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7:40 am, May 30, 2007

Alameda County Environmental Health



May 29, 2007

Mr. Steven Plunkett Alameda County Health Care Services Agency 1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502-6577

Subject: Texaco Gasoline Service Station (Formerly Freedom ARCO Station)

Site Address: 15101 Freedom Avenue, San Leandro, California

STID 4473/RO0000473

Dear Mr. Plunkett:

SOMA's "Second Quarter 2007 Groundwater Monitoring Report" for the subject property has been uploaded to the State's GeoTracker database and Alameda County's FTP site for your review.

Thank you for your time in reviewing our report. Please do not hesitate to call me at (925) 734-6400, if you have questions or comments.

Sincerely,

Mansour Sepehr, Ph.D.,PE Principal Hydrogeologist

cc: Mr. Mohammad Pazdel w/report enclosure



# SECOND QUARTER 2007 GROUNDWATER MONITORING REPORT

### TEXACO GASOLINE SERVICE STATION 15101 FREEDOM AVENUE SAN LEANDRO, CALIFORNIA

May 29, 2007

Project 2551

**Prepared for** 

Mr. Mohammad Pazdel 1770 Pistacia Court Fairfield, California

#### **CERTIFICATION**

SOMA Environmental Engineering, Inc. has prepared this report on behalf of Mr. Mohammad Pazdel, the property owner of 15101 Freedom Avenue, San Leandro, California, to comply with Alameda County Health Care Services requirements for the Second Quarter 2007 groundwater monitoring event.

Mansour Sepehr, Ph.D., P.E. Principal Hydrogeologist



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8260B). April 26, 2007

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#### 1. INTRODUCTION

SOMA Environmental Engineering, Inc. (SOMA) has prepared this report on behalf of Mr. Mohammad Pazdel, the property owner of 15101 Freedom Avenue, San Leandro, California (the Site), shown in Figure 1. The Site is located in an area of primarily residential properties and adjacent commercial areas.

This report summarizes the results of the Second Quarter 2007 groundwater monitoring event conducted at the Site on April 26, 2007, and includes physical and chemical properties measured in the field for each groundwater sample. The physical and chemical properties consisted of measurements of pH, temperature, and electrical conductivity (EC). This report also includes the laboratory analytical results of the groundwater samples.

These activities were performed in accordance with the general guidelines of the California Regional Water Quality Control Board and the Alameda County Health Care Services. Appendix A details the procedures used by SOMA during this monitoring event.

#### 1.1 Previous Activities

May 20, 1999: Three 10,000-gallon single-walled underground storage tanks (USTs) were removed.

<u>July 7, 1999</u>: A 20,000-gallon gasoline UST, an 8,000-gallon gasoline UST, and a 6,000-gallon diesel UST were installed in the tank cavity to replace the USTs removed on May 20, 1999.

<u>July 2001</u>: Additional soil and groundwater investigations were conducted to further examine potential petroleum hydrocarbon contamination discovered during the removal and upgrade of the USTs. During this investigation, five soil borings, SB-1 through SB-5, were drilled. The maximum concentrations of total petroleum hydrocarbons as gasoline (TPH-g) and benzene, toluene, ethylbenzene, and total xylenes (BTEX) in the soil samples collected between 19 and 25.5 feet below ground surface (bgs) were 470, 2.6, 16, 12, and 73 mg/kg, respectively. Methyl tertiary-butyl ether (MtBE) was below the laboratory reporting limit of 0.005 mg/kg in all the soil samples collected. The maximum concentrations of TPH-g and BTEX in the groundwater samples collected from the soil borings were 83, 19, 1.8, 1.5, and 73 mg/L, respectively. The maximum reported MtBE concentration was 87 mg/L in soil boring SB-2. The soil boring locations are shown in Figure 2.

April 22 and 23, 2002: SOMA installed five 4-inch-diameter on-site groundwater monitoring wells, MW-1 to MW-5, to evaluate the groundwater flow gradient and the extent of petroleum hydrocarbons and MtBE contamination beneath the Site. Figure 2 displays the locations of the monitoring wells.

<u>July 22, 2003</u>: An additional off-site investigation was conducted by SOMA to evaluate the lateral extent of the soil and groundwater contamination. The off-site investigation included a sensitive receptor survey to locate water supply wells and/or water bodies within a 2,000-foot radius of the Site.

<u>September 2003</u>: Six temporary well boreholes were advanced to depths of at least 40 feet bgs. Figure 2 shows the locations of the temporary well boreholes.

<u>September 2004</u>: SOMA installed four off-site wells, MW-6 to MW-9, located as shown in Figure 2.

#### 2. RESULTS

The following sections provide results of field measurements and laboratory analyses for the April 26, 2007 groundwater monitoring event.

#### 2.1 Field Measurements

Table 1 presents calculated groundwater elevations and depths to groundwater for each monitoring well. Depths to groundwater ranged from 10.05 feet in well MW-9 to 22.67 feet in well MW-1. The corresponding groundwater elevations ranged from 30.21 feet in well MW-9 to 31.79 feet in well MW-1.

Figure 3 displays the contour map of groundwater elevations. The groundwater flow direction is south to southwesterly across the Site, at a gradient of 0.0032 feet/feet. The groundwater flow direction remained consistent with the previous monitoring event (First Quarter 2007); however, the gradient slightly decreased.

The field measurements taken during this monitoring event are shown in Appendix B.

#### 2.2 Laboratory Analysis

Table 1 also presents the TPH-g, BTEX, and MtBE analytical results, as well as the historical groundwater analytical results.

TPH-g concentrations were below the laboratory reporting limit in both off-site wells MW-8 and MW-9. Detectable TPH-g concentrations ranged from 169  $\mu$ g/L in well MW-2 to 30,700  $\mu$ g/L in well MW-3. The TPH-g concentration in well MW-3 was several orders of magnitude higher than in the other site wells. Figure 4 displays the contour map of TPH-g concentrations in the groundwater. As

illustrated, the most impacted TPH-g region is in the vicinity of the dispenser islands and former USTs.

The following BTEX concentrations were observed during this monitoring event.

- In wells MW-1 and MW-4 to MW-6, toluene was below the laboratory reporting limit.
- In wells MW-2 and MW-7 benzene and toluene were below the laboratory reporting limit, and ethylbenzene and total xylenes were at low levels.
- In well MW-8, all BTEX analytes were below the laboratory reporting limit, with the exception of ethylbenzene, which was detected at 4.29 μg/L.
- In well MW-9, all BTEX analytes were below the laboratory reporting limit.
- The most impacted BTEX sample was collected from well MW-3, where groundwater BTEX concentrations were detected at 2,350 μg/L, 158 μg/L, 1,470 μg/L, and 4,320 μg/L, respectively.

Figure 5 displays the contour map of benzene concentrations in the groundwater. The most impacted benzene region is in the vicinity of the dispenser islands and former USTs. The benzene concentration detected in well MW-3 was several orders of magnitude higher than in the other site wells. Benzene appears to have only minimally impacted off-site well MW-6 and was non-detectable in the remaining off-site wells.

Low or non-detectable levels of MtBE were observed in all site wells except for MW-3 to MW-5. Detectable MtBE concentrations ranged from 4.0  $\mu$ g/L in well MW-1 to 1,330  $\mu$ g/L in well MW-3. Figure 6 displays the contour map of MtBE concentrations in the groundwater. The most impacted MtBE region was in the vicinity of the dispenser islands and former USTs.

Table 1 shows the detailed historical concentration trends for all site wells. Since the previous monitoring event (First Quarter 2007), TPH-g and total xylenes increased, and benzene, toluene, ethylbenzene, and MtBE decreased, in the more contaminated well MW-3.

Table 2 shows the analytical results for gasoline oxygenates, as well as the historical groundwater gasoline oxygenate results.

All isopropyl ether (DIPE), 1,2-dichloroethane (1,2-DCA), 1,2-dibromoethane (EDB), and ethanol constituents were below the laboratory reporting limit in all groundwater samples collected during this monitoring event. Ethyl tertiary-butyl ether (ETBE) was detected at 2.28  $\mu$ g/L in well MW-4, and below the laboratory reporting limit in the remaining tested wells. The analytical results for 1,2-DCA, ethanol, and EDB constituents are shown in the laboratory report in Appendix C.

Tertiary-butyl alcohol (TBA) was the major gasoline oxygenate observed during this monitoring event. TBA was below the laboratory reporting limit in off-site wells (MW-7 to MW-9), as well as on-site well MW-2.

Figure 7 displays the contour map of TBA concentrations in the groundwater. The most impacted TBA regions were in the vicinity of the dispenser islands and former USTs, around wells MW-3 to MW-5.

Tertiary-amyl methyl ether (TAME) was below the laboratory-reporting limit in all of the groundwater samples, except for samples collected at wells MW-3 to MW-5, where it was detected at 369  $\mu$ g/L, 29.2  $\mu$ g/L, and 310  $\mu$ g/L, respectively. Figure 8 displays the contour map of TAME concentrations in the groundwater. The only impacted TAME regions were in the vicinity of the dispenser islands and former USTs.

Appendix C includes the laboratory report and chain-of-custody form for this monitoring event.

Refer to Tables 1 and 2 for further detailed historical concentration trends.

#### 3. CONCLUSION AND RECOMMENDATIONS

The results of the Second Quarter 2007 groundwater monitoring event are summarized below.

- The groundwater flow direction has remained in a south to southwesterly direction throughout the Site.
- The hydrocarbon source area still remains in the vicinity of the former UST cavity, near well MW-3, where a previous release of petroleum hydrocarbons occurred. Since the First Quarter 2007, TPH-g has increased at well MW-3; however, all benzene, toluene, ethylbenzene, MtBE, TBA, and TAME analytes have decreased.
- The southerly migration of impacted groundwater from the source area of the former UST cavity is evidenced by high MtBE and TBA concentrations at well MW-4. However, in general, the MtBE, TBA and TAME plumes appear to be centrally located in the vicinity of the former UST cavity and pump islands, around wells MW-3 to MW-5.
- Based on the quarterly groundwater monitoring results, in general, all BTEX, MtBE and gasoline oxygenates have remained at low or nondetectable levels in the off-site wells.
- The TPH-g concentration in well MW-6 remained significantly lower this quarter, at 3,110 μg/L, than the historical peak value observed in September 2004, at 34,000 μg/L. TPH-g has historically remained nondetectable in wells MW-8 and MW-9.

Based on the results of this monitoring event, SOMA recommends the following action items:

- Continuing the quarterly monitoring program to better understand the seasonal variations in the groundwater quality conditions.
- Implementing soil and groundwater remediation. Recently SOMA conducted an extensive site investigation in order to prepare a site conceptual model (SCM), the results of which were submitted to Alameda County Health Care Services on November 22, 2006. Based on the recommendations of the SCM, soil and groundwater remediation is warranted.

#### 4. REPORT LIMITATIONS

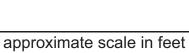
This report is the summary of work done by SOMA, including observations and descriptions of the Site's conditions. It includes analytical results produced by Pacific Analytical Laboratory for the current groundwater monitoring event. The numbers and locations of the wells were selected to provide the required information, but may not be completely representative of the entire Site's conditions. All conclusions and recommendations are based on the results of the laboratory analysis. Conclusions beyond those specifically stated in this document should not be inferred from this report.

