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

April 1, 2005

Project 2551

Prepared for

Mr. Mohammad Pazdel
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Prepared by

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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 First Quarter 2005 groundwater monitoring event.

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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 151st 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 First Quarter 2005 groundwater monitoring event conducted at the Site on March 11, 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 three off-site wells (MW-6, MW-7, and 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 First 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 March 11, 2005 groundwater monitoring event. Due to the inaccessibility of well MW-8, no field measurements were recorded for this well.

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 10.52 feet in monitoring well MW-9 to 21.48 feet in monitoring well MW-1. The corresponding groundwater elevations ranged from 29.74 feet in well MW-9 to 33.33 feet in well MW-5.

Variations in seasonal fluctuations, as well as the local recharge rates in each well determine the deviations in the groundwater elevations. Since the Fourth Quarter 2004 monitoring event, the groundwater elevations have increased throughout the Site. The increase in groundwater elevations can be attributed to the rainy weather conditions encountered this quarter.

Figure 3 displays the contour map of groundwater elevations, in feet, measured during the First Quarter 2005 monitoring event. In general, the groundwater flows slightly south to southwesterly across the Site, at a gradient of 0.009 feet/feet. The lowest groundwater elevation was observed south of the Site, in well MW-9.

The field measurements taken during the First 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 for the First Quarter 2005 monitoring event, 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, with the exception of MtBE, which peaks in monitoring well MW-4. 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. Also, high TPH-g and total xylene concentrations were detected in off-site well MW-6.

TPH-g concentrations were below the laboratory reporting limit in off-site well MW-9. As stated earlier, the most impacted TPH-g well was MW-3, which is located in the vicinity of the dispenser islands and former USTs. TPH-g was detected in well MW-3 at 42,600 ug/L. Figure 4 displays the contour map of TPH-g concentrations in the groundwater on March 11, 2005.

As shown in Table 1, in both wells MW-1 and MW-5 toluene was below the laboratory reporting limit. In the sample collected from wells MW-2 and MW-7, both benzene and toluene were below the laboratory reporting limit. All BTEX analytes were below the laboratory reporting limit in well MW-9. In general, all BTEX analytes were either at low levels or below the laboratory reporting limit in wells MW-1, MW-2, and MW-7. The highest BTEX analytes were detected in the sample collected from well MW-3. BTEX analytes were detected in well MW-3 at 3,040 ug/L, 1,100 ug/L, 1,530 ug/L, and 6,670 ug/L, respectively. Figure 5 displays the contour map of benzene concentrations in the groundwater on March 11, 2005. 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 sample collected from wells MW-2 and MW-9. MtBE was detected at low concentrations in wells MW-1, MW-6, and MW-7. The highest MtBE concentration was detected in well MW-4 at 3,870 µg/L. Figure 6 displays the contour map of MtBE concentrations in the groundwater on March 11, 2005. As shown in Figure 6, the highest MtBE concentration was detected in the vicinity of the dispenser islands. This can be attributed to the location of the product piping from the existing USTs to the dispenser islands and the solubility of MtBE in groundwater. The MtBE

concentration detected in well MW-4 was significantly higher than the remaining site wells. The next highest MtBE concentration was detected in well MW-5 at 1,530 ug/L.

Table 2 shows the analytical results for gasoline oxygenates for the First Quarter 2005, as well as the historical groundwater analytical results. TBA appears to be the main gasoline oxygenate of concern. TBA was below the laboratory reporting limit in wells MW-2, MW-3, MW-7, and MW-9. Detectable TBA concentrations ranged from 2.54 ug/L in the sample collected from well MW-6 to 1,100 ug/L in the sample collected from well MW-4. Figure 7 displays the contour map of TBA concentrations in the groundwater on March 11, 2005. As shown in Figure 7, the highest TBA concentration was detected in the vicinity of the dispenser islands. Similar to the MtBE plume, the high TBA concentration detected in well MW-4 can be attributed the high solubility of TBA.

As shown in Table 2, DIPE was below the laboratory reporting limit in all of the groundwater samples collected during the First Quarter 2005 monitoring event. ETBE was below the laboratory reporting limit in all of the groundwater samples collected during the First Quarter 2005 monitoring event, with the exception of a trace ETBE concentration detected in well MW-4. TAME was detected in wells MW-3 and MW-5 at 256 ug/L and 448 ug/L, respectively, and below the laboratory reporting limit in all of the remaining groundwater samples collected during the First Quarter 2005 monitoring event.

As referenced in the laboratory report, lead scavenger constituents, 1,2-DCA and EDB, were below the laboratory reporting limit in all of the samples collected during the First Quarter 2005 monitoring event.

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

2.3 Historical Analytical Trends

Since the previous monitoring event, Fourth Quarter 2004, the following concentration trends were observed. Refer to Tables 1 and 2 for further detailed concentration trends.

The following TPH-g trends were observed:

- TPH-g decreased in wells MW-1, MW-2, and MW-5, increased in wells MW-3, MW-4, MW-6, and MW-7, and remained below the laboratory reporting limit in off-site well MW-9.

In on-site wells MW-1 to MW-5, the following BTEX trends were observed:

- In wells MW-1 to MW-5, all BTEX analytes decreased, with the exception of toluene. Toluene remained below the laboratory reporting limit in wells MW-1 and MW-2, increased in well MW-3, and decreased in wells MW-4 and MW-5.

In off-site wells MW-6, MW-7, and MW-9, the following BTEX trends were observed:

- In well MW-6, all BTEX analytes decreased. In well MW-7, benzene and total xylenes both decreased, toluene remained below the laboratory reporting limit, and ethylbenzene slightly increased. In well MW-9, all BTEX analytes remained below the laboratory reporting limit.

The following MtBE trends were observed:

- MtBE remained below the laboratory reporting limit in wells MW-2 and MW-9, decreased in well MW-4, and increased in the remaining site wells.

Refer to Table 1 for further detailed TPH-g, BTEX, and MtBE concentration trends.

In on-site wells MW-1 to MW-5, the following gasoline oxygenate trends were observed:

- TBA increased in wells MW-1, MW-4, and MW-5. DIPE remained below the laboratory reporting limit in wells MW-1 to MW-5. ETBE decreased in well MW-4. TAME increased in wells MW-3 and MW-5.

In off-site wells MW-6, MW-7, and MW-9, the following gasoline oxygenate trends were observed:

- In well MW-6, TBA increased and all other gasoline oxygenates remained below the laboratory reporting limit. In wells MW-7 and MW-9, all other gasoline oxygenates remained below the laboratory reporting limit.

Refer to Table 2 for further detailed gasoline oxygenate concentration trends.

3.0 CONCLUSION AND RECOMMENDATIONS

The results of the March 11, 2005 groundwater monitoring event can be summarized as follows:

- The groundwater flows slightly south to southwesterly across the Site, at a gradient of 0.009 feet/feet. The lowest groundwater elevation was observed south of the Site, in well MW-9.

- The hydrocarbon source area still remains in the vicinity of the former USTs cavity, where a previous release of petroleum hydrocarbons occurred.

- The MtBE and TBA plumes appear to be centrally located in the vicinity of the pump islands around well MW-4. The higher concentrations of TBA and MtBE in well MW-4 can be attributed to the following factors:

  1. High solubility of these constituents, and
  2. The flow direction of the impacted groundwater from the USTs to this region.

- TPH-g and MtBE have both migrated off-site to wells MW-6 and MW-7, and increased in concentration from the Fourth Quarter 2004. TBA was also detected in well MW-6 for the first time since the installation of this well in September 2004.

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

- Due to the increasing off-site TPH-g and MtBE concentrations, SOMA recommends conducting a risk based corrective action plan (RBCA) to evaluate the Site's regulatory status.

- SOMA also recommends continuing the quarterly monitoring programs to better understand the seasonal variations in the groundwater quality conditions.

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

N

approximate scale in feet

0 150 300

Figure 1: Site vicinity map.

SOMA ENVIRONMENTAL ENGINEERING, INC.

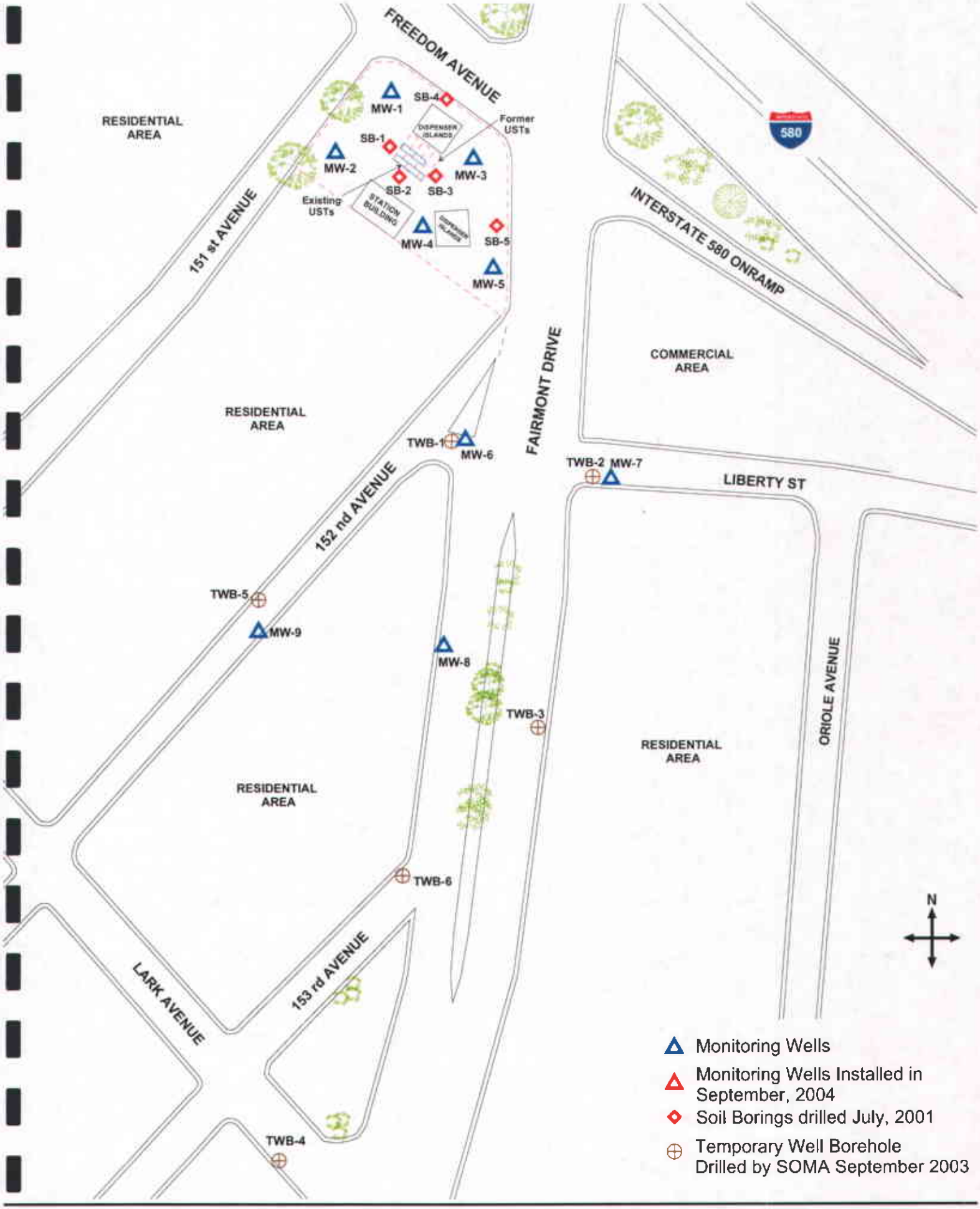


Figure 2: Site map showing locations of groundwater monitoring wells and soil borings.

SOMA ENVIRONMENTAL ENGINEERING, INC.

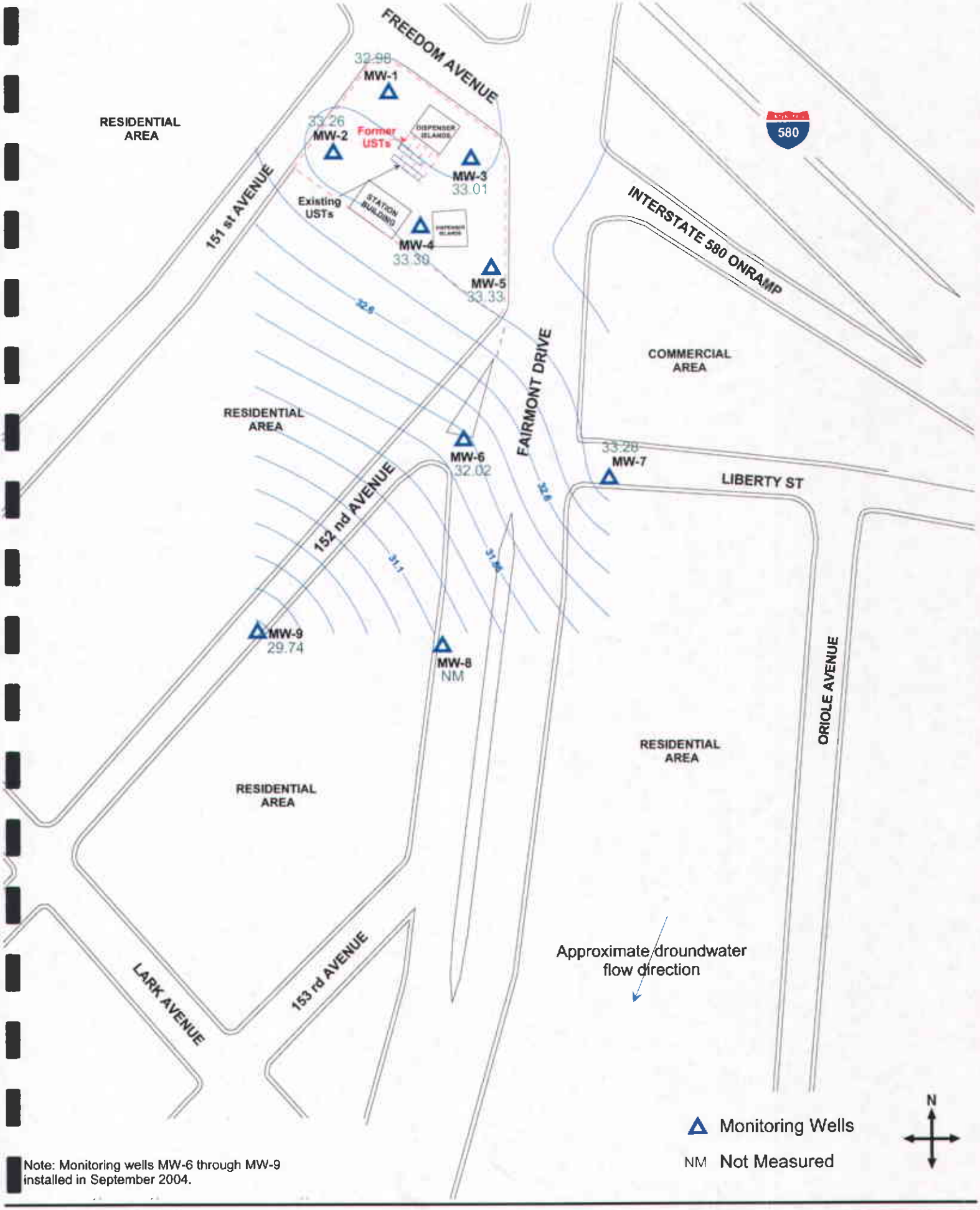


Figure 3: Groundwater elevation contour map in feet. March 2005.

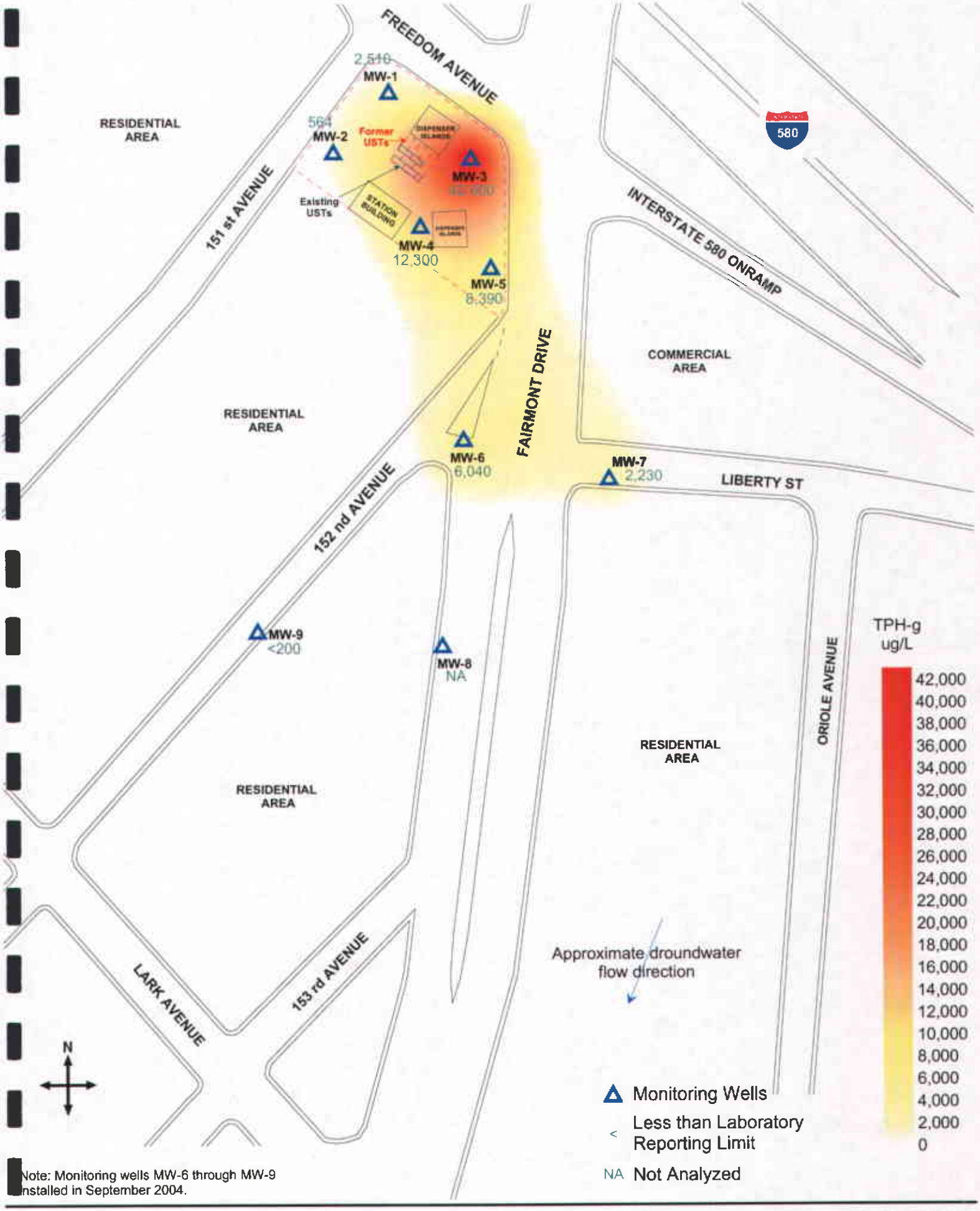


Figure 4: Contour map of TPH-g concentrations in groundwater.
March 2005.

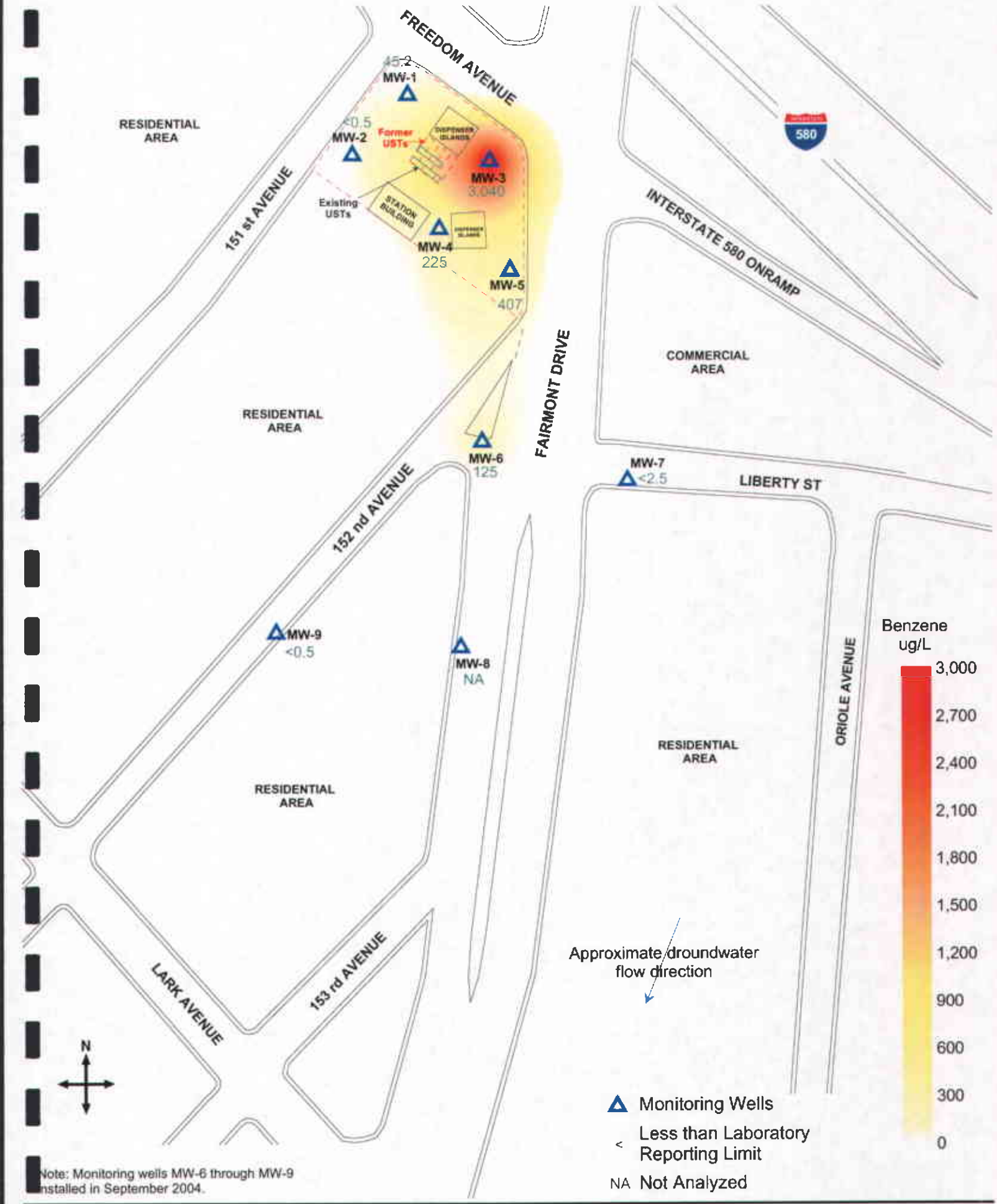
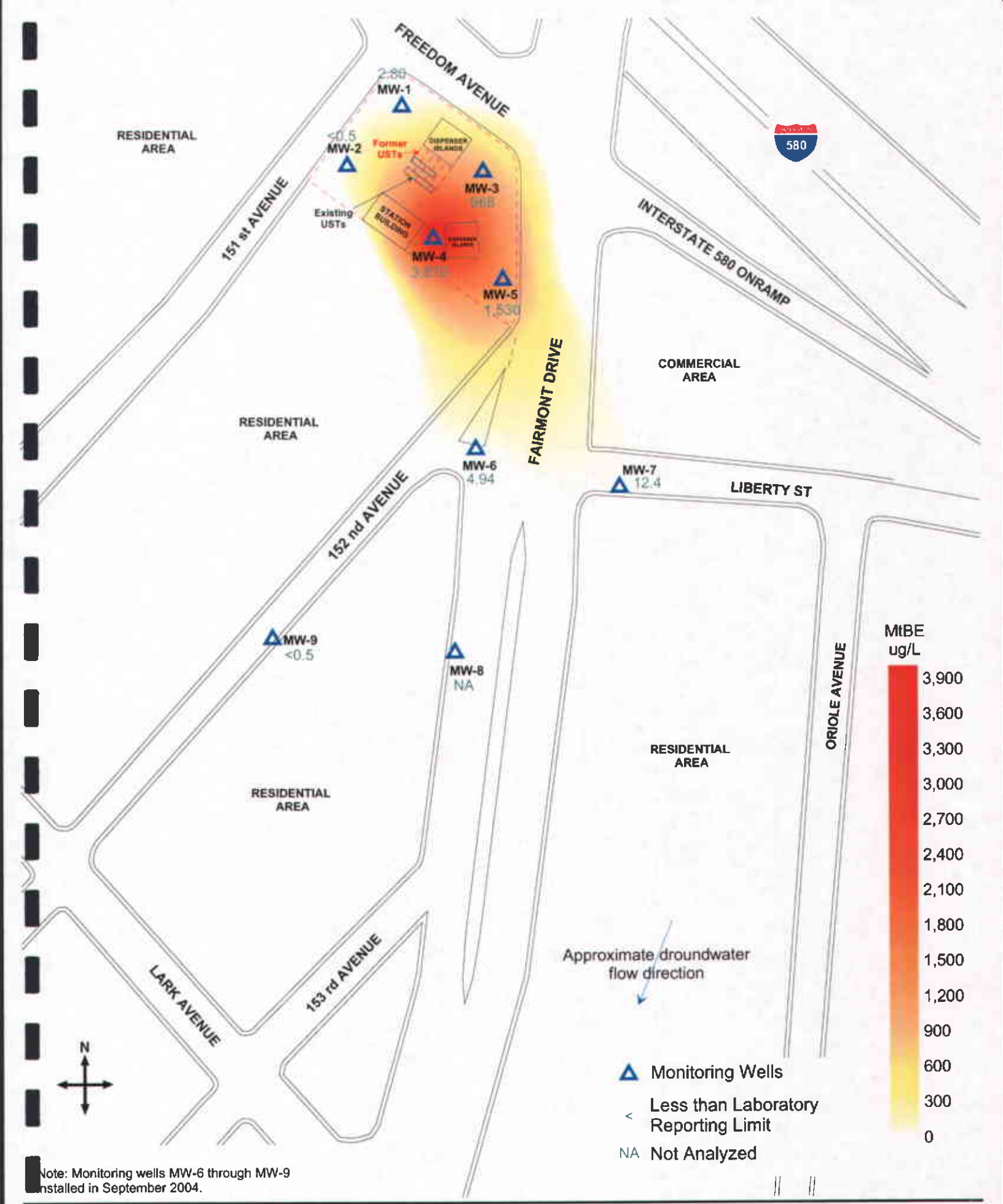


Figure 5: Contour map of Benzene concentrations in groundwater.
March 2005.

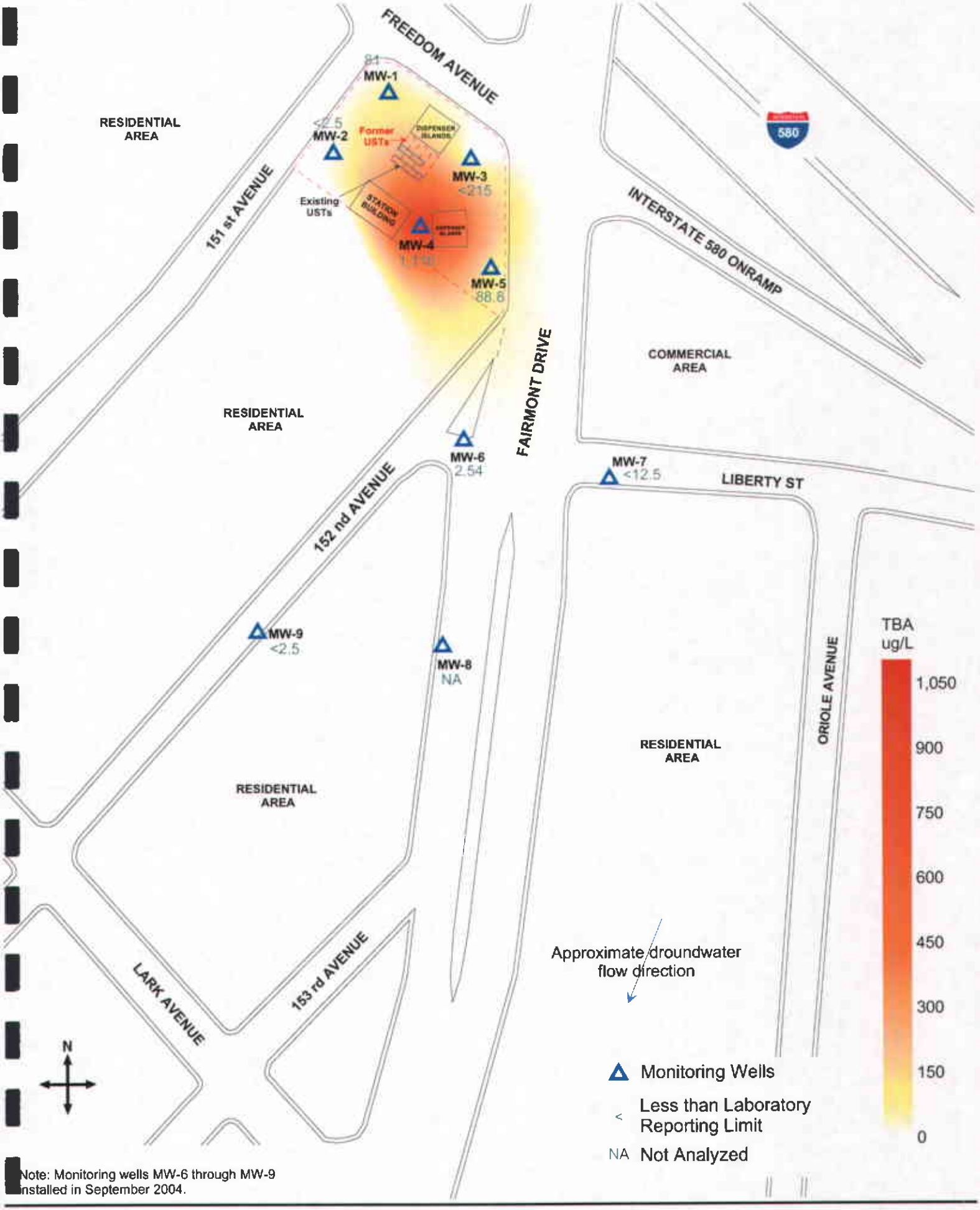


Note: Monitoring wells MW-6 through MW-9 installed in September 2004.

approximate scale in feet

0 50 100

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



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

approximate scale in feet
0 50 100

Figure 7: Contour map of TBA concentrations in groundwater.
March 2005.

Tables

Table 1

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (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 [2] (µg/L)
MW-1	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**
MW-2	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
	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**

Table 1

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (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 [2] (µg/L)
MW-3	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**
MW-4	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**

Table 1

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (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 [2] (µg/L)
MW-5	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
	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**
MW-6	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**
MW-7	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**
MW-8	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**
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**

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..

[1] : 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.

[2] MtBE analyzed by EPA Method 8021B, and confirmed by EPA Method 8260B.

<: Not detected above the laboratory reporting limit.

c 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

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)
MW-1	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**
MW-2	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**
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**

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-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**
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**
MW-6	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**
MW-7	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**
MW-8	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**
MW-9	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**

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 March 11, 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 three off-site wells (MW-6, MW-7, and MW-9) were monitored. A car was parked over well MW-8 and the well was inaccessible. 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.

HORZONTAL CONTROL, NAD 88:

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

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

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

VERTICAL CONTROL, NAVD 88:

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

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

EPOCH DATE 1998.5

OBSERVATION: EPOCH=180.

FIELD SURVEY: OCT. 11, 2004.

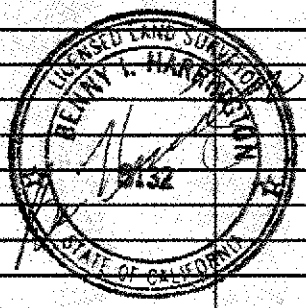
Ben Harrington
PLS 5132

SURVEY REPORT
15101 FREEDOM AVE
SAN LEANDRO, CA.

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

JOB NO. 2445
DATE: OCT. 12, 2004

	NAD 83	NAD 83	NAVD 88		NORTH	WEST
PT	NORTH (sft)	EAST(sft)	ELEV.	DESCRIPTION	LATITUDE (DMS)	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-6 PAV		
53	2084072.72	6092140.95	46.15	MW-6 PUNCH		
54	2084072.47	6092140.95	45.82	MW-6 NOTCH	37°42'26.22635"	122°07'23.29643
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 PVNCH		
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	50.96	MW-5 PUNCH		
66	2084206.01	6092176.79	50.53	MW-5 NOTCH	37°42'27.55260	122°07'22.87930
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		
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	54.82	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°07'22.62738"
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	**Project No.:**	2551
Casing Diameter:	4 inches	**Address:**	15101 Freedom Ave.
Depth of Well:	30.10 feet		San Leandro, CA
Top of Casing Elevation:	54.46 feet	**Date:**	March 11, 2005
Depth to Groundwater:	21.48 feet	**Sampler:**	John Lohman
Groundwater Elevation:	32.98 feet		Eric Jennings
Water Column Height:	8.62 feet		
Purged Volume:	15 gallons		

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)
105	START PURGING		WELL	
110	5	6.87	21.7	1440
115	10	6.80	21.1	1390
120	15	6.75	20.9	1380
123	SAMPLES			

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-2	**Project No.:**	2551
Casing Diameter:	4 inches	**Address:**	15101 Freedom Ave.
Depth of Well:	30.00 feet		San Leandro, CA
Top of Casing Elevation:	52.41 feet	**Date:**	March 11, 2005
Depth to Groundwater:	19.15 feet	**Sampler:**	John Lohman
Groundwater Elevation:	33.26 feet		Eric Jennings
Water Column Height:	10.85 feet		
Purged Volume:	15 gallons		

Purging Method: Bailer ☐ Pump ■

Sampling Method: Bailer ■ Pump ☐

Color: Yes ☐ No ☐ **Describe:** _____

Sheen: Yes ☐ No ☐ **Describe:** _____

Odor: Yes ☐ No ☐ **Describe:** SLIGHT PETROLEUM

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
12:40	START PURGING WELL			
12:50	5	7.16	23.7	1210
12:55	10	7.07	21.4	1230
12:59	15	7.06	20.9	1300
1:03	SAMPLED			

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-3		**Project No.:**	2551
Casing Diameter:	4	inches	**Address:**	15101 Freedom Ave.
Depth of Well:	29.80	feet		San Leandro, CA
Top of Casing Elevation:	53.91	feet	**Date:**	March 11, 2005
Depth to Groundwater:	20.90	feet	**Sampler:**	John Lohman
Groundwater Elevation:	33.01	feet		Eric Jennings
Water Column Height:	8.90	feet		
Purged Volume:	15	gallons		

Purging Method: Bailer ☐ Pump ■

Sampling Method: Bailer ■ Pump ☐

Color: Yes ☐ No ☑ **Describe:** _____

Sheen: Yes ☐ No ☑ **Describe:** _____

Odor: Yes ☑ No ☐ **Describe:** ~~SLIGHT~~ MODERATE - STRONG SW DSL

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
1125	START PURGING WELL			
1130	5	6.88	23.4	1480
1134	10	6.83	22.0	1460
1138	15	6.98	22.1	1500
1140	SAMPLED			

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-4	**Project No.:**	2551
Casing Diameter:	4 inches	**Address:**	15101 Freedom Ave.
Depth of Well:	30.10 feet		San Leandro, CA
Top of Casing Elevation:	53.31 feet	**Date:**	March 11, 2005
Depth to Groundwater:	20.01 feet	**Sampler:**	John Lohman
Groundwater Elevation:	33.30 feet		Eric Jennings
Water Column Height:	10.09 feet		
Purged Volume:	15 gallons		

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)
141	START PURGING	WELL		
148	5	6.92	22.2	1810
152	10	6.83	20.7	1700
156	15			
200	SAMPLED			

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-5	**Project No.:**	2551
Casing Diameter:	4 inches	**Address:**	15101 Freedom Ave.
Depth of Well:	29.80 feet		San Leandro, CA
Top of Casing Elevation:	50.53 feet	**Date:**	March 11, 2005
Depth to Groundwater:	17.20 feet	**Sampler:**	John Lohman
Groundwater Elevation:	33.33 feet		Eric Jennings
Water Column Height:	12.60 feet		
Purged Volume:	13 gallons		

Purging Method: Bailer ☐ Pump ■

Sampling Method: Bailer ■ Pump ☐

Color: Yes ☐ No ☑ **Describe:** _____

Sheen: Yes ☐ No ☑ **Describe:** _____

Odor: Yes ☑ No ☐ **Describe:** SLIGHT GAS ODOR

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
1106	START PURGING WELL			
1111	5	6.91	22.8	1480
1115	10	6.93	22.8	1485
1117	13	6.92	23.4	1460
1120	SAMPLED			

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-6	**Project No.:**	2551
Casing Diameter:	4 inches	**Address:**	15101 Freedom Ave.
Depth of Well:	27.33 feet		San Leandro, CA
Top of Casing Elevation:	45.82 feet	**Date:**	March 11, 2005
Depth to Groundwater:	13.80 feet	**Sampler:**	John Lohman
Groundwater Elevation:	32.02 feet		Eric Jennings
Water Column Height:	13.53 feet		
Purged Volume:	15 gallons		

Purging Method: Bailer ☐ Pump ■

Sampling Method: Bailer ■ Pump ☐

Color: Yes ☐ No ☑ **Describe:** _____

Sheen: Yes ☐ No ☑ **Describe:** _____

Odor: Yes ☑ No ☑ **Describe:** SLIGHT PHC ODOR

Field Measurements:

Time	Vol (gallons)	pH	Temp (° C)	E.C. (µs/cm)
1019	START PURGING WELL			
1023	5	7.09	22.3	1360
1026	10	7.08	21.8	1370
1029	15	7.10	22.1	1380
1033	SAMPLED			

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-7	**Project No.:**	2551
Casing Diameter:	2 inches	**Address:**	15101 Freedom Ave.
Depth of Well:	21.00 feet		San Leandro, CA
Top of Casing Elevation:	44.74 feet	**Date:**	March 11, 2005
Depth to Groundwater:	11.46 feet	**Sampler:**	John Lohman
Groundwater Elevation:	33.28 feet		Eric Jennings
Water Column Height:	9.54 feet		
Purged Volume:	9 gallons		

Purging Method: Bailer ☐ Pump ■

Sampling Method: Bailer ■ Pump ☐

Color: Yes ☐ No ☑ **Describe:** _____

Sheen: Yes ☐ No ☑ **Describe:** _____

Odor: Yes ☑ No ☐ **Describe:** Slight Pipe odor

Field Measurements:

Time	Vol (gallons)	pH	Temp (° C)	E.C. (µs/cm)
1046	START PURGING WELL			
1048	3	6.97	20.5	1460
1051	6	6.92	20.1	1460
1054	9	7.00	20.2	1500
1057	SAMPLED			

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-9	**Project No.:**	2551
Casing Diameter:	2 inches	**Address:**	15101 Freedom Ave.
Depth of Well:	32.52 feet		San Leandro, CA
Top of Casing Elevation:	40.26 feet	**Date:**	March 11, 2005
Depth to Groundwater:	10.52 feet	**Sampler:**	John Lohman
Groundwater Elevation:	29.74 feet		Eric Jennings
Water Column Height:	22.00 feet		
Purged Volume:	12 gallons		

Purging Method:	**Bailer**	☐	**Pump**	■
Sampling Method:	**Bailer**	■	**Pump**	☐

Color:	**Yes** ☐	**No** ☑	**Describe:**	
Sheen:	**Yes** ☐	**No** ☑	**Describe:**	
Odor:	**Yes** ☐	**No** ☑	**Describe:**	

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
951	START PURGING WELL			
954	4	7.35	20.0	1270
958	8	7.42	19.8	1320
1002	12	7.39	20.4	1370
1005	SAMPLED			

Appendix C

Laboratory Report and Chain of Custody Form

for the

First Quarter 2005 Monitoring Event

PAL Pacific Analytical Laboratory
851 West Midway Ave. Suite 201
Alameda, CA 94501
Phone (510) 864-0364

31 March 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: 5030011

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,

Majid Akh

Majid Akhavan
Laboratory Director

CHAIN OF CUSTODY FORM

Page 1 of 1

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

PAL
Login# 5030011

Project No: 2551	Sampler: E JENNINGS & J LOHMAN
Project Name: Freedom Ave, San Leandro	Report To: Joyce Bobek
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					Analyses/Method							
Lab No.	Sample ID	Date	Time	Soil	Water	Waste		HCL	H_2So4	HNO_3	ICE	Field Notes	TPH-g, BTEX 8260B	Gasoline Oxygenates & Lead Scavengers						
	MW-1	3/11/05	1123		X		4-VOAs	X			X		X	X						
	MW-2		1103																	
	MW-3		1140																	
	MW-4		2003																	
	MW-5		1120																	
	MW-6		1033																	
	MW-7		1057																	
	~~MW-8~~																			
	MW-9	✓	1035																	

Sampler Remarks:	Relinquished by:	Date/Time:	Received by:	Date/Time:
EDF OUTPUT REQUIRED ETHANOL	E Jennings	3/11/05 1245	J Hood	3-11- 2:45

PAL

SOMA Environmental Engineering Inc.	Project: 15101 Freedom Ave., San Leandro	
2680 Bishop Dr., Suite 203	Project Number: 2551	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bobek	31-Mar-05 13:55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	5030011-01	Water	11-Mar-05 13:23	11-Mar-05 14:45
MW-2	5030011-02	Water	11-Mar-05 13:03	11-Mar-05 14:45
MW-3	5030011-03	Water	11-Mar-05 13:40	11-Mar-05 14:45
MW-4	5030011-04	Water	11-Mar-05 14:00	11-Mar-05 14:45
MW-5	5030011-05	Water	11-Mar-05 11:20	11-Mar-05 14:45
MW-6	5030011-06	Water	11-Mar-05 10:33	11-Mar-05 14:45
MW-7	5030011-07	Water	11-Mar-05 10:57	11-Mar-05 14:45
MW-9	5030011-08	Water	11-Mar-05 10:05	11-Mar-05 14:45

PAL

SOMA Environmental Engineering Inc.	Project: 15101 Freedom Ave., San Leandro	
2680 Bishop Dr., Suite 203	Project Number: 2551	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bobek	31-Mar-05 13:55

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (5030011-01RE1) Water Sampled: 11-Mar-05 13:23 Received: 11-Mar-05 14:45									
Gasoline (C6-C12)	**2510**	200	ug/l	1	BC51001	14-Mar-05	15-Mar-05	EPA 8260B	
Benzene	**45.2**	0.500	"	"	"	"	"	"	
Ethylbenzene	**23.2**	0.500	"	"	"	"	"	"	
m&p-Xylene	**33.6**	1.00	"	"	"	"	"	"	
o-xylene	**6.03**	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
MTBE	**2.80**	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	**81.0**	2.50	"	"	"	"	"	"	
1,2-Dibromoethan	ND	0.500	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*106 %*		*70-130*	"	"	"	"	
Surrogate: Dibromofluoromethane		*113 %*		*70-130*	"	"	"	"	
Surrogate: Perdeuterotoluene		*106 %*		*70-130*	"	"	"	"	
MW-2 (5030011-02) Water Sampled: 11-Mar-05 13:03 Received: 11-Mar-05 14:45									
Gasoline (C6-C12)	**564**	200	ug/l	1	BC51001	14-Mar-05	15-Mar-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	**21.0**	0.500	"	"	"	"	"	"	
m&p-Xylene	**11.9**	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	2.50	"	"	"	"	"	"	
1,2-Dibromoethan	ND	0.500	"	"	"	"	"	"	
1,2-dichlorocthane	ND	0.500	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.8 %*		*70-130*	"	"	"	"	
Surrogate: Dibromofluoromethane		*118 %*		*70-130*	"	"	"	"	
Surrogate: Perdeuterotoluene		*102 %*		*70-130*	"	"	"	"	

PAL

SOMA Environmental Engineering Inc.	Project: 15101 Freedom Ave., San Leandro	
2680 Bishop Dr., Suite 203	Project Number: 2551	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bobek	31-Mar-05 13:55

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (5030011-03) Water Sampled: 11-Mar-05 13:40 Received: 11-Mar-05 14:45									
Gasoline (C6-C12)	**42600**	17200	ug/l	86	BC51001	14-Mar-05	15-Mar-05	EPA 8260B	
Benzene	**3040**	43.0	"	"	"	"	"	"	
Ethylbenzene	**1530**	43.0	"	"	"	"	"	"	
m&p-Xylene	**4810**	86.0	"	"	"	"	"	"	
o-xylene	**1860**	43.0	"	"	"	"	"	"	
Toluene	**1100**	43.0	"	"	"	"	"	"	
MTBE	**968**	43.0	"	"	"	"	"	"	
DIPE	ND	43.0	"	"	"	"	"	"	
ETBE	ND	43.0	"	"	"	"	"	"	
TAME	**256**	172	"	"	"	"	"	"	
TBA	ND	215	"	"	"	"	"	"	
1,2-Dibromoethan	ND	43.0	"	"	"	"	"	"	
1,2-dichloroethane	ND	43.0	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*105 %*		*70-130*	"	"	"	"	
Surrogate: Dibromofluoromethane		*118 %*		*70-130*	"	"	"	"	
Surrogate: Perdeuterotoluene		*102 %*		*70-130*	"	"	"	"	
MW-4 (5030011-04RE1) Water Sampled: 11-Mar-05 14:00 Received: 11-Mar-05 14:45									
Gasoline (C6-C12)	**12300**	4300	ug/l	21.5	BC51001	14-Mar-05	15-Mar-05	EPA 8260B	
Benzene	**225**	10.8	"	"	"	"	"	"	
Ethylbenzene	**80.1**	10.8	"	"	"	"	"	"	
m&p-Xylene	**1160**	21.5	"	"	"	"	"	"	
o-xylene	**305**	10.8	"	"	"	"	"	"	
Toluene	**39.6**	10.8	"	"	"	"	"	"	
MTBE	**3870**	10.8	"	"	"	"	"	"	
DIPE	ND	10.8	"	"	"	"	"	"	
ETBE	**12.1**	10.8	"	"	"	"	"	"	
TAME	ND	43.0	"	"	"	"	"	"	
TBA	**1110**	53.8	"	"	"	"	"	"	
1,2-Dibromoethan	ND	10.8	"	"	"	"	"	"	
1,2-dichloroethane	ND	10.8	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*105 %*		*70-130*	"	"	"	"	
Surrogate: Dibromofluoromethane		*113 %*		*70-130*	"	"	"	"	
Surrogate: Perdeuterotoluene		*102 %*		*70-130*	"	"	"	"	

PAL

SOMA Environmental Engineering Inc.	Project: 15101 Freedom Ave., San Leandro	
2680 Bishop Dr., Suite 203	Project Number: 2551	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bobek	31-Mar-05 13:55

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-5 (5030011-05) Water Sampled: 11-Mar-05 11:20 Received: 11-Mar-05 14:45									
Gasoline (C6-C12)	**8390**	2200	ug/l	11	BC51001	14-Mar-05	15-Mar-05	EPA 8260B	
Benzene	**407**	5.50	"	"	"	"	"	"	
Ethylbenzene	**83.0**	5.50	"	"	"	"	"	"	
m&p-Xylene	**42.5**	11.0	"	"	"	"	"	"	
o-xylene	ND	5.50	"	"	"	"	"	"	
Toluene	ND	5.50	"	"	"	"	"	"	
MTBE	**1530**	5.50	"	"	"	"	"	"	
DIPE	ND	5.50	"	"	"	"	"	"	
ETBE	ND	5.50	"	"	"	"	"	"	
TAME	**448**	22.0	"	"	"	"	"	"	
TBA	**88.8**	27.5	"	"	"	"	"	"	
1,2-Dibromoethan	ND	5.50	"	"	"	"	"	"	
1,2-dichloroethane	ND	5.50	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*70-130*		"	"	"	"	
Surrogate: Dibromofluoromethane		*113 %*	*70-130*		"	"	"	"	
Surrogate: Perdeuterotoluene		*99.8 %*	*70-130*		"	"	"	"	
MW-6 (5030011-06RE1) Water Sampled: 11-Mar-05 10:33 Received: 11-Mar-05 14:45									
Gasoline (C6-C12)	**6040**	200	ug/l	1	BC51001	14-Mar-05	15-Mar-05	EPA 8260B	
Benzene	**125**	0.500	"	"	"	"	"	"	
Ethylbenzene	**260**	0.500	"	"	"	"	"	"	
m&p-Xylene	**627**	1.00	"	"	"	"	"	"	
o-xylene	**95.1**	0.500	"	"	"	"	"	"	
Toluene	**3.22**	0.500	"	"	"	"	"	"	
MTBE	**4.94**	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	**2.54**	2.50	"	"	"	"	"	"	
1,2-Dibromoethan	ND	0.500	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*108 %*	*70-130*		"	"	"	"	
Surrogate: Dibromofluoromethane		*110 %*	*70-130*		"	"	"	"	
Surrogate: Perdeuterotoluene		*103 %*	*70-130*		"	"	"	"	

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SOMA Environmental Engineering Inc.	Project: 15101 Freedom Ave., San Leandro	
2680 Bishop Dr., Suite 203	Project Number: 2551	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bobek	31-Mar-05 13:55

Volatile Organic Compounds by EPA Method 8260B

Pacific Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-7 (5030011-07) Water Sampled: 11-Mar-05 10:57 Received: 11-Mar-05 14:45									
Gasoline (C6-C12)	**2230**	1000	ug/l	5	BC51001	14-Mar-05	15-Mar-05	EPA 8260B	
Benzene	ND	2.50	"	"	"	"	"	"	
Ethylbenzene	**39.4**	2.50	"	"	"	"	"	"	
m&p-Xylene	**51.4**	5.00	"	"	"	"	"	"	
o-xylene	ND	2.50	"	"	"	"	"	"	
Toluene	ND	2.50	"	"	"	"	"	"	
MTBE	**12.4**	2.50	"	"	"	"	"	"	
DIPE	ND	2.50	"	"	"	"	"	"	
ETBE	ND	2.50	"	"	"	"	"	"	
TAME	ND	10.0	"	"	"	"	"	"	
TBA	ND	12.5	"	"	"	"	"	"	
1,2-Dibromoethan	ND	2.50	"	"	"	"	"	"	
1,2-dichloroethane	ND	2.50	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*		*70-130*		"	"	"	
Surrogate: Dibromofluoromethane		*115 %*		*70-130*		"	"	"	
Surrogate: Perdeuterotoluene		*103 %*		*70-130*		"	"	"	
MW-9 (5030011-08) Water Sampled: 11-Mar-05 10:05 Received: 11-Mar-05 14:45									
Gasoline (C6-C12)	ND	200	ug/l	1	BC51001	14-Mar-05	15-Mar-05	EPA 8260B	
Benzene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
m&p-Xylene	ND	1.00	"	"	"	"	"	"	
o-xylene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
MTBE	ND	0.500	"	"	"	"	"	"	
DIPE	ND	0.500	"	"	"	"	"	"	
ETBE	ND	0.500	"	"	"	"	"	"	
TAME	ND	2.00	"	"	"	"	"	"	
TBA	ND	2.50	"	"	"	"	"	"	
1,2-Dibromoethan	ND	0.500	"	"	"	"	"	"	
1,2-dichloroethane	ND	0.500	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*97.6 %*		*70-130*		"	"	"	
Surrogate: Dibromofluoromethane		*115 %*		*70-130*		"	"	"	
Surrogate: Perdeuterotoluene		*104 %*		*70-130*		"	"	"	

PAL

SOMA Environmental Engineering Inc.	Project: 15101 Freedom Ave., San Leandro	
2680 Bishop Dr., Suite 203	Project Number: 2551	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bobek	31-Mar-05 13:55

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 BC51001 - EPA 5030 Water MS										
Blank (BC51001-BLK1)				Prepared & Analyzed: 09-Mar-05						
Surrogate: 4-Bromofluorobenzene	*50.1*		*ug/l*	*50.0*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*50.1*		*"*	*50.0*		*100*	*70-130*			
Surrogate: Dibromofluoromethane	*54.8*		*"*	*50.0*		*110*	*70-130*			
Surrogate: Dibromofluoromethane	*54.8*		*"*	*50.0*		*110*	*70-130*			
Surrogate: Perdeuterotoluene	*50.6*		*"*	*50.0*		*101*	*70-130*			
Surrogate: Perdeuterotoluene	*50.6*		*"*	*50.0*		*101*	*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	2.50	"							
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	0.500	"							
LCS (BC51001-BS1)				Prepared & Analyzed: 09-Mar-05						
Surrogate: 4-Bromofluorobenzene	*53.5*		*ug/l*	*50.0*		*107*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*53.5*		*"*	*50.0*		*107*	*70-130*			
Surrogate: Dibromofluoromethane	*52.6*		*"*	*50.0*		*105*	*70-130*			
Surrogate: Dibromofluoromethane	*52.6*		*"*	*50.0*		*105*	*70-130*			
Surrogate: Perdeuterotoluene	*49.0*		*"*	*50.0*		*98.0*	*70-130*			
Surrogate: Perdeuterotoluene	*49.0*		*"*	*50.0*		*98.0*	*70-130*			
MTBE	95.2	0.500	"	100		95.2	70-130			
DIPE	101	0.500	"	100		101	70-130			
ETBE	85.4	0.500	"	100		85.4	70-130			
TAME	88.9	2.00	"	100		88.9	70-130			
Gasoline (C6-C12)	1950	200	"	2000		97.5	70-130			
TBA	611	2.50	"	500		122	70-130			
Benzene	86.4	0.500	"	100		86.4	70-130			
Ethylbenzene	104	0.500	"	100		104	70-130			
m&p-Xylene	105	1.00	"	100		105	70-130			

PAL

SOMA Environmental Engineering Inc.	Project: 15101 Freedom Ave., San Leandro	
2680 Bishop Dr., Suite 203	Project Number: 2551	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bobek	31-Mar-05 13:55

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 BC51001 - EPA 5030 Water MS										
LCS (BC51001-BS1)				Prepared & Analyzed: 09-Mar-05						
o-xylene	101	0.500	ug/l	100		101	70-130			
Toluene	88.1	0.500	"	100		88.1	70-130			
LCS Dup (BC51001-BSD1)				Prepared & Analyzed: 09-Mar-05						
Surrogate: 4-Bromofluorobenzene	*53.5*		*ug/l*	*50.0*		*107*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*53.5*		*"*	*50.0*		*107*	*70-130*			
Surrogate: Dibromofluoromethane	*53.5*		*"*	*50.0*		*107*	*70-130*			
Surrogate: Dibromofluoromethane	*53.5*		*"*	*50.0*		*107*	*70-130*			
Surrogate: Perdeuterotoluene	*49.2*		*"*	*50.0*		*98.4*	*70-130*			
Surrogate: Perdeuterotoluene	*49.2*		*"*	*50.0*		*98.4*	*70-130*			
MTBE	92.0	0.500	"	100		92.0	70-130	3.42	20	
DIPE	99.4	0.500	"	100		99.4	70-130	1.60	20	
ETBE	82.8	0.500	"	100		82.8	70-130	3.09	20	
TAME	85.8	2.00	"	100		85.8	70-130	3.55	20	
TBA	625	2.50	"	500		125	70-130	2.27	20	
Gasoline (C6-C12)	1920	200	"	2000		96.0	70-130	1.55	20	
Benzene	83.9	0.500	"	100		83.9	70-130	2.94	20	
Ethylbenzene	99.6	0.500	"	100		99.6	70-130	4.32	20	
m&p-Xylene	99.8	1.00	"	100		99.8	70-130	5.08	20	
o-xylene	97.1	0.500	"	100		97.1	70-130	3.94	20	
Toluene	85.0	0.500	"	100		85.0	70-130	3.58	20	

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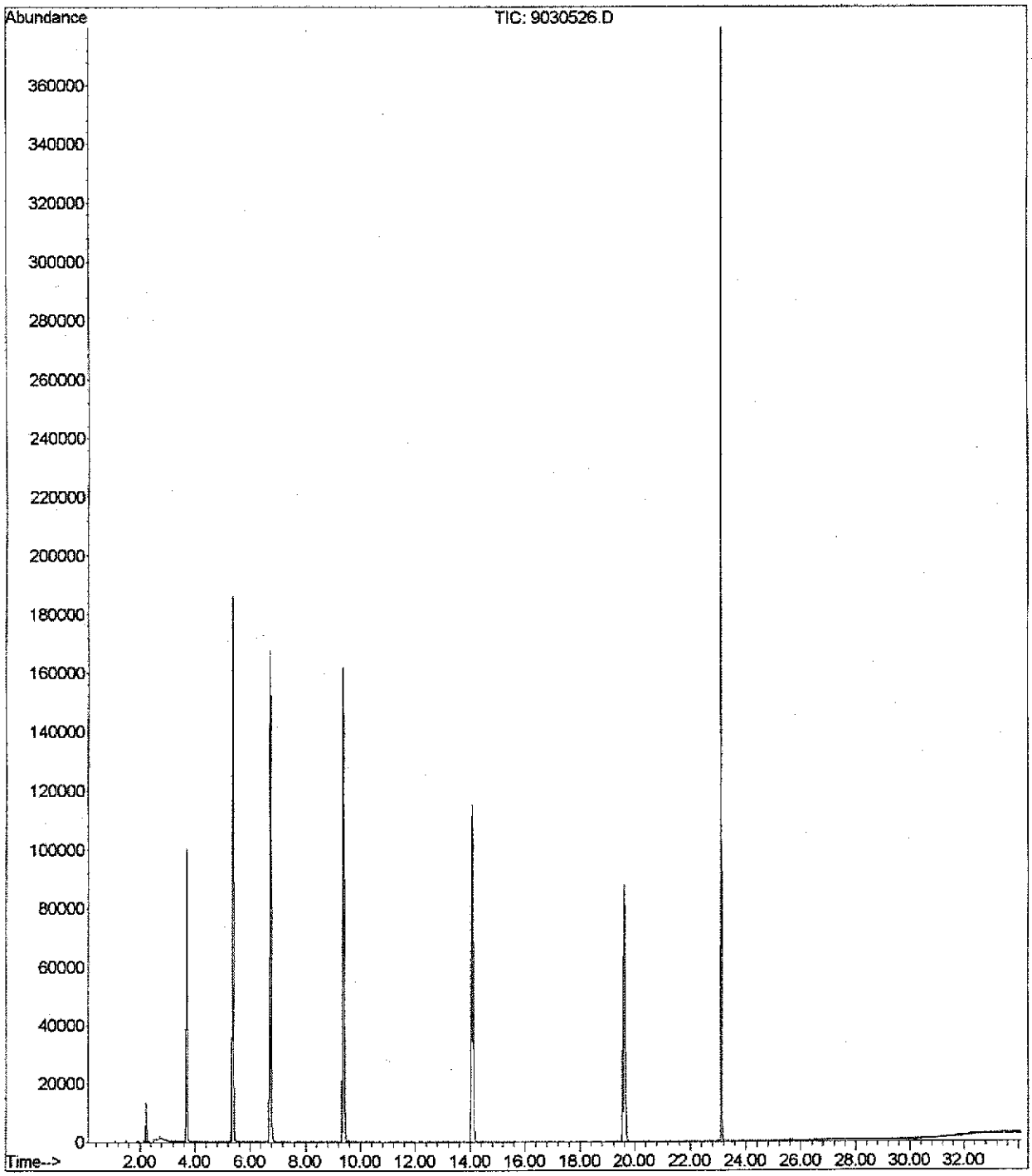
SOMA Environmental Engineering Inc.	Project: 15101 Freedom Ave., San Leandro	
2680 Bishop Dr., Suite 203	Project Number: 2551	**Reported:**
San Ramon CA, 94583	Project Manager: Joyce Bobek	31-Mar-05 13:55

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-Mar-09-1149.b\9030526.D
Operator :
Acquired : 10 Mar 2005 9:13 pm using AcqMethod VOCOXY
Instrument : PAL GCMS
Sample Name: BC51001-BLK2
Misc Info :
Vial Number: 26



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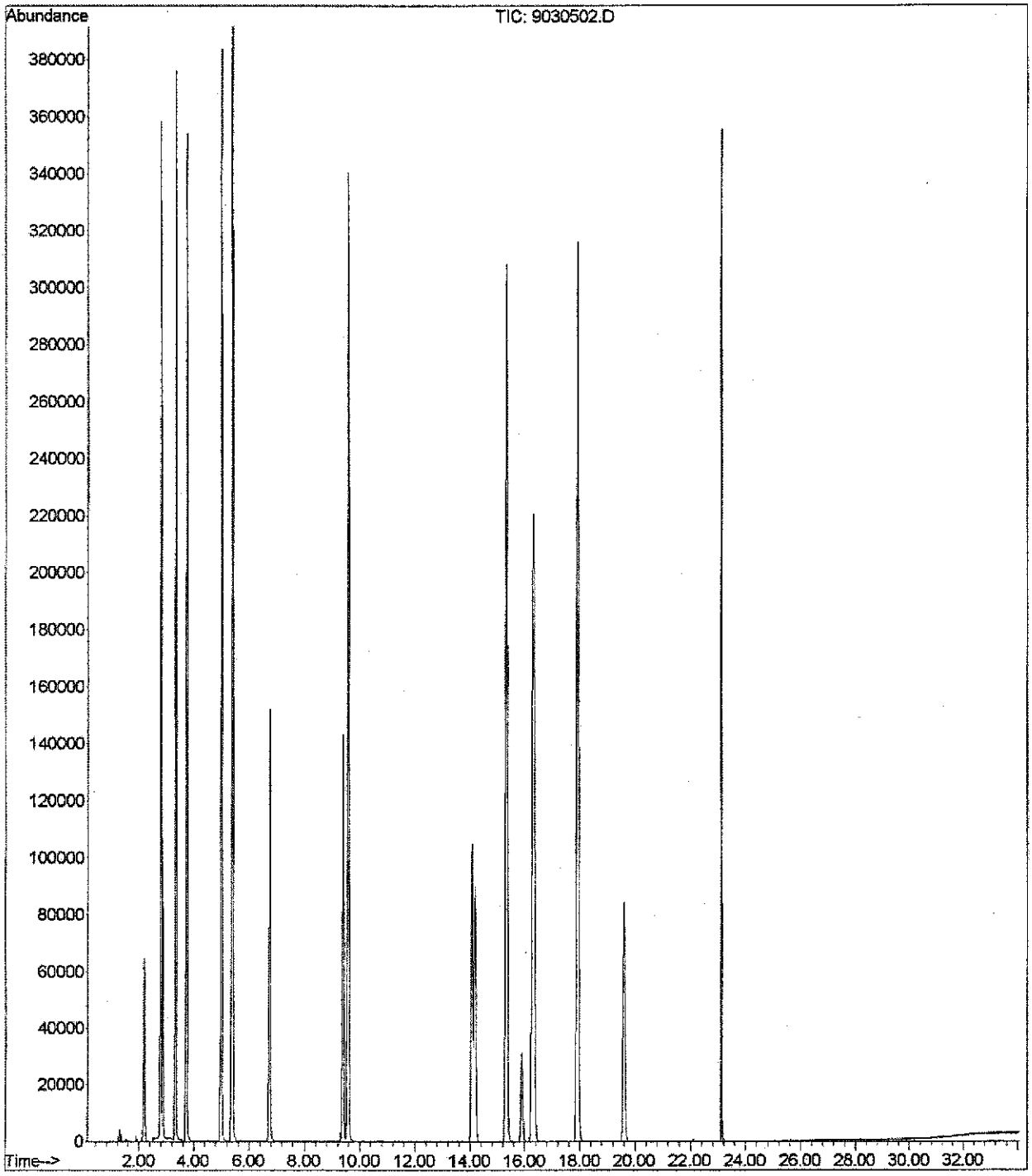
Operator :
Acquired : 9 Mar 2005 12:58 pm using AcqMethod VOCOXY
Instrument : PAL GCMS
Sample Name: BC51001-BS1@voc
Misc Info :
Vial Number: 2



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Operator :
Acquired : 9 Mar 2005 2:33 pm using AcqMethod VOCOXY
Instrument : PAL GCMS
Sample Name: BC51001-BS1@gas
Misc Info :
Vial Number: 4