7,500	-	-	-	-	-	-	-	-	-
	12/14/1994	31,000	3,600	1,200	900	6,400	-	-	-	-	-	-	-	-	-
	2/10/1995	27,000	4,000	900	890	5,100	-	-	-	-	-	-	-	-	-
	6/15/1995	17,000	920	680	740	4,100	-	-	-	-	-	-	-	-	-
	9/26/1995	7,000	200	150	170	810	-	-	-	-	-	-	-	-	-
	12/15/1995	11,000	350	170	540	1,900	-	-	-	-	-	-	-	-	-
	3/21/1996	12,000	320	100	730	2,500	-	-	-	-	-	-	-	-	-
	6/13/1996	5,900	98	19	370	620	ND<50	-	-	-	-	-	-	-	-
	9/16/1996	7,800	140	43	440	590	ND<25	-	-	-	-	-	-	-	-
	12/2/1996	6,300	87	29	290	430	ND<50	-	-	-	-	-	-	-	-
	3/7/1997	4,500	35	19	360	470	ND<25	-	-	-	-	-	-	-	-
	6/12/1997	3,900	29	5.2	170	48	ND<5	-	-	-	-	-	-	-	-
	9/29/1997	6,100	56	9	340	190	ND<25	-	-	-	-	-	-	-	-
	12/1/1997	6,500	24	ND<2.5	400	250	ND<25	-	-	-	-	-	-	-	-
	3/19/1998	2,000	20	ND<2.5	73	79	ND<25	-	-	-	-	-	-	-	-
	5/29/1998	5,700	22	7.3	290	350	ND<25	-	-	-	-	-	-	-	-
	9/15/1998	1,700	15	ND<2.5	44	5.1	ND<25	-	-	-	-	-	-	-	-
	11/30/1998	4,800	42	12	270	640	ND<25	-	-	-	-	-	-	-	-
	1/17/1999	3,400	33	ND<5	200	190	ND<50	-	-	-	-	-	-	-	-
	6/10/1999	1,700	7.8	1.5	23	4.1	ND<5	-	-	-	-	-	-	-	-
	9/7/1999	1,900	9.7	2.1	70	2.9	ND<5	-	-	-	-	-	-	-	-
	12/13/1999	1,900	8.0	1.1	10	1.1	ND<5	-	-	-	-	-	-	-	-

TABLE 3

GROUNDWATER MONITORING ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (µg/l)	Benzene[b] (µg/l)	Toluene[b] (µg/l)	Ethylbenzene[b] (µg/l)	Xylenes[b] (µg/l)	MTBE[b] (µg/l)	DIPE[b] (µg/l)	ETBE[b] (µg/l)	TAME[b] (µg/l)	TBA[b] (µg/l)	Methanol[b] (µg/l)	Ethanol[b] (µg/l)	1,2-DCA[b] (µg/l)	EDB[b] (µg/l)
MW-7	3/13/2000	1,500	7.5	ND<0.5	6.7	2.9	ND<5	-	-	-	-	-	-	-	-
(cont.)	6/12/2000	1,200	5.4	ND<0.5	5.2	1.0	ND<5	-	-	-	-	-	-	-	-
	11/10/2000	1,000	3.9	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-	-	-	-	-	-
	12/31/2000	620	1.8	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-	-	-	-	-	-
	3/27/2001	1,200	4.8	ND<0.5	6.7	0.94	ND<0.5	-	-	-	-	-	-	-	-
	6/30/2001	2,800	10	1.7	75	170	ND<0.5	-	-	-	-	-	-	-	-
	9/26/2001	1,900	16	0.89	2.3	25	ND<0.5	-	-	-	-	-	-	-	-
	12/18/2001	3,000	13	0.88	3.4	3.4	ND<0.5	-	-	-	-	-	-	-	-
	1/22/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3/18/2002	3,100	7.3	1.5	38	110	ND<0.5	-	-	-	-	-	-	-	-
	6/5/2002	1,800	7.6	1.0	39	20	ND<0.5	-	-	-	-	-	-	-	-
	8/21/2002	3,300	7.6	0.7	85	36	ND<0.5	-	-	-	-	-	-	-	-
	12/3/2002	1,700	5.4	ND<0.5	15	5.5	ND<0.5	-	-	-	-	-	-	-	-
	3/4/2003	440	1.8	ND<0.5	0.54	2.9	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	6/10/2003	550	0.8	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	9/9/2003	120	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	12/23/2003	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	3/23/2004	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/10/2004	67	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	8/4/2004	2,600	2.5	ND<0.5	36	31	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/4/2004	1,600	2.0	ND<0.5	16	16	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	1/12/2005	830	1.6	ND<0.5	15	12	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/2/2005	710	ND<0.5	ND<0.5	0.75	0.52	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	7/20/2005	1,400	1.1	ND<0.5	9.2	8.6	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/21/2005	1,100	0.6	ND<0.5	3.4	23	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	2/9/2006	270	ND<0.5	ND<0.5	1.2	0.98	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/16/2006	930	0.84	ND<0.5	10	7.9	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	8/9/2006	650	ND<0.5	ND<0.5	1.2	1.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/8/2006	800	ND<0.5	ND<0.5	1.0	0.62	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5

TABLE 3

GROUNDWATER MONITORING ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (µg/l)	Benzene[b] (µg/l)	Toluene[b] (µg/l)	Ethylbenzene[b] (µg/l)	Xylenes[b] (µg/l)	MTBE[b] (µg/l)	DIPE[b] (µg/l)	ETBE[b] (µg/l)	TAME[b] (µg/l)	TBA[b] (µg/l)	Methanol[b] (µg/l)	Ethanol[b] (µg/l)	1,2-DCA[b] (µg/l)	EDB[b] (µg/l)
MW-8	9/5/2003	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-
	12/23/2003	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	7.3	ND<0.5	ND<0.5
	3/23/2004	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/10/2004	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	8/4/2004	ND<50	ND<0.5	ND<0.5	ND<0.5	0.86	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/4/2004	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	1/12/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/2/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	7/19/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/21/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	2/9/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.57	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/16/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	8/9/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/8/2006	ND<50	1.2	1.9	ND<0.5	0.66	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
MW-9	9/5/2003	3,400	23	1.5	110	10	10	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-
	12/23/2003	1,100	2.4	ND<0.5	0.8	0.8	2.1	ND<0.5	ND<0.5	ND<0.5	5.9	ND<50	ND<5	ND<0.5	ND<0.5
	3/23/2004	760	8.5	ND<0.5	4.9	0.95	18	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/10/2004	1,100	4.4	ND<0.5	1.3	0.67	11	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	8/4/2004	1,200	3.4	0.59	16	7.6	6.1	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/4/2004	610	0.52	ND<0.5	1.3	ND<0.5	2.0	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	1/12/2005	1,400	1.6	0.55	5.5	1.1	2.4	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/2/2005	1,500	10	0.55	6.7	1.1	27	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	7/20/2005	1,800	5.5	0.69	12	1.6	10	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/21/2005	1,200	0.94	ND<0.5	1.4	ND<0.5	3.3	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	2/9/2006	1,200	2.8	0.51	6.4	0.84	4.4	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/16/2006	1,600	3.8	0.57	12	1.8	4.9	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	8/9/2006	760	ND<0.5	ND<0.5	1.0	ND<0.5	2.6	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/8/2006	1,700	1.7	0.53	6.7	1.4	1.7	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
MW-10	9/5/2003	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	-	-	-	-
	12/23/2003	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	3/23/2004	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/10/2004	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	8/4/2004	ND<50	ND<0.5	ND<0.5	ND<0.5	0.61	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/4/2004	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5

TABLE 3

GROUNDWATER MONITORING ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (µg/l)	Benzene[b] (µg/l)	Toluene[b] (µg/l)	Ethylbenzene[b] (µg/l)	Xylenes[b] (µg/l)	MTBE[b] (µg/l)	DIPE[b] (µg/l)	ETBE[b] (µg/l)	TAME[b] (µg/l)	TBA[b] (µg/l)	Methanol[b] (µg/l)	Ethanol[b] (µg/l)	1,2-DCA[b] (µg/l)	EDB[b] (µg/l)
MW-10	1/12/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
(cont.)	5/2/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	7/19/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/21/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	2/9/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/16/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	8/9/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/8/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
VW-2	8/4/2004	5,700	480	ND<20	600	ND<20	12,000	ND<20	ND<20	110	ND<90	ND<2,000	ND<200	ND<20	ND<20
	11/4/2004	5,800	340	ND<20	38	ND<20	10,000	ND<20	ND<20	120	ND<90	ND<2,000	ND<200	ND<20	ND<20
	1/12/2005	3,800	210	ND<5	90	54	2,900	ND<5	ND<5	33	26[f]	ND<500	ND<50	ND<5	ND<5
	5/2/2005	2,600	84	ND<2	13	7.0	960	ND<2	ND<2	12	57	ND<500	ND<20	ND<2	ND<2
	7/20/2005	6,200	240	13	290	480	6,600	ND<2	ND<2	56	59[f]	ND<2,000	ND<20	ND<2	ND<2
	11/21/2005	3,100	100	ND<9	22	10	5,300	ND<9	ND<9	54	76[f]	ND<900	ND<90	ND<9	ND<9
	2/9/2006	3,500	140	ND<25	130	36	12,000	ND<25	ND<25	65	2800	ND<2,500	ND<250	ND<25	ND<25
	5/17/2006	1,800	90	2.6	39	11	1,200	ND<2.5	ND<2.5	12	700	ND<250	ND<25	ND<2.5	ND<2.5
	8/9/2006	4,300	86	3.5	200	16	2,500	ND<2.5	ND<2.5	28	2800	ND<5,000	ND<25	ND<2.5	ND<2.5
	11/8/2006	3,200	46	3.1	10	4.8	1,500	ND<3	ND<3	11	7,100	ND<800	ND<30	ND<3	ND<3
VW-3	8/4/2004	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/4/2004	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	1/12/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/2/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	7/20/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/21/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	2/9/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/16/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	8/9/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	8/9/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
TP-1	7/20/2005	42,000	2,800	1,100	1,700	4,800	12,000	ND<20	ND<20	92	130[f]	ND<2,000	ND<200	ND<20	ND<20
	11/22/2005	36,000	2,100	290	1,400	2,600	11,000	ND<20	ND<20	70	810	ND<2,000	ND<200	ND<20	ND<20
	2/9/2006	19,000	1,400	230	990	1,700	8,900	ND<15	ND<15	72	2,200	ND<1,500	ND<150	ND<15	ND<15
	5/17/2006	20,000	1,400	200	920	1,800	9,200	ND<20	ND<20	37	2,500	ND<10,000	ND<200	ND<20	ND<20
	8/9/2006	28,000	1,600	150	1,200	2,200	13,000	ND<15	ND<15	84	4,900	ND<2,500	ND<150	ND<15	ND<15
	11/8/2006	20,000	1100	78	990	1,600	6,800	ND<15	ND<15	47	4,400	ND<8,000	ND<150	ND<15	ND<15

TABLE 3

GROUNDWATER MONITORING ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (µg/l)	Benzene[b] (µg/l)	Toluene[b] (µg/l)	Ethylbenzene[b] (µg/l)	Xylenes[b] (µg/l)	MTBE[b] (µg/l)	DIPE[b] (µg/l)	ETBE[b] (µg/l)	TAME[b] (µg/l)	TBA[b] (µg/l)	Methanol[b] (µg/l)	Ethanol[b] (µg/l)	1,2-DCA[b] (µg/l)	EDB[b] (µg/l)
TP-2	7/20/2005	26,000	1800	1100	1100	2,500	63,000	ND<150	ND<150	400	ND<700	ND<15,000	ND<1,500	ND<150	ND<150
	11/22/2005	16,000	1,200	140	840	820	52,000	ND<90	ND<90	340	1,200[f]	ND<9,000	ND<900	ND<90	ND<90
	2/9/2006	2,700	94	2.9	28	14	1,200	ND<2.5	ND<2.5	13	1,600	ND<250	ND<25	ND<2.5	ND<2.5
	5/17/2006	31,000	2,200	1,100	1,500	3,300	87,000	ND<90	ND<90	680	4,800	ND<15,000	ND<1,500	ND<90	ND<90
	8/9/2006	14,000	1,400	86	1,200	830	56,000	ND<2.5	ND<2.5	350	2,800	ND<4,000	ND<25	ND<2.5	ND<2.5
	11/8/2006	16,000	1,300	ND<90	930	370	38,000	ND<90	ND<90	280	3,600	ND<40,000	ND<900	ND<90	ND<90
MW-A	1/17/1999	5,800	1,700	85	65	320	ND<5	-	-	-	-	-	-	-	-
MW-B	1/17/1999	4,400	240	30	21	39	ND<5	-	-	-	-	-	-	-	-
MW-C	1/17/1999	1800	0.8	ND<0.5	ND<0.5	0.55	ND<5	-	-	-	-	-	-	-	-
MW-D	1/17/1999	5,600	1,600	130	66	220	ND<5	-	-	-	-	-	-	-	-
MW-E	1/17/1999	5,700	1,600	180	180	310	ND<50	-	-	-	-	-	-	-	-
	6/10/1999	5,000	1,300	130	320	450	ND<25	-	-	-	-	-	-	-	-
MW-W	1/17/1999	23,000	7,600	760	1,400	5,000	ND<50	-	-	-	-	-	-	-	-
	6/10/1999	16,000	4,100	420	1,300	4,000	ND<50	-	-	-	-	-	-	-	-

(a) Samples collected before July 2005 collected by others; data provided by Delta Environmental Consultants, Inc., Second Quarter 2005 Groundwater Monitoring Report dated 31 July 2005.