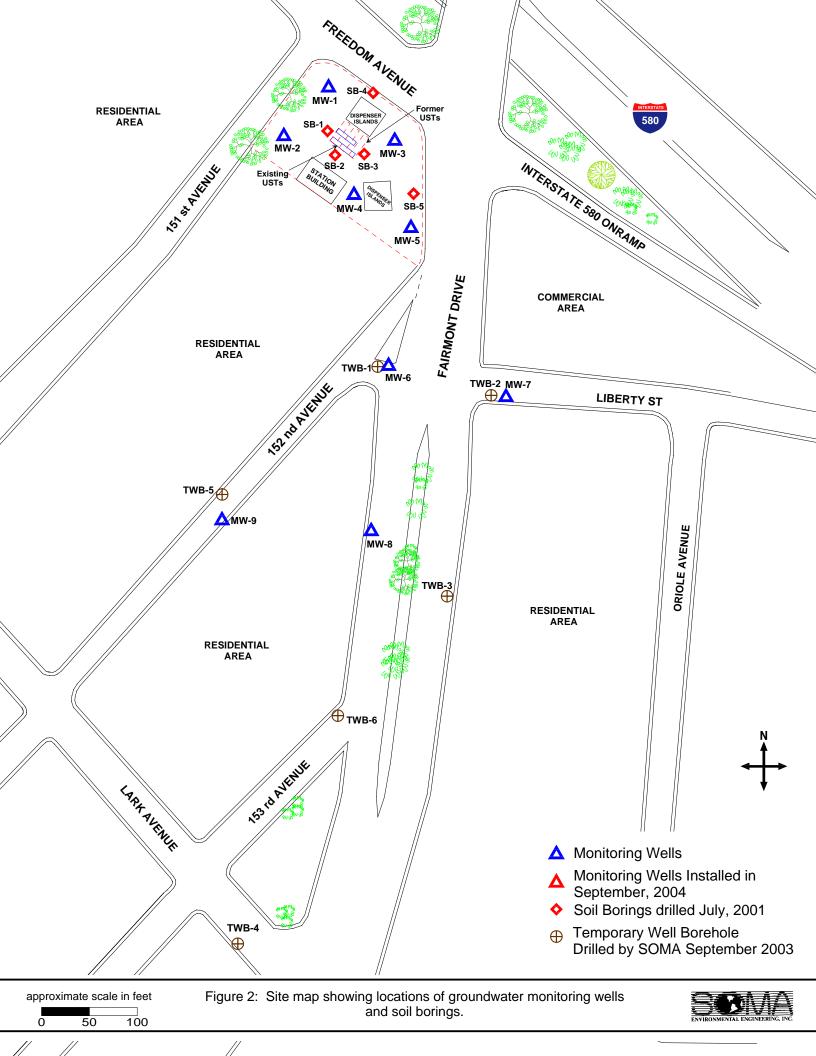
SOMA warrants that services were provided in accordance with the generally accepted practices in the environmental engineering and consulting field at the time of this sampling.

