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September 30, 2004

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  
FEB 15 2005  
Environmental Health

Subject: Quarterly Groundwater Monitoring Report – Third 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 on August 4, 2004. Field data forms are presented in Enclosure A. Depth 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 37.47 feet (MW-9) to 34.06 feet (MW-7) 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 0.015.

Groundwater monitoring wells MW-2 and MW-5 through MW-10 and vapor extraction wells VW-2 and VW-3 were sampled on August 4, 2004. Samples from these wells were analyzed for total petroleum hydrocarbons (TPH) in the gasoline range, 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.

A member of:



Mr. Bob Schultz  
Alameda County Health Agency  
Division of Hazardous Materials  
Department of Environmental Health  
September 30, 2004

Laboratory analyses results for the third quarter 2004 sampling event are presented in Table 1, and TPH in the gasoline range, benzene, MTBE, and TBA concentrations are shown on Figure 3.

Remarks

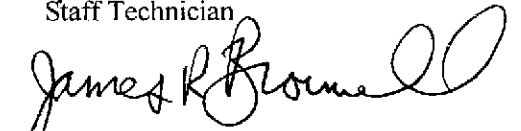
The recommendations contained in this report represent Delta's professional opinions based upon the currently available information and are arrived at in accordance with currently acceptable professional standards. This report is based upon a specific scope of work requested by the client. The Contract 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.

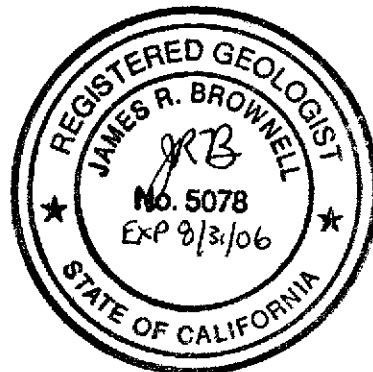
Please contact Jim Brownell at (916) 638-2765 if you have any questions.

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.

  
Jason M. Mata  
Staff Technician

  
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

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-1	6/1/1993	100.00	37.50	62.50	27000	2200	400	<0.50	4900	-	-	-	-	-	-	-	-	-
MW-1	6/22/1993	100.00	38.46	61.54	87000	8000	10000	260	10000	-	-	-	-	-	-	-	-	-
MW-1	10/6/1993	100.00	42.22	57.78	40000	4700	6500	740	5300	-	-	-	-	-	-	-	-	-
MW-1	1/13/1994	100.00	34.52	65.48	9400	1300	9500	110	850	-	-	-	-	-	-	-	-	-
MW-1	3/30/1994	100.00	31.93	68.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-1	4/25/1994	100.00	33.49	66.51	11000	1500	1800	290	1700	-	-	-	-	-	-	-	-	-
MW-1	8/12/1994	100.00	41.03	58.97	11000	550	330	260	1400	-	-	-	-	-	-	-	-	-
MW-1	12/14/1994	100.00	38.63	61.37	11000	1000	1200	320	1500	-	-	-	-	-	-	-	-	-
MW-1	2/10/1995	100.00	30.80	69.20	9300	1200	1500	280	1500	-	-	-	-	-	-	-	-	-
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	18000	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	<5.0	-	-	-	-	-	-	-	-
MW-1	12/31/2000	100.00	31.71	68.29	<50	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-1	3/27/2001	100.00	30.43	69.57	<50	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-1	6/30/2001	100.00	36.61	63.39	<50	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-1	9/26/2001	100.00	45.10	54.90	90	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
MW-1	12/18/2001	100.00	39.39	60.61	<50	<0.50	<0.50	<0.50	<0.50	<5.0	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 1  
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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-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	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	6/1/1993	98.68	38.02	60.66	17000	2000	2100	3300	18000	-	-	-	-	-	-	-	-	-
MW-2	6/22/1993	98.68	39.07	59.61	160000	19000	22000	3500	18000	-	-	-	-	-	-	-	-	-
MW-2	10/6/093	98.68	43.72	54.96	110000	17000	17000	3000	15000	-	-	-	-	-	-	-	-	-
MW-2	1/13/1994	98.68	35.85	62.83	93000	20000	19000	2300	14000	-	-	-	-	-	-	-	-	-
MW-2	3/30/1994	98.68	32.82	65.86	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	4/25/1994	98.68	34.76	63.92	41000	9600	7300	840	7800	-	-	-	-	-	-	-	-	-
MW-2	8/12/1994	98.68	44.33	54.35	59000	11000	11000	2300	11000	-	-	-	-	-	-	-	-	-
MW-2	12/14/1994	98.68	40.00	58.68	63000	13000	13000	2200	12000	-	-	-	-	-	-	-	-	-
MW-2	2/10/1995	98.68	32.16	66.52	63000	12000	12000	2200	11000	-	-	-	-	-	-	-	-	-
MW-2	6/15/1995	98.68	25.93	72.75	61000	11000	12000	1900	11000	-	-	-	-	-	-	-	-	-
MW-2	9/26/1995	98.68	32.42	66.26	61000	9400	11000	2300	12000	-	-	-	-	-	-	-	-	-
MW-2	12/15/1995	98.68	29.41	69.27	48000	8000	8300	2200	12000	-	-	-	-	-	-	-	-	-
MW-2	3/21/1996	98.68	17.47	81.21	48000	8000	7700	2400	12000	-	-	-	-	-	-	-	-	-
MW-2	6/13/1996	98.68	23.69	74.99	33000	7300	8800	1900	12000	<250	-	-	-	-	-	-	-	-
MW-2	9/16/1996	98.68	31.24	67.44	8600	510	640	180	1300	<250	-	-	-	-	-	-	-	-
MW-2	12/2/1996	98.68	26.90	71.78	29000	4400	4000	1300	6100	<130	-	-	-	-	-	-	-	-
MW-2	3/7/1997	98.68	21.33	77.35	13000	1800	1100	270	2000	<250	-	-	-	-	-	-	-	-
MW-2	6/12/1997	98.68	29.94	68.74	68000	7800	6600	2300	11000	<500	-	-	-	-	-	-	-	-
MW-2	9/29/1997	98.68	34.22	64.46	15000	1500	97	740	1800	<250	-	-	-	-	-	-	-	-
MW-2	12/1/1997	98.68	35.94	62.74	13000	900	37	860	2400	<250	-	-	-	-	-	-	-	-
MW-2	3/19/1998	98.68	20.34	78.34	42000	5000	3600	2000	8300	<250	-	-	-	-	-	-	-	-
MW-2	5/29/1998	98.68	22.63	76.05	68000	5600	4700	2400	11000	<250	-	-	-	-	-	-	-	-
MW-2	9/15/1998	98.68	32.30	66.38	36000	3900	1200	1400	7800	<250	-	-	-	-	-	-	-	-
MW-2	11/30/1998	98.68	36.90	61.78	16000	2200	59	1200	1500	<250	-	-	-	-	-	-	-	-
MW-2	1/17/1999	98.68	30.17	68.51	30000	4000	2200	2100	9500	<250	-	-	-	-	-	-	-	-
MW-2	6/10/1999	98.68	29.98	68.70	70000	6300	1800	3600	14000	<500	-	-	-	-	-	-	-	-
MW-2	9/7/1999	98.68	31.85	66.83	42000	3800	840	1900	8000	150	-	-	-	-	-	-	-	-
MW-2	12/13/1999	98.68	33.72	64.96	14000	1400	87	690	110	34	-	-	-	-	-	-	-	-
MW-2	3/13/2000	98.68	26.54	72.14	38000	2400	2300	1600	6400	2400	-	-	-	-	-	-	-	-
MW-2	6/12/2000	98.68	28.44	70.24	56000	4000	950	2300	7200	<50	-	-	-	-	-	-	-	-
MW-2	11/10/2000	98.68	31.31	67.37	35000	5100	850	1500	3200	230	-	-	-	-	-	-	-	-
MW-2	12/31/2000	98.68	32.68	66.00	21000	3200	420	1300	1200	440	-	-	-	-	-	-	-	-
MW-2	3/27/2001	98.68	30.81	67.87	3500	420	64	16	280	120	-	-	-	-	-	-	-	-
MW-2	6/30/2001	98.68	37.58	61.10	1200	88	4.5	65	37	29	-	-	-	-	-	-	-	-
MW-2	9/26/2001	98.68	44.97	53.71	53000	8500	1500	2400	4600	270	-	-	-	-	-	-	-	-
MW-2	12/18/2001	98.68	40.67	58.01	26000	5400	900	1500	2200	430	-	-	-	-	-	-	-	-
MW-2	1/22/2002	482.77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	3/18/2002	482.77	38.94	443.83	4200	240	7.3	200	53	89	-	-	-	-	-	-	-	-
MW-2	6/5/2002	482.77	36.45	446.32	25000	3500	390	1400	2400	550	-	-	-	-	-	-	-	-
MW-2	8/21/2002	482.77	37.15	445.62	10000	1200	32	620	300	160	-	-	-	-	-	-	-	-
MW-2	12/3/2002	482.77	36.76	446.01	3700	110	2.5	130	11	29	-	-	-	-	-	-	-	-

