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September 28, 2010

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

Subject: Freedom Food and Gas (Formerly Freedom ARCO Mini-Mart)  
Site Address: 15101 Freedom Avenue, San Leandro, California  
**STID 4473/RO0000473**

Dear Mr. Khatri:

SOMA's "Third Quarter 2010 Groundwater Monitoring and Remediation Progress Report" for the subject property has been uploaded to the State's GeoTracker database and Alameda County's FTP site for your review.

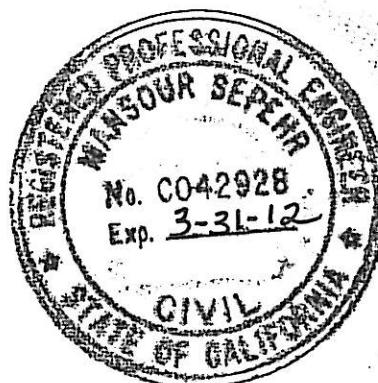
Thank you for your time in reviewing our report. Please do not hesitate to call me at (925) 734-6400, if you have questions or comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Mansour Sepehr".

Mansour Sepehr, Ph.D.,PE  
Principal Hydrogeologist

cc: Mr. Farrokh Hosseinyoun w/report enclosure



**Third Quarter 2010  
Groundwater Monitoring and  
Remediation Progress Report  
Freedom Food and Gas**

**15101 Freedom Avenue  
San Leandro, California**

**September 28, 2010**

**Project 2551/2555**

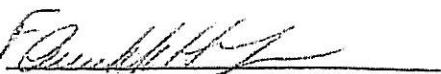
**Prepared for**

**DDH, LLC, ASSIGNEE  
96 Belvedere St. #1  
San Rafael, CA 94901**

PERJURY STATEMENT

Site Location: 15101 Freedom Avenue, San Leandro, California

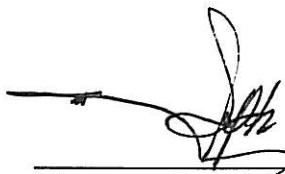
"I declare under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge".



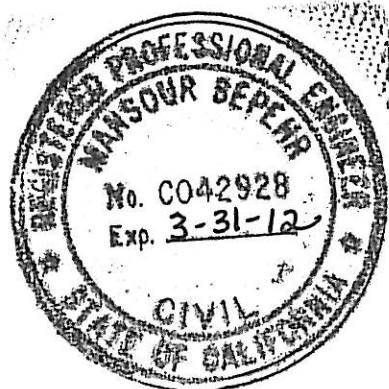
DDH, LLC, Assignee  
96 Belvedere Street #1  
San Rafael, CA 94901  
Responsible Party

## CERTIFICATION

SOMA Environmental Engineering, Inc. has prepared this report on behalf of DDH, LLC, Assignee, for property located at 15101 Freedom Avenue, San Leandro, California, to comply with Alameda County Health Care Services requirements for the Third Quarter 2010 groundwater monitoring event.



Mansour Sepehr, PhD, PE  
Principal Hydrogeologist



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## **1. INTRODUCTION**

SOMA Environmental Engineering, Inc. (SOMA) has prepared this report on behalf of DDH, LLC, Assignee, for property located at 15101 Freedom Avenue, San Leandro, California. The site is located in an area of primarily residential properties and adjacent commercial areas (Figure 1). The property was formerly owned by Mr. Mohammad Pazdel. In late 2009, the property was sold to DDH, LLC, Assignee and in early 2010 it was sold to Mr. Mohammad Mashhoon. Under the new management, the site is currently operational with the business name of "Freedom Food and Gas" formerly "Freedom Arco Mini-Mart".

This report summarizes results of the Third Quarter 2010 groundwater monitoring event conducted on September 1 and 2, 2010. It includes physical and chemical properties measured in the field and laboratory analysis results for each groundwater sample. It also presents the remediation progress report for Third Quarter 2010, which includes operation of a groundwater extraction and treatment system and a multi-phase extraction (MPE) event conducted in August 2010.

### **1.1 Field Activities**

On September 1 and 2, 2010, SOMA's field crew conducted a groundwater monitoring event in accordance with procedures and guidelines of Alameda County Health Care Services (ACHCS) and the California Regional Water Quality Control Board (CRWQCB). Figure 2 shows well locations.

On September 1, 2010, the following wells were measured for depth to groundwater: five on-site monitoring wells (MW-1 to MW-5) and two off-site wells (MW-6 and MW-7) in the First water bearing zone (WBZ); two extraction wells (EX-1 and EX-2) and two MPE wells (MPE-1 and MPE-2); and three on-site monitoring wells (MW-1D, MW-3D, and MW-4D) in the Second WBZ. On September 1 and 2, 2010, additional field measurements and grab groundwater samples were collected from all monitoring wells. Grab groundwater samples were also collected from the two extraction wells. Properties measured include pH, temperature, and electrical conductivity (EC). A natural attenuation study was conducted during this event to determine whether petroleum hydrocarbons in groundwater are biodegrading. Dissolved oxygen (DO) and oxidation reduction potential (ORP) measurements were taken for all monitoring wells.

### **1.2 Laboratory Analysis**

Curtis & Tompkins, Ltd., a California state-certified laboratory, analyzed groundwater samples for the following: total petroleum hydrocarbons as gasoline (TPH-g); benzene, toluene, ethylbenzene, total xylenes (collectively termed BTEX); methyl tertiary-butyl ether (MtBE); and gasoline oxygenates, ethanol and

lead scavengers. Samples were prepared using EPA Method 5030B and analyzed using EPA Method 8260B.

## **2. RESULTS**

Following are results of field measurements and laboratory analysis for the September 2010 groundwater monitoring event.

### **2.1 Field Measurements, First WBZ Wells**

Table 1 presents calculated groundwater elevations and depths to groundwater for each monitoring well. Depths to groundwater ranged from 14.84 feet in MW-7 to 23.70 feet in MPE-2. Corresponding groundwater elevations ranged from 28.96 feet in MW-6 to 31.18 feet in MW-1.

Figure 3 displays the contour map of groundwater elevations. Groundwater flows southwesterly across the site at a gradient of 0.017 feet/feet. A capture zone remains effective at EX-2. The groundwater elevation at MPE-2 was not utilized in contour creation due to invalid field measurement results. The groundwater flow direction has remained consistent and gradient has increased since the previous monitoring event (Second Quarter 2010).

Upon equalization with the surrounding aquifer at each well location, when the purge cycle was terminated, DO concentrations in the First WBZ ranged from 0.41 mg/L in MW-6 to 1.80 mg/L in MW-4. ORP showed negative redox potentials in all First WBZ monitoring wells. Negative redox potentials indicate that contaminants in groundwater are conducive to anaerobic biodegradation.