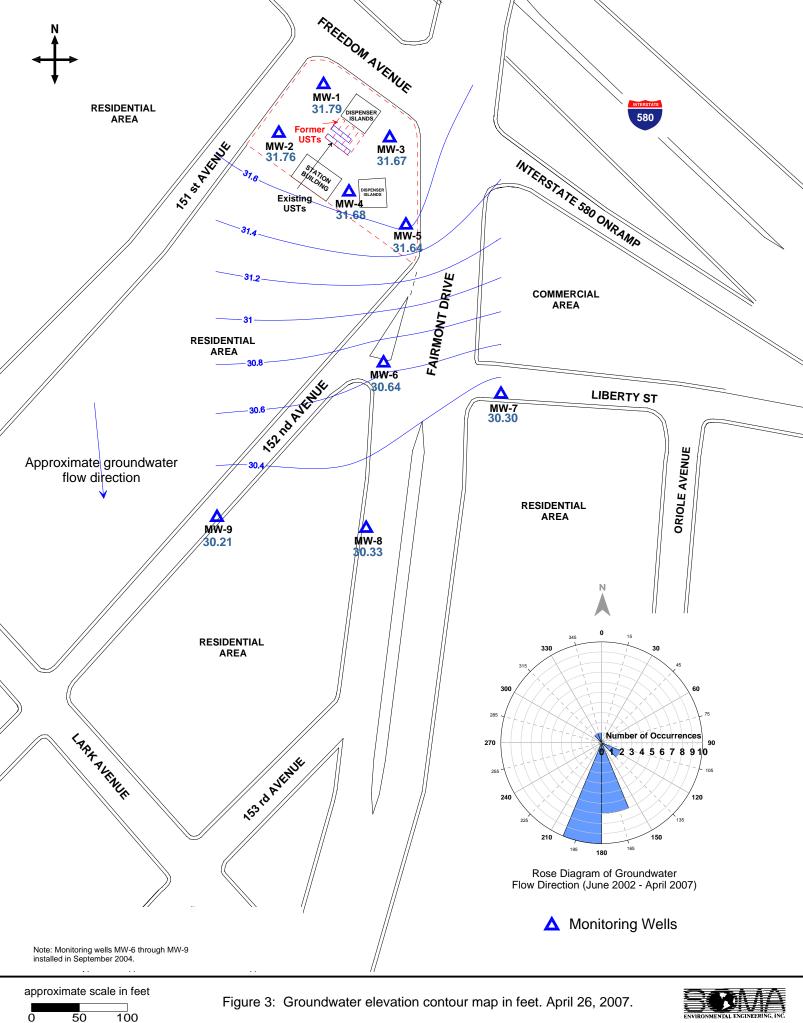
## **Figures**

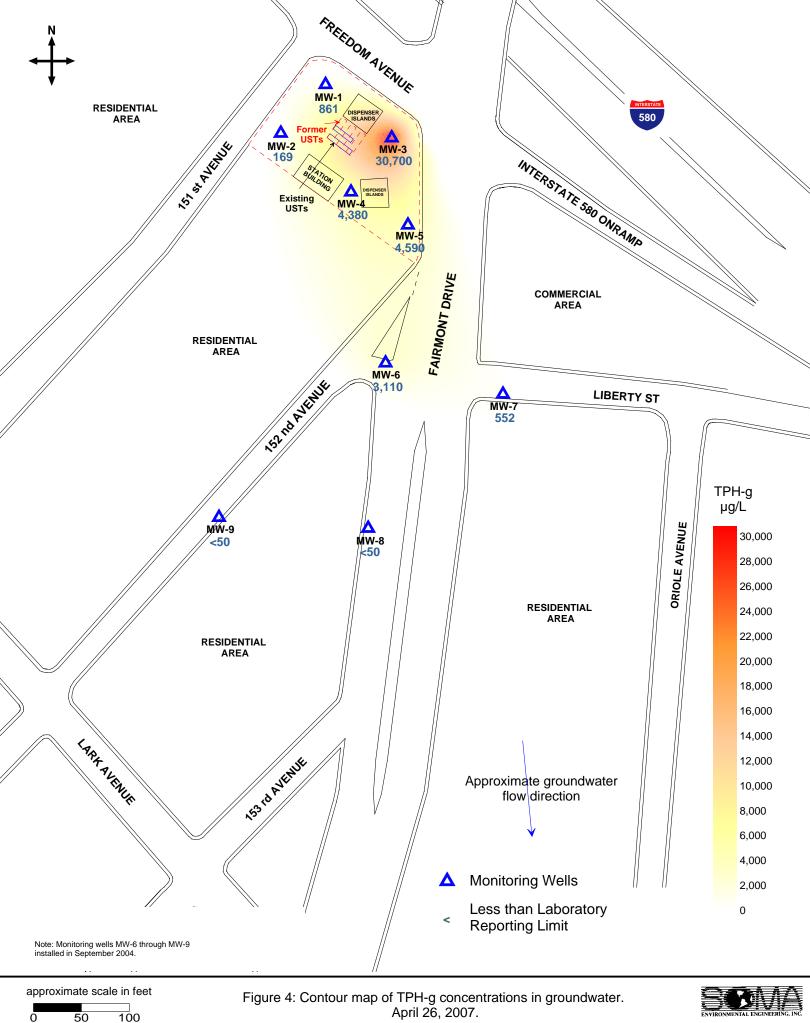




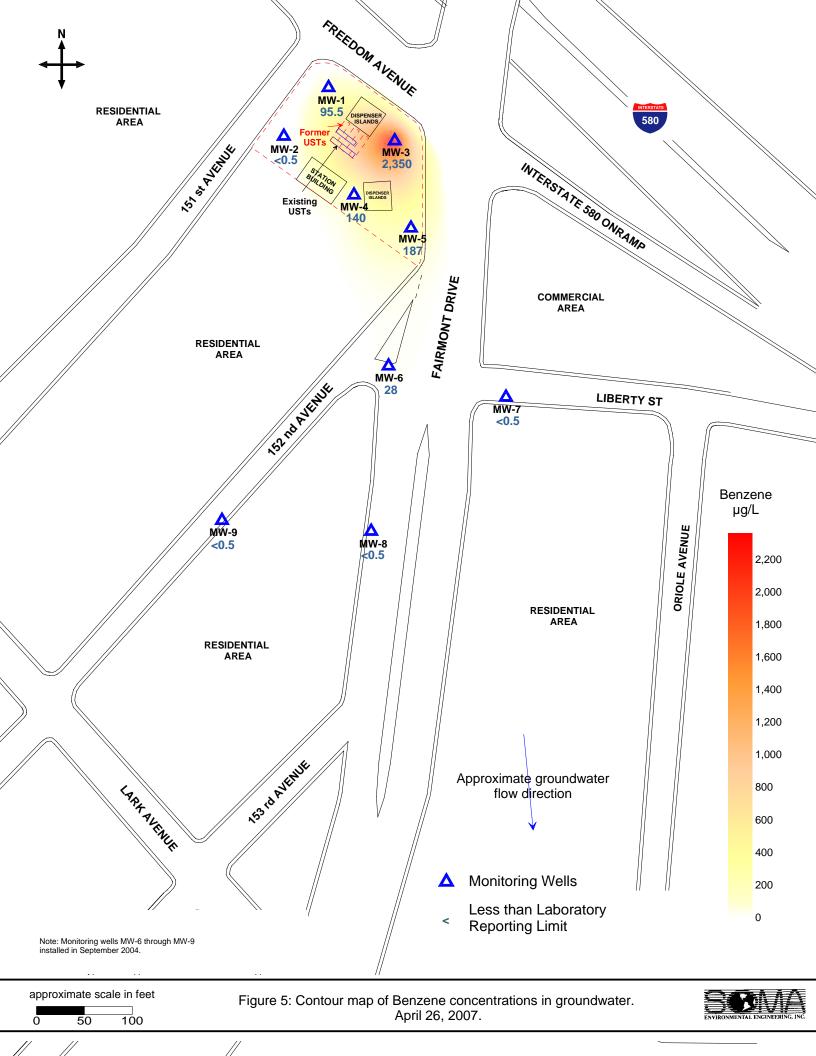


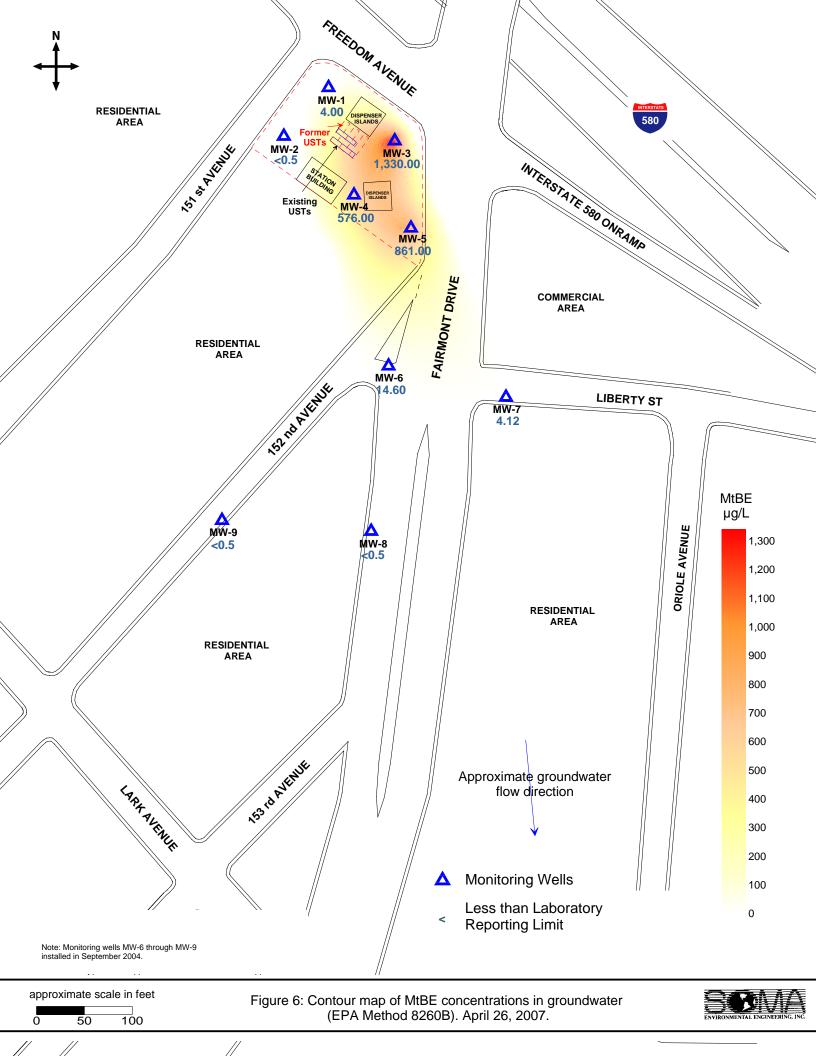


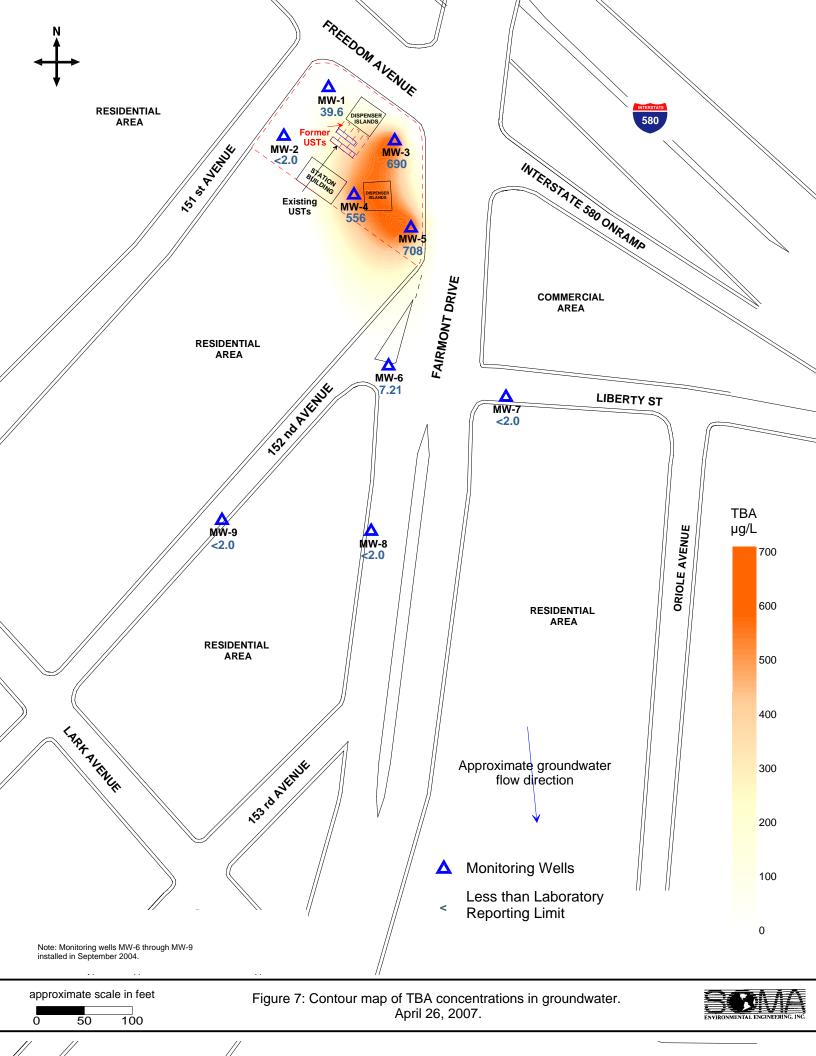


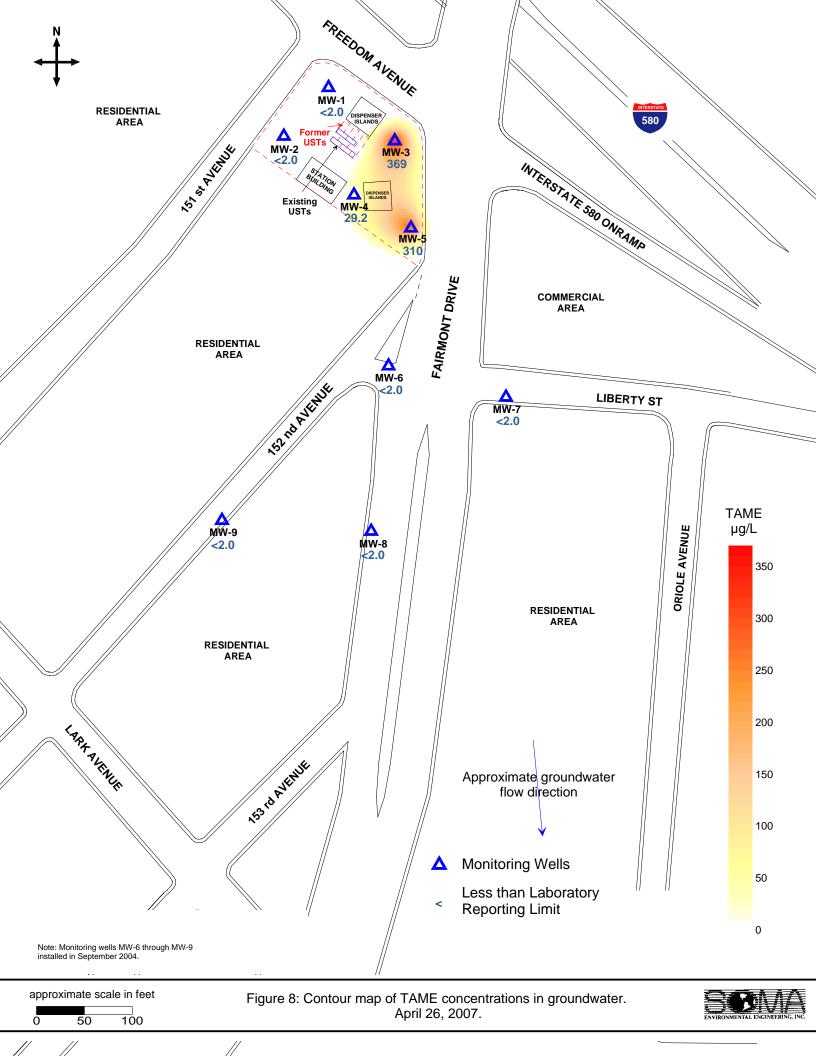


April 26, 2007.









## **Tables**

Table 1
Historical Groundwater Elevation Data and Analytical Results
15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (μg/L)	Benzene (μg/L)	Toluene (μg/L)	Ethyl- benzene (μg/L)	Total Xylenes (μg/L)	MtBE 8260B <sup>2</sup> (μg/L)
MW-1	5/10/2002	51.71	22.85	28.86	5,700	360	4.5	340	450	2
	8/8/2002	51.71	23.31	28.40	9,100	590	2.6	830	362	<1.3
	11/8/2002	51.71	23.58	28.13	7,900	570	3.1	680	392	< 1.0
	2/21/2003	51.71	22.62	29.09	2,900	160	1.6 C	170	211	<0.5
	5/28/2003	51.71	22.43	29.28	1,700	55	<0.5	90	115	2.00
	8/12/2003	51.71	21.30	30.41	2,600	2.5	<0.5	190	130	<0.5
	10/9/2003	51.71	23.49	28.22	9,200	560.0	2.7 C	670	648	<1.0
	1/15/2004	51.71	22.43	29.28	5,500	190	<1.0	220	124.4	<0.5
	5/25/2004	51.71	22.94	28.77	8,000	400	1.50	420	393	3.40
	9/21/2004	54.46	23.49	30.97	9,300	580	9.30	690	683	4.60
	12/14/2004	54.46	23.01	31.45	7,360	337	<4.3	731	633	<4.3
	3/11/2005	54.46	21.48	32.98	2,510	45.2	<0.5	23.2	39.63	2.80
	6/15/2005	54.46	22.42	32.04	1,690	36.3	<2.0	59.5	28.73	2.01
	8/26/2005	54.46	23.00	31.46	7,310	318	<8.60	475	316	5.15
	11/11/2005	54.46	21.40	33.06	9,640	341	<8.6	467	329.7	6.04

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MW-1 cont	2/9/2006	54.46	21.81	32.65	775	14	<2.0	12.6	10.32	4.01
	5/9/2006	54.46	21.68	32.78	444	7.80	<2.0	12.1	6.31	1.75
	8/10/2006	54.46	22.79	31.67	5,090	324	<8.60	108	59.9	8.24
	10/26/2006	54.46	23.19	31.27	6,950	556	<4.0	190	136.09	8.61
	1/25/2007	54.46	22.82	31.64	2,640	196	<2.0	105	25.5	7.92
	4/26/2007	54.46	22.67	31.79	861	95.5	<2.0	17	6.36	4.00
MW-2	5/10/2002	49.66	22.83	26.83 *	3,100	67	8	250	215	56
	8/8/2002	49.66	21.41	28.25	2,700	4.6	<0.5	310	140	<0.5
	11/8/2002	49.66	21.79	27.87	3,400	4.6	< 0.5	310	160	< 0.5
	2/21/2003	49.66	20.51	29.15	890	1.7 C	0.80 C	68	38.92 C	<0.5
	5/28/2003	49.66	20.33	29.33	2,700	5.2 C	<0.5	120	140	1.2
	8/12/2003	49.66	23.18	26.48*	8,500	640	<2.5	560	659	<0.8
	10/9/2003	49.66	21.71	27.95	3100 H	4.3 C	<0.5	210	160	<0.5
	1/15/2004	49.66	20.31	29.35	660 H	1.5 C	<0.5	8.9	25	<0.5
	5/25/2004	49.66	21.09	28.57	4,500	5.1 C	<0.5	190	230	0.70
	9/21/2004	52.41	21.71	30.70	370	0.76 C	<0.5	25	16	0.50
	12/14/2004	52.41	21.20	31.21	880	1.0	<0.5	66	52	<0.5

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15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (μg/L)	Benzene (μg/L)	Toluene (μg/L)	Ethyl- benzene (μg/L)	Total Xylenes (μg/L)	MtBE 8260B <sup>2</sup> (μg/L)
MW-2 cont.	3/11/2005	52.41	19.15	33.26	564	<0.5	<0.5	21	11.9	<0.5
	6/15/2005	52.41	20.30	32.11	2,040	1.2	<2.0	78.2	22	<0.5
	8/26/2005	52.41	20.97	31.44	1,500	0.930	<2.00	87.6	21	0.86
	11/11/2005	52.41	25.30	27.11	2,140	1.08	<2.0	104	29	0.79
	2/9/2006	52.41	19.41	33.00	1,410	<0.5	<2.0	99.6	21.4	0.72
	5/9/2006	52.41	19.41	33.00	1,100	<0.5	<2.0	86.5	17	<0.5
	8/10/2006	52.41	20.8	31.61	3,180	2.87	<2.0	88.9	24.8	<0.50
	10/26/2006	52.41	21.22	31.19	1,200	<0.5	<2.0	23.5	4.79	0.6
	1/25/2007	52.41	20.89	31.52	623	0.64	<2.0	42.4	4.37	0.66
	4/26/2007	52.41	20.65	31.76	169	<0.5	<2.0	15.2	2.3	<0.5
MW-3	5/10/2002	51.16	22.28	28.88	44,000	6,000	900	1,500	6,200	2,400
	8/8/2002	51.16	22.88	28.28	40,000	5,800	1,100	1,600	6,500	1,300
	11/8/2002	51.16	23.19	27.97	47,000	5,300	1,200	2,200	8,600	1,000
	2/21/2003	51.16	22.02	29.14	39,000	5,500	1,500	2,000	8,600	1,300
	5/28/2003	51.16	21.89	29.27	52,000	7,300	3,000	2,800	12,700	2,100
	8/12/2003	51.16	22.66	28.50	31,000	6,100	860	1,500	6,900	1,200
	10/9/2003	51.16	23.06	28.10	41,000	6,100	1,100	2,200	10,200	960

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Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (μg/L)	Benzene (μg/L)	Toluene (μg/L)	Ethyl- benzene (μg/L)	Total Xylenes (μg/L)	MtBE 8260B <sup>2</sup> (μg/L)
MW-3 cont.	1/15/2004	51.16	21.85	29.31	51,000	4,100	1,100	2,000	8,400	590
	5/25/2004	51.16	22.55	28.61	65,000	4,300	1,300	2,500	10,500	720
	9/21/2004	53.91	23.08	30.83	42,000	4,900	890	2,200	8,700	480
	12/14/2004	53.91	22.52	31.39	35,151	4,066	972	2,942	13,032	491
	3/11/2005	53.91	20.90	33.01	42,600	3,040	1,100	1,530	6,670	968
	6/15/2005	53.91	21.85	32.06	84,100	5,110	2,160	3,030	8,800	2,670
	8/26/2005	53.91	22.49	31.42	43,500	3,630	1,080	2,500	6,830	1,440
	11/11/2005	53.91	22.81	31.10	47,700	4,240	520	2,170	6,320	1,390
	2/9/2006	53.91	21.12	32.79	44,500	5,070	1360	1,920	4,840	3,280
	5/9/2006	53.91	21.09	32.82	48,100	2,510	1,140	1,950	5,030	2,210
	8/10/2006	53.91	22.26	31.65	42,100	3,450	869	1,760	5,650	3,570
	10/26/2006	53.91	22.73	31.18	33,400	4,800	331	1,170	3,510	4,790
	1/25/2007	53.91	22.34	31.57	19,300	4,820	167	1,540	3,740	3,430
	4/26/2007	53.91	22.24	31.67	30,700	2,350	158	1,470	4,320	1,330
MW-4	5/10/2002	50.54	21.78	28.76	880	25	1.0C	110	52	12,000
	8/8/2002	50.54	22.50	28.04	3,800	70	<5.0	300	115	4,800
	11/8/2002	50.54	22.81	27.73	5,100	150	10	460	258	2,400

