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Alameda County
Environmental Health

1 August 2008
Project No. 01LV

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

Subject: **Second Quarter 2008 Status Report**
1619 1st Street, Livermore, California
Tesoro No. 67076 (Former Beacon 3604); ACEH Case No. RO0434

Dear Mr. Wickham:

Arctos Environmental (Arctos), on behalf of Tesoro Companies, Inc. (Tesoro), has prepared this letter report summarizing project tasks completed during the second quarter 2008 at the subject site (Figure 1).

Executive Summary

Arctos conducted quarterly groundwater monitoring at the site on 8 May 2008. Water levels were 2.2 feet lower to 1.4 feet higher compared to the February 2008 event. The highest total petroleum hydrocarbons as gasoline (TPHg) and benzene concentrations of 29,000 and 3,200 micrograms per liter (µg/l), respectively, were at well MW-2 on site. The highest methyl tert-butyl ether (MTBE) concentration of 6,400 µg/l was at well TP-2 on site.

During the second quarter of 2008, Arctos also completed the following activities:

- Installed four deep monitoring wells on 13 to 15 May 2008, and conducted baseline sampling of the new deep monitoring wells on 22 May 2008
- Installed seven oxygen injection wells at the site on 27 to 30 May 2008 and 5 to 6 June 2008.

The following activities are scheduled to be completed during the third quarter of 2008:

- Sampling of oxygen injection wells
- Sampling of selected monitoring wells to establish baseline groundwater conditions before start-up of remediation system
- Quarterly groundwater monitoring
- Design and installation of source area remediation system.

Site Background

The site description and background are included in Arctos's IRAP dated 21 March 2008 (Arctos, 2008).

Field Activities

Arctos's subcontractor, Blaine Tech Services, Inc. (Blaine Tech), of San Jose, California, performed groundwater monitoring on 8 May 2008. Samples were collected from wells MW-1 through MW-10, VW-2, VW-3, TP-1, and TP-2 (Figure 2). Groundwater monitoring was performed in accordance with the guidelines of the California Underground Storage Tank Regulations, Title 23, Division 3, Chapter 16, California Code of Regulations. Groundwater sampling quality assurance/quality control (QA/QC) procedures are in Attachment A. Field data sheets are in Attachment B.

Analytical Program

The groundwater samples were analyzed in accordance with the analytical plan in Attachment A.

Groundwater Results

The groundwater elevations were recorded at approximately 432 to 439 feet above mean sea level (35 to 39 feet below ground surface). Water levels were 2.2 feet lower to 1.4 feet higher compared to the February 2008 event (Table 1). The water level data indicate that the general direction of water flow is toward the northwest with an estimated gradient of 0.013 (1 foot/77 feet; Figure 2). Historical water elevations are in Attachment C.

The highest TPHg and benzene concentrations of 29,000 and 3,200 µg/l, respectively, were at well MW-2. The highest MTBE concentration of 6,400 µg/l was at well TP-2. Groundwater analytical results are summarized in Table 2. Elevated TPHg, benzene, and

MTBE concentrations in groundwater (15,000, 1,700 and 540 µg/l, respectively) are also present approximately 140 feet downgradient of the site at well MW-6. Figures 3, 4, and 5 show the isoconcentration contours for TPHg, benzene, and MTBE, respectively. Historical analytical results are in Attachment D, and the laboratory report and the chain-of-custody form are in Attachment E.

Well Installation

Well installation occurred in the second quarter 2008 as described in Arctos's interim remedial action plan (IRAP) dated 21 March 2008. The IRAP was approved by Alameda County Environmental Health (ACEH) in a letter dated 22 April 2008. The completed scope of work for the well installation includes the following tasks:

- Obtained permits from Zone 7 Water Agency for the installation of deep monitoring wells and oxygen injection wells
- Installed four deep monitoring wells (DW-1 to DW-4) and seven oxygen injection wells (IP-1 to IP-7; Figure 2)
- Developed the deep monitoring wells and oxygen injection wells 72 hours after installation.

Well Installation

Gregg Drilling & Testing, Inc. (Gregg Drilling), of Martinez, California, drilled four soil borings on 13 to 15 May 2008 and seven soil borings on 27 to 30 May 2008 and 5 to 6 June 2008 using a hollow-stem auger rig (Figure 5). Soil samples were collected at 5 feet below grade and 5-foot intervals thereafter for visual logging and vapor screening at the four deep monitoring well borings. Selected soil samples were analyzed for physical properties in accordance with the analytical plan in Attachment F. The seven oxygen injection well borings were blind drilled to total depth. The boring and well construction logs are in Attachment F. Drilling and well installation QA/QC procedures are in Attachment G.

Well Development

Gregg Drilling developed wells DW-1 through DW-4 on 19 May 2008 and wells IP-1 through IP-7 on 17 and 18 June 2008 by surging, bailing, and pumping to (1) remove fines from the filter pack and well screen and (2) reduce sediment in the water. Approximately 5 to 10 casing volumes of water were removed from the wells. The well development logs are in Attachment H.

Baseline Sampling
Arctos's subcontractor, Blaine Tech, of San Jose, California, performed baseline sampling of deep monitoring wells DW-1 through DW-4 on 22 May 2008. Groundwater sampling QA/QC procedures and the analytical plan are in Attachment A. Field data sheets are in Attachment B.

The highest deep monitoring well TPHg, benzene, and MTBE concentrations of 11,000, 1,300, and 620 µg/l, respectively, were at well DW-2, located approximately 160 feet downgradient from the site. The furthest downgradient well, DW-4, contained TPHg and benzene concentrations of 1,200 and 4.2 µg/l, respectively. The deep monitoring wells were installed to monitor groundwater previously sampled by cone pentrometer testing grab samples from borings DB-5, DB-6, and DB-7. The following table summarizes the results of the previous grab samples compared to the deep monitoring wells.

Boring/Monitoring Well	TPHg (µg/l)	Benzene (µg/l)	MTBE (µg/l)
DB-5 / DW-2	58,000 / 11,000	1,100 / 1,300	1,500 / 620
DB-6 / DW-3	1,100 / 4,700	13 / 8.7	ND<0.5 / 0.86
DB-7 / DW-4	6,800 / 1,200	150 / 4.2	ND<25 / ND<0.5

Groundwater analytical results are summarized in Table 2 and are shown in Figures 3, 4, and 5. The laboratory report and the chain-of-custody form are in Attachment E.

Conclusions

Results of the groundwater sampling and well installation indicate the following conclusions:

- Groundwater sampling results indicate that onsite remediation is required to decrease the mass flux from the source area
- Deep monitoring well lithology confirms previous cone pentrometer testing logs from previous borings, and concentrations correlate with previous groundwater grab samples.

Recommendations

Based on the activities proposed in the IRAP and the results of the groundwater monitoring, Arctos will perform the following tasks during the third quarter of 2008:

- Sampling of oxygen injection wells

- ☐ Sampling of selected monitoring wells to establish baseline groundwater conditions before start-up of remediation system
- ☐ Quarterly groundwater monitoring
- ☐ Design and installation of source area remediation system.

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

Very truly yours,

ARCTOS ENVIRONMENTAL

Matthew J. Nelson
Senior Staff Engineer

FOR Michael P. Purchase, P.E.
Senior Project Manager

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

Attachments:
Table 1 – Well and Groundwater Elevations
Table 2 – Groundwater Analytical Results
Figure 1 – Site Location Map
Figure 2 – Grouwater Elevation Contours
Figure 3 – TPHg Concentration Contours
Figure 4 – Benzene Concentration Contours
Figure 5 – MTBE Concentration Contours
Attachment A – Groundwater Sampling QA/QC Procedures
Attachment B – Field Data Sheets
Attachment C – Historical Well and Groundwater Elevations
Attachment D – Historical Groundwater Analytical Results
Attachment E – Laboratory Analytical Report and Chain-of-Custody Form
Attachment F – Boring and Well Construction Logs
Attachment G – Drilling and Well Installation QA/QC Procedures
Attachment H – Well Development Logs
Attachment I – Waste Manifests

References

Arctos Environmental, 2008. *Interim Remedial Action Plan for Groundwater, 1619 1st Street, Livermore, California, Tesoro Station No. 67076, Former Beacon Station No. 3604, ACEH Case No. RO0434*, 21 March.

TABLE 1

WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Well No.	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[a] (feet MSL)	Water Table Elevation[b] (feet MSL)
MW-1	8/2/2007	40.00	474.29	434.29
	11/12/2007	48.55		425.74
	2/14/2008	34.74		439.55
	5/8/2008	36.15		438.14
MW-2	8/2/2007	41.23	472.98	431.75
	11/12/2007	48.22		424.76
	2/14/2008	36.31		436.67
	5/8/2008	36.70		436.28
MW-3	8/2/2007	41.74	473.37	431.63
	11/12/2007	47.41		425.96
	2/14/2008	34.73		438.64
	5/8/2008	35.60		437.77
MW-4	8/2/2007	40.68	473.64	432.96
	11/12/2007	Dry[c]		--
	2/14/2008	34.53		439.11
	5/8/2008	35.55		438.09
MW-5	8/2/2007	41.72	472.67	430.95
	11/12/2007	Dry		--
	2/14/2008	35.66		437.01
	5/8/2008	36.60		436.07
MW-6	8/2/2007	42.24	471.93	429.69
	11/12/2007	Dry		--
	2/14/2008	38.67		433.26
	5/8/2008	38.50		433.43
MW-7	8/2/2007	37.09	472.33	435.24
	11/12/2007	Dry		--
	2/14/2008	36.51		435.82
	5/8/2008	36.00		436.33
MW-8	8/2/2007	41.24	471.18	429.94
	11/12/2007	Dry		--
	2/14/2008	35.55		435.63
	5/8/2008	36.64		434.54

TABLE 1

WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Well No.	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(a)] (feet MSL)	Water Table Elevation[(b)] (feet MSL)
MW-9	8/2/2007	44.11	470.78	426.67
	11/12/2007	Dry		--
	2/14/2008	39.32		431.46
	5/8/2008	38.90		431.88
MW-10	8/2/2007	43.46	471.63	428.17
	11/12/2007	Dry		--
	2/14/2008	39.71		431.92
	5/8/2008	37.55		434.08
VW-2	8/2/2007	36.33	473.28	436.95
	11/12/2007	Dry		--
	2/14/2008	35.55		437.73
	5/8/2008	35.31		437.97
VW-3	8/2/2007	35.55	474.38	438.83
	11/12/2007	Dry		--
	2/14/2008	Dry		--
	5/8/2008	34.80		439.58
TP-1	8/2/2007	40.30	472.82	432.52
	11/12/2007	Dry		--
	2/14/2008	36.17		436.65
	5/8/2008	36.17		436.65
TP-2	8/2/2007	39.35	472.93	433.58
	11/12/2007	Dry		--
	2/14/2008	35.62		437.31
	5/8/2008	36.62		436.31
DW-1	5/22/2008	37.30	TBD[(d)]	TBD
DW-2	5/22/2008	39.80	TBD	TBD
DW-3	5/22/2008	40.20	TBD	TBD
DW-4	5/22/2008	40.20	TBD	TBD

(a) 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.

(b) Potentiometric Surface Elevation = (Casing Elevation - Depth to Water)

(c) Depth of groundwater assumed to be below screened interval; well had 6 inches or less of water.

(d) TBD - To be determined; Wells to be surveyed by a Claifornia-licensed surveyor.

TABLE 2

GROUNDWATER ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date	TPHg[a] (ug/l)	Benzene[a] (ug/l)	Toluene[a] (ug/l)	Ethylbenzene[a] (ug/l)	Total Xylenes[a] (ug/l)	MTBE[a] (ug/l)	DIPE[a] (ug/l)	ETBE[a] (ug/l)	TAME[a] (ug/l)	TBA[a] (ug/l)	Methanol[a] (ug/l)	Ethanol[a] (ug/l)	1,2-DCA[a] (ug/l)	EDB[a] (ug/l)
MW-1	8/2/2007	580	5.7	0.64	6.8	12	ND<0.5[b]	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/12/2007	750	0.85	2.7	4.2	9.3	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<20	ND<0.5	ND<0.5
	2/14/2008	1,700	3.3	17	38	83	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/8/2008	620	1.8	ND<0.5	12	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
MW-2	8/2/2007	37,000	4,200	500	1,800	2,200	1,300	ND<9	ND<9	18	1,200	ND<2,000	ND<90	ND<9	ND<9
	11/12/2007	25,000	5,900	120	1,700	820	1,400	ND<15	ND<15	16	720	ND<1,500	ND<150	ND<15	ND<15
	2/14/2008	31,000	5,400	450	1,900	2,000	1,200	ND<15	ND<15	16	410	ND<1,500	ND<150	ND<15	ND<15
	5/8/2008	29,000	3,200	620	1,400	1,700	580	ND<5	ND<5	10	210	ND<1,000	ND<50	ND<5	ND<5
MW-3	8/2/2007	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
	11/12/2007	190	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
	2/14/2008	240	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.83	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/8/2008	57	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-4	8/2/2007	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
	11/12/2007	NS[d]	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2008	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
	5/8/2008	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	8/2/2007	85	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.9	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/12/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2008	980	ND<0.5	ND<0.5	2.1	ND<0.5	1.0	ND<0.5	ND<0.5	ND<0.5	34	ND<50	ND<5	ND<0.5	ND<0.5
	5/8/2008	580	ND<0.5	ND<0.5	1.8	ND<0.5	0.60	ND<0.5	ND<0.5	ND<0.5	6.1	ND<50	ND<5	ND<0.5	ND<0.5
MW-6	8/2/2007	15,000	1,800	120	980	510	310	ND<2.5	ND<2.5	3.	180	ND<250	ND<25	ND<2.5	ND<2.5
	11/12/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2008	14,000	2,000	63	750	190	810	ND<2.5	ND<2.5	7.7	600	ND<250	ND<25	ND<2.5	ND<2.5
	5/8/2008	15,000	1,700	59	700	130	540	ND<2.5	ND<2.5	5.9	410	ND<2,000	ND<25	ND<2.5	ND<2.5
MW-7	8/2/2007	3,200	1.3	ND<0.5	50	120	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/12/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2008	1,600	1.2	ND<0.5	4.5	1.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/8/2008	1,400	2.2	0.74	2.8	0.93	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	8/2/2007	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
	11/12/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2008	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
	5/8/2008	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-9	8/2/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

TABLE 2

GROUNDWATER ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

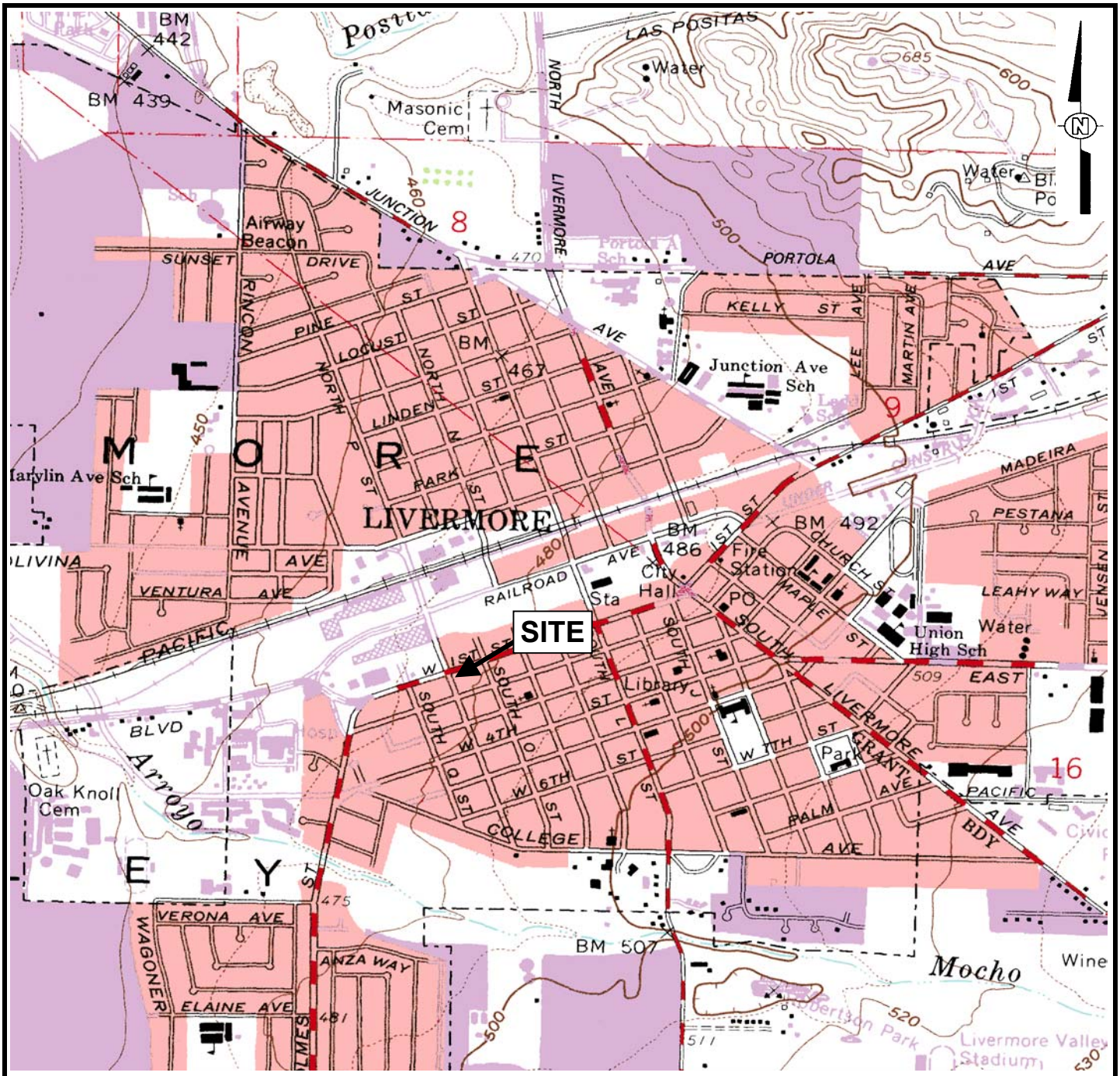
Monitoring Well	Sample Date	TPHg[(a)] (ug/l)	Benzene[(a)] (ug/l)	Toluene[(a)] (ug/l)	Ethylbenzene[(a)] (ug/l)	Total Xylenes[(a)] (ug/l)	MTBE[(a)] (ug/l)	DIPE[(a)] (ug/l)	ETBE[(a)] (ug/l)	TAME[(a)] (ug/l)	TBA[(a)] (ug/l)	Methanol[(a)] (ug/l)	Ethanol[(a)] (ug/l)	1,2-DCA[(a)] (ug/l)	EDB[(a)] (ug/l)
MW-9	2/14/2008	3,300	68	2.1	110	7.8	16	ND<0.5	ND<0.5	ND<0.5	13	ND<50	ND<5	ND<0.5	ND<0.5
(cont.)	5/8/2008	1,200	8.2	0.52	4.0	0.74	5.9	ND<0.5	ND<0.5	ND<0.5	5.4	ND<50	ND<5	ND<0.5	ND<0.5
MW-10	8/2/2007	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
	11/12/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2008	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
	5/8/2008	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	8/2/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2008	5,700	180	14	150	120	530	ND<2.5	ND<2.5	4.1	5,000	ND<250	ND<25	ND<2.5	ND<2.5
	5/8/2008	3,000	40	3.8	32	34	270	ND<1.5	ND<1.5	2.7	4,500	ND<250	ND<15	ND<1.5	ND<1.5
VW-3	8/2/2007	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
	11/12/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/8/2008	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	8/2/2007	15,000	2,000	100	970	630	3,400	ND<7	ND<7	25	4,000	ND<700	ND<70	ND<7	ND<7
	11/12/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2008	18,000	1,100	49	1,200	910	7,000	ND<15	ND<15	58	4,200	ND<1,500	ND<150	ND<15	ND<15
	5/8/2008	12,000	890	54	770	380	2,500	ND<5	ND<5	22	3,400	ND<2,500	ND<50	ND<5	ND<5
TP-2	8/2/2007	10,000	1,200	ND<25	640	140	14,000	ND<25	ND<25	110	16,000	ND<1,0000	ND<250	ND<25	ND<25
	11/12/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2008	12,000	920	28	850	740	17,000	ND<25	ND<25	120	5,900	ND<4,000	ND<250	ND<25	ND<25
	5/8/2008	7,400	710	10	510	110	6,400	ND<8	ND<8	64	5,200	ND<1,2000	ND<80	ND<8	ND<8
DW-1	5/22/2008	5,100	470	150	210	570	100	ND<0.9	ND<0.9	0.98	76	ND<90	ND<9	ND<0.9	ND<0.9
DW-2	5/22/2008	11,000	1,300	170	460	230	620	ND<2.5	ND<2.5	9.6	870	ND<400	ND<25	ND<2.5	ND<2.5
DW-3	5/22/2008	4,700	8.7	2.1	120	200	0.86	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
DW-4	5/22/2008	1,200	4.2	8.6	16	200	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5

(a) 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 (ug/l).

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

(c) "-" Not analyzed.

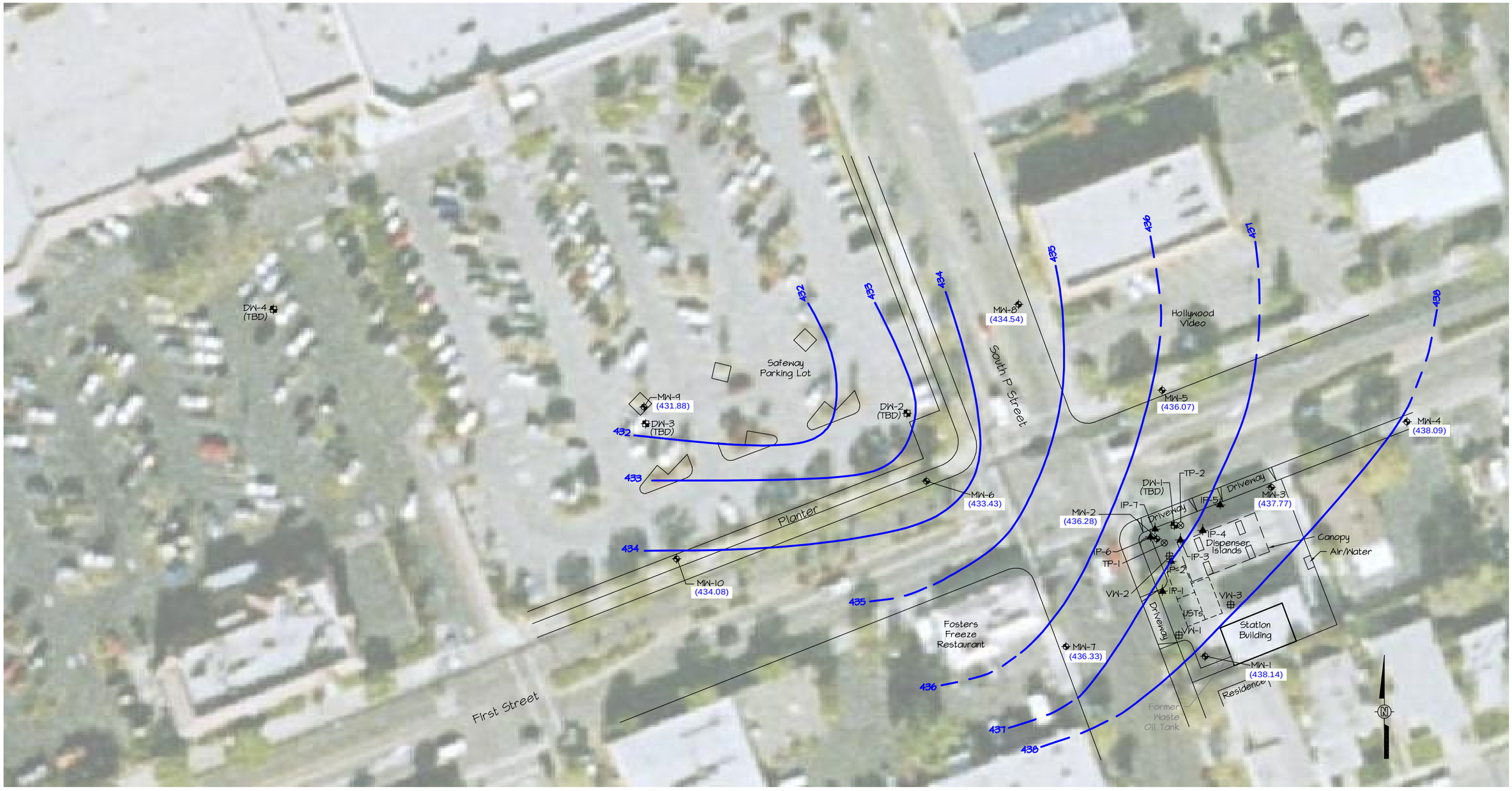
(d) Not sampled; well dry during sampling event.