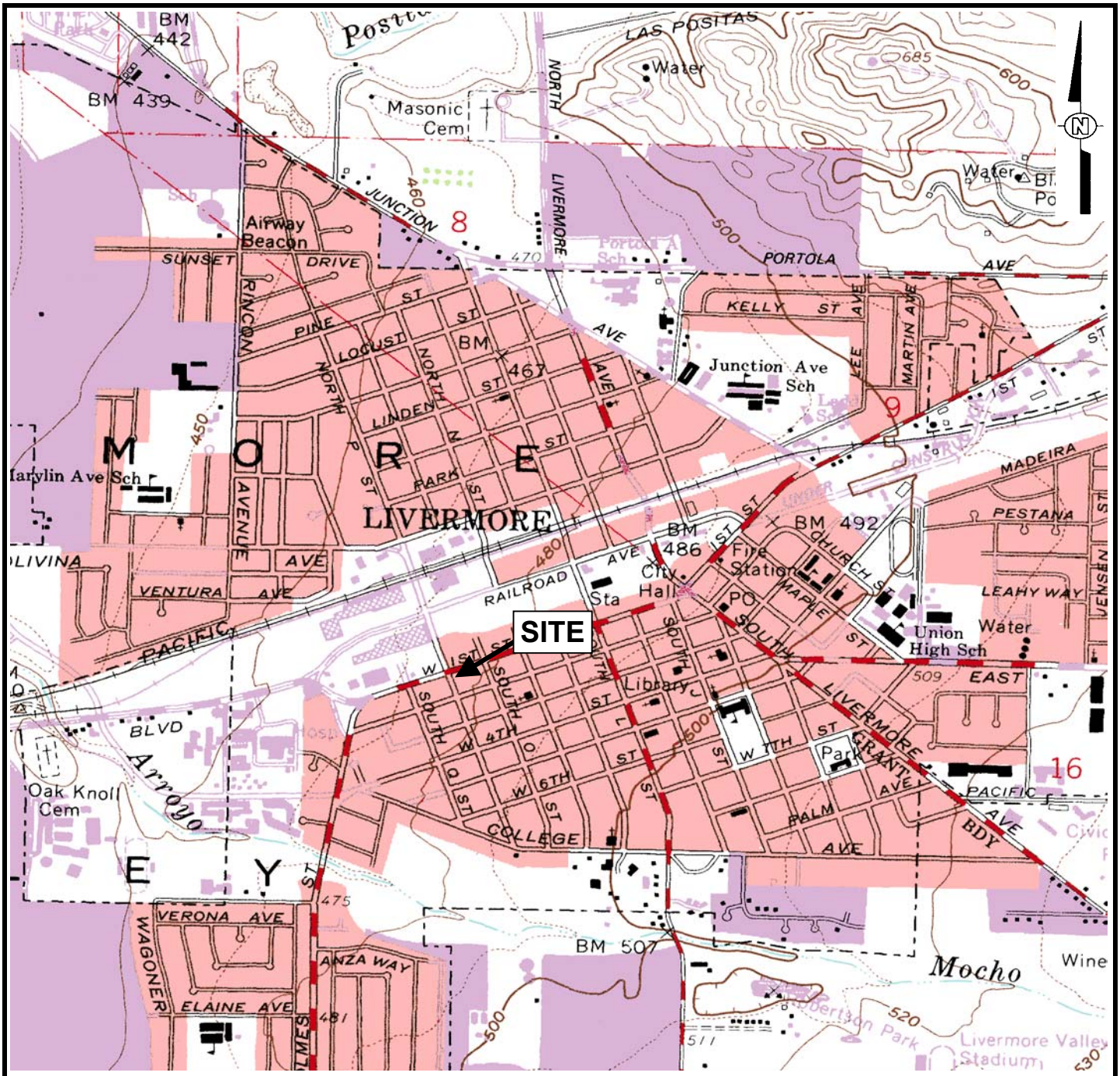
(b) Total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene, xylenes, methyl tert-butyl ether (MTBE), di-isopropyl ether (DIPE), ethyl tert-butyl ether (ETBE), tert-amyl methyl ether (TAME), tert-butyl alcohol (TBA), 1,2-dichloroethane (1,2-DCA), and 1,2-dibromoethane (EDB) analyzed by EPA Method 8260; reported in micrograms per liter (µg/l).

(c) Field measurement, reported in milligrams per liter (mg/l).

(d) ND - Not detected at the reporting limit listed.

(e) "-" Not analyzed.

(f) TBA results may be biased slightly high. A fraction of MTBE (typically less than 10 percent) converts to TBA during the analysis of water samples. This conversion effect is considered to be mathematically significant in samples that contain MTBE/TBA ratios of over 20:1.



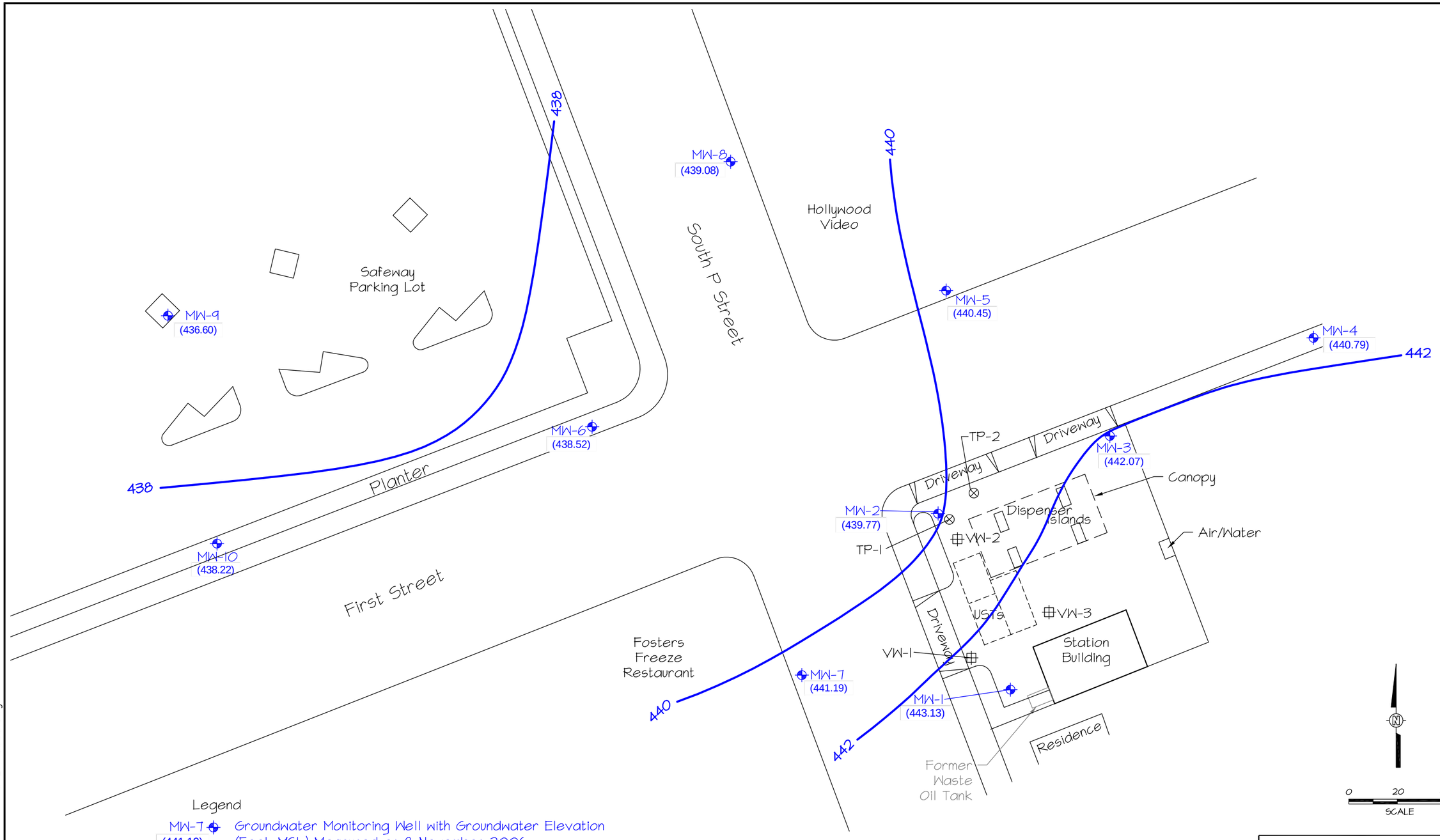
SCALE

0 2000 4000 FEET

REFERENCE

7.5 MINUTE USGS TOPOGRAPHIC MAP OF
LIVERMORE, CALIFORNIA QUADRANGLE
DATE: 1961, PHOTOREVISED 1980
SCALE = 1:24,000

ARCTOS ENVIRONMENTAL			
TESORO - LIVERMORE			
SITE LOCATION MAP			
PROJECT NO. 01LV	DRAWN BY MP	CHECKED BY MP	APPROVED BY JG
FILE NO. Site Map.xls		FIGURE 1	



Legend

- MW-7 (441.19) — Groundwater Monitoring Well with Groundwater Elevation (Feet, MSL) Measured on 8 November 2006
- VW-2 — Vapor Extraction Well
- TP-2 — Temporary Monitoring Well
- 440 — Groundwater Elevation Contour (Dashed Where Inferred)

REVISION	NO.	BY	DATE	DESCRIPTION
5	0	MY	8/24/05	Third Quarter 2005 Monitoring Report
	1	MY	12/15/05	Fourth Quarter 2005 Monitoring Report
	2	MY	4/28/06	Investigation Report
	3	MY	7/15/06	Second Quarter 2006 Monitoring Report
	4	MY	12/15/06	Third Quarter 2006 Monitoring Report
	5	MY	3/13/07	Fourth Quarter 2006 Monitoring Report