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Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (μg/L)	Benzene (μg/L)	Toluene (μg/L)	Ethyl- benzene (μg/L)	Total Xylenes (μg/L)	MtBE 8260B <sup>2</sup> (μg/L)
MW-4 cont.	2/21/2003	50.54	21.48	29.06	3,200	98	66	220	360	6,600
	5/28/2003	50.54	21.24	29.30	6,200	140	46	200	790	2,300
	8/12/2003	50.54	22.32	28.22	7,500	180	57	220	1450	1,900
	10/9/2003	50.54	22.74	27.80	5,800	250	32	300	970	7,800
	1/15/2004	50.54	21.19	29.35	5,900	270	17 C	150	640	7,300
	5/25/2004	50.54	22.03	28.51	9,100	210	51	200	1190	1800
	9/21/2004	53.31	22.76	30.55	5,200	290	12	370	600	7300
	12/14/2004	53.31	21.99	31.32	8,937	538	114	416	2379	5021
	3/11/2005	53.31	20.01	33.30	12,300	225	39.6	80.1	1465	3870
	6/15/2005	53.31	21.25	32.06	7,690	114	32.6	77.1	555	1150
	8/26/2005	53.31	22.03	31.28	8,850	175	24.6	150	851	1380
	11/11/2005	53.31	22.43	30.88	9,990	356	<43	196	700	3,640
	2/9/2006	53.31	20.31	33.00	6,850	205	<43	67.2	255.2	5,120
	5/9/2006	53.31	20.33	32.98	1,290	18.1	<8.6	12.9	25.87	799
	8/10/2006	53.31	21.74	31.57	7,830	118	<8.60	25.3	174.6	919
	10/26/2006	53.31	22.29	31.02	1,540	81.9	<43	96	46.4	3,610
	1/25/2007	53.31	21.86	31.45	4,370	163	<8.6	85.1	269.1	1,050
	4/26/2007	53.31	21.63	31.68	4,380	140	<8.6	67	276.8	576

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Historical Groundwater Elevation Data and Analytical Results
15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (μg/L)	Benzene (μg/L)	Toluene (μg/L)	Ethyl- benzene (μg/L)	Total Xylenes (μg/L)	MtBE 8260B <sup>2</sup> (μg/L)
MW-5	5/10/2002	47.79	19.02	28.77	25,000	1,000	1200	1,100	3,060	1,800
	8/8/2002	47.79	19.80	27.99	18,000	1,000	660	950	1,720	1,500
	11/8/2002	47.79	20.14	27.65	16,000	1,300	380	930	1,550	1,200
	2/21/2003	47.79	18.70	29.09	12,000	390	71	770	1,100	860
	5/28/2003	47.79	18.52	29.27	9,100	210	31	560	790	600
	8/12/2003	47.79	19.54	28.25	12,000	660	75	660	1,110	1,000
	10/9/2003	47.79	20.06	27.73	15,000	1,000	130	1,000	1,430	1,700
	1/15/2004	47.79	18.42	29.37	9,900	450 C	16	500	431	1,100
	5/25/2004	47.79	19.30	28.49	9,200	380	24	490	536	720
	9/21/2004	50.53	20.15	30.38	10,000	980	71	560	770	1200
	12/14/2004	50.53	19.30	31.23	10,502	587	64	1040	1133	1015
	3/11/2005	50.53	17.20	33.33	8,390	407	<5.5	83	42.5	1530
	6/15/2005	50.53	18.54	31.99	9,350	147	18.3	435	146.2	573
	8/26/2005	50.53	19.31	31.22	9,500	261	<22	726	321.3	749
	11/11/2005	50.53	19.75	30.78	10,000	443	41.5	527	278.5	1,430
	2/9/2006	50.53	17.58	32.95	7,640	237	<22	187	50.2	2,050
	5/9/2006	50.53	17.54	32.99	8,360	111	<8.6	300	75.84	566
	8/10/2006	50.53	19.02	31.51	16,100	250	<22	455	187.4	1,590
	10/26/2006	50.53	19.61	30.92	10,100	430	<22	375	192.6	3,060

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Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (μg/L)	Benzene (μg/L)	Toluene (μg/L)	Ethyl- benzene (μg/L)	Total Xylenes (μg/L)	MtBE 8260B <sup>2</sup> (μg/L)
MW-5 cont.	1/25/2007	50.53	19.19	31.34	3,960	340	<22	323	150.1	1,740
	4/26/2007	50.53	18.89	31.64	4,590	187	<8.6	307	116.5	861
MW-6	9/21/2004	45.82	17.64	28.18	34,000	150	130	2200	8100	0.6
	12/14/2004	45.82	15.75	30.07	5,161	137	7	436	1136	<5.5
	3/11/2005	45.82	13.80	32.02	6,040	125	3.22	260	722.1	4.94
	6/15/2005	45.82	14.78	31.04	5,590	44.3	6.60	272	382	5.85
	8/26/2005	45.82	15.91	29.91	6,130	99	<8.6	378	492.9	5.66
	11/11/2005	45.82	16.55	29.27	11,400	101	<8.6	645	834.7	4.33
	2/9/2006	45.82	13.92	31.90	2,790	32.3	<8.6	131	131.22	7.30
	5/9/2006	45.82	13.95	31.87	3,730	25	<2.0	213	207.82	5.87
	8/10/2006	45.82	15.28	30.54	4,800	41.9	<2.0	201	189	10.4
	10/26/2006	45.82	16.11	29.71	6,080	37.4	<2.0	116	183	9.78
	1/25/2007	45.82	15.76	30.06	3,220	25.2	<2.0	219	174	14.7
	4/26/2007	45.82	15.18	30.64	3,110	28	<2.0	165	138.47	14.6
MW-7	9/21/2004	44.74	15.21	29.53	2,900	<0.5	<0.5	52	61	8.1
	12/14/2004	44.74	13.90	30.84	<50	1.6	<0.5	29	58	6.0

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Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (μg/L)	Benzene (μg/L)	Toluene (μg/L)	Ethyl- benzene (μg/L)	Total Xylenes (μg/L)	MtBE 8260B <sup>2</sup> (μg/L)
MW-7 cont	3/11/2005	44.74	11.46	33.28	2,230	<2.5	<2.5	39.4	51.4	12.4
	6/15/2005	44.74	12.97	31.77	2,940	0.85	<2.0	50.6	31.9	13.7
	8/26/2005	44.74	14.10	30.64	2,310	<0.50	<2.0	55.7	29.6	4.01
	11/11/2005	44.74	14.59	30.15	3,030	<0.5	<2.0	66.5	42.3	9.76
	2/9/2006	44.74	NM	NM	NA	NA	NA	NA	NA	NA
	5/9/2006	44.74	12.02	32.72	1,400	<0.5	<2.0	19.8	12.4	2.30
	8/10/2006	44.74	13.72	31.02	604	<0.50	<2.0	6.2	4.63	1.42
	10/26/2006	44.74	14.38	30.36	1350	<0.50	<2.0	16.6	10.8	1.87
	1/25/2007	44.74	13.93	30.81	340	<0.5	<2.0	6.84	2.44	1.63
	4/26/2007	44.74	14.44	30.30	552	<0.5	<2.0	11.4	6.11	4.12
MW-8	9/21/2004	41.14	12.98	28.16	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	12/14/2004	41.14	11.22	29.92	<50	<0.5	<0.5	<0.5	<1.0	<0.5
	3/11/2005	41.14	NM	NM	NA	NA	NA	NA	NA	NA
	6/15/2005	41.14	10.46	30.68	<200	0.53	<2.0	<0.5	<1.0	<0.5
	8/26/2005	41.14	11.53	29.61	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	11/11/2005	41.14	11.92	29.22	<50	<0.5	<2.0	1.36	1.8	<0.5

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15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (μg/L)	Benzene (μg/L)	Toluene (μg/L)	Ethyl- benzene (μg/L)	Total Xylenes (μg/L)	MtBE 8260B <sup>2</sup> (μg/L)
MW-8 cont.	2/9/2006	41.14	9.74	31.40	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	5/9/2006	41.14	9.90	31.24	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	8/10/2006	41.14	10.9	30.24	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	10/26/2006	41.14	11.68	29.46	<50	<0.50	<2.0	3.37	<1.0	<0.50
	1/25/2007	41.14	11.44	29.70	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	4/26/2007	41.14	10.81	30.33	<50	<0.5	<2.0	4.29	<2.0	<0.5
MW-9	9/21/2004	40.26	12.18	28.08	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	12/14/2004	40.26	10.91	29.35	<50	<0.5	<0.5	<0.5	<1.0	<0.5
	3/11/2005	40.26	10.52	29.74	<200	<0.5	<0.5	<0.5	<1.0	<0.5
	6/15/2005	40.26	14.73	25.53	<200	<0.5	<2.0	<0.5	<1.0	<0.5
	8/26/2005	40.26	10.59	29.67	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	11/11/2005	40.26	11.25	29.01	<50	<0.5	<2.0	<0.5	<1.0	<0.5
	2/9/2006	40.26	10.05	30.21	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	5/9/2006	40.26	9.06	31.20	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	8/10/2006	40.26	10.01	30.25	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	10/26/2006	40.26	10.81	29.45	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	1/25/2007	40.26	10.67	29.59	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	4/26/2007	40.26	10.05	30.21	<50	<0.5	<2.0	<0.5	<2.0	<0.5

#### Table 1

### **Historical Groundwater Elevation Data and Analytical Results**

#### 15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (μg/L)	Benzene (μg/L)	Toluene (μg/L)	Ethyl- benzene (μg/L)	Total Xylenes (μg/L)	MtBE 8260B <sup>2</sup> (μg/L)
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#### Notes:

The first time SOMA monitored this Site was in May 2002.

- \*: Due to minimal recharge rates in well MW-2, the groundwater elevation recorded on these dates did not match the overall site conditions, May 2002 & August 2003.
- <sup>1</sup>: Top of casing elevations were surveyed to a datum of 67.07 M.S.L by Kier & Wright Civil Engineers & Land Surveyors on May 7, 2002.

  On October 11, 2004, the site was re-surveyed by Harrington Surveys, Inc. of Walnut Creek, CA to a datum of California Coordinate System, Zone 3, NAD 83.
- MtBE analyzed by EPA Method 8021B, and confirmed by EPA Method 8260B.
- <: Not detected above the laboratory reporting limit.
- Presence confirmed, but confirmation concentration differed by more than a factor of two.
- C: Presence confirmed, but RPD between columns exceeds 40%.
- H: Heavier hydrocarbons contributed to the quantitation.
- NA: Not Analyzed. Well MW-8 was inaccessible during the First Quarter 2005, car was parked over well.

  Not Analyzed. Well MW-7 was inaccessible during the First Quarter 2006, car was parked over well.
- NM: Not Measured. Well MW-8 was inaccessible during the First Quarter 2005, car was parked over well.

  Not Measured. Well MW-7 was inaccessible during the First Quarter 2006, car was parked over well.

The first time SOMA monitored wells MW-6 to MW-9 was in September 2004.