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

### **2.2 Laboratory Analysis, First WBZ Wells**

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

Table 1 presents TPH-g, BTEX, and MtBE analysis results for the current and historical groundwater monitoring events.

TPH-g concentrations ranged from 470 µg/L in MW-2 to 33,000 µg/L in MW-6. The TPH-g concentration decreased in MW-1 through MW-4, EX-1, and EX-2, while it increased in MW-5 through MW-7 since the previous monitoring event (Second Quarter 2010).

Figure 4 displays the contour map of TPH-g concentrations in groundwater. As illustrated, the highest TPH-g impact is around off-site well MW-6. High TPH-g concentration was also observed in the vicinity of the dispenser islands and former underground storage tanks (USTs) around MW-3.

The following BTEX concentrations were observed:

- In MW-2 and MW-7, benzene and toluene were below laboratory-reporting limits and ethylbenzene and total xylenes were at low levels.
- Toluene was also below laboratory-reporting limit in MW-1, MW-4, and EX-1.
- The highest BTEX concentrations were detected in MW-3, at 1,100 µg/L, 81 µg/L, 1,200 µg/L, and 3,810 µg/L, respectively.

Figure 5 displays the contour map of benzene concentrations in groundwater. The highest benzene impact is in the vicinity of the dispenser islands and former USTs around MW-3. Since the previous monitoring event (Second Quarter 2010), benzene concentrations have decreased in MW-3, MW-5, EX-1, and EX-2 and increased in MW-1, MW-4, and MW-6.

MtBE was below the laboratory-reporting limit in MW-1 and MW-2. Detectable MtBE concentrations ranged from 11 µg/L in EX-2 to 38 µg/L in EX-1. Figure 6 displays the contour map of MtBE concentrations in groundwater. The highest MtBE impact was in the vicinity of extraction well EX-1. Since the previous monitoring event (Second Quarter 2010), detectable MtBE concentrations increased in MW-5, MW-7, and EX-2 and decreased in all other wells.

As shown in Table 1, since the previous monitoring event (Second Quarter 2010), TPH-g and BTEX concentrations decreased in the more impacted well MW-3, but increased in off-site well MW-6, except toluene which decreased in this well; MtBE decreased in both MW-3 and MW-6.

Table 2 shows analysis results for gasoline oxygenate and lead scavenger concentrations for the current as well as historical events.

The following gasoline oxygenate and lead scavenger concentrations were observed:

- In MW-1, MW-2, MW-3, MW-6, and EX-2, concentrations of all gasoline oxygenates and lead scavengers were below laboratory-reporting limits.
- Tertiary-butyl alcohol (TBA) was detected in MW-4, MW-5, MW-7 and EX-1 in concentrations ranging from 47 µg/L in MW-7 to 7,200 µg/L in MW-4, and was below the laboratory-reporting limit in all other First WBZ wells.

Figure 7 shows the contour map of TBA concentrations in groundwater. The most TBA-impacted region was in the vicinity of the dispenser islands,

around MW-4. Due to the high mobility rate of TBA in groundwater, the TBA plume appears to have migrated with the flow of groundwater from the UST cavity and pump islands toward MW-4.

- Methyl tertiary-amyl ether (TAME) was detected in MW-5, MW-7, and EX-1 at 13 µg/L, 7.2 µg/L, and 2.0 µg/L, respectively and was below the laboratory-reporting limit in remaining wells. Figure 8 displays the contour map of TAME concentrations in First WBZ wells.
- Ethyl tertiary-butyl ether (ETBE) was detected in MW-4 and EX-1 at 57 µg/L and 1.4 µg/L, respectively and was below the laboratory-reporting limit in remaining wells. Figure 9 displays the map of ETBE concentrations in First WBZ wells
- Isopropyl ether (DIPE), 1,2-dichloroethane (1,2-DCA), 1,2-dibromoethane (EDB), and ethanol concentrations were below laboratory-reporting limits in all groundwater samples. Analysis results for ethanol are shown in Appendix C.

### **2.3 Field Measurements, Second WBZ Wells**

Table 1 presents calculated groundwater elevations and depths to groundwater for each Second WBZ monitoring well. Depths to groundwater ranged from 23.09 feet in MW-3D to 23.51 feet in MW-1D. Corresponding groundwater elevations ranged from 29.80 feet in MW-4D to 31.01 feet in MW-3D.

Figure 10 displays the contour map of groundwater elevations in the Second WBZ. Groundwater flows southwesterly at a gradient of 0.0095 feet/feet. The groundwater flow direction remained the same and gradient increased since the previous monitoring event (Second Quarter 2010).

Upon equalization with the surrounding aquifer at each well location, when the purge cycle was terminated, DO concentrations in the Second WBZ ranged from 0.52 mg/L in MW-1D to 1.44 mg/L in MW-4D. ORP showed negative potential in all wells. Negative redox potentials indicate that contaminants in groundwater are conducive to anaerobic biodegradation.

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

### **2.4 Laboratory Analysis for Second WBZ Wells**

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

Table 1 presents TPH-g, BTEX, and MtBE analysis results for the current and historical groundwater monitoring events.

TPH-g was below the laboratory-reporting limit in MW-1D and MW-4D. Since the previous monitoring event (Second Quarter 2010), TPH-g has increased in MW-3D from non-detect to 78 µg/L.

The following BTEX concentrations were observed:

- Benzene and toluene remained below laboratory-reporting limits in all wells since the previous monitoring event (Second Quarter 2010).
- Ethylbenzene was detected in concentrations ranging from 0.52 µg/L in MW-1D to 1.10 µg/L in MW-3D.
- Total xylenes were detected in concentrations ranging from 1.80 µg/L in MW-1D to 4.71 µg/L in MW-3D

MtBE was below the laboratory-reporting limit in MW-1D, and was detected in MW-3D and MW-4D at 24 µg/L and 2.20 µg/L, respectively. Since the previous monitoring event (Second Quarter 2010), MtBE increased in MW-3D and MW-4D.

Table 2 shows analysis results for gasoline oxygenate and lead scavenger concentrations for the current as well as historical events.

The following gasoline oxygenate and lead scavenger concentrations were observed:

- TBA, DIPE, ETBE, 1,2-DCA, EDB, and ethanol were below laboratory-reporting limits in all groundwater samples from the Second WBZ. (Analysis results for ethanol are included in Appendix C.)
- TAME was detected at low level in MW-3D and was below the laboratory-reporting limit in MW-1D and MW-4D.

Figure 11 displays a map of TPH-g, MtBE and TAME concentrations in Second WBZ wells.

