ENVIRONMENTAL ENGINEERING, INC
2680 Bishop Drive • Suite 203 • San Ramon, CA 94583
TEL (925) 244-6600 • FAX (925) 244-6601

RO-473

FOURTH QUARTER 2004
GROUNDWATER MONITORING REPORT
TEXACO GASOLINE SERVICE STATION
15101 FREEDOM AVENUE
SAN LEANDRO, CALIFORNIA

January 14, 2005

Project 2551

Prepared for

Mr. Mohammad Pazdel
1770 Pistacia Court
Fairfield, California

Prepared by

SOMA Environmental Engineering, Inc.
2680 Bishop Drive, Suite 203
San Ramon, California

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 Fourth Quarter 2004 groundwater monitoring event.

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

TABLE OF CONTENTS

List of Figures

List of Tables

List of Appendices

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 groundwater monitoring report summarizes the results of the Fourth Quarter 2004 groundwater monitoring event conducted at the Site on December 14, 2004. 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 groundwater monitoring procedures used during the Fourth Quarter 2004 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 December 14, 2004 groundwater monitoring event.

2.1 Field Measurements

Table 1 presents the calculated groundwater elevations, as well as the depths to groundwater for each groundwater monitoring well. Depths to groundwater ranged from 10.91 feet in monitoring well MW-9 to 23.01 feet in monitoring well MW-1. The corresponding groundwater elevations ranged from 29.35 feet in well MW-9 to 31.45 feet in well MW-1.

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

Figure 3 displays the contour map of groundwater elevations, in feet, measured during the Fourth Quarter 2004 monitoring event. In general, the groundwater flows slightly south to southwesterly across the Site, at a gradient of 0.005 feet/feet. The lowest groundwater elevation was observed south of the Site, in well MW-9.

The field measurements taken during the Fourth Quarter 2004 monitoring event are shown in Appendix B.

2.2 Laboratory Analysis

Table 1 also presents this quarter's TPH-g, BTEX, and MtBE 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 well MW-6.

TPH-g concentrations were below the laboratory reporting limit in off-site wells MW-7 to 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 35,151 ug/L. Figure 4 displays the contour map of TPH-g concentrations in the groundwater on December 14, 2004.

In general, all BTEX concentrations were below the laboratory reporting limit in off-site wells MW-8 and MW-9. In both wells MW-2 and MW-7, low BTEX concentrations were detected, with the exception of toluene, which was below the laboratory reporting limit. In general, the highest BTEX concentrations were detected in the vicinity of the dispenser islands and former USTs, in well MW-3. Figure 5 displays the contour map of benzene concentrations in the groundwater on December 14, 2004. 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 wells MW-1, MW-2, MW-6, MW-8, and MW-9. MtBE was also detected at a low concentration in well MW-7. The highest MtBE concentration was detected in well MW-4 at 5,021 µg/L. Figure 6 displays the contour map of MtBE concentrations in the groundwater on December 14, 2004. 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 several orders of magnitude higher than the remaining site wells.

Table 2 shows the analytical results for gasoline oxygenates for the Fourth Quarter 2004. TBA was below the laboratory reporting limit in all wells, with the exception of wells MW-4 and MW-5. DIPE and ETBE were below the laboratory reporting limit in all of the groundwater samples collected during the Fourth Quarter 2004, with the exception of a trace ETBE concentration detected in well MW-4. TAME was below the laboratory reporting limit in all wells, with the exception of wells MW-3, MW-4, and MW-5.

Lead scavengers, 1,2-DCA and EDB were below the laboratory reporting limit throughout the Site, with the exception of a trace 1,2-DCA concentration in well MW-9 at 5.1 µg/L. The lead scavenger results are referenced in the laboratory report.

Appendix C includes the laboratory report and COC form for the Fourth Quarter 2004.

2.3 Historical Analytical Trends

Since the previous monitoring event, Third Quarter 2004, the following concentration trends were observed.

The following TPH-g trends were observed:

- TPH-g decreased in wells MW-1, MW-3, MW-6, MW-7, increased in wells MW-2, MW-4 and MW-5, and remained below the laboratory reporting limit in off-site wells MW-8 and MW-9.

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

- All BTEX analytes decreased in well MW-1, with the exception of ethylbenzene, which increased. In well MW-2, all BTEX analytes slightly increased, except toluene, which remained below the laboratory reporting limit. In well MW-3, all BTEX analytes increased, with the exception of benzene, which decreased.
- In well MW-4, all BTEX analytes increased. In well MW-5, both benzene and toluene decreased, and both ethylbenzene and total xylenes increased.

In on-site wells MW-6 to MW-9, the following BTEX trends were observed:

- In well MW-6, all BTEX analytes decreased. In well MW-7, benzene slightly increased, toluene remained below the laboratory reporting limit, and both ethylbenzene and total xylenes decreased. In both wells MW-8 and MW-9, all BTEX analytes remained below the laboratory reporting limit.

The following MtBE trends were observed:

- MtBE decreased in all wells, with the exception of wells MW-3, MW-8, and MW-9. MtBE slightly increased in well MW-3 and remained below the laboratory reporting limit in wells MW-8 and MW-9. MtBE decreased to below the laboratory reporting limit in wells MW-1, MW-2, and MW-6.

The following gasoline oxygenate trends were observed:

- All referenced gasoline oxygenate concentrations remained below the laboratory reporting limit in wells MW-1, MW-2, and off-site wells MW-6, MW-8, and MW-9.
- TBA increased in well MW-3, all other gasoline oxygenates remained at non-detectable levels. In well MW-4, TBA decreased, and both ETBE and TAME slightly increased. In well MW-5, TBA increased, and TAME decreased. In well MW-7, TAME decreased to below the laboratory reporting limit.

3.0 CONCLUSION AND RECOMMENDATIONS

The results of the December 14, 2004 groundwater monitoring event can be summarized as follows:

1. The groundwater flows slightly south to southwesterly across the Site, at a gradient of 0.005 feet/feet. The lowest groundwater elevation was observed south of the Site, in well MW-9.

2. Although MW-3 is located near the former USTs, where the release of petroleum hydrocarbons occurred, TPH-g and benzene constituents showed decreasing trends during the Fourth Quarter 2004 monitoring event. All referenced gasoline oxygenates, with the exception of TAME still remain at non-detectable levels in well MW-3.

3. MtBE and TBA are the dominant constituents in well MW-4. The highest MtBE and TBA concentrations were detected in well MW-4. However, this quarter, both MtBE and TBA showed decreasing trends.

4. Based on the results from this monitoring event, for the off-site wells, all TPH-g, BTEX, and MtBE constituents decreased in well MW-6. The off-site migration of the impacted groundwater has been limited around well MW-6. Only trace concentrations of constituents were detected in well MW-7. All tested constituents were below the laboratory reporting limit in wells MW-8 and MW-9, with the exception of a minor 1,2-DCA concentration in well MW-9.

5. Given the fact that MtBE has migrated off-site to a residential area, SOMA recommends conducting a risk-based corrective action (RBCA) plan to evaluate the site's regulatory status.