Table 2
Historical Gasoline Oxygenates Results
15101 Freedom Avenue, San Leandro, CA

Monitoring	Dete	TBA	DIPE	ETBE	TAME				
Well	Date	(μg/L)	(μ <b>g/L</b> )	(μ <b>g/L</b> )	(μg/L)				
MW-1	8/8/2002	78	<1.3	<1.3	<1.3				
	11/1/2002	42	< 1.0	< 1.0	< 1.0				
	2/21/2003	47	<0.5	<0.5	<0.5				
	5/28/2003	25	<0.5	<0.5	<0.5				
	8/12/2003	<10	<0.5	<0.5	<0.5				
	10/9/2003	70	<1.0	<1.0	<1.0				
	1/15/2004	55	<0.5	<0.5	<0.5				
	5/25/2004	62	<0.7	<0.7	<0.7				
	9/21/2004	<10	<0.5	<0.5	<0.5				
	12/14/2004	<21.5	<4.3	<4.3	<17.2				
	3/11/2005	81	<0.5	<0.5	<2.0				
	6/15/2005	<10	<0.5	<0.5	<2.0				
	8/26/2005	68.9	<2.15	<2.15	<8.6				
	11/11/2005	46	<2.15	<2.15	<8.6				
	2/9/2006	11.3	<0.5	<0.5	<2.0				
	5/9/2006	<10	<0.5	<0.5	<2.0				
	8/10/2006					<43	<2.15	<2.15	<8.60
	10/26/2006	39.4	<1.0	<1.0	<4.0				
	1/25/2007	41.4	<0.5	<0.5	<2.0				
	4/26/2007	39.6	<0.5	<0.5	<2.0				
MW-2	8/8/2002	21	<0.5	<0.5	<0.5				
	11/1/2002	15	<0.5	<0.5	<0.5				
	2/21/2003	12	<0.5	<0.5	<0.5				
	5/28/2003	31	<0.5	<0.5	<0.5				
	8/12/2003	69	<0.8	<0.8	<0.8				
	10/9/2003	12	<0.5	<0.5	<0.5				
	1/15/2004	<10	<0.5	<0.5	<0.5				
	5/25/2004	14	<0.5	<0.5	<0.5				
	9/21/2004	<10	<0.5	<0.5	<0.5				
	12/14/2004	<2.5	<0.5	<0.5	<2.0				

Table 2
Historical Gasoline Oxygenates Results
15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	TBA (μg/L)	DIPE (μg/L)	ETBE (μg/L)	TAME (μg/L)
	0/44/0005				
MW-2 cont.	3/11/2005	<2.5	<0.5	<0.5	<2.0
	6/15/2005	<10	<0.5	<0.5	<2.0
	8/26/2005	<10	<0.5	<0.5	<2.0
	11/11/2005	<10	<0.5	<0.5	<2.0
	2/9/2006	<10	<0.5	<0.5	<2.0
	5/9/2006	<10	<0.5	<0.5	<2.0
	8/10/2006	<10	<0.5	<0.5	<2.0
	10/26/2006	<10	<0.5	<0.5	<2.0
	1/25/2007	<2.0	<0.5	<0.5	<2.0
	4/26/2007	<2.0	<0.5	<0.5	<2.0
2004	0 /0 /0 0 0	222			
MW-3	8/8/2002	<330	<8.3	<8.3	330
	11/1/2002	85	< 1.3	<1.3	220
	2/21/2003	140	<5.0	<5.0	320
	5/28/2003	520	<10	<10	530
	8/12/2003	180	<4.2	<4.2	270
	10/9/2003	<170	<8.3	<8.3	200
	1/15/2004	<100	<5.0	<5.0	150
	5/25/2004	<100	<5.0	<5.0	270
	9/21/2004	<140	<7.1	<7.1	110
	12/14/2004	<100	<20	<20	154
	3/11/2005	<215	<43	<43	256
	6/15/2005	<215	<10.8	<10.8	374
	8/26/2005	699	<21.5	<21.5	277
	11/11/2005	<430	<21.5	<21.5	171
	2/9/2006	<430	<21.5	<21.5	620
	5/9/2006	367	<10.8	<10.8	594
	8/10/2006	365	<10.8	<10.8	727
	10/26/2006	591	<10.8	<10.8	899
	1/25/2007	711	<10.8	<10.8	768
	4/26/2007	690	<10.8	<10.8	369
MW-4	8/8/2002	1500	<17	<17	18
	11/1/2002	580	< 5.0	6	13

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Historical Gasoline Oxygenates Results
15101 Freedom Avenue, San Leandro, CA

Monitoring	Date	TBA	DIPE	ETBE	TAME
Well	Date	(μ <b>g/L</b> )	(μ <b>g/L</b> )	(μ <b>g/L</b> )	(μg/L)
MW-4 cont.	2/21/2003	1600	<20	22	<20
	5/28/2003	690	<8.3	<8.3	17
	8/12/2003	550	<7.1	7.3	18
	10/9/2003	1400	<31	50	<31
	1/15/2004	1,300	<20	25	21
	5/25/2004	560	<8.3	<8.3	24
	9/21/2004	1,300	<50	<50	<50
	12/14/2004	826	<10.75	21	49
	3/11/2005	1,110	<10.8	12.1	<43
	6/15/2005	<110	<5.5	<5.5	22.9
	8/26/2005	902	<5.50	<5.50	37.4
	11/11/2005	884	<10.8	<10.8	<43
	2/9/2006	769	<10.8	16.4	45.6
	5/9/2006	405	<2.15	2.95	31.3
	8/10/2006	306	<2.15	<2.15	35.3
	10/26/2006	3430	<10.8	13.8	<43
	1/25/2007	822	<2.15	2.4	28
	4/26/2007	556	<2.15	2.28	29.2
MW-5	8/8/2002	<250	<6.3	<6.3	510
	11/1/2002	66	< 2.0	< 2.0	560
	2/21/2003	<63	<3.1	<3.1	280
	5/28/2003	<33	<1.7	<1.7	110
	8/12/2003	130	<3.6	<3.6	270
	10/9/2003	<100	<5.0	<5.0	740
	1/15/2004	<63	<3.1	<3.1	300
	5/25/2004	<100	<5.0	<5.0	210
	9/21/2004	<130	<6.3	<6.3	550
	12/14/2004	40	<5.5	<5.5	444
	3/11/2005	88.8	<5.5	<5.5	448
	6/15/2005	<43	<2.15	<2.15	88.1
	8/26/2005	274	<5.50	<5.50	195
	11/11/2005	192	<5.50	<5.50	360
	2/9/2006	218	<5.50	<5.50	523
	5/9/2006	91.8	<2.15	<2.15	163
	8/10/2006	138	<5.50	<5.50	342
	10/26/2006	322	<5.50	<5.50	712

Table 2
Historical Gasoline Oxygenates Results
15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	TBA (μg/L)	DIPE (μg/L)	ETBE (µg/L)	TAME (μg/L)
MW-5 cont.	1/25/2007 <b>4/26/2007</b>	878 <b>708</b>	<5.50 <b>&lt;2.15</b>	<5.50 <b>&lt;2.15</b>	552 <b>310</b>
MW-6	9/21/2004	<10	<0.5	<0.5	<0.5
	12/14/2004	<5.5	<5.5	<5.5	<22
	3/11/2005	2.54	<0.5	<0.5	<2.0
	6/15/2005	<20	<1.0	<1.0	<4.0
	8/26/2005	<43	<2.15	<2.15	<8.6
	11/11/2005	<43	<2.15	<2.15	<8.6
	2/9/2006	<43	<2.15	<2.15	<8.6
	5/9/2006	<10	<0.5	<0.5	<2.0
	8/10/2006	<10	<0.5	<0.5	<2.0
	10/26/2006	<10	<0.5	<0.5	<2.0
	1/25/2007	<2.0	<0.5	<0.5	<2.0
	4/26/2007	7.21	<0.5	<0.5	<2.0
MW-7	9/21/2004	<10	<0.5	<0.5	1.5
	12/14/2004	<2.5	<0.5	<0.5	<2.0
	3/11/2005	<12.5	<2.5	<2.5	<10
	6/15/2005	<10	<0.5	<0.5	2.23
	8/26/2005	<10	<0.5	<0.5	<2.0
	11/11/2005	<10	<0.5	<0.5	<2.0
	2/9/2006	NA	NA	NA	NA
	5/9/2006	<10	<0.5	<0.5	<2.0
	8/10/2006	<10	<0.5	<0.5	<2.0
	10/26/2006	<10	<0.5	<0.5	<2.0
	1/25/2007	<2.0	<0.5	<0.5	<2.0
	4/26/2007	<2.0	<0.5	<0.5	<2.0
MW-8	9/21/2004	<10	<0.5	<0.5	<0.5
	12/14/2004	<2.5	<0.5	<0.5	<2.0
	3/11/2005	NA	NA	NA	NA
	6/15/2005	<10	<0.5	<0.5	<2.0
	8/26/2005	<10	<0.5	<0.5	<2.0
	11/11/2005	<10	<0.5	<0.5	<2.0

Table 2
Historical Gasoline Oxygenates Results
15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	TBA (μg/L)	DIPE (μg/L)	ETBE (µg/L)	TAME (μg/L)	
MW-8 cont	2/9/2006	<10	<0.5	<0.5	<2.0	
	5/9/2006	<10	<0.5	<0.5	<2.0	
	8/10/2006	<10	<0.5	<0.5	<2.0	
	10/26/2006	<10	<0.5	<0.5	<2.0	
	1/25/2007	<2.0	<0.5	<0.5	<2.0	
	4/26/2007	<2.0	<0.5	<0.5	<2.0	
MW-9	9/21/2004	<10	<0.5	<0.5	<0.5	
	12/14/2004	<2.5	<0.5	<0.5	<2.0	
	3/11/2005	<2.5	<0.5	<0.5	<2.0	
	6/15/2005	<10	<0.5	<0.5	<2.0	
	8/26/2005	<10	<0.5	<0.5	<2.0	
	11/11/2005	<10	<0.5	<0.5	<2.0	
	2/9/2006	<10	<0.5	<0.5	<2.0	
	5/9/2006	<10	<0.5	<0.5	<2.0	
	8/10/2006	<10	<0.5	<0.5	<2.0	
	10/26/2006	<10	<0.5	<0.5	<2.0	
	1/25/2007	<2.0	<0.5	<0.5	<2.0	
	4/26/2007	<2.0	<0.5	<0.5	<2.0	

#### Notes:

August 8, 2002 was the first time that samples were analyzed for Gasoline Oxygenates

<: Not detected above the laboratory reporting limit.

NA: Not Analyzed. Well MW-8 was inaccessible during the 1Q05

& well MW-7 (1Q06) car was parked over each well.

TBA: tert-Butyl Alcohol
DIPE: Isopropyl Ether
ETBE: Ethyl tert-Butyl Ether
TAME: Methyl tert-Amyl Ether

## **Appendix A**

SOMA's Groundwater Monitoring Procedures

### Field Activities

On April 26, 2007, SOMA's field crew conducted a groundwater monitoring event in accordance with the procedures and guidelines of the Alameda County Environmental Health Services and the California Regional Water Quality Control Board. Figure 2 shows the locations of the wells.

### **Water Level Measurements**

On April 26, 2007, five on-site monitoring wells (MW-1 to MW-5), and four off-site wells (MW-6 to MW-9) were measured for depth to groundwater. On April 26, 2007, additional field measurements and grab groundwater samples were collected from all monitoring wells.

Prior to measurement of the groundwater depth at each monitoring well, equalization with the surrounding aquifer was achieved. The well cap was removed from each well, and the pressure in each well was then allowed to dissipate. This allowed for a more stable water table level within the well. After a few minutes, and once the water level in the well stabilized, the depth to groundwater in each monitoring well was measured from the top of the casing to the nearest 0.01 foot using an electric sounder.

The Site was re-surveyed by Harrington Surveys Inc., of Walnut Creek, on October 11, 2004. The survey data was based on California Coordinate System, Zone 3, NAVD 83. The elevation data was based on a datum of 58.50 feet NAVD88. Top of casing elevation data and the depth to groundwater in each monitoring well was used to calculate the groundwater elevation.

The survey data is included in Appendix B.

### **Purging and Field Measurements**

Prior to sample collection, each monitoring well was purged using a battery operated 2-inch-diameter pump (Model ES-60 DC).

To ensure that the final samples were in equilibrium with and representative of the surrounding groundwater, several samples were taken during the purging for field measurements of pH, temperature and EC. These parameters were measured using a Hanna pH, conductivity, and temperature meter. The equipment was calibrated at the Site using standard solutions and procedures provided by the manufacturer.

The pH of groundwater has an effect on the activity of microbial populations in the groundwater. The groundwater temperature affects the metabolic activity of bacteria. The groundwater conductivity (EC) is directly related to the concentration of ions in solution.

The purging continued until these parameters stabilized or three casing volumes were purged.

