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February 28, 2005

Mr. Bob Schultz  
Alameda County Health Agency  
Division of Hazardous Materials  
Department of Environmental Health  
1131 Harbor Bay Parkway, 2<sup>nd</sup> Floor  
Alameda, CA 94502

Alameda County  
MAR 18 2005  
Environmental Health

Subject: Quarterly Groundwater Monitoring Report – Fourth Quarter 2004  
Tesoro No. 67076 (Former Beacon Station No. 3604)  
1619 First Street, Livermore, California  
Delta Project No. D004-076

Dear Mr. Schultz:

Delta Environmental Consultants, Inc. (Delta) has been authorized by Tesoro Environmental Resources Company (Tesoro) to perform quarterly groundwater monitoring at the site (Former Beacon Station No. 3604) located at 1619 First Street, Livermore, California (Figure 1).

### Quarterly Groundwater Monitoring

Delta measured depth to groundwater and collected samples in monitoring wells MW-1 through MW-10, VW-2 and VW-3 on November 4, 2004. Field data forms are presented in Enclosure A. Depth to water measurements were obtained using an electronic water-level indicator and recorded to the nearest 0.01-foot. The water-level indicator was cleaned with a solution of non-phosphate detergent and de-ionized water, and rinsed before each use. Groundwater elevation data are presented in Table 1 and inferred groundwater elevation contours are presented on Figure 2. Depth to groundwater ranged from 33.93 feet (MW-1) to 37.44 feet (MW-9) below the top of well casing. Based on ground water elevation data computed from depth to water measurements in wells, the groundwater flow direction across the site was inferred to be west-northwest with an approximate gradient of 0.038.

Groundwater monitoring wells MW-1 through MW-10 and vapor extraction wells VW-2 and VW-3 were sampled on November 4, 2004. Samples from these wells were analyzed for total petroleum hydrocarbons in the gasoline range (TPHg), benzene, toluene, ethylbenzene, xylenes (BTEX), and oxygenates including methyl tertiary butyl ether (MTBE) and tertiary butyl alcohol (TBA), using EPA Test Method 8260B. Kiff Analytical Labs, Inc. (Kiff Analytical) of Davis, California, a California state-certified laboratory, performed the chemical analyses. The Kiff Analytical laboratory report, including chain-of-custody documentation, is included as Enclosure B. Laboratory analyses results for the fourth quarter 2004 sampling event are presented in Table 1, and TPHg, benzene, MTBE, and TBA concentrations are shown on Figure 3.

A member of:



Mr. Bob Schultz  
Alameda County Health Agency  
Division of Hazardous Materials  
Department of Environmental Health  
February 28, 2005

### **Discussion of Results**

The following trends were observed between the third quarter 2004 and the fourth quarter 2004 groundwater monitoring events:

- Concentrations of TPH in the gasoline range and BTEX decreased ( to 27,000, 4,400, 1,100, 840, and 2,200 µg/L, respectively), in monitoring well MW-2. Well MW-2 is located at the down-gradient edge of the site property.
- Concentrations of TPH in the gasoline range, toluene, ethyl-benzene, total xylenes and MTBE increased (to 9,600, 1,100, 30, 320, and 160 µg/L, respectively), in monitoring well MW-6. Well MW-6 is located across the intersection of South P Street and First Street from the site.
- The groundwater flow direction has remained stable, trending north-northwest across the site.

The next groundwater monitoring event is scheduled for January 2005.

### **Remarks**

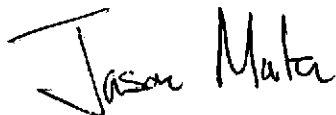
The recommendations contained in this report represent Delta's professional opinions based upon the currently available information and are arrived at in accordance with currently acceptable professional standards. This report is based upon a specific scope of work requested by the client. The Contract between Delta and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were performed. This report is intended only for the use of Delta's Client and anyone else specifically listed on this report. Delta will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Delta makes no express or implied warranty as to the contents of this report.

Mr. Bob Schultz  
Alameda County Health Agency  
Division of Hazardous Materials  
Department of Environmental Health  
February 28, 2005

Please contact Scott Graham at (916) 503-1273 if you have any questions.

Sincerely,


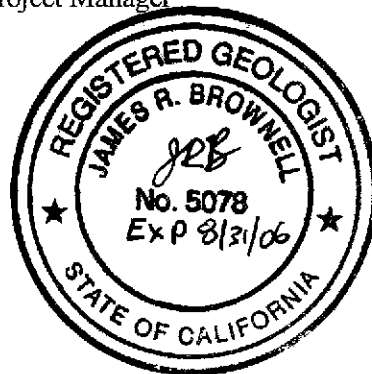
**DELTA ENVIRONMENTAL CONSULTANTS, INC.**



Jason M. Mata  
Staff Technician



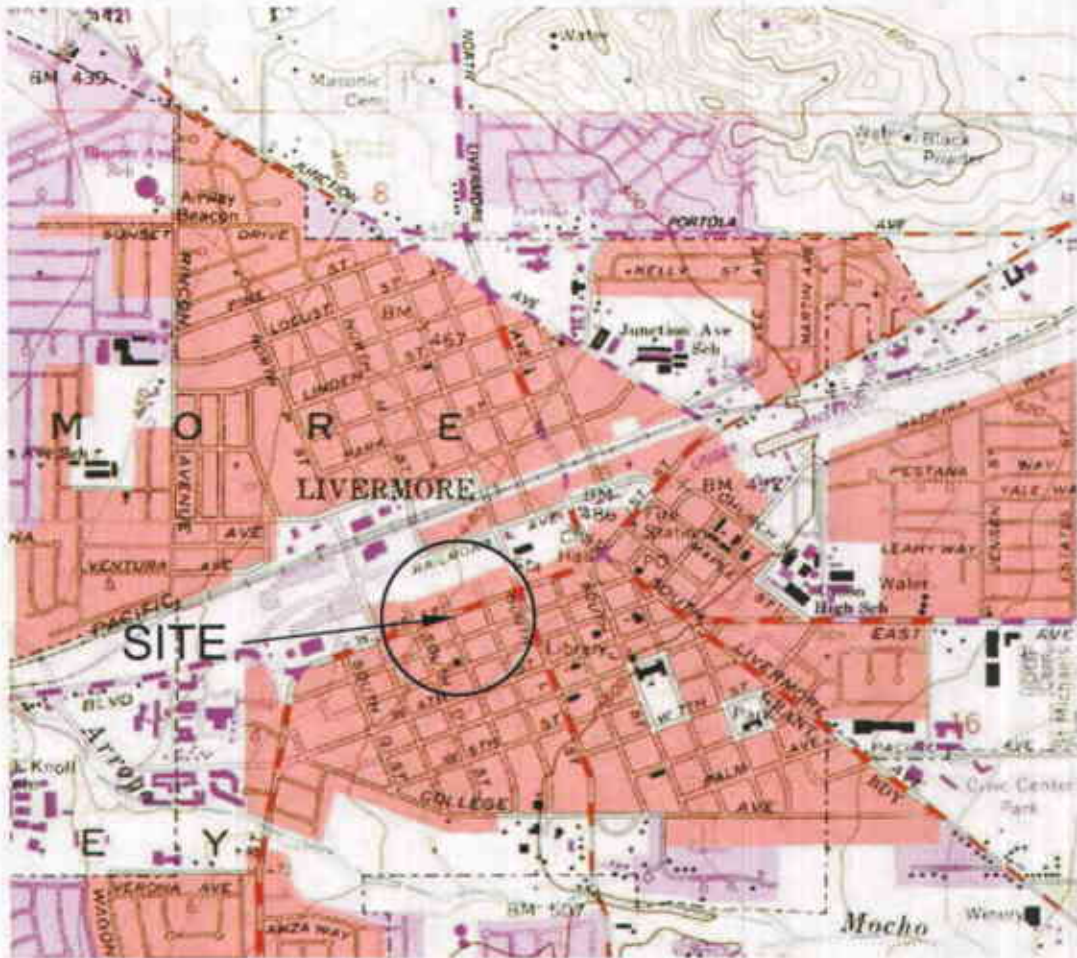
Scott R. Graham  
Project Manager

  
James R. Brownell, R.G.  
California Registered Geologist No. 5078

JMM

Enclosures

cc: Mr. Jeff Baker, Tesoro Petroleum Company  
Mr. Chuck Miller, Green Valley Gasoline, LLC  
Mr. Brian Kelleher, Kelleher and Associates  
Ms. Bettie Graham, Regional Water Quality Control Board, San Francisco Bay Region



GENERAL NOTES:  
 BASE MAP FROM U.S.G.S.  
 LIVERMORE  
 7.5 MINUTE TOPOGRAPHIC  
 PHOTOREVISED 1980



QUADRANGLE LOCATION



SCALE 1:24,000

FIGURE 1  
 SITE LOCATION MAP  
 TESORO SITE NO. 67076  
 FORMER BEACON STATION NO. 604  
 1619 WEST FIRST STREET  
 LIVERMORE, CA.

PROJECT NO. D004-076	DRAWN BY REG 6/18/04
FILE NO. TS-67076-FIG1	PREPARED BY BAB
REVISION NO.	REVIEWED BY

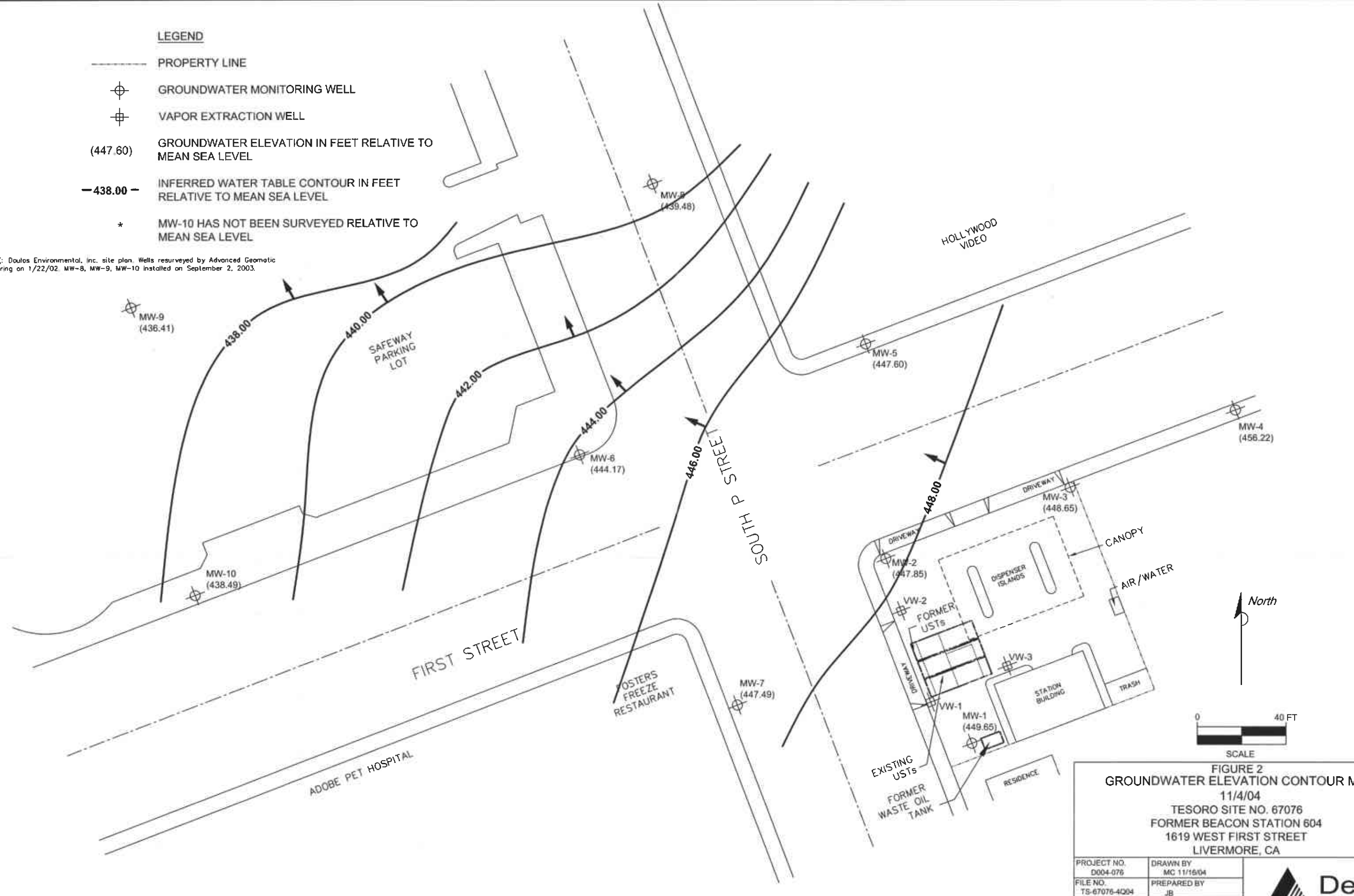


**Delta**  
 Environmental  
 Consultants, Inc.

**LEGEND**

- PROPERTY LINE
- ⊕ GROUNDWATER MONITORING WELL
- ⊕ VAPOR EXTRACTION WELL
- (447.60) GROUNDWATER ELEVATION IN FEET RELATIVE TO MEAN SEA LEVEL
- 438.00- INFERRED WATER TABLE CONTOUR IN FEET RELATIVE TO MEAN SEA LEVEL
- \* MW-10 HAS NOT BEEN SURVEYED RELATIVE TO MEAN SEA LEVEL

SOURCE: Doulas Environmental, Inc. site plan. Wells resurveyed by Advanced Geomatic Engineering on 1/22/02. MW-8, MW-9, MW-10 installed on September 2, 2003.