ARCTOS ENVIRONMENTAL

TESORO - LIVERMORE

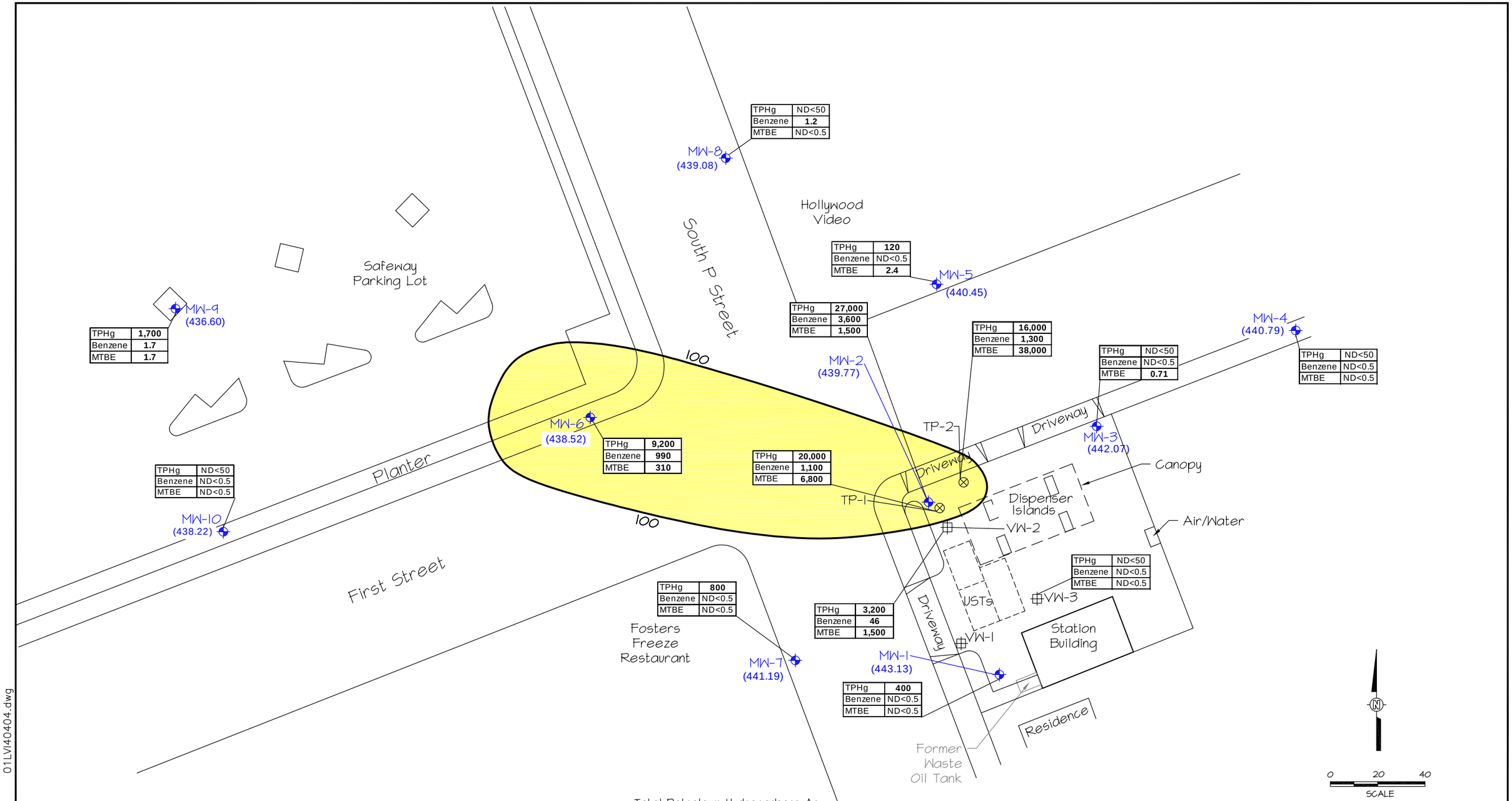
GROUNDWATER ELEVATION CONTOURS

PROJECT NO.	DRAWN BY	CHECKED BY	APPROVED BY
01LV	MY	MP	JPG

FILE NO. 01LV140605.DWG

FIGURE 2

01LV140605.dwg 3/13/2007 11:15AM



Legend

MW-7 (441.19) ⊕ Groundwater Monitoring Well with Groundwater Elevation (Feet, MSL) and 8 November 2006 Results

VW-2 ⊞ Vapor Extraction Well

TP-2 ⊗ Temporary Monitoring Well

ND Not Detected at Reporting Limit Listed

TPHg 400
Benzene ND<0.5
MTBE ND<0.5

- Total Petroleum Hydrocarbons As Gasoline (THPg) (µg/l)
- Benzene (µg/l)
- Methyl Tert-Butyl Ether (MTBE) (µg/l)

100 — Benzene Concentration Contour (µg/l)

REVISION	NO.	BY	DATE	DESCRIPTION
4	0	MY	8/24/05	Third Quarter 2005 Monitoring Report
	1	MY	12/15/05	Fourth Quarter 2005 Monitoring Report
	2	MY	4/28/06	Investigation Report
	3	MY	7/15/06	Second Quarter 2006 Monitoring Report
	4	MY	12/5/06	Fourth Quarter 2006 Monitoring Report

ARCTOS ENVIRONMENTAL

TESORO - LIVERMORE

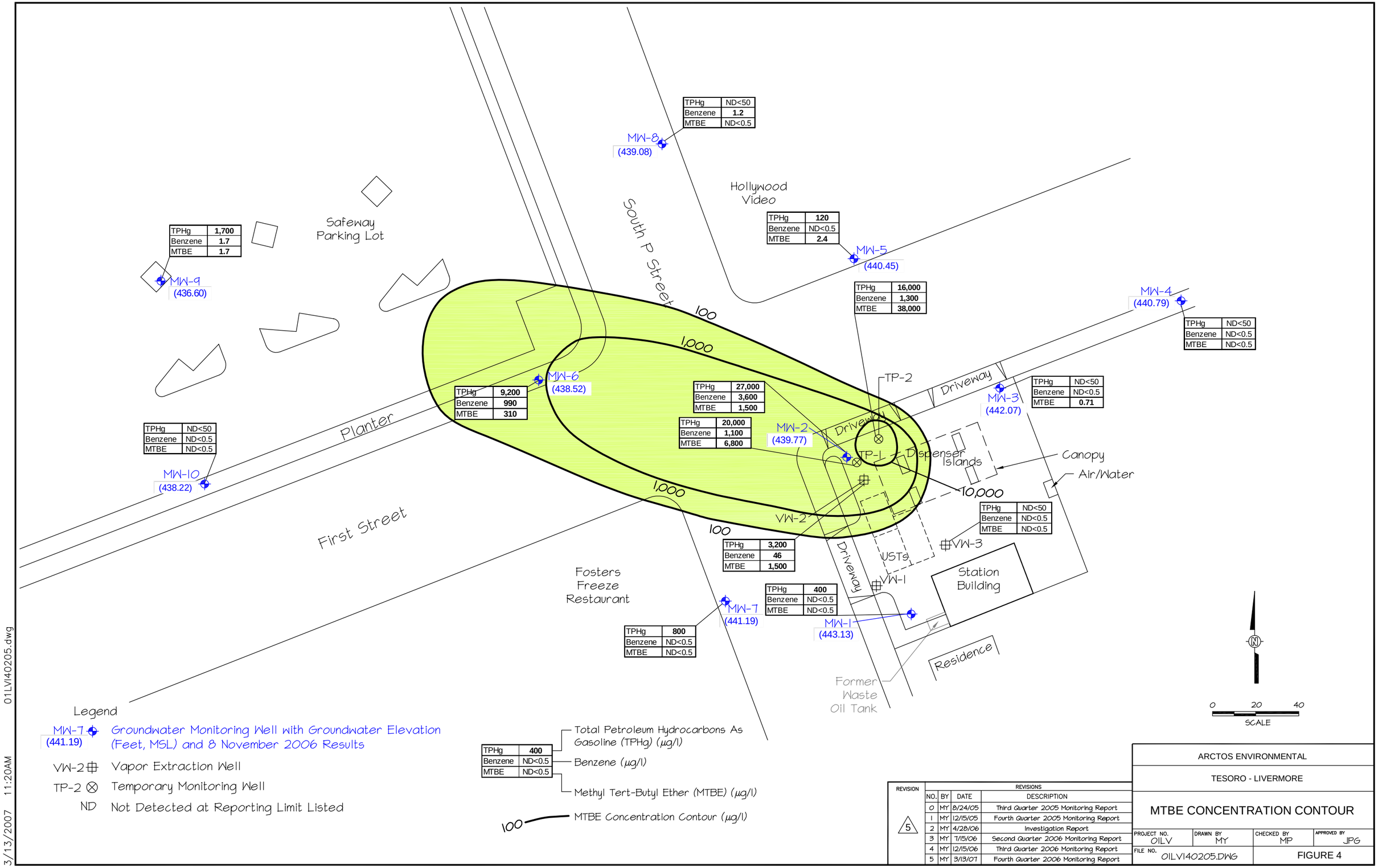
BENZENE CONCENTRATION CONTOURS

PROJECT NO.	DRAWN BY	CHECKED BY	APPROVED BY
01LV	MY	MP	JPG

FILE NO. 01LVI40404.DWG

FIGURE 3

01LVI40404.dwg 12/11/2006 4:35PM



REVISION	NO.	BY	DATE	DESCRIPTION
5	0	MY	8/24/05	Third Quarter 2005 Monitoring Report
	1	MY	12/15/05	Fourth Quarter 2005 Monitoring Report
	2	MY	4/28/06	Investigation Report
	3	MY	7/15/06	Second Quarter 2006 Monitoring Report
	4	MY	12/15/06	Third Quarter 2006 Monitoring Report
	5	MY	3/13/07	Fourth Quarter 2006 Monitoring Report

ARCTOS ENVIRONMENTAL

TESORO - LIVERMORE

MTBE CONCENTRATION CONTOUR

PROJECT NO.	DRAWN BY	CHECKED BY	APPROVED BY
01LV	MY	MP	JPG

FILE NO. 01LV140205.DWG

FIGURE 4

3/13/2007 11:20AM 01LV140205.dwg

APPENDIX A

FIELD DATA SHEETS

WELLHEAD INSPECTION CHECKLIST

Date 11/8/06 Client Arcteas

Site Address 1619 1st St., Livermore

Job Number 061108-PC1 Technician P. Cornish

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Debris Removed From Wellbox	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)
MW-1							X	
MW-2		X					X	
MW-3							X	
MW-4							X	
MW-5							X	
MW-6							A	
MW-7							A	
MW-8							X	
MW-9	X							
MW-10							X	
~~MW-2~~ VW-2	X							
VW-3	X						~~X~~ RL	
TP-1	X							
TP-2	~~X~~ RL						X	

NOTES: MW-4, MW-1, MW-2, MW-7 - 2/2 bolts missing | MW-6 2/2 tabs stripped

MW-8 2/2 bolts missing; 2/2 tabs missing | TP-2 1/2 " "

MW-10 1/2 " "

MW-5 1/2 tabs stripped

MW-3 2/2 " "

~~RL~~ RL

WELL GAUGING DATA

Project # 060108-PC1 Date 11/8/06 Client Actos

Site 1619 1st St., Livermore

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
MW-1	815	4					31.16	54.02	TOC	
MW-2	828	4					33.21	54.02		
MW-3	824	4					31.30	52.92		
MW-4	820	2					32.85	46.80		
MW-5	854	2					32.22	46.30		
MW-6	848	2					33.41	47.72		
MW-7	930	2					31.14	46.15		
MW-8	902	2					32.10	~~44.38~~		
MW-9	845	2					34.18	44.80		
MW-10	843	2					33.41	45.14		
VW-2	829	2					33.52	36.80		NP
VW-3	912	2					31.62	36.31		NP
TP-1	832	2					32.02	43.30		
TP-2	835	2					32.80	~~42.19~~ 42.19		

WELL MONITORING DATA SHEET

Project #: 061108-PC1	Client: Arcadis Env.
Sampler: PC	Date: 11/8/06
Well I.D.: MW-1	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 54.02	Depth to Water (DTW): 31.16
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 35.73	

Purge Method: Bailer; Disposable Bailer; (Positive Air Displacement); Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other ____