### Sampling

On April 26, 2007, for sampling purposes, after purging a disposable polyethylene bailer was used to collect sufficient samples from each monitoring well for laboratory analyses. The groundwater samples collected from each monitoring well were transferred to three 40-mL VOA vials, which had been prepared with a hydrochloric acid preservative. The vials were sealed to prevent the development of air bubbles within the headspace area.

After the groundwater samples were collected, they were placed in an ice chest and maintained at 4°C. A chain of custody form was completed for all of the samples and submitted along with the samples to the laboratory. Upon completion of this monitoring event, SOMA's field crew delivered the groundwater samples to Pacific Analytical Laboratory in Alameda, California.

### LABORATORY ANALYSIS

Pacific Analytical Laboratory, a California state-certified laboratory, analyzed the groundwater samples for TPH-g, BTEX, MtBE, gasoline oxygenates, ethanol and lead scavengers. Samples for TPH-g, BTEX, MtBE, gasoline oxygenates, ethanol and lead scavengers measurements were prepared using EPA Method 5030B and analyzed using Method 8260B.

# **Appendix B**

Table of Elevations & Coordinates on Monitoring Wells
Measured by Harrington Surveys, Inc.,

and

Field Measurements of Physical and Chemical Parameters of Groundwater Samples

## Harrington Surveys Inc.

## Land Surveying & Mapping

2278 Larkey Lane, Walnut Creek, Ca. 94596 Phone (925)935-7228 Fax (925)935-5118
Cel (925)788-7359 E-Mail (ben5132@pacbell.net)

Soma Environmental Engineering 2680 Bishop Dr. # 203 San Ramon, Ca. 94583 Oct. 14, 2004

Attn: Elena Manzo Job # 2445

Ref: 15101 Freedom Ave, San Leandro, Ca.

HORZONTAL CONTROL, NAD 88:

Survey based on California Coordinate System, Zone 3, NAD 83.

CHABOT "B', NORTH 2,087,731.02 EAST 6,094,039.23 sft. LAT. N37°43'02.71762" W122°07"00.46339", NAVD 88, ELEV. 134.957.

CHABOT "A", NORTH 2,088,584.99 EAST 6,093,351.39 sft. LAT. N37°43'11.04190" W122°07'09.20691", NAVD 88, ELEV. 492.08.

**VERTICAL CONTROL, NAVD 88:** 

NGS 1974, STATION K 1256, NAVD 88 ELEV. 58.50. PID # HT1871

GPS: TRIMBLE 5800, LEICA TCA 1800, 1" HORZ. & VERT.

**EPOCH DATE 1998.5** 

**OBSERVATION: EPOCH=180.** 

FIELD SURVEY: OCT. 11, 2004.

Ben Harrington

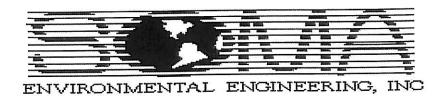
PLS 5132

SURVEY REPORT 15101 FREEDOM AVE SAN LEANDRO, CA.

### HARRINGTON SURVEYS INC. 2278 LARKEY LANE WALNUT CREEK, CA. 94597 925-935-7228 FAX. 935-5118

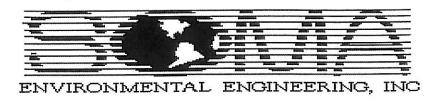
JOB NO. 2445 DATE: OCT. 12, 2004

1 2 2 2 51 2		EAST(sft)				
2 2 51 2	0097724 02	10 1 (011)	ELEV.	DESCRIPTION	LATITUDE (DMS)	LONGITUDE (DMS)
51 2	2001131.02	6094039.23	442.77	FD CHABOT B	37°43'02.71762"	122°07'00.46339"
	2088584.99	6093351.39	492.08	FD CHABOT A	37°43'11.04190"	122°07'09.20691"
52 2	2084348.54	6092159.32	55.44	FD. X-8		
12 2	2084073.17	6092141.24	46.15	MW-6 PAV		
53 2	2084072.72	6092140.95	46.15	MW-6 PUNCH		
54 2	2084072.47	6092140.95	45.82	MW-6 NOTCH	37°42'26.22635"	122°07'23.29643
55 2	2083909.71	6091947.10	40.61	MW-9 PAV		
56 2	2083909.10	6091946.97	40.61	MW-9 PUNCH		
57 2	2083908.71	6091947.00	40.26	MW-9 NOTCH	37°42'24.57425"	122°07'25.67431"
58 2	2083861.20	6092118.11	41.38	MW-8 PAV		
59 2	2083860.43	6092118.36	41.44	MW-8 PUNCH		
60 2	2083860.03	6092118.52	41.14	MW-8 NOTCH	37°42'24.12245"	122°07'23.52966"
61 2	2084008.21	6092290.11	44.94	MW-7 PAV		
62 2	2084007.88	6092290.27	44.95	MW-7 PVNCH		
63 2	2084007.68	6092290.40	44.74	MW-7 NOTCH	37°42'25.61150"	122°07'21.42290"
64 2	2084206.49	6092175.95	51.03	MW-5 PAV		
65 2	2084206.17	6092176.55	50.96	MW-5 PUNCH		
66-2	2084206.01	6092176.79	50.53	MW-5 NOTCH	37°42'27.55260	122°07'22.87930
67 2	2084670.41	6092307.68	69.79	FD BM FAIR580	The second section of the second section secti	was to a second
68 2	2084443.65	6092198.88	53.70	MW-4 PAV		
69 2	2084444.39	6092199.72	53.74	MW-4 PUNCH		
70 2	2084444.59	6092199.51	53.31	MW-4 NOTCH	37°42'29.91496"	122°07'22.64809"
71 2	2084399.10	6092145.43	54.37	MW-3 PAV		
72 2	2084399.78	6092145.28	54.33	MW-3 PUNCH		
73 2	2084400.15	6092145.27	53.91	MW-3 NOTCH	37°42'29.46636"	122°07'23.31339"
74 2	2084329.47	6092199.72	54.82	MW-1 PAV		
75 2	2084330.44	6092199.45	54.79	MW-1 PUNCH		
76 2	2084330.75	6092199.20	54.46	MW-1 NOTCH	37°42'28.78955"	122°07'22.62738"
77 2	2084367.59	6092256.38	52.88	MW-2 PAV		
78 2	2084368.15	6092256.14	52.92	MW-2 PUNCH		
79 2	2084368.53	6092256.06	52.41	MW-2 NOTCH	37°42'29.17277"	122°07'21.92804"
80 2	2084930.49	6091759.33	58.50	FD BM K1256	37°42'34.64279"	122°07'28.23011"
					CHSED LAND SO	
			N 17-10-01		18 1 Mg	
					CHARA HARA	431
		N 9			1 / /	
					2132	M
					XX	//
					ATE OF CHIEF	
					OF CALL	1



Well No.:	mw-1	Project No.: 2551
Casing Diameter:	inches	Address: 15101 Freedom Avenue
Depth of Well:	30.50 feet	San Leandro, CA
Top of Casing Elevation:	54.46 feet	Date: April 26, 2007
Depth to Groundwater:	22.67 feet	Sampler: Tony Perini
Groundwater Elevation:	31.79 feet	Brian Tims
Water Column Height:	7.83 feet	
Purged Volume:	gallons	
Purging Method:	Bailer	Pump 🗹
Sampling Method:	Bailer 🗹	Pump
Color:	Yes □ No □	Describe:
Sheen:	Yes   No	Describe:
Odor:	Yes 🗆 No 🗹	Describe:

Time	Vol (gallons)	рН	Temp (° C)	E.C. (μs/cm)
138 Pm	1 tax	ta 1	oury;	ny rell
141 (0)	2	6.90	22.10	
145 PM	5	6.93	22.10	1240
149 PM	9	6.93	21.40	1290
152 PM	-'am	Ples		



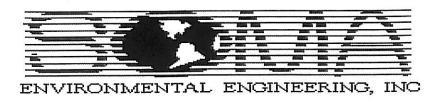
Well No.:	MW-2	_	Project No.:	2551
Casing Diameter:	4	inches	Address:	15101 Freedom Avenue
Depth of Well:	30.15	feet		San Leandro, CA
Top of Casing Elevation:	52-41	feet	Date:	April 26, 2007
Depth to Groundwater:	20.65	feet	Sampler:	Tony Perini
Groundwater Elevation:	31.76	feet		Brian Tims
Water Column Height:	9.50	feet		
Purged Volume:	12	gallons		
Purging Method:	Bailer □		Pump 🗹	
Sampling Method:	Bailer 🗗		Pump	
Color:	Yes □	No 🖃	Describe:	
Sheen:	Yes □	No 🗹	Describe:	
Odor:	Yes □	No 🗷	Describe:	

Time	Vol (gallons)	pН	Temp (° C)	E.C. (μs/cm)
1219 Pm	stavi	es p	wgn	g well
1222 PM	2	6.83	21.70	1390
1225 8M	4	6.94	21.20	1560
12 28 PM	6	6.93	21.00	1570
1238 pm	12	6.98	22.00	1570
1240 PM	1 any	/es		



Well No.:	MW 3		Project No.:	2551
Casing Diameter:		inches	Address:	15101 Freedom Avenue
Depth of Well:	29.90	feet		San Leandro, CA
Top of Casing Elevation:	53.91	feet	Date:	April 26, 2007
Depth to Groundwater:	22.24	feet	Sampler:	Tony Perini
Groundwater Elevation:	31-67	feet		Brian Tims
Water Column Height:	7.66	feet		
Purged Volume:	9	gallons		
Purging Method:	Bailer □		Pump 🗁	
Sampling Method:	Bailer 🗹		Pump 🗆	
Color:	Yes 🗹	No 🗆	Describe:	cloudy
Sheen:	Yes □	No 🗹	Describe:	
Odor:	Yes 🗆	No 🗹	Describe:	

Vol (gallons)	pН	Temp (° C)	E.C. (μs/cm)
I fan te 3 5 9 rang	7.04	24.18 21.30 21.60	1560 1590 1550
	(gallons)  I fan fe	(gallons)  Jantes 12  3 7.03	(gallons) (°C)  1



Well No.:	Mu-4	- 3	Project No.:	2551
Casing Diameter:	4	inches	Address:	15101 Freedom Avenue
Depth of Well:	30.20	feet		San Leandro, CA
Top of Casing Elevation:	53.31	feet	Date:	April 26, 2007
Depth to Groundwater:	21.63	feet	Sampler:	Tony Perini
Groundwater Elevation:	31.68	feet		Brian Tims
Water Column Height:	8.57	feet		
Purged Volume:		gallons		
Purging Method:	Bailer 🗆		Pump 🗹	
Sampling Method:	Bailer 😅		Pump 🗆	
Color:	Yes □	No 🗹	Describe:	
Sheen:	Yes □	No 🗹	Describe:	
Odor:	Yes 🗆	No 🗹	Describe:	

Time	Vol (gallons)	рН	Temp (°C)	E.C. (μs/cm)
1250 PM	starte	o p	20077	g well
1253 PM	3	6.82	21.10	1720
1256 PM	6	6.81	20.10	1680
18M	9	6.83	19.00	1680
103 PM	11	6,83	19.80	17.10
105 PM	Jan	rles		
		<u> </u>		



### ENVIRONMENTAL ENGINEERING, INC

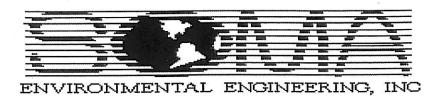
Well No.:	MW-5	Project No.: 2551
Casing Diameter:	inches	Address: 15101 Freedom Avenue
Depth of Well:	29.80 feet	San Leandro, CA
Top of Casing Elevation:		Date: April 26, 2007
Depth to Groundwater:		Sampler: Tony Perini
Groundwater Elevation:	31-64 feet	Brian Tims
Water Column Height:	10.91 feet	
Purged Volume:	gallons	
Purging Method:	Bailer	Pump 🖃
	<u></u>	
Sampling Method:	Bailer	Pump 🗆
Color:	Yes No	Describe:
30.01.		
Sheen:	Yes 🗆 No 🗷	Describe:
Odor:	Yes 🗆 No 🗹	Describe:

Time	Vol (gallons)	рН	Temp (° C)	E.C. (μs/cm)
15 PM	Stark	0	wyi	grell
118 PM	3	6,9 Y	21.40	1280
121 PM	6	6,88	21.20	1250
126 PM	10	6.88	71.60	1290
130 pm	Samo	1/00		•
	/			



