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15 January 2006
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 2005 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 Petroleum Companies, Inc. (Tesoro), has prepared this letter report summarizing project activities for the fourth quarter 2005 at the subject site (Figure 1). From October through December 2005, Arctos completed the following tasks:

- Quarterly groundwater monitoring
- Mobilization for site investigation.

Groundwater Monitoring

Arctos's subcontractor, Blaine Tech Services, Inc. (Blaine Tech), of San Jose, California, performed groundwater monitoring at the site on 21 and 22 November 2005. 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 Regional Water Quality Control Board, San Francisco Bay Region (RWQCB), guidelines.

Field Activities for Groundwater Sampling

The depth to groundwater of each well was measured and recorded on field data sheets before sampling. Depth to groundwater and groundwater elevations are summarized on Table 1.

During groundwater sampling, field observations of the groundwater were recorded on field data sheets (Appendix A). 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.

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 measured at approximately 30 to 34 feet below ground surface (436 to 442 feet above mean sea level). Water levels decreased by 1.0 to 2.4 feet since July 2005. The water level data indicate that the general direction of water flow is toward the northwest with an estimated gradient of 0.021 (1 foot/47 feet; Figure 2).

The highest TPHg and MTBE concentrations of 36,000 and 52,000 micrograms per liter (µg/l), respectively, were reported at wells TP-1 and TP-2. The highest benzene concentration of 4,400 µg/l was reported at well MW-2. The highest tert-butyl alcohol (TBA) concentration of 1,200 µg/l was reported at well TP-2. Elevated benzene and MTBE concentrations in groundwater (150 and 100 µg/l, respectively) are also present approximately 140 feet downgradient of the site at well MW-6.

Historical analytical results for the groundwater samples are summarized in Table 2. Figures 3 and 4 show the isoconcentration contours for benzene and MTBE, respectively. The laboratory report and the chain-of-custody form are in Appendix B.

Site Investigation Status

Arctos submitted a work plan in the Third Quarter 2005 Status Report, dated 15 October 2005, which was approved by Alameda County Environmental Health (ACEH) in a letter dated 2 December 2005. The objectives of the work plan are to (1) identify the depth of the regional aquitard at and downgradient of the site, (2) determine the vertical extent of impacted soil and groundwater at and downgradient of the site, and (3) identify possible source areas in the vadose zone at the site.

Boring permits have been requested from Zone 7 Water Agency. Boring locations have been marked, and Underground Service Alert (USA) has been notified to identify subsurface utilities. The proposed soil gas sampling is scheduled to be conducted on 3 January 2006. Written notification will be provided to ACEH at least 72 hours before the start of field activities and an additional investigation report with revised site conceptual model will be submitted on or before 28 April 2006.

If you have any 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
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Copy: Chuck Miller – USA Petroleum Corporation
Bettie Graham – Regional Water Quality Control Board, San Francisco Bay Region

Attachments: Table 1 – Well and Groundwater Elevations
Table 2 – Groundwater Analytical Results
Figure 1 – Site Location Map
Figure 3 – Groundwater Elevation Contours
Figure 4 – Benzene Concentration Contours
Figure 5 – MTBE Concentration Contours
Attachment A – Field Data Sheets
Attachment 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
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
	12/2/1996	26.90		446.08
	3/7/1997	21.33		451.65
	6/12/1997	29.94		443.04
	9/29/1997	34.22		438.76

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	12/1/1997	35.94	472.98	437.04
(cont.)	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
	7/19/2005	30.11		442.87
	11/21/2005	32.04		440.94

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-3	6/1/1993	36.18	473.37	437.19
	6/22/1993	37.11		436.26
	10/6/093	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
	6/12/2000	26.80		446.57
	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

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-3	12/18/2001	39.41	473.37	433.96
(cont.)	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
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
	3/21/1996	15.63		458.01
	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

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	9/15/1998	30.46	473.64	443.18
(cont.)	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
	11/4/2004	34.28		439.36
	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
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

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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	6/15/1995	24.99	472.67	447.68
(cont.)	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
	12/31/2000	31.81		440.86
	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

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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	5/10/2004	31.12	472.67	441.55
(cont.)	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
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
	9/16/1996	32.64		439.29
	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

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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	3/27/2001	32.72	471.93	439.21
(cont.)	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
	5/2/2005	27.30		444.63
	7/19/2005	32.27		439.66
	11/21/2005	33.23		438.70
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

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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	12/1/1997	36.46	472.33	435.87
(cont.)	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
	3/27/2001	30.97		441.36
	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
MW-8	12/23/2003	32.01	471.18	439.17
	3/23/2004	28.50		442.68

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	5/10/2004	31.44	471.18	439.74
(cont.)	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
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
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
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
	5/2/2005	25.34		447.94
	7/19/2005	29.76		443.52
	11/21/2005	31.81		441.47
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

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-3	7/19/2005	28.91	474.38	445.47
(cont.)	11/21/2005	31.07		443.31
TP-1	7/19/2005	29.91	472.82	442.91
	11/21/2005	32.28		440.54
TP-2	7/19/2005	29.67	472.93	443.26
	11/21/2005	31.43		441.50
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 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)	Dissolved Oxygen[c] (mg/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	-	-	-	-	-	-	-	-	-
	3/13/2000	ND<50	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	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-	-	-	-	-	-	-

TABLE 2

GROUNDWATER 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)	Dissolved Oxygen[c] (mg/l)
MW-1	12/31/2000	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	-	-	-	-	-	-	-	-	-
(cont.)	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	0.9
	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	-
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	-	-	-	-	-	-	-	-	-
	9/16/1996	8,600	510	640	180	1,300	ND<250	-	-	-	-	-	-	-	-	-
	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	-	-	-	-	-	-	-	-	-

TABLE 2

GROUNDWATER 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)	Dissolved Oxygen[c] (mg/l)
MW-2	9/15/1998	36,000	3,900	1,200	1,400	7,800	ND<250	-	-	-	-	-	-	-	-	-
(cont.)	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	-
	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	-
	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	0.4
	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	-

TABLE 2

GROUNDWATER 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)	Dissolved Oxygen[c] (mg/l)
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	0.8
	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	-
	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	-
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	1.0
	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	-
MW-5	3/30/1994	7,500	1,300	20	ND<13	160	-	-	-	-	-	-	-	-	-	-
	4/25/1994	6,500	1,100	41	130	740	-	-	-	-	-	-	-	-	-	-

TABLE 2

GROUNDWATER 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)	Dissolved Oxygen[c] (mg/l)
MW-5	8/12/1994	4,000	420	2.9	41	98	-	-	-	-	-	-	-	-	-	-
(cont.)	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	-	-	-	-	-	-	-	-	-
	3/7/1997	520	74	ND<0.5	0.58	1.5	ND<5	-	-	-	-	-	-	-	-	-
	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	-	-	-	-	-	-	-	-	-

TABLE 2

GROUNDWATER 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)	Dissolved Oxygen[c] (mg/l)
MW-5	6/5/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(cont.)	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	-
	12/23/2003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	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	2.8
	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	-
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	-	-	-	-	-	-	-	-	-

TABLE 2

GROUNDWATER 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)	Dissolved Oxygen[c] (mg/l)
MW-6	5/29/1998	38,000	3,500	700	1,800	5,200	ND<100	-	-	-	-	-	-	-	-	-
(cont.)	9/15/1998	22,000	1,900	110	1,400	3,000	ND<100	-	-	-	-	-	-	-	-	-
	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	-
	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	0.4
	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	-

TABLE 2

GROUNDWATER 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)	Dissolved Oxygen[c] (mg/l)
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	-	-	-	-	-	-	-	-	-
	3/13/2000	1,500	7.5	ND<0.5	6.7	2.9	ND<5	-	-	-	-	-	-	-	-	-
	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	-	-	-	-	-	-	-	-	-

TABLE 2

GROUNDWATER 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)	Dissolved Oxygen[c] (mg/l)
MW-7	12/18/2001	3,000	13	0.88	3.4	3.4	ND<0.5	-	-	-	-	-	-	-	-	-
(cont.)	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	0.4
	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	0.56	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	-
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	<5.0	ND<0.5	ND<0.5	1.0
	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	<5.0	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	<5.0	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	-

TABLE 2

GROUNDWATER 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)	Dissolved Oxygen[c] (mg/l)
MW-9	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	-
(cont.)	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	0.1
	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	-
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	-
	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	2.3
	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	-
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	-
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	-
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	-
TP-2	7/20/2005	26,000	1,800	1,100	1,100	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	-

TABLE 2

GROUNDWATER 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)	Dissolved Oxygen[c] (mg/l)
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.