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

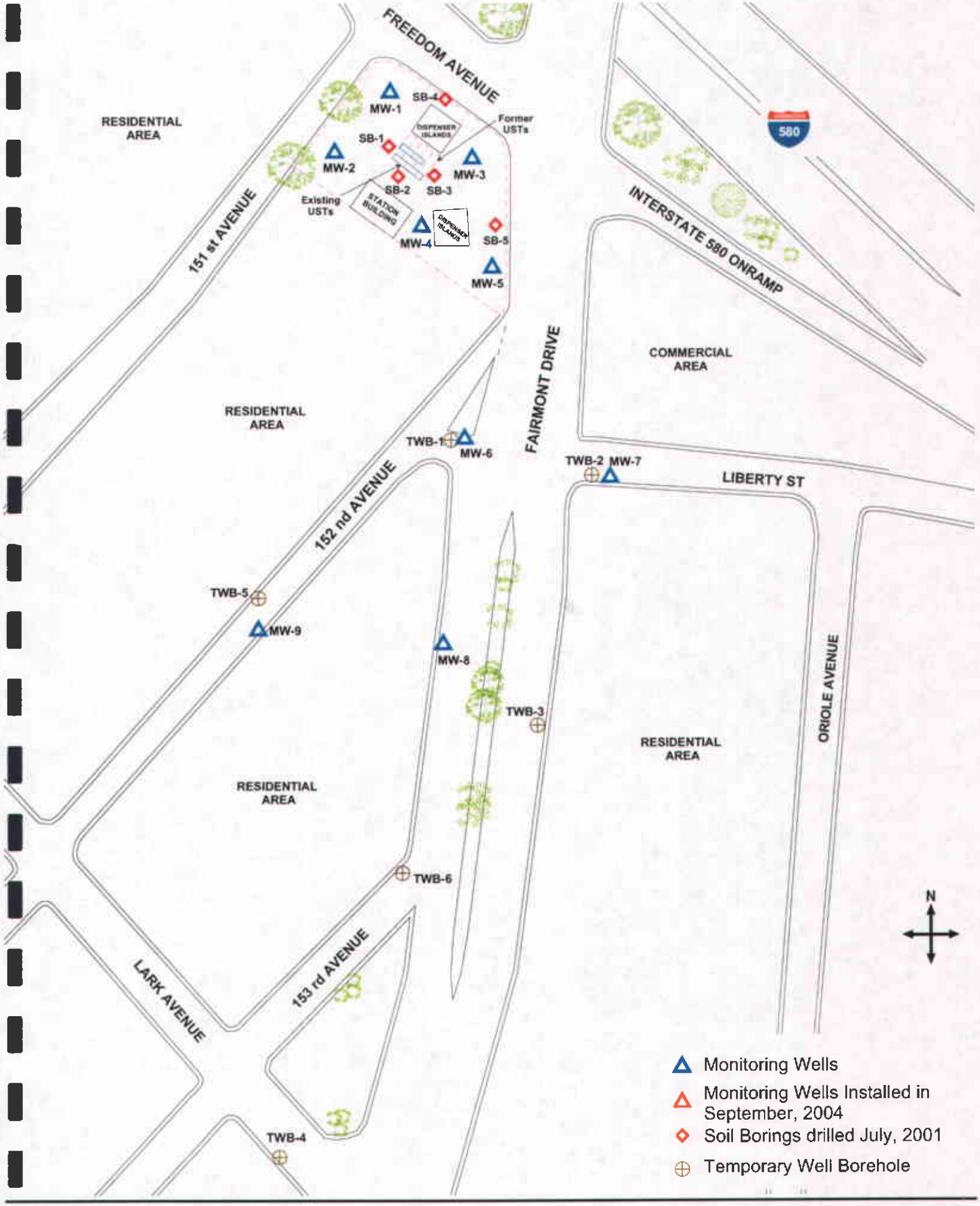
N

approximate scale in feet

0 150 300

Figure 1: Site vicinity map.

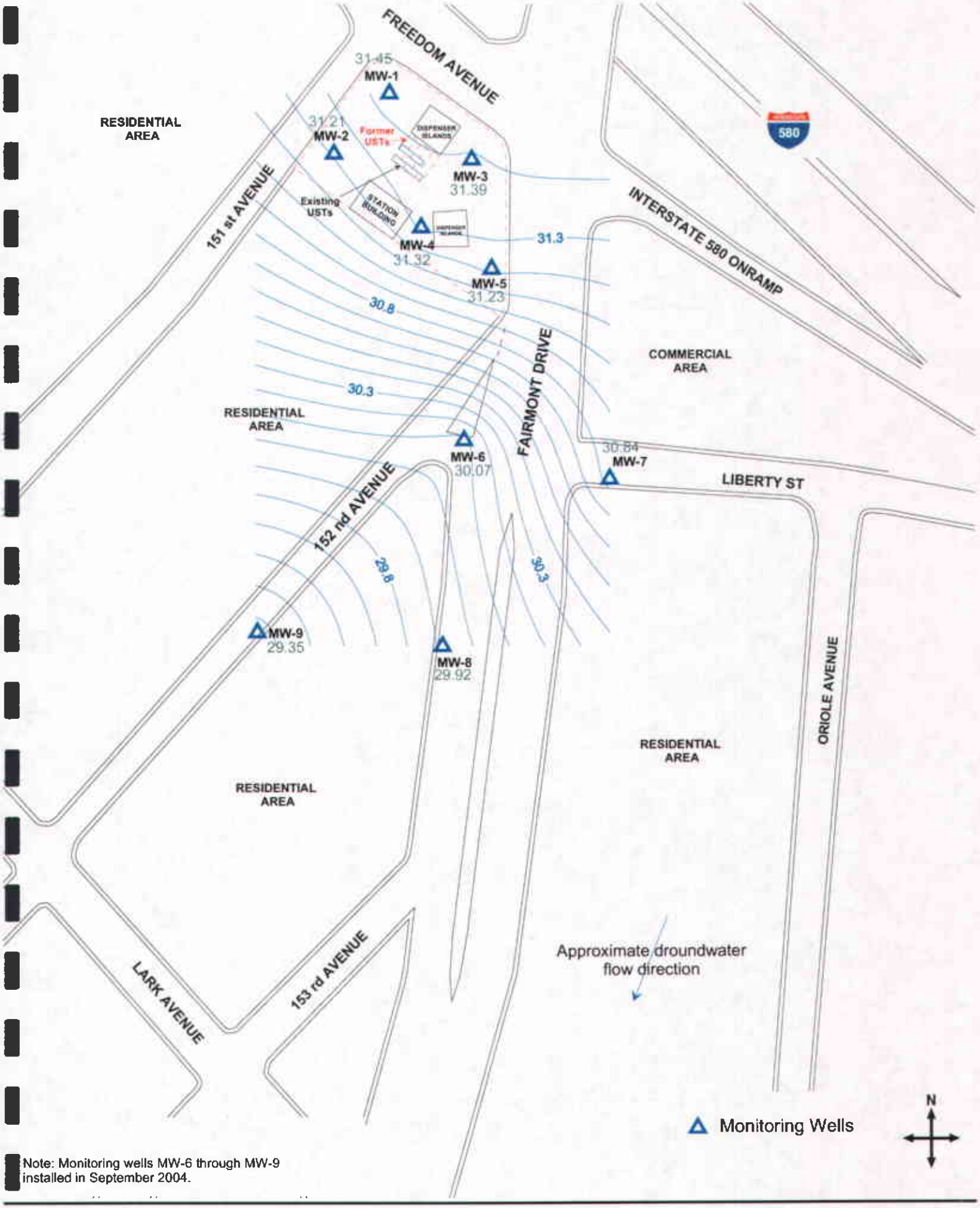
SOMA ENVIRONMENTAL ENGINEERING, INC.



Approximate scale in feet

0 50 100

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



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

approximate scale in feet

0 50 100

Figure 3: Groundwater elevation contour map in feet. December 2004.

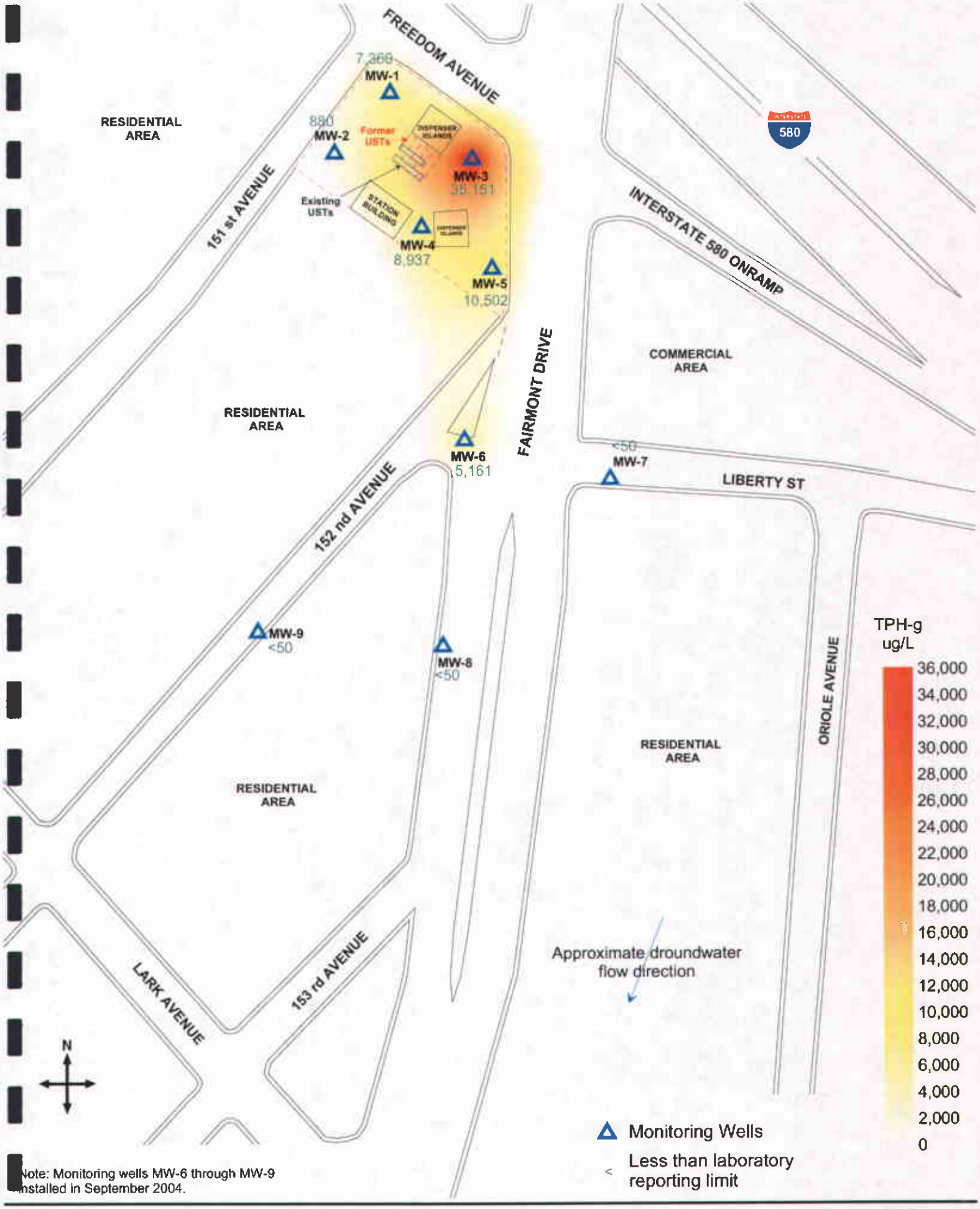


Figure 4: Contour map of TPH-g concentrations in groundwater. December 2004.

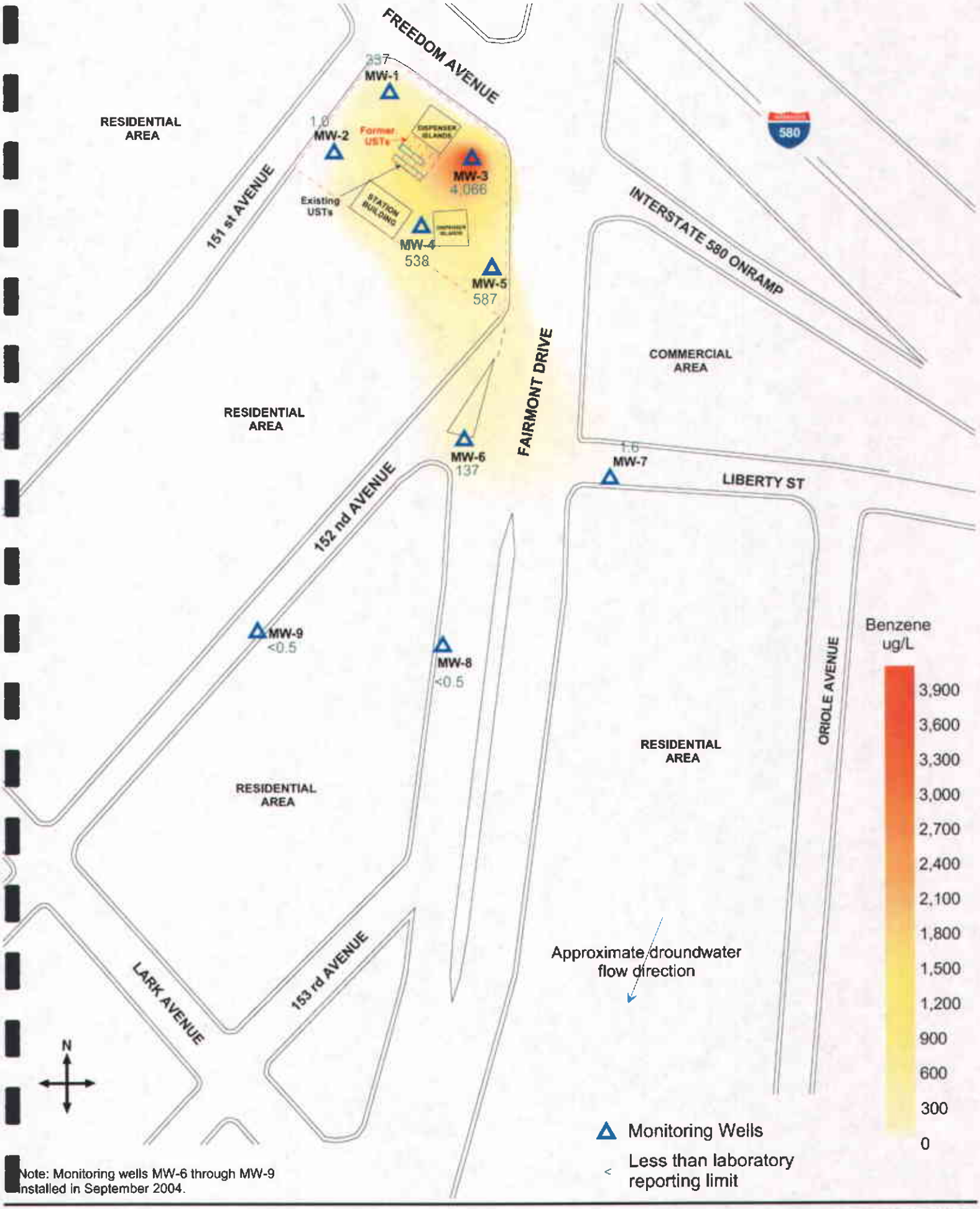


Figure 5: Contour map of Benzene concentrations in groundwater. December 2004.

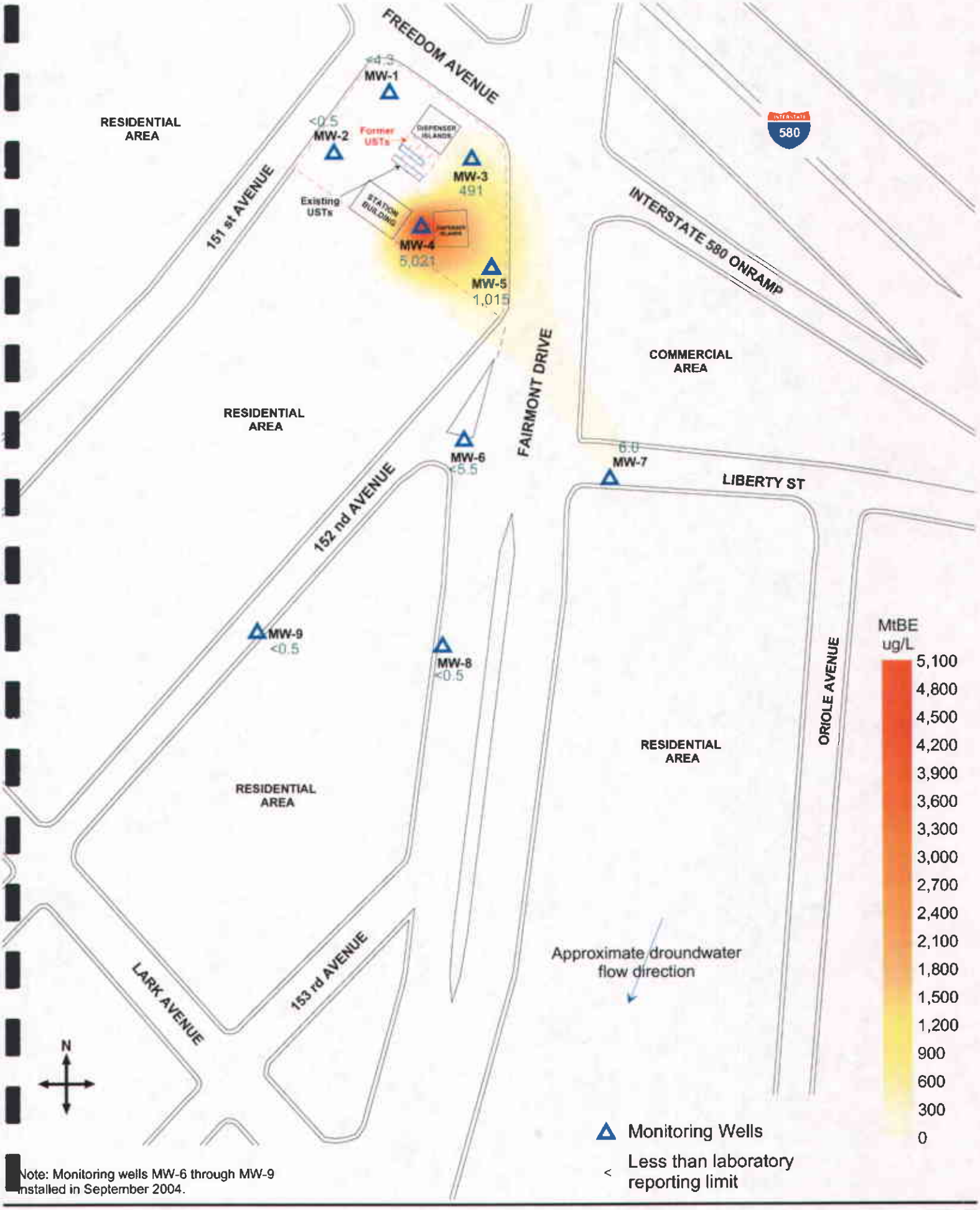


Figure 6: Contour map of MtBE concentrations in groundwater (EPA Method 8260B). December 2004.

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**
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**

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**
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**
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**

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-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**
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**
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**
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**

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

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**
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**
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**

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	1300	<50	<50	<50
	Dec-04	**826**	**<10.75**	**21**	**49**
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
MW-6	Sep-04	<10	<0.5	<0.5	<0.5
	Dec-04	**<5.5**	**<5.5**	**<5.5**	**<22**
MW-7	Sep-04	<10	<0.5	<0.5	1.5
	Dec-04	**<2.5**	**<0.5**	**<0.5**	**<2.0**
MW-8	Sep-04	<10	<0.5	<0.5	<0.5
	Dec-04	**<2.5**	**<0.5**	**<0.5**	**<2.0**
MW-9	Sep-04	<10	<0.5	<0.5	<0.5
	Dec-04	**<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.
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 December 14, 2004, 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

244-6601

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 **Oct. 14, 2004**
2680 Bishop Dr. # 203
San Ramon, Ca. 94583

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.

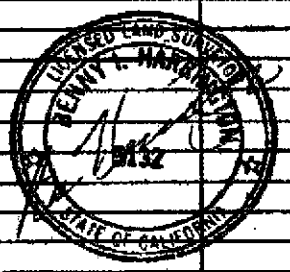
Ben Harrington
PLS 5132

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	2086584.99	6093351.39	492.08	FD CHABOT A	37°43'11.04190"	122°07'09.20691"
51	2084348.54	6092159.32	55.44	FD. X-6		
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°42'25.61160"	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	54.62	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	**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:**	December 14, 2004
Depth to Groundwater:	23.01 feet	**Sampler:**	John Lohman
Groundwater Elevation:	31.45 feet		Eric Jennings
Water Column Height:	7.09 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)
1:18 PM	3	5.98	19.5	1350
1:20 PM	6	6.56	19.7	1310
1:23 PM	9	6.60	19.4	1310
1:25 PM	12	6.60	19.5	1320
1:30 PM	Sampled			

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-2	**Project No.:**	2551
Casing Diameter:	4 inches	**Address:**	15101 Freedom Ave.
Depth of Well:	30 feet		San Leandro, CA
Top of Casing Elevation:	52.41 feet	**Date:**	December 14, 2004
Depth to Groundwater:	21.20 feet	**Sampler:**	John Lohman
Groundwater Elevation:	31.21 feet		Eric Jennings
Water Column Height:	8.80 feet		
Purged Volume:	11 gallons		

Purging Method: Bailer ☐ Pump ■

Sampling Method: Bailer ■ Pump ☐

Color: Yes ☐ No ☑ **Describe:** _____

Sheen: Yes ☐ No ☑ **Describe:** _____

Odor: Yes ☑ No ☐ **Describe:** slight petro odor

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
12:59 PM	3	7.03	20	114
1:02 PM	6	7.03	20.10	127
1:05 PM	9	7.02	20.20	868
1:07 PM	11	6.91	20.40	662
1:10 PM	Samples			

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:**	December 14, 2004
Depth to Groundwater:	22.52 feet	**Sampler:**	John Lohman
Groundwater Elevation:	31.39 feet		Eric Jennings
Water Column Height:	7.28 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:** SLIGHT - MODERATE

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
139	3	6.75	19.3	1350
142	6	6.76	20.2	1360
149	9	6.70	20.3	1330
147	12	6.75	20.2	1380
150	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:**	December 14, 2004
Depth to Groundwater:	21.99 feet	**Sampler:**	John Lohman
Groundwater Elevation:	31.32 feet		Eric Jennings
Water Column Height:	8.11 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:** STRONG

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
229	3	6.70	19.7	26
233	6	6.69	20.0	25
236	9	6.69	20.0	32
239	12	6.71	19.9	34
244	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:**	December 14, 2004
Depth to Groundwater:	19.30 feet	**Sampler:**	John Lohman
Groundwater Elevation:	31.23 feet		Eric Jennings
Water Column Height:	10.50 feet		
Purged Volume:	16 gallons		

Purging Method:	**Bailer** ☐		**Pump** ■	
Sampling Method:	**Bailer** ■		**Pump** ☐	
Color:	**Yes** ☐	**No** ☑	**Describe:**	
Sheen:	**Yes** ☐	**No** ☑	**Describe:**	
Odor:	**Yes** ☑	**No** ☐	**Describe:**	SLIGHT

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
204	4	6.74	20.5	1162
207	8	6.73	20.8	1022
210	12	7.03	21.3	23
213	16	7.04	21.1	18
217	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:**	December 14, 2004
Depth to Groundwater:	15.75 feet	**Sampler:**	John Lohman
Groundwater Elevation:	30.07 feet		Eric Jennings
Water Column Height:	11.58 feet		
Purged Volume:	14.5 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)
11:29 AM	3	7.42	20.2	1210
11:31 AM	6	7.42	20.8	1190
11:34 AM	9	7.42	21.2	1200
11:36 AM	12	7.04	21.9	1030
11:38 AM	14.5	6.79	21.9	786

11:45 AM samples

SOMA 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:	December 14, 2004
Depth to Groundwater:	13.90	feet	Sampler:	John Lohman
Groundwater Elevation:	30.84	feet		Eric Jennings
Water Column Height:	7.10	feet		
Purged Volume:	8	gallons		

Purging Method:	Bailer ☐		Pump ■	
Sampling Method:	Bailer ■		Pump ☐	
Color:	Yes ☐	No ☑	Describe:	
Sheen:	Yes ☐	No ☑	Describe:	
Odor:	Yes ☑	No ☐	Describe:	[illegible] PHC odor

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
11:56	2	6.75	19.2	1244
11:57	4	7.02	19.7	1240
11:58	6	7.03	19.8	600
12:00	8	7.02	19.8	595
12:05	SAMPLED			

ENVIRONMENTAL ENGINEERING, INC

Well No.:	MW-8	**Project No.:**	2551
Casing Diameter:	2 inches	**Address:**	15101 Freedom Ave.
Depth of Well:	28.70 feet		San Leandro, CA
Top of Casing Elevation:	41.14 feet	**Date:**	December 14, 2004
Depth to Groundwater:	11.22 feet	**Sampler:**	John Lohman
Groundwater Elevation:	29.92 feet		Eric Jennings
Water Column Height:	17.48 feet		
Purged Volume:	12.5 gallons		

Purging Method:	**Bailer**	☐		**Pump**	■
Sampling Method:	**Bailer**	■		**Pump**	☐
Color:	**Yes**	☑	**No** ☐	**Describe:**	cloudy
Sheen:	**Yes**	☐	**No** ☑	**Describe:**	
Odor:	**Yes**	☐	**No** ☑	**Describe:**	

Field Measurements:

Time	Vol (gallons)	pH	Temp (°C)	E.C. (µs/cm)
10:45 AM	3	6.98	18.9	1450
10:47 AM	6	7.07	19.2	1480
10:49 AM	9	7.20	19.3	1490
10:51 AM	12.5	7.26	19.3	1500
10:55 AM	samples			

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:**	December 14, 2004
Depth to Groundwater:	10.91 feet	**Sampler:**	John Lohman
Groundwater Elevation:	29.35 feet		Eric Jennings
Water Column Height:	21.61 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:** _____

Field Measurements:

Time	Vol (gallons)	pH	Temp (° C)	E.C. (µs/cm)
11:06 PM	3	7.43	19.3	1210
11:08 PM	6	7.42	19.2	1240
11:12 PM	8	7.42	18.3	1300
11:13 PM	DRIED	9 gallons		
11:20 PM	samples			

Appendix C

Laboratory Report and Chain of Custody Form

for the

Fourth Quarter 2004 Monitoring Event

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

LABORATORY REPORT

Prepared For:	SOMA Environmental Engineering Inc. 2680 Bishop Dr. Suite 203 San Ramon, CA 94583
Attention:	Joyce Bobek
Date:	1/6/2005
Project ID:	2551
Location:	15101 Freedom Ave., San Leandro
Lab Job Number:	1037

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.

Reviewed by: _____

Laboratory Director

CHAIN OF CUSTODY FORM

Page 1 of 9

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

PAL Login# 1037 WO 4120008

Entered VLV 1-5-05

Project No: 2551	Sampler: John Lohman / Eric Jennings
Project Name: 15101 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

Lab No.	Sample ID	Sampling Date/Time: Date	Time	Matrix: Soil	Water	Waste	# of Containers	Preservatives: HCL	H_2SO_4	HNO_3	ICE	Field Notes	Analyses/Method: TPH-g, BTEX 8260B	Gasoline Oxygenates & Lead Scavengers						
							4 VOAs													
	MW-1	12/14	130 PM		X		X	X			X	grab sample	X	X						
	MW-2	↓	110 PM		↓		↓	↓			↓	↓	↓	↓						
	MW-3	↓	150 PM		↓		↓	↓			↓	↓	↓	↓						
	MW-4	↓	244 PM		↓		↓	↓			↓	↓	↓	↓						
	MW-5	↓	217 PM		↓		↓	↓			↓	↓	↓	↓						
	MW-6	↓	1145 AM		↓		↓	↓			↓	↓	↓	↓						
	MW-7	↓	1205 PM		↓		↓	↓			↓	↓	↓	↓						
	MW-8	↓	1055 AM		↓		↓	↓			↓	↓	↓	↓						
	MW-9	↓	1120 AM		↓		↓	↓			↓									

Sampler Remarks:	Relinquished by:	Date/Time:	Received by:	Date/Time:
GASOLINE OXYGENATES — PLEASE INCLUDE ETHANOL EDF OUTPUT REQUIRED	[signature]	12/14 3:20pm	THU LE	12/14/04 3:20pm

SOMA environmental Engineering Inc. 2680 Bishop Dr San Ramon	Lab Job # Project ID: Location: Sampled: Received:	1037 2551 15101 Freedom Ave, San Leandro 12/14/2004 12/14/2004	

TPHg by GC/MS			
Field ID:	MW-1	Lab ID:	4120008-01
Type:	Sample	Dilution Factor:	1
Matrix:	Water	Date Prep:	12/27/2004
Units:	µg/L	Date Analyzed:	1/2/2005
Batch:		Prep. Method:	5030B

Analyte	Result	Reporting Limit	Analysis
Gasoline (C6-C12)	7360	50	8260B

BTEX/MTBE by GC/MS			
Field ID:	MW-1	Lab ID:	4120008-01
Type:	Sample	Dilution Factor:	8.6
Matrix:	Water	Date Prep:	12/27/2004
Units:	µg/L	Date Analyzed:	1/2/2005
Batch:		Prep. Method:	5030B

Analyte	Result	Reporting Limit	Analysis
TBA	ND	21.5	8260B
MTBE	ND	4.3	8260B
DIPE	ND	4.3	8260B
TAME	ND	17.2	8260B
ETBE	ND	4.3	8260B
Benzene	337	4.3	8260B
Toluene	ND	4.3	8260B
Ethyl benzene	731	4.3	8260B
m&p-xylene	592	8.6	8260B
0-xylene	41	4.3	8260B
1,2 DCA	ND	4.3	8260B
EDB	ND	4.3	8260B
Surrogate	**% REC**	**%REC Limits**	**Analysis**
Dibromofluoromethane	81	70-130	8260B
Toluene-d8	98	70-130	8260B

TPHg by GC/MS			
Field ID:	MW-2	Lab ID:	4120008-02
Type:	Sample	Dilution Factor:	1
Matrix:	Water	Date Prep:	12/27/2004
Units:	µg/L	Date Analyzed:	1/2/2005
Batch:		Prep. Method:	5030B

Analyte	Result	Reporting Limit	Analysis
Gasoline (C6-C12)	880	50	8260B

BTEX/MTBE by GC/MS			
Field ID:	MW-2	Lab ID:	4120008-02
Type:	Sample	Dilution Factor:	1
Matrix:	Water	Date Prep:	12/27/2004
Units:	µg/L	Date Analyzed:	1/2/2005
Batch:		Prep. Method:	5030B

Analyte	Result	Reporting Limit	Analysis
TBA	ND	2.5	8260B
MTBE	ND	0.5	8260B
DIPE	ND	0.5	8260B
TAME	ND	2	8260B
ETBE	ND	0.5	8260B
Benzene	1.0	0.5	8260B
Toluene	ND	0.5	8260B
Ethyl benzene	66.0	0.5	8260B
m&p-xylene	52.0	1	8260B
0-xylene	ND	0.5	8260B
1,2 DCA	ND	0.5	8260B
EDB	ND	0.5	8260B
Surrogate	**% REC**	**%REC Limits**	**Analysis**
Dibromofluoromethane	88	70-130	8260B
Toluene-d8	111	70-130	8260B

TPHg by GC/MS

Field ID:	MW-3	Lab ID:	4120008-03
Type:	Sample	Dilution Factor:	8
Matrix:	Water	Date Prep:	12/27/2004
Units:	µg/L	Date Analyzed:	1/2/2005
Batch:		Prep. Method:	5030B

Analyte	Result	Reporting Limit	Analysis
Gasoline (C6-C12)	35151	400	8260B

BTEX/MTBE by GC/MS

Field ID:	MW-3	Lab ID:	4120008-03
Type:	Sample	Dilution Factor:	40
Matrix:	Water	Date Prep:	12/27/2004
Units:	µg/L	Date Analyzed:	1/2/2005
Batch:		Prep. Method:	5030B

Analyte	Result	Reporting Limit	Analysis
TBA	ND	100	8260B
MTBE	491	20	8260B
DIPE	ND	20	8260B
TAME	154	80	8260B
ETBE	ND	20	8260B
Benzene	4066	20	8260B
Toluene	972	20	8260B
Ethyl benzene	2942	20	8260B
m&p-xylene	9265	40	8260B
0-xylene	3767	20	8260B
1,2 DCA	ND	20	8260B
EDB	ND	20	8260B
Surrogate	**% REC**	**%REC Limits**	**Analysis**
BFB	88	70-130	8260B
Toluene-d8	107	70-130	8260B

TPHg by GC/MS			
Field ID:	MW-4	Lab ID:	4120008-04
Type:	Sample	Dilution Factor:	1
Matrix:	Water	Date Prep:	12/27/2004
Units:	µg/L	Date Analyzed:	1/2/2005
Batch:		Prep. Method:	5030B

Analyte	Result	Reporting Limit	Analysis
Gasoline (C6-C12)	8937	50	8260B

BTEX/MTBE by GC/MS			
Field ID:	MW-4	Lab ID:	4120008-04
Type:	Sample	Dilution Factor:	21.5
Matrix:	Water	Date Prep:	12/27/2004
Units:	µg/L	Date Analyzed:	1/2/2005
Batch:		Prep. Method:	5030B

Analyte	Result	Reporting Limit	Analysis
TBA	826	53.75	8260B
MTBE	5021	10.75	8260B
DIPE	ND	10.75	8260B
TAME	49	43	8260B
ETBE	21	10.75	8260B
Benzene	538	10.75	8260B
Toluene	114	10.75	8260B
Ethyl benzene	416	10.75	8260B
m&p-xylene	1949	21.5	8260B
0-xylene	430	10.75	8260B
1,2 DCA	ND	10.75	8260B
EDB	ND	10.75	8260B
Surrogate	**% REC**	**%REC Limits**	**Analysis**
BFB	80	70-130	8260B
Toluene-d8	97	70-130	8260B

TPHg by GC/MS			
Field ID:	MW-5	Lab ID:	4120008-05
Type:	Sample	Dilution Factor:	1
Matrix:	Water	Date Prep:	12/27/2004
Units:	µg/L	Date Analyzed:	1/2/2005
Batch:		Prep. Method:	5030B

Analyte	Result	Reporting Limit	Analysis
Gasoline (C6-C12)	10502	50	8260B

BTEX/MTBE by GC/MS			
Field ID:	MW-5	Lab ID:	4120008-05
Type:	Sample	Dilution Factor:	11
Matrix:	Water	Date Prep:	12/27/2004
Units:	µg/L	Date Analyzed:	1/2/2005
Batch:		Prep. Method:	5030B

Analyte	Result	Reporting Limit	Analysis
TBA	40	5.5	8260B
MTBE	1015	5.5	8260B
DIPE	ND	5.5	8260B
TAME	444	22	8260B
ETBE	ND	5.5	8260B
Benzene	587	5.5	8260B
Toluene	64	5.5	8260B
Ethyl benzene	1040	5.5	8260B
m&p-xylene	1041	11	8260B
0-xylene	92	5.5	8260B
1,2 DCA	ND	5.5	8260B
EDB	ND	5.5	8260B
Surrogate	**% REC**	**%REC Limits**	**Analysis**
BFB	80	70-130	8260B
Toluene-d8	98	70-130	8260B

TPHg by GC/MS

Field ID:	MW-6	Lab ID:	4120008-06
Type:	Sample	Dilution Factor:	1
Matrix:	Water	Date Prep:	12/27/2004
Units:	µg/L	Date Analyzed:	1/2/2005
Batch:		Prep. Method:	5030B

Analyte	Result	Reporting Limit	Analysis
Gasoline (C6-C12)	5161	50	8260B

BTEX/MTBE by GC/MS

Field ID:	MW-6	Lab ID:	4120008-06
Type:	Sample	Dilution Factor:	11
Matrix:	Water	Date Prep:	12/27/2004
Units:	µg/L	Date Analyzed:	1/2/2005
Batch:		Prep. Method:	5030B

Analyte	Result	Reporting Limit	Analysis
TBA	ND	5.5	8260B
MTBE	ND	5.5	8260B
DIPE	ND	5.5	8260B
TAME	ND	22	8260B
ETBE	ND	5.5	8260B
Benzene	137	5.5	8260B
Toluene	7	5.5	8260B
Ethyl benzene	436	5.5	8260B
m&p-xylene	1026	11	8260B
0-xylene	110	5.5	8260B
1,2 DCA	ND	5.5	8260B
EDB	ND	5.5	8260B
Surrogate	**% REC**	**%REC Limits**	**Analysis**
BFB	80	70-130	8260B
Toluene-d8	98	70-130	8260B

TPHg by GC/MS			
Field ID:	MW-7	Lab ID:	4120008-07
Type:	Sample	Dilution Factor:	1
Matrix:	Water	Prep:	12/27/2004
Units:	µg/L	Date Analyzed:	1/2/2005
Batch:		Prep. Method	5030B

Analyte	Result	Reporting Limit	Analysis
Gasoline (C6-C12)	ND	50	8260B

BTEX/MTBE by GC/MS			
Field ID:	MW-7	Lab ID:	4120008-07
Type:	Sample	Dilution Factor:	1
Matrix:	Water	Prep:	12/27/2004
Units:	µg/L	Date Analyzed:	1/2/2005
Batch:		Prep. Method	5030B

Analyte	Result	Reporting Limit	Analysis
TBA	ND	2.5	8260B
MTBE	6.0	0.5	8260B
DIPE	ND	0.5	8260B
TAME	ND	2	8260B
ETBE	ND	0.5	8260B
Benzene	1.6	0.5	8260B
Toluene	ND	0.5	8260B
Ethyl benzene	29.0	0.5	8260B
m&p-xylene	53.0	1	8260B
0-xylene	5.0	0.5	8260B
1,2 DCA	ND	0.5	8260B
EDB	ND	0.5	8260B
Surrogate	**% REC**	**%REC Limits**	**Analysis**
Dibromofluoromethane	76	70-130	8260B
Toluene-d8	95	70-130	8260B

TPHg by GC/MS			
Sampled:	12/15/2004	Received:	12/15/2004
Field ID:	MW-8	Lab ID:	4120008-008
Type:	Sample	Dilution Factor:	1
Matrix:	Water	Date Prep:	12/27/2004
Units:	µg/L	Date Analyzed:	1/2/2005
Batch:		Prep. Method:	5030B

Analyte	Result	Reporting Limit	Analysis
Gasoline (C6-C12)	ND	50	8260B/5030B

BTEX/MTBE by GC/MS			
Field ID:	MW-8	Lab ID:	4120008-008
Type:	Sample	Dilution Factor:	1
Matrix:	Water	Date Prep:	12/27/2004
Units:	µg/L	Date Analyzed:	1/2/2005
Batch:		Prep. Method:	5030B

Analyte	Result	Reporting Limit	Analysis
TBA	ND	2.5	8260B
MTBE	ND	0.5	8260B
DIPE	ND	0.5	8260B
TAME	ND	2	8260B
ETBE	ND	0.5	8260B
Benzene	ND	0.5	8260B
Toluene	ND	0.5	8260B
Ethyl benzene	ND	0.5	8260B
m&p-xylene	ND	1	8260B
0-xylene	ND	0.5	8260B
1,2 DCA	ND	0.5	8260B
EDB	ND	0.5	8260B
Surrogate	**% REC**	**%REC Limits**	**Analysis**
Dibromofluoromethane	77	70-130	8260B
Toluene-d8	95	70-130	8260B

TPHg by GC/MS			
Sampled:	12/15/2004	Received:	12/15/2004
Field ID:	MW-9	Lab ID:	4120008-009
Type:	Sample	Dilution Factor:	1
Matrix:	Water	Date Prep:	12/27/2004
Units:	µg/L	Date Analyzed:	1/2/2005
Batch:		Prep. Method:	5030B

Analyte	Result	Reporting Limit	Analysis
Gasoline (C6-C12)	ND	50	8260B/5030B

BTEX/MTBE by GC/MS			
Field ID:	MW-9	Lab ID:	4120008-009
Type:	Sample	Dilution Factor:	1
Matrix:	Water	Date Prep:	12/27/2004
Units:	µg/L	Date Analyzed:	1/2/2005
Batch:		Prep. Method:	5030B

Analyte	Result	Reporting Limit	Analysis
TBA	ND	2.5	8260B
MTBE	ND	0.5	8260B
DIPE	ND	0.5	8260B
TAME	ND	2	8260B
ETBE	ND	0.5	8260B
Benzene	ND	0.5	8260B
Toluene	ND	0.5	8260B
Ethyl benzene	ND	0.5	8260B
m&p-xylene	ND	1	8260B
0-xylene	ND	0.5	8260B
1,2 DCA	5.1	0.5	8260B
EDB	ND	0.5	8260B
Surrogate	**% REC**	**%REC Limits**	**Analysis**
Dibromofluoromethane	77	70-130	8260B
Toluene-d8	95	70-130	8260B

QC BLANK/MS/MSD/LCS

TPHg by GC/MS

Field ID:	N/A	Lab ID:	Blank
Type:	QC	Dilution Factor:	1
Matrix:	Water	Prep:	12/29/2004
Units:	µg/L	Date Analyzed:	12/29/2004
Batch:	BL41601-BLK1	Prep. Method:	5030B

Analyte	Result	Reporting Limit	Analysis
Gasoline (C6-C12)	ND	50	8260B

BTEX/MTBE by GC/MS

Field ID:	N/A	Lab ID:	Blank
Type:	QC	Dilution Factor:	1
Matrix:	Water	Prep:	12/29/2004
Units:	µg/L	Date Analyzed:	12/29/2004
Batch:	BL41601-BLK1	Prep. Method:	5030B

Analyte	Result	Reporting Limit	Analysis
TBA	ND	2.5	8260B
MTBE	ND	0.5	8260B
DIPE	ND	0.5	8260B
TAME	ND	2	8260B
ETBE	ND	0.5	8260B
Benzene	ND	0.5	8260B
Toluene	ND	0.5	8260B
Ethyl benzene	ND	0.5	8260B
m&p-xylene	ND	1	8260B
0-xylene	ND	0.5	8260B
Surrogate	**% REC**	**%REC Limits**	**Analysis**
Dibromofluoromethane	78	70-130	8260B
Toluene-d8	94	70-130	8260B

TPHg by GC/MS			
Field ID:	N/A	Lab ID:	MS
Type:	QC	Dilution Factor:	1
Matrix:	Water	Prep:	12/27/2004
Units:	µg/L	Date Analyzed:	1/2/2005
Batch:		Prep. Method:	5030B

Analyte	% REC	% REC Limit	Analysis
Gasoline (C6-C12)	80	70-130	8260B

BTEX/MTBE by GC/MS			
Field ID:	N/A	Lab ID:	MS
Type:	QC	Dilution Factor:	1
Matrix:	Water	Prep:	12/27/2004
Units:	µg/L	Date Analyzed:	1/2/2005
Batch:		Prep. Method:	5030B

Analyte	% REC.	REC Limit	Analysis
TBA	56*	70-130	8260B
MTBE	114	70-130	8260B
DIPE	119	70-130	8260B
TAME	121	70-130	8260B
ETBE	123	70-130	8260B
Benzene	105	70-130	8260B
Toluene	105	70-130	8260B
Ethyl benzene	91	70-130	8260B
m&p-xylene	81	70-130	8260B
0-xylene	89	70-130	8260B
Surrogate	**% REC**	**%REC Limits**	**Analysis**
Dibromofluoromethane	81	70-130	8260B
Toluene-d8	99	70-130	8260B

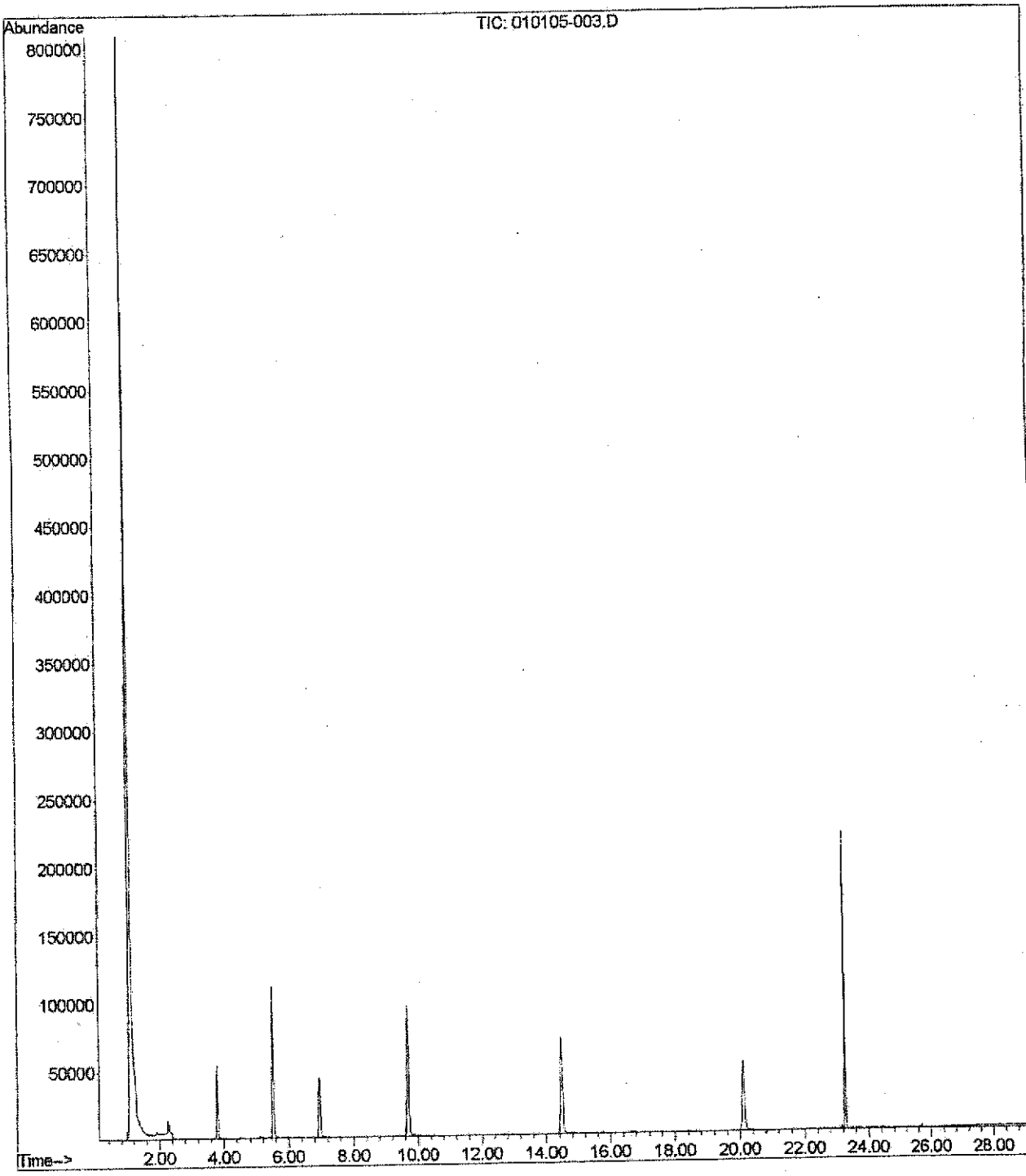
TPHg by GC/MS			
Field ID:	N/A	Lab ID:	MSD
Type:	QC	Dilution Factor:	1
Matrix:	Water	Prep:	12/27/2004
Units:	µg/L	Date Analyzed:	1/2/2005
Batch:		Prep. Method:	5030B

Analyte	% REC	% REC Limit	Analysis
Gasoline (C6-C12)	80	70-130	8260B

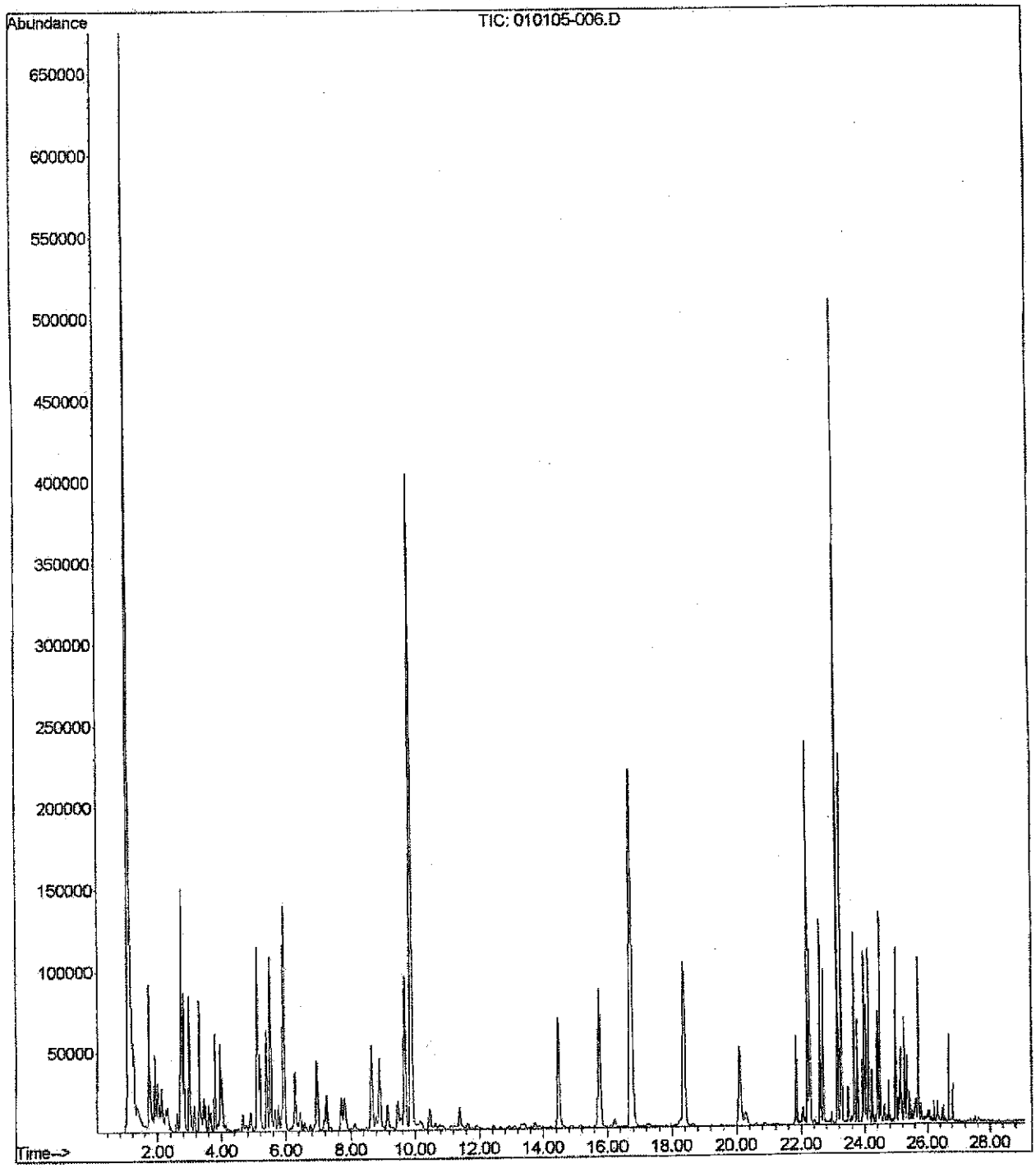
BTEX/MTBE by GC/MS			
Field ID:	N/A	Lab ID:	MSD
Type:	QC	Dilution Factor:	1
Matrix:	Water	Prep:	12/27/2004
Units:	µg/L	Date Analyzed:	1/2/2005
Batch:		Prep. Method:	5030B

Analyte	% REC.	REC Limit	Analysis
TBA	54*	70-130	8260B
MTBE	120	70-130	8260B
DIPE	125	70-130	8260B
TAME	127	70-130	8260B
ETBE	130	70-130	8260B
Benzene	117	70-130	8260B
Toluene	116	70-130	8260B
Ethyl benzene	102	70-130	8260B
m&p-xylene	91	70-130	8260B
0-xylene	97	70-130	8260B
Surrogate	**97**	**%REC Limits**	**Analysis**
Dibromofluoromethane	81	70-130	8260B
Toluene-d8	100	70-130	8260B

File :C:\MSDChem\1\DATA\2005-Jan-01-1307.b\010105-003.D
Operator : MA
Acquired : 1 Jan 2005 6:07 pm using AcqMethod VOCOXY
Instrument : PAL GCMS
Sample Name: BL43101-BLK2
Misc Info :
Vial Number: 6



File :C:\MSDChem\1\DATA\2005-Jan-01-1307.b\010105-006.D
Operator : MA
Acquired : 1 Jan 2005 8:02 pm using AcqMethod VOCOXY
Instrument : PAL GCMS
Sample Name: BL43101-MSD1
Misc Info :
Vial Number: 9



File :C:\MSDChem\1\DATA\2005-Jan-01-1307.b\010105-010.D
Operator : MA
Acquired : 1 Jan 2005 11:53 pm using AcqMethod VOCOXY
Instrument : PAL GCMS
Sample Name: BL43101-MSD2
Misc Info :
Vial Number: 13