#### Well No.: Project No.: 2551 **Casing Diameter:** inches Address: 15101 Freedom Avenue 27.30 feet Depth of Well: San Leandro, CA 45.82 feet April 26, 2007 Date: Top of Casing Elevation: feet Tony Perini **Depth to Groundwater:** Sampler: 30.64 feet **Brian Tims Groundwater Elevation:** feet Water Column Height: Purged Volume: gallons **Purging Method:** Bailer Pump Bailer Sampling Method: Pump Describe: Color: Yes Sheen: Yes Describe: Odor: Yes Describe:

Time	Vol (gallons)	рН	Temp (°C)	E.C. (μs/cm)
1056 Am	starte	5 PL	9179	well
1058 Am	2	6.83	20.60	1250
1101 AM	5	6.84	21.70	1280
1105 AM	10	6.84	19.90	1250
1108 AM	13	6.83	20.08	1290
1110 AM	Jomps			
	,			



#### Mw-7 Project No.: 2551 Well No.: 2 Address: 15101 Freedom Avenue **Casing Diameter:** inches 21.00 feet San Leandro, CA Depth of Well: 44.74 April 26, 2007 Top of Casing Elevation: feet Date: 14,44 Depth to Groundwater: feet Sampler: Tony Perini 30.30 **Brian Tims** feet **Groundwater Elevation:** feet Water Column Height: Purged Volume: gallons Bailer Pump **Purging Method:** Sampling Method: Bailer Pump Describe: Color: Yes No Describe: Sheen: Yes Odor: No Describe: Yes

Time	Vol (gallons)	pН	Temp (° C)	E.C. (μs/cm)
1035 Am	Start	& A	cogin	nel
1037 Am	2	6.78	18.00	1450
1040 Am	5	6-81	1760	1400
1042 Am	7	6.82	16.90	1380
1045 Am	Jam	ples		
	,			



Well No.:	MW-8	_	Project No.:	2551
Casing Diameter:	2	inches	Address:	15101 Freedom Avenue
Depth of Well:	28.75	feet		San Leandro, CA
Top of Casing Elevation:	41.14	feet	Date:	April 26, 2007
Depth to Groundwater:	10.81	feet	Sampler:	Tony Perini
Groundwater Elevation:	30.33	feet		Brian Tims
Water Column Height:	17,94	feet		
Purged Volume:	6	gallons		
Purging Method:	Bailer □		Pump 🗗	
Sampling Method:	Bailer 🗷		Pump	
Color:	Yes □	No 🗷	Describe:	
Sheen:	Yes □	No 🗷	Describe:	
Odor:	Yes 🗆	No 🖂	Describe:	

Time	Vol (gallons)	pН	Temp (° C)	E.C. (μs/cm)
1017 AM	Itav.	LES A	nego	n well
1019 AM	2	6-83	19.60	1590
1021 AM	4	6.81	19.60	1590
1023 AM	6	6.18	19.40	1590
1025 AM	James	les		
				Was a second of the second of the second of



Well No.:	MW-9	Project No.:	2551
Casing Diameter:	inches	Address:	15101 Freedom Avenue
Depth of Well:	32.55 feet	12	San Leandro, CA
Top of Casing Elevation:	<u>40-26</u> feet	Date:	April 26, 2007
Depth to Groundwater:		Sampler:	Tony Perini
Groundwater Elevation:	30.2/ feet		Brian Tims
Water Column Height:	22.50 feet		
Purged Volume:	gallons		
Purging Method:	Bailer	Pump 🗹	
Sampling Method:	Bailer	Pump 🗆	
Color:	Yes 🗆 No 📈	Describe:	
Sheen:	Yes   No	Describe:	
Odor:	Yes □ No ☑	Describe:	

Time	Vol (gallons)	рН	Temp (° C)	E.C. (μs/cm)
956 Am	1 fant	Es pu	1977	well
958 AM	2	6.78	19.10	1350
10 Am	cf	6.87	19.00	1360
1002 Am	6	6.89	18.70	1390
1005 Am	samp	rep		
	0			

# **Appendix C**

Laboratory Report and Chain of Custody Form for the

Second Quarter 2007 Monitoring Event

## **CHAIN OF CUSTODY FORM**

Page \_/ of\_/

Pacific Analytical Laboratory 'est Midway Ave., Suite 201B da, CA 94501 i4-0364 Telephone i4-0365 Fax

PAL Login# 7040009

:t No: 2551			Sar	nple	r: -	PONY PE	RIN	11	Bu	Tan	7ms			Analy	/ses/M	ethod		
t Name: 15101 l San Le		enue				Tony Perin							MtBE	nates				
			Co	mpa	iny:	SOMA En	viror	nme	ntal	Engir	neering, Inc.		-	yge				
round Time: S	tandard		Tel Fa:			734-6							9, BTEX	ne Ox				
	Sampling	Date/Time	M	latrix	ĸ	# of Containers	1	Prese	rvati	ves			TPH-g.	Gasoline Oxygenates & Lead Scavengers				
Sample ID	Date	Time	Soil	Water	Waste		HCL	H <sub>2</sub> So4	HNO <sub>3</sub>	ICE	F	ield Notes						
MW-1	4/26/07	152PM		Х		3 VOAs	X			X	Gr	ab Sample	X	Х			-	
MW-2	1	1240 pm		Х		3 VOAs	X			Х	Gr	ab Sample	X	X	-		-	
1/21.5 MW-3		213 PM		X		3 VOAs	X			Х		ab Sample	X	X				
MW-4		105 PM		X		3 VOAs	X			X	Gra	ab Sample	. X	X				
1.11 MW-5		130 PM		X		3 VOAs	X			X	Gra	ab Sample	X	Х				
MW-6		1110 AM		X		3 VOAs	X			X	Gr	ab Sample	X	X				
MVV-7		1048 AM		X		3 VOAs	X			X	Gra	ab Sample	X	Х				
MW-8		1028 AM		Х		3 VOAs	X			X		ab Sample	X	X				
MW-9	- V	1005 Am		Х		3 VOAs	X			Х	Gr	ab Sample	X	Х		-		
ler Remarks:						Relinquisl	ned	by:		Date	/Time:	Received by:			Dat	e/Tim	e:	
REQUIRED of						Posin	20			4/2	407 Z:55PM	Cules			4/2	660	7 PI	щ

09 May 2007

Mansour Sepehr SOMA Environmental Engineering Inc. 6620 Owens Drive, Suite A Pleasanton, CA 94588

RE: 15101 Freedom Ave., San Leandro

Work Order Number: 7040009

Mapad Ach

This Laboratory report has been reviewed for technical correctness and completeness. This entire report was reviewed and approved by the Laboratory Director or the Director's designee, as verified by the following signature.

Sincerely,

Maiid Akhavan

**Laboratory Director** 



6620 Owens Drive, Suite AProject Number: 2551Reported:Pleasanton CA, 94588Project Manager: Mansour Sepehr09-May-07 18:55

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	7040009-01	Water	26-Apr-07 13:52	26-Apr-07 17:54
MW-2	7040009-02	Water	26-Apr-07 12:40	26-Apr-07 17:54
MW-3	7040009-03	Water	26-Apr-07 14:13	26-Apr-07 17:54
MW-4	7040009-04	Water	26-Apr-07 13:05	26-Apr-07 17:54
MW-5	7040009-05	Water	26-Apr-07 13:30	26-Apr-07 17:54
MW-6	7040009-06	Water	26-Apr-07 11:10	26-Apr-07 17:54
MW-7	7040009-07	Water	26-Apr-07 10:45	26-Apr-07 17:54
MW-8	7040009-08	Water	26-Apr-07 10:25	26-Apr-07 17:54
MW-9	7040009-09	Water	26-Apr-07 10:05	26-Apr-07 17:54



6620 Owens Drive, Suite A Project Number: 2551 Reported:
Pleasanton CA, 94588 Project Manager: Mansour Sepehr 09-May-07 18:55

### Volatile Organic Compounds by EPA Method 8260B Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (7040009-01) Water Sampled: 26-				· ·					
Gasoline (C6-C12)	861	50.0	ug/l	1	BD72901	26-Apr-07	27-Apr-07	EPA 8260B	
Benzene	95.5	0.500	"	"	"	"	"	"	
Ethylbenzene	17.0	0.500	"	"	"	"	"	"	
m&p-Xylene	3.81	2.00	"	"	"	"	"	"	
o-xylene	2.55	0.500	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
MTBE	4.00	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	39.6	2.00	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.0 %	70-	130	"	"	"	"	
Surrogate: Dibromofluoromethane		111 %	70-	130	"	"	"	"	
Surrogate: Perdeuterotoluene		93.2 %	70-	130	"	"	"	"	
MW-2 (7040009-02) Water Sampled: 26-	-Apr-07 12:40 Rece	ived: 26-Apr-0	7 17:54						
Gasoline (C6-C12)	169	50.0	ug/l	1	BD72901	26-Apr-07	27-Apr-07	EPA 8260B	
Benzene	ND	0.500	"	"	"	,,	"	"	
Ethylbenzene	15.2	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	2.00	"	"	"	"	"	"	
o-xylene	2.30	0.500	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	2.00	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		86.0 %	70-	130	"	"	"	"	

Pacific Analytical Laboratory



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## **Volatile Organic Compounds by EPA Method 8260B**

### Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW-2 (7040009-02) Water Sampled: 26-A	Apr-07 12:40 Recei	ved: 26-Apr-0	7 17:54						
Surrogate: Dibromofluoromethane		110 %	70-	130	BD72901	26-Apr-07	27-Apr-07	EPA 8260B	
Surrogate: Perdeuterotoluene		87.6 %	70-	130	"	"	"	"	
MW-3 (7040009-03) Water Sampled: 26-A	Apr-07 14:13 Recei	ved: 26-Apr-0	7 17:54						
Gasoline (C6-C12)	30700	1080	ug/l	21.5	BD72901	26-Apr-07	27-Apr-07	EPA 8260B	
Benzene	2350	10.8	"	"	"	"	"	"	
Ethylbenzene	1470	10.8	"	"	"	"	"	"	
m&p-Xylene	3000	43.0	"	"	"	"	"	"	
o-xylene	1320	10.8	"	"	"	"	"	"	
Toluene	158	43.0	"	"	"	"	"	"	
MTBE	1330	10.8	"	"	"	"	"	"	
DIPE	ND	10.8	"	"	"	"	"	"	
ETBE	ND	10.8	"	"	"	"	"	"	
TAME	369	43.0	"	"	"	"	"	"	
TBA	690	43.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	10.8	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	10.8	"	"	"	"	"	"	
Ethanol	ND	21500	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.8 %	70-	130	"	"	"	"	
Surrogate: Dibromofluoromethane		105 %	70-	130	"	"	"	"	
Surrogate: Perdeuterotoluene		87.0 %	70-	130	"	"	"	"	
MW-4 (7040009-04RE1) Water Sampled:	26-Apr-07 13:05 F	Received: 26-A	Apr-07 17:	54					
Gasoline (C6-C12)	4380	215	ug/l	4.3	BD72901	26-Apr-07	29-Apr-07	EPA 8260B	
Benzene	140	2.15	"	"	"	"	"	"	
Ethylbenzene	67.0	2.15	"	"	"	"	"	"	
m&p-Xylene	239	8.60	"	"	"	"	"	"	
o-xylene	37.8	2.15	"	"	"	"	"	"	
Toluene	ND	8.60	"	"	"	"	"	"	
MTBE	576	2.15	"	"	"	"	"	"	
DIPE	ND	2.15	"	"	"	"	"	"	
ЕТВЕ	2.28	2.15	"	"	"	"	"	"	
TAME	29.2	8.60	"	"	"	"	"	"	
	EE(	8.60	"	"	"	"	"	"	
TBA	556								
TBA	930 ND	2.15	"	"	"	"	"	"	
			"	"	"	"	"	"	

Pacific Analytical Laboratory



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## **Volatile Organic Compounds by EPA Method 8260B**