Sampling Method: Bailer; (Disposable Bailer); Extraction Port; Dedicated Tubing; Other: ____

~~3.7~~ 14.9 (Gals.) X 3 = 44.7 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius^2 * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1135	19.6	7.61	851	539	15	brown
1138	19.9	7.42	992	870	30	↓
1141	20.0	7.41	971	>1000	45	silty

Did well dewater? Yes (No) Gallons actually evacuated: 45

Sampling Date: 11/8/06 Sampling Time: 1200 Depth to Water: 35.22

Sample I.D.: MW-1 Laboratory: (Kiff) CalScience Other ____

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: See COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 061108-PC1	Client: Arcadis Env.
Sampler: PC	Date: 11/8/06
Well I.D.: MW-2	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth (TD): 54.02	Depth to Water (DTW): 33.21
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 37.37	

Purge Method: Bailer, Disposable Bailer, Positive Air Displacement, Electric Submersible, Waterra, Peristaltic, Extraction Pump, Other____

Sampling Method: Bailer, Disposable Bailer, Extraction Port, Dedicated Tubing, Other: ____

13.5 (Gals.) X 3 = 40.5 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or uS)	Turbidity (NTUs)	Gals. Removed	Observations
1338	20.2	7.17	1043	646	13.5	cloudy odor
1341	20.3	7.11	~~1000~~ 1061	>1000	27	↓ ↓
1344	20.5	7.21	1064	>1000	40.5	↓ ↓

Did well dewater? Yes (No) Gallons actually evacuated: 41

Sampling Date: 11/8/06 Sampling Time: 1350 Depth to Water: 37.20

Sample I.D.: MW-2 Laboratory: (Kiff) CalScience Other____

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: See COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	0.19	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	-~~X~~R -73	mV

WELL MONITORING DATA SHEET

Project #: 061108-PC1	Client: Arcadis Env.
Sampler: PC	Date: 11/8/06
Well I.D.: MW-3	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 52.92	Depth to Water (DTW): 31.30
Depth to Free Product: ~~X~~	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 35.62	

Purge Method: Bailer; Disposable Bailer; (A) Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other ___

Sampling Method: Bailer; (A) Disposable Bailer; Extraction Port; Dedicated Tubing; Other: ___

14		42	
~~3.5~~ R (Gals.) X	3	= ~~10.5~~ R	Gals.
1 Case Volume	Specified Volumes	Calculated Volume	

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1214	21.0	7.99	896	>1000	14	silty brown
1217	20.6	7.79	906	>1000	28	↓
1220	20.4	7.90	914	>1000	42	↓

Did well dewater? Yes (No) Gallons actually evacuated: 42

Sampling Date: 11/8/06 Sampling Time: 1225 Depth to Water: 35.20

Sample I.D.: MW3 Laboratory: (Kiff) CalScience Other ___

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: See COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:		mg/L	Post-purge:	0.40 mg/L
O.R.P. (if req'd):	Pre-purge:		mV	Post-purge:	58 mV

WELL MONITORING DATA SHEET

Project #: 061108-PC1	Client: Arcadis Env.
Sampler: PC	Date: 11/8/06
Well I.D.: MW-4	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 46.80	Depth to Water (DTW): 32.85
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 35.64	

Purge Method: Bailer; Disposable Bailer; ✓ Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other ____

Sampling Method: Bailer; ✓ Disposable Bailer; Extraction Port; Dedicated Tubing; Other: ____

2.2 (Gals.) X 3 = 6.6 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1030	19.6	7.77	974	>1000	2.2	
1035	20.1	7.45	939	>1000	4.4	
1042	20.7	7.42	945	>1000	6.6	

Did well dewater? Yes (No) Gallons actually evacuated: 6.6

Sampling Date: 11/8/06 Sampling Time: 1050 Depth to Water: 34.10

Sample I.D.: MW-4 Laboratory: (Kiff) CalScience Other ____

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: See COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	(Post-purge:)	0.45	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	(Post-purge:)	82	mV

WELL MONITORING DATA SHEET

Project #: 061108-PC1	Client: Arctos Env.
Sampler: PC	Date: 11/8/06
Well I.D.: MW-5	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 46.30	Depth to Water (DTW): 32.22
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 35.04	

Purge Method: Bailer; Disposable Bailer; (Positive Air Displacement); Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other____

Sampling Method: Bailer; (Disposable Bailer); Extraction Port; Dedicated Tubing; Other: ____

2.6 (Gals.) X 3 = ~~7.8~~ 7.8 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1110	20.6	7.79	6080	>1000	2.6	silty
1114	20.7	7.34	1081	>1000	5.2	↓
1120	20.6	7.35	1069	>1000	7.8	

Did well dewater? Yes (No) Gallons actually evacuated: 7.6

Sampling Date: 11/8/06 Sampling Time: 1125 Depth to Water: 33.68

Sample I.D.: MW-5 Laboratory: (Kiff) CalScience Other____

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: See COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 061108-PC1	Client: Arcatos Env.
Sampler: PC	Date: 11/8/06
Well I.D.: MW-6	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 47.72	Depth to Water (DTW): 33.41
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 36.27	

Purge Method: Bailer; ✗ Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other____

Sampling Method: Bailer; ✗ Disposable Bailer; Extraction Port; Dedicated Tubing; Other: ____

2.3 (Gals.) X	3	=	6.9 Gals.
1 Case Volume	Specified Volumes		Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1302	20.3	7.79	996 1019	>1000	2.3	grey, odor
1308	20.7	7.21	1028	>1000	4.6	
1314	19.9	7.35	1046	>1000	6.9	

Did well dewater? Yes (No) Gallons actually evacuated: 7

Sampling Date: 11/8/06 Sampling Time: 1320 Depth to Water: 34.68

Sample I.D.: MW-6 Laboratory: (Kiff) CalScience Other____

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: See COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	0.36	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	-53	mV

WELL MONITORING DATA SHEET

Project #: 061108-PC1	Client: Arctos Env.
Sampler: PC	Date: 11/8/06
Well I.D.: MW-7	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 46.15	Depth to Water (DTW): 31.14
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 34.14	

Purge Method: Bailer; Disposable Bailer; ✓ Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other____

Sampling Method: Bailer; ✓ Disposable Bailer; Extraction Port; Dedicated Tubing; Other: ____

2.4 (Gals.) X	3	= 7.2 Gals.
1 Case Volume	Specified Volumes	Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
934	20.2	7.26	987	>1000	2.4	grey
938	20.5	7.20	996	745	4.8	↓
942	20.3	7.26	992	495	7.2	

Did well dewater? Yes (No) Gallons actually evacuated: 7.2

Sampling Date: 11/8/06 Sampling Time: 950 Depth to Water: 33.59

Sample I.D.: MW-7 Laboratory: (Kiff) CalScience Other____

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: See COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 061108-PC1	Client: Arctos Env.
Sampler: PC	Date: 11/8/06
Well I.D.: MW-8	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 44.38	Depth to Water (DTW): 32.10
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 34.56	

Purge Method: Bailer; Disposable Bailer; ✓ Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other ____

Sampling Method: Bailer; ✓ Disposable Bailer; Extraction Port; Dedicated Tubing; Other: ____

2 (Gals.) X	3 =	6 Gals.
1 Case Volume	Specified Volumes	Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
908	20.4	6.23	993	964	2	
911	20.6	6.71	977	510	4	
914	20.2	6.94	987	993	6	

Did well dewater? Yes (No) Gallons actually evacuated: 6

Sampling Date: 11/8/06 Sampling Time: 920 Depth to Water: 35.25 Traffic well

Sample I.D.: MW-8 Laboratory: (Kiff) CalScience Other ____

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: See COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 061108-PC1	Client: Arctos Env.
Sampler: PC	Date: 11/8/06
Well I.D.: MW-9	Well Diameter: (2) 3 4 6 8
Total Well Depth (TD): 44.80	Depth to Water (DTW): 34.18
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): (YSI) HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 36.30	

Purge Method: Bailer; Disposable Bailer; ✓ Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other

Sampling Method: Bailer; ✓ Disposable Bailer; Extraction Port; Dedicated Tubing; Other:

1.7 (Gals.) X	3	=	5.1 Gals.
1 Case Volume	Specified Volumes		Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1236	21.3	7.62	923	>1000	1.7	Grey
1239	21.2	7.37	937	>1000	3.4	↓
1244	21.1	7.31	937	>1000	5.1	

Did well dewater? Yes (No) Gallons actually evacuated: 5.1

Sampling Date: 11/8/06 Sampling Time: 1250 Depth to Water: 35.82

Sample I.D.: MW-9 Laboratory: (Kiff) CalScience Other

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: See COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	(Post-purge):	0.26	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	(Post-purge):	-56	mV

WELL MONITORING DATA SHEET

Project #: 061108-PC1	Client: Arcadis Env.
Sampler: PC	Date: 11/8/06
Well I.D.: MW-10	Well Diameter: (2) 3 4 6 8
Total Well Depth (TD): 45.14	Depth to Water (DTW): 33.41
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: ~~31.44~~ 35.76	

Purge Method: Bailer; Disposable Bailer; ▲Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: Bailer; ▲Disposable Bailer; Extraction Port; Dedicated Tubing; Other: _____

1.9 (Gals.) X	3	=	5.7 Gals.
1 Case Volume	Specified Volumes		Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1000	19.7	7.60	1180	>1000	2	brown
1004	20.1	7.60	1196	>1000	4	↓
1008	19.9	7.64	1193	671	6	

Did well dewater? Yes (No) Gallons actually evacuated: 6

Sampling Date: 11/8/06 Sampling Time: 1014 Depth to Water: 35.10

Sample I.D.: ~~MW-9~~ MW-10 Laboratory: (Kiff) CalScience Other_____

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: See COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 061108-PC1	Client: Arctos Env.
Sampler: PC	Date: 11/8/06
Well I.D.: VW-2	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 36.80	Depth to Water (DTW): 33.52
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other_____

Sampling Method: Bailer; (X) Disposable Bailer; Extraction Port; Dedicated Tubing; Other: _____

NO Purge

_____(Gals.) X 3 = _____ Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1400	19.4	7.11	1104	169	-	odor

Did well dewater? Yes No Gallons actually evacuated:

Sampling Date: 11/8/06 Sampling Time: 1400 Depth to Water:

Sample I.D.: VW-2 Laboratory: (Kiff) CalScience Other_____

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: See COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 061108-PC1	Client: Arcadis Env.
Sampler: PC	Date: 11/8/06
Well I.D.: VW-3	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 36.31	Depth to Water (DTW): 31.62
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method: Bailer / Disposable Bailer / Positive Air Displacement / Electric Submersible / Waterra / Peristaltic / Extraction Pump / Other_____

Sampling Method: Bailer / (Disposable Bailer) / Extraction Port / Dedicated Tubing / Other: _____

No purge

_____(Gals.) X ~~3~~ = _____ Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1155	20.1	7.21	1469	27		

Did well dewater? Yes No Gallons actually evacuated:

Sampling Date: 11/8/06 Sampling Time: 1155 Depth to Water:

Sample I.D.: VW-3 Laboratory: (Kiff) CalScience Other_____

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: See COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 061108-PC1	Client: Arctos Env.
Sampler: PC	Date: 11/8/06
Well I.D.: TP-1	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 43.30	Depth to Water (DTW): 32.02
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 34.28	

Purge Method: Bailer; Disposable Bailer; (Positive Air Displacement); Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other____

Sampling Method: Bailer; (Disposable Bailer); Extraction Port; Dedicated Tubing; Other: ____

1.8 (Gals.) X 3 = 5.4 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1410	20.3	7.10	~~459~~ R 1176	>1000	1.8	grey, silty, odor
1414	20.2	7.15	1162	>1000	3.6	" " "
1418	20.2	7.14	1159	>1000	5.4	" " "

Did well dewater? Yes (No) Gallons actually evacuated: 5.4

Sampling Date: 11/06 Sampling Time: 1425 Depth to Water: 34.36

Sample I.D.: TP-1 Laboratory: (Kiff) CalScience Other____

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: See COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 061108-PC1	Client: Arcfos Env.
Sampler: PC	Date: 11/8/06
Well I.D.: TP-2	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 42.19	Depth to Water (DTW): 32.80
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 34.68	

Purge Method: Bailer; ☒ Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other____

Sampling Method: Bailer; ☒ Disposable Bailer; Extraction Port; Dedicated Tubing; Other: ____

1.5 (Gals.) X	3	=	4.5 Gals.
1 Case Volume	Specified Volumes		Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1435	20.2	7.21	1150	>1000	1.5	grey silty
1439	20.2	7.18	1151	>1000	3	↓ ↓
1444	20.2	7.20	1170	>1000	4.5	

Did well dewater? Yes (No) Gallons actually evacuated: 4.5

Sampling Date: 11/06 Sampling Time: 1450 Depth to Water: 33.39

Sample I.D.: TP-2 Laboratory: (Kiff) CalScience Other____

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: See COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L	
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV	

APPENDIX B

LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY FORM

KIFF Analytical LLC

Report Number : 53232
Date : 11/15/2006

Mike Purchase
Arctos Environmental
1332 Peralta Avenue
Berkeley, CA

Subject : 14 Water Samples
Project Name : Tesoro - Livermore
Project Number : BTS# 061108-PC1

Dear Mr. Purchase,

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

KIFF Analytical LLC

Report Number : 53232
Date : 11/15/2006

Subject : 14 Water Samples
Project Name : Tesoro - Livermore
Project Number : BTS# 061108-PC1

Case Narrative

The Method Reporting Limit for Methanol has been increased due to the presence of an interfering compound for samples VW-2, TP-1 and TP-2.