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-2	3/4/2003	482.77	33.60	449.17	8700	1100	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	6300	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	6900	500	<20	360	29	9500	<20	<20	60	<200	<2000	<200	<20	<20
MW-2	12/23/2003	482.77	31.79	450.98	22000	4900	1300	720	2300	1700	<20	<20	21	<200	<2000	<200	<20	<20
MW-2	3/23/2004	482.77	28.25	454.52	45000	5200	1500	1800	5000	750	<20	<20	34	<200	<2000	<200	<20	<20
MW-2	5/10/2004	482.77	30.91	451.86	7300	1000	51	240	290	1800	<5.0	<5.0	14	<50	<500	<50	<5.0	<5.0
MW-2	8/4/2004	482.77	35.36	447.41	45000	7200	1900	1800	5100	2500	<25	<25	31	<250	<2500	<250	<25	<25
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table I  
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-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	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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-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	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	3/30/1994	98.37	32.07	66.30	7500	1300	20	<13	160	-	-	-	-	-	-	-	-	-
MW-5	4/25/1994	98.37	33.65	64.72	6500	1100	41	130	740	-	-	-	-	-	-	-	-	-
MW-5	8/12/1994	98.37	42.73	55.64	4000	420	2.9	41	98	-	-	-	-	-	-	-	-	-
MW-5	12/14/1994	98.37	38.89	59.48	4800	660	<2.5	33	13	-	-	-	-	-	-	-	-	-
MW-5	2/10/1995	98.37	31.44	66.93	5200	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	1400	61	<0.50	3.1	<0.50	-	-	-	-	-	-	-	-	-
MW-5	12/15/1995	98.37	28.56	69.81	2100	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	2200	42	1.1	25	30	8.6	-	-	-	-	-	-	-	-
MW-5	12/3/2000	98.37	31.81	66.56	1300	21	<0.50	4.3	2.6	10	-	-	-	-	-	-	-	-
MW-5	3/27/2001	98.37	30.57	67.80	1200	11	<0.50	2.6	<0.50	21	-	-	-	-	-	-	-	-
MW-5	6/30/2001	98.37	37.24	61.13	1400	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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-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	2100	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	<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-6	3/30/1994	97.62	33.38	64.24	63000	21000	8600	1700	12000.0	-	-	-	-	-	-	-	-	-
MW-6	4/25/1994	97.62	35.49	62.13	77000	22000	12000	2300	16000	-	-	-	-	-	-	-	-	-
MW-6	8/12/1994	97.62	45.14	52.48	65000	12000	8100	2200	16000	-	-	-	-	-	-	-	-	-
MW-6	12/14/1994	97.62	40.99	56.63	65000	18000	9500	2200	14000	-	-	-	-	-	-	-	-	-
MW-6	2/10/1995	97.62	33.34	64.28	63000	21000	8400	2000	14000	-	-	-	-	-	-	-	-	-
MW-6	6/15/1995	97.62	26.88	70.74	75000	20000	11000	2100	15000	-	-	-	-	-	-	-	-	-
MW-6	9/26/1995	97.62	33.55	64.07	62000	15000	9600	1700	12000	-	-	-	-	-	-	-	-	-
MW-6	12/15/1995	97.62	30.32	67.30	61000	15000	9000	2300	15000	-	-	-	-	-	-	-	-	-
MW-6	3/21/1996	97.62	18.89	78.73	65000	18000	9800	2400	16000	-	-	-	-	-	-	-	-	-
MW-6	6/13/1996	97.62	24.62	73.00	29000	8600	3300	2200	12000	<250	-	-	-	-	-	-	-	-
MW-6	9/16/1996	97.62	32.64	64.98	42000	6400	1800	2100	11000	<250	-	-	-	-	-	-	-	-
MW-6	12/2/1996	97.62	27.42	70.20	28000	3000	1100	970	8300	<500	-	-	-	-	-	-	-	-
MW-6	3/7/1997	97.62	22.13	75.49	12000	2000	190	520	2300	<250	-	-	-	-	-	-	-	-
MW-6	6/12/1997	97.62	31.02	66.60	37000	3900	470	1600	6200	<100	-	-	-	-	-	-	-	-
MW-6	9/29/1997	97.62	35.77	61.85	34000	3500	370	1600	5200	<100	-	-	-	-	-	-	-	-
MW-6	12/1/1997	97.62	37.14	60.48	20000	2100	<10	1200	2200	<100	-	-	-	-	-	-	-	-
MW-6	3/19/1998	97.62	21.10	76.52	24000	2900	460	1100	3400	<100	-	-	-	-	-	-	-	-
MW-6	5/29/1998	97.62	23.26	74.36	38000	3500	700	1800	5200	<100	-	-	-	-	-	-	-	-
MW-6	9/15/1998	97.62	33.50	64.12	22000	1900	110	1400	3000	<100	-	-	-	-	-	-	-	-
MW-6	11/30/1998	97.62	38.73	58.89	9900	770	16	820	710	<100	-	-	-	-	-	-	-	-
MW-6	1/17/1999	97.62	32.05	65.57	14000	2200	160	1700	3600	<100	-	-	-	-	-	-	-	-
MW-6	6/10/1999	97.62	31.44	66.18	22000	1600	160	1400	2900	5.5	-	-	-	-	-	-	-	-
MW-6	9/7/1999	97.62	33.94	63.68	17000	1400	33	1300	1800	<50	-	-	-	-	-	-	-	-
MW-6	12/13/1999	97.62	35.84	61.78	16000	790	9.2	840	780	<25	-	-	-	-	-	-	-	-
MW-6	3/13/2000	97.62	28.45	69.17	16000	790	85	780	1600	<25	-	-	-	-	-	-	-	-
MW-6	6/12/2000	97.62	30.52	67.10	24000	1100	150	1300	2300	5600	-	-	-	-	-	-	-	-
MW-6	11/10/2000	97.62	32.99	64.63	13000	440	6.6	760	350	1000	-	-	-	-	-	-	-	-
MW-6	12/31/2000	97.62	34.95	62.67	12000	680	7.6	820	190	1400	-	-	-	-	-	-	-	-
MW-6	3/27/2001	97.62	32.72	64.90	14000	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	43000	3800	350	1900	3000	900	-	-	-	-	-	-	-	-
MW-6	1/22/2002	481.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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	3/18/2002	481.20	41.29	439.91	33000	2600	120	1800	2800	740	-	-	-	-	-	-	-	-
MW-6	6/5/2002	481.20	38.35	442.85	10000	1100	16	700	180	600	-	-	-	-	-	-	-	-
MW-6	8/21/2002	481.20	39.02	442.18	10000	1200	23	710	290	370	-	-	-	-	-	-	-	-
MW-6	12/3/2002	481.20	38.76	442.44	16000	1700	63	970	630	1500	-	-	-	-	-	-	-	-
MW-6	3/4/2003	481.20	35.13	446.07	16000	1700	25	1200	40	7700	<20	<20	<70	<200	<2000	<200	<20	<20
MW-6	6/10/2003	481.20	34.15	447.05	9500	860	15	380	47	2600	<5.0	<5.0	18	<50	<500	<50	<5.0	<5.0
MW-6	9/9/2003	481.20	37.66	443.54	11000	1000	16	630	120	2500	<5.0	<5.0	20	52	<500	<50	<5.0	<5.0
MW-6	12/23/2003	481.20	33.43	447.77	18000	2100	41	1100	390	4900	<10	<10	42	<100	<1000	<100	<10	<10
MW-6	3/23/2004	481.20	29.96	451.24	24000	1400	71	1500	2000	7500	<20	<20	66	<200	<2000	<200	<20	<20
MW-6	5/10/2004	481.20	32.98	448.22	6500	550	<10	71	43	3700	<10	<10	31	<100	<1000	<100	<10	<10
MW-6	8/4/2004	481.20	37.02	444.18	8200	990	19	300	120	3300	<5.0	<5.0	23	<50	<500	<50	<5.0	<5.0
MW-7	3/30/1994	98.03	31.98	66.05	43000	7200	2400	1600	11000	-	-	-	-	-	-	-	-	-
MW-7	4/25/1994	98.03	33.56	64.47	30000	3900	1000	940	6900	-	-	-	-	-	-	-	-	-
MW-7	8/12/1994	98.03	43.35	54.68	30000	3800	1400	1300	7500	-	-	-	-	-	-	-	-	-
MW-7	12/14/1994	98.03	39.34	58.69	31000	3600	1200	900	6400	-	-	-	-	-	-	-	-	-
MW-7	2/10/1995	98.03	32.11	65.92	27000	4000	900	890	5100	-	-	-	-	-	-	-	-	-
MW-7	6/15/1995	98.03	25.51	72.52	17000	920	680	740	4100	-	-	-	-	-	-	-	-	-
MW-7	9/26/1995	98.03	31.43	66.60	7000	200	150	170	810	-	-	-	-	-	-	-	-	-
MW-7	12/15/1995	98.03	28.97	69.06	11000	350	170	540	1900	-	-	-	-	-	-	-	-	-
MW-7	3/21/1996	98.03	17.36	80.67	12000	320	100	730	2500	-	-	-	-	-	-	-	-	-
MW-7	6/13/1996	98.03	23.47	74.56	5900	98	19	370	620	<50	-	-	-	-	-	-	-	-
MW-7	9/16/1996	98.03	31.35	66.68	7800	140	43	440	590	<25	-	-	-	-	-	-	-	-
MW-7	12/2/1996	98.03	27.11	70.92	6300	87	29	290	430	<50	-	-	-	-	-	-	-	-
MW-7	3/7/1997	98.03	21.33	76.70	4500	35	19	360	470	<25	-	-	-	-	-	-	-	-
MW-7	6/12/1997	98.03	29.90	68.13	3900	29	5.2	170	48	<5.0	-	-	-	-	-	-	-	-
MW-7	9/29/1997	98.03	34.37	63.66	6100	56	9	340	190	<25	-	-	-	-	-	-	-	-
MW-7	12/1/1997	98.03	36.46	61.57	6500	24	<2.5	400	250	<25	-	-	-	-	-	-	-	-
MW-7	3/19/1998	98.03	20.33	77.70	2000	20	<2.5	73	79	<25	-	-	-	-	-	-	-	-
MW-7	5/29/1998	98.03	22.30	75.73	5700	22	7.3	290	350	<25	-	-	-	-	-	-	-	-
MW-7	9/15/1998	98.03	32.54	65.49	1700	15	<2.5	44	5.1	<25	-	-	-	-	-	-	-	-
MW-7	11/30/1998	98.03	37.96	60.07	4800	42	12	270	640	<25	-	-	-	-	-	-	-	-
MW-7	1/17/1999	98.03	31.04	66.99	3400	33	<5.0	200	190	<50	-	-	-	-	-	-	-	-
MW-7	6/10/1999	98.03	29.89	68.14	1700	7.8	1.5	23	4.1	<5.0	-	-	-	-	-	-	-	-
MW-7	9/7/1999	98.03	32.38	65.65	1900	9.7	2.1	70	2.9	<5.0	-	-	-	-	-	-	-	-
MW-7	12/13/1999	98.03	33.98	64.05	1900	8.0	1.1	10	1.1	<5.0	-	-	-	-	-	-	-	-
MW-7	3/13/2000	98.03	27.09	70.94	1500	7.5	<0.50	6.7	2.9	<5.0	-	-	-	-	-	-	-	-
MW-7	6/12/2000	98.03	28.76	69.27	1200	5.4	<0.50	5.2	1.0	<5.0	-	-	-	-	-	-	-	-
MW-7	11/10/2000	98.03	31.54	66.49	1000	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	1200	4.8	<0.50	6.7	0.94	<0.50	-	-	-	-	-	-	-	-
MW-7	6/30/2001	98.03	37.50	60.53	2800	10	1.7	75	170	<0.50	-	-	-	-	-	-	-	-
MW-7	9/26/2001	98.03	45.11	52.92	1900	16	0.89	2.3	25	<0.50	-	-	-	-	-	-	-	-
MW-7	12/18/2001	98.03	41.13	56.90	3000	13	0.88	3.4	3.4	<0.50	-	-	-	-	-	-	-	-
MW-7	1/22/2002	481.61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