### Pacific Analytical Laboratory

Amalysta	D anv-14	Reporting	Unita	Dilutio:	Dotah	Dramarad	Amalyzad	Mathad	NI-4-
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW-4 (7040009-04RE1) Water Sampled	: 26-Apr-07 13:05	Received: 26-A	Apr-07 17:	54					
Surrogate: 4-Bromofluorobenzene		92.4 %		130	BD72901	26-Apr-07	29-Apr-07	EPA 8260B	
Surrogate: Dibromofluoromethane		107 %		130	"	"	"	"	
Surrogate: Perdeuterotoluene		91.2 %	70-	130	"	"	"	"	
MW-5 (7040009-05RE1) Water Sampled	: 26-Apr-07 13:30	Received: 26-A	Apr-07 17:	54					
Gasoline (C6-C12)	4590	215	ug/l	4.3	BD72901	26-Apr-07	29-Apr-07	EPA 8260B	
Benzene	187	2.15	"	"	"	"	"	"	
Ethylbenzene	307	2.15	"	"	"	"	"	"	
m&p-Xylene	99.9	8.60	"	"	"	"	"	"	
o-xylene	16.6	2.15	"	"	"	"	"	"	
Toluene	ND	8.60	"	"	"	"	"	"	
MTBE	861	2.15	"	"	"	"	"	"	
DIPE	ND	2.15	"	"	"	"	"	"	
ETBE	ND	2.15	"	"	"	"	"	"	
TAME	310	8.60	"	"	"	"	"	"	
TBA	708	8.60	"	"	"	"	"	"	
1,2-dichloroethane	ND	2.15	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	2.15	"	"	"	"	"	"	
Ethanol	ND	4300	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.6 %	70-	130	"	"	"	"	
Surrogate: Dibromofluoromethane		104 %	70-	130	"	"	"	"	
Surrogate: Perdeuterotoluene		95.2 %	70-	130	"	"	"	"	
MW-6 (7040009-06) Water Sampled: 26-	Apr-07 11:10 Rec	eived: 26-Apr-(	7 17:54						
Gasoline (C6-C12)	3110	50.0	ug/l	1	BD72901	26-Apr-07	27-Apr-07	EPA 8260B	
Benzene	28.0	0.500	"	"	"	"	"	"	
Ethylbenzene	165	0.500	"	"	"	"	"	"	
m&p-Xylene	136	2.00	"	"	"	"	"	"	
o-xylene	2.47	0.500	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
			"	"	"	"	"	"	
MTBE	14.6	0.500	"						
<b>MTBE</b> DIPE	<b>14.6</b> ND	0.500 0.500	"	"	"	"	"	"	
				"	"	"	"	"	
DIPE	ND	0.500		"	"	" "	"	" "	
DIPE ETBE	ND ND	0.500 0.500	"	"	"	"	"	" " " " " " " " " " " " " " " " " " " "	
DIPE ETBE TAME	ND ND ND	0.500 0.500 2.00	" "	"	"	"	"	"	

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## **Volatile Organic Compounds by EPA Method 8260B**

### Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW-6 (7040009-06) Water Sampled: 26-	Apr-07 11:10 Rece	ived: 26-Apr-0	07 17:54						
Ethanol	ND	1000	ug/l	1	BD72901	26-Apr-07	27-Apr-07	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		96.8 %	70-	130	"	"	"	"	
Surrogate: Dibromofluoromethane		100 %	70-	130	"	"	"	"	
Surrogate: Perdeuterotoluene		97.8 %	70-	130	"	"	"	"	
MW-7 (7040009-07) Water Sampled: 26-	Apr-07 10:45 Rece	ived: 26-Apr-0	07 17:54						
Gasoline (C6-C12)	552	50.0	ug/l	1	BD72901	26-Apr-07	27-Apr-07	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	11.4	0.500	"	"	"	"	"	"	
m&p-Xylene	6.11	2.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
MTBE	4.12	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	2.00	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.6 %	70-	130	"	"	"	"	
Surrogate: Dibromofluoromethane		101 %	70-	130	"	"	"	"	
Surrogate: Perdeuterotoluene		95.2 %	70-	130	"	"	"	"	
MW-8 (7040009-08) Water Sampled: 26-	Apr-07 10:25 Rece	ived: 26-Apr-0	07 17:54						
Gasoline (C6-C12)	ND	50.0	ug/l	1	BD72901	26-Apr-07	27-Apr-07	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	4.29	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	2.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	2.00	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	,,	"	"	"	"	

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## **Volatile Organic Compounds by EPA Method 8260B**

### **Pacific Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-8 (7040009-08) Water Sampled: 26-	Apr-07 10:25 Recei	ved: 26-Apr-0	07 17:54						
1,2-Dibromoethane (EDB)	ND	0.500	ug/l	1	BD72901	26-Apr-07	27-Apr-07	EPA 8260B	
Ethanol	ND	1000	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		81.6 %	70-1	30	"	"	"	"	
Surrogate: Dibromofluoromethane		107 %	70-1	30	"	"	"	"	
Surrogate: Perdeuterotoluene		88.2 %	70-1	30	"	"	"	"	
MW-9 (7040009-09) Water Sampled: 26-	Apr-07 10:05 Recei	ved: 26-Apr-0	07 17:54						
Gasoline (C6-C12)	ND	50.0	ug/l	1	BD72901	26-Apr-07	27-Apr-07	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	2.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	2.00	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"	
Ethanol	ND	1000	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		79.4 %	70-1	30	"	"	"	"	
Surrogate: Dibromofluoromethane		108 %	70-1	30	"	"	"	"	
Surrogate: Perdeuterotoluene		89.2 %	70-1	30	"	"	"	"	



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## **Volatile Organic Compounds by EPA Method 8260B - Quality Control**

### **Pacific Analytical Laboratory**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

### Batch BD72901 - EPA 5030 Water MS

Blank (BD72901-BLK1)				Prepared & Ana	alyzed: 29-Apr-07	
Surrogate: 4-Bromofluorobenzene	38.9		ug/l	50.0	77.8	70-130
Surrogate: Dibromofluoromethane	55.9		"	50.0	112	70-130
Surrogate: Perdeuterotoluene	44.6		"	50.0	89.2	70-130
MTBE	ND	0.500	"			
DIPE	ND	0.500	"			
ETBE	ND	0.500	"			
TAME	ND	2.00	"			
Gasoline (C6-C12)	ND	50.0	"			
TBA	ND	2.00	"			
1,2-dichloroethane	ND	0.500	"			
1,2-Dibromoethane (EDB)	ND	0.500	"			
Ethanol	ND	1000	"			
Benzene	ND	0.500	"			
Ethylbenzene	ND	0.500	"			
m&p-Xylene	ND	2.00	"			
o-xylene	ND	0.500	"			
Toluene	ND	2.00	"			
LCS (BD72901-BS1)				Prepared & Ana	alyzed: 29-Apr-07	
Surrogate: 4-Bromofluorobenzene	46.6		ug/l	50.0	93.2	70-130
Surrogate: Dibromofluoromethane	48.2		"	50.0	96.4	70-130
Surrogate: Perdeuterotoluene	48.7		"	50.0	97.4	70-130
MTBE	99.5	0.500	"	100	99.5	70-130
ETBE	97.8	0.500	"	100	97.8	70-130
TAME	104	2.00	"	100	104	70-130
Gasoline (C6-C12)	2080	50.0	"	2000	104	70-130
TBA	617	2.00	"	500	123	70-130
Benzene	93.8	0.500	"	100	93.8	70-130
Toluene	105	2.00	"	100	105	70-130



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### Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Pacific Analytical Laboratory

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

### Batch BD72901 - EPA 5030 Water MS

LCS Dup (BD72901-BSD1)	Prepared & Analyzed: 29-Apr-07								
Surrogate: 4-Bromofluorobenzene	48.2		ug/l	50.0	96.4	70-130			
Surrogate: Dibromofluoromethane	49.6		"	50.0	99.2	70-130			
Surrogate: Perdeuterotoluene	49.9		"	50.0	99.8	70-130			
MTBE	96.2	0.500	"	100	96.2	70-130	3.37	20	
ETBE	85.0	0.500	"	100	85.0	70-130	14.0	20	
TAME	93.8	2.00	"	100	93.8	70-130	10.3	20	
TBA	575	2.00	"	500	115	70-130	7.05	20	
Gasoline (C6-C12)	1620	50.0	"	2000	81.0	70-130	24.9	20	QR-02
Benzene	87.9	0.500	"	100	87.9	70-130	6.49	20	
Toluene	98.2	2.00	"	100	98.2	70-130	6.69	20	



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### **Notes and Definitions**

QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch

were accepted based on percent recoveries and completeness of QC data.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

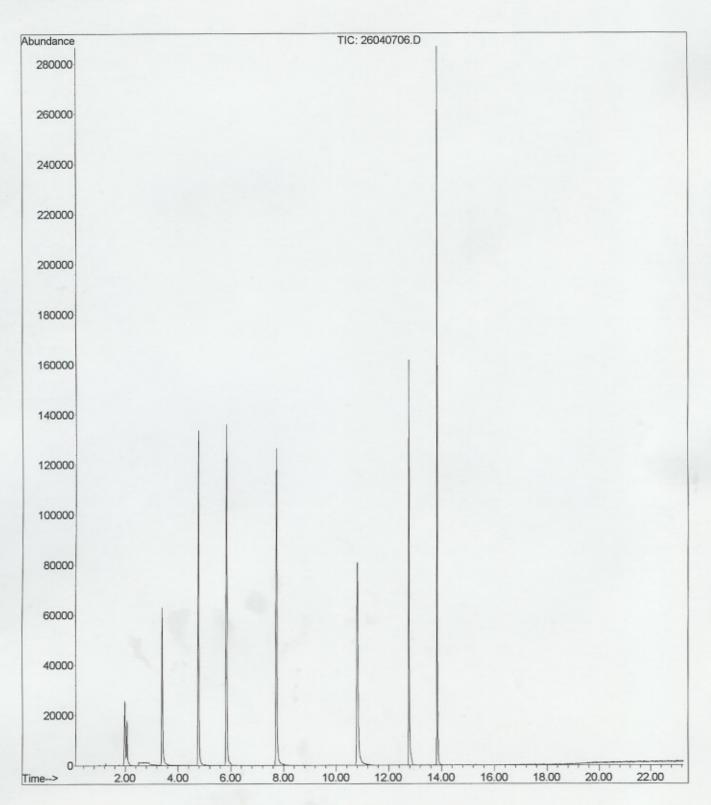
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Operator : dh

Acquired : 26 Apr 2007 9:02 pm using AcqMethod OXY21506.M

Instrument : PAL GCMS Sample Name: BD72901-BLK1

Misc Info : Vial Number: 6



File :C:\MSDChem\1\DATA\2007-Apr-26-1749.b\26040702.D

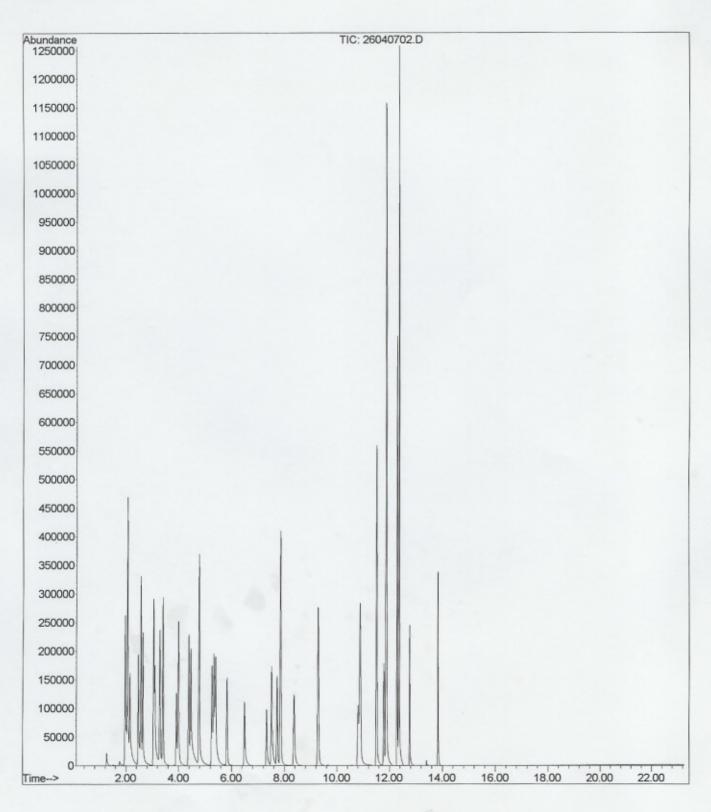
Operator : dh

Acquired : 26 Apr 2007 6:51 pm using AcqMethod OXY21506.M

Instrument : PAL GCMS

Sample Name: BD72901-BS1@voc

Misc Info : Vial Number: 2



File :C:\MSDChem\1\DATA\2007-Apr-26-1749.b\26040703.D

Operator : dh

Acquired : 26 Apr 2007 7:24 pm using AcqMethod OXY21506.M

Instrument : PAL GCMS

Sample Name: BD72901-BS1@gas

Misc Info : Vial Number: 3