REFERENCE

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

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



Legend

- MW-7 ⊕ Groundwater Monitoring Well With Groundwater Elevation (Feet, MSL) Measured 8 May 2008
- DW-1 ■ Deep Groundwater Monitoring Well
- IP-1 ▲ Injection Well
- VW-2 ⊞ Vapor Extraction Well
- TP-2 ⊗ Temporary Monitoring Well
- 438 Goundwater Elevation Contour
- (TBD) To Be Determinded; Wells Will Be Surveyed By A California-Licensed Surveyor

0 30' 60'
SCALE

REVISION	NO.	BY	DATE	DESCRIPTION
0	0	MY	7/31/08	Second Quarter 2008 Monitoring Report

ARCTOS ENVIRONMENTAL

TESORO - LIVERMORE

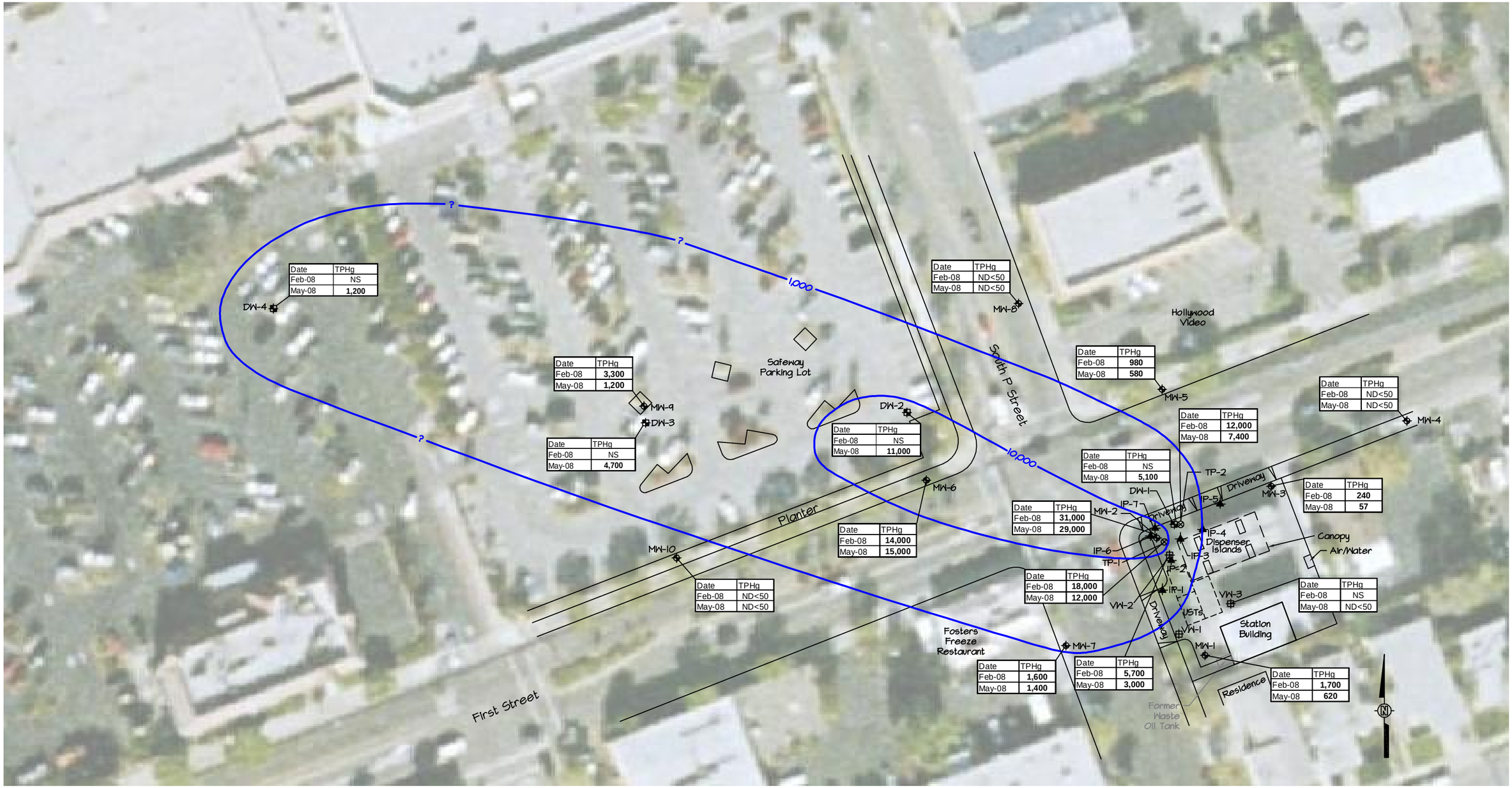
GROUNDWATER ELEVATION CONTOURS

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

FILE NO. 01LV11B-20400.DWG

FIGURE 2

6/29/2008 5:05PM 01LV11B-20400.dwg



Legend

MW-7 ⊕	Groundwater Monitoring Well With 14 February 2008 and 8 May 2008 Total Petroleum Hydrocarbons as Gasoline (TPHg) Results in µg/L
DW-1 ⊞	Deep Groundwater Monitoring Well With 22 May 2008 TPHg Results in µg/L
IP-1 ▲	Injection Well
VW-2 ⊞	Vapor Extraction Well
TP-2 ⊗	Temporary Monitoring Well

1000 — TPHg Concentration Contour (µg/L), Queried Where Uncertain

ND Not Detected

NS Not Sampled

0 30' 60'

SCALE

REVISION	NO.	BY	DATE	DESCRIPTION
0	0	MY	7/31/08	Second Quarter 2008 Monitoring Report

ARCTOS ENVIRONMENTAL

TESORO - LIVERMORE

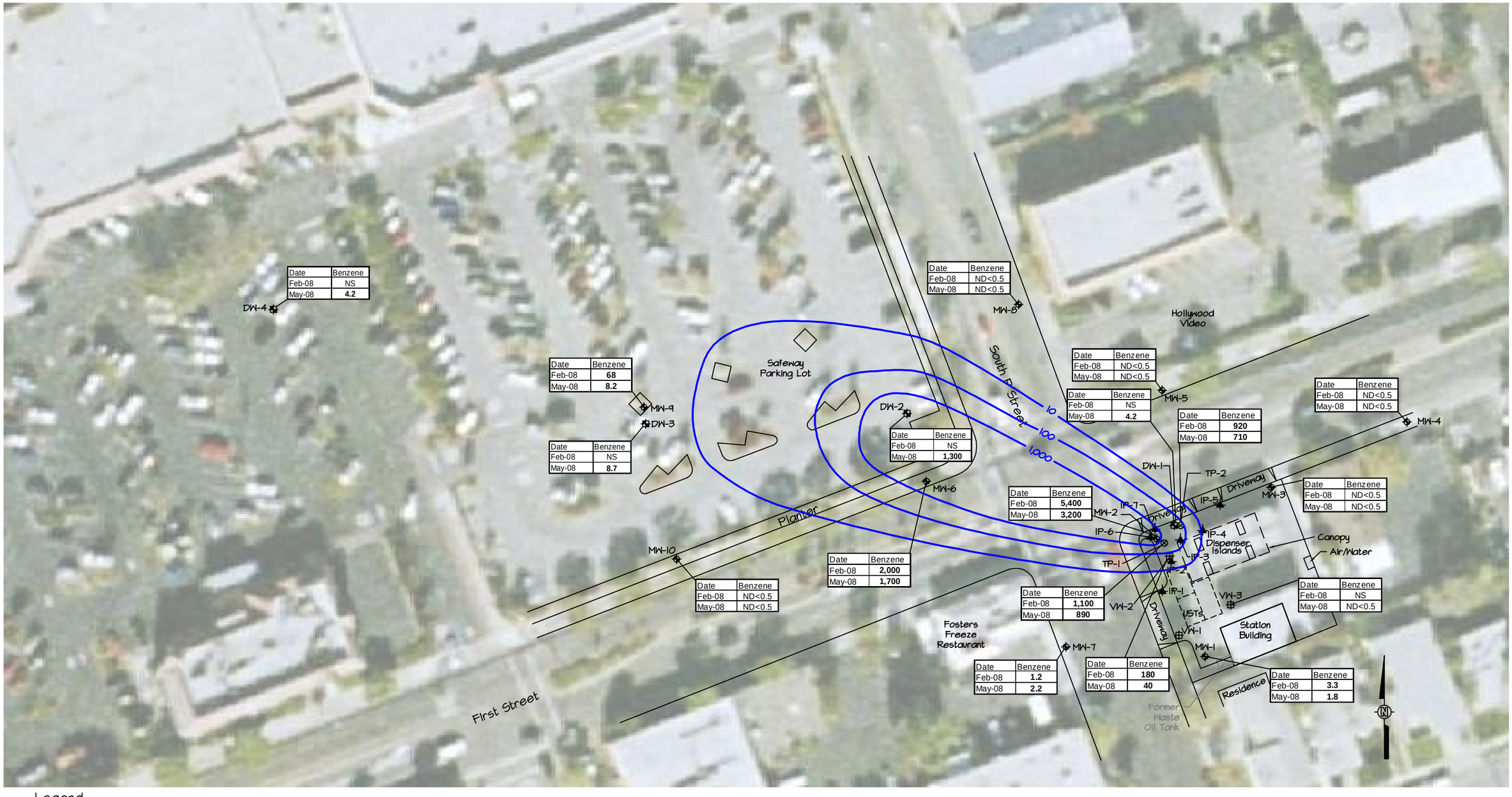
TPHg CONCENTRATION CONTOURS

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

FILE NO. 01LV11B-20500.DWG

FIGURE 3

7/28/2008 11:06AM 01LV11B-20500.dwg



Legend

MW-7 ⊕ Groundwater Monitoring Well With 14 February 2008 and 8 May 2008 Benzene Results in µg/L

DW-1 ⊞ Deep Groundwater Monitoring Well With 22 May 2008 Benzene Results in µg/L

IP-1 ▲ Injection Well

VW-2 ⊞ Vapor Extraction Well

TP-2 ⊗ Temporary Monitoring Well

1000 ~ Benzene Concentration Contour (µg/L), Queried Where Uncertain

ND Not Detected

NS Not Sampled

0 30' 60'
SCALE

REVISION	NO.	BY	DATE	DESCRIPTION
0	0	MY	7/31/08	Second Quarter 2008 Monitoring Report

ARCTOS ENVIRONMENTAL

TESORO - LIVERMORE

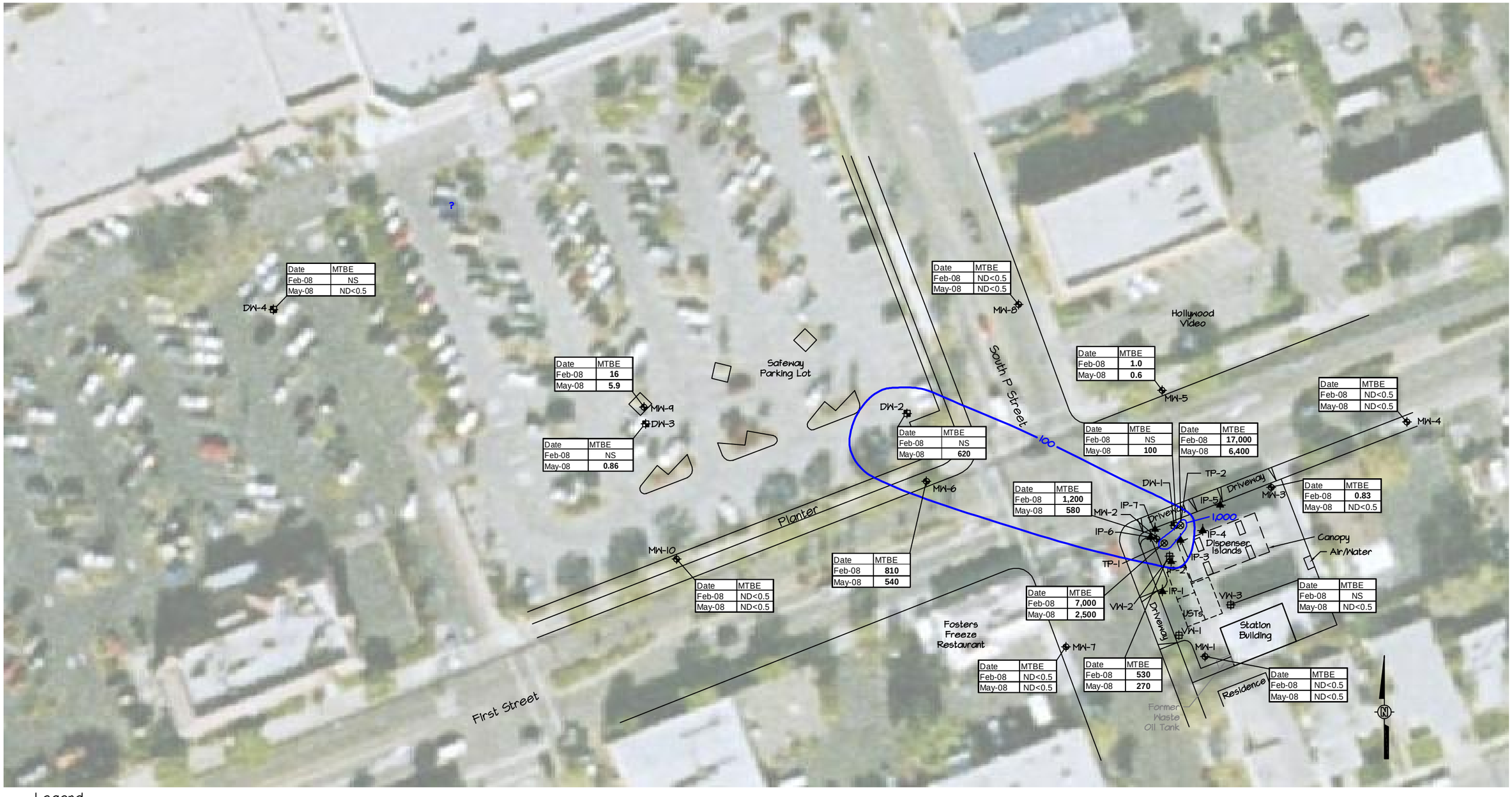
BENZENE CONCENTRATION CONTOURS

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

FILE NO. 01LV11B-20600.DWG

FIGURE 4

7/28/2008 11:08AM 01LV11B-20600.dwg



Legend

- MW-7 ⊕ Groundwater Monitoring Well With 14 February 2008 and 8 May 2008 Methyl Tert-Butyl Ether (MTBE) Results in µg/L
- DW-1 ⊞ Deep Groundwater Monitoring Well With 22 May 2008 MTBE Results in µg/L
- IP-1 ▲ Injection Well
- VW-2 ⊞ Vapor Extraction Well
- TP-2 ⊗ Temporary Monitoring Well

100 — MTBE Concentration Contour (µg/L), Queried Where Uncertain

ND Not Detected

NS Not Sampled

0 30' 60'
SCALE

REVISION	NO.	BY	DATE	DESCRIPTION
0	0	MY	7/31/08	Second Quarter 2008 Monitoring Report

ARCTOS ENVIRONMENTAL

TESORO - LIVERMORE

MTBE CONCENTRATION CONTOURS

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

FILE NO. 01LV11B-20700.DWG

FIGURE 5

7/28/2008 11:10AM 01LV11B-20700.dwg

ATTACHMENT A

GROUNDWATER SAMPLING QA/QC PROCEDURES

ARCTOS

ATTACHMENT A
GROUNDWATER SAMPLING QA/QC PROCEDURES

A.1 Groundwater Sampling

Before groundwater sampling, the depth to groundwater of each well is measured and recorded on field data sheets. Depth to groundwater and groundwater elevations are summarized in the attached tables.

During groundwater sampling, field observations of the groundwater are recorded on the field data sheets. Groundwater samples are collected after the temperature, pH, and specific conductivity of the groundwater have stabilized to within approximately 10 percent of the previous reading and at least 3 casing volumes of groundwater are removed from the well, unless the well purges dry. Well purge water is stored temporarily on site in 55-gallon drums.

Sampling is performed using new disposable polyethylene bailers suspended from new nylon line. The bailers are equipped with a bottom-release device. Water samples are collected from the wells in new 40-milliliter glass bottles with Teflon-lined caps provided by the analytical laboratory.

A.2 Analytical Program

The groundwater samples are 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 using EPA Method 8260B.

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

ATTACHMENT B

FIELD DATA SHEETS

SrH or Purge Water Drum Log

Client: Arctos Environmental

Site Address: 1619 1st St Livermore

STATUS OF DRUM(S) UPON ARRIVAL						
Date	8-2-07	11/12/07	2-14-08	5-8-08		
Number of drum(s) empty:						
Number of drum(s) 1/4 full:	1		*1	1		
Number of drum(s) 1/2 full:				*1		
Number of drum(s) 3/4 full:						
Number of drum(s) full:	3			2		
Total drum(s) on site:	4	0	1	4		
Are the drum(s) properly labeled?	y		y	y		
Drum ID & Contents:	purge H_2O		purge H_2O			
If any drum(s) are partially or totally filled, what is the first use date:			*Drum badly damaged!			

- 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	8-2-07	11/12/07	2-14-08	5-8-08		
Number of drums empty:						
Number of drum(s) 1/4 full:		1	1	*1		
Number of drum(s) 1/2 full:			*1			
Number of drum(s) 3/4 full:	1			1		
Number of drum(s) full:	4		2	4		
Total drum(s) on site:	5	1	4	6		
Are the drum(s) properly labeled?	y	y	y	y		
Drum ID & Contents:	purge H_2O	purge H_2O	→	→		

LOCATION OF DRUM(S)
Describe location of drum(s): side of bldg

FINAL STATUS						
Number of new drum(s) left on site this event	1	1	3	2		
Date of inspection:	8-2-07	11/12/07	2-14-08	5-8-08		
Drum(s) labelled properly:	y	y	y	y		
Logged by BTS Field Tech:	DW	DL	DW	DW		
Office reviewed by:			PC	PC		

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME 1619 1st, Livermore, CA				PROJECT NUMBER 080508-DW1			
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP.	INITIALS
Myron L Ultrameter	617813	5-8-08 0900	conductivity 3900µs	3834µs	3900µs	19.0	DW
↓	↓	↓	pH 4.0 7.0 10.0	3.90 6.83 9.93	4.00 7.00 10.00	19.1	DW
Hach 2100P Turbidimeter	15604	↓	Turbidity 20 100	20 100	✓ ✓	—	DW
Ultramator	6G0489 0	05/8/08 0954	PH 4 7 10	3.97 7.02 10.04	4.00 7.00 10.00	16.5	MT
"	"	"	3900.ms	3886	39ms	17.4	MT
Turbidimeter	26218	"	Turbidity 20 100	20 160	yes	N/A	MT

WELL GAUGING DATA

Project # 080508-DW-1 Date 5.8.08 Client Arcos Env.

Site 1619 1st St. Livermore

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or ~~TOB~~ TOC	Notes
VW-3	0900	2					34.80	36.27		
MW-1	0856	4					36.15	54.40		
MW-4	0854	2					35.55	46.72		
MW-8	1005	2					36.64	44.40		
MW-10	0934	2					37.55	45.00		
MW-3	0900	4					35.60	52.70		
MW-5	0912	2					36.60	46.24		
MW-7		2					36.00	46.70		
MW-9	0940	2					38.90	44.62		
MW-6	0946	2					38.50	47.60		
MW-2	0920	4					36.70	54.05		
VW-2	0923	2					35.31	36.65		
TP-1	0933	2					36.17	43.36		
TP-2	0937	2					36.62	41.19	↓	

WELLHEAD INSPECTION CHECKLIST

Date 05.08.08 Client Aretos Env.

Site Address 1619 1st ST, Livermore, CA

Job Number 080508-DW1 Technician D. Walters M. Todd

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Debris Removed From Wellbox	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)
VW-3							②③④	
mw-1							①	
mw-4							①	
mw-8		1 tabs broken					①③	
mw-10		missing 1 bolt						
mw-3		~~missing~~					④⑤	
mw-5	X							
mw-7	X							
mw-9	X							
mw-6	X							
mw-2							①⑤	
VW-2							②③	
TP-1							⑤③	
TP-2		1 tab broken					①⑤	

NOTES: ① No bolts ② Cap broken, can't lock ③ no lock ④ tabs stripped ⑤ cap + lock need replacing

WELL MONITORING DATA SHEET

Project #: 080508-DW1	Client: Arctos Env.
Sampler: DW, MT	Date: 05-08-08
Well I.D.: MW-1	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 54.27	Depth to Water (DTW): 34.80
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]: 38.69	

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: _____

12.7 (Gals.) X 3 = 38.1 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
1040	19.6	7.2	1187	108	12.7	
1043	19.6	7.1	1116	252	25.4	
	well dewatered @ 26 gls.					
1210	19.7	6.9	1024	68	—	

Did well dewater? (Yes) No Gallons actually evacuated: 26

Sampling Date: 05-08-08 Sampling Time: 1210 Depth to Water: 36.70

Sample I.D.: MW-1 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 #: 080508-DW1	Client: Arctos Env.
Sampler: (DW), MT	Date: 05-09-08
Well I.D.: mw-2	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth (TD): 54.05	Depth to Water (DTW): 36.70
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]: 40.17	

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: _____

11.3 (Gals.) X 3 = 33.9 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
1122	19.7	7.0	1034	248	11.3	odor
1124	20.2	6.8	1085	191	22.6	"
1127	20.3	6.8	1090	256	33.9	"

Did well dewater? Yes (No) Gallons actually evacuated: 33.9

Sampling Date: 05-08-08 Sampling Time: 1133 Depth to Water: 40.10

Sample I.D.: mw-2 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 #: 080508-DW1	Client: Arctos Env.
Sampler: DW, MT	Date: 05-08-08
Well I.D.: MW-3	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth (TD): 52.70	Depth to Water (DTW): 35.60
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]: 39.10	

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: _____

11.1 (Gals.) X 3 = 33.3 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

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

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1059	19.8	7.3	1046	>1000	11.1	
1101	19.9	7.2	1037	381	22.2	
1104	19.9	7.2	1036	214	33.3	

Did well dewater? Yes (No) Gallons actually evacuated: 33.3

Sampling Date: 05-08-08 Sampling Time: 1110 Depth to Water: 38.70

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 #: 080508-DW1	Client: Arcfos Env.
Sampler: DW, MT	Date: 05-08-08
Well I.D.: MW-4	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 46.72	Depth to Water (DTW): 35.55
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 37.78	

Purge Method: Bailer / X Disposable Bailer / 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	radius^2 * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
10:49	21.0	7.34	1104	>1000	1.7	
10:54	20.5	7.26	1109	>1000	3.4	
10:59	20.8	7.24	1104	>1000	5.1 @ 10:59	
				DTW - 38.00 @ 10:59		

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

Sampling Date: 05-08-08 Sampling Time: 11:06 Depth to Water: 37.75 (waited)

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 #: 080508-DW1	Client: Arctos Env.
Sampler: DW, MT	Date: 05-08-08
Well I.D.: MW-5	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 46.24	Depth to Water (DTW): 36.60
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]: 38.52	

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

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

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

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

Time	Temp (°F or (°C))	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1156	21.3	7.03	1330	543	1.5	
1200	20.8	6.95	1318	7(000)	3	
1205	20.6	6.92	1309	7(000)	4.5	

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

Sampling Date: 05-08-08 Sampling Time: 12:11 Depth to Water: 37.55

Sample I.D.: MW-5 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 #: 080508-DW1	Client: Arcos Env.
Sampler: DW, MT	Date: 05-08-08
Well I.D.: MW-6	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 47.60	Depth to Water (DTW): 38.50
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]: 40.32	

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

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

1.4 (Gals.) X	3	=	4.2 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
1405	22.2	6.9	1257	>1000	1.4	gray
1407	21.1	6.8	1274	>1000	2.8	"
1410	21.0	6.8	1262	>1000	4.2	"

Did well dewater? Yes (No) Gallons actually evacuated: 4.2

Sampling Date: 05-08-08 Sampling Time: 1415 Depth to Water: 40.30

Sample I.D.: MW-6 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 #: 080508-DW1	Client: Arctos Env.
Sampler: DW, MT	Date: 05-08-08
Well I.D.: MW-7	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 46.70	Depth to Water (DTW): 36.00
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]: 38.14	

Purge Method: Bailer; (X) Disposable Bailer; 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	= _____ Gals.
1 Case Volume	Specified Volumes	Calculated Volume

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

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1015	20.8	6.97	1115	71000	1.7	
1020	21.0	6.89	1090	71000	3.4	
1024	20.9	6.93	1093	71000	5.1	

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

Sampling Date: 05-08-08 Sampling Time: 10:29 Depth to Water: 36.90 Traffic

Sample I.D.: MW-7 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 #: 080508-DW1	Client: Arctos Env.
Sampler: DW MT	Date: 05-08-08
Well I.D.: mw-8	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 44.40	Depth to Water (DTW): 36.64
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]: 38.19	

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

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

1.2 (Gals.) X 3 = 3.6 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

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

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1011	19.0	7.0	1151	486	1.2	Brown
1014	20.1	7.0	1111	640	2.4	"
1016	20.4	7.1	1086	927	3.6	"

Did well dewater? Yes (No) Gallons actually evacuated: 3.6

Sampling Date: 05-08-08 Sampling Time: 1020 Depth to Water: 37.02

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 #: 080508-DW1	Client: Arctos Env.
Sampler: DW, MT	Date: 05-08-08
Well I.D.: MW-9	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 44.62	Depth to Water (DTW): 38.90
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]: 40.04	

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

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

.9 (Gals.) X	3	= 2.7 Gals.
1 Case Volume	Specified Volumes	Calculated Volume

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

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1334	22.6	6.99	1154	7/000	.9	
1337	22.2	6.99	1140	748	1.8	
1339	22.2	6.97	1148	479	2.7	
		1339 DTW=41.10				

Did well dewater? Yes (No) Gallons actually evacuated: 2.7

Sampling Date: 05-08-08 Sampling Time: 1355 Depth to Water: 40.02 (waited)

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 #: 080508-DW1	Client: Arctos Env.
Sampler: DW, MT	Date: 05-08-08
Well I.D.: MW-10	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 45.00	Depth to Water (DTW): 37.55
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]: 39.04	

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

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

1.1 (Gals.) X 3 = 3.3 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

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

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
11:22	21.3	7.35	1354	377	1.1	
11:27	21.2	7.40	1368	442	2.2	
11:30	21.0	7.43	1367	543	3.3	
				1130 DTW = 40.50		

Did well dewater? Yes (No) Gallons actually evacuated: 3.3

Sampling Date: 05-08-08 Sampling Time: 1320 Depth to Water: 38.40

Sample I.D.: MW-10 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 #: 080508-DW1	Client: Arctos Env.
Sampler: DW, MT	Date: 05-08-08
Well I.D.: TP-1	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 43.36	Depth to Water (DTW): 36.17
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 37.60	

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

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

1.2 (Gals.) X 3 = 3.6 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

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

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1140	19.9	6.8	1220	684	1.2	grey / odor
1142	20.3	6.7	1266	>1000	2.4	" "
1145	20.3	6.7	1297	>1000	3.6	" "

Did well dewater? Yes (No) Gallons actually evacuated: 3.6

Sampling Date: 05-08-08 Sampling Time: 1332 Depth to Water: 36.55

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 #: 080508-DW1	Client: Arctos Env.
Sampler: DW, MT	Date: 05-08-08
Well I.D.: TP-2	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 41.19	Depth to Water (DTW): 36.62
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 37.53	

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

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

0.7 (Gals.) X 3 = 2.1 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	radius^2 * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1155	19.9	6.8	1239	>1000	0.7	odor/grey
	well	dewatered @	1 gl.			
1340	20.9	7.0	1227	51	—	odor

Did well dewater? (Yes) No Gallons actually evacuated: 1

Sampling Date: 05-08-08 Sampling Time: 1340 Depth to Water: 36.62

Sample I.D.: TP-2 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 #: 080508-DW1	Client: Arctos Env.
Sampler: DW, MT	Date: 05-08-08
Well I.D.: VW-2	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 36.65	Depth to Water (DTW): 35.31
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
0928	16.9		1602	152	—	odor

Did well dewater? Yes No Gallons actually evacuated: —

Sampling Date: 05-08-08 Sampling Time: 0928 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 #: 080508-DW1	Client: Arctos Env.
Sampler: (DW) MT	Date: 05-08-08
Well I.D.: VW-3	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 36.27	Depth to Water (DTW): 34.80
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]:	

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	radius^2 * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
0910	18.0	6.7	2421	47	—	

Did well dewater? Yes No Gallons actually evacuated: —

Sampling Date: 05-08-08 Sampling Time: 0910 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	

SrH or Purge Water Drum Log

Client: Arctos Environmental

Site Address: 1619 1st St Livermore

STATUS OF DRUM(S) UPON ARRIVAL						
Date	8-2-07	11/12/07	2-14-08	5-8-08	5-22-08	
Number of drum(s) empty:						
Number of drum(s) 1/4 full:	1		*1	1	—	
Number of drum(s) 1/2 full:				*1	—	
Number of drum(s) 3/4 full:					—	
Number of drum(s) full:	3			2	8	
Total drum(s) on site:	4	0	1	4	8	
Are the drum(s) properly labeled?	y		y	y	N	
Drum ID & Contents:	purge H_2O		purge H_2O	→	?	
If any drum(s) are partially or totally filled, what is the first use date:			* Drum badly damaged			

- 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	8-2-07	11/12/07	2-14-08	5-8-08	5-22-08	
Number of drums empty:						
Number of drum(s) 1/4 full:		1	1	*1	—	
Number of drum(s) 1/2 full:			*1		—	
Number of drum(s) 3/4 full:	1			1	—	
Number of drum(s) full:	4		2	*4	12	
Total drum(s) on site:	5	1	4	6	12	
Are the drum(s) properly labeled?	y	y	y	y	N	
Drum ID & Contents:	Purge H_2O	Purge H_2O	→	→		

LOCATION OF DRUM(S)
Describe location of drum(s): side of bldg

FINAL STATUS						
Number of new drum(s) left on site this event	1	1	3	2	4	
Date of inspection:	8-2-07	11/12/07	2-14-08	5-8-08	5-22-8	
Drum(s) labelled properly:	y	y	y	y	x	
Logged by BTS Field Tech:	DW	DW	DW	DW	MA	
Office reviewed by:			PC	PC	*PC	