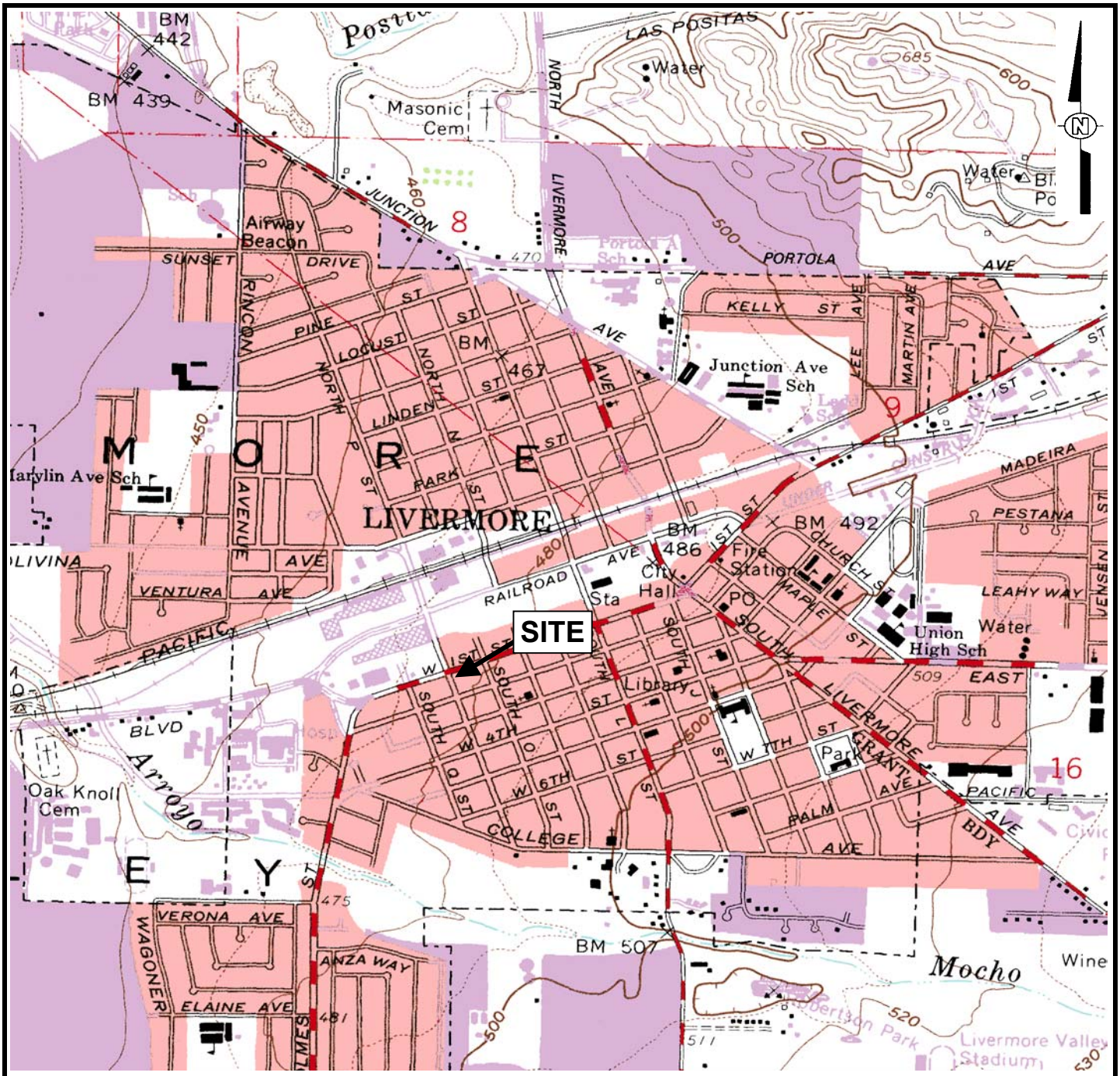
(b) Total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene, xylenes, methyl tert-butyl ether (MTBE), di-isopropyl ether (DIPE), ethyl tert-butyl ether (ETBE), tert-amyl methyl ether (TAME), tert-butyl alcohol (TBA), 1,2-dichloroethane (1,2-DCA), and 1,2-dibromoethane (EDB) analyzed 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.



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**	

438
440
442
MW-8
(438.70)
Hollywood
Video
South P Street
MW-5
(440.32)
MW-4
(441.84)
DB-6
Safeway
Parking Lot
MW-9
(436.63)
DB-5
MW-6
(438.70)
Planter
DB-2
TP-2
Driveway
MW-3
(442.07)
DB-4
SG-8
DB-3
Canopy
Driveway
MW-2
(440.94)
SG-7
Dispenser
Islands
SG-6
DB-1
VW-2
SG-5
TP-1
Air/Water
SG-3
SG-4
SG-2
USTs
VW-3
Driveway
VW-1
Station
Building
SG-1
MW-1
(443.14)
Residence
Former
Waste
Oil Tank
MW-10
(438.67)
First Street
Fosters
Freeze
Restaurant
MW-7
(441.91)

Legend

- MW-7 (441.91) — Groundwater Monitoring Well with Groundwater Elevation (Feet, MSL) Measured on 21 and 22 November 2005
- SG-1 — Proposed Soil Gas Sampling Location
- DB-1 — Proposed Soil Boring and Grab Groundwater Sampling Location
- VW-2 — Vapor Extraction Well
- TP-2 — Temporary Monitoring Well
- 442 — Groundwater Elevation Contour (Dashed Where Inferred)

N

0 20 40
SCALE

REVISION	NO.	BY	DATE	DESCRIPTION
1	0	MY	8/24/05	Third Quarter 2005 Monitoring Report
	1	MY	12/15/05	Fourth Quarter 2005 Monitoring Report