Approved By: Joel Kiff

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KIFF Analytical LLC

Report Number : 53232

Date : 11/15/2006

Project Name : **Tesoro - Livermore**

Project Number : **BTS# 061108-PC1**

Sample : **MW-1** Matrix : Water Lab Number : 53232-01

Sample Date :11/08/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Ethylbenzene	**1.7**	0.50	ug/L	EPA 8260B	11/10/2006
Total Xylenes	**1.9**	0.50	ug/L	EPA 8260B	11/10/2006
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/10/2006
Methanol	**< 50**	50	ug/L	EPA 8260B	11/10/2006
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/10/2006
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
TPH as Gasoline	**400**	50	ug/L	EPA 8260B	11/10/2006
Toluene - d8 (Surr)	99.5		% Recovery	EPA 8260B	11/10/2006
4-Bromofluorobenzene (Surr)	99.1		% Recovery	EPA 8260B	11/10/2006

Approved By: Joel Kiff

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KIFF Analytical LLC

Report Number : 53232

Date : 11/15/2006

Project Name : **Tesoro - Livermore**

Project Number : **BTS# 061108-PC1**

Sample : **MW-2** Matrix : Water Lab Number : 53232-02

Sample Date :11/08/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**3600**	9.0	ug/L	EPA 8260B	11/10/2006
Toluene	**300**	9.0	ug/L	EPA 8260B	11/10/2006
Ethylbenzene	**1200**	9.0	ug/L	EPA 8260B	11/10/2006
Total Xylenes	**1800**	9.0	ug/L	EPA 8260B	11/10/2006
Methyl-t-butyl ether (MTBE)	**1500**	9.0	ug/L	EPA 8260B	11/10/2006
Diisopropyl ether (DIPE)	**< 9.0**	9.0	ug/L	EPA 8260B	11/10/2006
Ethyl-t-butyl ether (ETBE)	**< 9.0**	9.0	ug/L	EPA 8260B	11/10/2006
Tert-amyl methyl ether (TAME)	**15**	9.0	ug/L	EPA 8260B	11/10/2006
Tert-Butanol	**1100**	50	ug/L	EPA 8260B	11/10/2006
Methanol	**< 900**	900	ug/L	EPA 8260B	11/10/2006
Ethanol	**< 90**	90	ug/L	EPA 8260B	11/10/2006
1,2-Dichloroethane	**< 9.0**	9.0	ug/L	EPA 8260B	11/10/2006
1,2-Dibromoethane	**< 9.0**	9.0	ug/L	EPA 8260B	11/10/2006
TPH as Gasoline	**27000**	900	ug/L	EPA 8260B	11/10/2006
Toluene - d8 (Surr)	96.8		% Recovery	EPA 8260B	11/10/2006
4-Bromofluorobenzene (Surr)	97.5		% Recovery	EPA 8260B	11/10/2006

Approved By: Joel Kiff

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KIFF Analytical LLC

Report Number : 53232

Date : 11/15/2006

Project Name : **Tesoro - Livermore**

Project Number : **BTS# 061108-PC1**

Sample : **MW-3** Matrix : Water Lab Number : 53232-03

Sample Date :11/08/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Methyl-t-butyl ether (MTBE)	**0.71**	0.50	ug/L	EPA 8260B	11/10/2006
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/10/2006
Methanol	**< 50**	50	ug/L	EPA 8260B	11/10/2006
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/10/2006
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	11/10/2006
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	11/10/2006
4-Bromofluorobenzene (Surr)	96.8		% Recovery	EPA 8260B	11/10/2006

Approved By: Joel Kiff

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KIFF Analytical LLC

Report Number : 53232
Date : 11/15/2006

Project Name : **Tesoro - Livermore**
Project Number : **BTS# 061108-PC1**

Sample : **MW-4** Matrix : Water Lab Number : 53232-04
Sample Date :11/08/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/10/2006
Methanol	**< 50**	50	ug/L	EPA 8260B	11/10/2006
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/10/2006
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	11/10/2006
Toluene - d8 (Surr)	99.9		% Recovery	EPA 8260B	11/10/2006
4-Bromofluorobenzene (Surr)	97.0		% Recovery	EPA 8260B	11/10/2006

Approved By: Joel Kiff

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Report Number : 53232
Date : 11/15/2006

Project Name : **Tesoro - Livermore**
Project Number : **BTS# 061108-PC1**

Sample : **MW-5** Matrix : Water Lab Number : 53232-05
Sample Date :11/08/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Methyl-t-butyl ether (MTBE)	**2.4**	0.50	ug/L	EPA 8260B	11/10/2006
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/10/2006
Methanol	**< 50**	50	ug/L	EPA 8260B	11/10/2006
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/10/2006
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/10/2006
TPH as Gasoline	**120**	50	ug/L	EPA 8260B	11/10/2006
Toluene - d8 (Surr)	99.1		% Recovery	EPA 8260B	11/10/2006
4-Bromofluorobenzene (Surr)	97.7		% Recovery	EPA 8260B	11/10/2006

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Report Number : 53232
Date : 11/15/2006

Project Name : **Tesoro - Livermore**
Project Number : **BTS# 061108-PC1**

Sample : **MW-6** Matrix : Water Lab Number : 53232-06
Sample Date :11/08/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**990**	2.0	ug/L	EPA 8260B	11/10/2006
Toluene	**37**	2.0	ug/L	EPA 8260B	11/10/2006
Ethylbenzene	**390**	2.0	ug/L	EPA 8260B	11/10/2006
Total Xylenes	**140**	2.0	ug/L	EPA 8260B	11/10/2006
Methyl-t-butyl ether (MTBE)	**310**	2.0	ug/L	EPA 8260B	11/10/2006
Diisopropyl ether (DIPE)	**< 2.0**	2.0	ug/L	EPA 8260B	11/10/2006
Ethyl-t-butyl ether (ETBE)	**< 2.0**	2.0	ug/L	EPA 8260B	11/10/2006
Tert-amyl methyl ether (TAME)	**3.2**	2.0	ug/L	EPA 8260B	11/10/2006
Tert-Butanol	**110**	9.0	ug/L	EPA 8260B	11/10/2006
Methanol	**< 200**	200	ug/L	EPA 8260B	11/10/2006
Ethanol	**< 20**	20	ug/L	EPA 8260B	11/10/2006
1,2-Dichloroethane	**< 2.0**	2.0	ug/L	EPA 8260B	11/10/2006
1,2-Dibromoethane	**< 2.0**	2.0	ug/L	EPA 8260B	11/10/2006
TPH as Gasoline	**9200**	200	ug/L	EPA 8260B	11/10/2006
Toluene - d8 (Surr)	93.8		% Recovery	EPA 8260B	11/10/2006
4-Bromofluorobenzene (Surr)	97.8		% Recovery	EPA 8260B	11/10/2006

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KIFF Analytical LLC

Report Number : 53232
Date : 11/15/2006

Project Name : **Tesoro - Livermore**
Project Number : **BTS# 061108-PC1**

Sample : **MW-7** Matrix : Water Lab Number : 53232-07
Sample Date :11/08/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Ethylbenzene	**1.0**	0.50	ug/L	EPA 8260B	11/11/2006
Total Xylenes	**0.62**	0.50	ug/L	EPA 8260B	11/11/2006
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/11/2006
Methanol	**< 50**	50	ug/L	EPA 8260B	11/11/2006
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/11/2006
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
TPH as Gasoline	**800**	50	ug/L	EPA 8260B	11/11/2006
Toluene - d8 (Surr)	96.0		% Recovery	EPA 8260B	11/11/2006
4-Bromofluorobenzene (Surr)	96.6		% Recovery	EPA 8260B	11/11/2006

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KIFF Analytical LLC

Report Number : 53232
Date : 11/15/2006

Project Name : **Tesoro - Livermore**
Project Number : **BTS# 061108-PC1**

Sample : **MW-8** Matrix : Water Lab Number : 53232-08
Sample Date :11/08/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**1.2**	0.50	ug/L	EPA 8260B	11/11/2006
Toluene	**1.9**	0.50	ug/L	EPA 8260B	11/11/2006
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Total Xylenes	**0.66**	0.50	ug/L	EPA 8260B	11/11/2006
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/11/2006
Methanol	**< 50**	50	ug/L	EPA 8260B	11/11/2006
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/11/2006
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	11/11/2006
Toluene - d8 (Surr)	96.0		% Recovery	EPA 8260B	11/11/2006
4-Bromofluorobenzene (Surr)	94.4		% Recovery	EPA 8260B	11/11/2006

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KIFF Analytical LLC

Report Number : 53232
Date : 11/15/2006

Project Name : **Tesoro - Livermore**
Project Number : **BTS# 061108-PC1**

Sample : **MW-9** Matrix : Water Lab Number : 53232-09
Sample Date :11/08/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**1.7**	0.50	ug/L	EPA 8260B	11/11/2006
Toluene	**0.53**	0.50	ug/L	EPA 8260B	11/11/2006
Ethylbenzene	**6.7**	0.50	ug/L	EPA 8260B	11/11/2006
Total Xylenes	**1.4**	0.50	ug/L	EPA 8260B	11/11/2006
Methyl-t-butyl ether (MTBE)	**1.7**	0.50	ug/L	EPA 8260B	11/11/2006
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/11/2006
Methanol	**< 50**	50	ug/L	EPA 8260B	11/11/2006
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/11/2006
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
TPH as Gasoline	**1700**	50	ug/L	EPA 8260B	11/11/2006
Toluene - d8 (Surr)	96.2		% Recovery	EPA 8260B	11/11/2006
4-Bromofluorobenzene (Surr)	95.1		% Recovery	EPA 8260B	11/11/2006

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KIFF Analytical LLC

Report Number : 53232

Date : 11/15/2006

Project Name : **Tesoro - Livermore**

Project Number : **BTS# 061108-PC1**

Sample : **MW-10** Matrix : Water Lab Number : 53232-10

Sample Date :11/08/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/11/2006
Methanol	**< 50**	50	ug/L	EPA 8260B	11/11/2006
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/11/2006
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	11/11/2006
Toluene - d8 (Surr)	97.0		% Recovery	EPA 8260B	11/11/2006
4-Bromofluorobenzene (Surr)	94.4		% Recovery	EPA 8260B	11/11/2006