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME Arctos - Livermore. Cal				PROJECT NUMBER 080522-MT1			
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP.	INITIALS
Ultra meter	621572	5/22/08 0825	PH 4 7 10	3.96 7.02 10.01	~~Yes~~ Yes/Yes	61.2 F	MT
"	"	" "	Conductivity 3900	3897	yes	63.7 F	MT
"	"	" "	ORP 20/237	242	yes	20°C	MT
turbidimeter	23524	5/22/08 0830	20 100	19.3 99.6	yes	—	MT
YSI DO meter	03A0390	5/22/08 0830	All 0 100%	100.4%	yes	19.2°	MT

WELL GAUGING DATA

Project # 080522-MT1 Date 05.22.08 Client Arcadis ENV

Site 1619 1st St. Livermore, CA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
DW-1	0801	4"					37.30	66.60		
DW-2	0813	4"					39.80	62.00		
DW-3	0819	4"					40.20	61.10		
DW-4	0823	4"					40.20	70.00		

WELLHEAD INSPECTION CHECKLIST

Date 05.22.08 Client Arcadis Env. ~~Liver~~ Nat

Site Address 1619 1st St. Livermore, CA

Job Number 080522-MT1 Technician M.T

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Debris Removed From Wellbox	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)
DW-1	X							
DW-2	X							
DW-3	X							
DW-4	X							

NOTES:

V L MONITORING DATA SHE

Project #: 080522-MT1	Client: Arctos Env, Livermore
Sampler: MT	Date: 05-22-08
Well I.D.: DW-1	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 66.60	Depth to Water (DTW): 57.30
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]: 43.16	

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: _____

19 (Gals.) X	3 =	57 Gals.
1 Case Volume	Specified Volumes	Calculated Volume

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

Time	Temp (°F or (C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1043	18.3	7.28	1032	71000	19	
1046	19.4	7.59	1048	71000	38	
1049	19.5	7.60	1039	71000	57	
	10.54 @		DTW - 57.00			

Did well dewater? Yes (No) Gallons actually evacuated: 57

Sampling Date: 05-22-08 Sampling Time: 1114 Depth to Water: 43.16 (waited)

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

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

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

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

D.O. (if req'd):	Pre-purge:	mg/L	(Post-purge:)	1.01	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	(Post-purge:)	-71	mV

V L MONITORING DATA SHE

Project #: 080522-MT1	Client: Arcos Env. Livermore, CA
Sampler: MT	Date: 05.22.08
Well I.D.: DW-2	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth (TD): 62.00	Depth to Water (DTW): 39.80
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]: 44.24	

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: ___

14.4 (Gals.) X 3 = 43.2 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	radius^2 * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
10:02	19.0	7.28	1100	71000	14.4	
1005	20.0	7.18	1094	71000	28.8	
10:07	19.9	7.18	1091	725	43.2	

Did well dewater? Yes (No) Gallons actually evacuated: 43.2

Sampling Date: 05.22.08 Sampling Time: 1016 Depth to Water: 40.50

Sample I.D.: DW-2 Laboratory: (Kiff) CalScience Other ___

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

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

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

D.O. (if req'd):	Pre-purge:	mg/L	(Post-purge):	.33	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	(Post-purge):	-48	mV

WELL MONITORING DATA SHEET

Project #: 080522-MT1	Client: Arcos Env. Livermore, CA
Sampler: MT	Date: 05-22-08
Well I.D.: DW-4	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth (TD): 70.00	Depth to Water (DTW): 40.20
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]: 46.16	

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: _____

1936 (Gals.) X	3	=	57.9 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	radius^2 * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
842	19.2	7.84	1070	520	19.3	
846	20.1	7.60	997.9	71000	28.6	
848	19.9	7.63	1012	71000	57.9	

Did well dewater? Yes (No) Gallons actually evacuated: 57.9

Sampling Date: 05-22-08 Sampling Time: 0903 Depth to Water: 45.20

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

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

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

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

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	1.12	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	196	mV

WELL MONITORING DATA SHEET

Project #: 080522-MT1	Client: Arcadis Env. Livermore, CA
Sampler: MT	Date: 05-22-08
Well I.D.: DW-3	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth (TD): 61.10	Depth to Water (DTW): 40.20
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]: 44.38	

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

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

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

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

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
0926	19.3	7.63	1112	71000	13.5	
0929	19.7	7.50	1075	71000	27	
0932	20.5	7.47	1070	886	40.5	

Did well dewater? Yes (No) Gallons actually evacuated: 40.5

Sampling Date: 05-22-08 Sampling Time: 0943 Depth to Water: 40.60

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

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

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

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

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	0.64	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	61	mV

ATTACHMENT C

HISTORICAL WELL AND GROUNDWATER ELEVATIONS

TABLE C-1

HISTORICAL WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Well No.	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(a)] (feet MSL)	Water Table Elevation[(b)] (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

TABLE C-1

HISTORICAL WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Well No.	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(a)] (feet MSL)	Water Table Elevation[(b)] (feet MSL)
MW-1 (cont.)	3/27/2001	30.43	474.29	443.86
	6/30/2001	36.61		437.68
	9/26/2001	45.10		429.19
	12/18/2001	39.39		434.90
	3/18/2002	38.24		436.05
	8/21/2002	36.71		437.58
	12/3/2002	36.85		437.44
	3/4/2003	33.72		440.57
	6/10/2003	31.31		442.98
	9/9/2003	35.05		439.24
	12/23/2003	30.15		444.14
	3/23/2004	26.61		447.68
	5/10/2004	30.31		443.98
	8/4/2004	34.77		439.52
	11/4/2004	33.93		440.36
	1/12/2005	27.82		446.47
	5/2/2005	24.87		449.42
	7/19/2005	29.26		445.03
	11/21/2005	31.15		443.14
	2/9/2006	26.24		448.05
	5/16/2006	24.87		449.42
	8/9/2006	31.64		442.65
	11/8/2006	31.16		443.13
	2/14/2007	30.00		444.29
	5/17/2007	33.75		440.54
	8/2/2007	40.00		434.29
	11/12/2007	48.55		425.74
	2/14/2008	34.74		438.55
	5/8/2008	36.15		438.14
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

TABLE C-1

HISTORICAL WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Well No.	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(a)] (feet MSL)	Water Table Elevation[(b)] (feet MSL)
MW-2 (cont.)	1/13/1994	35.85	472.98	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
	12/1/1997	35.94		437.04
	3/19/1998	20.34		452.64
	5/29/1998	22.63		450.35
	9/15/1998	32.30		440.68
	11/30/1998	36.90		436.08
	1/17/1999	30.17		442.81
	6/10/1999	29.98		443.00
	9/7/1999	31.85		441.13
	12/13/1999	33.72		439.26
	3/13/2000	26.54		446.44
	6/12/2000	28.44		444.54
	11/10/2000	31.31		441.67
	12/31/2000	32.68		440.30
	3/27/2001	30.81		442.17
	6/30/2001	37.58		435.40
	9/26/2001	44.97		428.01

TABLE C-1

HISTORICAL WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Well No.	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(a)] (feet MSL)	Water Table Elevation[(b)] (feet MSL)
MW-2 (cont.)	12/18/2001	40.67	472.98	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
	2/9/2006	27.11		445.87
	5/17/2006	25.18		447.80
	8/9/2006	32.69		440.29
	11/8/2006	33.21		439.77
	2/14/2007	31.27		441.71
	5/17/2007	34.40		438.58
	8/2/2007	41.23		431.75
	11/12/2007	48.22		424.76
	2/14/2008	36.31		436.67
	5/8/2008	36.70		436.28
MW-3	6/1/1993	36.18	473.37	437.19
	6/22/1993	37.11		436.26
	10/6/1993	41.15		432.22
	1/13/1994	33.95		439.42
	3/30/1994	30.97		442.40

TABLE C-1

HISTORICAL WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Well No.	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(a)] (feet MSL)	Water Table Elevation[(b)] (feet MSL)
MW-3 (cont.)	4/25/1994	32.46	473.37	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
	12/18/2001	39.41		433.96
	3/18/2002	37.73		435.64

TABLE C-1

HISTORICAL WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Well No.	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(a)] (feet MSL)	Water Table Elevation[(b)] (feet MSL)
MW-3 (cont.)	6/5/2002	35.35	473.37	438.02
	8/21/2002	36.21		437.16
	12/3/2002	35.62		437.75
	3/4/2003	32.75		440.62
	6/10/2003	31.26		442.11
	9/9/2003	34.72		438.65
	12/23/2003	30.47		442.90
	3/23/2004	26.67		446.70
	5/10/2004	30.25		443.12
	8/4/2004	34.70		438.67
	11/4/2004	33.94		439.43
	1/12/2005	28.21		445.16
	5/2/2005	24.56		448.81
	7/19/2005	29.39		443.98
	11/21/2005	31.30		442.07
	2/9/2006	26.21		447.16
	5/16/2006	24.36		449.01
	8/9/2006	31.90		441.47
	11/8/2006	31.30		442.07
	2/14/2007	30.20		443.17
	5/17/2007	33.64		439.73
	8/2/2007	41.74		431.63
	11/12/2007	47.41		425.96
	2/14/2008	34.73		438.64
	5/8/2008	35.60		437.77
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

TABLE C-1

HISTORICAL WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Well No.	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(a)] (feet MSL)	Water Table Elevation[(b)] (feet MSL)
MW-4 (cont.)	12/15/1995	27.56	473.64	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
	9/15/1998	30.46		443.18
	11/30/1998	34.50		439.14
	1/17/1999	28.30		445.34
	6/10/1999	27.60		446.04
	9/7/1999	30.79		442.85
	12/13/1999	31.60		442.04
	3/13/2000	24.35		449.29
	6/12/2000	26.91		446.73
	11/10/2000	29.71		443.93
	12/31/2000	31.79		441.85
	3/27/2001	29.98		443.66
	6/30/2001	36.88		436.76
	9/26/2001	43.87		429.77
	12/18/2001	39.30		434.34
	3/18/2002	37.75		435.89
	6/5/2002	35.68		437.96
	8/21/2002	36.58		437.06
	12/3/2002	35.90		437.74
	3/4/2003	32.73		440.91
	6/10/2003	31.20		442.44
	9/9/2003	34.64		439.00

TABLE C-1

HISTORICAL WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Well No.	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(a)] (feet MSL)	Water Table Elevation[(b)] (feet MSL)
MW-4 (cont.)	12/23/2003	31.30	473.64	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
	2/9/2006	26.34		447.30
	5/16/2006	24.30		449.34
	8/9/2006	32.05		441.59
	11/8/2006	32.85		440.79
	2/14/2007	30.46		443.18
	5/17/2007	33.92		439.72
	8/2/2007	40.68		432.96
	11/12/2007	Dry[(c)]		--
	2/14/2008	34.53		439.11
	5/8/2008	35.55		438.09
MW-5	3/30/1994	32.07	472.67	440.60
	4/25/1994	33.65		439.02
	8/12/1994	42.73		429.94
	12/14/1994	38.89		433.78
	2/10/1995	31.44		441.23
	6/15/1995	24.99		447.68
	9/26/1995	30.20		442.47
	12/15/1995	28.56		444.11
	3/21/1996	16.82		455.85
	6/13/1996	22.61		450.06
	9/16/1996	29.78		442.89
	12/2/1996	26.51		446.16
	3/7/1997	21.91		450.76

TABLE C-1

HISTORICAL WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Well No.	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(a)] (feet MSL)	Water Table Elevation[(b)] (feet MSL)
MW-5 (cont.)	9/29/1997	31.74	472.67	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
	5/10/2004	31.12		441.55
	8/4/2004	35.09		437.58
	11/4/2004	34.34		438.33
	1/12/2005	29.19		443.48
	5/2/2005	25.31		447.36

TABLE C-1

HISTORICAL WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Well No.	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(a)] (feet MSL)	Water Table Elevation[(b)] (feet MSL)
MW-5 (cont.)	7/19/2005	30.49	472.67	442.18
	11/21/2005	32.35		440.32
	2/9/2006	27.19		445.48
	5/16/2006	25.30		447.37
	8/9/2006	32.68		439.99
	11/8/2006	32.22		440.45
	2/14/2007	34.00		438.67
	5/17/2007	34.29		438.38
	8/2/2007	41.72		430.95
	11/12/2007	Dry		--
	2/14/2008	35.66		437.01
	5/8/2008	36.60		436.07
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

TABLE C-1

HISTORICAL WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Well No.	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(a)] (feet MSL)	Water Table Elevation[(b)] (feet MSL)
MW-6 (cont.)	1/17/1999	32.05	471.93	439.88
	6/10/1999	31.44		440.49
	9/7/1999	33.94		437.99
	12/13/1999	35.84		436.09
	3/13/2000	28.45		443.48
	6/12/2000	30.52		441.41
	11/10/2000	32.99		438.94
	12/31/2000	34.95		436.98
	3/27/2001	32.72		439.21
	6/30/2001	39.86		432.07
	9/26/2001	Dry		--
	12/18/2001	43.36		428.57
	3/18/2002	41.29		430.64
	6/5/2002	38.85		433.08
	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
	2/9/2006	29.07		442.86
	5/17/2006	27.23		444.70
	8/9/2006	35.22		436.71
	11/8/2006	33.41		438.52

TABLE C-1

HISTORICAL WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Well No.	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(a)] (feet MSL)	Water Table Elevation[(b)] (feet MSL)
MW-6 (cont.)	2/14/2007	33.43	471.93	438.50
	5/17/2007	36.50		435.43
	8/2/2007	42.24		429.69
	11/12/2007	Dry		--
	2/14/2008	38.67		433.26
	5/8/2008	38.50		433.43
MW-7	3/30/1994	31.98	472.33	440.35
	4/25/1994	33.56		438.77
	8/12/1994	43.35		428.98
	12/14/1994	39.34		432.99
	2/10/1995	32.11		440.22
	6/15/1995	25.51		446.82
	9/26/1995	31.43		440.90
	12/15/1995	28.97		443.36
	3/21/1996	17.36		454.97
	6/13/1996	23.47		448.86
	9/16/1996	31.35		440.98
	12/2/1996	27.11		445.22
	3/7/1997	21.33		451.00
	6/12/1997	29.90		442.43
	9/29/1997	34.37		437.96
	12/1/1997	36.46		435.87
	3/19/1998	20.33		452.00
	5/29/1998	22.30		450.03
	9/15/1998	32.54		439.79
	11/30/1998	37.96		434.37
	1/17/1999	31.04		441.29
	6/10/1999	29.89		442.44
	9/7/1999	32.38		439.95
	12/13/1999	33.98		438.35
	3/13/2000	27.09		445.24
	6/12/2000	28.76		443.57

TABLE C-1

HISTORICAL WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Well No.	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(a)] (feet MSL)	Water Table Elevation[(b)] (feet MSL)
MW-7 (cont.)	11/10/2000	31.54	472.33	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
	2/9/2006	26.15		446.18
	5/16/2006	24.44		447.89
	8/9/2006	31.77		440.56
	11/8/2006	31.14		441.19
	2/14/2007	30.39		441.94
	5/17/2007	33.31		439.02
	8/2/2007	37.09		435.24
	11/12/2007	Dry		--
	2/14/2008	36.51		435.82
	5/8/2008	36.00		436.33

TABLE C-1

HISTORICAL WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Well No.	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(a)] (feet MSL)	Water Table Elevation[(b)] (feet MSL)
MW-8	12/23/2003	32.01	471.18	439.17
	3/23/2004	28.50		442.68
	5/10/2004	31.44		439.74
	8/4/2004	35.11		436.07
	11/4/2004	34.77		436.41
	1/12/2005	29.66		441.52
	5/2/2005	25.91		445.27
	7/19/2005	30.56		440.62
	11/21/2005	32.48		438.70
	2/9/2006	27.40		443.78
	5/16/2006	25.60		445.58
	8/9/2006	32.77		438.41
	11/8/2006	32.10		439.08
	2/14/2007	30.94		440.24
	5/17/2007	34.14		437.04
	8/2/2007	41.24		429.94
	11/12/2007	Dry		--
	2/14/2008	35.55		435.63
	5/8/2008	36.64		434.54
MW-9	12/23/2003	34.03	470.78	436.75
	3/23/2004	30.01		440.77
	5/10/2004	33.61		437.17
	8/4/2004	37.47		433.31
	11/4/2004	37.44		433.34
	5/2/2005	27.73		443.05
	7/19/2005	32.90		437.88
	11/21/2005	34.15		436.63
	2/9/2006	29.44		441.34
	5/16/2006	27.50		443.28
	8/9/2006	35.85		434.93
	11/8/2006	34.18		436.60
	2/14/2007	34.00		436.78

TABLE C-1

HISTORICAL WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Well No.	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(a)] (feet MSL)	Water Table Elevation[(b)] (feet MSL)
MW-9 (cont.)	5/17/2007	36.88	470.78	433.90
	8/2/2007	44.11		426.67
	11/12/2007	Dry		--
	2/14/2008	39.32		431.46
	5/8/2008	38.90		431.88
MW-10	12/23/2003	33.80	471.63	437.83
	3/23/2004	28.68		442.95
	5/10/2004	32.15		439.48
	8/4/2004	36.40		435.23
	11/4/2004	36.21		435.42
	1/12/2005	31.64		439.99
	5/2/2005	27.01		444.62
	7/19/2005	31.59		440.04
	11/21/2005	32.96		438.67
	2/9/2006	28.56		443.07
	5/16/2006	26.83		444.80
	8/9/2006	34.37		437.26
	11/8/2006	33.41		438.22
	2/14/2007	32.81		438.82
	5/17/2007	35.85		435.78
	8/2/2007	43.46		428.17
	11/12/2007	Dry		--
	2/14/2008	39.71		431.92
	5/8/2008	37.55		434.08
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
	2/9/2006	27.21		446.07
	5/17/2006	25.26		448.02

TABLE C-1

HISTORICAL WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Well No.	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(a)] (feet MSL)	Water Table Elevation[(b)] (feet MSL)
VW-2 (cont.)	8/9/2006	31.74	473.28	441.54
	11/8/2006	33.52		439.76
	2/14/2007	30.77		442.51
	5/17/2007	33.17		440.11
	8/2/2007	36.33		436.95
	11/12/2007	Dry		--
	2/14/2008	35.55		437.73
	5/8/2008	35.31		437.97
VW-3	8/4/2004	32.89	474.38	441.49
	11/4/2004	34.78		439.60
	1/12/2005	29.51		444.87
	5/2/2005	24.79		449.59
	7/19/2005	28.91		445.47
	11/21/2005	31.07		443.31
	2/9/2006	26.60		447.78
	5/16/2006	24.19		450.19
	8/9/2006	30.53		443.85
	11/8/2006	31.62		442.76
	2/14/2007	30.48		443.90
	5/17/2007	31.70		442.68
	8/2/2007	35.55		438.83
	11/12/2007	Dry		--
	2/14/2008	Dry		--
	5/8/2008	34.80		439.58
TP-1	7/19/2005	29.91	472.82	442.91
	11/21/2005	32.28		440.54
	2/9/2006	28.02		444.80
	5/17/2006	25.18		447.64
	8/9/2006	32.81		440.01
	11/8/2006	32.02		440.80
	2/14/2007	33.59		439.23
	5/17/2007	33.52		439.30

TABLE C-1

HISTORICAL WELL AND GROUNDWATER ELEVATIONS
TESORO - LIVERMORE, 67076

Well No.	Date of Measurement	Depth to Water (feet below casing)	PVC Casing Elevation[(a)] (feet MSL)	Water Table Elevation[(b)] (feet MSL)
TP-1 (cont.)	8/2/2007	40.30	472.82	432.52
	11/12/2007	Dry		--
	2/14/2008	36.17		436.65
	5/8/2008	36.17		436.65
TP-2	7/19/2005	29.67	472.93	443.26
	11/21/2005	31.43		441.50
	2/9/2006	27.27		445.66
	5/17/2006	25.00		447.93
	8/9/2006	31.74		441.19
	11/8/2006	32.80		440.13
	2/14/2007	30.32		442.61
	5/17/2007	33.28		439.65
	8/2/2007	39.35		433.58
	11/12/2007	Dry		--
	2/14/2008	35.62		437.31
	5/8/2008	36.62		436.31
DW-1	5/22/2008	37.30	TBD[(d)]	TBD
DW-2	5/22/2008	39.80	TBD	TBD
DW-3	5/22/2008	40.20	TBD	TBD
DW-4	5/22/2008	40.20	TBD	TBD
MW-A	1/17/1999	30.13	NM[(e)]	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) Elevation of PVC well casting (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.

(b) Potentiometric Surface Elevation = (Casing Elevation - Depth to Water)

(c) Depth of groundwater assumed to be below screened interval; well had 6 inches or less of water.

(d) TBD - To be determined; Wells to be surveyed by a California-licensed surveyor.

(e) NM = Well not surveyed.

ATTACHMENT D

HISTORICAL GROUNDWATER ANALYTICAL RESULTS

TABLE D-1

HISTORICAL GROUNDWATER ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (ug/l)	Benzene[b] (ug/l)	Toluene[b] (ug/l)	Ethylbenzene[b] (ug/l)	Xylenes[b] (ug/l)	MTBE[b] (ug/l)	DIPE[b] (ug/l)	ETBE[b] (ug/l)	TAME[b] (ug/l)	TBA[b] (ug/l)	Methanol[b] (ug/l)	Ethanol[b] (ug/l)	1,2-DCA[b] (ug/l)	EDB[b] (ug/l)
MW-1	6/1/1993	27,000	2,200	400	ND<0.5[c]	4,900	--[d]	--	--	--	--	--	--	--	--
	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	--	--	--	--	--	--	--	--
	12/31/2000	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	--	--	--
	3/27/2001	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	--	--	--
	6/30/2001	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	--	--	--
	9/26/2001	90	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	--	--	--
	12/18/2001	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	--	--	--
	11/4/2004	4,500	2.5	5.8	79	140	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5

TABLE D-1

HISTORICAL GROUNDWATER ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (ug/l)	Benzene[b] (ug/l)	Toluene[b] (ug/l)	Ethylbenzene[b] (ug/l)	Xylenes[b] (ug/l)	MTBE[b] (ug/l)	DIPE[b] (ug/l)	ETBE[b] (ug/l)	TAME[b] (ug/l)	TBA[b] (ug/l)	Methanol[b] (ug/l)	Ethanol[b] (ug/l)	1,2-DCA[b] (ug/l)	EDB[b] (ug/l)
MW-1 (cont.)	1/12/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/2/2005	78	0.80	0.70	0.86	2.4	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<40	ND<5	ND<0.5	ND<0.5
	7/19/2005	290	ND<0.5	ND<0.5	4.0	4.1	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/21/2005	370	ND<0.5	ND<0.5	0.75	1.3	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	2/9/2006	140	ND<0.5	ND<0.5	0.67	1.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/16/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	8/9/2006	100	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/8/2006	400	ND<0.5	ND<0.5	1.7	1.9	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	2/14/2007	410	ND<0.5	ND<0.5	2.2	2.2	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/17/2007	2,300	ND<0.5	0.66	17	21	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<8	--	--
	8/2/2007	580	5.7	0.64	6.8	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
	11/12/2007	750	0.85	2.7	4.2	9.3	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<20	ND<0.5	ND<0.5
	2/14/2008	1,700	3.3	17	38	83	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/8/2008	620	1.8	ND<0.5	12	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
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	--	--	--	--	--	--	--	--
	9/15/1998	36,000	3,900	1,200	1,400	7,800	ND<250	--	--	--	--	--	--	--	--

TABLE D-1

HISTORICAL GROUNDWATER ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (ug/l)	Benzene[b] (ug/l)	Toluene[b] (ug/l)	Ethylbenzene[b] (ug/l)	Xylenes[b] (ug/l)	MTBE[b] (ug/l)	DIPE[b] (ug/l)	ETBE[b] (ug/l)	TAME[b] (ug/l)	TBA[b] (ug/l)	Methanol[b] (ug/l)	Ethanol[b] (ug/l)	1,2-DCA[b] (ug/l)	EDB[b] (ug/l)
MW-2 (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[e]	ND<400	ND<40	ND<4	ND<4
	5/2/2005	44,000	5,200	1,100	1,800	4,800	2,200	ND<20	ND<20	30	ND<200	ND<2,000	ND<200	ND<20	ND<20
	7/20/2005	21,000	3,000	500	1,000	1,500	4,400	ND<7	ND<7	32	74[e]	ND<700	ND<70	ND<7	ND<7
	11/22/2005	33,000	4,400	880	1,200	2,600	2,200	ND<9	ND<9	19	480	ND<900	ND<90	ND<9	ND<9
	2/9/2006	25,000	3,300	720	1,300	2,200	2,500	ND<7	ND<7	27	490	ND<700	ND<70	ND<7	ND<7
	5/17/2006	22,000	3,200	240	1,200	2,100	4,600	ND<7	ND<7	46	1,000	ND<700	ND<70	ND<7	ND<7
	8/9/2006	34,000	4,200	830	1,300	2,400	2,900	ND<9	ND<9	25	1,600	ND<900	ND<90	ND<9	ND<9
	11/8/2006	27,000	3,600	300	1,200	1,800	1,500	ND<9	ND<9	15	1,100	ND<900	ND<90	ND<9	ND<9
	2/14/2007	36,000	4,600	740	1,600	2,100	1,800	ND<5	ND<5	20	910	ND<700	ND<50	ND<5	ND<5
	5/17/2007	37,000	7,400	680	1,900	2,400	3,000	ND<9	ND<9	24	2,600	ND<4,000	ND<90	--	--
	8/2/2007	37,000	4,200	500	1,800	2,200	1,300	ND<9	ND<9	18	1,200	ND<2,000	ND<90	ND<9	ND<9

TABLE D-1

HISTORICAL GROUNDWATER ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (ug/l)	Benzene[b] (ug/l)	Toluene[b] (ug/l)	Ethylbenzene[b] (ug/l)	Xylenes[b] (ug/l)	MTBE[b] (ug/l)	DIPE[b] (ug/l)	ETBE[b] (ug/l)	TAME[b] (ug/l)	TBA[b] (ug/l)	Methanol[b] (ug/l)	Ethanol[b] (ug/l)	1,2-DCA[b] (ug/l)	EDB[b] (ug/l)
MW-2 (cont.)	11/12/2007	25,000	5,900	120	1,700	820	1,400	ND<15	ND<15	16	720	ND<1,500	ND<150	ND<15	ND<15
	2/14/2008	31,000	5,400	450	1,900	2,000	1,200	ND<15	ND<15	16	410	ND<1,500	ND<150	ND<15	ND<15
	5/8/2008	29,000	3,200	620	1,400	1,700	580	ND<5	ND<5	10	210	ND<1,000	ND<50	ND<5	ND<5
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	--	--	--	--	--	--	--	--	--
	10/6/1993	740	57	110	24	120	--	--	--	--	--	--	--	--	--
	1/13/1994	83	2.6	0.67	0.78	4.2	--	--	--	--	--	--	--	--	--
	3/30/1994	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/25/1994	60	0.75	3.2	0.50	3.6	--	--	--	--	--	--	--	--	--
	8/12/1994	310	7.3	14	2.6	13	--	--	--	--	--	--	--	--	--
	12/14/1994	75	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	--	--	--	--
	2/10/1995	96	1.4	ND<0.5	ND<0.5	1.8	--	--	--	--	--	--	--	--	--
	6/15/1995	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	--	--	--	--
	9/26/1995	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	--	--	--	--
	12/15/1995	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	--	--	--	--
	11/4/2004	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	6.4	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	1/12/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	4.4	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/2/2005	140	ND<0.5	ND<0.5	ND<0.5	0.81	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	7/19/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.6	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	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
	2/9/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	2.9	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/16/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	8/9/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.4	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/8/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.71	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	2/14/2007	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.4	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/17/2007	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.54	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	--	--
	8/2/2007	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
	11/12/2007	190	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
	2/14/2008	240	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.83	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/8/2008	57	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-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	--	--	--	--	--	--	--	--	--