ARCTOS ENVIRONMENTAL

TESORO - LIVERMORE

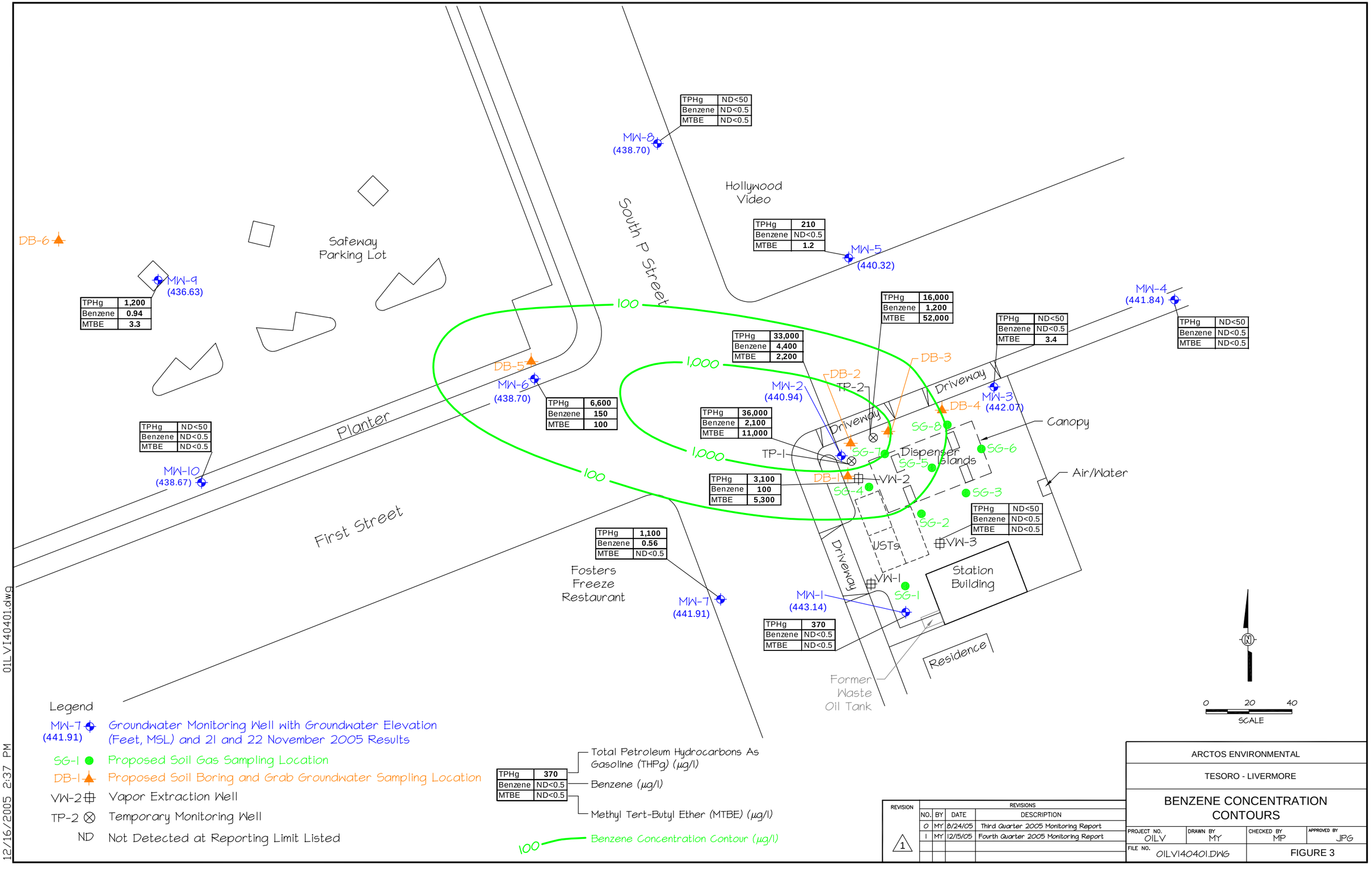
GROUNDWATER ELEVATION CONTOURS

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

FILE NO. 01LV140601.DWG

FIGURE 2

01LV140601.dwg
12/26/2005 4:30 PM



REVISION	NO.	BY	DATE	DESCRIPTION
1	0	MY	8/24/05	Third Quarter 2005 Monitoring Report
	1	MY	12/15/05	Fourth Quarter 2005 Monitoring Report

ARCTOS ENVIRONMENTAL

TESORO - LIVERMORE

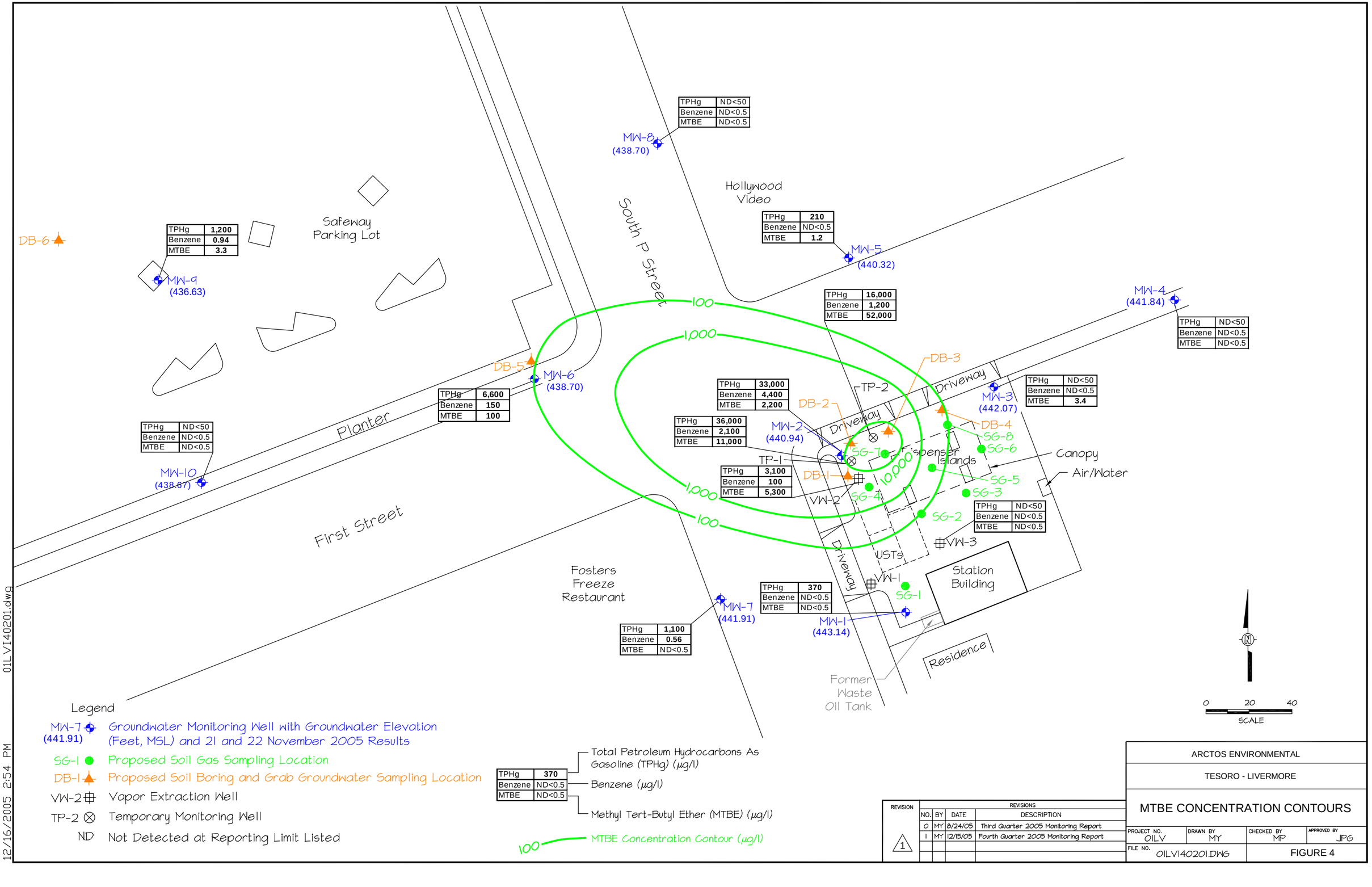
BENZENE CONCENTRATION CONTOURS

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

FILE NO. 01LV140401.DWG

FIGURE 3

01LV140401.dwg 12/16/2005 2:37 PM



REVISION	NO.	BY	DATE	DESCRIPTION
1	0	MY	8/24/05	Third Quarter 2005 Monitoring Report
	1	MY	12/15/05	Fourth Quarter 2005 Monitoring Report

ARCTOS ENVIRONMENTAL

TESORO - LIVERMORE

MTBE CONCENTRATION CONTOURS

PROJECT NO.	DRAWN BY	CHECKED BY	APPROVED BY
OILV	MY	MP	JPG

FILE NO. OILVI40201.DWG

FIGURE 4

01LVI40201.dwg 12/16/2005 2:54 PM

APPENDIX A

FIELD DATA SHEETS

WELL GAUGING DATA

Project # 051121-ow-1 Date 11-21-05 Client Arcos

Site 1619 15th Street Livermore

Well ID	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	
mw-1	4					31.15	53.65		
mw-2	4					32.04	53.90		
mw-3	4					31.30	52.85		
mw-4	2					31.80	46.85		
mw-5	2					32.35	46.25		
mw-6	2					33.23	47.55		
mw-7	2					30.42	46.65		
mw-8	2					32.48	44.40		
mw-9	2					34.15	44.65		
mw-10	2					32.96	45.11		
VW-2	2					31.81	36.78		NP
VW-3	2					31.07	36.25		NP
TP-1	2					32.28	43.20		
TP-2	2					31.43	42.25		

WELL MONITORING DATA SHEET

Project #: 051121-DW-1	Client: Arcos
Sampler: DW	Date: 11-21-05
Well I.D.: MW-1	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth (TD): 53.65	Depth to Water (DTW): 31.15
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]: 35.65	

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

Sampling Method:
- Bailer
- X Disposable Bailer
- Extraction Port
- Dedicated Tubing
- Other: _____

14.6 (Gals.) X	3	=	43.8 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
1124	67.4	7.1	1054	185	14.6	Brown
1129	68.2	7.1	1049	254	29.2	"
1135	68.5	7.1	1028	247	43.8	

Did well dewater? Yes (No) Gallons actually evacuated: 43.8

Sampling Date: 11-21-05 Sampling Time: 1145 Depth to Water: 35.65

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

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

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 #: 051121-DW-1	Client: Arcos
Sampler: DW	Date: 11-22-05
Well I.D.: MW-2	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth (TD): 53.90	Depth to Water (DTW): 32.04
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]: 36.41	

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

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

14.2 (Gals.) X 3 = 42.6 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
0812	65.2	6.8	1193	302	14.2	odor
0817	65.0	6.8	1149	211	28.4	"
0822	65.9	6.9	1132	175	42.6	"

Did well dewater? Yes (No) Gallons actually evacuated: 42.6

Sampling Date: 11-22-05 Sampling Time: 0830 Depth to Water: 36.40

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

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

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 #: 051121-DW-1	Client: Arcos
Sampler: DW	Date: 11-21-05
Well I.D.: MW-3	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 52.85	Depth to Water (DTW): 31.30
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]: 35.61	

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: _____

14 (Gals.) X	3	=	42 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	69.0	7.2	1029	702	14	Brown
1200	68.3	7.1	1042	249	28	"
1205	68.6	7.1	1046	214	42	"

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

Sampling Date: 11-21-05 Sampling Time: 1210 Depth to Water: 35.20

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

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

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 #: 051121-DW-1	Client: Arcos
Sampler: DW	Date: 11-21-05
Well I.D.: MW-4	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 46.85	Depth to Water (DTW): 31.80
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]: 34.81	

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
1054	67.2	7.3	1145	>1000	2.5	
1057	67.3	7.2	1096	>1000	5.0	
1101	67.1	7.2	1087	312	7.5	

Did well dewater? Yes (No) Gallons actually evacuated: 7.5

Sampling Date: 11-21-05 Sampling Time: 1106 Depth to Water: 34.80

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

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

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 #: 051121-DW-1	Client: Arcos
Sampler: DW	Date: 11-21-05
Well I.D.: MW-5	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 46.25	Depth to Water (DTW): 32.35
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]: 35.13	

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

Sampling Method: Bailer; X 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
1312	69.5	6.9	1115	294	2.2	odor / brown
1315	69.1	6.9	1145	218	4.4	" "
1318	68.9	6.9	1159	98	6.6	" "

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

Sampling Date: 11-21-05 Sampling Time: 1323 Depth to Water: 34.25

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

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

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 #: 051121-DW-1	Client: Arcos
Sampler: DW	Date: 11-21-05
Well I.D.: MW-6	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 47.55	Depth to Water (DTW): 33.23
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]: 36.09	

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

Sampling Method: Bailer; X 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
1432	69.9	6.9	780	567	2.3	gray
1435	69.5	6.8	785	275	4.6	
1439	68.9	6.8	784	179	6.9	

Did well dewater? Yes (No) Gallons actually evacuated: 6.9

Sampling Date: 11-21-05 Sampling Time: 1444 Depth to Water: 35.75

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

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

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 #: 051121-DW-1	Client: Arcadis
Sampler: DW	Date: 11-21-05
Well I.D.: MW-7	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 46.65	Depth to Water (DTW): 30.42
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]: 33.66	

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

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

2.6 (Gals.) X	3	= 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
1341	68.8	7.0	1157	198	2.6	Brown/odor
1345	69.3	7.0	1155	141	5.2	" "
1349	69.0	7.0	1148	81	7.8	" "

Did well dewater? Yes (No) Gallons actually evacuated: 7.8

Sampling Date: 11-21-05 Sampling Time: 1354 Depth to Water: 33.20

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

Analyzed for: (TPH-G) (BTEX) (MTBE) TPH-D (Oxygenates (7)) Other: Lead Scavengers

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 #: 051121-DW-1	Client: Arcos
Sampler: DW	Date: 11-21-05
Well I.D.: MW-8	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 44.40	Depth to Water (DTW): 32.48
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]: 34.86	

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

Sampling Method: Bailer; X 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
1001	65.6	6.9	1154	520	2	Brown
1004	67.9	6.9	1116	308	4	"
1007	68.4	7.0	1107	186	6	"

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

Sampling Date: 11-21-05 Sampling Time: 1012 Depth to Water: 34.42

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

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

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 #: 051121-DW-1	Client: Arcos
Sampler: DW	Date: 11-21-05
Well I.D.: MW-9	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 44.65	Depth to Water (DTW): 34.15
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]: 36.25	

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

Sampling Method: Bailer; X 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
1408	69.5	7.0	1112	>1000	1.7	gray / odor
1410	70.9	7.0	1129	>1000	3.4	" "
1413	71.2	7.0	1123	>1000	5.1	" "

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

Sampling Date: 11-21-05 Sampling Time: 1421 Depth to Water: 36.20

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

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

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 #: 051121-DW-1	Client: Arcos
Sampler: DW	Date: 11-21-05
Well I.D.: MW-10	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 45.11	Depth to Water (DTW): 32.96
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]: 35.39	

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

Sampling Method: Bailer; X 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
1025	69.0	7.2	1314	>1000	2	Brown
1028	69.0	7.2	1366	626	4	"
1031	68.6	7.2	1361	640	6	"

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

Sampling Date: 11-21-05 Sampling Time: 1038 Depth to Water: 35.30

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

Analyzed for: (TPH-G) (BTEX) (MTBE) TPH-D (Oxygenates (7)) Other: Lead Scavengers

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 #: 051121-DW-1	Client: Arcetos
Sampler: DW	Date: 11-21-05
Well I.D.: VW-2	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 36.78	Depth to Water (DTW): 31.81
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 / Waterra / Disposable Bailer / Peristaltic / Positive Air Displacement / Extraction Pump / Electric Submersible / Other_____

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

_____(Gals.) X No Purge = _____ 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
0918	63.0	6.6	1347	33	—	

Did well dewater? Yes No Gallons actually evacuated: —

Sampling Date: 11-21-05 Sampling Time: 0918 Depth to Water:

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

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

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 #: 051121-DW-1	Client: Arcos
Sampler: DW	Date: 11-21-05
Well I.D.: VW-3	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 31.07	Depth to Water (DTW): 36.25
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: _____

_____(Gals.) X no purge = _____ 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
0905	64.0	6.6	1743	7	—	

Did well dewater? Yes No Gallons actually evacuated: —

Sampling Date: 11-21-05 Sampling Time: 0905 Depth to Water:

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

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

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 #: 051121-DW-1	Client: Arcos
Sampler: DW	Date: 11-22-05
Well I.D.: TP-1	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 43.20	Depth to Water (DTW): 32.28
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]: 34.46	

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

Sampling Method: Bailer; X 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
0850	60.4	6.8	1251	>1000	1.7	gray/odor
0853	63.3	6.8	1266	>1000	3.4	" "
0856	64.6	6.8	1266	>1000	5.1	" "

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

Sampling Date: 11-22-05 Sampling Time: 0905 Depth to Water: 34.45

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

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

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 #: 051121-DW-1	Client: Arcos
Sampler: DW	Date: 11-22-05
Well I.D.: TP-2	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 42.25	Depth to Water (DTW): 31.43
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]: 33.59	

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

Sampling Method: Bailer; X 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
0918	61.3	6.9	1254	>1000	1.7	gray/odor
0922	64.0	6.9	1273	>1000	3.4	" "
0925	64.5	6.9	1278	>1000	5.1	" "

Did well dewater? Yes No Gallons actually evacuated:

Sampling Date: 11-22-05 Sampling Time: 0932 Depth to Water: 33.59

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

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

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	

SPH or Purge Water Drum Log

Client: Arcfos Environmental

Site Address: 1619 1st Street Livermore

STATUS OF DRUM(S) UPON ARRIVAL						
Date	11-21-05					
Number of drum(s) empty:						
Number of drum(s) 1/4 full:						
Number of drum(s) 1/2 full:						
Number of drum(s) 3/4 full:	1					
Number of drum(s) full:	1					
Total drum(s) on site:	2 (used oil filters)					
Are the drum(s) properly labeled?						
Drum ID & Contents:	Haz waste					
If any drum(s) are partially or totally filled, what is the first use date:						

- If you add any SPH to an empty or partially filled drum, drum must have at least 20 gals. of Purgewater or DI Water.

-If drum contains SPH, the drum MUST be steel AND labeled with the appropriate label.

-All BTS drums MUST be labeled appropriately.

STATUS OF DRUM(S) UPON DEPARTURE						
Date	11-22-05					
Number of drums empty:						
Number of drum(s) 1/4 full:						
Number of drum(s) 1/2 full:	1					
Number of drum(s) 3/4 full:	1					
Number of drum(s) full:	1					
Total drum(s) on site:	6					
Are the drum(s) properly labeled?	yes					
Drum ID & Contents:	purge water					

LOCATION OF DRUM(S)
Describe location of drum(s): In compound to left of bldg.

FINAL STATUS						
Number of new drum(s) left on site this event	4					
Date of inspection:	11-22-05					
Drum(s) labelled properly:	y					
Logged by BTS Field Tech:	DW					
Office reviewed by:						

APPENDIX B

LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY FORM

Electronic Submittal Information

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Confirmation Number: 2761434555
Date/Time of Submittal: 12/14/2005 4:49:27 PM
Facility Global ID: T0600101410
Facility Name: BEACON #3604 (FORMER)
Submittal Title: 01LV 4Q05 QMR 1of2
Submittal Type: GW Monitoring Report

Click here to view the detections report for this upload.

BEACON #3604 (FORMER)
1619 1ST ST
LIVERMORE, CA 94550

Regional Board - Case #: 01-1527
SAN FRANCISCO BAY RWQCB (REGION 2) - **(BG)**
Local Agency (lead agency) - Case #: 4032
ALAMEDA COUNTY LOP - **(JTW)**

CONF #	TITLE	QUARTER
2761434555	01LV 4Q05 QMR 1of2	Q4 2005

SUBMITTED BY	SUBMIT DATE	STATUS
Miguel Tseng	12/14/2005	PENDING REVIEW

SAMPLE DETECTIONS REPORT

# FIELD POINTS SAMPLED	11
# FIELD POINTS WITH DETECTIONS	7
# FIELD POINTS WITH WATER SAMPLE DETECTIONS ABOVE MCL	6
SAMPLE MATRIX TYPES	WATER

METHOD QA/QC REPORT

METHODS USED	SW8260B
TESTED FOR REQUIRED ANALYTES?	Y
LAB NOTE DATA QUALIFIERS	Y

QA/QC FOR 8021/8260 SERIES SAMPLES

TECHNICAL HOLDING TIME VIOLATIONS	0
METHOD HOLDING TIME VIOLATIONS	0
LAB BLANK DETECTIONS ABOVE REPORTING DETECTION LIMIT	0
LAB BLANK DETECTIONS	0
DO ALL BATCHES WITH THE 8021/8260 SERIES INCLUDE THE FOLLOWING?	
- LAB METHOD BLANK	Y
- MATRIX SPIKE	Y
- MATRIX SPIKE DUPLICATE	Y
- BLANK SPIKE	Y
- SURROGATE SPIKE	Y

WATER SAMPLES FOR 8021/8260 SERIES

MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%	Y
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%	Y
SURROGATE SPIKES % RECOVERY BETWEEN 85-115%	N
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%	Y

SOIL SAMPLES FOR 8021/8260 SERIES

MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%	n/a
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%	n/a
SURROGATE SPIKES % RECOVERY BETWEEN 70-125%	n/a
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%	n/a

FIELD QC SAMPLES

SAMPLE	COLLECTED	DETECTIONS > REPDL
QCTB SAMPLES	N	0
QCEB SAMPLES	N	0
QCAB SAMPLES	N	0

Logged in as ORIONENV (AUTH_RP) CONTACT SITE ADMINISTRATOR.

Electronic Submittal Information

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Confirmation Number: 5601436316
Date/Time of Submittal: 12/14/2005 4:51:33 PM
Facility Global ID: T0600101410
Facility Name: BEACON #3604 (FORMER)
Submittal Title: 01LV 4Q05 QMR 2of2
Submittal Type: GW Monitoring Report

Click here to view the detections report for this upload.

BEACON #3604 (FORMER)
1619 1ST ST
LIVERMORE, CA 94550

Regional Board - Case #: 01-1527
SAN FRANCISCO BAY RWQCB (REGION 2) - **(BG)**
Local Agency (lead agency) - Case #: 4032
ALAMEDA COUNTY LOP - **(JTW)**

CONF #	TITLE	QUARTER
5601436316	01LV 4Q05 QMR 2of2	Q4 2005

SUBMITTED BY	SUBMIT DATE	STATUS
Miguel Tseng	12/14/2005	PENDING REVIEW

SAMPLE DETECTIONS REPORT

# FIELD POINTS SAMPLED	3
# FIELD POINTS WITH DETECTIONS	3
# FIELD POINTS WITH WATER SAMPLE DETECTIONS ABOVE MCL	3
SAMPLE MATRIX TYPES	WATER

METHOD QA/QC REPORT

METHODS USED	SW8260B
TESTED FOR REQUIRED ANALYTES?	Y
LAB NOTE DATA QUALIFIERS	Y

QA/QC FOR 8021/8260 SERIES SAMPLES

TECHNICAL HOLDING TIME VIOLATIONS	0
METHOD HOLDING TIME VIOLATIONS	0
LAB BLANK DETECTIONS ABOVE REPORTING DETECTION LIMIT	0
LAB BLANK DETECTIONS	0
DO ALL BATCHES WITH THE 8021/8260 SERIES INCLUDE THE FOLLOWING?	
- LAB METHOD BLANK	Y
- MATRIX SPIKE	Y
- MATRIX SPIKE DUPLICATE	Y
- BLANK SPIKE	Y
- SURROGATE SPIKE	Y

WATER SAMPLES FOR 8021/8260 SERIES

MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%	Y
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%	Y
SURROGATE SPIKES % RECOVERY BETWEEN 85-115%	N
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%	Y

SOIL SAMPLES FOR 8021/8260 SERIES

MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) % RECOVERY BETWEEN 65-135%	n/a
MATRIX SPIKE / MATRIX SPIKE DUPLICATE(S) RPD LESS THAN 30%	n/a
SURROGATE SPIKES % RECOVERY BETWEEN 70-125%	n/a
BLANK SPIKE / BLANK SPIKE DUPLICATES % RECOVERY BETWEEN 70-130%	n/a

FIELD QC SAMPLES

SAMPLE	COLLECTED	DETECTIONS > REPDL
QCTB SAMPLES	N	0
QCEB SAMPLES	N	0
QCAB SAMPLES	N	0

Logged in as ORIONENV (AUTH_RP) CONTACT SITE ADMINISTRATOR.

Electronic Submittal Information

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UPLOADING A GEO_WELL FILE

Processing is complete. No errors were found!
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Submittal Title:	**01LV 4Q05 QMR**
Submittal Date/Time:	**12/14/2005 4:53:12 PM**
Confirmation Number:	**4768081486**

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KIFF Analytical LLC

Report Number : 47088
Date : 12/2/2005

Mike Purchase
Arctos Environmental
1332 Peralta Avenue
Berkeley, CA

Subject : 3 Water Samples
Project Name : Tesoro-Livermore
Project Number : 051121-DW-1

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 : 47088
Date : 12/2/2005

Subject : 3 Water Samples
Project Name : Tesoro-Livermore
Project Number : 051121-DW-1

Case Narrative

Tert-Butanol results for sample TP-2 may be biased slightly high and are flagged with a 'J'. A fraction of MtBE (typically less than 1%) converts to Tert-Butanol during the analysis of water samples. We consider this conversion effect to be mathematically significant in samples that contain MtBE/Tert-Butanol in ratios of over 20:1.

Approved By: Joel Kiff

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

KIFF Analytical LLC

Report Number : 47088

Date : 12/2/2005

Project Name : **Tesoro-Livermore**

Project Number : **051121-DW-1**

Sample : **MW-2** Matrix : Water Lab Number : 47088-01

Sample Date :11/22/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**4400**	9.0	ug/L	EPA 8260B	11/30/2005
Toluene	**880**	9.0	ug/L	EPA 8260B	11/30/2005
Ethylbenzene	**1200**	9.0	ug/L	EPA 8260B	11/30/2005
Total Xylenes	**2600**	9.0	ug/L	EPA 8260B	11/30/2005
Methyl-t-butyl ether (MTBE)	**2200**	9.0	ug/L	EPA 8260B	11/30/2005
Diisopropyl ether (DIPE)	**< 9.0**	9.0	ug/L	EPA 8260B	11/30/2005
Ethyl-t-butyl ether (ETBE)	**< 9.0**	9.0	ug/L	EPA 8260B	11/30/2005
Tert-amyl methyl ether (TAME)	**19**	9.0	ug/L	EPA 8260B	11/30/2005
Tert-Butanol	**480**	50	ug/L	EPA 8260B	11/30/2005
Methanol	**< 900**	900	ug/L	EPA 8260B	11/30/2005
Ethanol	**< 90**	90	ug/L	EPA 8260B	11/30/2005
1,2-Dichloroethane	**< 9.0**	9.0	ug/L	EPA 8260B	11/30/2005
1,2-Dibromoethane	**< 9.0**	9.0	ug/L	EPA 8260B	11/30/2005
TPH as Gasoline	**33000**	900	ug/L	EPA 8260B	11/30/2005
Toluene - d8 (Surr)	99.3		% Recovery	EPA 8260B	11/30/2005
4-Bromofluorobenzene (Surr)	115		% Recovery	EPA 8260B	11/30/2005

Approved By: Joel Kiff

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

KIFF Analytical LLC

Report Number : 47088

Date : 12/2/2005

Project Name : **Tesoro-Livermore**

Project Number : **051121-DW-1**

Sample : **TP-1** Matrix : Water Lab Number : 47088-02

Sample Date :11/22/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**2100**	20	ug/L	EPA 8260B	11/30/2005
Toluene	**290**	20	ug/L	EPA 8260B	11/30/2005
Ethylbenzene	**1400**	20	ug/L	EPA 8260B	11/30/2005
Total Xylenes	**2600**	20	ug/L	EPA 8260B	11/30/2005
Methyl-t-butyl ether (MTBE)	**11000**	20	ug/L	EPA 8260B	11/30/2005
Diisopropyl ether (DIPE)	**< 20**	20	ug/L	EPA 8260B	11/30/2005
Ethyl-t-butyl ether (ETBE)	**< 20**	20	ug/L	EPA 8260B	11/30/2005
Tert-amyl methyl ether (TAME)	**70**	20	ug/L	EPA 8260B	11/30/2005
Tert-Butanol	**810**	90	ug/L	EPA 8260B	11/30/2005
Methanol	**< 2000**	2000	ug/L	EPA 8260B	11/30/2005
Ethanol	**< 200**	200	ug/L	EPA 8260B	11/30/2005
1,2-Dichloroethane	**< 20**	20	ug/L	EPA 8260B	11/30/2005
1,2-Dibromoethane	**< 20**	20	ug/L	EPA 8260B	11/30/2005
TPH as Gasoline	**36000**	2000	ug/L	EPA 8260B	11/30/2005
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	11/30/2005
4-Bromofluorobenzene (Surr)	113		% Recovery	EPA 8260B	11/30/2005

Approved By: Joel Kiff

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

KIFF Analytical LLC

Report Number : 47088

Date : 12/2/2005

Project Name : **Tesoro-Livermore**

Project Number : **051121-DW-1**

Sample : **TP-2** Matrix : Water Lab Number : 47088-03

Sample Date :11/22/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**1200**	90	ug/L	EPA 8260B	11/30/2005
Toluene	**140**	90	ug/L	EPA 8260B	11/30/2005
Ethylbenzene	**840**	90	ug/L	EPA 8260B	11/30/2005
Total Xylenes	**820**	90	ug/L	EPA 8260B	11/30/2005
Methyl-t-butyl ether (MTBE)	**52000**	90	ug/L	EPA 8260B	11/30/2005
Diisopropyl ether (DIPE)	**< 90**	90	ug/L	EPA 8260B	11/30/2005
Ethyl-t-butyl ether (ETBE)	**< 90**	90	ug/L	EPA 8260B	11/30/2005
Tert-amyl methyl ether (TAME)	**340**	90	ug/L	EPA 8260B	11/30/2005
Tert-Butanol	**1200 J**	500	ug/L	EPA 8260B	11/30/2005
Methanol	**< 9000**	9000	ug/L	EPA 8260B	11/30/2005
Ethanol	**< 900**	900	ug/L	EPA 8260B	11/30/2005
1,2-Dichloroethane	**< 90**	90	ug/L	EPA 8260B	11/30/2005
1,2-Dibromoethane	**< 90**	90	ug/L	EPA 8260B	11/30/2005
TPH as Gasoline	**16000**	9000	ug/L	EPA 8260B	11/30/2005
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	11/30/2005
4-Bromofluorobenzene (Surr)	111		% Recovery	EPA 8260B	11/30/2005

Approved By: Joel Kiff

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

Report Number : 47088

Date : 12/2/2005

QC Report : Method Blank Data

Project Name : **Tesoro-Livermore**

Project Number : **051121-DW-1**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	11/29/2005
Toluene	< 0.50	0.50	ug/L	EPA 8260B	11/29/2005
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	11/29/2005
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	11/29/2005
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	11/29/2005
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	11/29/2005
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	11/29/2005
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	11/29/2005
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	11/29/2005
Methanol	< 50	50	ug/L	EPA 8260B	11/29/2005
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	11/29/2005
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	11/29/2005
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	11/29/2005
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	11/29/2005
Toluene - d8 (Surr)	100		%	EPA 8260B	11/29/2005
4-Bromofluorobenzene (Surr)	110		%	EPA 8260B	11/29/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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

Report Number : 47088

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 12/2/2005

Project Name : **Tesoro-Livermore**

Project Number : **051121-DW-1**

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	47102-03	<0.50	40.0	40.0	38.2	37.4	ug/L	EPA 8260B	11/29/05	95.4	93.6	1.92	70-130	25
Toluene	47102-03	<0.50	40.0	40.0	38.4	37.9	ug/L	EPA 8260B	11/29/05	96.1	94.7	1.46	70-130	25
Tert-Butanol	47102-03	<5.0	200	200	201	212	ug/L	EPA 8260B	11/29/05	100	106	5.43	70-130	25
Methyl-t-Butyl Ether	47102-03	<0.50	40.0	40.0	40.3	40.3	ug/L	EPA 8260B	11/29/05	101	101	0.123	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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

Report Number : 47088

QC Report : Laboratory Control Sample (LCS)

Date : 12/2/2005

Project Name : **Tesoro-Livermore**

Project Number : **051121-DW-1**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	11/29/05	91.9	70-130
Toluene	40.0	ug/L	EPA 8260B	11/29/05	92.8	70-130
Tert-Butanol	200	ug/L	EPA 8260B	11/29/05	98.1	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	11/29/05	97.2	70-130

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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

BLAINE
TECH SERVICES, INC.

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

CONDUCT ANALYSIS TO DETECT

LAB KIFF 47088 DHS #

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

CHAIN OF BTS # 051121-DW-1
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

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					ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
MW-2	11-22	0837	W	6	HCL VOAs		X	X	X								01
TP-1	↓	0905	↓	↓	↓		X	X	X								02
TP-2	↓	0932	↓	↓	↓		X	X	X								03

SAMPLING COMPLETED	DATE	TIME
	11-22-05	0940

SAMPLING PERFORMED BY Dave Walter

RESULTS NEEDED NO LATER THAN Standard TAT

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
David C. Glatt	11-22-05	1412	SAMPLE CUSTODIAN	11/22/05	1412
SAMPLE CUSTODIAN	11/23/05	1131			
			Jason N Hamerly Kiff Analytical	112305	1131

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #

Sample Receipt
Temp °C 1.4°C Therm. ID# IR-4
Initial JNH Date 112305
Time 1532 Coolant present: (Y) N

KIFF Analytical LLC

Report Number : 47063
Date : 12/1/2005

Mike Purchase
Arctos Environmental
1332 Peralta Avenue
Berkeley, CA

Subject : 11 Water Samples
Project Name : Tesoro - Livermore
Project Number : 051121-DW-1

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 : 47063
Date : 12/1/2005

Subject : 11 Water Samples
Project Name : Tesoro - Livermore
Project Number : 051121-DW-1

Case Narrative

Tert-Butanol results for sample VW-2 may be biased slightly high and are flagged with a 'J'. A fraction of MtBE (typically less than 1%) converts to Tert-Butanol during the analysis of water samples. We consider this conversion effect to be mathematically significant in samples that contain MtBE/Tert-Butanol in ratios of over 20:1.

Approved By: Joel Kiff

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

KIFF Analytical LLC

Report Number : 47063

Date : 12/1/2005

Project Name : **Tesoro - Livermore**

Project Number : **051121-DW-1**

Sample : **MW-1** Matrix : Water Lab Number : 47063-01

Sample Date :11/21/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/23/2005
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	11/23/2005
Ethylbenzene	**0.75**	0.50	ug/L	EPA 8260B	11/23/2005
Total Xylenes	**1.3**	0.50	ug/L	EPA 8260B	11/23/2005
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/23/2005
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/23/2005
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/23/2005
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	11/23/2005
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/23/2005
Methanol	**< 50**	50	ug/L	EPA 8260B	11/23/2005
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/23/2005
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/23/2005
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/23/2005
TPH as Gasoline	**370**	50	ug/L	EPA 8260B	11/23/2005
Toluene - d8 (Surr)	99.2		% Recovery	EPA 8260B	11/23/2005
4-Bromofluorobenzene (Surr)	95.9		% Recovery	EPA 8260B	11/23/2005

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KIFF Analytical LLC

Report Number : 47063

Date : 12/1/2005

Project Name : **Tesoro - Livermore**

Project Number : **051121-DW-1**

Sample : **MW-3** Matrix : Water Lab Number : 47063-02

Sample Date :11/21/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/23/2005
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	11/23/2005
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/23/2005
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	11/23/2005
Methyl-t-butyl ether (MTBE)	**3.4**	0.50	ug/L	EPA 8260B	11/23/2005
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/23/2005
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/23/2005
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	11/23/2005
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/23/2005
Methanol	**< 50**	50	ug/L	EPA 8260B	11/23/2005
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/23/2005
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/23/2005
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/23/2005
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	11/23/2005
Toluene - d8 (Surr)	99.3		% Recovery	EPA 8260B	11/23/2005
4-Bromofluorobenzene (Surr)	95.5		% Recovery	EPA 8260B	11/23/2005

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KIFF Analytical LLC

Report Number : 47063

Date : 12/1/2005

Project Name : **Tesoro - Livermore**

Project Number : **051121-DW-1**

Sample : **MW-4** Matrix : Water Lab Number : 47063-03

Sample Date :11/21/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/24/2005
Methanol	**< 50**	50	ug/L	EPA 8260B	11/24/2005
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/24/2005
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	11/24/2005
Toluene - d8 (Surr)	99.2		% Recovery	EPA 8260B	11/24/2005
4-Bromofluorobenzene (Surr)	95.6		% Recovery	EPA 8260B	11/24/2005

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KIFF Analytical LLC

Report Number : 47063

Date : 12/1/2005

Project Name : **Tesoro - Livermore**

Project Number : **051121-DW-1**

Sample : **MW-5** Matrix : Water Lab Number : 47063-04

Sample Date :11/21/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Methyl-t-butyl ether (MTBE)	**1.2**	0.50	ug/L	EPA 8260B	11/24/2005
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/24/2005
Methanol	**< 50**	50	ug/L	EPA 8260B	11/24/2005
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/24/2005
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
TPH as Gasoline	**210**	50	ug/L	EPA 8260B	11/24/2005
Toluene - d8 (Surr)	99.4		% Recovery	EPA 8260B	11/24/2005
4-Bromofluorobenzene (Surr)	94.3		% Recovery	EPA 8260B	11/24/2005

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Report Number : 47063

Date : 12/1/2005

Project Name : **Tesoro - Livermore**

Project Number : **051121-DW-1**

Sample : **MW-6** Matrix : Water Lab Number : 47063-05

Sample Date :11/21/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**150**	1.0	ug/L	EPA 8260B	11/29/2005
Toluene	**26**	1.0	ug/L	EPA 8260B	11/29/2005
Ethylbenzene	**580**	1.0	ug/L	EPA 8260B	11/29/2005
Total Xylenes	**640**	2.5	ug/L	EPA 8260B	11/24/2005
Methyl-t-butyl ether (MTBE)	**100**	1.0	ug/L	EPA 8260B	11/29/2005
Diisopropyl ether (DIPE)	**< 1.0**	1.0	ug/L	EPA 8260B	11/29/2005
Ethyl-t-butyl ether (ETBE)	**< 1.0**	1.0	ug/L	EPA 8260B	11/29/2005
Tert-amyl methyl ether (TAME)	**< 1.0**	1.0	ug/L	EPA 8260B	11/29/2005
Tert-Butanol	**13**	5.0	ug/L	EPA 8260B	11/29/2005
Methanol	**< 100**	100	ug/L	EPA 8260B	11/29/2005
Ethanol	**< 10**	10	ug/L	EPA 8260B	11/29/2005
1,2-Dichloroethane	**< 1.0**	1.0	ug/L	EPA 8260B	11/29/2005
1,2-Dibromoethane	**< 1.0**	1.0	ug/L	EPA 8260B	11/29/2005
TPH as Gasoline	**6600**	250	ug/L	EPA 8260B	11/24/2005
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	11/29/2005
4-Bromofluorobenzene (Surr)	116		% Recovery	EPA 8260B	11/29/2005

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Report Number : 47063

Date : 12/1/2005

Project Name : **Tesoro - Livermore**

Project Number : **051121-DW-1**

Sample : **MW-7** Matrix : Water Lab Number : 47063-06

Sample Date :11/21/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**0.56**	0.50	ug/L	EPA 8260B	11/24/2005
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Ethylbenzene	**3.4**	0.50	ug/L	EPA 8260B	11/24/2005
Total Xylenes	**23**	0.50	ug/L	EPA 8260B	11/24/2005
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/24/2005
Methanol	**< 50**	50	ug/L	EPA 8260B	11/24/2005
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/24/2005
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
TPH as Gasoline	**1100**	50	ug/L	EPA 8260B	11/24/2005
Toluene - d8 (Surr)	97.0		% Recovery	EPA 8260B	11/24/2005
4-Bromofluorobenzene (Surr)	94.3		% Recovery	EPA 8260B	11/24/2005

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Report Number : 47063

Date : 12/1/2005

Project Name : **Tesoro - Livermore**

Project Number : **051121-DW-1**

Sample : **MW-8** Matrix : Water Lab Number : 47063-07

Sample Date :11/21/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/24/2005
Methanol	**< 50**	50	ug/L	EPA 8260B	11/24/2005
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/24/2005
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	11/24/2005
Toluene - d8 (Surr)	98.6		% Recovery	EPA 8260B	11/24/2005
4-Bromofluorobenzene (Surr)	93.9		% Recovery	EPA 8260B	11/24/2005

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KIFF Analytical LLC

Report Number : 47063
Date : 12/1/2005

Project Name : **Tesoro - Livermore**
Project Number : **051121-DW-1**

Sample : **MW-9** Matrix : Water Lab Number : 47063-08
Sample Date :11/21/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**0.94**	0.50	ug/L	EPA 8260B	11/24/2005
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Ethylbenzene	**1.4**	0.50	ug/L	EPA 8260B	11/24/2005
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Methyl-t-butyl ether (MTBE)	**3.3**	0.50	ug/L	EPA 8260B	11/24/2005
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/24/2005
Methanol	**< 50**	50	ug/L	EPA 8260B	11/24/2005
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/24/2005
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
TPH as Gasoline	**1200**	50	ug/L	EPA 8260B	11/24/2005
Toluene - d8 (Surr)	97.9		% Recovery	EPA 8260B	11/24/2005
4-Bromofluorobenzene (Surr)	94.7		% Recovery	EPA 8260B	11/24/2005

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KIFF Analytical LLC

Report Number : 47063

Date : 12/1/2005

Project Name : **Tesoro - Livermore**

Project Number : **051121-DW-1**

Sample : **MW-10** Matrix : Water Lab Number : 47063-09

Sample Date :11/21/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/24/2005
Methanol	**< 50**	50	ug/L	EPA 8260B	11/24/2005
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/24/2005
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	11/24/2005
Toluene - d8 (Surr)	98.2		% Recovery	EPA 8260B	11/24/2005
4-Bromofluorobenzene (Surr)	93.7		% Recovery	EPA 8260B	11/24/2005