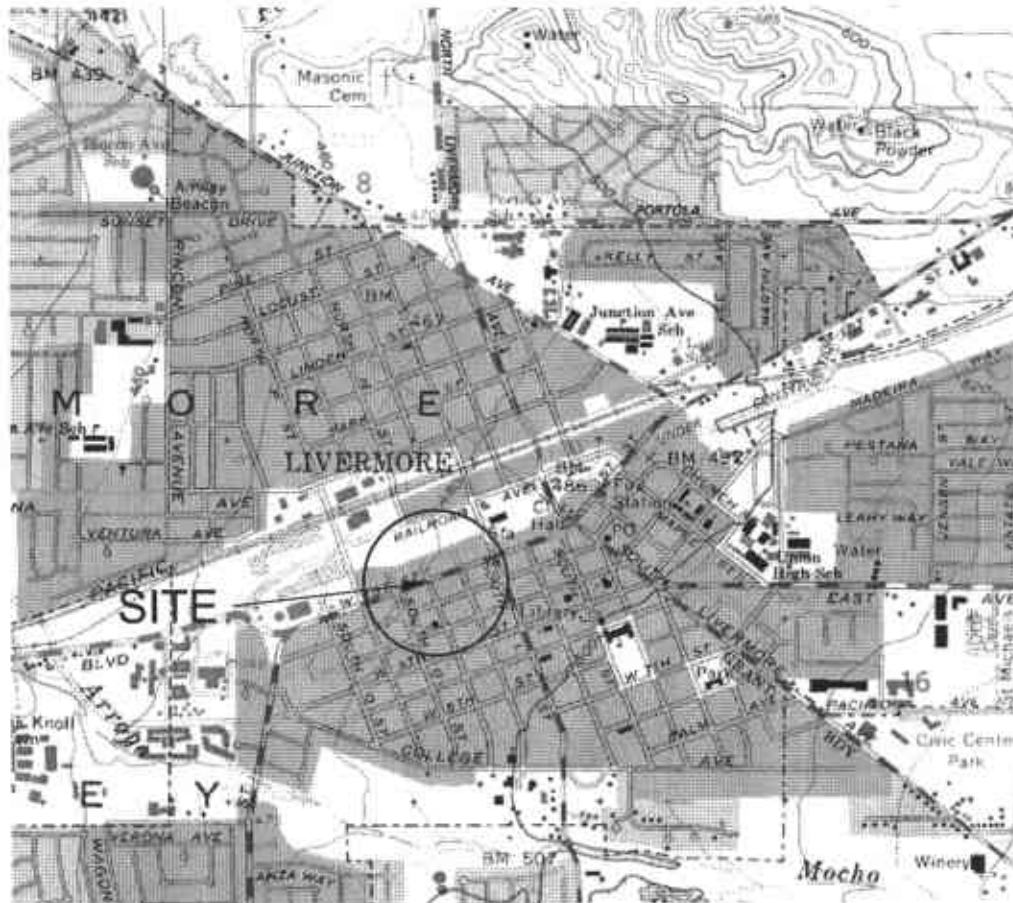
Well	Sample Collection	Casing Elevation	Depth to Water	Water Table Elevation	TPHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	DIPE	ETBE	TAME	TBA	Methanol	Ethanol	1,2 DCA	1,2 DBE
	Date	(msl)	(feet)	(msl)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-7	3/18/2002	481.61	39.22	442.39	3100	7.3	1.5	38	110	<0.50	-	-	-	-	-	-	-	-
MW-7	6/5/2002	481.61	36.55	445.06	1800	7.6	1.0	39	20	<0.50	-	-	-	-	-	-	-	-
MW-7	8/21/2002	481.61	36.81	444.80	3300	7.6	0.7	85	36	<0.50	-	-	-	-	-	-	-	-
MW-7	12/3/2002	481.61	36.52	445.09	1700	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
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	<50	<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	<50	<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	<50	<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	<50	<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	<50	<5.0	<0.50	<0.50
MW-7	8/4/2004	481.61	34.06	447.55	2600	2.5	<0.50	36	31	<0.50	<0.50	<0.50	<0.50	<5.0	<50	<5.0	<0.50	<0.50
MW-8 <sup>1</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	<50	7.3	<0.50	<0.50
MW-8	3/23/2004		28.50	445.75	<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-8	5/10/2004		31.44	442.81	<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-8	8/4/2004		35.11	439.14	<50	<0.50	<0.50	<0.50	0.86	<0.50	<0.50	<0.50	<0.50	<5.0	<50	<5.0	<0.50	<0.50
MW-9 <sup>1</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	<50	<5.0	<0.50	<0.50
MW-9	3/23/2004		30.01	443.84	760	8.5	<0.50	4.9	0.95	18	<0.50	<0.50	<0.50	<5.0	<50	<5.0	<0.50	<0.50
MW-9	5/10/2004		33.61	440.24	1100	4.4	<0.50	1.3	0.67	11	<0.50	<0.50	<0.50	<5.0	<50	<5.0	<0.50	<0.50
MW-9	8/4/2004		37.47	436.38	1200	3.4	0.59	16	7.6	6.1	<0.50	<0.50	<0.50	<5.0	<50	<5.0	<0.50	<0.50
MW-10 <sup>1</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	<50	<5.0	<0.50	<0.50
MW-10	3/23/2004		28.68	446.02	<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-10	5/10/2004		32.15	442.55	<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-10	8/4/2004		36.40	438.30	<50	<0.50	<0.50	<0.50	0.61	<0.50	<0.50	<0.50	<0.50	<5.0	<50	<5.0	<0.50	<0.50
VW-2	8/4/2004		34.13		5700	480	<20	600	<20	12000	<20	<20	110	<90	<2000	<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	<50	<5.0	<0.50	<0.50
MW-A	1/17/1999	-	30.13	-	5800	1700	85	65	320	<5.0	-	-	-	-	-	-	-	-
MW-A	6/10/1999	Well abandoned																
MW-B	1/17/1999	-	30.29	-	4400	240	30	21	39	<5.0	-	-	-	-	-	-	-	-
MW-B	6/10/1999	Well abandoned																
MW-C	1/17/1999	-	30.60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-C	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-D	1/17/1999	-	31.32	-	5600	1600	130	66	220	<5.0	-	-	-	-	-	-	-	-
MW-D	6/10/1999	Well abandoned																
MW-E	1/17/1999	-	31.36	-	5700	1600	180	180	310	<50	-	-	-	-	-	-	-	-
MW-E	6/10/1999	-	-	-	5000	1300	130	320	450	<25	-	-	-	-	-	-	-	-
MW-E	9/7/1999	Well abandoned																
MW-W	1/17/1999	-	30.91	-	23000	7600	760	1400	5000	<50	-	-	-	-	-	-	-	-
MW-W	6/10/1999	-	-	-	16000	4100	420	1300	4000	<50	-	-	-	-	-	-	-	-
MW-W	9/7/1999	Well abandoned																