### **3. OPERATION OF TREATMENT SYSTEM**

SOMA installed a groundwater treatment system at the site in December 2009. The system includes two extraction wells (EX-1 and EX-2), trenching containing influent and effluent lines and electrical conduits, and the treatment system compound. During system operation, extracted groundwater is pumped from extraction wells through underground piping to a fenced treatment compound, adjacent to the existing service station building.

In the treatment compound, groundwater is treated using granular activated carbon (GAC) and subsequently discharged to the sanitary sewer. Two GAC

vessels are connected in series. The first unit (1,000 gallons) serves as the primary treatment unit, and the second (55 gallons) provides an additional safety buffer prior to discharge. Effectiveness of the GAC units is monitored by collection and analysis of samples from the system discharge, including a sample collected from water that has passed only through the first GAC unit. When analytical results indicate that the first GAC unit is no longer effectively treating groundwater, the vessel will be removed from the treatment line and refurbished with new carbon.

The treatment system operates under discharge permit issued by Oro Loma Sanitary District (OLSD) in May 2009. Treated groundwater has been discharging to the OLSD sewer since December 9, 2009. Figure 12 shows the schematic diagram of the groundwater treatment system. Treatment system effluent is sampled monthly to comply with OLSD discharge permit requirements. Table 3 includes analytical results and operational history of the treatment system. As shown in Table 4, as of July 19, 2010, cumulative masses of TPH-g and BTEX extracted from groundwater were approximately 10.64 pounds, 0.40 pounds, 0.15 pounds, 0.19 pounds, and 1.59 pounds, respectively. Appendix E includes laboratory analytical results. Since the system began discharging in December 2009, approximately 964,966 gallons of groundwater have been treated and discharged at the site (as of September 20, 2010).

#### **4. MULTI-PHASE EXTRACTION EVENTS**

During Third Quarter 2010, SOMA performed one 5-day MPE event from August 9-13, utilizing MPE-2 and MW-5.

MPE operational data is presented in Table 5. Extraction data is presented in Table 6. Field data sheets are presented in Appendix E.

Representative samples were analyzed from the stack of the thermal oxidizer to show compliance with the BAAQMD permit. An influent soil vapor sample was collected through a sampling port located on the vacuum pump discharge manifold. A thermal oxidizer stack vapor sample was collected through a sampling port located at the top of the stack. The air samples were submitted under chain-of-custody documentation to a California state-certified analytical laboratory (Torrent Laboratory, Inc.) and analyzed for TPH-g using USEPA Analytical Method TO-3; and for BTEX, and MtBE using USEPA Analytical Method TO-15. Soil vapor analytical results and abatement efficiencies are presented in Table 7. Certified laboratory analytical reports and chain-of-custody documentation are included in Appendix F.

The estimated mass of volatile organic compounds (VOCs) removed from soil vapor extraction and VOC mass removal rate for the August 2010 event was 30 lbs at 7 lbs/day.

The overall estimated total mass of VOCs extracted by MPE is 606 pounds; this includes 106 pounds extracted during the November 2007 pilot test, 243 pounds during the October 2009 event, 72 pounds during the November 2009 event, 97 pounds during the December 2009 event, 17 pounds during the February 2010 event, 11 pounds during the March 2010 event, 30 pounds during the June 2010 event, and 30 pounds during the August 2010 event. Figure 13 shows the cumulative mass of VOCs removed in pounds.

## 5. CONCLUSIONS AND RECOMMENDATIONS

Third Quarter 2010 groundwater monitoring and MPE events results are summarized below.

- Groundwater flow direction has remained southwesterly in the First WBZ, and has changed from north-northwesterly to southwesterly in the Second WBZ.
- High hydrocarbon concentrations remain in the vicinity of the former UST cavity, near MW-3, where a previous release of petroleum hydrocarbons occurred. However, the highest TPH-g concentration was detected at off-site well MW-6.
- The southerly migration of impacted groundwater from the source area of the former UST cavity is evidenced by high MtBE and TBA concentrations at MW-4 and MW-5.
- The groundwater treatment system has created a capture zone in the vicinity of EX-1 and EX-2 and a second source area appears centered on the extraction wells.
- Since the previous quarterly monitoring event (Second Quarter 2010), TPH-g concentrations increased in off-site wells MW-6 and MW-7 and decreased in extraction wells EX-1 and EX-2.
- In the Second WBZ, TPH-g increased in MW-3D from non-detect to 78 µg/L, ethylbenzene and total xylenes were detected at low levels in all wells, MtBE increased in MW-3D and MW-4D and TAME increased slightly in MW-3D, since the previous monitoring event (Second Quarter 2010). All other contaminants were below laboratory-reporting limits in Second WBZ wells.
- MPE events conducted since November 2007 have removed an estimated 606 pounds of VOCs.

Based on results of this monitoring event and MPE events conducted during this quarter, SOMA recommends the following action items:

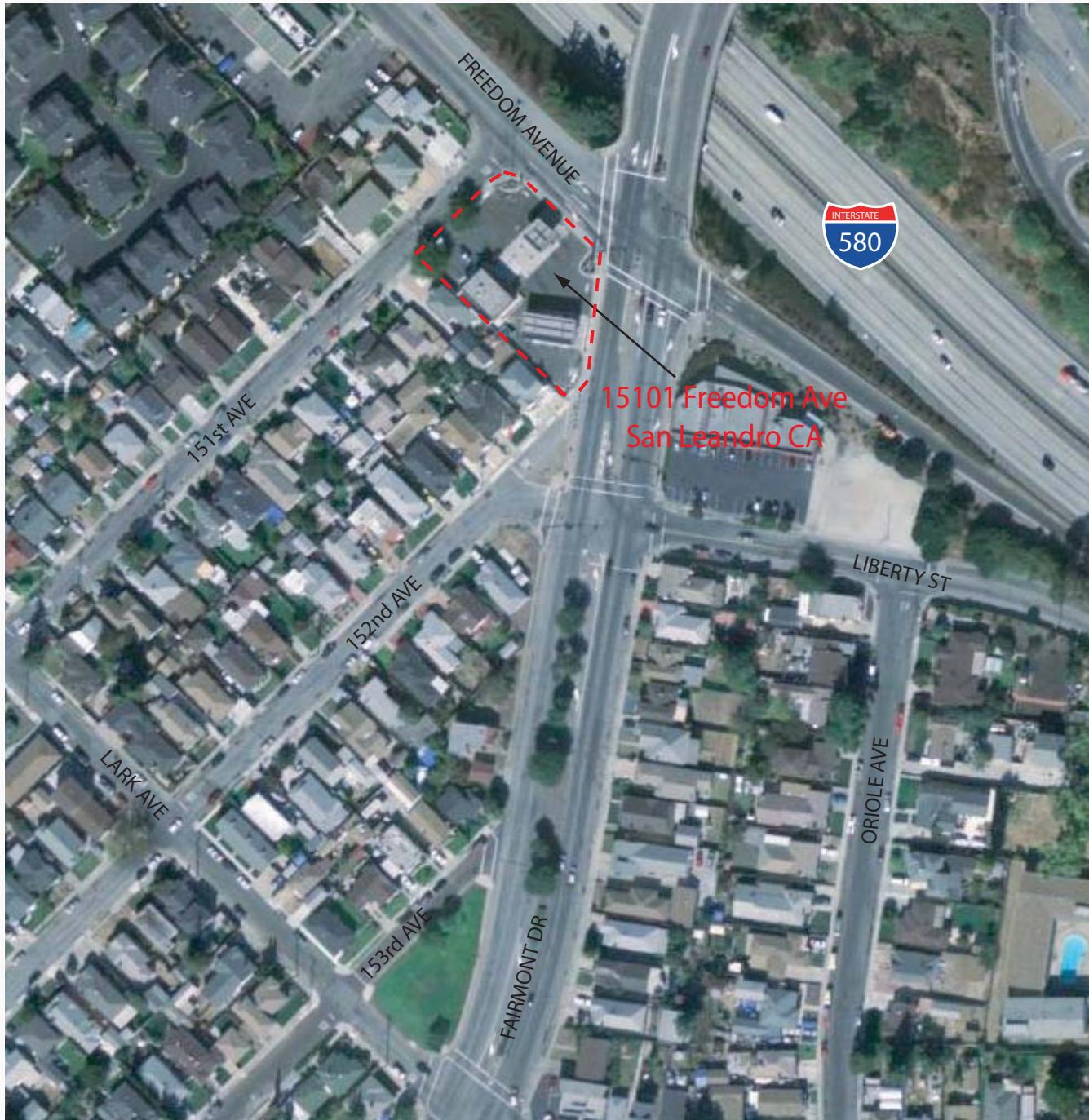
- Continue quarterly groundwater monitoring to increase understanding of seasonal variations in groundwater quality conditions.
- Continue operation of the groundwater pump-and-treat system, in order to execute hydraulic control of the dissolved hydrocarbon plume and remediate residual hydrocarbon concentrations.
- Extend the duration of MPE events approved by the ACHCS from 5 days to 10 days per event in order to remediate residual contamination within the approved number of events

## 6. REPORT LIMITATIONS

This report is the summary of work done by SOMA, including observations and descriptions of site conditions. It includes analysis results produced by Curtis & Tompkins, Ltd. for the current groundwater monitoring event. Quantities and locations of wells were selected to provide the required information, but may not be representative of entire site conditions. All conclusions and recommendations are based on laboratory analysis results. Conclusions beyond those specifically stated in this document should not be inferred from this report.

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

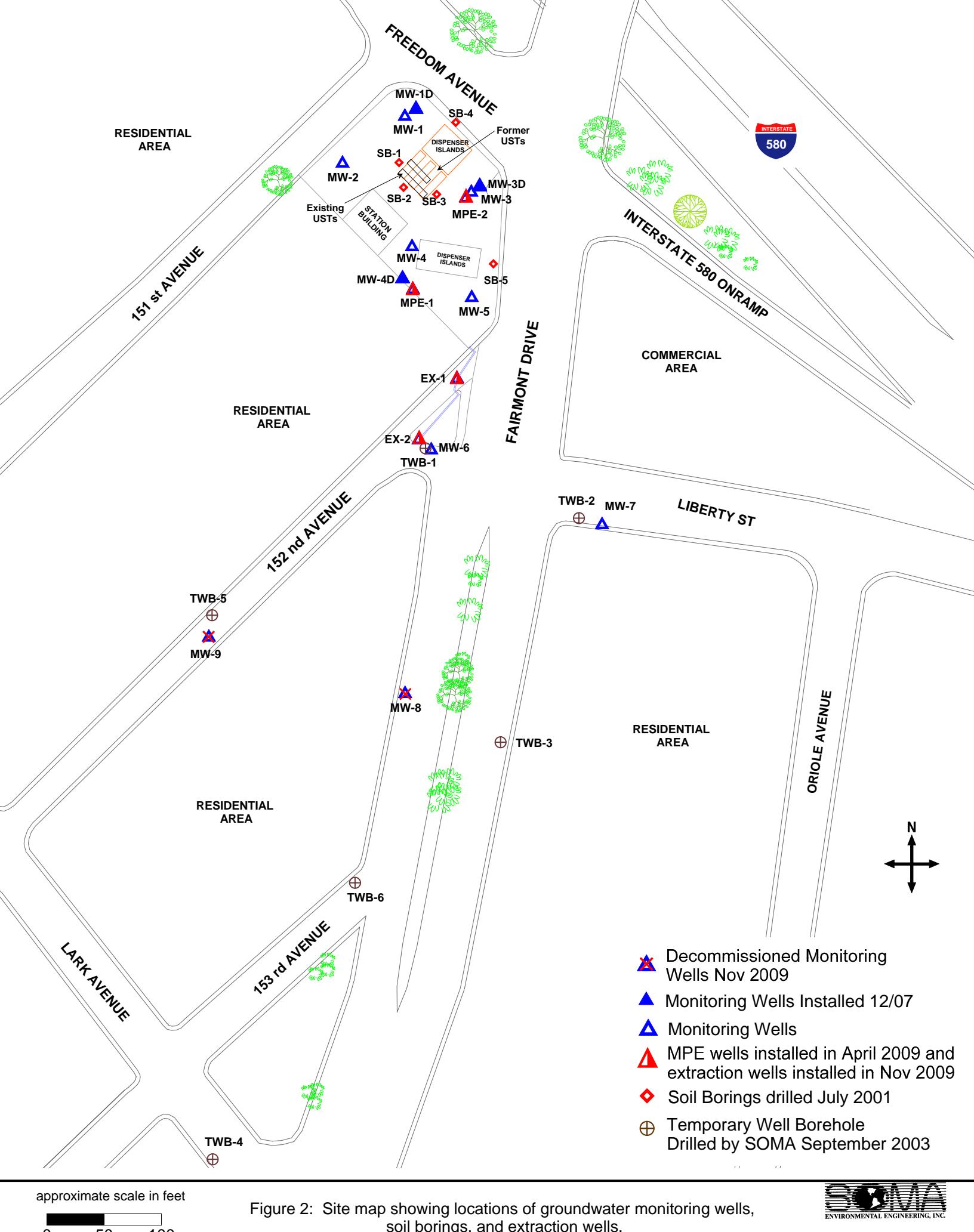
# **Figures**

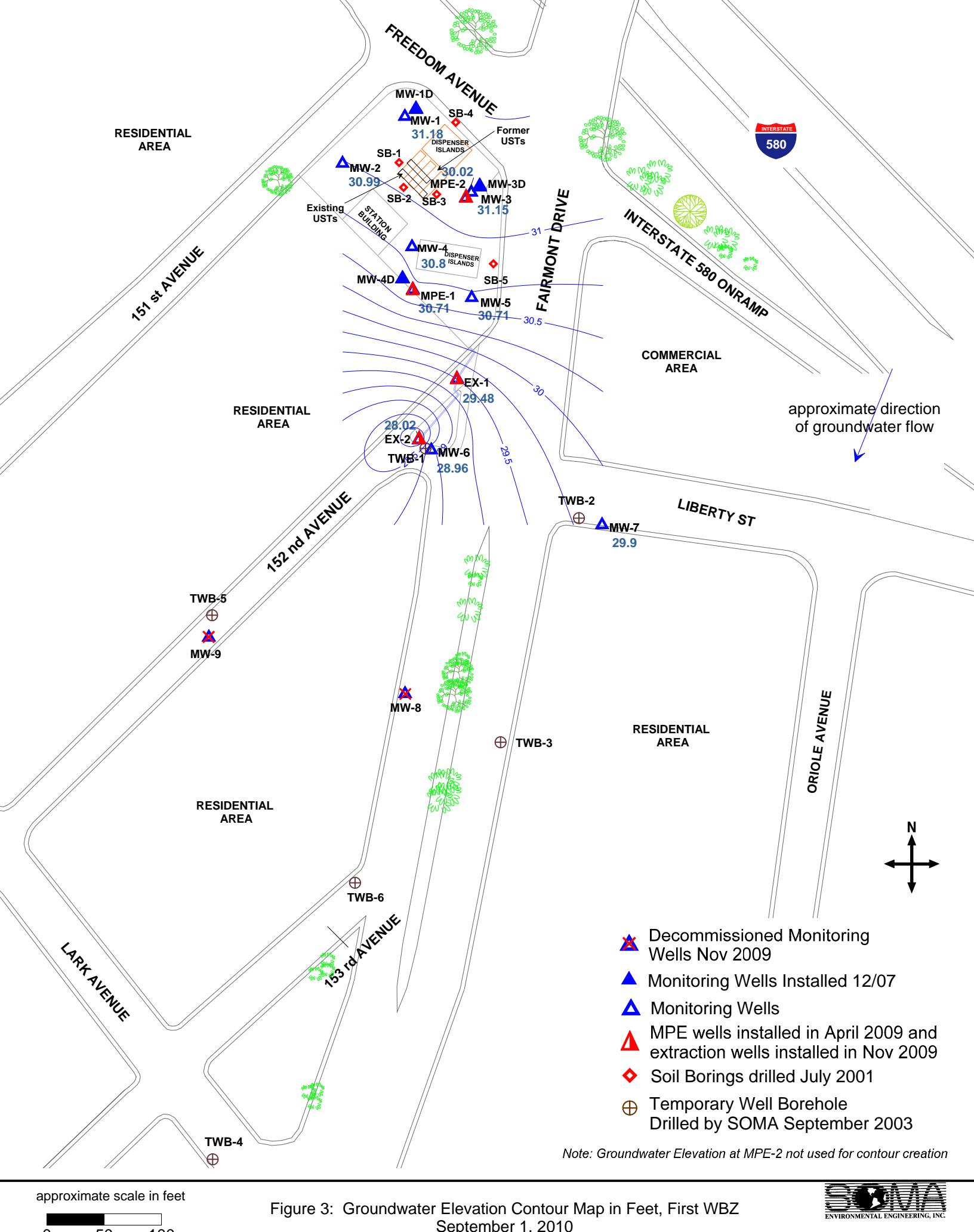


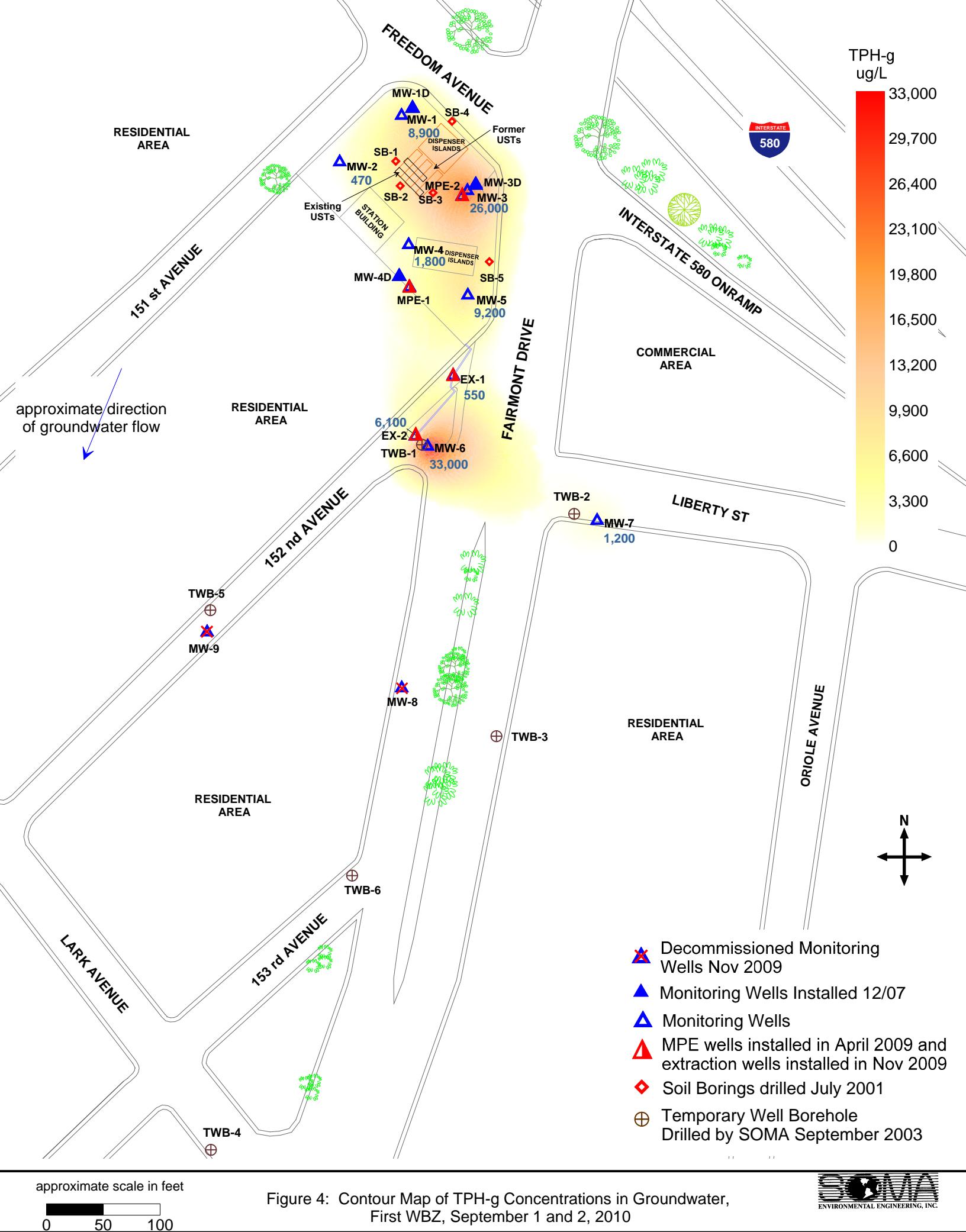
approximate scale in feet

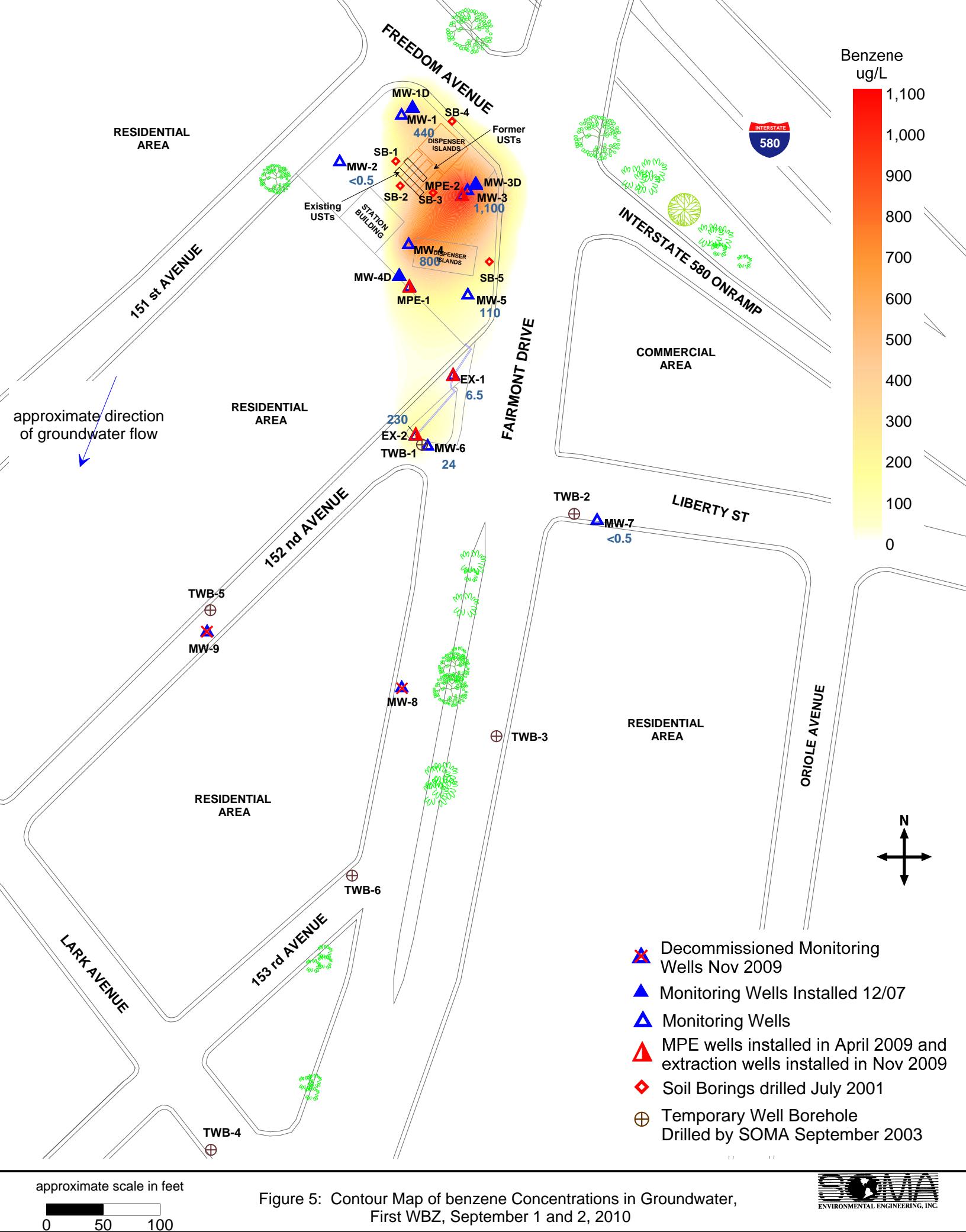
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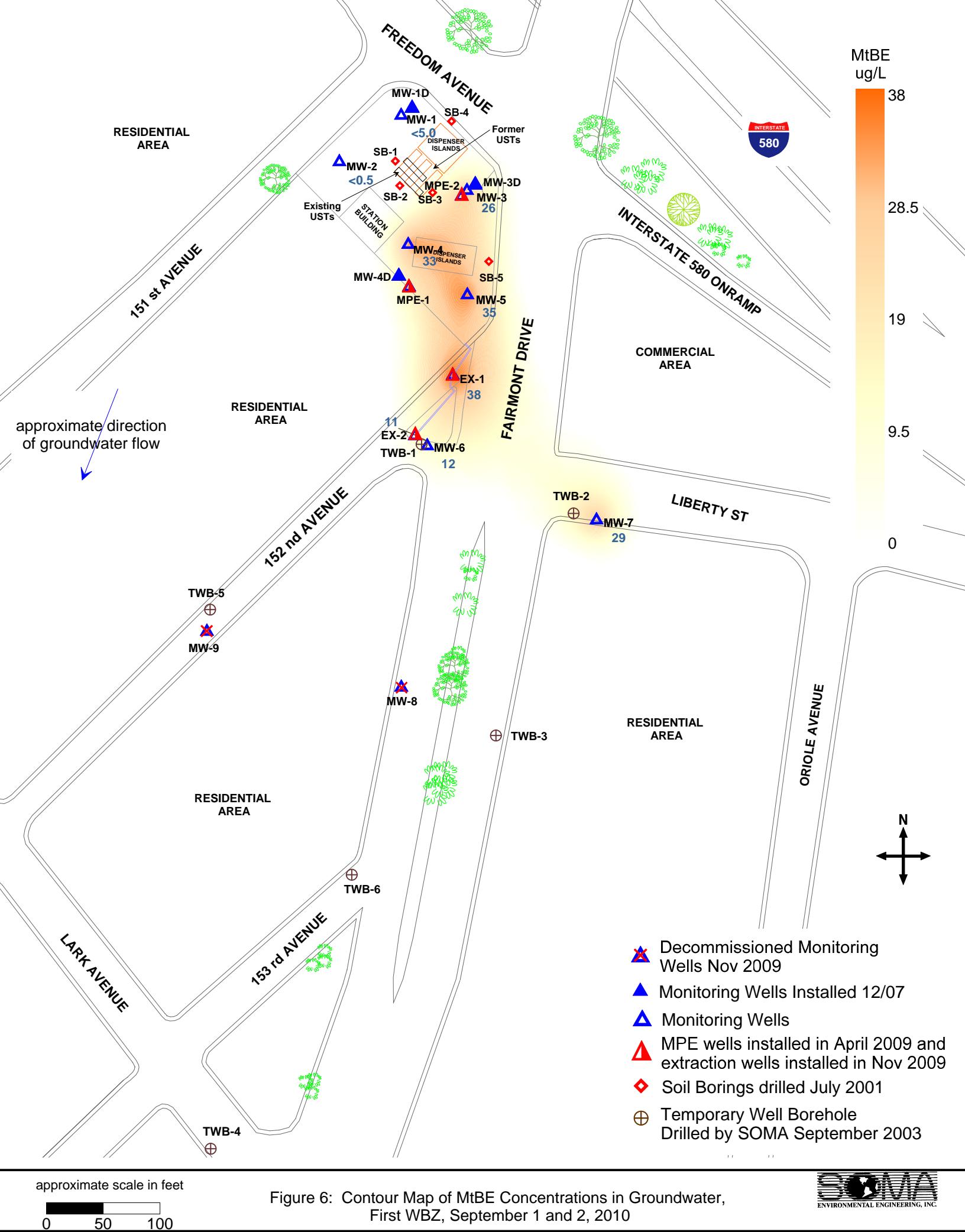
Figure 1: Site vicinity map.