TABLE D-1

HISTORICAL GROUNDWATER ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (ug/l)	Benzene[b] (ug/l)	Toluene[b] (ug/l)	Ethylbenzene[b] (ug/l)	Xylenes[b] (ug/l)	MTBE[b] (ug/l)	DIPE[b] (ug/l)	ETBE[b] (ug/l)	TAME[b] (ug/l)	TBA[b] (ug/l)	Methanol[b] (ug/l)	Ethanol[b] (ug/l)	1,2-DCA[b] (ug/l)	EDB[b] (ug/l)
MW-4	12/15/1995	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	--	--	--	--
(cont.)	11/4/2004	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	1/12/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/2/2005	ND<50	1.8	1.1	1.4	4.4	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	7/19/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/21/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	2/9/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/16/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	8/9/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/8/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	2/14/2007	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
	5/17/2007	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	--	--
	8/2/2007	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
	11/12/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2008	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
	5/8/2008	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
MW-5	3/30/1994	7,500	1,300	20	ND<13	160	--	--	--	--	--	--	--	--	--
	4/25/1994	6,500	1,100	41	130	740	--	--	--	--	--	--	--	--	--
	8/12/1994	4,000	420	2.9	41	98	--	--	--	--	--	--	--	--	--
	12/14/1994	4,800	660	ND<2.5	33	13	--	--	--	--	--	--	--	--	--
	2/10/1995	5,200	490	ND<13	23	19	--	--	--	--	--	--	--	--	--
	6/15/1995	460	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	--	--	--	--
	9/26/1995	1,400	61	ND<0.5	3.1	ND<0.5	--	--	--	--	--	--	--	--	--
	12/15/1995	2,100	77	1.5	10	1.5	--	--	--	--	--	--	--	--	--
	3/21/1996	930	35	2.0	2.0	18	--	--	--	--	--	--	--	--	--
	6/13/1996	610	38	0.72	1.9	2.0	ND<5	--	--	--	--	--	--	--	--
	9/16/1996	380	29	ND<0.5	0.95	ND<0.5	ND<5	--	--	--	--	--	--	--	--
	12/2/1996	200	1.1	0.64	ND<0.5	ND<0.5	ND<5	--	--	--	--	--	--	--	--
	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	--	--	--	--	--	--	--	--

TABLE D-1

HISTORICAL GROUNDWATER ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (ug/l)	Benzene[b] (ug/l)	Toluene[b] (ug/l)	Ethylbenzene[b] (ug/l)	Xylenes[b] (ug/l)	MTBE[b] (ug/l)	DIPE[b] (ug/l)	ETBE[b] (ug/l)	TAME[b] (ug/l)	TBA[b] (ug/l)	Methanol[b] (ug/l)	Ethanol[b] (ug/l)	1,2-DCA[b] (ug/l)	EDB[b] (ug/l)
MW-5 (cont.)	6/10/1999	66	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	--	--	--	--	--	--	--	--
	9/7/1999	820	46	1.7	10	21	ND<5	--	--	--	--	--	--	--	--
	12/13/1999	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	--	--	--	--	--	--	--	--
	3/13/2000	270	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	--	--	--	--	--	--	--	--
	6/12/2000	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	--	--	--	--	--	--	--	--
	11/10/2000	2,200	42	1.1	25	30	8.6	--	--	--	--	--	--	--	--
	12/31/2000	1,300	21	ND<0.5	4.3	2.6	10	--	--	--	--	--	--	--	--
	3/27/2001	1,200	11	ND<0.5	2.6	ND<0.5	21	--	--	--	--	--	--	--	--
	6/30/2001	1,400	4.8	ND<0.5	1.5	0.56	14	--	--	--	--	--	--	--	--
	9/26/2001	660	ND<0.5	ND<0.5	ND<0.5	ND<0.5	3.0	--	--	--	--	--	--	--	--
	12/18/2001	240	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	--	--	--	--
	1/22/2002	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/18/2002	890	0.65	ND<0.5	ND<0.5	ND<0.5	3.1	--	--	--	--	--	--	--	--
	6/5/2002	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/21/2002	2,100	20	ND<0.5	63	4.0	7.0	--	--	--	--	--	--	--	--
	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
	7/20/2005	330	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.1	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/21/2005	210	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.2	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	2/9/2006	ND<50	ND<0.5	ND<0.5	0.63	1.0	1.0	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/16/2006	140	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.79	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	8/9/2006	220	ND<0.5	ND<0.5	ND<0.5	ND<0.5	7.8	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/8/2006	120	ND<0.5	ND<0.5	ND<0.5	ND<0.5	2.4	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	2/14/2007	200	ND<0.5	ND<0.5	ND<0.5	1.1	2.1	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/17/2007	140	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.4	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	--	--
	8/2/2007	85	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.9	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/12/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2008	980	ND<0.5	ND<0.5	2.1	ND<0.5	1.0	ND<0.5	ND<0.5	ND<0.5	34	ND<50	ND<5	ND<0.5	ND<0.5
	5/8/2008	580	ND<0.5	ND<0.5	1.8	ND<0.5	0.60	ND<0.5	ND<0.5	ND<0.5	6.1	ND<50	ND<5	ND<0.5	ND<0.5

TABLE D-1

HISTORICAL GROUNDWATER ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (ug/l)	Benzene[b] (ug/l)	Toluene[b] (ug/l)	Ethylbenzene[b] (ug/l)	Xylenes[b] (ug/l)	MTBE[b] (ug/l)	DIPE[b] (ug/l)	ETBE[b] (ug/l)	TAME[b] (ug/l)	TBA[b] (ug/l)	Methanol[b] (ug/l)	Ethanol[b] (ug/l)	1,2-DCA[b] (ug/l)	EDB[b] (ug/l)
MW-6	3/30/1994	63,000	21,000	8,600	1,700	12,000	--	--	--	--	--	--	--	--	--
	4/25/1994	77,000	22,000	12,000	2,300	16,000	--	--	--	--	--	--	--	--	--
	8/12/1994	65,000	12,000	8,100	2,200	16,000	--	--	--	--	--	--	--	--	--
	12/14/1994	65,000	18,000	9,500	2,200	14,000	--	--	--	--	--	--	--	--	--
	2/10/1995	63,000	21,000	8,400	2,000	14,000	--	--	--	--	--	--	--	--	--
	6/15/1995	75,000	20,000	11,000	2,100	15,000	--	--	--	--	--	--	--	--	--
	9/26/1995	62,000	15,000	9,600	1,700	12,000	--	--	--	--	--	--	--	--	--
	12/15/1995	61,000	15,000	9,000	2,300	15,000	--	--	--	--	--	--	--	--	--
	3/21/1996	65,000	18,000	9,800	2,400	16,000	--	--	--	--	--	--	--	--	--
	6/13/1996	29,000	8,600	3,300	2,200	12,000	ND<250	--	--	--	--	--	--	--	--
	9/16/1996	42,000	6,400	1,800	2,100	11,000	ND<250	--	--	--	--	--	--	--	--
	12/2/1996	28,000	3,000	1,100	970	8,300	ND<500	--	--	--	--	--	--	--	--
	3/7/1997	12,000	2,000	190	520	2,300	ND<250	--	--	--	--	--	--	--	--
	6/12/1997	37,000	3,900	470	1,600	6,200	ND<100	--	--	--	--	--	--	--	--
	9/29/1997	34,000	3,500	370	1,600	5,200	ND<100	--	--	--	--	--	--	--	--
	12/1/1997	20,000	2,100	ND<10	1,200	2,200	ND<100	--	--	--	--	--	--	--	--
	3/19/1998	24,000	2,900	460	1,100	3,400	ND<100	--	--	--	--	--	--	--	--
	5/29/1998	38,000	3,500	700	1,800	5,200	ND<100	--	--	--	--	--	--	--	--
	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	7.0	760	350	1,000	--	--	--	--	--	--	--	--
	12/31/2000	12,000	680	8.0	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	--	--	--	--	--	--	--	--

TABLE D-1

HISTORICAL GROUNDWATER ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (ug/l)	Benzene[b] (ug/l)	Toluene[b] (ug/l)	Ethylbenzene[b] (ug/l)	Xylenes[b] (ug/l)	MTBE[b] (ug/l)	DIPE[b] (ug/l)	ETBE[b] (ug/l)	TAME[b] (ug/l)	TBA[b] (ug/l)	Methanol[b] (ug/l)	Ethanol[b] (ug/l)	1,2-DCA[b] (ug/l)	EDB[b] (ug/l)
MW-6 (cont.)	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	ND<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	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	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	ND<3,000	ND<100	ND<10	ND<10
	7/20/2005	9,800	1,200	21	340	150	1800	ND<2.5	ND<2.5	14	140	ND<500	ND<25	ND<2.5	ND<2.5
	11/21/2005	6,600	150	26	580	640	100	ND<1	ND<1	ND<1	13	ND<100	ND<10	ND<1	ND<1
	2/9/2006	7,100	340	11	370	360	910	ND<2	ND<2	9.3	120	ND<200	ND<20	ND<2	ND<2
	5/17/2006	7,100	270	5.1	320	290	930	ND<2	ND<2	8.4	260	ND<200	ND<20	ND<2	ND<2
	8/9/2006	5,800	440	7.5	120	45	670	ND<2	ND<2	7.3	380	ND<2,000	ND<50	ND<2	ND<2
	11/8/2006	9,200	990	37	390	140	310	ND<2	ND<2	3.2	110	ND<200	ND<20	ND<2	ND<2
	2/14/2007	5,900	480	10	73	23	1,600	ND<2	ND<2	14	1,100	ND<500	ND<20	ND<2	ND<2
	5/17/2007	3,700	240	3.4	30	10	770	ND<0.5	ND<0.5	9.2	800	ND<2,000	ND<5	--	--
	8/2/2007	15,000	1,800	120	980	510	310	ND<2.5	ND<2.5	3.	180	ND<250	ND<25	ND<2.5	ND<2.5
	11/12/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2008	14,000	2,000	63	750	190	810	ND<2.5	ND<2.5	7.7	600	ND<250	ND<25	ND<2.5	ND<2.5
	5/8/2008	15,000	1,700	59	700	130	540	ND<2.5	ND<2.5	5.9	410	ND<2,000	ND<25	ND<2.5	ND<2.5
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	9.0	340	190	ND<25	--	--	--	--	--	--	--	--
	12/1/1997	6,500	24	ND<2.5	400	250	ND<25	--	--	--	--	--	--	--	--

TABLE D-1

HISTORICAL GROUNDWATER ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (ug/l)	Benzene[b] (ug/l)	Toluene[b] (ug/l)	Ethylbenzene[b] (ug/l)	Xylenes[b] (ug/l)	MTBE[b] (ug/l)	DIPE[b] (ug/l)	ETBE[b] (ug/l)	TAME[b] (ug/l)	TBA[b] (ug/l)	Methanol[b] (ug/l)	Ethanol[b] (ug/l)	1,2-DCA[b] (ug/l)	EDB[b] (ug/l)
MW-7	3/19/1998	2,000	20	ND<2.5	73	79	ND<25	--	--	--	--	--	--	--	--
(cont.)	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	--	--	--	--	--	--	--	--
	12/18/2001	3,000	13	0.88	3.4	3.4	ND<0.5	--	--	--	--	--	--	--	--
	1/22/2002	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/18/2002	3,100	7.3	1.5	38	110	ND<0.5	--	--	--	--	--	--	--	--
	6/5/2002	1,800	7.6	1.0	39	20	ND<0.5	--	--	--	--	--	--	--	--
	8/21/2002	3,300	7.6	0.70	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	0.80	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.	ND<0.5	16	16	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	1/12/2005	830	1.6	ND<0.5	15	12	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/2/2005	710	ND<0.5	ND<0.5	0.75	0.52	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	7/20/2005	1,400	1.1	ND<0.5	9.2	8.6	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/21/2005	1,100	0.6	ND<0.5	3.4	23	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	2/9/2006	270	ND<0.5	ND<0.5	1.2	0.98	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/16/2006	930	0.84	ND<0.5	10	7.9	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	8/9/2006	650	ND<0.5	ND<0.5	1.2	1.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/8/2006	800	ND<0.5	ND<0.5	1.0	0.62	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5

TABLE D-1

HISTORICAL GROUNDWATER ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (ug/l)	Benzene[b] (ug/l)	Toluene[b] (ug/l)	Ethylbenzene[b] (ug/l)	Xylenes[b] (ug/l)	MTBE[b] (ug/l)	DIPE[b] (ug/l)	ETBE[b] (ug/l)	TAME[b] (ug/l)	TBA[b] (ug/l)	Methanol[b] (ug/l)	Ethanol[b] (ug/l)	1,2-DCA[b] (ug/l)	EDB[b] (ug/l)
MW-7 (cont.)	2/14/2007	800	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
	5/17/2007	700	ND<0.5	ND<0.5	ND<0.5	0.71	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	--	--
	8/2/2007	3,200	1.3	ND<0.5	50	120	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/12/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2008	1,600	1.2	ND<0.5	4.5	1.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/8/2008	1,400	2.2	0.74	2.8	0.93	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	ND<5	ND<0.5	ND<0.5
	7/19/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/21/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	2/9/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.57	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/16/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	8/9/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/8/2006	ND<50	1.2	1.9	ND<0.5	0.66	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	2/14/2007	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
	5/17/2007	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	--	--
	8/2/2007	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
	11/12/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2008	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
	5/8/2008	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-9	9/5/2003	3,400	23	1.5	110	10	10	ND<0.5[b]	ND<0.5	ND<0.5	ND<5	--	--	--	--
	12/23/2003	1,100	2.4	ND<0.5	0.80	0.80	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	18.00	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/10/2004	1,100	4.4	ND<0.5	1.3	0.67	11	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	8/4/2004	1,200	3.4	0.59	16	7.6	6.1	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/4/2004	610	0.52	ND<0.5	1.3	ND<0.5	2	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	1/12/2005	1,400	1.6	0.55	5.5	1.1	2.4	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/2/2005	1,500	10	0.55	6.7	1.1	27	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	7/20/2005	1,800	5.5	0.69	12	1.6	10	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/21/2005	1,200	0.94	ND<0.5	1.4	ND<0.5	3.3	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	2/9/2006	1,200	2.8	0.51	6.4	0.84	4.4	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/16/2006	1,600	3.8	0.57	12	1.8	4.9	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5

TABLE D-1

HISTORICAL GROUNDWATER ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (ug/l)	Benzene[b] (ug/l)	Toluene[b] (ug/l)	Ethylbenzene[b] (ug/l)	Xylenes[b] (ug/l)	MTBE[b] (ug/l)	DIPE[b] (ug/l)	ETBE[b] (ug/l)	TAME[b] (ug/l)	TBA[b] (ug/l)	Methanol[b] (ug/l)	Ethanol[b] (ug/l)	1,2-DCA[b] (ug/l)	EDB[b] (ug/l)
MW-9 (cont.)	8/9/2006	760	ND<0.5	ND<0.5	1.	ND<0.5	2.6	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/8/2006	1,700	1.7	0.53	6.7	1.4	1.7	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	2/14/2007	1,000	ND<0.5	ND<0.5	0.51	ND<0.5	0.51	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/17/2007	870	ND<0.5	ND<0.5	0.54	ND<0.5	0.93	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	--	--
	8/2/2007	NS[f]	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2008	3,300	68	2.1	110	7.8	16	ND<0.5	ND<0.5	ND<0.5	13	ND<50	ND<5	ND<0.5	ND<0.5
	5/8/2008	1,200	8.2	0.52	4.0	0.74	5.9	ND<0.5	ND<0.5	ND<0.5	5.4	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
	7/19/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/21/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	2/9/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/16/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	8/9/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/8/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	2/14/2007	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
	5/17/2007	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	--	--
	8/2/2007	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
	11/12/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2008	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
	5/8/2008	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[e]	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[e]	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[e]	ND<900	ND<90	ND<9	ND<9
	2/9/2006	3,500	140	ND<25	130	36	12,000	ND<25	ND<25	65	2,800	ND<2,500	ND<250	ND<25	ND<25
	5/17/2006	1,800	90	2.6	39	11	1,200	ND<2.5	ND<2.5	12	700	ND<250	ND<25	ND<2.5	ND<2.5
	8/9/2006	4,300	86	3.5	200	16.	2,500	ND<2.5	ND<2.5	28	2,800	ND<5,000	ND<25	ND<2.5	ND<2.5
	11/8/2006	3,200	46.	3.1	10.	4.8	1,500	ND<3	ND<3	11	7,100	ND<800	ND<30	ND<3	ND<3

TABLE D-1

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TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (ug/l)	Benzene[b] (ug/l)	Toluene[b] (ug/l)	Ethylbenzene[b] (ug/l)	Xylenes[b] (ug/l)	MTBE[b] (ug/l)	DIPE[b] (ug/l)	ETBE[b] (ug/l)	TAME[b] (ug/l)	TBA[b] (ug/l)	Methanol[b] (ug/l)	Ethanol[b] (ug/l)	1,2-DCA[b] (ug/l)	EDB[b] (ug/l)
VW-2	2/14/2007	3,300	75	4.6	50	82	580	ND<2	ND<2	7.	4,100	ND<500	ND<20	ND<2	ND<2
(cont.)	5/17/2007	3,500	51	7.3	17	24	100	ND<2.5	ND<2.5	ND<2.5	7,100	ND<250	ND<25	--	--
	8/2/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/12/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2008	5,700	180	14	150	120	530	ND<2.5	ND<2.5	4.1	5,000	ND<250	ND<25	ND<2.5	ND<2.5
	5/8/2008	3,000	40	3.8	32	34	270	ND<1.5	ND<1.5	2.7	4,500	ND<250	ND<15	ND<1.5	ND<1.5
VW-3	8/4/2004	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/4/2004	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	1/12/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/2/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	7/20/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/21/2005	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	2/9/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	5/16/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	8/9/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	11/8/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
	2/14/2007	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
	5/17/2007	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	--	--
	8/2/2007	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
	11/12/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2008	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/8/2008	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	ND<2,000	ND<200	ND<20	ND<20
	11/22/2005	36,000	2,100	290	1,400	2,600	11,000	ND<20	ND<20	70	810	ND<2,000	ND<200	ND<20	ND<20
	2/9/2006	19,000	1,400	230	990	1,700	8,900	ND<15	ND<15	72	2,200	ND<1,500	ND<150	ND<15	ND<15
	5/17/2006	20,000	1,400	200	920	1,800	9,200	ND<20	ND<20	37	2,500	ND<10,000	ND<200	ND<20	ND<20
	8/9/2006	28,000	1,600	150	1,200	2,200	13,000	ND<15	ND<15	84	4,900	ND<2,500	ND<150	ND<15	ND<15
	11/8/2006	20,000	1,100	78	990	1,600	6800	ND<15	ND<15	47	4,400	ND<8,000	ND<150	ND<15	ND<15
	2/14/2007	15,000	820	37	810	1,000	8,300	ND<15	ND<15	58	8,500	ND<4,000	ND<150	ND<15	ND<15
	5/17/2007	16,000	850	35	810	1,200	6,700	ND<10	ND<10	42	12,000	ND<2,000	ND<100	--	--
	8/2/2007	15,000	2,000	100	970	630	3,400	ND<7	ND<7	25	4,000	ND<700	ND<70	ND<7	ND<7
	11/12/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2008	18,000	1,100	49	1,200	910	7,000	ND<15	ND<15	58	4,200	ND<1,500	ND<150	ND<15	ND<15
	5/8/2008	12,000	890	54	770	380	2,500	ND<5	ND<5	22	3,400	ND<2,500	ND<50	ND<5	ND<5
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	ND<9,000	ND<900	ND<90	ND<90
	2/9/2006	2,700	94	2.9	28	14	1,200	ND<2.5	ND<2.5	13	1,600	ND<250	ND<25	ND<2.5	ND<2.5

TABLE D-1

HISTORICAL GROUNDWATER ANALYTICAL RESULTS
TESORO - LIVERMORE, 67076

Monitoring Well	Sample Date[a]	TPHg[b] (ug/l)	Benzene[b] (ug/l)	Toluene[b] (ug/l)	Ethylbenzene[b] (ug/l)	Xylenes[b] (ug/l)	MTBE[b] (ug/l)	DIPE[b] (ug/l)	ETBE[b] (ug/l)	TAME[b] (ug/l)	TBA[b] (ug/l)	Methanol[b] (ug/l)	Ethanol[b] (ug/l)	1,2-DCA[b] (ug/l)	EDB[b] (ug/l)
TP-2 (cont.)	5/17/2006	31,000	2,200	1,100	1,500	3,300	87,000	ND<90	ND<90	680	4,800	ND<15,000	ND<1,500	ND<90	ND<90
	8/9/2006	14,000	1,400	86	1,200	830	56,000	ND<2.5	ND<2.5	350	2,800	ND<4,000	ND<25	ND<2.5	ND<2.5
	11/8/2006	16,000	1,300	ND<90	930	370	38,000	ND<90	ND<90	280	3,600	ND<40,000	ND<900	ND<90	ND<90
	2/14/2007	22,000	1,900	230	1,700	1,600	53,000	ND<90	ND<90	400	2,800	ND<20,000	ND<900	ND<90	ND<90
	5/17/2007	ND<25,000	2,400	51	1,500	510	69,000	ND<2	ND<0.5	550	4,300	ND<25,000	ND<5	--	--
	8/2/2007	10,000	1,200	ND<25	640	140	14,000	ND<25	ND<25	110	16,000	ND<10,000	ND<250	ND<25	ND<25
	11/12/2007	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2008	12,000	920	28	850	740	17,000	ND<25	ND<25	120	5,900	ND<4,000	ND<250	ND<25	ND<25
	5/8/2008	7,400	710	10	510	110	6,400	ND<8	ND<8	64	5,200	ND<12,000	ND<80	ND<8	ND<8
DW-1	5/22/2008	5,100	470	150	210	570	100	ND<0.9	ND<0.9	0.98	76	ND<90	ND<9	ND<0.9	ND<0.9
DW-2	5/22/2008	11,000	1,300	170	460	230	620	ND<2.5	ND<2.5	9.6	870	ND<400	ND<25	ND<2.5	ND<2.5
DW-3	5/22/2008	4,700	8.7	2.1	120	200	0.86	ND<0.5	ND<0.5	ND<0.5	ND<5	ND<50	ND<5	ND<0.5	ND<0.5
DW-4	5/22/2008	1,200	4.2	8.6	16	200	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-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	1,800	0.80	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) ND - Not detected at the reporting limit listed.
(d) "-" Not analyzed.
(e) 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.
(f) Not sampled; well dry during sampling event.

ATTACHMENT E

LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY FORMS

KIFF Analytical LLC

Report Number : 62583
Date : 05/14/2008

Mike Purchase
Arctos Environmental
1332 Peralta Avenue
Berkeley, CA 94702

Subject : 14 Water Samples
Project Name : Tesoro - Livermore
Project Number : 01LV

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 : 62583
Date : 05/14/2008

Subject : 14 Water Samples
Project Name : Tesoro - Livermore
Project Number : 01LV

Case Narrative

The Method Reporting Limit for Methanol has been increased due to the presence of an interfering compound for samples MW-6, MW-2 and TP-2.

Approved By: Joel Kiff

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

KIFF Analytical LLC

Report Number : 62583

Date : 05/14/2008

Project Name : **Tesoro - Livermore**

Project Number : **01LV**

Sample : **MW-4** Matrix : Water Lab Number : 62583-01

Sample Date :05/08/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	05/09/2008
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	05/09/2008
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	05/09/2008
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	05/09/2008
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/09/2008
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/09/2008
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/09/2008
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	05/09/2008
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	05/09/2008
Methanol	**< 50**	50	ug/L	EPA 8260B	05/09/2008
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	05/09/2008
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	05/09/2008
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	05/09/2008
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	05/09/2008
1,2-Dichloroethane-d4 (Surr)	100		% Recovery	EPA 8260B	05/09/2008
Toluene - d8 (Surr)	98.8		% Recovery	EPA 8260B	05/09/2008

Approved By: Joel Kiff

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

KIFF Analytical LLC

Report Number : 62583
Date : 05/14/2008

Project Name : **Tesoro - Livermore**
Project Number : **01LV**

Sample : **MW-5** Matrix : Water Lab Number : 62583-02
Sample Date :05/08/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Ethylbenzene	**1.8**	0.50	ug/L	EPA 8260B	05/10/2008
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Methyl-t-butyl ether (MTBE)	**0.60**	0.50	ug/L	EPA 8260B	05/10/2008
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Tert-Butanol	**6.1**	5.0	ug/L	EPA 8260B	05/10/2008
Methanol	**< 50**	50	ug/L	EPA 8260B	05/10/2008
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	05/10/2008
TPH as Gasoline	**580**	50	ug/L	EPA 8260B	05/10/2008
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
1,2-Dichloroethane-d4 (Surr)	100		% Recovery	EPA 8260B	05/10/2008
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	05/10/2008

Approved By: Joel Kiff

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KIFF Analytical LLC

Report Number : 62583
Date : 05/14/2008

Project Name : **Tesoro - Livermore**
Project Number : **01LV**

Sample : **MW-6** Matrix : Water Lab Number : 62583-03
Sample Date :05/08/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**1700**	2.5	ug/L	EPA 8260B	05/09/2008
Toluene	**59**	2.5	ug/L	EPA 8260B	05/09/2008
Ethylbenzene	**700**	2.5	ug/L	EPA 8260B	05/09/2008
Total Xylenes	**130**	2.5	ug/L	EPA 8260B	05/09/2008
Methyl-t-butyl ether (MTBE)	**540**	2.5	ug/L	EPA 8260B	05/09/2008
Diisopropyl ether (DIPE)	**< 2.5**	2.5	ug/L	EPA 8260B	05/09/2008
Ethyl-t-butyl ether (ETBE)	**< 2.5**	2.5	ug/L	EPA 8260B	05/09/2008
Tert-amyl methyl ether (TAME)	**5.9**	2.5	ug/L	EPA 8260B	05/09/2008
Tert-Butanol	**410**	15	ug/L	EPA 8260B	05/09/2008
Methanol	**< 2000**	2000	ug/L	EPA 8260B	05/09/2008
Ethanol	**< 25**	25	ug/L	EPA 8260B	05/09/2008
TPH as Gasoline	**15000**	250	ug/L	EPA 8260B	05/09/2008
1,2-Dichloroethane	**< 2.5**	2.5	ug/L	EPA 8260B	05/09/2008
1,2-Dibromoethane	**< 2.5**	2.5	ug/L	EPA 8260B	05/09/2008
1,2-Dichloroethane-d4 (Surr)	88.7		% Recovery	EPA 8260B	05/09/2008
Toluene - d8 (Surr)	92.3		% Recovery	EPA 8260B	05/09/2008

Approved By: Joel Kiff

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

KIFF Analytical LLC

Report Number : 62583
Date : 05/14/2008

Project Name : **Tesoro - Livermore**
Project Number : **01LV**

Sample : **MW-7** Matrix : Water Lab Number : 62583-04
Sample Date :05/08/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**2.2**	0.50	ug/L	EPA 8260B	05/10/2008
Toluene	**0.74**	0.50	ug/L	EPA 8260B	05/10/2008
Ethylbenzene	**2.8**	0.50	ug/L	EPA 8260B	05/10/2008
Total Xylenes	**0.93**	0.50	ug/L	EPA 8260B	05/10/2008
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	05/10/2008
Methanol	**< 50**	50	ug/L	EPA 8260B	05/10/2008
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	05/10/2008
TPH as Gasoline	**1400**	50	ug/L	EPA 8260B	05/10/2008
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
1,2-Dichloroethane-d4 (Surr)	99.0		% Recovery	EPA 8260B	05/10/2008
Toluene - d8 (Surr)	98.8		% Recovery	EPA 8260B	05/10/2008