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KIFF Analytical LLC

Report Number : 53232

Date : 11/15/2006

Project Name : **Tesoro - Livermore**

Project Number : **BTS# 061108-PC1**

Sample : **VW-2** Matrix : Water Lab Number : 53232-11

Sample Date :11/08/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**46**	3.0	ug/L	EPA 8260B	11/10/2006
Toluene	**3.1**	3.0	ug/L	EPA 8260B	11/10/2006
Ethylbenzene	**10**	3.0	ug/L	EPA 8260B	11/10/2006
Total Xylenes	**4.8**	3.0	ug/L	EPA 8260B	11/10/2006
Methyl-t-butyl ether (MTBE)	**1500**	3.0	ug/L	EPA 8260B	11/10/2006
Diisopropyl ether (DIPE)	**< 3.0**	3.0	ug/L	EPA 8260B	11/10/2006
Ethyl-t-butyl ether (ETBE)	**< 3.0**	3.0	ug/L	EPA 8260B	11/10/2006
Tert-amyl methyl ether (TAME)	**11**	3.0	ug/L	EPA 8260B	11/10/2006
Tert-Butanol	**7100**	15	ug/L	EPA 8260B	11/10/2006
Methanol	**< 800**	800	ug/L	EPA 8260B	11/10/2006
Ethanol	**< 30**	30	ug/L	EPA 8260B	11/10/2006
1,2-Dichloroethane	**< 3.0**	3.0	ug/L	EPA 8260B	11/10/2006
1,2-Dibromoethane	**< 3.0**	3.0	ug/L	EPA 8260B	11/10/2006
TPH as Gasoline	**3200**	300	ug/L	EPA 8260B	11/10/2006
Toluene - d8 (Surr)	98.2		% Recovery	EPA 8260B	11/10/2006
4-Bromofluorobenzene (Surr)	96.0		% Recovery	EPA 8260B	11/10/2006

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Report Number : 53232
Date : 11/15/2006

Project Name : **Tesoro - Livermore**
Project Number : **BTS# 061108-PC1**

Sample : **VW-3** Matrix : Water Lab Number : 53232-12
Sample Date :11/08/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/11/2006
Methanol	**< 50**	50	ug/L	EPA 8260B	11/11/2006
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/11/2006
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/11/2006
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	11/11/2006
Toluene - d8 (Surr)	98.0		% Recovery	EPA 8260B	11/11/2006
4-Bromofluorobenzene (Surr)	94.0		% Recovery	EPA 8260B	11/11/2006

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

KIFF Analytical LLC

Report Number : 53232

Date : 11/15/2006

Project Name : **Tesoro - Livermore**

Project Number : **BTS# 061108-PC1**

Sample : **TP-1** Matrix : Water Lab Number : 53232-13

Sample Date :11/08/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**1100**	15	ug/L	EPA 8260B	11/14/2006
Toluene	**78**	15	ug/L	EPA 8260B	11/14/2006
Ethylbenzene	**990**	15	ug/L	EPA 8260B	11/14/2006
Total Xylenes	**1600**	15	ug/L	EPA 8260B	11/14/2006
Methyl-t-butyl ether (MTBE)	**6800**	15	ug/L	EPA 8260B	11/14/2006
Diisopropyl ether (DIPE)	**< 15**	15	ug/L	EPA 8260B	11/14/2006
Ethyl-t-butyl ether (ETBE)	**< 15**	15	ug/L	EPA 8260B	11/14/2006
Tert-amyl methyl ether (TAME)	**47**	15	ug/L	EPA 8260B	11/14/2006
Tert-Butanol	**4400**	70	ug/L	EPA 8260B	11/14/2006
Methanol	**< 8000**	8000	ug/L	EPA 8260B	11/14/2006
Ethanol	**< 150**	150	ug/L	EPA 8260B	11/14/2006
1,2-Dichloroethane	**< 15**	15	ug/L	EPA 8260B	11/14/2006
1,2-Dibromoethane	**< 15**	15	ug/L	EPA 8260B	11/14/2006
TPH as Gasoline	**20000**	1500	ug/L	EPA 8260B	11/14/2006
Toluene - d8 (Surr)	97.3		% Recovery	EPA 8260B	11/14/2006
4-Bromofluorobenzene (Surr)	97.3		% Recovery	EPA 8260B	11/14/2006

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

KIFF Analytical LLC

Report Number : 53232

Date : 11/15/2006

Project Name : **Tesoro - Livermore**

Project Number : **BTS# 061108-PC1**

Sample : **TP-2** Matrix : Water Lab Number : 53232-14

Sample Date :11/08/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**1300**	90	ug/L	EPA 8260B	11/14/2006
Toluene	**< 90**	90	ug/L	EPA 8260B	11/14/2006
Ethylbenzene	**930**	90	ug/L	EPA 8260B	11/14/2006
Total Xylenes	**370**	90	ug/L	EPA 8260B	11/14/2006
Methyl-t-butyl ether (MTBE)	**38000**	90	ug/L	EPA 8260B	11/14/2006
Diisopropyl ether (DIPE)	**< 90**	90	ug/L	EPA 8260B	11/14/2006
Ethyl-t-butyl ether (ETBE)	**< 90**	90	ug/L	EPA 8260B	11/14/2006
Tert-amyl methyl ether (TAME)	**280**	90	ug/L	EPA 8260B	11/14/2006
Tert-Butanol	**3600**	500	ug/L	EPA 8260B	11/14/2006
Methanol	**< 40000**	40000	ug/L	EPA 8260B	11/14/2006
Ethanol	**< 900**	900	ug/L	EPA 8260B	11/14/2006
1,2-Dichloroethane	**< 90**	90	ug/L	EPA 8260B	11/14/2006
1,2-Dibromoethane	**< 90**	90	ug/L	EPA 8260B	11/14/2006
TPH as Gasoline	**16000**	9000	ug/L	EPA 8260B	11/14/2006
Toluene - d8 (Surr)	96.8		% Recovery	EPA 8260B	11/14/2006
4-Bromofluorobenzene (Surr)	97.8		% Recovery	EPA 8260B	11/14/2006

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

Report Number : 53232

Date : 11/15/2006

QC Report : Method Blank Data

Project Name : **Tesoro - Livermore**

Project Number : **BTS# 061108-PC1**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	11/10/2006
Toluene	< 0.50	0.50	ug/L	EPA 8260B	11/10/2006
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	11/10/2006
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	11/10/2006
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	11/10/2006
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	11/10/2006
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	11/10/2006
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	11/10/2006
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	11/10/2006
Methanol	< 50	50	ug/L	EPA 8260B	11/10/2006
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	11/10/2006
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	11/10/2006
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	11/10/2006
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	11/10/2006
Toluene - d8 (Surr)	99.4		%	EPA 8260B	11/10/2006
4-Bromofluorobenzene (Surr)	97.3		%	EPA 8260B	11/10/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	11/10/2006
Toluene	< 0.50	0.50	ug/L	EPA 8260B	11/10/2006
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	11/10/2006
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	11/10/2006
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	11/10/2006
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	11/10/2006
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	11/10/2006
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	11/10/2006
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	11/10/2006
Methanol	< 50	50	ug/L	EPA 8260B	11/10/2006
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	11/10/2006
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	11/10/2006
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	11/10/2006
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	11/10/2006
Toluene - d8 (Surr)	96.3		%	EPA 8260B	11/10/2006
4-Bromofluorobenzene (Surr)	96.4		%	EPA 8260B	11/10/2006

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	11/13/2006
Toluene	< 0.50	0.50	ug/L	EPA 8260B	11/13/2006
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	11/13/2006
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	11/13/2006
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	11/13/2006
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	11/13/2006
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	11/13/2006
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	11/13/2006
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	11/13/2006
Methanol	< 50	50	ug/L	EPA 8260B	11/13/2006
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	11/13/2006
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	11/13/2006
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	11/13/2006
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	11/13/2006
Toluene - d8 (Surr)	97.8		%	EPA 8260B	11/13/2006
4-Bromofluorobenzene (Surr)	93.6		%	EPA 8260B	11/13/2006

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Report Number : 53232

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 11/15/2006

Project Name : **Tesoro - Livermore**

Project Number : **BTS# 061108-PC1**

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
Benzene	53167-05	<0.50	40.0	40.0	38.4	37.6	ug/L	EPA 8260B	11/10/06	96.0	93.9	2.22	70-130	25
Toluene	53167-05	<0.50	40.0	40.0	38.7	37.6	ug/L	EPA 8260B	11/10/06	96.8	94.0	2.94	70-130	25
Tert-Butanol	53167-05	<5.0	200	200	187	184	ug/L	EPA 8260B	11/10/06	93.5	91.9	1.73	70-130	25
Methyl-t-Butyl Ether	53167-05	3.8	40.0	40.0	45.2	44.4	ug/L	EPA 8260B	11/10/06	104	102	1.75	70-130	25
Benzene	53196-05	3.8	40.0	40.0	44.8	43.6	ug/L	EPA 8260B	11/10/06	102	99.6	2.90	70-130	25
Toluene	53196-05	9.2	40.0	40.0	48.2	48.3	ug/L	EPA 8260B	11/10/06	97.3	97.7	0.385	70-130	25
Tert-Butanol	53196-05	<5.0	200	200	208	209	ug/L	EPA 8260B	11/10/06	104	104	0.322	70-130	25
Methyl-t-Butyl Ether	53196-05	<0.50	40.0	40.0	39.0	40.4	ug/L	EPA 8260B	11/10/06	97.5	101	3.52	70-130	25
Benzene	53208-03	<0.50	40.0	40.0	40.3	38.8	ug/L	EPA 8260B	11/10/06	101	97.0	3.89	70-130	25
Toluene	53208-03	<0.50	40.0	40.0	39.3	38.6	ug/L	EPA 8260B	11/10/06	98.3	96.6	1.66	70-130	25
Tert-Butanol	53208-03	<5.0	200	200	207	205	ug/L	EPA 8260B	11/10/06	104	102	0.908	70-130	25
Methyl-t-Butyl Ether	53208-03	1.5	40.0	40.0	41.4	36.9	ug/L	EPA 8260B	11/10/06	99.9	88.5	12.0	70-130	25
Benzene	53298-02	<0.50	40.0	40.0	38.9	38.2	ug/L	EPA 8260B	11/13/06	97.3	95.4	1.94	70-130	25
Toluene	53298-02	<0.50	40.0	40.0	38.4	37.9	ug/L	EPA 8260B	11/13/06	95.9	94.7	1.28	70-130	25
Tert-Butanol	53298-02	<5.0	200	200	205	201	ug/L	EPA 8260B	11/13/06	102	100	2.26	70-130	25
Methyl-t-Butyl Ether	53298-02	2.0	40.0	40.0	36.9	37.3	ug/L	EPA 8260B	11/13/06	87.2	88.3	1.27	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Report Number : 53232

QC Report : Laboratory Control Sample (LCS)

Date : 11/15/2006

Project Name : **Tesoro - Livermore**

Project Number : **BTS# 061108-PC1**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	11/10/06	95.9	70-130
Toluene	40.0	ug/L	EPA 8260B	11/10/06	95.7	70-130
Tert-Butanol	200	ug/L	EPA 8260B	11/10/06	93.6	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	11/10/06	95.3	70-130
Benzene	40.0	ug/L	EPA 8260B	11/10/06	95.7	70-130
Toluene	40.0	ug/L	EPA 8260B	11/10/06	95.4	70-130
Tert-Butanol	200	ug/L	EPA 8260B	11/10/06	96.8	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	11/10/06	89.3	70-130
Benzene	40.0	ug/L	EPA 8260B	11/10/06	97.7	70-130
Toluene	40.0	ug/L	EPA 8260B	11/10/06	98.1	70-130
Tert-Butanol	200	ug/L	EPA 8260B	11/10/06	101	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	11/10/06	90.2	70-130
Benzene	40.0	ug/L	EPA 8260B	11/13/06	96.0	70-130
Toluene	40.0	ug/L	EPA 8260B	11/13/06	98.1	70-130
Tert-Butanol	200	ug/L	EPA 8260B	11/13/06	100	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	11/13/06	89.0	70-130