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Report Number : 47063

Date : 12/1/2005

Project Name : **Tesoro - Livermore**

Project Number : **051121-DW-1**

Sample : **VW-2** Matrix : Water Lab Number : 47063-10

Sample Date :11/21/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**100**	9.0	ug/L	EPA 8260B	11/29/2005
Toluene	**< 9.0**	9.0	ug/L	EPA 8260B	11/29/2005
Ethylbenzene	**22**	9.0	ug/L	EPA 8260B	11/29/2005
Total Xylenes	**10**	9.0	ug/L	EPA 8260B	11/29/2005
Methyl-t-butyl ether (MTBE)	**5300**	9.0	ug/L	EPA 8260B	11/29/2005
Diisopropyl ether (DIPE)	**< 9.0**	9.0	ug/L	EPA 8260B	11/29/2005
Ethyl-t-butyl ether (ETBE)	**< 9.0**	9.0	ug/L	EPA 8260B	11/29/2005
Tert-amyl methyl ether (TAME)	**54**	9.0	ug/L	EPA 8260B	11/29/2005
Tert-Butanol	**76 J**	50	ug/L	EPA 8260B	11/29/2005
Methanol	**< 900**	900	ug/L	EPA 8260B	11/29/2005
Ethanol	**< 90**	90	ug/L	EPA 8260B	11/29/2005
1,2-Dichloroethane	**< 9.0**	9.0	ug/L	EPA 8260B	11/29/2005
1,2-Dibromoethane	**< 9.0**	9.0	ug/L	EPA 8260B	11/29/2005
TPH as Gasoline	**3100**	900	ug/L	EPA 8260B	11/29/2005
Toluene - d8 (Surr)	99.5		% Recovery	EPA 8260B	11/29/2005
4-Bromofluorobenzene (Surr)	113		% Recovery	EPA 8260B	11/29/2005

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Report Number : 47063

Date : 12/1/2005

Project Name : **Tesoro - Livermore**

Project Number : **051121-DW-1**

Sample : **VW-3** Matrix : Water Lab Number : 47063-11

Sample Date :11/21/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/24/2005
Methanol	**< 50**	50	ug/L	EPA 8260B	11/24/2005
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	11/24/2005
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	11/24/2005
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	11/24/2005
Toluene - d8 (Surr)	98.7		% Recovery	EPA 8260B	11/24/2005
4-Bromofluorobenzene (Surr)	93.3		% Recovery	EPA 8260B	11/24/2005

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Report Number : 47063

Date : 12/1/2005

QC Report : Method Blank Data

Project Name : **Tesoro - Livermore**

Project Number : **051121-DW-1**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	11/23/2005
Toluene	< 0.50	0.50	ug/L	EPA 8260B	11/23/2005
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	11/23/2005
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	11/23/2005
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	11/23/2005
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	11/23/2005
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	11/23/2005
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	11/23/2005
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	11/23/2005
Methanol	< 50	50	ug/L	EPA 8260B	11/23/2005
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	11/23/2005
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	11/23/2005
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	11/23/2005
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	11/23/2005
Toluene - d8 (Surr)	99.0		%	EPA 8260B	11/23/2005
4-Bromofluorobenzene (Surr)	95.9		%	EPA 8260B	11/23/2005
Benzene	< 0.50	0.50	ug/L	EPA 8260B	11/29/2005
Toluene	< 0.50	0.50	ug/L	EPA 8260B	11/29/2005
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	11/29/2005
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	11/29/2005
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	11/29/2005
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	11/29/2005
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	11/29/2005
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	11/29/2005
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	11/29/2005
Methanol	< 50	50	ug/L	EPA 8260B	11/29/2005
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	11/29/2005
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	11/29/2005
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	11/29/2005
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	11/29/2005
Toluene - d8 (Surr)	101		%	EPA 8260B	11/29/2005
4-Bromofluorobenzene (Surr)	115		%	EPA 8260B	11/29/2005

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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

Report Number : 47063

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 12/1/2005

Project Name : **Tesoro - Livermore**

Project Number : **051121-DW-1**

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	47025-06	<0.50	39.3	39.6	42.6	42.7	ug/L	EPA 8260B	11/23/05	108	108	0.607	70-130	25
Toluene	47025-06	<0.50	39.3	39.6	41.4	41.4	ug/L	EPA 8260B	11/23/05	105	104	0.849	70-130	25
Tert-Butanol	47025-06	<5.0	196	198	209	207	ug/L	EPA 8260B	11/23/05	106	105	1.53	70-130	25
Methyl-t-Butyl Ether	47025-06	4.0	39.3	39.6	41.5	42.2	ug/L	EPA 8260B	11/23/05	95.5	96.5	1.04	70-130	25
Benzene	47087-16	<0.50	40.0	40.0	37.7	36.8	ug/L	EPA 8260B	11/29/05	94.3	92.1	2.38	70-130	25
Toluene	47087-16	<0.50	40.0	40.0	38.4	37.6	ug/L	EPA 8260B	11/29/05	96.0	94.0	2.15	70-130	25
Tert-Butanol	47087-16	<5.0	200	200	209	203	ug/L	EPA 8260B	11/29/05	105	102	2.85	70-130	25
Methyl-t-Butyl Ether	47087-16	380	40.0	40.0	421	421	ug/L	EPA 8260B	11/29/05	111	112	0.926	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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

Report Number : 47063

QC Report : Laboratory Control Sample (LCS)

Date : 12/1/2005

Project Name : **Tesoro - Livermore**

Project Number : **051121-DW-1**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	11/23/05	108	70-130
Toluene	40.0	ug/L	EPA 8260B	11/23/05	106	70-130
Tert-Butanol	200	ug/L	EPA 8260B	11/23/05	104	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	11/23/05	97.0	70-130
Benzene	40.0	ug/L	EPA 8260B	11/29/05	91.4	70-130
Toluene	40.0	ug/L	EPA 8260B	11/29/05	92.4	70-130
Tert-Butanol	200	ug/L	EPA 8260B	11/29/05	101	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	11/29/05	86.5	70-130

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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

BLAINE
TECH SERVICES, INC.

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

47063 1of2

LAB KIFF | DHS #

CONDUCT ANALYSIS TO DETECT

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

CHAIN OF BTS # 051121-DW-1

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

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					ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
MW-1	11-21	1145	W	6	HCL VOAs		X	X	X								01
MW-3		1210					X	X	X								02
MW-4		1106					X	X	X								03
MW-5		1323					X	X	X								04
MW-6		1444					X	X	X								05
MW-7		1354					X	X	X								06
MW-8		1012					X	X	X								07
MW-9		1421					X	X	X								08
MW-10		1038					X	X	X								09
DW-2		0918					X	X	X								10

SAMPLING COMPLETED	DATE	TIME
	11-21-05	1510

SAMPLING PERFORMED BY Dave Walter

RESULTS NEEDED NO LATER THAN Standard TAT

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
David C Walk	11/21/05	1552	SAMPLE CUSTODIAN	11/21/05	1552
SAMPLE CUSTODIAN	11/22/05	950			
			Michelle Spencer Kiff Analytical	112205	0950

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #

Sample Receipt
Temp °C .4 Therm. ID# IR-1
Initial MAS
Date 112205 Time 1515
Coolant present: Yes No

BLAINE
TECH SERVICES, INC.

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

47063 2 of 2

CHAIN OF BTS # 051121-DW-1

CLIENT: Arctos Environmental, Inc.

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

LAB: KIFF | DHS #

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

CONDUCT ANALYSIS TO DETECT

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

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					ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLI
VW-3	11-21	0905	W	6	HCL VOAs		X	X	X								11

SAMPLING COMPLETED: DATE 11-21-05 TIME 1510
SAMPLING PERFORMED BY: Dave Walter

RESULTS NEEDED NO LATER THAN: Standard TAT

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
David C Walter	11-21-05	1552	[redacted] SAMPLE CUSTODIAN	11/22/05	1552
[redacted] SAMPLE CUSTODIAN	11/22/05	950			
			Michelle Spencer Kiff Analytical	112205	0950

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #	