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**SECOND QUARTER 2005**  
**GROUNDWATER MONITORING REPORT**  
**TEXACO GASOLINE SERVICE STATION**  
**15101 FREEDOM AVENUE**  
**SAN LEANDRO, CALIFORNIA**

**July 15, 2005**

**Project 2551**

**Prepared for**

**Mr. Mohammad Pazdel**  
**1770 Pistacia Court**  
**Fairfield, California**

**Prepared by**

**SOMA Environmental Engineering, Inc.**  
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70473



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**Alameda County  
JUL 21 2005  
Environmental Health**

July 15, 2005

Mr. Ariu Levi  
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**

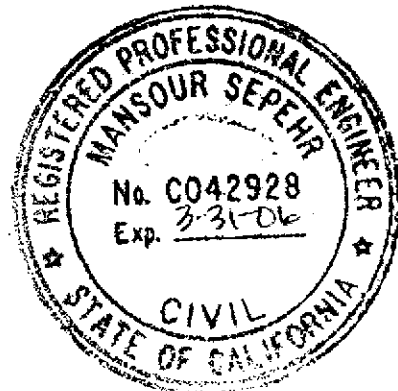
Dear Mr. Levi:

Enclosed for your review is a copy of SOMA's "Second Quarter 2005 Groundwater Monitoring Report" for the subject property.

Per our telephone conference between you, Ms. Drogos and me, this report includes our recommendations for initiating an on-site groundwater cleanup process. Your timely response to our recommendations is highly appreciated. If you have any questions or comments, please call me at (925)734-6400.

Sincerely,

Mansour Sepehr, Ph.D., PE  
Principal Hydrogeologist



Enclosure

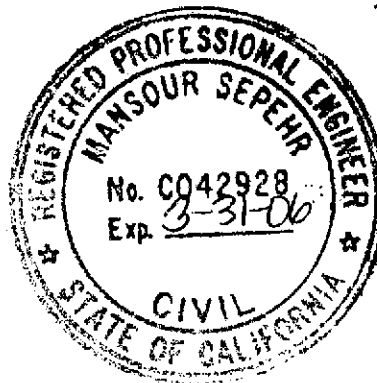
cc: Mr. Mohammad Pazdel w/enclosure

## Certification

This report has been prepared by SOMA Environmental Engineering, Inc. on behalf of Mr. Mohammad Pazdel, the property owner of 15101 Freedom Avenue, San Leandro, California, to comply with the Alameda County Health Care Services' requirements for the Second Quarter 2005 groundwater monitoring event.



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



Alameda County  
JUL 21 2005  
Environmental Health

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- Appendix C: Laboratory Report and Chain of Custody Form for the Second Quarter 2005 Monitoring Event

## 1.0 INTRODUCTION

This report has been prepared by SOMA Environmental Engineering, Inc., (SOMA) on behalf of Mr. Mohammad Pazdel, the property owner of 15101 Freedom Avenue, San Leandro, California ("the Site"). The Site is located between 151<sup>st</sup> Street and Fairmont Boulevard, which is just west of Interstate 580. Formerly, the property was known as Freedom ARCO Station, however, the Site is currently operating as a service station under the brand name of Texaco. Since the 1960's, the Site has been used as a gasoline service station. Figure 1 illustrates the vicinity of the Site.

This report summarizes the results of the Second Quarter 2005 groundwater monitoring event conducted at the Site on June 15, 2005. This report includes the results of the on-site measurements of the physical and chemical properties of the groundwater, which includes pH, temperature, and electrical conductivity (EC). During this monitoring event five on-site monitoring wells (MW-1 to MW-5) and four off-site wells (MW-6 to MW-9) were sampled and analyzed for the following chemicals, as requested by the Alameda County Health Care Services (ACHCS):

- Total petroleum hydrocarbons as gasoline (TPH-g),
- Benzene, toluene, ethylbenzene, and total xylenes (collectively referred to as BTEX),
- Methyl tertiary Butyl Ether (MtBE),
- Gasoline oxygenates, which included tertiary Butyl Alcohol (TBA), Isopropyl Ether (DIPE), Ethyl tertiary Butyl Ether (ETBE), Methyl tertiary Amyl Ether (TAME), and
- Lead scavengers, which included 1,2-Dichloroethane (1,2-DCA) and 1,2-Dibromoethane (EDB).

These activities were performed in accordance with the general guidelines of the California Regional Water Quality Control Board (CRWQCB). Appendix A details the procedures used by SOMA during the Second Quarter 2005 monitoring event.

### 1.1 Previous Activities

On May 20, 1999, in order to comply with underground storage tank (UST) upgrade regulations, three 10,000-gallon single-walled USTs were removed and replaced with new double-walled fuel tanks. On July 7, 1999, a 20,000-gallon gasoline UST, an 8,000-gallon gasoline UST, and a 6,000-gallon diesel UST were installed in the tank cavity.

In July 2001, additional soil and groundwater investigations were conducted to further examine potential petroleum hydrocarbon contamination discovered during the removal and upgrade of the USTs. During this investigation five soil

borings (SB-1 through SB-5) were drilled. The maximum concentrations of TPH-g and BTEX in the soil samples collected between 19 and 25.5 feet below ground surface (bgs) were 470, 2.6, 16, 12, and 73 mg/Kg, respectively. MtBE was below the laboratory reporting limit of 0.005 mg/Kg in all soil samples. The maximum concentrations of TPH-g and BTEX in the groundwater samples collected from the soil borings were 83, 19, 1.8, 1.5, and 73 mg/L, respectively. The maximum reported MtBE concentration was 87 mg/L in soil boring SB-2. The soil boring locations are shown in Figure 2.

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

Based on SOMA's approved workplan submitted on July 22, 2003, an additional off-site investigation was performed to evaluate the lateral extent of the soil and groundwater contamination. The off-site investigation included a sensitive receptor survey to locate water supply wells and/or water bodies within a 2,000-foot radius of the Site. In September 2003, six temporary well boreholes were advanced to depths of at least 40 feet bgs. Figure 2 shows the location of the temporary well boreholes.

In September 2004, SOMA installed four off-site wells (MW-6 to MW-9). Figure 2 shows the locations of the off-site monitoring wells.

## **2.0 RESULTS**

The following sections provide the results of the field measurements and laboratory analyses for the June 15, 2005 groundwater monitoring event.

### **2.1 Field Measurements**

Table 1 presents the calculated groundwater elevations, as well as the depths to groundwater for each monitoring well. Depths to groundwater ranged from 10.46 feet in monitoring well MW-8 to 22.42 feet in monitoring well MW-1. The corresponding groundwater elevations ranged from 25.53 feet in well MW-9 to 32.11 feet in well MW-2.

Variations in seasonal fluctuations, as well as the local recharge rates in each well, determine the deviations in the groundwater elevations. Since the First Quarter 2005 monitoring event, the groundwater elevations have decreased throughout the Site. The decrease in groundwater elevations can be attributed to the drier weather conditions encountered this quarter. During drier time periods the watertable descends causing a decrease in the groundwater elevations.

Figure 3 displays the contour map of groundwater elevations, in feet. In general, the groundwater flows slightly south to southwesterly across the Site, at a gradient of 0.016 feet/feet. The lowest groundwater elevation was observed south of the Site, in well MW-9. The groundwater flow direction has remained consistent with the previous monitoring event (First Quarter 2005); however, the groundwater gradient has slightly increased.

The field measurements taken during the Second Quarter 2005 monitoring event are shown in Appendix B.

## 2.2 Laboratory Analysis

Table 1 also presents the TPH-g, BTEX, and MtBE analytical results, as well as the historical groundwater analytical results. In general, the analytical results indicate that the groundwater samples collected from monitoring well MW-3 were the most impacted. High concentrations of TPH-g and BTEX in monitoring well MW-3 can be attributed to leaks from the former USTs prior to their upgrade in 1999.

As shown in Table 1, TPH-g concentrations were below the laboratory reporting limit in off-site wells MW-8 and MW-9. Detectable TPH-g concentrations ranged from 1,690 ug/L in well MW-1 to 84,100 ug/L in well MW-3. The TPH-g concentration level in well MW-3 was several orders of magnitude higher than the remaining site wells.

Figure 4 displays the contour map of TPH-g concentrations in the groundwater. As illustrated in Figure 4, the most impacted TPH-g region was in the vicinity of the dispenser islands and former USTs, around well MW-3.

As shown in Table 1, in well MW-9, all BTEX analytes were below the laboratory reporting limit. In well MW-8, all BTEX analytes, with the exception of benzene, were below the laboratory reporting limit. Toluene was below the laboratory reporting limit in wells MW-1, MW-2, and MW-7. The most impacted BTEX sample was collected from well MW-3. BTEX concentrations in well MW-3 were detected at 5,110 ug/L, 2,160 ug/L, 3,030 ug/L, and 8,800 ug/L, respectively.

Figure 5 displays the contour map of benzene concentrations in the groundwater, as analyzed during the Second Quarter 2005 monitoring event. As illustrated in Figure 5, the most impacted benzene region was in the vicinity of the dispenser islands and former USTs, around well MW-3. The benzene concentration detected in well MW-3 was several orders of magnitude higher than the remaining site wells.

Table 1 presents the results of the MtBE analysis using EPA Method 8260B. MtBE was below the laboratory reporting limit in the samples collected from wells



MW-2, MW-8, and MW-9. Detectable MtBE concentrations ranged from 2.01 ug/L in well MW-1 to 2,670 ug/L in well MW-3.

Figure 6 displays the contour map of MtBE concentrations in the groundwater. As illustrated in Figure 6, the most impacted MtBE region was in the vicinity of the dispenser islands and former USTs, around well MW-3. MtBE was either at low levels or below the laboratory reporting limit in all off-site wells, as well as wells MW-1 and MW-2.

Table 2 shows the analytical results for gasoline oxygenates, as well as the historical groundwater gasoline oxygenate analytical results. TAME appears to be the main gasoline oxygenate of concern. All TBA, DIPE, and ETBE constituents were below the laboratory reporting limit in all of the groundwater samples collected during this monitoring event.

Figure 7 displays the contour map of TAME concentrations in the groundwater. As illustrated in Figure 7, the most impacted TAME region was in the vicinity of the dispenser islands and former USTs, around well MW-3. TAME was either at low levels or below the laboratory reporting limit in all off-site wells, as well as wells MW-1 and MW-2.

Lead scavenger constituent EDB was below the laboratory reporting limit in all of the groundwater samples collected. 1,2-DCA was non-detectable throughout the Site, with the exception of wells MW-6 and MW-9. 1,2-DCA was detected in wells MW-6 and MW-9 at 1.42 ug/L and 4.27 ug/L, respectively. Refer to the laboratory report for more detailed lead scavenger analysis.

Appendix C includes the laboratory report and COC form for the Second Quarter 2005 monitoring event.

### **2.3 Historical Analytical Trends**

Since the previous monitoring event, the following concentration trends were observed. Refer to Tables 1 and 2 for further detailed concentration trends. No samples were collected from well MW-8 during the First Quarter 2005 monitoring event; therefore, no concentration trend can be established for this well.

For on-site wells MW-3 and MW-4:

- In well MW-3, all TPH-g, BTEX, MtBE, and TAME constituents increased.
- In well MW-4, all TPH-g, BTEX, MtBE, TBA, and ETBE constituents decreased, and TAME increased.

In the off-site wells:

- In well MW-6, TPH-g, benzene, total xylenes, and TBA all decreased, and toluene, ethylbenzene, and MtBE all increased.
- In well MW-7, TPH-g, benzene, ethylbenzene, MtBE, and TAME all increased, and total xylenes decreased.
- In well MW-9, all referenced constituents have historically remained below the laboratory reporting limit.

### **3.0 CONCLUSION AND RECOMMENDATIONS**

The results of the Second Quarter 2005 groundwater monitoring event can be summarized as follows:

- The groundwater flow direction is consistently south to southwesterly across the Site. The groundwater gradient however has slightly increased since the First Quarter 2005.
- The hydrocarbon source area still remains in the vicinity of the former USTs cavity, where a previous release of petroleum hydrocarbons occurred.
- Reduced levels of both MtBE and TBA were observed in well MW-4. This indicates a shift in the concentration level of these constituents. Higher MtBE concentrations now appear to be in well MW-3. Based on seasonal conditions, the groundwater fluctuates in depth. The higher concentrations in well MW-3 may have been the result of the groundwater contacting the contaminant mass layer in the current unsaturated zone, which was previously the saturated zone prior to the decrease in the watertable.
- Increased TPH-g, benzene, and MtBE levels were observed in well MW-7. An increased MtBE concentration was observed in well MW-6. This denotes that an off-site migration of these constituents has occurred.

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

- Due to the high concentrations of groundwater contaminants, and the off-site migration of MtBE, TPH-g and benzene, SOMA recommends initiating interim groundwater remediation on-site. This would prevent further migration of the chemicals beyond the property's boundary. SOMA recommends conducting a slug test using the on-site wells in order to evaluate the hydraulic conductivity of the water-bearing zone. The data will be used to design a groundwater extraction system for immediate removal and containing the groundwater contaminants.

- SOMA also recommends continuing the quarterly monitoring programs to better understand the seasonal variations in the groundwater quality conditions and evaluate the effectiveness of proposed interim groundwater remediation system.
- Due to the increased concentrations of contaminants in well MW-3, as an interim groundwater remediation, SOMA recommends injecting Fenton's reagent into this well to reduce the TPH-g level.
- To evaluate whether the petroleum hydrocarbons found in the groundwater are biodegrading, SOMA recommends conducting a natural attenuation study during quarterly monitoring events. The study would include, but is not limited to, testing for DO, ORP, ferrous iron, nitrate, and sulfate compounds.

#### **4.0 REPORT LIMITATIONS**

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

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

# FIGURES



approximate scale in feet

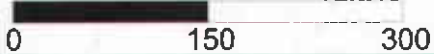
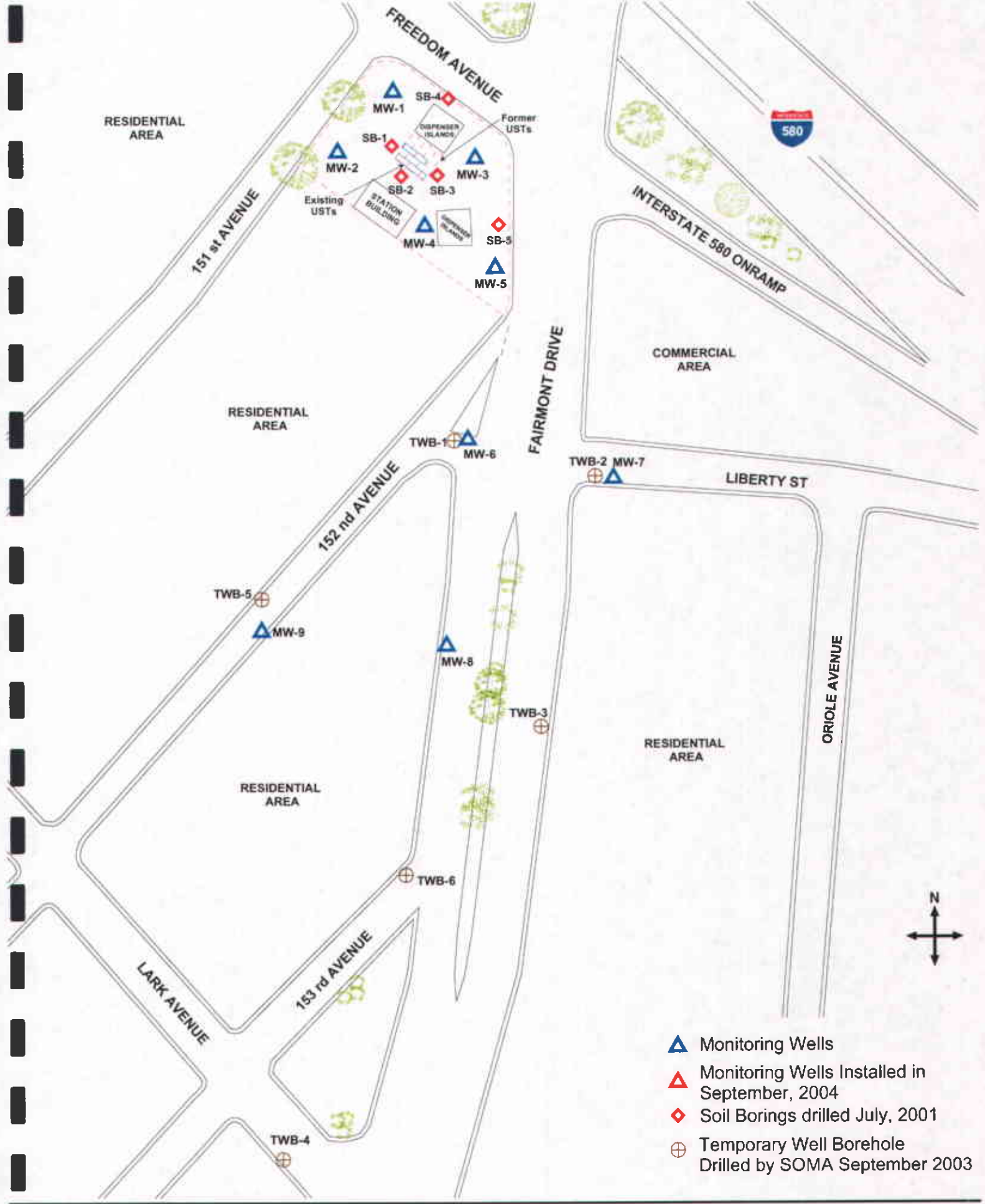


Figure 1: Site vicinity map.

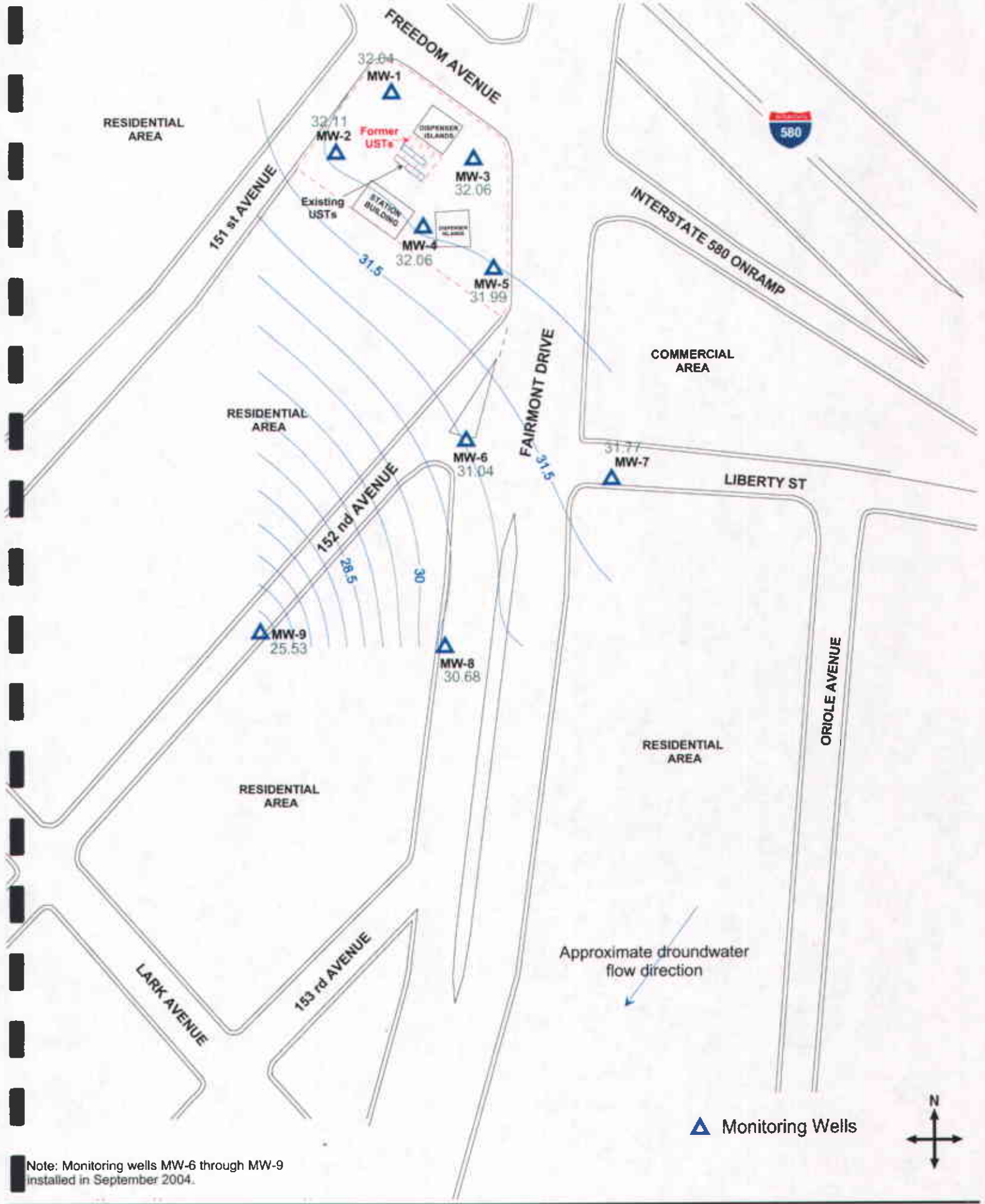


- ▲ Monitoring Wells
- ▲ Monitoring Wells Installed in September, 2004
- ◆ Soil Borings drilled July, 2001
- ⊕ Temporary Well Borehole Drilled by SOMA September 2003

Approximate scale in feet  
 0 50 100

Figure 2: Site map showing locations of groundwater monitoring wells and soil borings.





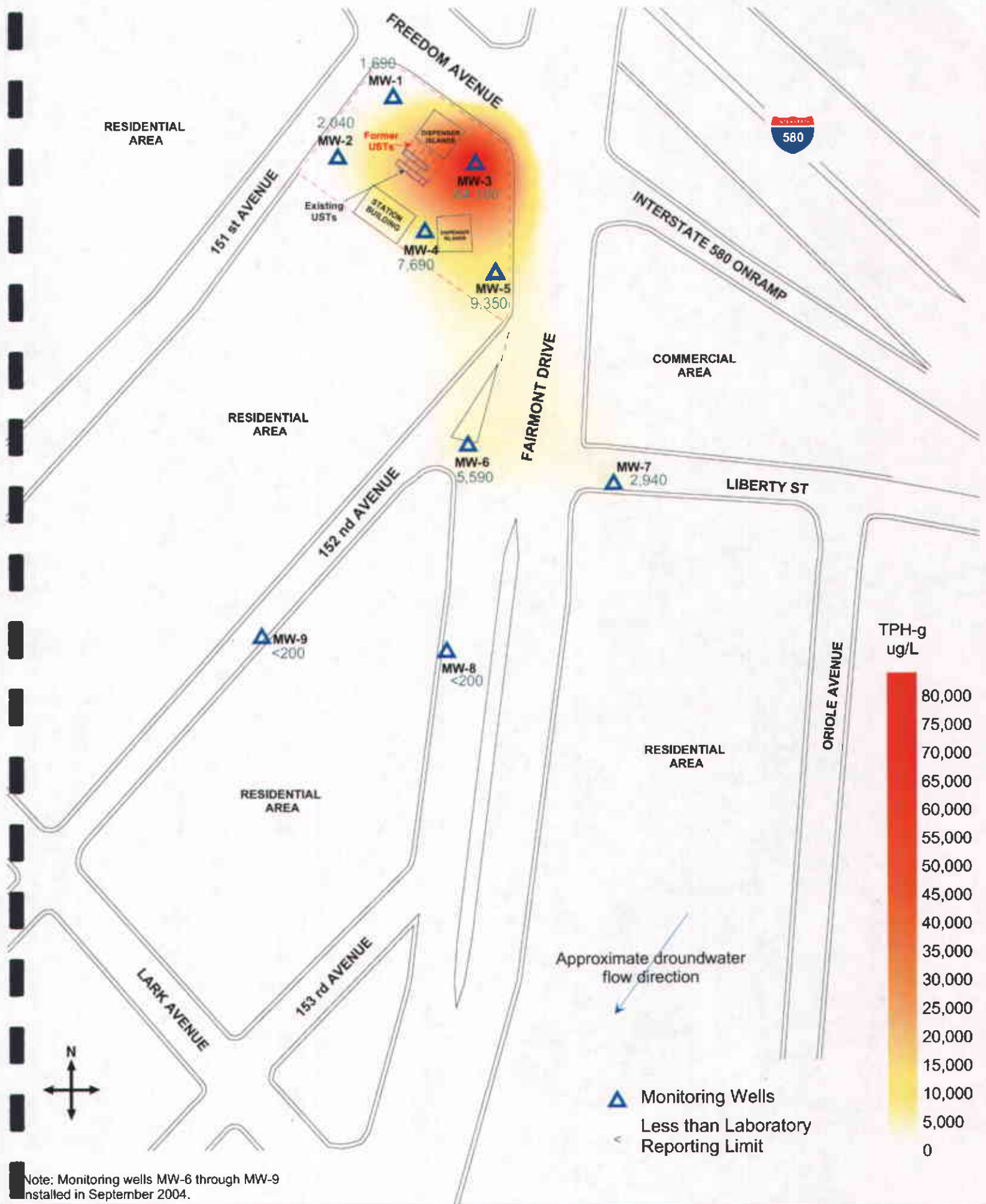


Figure 4: Contour map of TPH-g concentrations in groundwater. June 2005.



RESIDENTIAL AREA

FREEDOM AVENUE



INTERSTATE 580 ONRAMP

COMMERCIAL AREA

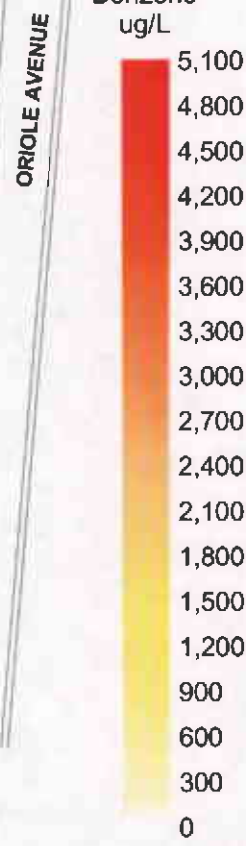
RESIDENTIAL AREA

FAIRMONT DRIVE

LIBERTY ST

151 st AVENUE

152 nd AVENUE



153 rd AVENUE

RESIDENTIAL AREA

ORIOLE AVENUE

Approximate droundwater flow direction

- ▲ Monitoring Wells
- < Less than Laboratory Reporting Limit

26.3

MW-1

1.2

MW-2

Existing USTs

Former USTs

STATION BUILDING

MW-4

114

MW-5

147

MW-6

44.3

MW-9

<0.5

MW-8

0.53

LARK AVENUE



Note: Monitoring wells MW-6 through MW-9 installed in September 2004.

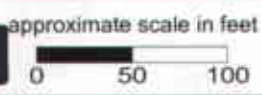
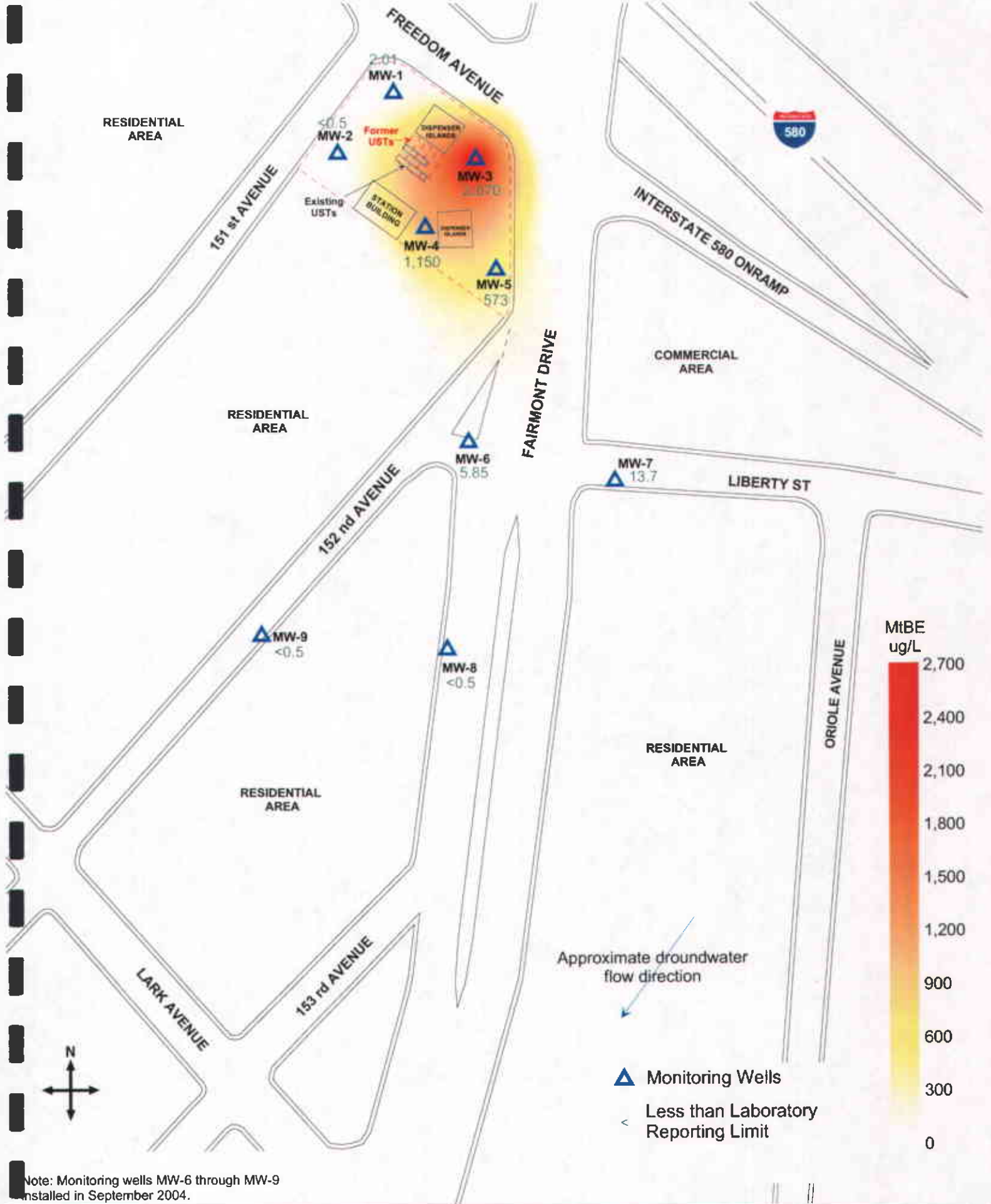


Figure 5: Contour map of Benzene concentrations in groundwater. June 2005.





Note: Monitoring wells MW-6 through MW-9 installed in September 2004.

Figure 6: Contour map of MtBE concentrations in groundwater (EPA Method 8260B). June 2005.

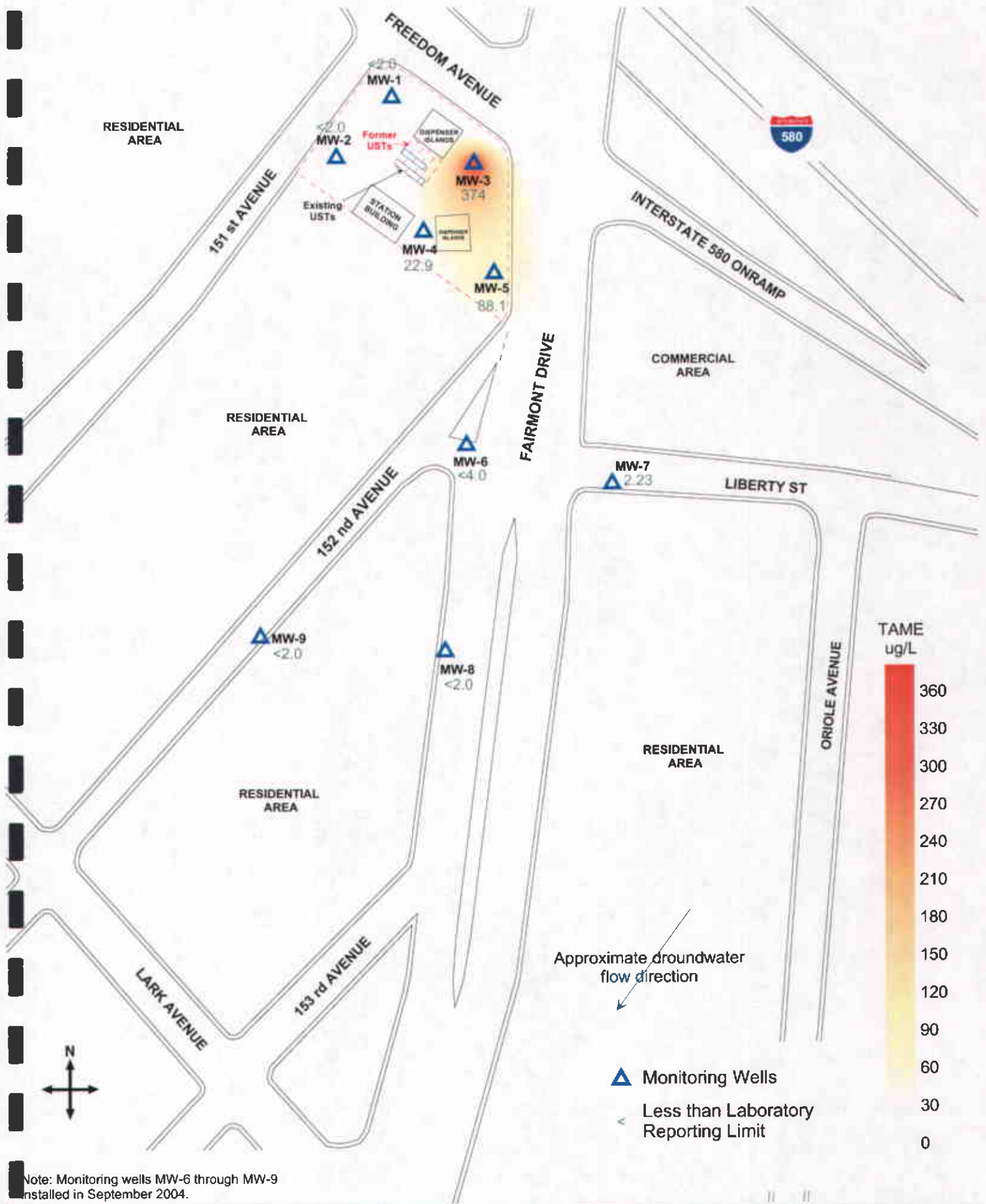


Figure 7: Contour map of TAME concentrations in groundwater. June 2005.

# Tables

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

Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B <sup>2</sup> (µg/L)
<b>MW-1</b>	May-02	51.71	22.85	28.86	5,700	360	4.5	340	450	2
	Aug-02	51.71	23.31	28.40	9,100	590	2.6	830	362	<1.3
	Nov-02	51.71	23.58	28.13	7,900	570	3.1	680	392	< 1.0
	Feb-03	51.71	22.62	29.09	2,900	160	1.6 C	170	211	<0.5
	May-03	51.71	22.43	29.28	1,700	55	<0.5	90	115	2.00
	Aug-03	51.71	21.30	30.41	2,600	2.5	<0.5	190	130	<0.5
	Oct-03	51.71	23.49	28.22	9,200	560.0	2.7 C	670	648	<1.0
	Jan-04	51.71	22.43	29.28	5,500	190	<1.0	220	124.4	<0.5
	May-04	51.71	22.94	28.77	8,000	400	1.50	420	393	3.40
	Sep-04	54.46	23.49	30.97	9,300	580	9.30	690	683	4.60
	Dec-04	54.46	23.01	31.45	7,360	337	<4.3	731	633	<4.3
	Mar-05	54.46	21.48	32.98	2,510	45.2	<0.5	23.2	39.63	2.80
<b>Jun-05</b>	<b>54.46</b>	<b>22.42</b>	<b>32.04</b>	<b>1,690</b>	<b>36.3</b>	<b>&lt;2.0</b>	<b>59.5</b>	<b>28.73</b>	<b>2.01</b>	
<b>MW-2</b>	May-02	49.66	22.83	26.83 *	3,100	67	8	250	215	56
	Aug-02	49.66	21.41	28.25	2,700	4.6	<0.5	310	140	<0.5
	Nov-02	49.66	21.79	27.87	3,400	4.6	< 0.5	310	160	< 0.5
	Feb-03	49.66	20.51	29.15	890	1.7 C	0.80 C	68	38.92 C	<0.5
	May-03	49.66	20.33	29.33	2,700	5.2 C	<0.5	120	140	1.2
	Aug-03	49.66	23.18	26.48*	8,500	640	<2.5	560	659	<0.8
	Oct-03	49.66	21.71	27.95	3100 H	4.3 C	<0.5	210	160	<0.5

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

Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B <sup>2</sup> (µg/L)
<b>MW-2 cont.</b>	Jan-04	49.66	20.31	29.35	660 H	1.5 C	<0.5	8.9	25	<0.5
	May-04	49.66	21.09	28.57	4,500	5.1 C	<0.5	190	230	0.70
	Sep-04	52.41	21.71	30.70	370	0.76 C	<0.5	25	16	0.50
	Dec-04	52.41	21.20	31.21	880	1.0	<0.5	66	52	<0.5
	Mar-05	52.41	19.15	33.26	564	<0.5	<0.5	21	11.9	<0.5
	<b>Jun-05</b>	<b>52.41</b>	<b>20.30</b>	<b>32.11</b>	<b>2,040</b>	<b>1.2</b>	<b>&lt;2.0</b>	<b>78.2</b>	<b>22</b>	<b>&lt;0.5</b>
<b>MW-3</b>	May-02	51.16	22.28	28.88	44,000	6,000	900	1,500	6,200	2,400
	Aug-02	51.16	22.88	28.28	40,000	5,800	1,100	1,600	6,500	1,300
	Nov-02	51.16	23.19	27.97	47,000	5,300	1,200	2,200	8,600	1,000
	Feb-03	51.16	22.02	29.14	39,000	5,500	1,500	2,000	8,600	1,300
	May-03	51.16	21.89	29.27	52,000	7,300	3,000	2,800	12,700	2,100
	Aug-03	51.16	22.66	28.50	31,000	6,100	860	1,500	6,900	1,200
	Oct-03	51.16	23.06	28.10	41,000	6,100	1,100	2,200	10,200	960
	Jan-04	51.16	21.85	29.31	51,000	4,100	1,100	2,000	8,400	590
	May-04	51.16	22.55	28.61	65,000	4,300	1,300	2,500	10,500	720
	Sep-04	53.91	23.08	30.83	42,000	4,900	890	2,200	8,700	480
	Dec-04	53.91	22.52	31.39	35,151	4,066	972	2,942	13,032	491
	Mar-05	53.91	20.90	33.01	42,600	3,040	1,100	1,530	6,670	968
	<b>Jun-05</b>	<b>53.91</b>	<b>21.85</b>	<b>32.06</b>	<b>84,100</b>	<b>5,110</b>	<b>2,160</b>	<b>3,030</b>	<b>8,800</b>	<b>2,670</b>

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

Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B <sup>2</sup> (µg/L)
<b>MW-4</b>	May-02	50.54	21.78	28.76	880	25	1.0C	110	52	12,000
	Aug-02	50.54	22.50	28.04	3,800	70	<5.0	300	115	4,800
	Nov-02	50.54	22.81	27.73	5,100	150	10	460	258	2,400
	Feb-03	50.54	21.48	29.06	3,200	98	66	220	360	6,600
	May-03	50.54	21.24	29.30	6,200	140	46	200	790	2,300
	Aug-03	50.54	22.32	28.22	7,500	180	57	220	1450	1,900
	Oct-03	50.54	22.74	27.80	5,800	250	32	300	970	7,800
	Jan-04	50.54	21.19	29.35	5,900	270	17 C	150	640	7,300
	May-04	50.54	22.03	28.51	9,100	210	51	200	1190	1800
	Sep-04	53.31	22.76	30.55	5,200	290	12	370	600	7300
	Dec-04	53.31	21.99	31.32	8,937	538	114	416	2379	5021
Mar-05	53.31	20.01	33.30	12,300	225	39.6	80.1	1465	3870	
<b>Jun-05</b>	<b>53.31</b>	<b>21.25</b>	<b>32.06</b>	<b>7,690</b>	<b>114</b>	<b>32.6</b>	<b>77.1</b>	<b>555</b>	<b>1150</b>	
<b>MW-5</b>	May-02	47.79	19.02	28.77	25,000	1,000	1200	1,100	3,060	1,800
	Aug-02	47.79	19.80	27.99	18,000	1,000	660	950	1,720	1,500
	Nov-02	47.79	20.14	27.65	16,000	1,300	380	930	1,550	1,200
	Feb-03	47.79	18.70	29.09	12,000	390	71	770	1,100	860
	May-03	47.79	18.52	29.27	9,100	210	31	560	790	600
	Aug-03	47.79	19.54	28.25	12,000	660	75	660	1,110	1,000
	Oct-03	47.79	20.06	27.73	15,000	1,000	130	1,000	1,430	1,700
	Jan-04	47.79	18.42	29.37	9,900	450 C	16	500	431	1,100

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

Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B <sup>2</sup> (µg/L)
<b>MW-5 cont.</b>	May-04	47.79	19.30	28.49	9,200	380	24	490	536	720
	Sep-04	50.53	20.15	30.38	10,000	980	71	560	770	1200
	Dec-04	50.53	19.30	31.23	10,502	587	64	1040	1133	1015
	Mar-05	50.53	17.20	33.33	8,390	407	<5.5	83	42.5	1530
	Jun-05	<b>50.53</b>	<b>18.54</b>	<b>31.99</b>	<b>9,350</b>	<b>147</b>	<b>18.3</b>	<b>435</b>	<b>146.2</b>	<b>573</b>
<b>MW-6</b>	Sep-04	45.82	17.64	28.18	34,000	150	130	2200	8100	0.6
	Dec-04	45.82	15.75	30.07	5,161	137	7	436	1136	<5.5
	Mar-05	45.82	13.80	32.02	6,040	125	3.22	260	722.1	4.94
	Jun-05	<b>45.82</b>	<b>14.78</b>	<b>31.04</b>	<b>5,590</b>	<b>44.3</b>	<b>6.60</b>	<b>272</b>	<b>382</b>	<b>5.85</b>
<b>MW-7</b>	Sep-04	44.74	15.21	29.53	2,900	<0.5	<0.5	52	61	8.1
	Dec-04	44.74	13.90	30.84	<50	1.6	<0.5	29	58	6.0
	Mar-05	44.74	11.46	33.28	2,230	<2.5	<2.5	39.4	51.4	12.4
	Jun-05	<b>44.74</b>	<b>12.97</b>	<b>31.77</b>	<b>2,940</b>	<b>0.85</b>	<b>&lt;2.0</b>	<b>50.6</b>	<b>31.9</b>	<b>13.7</b>
<b>MW-8</b>	Sep-04	41.14	12.98	28.16	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	Dec-04	41.14	11.22	29.92	<50	<0.5	<0.5	<0.5	<1.0	<0.5
	Mar-05	41.14	NM	NM	NA	NA	NA	NA	NA	NA
	Jun-05	<b>41.14</b>	<b>10.46</b>	<b>30.68</b>	<b>&lt;200</b>	<b>0.53</b>	<b>&lt;2.0</b>	<b>&lt;0.5</b>	<b>&lt;1.0</b>	<b>&lt;0.5</b>



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

Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B <sup>2</sup> (µg/L)
MW-9	Sep-04	40.26	12.18	28.08	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	Dec-04	40.26	10.91	29.35	<50	<0.5	<0.5	<0.5	<1.0	<0.5
	Mar-05	40.26	10.52	29.74	<200	<0.5	<0.5	<0.5	<1.0	<0.5
	Jun-05	40.26	14.73	25.53	<200	<0.5	<2.0	<0.5	<1.0	<0.5

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.

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

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

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

<b>Monitoring Well</b>	<b>Date</b>	<b>TBA (µg/L)</b>	<b>DIPE (µg/L)</b>	<b>ETBE (µg/L)</b>	<b>TAME (µg/L)</b>
<b>MW-1</b>	Aug-02	78	<1.3	<1.3	<1.3
	Nov-02	42	< 1.0	< 1.0	< 1.0
	Feb-03	47	<0.5	<0.5	<0.5
	May-03	25	<0.5	<0.5	<0.5
	Aug-03	<10	<0.5	<0.5	<0.5
	Oct-03	70	<1.0	<1.0	<1.0
	Jan-04	55	<0.5	<0.5	<0.5
	May-04	62	<0.7	<0.7	<0.7
	Sep-04	<10	<0.5	<0.5	<0.5
	Dec-04	<21.5	<4.3	<4.3	<17.2
	Mar-05	81	<0.5	<0.5	<2.0
	Jun-05	<10	<0.5	<0.5	<2.0
<b>MW-2</b>	Aug-02	21	<0.5	<0.5	<0.5
	Nov-02	15	<0.5	<0.5	<0.5
	Feb-03	12	<0.5	<0.5	<0.5
	May-03	31	<0.5	<0.5	<0.5
	Aug-03	69	<0.8	<0.8	<0.8
	Oct-03	12	<0.5	<0.5	<0.5
	Jan-04	<10	<0.5	<0.5	<0.5
	May-04	14	<0.5	<0.5	<0.5
	Sep-04	<10	<0.5	<0.5	<0.5
	Dec-04	<2.5	<0.5	<0.5	<2.0
	Mar-05	<2.5	<0.5	<0.5	<2.0
	Jun-05	<10	<0.5	<0.5	<2.0

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

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)
MW-3	Aug-02	<330	<8.3	<8.3	330
	Nov-02	85	< 1.3	<1.3	220
	Feb-03	140	<5.0	<5.0	320
	May-03	520	<10	<10	530
	Aug-03	180	<4.2	<4.2	270
	Oct-03	<170	<8.3	<8.3	200
	Jan-04	<100	<5.0	<5.0	150
	May-04	<100	<5.0	<5.0	270
	Sep-04	<140	<7.1	<7.1	110
	Dec-04	<100	<20	<20	154
	Mar-05	<215	<43	<43	256
<b>Jun-05</b>	<b>&lt;215</b>	<b>&lt;10.8</b>	<b>&lt;10.8</b>	<b>374</b>	
MW-4	Aug-02	1500	<17	<17	18
	Nov-02	580	< 5.0	6	13
	Feb-03	1600	<20	22	<20
	May-03	690	<8.3	<8.3	17
	Aug-03	550	<7.1	7.3	18
	Oct-03	1400	<31	50	<31
	Jan-04	1,300	<20	25	21
	May-04	560	<8.3	<8.3	24
	Sep-04	1,300	<50	<50	<50
	Dec-04	826	<10.75	21	49
	Mar-05	1,110	<10.8	12.1	<43
<b>Jun-05</b>	<b>&lt;110</b>	<b>&lt;5.5</b>	<b>&lt;5.5</b>	<b>22.9</b>	
MW-5	Aug-02	<250	<6.3	<6.3	510
	Nov-02	66	< 2.0	< 2.0	560
	Feb-03	<63	<3.1	<3.1	280
	May-03	<33	<1.7	<1.7	110
	Aug-03	130	<3.6	<3.6	270
	Oct-03	<100	<5.0	<5.0	740
	Jan-04	<63	<3.1	<3.1	300
	May-04	<100	<5.0	<5.0	210
	Sep-04	<130	<6.3	<6.3	550
	Dec-04	40	<5.5	<5.5	444
	Mar-05	88.8	<5.5	<5.5	448
<b>Jun-05</b>	<b>&lt;43</b>	<b>&lt;2.15</b>	<b>&lt;2.15</b>	<b>88.1</b>	

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

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)
<b>MW-6</b>	Sep-04	<10	<0.5	<0.5	<0.5
	Dec-04	<5.5	<5.5	<5.5	<22
	Mar-05	2.54	<0.5	<0.5	<2.0
	Jun-05	<20	<1.0	<1.0	<4.0
<b>MW-7</b>	Sep-04	<10	<0.5	<0.5	1.5
	Dec-04	<2.5	<0.5	<0.5	<2.0
	Mar-05	<12.5	<2.5	<2.5	<10
	Jun-05	<10	<0.5	<0.5	2.23
<b>MW-8</b>	Sep-04	<10	<0.5	<0.5	<0.5
	Dec-04	<2.5	<0.5	<0.5	<2.0
	Mar-05	NA	NA	NA	NA
	Jun-05	<10	<0.5	<0.5	<2.0
<b>MW-9</b>	Sep-04	<10	<0.5	<0.5	<0.5
	Dec-04	<2.5	<0.5	<0.5	<2.0
	Mar-05	<2.5	<0.5	<0.5	<2.0
	Jun-05	<10	<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 First Quarter 2005, car was parked over well.

TBA: tert-Butyl Alcohol

DIPE: Isopropyl Ether

ETBE: Ethyl tert-Butyl Ether

TAME: Methyl tert-Amyl Ether

# **Appendix A**

## **SOMA's Groundwater Monitoring Procedures**

## **FIELD ACTIVITIES**

On June 15, 2005, SOMA's field crew conducted a groundwater monitoring event in accordance with the procedures and guidelines of the CRWQCB. During this groundwater monitoring event, five on-site wells (MW-1 to MW-5) and four off-site wells (MW-6 to MW-9) were monitored. Figure 2 shows the locations of the monitoring wells.

The depth to groundwater in each on-site 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 datum 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.

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

In order 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 purging continued until these parameters stabilized or three casing volumes were purged. 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 four 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 (COC) form was completed for all of the samples and was 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 state certified laboratory, analyzed the groundwater samples for TPH-g, BTEX, MtBE, gasoline oxygenates, and lead scavengers. Samples for TPH-g, BTEX, MtBE, gasoline oxygenates, 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.

**HORIZONTAL CONTROL, NAD 83:**

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

CHABOT "B", NORTH 2,087,731.02 EAST 6,094,039.23 sfl. 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 sfl. 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

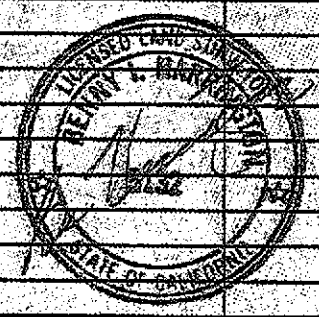


**SURVEY REPORT**  
 15101 FREEDOM AVE  
 SAN LEANDRO, CA

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

**JOB NO. 2445**  
**DATE: OCT. 12, 2004**

PT	NAD 83 NORTH (ft)	NAD 83 EAST (ft)	NAVD 88 ELEV.	DESCRIPTION	NORTH LATITUDE (DMS)	WEST LONGITUDE (DMS)
1	2087731.02	6094039.23	442.77	FD CHABOT B	37°43'02.71762"	122°07'00.46339"
2	2088584.99	6093351.39	492.08	FD CHABOT A	37°43'11.04190"	122°07'09.20691"
51	2084348.54	6092159.32	55.44	FD X-8		
52	2084073.17	6092141.24	46.15	MW-8 PAV		
53	2084072.72	6092140.95	46.15	MW-8 PUNCH		
54	2084072.47	6092140.95	45.62	MW-8 NOTCH	37°42'26.22635"	122°07'23.28643"
55	2083909.71	6091947.10	40.61	MW-9 PAV		
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°07'25.67431"
58	2083861.20	6092118.11	41.38	MW-8 PAV		
59	2083860.43	6092118.36	41.44	MW-8 PUNCH		
60	2083860.03	6092118.52	41.14	MW-8 NOTCH	37°42'24.12245"	122°07'23.52966"
61	2084008.21	6092290.11	44.94	MW-7 PAV		
62	2084007.88	6092290.27	44.95	MW-7 PUNCH		
63	2084007.68	6092290.40	44.74	MW-7 NOTCH	37°42'25.61150"	122°07'21.42290"
64	2084206.49	6092175.95	51.03	MW-5 PAV		
65	2084206.17	6092176.55	50.86	MW-5 PUNCH		
66	2084206.01	6092176.79	50.53	MW-5 NOTCH	37°42'27.55260"	122°07'22.67930"
67	2084670.41	6092307.68	69.79	FD BM FAIR580		
68	2084443.65	6092198.98	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°07'22.64809"
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°07'23.31339"
74	2084329.47	6092199.72	54.62	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°07'22.62738"
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°07'21.92804"
80	2084930.49	6091759.33	58.50	FD BM K1256	37°42'34.64279"	122°07'28.23011"





ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-1  
 Casing Diameter: 4 inches  
 Depth of Well: 30.10 feet  
 Top of Casing Elevation: 54.46 feet  
 Depth to Groundwater: 22.42 feet  
 Groundwater Elevation: 32.04 feet  
 Water Column Height: 7.68 feet  
 Purged Volume: 12 gallons

Project No.: 2551  
 Address: 15101 Freedom Ave.  
 San Leandro, CA  
 Date: June 15, 2005  
 Sampler: Mehran Nowroozi  
 Eric Jennings

Purging Method:      Baller                       Pump

Sampling Method:      Baller                       Pump

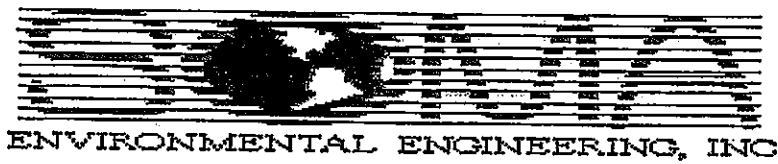
Color:                      Yes               No               Describe: \_\_\_\_\_

Sheen:                      Yes               No               Describe: \_\_\_\_\_

Odor:                      Yes               No               Describe: \_\_\_\_\_

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
1:25 PM	START PURGE			
1:30	4	6.72	21.35	1210
1:31	8	6.61	21.31	1200
1:32	12	6.60	21.28	1210
1:35	SAMPLED			



Well No.: MW-2  
 Casing Diameter: 4 inches  
 Depth of Well: 30.00 feet  
 Top of Casing Elevation: 82.41 feet  
 Depth to Groundwater: 20.30 feet  
 Groundwater Elevation: 32.11 feet  
 Water Column Height: 9.70 feet  
 Purged Volume: 16 gallons

Project No.: 2551  
 Address: 15101 Freedom Ave.  
 San Leandro, CA  
 Date: June 15, 2005  
 Sampler: Mehran Nowroozi  
 Eric Jennings

Purging Method: Baller  Pump

Sampling Method: Baller  Pump

Color: Yes  No  Describe: \_\_\_\_\_

Sheen: Yes  No  Describe: \_\_\_\_\_

Odor: Yes  No  Describe: \_\_\_\_\_

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
10:03 PM	START PURGE			
10:05	4	6.96	21.45	1350
10:08	8	6.71	21.02	1270
10:11	12	6.67	20.99	1290
10:14	16	6.66	20.97	1330
10:17	SAMPLED			



ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-3  
 Casing Diameter: 4 inches  
 Depth of Well: 29.80 feet  
 Top of Casing Elevation: 53.91 feet  
 Depth to Groundwater: 21.85 feet  
 Groundwater Elevation: 32.06 feet  
 Water Column Height: 7.95 feet  
 Purged Volume: 14 gallons

Project No.: 2551  
 Address: 15101 Freedom Ave.  
 San Leandro, CA  
 Date: June 15, 2005  
 Sampler: Mehran Nowroozi  
 Eric Jennings

Purging Method: Baller  Pump

Sampling Method: Baller  Pump

Color: Yes  No  Describe: \_\_\_\_\_

Sheen: Yes  No  Describe: \_\_\_\_\_

Odor: Yes  No  Describe: \_\_\_\_\_

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
2:30 PM	START PURGE			
2:34	5	6.56	21.59	1440
2:37	10	6.53	21.55	1460
2:39	14	6.53	21.60	1490
2:42	SAMPLED			



ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-4  
 Casing Diameter: 4 inches  
 Depth of Well: 30.10 feet  
 Top of Casing Elevation: 53.31 feet  
 Depth to Groundwater: 21.25 feet  
 Groundwater Elevation: 32.06 feet  
 Water Column Height: 8.85 feet  
 Purged Volume: 15 gallons

Project No.: 2551  
 Address: 15101 Freedom Ave.  
 San Leandro, CA  
 Date: June 15, 2005  
 Sampler: Mehran Nowroozi  
 Eric Jennings

Purging Method: Baller  Pump

Sampling Method: Baller  Pump


Color: Yes  No  Describe: \_\_\_\_\_

Sheen: Yes  No  Describe: \_\_\_\_\_

Odor: Yes  No  Describe: SHARP PUL 9002

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
2 <sup>00</sup> PM	START PURGE			
2 <sup>10</sup>	5	6.59	20.73	1650
2 <sup>14</sup>	10	6.53	20.70	1680
2 <sup>18</sup>	15	6.53	20.67	1690
2 <sup>21</sup>	SAMPLED			



**ENVIRONMENTAL ENGINEERING, INC**

Well No.: MW-5  
 Casing Diameter: 4 inches  
 Depth of Well: 29.80 feet  
 Top of Casing Elevation: 50.53 feet  
 Depth to Groundwater: 18.54 feet  
 Groundwater Elevation: 31.99 feet  
 Water Column Height: 11.26 feet  
 Purged Volume: 15 gallons

Project No.: 2551  
 Address: 15101 Freedom Ave.  
 San Leandro, CA  
 Date: June 15, 2005  
 Sampler: Mehran Nowroozi  
 Eric Jennings

Purging Method: Baller  Pump

Sampling Method: Baller  Pump

Color: Yes  No  Describe: \_\_\_\_\_

Sheen: Yes  No  Describe: \_\_\_\_\_

Odor: Yes  No  Describe: \_\_\_\_\_

**Field Measurements:**

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
1:49 PM	START PURGE			
1:48	5	6.50	21.69	1340
1:51	10	6.56	21.70	1350
1:54	15	6.55	21.41	1350
1:57	SAMPLES			



**ENVIRONMENTAL ENGINEERING, INC**

Well No.: MW-6  
 Casing Diameter: 4 inches  
 Depth of Well: 27.33 feet  
 Top of Casing Elevation: 45.32 feet  
 Depth to Groundwater: 14.78 feet  
 Groundwater Elevation: 31.04 feet  
 Water Column Height: 12.55 feet  
 Purged Volume: 15 gallons

Project No.: 2551  
 Address: 15101 Freedom Ave.  
 San Leandro, CA  
 Date: June 15, 2005  
 Sampler: Mehran Nowroozi  
 Eric Jennings

Purging Method: Baller  Pump

Sampling Method: Baller  Pump

Color: Yes  No  Describe: \_\_\_\_\_

Sheen: Yes  No  Describe: \_\_\_\_\_

Odor: Yes  No  Describe: SLIGHT PLU ODOR

**Field Measurements:**

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
10 <sup>38</sup> AM	START PURGE			
10 <sup>42</sup>	5	6.82	20.86	972
10 <sup>45</sup>	10	6.76	20.84	972
10 <sup>48</sup>	15	6.72	20.89	971
10 <sup>51</sup>	SAMPLED			





ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-7  
 Casing Diameter: 2 inches  
 Depth of Well: 21.00 feet  
 Top of Casing Elevation: 44.74 feet  
 Depth to Groundwater: 12.97 feet  
 Groundwater Elevation: 31.77 feet  
 Water Column Height: 8.03 feet  
 Purged Volume: 9 gallons

Project No.: 2551  
 Address: 15101 Freedom Ave.  
 San Leandro, CA  
 Date: June 15, 2005  
 Sampler: Mehran Nowroozi  
 Eric Jennings

Purging Method: Baller  Pump

Sampling Method: Baller  Pump

Color: Yes  No  Describe: \_\_\_\_\_

Sheen: Yes  No  Describe: \_\_\_\_\_

Odor: Yes  No  Describe: \_\_\_\_\_

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
7:07 AM	START PURGE			
7:09	3	6.75	18.83	1270
7:11	6	6.62	18.73	1260
7:12	9	6.57	18.71	1260
7:15	SAMPLED			



**ENVIRONMENTAL ENGINEERING, INC**

Well No.: MW-8  
 Casing Diameter: 2 inches  
 Depth of Well: 26.70 feet  
 Top of Casing Elevation: 41.14 feet  
 Depth to Groundwater: 10.46 feet  
 Groundwater Elevation: 30.68 feet  
 Water Column Height: 13.24 feet  
 Purged Volume: 18 gallons

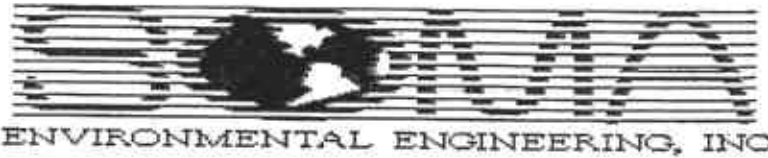
Project No.: 2551  
 Address: 15101 Freedom Ave.  
 San Leandro, CA  
 Date: June 15, 2005  
 Sampler: Mehran Nowroozi  
 Eric Jennings

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump

Color: Yes  No  Describe: \_\_\_\_\_  
 Sheen: Yes  No  Describe: \_\_\_\_\_  
 Odor: Yes  No  Describe: \_\_\_\_\_

**Field Measurements:**

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
9:53 AM	START PURGE			
9:56	5	6.55	19.94	1470
10:00	10	6.70	19.91	1480
10:04	15	6.76	19.90	1480
10:08	18	6.78	19.88	1480
10:11	SAMPLED			



Well No.: MW-9  
 Casing Diameter: 2 inches  
 Depth of Well: 37.52 feet  
 Top of Casing Elevation: 40.26 feet  
 Depth to Groundwater: 14.73 feet  
 Groundwater Elevation: 25.53 feet  
 Water Column Height: 17.79 feet  
 Purged Volume: 8 gallons

Project No.: 2551  
 Address: 15101 Freedom Ave.  
 San Leandro, CA  
 Date: June 15, 2005  
 Sampler: Mehran Nowroozi  
 Eric Jennings

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump

Color: Yes  No  Describe: \_\_\_\_\_  
 Sheen: Yes  No  Describe: \_\_\_\_\_  
 Odor: Yes  No  Describe: \_\_\_\_\_

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
10 <sup>19</sup> AM	START PURG.	G.E.		
10 <sup>21</sup>	4	7.10	20.03	1170
10 <sup>24</sup>	8	7.03	19.99	1280
DRY AT 8 GAL				
10 <sup>24</sup>	SAMPLED			

# Appendix C

Laboratory Report and Chain of Custody Form  
for the  
Second Quarter 2005 Monitoring Event

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**PAL** Pacific Analytical Laboratory

851 West Midway Ave. Suite 201  
Alameda, CA 94501

Phone (510) 864-0364

---

20 June 2005

Joyce Bobek

SOMA Environmental Engineering Inc.

2680 Bishop Dr., Suite 203

San Ramon, CA 94583

RE: 15101 Freedom Ave., San Leandro

Work Order Number: 5060019

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

Sincerely,



---

Maiid Akhavan

Laboratory Director

# 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

PAL  
 Login# 5060019

Project No: 2551				Sampler: Mehran Nowroozi / Eric Jennings								Analyses/Method								
Project Name: Freedom Ave, San Leandro				Report To: Joyce Bobek								TPH-g, BTEX 8260B Gasoline Oxygenates & Lead Scavengers								
Project P.O.: ---				Company: SOMA Environmental Engineering, Inc.																
Turnaround Time: Standard				Tel: 925-244-6600 Fax: 925-244-6601																
		Sampling Date/Time		Matrix			# of Containers	Preservatives					Field Notes							
Lab No.	Sample ID	Date	Time	Soil	Water	Waste		HCL	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	ICE									
	MW-1	6/15/05	1:25		X		4 VOAs	X			X	Grab Sample	X	X						
	MW-2		1:17		X		↓	X			X	↓	X	X						
	MW-3		2:42		X		↓	X			X	↓	X	X						
	MW-4		2:21		X		↓	X			X	↓	X	X						
	MW-5		1:59		X		↓	X			X	↓	X	X						
	MW-6		10:00		X		↓	X			X	↓	X	X						
	MW-7		11:15		X		↓	X			X	↓	X	X						
	MW-8		10:10		X		↓	X			X	↓	X	X						
	MW-9		10:29		X		3 VOAs	X			X	↓	X	X						
<b>Sampler Remarks:</b> EIF REQUIRED							<b>Relinquished by:</b> Eric Jennings 3:35 PM 6/15/05				<b>Date/Time:</b>		<b>Received by:</b> James Jennings		<b>Date/Time:</b> 3:35 PM 6/15/05					



SOMA Environmental Engineering Inc.  
2680 Bishop Dr., Suite 203  
San Ramon CA, 94583

Project: 15101 Freedom Ave., San Leandro  
Project Number: 2551  
Project Manager: Joyce Bobek

Reported:  
20-Jun-05 09:52

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	5060019-01	Water	15-Jun-05 13:35	15-Jun-05 15:31
MW-2	5060019-02	Water	15-Jun-05 13:17	15-Jun-05 15:31
MW-3	5060019-03	Water	15-Jun-05 14:42	15-Jun-05 15:31
MW-4	5060019-04	Water	15-Jun-05 14:21	15-Jun-05 15:31
MW-5	5060019-05	Water	15-Jun-05 13:57	15-Jun-05 15:31
MW-6	5060019-06	Water	15-Jun-05 10:51	15-Jun-05 15:31
MW-7	5060019-07	Water	15-Jun-05 11:15	15-Jun-05 15:31
MW-8	5060019-08	Water	15-Jun-05 10:10	15-Jun-05 15:31
MW-9	5060019-09	Water	15-Jun-05 10:29	15-Jun-05 15:31



SOMA Environmental Engineering Inc.  
 2680 Bishop Dr., Suite 203  
 San Ramon CA, 94583

Project: 15101 Freedom Ave., San Leandro  
 Project Number: 2551  
 Project Manager: Joyce Bobek

Reported:  
 20-Jun-05 09:52

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

**Pacific Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (5060019-01) Water Sampled: 15-Jun-05 13:35 Received: 15-Jun-05 15:31</b>									
Gasoline (C6-C12)	1690	200	ug/l	1	BF52001	15-Jun-05	16-Jun-05	EPA 8260B	
Benzene	36.3	0.500	"	"	"	"	"	"	
Ethylbenzene	59.5	0.500	"	"	"	"	"	"	
m&p-Xylene	23.5	1.00	"	"	"	"	"	"	
o-xylene	5.23	0.500	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
MTBE	2.01	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	10.0	"	"	"	"	"	"	
1,2-Dibromoethan	ND	0.500	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.8 %		70-130	"	"	"	"	
Surrogate: Dibromofluoromethane		98.0 %		70-130	"	"	"	"	
Surrogate: Perdeuterotoluene		96.8 %		70-130	"	"	"	"	
<b>MW-2 (5060019-02) Water Sampled: 15-Jun-05 13:17 Received: 15-Jun-05 15:31</b>									
Gasoline (C6-C12)	2040	200	ug/l	1	BF52001	15-Jun-05	16-Jun-05	EPA 8260B	
Benzene	1.20	0.500	"	"	"	"	"	"	
Ethylbenzene	78.2	0.500	"	"	"	"	"	"	
m&p-Xylene	22.0	1.00	"	"	"	"	"	"	
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	10.0	"	"	"	"	"	"	
1,2-Dibromoethan	ND	0.500	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.6 %		70-130	"	"	"	"	
Surrogate: Dibromofluoromethane		95.8 %		70-130	"	"	"	"	
Surrogate: Perdeuterotoluene		96.8 %		70-130	"	"	"	"	

Pacific Analytical Laboratory

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





SOMA Environmental Engineering Inc	Project: 15101 Freedom Ave., San Leandro	Reported:
2680 Bishop Dr., Suite 203	Project Number: 2551	20-Jun-05 09:52
San Ramon CA, 94583	Project Manager: Joyce Bobek	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-3 (5060019-03) Water    Sampled: 15-Jun-05 14:42    Received: 15-Jun-05 15:31</b>									
Gasoline (C6-C12)	84100	4300	ug/l	21.5	BF52001	15-Jun-05	16-Jun-05	EPA 8260B	
Benzene	5110	10.8	"	"	"	"	"	"	
Ethylbenzene	3030	10.8	"	"	"	"	"	"	
m&p-Xylene	4960	21.5	"	"	"	"	"	"	
o-xylene	3840	10.8	"	"	"	"	"	"	
Toluene	2160	43.0	"	"	"	"	"	"	
MTBE	2670	10.8	"	"	"	"	"	"	
DIPE	ND	10.8	"	"	"	"	"	"	
ETBE	ND	10.8	"	"	"	"	"	"	
TAME	374	43.0	"	"	"	"	"	"	
TBA	ND	215	"	"	"	"	"	"	
1,2-Dibromoethan	ND	10.8	"	"	"	"	"	"	
1,2-dichloroethane	ND	10.8	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.8 %		70-130	"	"	"	"	
Surrogate: Dibromofluoromethane		99.8 %		70-130	"	"	"	"	
Surrogate: Perdeuterotoluene		95.8 %		70-130	"	"	"	"	
<b>MW-4 (5060019-04RE1) Water    Sampled: 15-Jun-05 14:21    Received: 15-Jun-05 15:31</b>									
Gasoline (C6-C12)	7690	2200	ug/l	11	BF52001	15-Jun-05	17-Jun-05	EPA 8260B	
Benzene	114	5.50	"	"	"	"	"	"	
Ethylbenzene	77.1	5.50	"	"	"	"	"	"	
m&p-Xylene	349	11.0	"	"	"	"	"	"	
o-xylene	206	5.50	"	"	"	"	"	"	
Toluene	32.6	22.0	"	"	"	"	"	"	
MTBE	1150	5.50	"	"	"	"	"	"	
DIPE	ND	5.50	"	"	"	"	"	"	
ETBE	ND	5.50	"	"	"	"	"	"	
TAME	22.9	22.0	"	"	"	"	"	"	
TBA	ND	110	"	"	"	"	"	"	
1,2-Dibromoethan	ND	5.50	"	"	"	"	"	"	
1,2-dichloroethane	ND	5.50	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.6 %		70-130	"	"	"	"	
Surrogate: Dibromofluoromethane		99.2 %		70-130	"	"	"	"	
Surrogate: Perdeuterotoluene		95.0 %		70-130	"	"	"	"	

Pacific Analytical Laboratory

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SOMA Environmental Engineering Inc.  
 2680 Bishop Dr., Suite 203  
 San Ramon CA, 94583

Project: 15101 Freedom Ave., San Leandro  
 Project Number: 2551  
 Project Manager: Joyce Bobek

Reported:  
 20-Jun-05 09:52

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

**Pacific Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-5 (5060019-05RE1) Water</b> Sampled: 15-Jun-05 13:57 Received: 15-Jun-05 15:31									
Gasoline (C6-C12)	9350	860	ug/l	4.3	BF52001	15-Jun-05	17-Jun-05	EPA 8260B	
Benzene	147	2.15	"	"	"	"	"	"	
Ethylbenzene	435	2.15	"	"	"	"	"	"	
m&p-Xylene	136	4.30	"	"	"	"	"	"	
o-xylene	10.2	2.15	"	"	"	"	"	"	
Toluene	18.3	8.60	"	"	"	"	"	"	
MTBE	573	2.15	"	"	"	"	"	"	
DIPE	ND	2.15	"	"	"	"	"	"	
ETBE	ND	2.15	"	"	"	"	"	"	
TAME	88.1	8.60	"	"	"	"	"	"	
TBA	ND	43.0	"	"	"	"	"	"	
1,2-Dibromoethan	ND	2.15	"	"	"	"	"	"	
1,2-dichloroethane	ND	2.15	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.6 %		70-130	"	"	"	"	
Surrogate: Dibromofluoromethane		97.6 %		70-130	"	"	"	"	
Surrogate: Perdeuterotoluene		94.8 %		70-130	"	"	"	"	
<b>MW-6 (5060019-06RE1) Water</b> Sampled: 15-Jun-05 10:51 Received: 15-Jun-05 15:31									
Gasoline (C6-C12)	5590	400	ug/l	2	BF52001	15-Jun-05	17-Jun-05	EPA 8260B	
Benzene	44.3	1.00	"	"	"	"	"	"	
Ethylbenzene	272	1.00	"	"	"	"	"	"	
m&p-Xylene	320	2.00	"	"	"	"	"	"	
o-xylene	62.0	1.00	"	"	"	"	"	"	
Toluene	6.60	4.00	"	"	"	"	"	"	
MTBE	5.85	1.00	"	"	"	"	"	"	
DIPE	ND	1.00	"	"	"	"	"	"	
ETBE	ND	1.00	"	"	"	"	"	"	
TAME	ND	4.00	"	"	"	"	"	"	
TBA	ND	20.0	"	"	"	"	"	"	
1,2-Dibromoethan	ND	1.00	"	"	"	"	"	"	
1,2-dichloroethane	1.42	1.00	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.2 %		70-130	"	"	"	"	
Surrogate: Dibromofluoromethane		99.6 %		70-130	"	"	"	"	
Surrogate: Perdeuterotoluene		95.4 %		70-130	"	"	"	"	

Pacific Analytical Laboratory

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SOMA Environmental Engineering Inc. 2680 Bishop Dr., Suite 203 San Ramon CA, 94583	Project: 15101 Freedom Ave., San Leandro Project Number: 2551 Project Manager: Joyce Bobek	Reported: 20-Jun-05 09:52
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**Volatile Organic Compounds by EPA Method 8260B**

**Pacific Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-7 (5060019-07) Water</b> Sampled: 15-Jun-05 11:15    Received: 15-Jun-05 15:31									
Gasoline (C6-C12)	2940	200	ug/l	1	BF52001	15-Jun-05	16-Jun-05	EPA 8260B	
Benzene	0.850	0.500	"	"	"	"	"	"	
Ethylbenzene	50.6	0.500	"	"	"	"	"	"	
m&p-Xylene	31.9	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	2.00	"	"	"	"	"	"	
MTBE	13.7	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	2.23	2.00	"	"	"	"	"	"	
TBA	ND	10.0	"	"	"	"	"	"	
1,2-Dibromoethan	ND	0.500	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		91.6 %							70-130
<i>Surrogate: Dibromofluoromethane</i>		96.6 %							70-130
<i>Surrogate: Perdeuterotoluene</i>		98.8 %							70-130
<b>MW-8 (5060019-08) Water</b> Sampled: 15-Jun-05 10:10    Received: 15-Jun-05 15:31									
Gasoline (C6-C12)	ND	200	ug/l	1	BF52001	15-Jun-05	16-Jun-05	EPA 8260B	
Benzene	0.530	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
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	10.0	"	"	"	"	"	"	
1,2-Dibromoethan	ND	0.500	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		87.2 %							70-130
<i>Surrogate: Dibromofluoromethane</i>		104 %							70-130
<i>Surrogate: Perdeuterotoluene</i>		94.4 %							70-130

Pacific Analytical Laboratory

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SOMA Environmental Engineering Inc.  
 2680 Bishop Dr., Suite 203  
 San Ramon CA, 94583

Project: 15101 Freedom Ave., San Leandro  
 Project Number: 2551  
 Project Manager: Joyce Bobek

Reported:  
 20-Jun-05 09:52

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-9 (5060019-09) Water</b> Sampled: 15-Jun-05 10:29 Received: 15-Jun-05 15:31									
Gasoline (C6-C12)	ND	200	ug/l	1	BF52001	15-Jun-05	16-Jun-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
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	10.0	"	"	"	"	"	"	
1,2-Dibromoethan	ND	0.500	"	"	"	"	"	"	
<b>1,2-dichloroethane</b>	<b>4.27</b>	0.500	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		87.6 %		70-130	"	"	"	"	
Surrogate: Dibromofluoromethane		102 %		70-130	"	"	"	"	
Surrogate: Perdeuterotoluene		96.0 %		70-130	"	"	"	"	



SOMA Environmental Engineering Inc 2680 Bishop Dr., Suite 203 San Ramon CA, 94583	Project: 15101 Freedom Ave., San Leandro Project Number: 2551 Project Manager: Joyce Bobek	Reported: 20-Jun-05 09:52
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**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
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**Batch BF52001 - EPA 5030 Water MS**

Blank (BF52001-BLK1) <span style="float: right;">Prepared &amp; Analyzed: 20-Jun-05</span>										
Surrogate: 4-Bromofluorobenzene	43.6		ug/l	50.0		87.2	70-130			
Surrogate: Dibromofluoromethane	52.0		"	50.0		104	70-130			
Surrogate: Perdeuterotoluene	47.8		"	50.0		95.6	70-130			
MTBE	ND	0.500	"							
DIPE	ND	0.500	"							
ETBE	ND	0.500	"							
TAME	ND	2.00	"							
Gasoline (C6-C12)	ND	200	"							
TBA	ND	10.0	"							
1,2-Dibromoethan	ND	0.500	"							
1,2-dichloroethane	ND	0.500	"							
Benzene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
m&p-Xylene	ND	1.00	"							
o-xylene	ND	0.500	"							
Toluene	ND	2.00	"							

LCS (BF52001-BS1) <span style="float: right;">Prepared &amp; Analyzed: 20-Jun-05</span>										
Surrogate: 4-Bromofluorobenzene	47.2		ug/l	50.0		94.4	70-130			
Surrogate: Dibromofluoromethane	50.2		"	50.0		100	70-130			
Surrogate: Perdeuterotoluene	49.0		"	50.0		98.0	70-130			
MTBE	107	0.500	"	100		107	70-130			
ETBE	96.2	0.500	"	100		96.2	70-130			
Gasoline (C6-C12)	1810	200	"	2000		90.5	70-130			
TBA	381	10.0	"	500		76.2	70-130			
Benzene	111	0.500	"	100		111	70-130			
Ethylbenzene	102	0.500	"	100		102	70-130			
m&p-Xylene	116	1.00	"	100		116	70-130			
o-xylene	115	0.500	"	100		115	70-130			
Toluene	102	2.00	"	100		102	70-130			

Pacific Analytical Laboratory

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



SOMA Environmental Engineering Inc. 2680 Bishop Dr., Suite 203 San Ramon CA, 94583	Project: 15101 Freedom Ave., San Leandro Project Number: 2551 Project Manager: Joyce Bobek	Reported: 20-Jun-05 09:52
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**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
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**Batch BF52001 - EPA 5030 Water MS**

**LCS Dup (BF52001-BSD1)**

Prepared & Analyzed: 20-Jun-05

Surrogate: 4-Bromofluorobenzene	47.3		ug/l	50.0		94.6	70-130			
Surrogate: Dibromofluoromethane	51.1		"	50.0		102	70-130			
Surrogate: Perdeuteriotoluene	48.7		"	50.0		97.4	70-130			
MTBE	110	0.500	"	100		110	70-130	2.76	20	
ETBE	95.1	0.500	"	100		95.1	70-130	1.15	20	
Gasoline (C6-C12)	1920	200	"	2000		96.0	70-130	5.90	20	
TBA	450	10.0	"	500		90.0	70-130	16.6	20	
Benzene	113	0.500	"	100		113	70-130	1.79	20	
Ethylbenzene	98.2	0.500	"	100		98.2	70-130	3.80	20	
m&p-Xylene	118	1.00	"	100		118	70-130	1.71	20	
o-xylene	118	0.500	"	100		118	70-130	2.58	20	
Toluene	104	2.00	"	100		104	70-130	1.94	20	



SOMA Environmental Engineering Inc.  
2680 Bishop Dr., Suite 203  
San Ramon CA, 94583

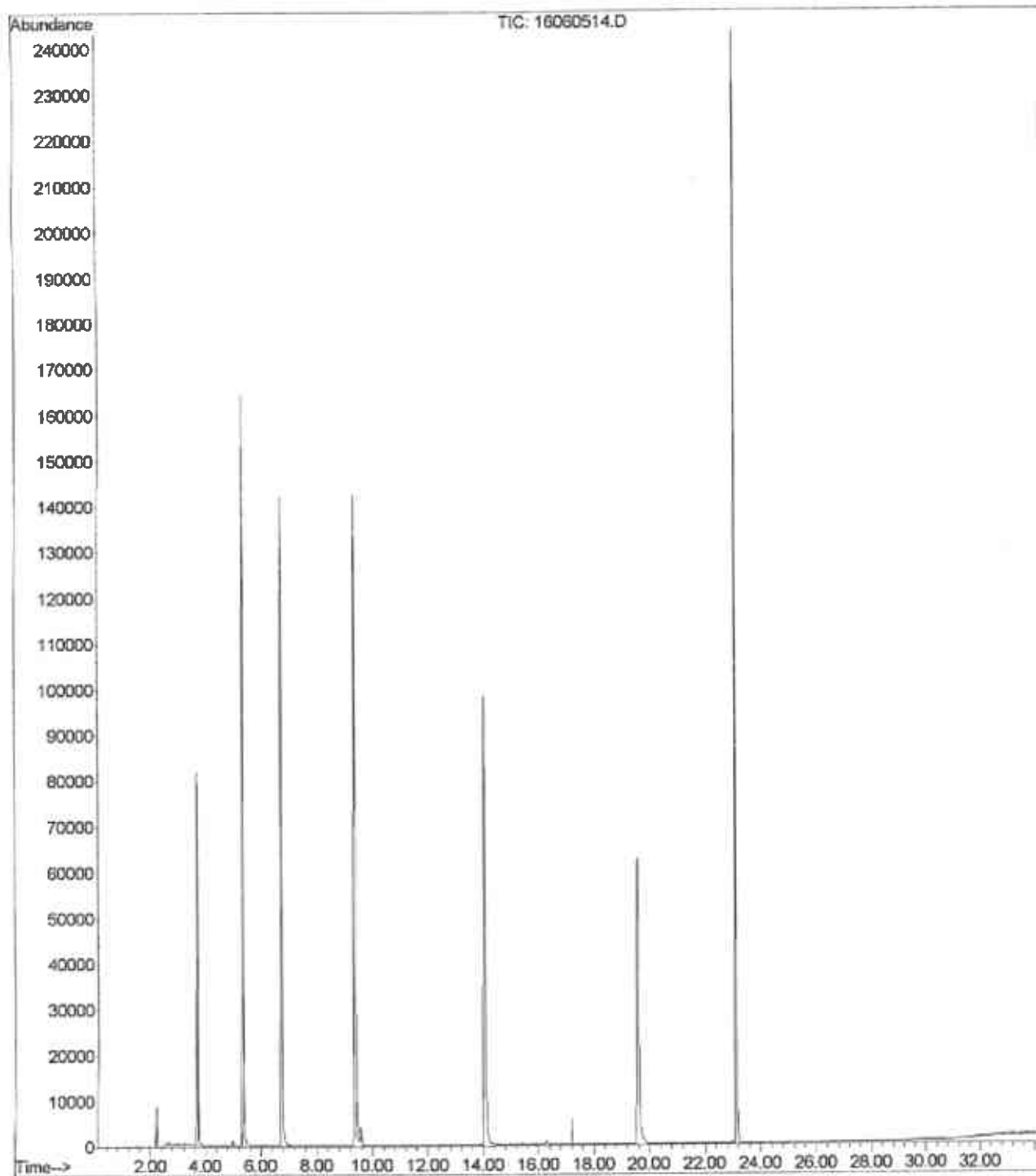
Project: 15101 Freedom Ave., San Leandro  
Project Number: 2551  
Project Manager: Joyce Bobek

Reported:  
20-Jun-05 09:52

### Notes and Definitions

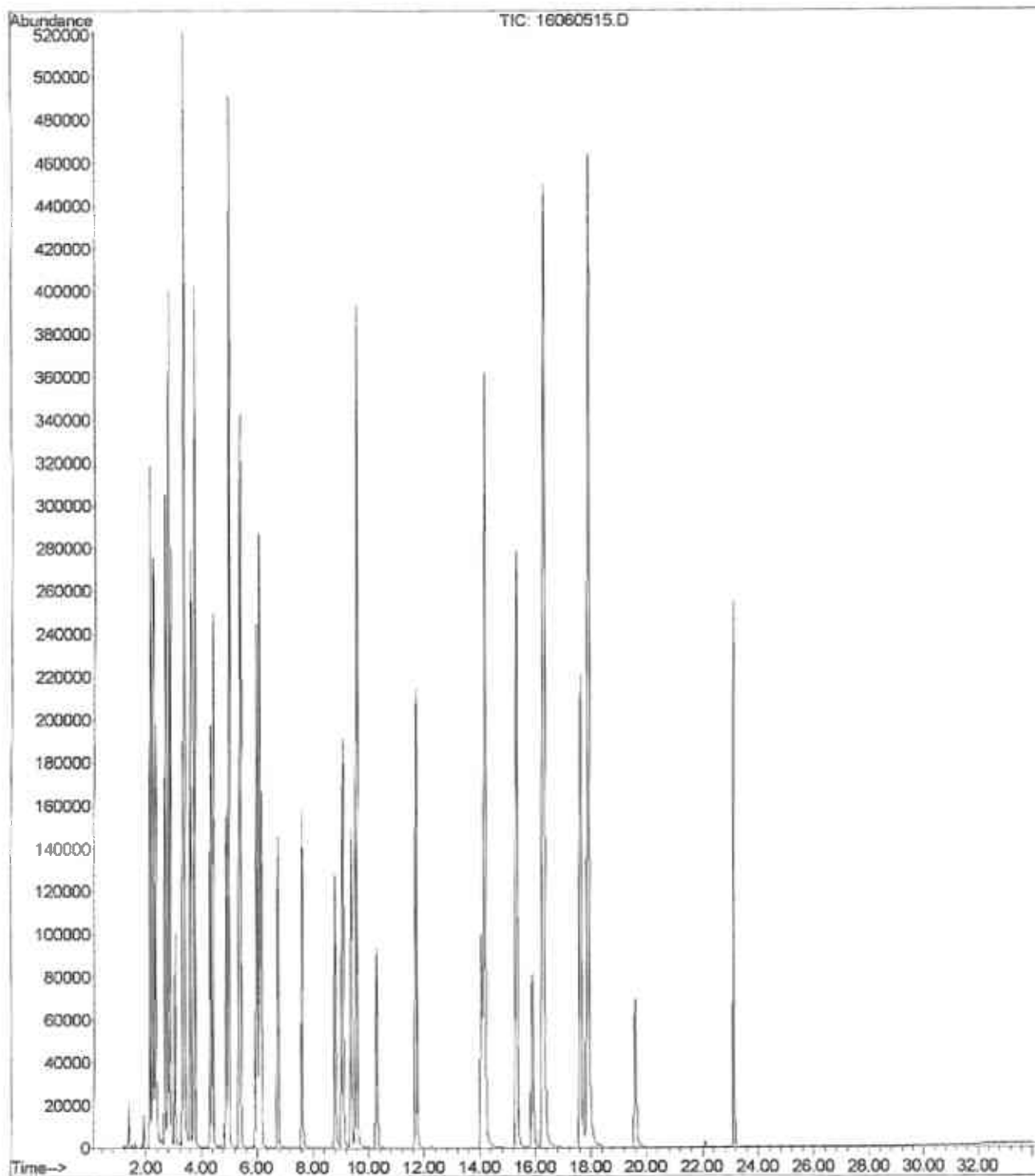
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

File :C:\MSDCHEM\1\DATA\2005-Jun-16-1501.b\16060514.D  
Operator :  
Acquired : 17 Jun 2005 1:04 am using AcqMethod VOCOXY.M  
Instrument : PAL GCMS  
Sample Name: BF52001-BLK1  
Misc Info :  
Vial Number: 14





File :C:\MSDChem\1\DATA\2005-Jun-16-1501.b\16060515.D  
Operator :  
Acquired : 17 Jun 2005 1:48 am using AcqMethod VOCOXY.M  
Instrument : PAL GCMS  
Sample Name: BF52001-BS1@voc  
Misc Info :  
Vial Number: 15



File :C:\MSDCHEM\1\DATA\2005-Jun-16-1501.b\16060517.D  
Operator :  
Acquired : 17 Jun 2005 3:17 am using AcqMethod VOCOXY.M  
Instrument : PAL GCMS  
Sample Name: BF52001-BS1@gas  
Misc Info :  
Vial Number: 17