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

CALIFORNIA LABORATORY SERVICES

3249 Fitzgerald Road Rancho Cordova, CA 95742

November 15, 2006

CLS Work Order #: CPK0381
COC #: 53232

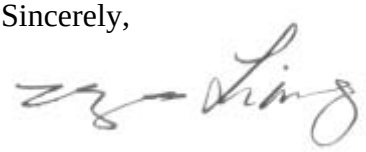
Erin Gates
KIFF Analytical
2795 Second St. Suite 300
Davis, CA 95616

Project Name: Tesoro-Livermore

Enclosed are the results of analyses for samples received by the laboratory on 11/09/06 09:35. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,



James Liang, Ph.D.
Laboratory Director

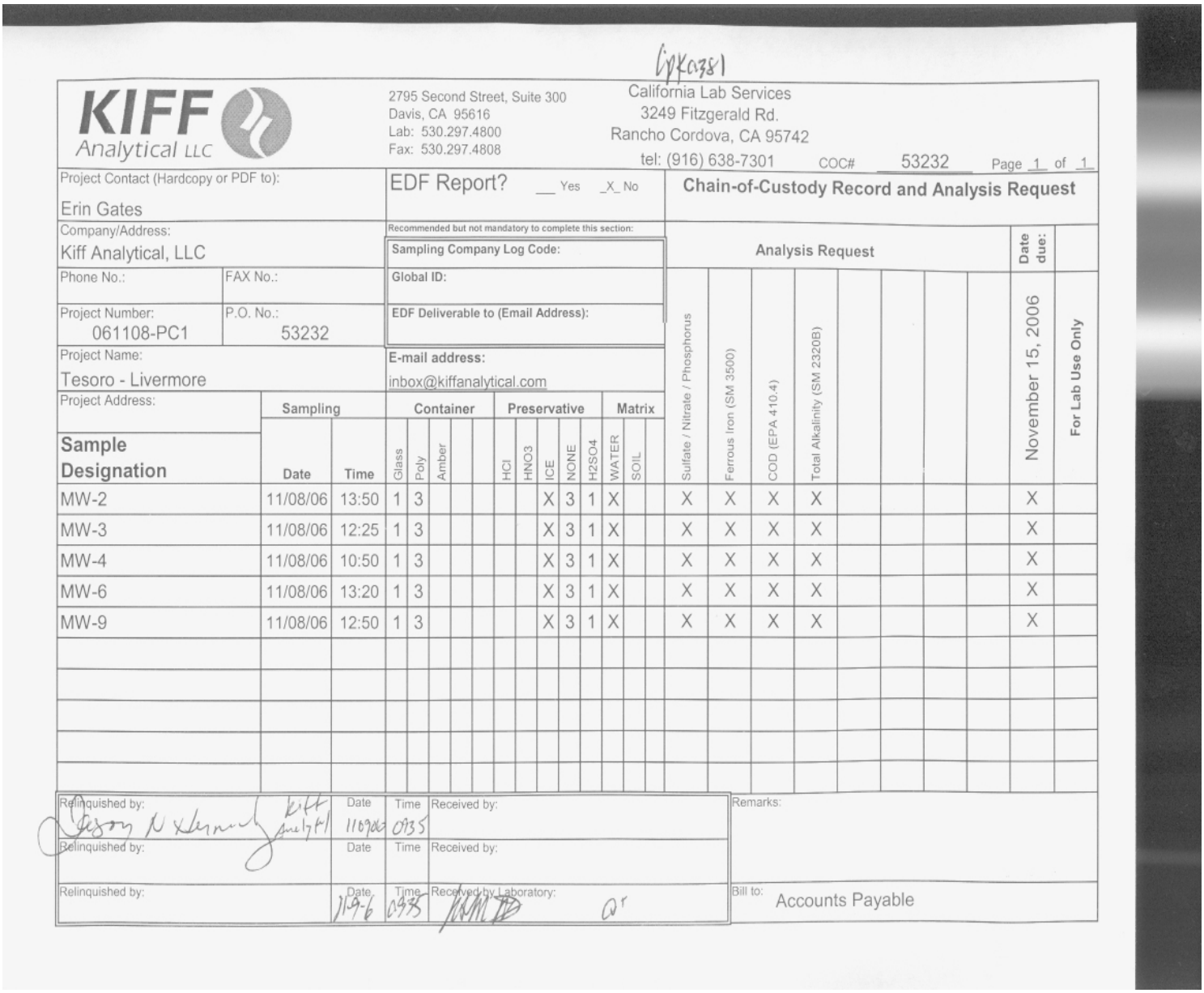
CA DOHS ELAP Accreditation/Registration number 1233

CALIFORNIA LABORATORY SERVICES

KIFF Analytical
2795 Second St. Suite 300
Davis, CA 95616

Project: Tesoro-Livermore
Project Number: 061108-PC1
Project Manager: Erin Gates

CLS Work Order #: CPK0381
COC #: 53232



CPK0381

KIFF Analytical LLC
2795 Second Street, Suite 300
Davis, CA 95616
Lab: 530.297.4800
Fax: 530.297.4808

California Lab Services
3249 Fitzgerald Rd.
Rancho Cordova, CA 95742
tel: (916) 638-7301 COC# 53232 Page 1 of 1

Project Contact (Hardcopy or PDF to): Erin Gates
EDF Report? ___ Yes _X_ No
Chain-of-Custody Record and Analysis Request
Company/Address: Kiff Analytical, LLC
Recommended but not mandatory to complete this section:
Sampling Company Log Code:
Phone No.: FAX No.:
Global ID:
Project Number: 061108-PC1
P.O. No.: 53232
EDF Deliverable to (Email Address):
Project Name: Tesoro - Livermore
E-mail address: inbox@kiffanalytical.com
Project Address:

Sample Designation	Sampling Date	Sampling Time	Container: Glass	Container: Poly	Container: Amber	Container:	Container:	Preservative: HCl	Preservative: HNO3	Preservative: ICE	Preservative: NONE	Preservative: H2SO4	Matrix: WATER	Matrix: SOIL	Matrix:	Sulfate / Nitrate / Phosphorus	Ferrous Iron (SM 3500)	COD (EPA 410.4)	Total Alkalinity (SM 2320B)					Date due: November 15, 2006	For Lab Use Only
MW-2	11/08/06	13:50	1	3						X	3	1	X			X	X	X	X					X	
MW-3	11/08/06	12:25	1	3						X	3	1	X			X	X	X	X					X	
MW-4	11/08/06	10:50	1	3						X	3	1	X			X	X	X	X					X	
MW-6	11/08/06	13:20	1	3						X	3	1	X			X	X	X	X					X	
MW-9	11/08/06	12:50	1	3						X	3	1	X			X	X	X	X					X	

Relinquished by: Jason N Kiff	Date 110906	Time 0935	Received by:	Remarks:
Relinquished by:	Date	Time	Received by:	
Relinquished by:	Date 11-9-6	Time 0935	Received by Laboratory:	Bill to: Accounts Payable

KIFF Analytical
2795 Second St. Suite 300
Davis, CA 95616

Project: Tesoro-Livermore
Project Number: 061108-PC1
Project Manager: Erin Gates

CLS Work Order #: CPK0381
COC #: 53232

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 (CPK0381-01) Water	**Sampled: 11/08/06 13:50**	**Received: 11/09/06 09:35**							
Total Alkalinity	**550**	5.0	mg/L	1	CP08722	11/10/06	11/10/06	EPA 310.1	
Bicarbonate as CaCO3	**550**	5.0	"	"	"	"	"	"	
Carbonate as CaCO3	ND	5.0	"	"	"	"	"	"	
Hydroxide as CaCO3	ND	5.0	"	"	"	"	"	"	
Chemical Oxygen Demand	**150**	7.0	"	"	CP08704	11/10/06	11/10/06	EPA 410.4	
Ferrous Iron	**2.7**	0.50	"	5	CP08663	11/09/06	11/09/06	SM3500-Fe D	
Nitrate as NO3	ND	0.50	"	1	CP08686	11/09/06	11/10/06	EPA 300.0	
Total Phosphorus as P	**0.94**	0.050	"	"	CP08810	11/14/06	11/14/06	EPA 365.2	
Sulfate as SO4	**0.92**	0.50	"	"	CP08686	11/09/06	11/10/06	EPA 300.0	
MW-3 (CPK0381-02) Water	**Sampled: 11/08/06 12:25**	**Received: 11/09/06 09:35**							
Total Alkalinity	**350**	5.0	mg/L	1	CP08722	11/10/06	11/10/06	EPA 310.1	
Bicarbonate as CaCO3	**350**	5.0	"	"	"	"	"	"	
Carbonate as CaCO3	ND	5.0	"	"	"	"	"	"	
Hydroxide as CaCO3	ND	5.0	"	"	"	"	"	"	
Chemical Oxygen Demand	ND	7.0	"	"	CP08704	11/10/06	11/10/06	EPA 410.4	
Ferrous Iron	ND	0.10	"	"	CP08663	11/09/06	11/09/06	SM3500-Fe D	
Nitrate as NO3	**13**	0.50	"	"	CP08686	11/09/06	11/10/06	EPA 300.0	
Total Phosphorus as P	**0.91**	0.050	"	"	CP08810	11/14/06	11/14/06	EPA 365.2	
Sulfate as SO4	**73**	2.5	"	5	CP08757	11/14/06	11/14/06	EPA 300.0	
MW-4 (CPK0381-03) Water	**Sampled: 11/08/06 10:50**	**Received: 11/09/06 09:35**							
Total Alkalinity	**440**	5.0	mg/L	1	CP08722	11/10/06	11/10/06	EPA 310.1	
Bicarbonate as CaCO3	**440**	5.0	"	"	"	"	"	"	
Carbonate as CaCO3	ND	5.0	"	"	"	"	"	"	
Hydroxide as CaCO3	ND	5.0	"	"	"	"	"	"	
Chemical Oxygen Demand	ND	7.0	"	"	CP08704	11/10/06	11/10/06	EPA 410.4	
Ferrous Iron	ND	0.10	"	"	CP08663	11/09/06	11/09/06	SM3500-Fe D	
Nitrate as NO3	**26**	0.50	"	"	CP08686	11/09/06	11/10/06	EPA 300.0	
Total Phosphorus as P	**1.9**	0.25	"	5	CP08810	11/14/06	11/14/06	EPA 365.2	
Sulfate as SO4	**71**	2.5	"	"	CP08757	11/14/06	11/14/06	EPA 300.0	

CALIFORNIA LABORATORY SERVICES

KIFF Analytical
2795 Second St. Suite 300
Davis, CA 95616

Project: Tesoro-Livermore
Project Number: 061108-PC1
Project Manager: Erin Gates

CLS Work Order #: CPK0381
COC #: 53232

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-6 (CPK0381-04) Water	**Sampled: 11/08/06 13:20**	**Received: 11/09/06 09:35**							
Total Alkalinity	**550**	5.0	mg/L	1	CP08722	11/10/06	11/10/06	EPA 310.1	
Bicarbonate as CaCO3	**550**	5.0	"	"	"	"	"	"	
Carbonate as CaCO3	ND	5.0	"	"	"	"	"	"	
Hydroxide as CaCO3	ND	5.0	"	"	"	"	"	"	
Chemical Oxygen Demand	**44**	7.0	"	"	CP08704	11/10/06	11/10/06	EPA 410.4	
Ferrous Iron	**1.2**	0.10	"	"	CP08663	11/09/06	11/09/06	SM3500-Fe D	
Nitrate as NO3	ND	0.50	"	"	CP08686	11/09/06	11/10/06	EPA 300.0	
Total Phosphorus as P	**1.2**	0.25	"	5	CP08810	11/14/06	11/14/06	EPA 365.2	
Sulfate as SO4	ND	0.50	"	1	CP08686	11/09/06	11/10/06	EPA 300.0	
MW-9 (CPK0381-05) Water	**Sampled: 11/08/06 12:50**	**Received: 11/09/06 09:35**							
Total Alkalinity	**450**	5.0	mg/L	1	CP08722	11/10/06	11/10/06	EPA 310.1	
Bicarbonate as CaCO3	**450**	5.0	"	"	"	"	"	"	
Carbonate as CaCO3	ND	5.0	"	"	"	"	"	"	
Hydroxide as CaCO3	ND	5.0	"	"	"	"	"	"	
Chemical Oxygen Demand	**24**	7.0	"	"	CP08704	11/10/06	11/10/06	EPA 410.4	
Ferrous Iron	**0.36**	0.10	"	"	CP08663	11/09/06	11/09/06	SM3500-Fe D	
Nitrate as NO3	ND	0.50	"	"	CP08686	11/09/06	11/10/06	EPA 300.0	
Total Phosphorus as P	**2.5**	0.25	"	5	CP08810	11/14/06	11/14/06	EPA 365.2	
Sulfate as SO4	**1.4**	0.50	"	1	CP08686	11/09/06	11/10/06	EPA 300.0	