**Explanations:**

msl = mean sea level  
 (µg/L) = micrograms per liter  
 - = not measured / not analyzed  
 < = not detected at or above the stated laboratory reporting limit  
 TPHg = Total petroleum hydrocarbons in the gasoline range  
 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  
 1 = 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 83 August 18, 2004.



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

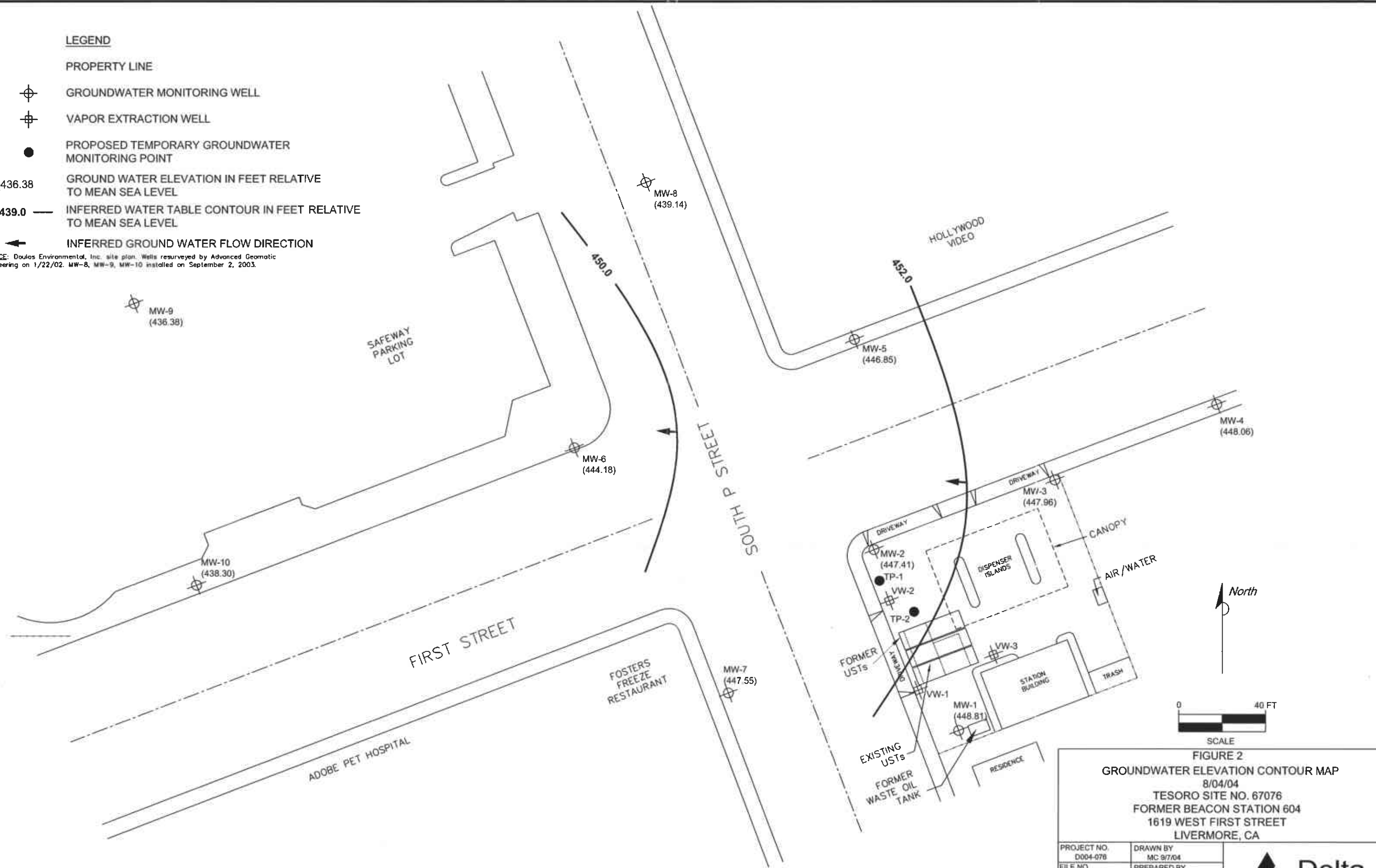
● PROPOSED TEMPORARY GROUNDWATER MONITORING POINT

(436.38) GROUND WATER ELEVATION IN FEET RELATIVE TO MEAN SEA LEVEL

— 439.0 — INFERRED WATER TABLE CONTOUR IN FEET RELATIVE TO MEAN SEA LEVEL

← INFERRED GROUND WATER FLOW DIRECTION

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 2**  
**GROUNDWATER ELEVATION CONTOUR MAP**  
 8/04/04  
 TESORO SITE NO. 67076  
 FORMER BEACON STATION 604  
 1619 WEST FIRST STREET  
 LIVERMORE, CA

PROJECT NO. D004-076	DRAWN BY MC 9/7/04
FILE NO. TS-67076	PREPARED BY JB
REVISION NO. 1	REVIEWED BY

**LEGEND**

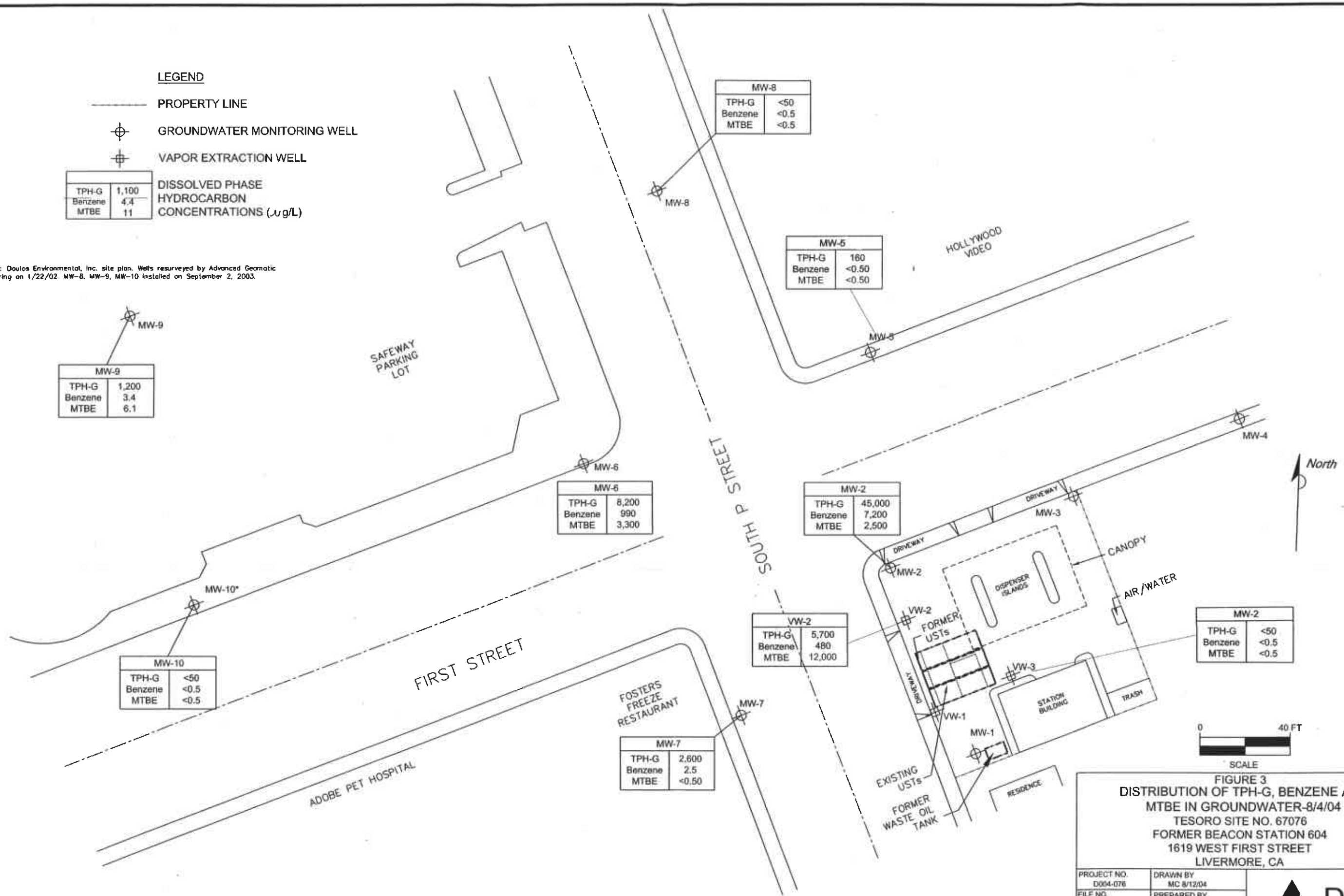
— PROPERTY LINE

⊕ 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.



MW-9

TPH-G	1,200
Benzene	3.4
MTBE	6.1

MW-6

TPH-G	8,200
Benzene	990
MTBE	3,300

MW-8

TPH-G	<50
Benzene	<0.5
MTBE	<0.5

MW-5

TPH-G	160
Benzene	<0.50
MTBE	<0.50

MW-2

TPH-G	45,000
Benzene	7,200
MTBE	2,500

VW-2

TPH-G	5,700
Benzene	480
MTBE	12,000

MW-7

TPH-G	2,600
Benzene	2.5
MTBE	<0.50

MW-10

TPH-G	<50
Benzene	<0.5
MTBE	<0.5

MW-2

TPH-G	<50
Benzene	<0.5
MTBE	<0.5



**FIGURE 3**  
**DISTRIBUTION OF TPH-G, BENZENE AND**  
**MTBE IN GROUNDWATER-8/4/04**  
 TESORO SITE NO. 67076  
 FORMER BEACON STATION 604  
 1619 WEST FIRST STREET  
 LIVERMORE, CA

PROJECT NO. D004-076	DRAWN BY MC 8/12/04
FILE NO. TS-67076-3004	PREPARED BY JB
REVISION NO. 1	REVIEWED BY:

## **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. D004-076

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

Date Sampled:      /      /      Time:     

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

Equipment Replaced:      bolts      locks      locking cap

Well Depth 69.56 ft below top of casing Casing diameter 4 inches

Depth to water (below top of casing) 34.77 ft Date: 8 / 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 N/A 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)	D.O. Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
				2.15 (1 FT)	
				3.10 (Top)	

Comments:     

Transportation (thermal preservation)     

Form completed by:      Sampled by:

SAMPLING INFORMATION SHEET



Sample ID# MW2 Project Name: Tesoro 67076 Project No. D004-076  
 Location (address) 1619 W 1st St. Livermore, CA  
 Date Sampled: 8 / 4 / 04 Time: \_\_\_\_\_  
 Wellhead assembly condition: \_\_\_\_\_ Good \_\_\_\_\_ Fair \_\_\_\_\_ Poor (If poor, see comments)  
 Equipment Replaced: \_\_\_\_\_ bolts \_\_\_\_\_ locks \_\_\_\_\_ locking cap  
 Well Depth 54.00 ft below top of casing Casing diameter 4 inches  
 Depth to water (below top of casing) ~~34.72~~ 35.36 ft Date: 8 / 4 / 04 Time \_\_\_\_\_  
 Well Casing Volume Multiplier: 0.16 for 2" 0.65 for 4" 1.47 for 6" 36 Gal.  
 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)	D.O. Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
11:38	28.4	9.63	949	2.98 (1 FT)	
11:59	28.2	8.82	919	2.48 (18 FT)	
12:14	20.8	8.85	901		

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

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

SAMPLING INFORMATION SHEET



Sample ID# MW-3 Project Name: Tesoro 67076 Project No. D004-076  
 Location (address) 1619 W. 1<sup>st</sup> St. Livermore, CA  
 Date Sampled:     /     /     Time:      
 Wellhead assembly condition:     Good     Fair     Poor (If poor, see comments)  
 Equipment Replaced:     bolts     locks     locking cap  
 Well Depth 67.15 ft below top of casing Casing diameter 4 inches  
 Depth to water (below top of casing) 34.70 ft. Date: 8 / 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 N/A 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)	DO, Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
				0.62 (1 FT)	
				1.80	

Comments:    

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

SAMPLING INFORMATION SHEET



Sample ID# MW-4 Project Name: Tesoro 67076 Project No. D004-076  
 Location (address) 1619 North First St. Livermore, Ca  
 Date Sampled: 8 / 4 / 04 Time: \_\_\_\_\_  
 Wellhead assembly condition: \_\_\_\_\_ Good \_\_\_\_\_ Fair \_\_\_\_\_ Poor (If poor, see comments)  
 Equipment Replaced: \_\_\_\_\_ bolts \_\_\_\_\_ locks \_\_\_\_\_ locking cap  
 Well Depth 69.39 ft below top of casing Casing diameter 2 inches  
 Depth to water (below top of casing) 34.87 ft Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Time \_\_\_\_\_  
 Well Casing Volume Multiplier: 0.16 for 2", 0.65 for 4", 1.47 for 6"  
 Purging method: N/A Submersible pump \_\_\_\_\_ Bailer \_\_\_\_\_ Centrifugal pump \_\_\_\_\_ Other \_\_\_\_\_  
 At least N/A well volumes have been evacuated before sampling.  
 Tubing (type: \_\_\_\_\_). (new or previously used) was used to purge well  
 Sampling method: X 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)	D.O. Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
				1.85 (FF)	
				2.60 (32 FT)	

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

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

SAMPLING INFORMATION SHEET



Sample ID# MW-5 Project Name: Tesoro 67076 Project No. D004-076

Location (address) 1619 W. 1st St. Livermore, CA

Date Sampled: 8 / 4 / 04 Time: \_\_\_\_\_

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

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

Well Depth 46.15 ft below top of casing Casing diameter 2 inches

Depth to water (below top of casing) 35.09 ft. Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Time \_\_\_\_\_

Well Casing Volume Multiplier: 0.16 for 2" 0.65 for 4", 1.47 for 6" 5 Gal.

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)	<sup>DO</sup> Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
9:53	19.5	9.36	881	3.26	1
9:56	18.9	9.05	930	1.52 / 1A	3
9:58	19.1	8.82	909		5

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

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

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

SAMPLING INFORMATION SHEET



Sample ID# MW-6 Project Name: Tesoro 67076 Project No. D004-016  
 Location (address) 1619 W. 1st St Livermore, CA  
 Date Sampled: 8/4/04 Time: \_\_\_\_\_  
 Wellhead assembly condition: \_\_\_\_\_ Good \_\_\_\_\_ Fair \_\_\_\_\_ Poor (If poor, see comments)  
 Equipment Replaced: \_\_\_\_\_ bolts \_\_\_\_\_ locks \_\_\_\_\_ locking cap  
 Well Depth 64.90 47.63 ft below top of casing Casing diameter 2 inches  
 Depth to water (below top of casing) 37.02 ft Date: 8/4/04 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 \_\_\_\_\_ 3 Sample appearance \_\_\_\_\_  
 Note any sampling problems Slight odor

GROUND WATER EVACUATION/STABILIZATION DATA

Time	Temperature (°F)	pH Units	Conductance (umhos/cm)	D.O. Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
11:02	20.0	8.75	1042	21.90 (1 ft)	1
11:05	21.1	8.72	1020	3.60 (9 ft)	3
11:07	20.4	8.76	1005		5

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

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

SAMPLING INFORMATION SHEET



Sample ID# MW-7 Project Name: Tesoro 67076 Project No. DO04-076  
 Location (address) 1619 W. 1st St. Livermore, CA  
 Date Sampled: 8 / 4 / 04 Time: \_\_\_\_\_  
 Wellhead assembly condition: \_\_\_\_\_ Good \_\_\_\_\_ Fair \_\_\_\_\_ Poor (If poor, see comments)  
 Equipment Replaced: \_\_\_\_\_ bolts \_\_\_\_\_ locks \_\_\_\_\_ locking cap  
 Well Depth 67.05 ft below top of casing Casing diameter 2 inches  
 Depth to water (below top of casing) 34.06 ft. Date: 1 / 1 Time \_\_\_\_\_  
 Well Casing Volume Multiplier: 0.16 for 2" 0.65 for 4", 1.47 for 6" ~~5 Gal.~~  
 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 (umnos/cm)	Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
9:00	22.6	9:20	9:79	4.06 (1 FT)	1
9:03	20.3	8.99	9.41	3.92 (32 FT)	3
9:05	19.9	9:07	9:09		5