**FIGURE 2**  
**GROUNDWATER ELEVATION CONTOUR MAP**  
 11/4/04  
 TESORO SITE NO. 67076  
 FORMER BEACON STATION 604  
 1619 WEST FIRST STREET  
 LIVERMORE, CA

PROJECT NO. D004-076	DRAWN BY MC 11/16/04
FILE NO. TS-67076-4204	PREPARED BY JB
REVISION NO. 1	REVIEWED BY

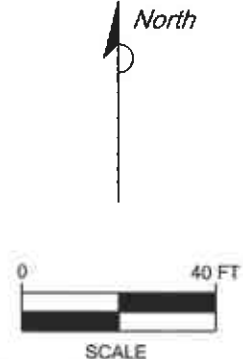
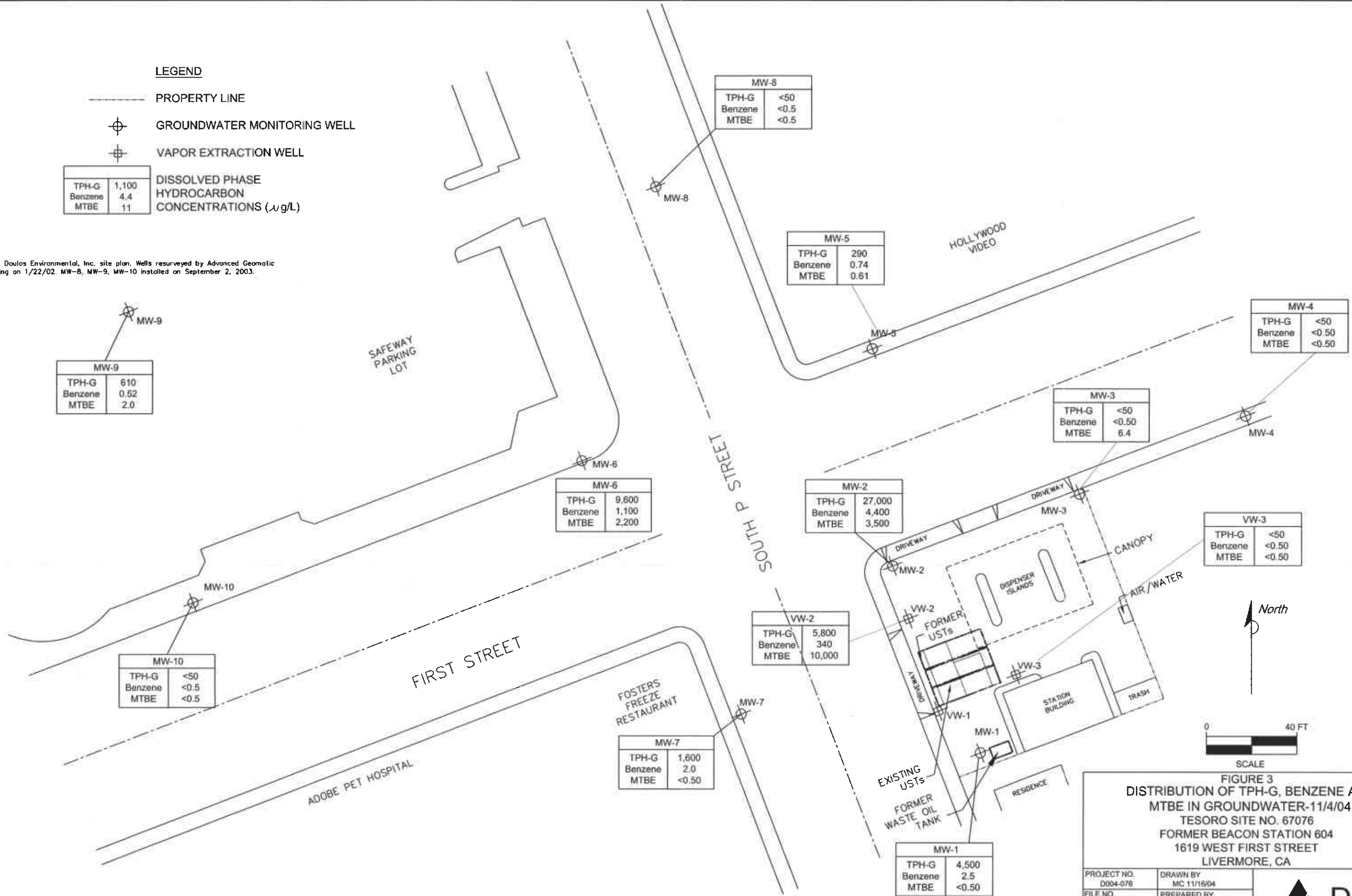


**LEGEND**

- PROPERTY LINE
- ⊕ GROUNDWATER MONITORING WELL
- ⊕ VAPOR EXTRACTION WELL

TPH-G	1,100	DISSOLVED PHASE HYDROCARBON CONCENTRATIONS (μg/L)
Benzene	4.4	
MTBE	11	

SOURCE: Doulos Environmental, Inc. site plan. Wells resurveyed by Advanced Geomatic Engineering on 1/22/02. MW-8, MW-9, MW-10 installed on September 2, 2003.



**FIGURE 3**  
**DISTRIBUTION OF TPH-G, BENZENE AND**  
**MTBE IN GROUNDWATER-11/4/04**  
 TESORO SITE NO. 67076  
 FORMER BEACON STATION 604  
 1619 WEST FIRST STREET  
 LIVERMORE, CA

PROJECT NO. D004-076	DRAWN BY MC 11/16/04
FILE NO. TS-67076-4Q04	PREPARED BY JB
REVISION NO. 1	REVIEWED BY

Table 1  
 Groundwater Analytical Data  
 Tesoro Site No. 67076  
 Delta Project No. D004-076

Well	Sample Collection	Casing Elevation	Depth to Water	Water Table Elevation	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	DIPE	ETBE	TAME	TBA	Methanol	Ethanol	1,2 DCA	1,2 DBE
	Date	(msl)	(feet)	(msl)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-1	6/1/1993	100.00	37.50	62.50	27,000	2,200	400	<0.50	4,900	-	-	-	-	-	-	-	-	-
MW-1	6/22/1993	100.00	38.46	61.54	87,000	8,000	10,000	260	10,000	-	-	-	-	-	-	-	-	-
MW-1	10/6/1993	100.00	42.22	57.78	40,000	4,700	6,500	740	5,300	-	-	-	-	-	-	-	-	-
MW-1	1/13/1994	100.00	34.52	65.48	9,400	1,300	9,500	110	850	-	-	-	-	-	-	-	-	-
MW-1	3/30/1994	100.00	31.93	68.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-1	4/25/1994	100.00	33.49	66.51	11,000	1,500	1,800	290	1,700	-	-	-	-	-	-	-	-	-
MW-1	8/12/1994	100.00	41.03	58.97	11,000	550	330	260	1,400	-	-	-	-	-	-	-	-	-
MW-1	12/14/1994	100.00	38.63	61.37	11,000	1,000	1,200	320	1,500	-	-	-	-	-	-	-	-	-
MW-1	2/10/1995	100.00	30.80	69.20	9,300	1,200	1,500	280	1,500	-	-	-	-	-	-	-	-	-
MW-1	6/15/1995	100.00	25.46	74.54	140	5.6	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-	-
MW-1	9/26/1995	100.00	31.05	68.95	410	140	<0.50	<0.50	43	-	-	-	-	-	-	-	-	-
MW-1	12/15/1995	100.00	28.11	71.89	740	250	<1.3	<1.3	87	-	-	-	-	-	-	-	-	-
MW-1	3/21/1996	100.00	17.67	82.33	<50	0.52	<0.50	<0.50	0.51	-	-	-	-	-	-	-	-	-
MW-1	6/13/1996	100.00	22.86	77.14	240	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-	-
MW-1	9/16/1996	100.00	30.04	69.96	720	70	<0.50	1.0	5.1	<5.0	-	-	-	-	-	-	-	-
MW-1	12/2/1996	100.00	26.74	73.26	<50	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-1	3/7/1997	100.00	20.84	79.16	600	6.7	<0.50	1.2	1.8	<5.0	-	-	-	-	-	-	-	-
MW-1	6/12/1997	100.00	28.71	71.29	18,000	180	800	410	1800	<5.0	-	-	-	-	-	-	-	-
MW-1	9/29/1997	100.00	33.91	66.09	350	120	1.5	<0.50	12	<5.0	-	-	-	-	-	-	-	-
MW-1	12/1/1997	100.00	34.88	65.12	<50	7.0	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-1	3/19/1998	100.00	19.83	80.17	<50	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-1	5/29/1998	100.00	21.57	78.43	<50	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-1	9/15/1998	100.00	31.68	68.32	<50	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-1	11/30/1998	100.00	36.80	63.20	<50	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-1	1/17/1999	100.00	30.02	69.98	<50	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-1	6/10/1999	100.00	29.30	70.70	<50	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-1	9/7/1999	100.00	31.41	68.59	<50	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-1	12/13/1999	100.00	32.95	67.05	<50	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-1	3/13/2000	100.00	25.74	74.26	<50	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-1	6/12/2000	100.00	28.24	71.76	<50	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-1	11/10/2000	100.00	30.56	69.44	<50	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-
MW-1	12/31/2000	100.00	31.71	68.29	<50	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-
MW-1	3/27/2001	100.00	30.43	69.57	<50	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-
MW-1	6/30/2001	100.00	36.61	63.39	<50	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-
MW-1	9/26/2001	100.00	45.10	54.90	90	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-
MW-1	12/18/2001	100.00	39.39	60.61	<50	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-
MW-1	1/22/2002	483.58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-1	3/18/2002	483.58	38.24	445.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-1	6/5/2002	483.58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 1  
 Groundwater Analytical Data  
 Tesoro Site No. 67076  
 Delta Project No. D004-076

Well	Sample Collection Date	Casing Elevation (msl)	Depth to Water (feet)	Water Table Elevation (msl)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)	Methanol (µg/L)	Ethanol (µg/L)	1,2 DCA (µg/L)	1,2 DBE (µg/L)
MW-1	8/21/2002	483.58	36.71	446.87	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-1	12/3/2002	483.58	36.85	446.73	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-1	3/4/2003	483.58	33.72	449.86	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-1	6/10/2003	483.58	31.31	452.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-1	9/9/2003	483.58	35.05	448.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-1	12/23/2003	483.58	30.15	453.43	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-1	3/23/2004	483.58	26.61	456.97	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-1	5/10/2004	483.58	30.31	453.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-1	8/4/2004	483.58	34.77	448.81	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>MW-1</b>	<b>11/4/2004</b>	<b>483.58</b>	<b>33.93</b>	<b>449.65</b>	<b>4,500</b>	<b>2.5</b>	<b>5.8</b>	<b>79</b>	<b>140</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;5.0</b>	<b>&lt;50</b>	<b>&lt;5.0</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>
MW-2	6/1/1993	98.68	38.02	60.66	170,000	20,000	21,000	3,300	18,000	-	-	-	-	-	-	-	-	-
MW-2	6/22/1993	98.68	39.07	59.61	160,000	19,000	22,000	3,500	18,000	-	-	-	-	-	-	-	-	-
MW-2	10/6/093	98.68	43.72	54.96	110,000	17,000	17,000	3,000	15,000	-	-	-	-	-	-	-	-	-
MW-2	1/13/1994	98.68	35.85	62.83	93,000	20,000	19,000	2,300	14,000	-	-	-	-	-	-	-	-	-
MW-2	3/30/1994	98.68	32.82	65.86	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	4/25/1994	98.68	34.76	63.92	41,000	9,600	7,300	840	7,800	-	-	-	-	-	-	-	-	-
MW-2	8/12/1994	98.68	44.33	54.35	59,000	11,000	11,000	2,300	11,000	-	-	-	-	-	-	-	-	-
MW-2	12/14/1994	98.68	40.00	58.68	63,000	13,000	13,000	2,200	12,000	-	-	-	-	-	-	-	-	-
MW-2	2/10/1995	98.68	32.16	66.52	63,000	12,000	12,000	2,200	11,000	-	-	-	-	-	-	-	-	-
MW-2	6/15/1995	98.68	25.93	72.75	61,000	11,000	12,000	1,900	11,000	-	-	-	-	-	-	-	-	-
MW-2	9/26/1995	98.68	32.42	66.26	61,000	9,400	11,000	2,300	12,000	-	-	-	-	-	-	-	-	-
MW-2	12/15/1995	98.68	29.41	69.27	48,000	8,000	8,300	2,200	12,000	-	-	-	-	-	-	-	-	-
MW-2	3/21/1996	98.68	17.47	81.21	48,000	8,000	7,700	2,400	12,000	-	-	-	-	-	-	-	-	-
MW-2	6/13/1996	98.68	23.69	74.99	33,000	7,300	8,800	1,900	12,000	<250	-	-	-	-	-	-	-	-
MW-2	9/16/1996	98.68	31.24	67.44	8,600	510	640	180	1,300	<250	-	-	-	-	-	-	-	-
MW-2	12/2/1996	98.68	26.90	71.78	29,000	4,400	4,000	1,300	6,100	<130	-	-	-	-	-	-	-	-
MW-2	3/7/1997	98.68	21.33	77.35	13,000	1,800	1,100	270	2,000	<250	-	-	-	-	-	-	-	-
MW-2	6/12/1997	98.68	29.94	68.74	68,000	7,800	6,600	2,300	11,000	<500	-	-	-	-	-	-	-	-
MW-2	9/29/1997	98.68	34.22	64.46	15,000	1,500	97	740	1,800	<250	-	-	-	-	-	-	-	-
MW-2	12/1/1997	98.68	35.94	62.74	13,000	900	37	860	2,400	<250	-	-	-	-	-	-	-	-
MW-2	3/19/1998	98.68	20.34	78.34	42,000	5,000	3,600	2,000	8,300	<250	-	-	-	-	-	-	-	-
MW-2	5/29/1998	98.68	22.63	76.05	68,000	5,600	4,700	2,400	11,000	<250	-	-	-	-	-	-	-	-
MW-2	9/15/1998	98.68	32.30	66.38	36,000	3,900	1,200	1,400	7,800	<250	-	-	-	-	-	-	-	-
MW-2	11/30/1998	98.68	36.90	61.78	16,000	2,200	59	1,200	1,500	<250	-	-	-	-	-	-	-	-
MW-2	1/17/1999	98.68	30.17	68.51	30,000	4,000	2,200	2,100	9,500	<250	-	-	-	-	-	-	-	-
MW-2	6/10/1999	98.68	29.98	68.70	70,000	6,300	1,800	3,600	14,000	<500	-	-	-	-	-	-	-	-
MW-2	9/7/1999	98.68	31.85	66.83	42,000	3,800	840	1,900	8,000	150	-	-	-	-	-	-	-	-
MW-2	12/13/1999	98.68	33.72	64.96	14,000	1,400	87	690	110	34	-	-	-	-	-	-	-	-
MW-2	3/13/2000	98.68	26.54	72.14	38,000	2,400	2,300	1,600	6,400	2,400	-	-	-	-	-	-	-	-
MW-2	6/12/2000	98.68	28.44	70.24	56,000	4,000	950	2,300	7,200	<50	-	-	-	-	-	-	-	-



Table 1  
Groundwater Analytical Data  
Tesoro Site No. 67076  
Delta Project No. D004-076

Well	Sample Collection	Casing Elevation	Depth to Water	Water Table Elevation	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	DIPE	ETBE	TAME	TBA	Methanol	Ethanol	1,2 DCA	1,2 DBE
	Date	(msl)	(feet)	(msl)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-2	11/10/2000	98.68	31.31	67.37	35,000	5,100	850	1,500	3,200	230	-	-	-	-	-	-	-	-
MW-2	12/31/2000	98.68	32.68	66.00	21,000	3,200	420	1,300	1,200	440	-	-	-	-	-	-	-	-
MW-2	3/27/2001	98.68	30.81	67.87	3,500	420	64	16	280	120	-	-	-	-	-	-	-	-
MW-2	6/30/2001	98.68	37.58	61.10	1,200	88	5	65	37	29	-	-	-	-	-	-	-	-
MW-2	9/26/2001	98.68	44.97	53.71	53,000	8,500	1,500	2,400	4,600	270	-	-	-	-	-	-	-	-
MW-2	12/18/2001	98.68	40.67	58.01	26,000	5,400	900	1,500	2,200	430	-	-	-	-	-	-	-	-
MW-2	1/22/2002	482.77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	3/18/2002	482.77	38.94	443.83	4,200	240	7.3	200	53	89	-	-	-	-	-	-	-	-
MW-2	6/5/2002	482.77	36.45	446.32	25,000	3,500	390	1,400	2,400	550	-	-	-	-	-	-	-	-
MW-2	8/21/2002	482.77	37.15	445.62	10,000	1,200	32	620	300	160	-	-	-	-	-	-	-	-
MW-2	12/3/2002	482.77	36.76	446.01	3,700	110	2.5	130	11	29	-	-	-	-	-	-	-	-
MW-2	3/4/2003	482.77	33.60	449.17	8,700	1,100	77.0	350	540	230	<0.50	<0.50	<10	21	<150	<5.0	<0.50	<0.50
MW-2	6/10/2003	482.77	32.89	449.88	6,300	660	35.0	190	120	410	<2.5	<2.5	<5.0	<25	<250	<25	<2.5	<2.5
MW-2	9/9/2003	482.77	35.45	447.32	6,900	500	<20	360	29	9,500	<20	<20	60	<200	<2000	<200	<20	<20
MW-2	12/23/2003	482.77	31.79	450.98	22,000	4,900	1,300	720	2,300	1,700	<20	<20	21	<200	<2000	<200	<20	<20
MW-2	3/23/2004	482.77	28.25	454.52	45,000	5,200	1,500	1,800	5,000	750	<20	<20	34	<200	<2000	<200	<20	<20
MW-2	5/10/2004	482.77	30.91	451.86	7,300	1,000	51	240	290	1,800	<5.0	<5.0	14	<50	<500	<50	<5.0	<5.0
MW-2	8/4/2004	482.77	35.36	447.41	45,000	7,200	1,900	1,800	5,100	2,500	<25	<25	31	<250	<2500	<250	<25	<25
<b>MW-2</b>	<b>11/4/2004</b>	<b>482.77</b>	<b>34.92</b>	<b>447.85</b>	<b>27,000</b>	<b>4,400</b>	<b>1,100</b>	<b>840</b>	<b>2,200</b>	<b>3,500</b>	<b>&lt;9.0</b>	<b>&lt;9.0</b>	<b>29</b>	<b>&lt;50</b>	<b>&lt;900</b>	<b>&lt;90</b>	<b>&lt;9.0</b>	<b>&lt;9.0</b>
MW-3	6/1/1993	97.08	36.18	60.90	270	4.6	<0.50	<0.50	1.9	-	-	-	-	-	-	-	-	-
MW-3	6/22/1993	97.08	37.11	59.97	160	8.2	<0.50	<0.50	0.72	-	-	-	-	-	-	-	-	-
MW-3	10/6/093	97.08	41.15	55.93	740	57	110	24	120	-	-	-	-	-	-	-	-	-
MW-3	1/13/1994	97.08	33.95	63.13	83	2.6	0.67	0.78	4.2	-	-	-	-	-	-	-	-	-
MW-3	3/30/1994	97.08	30.97	66.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	4/25/1994	97.08	32.46	64.62	60	0.75	3.2	0.50	3.6	-	-	-	-	-	-	-	-	-
MW-3	8/12/1994	97.08	41.72	55.36	310	7.3	14	2.6	13	-	-	-	-	-	-	-	-	-
MW-3	12/14/1994	97.08	37.62	59.46	75	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-	-
MW-3	2/10/1995	97.08	29.96	67.12	96	1.4	<0.50	<0.50	1.8	-	-	-	-	-	-	-	-	-
MW-3	6/15/1995	97.08	23.66	73.42	<50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-	-
MW-3	9/26/1995	97.08	29.62	67.46	<50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-	-
MW-3	12/15/1995	97.08	27.10	69.98	<50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-	-
MW-3	3/21/1996	97.08	15.85	81.23	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	6/13/1996	97.08	21.31	75.77	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	9/16/1996	97.08	28.62	68.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	12/2/1996	97.08	25.55	71.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	3/7/1997	97.08	19.77	77.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	6/12/1997	97.08	27.67	69.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	9/29/1997	97.08	29.60	67.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	12/1/1997	97.08	33.37	63.71	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	3/19/1998	97.08	18.76	78.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 1  
Groundwater Analytical Data  
Tesoro Site No. 67076  
Delta Project No. D004-076

Well	Sample Collection	Casing Elevation	Depth to Water	Water Table Elevation	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	DIPE	ETBE	TAME	TBA	Methanol	Ethanol	1,2 DCA	1,2 DBE
	Date	(msl)	(feet)	(msl)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-3	5/29/1998	97.08	20.64	76.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	9/15/1998	97.08	30.70	66.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	11/30/1998	97.08	34.96	62.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	1/17/1999	97.08	28.81	68.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	6/10/1999	97.08	28.10	68.98	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	9/7/1999	97.08	30.38	66.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	12/13/1999	97.08	31.46	65.62	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	3/13/2000	97.08	24.28	72.80	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	6/12/2000	97.08	26.80	70.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	11/10/2000	97.08	29.47	67.61	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	12/31/2000	97.08	31.38	65.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	3/27/2001	97.08	29.94	67.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	6/30/2001	97.08	37.54	59.54	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	9/26/2001	97.08	45.17	51.91	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	12/18/2001	97.08	39.41	57.67	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	1/22/2002	482.66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	3/18/2002	482.66	37.73	444.93	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	6/5/2002	482.66	35.35	447.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	8/21/2002	482.66	36.21	446.45	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	12/3/2002	482.66	35.92	446.74	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	3/4/2003	482.66	32.75	449.91	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	6/10/2003	482.66	31.26	451.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	9/9/2003	482.66	34.72	447.94	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	12/23/2003	482.66	30.47	452.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	3/23/2004	482.66	26.67	455.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	5/10/2004	482.66	30.25	452.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	8/4/2004	482.66	34.70	447.96	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>MW-3</b>	<b>11/4/2004</b>	<b>482.66</b>	<b>33.94</b>	<b>448.72</b>	<b>&lt;50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>6.4</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;5.0</b>	<b>&lt;50</b>	<b>&lt;5.0</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>
MW-4	3/30/1994	99.35	31.56	67.79	120	4.2	15	2.5	26	-	-	-	-	-	-	-	-	-
MW-4	4/25/1994	99.35	32.73	66.62	65	<0.50	1.8	<0.50	2.1	-	-	-	-	-	-	-	-	-
MW-4	8/12/1994	99.35	41.61	57.74	<50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-	-
MW-4	12/14/1994	99.35	38.11	61.24	<50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-	-
MW-4	2/10/1995	99.35	30.50	68.85	<50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-	-
MW-4	6/15/1995	99.35	23.63	75.72	<50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-	-
MW-4	9/26/1995	99.35	29.70	69.65	<50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-	-
MW-4	12/15/1995	99.35	27.56	71.79	<51	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-	-
MW-4	3/21/1996	99.35	15.63	83.72	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	6/13/1996	99.35	21.07	78.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	9/16/1996	99.35	28.99	70.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	12/2/1996	99.35	26.04	73.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 1  
Groundwater Analytical Data  
Tesoro Site No. 67076  
Delta Project No. D004-076

Well	Sample Collection	Casing Elevation	Depth to Water	Water Table Elevation	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	DIPE	ETBE	TAME	TBA	Methanol	Ethanol	1,2 DCA	1,2 DBE
	Date	(msl)	(feet)	(msl)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-4	3/7/1997	99.35	19.69	79.66	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	6/12/1997	99.35	28.04	71.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	9/29/1997	99.35	29.91	69.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	12/1/1997	99.35	33.88	65.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	3/19/1998	99.35	18.67	80.68	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	5/29/1998	99.35	20.16	79.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	9/15/1998	99.35	30.46	68.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	11/30/1998	99.35	34.50	64.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	1/17/1999	99.35	28.30	71.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	6/10/1999	99.35	27.60	71.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	9/7/1999	99.35	30.79	68.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	12/13/1999	99.35	31.60	67.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	3/13/2000	99.35	24.35	75.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	6/12/2000	99.35	26.91	72.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	11/10/2000	99.35	29.71	69.64	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	12/31/2000	99.35	31.79	67.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	3/27/2001	99.35	29.98	69.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	6/30/2001	99.35	36.88	62.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	9/26/2001	99.35	43.87	55.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	12/18/2001	99.35	39.30	60.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	1/22/2002	482.93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	3/18/2002	482.93	37.75	445.18	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	6/5/2002	482.93	35.68	447.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	8/21/2002	482.93	36.58	446.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	12/3/2002	482.93	35.90	447.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	3/4/2003	482.93	32.73	450.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	6/10/2003	482.93	31.20	451.73	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	9/9/2003	482.93	34.64	448.29	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	12/23/2003	482.93	31.30	451.63	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	3/23/2004	482.93	26.71	456.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	5/10/2004	482.93	30.33	452.60	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	8/4/2004	482.93	34.87	448.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>MW-4</b>	<b>11/4/2004</b>	<b>482.93</b>	<b>34.28</b>	<b>448.65</b>	<b>&lt;50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;5.0</b>	<b>&lt;50</b>	<b>&lt;5.0</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>
MW-5	3/30/1994	98.37	32.07	66.30	7,500	1,300	20	<13	160	-	-	-	-	-	-	-	-	-
MW-5	4/25/1994	98.37	33.65	64.72	6,500	1,100	41	130	740	-	-	-	-	-	-	-	-	-
MW-5	8/12/1994	98.37	42.73	55.64	4,000	420	2.9	41	98	-	-	-	-	-	-	-	-	-
MW-5	12/14/1994	98.37	38.89	59.48	4,800	660	<2.5	33	13	-	-	-	-	-	-	-	-	-
MW-5	2/10/1995	98.37	31.44	66.93	5,200	490	<13	23	19	-	-	-	-	-	-	-	-	-
MW-5	6/15/1995	98.37	24.99	73.38	460	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-	-
MW-5	9/26/1995	98.37	30.20	68.17	1,400	61	<0.50	3.1	<0.50	-	-	-	-	-	-	-	-	-

Table 1  
Groundwater Analytical Data  
Tesoro Site No. 67076  
Delta Project No. D004-076

Well	Sample Collection Date	Casing Elevation (msl)	Depth to Water (feet)	Water Table Elevation (msl)	TPH <sub>g</sub> (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)	Methanol (µg/L)	Ethanol (µg/L)	1,2 DCA (µg/L)	1,2 DBE (µg/L)
MW-5	12/15/1995	98.37	28.56	69.81	2,100	77	1.5	10	1.5	-	-	-	-	-	-	-	-	-
MW-5	3/21/1996	98.37	16.82	81.55	930	35	2.0	2.0	18	-	-	-	-	-	-	-	-	-
MW-5	6/13/1996	98.37	22.61	75.76	610	38	0.72	1.9	2.0	<5.0	-	-	-	-	-	-	-	-
MW-5	9/16/1996	98.37	29.78	68.59	380	29	<0.50	0.95	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-5	12/2/1996	98.37	26.51	71.86	200	1.1	0.64	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-5	3/7/1997	98.37	21.91	76.46	520	74	<0.50	0.58	1.5	<5.0	-	-	-	-	-	-	-	-
MW-5	6/12/1997	98.37	-	-	140	5.3	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-5	9/29/1997	98.37	31.74	66.63	<50	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-5	12/1/1997	98.37	34.05	64.32	<50	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-5	3/19/1998	98.37	20.93	77.44	<50	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-5	5/29/1998	98.37	21.30	77.07	540	4.1	<0.50	<0.50	0.52	<5.0	-	-	-	-	-	-	-	-
MW-5	9/15/1998	98.37	31.32	67.05	67	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-5	11/30/1998	98.37	35.44	62.93	430	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-5	1/17/1999	98.37	29.59	68.78	500	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-5	6/10/1999	98.37	28.05	70.32	66	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-5	9/7/1999	98.37	31.11	67.26	820	46	1.7	10	21	<5.0	-	-	-	-	-	-	-	-
MW-5	12/13/1999	98.37	32.66	65.71	<50	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-5	3/13/2000	98.37	25.87	72.50	270	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-5	6/12/2000	98.37	28.15	70.22	<50	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-5	11/10/2000	98.37	30.05	68.32	2,200	42	1.1	25	30	8.6	-	-	-	-	-	-	-	-
MW-5	12/31/2000	98.37	31.81	66.56	1,300	21	<0.50	4.3	2.6	10	-	-	-	-	-	-	-	-
MW-5	3/27/2001	98.37	30.57	67.80	1,200	11	<0.50	2.6	<0.50	21	-	-	-	-	-	-	-	-
MW-5	6/30/2001	98.37	37.24	61.13	1,400	4.8	<0.50	1.5	0.56	14	-	-	-	-	-	-	-	-
MW-5	9/26/2001	98.37	44.53	53.84	660	<0.50	<0.50	<0.50	<0.50	3.0	-	-	-	-	-	-	-	-
MW-5	12/18/2001	98.37	40.65	57.72	240	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-
MW-5	1/22/2002	481.94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	3/18/2002	481.94	38.75	443.19	890	0.65	<0.50	<0.50	<0.50	3.1	-	-	-	-	-	-	-	-
MW-5	6/5/2002	481.94	36.21	445.73	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	8/21/2002	481.94	36.76	445.18	2,100	20	<0.50	63	4	7	-	-	-	-	-	-	-	-
MW-5	12/3/2002	481.94	36.12	445.82	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	3/4/2003	481.94	32.90	449.04	490	10	<0.50	2.2	<0.50	1.0	<0.50	<0.50	<0.50	<5.0	<50	<5.0	<0.50	<0.50
MW-5	6/10/2003	481.94	33.04	448.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	9/9/2003	481.94	34.20	447.74	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<50	<5.0	<0.50	<0.50
MW-5	12/23/2003	481.94	31.38	450.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	3/23/2004	481.94	27.51	454.43	440	2.3	<0.50	1.0	5.9	2.4	<0.50	<0.50	<0.50	<5.0	<50	<5.0	<0.50	<0.50
MW-5	5/10/2004	481.94	31.12	450.82	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	8/4/2004	481.94	35.09	446.85	160	<0.05	<0.05	<0.05	0.71	0.94	<0.50	<0.50	<0.50	<5.0	<50	<5.0	<0.50	<0.50
MW-5	11/4/2004	481.94	34.34	447.60	290	0.74	<0.50	0.58	1.3	0.61	<0.50	<0.50	<0.50	<5.0	<50	<5.0	<0.50	<0.50
MW-6	3/30/1994	97.62	33.38	64.24	63,000	21,000	8,600	1,700	12,000	-	-	-	-	-	-	-	-	-
MW-6	4/25/1994	97.62	35.49	62.13	77,000	22,000	12,000	2,300	16,000	-	-	-	-	-	-	-	-	-

Table 1  
Groundwater Analytical Data  
Tesoro Site No. 67076  
Delta Project No. D004-076

Well	Sample Collection	Casing Elevation	Depth to Water	Water Table Elevation	TPHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	DIPE	ETBE	TAME	TBA	Methanol	Ethanol	1,2 DCA	1,2 DBE
	Date	(msl)	(feet)	(msl)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-6	8/12/1994	97.62	45.14	52.48	65,000	12,000	8,100	2,200	16,000	-	-	-	-	-	-	-	-	-
MW-6	12/14/1994	97.62	40.99	56.63	65,000	18,000	9,500	2,200	14,000	-	-	-	-	-	-	-	-	-
MW-6	2/10/1995	97.62	33.34	64.28	63,000	21,000	8,400	2,000	14,000	-	-	-	-	-	-	-	-	-
MW-6	6/15/1995	97.62	26.88	70.74	75,000	20,000	11,000	2,100	15,000	-	-	-	-	-	-	-	-	-
MW-6	9/26/1995	97.62	33.55	64.07	62,000	15,000	9,600	1,700	12,000	-	-	-	-	-	-	-	-	-
MW-6	12/15/1995	97.62	30.32	67.30	61,000	15,000	9,000	2,300	15,000	-	-	-	-	-	-	-	-	-
MW-6	3/21/1996	97.62	18.89	78.73	65,000	18,000	9,800	2,400	16,000	-	-	-	-	-	-	-	-	-
MW-6	6/13/1996	97.62	24.62	73.00	29,000	8,600	3,300	2,200	12,000	<250	-	-	-	-	-	-	-	-
MW-6	9/16/1996	97.62	32.64	64.98	42,000	6,400	1,800	2,100	11,000	<250	-	-	-	-	-	-	-	-
MW-6	12/2/1996	97.62	27.42	70.20	28,000	3,000	1,100	970	8,300	<500	-	-	-	-	-	-	-	-
MW-6	3/7/1997	97.62	22.13	75.49	12,000	2,000	190	520	2,300	<250	-	-	-	-	-	-	-	-
MW-6	6/12/1997	97.62	31.02	66.60	37,000	3,900	470	1,600	6,200	<100	-	-	-	-	-	-	-	-
MW-6	9/29/1997	97.62	35.77	61.85	34,000	3,500	370	1,600	5,200	<100	-	-	-	-	-	-	-	-
MW-6	12/1/1997	97.62	37.14	60.48	20,000	2,100	<10	1,200	2,200	<100	-	-	-	-	-	-	-	-
MW-6	3/19/1998	97.62	21.10	76.52	24,000	2,900	460	1,100	3,400	<100	-	-	-	-	-	-	-	-
MW-6	5/29/1998	97.62	23.26	74.36	38,000	3,500	700	1,800	5,200	<100	-	-	-	-	-	-	-	-
MW-6	9/15/1998	97.62	33.50	64.12	22,000	1,900	110	1,400	3,000	<100	-	-	-	-	-	-	-	-
MW-6	11/30/1998	97.62	38.73	58.89	9,900	770	16	820	710	<100	-	-	-	-	-	-	-	-
MW-6	1/17/1999	97.62	32.05	65.57	14,000	2,200	160	1,700	3,600	<100	-	-	-	-	-	-	-	-
MW-6	6/10/1999	97.62	31.44	66.18	22,000	1,600	160	1,400	2,900	5.5	-	-	-	-	-	-	-	-
MW-6	9/7/1999	97.62	33.94	63.68	17,000	1,400	33	1,300	1,800	<50	-	-	-	-	-	-	-	-
MW-6	12/13/1999	97.62	35.84	61.78	16,000	790	9.2	840	780	<25	-	-	-	-	-	-	-	-
MW-6	3/13/2000	97.62	28.45	69.17	16,000	790	85	780	1,600	<25	-	-	-	-	-	-	-	-
MW-6	6/12/2000	97.62	30.52	67.10	24,000	1,100	150	1,300	2,300	5600	-	-	-	-	-	-	-	-
MW-6	11/10/2000	97.62	32.99	64.63	13,000	440	7	760	350	1000	-	-	-	-	-	-	-	-
MW-6	12/31/2000	97.62	34.95	62.67	12,000	680	8	820	190	1400	-	-	-	-	-	-	-	-
MW-6	3/27/2001	97.62	32.72	64.90	14,000	330	17	940	670	380	-	-	-	-	-	-	-	-
MW-6	6/30/2001	97.62	39.86	57.76	750	45	0.93	47	14	54	-	-	-	-	-	-	-	-
MW-6	9/26/2001	97.62	Dry	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	12/18/2001	97.62	43.36	54.26	43,000	3,800	350	1,900	3,000	900	-	-	-	-	-	-	-	-
MW-6	1/22/2002	481.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	3/18/2002	481.20	41.29	439.91	33,000	2,600	120	1,800	2,800	740	-	-	-	-	-	-	-	-
MW-6	6/5/2002	481.20	38.35	442.85	10,000	1,100	16	700	180	600	-	-	-	-	-	-	-	-
MW-6	8/21/2002	481.20	39.02	442.18	10,000	1,200	23	710	290	370	-	-	-	-	-	-	-	-
MW-6	12/3/2002	481.20	38.76	442.44	16,000	1,700	63	970	630	1,500	-	-	-	-	-	-	-	-
MW-6	3/4/2003	481.20	35.13	446.07	16,000	1,700	25	1,200	40	7,700	<20	<20	<70	<200	<2000	<200	<20	<20
MW-6	6/10/2003	481.20	34.15	447.05	9,500	860	15	380	47	2,600	<5.0	<5.0	18	<50	<500	<50	<5.0	<5.0
MW-6	9/9/2003	481.20	37.66	443.54	11,000	1,000	16	630	120	2,500	<5.0	<5.0	20	52	<500	<50	<5.0	<5.0
MW-6	12/23/2003	481.20	33.43	447.77	18,000	2,100	41	1,100	390	4,900	<10	<10	42	<100	<1000	<100	<10	<10
MW-6	3/23/2004	481.20	29.96	451.24	24,000	1,400	71	1,500	2,000	7,500	<20	<20	66	<200	<2000	<200	<20	<20
MW-6	5/10/2004	481.20	32.98	448.22	6,500	550	<10	71	43	3,700	<10	<10	31	<100	<1000	<100	<10	<10

Table 1  
Groundwater Analytical Data  
Tesoro Site No. 67076  
Delta Project No. D004-076

Well	Sample Collection	Casing Elevation	Depth to Water	Water Table Elevation	TPHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	DIPE	ETBE	TAME	TBA	Methanol	Ethanol	1,2 DCA	1,2 DBE
	Date	(msl)	(feet)	(msl)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-6	8/4/2004	481.20	37.02	444.18	8,200	990	19	300	120	3,300	<5.0	<5.0	23	<50	<500	<50	<5.0	<5.0
<b>MW-6</b>	<b>11/4/2004</b>	<b>481.20</b>	<b>37.03</b>	<b>444.17</b>	<b>9,600</b>	<b>1,100</b>	<b>30</b>	<b>320</b>	<b>160</b>	<b>2,200</b>	<b>&lt;4.0</b>	<b>&lt;4.0</b>	<b>18</b>	<b>22<sup>B</sup></b>	<b>&lt;400</b>	<b>&lt;40</b>	<b>&lt;4.0</b>	<b>&lt;4.0</b>
MW-7	3/30/1994	98.03	31.98	66.05	43,000	7,200	2,400	1,600	11,000	-	-	-	-	-	-	-	-	-
MW-7	4/25/1994	98.03	33.56	64.47	30,000	3,900	1,000	940	6,900	-	-	-	-	-	-	-	-	-
MW-7	8/12/1994	98.03	43.35	54.68	30,000	3,800	1,400	1,300	7,500	-	-	-	-	-	-	-	-	-
MW-7	12/14/1994	98.03	39.34	58.69	31,000	3,600	1,200	900	6,400	-	-	-	-	-	-	-	-	-
MW-7	2/10/1995	98.03	32.11	65.92	27,000	4,000	900	890	5,100	-	-	-	-	-	-	-	-	-
MW-7	6/15/1995	98.03	25.51	72.52	17,000	920	680	740	4,100	-	-	-	-	-	-	-	-	-
MW-7	9/26/1995	98.03	31.43	66.60	7,000	200	150	170	810	-	-	-	-	-	-	-	-	-
MW-7	12/15/1995	98.03	28.97	69.06	11,000	350	170	540	1,900	-	-	-	-	-	-	-	-	-
MW-7	3/21/1996	98.03	17.36	80.67	12,000	320	100	730	2,500	-	-	-	-	-	-	-	-	-
MW-7	6/13/1996	98.03	23.47	74.56	5,900	98	19	370	620	<50	-	-	-	-	-	-	-	-
MW-7	9/16/1996	98.03	31.35	66.68	7,800	140	43	440	590	<25	-	-	-	-	-	-	-	-
MW-7	12/2/1996	98.03	27.11	70.92	6,300	87	29	290	430	<50	-	-	-	-	-	-	-	-
MW-7	3/7/1997	98.03	21.33	76.70	4,500	35	19	360	470	<25	-	-	-	-	-	-	-	-
MW-7	6/12/1997	98.03	29.90	68.13	3,900	29	5.2	170	48	<5.0	-	-	-	-	-	-	-	-
MW-7	9/29/1997	98.03	34.37	63.66	6,100	56	9	340	190	<25	-	-	-	-	-	-	-	-
MW-7	12/1/1997	98.03	36.46	61.57	6,500	24	<2.5	400	250	<25	-	-	-	-	-	-	-	-
MW-7	3/19/1998	98.03	20.33	77.70	2,000	20	<2.5	73	79	<25	-	-	-	-	-	-	-	-
MW-7	5/29/1998	98.03	22.30	75.73	5,700	22	7.3	290	350	<25	-	-	-	-	-	-	-	-
MW-7	9/15/1998	98.03	32.54	65.49	1,700	15	<2.5	44	5.1	<25	-	-	-	-	-	-	-	-
MW-7	11/30/1998	98.03	37.96	60.07	4,800	42	12	270	640	<25	-	-	-	-	-	-	-	-
MW-7	1/17/1999	98.03	31.04	66.99	3,400	33	<5.0	200	190	<50	-	-	-	-	-	-	-	-
MW-7	6/10/1999	98.03	29.89	68.14	1,700	7.8	1.5	23	4.1	<5.0	-	-	-	-	-	-	-	-
MW-7	9/7/1999	98.03	32.38	65.65	1,900	9.7	2.1	70	2.9	<5.0	-	-	-	-	-	-	-	-
MW-7	12/13/1999	98.03	33.98	64.05	1,900	8.0	1.1	10	1.1	<5.0	-	-	-	-	-	-	-	-
MW-7	3/13/2000	98.03	27.09	70.94	1,500	7.5	<0.50	6.7	2.9	<5.0	-	-	-	-	-	-	-	-
MW-7	6/12/2000	98.03	28.76	69.27	1,200	5.4	<0.50	5.2	1.0	<5.0	-	-	-	-	-	-	-	-
MW-7	11/10/2000	98.03	31.54	66.49	1,000	3.9	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-
MW-7	12/31/2000	98.03	32.76	65.27	620	1.8	<0.50	<0.50	<0.50	<0.50	-	-	-	-	-	-	-	-
MW-7	3/27/2001	98.03	30.97	67.06	1,200	4.8	<0.50	6.7	0.94	<0.50	-	-	-	-	-	-	-	-
MW-7	6/30/2001	98.03	37.50	60.53	2,800	10	1.7	75	170	<0.50	-	-	-	-	-	-	-	-
MW-7	9/26/2001	98.03	45.11	52.92	1,900	16	0.89	2.3	25	<0.50	-	-	-	-	-	-	-	-
MW-7	12/18/2001	98.03	41.13	56.90	3,000	13	0.88	3.4	3.4	<0.50	-	-	-	-	-	-	-	-
MW-7	1/22/2002	481.61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	3/18/2002	481.61	39.22	442.39	3,100	7.3	1.5	38	110	<0.50	-	-	-	-	-	-	-	-
MW-7	6/5/2002	481.61	36.55	445.06	1,800	7.6	1.0	39	20	<0.50	-	-	-	-	-	-	-	-
MW-7	8/21/2002	481.61	36.81	444.80	3,300	7.6	0.7	85	36	<0.50	-	-	-	-	-	-	-	-
MW-7	12/3/2002	481.61	36.52	445.09	1,700	5.4	<0.50	15	5.5	<0.50	-	-	-	-	-	-	-	-
MW-7	3/4/2003	481.61	32.60	449.01	440	1.8	<0.50	0.54	2.9	<0.50	<0.50	<0.50	<0.50	<5.0	<50	<5.0	<0.50	<0.50

Table 1  
Groundwater Analytical Data  
Tesoro Site No. 67076  
Delta Project No. D004-076

Well	Sample Collection	Casing Elevation	Depth to Water	Water Table Elevation	TPHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	DIPE	ETBE	TAME	TBA	Methanol	Ethanol	1,2 DCA	1,2 DBE
	Date	(msl)	(feet)	(msl)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-7	6/10/2003	481.61	31.33	450.28	550	0.8	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
MW-7	9/9/2003	481.61	34.71	446.90	120	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
MW-7	12/23/2003	481.61	30.80	450.81	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
MW-7	3/23/2004	481.61	26.41	455.20	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
MW-7	5/10/2004	481.61	29.86	451.75	67	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
MW-7	8/4/2004	481.61	34.06	447.55	2,600	2.5	<0.50	36	31	<0.50	<0.50	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
MW-7	11/4/2004	481.61	34.12	447.49	1,600	2.0	<0.50	16	16	<0.50	<0.50	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
MW-8 <sup>Δ</sup>	9/5/2003	-	-	-	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-
MW-8	12/23/2003	474.25	32.01	442.24	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<5.0	7.3	<0.50	<0.50
MW-8	3/23/2004	474.25	28.50	445.75	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
MW-8	5/10/2004	474.25	31.44	442.81	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
MW-8	8/4/2004	474.25	35.11	439.14	<50	<0.50	<0.50	<0.50	0.86	<0.50	<0.50	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
MW-8	11/4/2004	474.25	34.77	439.48	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
MW-9 <sup>Δ</sup>	9/5/2003	-	-	-	3400	23	1.5	110	10	10	<0.50	<0.50	<0.50	<5.0	-	-	-	-
MW-9	12/23/2003	473.85	34.03	439.82	1100	2.4	<0.50	0.8	0.8	2.1	<0.50	<0.50	<0.50	5.9	<5.0	<5.0	<0.50	<0.50
MW-9	3/23/2004	473.85	30.01	443.84	760	8.5	<0.50	4.9	0.95	18	<0.50	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
MW-9	5/10/2004	473.85	33.61	440.24	1100	4.4	<0.50	1.3	0.67	11	<0.50	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
MW-9	8/4/2004	473.85	37.47	436.38	1200	3.4	0.59	16	7.6	6.1	<0.50	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
MW-9	11/4/2004	473.85	37.44	436.41	610	0.52	<0.50	1.3	<0.50	2.0	<0.50	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
MW-10 <sup>Δ</sup>	9/5/2003	-	33.80	-	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-
MW-10	12/23/2003	474.70	33.80	440.90	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
MW-10	3/23/2004	474.70	28.68	446.02	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
MW-10	5/10/2004	474.70	32.15	442.55	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
MW-10	8/4/2004	474.70	36.40	438.30	<50	<0.50	<0.50	<0.50	0.61	<0.50	<0.50	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
MW-10	11/4/2004	474.70	36.21	438.49	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
VW-2	8/4/2004	-	34.13	-	5,700	480	<20	600	<20	12,000	<20	<20	110	<90	<2,000	<200	<20	<20
VW-2	11/4/2004	-	34.75	-	5,800	340	<20	38	<20	10,000	<20	<20	120	<90	<2,000	<200	<20	<20
VW-3	8/4/2004	-	32.89	-	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
VW-3	11/4/2004	-	34.78	-	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
MW-A	1/17/1999	-	30.13	-	5,800	1,700	85	65	320	<5.0	-	-	-	-	-	-	-	-
MW-A	6/10/1999	Well abandoned																
MW-B	1/17/1999	-	30.29	-	4,400	240	30	21	39	<5.0	-	-	-	-	-	-	-	-
MW-B	6/10/1999	Well abandoned																

Table 1  
Groundwater Analytical Data  
Tesoro Site No. 67076  
Delta Project No. D004-076

Well	Sample Collection	Casing Elevation	Depth to Water	Water Table Elevation	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	DIPE	ETBE	TAME	TBA	Methanol	Ethanol	1,2 DCA	1,2 DBE
	Date	(msl)	(feet)	(msl)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-C	1/17/1999	-	30.60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-C	6/10/1999	Well abandoned																
MW-D	1/17/1999	-	31.32	-	5,600	1,600	130	66	220	<5.0	-	-	-	-	-	-	-	-
MW-D	6/10/1999	Well abandoned																
MW-E	1/17/1999	-	31.36	-	5,700	1,600	180	180	310	<50	-	-	-	-	-	-	-	-
MW-E	6/10/1999	-	-	-	5,000	1,300	130	320	450	<25	-	-	-	-	-	-	-	-
MW-E	9/7/1999	Well abandoned																
MW-W	1/17/1999	-	30.91	-	23,000	7,600	760	1,400	5,000	<50	-	-	-	-	-	-	-	-
MW-W	6/10/1999	-	-	-	16,000	4,100	420	1,300	4,000	<50	-	-	-	-	-	-	-	-
MW-W	9/7/1999	Well abandoned																

**Explanations:**

msl = mean seal leve

(µg/L) = micrograms per liter

- = not measured / not analyzed

< = not detected at or above the stated laboratory reporting lim

TPHg = Total petroleum hydrocarbons in the gasoline rante

MTBE = Methyl tertiary butyl ether

DIPE = Di-isopropyl ether

ETBE = Ethyl tertiary butyl ether

TAME = Tertiary amyl methyl ether

TBA = Tertiary butyl alcohol

1,2-DCA = Dichloroethane

1,2-DBE = 1,2-Dibromoethane

DRY = Insufficient water to sample

A = Wells MW-8, 9, and 10 surveyed by Virgil Chavez Land Surveying October 3, 2003. Chavez converted vertical survey data from NGVD 29 to NAVD 88 August 18, 2004.

B = TBA results may be biased slightly high. A fraction of MTBE (typically less than 10%) 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.



## **FIELD METHODS AND PROCEDURES**

The following section describes field procedures that are to be used by Delta personnel in the performance of the tasks involved with this project.

### **1.0 HEALTH AND SAFETY PLAN**

Fieldwork performed by Delta and Delta's subcontractors at the site is conducted according to guidelines established in a Site Health and Safety Plan (SHSP). The SHSP is a document that describes the hazards that may be encountered in the field and specifies protective equipment, work procedures and emergency information. A copy of the SHSP will be at the site and available for reference by appropriate parties during work at the site.

### **2.0 GROUNDWATER DEPTH ASSESSMENT**

A water/product interface probe is used to assess the liquid-phase hydrocarbons (LPH) thickness, if present, and a water level indicator is used to measure the groundwater depth in monitoring wells that do not contain LPH. Depth to groundwater or LPH is measured from a datum point at the top of each monitoring well casing. The datum point is typically a notch cut in the north side of the casing edge. If a water level indicator is used, the tip is subjectively analyzed for LPH sheen.

### **3.0 SUBJECTIVE ANALYSIS OF GROUNDWATER**

A water sample is collected from the monitoring well for subjective assessment. The sample is retrieved by gently lowering a clean, disposable bailer to approximately one-half the bailer length past the air/liquid interface. The bailer is then retrieved and the sample contained within the bailer is examined for floating LPH and the appearance of a LPH sheen.

### **4.0 MONITORING WELL SAMPLING**

No purge groundwater sampling is conducted at this site. After measurement of depth to water, a groundwater sample is removed from each of the wells using a pump or disposable bailer. The water sample is collected, labeled and handled according to the Quality Assurance Plan. Decontamination water generated during the monitoring event is disposed of according to the accepted regulatory method pertaining to the site.

## **5.0 QUALITY ASSURANCE PLAN**

This section describes the field and analytical procedures to be followed by Delta throughout the investigation.

### **5.1 General Sample Collection and Handling Procedures**

Proper collection and handling are essential to ensure the quality of a sample. Each sample will be collected in the appropriate container, preserved correctly for the intended analysis and stored, prior to analysis, for no longer than the maximum allowable holding time. Details on the procedures for collection and handling of soil samples from this project can be found in previous sections.

### **5.2 Sample Identification and Chain-of-Custody Procedures**

Sample identification and chain-of-custody procedures ensure sample integrity and document sample possession from the time of collection to its ultimate disposal. Each sample container submitted for analysis will have a label affixed to identify the job number, sampler, date and time of sample collection and a sample number unique to that sample. During soil sampling, this information, in addition to a description of the sample, field measurements made, sampling methodology, names of on-site personnel and any other pertinent field observations will be recorded on the borehole log or in the field records.

**ENCLOSURE B**

Groundwater Sampling Information Sheets

SAMPLING INFORMATION SHEET



Sample ID# MW-1 Project Name: Tesoro 67076 Project No. Doot-076  
 Location (address) 1619 1st St. Livermore, CA  
 Date Sampled: 11 / 4 / 04 Time: \_\_\_\_\_  
 Wellhead assembly condition:  Good \_\_\_\_\_ Fair \_\_\_\_\_ Poor (If poor, see comments)  
 Equipment Replaced: \_\_\_\_\_ bolts \_\_\_\_\_ locks \_\_\_\_\_ locking cap  
 Well Depth 53.24 ft below top of casing Casing diameter 4 inches  
 Depth to water (below top of casing) 33.93 ft Date: 11 / 4 / 04 Time \_\_\_\_\_  
 Well Casing Volume Multiplier: 0.16 for 2", 0.65 for 4", 1.47 for 6" 37 Gall.  
 Purging method:  Submersible pump \_\_\_\_\_ Bailer \_\_\_\_\_ Centrifugal pump \_\_\_\_\_ Other \_\_\_\_\_  
 At least 3 well volumes have been evacuated before sampling.  
 Tubing (type: \_\_\_\_\_). (new or previously used) was used to purge well  
 Sampling method:  Disposable bailer \_\_\_\_\_ Sampling port  
 Samples collected 3 Sample appearance \_\_\_\_\_  
 Note any sampling problems \_\_\_\_\_

GROUND WATER EVACUATION/STABILIZATION DATA

Time	Temperature (°F)	pH Units	Conductance (umhos/cm)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
5:28	16.4	8.86	838		1
5:40	17.3	8.84	916		20
5:55	17.6	8.85	927		40

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

Transportation (thermal preservation) \_\_\_\_\_  
 Form completed by: \_\_\_\_\_ Sampled by: \_\_\_\_\_

SAMPLING INFORMATION SHEET



Sample ID# MW-2 Project Name: Tesoro 67076 Project No. D004-076

Location (address) 1619 1<sup>st</sup> St. Livermore, CA

Date Sampled: 4 / 4 / 04 Time: \_\_\_\_\_

Wellhead assembly condition:  Good \_\_\_\_\_ Fair \_\_\_\_\_ Poor (If poor, see comments)

Equipment Replaced: \_\_\_\_\_ bolts \_\_\_\_\_ locks \_\_\_\_\_ locking cap

Well Depth 53.62 ft below top of casing Casing diameter 4 inches

Depth to water (below top of casing) 34.92 ft. Date: 4 / 4 / 04 Time \_\_\_\_\_

Well Casing Volume Multiplier: 0.16 for 2", 0.65 for 4", 1.47 for 6" 37

Purging method:  Submersible pump \_\_\_\_\_ Bailer \_\_\_\_\_ Centrifugal pump \_\_\_\_\_ Other \_\_\_\_\_

At least 3 well volumes have been evacuated before sampling.

Tubing (type: \_\_\_\_\_). (new or previously used) was used to purge well

Sampling method:  Disposable bailer \_\_\_\_\_ Sampling port

Samples collected 3 Sample appearance \_\_\_\_\_

Note any sampling problems \_\_\_\_\_

GROUND WATER EVACUATION/STABILIZATION DATA

Time	Temperature (°F)	pH Units	Conductance (umhos/cm)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
4:02	16.9	8.59	954		1
4:16	18.3	8.64	939		20
4:40	17.2	8.73	909		40

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

Transportation (thermal preservation) \_\_\_\_\_

Form completed by: \_\_\_\_\_

Sampled by: \_\_\_\_\_

SAMPLING INFORMATION SHEET



Sample ID# MW-3 Project Name: Tesoro 67076 Project No. DO04-076  
 Location (address) 1619 1st St. Livermore, CA  
 Date Sampled: 11 / 4 / 04 Time: \_\_\_\_\_  
 Wellhead assembly condition:  Good \_\_\_\_\_ Fair \_\_\_\_\_ Poor (If poor, see comments)  
 Equipment Replaced: \_\_\_\_\_ bolts \_\_\_\_\_ locks \_\_\_\_\_ locking cap  
 Well Depth 56.27 ft below top of casing Casing diameter 4 inches  
 Depth to water (below top of casing) 33.94 ft. Date: 11 / 4 / 04 Time \_\_\_\_\_  
 Well Casing Volume Multiplier: 0.16 for 2", 0.65 for 4", 1.47 for 6" 41 Gallons  
 Purging method:  Submersible pump \_\_\_\_\_ Bailer \_\_\_\_\_ Centrifugal pump \_\_\_\_\_ Other \_\_\_\_\_  
 At least 3 well volumes have been evacuated before sampling.  
 Tubing (type: \_\_\_\_\_). (new or previously used) was used to purge well  
 Sampling method:  Disposable bailer \_\_\_\_\_ Sampling port  
 Samples collected \_\_\_\_\_ Sample appearance \_\_\_\_\_  
 Note any sampling problems \_\_\_\_\_

GROUND WATER EVACUATION/STABILIZATION DATA

Time	Temperature (°F)	pH Units	Conductance (umhos/cm)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
3:01	15.4	8.89	921		1
3:08	17.6	8.94	896		13
3:15	17.6	8.93	901		26
3:23					39

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

Transportation (thermal preservation) \_\_\_\_\_  
 Form completed by: \_\_\_\_\_ Sampled by: \_\_\_\_\_

SAMPLING INFORMATION SHEET



Sample ID# MW-4 Project Name: Tesoro 67076 Project No. Doc4-076  
 Location (address) 1619 1st St. Livermore, CA  
 Date Sampled: 11 / 4 / 04 Time: \_\_\_\_\_  
 Wellhead assembly condition:  Good \_\_\_\_\_ Fair \_\_\_\_\_ Poor (If poor, see comments)  
 Equipment Replaced: \_\_\_\_\_ bolts \_\_\_\_\_ locks \_\_\_\_\_ locking cap  
 Well Depth ~~46.81~~ 46.81 ft below top of casing Casing diameter 2 inches  
 Depth to water (below top of casing) 34.28 ft. Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Time \_\_\_\_\_  
 Well Casing Volume Multiplier: 0.16 for 2", 0.65 for 4", 1.47 for 6" 6  
 Purging method:  Submersible pump \_\_\_\_\_ Bailer \_\_\_\_\_ Centrifugal pump \_\_\_\_\_ Other \_\_\_\_\_  
 At least 3 well volumes have been evacuated before sampling.  
 Tubing (type: \_\_\_\_\_). (new or previously used) was used to purge well  
 Sampling method:  Disposable bailer \_\_\_\_\_ Sampling port  
 Samples collected \_\_\_\_\_ Sample appearance \_\_\_\_\_  
 Note any sampling problems \_\_\_\_\_

GROUND WATER EVACUATION/STABILIZATION DATA

Time	Temperature (°F)	pH Units	Conductance (umhos/cm)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
2:31	15.8	9.03	944		1
2:33	18.2	8.93	948		3
2:35	18.3	8.92	975		6

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

Transportation (thermal preservation) \_\_\_\_\_  
 Form completed by: \_\_\_\_\_ Sampled by: \_\_\_\_\_

SAMPLING INFORMATION SHEET



Sample ID# MW-5 Project Name: Tesoro 67076 Project No. DO04-076  
 Location (address) 1619 1st St. Livermore, CA  
 Date Sampled: 11 / 4 / 04 Time: \_\_\_\_\_  
 Wellhead assembly condition:  Good \_\_\_\_\_ Fair \_\_\_\_\_ Poor (If poor, see comments)  
 Equipment Replaced: \_\_\_\_\_ bolts \_\_\_\_\_ locks \_\_\_\_\_ locking cap  
 Well Depth 46.5 ft below top of casing Casing diameter 2 inches  
 Depth to water (below top of casing) 34.34 ft. Date: 11 / 4 / 04 Time \_\_\_\_\_  
 Well Casing Volume Multiplier: 0.16 for 2", 0.65 for 4", 1.47 for 6" 6 Gall.  
 Purging method:  Submersible pump \_\_\_\_\_ Bailer \_\_\_\_\_ Centrifugal pump \_\_\_\_\_ Other \_\_\_\_\_  
 At least 3 well volumes have been evacuated before sampling.  
 Tubing (type: \_\_\_\_\_). (new or previously used) was used to purge well  
 Sampling method:  Disposable bailer \_\_\_\_\_ Sampling port  
 Samples collected \_\_\_\_\_ Sample appearance \_\_\_\_\_  
 Note any sampling problems \_\_\_\_\_

GROUND WATER EVACUATION/STABILIZATION DATA

Time	Temperature (°F)	pH Units	Conductance (umhos/cm)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
12:04	15.1	8.85	904		1
12:07	18.0	8.57	950		3
12:10	18.2	8.56	975		6

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

Transportation (thermal preservation) \_\_\_\_\_  
 Form completed by: \_\_\_\_\_ Sampled by: \_\_\_\_\_



SAMPLING INFORMATION SHEET



Sample ID# MW-6 Project Name: Tesoro 67076 Project No. Doort-076  
 Location (address) 1619 First St. Livermore, CA  
 Date Sampled: 11 / 4 / 04 Time: \_\_\_\_\_  
 Wellhead assembly condition:  Good \_\_\_\_\_ Fair \_\_\_\_\_ Poor (If poor, see comments)  
 Equipment Replaced: \_\_\_\_\_ bolts \_\_\_\_\_ locks \_\_\_\_\_ locking cap  
 Well Depth 47.63 ft below top of casing Casing diameter 2 inches  
 Depth to water (below top of casing) 37.03 ft. Date: 11 / 4 / 04 Time \_\_\_\_\_  
 Well Casing Volume Multiplier: 0.16 for 2", 0.65 for 4", 1.47 for 6" 5  
 Purging method:  Submersible pump \_\_\_\_\_ Bailer \_\_\_\_\_ Centrifugal pump \_\_\_\_\_ Other \_\_\_\_\_  
 At least 3 well volumes have been evacuated before sampling.  
 Tubing (type: \_\_\_\_\_). (new or previously used) was used to purge well  
 Sampling method:  Disposable bailer \_\_\_\_\_ Sampling port  
 Samples collected \_\_\_\_\_ Sample appearance \_\_\_\_\_  
 Note any sampling problems \_\_\_\_\_

GROUND WATER EVACUATION/STABILIZATION DATA

Time	Temperature (°F)	pH Units	Conductance (umhos/cm)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
1:03	<del>15.8</del> 15.8	8.53	1092		1
1:05	18.3	8.49	1069		3
1:07	18.5	8.51	1065		5

Comments: Strong Odor

Transportation (thermal preservation) \_\_\_\_\_  
 Form completed by: \_\_\_\_\_ Sampled by: \_\_\_\_\_

SAMPLING INFORMATION SHEET



Sample ID# MW-7 Project Name: Tosco 67076 Project No. D004-076  
 Location (address) 1619 1st St. Livermore, CA  
 Date Sampled: 11 / 4 / 04 Time: \_\_\_\_\_  
 Wellhead assembly condition:  Good \_\_\_\_\_ Fair \_\_\_\_\_ Poor (If poor, see comments)  
 Equipment Replaced: \_\_\_\_\_ bolts \_\_\_\_\_ locks \_\_\_\_\_ locking cap  
 Well Depth ~~46.73~~ 46.73 ft below top of casing Casing diameter 2 inches  
 Depth to water (below top of casing) 34.12 ft. Date: 11 / 4 / 04 Time \_\_\_\_\_  
 Well Casing Volume Multiplier: 0.16 for 2", 0.65 for 4", 1.47 for 6" 6  
 Purging method:  Submersible pump \_\_\_\_\_ Bailer \_\_\_\_\_ Centrifugal pump \_\_\_\_\_ Other \_\_\_\_\_  
 At least 3 well volumes have been evacuated before sampling.  
 Tubing (type: \_\_\_\_\_). (new or previously used) was used to purge well  
 Sampling method:  Disposable bailer \_\_\_\_\_ Sampling port  
 Samples collected \_\_\_\_\_ Sample appearance \_\_\_\_\_  
 Note any sampling problems \_\_\_\_\_

GROUND WATER EVACUATION/STABILIZATION DATA

Time	Temperature (°F)	pH Units	Conductance (umhos/cm)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
1:41	18.0	8.94	932		1
1:43	18.9	8.76	913		3
1:45	19.0	8.76	924		6

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

Transportation (thermal preservation) \_\_\_\_\_  
 Form completed by: \_\_\_\_\_ Sampled by: \_\_\_\_\_

SAMPLING INFORMATION SHEET



Sample ID# MW-8 Project Name: Tesoro 67076 Project No. D004-076  
 Location (address) 1619 1st St. Livermore, CA  
 Date Sampled: 4 / 4 / 04 Time: \_\_\_\_\_  
 Wellhead assembly condition:  Good \_\_\_\_\_ Fair \_\_\_\_\_ Poor (If poor, see comments)  
 Equipment Replaced: \_\_\_\_\_ bolts \_\_\_\_\_ locks \_\_\_\_\_ locking cap  
 Well Depth 44.30 ft below top of casing Casing diameter 2 inches  
 Depth to water (below top of casing) 34.77 ft Date: 11 / 4 / 04 Time \_\_\_\_\_  
 Well Casing Volume Multiplier: 0.16 for 2", 0.65 for 4", 1.47 for 6" 5  
 Purging method:  Submersible pump \_\_\_\_\_ Bailer \_\_\_\_\_ Centrifugal pump \_\_\_\_\_ Other \_\_\_\_\_  
 At least 3 well volumes have been evacuated before sampling.  
 Tubing (type: \_\_\_\_\_). (new or previously used) was used to purge well  
 Sampling method:  Disposable bailer \_\_\_\_\_ Sampling port  
 Samples collected \_\_\_\_\_ Sample appearance \_\_\_\_\_  
 Note any sampling problems \_\_\_\_\_

GROUND WATER EVACUATION/STABILIZATION DATA

Time	Temperature (°F)	pH Units	Conductance (umhos/cm)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
11:32	13.0	9.09	1020		1
11:35	18.5	8.75	910		3
11:38	18.8	8.75	928		5

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

Transportation (thermal preservation) \_\_\_\_\_  
 Form completed by: \_\_\_\_\_ Sampled by: \_\_\_\_\_

SAMPLING INFORMATION SHEET



**Delta**  
Environmental  
Consultants, Inc.

Sample ID# MW-9 Project Name: Tesoro 67076 Project No. De04-076  
 Location (address) 1619 1st St. Livermore, CA  
 Date Sampled: 11 / 4 / 04 Time: \_\_\_\_\_  
 Wellhead assembly condition:  Good \_\_\_\_\_ Fair \_\_\_\_\_ Poor (If poor, see comments)  
 Equipment Replaced: \_\_\_\_\_ bolts \_\_\_\_\_ locks \_\_\_\_\_ locking cap  
 Well Depth 44.85 ft below top of casing Casing diameter 2 inches  
 Depth to water (below top of casing) 37.44 ft. Date: 11 / 4 / 04 Time \_\_\_\_\_  
 Well Casing Volume Multiplier: 0.16 for 2", 0.65 for 4", 1.47 for 6" 3  
 Purging method:  Submersible pump \_\_\_\_\_ Bailer \_\_\_\_\_ Centrifugal pump \_\_\_\_\_ Other \_\_\_\_\_  
 At least 3 well volumes have been evacuated before sampling.  
 Tubing (type: \_\_\_\_\_). (new or previously used) was used to purge well  
 Sampling method:  Disposable bailer \_\_\_\_\_ Sampling port  
 Samples collected \_\_\_\_\_ Sample appearance \_\_\_\_\_  
 Note any sampling problems \_\_\_\_\_

GROUND WATER EVACUATION/STABILIZATION DATA

Time	Temperature (°F)	pH Units	Conductance (umhos/cm)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
12:36	16.5	8.79	955		1
12:37	18.4	8.70	990		2
12:38	18.9	8.73	900		3

Comments: Slight abr.

Transportation (thermal preservation) \_\_\_\_\_

Form completed by: \_\_\_\_\_

Sampled by: \_\_\_\_\_

SAMPLING INFORMATION SHEET



Sample ID# MW-~~44~~10 Project Name: Tesoro 67076 Project No. Do04-076  
 Location (address) 1619 1<sup>st</sup> St. Livermore, CA  
 Date Sampled: 11 / 4 / 04 Time: \_\_\_\_\_  
 Wellhead assembly condition:  Good \_\_\_\_\_ Fair \_\_\_\_\_ Poor (If poor, see comments)  
 Equipment Replaced: \_\_\_\_\_ bolts \_\_\_\_\_ locks \_\_\_\_\_ locking cap  
 Well Depth 44.35 ft below top of casing Casing diameter 2 inches  
 Depth to water (below top of casing) 36.21 ft Date: 11 / 4 / 04 Time \_\_\_\_\_  
 Well Casing Volume Multiplier: 0.16 for 2", 0.65 for 4", 1.47 for 6"  
 Purging method:  Submersible pump \_\_\_\_\_ Bailer \_\_\_\_\_ Centrifugal pump \_\_\_\_\_ Other \_\_\_\_\_  
 At least 3 well volumes have been evacuated before sampling.  
 Tubing (type: \_\_\_\_\_). (new or previously used) was used to purge well  
 Sampling method:  Disposable bailer \_\_\_\_\_ Sampling port  
 Samples collected \_\_\_\_\_ Sample appearance \_\_\_\_\_  
 Note any sampling problems \_\_\_\_\_

GROUND WATER EVACUATION/STABILIZATION DATA

Time	Temperature (°F)	pH Units	Conductance (µmhos/cm)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
10:46	16.2	9.13	1198		1
10:51	18.3	9.08	1182		2
10:55	18.1	9.15	1164		4

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

Transportation (thermal preservation) \_\_\_\_\_  
 Form completed by: \_\_\_\_\_ Sampled by: \_\_\_\_\_

SAMPLING INFORMATION SHEET



Sample ID# VW-2 Project Name: Tesoro 67076 Project No. DO04-076

Location (address) 1619 1st St. Livermore

Date Sampled: 11 / 4 / 04 Time: \_\_\_\_\_

Wellhead assembly condition:  Good \_\_\_\_\_ Fair \_\_\_\_\_ Poor (If poor, see comments)

Equipment Replaced: \_\_\_\_\_ bolts \_\_\_\_\_ locks \_\_\_\_\_ locking cap

Well Depth 36.81 ft below top of casing Casing diameter 2 inches

Depth to water (below top of casing) 34.75 ft. Date: 11 / 4 / 04 Time \_\_\_\_\_

Well Casing Volume Multiplier: 0.16 for 2", 0.65 for 4", 1.47 for 6"

Purging method: ~~\_\_\_\_\_~~  Submersible pump \_\_\_\_\_ Bailer \_\_\_\_\_ Centrifugal pump \_\_\_\_\_ Other \_\_\_\_\_

At least \_\_\_\_\_ well volumes have been evacuated before sampling.

Tubing (type: \_\_\_\_\_). (new or previously used) was used to purge well

Sampling method:  Disposable bailer \_\_\_\_\_ Sampling port

Samples collected 3 Sample appearance \_\_\_\_\_

Note any sampling problems \_\_\_\_\_

GROUND WATER EVACUATION/STABILIZATION DATA

Time	Temperature (°F)	pH Units	Conductance (umhos/cm)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)

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

Transportation (thermal preservation) \_\_\_\_\_

Form completed by: \_\_\_\_\_ Sampled by: \_\_\_\_\_

SAMPLING INFORMATION SHEET



Sample ID# VW-3 Project Name: Tesoro 67076 Project No. D604-076  
 Location (address) 1619 1<sup>st</sup> St. Livermore, CA  
 Date Sampled: 11 / 4 / 04 Time: \_\_\_\_\_  
 Wellhead assembly condition:  Good \_\_\_\_\_ Fair \_\_\_\_\_ Poor (If poor, see comments)  
 Equipment Replaced: \_\_\_\_\_ bolts \_\_\_\_\_ locks \_\_\_\_\_ locking cap  
 Well Depth 36.40 ft below top of casing Casing diameter 2 inches  
 Depth to water (below top of casing) 34.78 ft. Date: 11 / 4 / 04 Time \_\_\_\_\_  
 Well Casing Volume Multiplier: 0.16 for 2", 0.65 for 4", 1.47 for 6"  
 Purging method: \_\_\_\_\_ Submersible pump \_\_\_\_\_ Bailer \_\_\_\_\_ Centrifugal pump \_\_\_\_\_ Other \_\_\_\_\_  
 At least \_\_\_\_\_ well volumes have been evacuated before sampling.  
 Tubing (type: \_\_\_\_\_). (new or previously used) was used to purge well  
 Sampling method:  Disposable bailer \_\_\_\_\_ Sampling port  
 Samples collected 3 Sample appearance \_\_\_\_\_  
 Note any sampling problems \_\_\_\_\_

GROUND WATER EVACUATION/STABILIZATION DATA

Time	Temperature (°F)	pH Units	Conductance (umhos/cm)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)

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

Transportation (thermal preservation) \_\_\_\_\_  
 Form completed by: \_\_\_\_\_ Sampled by: \_\_\_\_\_



2795 2nd Street, Suite 300  
 Davis, CA 95616  
 Lab: 530.297.4800  
 Fax: 530.297.4808

Lab No. \_\_\_\_\_

Page 1 of 2

Project Contact (Hardcopy or PDF To):

California EDF Report?  Yes  No

**Chain-of-Custody Record and Analysis Request**

Company/Address:

Recommended but not mandatory to complete this section:  
 Sampling Company Log Code: \_\_\_\_\_

Phone No.:

FAX No.:

Global ID: \_\_\_\_\_

Project Number:

P.O. No.:

EDF Deliverable To (Email Address):

Project Name:

Sampler Signature:

Project Address:

**Sample Designation**

**Sampling**

**Container**

**Preservative**

**Matrix**

Date	Time	40 ml VOA	SLEEVE	Preservative				Matrix	
				HCl	HNO <sub>3</sub>	ICE	NONE	WATER	SOIL

MW-1

11/4/04

3

X

X

X

MW-2

MW-3

MW-4

MW-5

MW-6

MW-7

MW-8

MW-9

MW-10

Relinquished by:

Relinquished by:

Relinquished by:

Date

Time

Received by:

Date

Time

Received by:

Date

Time

Received by Laboratory:

Remarks:

Bill to:

**Analysis Request**

BTEX (8021B)	BTEX/TPH Gas/MTBE (8021B/M8015)	TPH as Diesel (M8015)	TPH as Motor Oil (M8015)	TPH Gas/BTEX/MTBE (8260B)	5 Oxygenates/TPH Gas/BTEX (8260B)	7 Oxygenates/TPH Gas/BTEX (8260B)	5 Oxygenates (8260B)	7 Oxygenates (8260B)	Lead Scav. (1,2 DCA & 1,2 EDB - 8260B)	EPA 8260B (Full List)	Volatile Halocarbons (EPA 8260B)	Lead (7421/239.2)	TOTAL (X) W.E.T. (X)	TAT
						X		X						12 hr/24 hr/48 hr/72 hr/1 wk

For Lab Use Only





2795 2nd Street, Suite 300  
 Davis, CA 95616  
 Lab: 530.297.4800  
 Fax: 530.297.4808

Lab No. \_\_\_\_\_

Project Contact (Hardcopy or PDF To): Jason Mata  
 California EDF Report?  Yes  No

**Chain-of-Custody Record and Analysis Request**

Company/Address: Delta Environmental  
 Recommended but not mandatory to complete this section:  
 Sampling Company Log Code: \_\_\_\_\_

Phone No.: (916) 536-2616 FAX No.: (916) 638-8385  
 Global ID: \_\_\_\_\_

Project Number: D004-076 P.O. No.: \_\_\_\_\_  
 EDF Deliverable To (Email Address): jmata@deltaenv.com

Project Name: Tesoro 67076  
 Sampler Signature: Jason Mata

Project Address: 1619 1st St. Livermore, CA

Sample Designation

Sample Designation	Sampling		40 ml VOA SLEEVE	Container				Preservative				Matrix		BTEX (8021B)	BTEX/TPH Gas/MTBE (8021B/M8015)	TPH as Diesel (M8015)	TPH as Motor Oil (M8015)	TPH Gas/BTEX/MTBE (8260B)	5 Oxygenates/TPH Gas/BTEX (8260B)	7 Oxygenates/TPH Gas/BTEX (8260B)	5 Oxygenates (8260B)	7 Oxygenates (8260B)	Lead Scav. (1,2 DCA & 1,2 EDB - 8260B)	EPA 8260B (Full List)	Volatile Halocarbons (EPA 8260B)	Lead (7421/239.2) TOTAL (X) W.E.T. (X)	TAT	For Lab Use Only		
	Date	Time		HCl	HNO <sub>3</sub>	ICE	NONE	WATER	SOIL																					
VW-2	11/4/04		3					X	X										X									X		
VW-3	11/4/04		3					X	X										X									X		

Relinquished by: Jason Mata Date: 11/5/04 Time: 8:18 Received by: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received by: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date: 11/05/04 Time: 09:18 Received by Laboratory: Robert C Paul KIFF ANALYTICAL

Remarks: \_\_\_\_\_

Bill to: \_\_\_\_\_

**ENCLOSURE C**

Laboratory Analytical Results With  
Chain-of-Custody Documentation



Report Number : 40873

Date : 11/12/2004

Jason Mata  
Delta Environmental Consultants, Inc.  
3164 Gold Camp Drive, Suite 200  
Rancho Cordova, CA 95670

Subject : 12 Water Samples  
Project Name : Tesoro 67076  
Project Number : D004-076

Dear Mr. Mata,

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

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

Sincerely,



Joel Kiff



Report Number : 40873

Date : 11/12/2004

Subject : 12 Water Samples  
Project Name : Tesoro 67076  
Project Number : D004-076

## Case Narrative

Tert-Butanol results for sample MW-6 may be biased slightly high and are flagged with a 'J'. A fraction of MtBE (typically less than 1%) converts to Tert-Butanol during the analysis of water samples. We consider this conversion effect to be mathematically significant in samples that contain MtBE/Tert-Butanol in ratios of over 20:1.

Approved By:

A handwritten signature in black ink, appearing to read "Joe Kiff", is written over the printed name "Joe Kiff".

Joe Kiff



Report Number : 40873

Date : 11/12/2004

Project Name : **Tesoro 67076**

Project Number : **D004-076**

Sample : **MW-1**

Matrix : Water

Lab Number : 40873-01

Sample Date : 11/4/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	<b>2.5</b>	0.50	ug/L	EPA 8260B	11/12/2004
<b>Toluene</b>	<b>5.8</b>	0.50	ug/L	EPA 8260B	11/12/2004
<b>Ethylbenzene</b>	<b>79</b>	0.50	ug/L	EPA 8260B	11/12/2004
<b>Total Xylenes</b>	<b>140</b>	0.50	ug/L	EPA 8260B	11/12/2004
<b>Methyl-t-butyl ether (MTBE)</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	11/12/2004
<b>Diisopropyl ether (DIPE)</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	11/12/2004
<b>Ethyl-t-butyl ether (ETBE)</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	11/12/2004
<b>Tert-amyl methyl ether (TAME)</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	11/12/2004
<b>Tert-Butanol</b>	<b>&lt; 5.0</b>	5.0	ug/L	EPA 8260B	11/12/2004
<b>Methanol</b>	<b>&lt; 50</b>	50	ug/L	EPA 8260B	11/12/2004
<b>Ethanol</b>	<b>&lt; 5.0</b>	5.0	ug/L	EPA 8260B	11/12/2004
<b>1,2-Dichloroethane</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	11/12/2004
<b>1,2-Dibromoethane</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	11/12/2004
<b>TPH as Gasoline</b>	<b>4500</b>	150	ug/L	EPA 8260B	11/11/2004
<b>Toluene - d8 (Surr)</b>	<b>110</b>		% Recovery	EPA 8260B	11/12/2004
<b>4-Bromofluorobenzene (Surr)</b>	<b>100</b>		% Recovery	EPA 8260B	11/12/2004

Approved By:

  
Joel Kiff



Report Number : 40873

Date : 11/12/2004

Project Name : Tesoro 67076

Project Number : D004-076

Sample : MW-2

Matrix : Water

Lab Number : 40873-02

Sample Date : 11/4/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	4400	9.0	ug/L	EPA 8260B	11/12/2004
Toluene	1100	9.0	ug/L	EPA 8260B	11/12/2004
Ethylbenzene	840	9.0	ug/L	EPA 8260B	11/12/2004
Total Xylenes	2200	9.0	ug/L	EPA 8260B	11/12/2004
Methyl-t-butyl ether (MTBE)	3500	9.0	ug/L	EPA 8260B	11/12/2004
Diisopropyl ether (DIPE)	< 9.0	9.0	ug/L	EPA 8260B	11/12/2004
Ethyl-t-butyl ether (ETBE)	< 9.0	9.0	ug/L	EPA 8260B	11/12/2004
Tert-amyl methyl ether (TAME)	29	9.0	ug/L	EPA 8260B	11/12/2004
Tert-Butanol	< 50	50	ug/L	EPA 8260B	11/12/2004
Methanol	< 900	900	ug/L	EPA 8260B	11/12/2004
Ethanol	< 90	90	ug/L	EPA 8260B	11/12/2004
1,2-Dichloroethane	< 9.0	9.0	ug/L	EPA 8260B	11/12/2004
1,2-Dibromoethane	< 9.0	9.0	ug/L	EPA 8260B	11/12/2004
TPH as Gasoline	27000	900	ug/L	EPA 8260B	11/12/2004
Toluene - d8 (Surr)	106		% Recovery	EPA 8260B	11/12/2004
4-Bromofluorobenzene (Surr)	105		% Recovery	EPA 8260B	11/12/2004

Approved By:

Joel Kiff



Report Number : 40873

Date : 11/12/2004

Project Name : Tesoro 67076

Project Number : D004-076

Sample : MW-3

Matrix : Water

Lab Number : 40873-03

Sample Date : 11/4/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
Toluene	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
Methyl-t-butyl ether (MTBE)	6.4	0.50	ug/L	EPA 8260B	11/11/2004
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	11/11/2004
Methanol	< 50	50	ug/L	EPA 8260B	11/11/2004
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	11/11/2004
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	11/11/2004
Toluene - d8 (Surr)	108		% Recovery	EPA 8260B	11/11/2004
4-Bromofluorobenzene (Surr)	96.8		% Recovery	EPA 8260B	11/11/2004

Approved By:

Joel Kiff



Report Number : 40873

Date : 11/12/2004

Project Name : Tesoro 67076

Project Number : D004-076

Sample : MW-4

Matrix : Water

Lab Number : 40873-04

Sample Date : 11/4/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
Toluene	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	11/11/2004
Methanol	< 50	50	ug/L	EPA 8260B	11/11/2004
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	11/11/2004
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	11/11/2004
Toluene - d8 (Surr)	107		% Recovery	EPA 8260B	11/11/2004
4-Bromofluorobenzene (Surr)	95.6		% Recovery	EPA 8260B	11/11/2004

Approved By:

Joel Kiff





Report Number : 40873

Date : 11/12/2004

Project Name : Tesoro 67076

Project Number : D004-076

Sample : MW-5

Matrix : Water

Lab Number : 40873-05

Sample Date : 11/4/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.74	0.50	ug/L	EPA 8260B	11/9/2004
Toluene	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Ethylbenzene	0.58	0.50	ug/L	EPA 8260B	11/9/2004
Total Xylenes	1.3	0.50	ug/L	EPA 8260B	11/9/2004
Methyl-t-butyl ether (MTBE)	0.61	0.50	ug/L	EPA 8260B	11/9/2004
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	11/9/2004
Methanol	< 50	50	ug/L	EPA 8260B	11/9/2004
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	11/9/2004
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
TPH as Gasoline	290	50	ug/L	EPA 8260B	11/9/2004
Toluene - d8 (Surr)	106		% Recovery	EPA 8260B	11/9/2004
4-Bromofluorobenzene (Surr)	103		% Recovery	EPA 8260B	11/9/2004

Approved By:

  
Joel Kiff



Report Number : 40873

Date : 11/12/2004

Project Name : Tesoro 67076

Project Number : D004-076


Sample : MW-6

Matrix : Water

Lab Number : 40873-06

Sample Date : 11/4/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	1100	4.0	ug/L	EPA 8260B	11/11/2004
Toluene	30	4.0	ug/L	EPA 8260B	11/11/2004
Ethylbenzene	320	4.0	ug/L	EPA 8260B	11/11/2004
Total Xylenes	160	4.0	ug/L	EPA 8260B	11/11/2004
Methyl-t-butyl ether (MTBE)	2200	4.0	ug/L	EPA 8260B	11/11/2004
Diisopropyl ether (DIPE)	< 4.0	4.0	ug/L	EPA 8260B	11/11/2004
Ethyl-t-butyl ether (ETBE)	< 4.0	4.0	ug/L	EPA 8260B	11/11/2004
Tert-amyl methyl ether (TAME)	18	4.0	ug/L	EPA 8260B	11/11/2004
Tert-Butanol	22 J	20	ug/L	EPA 8260B	11/11/2004
Methanol	< 400	400	ug/L	EPA 8260B	11/11/2004
Ethanol	< 40	40	ug/L	EPA 8260B	11/11/2004
1,2-Dichloroethane	< 4.0	4.0	ug/L	EPA 8260B	11/11/2004
1,2-Dibromoethane	< 4.0	4.0	ug/L	EPA 8260B	11/11/2004
TPH as Gasoline	9600	400	ug/L	EPA 8260B	11/11/2004
Toluene - d8 (Surr)	106		% Recovery	EPA 8260B	11/11/2004
4-Bromofluorobenzene (Surr)	97.7		% Recovery	EPA 8260B	11/11/2004

Approved By:  Joel Kiff



Report Number : 40873

Date : 11/12/2004

Project Name : Tesoro 67076

Project Number : D004-076

Sample : MW-7

Matrix : Water

Lab Number : 40873-07

Sample Date : 11/4/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	2.0	0.50	ug/L	EPA 8260B	11/9/2004
Toluene	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Ethylbenzene	16	0.50	ug/L	EPA 8260B	11/9/2004
Total Xylenes	16	0.50	ug/L	EPA 8260B	11/9/2004
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	11/9/2004
Methanol	< 50	50	ug/L	EPA 8260B	11/9/2004
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	11/9/2004
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
TPH as Gasoline	1600	50	ug/L	EPA 8260B	11/9/2004
Toluene - d8 (Surr)	107		% Recovery	EPA 8260B	11/9/2004
4-Bromofluorobenzene (Surr)	104		% Recovery	EPA 8260B	11/9/2004

Approved By:

Joel Kiff



Report Number : 40873

Date : 11/12/2004

Project Name : Tesoro 67076

Project Number : D004-076

Sample : MW-8

Matrix : Water

Lab Number : 40873-08

Sample Date : 11/4/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Toluene	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	11/9/2004
Methanol	< 50	50	ug/L	EPA 8260B	11/9/2004
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	11/9/2004
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	11/9/2004
Toluene - d8 (Surr)	107		% Recovery	EPA 8260B	11/9/2004
4-Bromofluorobenzene (Surr)	102		% Recovery	EPA 8260B	11/9/2004

Approved By:

  
Joel Kiff



Report Number : 40873

Date : 11/12/2004

Project Name : **Tesoro 67076**

Project Number : **D004-076**

Sample : **MW-9**

Matrix : Water

Lab Number : 40873-09

Sample Date : 11/4/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	<b>0.52</b>	0.50	ug/L	EPA 8260B	11/9/2004
<b>Toluene</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	11/9/2004
<b>Ethylbenzene</b>	<b>1.3</b>	0.50	ug/L	EPA 8260B	11/9/2004
<b>Total Xylenes</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	11/9/2004
<b>Methyl-t-butyl ether (MTBE)</b>	<b>2.0</b>	0.50	ug/L	EPA 8260B	11/9/2004
<b>Diisopropyl ether (DIPE)</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	11/9/2004
<b>Ethyl-t-butyl ether (ETBE)</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	11/9/2004
<b>Tert-amyl methyl ether (TAME)</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	11/9/2004
<b>Tert-Butanol</b>	<b>&lt; 5.0</b>	5.0	ug/L	EPA 8260B	11/9/2004
<b>Methanol</b>	<b>&lt; 50</b>	50	ug/L	EPA 8260B	11/9/2004
<b>Ethanol</b>	<b>&lt; 5.0</b>	5.0	ug/L	EPA 8260B	11/9/2004
<b>1,2-Dichloroethane</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	11/9/2004
<b>1,2-Dibromoethane</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	11/9/2004
<b>TPH as Gasoline</b>	<b>610</b>	50	ug/L	EPA 8260B	11/9/2004
<b>Toluene - d8 (Surr)</b>	<b>107</b>		% Recovery	EPA 8260B	11/9/2004
<b>4-Bromofluorobenzene (Surr)</b>	<b>104</b>		% Recovery	EPA 8260B	11/9/2004

Approved By:

  
Joel Kiff



Report Number : 40873

Date : 11/12/2004

Project Name : Tesoro 67076

Project Number : D004-076

Sample : MW-10

Matrix : Water

Lab Number : 40873-10

Sample Date : 11/4/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Toluene	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	11/9/2004
Methanol	< 50	50	ug/L	EPA 8260B	11/9/2004
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	11/9/2004
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	11/9/2004
Toluene - d8 (Surr)	106		% Recovery	EPA 8260B	11/9/2004
4-Bromofluorobenzene (Surr)	102		% Recovery	EPA 8260B	11/9/2004

Approved By:

Joel Kiff



Report Number : 40873

Date : 11/12/2004

Project Name : **Tesoro 67076**

Project Number : **D004-076**

Sample : **VW-2**

Matrix : Water

Lab Number : 40873-11

Sample Date : 11/4/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	<b>340</b>	20	ug/L	EPA 8260B	11/12/2004
<b>Toluene</b>	<b>&lt; 20</b>	20	ug/L	EPA 8260B	11/12/2004
<b>Ethylbenzene</b>	<b>38</b>	20	ug/L	EPA 8260B	11/12/2004
<b>Total Xylenes</b>	<b>&lt; 20</b>	20	ug/L	EPA 8260B	11/12/2004
<b>Methyl-t-butyl ether (MTBE)</b>	<b>10000</b>	20	ug/L	EPA 8260B	11/12/2004
<b>Diisopropyl ether (DIPE)</b>	<b>&lt; 20</b>	20	ug/L	EPA 8260B	11/12/2004
<b>Ethyl-t-butyl ether (ETBE)</b>	<b>&lt; 20</b>	20	ug/L	EPA 8260B	11/12/2004
<b>Tert-amyl methyl ether (TAME)</b>	<b>120</b>	20	ug/L	EPA 8260B	11/12/2004
<b>Tert-Butanol</b>	<b>&lt; 90</b>	90	ug/L	EPA 8260B	11/12/2004
<b>Methanol</b>	<b>&lt; 2000</b>	2000	ug/L	EPA 8260B	11/12/2004
<b>Ethanol</b>	<b>&lt; 200</b>	200	ug/L	EPA 8260B	11/12/2004
<b>1,2-Dichloroethane</b>	<b>&lt; 20</b>	20	ug/L	EPA 8260B	11/12/2004
<b>1,2-Dibromoethane</b>	<b>&lt; 20</b>	20	ug/L	EPA 8260B	11/12/2004
<b>TPH as Gasoline</b>	<b>5800</b>	2000	ug/L	EPA 8260B	11/12/2004
Toluene - d8 (Surr)	106		% Recovery	EPA 8260B	11/12/2004
4-Bromofluorobenzene (Surr)	102		% Recovery	EPA 8260B	11/12/2004

Approved By:

  
Joel Kiff



Report Number : 40873

Date : 11/12/2004

Project Name : Tesoro 67076

Project Number : D004-076

Sample : VW-3

Matrix : Water

Lab Number : 40873-12

Sample Date : 11/4/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Toluene	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	11/9/2004
Methanol	< 50	50	ug/L	EPA 8260B	11/9/2004
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	11/9/2004
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	11/9/2004
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	11/9/2004
Toluene - d8 (Surr)	106		% Recovery	EPA 8260B	11/9/2004
4-Bromofluorobenzene (Surr)	105		% Recovery	EPA 8260B	11/9/2004

Approved By:

Joel Kiff



Report Number : 40873

Date : 11/12/2004

**QC Report : Method Blank Data**

Project Name : **Tesoro 67076**

Project Number : **D004-076**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed	Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	11/8/2004	Benzene	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
Toluene	< 0.50	0.50	ug/L	EPA 8260B	11/8/2004	Toluene	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	11/8/2004	Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	11/8/2004	Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	11/8/2004	Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	11/8/2004	Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	11/8/2004	Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	11/8/2004	Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	11/8/2004	Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	11/11/2004
Methanol	< 50	50	ug/L	EPA 8260B	11/8/2004	Methanol	< 50	50	ug/L	EPA 8260B	11/11/2004
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	11/8/2004	Ethanol	< 5.0	5.0	ug/L	EPA 8260B	11/11/2004
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	11/8/2004	1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	11/8/2004	1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	11/11/2004
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	11/8/2004	TPH as Gasoline	< 50	50	ug/L	EPA 8260B	11/11/2004
Toluene - d8 (Surr)	107		%	EPA 8260B	11/8/2004	Toluene - d8 (Surr)	109		%	EPA 8260B	11/11/2004
4-Bromofluorobenzene (Surr)	102		%	EPA 8260B	11/8/2004	4-Bromofluorobenzene (Surr)	101		%	EPA 8260B	11/11/2004
Benzene	< 0.50	0.50	ug/L	EPA 8260B	11/10/2004	Benzene	< 0.50	0.50	ug/L	EPA 8260B	11/12/2004
Toluene	< 0.50	0.50	ug/L	EPA 8260B	11/10/2004	Toluene	< 0.50	0.50	ug/L	EPA 8260B	11/12/2004
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	11/10/2004	Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	11/12/2004
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	11/10/2004	Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	11/12/2004
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	11/10/2004	Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	11/12/2004
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	11/10/2004	Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	11/12/2004
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	11/10/2004	Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	11/12/2004
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	11/10/2004	Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	11/12/2004
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	11/10/2004	Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	11/12/2004
Methanol	< 50	50	ug/L	EPA 8260B	11/10/2004	Methanol	< 50	50	ug/L	EPA 8260B	11/12/2004
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	11/10/2004	Ethanol	< 5.0	5.0	ug/L	EPA 8260B	11/12/2004
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	11/10/2004	1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	11/12/2004
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	11/10/2004	1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	11/12/2004
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	11/10/2004	TPH as Gasoline	< 50	50	ug/L	EPA 8260B	11/12/2004
Toluene - d8 (Surr)	105		%	EPA 8260B	11/10/2004	Toluene - d8 (Surr)	110		%	EPA 8260B	11/12/2004
4-Bromofluorobenzene (Surr)	104		%	EPA 8260B	11/10/2004	4-Bromofluorobenzene (Surr)	94.5		%	EPA 8260B	11/12/2004

Approved By:

  
Joel Kiff

KIFF ANALYTICAL, LLC

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

Report Number : 40873

Date : 11/12/2004

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : Tesoro 67076

Project Number : D004-076

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Benzene	40882-01	<0.50	40.0	40.0	38.4	37.8	ug/L	EPA 8260B	11/8/04	96.0	94.5	1.49	70-130	25
Toluene	40882-01	<0.50	40.0	40.0	38.0	37.6	ug/L	EPA 8260B	11/8/04	95.1	94.1	1.04	70-130	25
Tert-Butanol	40882-01	5.5	200	200	202	195	ug/L	EPA 8260B	11/8/04	98.1	94.9	3.26	70-130	25
Methyl-t-Butyl Ether	40882-01	68	40.0	40.0	110	118	ug/L	EPA 8260B	11/8/04	106	125	16.4	70-130	25
Benzene	40907-21	<0.50	40.0	40.0	39.2	38.2	ug/L	EPA 8260B	11/10/04	98.0	95.4	2.62	70-130	25
Toluene	40907-21	<0.50	40.0	40.0	38.1	37.2	ug/L	EPA 8260B	11/10/04	95.3	93.0	2.35	70-130	25
Tert-Butanol	40907-21	8.2	200	200	190	196	ug/L	EPA 8260B	11/10/04	90.8	93.7	3.05	70-130	25
Methyl-t-Butyl Ether	40907-21	22	40.0	40.0	65.5	65.6	ug/L	EPA 8260B	11/10/04	110	110	0.127	70-130	25
Benzene	40914-03	<0.50	40.0	40.0	38.4	37.3	ug/L	EPA 8260B	11/11/04	96.0	93.2	2.90	70-130	25
Toluene	40914-03	<0.50	40.0	40.0	37.7	36.4	ug/L	EPA 8260B	11/11/04	94.2	91.0	3.52	70-130	25
Tert-Butanol	40914-03	<5.0	200	200	181	182	ug/L	EPA 8260B	11/11/04	90.6	90.9	0.330	70-130	25
Methyl-t-Butyl Ether	40914-03	<0.50	40.0	40.0	37.6	37.4	ug/L	EPA 8260B	11/11/04	93.9	93.6	0.373	70-130	25
Benzene	40900-01	<0.50	40.0	40.0	40.1	39.6	ug/L	EPA 8260B	11/12/04	100	98.9	1.30	70-130	25
Toluene	40900-01	<0.50	40.0	40.0	39.1	38.6	ug/L	EPA 8260B	11/12/04	97.9	96.5	1.42	70-130	25
Tert-Butanol	40900-01	<5.0	200	200	191	193	ug/L	EPA 8260B	11/12/04	95.5	96.5	1.03	70-130	25
Methyl-t-Butyl Ether	40900-01	<0.50	40.0	40.0	37.7	37.2	ug/L	EPA 8260B	11/12/04	94.2	93.1	1.13	70-130	25

Approved By:  Joel Kiff

KIFF ANALYTICAL, LLC

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

Report Number : 40873

Date : 11/12/2004

QC Report : Laboratory Control Sample (LCS)

Project Name : **Tesoro 67076**

Project Number : **D004-076**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	11/8/04	96.6	70-130
Toluene	40.0	ug/L	EPA 8260B	11/8/04	94.6	70-130
Tert-Butanol	200	ug/L	EPA 8260B	11/8/04	95.0	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	11/8/04	103	70-130
Benzene	40.0	ug/L	EPA 8260B	11/10/04	94.9	70-130
Toluene	40.0	ug/L	EPA 8260B	11/10/04	94.2	70-130
Tert-Butanol	200	ug/L	EPA 8260B	11/10/04	91.9	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	11/10/04	92.0	70-130
Benzene	40.0	ug/L	EPA 8260B	11/11/04	94.9	70-130
Toluene	40.0	ug/L	EPA 8260B	11/11/04	92.0	70-130
Tert-Butanol	200	ug/L	EPA 8260B	11/11/04	90.7	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	11/11/04	92.0	70-130
Benzene	40.0	ug/L	EPA 8260B	11/12/04	95.4	70-130
Toluene	40.0	ug/L	EPA 8260B	11/12/04	92.5	70-130
Tert-Butanol	200	ug/L	EPA 8260B	11/12/04	89.6	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	11/12/04	90.1	70-130

KIFF ANALYTICAL, LLC

Approved By:

  
Joel Kiff

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



2795 2nd Street, Suite 300  
 Davis, CA 95616  
 Lab: 530.297.4800  
 Fax: 530.297.4808

Lab No. 40873 Page 1 of 2

Project Contact (Hardcopy or PDF To):  
Jason Mata

California EDF Report?  Yes  No

**Chain-of-Custody Record and Analysis Request**

Company/Address:  
Delta Environmental

Recommended but not mandatory to complete this section:  
 Sampling Company Log Code: \_\_\_\_\_

Phone No.: (916) 536-2616 FAX No.: (916) 638-8385

Global ID: \_\_\_\_\_

Project Number: D004-076 P.O. No: \_\_\_\_\_

EDF Deliverable To (Email Address):  
jmata@deltaenv.com

Project Name:  
Tesoro 67076

Sampler Signature:  
Jason Mata

Project Address:  
1619 1st St.  
 Livermore, CA

Sampling	Container	Preservative				Matrix	
		40 ml VOA	SLEEVE	HCl	HNO <sub>3</sub>	ICE	NONE

Analysis Request											TAT			
BTEX (8021B)	BTEX/TPH Gas/MTBE (8021B/M8015)	TPH as Diesel (M8015)	TPH as Motor Oil (M8015)	TPH Gas/BTEX/MTBE (8260B)	5 Oxygenates/TPH Gas/BTEX (8260B)	7 Oxygenates/TPH Gas/BTEX (8260B)	5 Oxygenates (8260B)	7 Oxygenates (8260B)	Lead Scav. (1,2 DCA & 1,2 EDB - 8260B)	EPA 8260B (Full List)	Volatile Halocarbons (EPA 8260B)	Lead (7421/239.2) TOTAL (X) W.E.T. (X)	12 hr/24 hr/48 hr/72 hr/1 wk	For Lab Use Only
						X		X					X	01
														02
														03
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														09
														10

**Sample Designation**

Sample Designation	Date	Time
MW-1	11/4/04	
MW-2		
MW-3		
MW-4		
MW-5		
MW-6		
MW-7		
MW-8		
MW-9		
MW-10		

Relinquished by: Jason Mata Date: 11/5/04 Time: 8:18

Received by: \_\_\_\_\_

Remarks:

Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received by: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date: 11/05/04 Time: 08:18

Received by Laboratory: Rubert C. Pineda KIFF ANALYTICAL

Bill to:



2795 2nd Street, Suite 300  
 Davis, CA 95616  
 Lab: 530.297.4800  
 Fax: 530.297.4808

Lab No. 40873 Page 2 of 2

Project Contact (Hardcopy or PDF To): Jason Mata California EDF Report?  Yes  No **Chain-of-Custody Record and Analysis Request**

Company/Address: Delta Environmental Recommended but not mandatory to complete this section:  
 Sampling Company Log Code: \_\_\_\_\_

Phone No.: (916) 536-2666 FAX No.: (916) 638-8385 Global ID: \_\_\_\_\_

Project Number: D004-076 P.O. No: \_\_\_\_\_ EDF Deliverable To (Email Address): jmata@deltaenv.com

Project Name: Tesoro 67076 Sampler Signature: Jason Mata

Project Address: 1619 1st St  
 Livermore, CA

Sample Designation	Sampling		40 ml VOA	SLEEVE	Container				Preservative				Matrix		BTEX (8021B)	BTEX/TPH Gas/MTBE (8021B/MB015)	TPH as Diesel (M8015)	TPH as Motor Oil (M8015)	TPH Gas/BTEX/MTBE (8260B)	5 Oxygenates/TPH Gas/BTEX (8260B)	7 Oxygenates/TPH Gas/BTEX (8260B)	5 Oxygenates (8260B)	7 Oxygenates (8260B)	Lead Scav. (1.2 DCA & 1.2 EDB - 8260B)	EPA 8260B (Full List)	Volatile Halocarbons (EPA 8260B)	Lead (7421/239.2) TOTAL (X) W.E.T. (X)	TAT	For Lab Use Only		
	Date	Time			HCl	HNO <sub>3</sub>	ICE	NONE	WATER	SOIL																					
VW-2	11/4/04		3					X	X			X							X									X	11		
VW-3	11/4/04		3					X	X			X							X									X	12		

Relinquished by: Jason Mata Date: 11/5/04 Time: 8:18 Received by: \_\_\_\_\_ Remarks: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received by: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date: 11/05/04 Time: 09:18 Received by Laboratory: Robert C. Pugh KIFF ANALYTICAL Bill to: \_\_\_\_\_