Approved By: Joel Kiff

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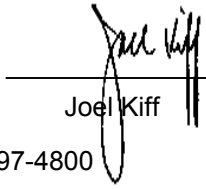
KIFF Analytical LLC

Report Number : 62583
Date : 05/14/2008

Project Name : **Tesoro - Livermore**
Project Number : **01LV**

Sample : **MW-9** Matrix : Water Lab Number : 62583-05
Sample Date :05/08/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**8.2**	0.50	ug/L	EPA 8260B	05/10/2008
Toluene	**0.52**	0.50	ug/L	EPA 8260B	05/10/2008
Ethylbenzene	**4.0**	0.50	ug/L	EPA 8260B	05/10/2008
Total Xylenes	**0.74**	0.50	ug/L	EPA 8260B	05/10/2008
Methyl-t-butyl ether (MTBE)	**5.9**	0.50	ug/L	EPA 8260B	05/10/2008
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Tert-Butanol	**5.4**	5.0	ug/L	EPA 8260B	05/10/2008
Methanol	**< 50**	50	ug/L	EPA 8260B	05/10/2008
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	05/10/2008
TPH as Gasoline	**1200**	50	ug/L	EPA 8260B	05/10/2008
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
1,2-Dichloroethane-d4 (Surr)	101		% Recovery	EPA 8260B	05/10/2008
Toluene - d8 (Surr)	98.7		% Recovery	EPA 8260B	05/10/2008



Approved By: Joel Kiff

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KIFF Analytical LLC

Report Number : 62583
Date : 05/14/2008

Project Name : **Tesoro - Livermore**
Project Number : **01LV**

Sample : **MW-10** Matrix : Water Lab Number : 62583-06
Sample Date :05/08/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	05/10/2008
Methanol	**< 50**	50	ug/L	EPA 8260B	05/10/2008
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	05/10/2008
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	05/10/2008
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
1,2-Dichloroethane-d4 (Surr)	102		% Recovery	EPA 8260B	05/10/2008
Toluene - d8 (Surr)	99.2		% Recovery	EPA 8260B	05/10/2008

Approved By: Joel Kiff

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

KIFF Analytical LLC

Report Number : 62583
Date : 05/14/2008

Project Name : **Tesoro - Livermore**
Project Number : **01LV**

Sample : **MW-1** Matrix : Water Lab Number : 62583-07
Sample Date :05/08/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**1.8**	0.50	ug/L	EPA 8260B	05/10/2008
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Ethylbenzene	**12**	0.50	ug/L	EPA 8260B	05/10/2008
Total Xylenes	**12**	0.50	ug/L	EPA 8260B	05/10/2008
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	05/10/2008
Methanol	**< 50**	50	ug/L	EPA 8260B	05/10/2008
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	05/10/2008
TPH as Gasoline	**620**	50	ug/L	EPA 8260B	05/10/2008
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
1,2-Dichloroethane-d4 (Surr)	101		% Recovery	EPA 8260B	05/10/2008
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	05/10/2008

Approved By: Joel Kiff

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

KIFF Analytical LLC

Report Number : 62583
Date : 05/14/2008

Project Name : **Tesoro - Livermore**
Project Number : **01LV**

Sample : **MW-2** Matrix : Water Lab Number : 62583-08
Sample Date :05/08/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**3200**	5.0	ug/L	EPA 8260B	05/13/2008
Toluene	**620**	5.0	ug/L	EPA 8260B	05/13/2008
Ethylbenzene	**1400**	5.0	ug/L	EPA 8260B	05/13/2008
Total Xylenes	**1700**	5.0	ug/L	EPA 8260B	05/13/2008
Methyl-t-butyl ether (MTBE)	**580**	5.0	ug/L	EPA 8260B	05/13/2008
Diisopropyl ether (DIPE)	**< 5.0**	5.0	ug/L	EPA 8260B	05/13/2008
Ethyl-t-butyl ether (ETBE)	**< 5.0**	5.0	ug/L	EPA 8260B	05/13/2008
Tert-amyl methyl ether (TAME)	**10**	5.0	ug/L	EPA 8260B	05/13/2008
Tert-Butanol	**210**	25	ug/L	EPA 8260B	05/13/2008
Methanol	**< 1000**	1000	ug/L	EPA 8260B	05/13/2008
Ethanol	**< 50**	50	ug/L	EPA 8260B	05/13/2008
TPH as Gasoline	**29000**	500	ug/L	EPA 8260B	05/13/2008
1,2-Dichloroethane	**< 5.0**	5.0	ug/L	EPA 8260B	05/13/2008
1,2-Dibromoethane	**< 5.0**	5.0	ug/L	EPA 8260B	05/13/2008
1,2-Dichloroethane-d4 (Surr)	101		% Recovery	EPA 8260B	05/13/2008
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	05/13/2008

Approved By: Joel Kiff

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

KIFF Analytical LLC

Report Number : 62583
Date : 05/14/2008

Project Name : **Tesoro - Livermore**
Project Number : **01LV**

Sample : **MW-3** Matrix : Water Lab Number : 62583-09
Sample Date :05/08/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	05/09/2008
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	05/09/2008
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	05/09/2008
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	05/09/2008
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/09/2008
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/09/2008
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/09/2008
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	05/09/2008
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	05/09/2008
Methanol	**< 50**	50	ug/L	EPA 8260B	05/09/2008
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	05/09/2008
TPH as Gasoline	**57**	50	ug/L	EPA 8260B	05/09/2008
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	05/09/2008
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	05/09/2008
1,2-Dichloroethane-d4 (Surr)	100		% Recovery	EPA 8260B	05/09/2008
Toluene - d8 (Surr)	99.5		% Recovery	EPA 8260B	05/09/2008

Approved By: Joel Kiff

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

KIFF Analytical LLC

Report Number : 62583
Date : 05/14/2008

Project Name : **Tesoro - Livermore**
Project Number : **01LV**

Sample : **MW-8** Matrix : Water Lab Number : 62583-10
Sample Date :05/08/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	05/10/2008
Methanol	**< 50**	50	ug/L	EPA 8260B	05/10/2008
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	05/10/2008
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	05/10/2008
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
1,2-Dichloroethane-d4 (Surr)	99.0		% Recovery	EPA 8260B	05/10/2008
Toluene - d8 (Surr)	99.3		% Recovery	EPA 8260B	05/10/2008

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KIFF Analytical LLC

Report Number : 62583
Date : 05/14/2008

Project Name : **Tesoro - Livermore**
Project Number : **01LV**

Sample : **TP-1** Matrix : Water Lab Number : 62583-11
Sample Date :05/08/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**890**	5.0	ug/L	EPA 8260B	05/10/2008
Toluene	**54**	5.0	ug/L	EPA 8260B	05/10/2008
Ethylbenzene	**770**	5.0	ug/L	EPA 8260B	05/10/2008
Total Xylenes	**380**	5.0	ug/L	EPA 8260B	05/10/2008
Methyl-t-butyl ether (MTBE)	**2500**	5.0	ug/L	EPA 8260B	05/10/2008
Diisopropyl ether (DIPE)	**< 5.0**	5.0	ug/L	EPA 8260B	05/10/2008
Ethyl-t-butyl ether (ETBE)	**< 5.0**	5.0	ug/L	EPA 8260B	05/10/2008
Tert-amyl methyl ether (TAME)	**22**	5.0	ug/L	EPA 8260B	05/10/2008
Tert-Butanol	**3400**	25	ug/L	EPA 8260B	05/10/2008
Methanol	**< 2500**	2500	ug/L	EPA 8260B	05/10/2008
Ethanol	**< 50**	50	ug/L	EPA 8260B	05/10/2008
TPH as Gasoline	**12000**	500	ug/L	EPA 8260B	05/10/2008
1,2-Dichloroethane	**< 5.0**	5.0	ug/L	EPA 8260B	05/10/2008
1,2-Dibromoethane	**< 5.0**	5.0	ug/L	EPA 8260B	05/10/2008
1,2-Dichloroethane-d4 (Surr)	96.6		% Recovery	EPA 8260B	05/10/2008
Toluene - d8 (Surr)	97.8		% Recovery	EPA 8260B	05/10/2008

Approved By: Joel Kiff

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KIFF Analytical LLC

Report Number : 62583
Date : 05/14/2008

Project Name : **Tesoro - Livermore**
Project Number : **01LV**

Sample : **TP-2** Matrix : Water Lab Number : 62583-12
Sample Date :05/08/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**710**	8.0	ug/L	EPA 8260B	05/10/2008
Toluene	**10**	8.0	ug/L	EPA 8260B	05/10/2008
Ethylbenzene	**510**	8.0	ug/L	EPA 8260B	05/10/2008
Total Xylenes	**110**	8.0	ug/L	EPA 8260B	05/10/2008
Methyl-t-butyl ether (MTBE)	**6400**	250	ug/L	EPA 8260B	05/10/2008
Diisopropyl ether (DIPE)	**< 8.0**	8.0	ug/L	EPA 8260B	05/10/2008
Ethyl-t-butyl ether (ETBE)	**< 8.0**	8.0	ug/L	EPA 8260B	05/10/2008
Tert-amyl methyl ether (TAME)	**64**	8.0	ug/L	EPA 8260B	05/10/2008
Tert-Butanol	**5200**	40	ug/L	EPA 8260B	05/10/2008
Methanol	**< 12000**	12000	ug/L	EPA 8260B	05/10/2008
Ethanol	**< 80**	80	ug/L	EPA 8260B	05/10/2008
TPH as Gasoline	**7400**	800	ug/L	EPA 8260B	05/10/2008
1,2-Dichloroethane	**< 8.0**	8.0	ug/L	EPA 8260B	05/10/2008
1,2-Dibromoethane	**< 8.0**	8.0	ug/L	EPA 8260B	05/10/2008
1,2-Dichloroethane-d4 (Surr)	96.1		% Recovery	EPA 8260B	05/10/2008
Toluene - d8 (Surr)	99.8		% Recovery	EPA 8260B	05/10/2008

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KIFF Analytical LLC

Report Number : 62583
Date : 05/14/2008

Project Name : **Tesoro - Livermore**
Project Number : **01LV**

Sample : **VW-2** Matrix : Water Lab Number : 62583-13
Sample Date :05/08/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**40**	1.5	ug/L	EPA 8260B	05/10/2008
Toluene	**3.8**	1.5	ug/L	EPA 8260B	05/10/2008
Ethylbenzene	**32**	1.5	ug/L	EPA 8260B	05/10/2008
Total Xylenes	**34**	1.5	ug/L	EPA 8260B	05/10/2008
Methyl-t-butyl ether (MTBE)	**270**	1.5	ug/L	EPA 8260B	05/10/2008
Diisopropyl ether (DIPE)	**< 1.5**	1.5	ug/L	EPA 8260B	05/10/2008
Ethyl-t-butyl ether (ETBE)	**< 1.5**	1.5	ug/L	EPA 8260B	05/10/2008
Tert-amyl methyl ether (TAME)	**2.7**	1.5	ug/L	EPA 8260B	05/10/2008
Tert-Butanol	**4500**	7.0	ug/L	EPA 8260B	05/10/2008
Methanol	**< 250**	250	ug/L	EPA 8260B	05/09/2008
Ethanol	**< 15**	15	ug/L	EPA 8260B	05/10/2008
TPH as Gasoline	**3000**	150	ug/L	EPA 8260B	05/10/2008
1,2-Dichloroethane	**< 1.5**	1.5	ug/L	EPA 8260B	05/10/2008
1,2-Dibromoethane	**< 1.5**	1.5	ug/L	EPA 8260B	05/10/2008
1,2-Dichloroethane-d4 (Surr)	97.8		% Recovery	EPA 8260B	05/10/2008
Toluene - d8 (Surr)	97.7		% Recovery	EPA 8260B	05/10/2008

Approved By: Joel Kiff

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KIFF Analytical LLC

Report Number : 62583
Date : 05/14/2008

Project Name : **Tesoro - Livermore**
Project Number : **01LV**

Sample : **VW-3** Matrix : Water Lab Number : 62583-14
Sample Date :05/08/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	05/10/2008
Methanol	**< 50**	50	ug/L	EPA 8260B	05/10/2008
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	05/10/2008
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	05/10/2008
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	05/10/2008
1,2-Dichloroethane-d4 (Surr)	102		% Recovery	EPA 8260B	05/10/2008
Toluene - d8 (Surr)	99.5		% Recovery	EPA 8260B	05/10/2008

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Report Number : 62583

Date : 05/14/2008

QC Report : Method Blank Data

Project Name : **Tesoro - Livermore**

Project Number : **01LV**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
Toluene	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	05/09/2008
Methanol	< 50	50	ug/L	EPA 8260B	05/09/2008
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	05/09/2008
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	05/09/2008
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
1,2-Dichloroethane-d4 (Surr)	101		%	EPA 8260B	05/09/2008
Toluene - d8 (Surr)	99.0		%	EPA 8260B	05/09/2008
Benzene	< 0.50	0.50	ug/L	EPA 8260B	05/10/2008
Toluene	< 0.50	0.50	ug/L	EPA 8260B	05/10/2008
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	05/10/2008
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	05/10/2008
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	05/10/2008
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	05/10/2008
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	05/10/2008
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	05/10/2008
Methanol	< 50	50	ug/L	EPA 8260B	05/10/2008
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	05/10/2008
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	05/10/2008
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	05/10/2008
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	05/10/2008
1,2-Dichloroethane-d4 (Surr)	103		%	EPA 8260B	05/10/2008
Toluene - d8 (Surr)	100		%	EPA 8260B	05/10/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
Toluene	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	05/09/2008
Methanol	< 50	50	ug/L	EPA 8260B	05/09/2008
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	05/09/2008
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	05/09/2008
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
1,2-Dichloroethane-d4 (Surr)	103		%	EPA 8260B	05/09/2008
Toluene - d8 (Surr)	97.5		%	EPA 8260B	05/09/2008
Benzene	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
Toluene	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	05/09/2008
Methanol	< 50	50	ug/L	EPA 8260B	05/09/2008
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	05/09/2008
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	05/09/2008
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
1,2-Dichloroethane-d4 (Surr)	101		%	EPA 8260B	05/09/2008
Toluene - d8 (Surr)	98.8		%	EPA 8260B	05/09/2008

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

Report Number : 62583

Date : 05/14/2008

QC Report : Method Blank Data

Project Name : **Tesoro - Livermore**

Project Number : **01LV**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	05/09/2008
Benzene	< 0.50	0.50	ug/L	EPA 8260B	05/12/2008
Toluene	< 0.50	0.50	ug/L	EPA 8260B	05/12/2008
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	05/12/2008
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	05/12/2008
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	05/12/2008
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	05/12/2008
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	05/12/2008
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	05/12/2008
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	05/12/2008
Methanol	< 50	50	ug/L	EPA 8260B	05/12/2008
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	05/12/2008
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	05/12/2008
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	05/12/2008
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	05/12/2008
1,2-Dichloroethane-d4 (Surr)	104		%	EPA 8260B	05/12/2008
Toluene - d8 (Surr)	102		%	EPA 8260B	05/12/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

Report Number : 62583

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 05/14/2008

Project Name : **Tesoro - Livermore**

Project Number : **01LV**

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
1,2-Dichloroethane	62572-01	<0.50	39.9	39.9	41.9	40.7	ug/L	EPA 8260B	5/9/08	105	102	3.00	70-130	25
Benzene	62572-01	3.1	40.1	40.1	42.0	42.0	ug/L	EPA 8260B	5/9/08	97.2	97.1	0.0253	70-130	25
Methyl-t-butyl ether	62572-01	12	40.0	40.0	51.4	49.2	ug/L	EPA 8260B	5/9/08	98.6	93.1	5.71	70-130	25
Tert-Butanol	62572-01	5.8	200	200	209	212	ug/L	EPA 8260B	5/9/08	102	103	1.50	70-130	25
Toluene	62572-01	<0.50	40.0	40.0	39.8	39.7	ug/L	EPA 8260B	5/9/08	99.7	99.3	0.478	70-130	25
1,2-Dichloroethane	62598-03	<0.50	39.9	39.9	42.0	42.2	ug/L	EPA 8260B	5/10/08	105	106	0.479	70-130	25
Benzene	62598-03	<0.50	40.1	40.1	41.9	42.5	ug/L	EPA 8260B	5/10/08	104	106	1.50	70-130	25
Methyl-t-butyl ether	62598-03	<0.50	40.0	40.0	43.7	44.2	ug/L	EPA 8260B	5/10/08	109	110	1.18	70-130	25
Tert-Butanol	62598-03	<5.0	200	200	217	207	ug/L	EPA 8260B	5/10/08	109	104	4.50	70-130	25
Toluene	62598-03	<0.50	40.0	40.0	41.0	41.0	ug/L	EPA 8260B	5/10/08	102	103	0.179	70-130	25
1,2-Dichloroethane	62584-04	<0.50	40.0	40.0	39.5	38.6	ug/L	EPA 8260B	5/9/08	98.6	96.4	2.29	70-130	25
Benzene	62584-04	<0.50	40.2	40.2	38.9	37.6	ug/L	EPA 8260B	5/9/08	96.9	93.5	3.49	70-130	25
Methyl-t-butyl ether	62584-04	<0.50	40.1	40.1	42.7	44.5	ug/L	EPA 8260B	5/9/08	106	111	4.07	70-130	25
Tert-Butanol	62584-04	<5.0	200	200	198	192	ug/L	EPA 8260B	5/9/08	99.0	96.1	2.95	70-130	25
Toluene	62584-04	<0.50	40.0	40.0	39.2	37.1	ug/L	EPA 8260B	5/9/08	97.8	92.8	5.28	70-130	25
1,2-Dichloroethane	62584-03	<0.50	40.0	40.0	38.4	38.1	ug/L	EPA 8260B	5/9/08	95.8	95.2	0.614	70-130	25
Benzene	62584-03	<0.50	40.2	40.2	40.7	39.7	ug/L	EPA 8260B	5/9/08	101	98.8	2.58	70-130	25
Methyl-t-butyl ether	62584-03	<0.50	40.1	40.1	35.3	34.6	ug/L	EPA 8260B	5/9/08	88.2	86.4	2.08	70-130	25
Tert-Butanol	62584-03	<5.0	200	200	207	210	ug/L	EPA 8260B	5/9/08	104	105	1.25	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

Report Number : 62583

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 05/14/2008

Project Name : **Tesoro - Livermore**

Project Number : **01LV**

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
Toluene	62584-03	<0.50	40.0	40.0	40.4	39.4	ug/L	EPA 8260B	5/9/08	101	98.3	2.58	70-130	25
Methyl-t-butyl ether	62584-02	<0.50	40.1	40.1	44.3	44.0	ug/L	EPA 8260B	5/9/08	110	110	0.665	70-130	25
1,2-Dichloroethane	62578-07	<0.50	40.0	40.0	36.1	36.2	ug/L	EPA 8260B	5/12/08	90.2	90.3	0.0768	70-130	25
Benzene	62578-07	<0.50	40.2	40.2	38.0	37.3	ug/L	EPA 8260B	5/12/08	94.5	92.8	1.82	70-130	25
Methyl-t-butyl ether	62578-07	<0.50	40.1	40.1	39.6	37.4	ug/L	EPA 8260B	5/12/08	98.9	93.3	5.81	70-130	25
Tert-Butanol	62578-07	<5.0	200	200	187	188	ug/L	EPA 8260B	5/12/08	93.6	94.0	0.440	70-130	25
Toluene	62578-07	<0.50	40.0	40.0	38.8	38.0	ug/L	EPA 8260B	5/12/08	97.0	94.9	2.14	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

Report Number : 62583

QC Report : Laboratory Control Sample (LCS)

Date : 05/14/2008

Project Name : **Tesoro - Livermore**

Project Number : **01LV**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
1,2-Dichloroethane	40.0	ug/L	EPA 8260B	5/9/08	103	70-130
Benzene	40.2	ug/L	EPA 8260B	5/9/08	98.4	70-130
Methyl-t-butyl ether	40.1	ug/L	EPA 8260B	5/9/08	98.6	70-130
Tert-Butanol	200	ug/L	EPA 8260B	5/9/08	106	70-130
Toluene	40.0	ug/L	EPA 8260B	5/9/08	99.8	70-130
1,2-Dichloroethane	40.0	ug/L	EPA 8260B	5/10/08	105	70-130
Benzene	40.2	ug/L	EPA 8260B	5/10/08	105	70-130
Methyl-t-butyl ether	40.1	ug/L	EPA 8260B	5/10/08	116	70-130
Tert-Butanol	200	ug/L	EPA 8260B	5/10/08	105	70-130
Toluene	40.0	ug/L	EPA 8260B	5/10/08	105	70-130
1,2-Dichloroethane	40.0	ug/L	EPA 8260B	5/9/08	94.7	70-130
Benzene	40.0	ug/L	EPA 8260B	5/9/08	92.8	70-130
Methyl-t-butyl ether	40.1	ug/L	EPA 8260B	5/9/08	101	70-130
Tert-Butanol	200	ug/L	EPA 8260B	5/9/08	97.4	70-130
Toluene	40.0	ug/L	EPA 8260B	5/9/08	96.4	70-130
1,2-Dichloroethane	40.2	ug/L	EPA 8260B	5/9/08	93.2	70-130
Benzene	40.2	ug/L	EPA 8260B	5/9/08	98.6	70-130
Methyl-t-butyl ether	40.3	ug/L	EPA 8260B	5/9/08	85.0	70-130
Tert-Butanol	201	ug/L	EPA 8260B	5/9/08	101	70-130

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

Report Number : 62583

QC Report : Laboratory Control Sample (LCS)

Date : 05/14/2008

Project Name : **Tesoro - Livermore**

Project Number : **01LV**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Toluene	40.2	ug/L	EPA 8260B	5/9/08	98.8	70-130
Methyl-t-butyl ether	40.1	ug/L	EPA 8260B	5/9/08	106	70-130
1,2-Dichloroethane	40.2	ug/L	EPA 8260B	5/12/08	95.6	70-130
Benzene	40.3	ug/L	EPA 8260B	5/12/08	99.3	70-130
Methyl-t-butyl ether	40.3	ug/L	EPA 8260B	5/12/08	111	70-130
Tert-Butanol	201	ug/L	EPA 8260B	5/12/08	97.3	70-130
Toluene	40.2	ug/L	EPA 8260B	5/12/08	102	70-130

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 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 62583 KIFF | DHS #

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

CHAIN OF CUSTODY BTS # 080508-DW1

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	VOA/HCL	C = COMPOSITE ALL CONTAINERS	TPH-G + BTEX + MTBE (8260)	(7) Oxygenates (8260)	Lead Scavengers	Ferrous Iron (24 hr. Hold time)	Nitrate, Sulfate, Phosphorous	Major anions (Chloride, Nitrite, Sulfide)	Total Alkalinity (SM2320B)	Carbon Dioxide (SM4500-CO2D) & Methane	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
MW-4	05/08/08	1100	W	3	3		X	X	X									01
MW-5		1211					X	X	X									02
MW-6		1415					X	X	X									03
MW-7		1029					X	X	X									04
MW-9		1355					X	X	X									05
MW-10		1320					X	X	X									06

SAMPLE RECEIPT
Temp °C 1.0 Therm. ID# ER-1
Initial LJR Date 050808
Time 1906 Coolant present: (Yes) No

SAMPLING COMPLETED DATE 05/08/08 TIME

SAMPLING PERFORMED BY M. Todi

RESULTS NEEDED NO LATER THAN Standard TAT

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
	05/08/08				
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
			Kiff Analytical	050808	1522

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #

BLAINE
TECH SERVICES, INC.

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

LAB 62583 KIFF | DHS #

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

CHAIN OF CUSTODY BTS # 080508-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

CONDUCT ANALYSIS TO DETECT

SAMPLE I.D.	DATE	TIME	MATRIX S= SOIL W=H_2O	CONTAINERS TOTAL	CONTAINERS VOA/HCL	C = COMPOSITE ALL CONTAINERS	TPH-G + BTEX + MTBE (8260)	(7) Oxygenates (8260)	Lead Scavengers	Ferrous Iron (24 hr. Hold time)	Nitrate, Sulfate, Phosphorous	Major anions (Chloride, Nitrite, Sulfide)	Total Alkalinity (SM2320B)	Carbon Dioxide (SM4500-CO2D) & Methane	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
MW-1'	5-8	1210	W	3	HCL VOAs		X	X	X									07
MW-2'		1133					X	X	X									08
MW-3'		1110					X	X	X									09
MW-8'		1020					X	X	X									10
TP-1'		1332					X	X	X									11
TP-2'		1340					X	X	X									12
VW-2'		0928					X	X	X									13
VW-3'		0910					X	X	X									14

SAMPLING COMPLETED: DATE 5-8-08 TIME 1430
SAMPLING PERFORMED BY: Dave Walter
RESULTS NEEDED NO LATER THAN: Standard TAT

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
David C Walter	5-8-08				
			Kiff Analytical	050808	1522

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #

KIFF Analytical LLC

Report Number : 62844
Date : 05/29/2008

Mike Purchase
Arctos Environmental
1332 Peralta Avenue
Berkeley, CA 94702

Subject : 4 Water Samples
Project Name : Tesoro - Livermore
Project Number : 01LV

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 : 62844

Date : 05/29/2008

Project Name : **Tesoro - Livermore**

Project Number : **01LV**

Sample : **DW-1** Matrix : Water Lab Number : 62844-01

Sample Date :05/22/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**470**	0.90	ug/L	EPA 8260B	05/24/2008
Toluene	**150**	0.90	ug/L	EPA 8260B	05/24/2008
Ethylbenzene	**210**	0.90	ug/L	EPA 8260B	05/24/2008
Total Xylenes	**570**	0.90	ug/L	EPA 8260B	05/24/2008
Methyl-t-butyl ether (MTBE)	**100**	0.90	ug/L	EPA 8260B	05/24/2008
Diisopropyl ether (DIPE)	**< 0.90**	0.90	ug/L	EPA 8260B	05/24/2008
Ethyl-t-butyl ether (ETBE)	**< 0.90**	0.90	ug/L	EPA 8260B	05/24/2008
Tert-amyl methyl ether (TAME)	**0.98**	0.90	ug/L	EPA 8260B	05/24/2008
Tert-Butanol	**76**	5.0	ug/L	EPA 8260B	05/24/2008
Methanol	**< 90**	90	ug/L	EPA 8260B	05/24/2008
Ethanol	**< 9.0**	9.0	ug/L	EPA 8260B	05/24/2008
TPH as Gasoline	**5100**	90	ug/L	EPA 8260B	05/24/2008
1,2-Dichloroethane	**< 0.90**	0.90	ug/L	EPA 8260B	05/24/2008
1,2-Dibromoethane	**< 0.90**	0.90	ug/L	EPA 8260B	05/24/2008
1,2-Dichloroethane-d4 (Surr)	105		% Recovery	EPA 8260B	05/24/2008
Toluene - d8 (Surr)	95.8		% Recovery	EPA 8260B	05/24/2008

Approved By: Joel Kiff

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

KIFF Analytical LLC

Report Number : 62844

Date : 05/29/2008

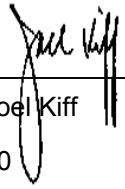
Project Name : **Tesoro - Livermore**

Project Number : **01LV**

Sample : **DW-2** Matrix : Water Lab Number : 62844-02

Sample Date :05/22/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**1300**	2.5	ug/L	EPA 8260B	05/24/2008
Toluene	**170**	2.5	ug/L	EPA 8260B	05/24/2008
Ethylbenzene	**460**	2.5	ug/L	EPA 8260B	05/24/2008
Total Xylenes	**230**	2.5	ug/L	EPA 8260B	05/24/2008
Methyl-t-butyl ether (MTBE)	**620**	2.5	ug/L	EPA 8260B	05/24/2008
Diisopropyl ether (DIPE)	**< 2.5**	2.5	ug/L	EPA 8260B	05/24/2008
Ethyl-t-butyl ether (ETBE)	**< 2.5**	2.5	ug/L	EPA 8260B	05/24/2008
Tert-amyl methyl ether (TAME)	**9.6**	2.5	ug/L	EPA 8260B	05/24/2008
Tert-Butanol	**870**	15	ug/L	EPA 8260B	05/24/2008
Methanol	**< 400**	400	ug/L	EPA 8260B	05/24/2008
Ethanol	**< 25**	25	ug/L	EPA 8260B	05/24/2008
TPH as Gasoline	**11000**	250	ug/L	EPA 8260B	05/24/2008
1,2-Dichloroethane	**< 2.5**	2.5	ug/L	EPA 8260B	05/24/2008
1,2-Dibromoethane	**< 2.5**	2.5	ug/L	EPA 8260B	05/24/2008
1,2-Dichloroethane-d4 (Surr)	98.7		% Recovery	EPA 8260B	05/24/2008
Toluene - d8 (Surr)	99.0		% Recovery	EPA 8260B	05/24/2008



Approved By: Joel Kiff

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

KIFF Analytical LLC

Report Number : 62844

Date : 05/29/2008

Project Name : **Tesoro - Livermore**

Project Number : **01LV**

Sample : **DW-3** Matrix : Water Lab Number : 62844-03

Sample Date :05/22/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**8.7**	0.50	ug/L	EPA 8260B	05/24/2008
Toluene	**2.1**	0.50	ug/L	EPA 8260B	05/24/2008
Ethylbenzene	**120**	0.50	ug/L	EPA 8260B	05/24/2008
Total Xylenes	**200**	0.50	ug/L	EPA 8260B	05/24/2008
Methyl-t-butyl ether (MTBE)	**0.86**	0.50	ug/L	EPA 8260B	05/24/2008
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/24/2008
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/24/2008
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	05/24/2008
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	05/24/2008
Methanol	**< 50**	50	ug/L	EPA 8260B	05/24/2008
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	05/24/2008
TPH as Gasoline	**4700**	100	ug/L	EPA 8260B	05/24/2008
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	05/24/2008
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	05/24/2008
1,2-Dichloroethane-d4 (Surr)	94.4		% Recovery	EPA 8260B	05/24/2008
Toluene - d8 (Surr)	90.5		% Recovery	EPA 8260B	05/24/2008

Approved By: Joel Kiff

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

KIFF Analytical LLC

Report Number : 62844
Date : 05/29/2008

Project Name : **Tesoro - Livermore**
Project Number : **01LV**

Sample : **DW-4** Matrix : Water Lab Number : 62844-04
Sample Date :05/22/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**4.2**	0.50	ug/L	EPA 8260B	05/23/2008
Toluene	**8.6**	0.50	ug/L	EPA 8260B	05/23/2008
Ethylbenzene	**16**	0.50	ug/L	EPA 8260B	05/23/2008
Total Xylenes	**200**	0.50	ug/L	EPA 8260B	05/23/2008
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/23/2008
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/23/2008
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	05/23/2008
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	05/23/2008
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	05/23/2008
Methanol	**< 50**	50	ug/L	EPA 8260B	05/23/2008
Ethanol	**< 5.0**	5.0	ug/L	EPA 8260B	05/23/2008
TPH as Gasoline	**1200**	50	ug/L	EPA 8260B	05/23/2008
1,2-Dichloroethane	**< 0.50**	0.50	ug/L	EPA 8260B	05/23/2008
1,2-Dibromoethane	**< 0.50**	0.50	ug/L	EPA 8260B	05/23/2008
1,2-Dichloroethane-d4 (Surr)	101		% Recovery	EPA 8260B	05/23/2008
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	05/23/2008

Approved By: Joel Kiff

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

Report Number : 62844

Date : 05/29/2008

QC Report : Method Blank Data

Project Name : **Tesoro - Livermore**

Project Number : **01LV**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	05/23/2008
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	05/23/2008
Toluene	< 0.50	0.50	ug/L	EPA 8260B	05/23/2008
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	05/23/2008
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	05/23/2008
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	05/23/2008
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	05/23/2008
Methanol	< 50	50	ug/L	EPA 8260B	05/23/2008
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	05/23/2008
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	05/23/2008
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	05/23/2008
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	05/23/2008
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	05/23/2008
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	05/23/2008
1,2-Dichloroethane-d4 (Surr)	102		%	EPA 8260B	05/23/2008
Toluene - d8 (Surr)	99.6		%	EPA 8260B	05/23/2008
Benzene	< 0.50	0.50	ug/L	EPA 8260B	05/24/2008
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	05/24/2008
Toluene	< 0.50	0.50	ug/L	EPA 8260B	05/24/2008
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	05/24/2008
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	05/24/2008
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	05/24/2008
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	05/24/2008
Methanol	< 50	50	ug/L	EPA 8260B	05/24/2008
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	05/24/2008
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	05/24/2008
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	05/24/2008
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	05/24/2008
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	05/24/2008
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	05/24/2008
1,2-Dichloroethane-d4 (Surr)	102		%	EPA 8260B	05/24/2008
Toluene - d8 (Surr)	100		%	EPA 8260B	05/24/2008

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

Report Number : 62844

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 05/29/2008

Project Name : **Tesoro - Livermore**

Project Number : **01LV**

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
1,2-Dichloroethane	62829-01	<0.50	40.0	40.0	41.7	39.2	ug/L	EPA 8260B	5/23/08	104	97.8	6.17	70-130	25
Benzene	62829-01	<0.50	40.2	40.2	42.0	40.9	ug/L	EPA 8260B	5/23/08	105	102	2.65	70-130	25
Methyl-t-butyl ether	62829-01	1.0	40.1	40.1	39.1	40.2	ug/L	EPA 8260B	5/23/08	95.0	97.6	2.73	70-130	25
Tert-Butanol	62829-01	<5.0	200	200	202	205	ug/L	EPA 8260B	5/23/08	101	103	1.72	70-130	25
Toluene	62829-01	<0.50	40.0	40.0	39.0	41.0	ug/L	EPA 8260B	5/23/08	97.4	102	5.09	70-130	25
1,2-Dichloroethane	62863-08	<0.50	40.0	40.0	38.0	38.0	ug/L	EPA 8260B	5/24/08	95.0	94.9	0.0948	70-130	25
Benzene	62863-08	<0.50	40.2	40.2	40.7	40.2	ug/L	EPA 8260B	5/24/08	101	100	1.37	70-130	25
Methyl-t-butyl ether	62863-08	<0.50	40.1	40.1	38.4	38.2	ug/L	EPA 8260B	5/24/08	95.7	95.4	0.337	70-130	25
Tert-Butanol	62863-08	<5.0	200	200	203	202	ug/L	EPA 8260B	5/24/08	102	101	0.497	70-130	25
Toluene	62863-08	<0.50	40.0	40.0	41.3	40.4	ug/L	EPA 8260B	5/24/08	103	101	2.34	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

Report Number : 62844

QC Report : Laboratory Control Sample (LCS)

Date : 05/29/2008

Project Name : **Tesoro - Livermore**

Project Number : **01LV**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
1,2-Dichloroethane	40.1	ug/L	EPA 8260B	5/23/08	99.2	70-130
Benzene	40.2	ug/L	EPA 8260B	5/23/08	101	70-130
Methyl-t-butyl ether	40.2	ug/L	EPA 8260B	5/23/08	100	70-130
Tert-Butanol	200	ug/L	EPA 8260B	5/23/08	100	70-130
Toluene	40.1	ug/L	EPA 8260B	5/23/08	99.7	70-130
1,2-Dichloroethane	40.0	ug/L	EPA 8260B	5/24/08	95.2	70-130
Benzene	40.2	ug/L	EPA 8260B	5/24/08	104	70-130
Methyl-t-butyl ether	40.1	ug/L	EPA 8260B	5/24/08	97.4	70-130
Tert-Butanol	200	ug/L	EPA 8260B	5/24/08	103	70-130
Toluene	40.0	ug/L	EPA 8260B	5/24/08	108	70-130

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

CALIFORNIA LABORATORY SERVICES

3249 Fitzgerald Road Rancho Cordova, CA 95742

May 30, 2008

CLS Work Order #: CRE0849
COC #: 62844

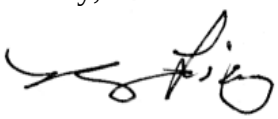
Angelique Showman
KIFF Analytical
2795 Second St. Suite 300
Davis, CA 95616

Project Name: Tesoro Livermore

Enclosed are the results of analyses for samples received by the laboratory on 05/22/08 16:16. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

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

Sincerely,



James Liang, Ph.D.
Laboratory Director

CA DOHS ELAP Accreditation/Registration number 1233

CALIFORNIA LABORATORY SERVICES

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

Project: Tesoro Livermore
Project Number: 01LV
Project Manager: Angelique Showman

CLS Work Order #: CRE0849
COC #: 62844

CRE0849

KIFF Analytical LLC
2795 Second Street, Suite 300
Davis, CA 95618
Lab: 530.297.4800
Fax: 530.297.4808

CLS
3249 Fitzgerald Road
Rancho Cordova, CA 95742
916-638-7301

COC No. 62844 Page 1 of 1

Chain-of-Custody Record and Analysis Request

Project Contact (Hardcopy or PDF to): Angelique Showman
Company/Address: Kiff Analytical
Phone No.: 530-297-4800 FAX No.: 530-297-4808
Project Number: 01LU P.O. No.: 62844
Project Name: Tesoro - Livermore
Project Address:

EDF Report? YES

Recommended but not mandatory to complete this section

Sampling Company Log Code: BTSS
Global ID: T0600101410
Deliverables to (Email Address): inbox@kiffanalytical.com

Sample Designation	Sampling Date	Sampling Time	Container / Preservative: 250ml Glass H2SO4	250ml Poly None	Matrix: WATER	SOIL	Air	Analysis Request: Alkalinity SM 2320 (1)	Anions by EPA 300.0 (1)	Carbon Dioxide (SM 4500-CO2D)	Chemical Oxygen Demand (EPA 410.4)	Iron, Ferrous (SM 3500 Fe D)	Total Phosphorus (SM 4500 P B/E)	Date due: May 30, 2008	For Lab Use Only
DW-1	05/22/08	11:14	2	3	X			X	X	X	X	X	X	X	
DW-2	05/22/08	10:16	2	3	X			X	X	X	X	X	X	X	
DW-3	05/22/08	09:43	2	3	X			X	X	X	X	X	X	X	
DW-4	05/22/08	09:03	2	3	X			X	X	X	X	X	X	X	

Relinquished by	Date	Time	Received by
K. Hamilton KIFF Analytical	05/22/08	1616	
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by Laboratory: JonR 5-22-8 1616

Remarks: Please refer to attached Test Detail.
4°C
Bill to: Accounts Payable

KIFF Analytical	Project: Tesoro Livermore	
2795 Second St. Suite 300	Project Number: 01LV	**CLS Work Order #: CRE0849**
Davis, CA 95616	Project Manager: Angelique Showman	COC #: 62844

Test Detail for Kiff Work Order: 62844

Alkalinity SM 2320 (1)
Alkalinity, Total (as CaCO3)

Anions by EPA 300.0 (1)
Nitrate as N
Sulfate

Page 1 of 1

CALIFORNIA LABORATORY SERVICES

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

Project: Tesoro Livermore
Project Number: 01LV
Project Manager: Angelique Showman

CLS Work Order #: CRE0849
COC #: 62844

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
DW-1 (CRE0849-01) Water	**Sampled: 05/22/08 11:14**	**Received: 05/22/08 16:16**							
Total Alkalinity	**370**	5.0	mg/L	1	CR04283	05/28/08	05/28/08	SM2310B	
Bicarbonate as CaCO3	**370**	5.0	"	"	"	"	"	"	
Carbonate as CaCO3	ND	5.0	"	"	"	"	"	"	
Hydroxide as CaCO3	ND	5.0	"	"	"	"	"	"	
Carbon Dioxide as CO2	**28**	5.0	"	"	CR04254	05/27/08	05/27/08	SM 4500C	
Chemical Oxygen Demand	**22**	7.0	"	"	CR04347	05/29/08	05/29/08	EPA 410.4	
Ferrous Iron	ND	0.10	"	"	CR04160	05/23/08	05/23/08	SM3500-Fe D	
Nitrate as N	ND	0.50	"	"	CR04159	05/23/08	05/23/08	EPA 300.0	
Total Phosphorus as P	**1.2**	0.50	"	10	CR04299	05/28/08	05/28/08	SM4500-P E	
Sulfate as SO4	**42**	5.0	"	"	CR04159	05/23/08	05/23/08	EPA 300.0	
DW-2 (CRE0849-02) Water	**Sampled: 05/22/08 10:16**	**Received: 05/22/08 16:16**							
Total Alkalinity	**480**	5.0	mg/L	1	CR04283	05/28/08	05/28/08	SM2310B	
Bicarbonate as CaCO3	**480**	5.0	"	"	"	"	"	"	
Carbonate as CaCO3	ND	5.0	"	"	"	"	"	"	
Hydroxide as CaCO3	ND	5.0	"	"	"	"	"	"	
Carbon Dioxide as CO2	**55**	5.0	"	"	CR04254	05/27/08	05/27/08	SM 4500C	
Chemical Oxygen Demand	**43**	7.0	"	"	CR04347	05/29/08	05/29/08	EPA 410.4	
Ferrous Iron	ND	0.10	"	"	CR04160	05/23/08	05/23/08	SM3500-Fe D	
Nitrate as N	ND	0.50	"	"	CR04159	05/23/08	05/23/08	EPA 300.0	
Total Phosphorus as P	**0.36**	0.050	"	"	CR04299	05/28/08	05/28/08	SM4500-P E	
Sulfate as SO4	**2.2**	0.50	"	"	CR04159	05/23/08	05/23/08	EPA 300.0	
DW-3 (CRE0849-03) Water	**Sampled: 05/22/08 09:43**	**Received: 05/22/08 16:16**							
Total Alkalinity	**410**	5.0	mg/L	1	CR04283	05/28/08	05/28/08	SM2310B	
Bicarbonate as CaCO3	**410**	5.0	"	"	"	"	"	"	
Carbonate as CaCO3	ND	5.0	"	"	"	"	"	"	
Hydroxide as CaCO3	ND	5.0	"	"	"	"	"	"	
Carbon Dioxide as CO2	**29**	5.0	"	"	CR04254	05/27/08	05/27/08	SM 4500C	
Chemical Oxygen Demand	**27**	7.0	"	"	CR04347	05/29/08	05/29/08	EPA 410.4	
Ferrous Iron	ND	0.10	"	"	CR04160	05/23/08	05/23/08	SM3500-Fe D	
Nitrate as N	ND	0.50	"	"	CR04159	05/23/08	05/23/08	EPA 300.0	
Total Phosphorus as P	**3.1**	0.50	"	10	CR04299	05/28/08	05/28/08	SM4500-P E	
Sulfate as SO4	**20**	0.50	"	1	CR04159	05/23/08	05/23/08	EPA 300.0	

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

Project: Tesoro Livermore
Project Number: 01LV
Project Manager: Angelique Showman

CLS Work Order #: CRE0849
COC #: 62844

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
DW-4 (CRE0849-04) Water	**Sampled: 05/22/08 09:03**	**Received: 05/22/08 16:16**							
Total Alkalinity	**270**	5.0	mg/L	1	CR04283	05/28/08	05/28/08	SM2310B	
Bicarbonate as CaCO3	**270**	5.0	"	"	"	"	"	"	
Carbonate as CaCO3	ND	5.0	"	"	"	"	"	"	
Hydroxide as CaCO3	ND	5.0	"	"	"	"	"	"	
Carbon Dioxide as CO2	**19**	5.0	"	"	CR04254	05/27/08	05/27/08	SM 4500C	
Chemical Oxygen Demand	**18**	7.0	"	"	CR04347	05/29/08	05/29/08	EPA 410.4	
Ferrous Iron	ND	0.10	"	"	CR04160	05/23/08	05/23/08	SM3500-Fe D	
Nitrate as N	**3.5**	0.50	"	"	CR04159	05/23/08	05/23/08	EPA 300.0	
Total Phosphorus as P	**1.6**	0.50	"	10	CR04299	05/28/08	05/28/08	SM4500-P E	
Sulfate as SO4	**56**	5.0	"	"	CR04159	05/23/08	05/23/08	EPA 300.0	

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

Project: Tesoro Livermore
Project Number: 01LV
Project Manager: Angelique Showman

CLS Work Order #: CRE0849
COC #: 62844

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CR04159 - General Prep										
Blank (CR04159-BLK1)				Prepared & Analyzed: 05/23/08						
Sulfate as SO4	ND	0.50	mg/L							
Nitrate as N	ND	0.50	"							
LCS (CR04159-BS1)				Prepared & Analyzed: 05/23/08						
Sulfate as SO4	5.11	0.50	mg/L	5.00		102	80-120			
Nitrate as N	0.439	0.50	"	0.451		97.4	80-120			
LCS Dup (CR04159-BSD1)				Prepared & Analyzed: 05/23/08						
Sulfate as SO4	5.26	0.50	mg/L	5.00		105	80-120	2.85	20	
Nitrate as N	0.479	0.50	"	0.451		106	80-120	8.60	20	
Matrix Spike (CR04159-MS1)		**Source: CRE0841-01**		Prepared & Analyzed: 05/23/08						
Sulfate as SO4	5.11	0.50	mg/L	5.00	0.329	95.6	75-125			
Nitrate as N	0.442	0.50	"	0.451	ND	98.0	80-120			
Matrix Spike Dup (CR04159-MSD1)		**Source: CRE0841-01**		Prepared & Analyzed: 05/23/08						
Sulfate as SO4	5.28	0.50	mg/L	5.00	0.329	99.0	75-125	3.29	25	
Nitrate as N	0.453	0.50	"	0.451	ND	100	80-120	2.47	20	
Batch CR04160 - General Preparation										
Blank (CR04160-BLK1)				Prepared & Analyzed: 05/23/08						
Ferrous Iron	ND	0.10	mg/L							
LCS (CR04160-BS1)				Prepared & Analyzed: 05/23/08						
Ferrous Iron	0.229	0.10	mg/L	0.250		91.6	80-120			

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

Project: Tesoro Livermore
Project Number: 01LV
Project Manager: Angelique Showman

CLS Work Order #: CRE0849
COC #: 62844

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CR04160 - General Preparation										
LCS Dup (CR04160-BSD1)				Prepared & Analyzed: 05/23/08						
Ferrous Iron	0.229	0.10	mg/L	0.250		91.6	80-120	0.00	25	
Matrix Spike (CR04160-MS1)		**Source: CRE0849-01**		Prepared & Analyzed: 05/23/08						
Ferrous Iron	0.207	0.10	mg/L	0.250	0.00	82.9	75-125			
Matrix Spike Dup (CR04160-MSD1)		**Source: CRE0849-01**		Prepared & Analyzed: 05/23/08						
Ferrous Iron	0.212	0.10	mg/L	0.250	0.00	84.7	75-125	2.10	30	
Batch CR04254 - General Preparation										
Blank (CR04254-BLK1)				Prepared & Analyzed: 05/27/08						
Carbon Dioxide as CO2	ND	5.0	mg/L							
Batch CR04283 - General Preparation										
Blank (CR04283-BLK1)				Prepared & Analyzed: 05/28/08						
Total Alkalinity	ND	5.0	mg/L							
Bicarbonate as CaCO3	ND	5.0	"							
Carbonate as CaCO3	ND	5.0	"							
Hydroxide as CaCO3	ND	5.0	"							
Duplicate (CR04283-DUP1)		**Source: CRE0250-03**		Prepared & Analyzed: 05/28/08						
Total Alkalinity	91.4	5.0	mg/L		89.2			2.44	20	
Bicarbonate as CaCO3	91.4	5.0	"		89.2			2.44	20	
Carbonate as CaCO3	ND	5.0	"		ND				20	
Hydroxide as CaCO3	ND	5.0	"		ND				20	

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

Project: Tesoro Livermore
Project Number: 01LV
Project Manager: Angelique Showman

CLS Work Order #: CRE0849
COC #: 62844

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CR04299 - General Preparation										
Blank (CR04299-BLK1)				Prepared & Analyzed: 05/28/08						
Total Phosphorus as P	ND	0.050	mg/L							
LCS (CR04299-BS1)				Prepared & Analyzed: 05/28/08						
Total Phosphorus as P	0.316	0.050	mg/L	0.300		105	80-120			
LCS Dup (CR04299-BSD1)				Prepared & Analyzed: 05/28/08						
Total Phosphorus as P	0.318	0.050	mg/L	0.300		106	80-120	0.504	25	
Matrix Spike (CR04299-MS1)		**Source: CRE0814-01**		Prepared & Analyzed: 05/28/08						
Total Phosphorus as P	0.386	0.050	mg/L	0.300	0.0649	107	75-125			
Matrix Spike Dup (CR04299-MSD1)		**Source: CRE0814-01**		Prepared & Analyzed: 05/28/08						
Total Phosphorus as P	0.382	0.050	mg/L	0.300	0.0649	106	75-125	0.859	30	
Batch CR04347 - General Preparation										
Blank (CR04347-BLK1)				Prepared & Analyzed: 05/29/08						
Chemical Oxygen Demand	ND	7.0	mg/L							
LCS (CR04347-BS1)				Prepared & Analyzed: 05/29/08						
Chemical Oxygen Demand	49.8	7.0	mg/L	50.0		99.5	80-120			
LCS Dup (CR04347-BSD1)				Prepared & Analyzed: 05/29/08						
Chemical Oxygen Demand	45.6	7.0	mg/L	50.0		91.1	80-120	8.81	25	
Matrix Spike (CR04347-MS1)		**Source: CRE0849-01**		Prepared & Analyzed: 05/29/08						
Chemical Oxygen Demand	72.8	7.0	mg/L	50.0	22.4	101	75-125			

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

Project: Tesoro Livermore
Project Number: 01LV
Project Manager: Angelique Showman

CLS Work Order #: CRE0849
COC #: 62844

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CR04347 - General Preparation										
Matrix Spike Dup (CR04347-MSD1)		**Source: CRE0849-01**		Prepared & Analyzed: 05/29/08						
Chemical Oxygen Demand	74.9	7.0	mg/L	50.0	22.4	105	75-125	2.84	30	

KIFF Analytical	Project: Tesoro Livermore	
2795 Second St. Suite 300	Project Number: 01LV	**CLS Work Order #: CRE0849**
Davis, CA 95616	Project Manager: Angelique Showman	COC #: 62844

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Calscience
Environmental
Laboratories, Inc.

May 30, 2008

Joel Kiff
Kiff Analytical
2795 2nd Street, Suite 300
Davis, CA 95616-6593

Subject: **Calscience Work Order No.: 08-05-2115**
Client Reference: Tesoro - Livermore

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 5/23/2008 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Amanda Porter

Calscience Environmental
Laboratories, Inc.
Amanda Porter
Project Manager

Calscience Environmental Laboratories, Inc.

Analytical Report

Kiff Analytical
2795 2nd Street, Suite 300
Davis, CA 95616-6593

Date Received: 05/23/08
Work Order No: 08-05-2115
Preparation: N/A
Method: RSK-175M

Project: Tesoro - Livermore

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DW-1	**08-05-2115-1-B**	**05/22/08 11:14**	**Aqueous**	**GC 14**	**N/A**	**05/24/08 00:00**	**080524L01**

Parameter	Result	RL	DF	Qual	Units
Methane	76.6	1.00	1		ug/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DW-2	**08-05-2115-2-A**	**05/22/08 10:16**	**Aqueous**	**GC 14**	**N/A**	**05/24/08 00:00**	**080524L01**

Parameter	Result	RL	DF	Qual	Units
Methane	3720	10.0	10		ug/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DW-3	**08-05-2115-3-A**	**05/22/08 09:43**	**Aqueous**	**GC 14**	**N/A**	**05/24/08 00:00**	**080524L01**

Parameter	Result	RL	DF	Qual	Units
Methane	1270	10.0	10		ug/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
DW-4	**08-05-2115-4-B**	**05/22/08 09:03**	**Aqueous**	**GC 14**	**N/A**	**05/24/08 00:00**	**080524L01**

Parameter	Result	RL	DF	Qual	Units
Methane	70.5	1.00	1		ug/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-663-162**	**N/A**	**Aqueous**	**GC 14**	**N/A**	**05/24/08 00:00**	**080524L01**

Parameter	Result	RL	DF	Qual	Units
Methane	ND	1.00	1		ug/L

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Quality Control - Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Kiff Analytical
2795 2nd Street, Suite 300
Davis, CA 95616-6593

Date Received: 05/23/08
Work Order No: 08-05-2115
Preparation: N/A
Method: RSK-175M

Project: Tesoro - Livermore

Quality Control Sample ID	Matrix	Instrument	Date Prepared:	Date Analyzed:	Duplicate Batch Number
08-05-2155-4	**Aqueous**	**GC 14**	**N/A**	**05/24/08**	**080524D01**

Parameter	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
Methane	471	408	14	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Kiff Analytical
2795 2nd Street, Suite 300
Davis, CA 95616-6593

Date Received: N/A
Work Order No: 08-05-2115
Preparation: N/A
Method: RSK-175M

Project: Tesoro - Livermore

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-663-162	**Aqueous**	**GC 14**	**N/A**	**05/24/08**	**080524L01**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Methane	91	91	79-109	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 08-05-2115

Qualifier	Definition
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

KIFF Analytical LLC

2795 Second Street, Suite 300
Davis, CA 95618
Lab: 530.297.4800
Fax: 530.297.4808

Calscience
7440 Lincoln Way
Garden Grove, CA 92841-1427
714-895-5494

(2115)

COC No. **62844**

Chain-of-Custody Record and Analysis Request

Project Contact (Hardcopy or PDF to): Angelique Showman

Company/Address: Kiff Analytical

Phone No.: 530-297-4800

FAX No.: 530-297-4808

Project Number: 01LU

P.O. No.: 62844

Project Name: Tesoro - Livermore

Project Address:

EDF Report? NO

Recommended but not mandatory to complete this section:

Sampling Company Log Code:

Global ID:

Deliverables to (Email Address): inbox@kiffanalytical.com

Analysis Request

Sample Designation	Sampling Date	Sampling Time	Container / Preservative: 125 ml Amber HCl	Matrix: WATER	Matrix: SOIL	Matrix: Air	Hydrocarbons in Water by RSK 175 (1)	Date due: May 30, 2008	For Lab Use Only
DW-1	05/22/08	11:14	2	X			X	X	1
DW-2	05/22/08	10:16	2	X			X	X	2
DW-3	05/22/08	09:43	2	X			X	X	3
DW-4	05/22/08	09:03	2	X			X	X	4

Relinquished by:	Date	Time	Received by:
[signature] KIFF ANALYTICAL	052208	1900	
CO B10220649024	5-23-08	0800	Received by Laboratory: [signature] CEL

Remarks: Please refer to attached Test Detail.

Bill to: Accounts Payable

2115

Test Detail for Kiff Work Order: 62844

Hydrocarbons in Water by RSK 175 (1)
Methane

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 08 - 05 - 2115

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: KIFF ANALYTICAL **DATE:** 5-23-08

TEMPERATURE – SAMPLES RECEIVED BY:

CALSCIENCE COURIER:

_____ Chilled, cooler with temperature blank provided.
_____ Chilled, cooler without temperature blank.
_____ Chilled and placed in cooler with wet ice.
_____ Ambient and placed in cooler with wet ice.
_____ Ambient temperature.
_____ °C Temperature blank.

LABORATORY (Other than Calscience Courier):

2.9 °C Temperature blank.
_____ °C IR thermometer.
_____ Ambient temperature.

Initial: WB

CUSTODY SEAL INTACT:

Sample(s): _____ Cooler: ✓ No (Not Intact) : _____ Not Present: _____

Initial: WB

SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody document(s) received with samples	✓		
Sampler's name indicated on COC		✓	
Sample container label(s) consistent with custody papers	✓		
Sample container(s) intact and good condition	✓		
Correct containers and volume for analyses requested	✓		
Proper preservation noted on sample label(s)	✓		
VOA vial(s) free of headspace.			✓
Tedlar bag(s) free of condensation			✓

Initial: WB

COMMENTS:

BLAINE
TECH SERVICES, INC.

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

CHAIN OF CUSTODY BTS # 080522-MTT

CLIENT: Arctos Environmental, Inc.

SITE: Tesoro - Livermore

1619 1st Street

Livermore, CA

LAB 62844 KIFF DHS #

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

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	CONTAINERS VOA/HCL	C = COMPOSITE ALL CONTAINERS	CONDUCT ANALYSIS TO DETECT: TPH-G + BTEX + MTBE (8260)	(7) Oxygenates (8260)	Lead Scavengers	Ferrous Iron (24 hr. Hold time)	Nitrate, Sulfate, Phosphorous	COD (410.4)	Total Alkalinity (SM2320B)	Carbon Dioxide (SM4500-CO2D) & Methane	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
DW-1	05/22/08	1114	W	10	3HCl voas 2H2SO4 2HCl 125mL		X	X	X	X	X	X	X	X				-01
DW-2		1016		10			X	X	X	X	X	X	X	X				-02
DW-3		0943		10			X	X	X	X	X	X	X	X				-03
DW-4		0903		10			X	X	X	X	X	X	X	X				-04

SAMPLE RECEIPT
Temp °C 3.2 Therm. ID# IR-1
Initial RM Date 052208
Time 1510 Cool ... present: Yes / No

SAMPLING COMPLETED	DATE	TIME	SAMPLING PERFORMED BY
	05/22/08	11:20	Max Todi

RESULTS NEEDED NO LATER THAN: Standard TAT

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
	05/22/08	1136			
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
			Ron McLee Kiff Analytical	052208	1136

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #	

ATTACHMENT F

BORING AND WELL CONSTRUCTION LOGS

Project: Tesoro - Livermore
Project Location: 1619 First Street
Project Number: 01LV

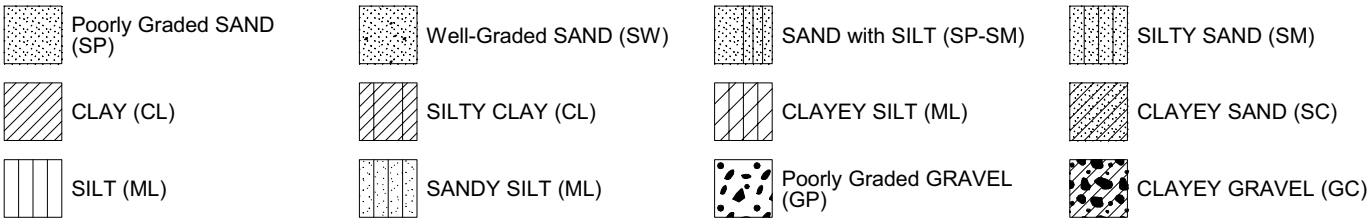
Key to Log of Boring / Well

Elevation, feet	Depth, feet	SAMPLES: Type	SAMPLES: Number	SAMPLES: Blows / 6 in.	Graphic Log	MATERIAL DESCRIPTION	Well Completion Diagram	Headspace PID, ppm	Background PID, ppm	Drilling Progress, 24-hour clock	REMARKS
1	2	3	4	5	6	7	8	9	10	11	12

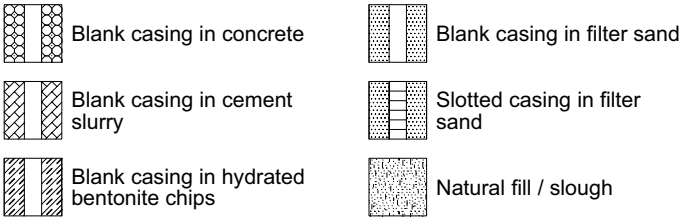
COLUMN DESCRIPTIONS

1. **Elevation:** Elevation in feet relative to mean sea level (MSL).
2. **Depth:** Depth in feet below the ground surface.
3. **Sample Type:** Type of soil sample collected at depth interval shown; sampler symbols are explained below.
4. **Sample Number:** Sample identification number.
5. **Blows / 6 in.:** Number of blows required to advance driven sampler each 6-inch drive interval, or distance noted, using a 140-lb hammer with a 30-inch drop. "-" indicates data not recorded on field log.
6. **Graphic Log:** Graphic depiction of subsurface material encountered; typical symbols are explained below.
7. **Material Description:** Description of material encountered; may include density/consistency, moisture, and color.
8. **Well Completion Diagram:** Well schematic; materials are listed in header block; graphics are explained below.
9. **Headspace PID:** Photoionization device (PID) field sample headspace reading in parts per million (ppm).
10. **Background PID:** Photoionization device (PID) background reading in parts per million (ppm).
11. **Drilling Progress:** Time (in 24-hour clock) at sampling and other events during downhole advance.
12. **Remarks:** Comments and observations regarding drilling or sampling made by driller or field personnel.

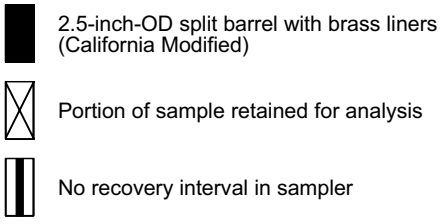
TYPICAL SOIL GRAPHIC SYMBOLS



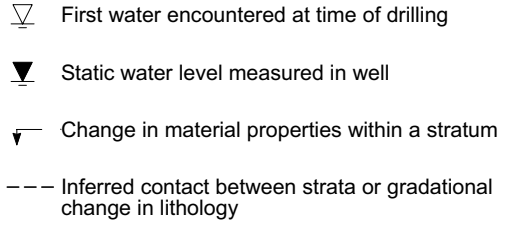
TYPICAL WELL GRAPHIC SYMBOLS



TYPICAL SAMPLER GRAPHIC SYMBOLS



OTHER GRAPHIC SYMBOLS



GENERAL NOTES

1. Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive; actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2. Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

Project: Tesoro - Livermore
Project Location: 1619 First Street
Project Number: 01LV

Log of Boring / Well DW-1

Date(s) Drilled	**5/14/08**			Logged By	**M. Nelson**	Checked By	**M. Purchase**
Drilling Method	**Hollow-Stem Auger**			Drill Bit Size/Type	**10-inch-OD auger**	Total Depth of Borehole	**65.5 feet**
Drill Rig Type	**Mobile B-61**			Drilling Contractor	**Gregg Drilling & Testing**	Surface Elevation	**Not available**
Groundwater Level (feet bgs)	First **43**	Completion **--**	Development **37.0**	Sampling Method	**California Modified split spoon**	Top of Casing Elevation	**Not available**
Diameter of Hole (inches)	**10**	Diameter of Well (inches)	**4**	Type of Well Casing	**4-inch-dia. Schedule 40 PVC**	Screen Perforation	**0.020-inch slot (55-65 ft)**
Type of Sand Pack	**#2/12 Monterey (53-65.5 feet)**			Type and Depth of Seal(s)	**Hydrated bentonite chips 50-53 ft, cement slurry 2-50 ft, concrete 0-2 ft**		
Comments	**EMCO-Wheaton 12-inch-diameter flush-mount vault installed with concrete at surface.**						

Elevation, feet / Depth, feet	SAMPLES Type	SAMPLES Number	SAMPLES Blows / 6 in.	Graphic Log	MATERIAL DESCRIPTION	Well Completion Diagram	Headspace PID, ppm	Background PID, ppm	Drilling Progress, 24-hour clock	REMARKS
0					Concrete 5 inches thick					Hand auger first 5 ft.
5			10 12 16		Medium dense, dry, light brown, well-graded SAND with GRAVEL (SW), fine- to coarse-grained sand, no odor		0.6	0.1	0817	
10			10 20 22		Becomes dense, moist, with trace clay		0.6	0.1	0819	
15		DW-1-15'	12 18 18		Medium dense, moist, light brown, poorly graded SAND with CLAY and GRAVEL (SP-SC), fine- to coarse-grained sand, fine gravel to 3/4 inch, no odor		0.7	0.1	0824	PID in operator breathing zone (OBZ) = 0.1 ppm DW-1-15' particle size analysis results: 21.4% gravel 15.9% c. sand 38.2% m. sand 18.7% f. sand 5.8% silt/clay
20			7 5 7		Loose, moist, light brown, SILTY SAND (SM), fine-grained sand, no odor		0.8	0.1	0828	
25			3 19 12		Very stiff, moist, light brown, SANDY SILT (ML), coarse-grained sand, trace clay, no odor		0.9	0.1	0834	
30			12 18 23		Dense, moist, grayish brown, SILTY SAND with GRAVEL (SM), medium- to coarse-grained sand, fine gravel to 3/4 inch, odor		433	0.1	0842	OBZ=0.6 ppm

ORION_1W; TESLVMOR.GPJ-DW-01; 6/30/08

Project: Tesoro - Livermore
Project Location: 1619 First Street
Project Number: 01LV

Log of Boring / Well DW-1

Elevation, feet / Depth, feet	SAMPLES Type / Number	SAMPLES Blows / 6 in.	Graphic Log	MATERIAL DESCRIPTION	Well Completion Diagram	Headspace PID, ppm	Background PID, ppm	Drilling Progress, 24-hour clock	REMARKS
30				Dense, moist, grayish brown, SILTY SAND with GRAVEL (SM), medium- to coarse-grained sand, fine gravel to 3/4 inch, odor (continued)					
		12 50/2"		Becomes very dense		125	0.1	0848	
35									
		22 50/3"		With orange-brown silt, trace clay, no odor		79.2	0.2	0857	
40					▽				
	DW-1-45'	16 50/5"		Very dense, wet, grayish brown, poorly graded GRAVEL with SILT and SAND (GP-GM), coarse gravel, odor		47.7	0.1	0907	OBZ=0.4 ppm
45									
	DW-1-50'	15 17 22		Medium dense to dense, wet, light brown, poorly graded SAND with SILT and GRAVEL (SP-SM), fine- to coarse-grained sand, odor		293	0.1	0919	DW-1-50' particle size analysis results: 24.2% gravel 12.6% c. sand 27.8% m. sand 23.9% f. sand 11.5% silt/clay
50									
		19 50/5"		Very dense, wet, orange-brown, SILTY SAND (SM), medium- to coarse-grained sand, odor		998	0.1	0927	
55									
	DW-1-60'	8 17 32		Dense, wet, light brown, poorly graded SAND with GRAVEL (SP), fine- to coarse-grained sand, fine to coarse gravel, trace silt, odor		251	0.1	0937	DW-1-60' particle size analysis results: 35.8% gravel 19.3% c. sand 27.2% m. sand 14.1% f. sand 3.6% silt/clay
60									
	DW-1-65'	16 18 22				127	0.1	0947	
65				**Bottom of boring at 65.5 feet**					
70									

ORION_1W; TESLVMOR.GPJ-DW-01; 6/30/08

Project: Tesoro - Livermore
Project Location: 1619 First Street
Project Number: 01LV

Log of Boring / Well DW-2

Date(s) Drilled	**5/15/08**			Logged By	**M. Nelson**	Checked By	**M. Purchase**
Drilling Method	**Hollow-Stem Auger**			Drill Bit Size/Type	**10-inch-OD auger**	Total Depth of Borehole	**60.5 feet**
Drill Rig Type	**Mobile B-61**			Drilling Contractor	**Gregg Drilling & Testing**	Surface Elevation	**Not available**
Groundwater Level (feet bgs)	First **35**	Completion **--**	Development **39.9**	Sampling Method	**California Modified split spoon**	Top of Casing Elevation	**Not available**
Diameter of Hole (inches)	**10**	Diameter of Well (inches)	**4**	Type of Well Casing	**4-inch-dia. Schedule 40 PVC**	Screen Perforation	**0.020-inch slot (50-60 ft)**
Type of Sand Pack	**#2/12 Monterey (49-60.5 feet)**			Type and Depth of Seal(s)	**Hydrated bentonite chips 45-49 ft, cement slurry 2-45 ft, concrete 0-2 ft**		
Comments	**EMCO-Wheaton 12-inch-diameter flush-mount vault installed with concrete at surface.**						

Elevation, feet / Depth, feet	SAMPLES Type	SAMPLES Number	Blows / 6 in.	Graphic Log	MATERIAL DESCRIPTION	Well Completion Diagram	Headspace PID, ppm	Background PID, ppm	Drilling Progress, 24-hour clock	REMARKS
0					Asphalt surface					Hand auger first 5 ft.
5			6 16 16		Medium dense, dry, light brown, well-graded SAND with GRAVEL (SW), fine- to coarse-grained sand, fine gravel to 3/4 inch, no odor		0.0	0.0	0757	
10			20 15 21		Medium dense, dry, light brown, SILTY SAND with GRAVEL (SM), medium- to coarse-grained sand, fine gravel to 3/4 inch, no odor		0.2	0.0	0801	
15		DW-2-15'	15 17 21		Becomes moist		0.3	0.0	0808	PID in operator breathing zone (OBZ) = 0.0 ppm
20			20 23 25		Becomes dense, with trace orange silt		0.4	0.0	0814	
25			16 23 27		Increased sand content, no orange silt		0.3	0.0	0820	
30			13 50/3"		Becomes very dense, grayish brown		0.6	0.0	0826	

ORION_1W; TESLVMOR.GPJ-DW-02; 6/30/08

Project: Tesoro - Livermore
Project Location: 1619 First Street
Project Number: 01LV

Log of Boring / Well DW-2

Elevation, feet / Depth, feet	SAMPLES Type	SAMPLES Number	Blows / 6 in.	Graphic Log	MATERIAL DESCRIPTION	Well Completion Diagram	Headspace PID, ppm	Background PID, ppm	Drilling Progress, 24-hour clock	REMARKS
30					Very dense, moist, grayish brown, SILTY SAND with GRAVEL (SM), medium- to coarse-grained sand, fine gravel to 3/4 inch, no odor					
			19 27 51/2"		Trace clay	▽	139	0.0	0835	
35										
			21 24 50/5"		Becomes moist to wet, with trace orange silt, no clay		18.7	0.0	0841	
40										
			19 50/4"		Very dense, wet, light brown, SILTY SAND (SM), medium- to coarse-grained sand, trace gravel, no odor		14.1	0.0	0850	
45										
			11 26 48		Very dense, wet, grayish brown, poorly graded SAND with GRAVEL (SP), fine- to medium-grained sand, fine gravel to 3/4 inch, no odor		350	0.0	0904	OBZ=0.0 ppm
50										
	☒	DW-2-55'	31 50/5"		Very dense, wet, grayish brown, SILTY SAND with GRAVEL (SM), medium- to coarse-grained sand, gravel 3/4 to 1 inch, odor		159	0.0	0908	
55										
			17 50/4"		Becomes light brown		33.1	0.0	0915	
60					**Bottom of boring at 60.5 feet**					
65										
70										

ORION_1W; TESLVMOR.GPJ-DW-02; 6/30/08

Project: Tesoro - Livermore
Project Location: 1619 First Street
Project Number: 01LV

Log of Boring / Well DW-3

Date(s) Drilled	5/14/08			Logged By	M. Nelson	Checked By	M. Purchase
Drilling Method	Hollow-Stem Auger			Drill Bit Size/Type	10-inch-OD auger	Total Depth of Borehole	60.5 feet
Drill Rig Type	Marl M10			Drilling Contractor	Gregg Drilling & Testing	Surface Elevation	Not available
Groundwater Level (feet bgs)	First: 45	Completion: --	Development: 40.2	Sampling Method	California Modified split spoon	Top of Casing Elevation	Not available
Diameter of Hole (inches)	10	Diameter of Well (inches)	4	Type of Well Casing	4-inch-dia. Schedule 40 PVC	Screen Perforation	0.020-inch slot (50-60 ft)
Type of Sand Pack	#2/12 Monterey (48-60.5 feet)			Type and Depth of Seal(s)	Hydrated bentonite chips 45-48 ft, cement slurry 2-45 ft, concrete 0-2 ft		
Comments	EMCO-Wheaton 12-inch-diameter flush-mount vault installed with concrete at surface.						

Elevation, feet / Depth, feet	SAMPLES: Type / Number	SAMPLES: Blows / 6 in.	Graphic Log	MATERIAL DESCRIPTION	Well Completion Diagram	Headspace PID, ppm	Background PID, ppm	Drilling Progress, 24-hour clock	REMARKS
0				Asphalt surface					Hand auger first 5 ft.
5		9 17 24		Dense, dry, grayish brown, well-graded SAND with GRAVEL (SW), fine- to coarse-grained sand, fine to coarse gravel to >1 inch, no odor		0.9	0.1	1208	
10		27 30 20				1.2	0.0	1213	
15	DW-3-15'	21 22 26		Dense, moist, light brown, poorly graded SAND (SP), fine- to coarse-grained sand (mostly medium-grained), few fine gravel to 3/4 inch, trace silt, no odor		1.1	0.0	1222	PID in operator breathing zone (OBZ) = 0.0 ppm DW-3-15' particle size analysis results: 5.0% gravel 18.8% c. sand 56.1% m. sand 15.8% f. sand 4.3% silt/clay
20		8 12 20		Becomes medium dense, with trace clay and orange silt		0.6	0.0	1227	
25		8 10 11		Very stiff, moist, light brown, SANDY SILT (ML), no odor		0.6	0.1	1234	
30		7 19 11				0.4	0.0	1241	

ORION_1W; TESLVMOR.GPJ-DW-03; 6/30/08

Project: Tesoro - Livermore
Project Location: 1619 First Street
Project Number: 01LV

Log of Boring / Well DW-3

Sheet 2 of 2

Elevation, feet / Depth, feet	SAMPLES Type / Number	Blows / 6 in.	Graphic Log	MATERIAL DESCRIPTION	Well Completion Diagram	Headspace PID, ppm	Background PID, ppm	Drilling Progress, 24-hour clock	REMARKS
30				Very stiff, moist, light brown, SANDY SILT (ML), no odor (continued)					
35		13 16 30		Dense, moist, light brown, SILTY SAND (SM), fine- to coarse-grained sand, trace gravel, no odor		0.6	0.0	1252	
40		11 22 24				1.0	0.0	1303	OBZ=0.0 ppm
45	DW-3-45'	18 20 25		Dense, moist, light brown, poorly graded SAND with GRAVEL (SP), fine- to coarse-grained sand, trace silt and clay ▽		1.9	0.0	1310	DW-3-45' particle size analysis results: 41.8% gravel 17.1% c. sand 22.7% m. sand 14.3% f. sand 4.1% silt/clay
50	DW-3-50'	9 30 32		Becomes wet, without clay		25.0	0.0	1318	
55	DW-3-55'	5 15 16		Medium dense, wet, grayish brown, poorly graded GRAVEL with SILT (GP-GM), no odor		22.3	0.0	1328	
60								1345	No recovery in sampler driven at 58.5 ft; assume material similar to sample above.
				Bottom of boring at 60.5 feet					
65									
70									

ORION_1W; TESLVMOR.GPJ-DW-03; 6/30/08

Project: Tesoro - Livermore
Project Location: 1619 First Street
Project Number: 01LV

Log of Boring / Well DW-4

Date(s) Drilled	5/13/08 - 5/14/08			Logged By	M. Nelson	Checked By	M. Purchase
Drilling Method	Hollow-Stem Auger			Drill Bit Size/Type	10-inch-OD auger	Total Depth of Borehole	70.0 feet
Drill Rig Type	Mobile B-61			Drilling Contractor	Gregg Drilling & Testing	Surface Elevation	Not available
Groundwater Level (feet bgs)	First: 48	Completion: --	Development: 37.1	Sampling Method	California Modified split spoon	Top of Casing Elevation	Not available
Diameter of Hole (inches)	10	Diameter of Well (inches)	4	Type of Well Casing	4-inch-dia. Schedule 40 PVC	Screen Perforation	0.020-inch slot (59-69 ft)
Type of Sand Pack	#2/12 Monterey (53-70 feet)			Type and Depth of Seal(s)	Hydrated bentonite chips 50-53 ft, cement slurry 2-50 ft, concrete 0-2 ft		
Comments	EMCO-Wheaton 12-inch-diameter flush-mount vault installed with concrete at surface.						

Elevation, feet / Depth, feet	SAMPLES: Type / Number	SAMPLES: Blows / 6 in.	Graphic Log	MATERIAL DESCRIPTION	Well Completion Diagram	Headspace PID, ppm	Background PID, ppm	Drilling Progress, 24-hour clock	REMARKS
0				Asphalt surface					Hand auger first 5 ft.
5								0758	No recovery in sampler driven at 3.5 ft; assume material similar to sample below.
10		50/6"		Very dense, dry, light brown, SILTY SAND with GRAVEL (SM), fine gravel to 3/4 inch, no odor		1.2	0.1	0804	PID in operator breathing zone (OBZ) = 0.1 ppm
15		24 50/5"		Very dense, moist, light brown, CLAYEY GRAVEL (GC), no odor		1.1	0.1	0811	
20		12 50/6"		Hard, moist, light brown, CLAYEY SILT with GRAVEL (ML), fine gravel to 3/4 inch, no odor		0.7	0.1	0935	
25		28 34 40		Gravel grades coarser, 3/4 to 1 inch		0.5	0.1	0942	
30		10 16 27		Dense, moist, light brown with trace orange, SILTY SAND with GRAVEL (SM), medium-grained sand, fine gravel to 3/4 inch, no odor		0.8	0.1	0948	OBZ=0.1 ppm

ORION_1W; TESLVMOR.GPJ-DW-04; 6/30/08

Project: Tesoro - Livermore
Project Location: 1619 First Street
Project Number: 01LV

Log of Boring / Well DW-4

Elevation, feet / Depth, feet	SAMPLES Type / Number	Blows / 6 in.	Graphic Log	MATERIAL DESCRIPTION	Well Completion Diagram	Headspace PID, ppm	Background PID, ppm	Drilling Progress, 24-hour clock	REMARKS
30				Dense, moist, light brown with trace orange, SILTY SAND with GRAVEL (SM), medium-grained sand, fine gravel to 3/4 inch, no odor (continued)					
		28 50/5"		Becomes very dense, with gravel to 1 inch		1.0	0.1	0957	
35									
		12 26 38		Becomes wet, sand grades medium- to coarse-grained, with coarse gravel 3/4 to 1 inch		0.9	0.1	1007	
40									
		6 12 18		Becomes medium dense, increase in moisture		1.1	0.1	1014	
45					▽				
		6 14 21		Decrease in silt		1.0	0.1	1022	
50				Medium dense, wet, dark gray, SILTY GRAVEL (GM), odor					
		6 11 21				399	0.1	1035	OBZ=0.1 ppm
55									
		26 50/5"		Becomes very dense, light brown, no odor		42.2	0.1	1050	
60									
		12 18 25		Becomes dense, with trace gravel >1 inch		18.7	0.1	1057	
65									
		18 22 34		Becomes dense, gravel grades finer					
70				**Bottom of boring at 70.0 feet**		5.6	0.1	1109	

ORION_1W; TESLVMOR.GPJ-DW-04; 6/30/08

ATTACHMENT G

DRILLING AND WELL INSTALLATION QA/QC PROCEDURES

ATTACHMENT G
DRILLING AND WELL INSTALLATION QA/QC PROCEDURES

G.1 Drilling and Soil Sampling Procedures

Before initiating drilling activities, Arctos marked the well locations and contacted underground service alert (USA) to clear the area of subsurface lines and utilities. Arctos also obtained boring and well permits from Zone 7 Water Agency.

The soil borings for the installation of the monitoring and oxygen injection wells were drilled with an 8-inch-diameter hollow-stem continuous-flight auger to create a pilot hole, and then over drilled with a 10-inch-diameter hollow-stem continuous-flight auger. Soil samples, for the deep monitoring wells only, were collected with a split-spoon sampler containing three brass tubes, each 2 inches in diameter and 6 inches in length. The sampler was driven to the sampling depth by dropping a 140-pound hammer approximately 30 inches. Samples were collected at 5-foot intervals beginning at ground surface.

Immediately after the sampler was retrieved from the auger, it was placed on a portable field stand near the boring and the brass tubes removed. The ends of one of the tubes were covered with Teflon liners and capped with polyvinyl chloride (PVC) end caps. The sealed tubes were labeled, placed in a resealable plastic, and placed in a cooler until delivery to the analytical laboratory. The information on the label on the brass tube included project identification, sample number, sample depth, date, time, and name of the person preparing the samples.

A portion of the soil from one of the tubes was extruded and placed in a sealable plastic bag, which was then closed and allowed to equilibrate for approximately 10 minutes. The organic vapor levels in the headspace were measured using a field photoionization detector (PID). The same sample was visually examined and the results of the visual observation and headspace reading were recorded on the boring log (Attachment F). The soil type was classified using the Unified Soil Classification System (USCS) as described in American Society for Testing and Materials (ASTM) Standards D2487 and D2488.

G.2 Well Installation

Monitoring Wells

Four deep monitoring wells, one on site and three downgradient of the site, were installed to assess the vertical extent of impacted groundwater (Figure 2). The monitoring wells were constructed using new 4-inch-diameter, flush-threaded, Schedule 40 PVC casing. As in the previous well constructions, a 0.020-inch slot size and #2/12 Monterey sand filter

pack was used for the new wells. The annular space around the well was filled with filter pack to about 1 to 6 feet above the top of the screen.

An approximately 3- to 4-foot-thick layer of bentonite was placed above the filter pack to provide an annular seal. After placement, the seal was hydrated with potable water. The remainder of the annulus to roughly 2 feet below the ground surface was filled with Portland cement slurry. A locking cap and traffic-rated cover was installed at the surface.

Screen intervals for the monitoring wells are from 55 to 65 feet below grade for well DW-1, 50 to 60 feet below grade for wells DW-2 and DW-3, and 59 to 69 feet below grade for well DW-4. Well construction diagrams are shown in Attachment F.

Oxygen Injection Wells

Five injection wells were installed on approximately 20-foot centers extending northeast to southwest along the northwestern portion of the site. Two additional injection wells were installed in the northwest corner of the site and angled at 25 degrees from vertical, which placed the screen interval approximately 30 feet downgradient of the site (Figure 2). The injection wells were designed to target saturated sands and sandy silts between approximately 45 to 65 feet below grade.

The injection wells were blind drilled to total depth. The five source area injection wells were constructed as dual-casing injection/monitoring wells using 1-inch-diameter Schedule 40 PVC casing for the injection well and 2-inch-diameter Schedule 40 PVC casing for the monitoring well. The wells were screened from approximately 60 to 65 feet below grade using 0.020-inch slotted screen. The two downgradient angled injection wells were constructed using 2-inch-diameter Schedule 40 PVC casing with 5 feet of 0.020-inch slotted well screen placed at a 25 degree angle from vertical at approximately 60 to 65 feet below grade.

A Monterey #2/12 sand pack filled the annular space around the well to approximately 1 foot above the screened interval. A 3- to 5-foot thick bentonite seal was placed on top of the sand pack. The remaining annular space was filled with Portland cement slurry. Each injection well was completed at the surface with a 12-inch-diameter traffic-rated vault set in concrete. Well construction diagrams are shown in Attachment F.

G.3 Well Surveying

After completion of the remediation system installation, a licensed surveyor will survey the elevation and location of the new wells following the requirements of State Assembly Bill 2886. The locations will be measured to the nearest 1/10 foot and the elevations to the nearest 1/100 foot relative to mean sea level.

G.4 Field QA/QC Procedures

Procedures for preserving, transporting, and analyzing soil samples, decontaminating field equipment, managing wastes generated, and documenting the field program are described below.

G.4.1 Preservation and Delivery of Samples

The collected soil samples were placed in sealable plastic bags and packed in a portable ice chest after collection until delivered to the analytical laboratory. Additional QA/QC procedures, including the use of sample identification labels and chain-of-custody forms, were followed to track sample collection and delivery.

G.4.2 Soil Analytical Plan

Selected soil samples were submitted to PTS Laboratories, Inc., of Santa Fe Springs, California, and analyzed for the following physical parameters using American Society for Testing and Materials (ASTM) methods D2216 and D5084, American Petroleum Institute (API) method RP40, and the Walkley-Black method:

- Bulk and grain density
- Fractional organic carbon
- Moisture content
- Effective porosity
- Specific permeability to water
- Native hydraulic conductivity.

Chain-of-custody forms, laboratory analytical reports, and laboratory QA/QC data are included in Appendix E.

G.4.3 Chain-of-Custody Records

Chain-of-custody records were completed before the samples were submitted to the laboratory. One copy of these records was placed in the project file. The second copy accompanied the samples during transportation to the laboratory. Analytical laboratory personnel accepted responsibility for the samples by signing and dating the form.

G.4.4 Equipment Decontamination Procedures

Soil sampling equipment was decontaminated between sampling events using the following procedures:

- Rinse with water using a brush to remove soil and mud
- Wash with non-phosphate detergent and water using a brush
- Rinse with deionized water
- Rinse again with deionized water
- Air dry.

Brass tubes and end caps were new or cleaned using the decontamination procedures described above. Drill augers were steam-cleaned before each boring is drilled.

G.4.5 Management of Drill Cuttings and Wastewater

Drill cuttings were placed in 55-gallon drums that meet U.S. Department of Transportation specifications and stored on site. Each drum was labeled with the date and drum contents. The soil was transported off site by Belshire Environmental Services, Inc., (Belshire), of Lake Forest, California, for recycling as a non-hazardous waste at the TPST Soil Recyclers of California facility in Adelanto, California.

Wastewater generated during well development and groundwater sampling was stored on site in DOT-approved 55-gallon drums. Belshire transported the wastewater off site for recycling as a non-hazardous waste at the DeMenno Kerdoon facility in Los Angeles, California. Manifests for the soil disposal and wastewater recycling are included in Attachment I.

G.4.6 Documentation Procedures

Arctos personnel followed documentation procedures developed for site investigation work. The procedures serve to (1) provide a record of the activities performed in the field and (2) permit identification of samples and tracking of their status in the field, during shipment, and at the laboratory.

Arctos field personnel were on site to observe the progress of sampling and to log each boring. The information recorded on the boring log included drilling equipment used, boring location, nature of the materials encountered, sampling depth, time of day, and other pertinent data. The boring logs were drafted for presentation in this report.

ATTACHMENT H

WELL DEVELOPMENT LOGS

GREGG

MONITORING WELL DEVELOPMENT LOG

Page _____ of _____

All measurements taken from: ☐ Top of Casing ☐ Protective Casing ☐ Ground Level

Well Number MW-2
Date 5-19-05
Time Start: 8:00 End: 10:20
Client
Project
Job Number
Installation Date
Well Diameter 4"

Borehole Diameter 10"
Screen Length 10'
Measured Depth (pre-development) 59.91
Measured Depth (post-development) 59.95
Static Water Level (ft.) 39.87
Standing Water Column (ft.) 20.04
One Well Volume (gal.) 13.2
One Annulus Vol. (gal.) [illegible]

Sample ID
Qty. of Drilling Fluid Lost
Minimum Gal. to be Purged
Development Method BAIL-SURGE-BAIL-PUMP
Purging Equipment 55 BAILER-3" PUMP
Water Level Equipment Solinst
pH/EC Meter Horiba U10
Turbidity Meter Horiba U10
Other

Time	Amount Purged (gal.)	Field Parameters Measured							Comments	Field Tech.
		pH	EC	Turbidity	D.O.	D.O. Temp.	SAL.	GPM / W.L.		
8:54	20	6.82	1.23	808	—	23.2	0.05	1.5 / 41.79	BAIL-5 GAL	
9:04	35	7.34	1.26	791	—	24.1	0.05	1.5 / 41.85	SURGE - 8:05 - 8:25	
9:14	50	7.41	1.27	774	—	24.6	0.05	1.5 / 41.89	BAIL-10 GAL	
9:24	65	7.44	1.27	607	—	22.9	0.05	1.5 / 41.92		
9:34	85	7.43	1.25	577	—	21.8	0.05	2 / 42.86		
9:44	105	7.41	1.27	407	—	21.9	0.05	2 / 42.99		
9:48	110	7.43	1.26	364	—	21.7	0.05	2 / 43.11		

FINAL FIELD PARAMETER MEASUREMENTS

GREGG

MONITORING WELL DEVELOPMENT LOG

Page _____ of _____

All measurements taken from: ☐ Top of Casing ☐ Protective Casing ☐ Ground Level

Well Number MW-1
Date 5-19-08
Time Start: 2:45 End: 4:50
Client
Project
Job Number
Installation Date
Well Diameter 4"

Borehole Diameter 10"
Screen Length 10'
Measured Depth (pre-development) 64.91
Measured Depth (post-development) 65.1
Static Water Level (ft.) 37.02
Standing Water Column (ft.) 27.89
One Well Volume (gal.) 18.4
One Annulus Vol. (gal.)

Sample ID
Qty. of Drilling Fluid Lost
Minimum Gal. to be Purged
Development Method Bail-Surge-Bail-pump
Purging Equipment Stainless-3" pump
Water Level Equipment Solinst
pH/EC Meter Horiba U10
Turbidity Meter Horiba U10
Other

Time	Amount Purged (gal.)	Field Parameters Measured							Comments	Field Tech.
		pH	EC	Turbidity	D.O.	D.O. Temp.	SAL.	GPM / W.L.		
3:29	20	7.91	1.13	580	—	22.6	0.06	2/47.1	Bail 5 gal	
3:39	40	7.84	1.04	497	—	21.8	0.06	2/47.42	Surge 2:50	
3:48	55	7.79	1.03	294	—	21.6	0.06	2/47.84		
3:58	75	7.77	1.04	297	—	21.2	0.06	2/47.95		
4:08	95	7.76	1.05	142	—	22.8	0.06	2/47.99		
4:13	110	7.74	1.02	97	—	21.9	0.06	2/47.99		

FINAL FIELD PARAMETER MEASUREMENTS

GREGG

MONITORING WELL DEVELOPMENT LOG

Page _____ of _____

All measurements taken from: ☑ Top of Casing ☐ Protective Casing ☐ Ground Level

Well Number MW-4
Date 5-19-05
Time Start: 12:35 End: 2:40
Client
Project
Job Number
Installation Date
Well Diameter 4"

Borehole Diameter 10"
Screen Length 10'
Measured Depth (pre-development) 71.15
Measured Depth (post-development) 71.24
Static Water Level (ft.) 37.11
Standing Water Column (ft.) 34.04
One Well Volume (gal.) 22.4
One Annulus Vol. (gal.)

Sample ID
Qty. of Drilling Fluid Lost
Minimum Gal. to be Purged
Development Method BAIL-SURGE-BAIL-PUMP
Purging Equipment SS BAILER-SUBM PUMP
Water Level Equipment Solinst
pH/EC Meter HORIBA U10
Turbidity Meter HORIBA U10
Other

Time	Amount Purged (gal.)	Field Parameters Measured							Comments	Field Tech.
		pH	EC	Turbidity	D.O.	D.O. Temp.	SAL.	GPM / W.L.		
1:24	20	7.97	1.29	>999	—	26.1	0.05	2/55.71	BAIL- 5 GAL	
1:38	40	7.74	1.26	710	—	26.0	0.05	2/55.89	SURGE - 11:42 - 1:02	
1:42	55	7.69	1.28	400	—	25.9	0.05	2/58.21	BAIL 5 GAL	
1:52	75	7.65	1.21	240	—	24.7	0.05	2/58.49		
2:02	95	7.68	1.19	110	—	23.9	0.05	2/58.47		
2:07	110	7.66	1.18	74	—	23.4	0.05	2/58.47		

FINAL FIELD PARAMETER MEASUREMENTS

GREGG

MONITORING WELL DEVELOPMENT LOG

FAX TO Client

Page _____ of _____

All measurements taken from: ☑ Top of Casing ☐ Protective Casing ☐ Ground Level

Well Number MW-3
Date 5-19-04
Time Start: 1025 End: 12:30
Client
Project
Job Number
Installation Date
Well Diameter 4"

Borehole Diameter 10"
Screen Length 10'
Measured Depth (pre-development) 59.85
Measured Depth (post-development) 60.2
Static Water Level (ft.) 40.22
Standing Water Column (ft.)
One Well Volume (gal.)
One Annulus Vol. (gal.)

Sample ID
Qty. of Drilling Fluid Lost
Minimum Gal. to be Purged
Development Method BAIL-SURGE - BAIL - PUMP
Purging Equipment 5" BAILER-3" pump
Water Level Equipment Solinst
pH/EC Meter HORIBA U10
Turbidity Meter HORIBA U10
Other

Time	Amount Purged (gal.)	Field Parameters Measured							Comments	Field Tech.
		pH	EC	Turbidity	D.O.	D.O. Temp.	SAL.	GPM / W.L.		
11:15	20	7.97	1.20	>999	—	25.8	0.05	2/44.0	BAIL-5GAL	
11:25	40	7.76	1.24	700	—	21.8	0.05	2/44.82	SURGE - 10:31 - 10:51	
11:35	60	7.59	1.26	412	—	21.6	0.05	2/45.11	BAIL-5GAL	
11:45	80	7.57	1.24	139	—	21.8	0.05	2/45.48		
11:55	100	7.59	1.22	89	—	22.7	0.05	2/45.87		
12:00	110	7.57	1.20	86	—	23.2	0.05	2/45.99		

FINAL FIELD PARAMETER MEASUREMENTS

ATTACHMENT I

WASTE MANIFESTS

NO. 676081

NON-HAZARDOUS WASTE DATA FORM

19

TO BE COMPLETED BY GENERATOR

GENERATING SITE: EPA I.D NO.

NAME: TESORO ENVIRONMENTAL RESOURCES COMPANY
ADDRESS: 3400 S. 334TH, SUITE 201 AUBURN, WA 98001
CITY STATE ZIP:

TESORO 87078 (FORMER)
1619 FIRST ST. PROFILE NO.
LIVERMORE, CA 94550

PHONE NO. ( )

CONTAINERS: No. 4 VOLUME 220 Gallons WEIGHT

TYPE: [X] TANK TRUCK [ ] DUMP TRUCK [ ] DRUMS [ ] CARTONS [ ] OTHER

WASTE DESCRIPTION: NON-HAZARDOUS WATER
GENERATING PROCESS: WELL PURGING / DECON WATER

	COMPONENTS OF WASTE	PPM	%		COMPONENTS OF WASTE	PPM	%
1	WATER		99-100%	5			
2	TPH		<1%	6			
3				7			
4				8			

BESI:153198

PROPERTIES: pH 7-10 [ ] SOLID [X] LIQUID [ ] SLUDGE [ ] SLURRY [ ] OTHER

HANDLING INSTRUCTIONS: 24-HOUR EMERGENCY PHONE: 949-699-3706

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Larry Mosthart of BESI on behalf of generator — 5/15/08
TYPED OR PRINTED FULL NAME & SIGNATURE — DATE

TRANSPORTER

NAME: BELSHIRE EPA I.D. Nieto & Sons
ADDRESS: 25971 TOWNE CENTRE DRIVE 1281 Brea Canyon Road
CITY STATE ZIP: FOOTHILL RANCH, CA 92610 Brea, CA 92821 (714) 990-6855
SERVICE ORDER NO.
PICK UP DATE: 05 / 20 / 08
PHONE NO.: (949) 460-5200
TRUCK, UNIT, I.D. NO.
Steve Nieto (MP) — 05 / 20 / 08
TYPED OR PRINTED FULL NAME & SIGNATURE — DATE

TSD FACILITY

NAME: DEMENNO KERDOON EPA I.D NO.
ADDRESS: 2000 N. ALAMEDA ST.
CITY STATE ZIP: COMPTON, CA 90222
PHONE NO.: 310-537-7100
DISPOSAL METHOD
[ ] LANDFILL [X] OTHER: Recycler

68149
3840913

Ernest Samuel Corsbie — 05/20/08
TYPED OR PRINTED FULL NAME & SIGNATURE — DATE

GEN		OLD/NEW	L A	TONS	
TRANS			S B		
C/Q			RT/CD	HWDF NONE	DISCREPANCY

Manifest

TPST Soil Recyclers of CA
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transporter Truck #:	Facility #:	Given by TPST:	Load #
6 / 4 /08		127	AOT	3125410011	

Generator and/or Consultant

Generator's Name and Billing Address	Generator's Phone #:	Generator's US EPA ID No
TESORO ENVIRONMENTAL RESOURCES COMPANY 3450 S 334TH, SUITE 201 AUBURN WA 98001	Person to Contact:	
	FAX#	Customer Account Number with TPST:
Consultant's Name and Billing Address:	**Consultant's Phone #:**	
	Person to Contact:	
	FAX#:	Customer Account Number with TPST:
Generation Site (Transport from): *(name & address)* TESORO 67076 (FORMER) 1619 FIRST ST LIVERMORE CA 94550	Site Phone #:	BTEX Levels
	Person to Contact:	TPH Levels
	FAX#:	AVG. Levels
Designated Facility (Transport to): *(name & address)* TPST SOIL RECYCLERS OF CALIFORNIA 12328 HIBISCUS AVENUE ADELANTO, CA 92301	Facility Phone #: (800) 882-8001	Facility Permit Numbers
	Person to Contact: DELLENA JEFFREY	
	FAX#: (760) 246-8004	
Transporter Name and Mailing Address: BELSHIRE 25871 TOWNE CENTRE DRIVE FOOTHILL RANCH, CA 92610 BESI: 163196	Transporter's Phone #: (949) 460-5200	Transporter's US EPA ID No: CAR000183813
	Person to Contact: LARRY MOOTHART	Transporter's DOT No 450647
	FAX#: (949) 460-5210	Customer Account Number with TPST

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐	32 DMS		32360	13200	19160
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					9.57

List any exception to items listed above: Scale Ticket# 58892

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way

Print or Type Name	Generator ☐ Consultant ☐	Signature and date:	Month	Day	Year
Larry Moothart of BESI on behalf of generator			5	19	08

Transporter

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site

Print or Type Name	Signature and date:	Month	Day	Year
Garry Gaunt		6	4	08

Recycling Facility

Discrepancies: 1619 FIRST 394081

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:	Signature and date:
D. JEFFREY/J. PROVANSAL	6-4-8

Please print or type.

NO. 672824

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

NAME: TESORO ENVIRONMENTAL RESOURCES COMPANY

GENERATING SITE: TESORO 67076 (FORMER)

EPA I.D. NO. [redacted]

ADDRESS: 3450 S. 344TH, SUITE 201 AUBURN, WA 98001 — 1619 FIRST ST.

PROFILE NO. [redacted]

CITY STATE ZIP: LIVERMORE, CA 94550

PHONE NO ( )

CONTAINERS: No 2 VOLUME 110 gallons WEIGHT

TYPE: ☒ TANK TRUCK ☐ DUMP TRUCK ☐ DRUMS ☐ CARTONS ☐ OTHER

WASTE DESCRIPTION: NON-HAZARDOUS WATER GENERATING PROCESS: WELL PURGING / DECON WATER

	COMPONENTS OF WASTE	PPM	%		COMPONENTS OF WASTE	PPM	%
1.	WATER		99-100%	5.			
2.	TPH		<1%	6.			
3.				7.			
4.				8.	BESI: 153186		

PROPERTIES: pH 7-10 ☐ SOLID ☒ LIQUID ☐ SLUDGE ☐ SLURRY ☐ OTHER

HANDLING INSTRUCTIONS: 24-HOUR EMERGENCY PHONE: 949-699-3706

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Larry Moothart of BESI on behalf of generator [signature] 5/19/08

TYPED OR PRINTED FULL NAME & SIGNATURE — DATE

TRANSPORTER

NAME: BELSHIRE — Nieto & Sons

EPA I.D. NO. [redacted]

ADDRESS: 25971 TOWNE CENTRE DRIVE — 1281 Brea Canyon Road, Brea, CA 92821

SERVICE ORDER NO

CITY, STATE, ZIP: FOOTHILL RANCH, CA 92610 — (714) 990-6855

PICK UP DATE: 05 5/23/08 08

PHONE NO: (949) 460-5200

TRUCK, UNIT, I.D. NO.

Steve Nieto (MP) 05 / 23 / 08

TYPED OR PRINTED FULL NAME & SIGNATURE — DATE

TSD FACILITY

NAME: DEMENNO KERDOON

EPA I.D. NO. [redacted]

DISPOSAL METHOD

ADDRESS: 2000 N. ALAMEDA ST. ☐ LANDFILL ☒ OTHER

CITY STATE ZIP: COMPTON, CA 90222 Recycler

PHONE NO: 310-537-7100

1619FIRS
385460

[signature] 5/27/08

TYPED OR PRINTED FULL NAME & SIGNATURE — DATE

GEN	OLD/NEW	L	A	TONS
TRANS		S	B	
C/O		RT/CD		HWDF NONE

DISCREPANCY

Manifest

TPST Soil Recyclers of CA
Non-Hazardous Soils

Manifest #

Date of Shipment:	Responsible for Payment:	Transporter Truck #:	Facility #:	Given by TPST:	Load #
6.9.08		207 1476	A07	31259	002

Generator and/or Consultant

Generator's Name and Billing Address:	Generator's Phone #:	Generator's US EPA ID No.
TESORO ENVIRONMENTAL RESOURCES COMPANY 3450 S. 334TH, SUITE 201 AUBURN, WA 98001	Person to Contact:	
	FAX#:	Customer Account Number with TPST:
Consultant's Name and Billing Address:	**Consultant's Phone #:**	
	Person to Contact:	
	FAX#:	Customer Account Number with TPST:
Generation Site (Transport from): *(name & address)*	Site Phone #:	BTEX Levels
TESORO 67076 (FORMER) 1619 FIRST ST. LIVERMORE, CA 94550	Person to Contact:	TPH Levels
	FAX#:	AVG. Levels
Designated Facility (Transport to): *(name & address)*	Facility Phone #: (800) 862-8001	Facility Permit Numbers
TPST SOIL RECYCLERS OF CALIFORNIA 12328 HIBISCUS AVENUE ADELANTO, CA 92301	Person to Contact: DELLENA JEFFREY	
	FAX#: (760) 246-8004	
Transporter Name and Mailing Address:	Transporter's Phone #: (949) 460-5200	Transporter's US EPA ID No: CAR000183913
BELSHIRE 25971 TOWNE CENTRE DRIVE FOOTHILL RANCH, CA 92610 BESI: 163196	Person to Contact: LARRY MOOTHART	Transporter's DOT No: 450647
	FAX#: (949) 460-5210	Customer Account Number with TPST:

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐	31 DMS		35280	17700	20560
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					1038

List any exception to items listed above: Scale Ticket# 58245

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way

Print or Type Name: Generator ☐ Consultant ☐	Signature and date:	Month	Day	Year
Larry Moothart of BESI on behalf of generator		10	3	08

Transporter

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:	Signature and date:	Month	Day	Year
FRANK SILVA		6	9	08

Recycling Facility

Discrepancies:
1619FIRS
394118

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:	Signature and date:
D. JEFFREY/J. PROVANSAL	6-9-8

Print or Type

NO. 673094 /4

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

GENERATING SITE:

NAME: TESORO ENVIRONMENTAL RESOURCES COMPANY
ADDRESS: 3450 S. 344TH, SUITE 201 AUBURN, WA 98001

TESORO 67076 (FORMER)
1619 FIRST ST
LIVERMORE, CA 94550

EPA I.D. NO.
PROFILE NO.
CITY, STATE, ZIP
PHONE NO. ( )

CONTAINERS: No. 7 VOLUME 385 Gallons WEIGHT

TYPE: [X] TANK TRUCK [ ] DUMP TRUCK [ ] DRUMS [ ] CARTONS [ ] OTHER

WASTE DESCRIPTION: NON-HAZARDOUS WATER
GENERATING PROCESS: WELL PURGING / DECON WATER

	COMPONENTS OF WASTE	PPM	%		COMPONENTS OF WASTE	PPM	%
1	WATER		99-100%	5			
2	TPH		<1%	6			
3				7			
4				8			

BESI:153196

PROPERTIES: pH 7-10 [ ] SOLID [XX] LIQUID [ ] SLUDGE [ ] SLURRY [ ] OTHER

HANDLING INSTRUCTIONS: 24-HOUR EMERGENCY PHONE: 949-698-3706

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Larry Moothart of BESI on behalf of generator — 6/3/08
TYPED OR PRINTED FULL NAME & SIGNATURE — DATE

TRANSPORTER

NAME: BELSHIRE — Nieto & Sons — EPA I.D. NO.
ADDRESS: 25971 TOWNE CENTRE DRIVE — 1281 Brea Canyon Road, Brea, CA 92821
CITY, STATE, ZIP: FOOTHILL RANCH, CA 92610 — (714) 990-6855
SERVICE ORDER NO.
PICK UP DATE: 06 / 04 / 08
PHONE NO.: (949) 460-5200
TRUCK, UNIT, I.D. NO.
Steve Nieto (MP) — 06 / 04 / 08
TYPED OR PRINTED FULL NAME & SIGNATURE — DATE

TSD FACILITY

NAME: ~~BESI YARD~~ DeMenno Kerdoon — EPA I.D. NO.
ADDRESS: ~~25971 TOWNE CENTRE DR~~
CITY, STATE, ZIP: ~~LAKE FOREST, CA 92630~~
PHONE NO.: ~~949-460-5200~~

DISPOSAL METHOD
[ ] LANDFILL [X] OTHER Recycler

1619FIRS
391046

Ernest S. Corsbie — 06/04/08
TYPED OR PRINTED FULL NAME & SIGNATURE — DATE

GEN	OLD/NEW	L A	TONS	
TRANS		S B		
C/O		RT/CD	HWDF NONE	DISCREPANCY

Manifest

TPST Soil Recyclers of CA
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transporter Truck #:	Facility #:	Given by TPST:	Load #
6 / 27 / 08		111-733	AD7	31254	003

Generator and/or Consultant

Generator's Name and Billing Address:	Generator's Phone #:	Generator's US EPA ID No.
TESORO ENVIRONMENTAL RESOURCES COMPANY 3450 S. 334TH, SUITE 201 AUBURN, WA 98001	Person to Contact:	
	FAX#:	Customer Account Number with TPST:
Consultant's Name and Billing Address:	Consultant's Phone #:	
	Person to Contact:	
	FAX#:	Customer Account Number with TPST:
Generation Site (Transport from): *(name & address)* TESORO 87078 (FORMER) 1619 FIRST ST. LIVERMORE, CA 94550	Site Phone #:	BTEX Levels
	Person to Contact:	TPH Levels
	FAX#:	AVG. Levels
Designated Facility (Transport to): *(name & address)* TPST SOIL RECYCLERS OF CALIFORNIA 12328 HIBISCUS AVENUE ADELANTO, CA 92301	Facility Phone #: (800) 882-8001	Facility Permit Numbers
	Person to Contact: DELLENA JEFFREY	
	FAX#: (760) 246-8004	
Transporter Name and Mailing Address: BELSHIRE 25971 TOWNE CENTRE DRIVE FOOTHILL RANCH, CA 92610 BESI: 153196	Transporter's Phone #: (949) 460-5200	Transporter's US EPA ID No.: CAR000183913
	Person to Contact: LARRY MOOTHART	Transporter's DOT No.: 450647
	FAX#: (949) 460-5210	Customer Account Number with TPST:

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐	10 DMS		11700	5620	6080
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					3.04

List any exception to items listed above: Scale Ticket# 59256

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way. 19 cy

Print or Type Name: Generator ☐ Consultant ☐	Signature and date:	Month	Day	Year
Larry Moothart of BESI on behalf of generator		6	5	08

Transporter

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:	Signature and date:	Month	Day	Year
Bruce K Andrich	Bruce K Andrich	6	27	08

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:	Signature and date:
D. JEFFREY/J. PROVANSAL	6-27-8

Please print or type.

TRANSPORTER COPY

NO. 673075

NON-HAZARDOUS WASTE DATA FORM

20

GENERATING SITE:

NAME: TESORO ENVIRONMENTAL RESOURCES COMPANY — TESORO 67076 (FORMER) — EPA I.D. NO.

ADDRESS: 3460 S. 334TH, SUITE 201 AUBURN, WA 98001 — 1619 FIRST ST. — PROFILE NO.

CITY, STATE, ZIP: LIVERMORE, CA 94550 — PHONE NO. ( )

CONTAINERS: No 5 — VOLUME 275 Gallons — WEIGHT

TYPE: [X] TANK TRUCK [ ] DUMP TRUCK [ ] DRUMS [ ] CARTONS [ ] OTHER

WASTE DESCRIPTION: NON-HAZARDOUS WATER — GENERATING PROCESS: WELL PURGING / DECON WATER

COMPONENTS OF WASTE	PPM	%
1. WATER		99-100%
2. TPH		<1%
3.		
4.		
5.		
6.		
7.		
8.		

BESI:153196

PROPERTIES: pH 7-10 [ ] SOLID [X] LIQUID [ ] SLUDGE [ ] SLURRY [ ] OTHER

HANDLING INSTRUCTIONS: 24 HOUR EMERGENCY PHONE: 949-699-3703

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

Larry Moothart of BESI on behalf of generator — 6/5/08
TYPED OR PRINTED FULL NAME & SIGNATURE — DATE

TRANSPORTER (TO BE COMPLETED BY TRANSPORTER)

NAME: BELSHIRE — Nieto & Sons — EPA I.D. NO.

ADDRESS: 26971 TOWNE CENTRE DRIVE — 1281 Brea Canyon Road Brea, CA 92821 — SERVICE ORDER NO.

CITY, STATE, ZIP: FOOTHILL RANCH, CA 92610 — (714) 990-6855 — PICK UP DATE: 06 / 13 / 08

PHONE NO. (949) 460-5200

TRUCK, UNIT, I.D. NO. 251-367 — Carl S Heine Call d 11.06 / 13 / 2008
TYPED OR PRINTED FULL NAME & SIGNATURE — DATE

DISPOSAL FACILITY

NAME: DEMENNO KERDOON — EPA I.D. NO.

ADDRESS: 2000 N. ALAMEDA ST. — DISPOSAL METHOD: [ ] LANDFILL [X] OTHER Recycler

CITY STATE ZIP: COMPTON, CA 90222

PHONE NO: 310-537-7100

1619FIRS
394594

Ernest S. Corsbie — 06/13/08
TYPED OR PRINTED FULL NAME & SIGNATURE — DATE

GEN	OLD/NEW	L A	TONS
TRANS		S B	
C/Q		RT/CD	HWDF: NONE

DISCREPANCY