KIFF Analytical
2795 Second St. Suite 300
Davis, CA 95616

Project: Tesoro-Livermore
Project Number: 061108-PC1
Project Manager: Erin Gates

CLS Work Order #: CPK0381
COC #: 53232

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CP08663 - General Preparation										
Blank (CP08663-BLK1)				Prepared & Analyzed: 11/09/06						
Ferrous Iron	ND	0.10	mg/L							
LCS (CP08663-BS1)				Prepared & Analyzed: 11/09/06						
Ferrous Iron	0.259	0.10	mg/L	0.250		104	80-120		25	
LCS Dup (CP08663-BSD1)				Prepared & Analyzed: 11/09/06						
Ferrous Iron	0.264	0.10	mg/L	0.250		106	80-120	1.91	25	
Matrix Spike (CP08663-MS1)		**Source: CPK0339-01**		Prepared & Analyzed: 11/09/06						
Ferrous Iron	0.239	0.10	mg/L	0.250	0.010	91.6	75-125		30	
Matrix Spike Dup (CP08663-MSD1)		**Source: CPK0339-01**		Prepared & Analyzed: 11/09/06						
Ferrous Iron	0.239	0.10	mg/L	0.250	0.010	91.6	75-125	0.00	30	
Batch CP08686 - General Prep										
Blank (CP08686-BLK1)				Prepared: 11/09/06 Analyzed: 11/10/06						
Sulfate as SO4	ND	0.50	mg/L							
Nitrate as NO3	ND	0.50	"							
LCS (CP08686-BS1)				Prepared: 11/09/06 Analyzed: 11/10/06						
Sulfate as SO4	5.36	0.50	mg/L	5.00		107	80-120		20	
Nitrate as NO3	2.15	0.50	"	2.00		108	80-120		20	
LCS Dup (CP08686-BSD1)				Prepared: 11/09/06 Analyzed: 11/10/06						
Sulfate as SO4	5.34	0.50	mg/L	5.00		107	80-120	0.374	20	
Nitrate as NO3	2.15	0.50	"	2.00		108	80-120	0.00	20	

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Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CP08686 - General Prep										
Matrix Spike (CP08686-MS1)		**Source: CPK0381-01**		Prepared: 11/09/06 Analyzed: 11/10/06						
Sulfate as SO4	27.6	2.5	mg/L	25.0	0.92	107	75-125		25	
Nitrate as NO3	10.7	2.5	"	10.0	0.25	104	75-125		25	
Matrix Spike Dup (CP08686-MSD1)		**Source: CPK0381-01**		Prepared: 11/09/06 Analyzed: 11/10/06						
Sulfate as SO4	27.5	2.5	mg/L	25.0	0.92	106	75-125	0.363	25	
Nitrate as NO3	10.7	2.5	"	10.0	0.25	104	75-125	0.00	25	
Batch CP08704 - General Preparation										
Blank (CP08704-BLK1)				Prepared & Analyzed: 11/10/06						
Chemical Oxygen Demand	ND	7.0	mg/L							
LCS (CP08704-BS1)				Prepared & Analyzed: 11/10/06						
Chemical Oxygen Demand	42.4	7.0	mg/L	50.0		84.8	80-120		25	
LCS Dup (CP08704-BSD1)				Prepared & Analyzed: 11/10/06						
Chemical Oxygen Demand	42.4	7.0	mg/L	50.0		84.8	80-120	0.00	25	
Matrix Spike (CP08704-MS1)		**Source: CPK0379-01**		Prepared & Analyzed: 11/10/06						
Chemical Oxygen Demand	44.3	7.0	mg/L	50.0	ND	88.6	75-125		30	
Matrix Spike Dup (CP08704-MSD1)		**Source: CPK0379-01**		Prepared & Analyzed: 11/10/06						
Chemical Oxygen Demand	42.4	7.0	mg/L	50.0	ND	84.8	75-125	4.38	30	
Batch CP08722 - General Preparation										
Blank (CP08722-BLK1)				Prepared & Analyzed: 11/10/06						
Total Alkalinity	ND	5.0	mg/L							
Bicarbonate as CaCO3	ND	5.0	"							
Carbonate as CaCO3	ND	5.0	"							
Hydroxide as CaCO3	ND	5.0	"							

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CLS Work Order #: CPK0381
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Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CP08757 - General Prep										
Blank (CP08757-BLK1)				Prepared & Analyzed: 11/14/06						
Sulfate as SO4	ND	0.50	mg/L							
LCS (CP08757-BS1)				Prepared & Analyzed: 11/14/06						
Sulfate as SO4	5.34	0.50	mg/L	5.00		107	80-120		20	
LCS Dup (CP08757-BSD1)				Prepared & Analyzed: 11/14/06						
Sulfate as SO4	5.30	0.50	mg/L	5.00		106	80-120	0.752	20	
Matrix Spike (CP08757-MS1)		**Source: CPK0525-01**		Prepared & Analyzed: 11/14/06						
Sulfate as SO4	25.3	0.50	mg/L	5.00	20	106	75-125		25	
Matrix Spike Dup (CP08757-MSD1)		**Source: CPK0525-01**		Prepared & Analyzed: 11/14/06						
Sulfate as SO4	25.4	0.50	mg/L	5.00	20	108	75-125	0.394	25	
Batch CP08810 - General Preparation										
Blank (CP08810-BLK1)				Prepared & Analyzed: 11/14/06						
Total Phosphorus as P	ND	0.050	mg/L							
LCS (CP08810-BS1)				Prepared & Analyzed: 11/14/06						
Total Phosphorus as P	0.318	0.050	mg/L	0.300		106	80-120		25	
LCS Dup (CP08810-BSD1)				Prepared & Analyzed: 11/14/06						
Total Phosphorus as P	0.322	0.050	mg/L	0.300		107	80-120	1.25	25	
Matrix Spike (CP08810-MS1)		**Source: CPK0381-01**		Prepared & Analyzed: 11/14/06						
Total Phosphorus as P	1.10	0.050	mg/L	0.300	0.94	53.3	75-125		30	QM-7

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Project: Tesoro-Livermore
Project Number: 061108-PC1
Project Manager: Erin Gates

CLS Work Order #: CPK0381
COC #: 53232

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CP08810 - General Preparation										
Matrix Spike Dup (CP08810-MSD1)	**Source: CPK0381-01**			Prepared & Analyzed: 11/14/06						
Total Phosphorus as P	1.12	0.050	mg/L	0.300	0.94	60.0	75-125	1.80	30	QM-7

KIFF Analytical	Project: Tesoro-Livermore	
2795 Second St. Suite 300	Project Number: 061108-PC1	**CLS Work Order #: CPK0381**
Davis, CA 95616	Project Manager: Erin Gates	COC #: 53232

Notes and Definitions

QM-7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

BLAINE
TECH SERVICES, INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112-1105
FAX (408) 573-7771
PHONE (408) 573-0555

53232

LAB KIFF | DHS #

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND
☐ EPA ☐ RWQCB REGION
☐ LIA
☐ OTHER

CHAIN OF CUSTODY BTS # 061108-PCL

CLIENT Arctos Environmental, Inc.

SITE Tesoro - Livermore
1619 1st Street
Livermore, CA

SPECIAL INSTRUCTIONS

Invoice and Report to : Arctos Environmental, Inc.
Attn: Mike Purchase
1332 Peralta Ave. Berkeley, CA 94702
Ph. 510-525-2180
mpurchase@arctosenv.com

CONDUCT ANALYSIS TO DETECT

SAMPLE I.D.	DATE	TIME	MATRIX S= SOIL W=H_2O	CONTAINERS TOTAL	C = COMPOSITE ALL CONTAINERS	TPH-G + BTEX + MTBE (8260)	(7) Oxygenates (8260)	Lead Scavengers	Ferrous Iron (24 hr. Hold time)	Nitrate, Sulfate, Phosphorous	Major anions (Chloride, Nitrite, Sulfide)	Total Alkalinity (SM2320B)	COD (410.4)	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
✓ MW-1	11/8/06	1200	W	3		X	X	X									01
✓ MW-2		1350		7		X	X	X	X	X		X	X				02
✓ MW-3		1225		7		X	X	X	X	X		X	X				03
✓ MW-4		1050		7		X	X	X	X	X		X	X				04
✓ MW-5		1125		3		X	X	X									05
✓ MW-6		1320		7		X	X	X	X	X		X	X				06
✓ MW-7		0950		3		X	X	X									07
✓ MW-8		0930		3		X	X	X									08
✓ MW-9		1250		7		X	X	X	X	X		X	X				09
✓ MW-10		1014		3		X	X	X									10

SAMPLING COMPLETED	DATE	TIME
	11/8/06	1455

SAMPLING PERFORMED BY D. Cornish

RESULTS NEEDED NO LATER THAN Standard TAT

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Rutkin					
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
			Chuyen Ahn Kiff Analytical LLC	110806	1555

SAMPLE RECEIPT
Temp °C _____ Therm. ID# _____
Initial _____ Date _____
Time _____ Coolant present: Yes / No

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #

BLAINE
TECH SERVICES, INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112-1105
FAX (408) 573-7771
PHONE (408) 573-0555

LAB: KIFF 53232 | DHS #

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND
- ☐ EPA
- ☐ LIA
- ☐ OTHER
- ☐ RWQCB REGION

CHAIN OF CUSTODY
BTS # 061108-PC1

CLIENT: Arctos Environmental, Inc.

SITE: Tesoro - Livermore
1619 1st Street
Livermore, CA

SPECIAL INSTRUCTIONS

Invoice and Report to : Arctos Environmental, Inc.
Attn: Mike Purchase
1332 Peralta Ave. Berkeley, CA 94702
Ph. 510-525-2180
mpurchase@arctosenv.com

CONDUCT ANALYSIS TO DETECT

SAMPLE I.D.	DATE	TIME	MATRIX (S= SOIL W=H_2O)	CONTAINERS TOTAL		C = COMPOSITE ALL CONTAINERS	TPH-G + BTEX + MTBE (8260)	(7) Oxygenates (8260)	Lead Scavengers	Ferrous Iron (24 hr. Hold time)	Nitrate, Sulfate, Phosphorous	Major anions (Chloride, Nitrite, Sulfide)	Total Alkalinity (SM2320B)	COD (410.4)	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
VW-2	11/8/06	1400	W	3			X	X	X									11
VW-3	↓	1155	↓	3			X	X	X									12
TP-1	↓	1425	↓	3			X	X	X									13
TP-2		1450		3			X	X	X									14

SAMPLING COMPLETED	DATE	TIME	SAMPLING PERFORMED BY	RESULTS NEEDED NO LATER THAN
	11/8/06	1455	P. Cornish	Standard TAT

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
[signature]					
			Chris Allen Kiff Analytical LLC	110806	1555

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #	