#### RECEIVED

2:20 pm, Jan 11, 2008

Alameda County Environmental Health



ENVIRONMENTAL ENGINEERING, INC 6620 Owens Drive, Suite A • Pleasanton, CA 94588-3334 TEL (925) 734-6400 • FAX (925) 734-6401

January 10, 2008

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 "Fourth 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



### Fourth Quarter 2007 Groundwater Monitoring Report

Texaco Gasoline Service Station 15101 Freedom Avenue San Leandro, California

January 10, 2008

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, property owner of 15101 Freedom Avenue, San Leandro, California, to comply with Alameda County Health Care Services requirements for the Fourth Quarter 2007 groundwater monitoring event.

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



Fourth Quarter 2007 Groundwater Monitoring Report

### TABLE OF CONTENTS

CERTIFICATION	.i
TABLE OF CONTENTS	ii
LIST OF FIGURES i	iii
LIST OF TABLES i	iii
LIST OF APPENDICES i	iii
INTRODUCTION      1.1 Previous Activities	1 1
<ul> <li>2. RESULTS</li> <li>2.1 Field Measurements</li> <li>2.2 Laboratory Analysis</li> </ul>	2
3. CONCLUSIONS AND RECOMMENDATIONS	4
4. REPORT LIMITATIONS	5

### **LIST OF FIGURES**

Site vicinity map

Figure 1:

rigaro i.	
Figure 2:	Site map showing locations of groundwater monitoring wells and soil borings
Figure 3:	Groundwater elevation contour map in feet. October 23, 2007
Figure 4:	Contour map of TPH-g concentrations in groundwater. October 23, 2007
Figure 5:	Contour map of Benzene concentrations in groundwater. October 23, 2007
Figure 6:	Contour map of MtBE concentrations in groundwater (EPA Method 8260B). October 23, 2007
Figure 7:	Contour map of TBA concentrations in groundwater. October 23, 2007
Figure 8:	Contour map of TAME concentrations in groundwater. October 23, 2007

### LIST OF TABLES

- Table 1:
   Historical Groundwater Elevation Data and Analytical Results
- Table 2:
   Historical Gasoline Oxygenates Results

### LIST OF APPENDICES

- Appendix A: SOMA's Groundwater Monitoring Procedures
- Appendix B: Table of Elevations and Coordinates on Monitoring Wells Measured by Harrington Surveys, Inc., and Field Measurements of Physical and Chemical Parameters of Groundwater Samples
- Appendix C: Laboratory Report and Chain of Custody Form for the Fourth Quarter 2007 Monitoring Event

### 1. INTRODUCTION

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

This report summarizes results of the Fourth Quarter 2007 groundwater monitoring event conducted at the Site on October 23, 2007, and includes physical and chemical properties measured in the field for each groundwater sample. Physical and chemical properties measured include pH, temperature, and electrical conductivity (EC). This report also includes laboratory analytical results for groundwater samples.

These activities were performed in accordance with general guidelines of the California Regional Water Quality Control Board and Alameda County Health Care Services. Appendix A details procedures followed 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 cavity to replace the USTs removed on May 20, 1999.

<u>July 2001</u>: Additional soil and groundwater investigations were conducted to 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 mg/kg, 2.6 mg/kg, 16 mg/kg, 12 mg/kg, and 73 mg/kg, respectively. Methyl tertiary-butyl ether (MtBE) was below the laboratory reporting limit of 0.005 mg/kg in all soil samples collected. The maximum concentrations of TPH-g and BTEX in the groundwater samples collected from the soil borings were 83 mg/L, 19 mg/L, 1.8 mg/L, 1.5 mg/L, and 73 mg/L, respectively. The maximum reported MtBE concentration was 87 mg/L in soil boring SB-2. Soil boring locations are shown in Figure 2.

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

<u>July 22, 2003</u>: SOMA conducted an additional off-site investigation to evaluate the lateral extent of soil and groundwater contamination. The 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 borehole locations.

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

### 2. RESULTS

Following are results of field measurements and laboratory analyses for the October 23, 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 11.59 feet in well MW-9 to 23.42 feet in MW-1. Corresponding groundwater elevations ranged from 28.67 feet in MW-9 to 31.04 feet in MW-1.

Figure 3 displays the contour map of groundwater elevations. Groundwater flows south to southwesterly across the Site, at a gradient of 0.0167 feet/feet. The groundwater flow direction remained consistent with the previous monitoring event (Third Quarter 2007); however, the gradient slightly decreased.

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

#### 2.2 Laboratory Analysis

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

TPH-g concentrations were below the laboratory-reporting limit in off-site wells MW-8 and MW-9. Detectable TPH-g concentrations ranged from 535  $\mu$ g/L in MW-2 to 22,600  $\mu$ g/L in MW-3. The TPH-g concentration in 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 TPH-g–impacted region is in the vicinity of the dispenser islands and former USTs.

Fourth Quarter 2007 Groundwater Monitoring Report

The following BTEX concentrations were observed during this monitoring event.

- In wells MW-1, MW-3, MW-4, MW-6, and MW-7 toluene was below the laboratory-reporting limit.
- In MW-2, benzene and toluene were below the laboratory-reporting limit, and ethylbenzene and total xylenes were at low levels.
- In MW-8, all BTEX analytes were below the laboratory-reporting limit except for ethylbenzene, which was detected at 4.31 μg/L.
- In MW-9, all BTEX analytes were below the laboratory-reporting limit.
- The highest benzene, ethylbenzene, and total xylene concentrations were detected at MW-3, at 4,070 μg/L, 1,120 μg/L, and 3,095 μg/L, respectively. The highest toluene concentration was detected in MW-5, at 11 μg/L.

Figure 5 displays the contour map of benzene concentrations in the groundwater. The most benzene-impacted 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 wells MW-6 and MW-7 and was non-detectable in the remaining off-site wells.

Low or non-detectable levels of MtBE were observed throughout the site except for groundwater samples collected at wells MW-3 to MW-5. The highest MtBE concentration was detected at MW-4 at 1,220  $\mu$ g/L. Figure 6 displays the contour map of MtBE concentrations in the groundwater. The most MtBE-impacted 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 (Third Quarter 2007), all TPH-g, BTEX, and MtBE analytes have decreased in the more impacted MW-3.

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

The following gasoline oxygenate and lead scavenger concentrations were observed during this monitoring event.

- All isopropyl ether (DIPE), 1,2-dichloroethane (1,2-DCA), 1,2-dibromoethane (EDB), and ethanol constituents were below the laboratoryreporting limit in all groundwater samples collected during this monitoring event. Analytical results for 1,2-DCA, ethanol, and EDB constituents are shown in Appendix C.
- Ethyl tertiary-butyl ether (ETBE) was detected at 18.4 μg/L in well MW-4, and below the laboratory-reporting limit in the remaining tested wells.

Fourth Quarter 2007 Groundwater Monitoring Report

• Tertiary-butyl alcohol (TBA) was the major gasoline oxygenate observed during this monitoring event. TBA was below the laboratory-reporting limit in wells MW-2, MW-8, and MW-9.

Figure 7 displays the contour map of TBA concentrations in the groundwater. The most TBA-impacted regions were in the vicinity of the dispenser islands and former USTs, around wells MW-3 to MW-5. Due to the high mobility rate of TBA in groundwater, the TBA plume appears to have migrated southwesterly with the flow of groundwater from the UST cavity and pump islands toward MW-4.

 Tertiary-amyl methyl ether (TAME) was below the laboratory-reporting limit in all groundwater samples except for those collected at wells MW-3, MW-4, MW-5 and MW-7, where TAME was detected at 301 µg/L, 25.9 µg/L, 181 µg/L and 2.58 µg/L, respectively.

Figure 8 displays the contour map of TAME concentrations in the groundwater. Similar to the MtBE plume, the gasoline oxygenate region is still present in the vicinity of the pump islands and UST cavity, especially at well MW-3.

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. CONCLUSIONS AND RECOMMENDATIONS

Results of the Fourth Quarter 2007 groundwater monitoring event are summarized below.

- The groundwater flow direction has remained south to southwesterly throughout the Site.
- The hydrocarbon source area remains in the vicinity of the former UST cavity, near well MW-3, where a previous release of petroleum hydrocarbons occurred.
- 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 contaminant region appears to be centrally located in the vicinity of the former UST cavity and pump islands, especially at MW-3.
- Based on quarterly groundwater monitoring results, in general, all BTEX, MtBE and gasoline oxygenates have remained at low or non-detectable levels in the off-site wells.

Fourth Quarter 2007 Groundwater Monitoring Report

• The TPH-g concentration in well MW-6, at 9,610  $\mu$ g/L, remained significantly lower this quarter than the historical peak value observed in September 2004, at 34,000  $\mu$ g/L. TPH-g has historically remained non-detectable in MW-8 and MW-9.

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

- Continuing the quarterly monitoring program to better understand seasonal variations in groundwater quality conditions.
- SOMA is currently preparing a corrective action plan and site conceptual model which will introduce the most feasible, effective and yet less costly alternative for removing petroleum hydrocarbon from the subsurface.
- Based on continued low to non-detectable levels of all tested constituents in off-site wells MW-7 to MW-9, SOMA recommends modifying the existing quarterly sampling schedule to annual sampling for these off-site wells.

### 4. REPORT LIMITATIONS

This report is the summary of work done by SOMA, including observations and descriptions of Site conditions. It includes analytical results produced by Pacific Analytical Laboratory for the current groundwater-monitoring event. Numbers and locations of wells were selected to provide the required information, but may not be completely representative of entire Site conditions. All conclusions and recommendations are based on 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 generally accepted practices in the environmental engineering and consulting field at the time of this sampling.

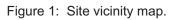
## **Figures**

Fourth Quarter 2007 Groundwater Monitoring Report

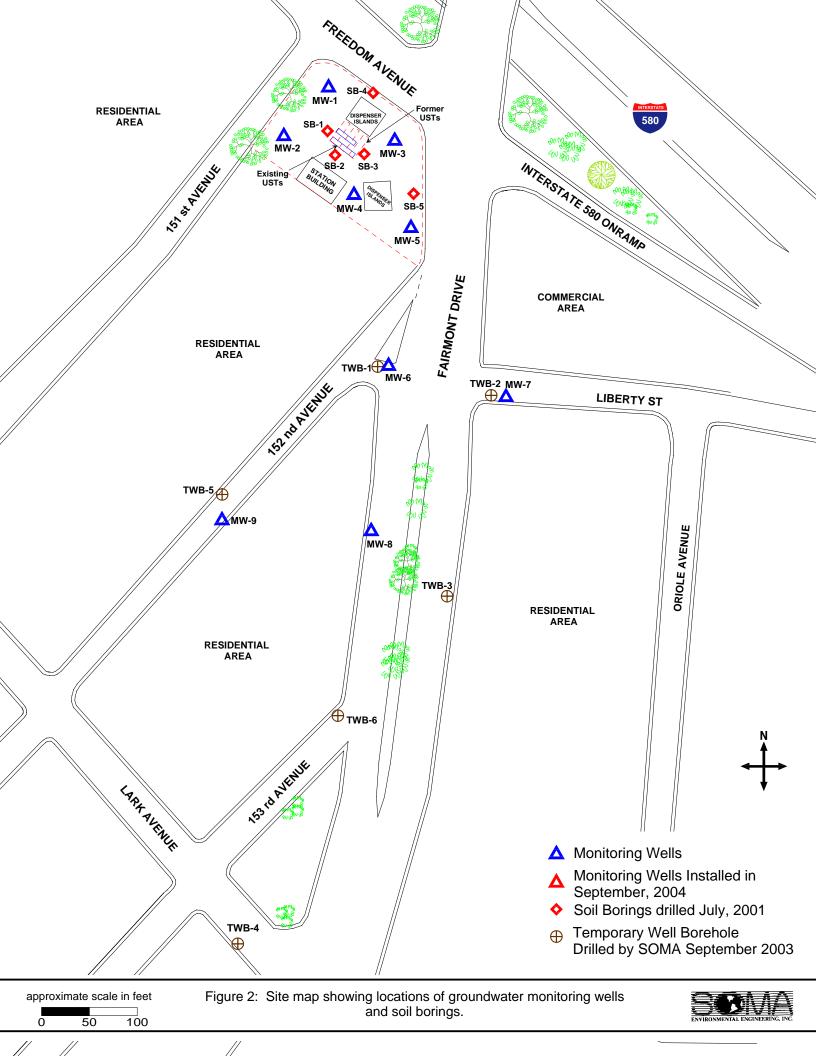


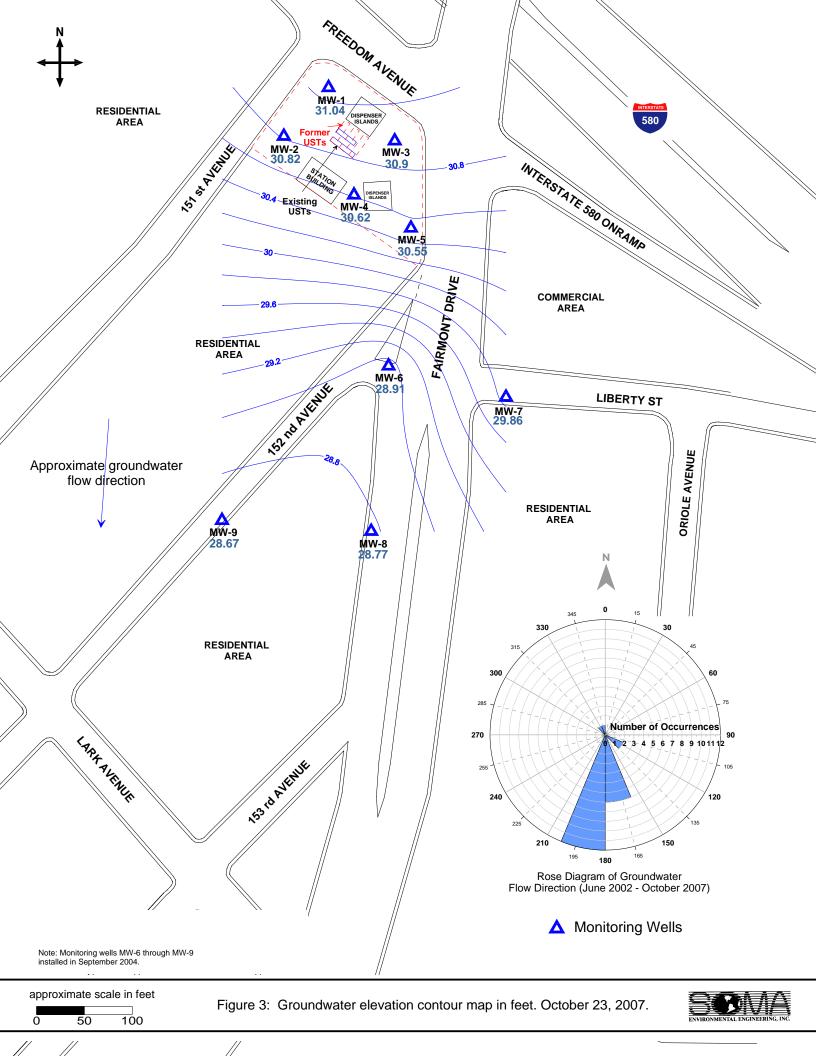


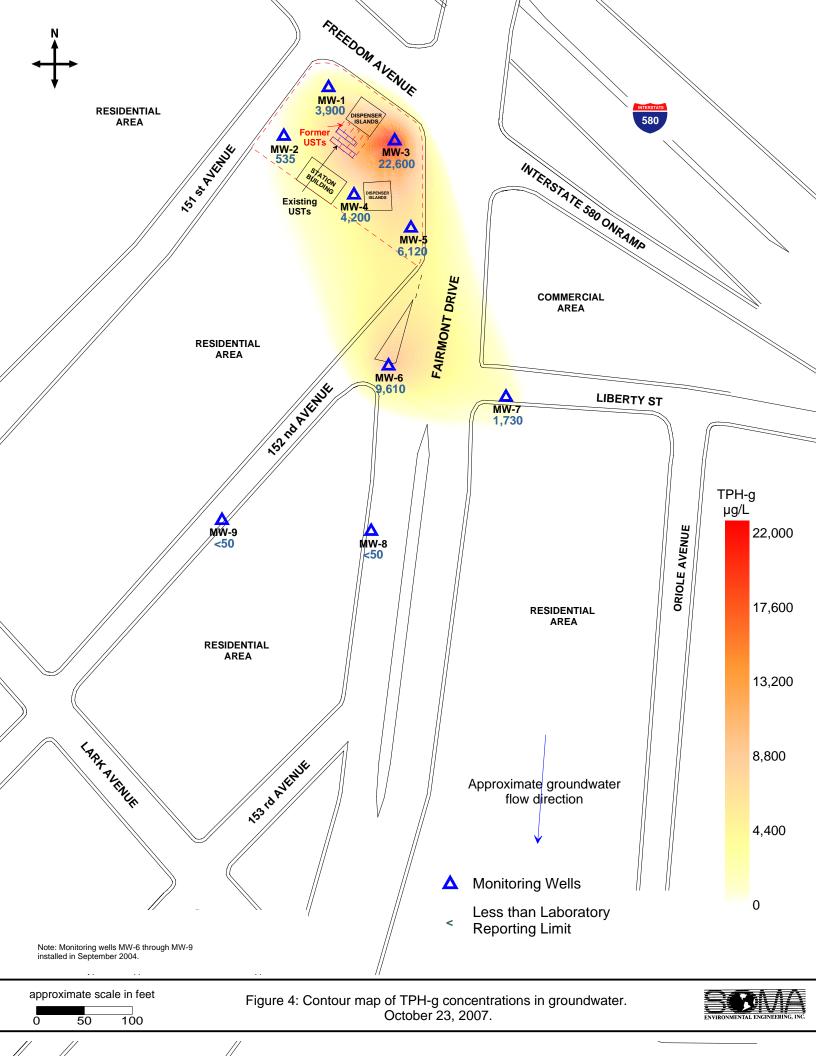
	approximate scale	in feet
0	150	300

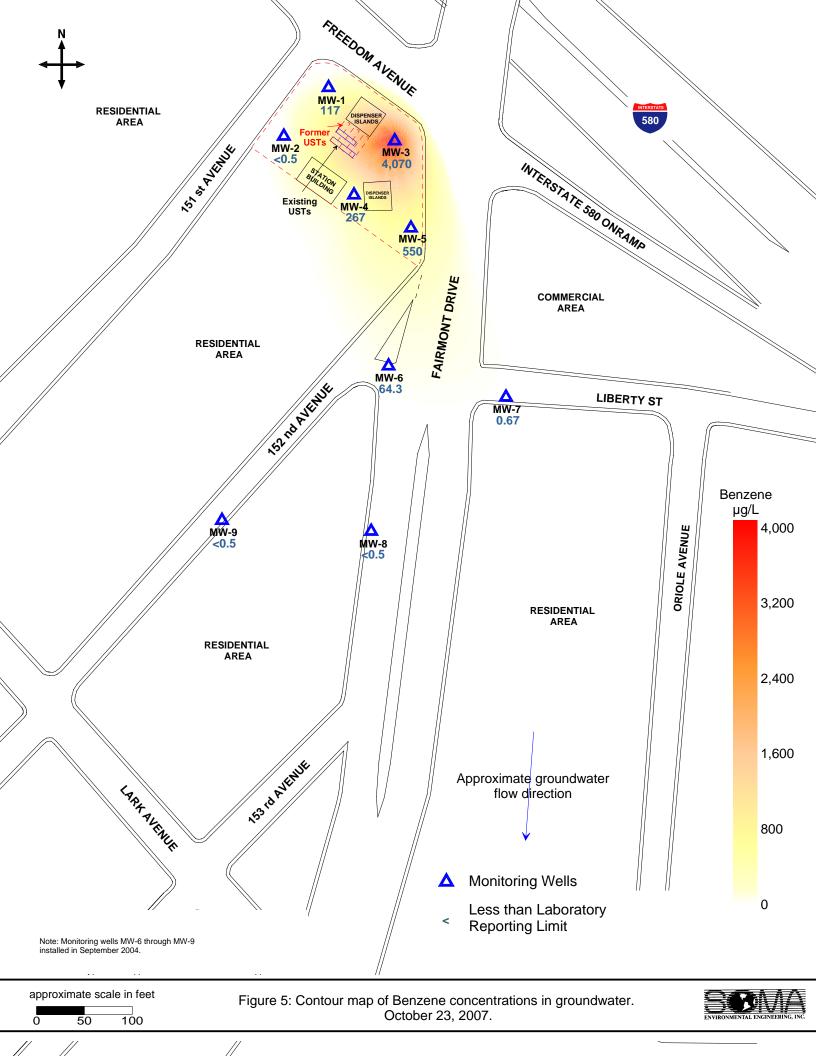


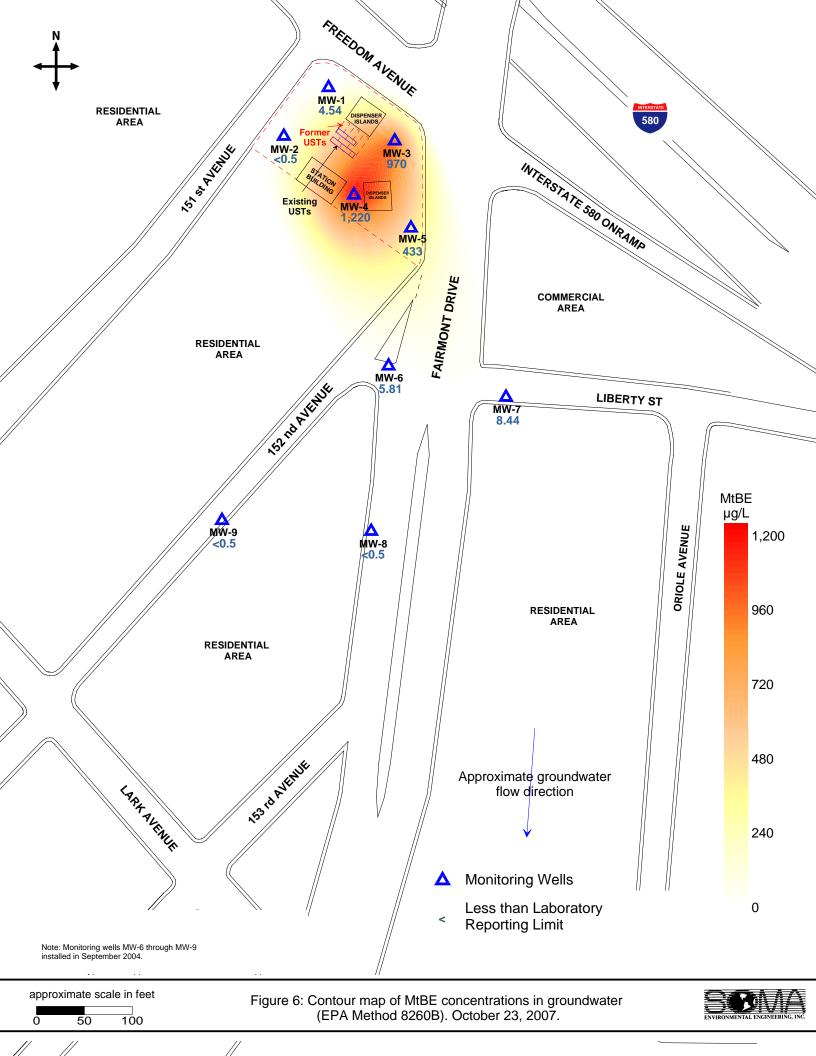


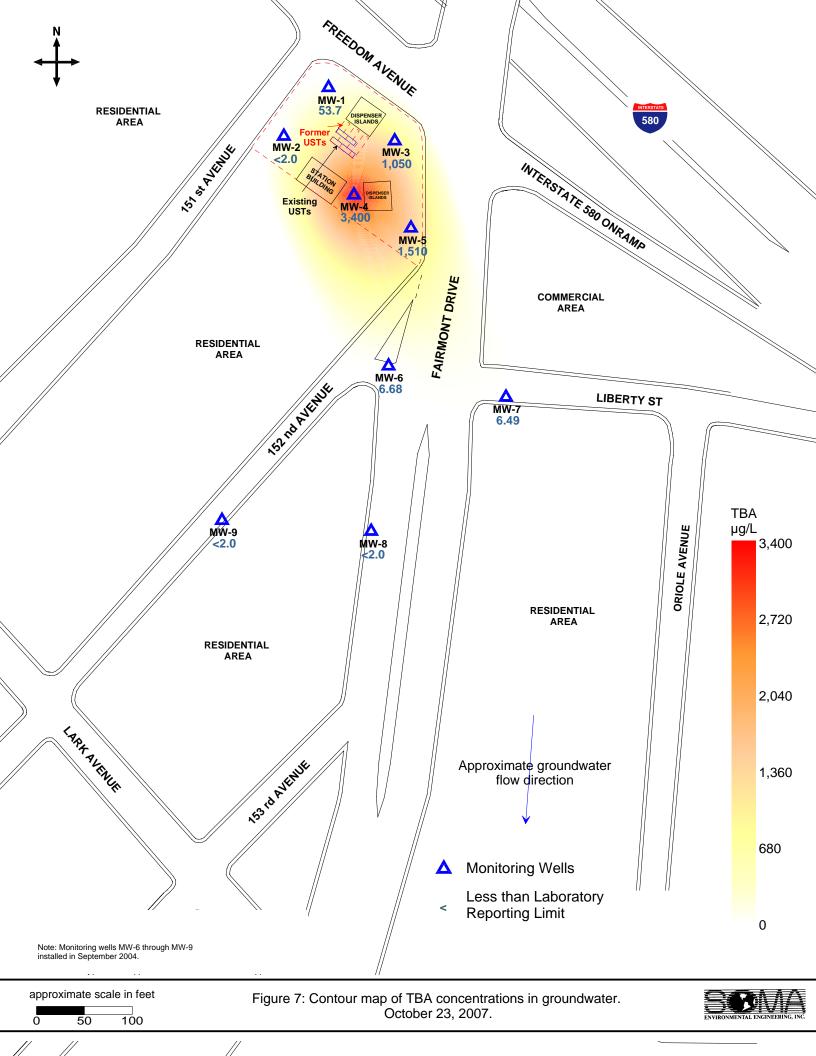


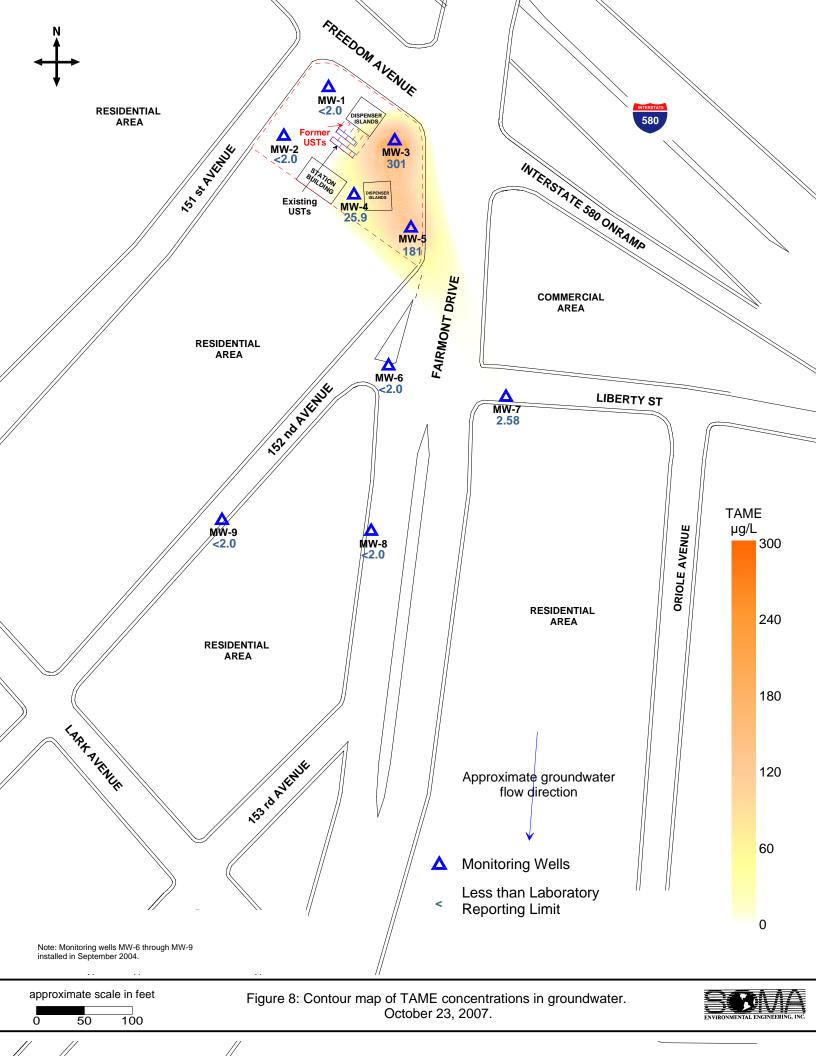












Fourth Quarter 2007 Groundwater Monitoring Report

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

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 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
	7/25/2007	54.46	23.25	31.21	4,520	412	<4.0	182	77.9	7.48
	10/23/2007	54.46	23.42	31.04	3,900	117	<2.0	87.1	23.87	4.54
									T	
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

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
	7/25/2007	52.41	21.43	30.98	276	0.78	<2.0	22.1	4.04	<0.5
	10/23/2007	52.41	21.59	30.82	535	<0.5	<2.0	18	5.11	<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

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
	7/25/2007	53.91	22.83	31.08	34,900	5,400	364	2,080	6,360	1,980
	10/23/2007	53.91	23.01	30.9	22,600	4,070	<86	1,120	3,095	970
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

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
	7/25/2007	53.31	22.49	30.82	4,970	220	<8.60	198	241.5	1,040
	10/23/2007	53.31	22.69	30.62	4,200	267	<8.6	147	155.5	1,220

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

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
	7/25/2007	50.53	19.81	30.72	6,490	419	21.8	413	223.2	913
	10/23/2007	50.53	19.98	30.55	6,120	550	11	284	141.4	433
						-			-	
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
	7/25/2007	45.82	16.82	29.00	4,960	54.1	<2.0	199	255.87	8.05
	10/23/2007	45.82	16.91	28.91	9,610	64.3	<2.0	188	302.6	5.81
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

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
	7/25/2007	44.74	14.79	29.95	1,230	<0.5	<2.0	27	19.24	3.2
	10/23/2007	44.74	14.88	29.86	1,730	0.67	<2.0	20.7	17.31	8.44
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

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
	7/25/2007	41.14	12.31	28.83	<50	<0.5	<2.0	4.39	<2.0	<0.5
	10/23/2007	41.14	12.37	28.77	<50	<0.5	<2.0	4.31	<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
	7/25/2007	40.26	11.44	28.82	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	10/23/2007	40.26	11.59	28.67	<50	<0.5	<2.0	<0.5	<2.0	<0.5

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)	
--------------------	------	--	-----------------------------------	------------------------------------	-----------------	-------------------	-------------------	-----------------------------	----------------------------	--------------------------------------	--

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.

<sup>2</sup> MtBE analyzed by EPA Method 8021B, and confirmed by EPA Method 8260B.

<: Not detected above the laboratory reporting limit.

<sup>C</sup> 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.

Monitoring		ТВА	DIPE	ETBE	TAME
Well	Date	(μg/L)	(μg/L)	(μg/L)	(μ <mark>g/L)</mark>
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
	7/25/2007	46.5	<1.0	<1.0	<4.0
	10/23/2007	53.7	<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

Monitoring Well	Date	ΤΒΑ (μg/L)	DIPE (μg/L)	ETBE (μg/L)	TAME (μg/L)
MW-2 cont.	3/11/2005	<2.5	<0.5	<0.5	<2.0
WWV-Z CONT.		<2.5 <10	<0.5 <0.5	<0.5 <0.5	<2.0 <2.0
	6/15/2005 8/26/2005	<10 <10	<0.5 <0.5	<0.5 <0.5	<2.0 <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
	7/25/2007	<2.0	<0.5	<0.5	<2.0
	10/23/2007	<2.0	<0.5	<0.5	<2.0
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
	7/25/2007	1,340	<10.8	<10.8	565
	10/23/2007	1,050	<21.5	<21.5	301
MW-4	8/8/2002	1500	<17	<17	18
	11/1/2002	580	< 5.0	6	13

Monitoring	Dete	ТВА	DIPE	ETBE	TAME
Well	Date	(μg/L)	(μg/L)	(μg/L)	(μ <mark>g/L)</mark>
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
	7/25/2007	1,860	<2.15	9.94	24
	10/23/2007	3,400	<2.15	18.4	25.9
	-				•
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

Monitoring	_	ТВА	DIPE	ETBE	TAME				
Well	Date	(μg/L)	(μg/L)	(μg/L)	(μ <mark>g/L)</mark>				
MW-5 cont.	1/25/2007	878	<5.50	<5.50	552				
	4/26/2007	708	<2.15	<2.15	310				
	7/25/2007	1,020	<2.15	<2.15	356				
	10/23/2007	1,510	<2.15	<2.15	181				
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				
	7/25/2007	5.66	<0.5	<0.5	<2.0				
	10/23/2007	6.68	<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				
	7/25/2007	<2.0	<0.5	<0.5	<2.0				
	10/23/2007	6.49	<0.5	<0.5	2.58				
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				

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

Monitoring Well	Date	ТВА (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			
	7/25/2007	<2.0	<0.5	<0.5	<2.0			
	10/23/2007	<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			
	7/25/2007	<2.0	<0.5	<0.5	<2.0			
	10/23/2007	<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

Fourth Quarter 2007 Groundwater Monitoring Report

# Field Activities

On October 23, 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 October 23, 2007, five on-site monitoring wells (MW-1 to MW-5), and four offsite wells (MW-6 to MW-9) were measured for depth to groundwater. On October 23, 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.

Fourth Quarter 2007 Groundwater Monitoring Report

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

# Sampling

On October 23, 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

PT         NORTH (sft)         EAST(sft)         ELEV.         DESCRIPTION         LATITUDE (DMS)         LONGITUDE           1         2086864.99         6093323         442.77         FD CHABOT B         37°43'02.71762"         122°07'09.7           2086864.99         6093351.39         492.08         FD CHABOT A         37°43'01.04190"         122°07'09.7           51         2084073.77         6092140.95         45.15         MW-6 PUNCH         5           52         2084072.47         6092140.95         45.82         MW-6 PUNCH         37°42'26.22635"         122°07'23.7           55         2083909.71         6091947.10         40.61         MW-9 PUNCH         5         205309.10         6091947.00         40.26         MW-9 PUNCH         5         205309.10         6091947.00         40.26         MW-9 PUNCH         5         205309.10         609147.00         40.26         MW-9 PUNCH         5         205309.10         609147.85         122°07'23.1         122°07'23.1         122°07'23.1         122°07'23.1         122°07'23.1         122°07'23.1         122°07'23.1         122°07'23.1         122°07'23.1         122°07'24.1         122°07'23.1         122°07'23.1         122°07'23.1         122°07'23.1         122°07'23.1         122°07'23.1         122°07'23.	
2         2088584.99         6093351.39         492.08         FD CHABOT A         37*43'11.04190"         122*07'09.2           51         2084073.17         6092141.24         46.15         MW-6 PAV         5           52         2084072.72         6092140.95         45.15         MW-6 NOTCH         37*42'26.22635"         122*07'23.2           54         2084072.47         6091947.10         40.61         MW-9 PAV         5         2083909.10         6091947.00         40.261         MW-9 PAV         5         2083908.71         6091947.00         40.28         MW-9 PONCH         5         7205308.71         6091947.00         40.28         MW-9 PONCH         5         2083861.20         6091947.00         40.28         MW-9 NOTCH         37*42'24.57425"         122*07'25.4           58         2083861.20         6091947.00         40.28         MW-8 NOTCH         37*42'24.12245"         122*07'23.4           61         2084008.21         6092290.11         44.94         MW-7 PAV         5         208400.3         6092175.95         51.03         MW-5 NOTCH         37*42'25.61150"         122*07'21.4           62         2084206.47         6092176.55         50.96         MW-5 NOTCH         37*42'27.55260         122*07'21.4	DE (DMS)
51       2084348.54       6092159.32       55.44       FD. X-8         52       2084073.17       6092140.95       46.15       MW-6 PAV         53       2084072.47       6092140.95       45.82       MW-6 NOTCH       37°42'26.22635"       122°07'23.1         54       2084072.47       6091947.10       40.61       MW-9 PAV       122°07'25.1         55       2083909.71       6091947.00       40.26       MW-9 NOTCH       37°42'24.57425"       122°07'25.1         57       2083908.71       6092118.11       41.38       MW-9 NOTCH       37°42'24.57425"       122°07'25.1         59       2083860.03       6092118.52       41.14       MW-8 NOTCH       37°42'24.12245"       122°07'23.1         61       2084008.21       6092290.11       44.94       MW-7 PAV       122°07'23.1         62       2084007.88       6092290.11       44.94       MW-7 PAV       122°07'21.1         63       2084007.68       6092175.95       51.03       MW-5 PAV       65       2084206.17       6092175.95       51.03       MW-5 PAV       65       2084206.11       6092175.95       51.03       MW-5 PAV       65       2084346.45       6092195.85       57.03       MW-5 PAV       65       2084346.45<	.46339"
52       2084073.17       6092141.24       46.15       MW-6 PAV         53       2084072.72       6092140.95       45.82       MW-6 PUNCH       122°07'23.2         54       2084072.47       6092140.95       45.82       MW-6 NOTCH       37°42'26.22635"       122°07'23.2         55       2083909.71       6091947.10       40.61       MW-9 PUNCH       172°07'25.0         56       2083809.71       6091947.00       40.62       MW-9 PAV       122°07'25.0         58       2083861.20       6092118.36       41.44       MW-8 PAV       122°07'23.1         59       2083860.36       6092118.52       41.14       MW-8 PAV       122°07'23.1         60       2083860.36       6092118.52       41.14       MW-7 PAV       122°07'23.1         61       2084007.86       6092290.27       44.95       MW-7 PAV       122°07'21.1         62       2084007.86       6092290.40       44.74       MW-7 PAV       122°07'21.1         63       2084007.68       6092176.79       50.53       MW-5 PAV       122°07'21.1         64       2084206.17       6092176.79       50.53       MW-5 NOTCH       37°42'27.55260       122°07'22.1         72       208470.16 <t< td=""><td>.20691"</td></t<>	.20691"
53       2084072.72       6092140.95       46.15       MW-6 PUNCH       37°42'26.22635"       122°07'23.2         55       2083909.71       6091947.10       40.61       MW-9 PAV       55       2083909.10       6091947.00       40.61       MW-9 PAV       57         56       2083909.10       6091947.00       40.26       MW-9 PAV       37°42'24.57425"       122°07'25.6         57       208396.71       6092118.11       41.38       MW-8 PAV       59       2083860.43       6092118.12       41.14       MW-8 PAV       50       2083860.36       6092118.52       41.14       MW-8 PUNCH       60       2083860.03       6092118.52       41.14       MW-7 PAV       62       2084007.88       6092290.27       44.95       MW-7 PAV       62       2084007.88       6092290.27       44.95       MW-7 NOTCH       37°42'25.61150"       122°07'21.         64       2084006.16       6092175.95       51.03       MW-7 NOTCH       37°42'27.55260       122°07'22.         65       208406.01       6092176.79       50.53       MW-5 NOTCH       37°42'27.55560       122°07'22.         68       2084443.85       6092199.72       53.31       MW-4 PAV       69       2084444.59       6092199.72       53.31       MW-4	
54       2084072.47       6092140.95       45.82       MW-6 NOTCH       37°42'26.22635"       122°07'23.2         55       2083909.71       6091947.00       40.61       MW-9 PUNCH       122°07'23.2         56       2083908.71       6091947.00       40.26       MW-9 PUNCH       122°07'25.6         58       2083861.20       6092118.11       41.38       MW-8 PUNCH       122°07'25.6         59       2083860.43       6092118.52       41.14       MW-8 PUNCH       122°07'23.1         60       2083860.03       609218.52       41.14       MW-7 PUNCH       37°42'24.12245"       122°07'23.1         61       2084007.68       6092290.11       44.94       MW-7 PAV       122°07'21.1       122°07'21.1         62       2084007.68       6092290.40       44.74       MW-7 NOTCH       37°42'25.61150"       122°07'21.1         64       2084206.17       6092176.79       50.53       MW-5 PUNCH       122°07'22.1         65       2084206.16       6092198.75       50.96       MW-5 PUNCH       122°07'22.1         66       2084206.11       6092197.65       50.96       MW-4 PUNCH       122°07'22.1         67       2084404.35       6092198.72       53.74       MW-4 PUNCH <td></td>	
55       2083909.71       6091947.10       40.61       MW-9 PAV         56       2083909.10       6091946.97       40.61       MW-9 PUNCH       37°42'24.57425"       122°07'25.6         57       208386.120       6092118.11       41.38       MW-8 PAV       37°42'24.57425"       122°07'25.6         58       208386.0.3       6092118.52       41.14       MW-8 PAV       37°42'24.12245"       122°07'23.6         60       208386.0.3       6092118.52       41.14       MW-7 PAV       37°42'25.61150"       122°07'23.6         61       2084007.86       6092290.27       44.95       MW-7 PAV       37°42'25.61150"       122°07'21.6         62       2084007.86       6092290.40       44.74       MW-7 PAV       37°42'25.61150"       122°07'21.6         63       2084007.68       6092190.72       51.03       MW-5 PAV       37°42'27.55260       122°07'22.6         64       2084206.01       6092193.72       50.53       MW-4 PAV       68       2084443.65       6092199.72       53.74       MW-4 PAV       122°07'22.7         67       2084443.65       6092199.51       53.31       MW-4 PAV       122°07'22.7       122°07'22.7       122°07'22.7       122°07'22.7       122°07'22.7       122°07'22.	
56       2083909.10       6091946.97       40.61       MW-9 PUNCH         57       2083908.71       6091947.00       40.26       MW-9 NOTCH       37°42'24.57425"       122°07'25.6         58       2083861.20       6092118.11       41.38       MW-8 PAV       122°07'25.6         59       2083860.43       6092118.52       41.14       MW-8 NOTCH       37°42'24.12245"       122°07'23.6         60       2083860.12       6092190.11       44.94       MW-7 PAV       122°07'21.6       122°07'21.6         61       2084007.88       6092290.27       44.95       MW-7 PAV       122°07'21.6       122°07'21.6         62       2084007.88       6092195.55       51.03       MW-5 PAV       122°07'21.6       122°07'21.6         64       2084206.01       6092176.79       50.53       MW-5 NOTCH       37°42'27.55260       122°07'22.7         67       208470.41       6092179.72       53.74       MW-4 PAV       69       2084443.85       6092199.72       53.71       MW-4 PUNCH       122°07'22.7         70       2084490.45       6092199.71       53.31       MW-4 PUNCH       122°07'22.7       122°07'22.7       122°07'22.7       122°07'22.7       122°07'22.7       122°07'22.7       122°07'22.7	.29643
57       2083908.71       6091947.00       40.26       MW-9 NOTCH       37°42'24.57425"       122°07'25.6         58       2083860.20       6092118.36       41.44       MW-8 PAV       1         60       2083860.03       6092118.36       41.44       MW-8 PUNCH       1         60       2083860.03       6092118.52       41.14       MW-8 NOTCH       37°42'24.12245"       122°07'23.8         61       2084008.21       6092290.27       44.95       MW-7 PAV       1       122°07'21.9         62       2084007.68       6092290.27       44.95       MW-7 PAV       122°07'21.9         63       2084007.68       6092175.95       51.03       MW-5 PAV       122°07'22.9         64       2084206.01       6092176.79       50.53       MW-5 PUNCH       66       2084206.01       6092176.79       50.53         68       2084206.01       6092199.72       53.74       MW-4 PAV       122°07'22.9       122°07'22.9         67       2084444.59       6092199.72       53.31       MW-4 NOTCH       37°42'29.91496"       122°07'22.9         70       20843444.59       6092195.1       53.31       MW-4 NOTCH       37°42'29.91496"       122°07'22.9         71       20	
58         2083861.20         6092118.11         41.38         MW-8 PAV           59         2083860.03         6092118.52         41.44         MW-8 PUNCH         37°42'24.12245"         122°07'23.1           61         2083800.03         6092118.52         41.14         MW-7 PAV         62         2084007.88         6092290.11         44.94         MW-7 PAV         62         2084007.88         6092290.40         44.95         MW-7 NOTCH         37°42'25.61150"         122°07'21.16           64         2084007.88         6092290.40         44.74         MW-7 NOTCH         37°42'25.61150"         122°07'21.16           64         2084206.01         6092176.79         50.53         MW-5 PAV         122°07'22.16         122°07'22.16         122°07'22.16         122°07'22.16         122°07'22.16         122°07'22.16         122°07'22.16         122°07'22.16         122°07'22.16         122°07'22.16         122°07'22.16         122°07'22.16         122°07'22.16         122°07'22.17         12084470.45         6092199.72         53.74         MV-4 PAV         69         2084444.59         6092199.15         53.31         MW-4 PAV         69         2084444.59         6092199.15         53.31         MW-4 NOTCH         37°42'29.91496"         122°07'22.17         122°07'23.17         122°07'	
59       2063860.43       6092118.36       41.44       MW-8 PUNCH         60       2083860.03       6092118.52       41.14       MW-8 NOTCH       37°42'24.12245"       122°07'23.3         61       2084007.88       6092290.11       44.94       MW-7 PAV       6000000000000000000000000000000000000	.67431"
60       2083860.03       6092118.52       41.14       MW-8 NOTCH       37°42'24.12245"       122°07'23.4         61       2084008.21       6092290.27       44.95       MW-7 PAV       62       2084007.68       6092290.27       44.95       MW-7 PVNCH       63       2084007.68       6092290.40       44.74       MW-7 NOTCH       37°42'25.61150"       122°07'21.4         64       2084206.49       6092176.55       50.96       MW-5 PAV       65       2084206.01       6092176.79       50.53       MW-5 NOTCH       37°42'27.55260       122°07'22.4         67       2084206.01       6092176.79       50.53       MW-5 NOTCH       37°42'27.55260       122°07'22.4         68       2084206.01       6092198.72       53.74       MW-4 PAV       69       2084444.59       6092199.72       53.31       MW-4 PAV       69       2084444.59       6092199.72       53.31       MW-3 PAV       72       2084399.10       6092145.28       54.33       MW-3 PAV       72       2084399.78       6092145.28       54.33       MW-3 PUNCH       742'29.46636"       122°07'23.7         74       2084300.75       6092199.20       54.46       MW-1 PUNCH       76       208430.46       6092199.20       54.46       MW-1 NOTCH       37°42'28.	
61       2084008.21       6092290.11       44.94       MW-7 PAV         62       2084007.88       6092290.27       44.95       MW-7 PVNCH         63       2084007.68       6092290.40       44.74       MW-7 NOTCH       37°42'25.61150"       122°07'21.         64       2084206.49       6092175.95       51.03       MW-5 PAV       65       2084206.17       6092176.55       50.96       MW-5 PUNCH       66       2084206.01       6092176.79       50.53       MW-5 NOTCH       37°42'27.55260       122°07'22.         67       2084670.41       6092190.78       60.92198.88       53.70       MW-4 PAV       68       2084443.65       6092199.72       53.74       MW-4 PAV       122°07'22.         68       2084444.39       6092199.72       53.31       MW-4 NOTCH       37°42'29.91496"       122°07'22.         71       2084399.10       6092145.43       54.37       MW-3 PAV       122°07'22.         72       2084399.78       6092145.27       53.91       MW-3 NOTCH       37°42'29.91496"       122°07'23.         74       2084329.47       6092199.72       54.82       MW-1 PAV       122°07'23.       122°07'23.         75       208430.75       6092199.20       54.46       MW-1	
62       2084007.88       6092290.27       44.95       MW-7 PVNCH         63       2084007.68       6092290.40       44.74       MW-7 NOTCH       37°42'25.61150"       122°07'21.         64       2084206.49       6092175.95       51.03       MW-5 PAV       122°07'21.         65       2084206.01       6092176.79       50.53       MW-5 PUNCH       37°42'27.55260       122°07'22.         67       2084670.41       6092307.68       69.79       FD BM FAIR580       122°07'22.         68       2084443.65       6092198.88       53.70       MW-4 PAV       69       2084444.59       6092199.72       53.74       MW-4 PAV       69       2084444.59       6092199.72       53.74       MW-4 PAV       69       2084444.59       6092199.72       53.31       MW-4 PAV       69       2084440.56       6092145.43       54.37       MW-3 PAV       122°07'22.         71       2084399.10       6092145.28       54.33       MW-3 PAV       122°07'23.       122°07'23.         72       2084329.47       6092199.72       54.82       MW-1 PAV       122°07'23.       122°07'23.         74       2084329.47       6092199.20       54.46       MW-1 NOTCH       37°42'28.78955"       122°07'22.	.52966"
63       2084007.68       6092290.40       44.74       MW-7 NOTCH       37°42'25.61150"       122°07'21.         64       2084206.49       6092175.95       51.03       MW-5 PAV       1       1         65       2084206.01       6092176.55       50.96       MW-5 PUNCH       37°42'27.55260       122°07'22.         67       2084670.41       60921976.79       50.53       MW-5 NOTCH       37°42'27.55260       122°07'22.         68       2084443.65       6092198.88       53.70       MW-4 PAV       1       1         69       2084444.39       6092199.71       53.74       MW-4 PUNCH       7       122°07'22.         71       2084399.10       6092195.1       53.31       MW-4 NOTCH       37°42'29.91496"       122°07'22.         71       2084399.78       6092199.51       53.31       MW-3 NOTCH       37°42'29.46636"       122°07'23.         74       2084329.47       6092199.52       54.33       MW-3 NOTCH       37°42'29.46636"       122°07'23.         74       2084329.47       6092199.20       54.82       MW-1 NOTCH       37°42'28.78955"       122°07'22.         75       208430.75       6092199.20       54.46       MW-1 NOTCH       37°42'28.78955"       122°	
64       2084206.49       6092175.95       51.03       MW-5 PAV         65       2084206.17       6092176.55       50.96       MW-5 PUNCH       37°42'27.55260       122°07'22.1         67       2084670.41       6092307.68       69.79       FD BM FAIR580       68       2084443.65       6092198.88       53.70       MW-4 PAV       69       2084444.59       6092199.72       53.74       MW-4 PAV       69       2084444.59       6092199.51       53.31       MW-4 PAV       69       2084444.59       6092199.51       53.31       MW-4 PAV       69       2084444.59       6092199.51       53.31       MW-4 PAV       69       2084400.15       6092145.43       54.37       MW-3 PAV       72       2084399.78       6092145.27       53.91       MW-3 NOTCH       37°42'29.91496''       122°07'23.         74       2084329.47       6092145.27       53.91       MW-3 NOTCH       37°42'29.46636''       122°07'23.         74       2084329.47       6092199.72       54.82       MW-1 PAV       75       2084330.75       6092199.20       54.46       MW-1 NOTCH       37°42'28.78955''       122°07'23.         77       2084368.15       6092256.38       52.88       MW-2 PAV       78       2084368.15       6092256.14	
65       2084206.17       6092176.55       50.96       MW-5 PUNCH         66       2084206.01       6092176.79       50.53       MW-5 NOTCH       37°42'27.55260       122°07'22.1         67       2084670.41       6092307.68       69.79       FD BM FAIR580       68       2084443.65       6092198.88       53.70       MW-4 PAV         69       2084444.39       6092199.72       53.74       MW-4 PUNCH       37°42'29.91496"       122°07'22.1         70       2084444.59       6092199.51       53.31       MW-4 NOTCH       37°42'29.91496"       122°07'22.1         71       2084399.10       6092145.43       54.37       MW-3 PAV       72       2084399.78       6092145.28       54.33       MW-3 PUNCH       73       2084400.15       6092145.27       53.91       MW-3 NOTCH       37°42'29.46636"       122°07'23.7         74       2084329.47       6092199.72       54.82       MW-1 PAV       75       2084330.75       6092199.20       54.79       MW-1 PUNCH       76       2084330.75       6092199.20       54.46       MW-2 PAV       77       2084368.15       6092256.14       52.92       MW-2 PAV       78       2084368.53       6092256.06       52.41       MW-2 NOTCH       37°42'34.64279"       122°07'2	.42290"
66       2084206.01       6092176.79       50.53       MW-5 NOTCH       37°42'27.55260       122°07'22.1         67       2084670.41       6092307.68       69.79       FD BM FAIR580       68         68       2084443.65       6092198.88       53.70       MW-4 PAV       69         69       2084444.39       6092199.72       53.74       MW-4 PUNCH       70       2084399.10       6092199.51       53.31       MW-4 NOTCH       37°42'29.91496"       122°07'22.1         71       2084399.10       6092145.43       54.37       MW-3 PAV       72       2084399.78       6092145.28       54.33       MW-3 NOTCH       37°42'29.46636"       122°07'23.         74       2084329.47       6092199.72       54.82       MW-1 PAV       75       2084330.44       6092199.72       54.82       MW-1 PUNCH       76       2084330.75       6092199.20       54.46       MW-1 NOTCH       37°42'28.78955"       122°07'22.         77       2084368.15       6092256.38       52.88       MW-2 PAV       77       2084368.15       6092256.06       52.41       MW-2 NOTCH       37°42'28.78955"       122°07'21.         79       2084368.53       6092256.06       52.41       MW-2 NOTCH       37°42'34.64279"       122°07'21. <td></td>	
67       2084670.41       6092307.68       69.79       FD BM FAIR580         68       2084443.65       6092198.88       53.70       MW-4 PAV	
68       2084443.65       6092198.88       53.70       MW-4 PAV         69       2084444.39       6092199.72       53.74       MW-4 PUNCH         70       2084444.59       6092199.51       53.31       MW-4 NOTCH       37°42'29.91496''       122°07'22.'         71       2084399.10       6092145.43       54.37       MW-3 PAV       72       2084399.78       6092145.28       54.33       MW-3 PUNCH       73       2084400.15       6092145.27       53.91       MW-3 NOTCH       37°42'29.46636''       122°07'23.'         74       2084329.47       6092199.72       54.82       MW-1 PAV       75       2084330.44       6092199.72       54.82       MW-1 PUNCH       76       2084330.75       6092199.20       54.46       MW-1 NOTCH       37°42'28.78955''       122°07'22.''         77       2084367.59       6092256.38       52.88       MW-2 PAV       78       2084368.15       6092256.14       52.92       MW-2 NOTCH       37°42'29.17277''       122°07'21.''         79       2084368.53       6092256.06       52.41       MW-2 NOTCH       37°42'34.64279''       122°07'28.''         79       2084930.49       6091759.33       58.50       FD BM K1256       37°42'34.64279'''       122°07'28.''	.87930
69       2084444.39       6092199.72       53.74       MW-4 PUNCH         70       2084444.59       6092199.51       53.31       MW-4 NOTCH       37°42'29.91496''       122°07'22.'         71       2084399.10       6092145.43       54.37       MW-3 PAV       -       -         72       2084399.78       6092145.28       54.33       MW-3 PUNCH       -       -         73       2084400.15       6092199.72       53.91       MW-3 NOTCH       37°42'29.46636''       122°07'23.'         74       2084329.47       6092199.72       54.82       MW-1 PAV       -       -         75       2084330.44       6092199.20       54.46       MW-1 NOTCH       37°42'28.78955'''       122°07'22.''         76       2084367.59       6092256.38       52.88       MW-2 PAV       -       -         78       2084368.15       6092256.14       52.92       MW-2 PUNCH       -       -       -         79       2084368.53       6092256.06       52.41       MW-2 NOTCH       37°42'29.17277''       122°07'21.''         80       2084930.49       6091759.33       58.50       FD BM K1256       37°42'34.64279''       122°07'28.''         70       2084930.49	
70       2084444.59       6092199.51       53.31       MW-4 NOTCH       37°42'29.91496"       122°07'22.         71       2084399.10       6092145.43       54.37       MW-3 PAV       72       2084399.78       6092145.28       54.33       MW-3 PUNCH       73       2084400.15       6092145.27       53.91       MW-3 NOTCH       37°42'29.46636"       122°07'23.         74       2084329.47       6092199.72       54.82       MW-1 PAV       75       2084330.44       6092199.72       54.82       MW-1 PAV       75       2084330.44       6092199.72       54.82       MW-1 PAV       75       2084330.75       6092199.72       54.82       MW-1 NOTCH       37°42'28.78955"       122°07'22.         76       2084367.59       6092256.38       52.88       MW-2 PAV       78       2084368.15       6092256.14       52.92       MW-2 NOTCH       37°42'29.17277"       122°07'21.         79       2084368.53       6092256.06       52.41       MW-2 NOTCH       37°42'34.64279"       122°07'21.         80       2084930.49       6091759.33       58.50       FD BM K1256       37°42'34.64279"       122°07'28.         70       2084930.49       6091759.33       58.50       FD BM K1256       37°42'34.64279"       122°07'28.	
71       2084399.10       6092145.43       54.37       MW-3 PAV         72       2084399.78       6092145.28       54.33       MW-3 PUNCH         73       2084400.15       6092145.27       53.91       MW-3 NOTCH       37°42'29.46636''       122°07'23.         74       2084329.47       6092199.72       54.82       MW-1 PAV	
72       2084399.78       6092145.28       54.33       MW-3 PUNCH         73       2084400.15       6092145.27       53.91       MW-3 NOTCH       37°42'29.46636''       122°07'23.         74       2084329.47       6092199.72       54.82       MW-1 PAV       75       2084330.44       6092199.72       54.82       MW-1 PAV       75         75       2084330.44       6092199.45       54.79       MW-1 PUNCH       37°42'28.78955''       122°07'22.         76       2084367.59       6092256.38       52.88       MW-2 PAV       37°42'29.17277''       122°07'22.         77       2084368.15       6092256.14       52.92       MW-2 PUNCH       37°42'29.17277''       122°07'21.         80       2084930.49       6091759.33       58.50       FD BM K1256       37°42'34.64279''       122°07'28.         9       <	.64809"
73       2084400.15       6092145.27       53.91       MW-3 NOTCH       37°42'29.46636''       122°07'23.         74       2084329.47       6092199.72       54.82       MW-1 PAV       -       -         75       2084330.44       6092199.45       54.79       MW-1 PUNCH       -       -         76       2084330.75       6092199.20       54.46       MW-1 NOTCH       37°42'28.78955''       122°07'22.         77       2084367.59       6092256.38       52.88       MW-2 PAV       -       -         78       2084368.15       6092256.14       52.92       MW-2 PUNCH       -       -         79       2084368.53       6092256.06       52.41       MW-2 NOTCH       37°42'29.17277''       122°07'21.         80       2084930.49       6091759.33       58.50       FD BM K1256       37°42'34.64279''       122°07'28.         -       -       -       -       -       -       -       -         -       -       -       -       -       -       -       -       -         79       2084368.53       6091759.33       58.50       FD BM K1256       37°42'34.64279''       122°07'28.       -       -       -       -	
74       2084329.47       6092199.72       54.82       MW-1 PAV         75       2084330.44       6092199.45       54.79       MW-1 PUNCH         76       2084330.75       6092199.20       54.46       MW-1 NOTCH       37°42'28.78955''       122°07'22.         77       2084367.59       6092256.38       52.88       MW-2 PAV           78       2084368.15       6092256.14       52.92       MW-2 PUNCH           79       2084368.53       6092256.06       52.41       MW-2 NOTCH       37°42'29.17277''       122°07'21.         80       2084930.49       6091759.33       58.50       FD BM K1256       37°42'34.64279''       122°07'28.         4       4       4       4       4       4       4       4         6091759.33       58.50       FD BM K1256       37°42'34.64279''       122°07'28.       4         4       4       4       4       4       4       4       4         50.06       52.41       MW-2       4       4       4       4       4         6091759.33       58.50       FD BM K1256       37°42'34.64279''       122°07'28.       4       4       4       4	
75       2084330.44       6092199.45       54.79       MW-1 PUNCH       37°42'28.78955"       122°07'22.         76       2084330.75       6092199.20       54.46       MW-1 NOTCH       37°42'28.78955"       122°07'22.         77       2084367.59       6092256.38       52.88       MW-2 PAV       122°07'22.         78       2084368.15       6092256.14       52.92       MW-2 PUNCH       122°07'21.         79       2084368.53       6092256.06       52.41       MW-2 NOTCH       37°42'29.17277"       122°07'21.         80       2084930.49       6091759.33       58.50       FD BM K1256       37°42'34.64279"       122°07'28.         9       9       9       9       9       9       9       9       9         9       1       1       1       1       122°07'28.       122°07'28.         9       1       1       1       1       1       1       1         9       1       1       1       1       1       1       1         10       1       1       1       1       1       1       1       1         10       1       1       1       1       1       1	.31339"
76       2084330.75       6092199.20       54.46       MW-1 NOTCH       37°42'28.78955''       122°07'22.         77       2084367.59       6092256.38       52.88       MW-2 PAV           78       2084368.15       6092256.14       52.92       MW-2 PUNCH           79       2084368.53       6092256.06       52.41       MW-2 NOTCH       37°42'29.17277''       122°07'21.         80       2084930.49       6091759.33       58.50       FD BM K1256       37°42'34.64279''       122°07'28.         9       9       9       9       9       9       9       9       9       9         9       2084930.49       6091759.33       58.50       FD BM K1256       37°42'34.64279''       122°07'28.         9       9       9       9       9       9       9       9       9         9       9       9       9       9       9       9       9       9         9       9       9       9       9       9       9       9       9         9       9       9       9       9       9       9       9       9         9       9	
77       2084367.59       6092256.38       52.88       MW-2 PAV	
78       2084368.15       6092256.14       52.92       MW-2 PUNCH       37°42'29.17277"       122°07'21.         79       2084368.53       6092256.06       52.41       MW-2 NOTCH       37°42'34.64279"       122°07'21.         80       2084930.49       6091759.33       58.50       FD BM K1256       37°42'34.64279"       122°07'28.         9       9       9       9       9       9       9       9       9         9 <td>62738"</td>	62738"
79       2084368.53       6092256.06       52.41       MW-2 NOTCH       37°42'29.17277"       122°07'21.         80       2084930.49       6091759.33       58.50       FD BM K1256       37°42'34.64279"       122°07'28.         9       9       9       9       9       9       122°07'28.       122°07'28.         9       9       9       9       9       9       9       122°07'28.         9       9       9       9       9       9       9       122°07'28.         9       9       9       9       9       9       9       9         9       9       9       9       9       9       9       9         9       9       9       9       9       9       9       9       9         9 <td< td=""><td></td></td<>	
80       2084930.49       6091759.33       58.50       FD BM K1256       37°42'34.64279"       122°07'28.         1<	
SUSTIN LAND SUR SUSTIN LAND SUS SUSTIN LAND SUS SUSTIN LAND SUS SUSTIN LAND SUS SUSTIN LAND SUS SUSTIN LAND SUS SUSTIN LAND SUS SUS SUS SUS SUS SUS SUS SUS	
	.23011"
I PALSE FAI	
TIT OF CALLOP	



MAT-II MI-202	mu -1	Project No.: 2551
Well No.:		
Casing Diameter:	inches	Address: 15101 Freedom Avenue
Depth of Well:	31.64 feet	San Leandro, CA
Top of Casing Elevation:	<u>54.46</u> feet	Date: October 23, 2007
Depth to Groundwater:	<u>23.42</u> feet	Sampler: Lizzie Hightower
Groundwater Elevation:	<u>31.04</u> feet	Eric Gassner-Wollwage
Water Column Height:	3.22 feet	
Purged Volume:	gallons	50
Purging Method:	Bailer 🛛	Pump 🕁
Sampling Method:	Bailer 🛛	Pump 🗆
	(	
Color:	Yes 🗆 No 🖻	Describe:
Sheen:	Yes 🗆 No 🖾	Describe:
	/	Dile
Odor:	Yes 🖬 No 🗆	Describe: 10the 6 avor

### Field Measurements:

Time	Vol (gallons)	рH	Temp (° C)	E.C. (μs/cm)
1404	Starter	1 pu	man	will
1406	2	7.22	23.2	987
1409	5	1.12	22.6	915
1412	8	7.21	22.7	985
1414	10	1.25	22.6	776
IUN	Sampl	ex		



Well No.: Casing Diameter: Depth of Well:	$\frac{MW-2}{4}$ inches $\frac{31.55}{52.41}$ feet feet	Project No.: 2551 Address: 15101 Freedom Avenue San Leandro, CA Date: October 23, 2007
Top of Casing Elevation: Depth to Groundwater:	21.59 feet 30.82 feet	Sampler: Lizzie Hightower Eric Gassner-Wollwage
Groundwater Elevation: Water Column Height: Purged Volume:	$\frac{9,96}{1000}$ feet	
Purging Method:	Bailer 🛛	Pump 🕅
Sampling Method:	Bailer 运	Pump 🗖
Color:	Yes 🗆 No 🦕	Describe:
Sheen:	Yes 🗆 No 🐚	Describe:
Odor:	Yes 🖳 No 🗆	Describe: <u>SU/Fur</u>

12

### Field Measurements:

.

Time	Vol (gallons)	pH	Temp (° C)	E.C. (μs/cm)
1326	Start	the pi	wain	well
132-8	2	7.22	22.2-	882
1331	5	7.08	21.8	861
1334	8	7.07	21.7	865
1337	11	7.06	21,7	889
1340	sample	l'		
	/			



ENVIRONMENTAL ENGINEERING, INC

Well No.: Casing Diameter: Depth of Well:	<u>MW-3</u> <u>4</u> <u>31.36</u> feet	Project No.: 2551 Address: 15101 Freedom Avenue San Leandro, CA
Top of Casing Elevation:	53, 91 feet	Date: October 23, 2007
Depth to Groundwater:	23.01 feet	Sampler: Lizzie Hightower
Groundwater Elevation:	<u>30.90</u> feet	Eric Gassner-Wollwage
Water Column Height:	8.85 feet	
Purged Volume:	gallons	<i>,</i>
Purging Method:	Bailer 🛛	Pump tu
Sampling Method:	Bailer 🛛	Pump 🗆
Color: Sheen:	Yes □ No ₪ Yes □ No ₪	Describe:
Odor:	Yes 🗹 No 🗆	Describe: Stight Etro DAV
		v

4

### Field Measurements:

Time	Vol (gallons)	pН	Temp (°C)	E.C. (μs/cm)
1431	Starte	d pro	my	well
1435	2	7.28	23.8	1062
1436	5	7.19	22.8	1025
1439	9	7.16	22.5	1052
1441	ND.	7.12	22.6	1071
1444	Sample	d		
	0			



Well No.: Casing Diameter: Depth of Well: Top of Casing Elevation: Depth to Groundwater: Groundwater Elevation: Water Column Height: Purged Volume:	$\frac{MW-4}{124}$ inches $\frac{31.99}{16et}$ feet $\frac{53.37}{16et}$ feet $\frac{30.62}{16et}$ feet $\frac{9.30}{16et}$ feet $\frac{14}{16et}$ gallons	Project No.:2551Address:15101 Freedom Avenue San Leandro, CADate:October 23, 2007Sampler:Lizzie Hightower Eric Gassner-Wollwage
Purging Method: Sampling Method:	Bailer □ Bailer ि	Pump 🕎 Pump 🗆
Color:	Yes 🗆 No 🚡	Describe:
Sheen: Odor:	Yes 🗆 No 🗟 Yes à No 🗆	Describe:

### Field Measurements:

Time	Vol (gallons)	pН	Temp (° C)	E.C. (μs/cm)
150	(guilons)	4 101	Thing	00
1502	Jan Tu	24	017	1211
1500	- de	721	22	1201
1509	- K	116	218	12.11
1512		1.10	21.9	1220
1515	14	7.05	21.7	1220
1518	Sanda	0		1001

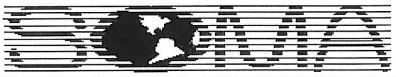


Well No.: Casing Diameter: Depth of Well: Top of Casing Elevation: Depth to Groundwater: Groundwater Elevation: Water Column Height: Purged Volume:	$\frac{MW-5}{4}$ inches $\frac{31.32}{50.53}$ feet $\frac{50.53}{19.98}$ feet $\frac{30.55}{5}$ feet $\frac{11.34}{5}$ feet $\frac{14}{9}$ gallons	Project No.:2551Address:15101 Freedom Avenue San Leandro, CADate:October 23, 2007Sampler:Lizzie Hightower Eric Gassner-Wollwage
Purging Method:	Bailer 🗆	Pump 🖳
Sampling Method:	Bailer b	Pump 🗖
Color:	Yes 🏹 No 🗆	Describe: Jighty Cloudy
Sheen:	Yes 🗆 No 뉯	Describe:
Odor:	Yes 📐 No 🗆	Describe: <u>Slight pepes oder</u>

### Field Measurements:

.

Time	Vol (gallons)	рH	Temp (° C)	E.C. (μs/cm)
1529	Harje 2	P1.240	- p. p. p 736	Well 1001
1535	10	7.06	22.9	988
1543	14	7.07	23.3	988
10 10		19-		



Well No.: Casing Diameter: Depth of Well: Top of Casing Elevation:	$\frac{MW-6}{4}$ inches $\frac{28.28}{45.82}$ feet feet	Project No.: 2551 Address: 15101 Freedom Avenue San Leandro, CA Date: October 23, 2007
Depth to Groundwater:	16.91 feet	Sampler: Lizzie Hightower
Groundwater Elevation: Water Column Height: Purged Volume:	28-9/ feet 11,37 feet <u>/4</u> gallons	Eric Gassner-Wollwage
Purging Method:	Bailer 🗆	Pump I
Sampling Method:	Bailer b	Pump 🗆
Color:	Yes □ No ម្	Describe:
Sheen:	Yes 🗆 No 🏹	Describe:
Odor:	Yes 🛓 No 🗆	Describe: <u>Slight plano eclo</u>

### Field Measurements:

,

Time	Vol	pН	Temp	E.C.
	(gallons)		(° C)	(µs/cm)
1154	Stante	ed p	nein	puell
1156	2	7.36	241	5945
1200	6	7.29	24	921
1204	10	7.30	23,9	929
1208	14	7.32	23,8	922
1211	Sample	pd		
	. ,		+ Tak	



Well No.: Casing Diameter: Depth of Well: Top of Casing Elevation: Depth to Groundwater: Groundwater Elevation: Water Column Height: Purged Volume:	$\frac{WW-7}{2}$ inches $\frac{21.01}{6et}$ feet $\frac{44.79}{6et}$ feet $\frac{14.88}{79.86}$ feet $\frac{5.13}{6et}$ gallons	Project No.: Address: Date: Sampler:	2551 15101 Freedom Avenue San Leandro, CA October 23, 2007 Lizzie Hightower Eric Gassner-Wollwage
Purging Method:	Bailer 🛛	Pump 🔍	
Sampling Method:	Bailer 🔍	Pump 🗆	
Color:	Yes 树 No 🗖	Describe:	Cloudy
			V Shit
Sheen:	Yes ⊠ No ⊡	Describe:	Veny Slight
Odor:	Yes 🖞 No 🗆	Describe:	Stur

### Field Measurements:

Time	Vol (gallons)			E.C. (μs/cm)
1221	Started	pur 7:34	3100 21.7	well 1113
1224	3	7.08	20.9	1078
1232	8	7.02 ed	20.6	1069
		×- 、		



Well No.: Casing Diameter: Depth of Well: Top of Casing Elevation: Depth to Groundwater: Groundwater Elevation: Water Column Height: Purged Volume:

MW-8 inches feet 28.74 4 1.14 feet 12.3 feet 28.7 feet 3 feet 1 6 12 gallons Project No.: 2551 Address: 15101 Freedom Avenue San Leandro, CA October 23, 2007 Sampler: Lizzie Hightower Eric Gassner-Wollwage

Date:

Purging Method:	Baile	r 🗆			Pump
Sampling Method:	Baile	r R	2		Pump
Color:	Yes	P	No		Describe
Sheen:	Yes		No	Ŕ	Describe
Odor:	Yes		No	A	Describe

Pump	<i>B</i>
Pump	
Describe:	Muddy
Describe:	
Describe:	

### **Field Measurements:**

Time	Vol (gallons)	рН	Temp (° C)	E.C. (μs/cm)
1050 AM	Startes	1 pm	zing	well
1052 Am	2	7.30	20.9	1143
1055	5	7.32	20.5	1149
1058	8	7.42	20.7	1169
1100	10	7.46	20.7	1153
1102	12	7.4.8	20.8	1160
1105	Sapanol	ed		
100	1 9 11 110			



ENVIRONMENTAL ENGINEERING, INC

Well No.:	mw-9		Project No.	2551
Casing Diameter:	2	inches	Address:	15101 Freedom Avenue
Depth of Well:	33.15	feet		San Leandro, CA
Top of Casing Elevation:	40.26	feet	Date:	October 23, 2007
Depth to Groundwater:	11.59	feet	Sampler:	Lizzie Hightower
Groundwater Elevation:	28.67	feet		Eric Gassner-Wollwage
Water Column Height:	21.56	feet		
Purged Volume:	16	gallons		
				1
Purging Method:	Bailer 🗆		Pump	₩
		/		
Sampling Method:	Bailer 🕁	/	Pump	
			/	
Color:	Yes 🗆	No te	/ Describe:	
		HO G	Decomber	
Sheen:	Yes 🛛	No 🗆	Describe:	
Odor:	Yes 🗆	No 🗆	Describe:	1

### Field Measurements:

.

Time	Vol	pН	Temp	E.C.
	(gallons)		(° C)	(µs/cm)
1119 Am	Stante	dp	Win	nvell
1121	2	7.77	28.9	1036
1124	5	7.62	20.9	1014
1128	9	7.69	20.4	977
1132	B	7.68	20.0	965
1135	16	7.64	20.4	972
1138	Sannol	och		
	1			

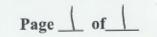
# **Appendix C**

Laboratory Report and Chain of Custody Form

for the

Fourth Quarter 2007 Monitoring Event

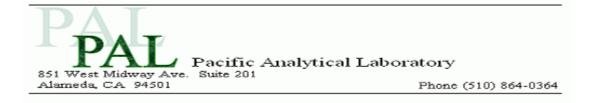
# CHAIN OF CUSTODY FORM



PAL Pacific Analytical Laboratory 851 West Midway Ave., Suite 201B Alameda, CA 94501 510-864-0364 Telephone 510-864-0365 Fax

Sampler: John Lotiman / Eric Jennings Analyses/Method Project No: 2551 Report To: Tony Perini Jayce Bobek TPH-9, BTEX, MtBE Gasoline Oxygenates & Lead Scavengers Project Name: 15101 Freedom Avenue San Leandro Company: SOMA Environmental Engineering, Inc. 925-244-6600 Turnaround Time: Standard Tel: 925-244-6601 Fax: # of Containers Preservatives Sampling Date/Time Matrix Water Waste H<sub>2</sub>So4 Sample ID Date Time Soil HNO3 Lab HCL ICE **Field Notes** No. Grab Sample Х 5/9/05 10/23/07 1417 Х VOAs X Х Х MW-1 X Х X Grab Sample X X **3**VOAs MW-2 5/9/06 1340 Grab Sample X X 5/9/06 Х VOAs X Х MW-3 1444 Х Х X X Grab Sample 1518 X **WOAs** MW-4 5/9/06 Grab Sample X 3VOAs X X Х Х MW-5 5/9/06 1546 Х X Grab Sample Х **J**VOAs X Х MW-6 5/9/06 1211 Grab Sample Х Х 5/9/06 1232 X **3**VOAs Х X MW-7 Х Grab Sample Х Х 1105 Х 5/9/06 X 3 VOAs MW-8 Х X Х Grab Sample X 4 VOAs Х MW-9 579706 V 1138 Received by: Relinguished by: Date/Time: Date/Time: Sampler Remarks: 10/23/07 10/23/07 V. Vanguet EDF REQUIRED Ethanol

PAL Login# 7100009



12 November 2007

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

RE: 15101 Freedom Ave., San Leandro

Work Order Number: 7100009

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,

Mapd Ach

Maiid Akhavan Laboratorv Director



SOMA Environmental Engineering Inc.Project:15101 Freedom Ave., San Leandro6620 Owens Drive, Suite AProject Number:2551Reported:Pleasanton CA, 94588Project Manager:Mansour Sepehr12-Nov-07 19:36

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	7100009-01	Water	23-Oct-07 14:17	23-Oct-07 16:45
MW-2	7100009-02	Water	23-Oct-07 13:40	23-Oct-07 16:45
MW-3	7100009-03	Water	23-Oct-07 14:44	23-Oct-07 16:45
MW-4	7100009-04	Water	23-Oct-07 15:18	23-Oct-07 16:45
MW-5	7100009-05	Water	23-Oct-07 15:46	23-Oct-07 16:45
MW-6	7100009-06	Water	23-Oct-07 12:11	23-Oct-07 16:45
MW-7	7100009-07	Water	23-Oct-07 12:32	23-Oct-07 16:45
MW-8	7100009-08	Water	23-Oct-07 11:05	23-Oct-07 16:45
MW-9	7100009-09	Water	23-Oct-07 11:38	23-Oct-07 16:45

Pacific Analytical Laboratory



Project: 15101 Freedom Ave., San Leandro Project Number: 2551 Project Manager: Mansour Sepehr

**Reported:** 12-Nov-07 19:36

## Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (7100009-01RE1) Water	Sampled: 23-Oct-07 14:17	Received: 23-0	oct-07 16:4	45					
Gasoline (C6-C12)	3900	50.0	ug/l	1	BJ72902	23-Oct-07	24-Oct-07	EPA 8260B	
Benzene	117	0.500	"	"	"	"		"	
Ethylbenzene	87.1	0.500	"	"	"	"		"	
m&p-Xylene	21.2	2.00	"	"	"	"		"	
o-xylene	2.67	0.500	"	"	"	"		"	
Toluene	ND	2.00	"	"	"			"	
MTBE	4.54	0.500	"	"	"	"		"	
DIPE	ND	0.500	"	"	"	"		"	
ETBE	ND	0.500	"	"	"	"		"	
TAME	ND	2.00	"	"				"	
ТВА	53.7	2.00	"	"				"	
1,2-dichloroethane	ND	0.500	"	"	"	"		"	
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"		"	
Ethanol	ND	1000	"	"			"	"	
Surrogate: 4-Bromofluorobenzene		107 %	70-	130	"	"	"	"	
Surrogate: Dibromofluoromethane	2	105 %	70-	130	"	"	"	"	
Surrogate: Perdeuterotoluene		103 %	70-	130	"	"	"	"	
MW-2 (7100009-02) Water San	npled: 23-Oct-07 13:40 Red	eived: 23-Oct-0	7 16:45						
Gasoline (C6-C12)	535	50.0	ug/l	1	BJ72902	23-Oct-07	23-Oct-07	EPA 8260B	
Benzene	ND	0.500	"	"	"	"		"	
Ethylbenzene	18.0	0.500	"	"					
m&p-Xylene	2.79	2.00	"	"	"	"		"	
o-xylene	2.32	0.500	"	"	"	"		"	
Toluene	ND	2.00	"	"	"	"		"	
MTBE	ND	0.500	"	"	"			"	
DIPE	ND	0.500	"	"					
ETBE	ND	0.500	"	"					
TAME	ND	2.00	"	"					
TANL	ND	2.00	"	"					
TBA	110							"	
	ND	0.500	"						
TBA 1,2-dichloroethane	ND		"	"		"			
TBA		0.500 0.500 1000			"	"	"		

Pacific Analytical Laboratory



Project Number: 2551 Project Manager: Mansour Sepehr

**Reported:** 12-Nov-07 19:36

# Volatile Organic Compounds by EPA Method 8260B

Project: 15101 Freedom Ave., San Leandro

### Pacific Analytical Laboratory

			J						
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 (7100009-02) Water Sampled: 23-	Oct-07 13:40 Recei	ved: 23-Oct-0'	7 16:45						
Surrogate: Dibromofluoromethane		131 %	70-	130	BJ72902	23-Oct-07	23-Oct-07	EPA 8260B	S-GC
Surrogate: Perdeuterotoluene		93.2 %	70-	130	"	"	"	"	
MW-3 (7100009-03) Water Sampled: 23-	Oct-07 14:44 Recei	ved: 23-Oct-0'	7 16:45						
Gasoline (C6-C12)	22600	2150	ug/l	43	BJ72902	23-Oct-07	24-Oct-07	EPA 8260B	
Benzene	4070	21.5	"	"	"	"	"	"	
Ethylbenzene	1120	21.5	"	"	"	"	"	"	
m&p-Xylene	2170	86.0	"	"	"	"	"	"	
o-xylene	925	21.5	"	"	"	"	"	"	
Toluene	ND	86.0	"	"	"	"	"	"	
MTBE	970	21.5	"	"	"	"	"	"	
DIPE	ND	21.5	"	"	"	"	"	"	
ETBE	ND	21.5	"	"	"	"	"	"	
ТАМЕ	301	86.0	"	"	"	"	"	"	
TBA	1050	86.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	21.5	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	21.5	"	"	"	"		"	
Ethanol	ND	43000		"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.6 %	70-	130	"	"	"	"	
Surrogate: Dibromofluoromethane		110 %	70-	130	"	"	"	"	
Surrogate: Perdeuterotoluene		90.4 %	70-	130	"	"	"	"	

### MW-4 (7100009-04) Water Sampled: 23-Oct-07 15:18 Received: 23-Oct-07 16:45

Gasoline (C6-C12)	4200	215	ug/l	4.3	BJ72902	23-Oct-07	24-Oct-07	EPA 8260B
Benzene	267	2.15	"	"	"	"	"	"
Ethylbenzene	147	2.15	"			"	"	"
m&p-Xylene	137	8.60	"			"	"	"
o-xylene	18.5	2.15	"	"	"	"	"	"
Toluene	ND	8.60	"	"	"	"	"	"
MTBE	1220	2.15	"	"	"	"		"
DIPE	ND	2.15	"	"	"	"		"
ETBE	18.4	2.15	"	"	"	"		"
TAME	25.9	8.60	"	"	"	"		"
TBA	3400	8.60	"	"	"	"		"
1,2-dichloroethane	ND	2.15	"			"	"	"
1,2-Dibromoethane (EDB)	ND	2.15	"			"	"	"
Ethanol	ND	4300	"	"	"	"	"	"

Pacific Analytical Laboratory



Project Number: 2551 Project Manager: Mansour Sepehr

Project: 15101 Freedom Ave., San Leandro

**Reported:** 12-Nov-07 19:36

# Volatile Organic Compounds by EPA Method 8260B

### **Pacific Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (7100009-04) Water Sampled: 23-Oct-0	7 15:18 Receiv	ved: 23-Oct-0	7 16:45						
Surrogate: 4-Bromofluorobenzene		104 %	70-	130	BJ72902	23-Oct-07	24-Oct-07	EPA 8260B	
Surrogate: Dibromofluoromethane		117 %	70-	130	"	"	"	"	
Surrogate: Perdeuterotoluene		90.8 %	70-	130	"	"	"	"	

#### MW-5 (7100009-05) Water Sampled: 23-Oct-07 15:46 Received: 23-Oct-07 16:45

Gasoline (C6-C12)	6120	215	ug/l	4.3	BJ72902	23-Oct-07	24-Oct-07	EPA 8260B
Benzene	550	2.15	"	"	"	"	"	
Ethylbenzene	284	2.15	"	"	"	"	"	
m&p-Xylene	120	8.60	"	"	"	"		"
o-xylene	21.4	2.15	"	"	"	"	"	"
Toluene	11.0	8.60	"	"	"	"	"	"
MTBE	433	2.15	"	"	"	"		
DIPE	ND	2.15	"	"	"	"		
ETBE	ND	2.15	"	"	"	"		
TAME	181	8.60	"	"	"	"		
TBA	1510	8.60	"	"	"	"		
1,2-dichloroethane	ND	2.15	"	"	"	"		
1,2-Dibromoethane (EDB)	ND	2.15	"	"	"	"	"	
Ethanol	ND	4300	"	"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		108 %	70	130	"	"	"	"
Surrogate: Dibromofluoromethane		118 %	70	130	"	"	"	"
Surrogate: Perdeuterotoluene		95.6 %	70	130	"	"	"	"