Comments: Slight odor

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 West 1st Street Livermore, CA  
 Date Sampled: 8/4/04 Time: \_\_\_\_\_  
 Wellhead assembly condition: \_\_\_\_\_ Good \_\_\_\_\_ Fair \_\_\_\_\_ Poor (If poor, see comments)  
 Equipment Replaced: \_\_\_\_\_ bolts \_\_\_\_\_ locks \_\_\_\_\_ locking cap  
 Well Depth 44.3 ft below top of casing Casing diameter 2 inches  
 Depth to water (below top of casing) 35.11 ft. Date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Time \_\_\_\_\_  
 Well Casing Volume Multiplier: 0.16 for 2" 0.65 for 4", 1.47 for 6" 5 Gal  
 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)	D.O. Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
8:32	18.7	9.30	.0911	5.17 (1ft)	1
8:34	18.2	9.10	.0887	2.70 (2.19)	3
8:36	18.9	9.08	.0911		5

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

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

SAMPLING INFORMATION SHEET



Sample ID# MW-9 Project Name: Tesoro 67076 Project No. D004-076  
 Location (address) 1619 W. 1st St. Livermore, CA  
 Date Sampled: 8 / 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) 37.47 ft Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Time \_\_\_\_\_  
 Well Casing Volume Multiplier 0.16 for 2" 0.65 for 4", 1.47 for 6" 3 Gal.  
 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)	D.O. Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
10:29	22.2	9.52	956	3.29 (1 ft)	1
10:31	19.9	9.01	997	1.09 (5.88)	2
10:33	19.9	9.12	962		3

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

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

SAMPLING INFORMATION SHEET



Sample ID# MW-10 Project Name: Tesoro 67076 Project No. DC04-076  
 Location (address) 1619 W. 1st Livermore, CA  
 Date Sampled: 8/4/0 Time: \_\_\_\_\_  
 Wellhead assembly condition: \_\_\_\_\_ Good \_\_\_\_\_ Fair \_\_\_\_\_ Poor (If poor, see comments)  
 Equipment Replaced: \_\_\_\_\_ bolts \_\_\_\_\_ locks \_\_\_\_\_ locking cap  
 Well Depth 44.90 ft below top of casing Casing diameter 2 inches  
 Depth to water (below top of casing) 36.40 ft. Date: 8/4/04 Time \_\_\_\_\_  
 Well Casing Volume Multiplier 0.16 for 2" 0.65 for 4", 1.47 for 6" 4 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)	D.O. Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
8:07	17.6	9.45	1116	3.86 (7.5ft)	1
8:09	18.2	9.44	1120	6.14 (1ft)	3
8:10	18.5	9.34	1089		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 W. 1<sup>st</sup> St. Livermore, CA  
 Date Sampled: 8/4/04 Time: \_\_\_\_\_  
 Wellhead assembly condition: \_\_\_\_\_ Good \_\_\_\_\_ Fair \_\_\_\_\_ Poor (If poor, see comments)  
 Equipment Replaced: \_\_\_\_\_ bolts \_\_\_\_\_ locks \_\_\_\_\_ locking cap  
 Well Depth 36.10 ft below top of casing Casing diameter 2 inches  
 Depth to water (below top of casing) 34.13 ft. Date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Time \_\_\_\_\_  
 Well Casing Volume Multiplier: 0.16 for 2", 0.65 for 4", 1.47 for 6"  
 Purging method: N/A Submersible pump \_\_\_\_\_ Bailer \_\_\_\_\_ Centrifugal pump \_\_\_\_\_ Other \_\_\_\_\_  
 At least 2 N/A well volumes have been evacuated before sampling.  
 Tubing (type: \_\_\_\_\_). (new or previously used) was used to purge well  
 Sampling method: X 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)	DO. Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
				1.68 (1ft)	

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

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

SAMPLING INFORMATION SHEET



Sample ID# VW-3 Project Name: Tesoro 67076 Project No. D004-076  
 Location (address) 1619 W 1st St. Livermore, CA  
 Date Sampled: 8/4/04 Time: \_\_\_\_\_  
 Wellhead assembly condition: \_\_\_\_\_ Good \_\_\_\_\_ Fair \_\_\_\_\_ Poor (If poor, see comments)  
 Equipment Replaced: \_\_\_\_\_ bolts \_\_\_\_\_ locks \_\_\_\_\_ locking cap  
 Well Depth \_\_\_\_\_ ft below top of casing Casing diameter 2 inches  
 Depth to water (below top of casing) 32.89 ft. Date: \_\_\_\_/\_\_\_\_/\_\_\_\_ 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 N/A 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)	DO. Water Level (Nearest 0.01 ft)	Cumulative Volume of Water Removed from Well (gallons)
				20.7 (1 ft)	
				11.9	

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

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



**ENCLOSURE C**

Laboratory Analytical Results With  
Chain-of-Custody Documentation



Report Number : 39472

Date : 8/11/2004

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

Subject : 9 Water Samples  
Project Name : Tesoro 67076  
Project Number :

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,

A handwritten signature in black ink, appearing to read "Jeff Dahl", is written over the typed name. The signature is stylized and cursive.

Jeff Dahl





Report Number : 39472

Date : 8/11/2004

Subject : 9 Water Samples  
Project Name : Tesoro 67076  
Project Number :

## Case Narrative

Matrix Spike/Matrix Spike Duplicate Results associated with samples MW-6, VW-2 for the analyte Methyl-t-butyl ether were affected by the analyte concentrations already present in the un-spiked sample.

Approved By:

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

Jeff Dahl



Report Number : 39472

Date : 8/11/2004

Project Name : Tesoro 67076

Project Number :

Sample : MW-2

Matrix : Water

Lab Number : 39472-01

Sample Date :8/4/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	<b>7200</b>	25	ug/L	EPA 8260B	8/11/2004
<b>Toluene</b>	<b>1900</b>	25	ug/L	EPA 8260B	8/11/2004
<b>Ethylbenzene</b>	<b>1800</b>	25	ug/L	EPA 8260B	8/11/2004
<b>Total Xylenes</b>	<b>5100</b>	25	ug/L	EPA 8260B	8/11/2004
<b>Methyl-t-butyl ether (MTBE)</b>	<b>2500</b>	25	ug/L	EPA 8260B	8/11/2004
<b>Diisopropyl ether (DIPE)</b>	<b>&lt; 25</b>	25	ug/L	EPA 8260B	8/11/2004
<b>Ethyl-t-butyl ether (ETBE)</b>	<b>&lt; 25</b>	25	ug/L	EPA 8260B	8/11/2004
<b>Tert-amyl methyl ether (TAME)</b>	<b>31</b>	25	ug/L	EPA 8260B	8/11/2004
<b>Tert-Butanol</b>	<b>&lt; 250</b>	250	ug/L	EPA 8260B	8/11/2004
<b>Methanol</b>	<b>&lt; 2500</b>	2500	ug/L	EPA 8260B	8/11/2004
<b>Ethanol</b>	<b>&lt; 250</b>	250	ug/L	EPA 8260B	8/11/2004
<b>1,2-Dichloroethane</b>	<b>&lt; 25</b>	25	ug/L	EPA 8260B	8/11/2004
<b>1,2-Dibromoethane</b>	<b>&lt; 25</b>	25	ug/L	EPA 8260B	8/11/2004
<b>TPH as Gasoline</b>	<b>45000</b>	2500	ug/L	EPA 8260B	8/11/2004
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	8/11/2004
4-Bromofluorobenzene (Surr)	97.6		% Recovery	EPA 8260B	8/11/2004

Approved By:

Jeff Dahl



Report Number : 39472

Date : 8/11/2004

Project Name : Tesoro 67076

Project Number :

Sample : MW-5

Matrix : Water

Lab Number : 39472-02

Sample Date :8/4/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	8/6/2004
Toluene	< 0.50	0.50	ug/L	EPA 8260B	8/6/2004
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	8/6/2004
Total Xylenes	0.71	0.50	ug/L	EPA 8260B	8/6/2004
Methyl-t-butyl ether (MTBE)	0.94	0.50	ug/L	EPA 8260B	8/6/2004
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	8/6/2004
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	8/6/2004
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	8/6/2004
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	8/6/2004
Methanol	< 50	50	ug/L	EPA 8260B	8/6/2004
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	8/6/2004
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	8/6/2004
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	8/6/2004
TPH as Gasoline	160	50	ug/L	EPA 8260B	8/6/2004
Toluene - d8 (Surr)	99.4		% Recovery	EPA 8260B	8/6/2004
4-Bromofluorobenzene (Surr)	98.6		% Recovery	EPA 8260B	8/6/2004