### MW-6 (7100009-06) Water Sampled: 23-Oct-07 12:11 Received: 23-Oct-07 16:45

Gasoline (C6-C12)	9610	50.0	ug/l	1	BJ72902	23-Oct-07	24-Oct-07	EPA 8260B
Benzene	64.3	0.500		"	"	"	"	"
Ethylbenzene	188	0.500		"	"	"	"	"
m&p-Xylene	282	2.00	"	"	"	"	"	"
o-xylene	20.6	0.500	"	"	"	"	"	"
Toluene	ND	2.00		"	"	"	"	"
MTBE	5.81	0.500	"	"	"	"	"	"
DIPE	ND	0.500	"	"	"	"	"	"
ETBE	ND	0.500	"	"	"	"	"	"
TAME	ND	2.00	"	"	"	"	"	"
TBA	6.68	2.00		"	"	"	"	"
1,2-dichloroethane	ND	0.500		"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"

Pacific Analytical Laboratory



Project Number: 2551 Project Manager: Mansour Sepehr

**Reported:** 12-Nov-07 19:36

# Volatile Organic Compounds by EPA Method 8260B

Project: 15101 Freedom Ave., San Leandro

### **Pacific Analytical Laboratory**

			-		-				
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-6 (7100009-06) Water Sampled: 23-Oct-	07 12:11 Recei	ived: 23-Oct-0'	7 16:45						
Ethanol	ND	1000	ug/l	1	BJ72902	23-Oct-07	24-Oct-07	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		120 %	70-	-130	"	"	"	"	
Surrogate: Dibromofluoromethane		111 %	70-	-130	"	"	"	"	
Surrogate: Perdeuterotoluene		108 %	70-	-130	"	"	"	"	

### MW-7 (7100009-07) Water Sampled: 23-Oct-07 12:32 Received: 23-Oct-07 16:45

Gasoline (C6-C12)	1730	50.0	ug/l	1	BJ72902	23-Oct-07	24-Oct-07	EPA 8260B
Benzene	0.670	0.500	"	"	"	"	"	"
Ethylbenzene	20.7	0.500	"	"	"	"	"	"
m&p-Xylene	14.8	2.00	"	"	"	"	"	"
o-xylene	2.51	0.500	"	"	"	"	"	"
Toluene	ND	2.00	"	"	"	"	"	"
MTBE	8.44	0.500	"	"	"	"	"	"
DIPE	ND	0.500	"	"	"	"	"	"
ETBE	ND	0.500	"	"	"	"	"	"
ТАМЕ	2.58	2.00	"	"	"	"	"	"
ТВА	6.49	2.00	"	"	"	"	"	"
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	0.500	"	"	"	"	"	"
Ethanol	ND	1000	"		"	"	"	"
Surrogate: 4-Bromofluorobenzene		113 %	70	130	"	"	"	"
Surrogate: Dibromofluoromethane		111 %	70	130	"	"	"	"
Surrogate: Perdeuterotoluene		109 %	70	130	"	"	"	"

#### MW-8 (7100009-08) Water Sampled: 23-Oct-07 11:05 Received: 23-Oct-07 16:45

Gasoline (C6-C12)	ND	50.0	ug/l	1	BJ72902	23-Oct-07	24-Oct-07	EPA 8260B	
Benzene	ND	0.500	"	"	"	"		"	
Ethylbenzene	4.31	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	"	"	"	"	"	"	

Pacific Analytical Laboratory



SOMA Environmental Engineering Inc. 6620 Owens Drive, Suite A

Pleasanton CA, 94588

Project Number: 2551 Project Manager: Mansour Sepehr

Project: 15101 Freedom Ave., San Leandro

**Reported:** 12-Nov-07 19:36

# Volatile Organic Compounds by EPA Method 8260B

## **Pacific Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-8 (7100009-08) Water Sampled: 23	-Oct-07 11:05 Recei	ved: 23-Oct-0	7 16:45						
1,2-Dibromoethane (EDB)	ND	0.500	ug/l	1	BJ72902	23-Oct-07	24-Oct-07	EPA 8260B	
Ethanol	ND	1000	"	"	"	"	"		
Surrogate: 4-Bromofluorobenzene		91.8 %	70-	130	"	"	"	"	
Surrogate: Dibromofluoromethane		114 %	70-	130	"	"	"	"	
Surrogate: Perdeuterotoluene		90.4 %	70-	130	"	"	"	"	

### MW-9 (7100009-09) Water Sampled: 23-Oct-07 11:38 Received: 23-Oct-07 16:45

Gasoline (C6-C12)	ND	50.0	ug/l	1	BJ72902	23-Oct-07	24-Oct-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		89.0 %	70-	130	"	"	"	"	
Surrogate: Dibromofluoromethane		120 %	70-	130	"	"	"	"	
Surrogate: Perdeuterotoluene		85.6 %	70-	130	"	"	"	"	



SOMA Environmental Engineering Inc.	Project:	15101 Freedom Ave., San Leandro		
6620 Owens Drive, Suite A	Project Number:	2551	Reported:	ĺ
Pleasanton CA, 94588	Project Manager:	Mansour Sepehr	12-Nov-07 19:36	

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

# Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BJ72902 - EPA 5030 Water MS									-	
Blank (BJ72902-BLK1)				Prepared &	Analyzed:	29-Oct-07				
Surrogate: 4-Bromofluorobenzene	40.5		ug/l	50.0		81.0	70-130			
Surrogate: Dibromofluoromethane	59.3		"	50.0		119	70-130			
Surrogate: Perdeuterotoluene	44.5		"	50.0		89.0	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 (BJ72902-BS1)				Prepared &	Analyzed:	29-Oct-07				
Surrogate: 4-Bromofluorobenzene	50.5		ug/l	50.0		101	70-130			
Surrogate: Dibromofluoromethane	51.8		"	50.0		104	70-130			
Surrogate: Perdeuterotoluene	48.4		"	50.0		96.8	70-130			
MTBE	101	0.500	"	100		101	70-130			
ETBE	94.5	0.500	"	100		94.5	70-130			
TAME	101	2.00	"	100		101	70-130			
Gasoline (C6-C12)	2020	50.0	"	2000		101	70-130			
TBA	575	2.00	"	500		115	70-130			
Benzene	98.2	0.500	"	100		98.2	70-130			
Toluene	96.9	2.00	"	100		96.9	70-130			



SOMA Environmental Engineering Inc.Project:15101 Freedom Ave., San Leandro6620 Owens Drive, Suite AProject Number:2551Reported:Pleasanton CA, 94588Project Manager:Mansour Sepehr12-Nov-07 19:36

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

## **Pacific Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BJ72902 - EPA 5030 Water MS										
LCS Dup (BJ72902-BSD1)				Prepared &	Analyzed:	29-Oct-07				
Surrogate: 4-Bromofluorobenzene	49.7		ug/l	50.0		99.4	70-130			
Surrogate: Dibromofluoromethane	48.6		"	50.0		97.2	70-130			
Surrogate: Perdeuterotoluene	51.2		"	50.0		102	70-130			
MTBE	103	0.500		100		103	70-130	1.96	20	
ETBE	101	0.500	"	100		101	70-130	6.65	20	
TAME	95.1	2.00		100		95.1	70-130	6.02	20	
TBA	551	2.00	"	500		110	70-130	4.26	20	
Gasoline (C6-C12)	2040	50.0	"	2000		102	70-130	0.985	20	
Benzene	96.5	0.500	"	100		96.5	70-130	1.75	20	
Toluene	98.1	2.00	"	100		98.1	70-130	1.23	20	

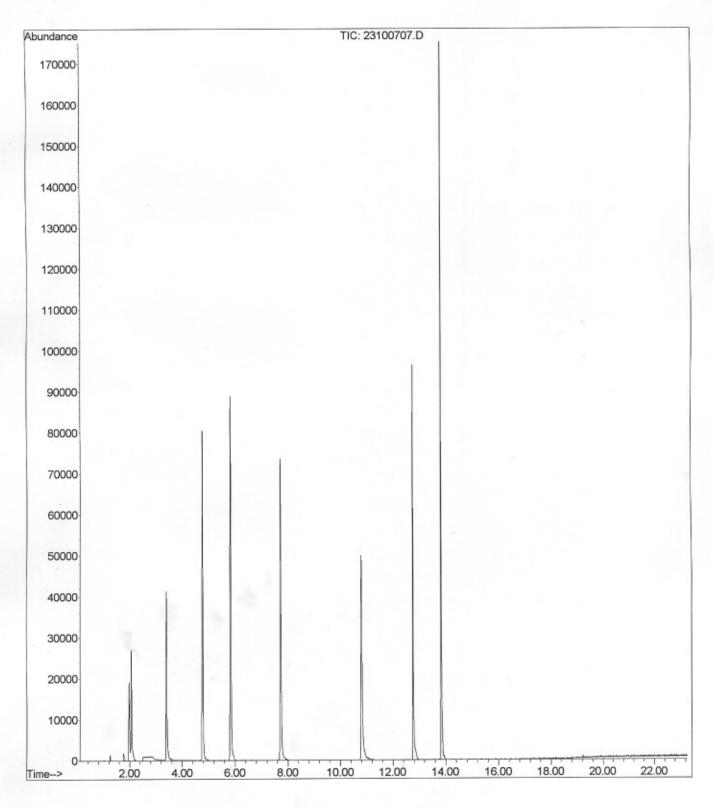


SOMA Environmental Engineering Inc.Project:15101 Freedom Ave., San Leandro6620 Owens Drive, Suite AProject Number:2551Reported:Pleasanton CA, 94588Project Manager:Mansour Sepehr12-Nov-07 19:36

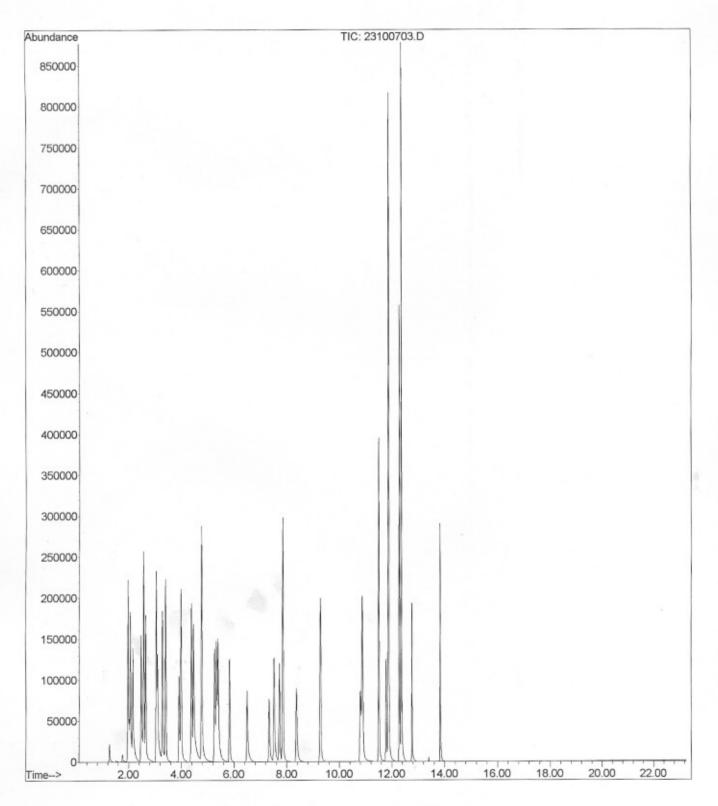
### **Notes and Definitions**

- S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
- 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

```
File :C:\MSDChem\1\DATA\2007-Oct-23-1838.b\23100707.D
Operator : dh
Acquired : 23 Oct 2007 10:02 pm using AcqMethod OXY21506.M
Instrument : PAL GCMS
Sample Name: BJ72902-BLK1
Misc Info :
Vial Number: 7
```



File :C:\MSDChem\1\DATA\2007-Oct-23-1838.b\23100703.D Operator : dh Acquired : 23 Oct 2007 7:55 pm using AcqMethod OXY21506.M Instrument : PAL GCMS Sample Name: BJ72902-BS1@voc Misc Info : Vial Number: 3



File :C:\MSDChem\1\DATA\2007-Oct-23-1838.b\23100704.D
Operator : dh
Acquired : 23 Oct 2007 8:27 pm using AcqMethod OXY21506.M
Instrument : PAL GCMS
Sample Name: BJ72902-BS1@gas
Misc Info :
Vial Number: 4