Approved By:

Jeff Dahl



Report Number : 39472

Date : 8/11/2004

Project Name : Tesoro 67076

Project Number :

Sample : MW-6

Matrix : Water

Lab Number : 39472-03

Sample Date :8/4/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	990	5.0	ug/L	EPA 8260B	8/9/2004
Toluene	19	5.0	ug/L	EPA 8260B	8/9/2004
Ethylbenzene	300	5.0	ug/L	EPA 8260B	8/9/2004
Total Xylenes	120	5.0	ug/L	EPA 8260B	8/9/2004
Methyl-t-butyl ether (MTBE)	3300	5.0	ug/L	EPA 8260B	8/9/2004
Diisopropyl ether (DIPE)	< 5.0	5.0	ug/L	EPA 8260B	8/9/2004
Ethyl-t-butyl ether (ETBE)	< 5.0	5.0	ug/L	EPA 8260B	8/9/2004
Tert-amyl methyl ether (TAME)	23	5.0	ug/L	EPA 8260B	8/9/2004
Tert-Butanol	< 50	50	ug/L	EPA 8260B	8/9/2004
Methanol	< 500	500	ug/L	EPA 8260B	8/9/2004
Ethanol	< 50	50	ug/L	EPA 8260B	8/9/2004
1,2-Dichloroethane	< 5.0	5.0	ug/L	EPA 8260B	8/9/2004
1,2-Dibromoethane	< 5.0	5.0	ug/L	EPA 8260B	8/9/2004
TPH as Gasoline	8200	500	ug/L	EPA 8260B	8/9/2004
Toluene - d8 (Surr)	94.5		% Recovery	EPA 8260B	8/9/2004
4-Bromofluorobenzene (Surr)	93.1		% Recovery	EPA 8260B	8/9/2004

Approved By:

Jeff Dahl



Report Number : 39472

Date : 8/11/2004

Project Name : Tesoro 67076

Project Number :

Sample : MW-7

Matrix : Water

Lab Number : 39472-04

Sample Date : 8/4/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	2.5	0.50	ug/L	EPA 8260B	8/7/2004
Toluene	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
Ethylbenzene	36	0.50	ug/L	EPA 8260B	8/7/2004
Total Xylenes	31	0.50	ug/L	EPA 8260B	8/7/2004
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	8/7/2004
Methanol	< 50	50	ug/L	EPA 8260B	8/7/2004
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	8/7/2004
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
TPH as Gasoline	2600	50	ug/L	EPA 8260B	8/7/2004
Toluene - d8 (Surr)	99.7		% Recovery	EPA 8260B	8/7/2004
4-Bromofluorobenzene (Surr)	99.1		% Recovery	EPA 8260B	8/7/2004

Approved By:

Jeff Dahl



Report Number : 39472

Date : 8/11/2004

Project Name : **Tesoro 67076**

Project Number :

Sample : **MW-8**

Matrix : Water

Lab Number : 39472-05

Sample Date :8/4/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>Toluene</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>Ethylbenzene</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>Total Xylenes</b>	0.86	0.50	ug/L	EPA 8260B	8/7/2004
<b>Methyl-t-butyl ether (MTBE)</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>Diisopropyl ether (DIPE)</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>Ethyl-t-butyl ether (ETBE)</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>Tert-amyl methyl ether (TAME)</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>Tert-Butanol</b>	< 5.0	5.0	ug/L	EPA 8260B	8/7/2004
<b>Methanol</b>	< 50	50	ug/L	EPA 8260B	8/7/2004
<b>Ethanol</b>	< 5.0	5.0	ug/L	EPA 8260B	8/7/2004
<b>1,2-Dichloroethane</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>1,2-Dibromoethane</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>TPH as Gasoline</b>	< 50	50	ug/L	EPA 8260B	8/7/2004
<b>Toluene - d8 (Surr)</b>	98.0		% Recovery	EPA 8260B	8/7/2004
<b>4-Bromofluorobenzene (Surr)</b>	97.3		% Recovery	EPA 8260B	8/7/2004

Approved By:



Report Number : 39472

Date : 8/11/2004

Project Name : **Tesoro 67076**

Project Number :

Sample : **MW-9**

Matrix : Water

Lab Number : 39472-06

Sample Date : 8/4/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	<b>3.4</b>	0.50	ug/L	EPA 8260B	8/7/2004
<b>Toluene</b>	<b>0.59</b>	0.50	ug/L	EPA 8260B	8/7/2004
<b>Ethylbenzene</b>	<b>16</b>	0.50	ug/L	EPA 8260B	8/7/2004
<b>Total Xylenes</b>	<b>7.6</b>	0.50	ug/L	EPA 8260B	8/7/2004
<b>Methyl-t-butyl ether (MTBE)</b>	<b>6.1</b>	0.50	ug/L	EPA 8260B	8/7/2004
<b>Diisopropyl ether (DIPE)</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	8/7/2004
<b>Ethyl-t-butyl ether (ETBE)</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	8/7/2004
<b>Tert-amyl methyl ether (TAME)</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	8/7/2004
<b>Tert-Butanol</b>	<b>&lt; 5.0</b>	5.0	ug/L	EPA 8260B	8/7/2004
<b>Methanol</b>	<b>&lt; 50</b>	50	ug/L	EPA 8260B	8/7/2004
<b>Ethanol</b>	<b>&lt; 5.0</b>	5.0	ug/L	EPA 8260B	8/7/2004
<b>1,2-Dichloroethane</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	8/7/2004
<b>1,2-Dibromoethane</b>	<b>&lt; 0.50</b>	0.50	ug/L	EPA 8260B	8/7/2004
<b>TPH as Gasoline</b>	<b>1200</b>	50	ug/L	EPA 8260B	8/7/2004
Toluene - d8 (Surr)	99.0		% Recovery	EPA 8260B	8/7/2004
4-Bromofluorobenzene (Surr)	102		% Recovery	EPA 8260B	8/7/2004

Approved By:



Report Number : 39472

Date : 8/11/2004

Project Name : **Tesoro 67076**

Project Number :

Sample : **MW-10**

Matrix : Water

Lab Number : 39472-07

Sample Date : 8/4/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>Toluene</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>Ethylbenzene</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>Total Xylenes</b>	<b>0.61</b>	0.50	ug/L	EPA 8260B	8/7/2004
<b>Methyl-t-butyl ether (MTBE)</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>Diisopropyl ether (DIPE)</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>Ethyl-t-butyl ether (ETBE)</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>Tert-amyl methyl ether (TAME)</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>Tert-Butanol</b>	< 5.0	5.0	ug/L	EPA 8260B	8/7/2004
<b>Methanol</b>	< 50	50	ug/L	EPA 8260B	8/7/2004
<b>Ethanol</b>	< 5.0	5.0	ug/L	EPA 8260B	8/7/2004
<b>1,2-Dichloroethane</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>1,2-Dibromoethane</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>TPH as Gasoline</b>	< 50	50	ug/L	EPA 8260B	8/7/2004
<b>Toluene - d8 (Surr)</b>	98.1		% Recovery	EPA 8260B	8/7/2004
<b>4-Bromofluorobenzene (Surr)</b>	98.3		% Recovery	EPA 8260B	8/7/2004

Approved By:





Report Number : 39472

Date : 8/11/2004

Project Name : **Tesoro 67076**

Project Number :

Sample : **VW-2**

Matrix : Water

Lab Number : 39472-08

Sample Date :8/4/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	<b>480</b>	20	ug/L	EPA 8260B	8/9/2004
<b>Toluene</b>	<b>&lt; 20</b>	20	ug/L	EPA 8260B	8/9/2004
<b>Ethylbenzene</b>	<b>60</b>	20	ug/L	EPA 8260B	8/9/2004
<b>Total Xylenes</b>	<b>&lt; 20</b>	20	ug/L	EPA 8260B	8/9/2004
<b>Methyl-t-butyl ether (MTBE)</b>	<b>12000</b>	20	ug/L	EPA 8260B	8/9/2004
<b>Diisopropyl ether (DIPE)</b>	<b>&lt; 20</b>	20	ug/L	EPA 8260B	8/9/2004
<b>Ethyl-t-butyl ether (ETBE)</b>	<b>&lt; 20</b>	20	ug/L	EPA 8260B	8/9/2004
<b>Tert-amyl methyl ether (TAME)</b>	<b>110</b>	20	ug/L	EPA 8260B	8/9/2004
<b>Tert-Butanol</b>	<b>&lt; 90</b>	90	ug/L	EPA 8260B	8/9/2004
<b>Methanol</b>	<b>&lt; 2000</b>	2000	ug/L	EPA 8260B	8/9/2004
<b>Ethanol</b>	<b>&lt; 200</b>	200	ug/L	EPA 8260B	8/9/2004
<b>1,2-Dichloroethane</b>	<b>&lt; 20</b>	20	ug/L	EPA 8260B	8/9/2004
<b>1,2-Dibromoethane</b>	<b>&lt; 20</b>	20	ug/L	EPA 8260B	8/9/2004
<b>TPH as Gasoline</b>	<b>5700</b>	2000	ug/L	EPA 8260B	8/9/2004
Toluene - d8 (Surr)	93.2		% Recovery	EPA 8260B	8/9/2004
4-Bromofluorobenzene (Surr)	93.0		% Recovery	EPA 8260B	8/9/2004

Approved By:



Report Number : 39472

Date : 8/11/2004

Project Name : **Tesoro 67076**

Project Number :

Sample : **VW-3**

Matrix : Water

Lab Number : 39472-09

Sample Date :8/4/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
<b>Benzene</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>Toluene</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>Ethylbenzene</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>Total Xylenes</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>Methyl-t-butyl ether (MTBE)</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>Diisopropyl ether (DIPE)</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>Ethyl-t-butyl ether (ETBE)</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>Tert-amyl methyl ether (TAME)</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>Tert-Butanol</b>	< 5.0	5.0	ug/L	EPA 8260B	8/7/2004
<b>Methanol</b>	< 50	50	ug/L	EPA 8260B	8/7/2004
<b>Ethanol</b>	< 5.0	5.0	ug/L	EPA 8260B	8/7/2004
<b>1,2-Dichloroethane</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>1,2-Dibromoethane</b>	< 0.50	0.50	ug/L	EPA 8260B	8/7/2004
<b>TPH as Gasoline</b>	< 50	50	ug/L	EPA 8260B	8/7/2004
Toluene - d8 (Surr)	96.6		% Recovery	EPA 8260B	8/7/2004
4-Bromofluorobenzene (Surr)	95.8		% Recovery	EPA 8260B	8/7/2004

Approved By:

  
Jeff Dahl

Report Number : 39472

Date : 8/11/2004

**QC Report : Method Blank Data**

Project Name : **Tesoro 67076**

Project Number :

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	8/11/2004
Toluene	< 0.50	0.50	ug/L	EPA 8260B	8/11/2004
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	8/11/2004
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	8/11/2004
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	8/11/2004
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	8/11/2004
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	8/11/2004
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	8/11/2004
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	8/11/2004
Methanol	< 50	50	ug/L	EPA 8260B	8/11/2004
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	8/11/2004
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	8/11/2004
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	8/11/2004
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	8/11/2004
Toluene - d8 (Surr)	102		%	EPA 8260B	8/11/2004
4-Bromofluorobenzene (Surr)	97.7		%	EPA 8260B	8/11/2004

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	8/9/2004
Toluene	< 0.50	0.50	ug/L	EPA 8260B	8/9/2004
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	8/9/2004
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	8/9/2004
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	8/9/2004
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	8/9/2004
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	8/9/2004
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	8/9/2004
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	8/9/2004
Methanol	< 50	50	ug/L	EPA 8260B	8/9/2004
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	8/9/2004
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	8/9/2004
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	8/9/2004
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	8/9/2004
Toluene - d8 (Surr)	93.3		%	EPA 8260B	8/9/2004
4-Bromofluorobenzene (Surr)	86.2		%	EPA 8260B	8/9/2004

Benzene	< 0.50	0.50	ug/L	EPA 8260B	8/6/2004
Toluene	< 0.50	0.50	ug/L	EPA 8260B	8/6/2004
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	8/6/2004
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	8/6/2004
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	8/6/2004
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	8/6/2004
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	8/6/2004
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	8/6/2004
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	8/6/2004
Methanol	< 50	50	ug/L	EPA 8260B	8/6/2004
Ethanol	< 5.0	5.0	ug/L	EPA 8260B	8/6/2004
1,2-Dichloroethane	< 0.50	0.50	ug/L	EPA 8260B	8/6/2004
1,2-Dibromoethane	< 0.50	0.50	ug/L	EPA 8260B	8/6/2004
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	8/6/2004
Toluene - d8 (Surr)	93.5		%	EPA 8260B	8/6/2004
4-Bromofluorobenzene (Surr)	82.0		%	EPA 8260B	8/6/2004

Approved By:

Jeff Dahl

KIFF ANALYTICAL, LLC

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

Report Number : 39472


Date : 8/11/2004

**QC Report : Matrix Spike/ Matrix Spike Duplicate**

Project Name : **Tesoro 67076**

Project Number :

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	39554-01	0.69	39.6	39.1	39.7	36.2	ug/L	EPA 8260B	8/11/04	98.5	90.8	8.17	70-130	25
Toluene	39554-01	<0.50	39.6	39.1	39.1	35.4	ug/L	EPA 8260B	8/11/04	98.8	90.5	8.78	70-130	25
Tert-Butanol	39554-01	5.6	198	196	201	190	ug/L	EPA 8260B	8/11/04	98.8	94.3	4.63	70-130	25
Methyl-t-Butyl Ether	39554-01	100	39.6	39.1	135	130	ug/L	EPA 8260B	8/11/04	84.2	74.1	12.7	70-130	25
Benzene	39494-01	<0.50	40.0	40.0	44.9	44.3	ug/L	EPA 8260B	8/6/04	112	111	1.28	70-130	25
Toluene	39494-01	<0.50	40.0	40.0	41.3	41.2	ug/L	EPA 8260B	8/6/04	103	103	0.125	70-130	25
Tert-Butanol	39494-01	<5.0	200	200	226	220	ug/L	EPA 8260B	8/6/04	113	110	2.32	70-130	25
Methyl-t-Butyl Ether	39494-01	<0.50	40.0	40.0	44.5	45.8	ug/L	EPA 8260B	8/6/04	111	114	3.03	70-130	25
Benzene	39535-10	<0.50	40.0	40.0	45.7	42.7	ug/L	EPA 8260B	8/9/04	114	107	6.89	70-130	25
Toluene	39535-10	<0.50	40.0	40.0	42.8	40.5	ug/L	EPA 8260B	8/9/04	107	101	5.58	70-130	25
Tert-Butanol	39535-10	<5.0	200	200	221	223	ug/L	EPA 8260B	8/9/04	110	112	0.886	70-130	25
Methyl-t-Butyl Ether	39535-10	30	40.0	40.0	84.0	86.0	ug/L	EPA 8260B	8/9/04	135	140	3.62	70-130	25

Approved By:  \_\_\_\_\_  
 Jeff Dah

KIFF ANALYTICAL, LLC

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

Report Number : 39472

Date : 8/11/2004

QC Report : Laboratory Control Sample (LCS)

Project Name : **Tesoro 67076**

Project Number :

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	8/11/04	99.1	70-130
Toluene	40.0	ug/L	EPA 8260B	8/11/04	98.2	70-130
Tert-Butanol	200	ug/L	EPA 8260B	8/11/04	97.2	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	8/11/04	97.8	70-130
Benzene	40.0	ug/L	EPA 8260B	8/6/04	113	70-130
Toluene	40.0	ug/L	EPA 8260B	8/6/04	105	70-130
Tert-Butanol	200	ug/L	EPA 8260B	8/6/04	112	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	8/6/04	109	70-130
Benzene	40.0	ug/L	EPA 8260B	8/9/04	112	70-130
Toluene	40.0	ug/L	EPA 8260B	8/9/04	105	70-130
Tert-Butanol	200	ug/L	EPA 8260B	8/9/04	107	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	8/9/04	116	70-130

KIFF ANALYTICAL, LLC

Approved By:

Jeff Dahl

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



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 Davis, CA 95616  
 Lab: 530.297.4800  
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Lab No. 39472 Page 1 of 1

Project Contact (Hardcopy or PDF To):  
Jason Mata

Company/Address:  
Delta Environmental

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

Project Number: \_\_\_\_\_ P.O. No.: \_\_\_\_\_

Project Name: Tesoro 67076

Project Address:  
1619 N. 1st St.  
Livermore, CA

California EDF Report?  Yes  No

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

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

EDF Deliverable To (Email Address): \_\_\_\_\_

Sampler Signature:  
Jason Mata

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

Sample Designation	Sampling		Container				Preservative				Matrix		BTX (8021B)	BTX/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	40 ml VOA	SLEEVE			HCl	HNO <sub>3</sub>	ICE	NONE	WATER	SOIL																
MW-2	8/4/04		3				X	X										X								X	01	
MW-5																												02
MW-6																												03
MW-7																												04
MW-8																												05
MW-9																												06
MW-10																												07
VW-2																												08
VW-3																												09

Relinquished by: Jason Mata Date: 8/4/04 Time: 9:35 pm Received by: \_\_\_\_\_

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

Relinquished by: \_\_\_\_\_ Date: 08/04/04 Time: 1:35 Received by Laboratory: Cherry R. [Signature] Bill to: KIFF ANALYTICAL

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