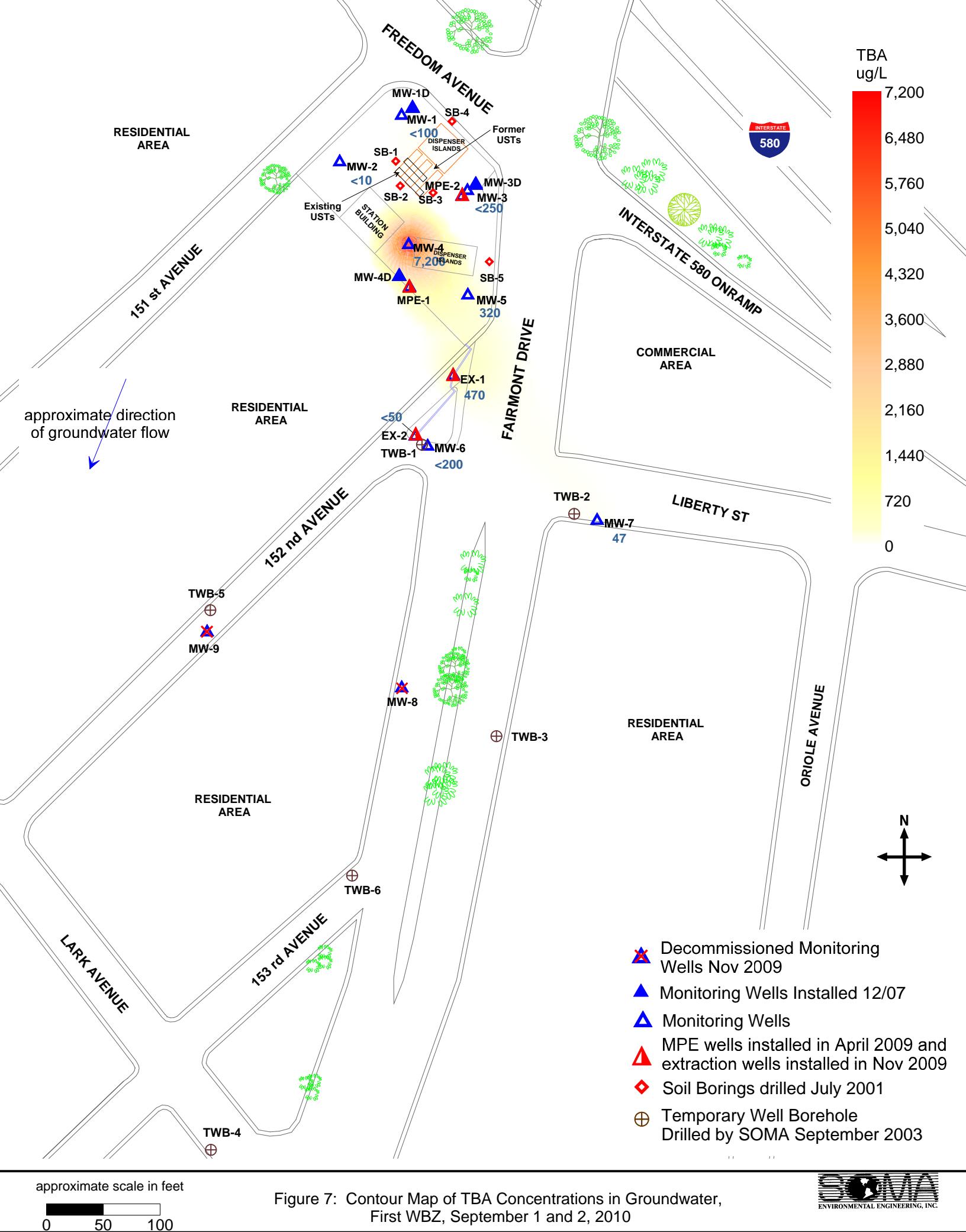


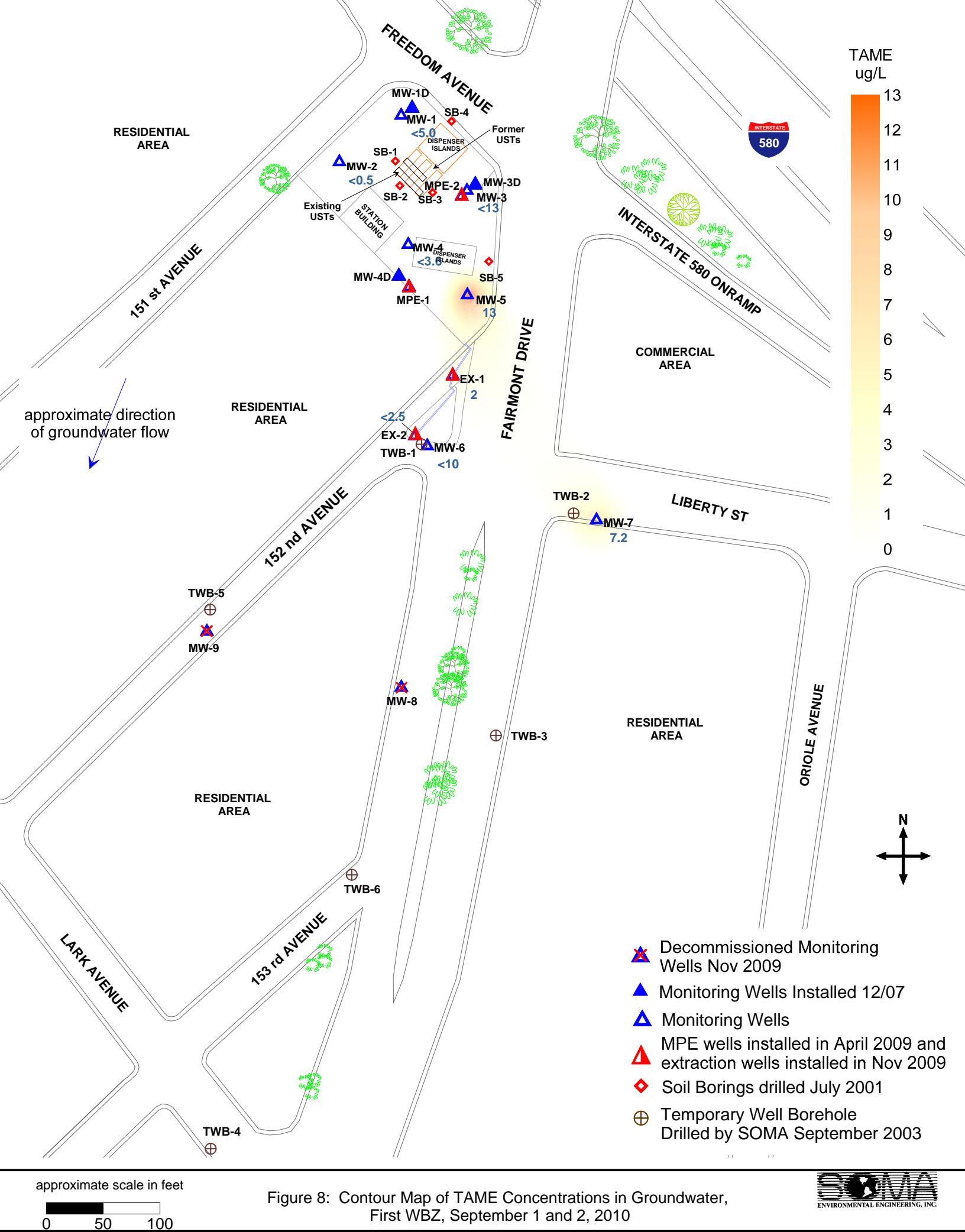


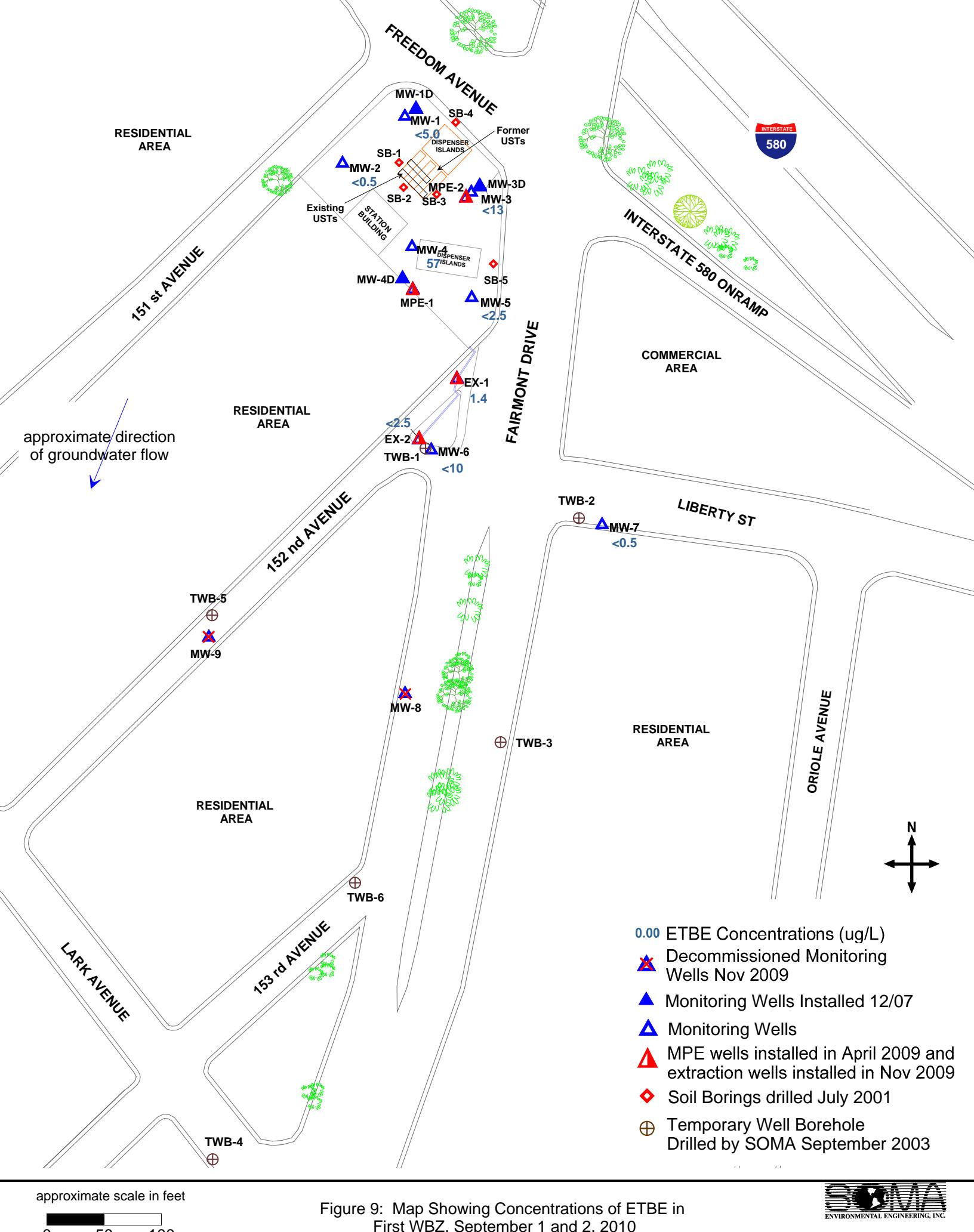


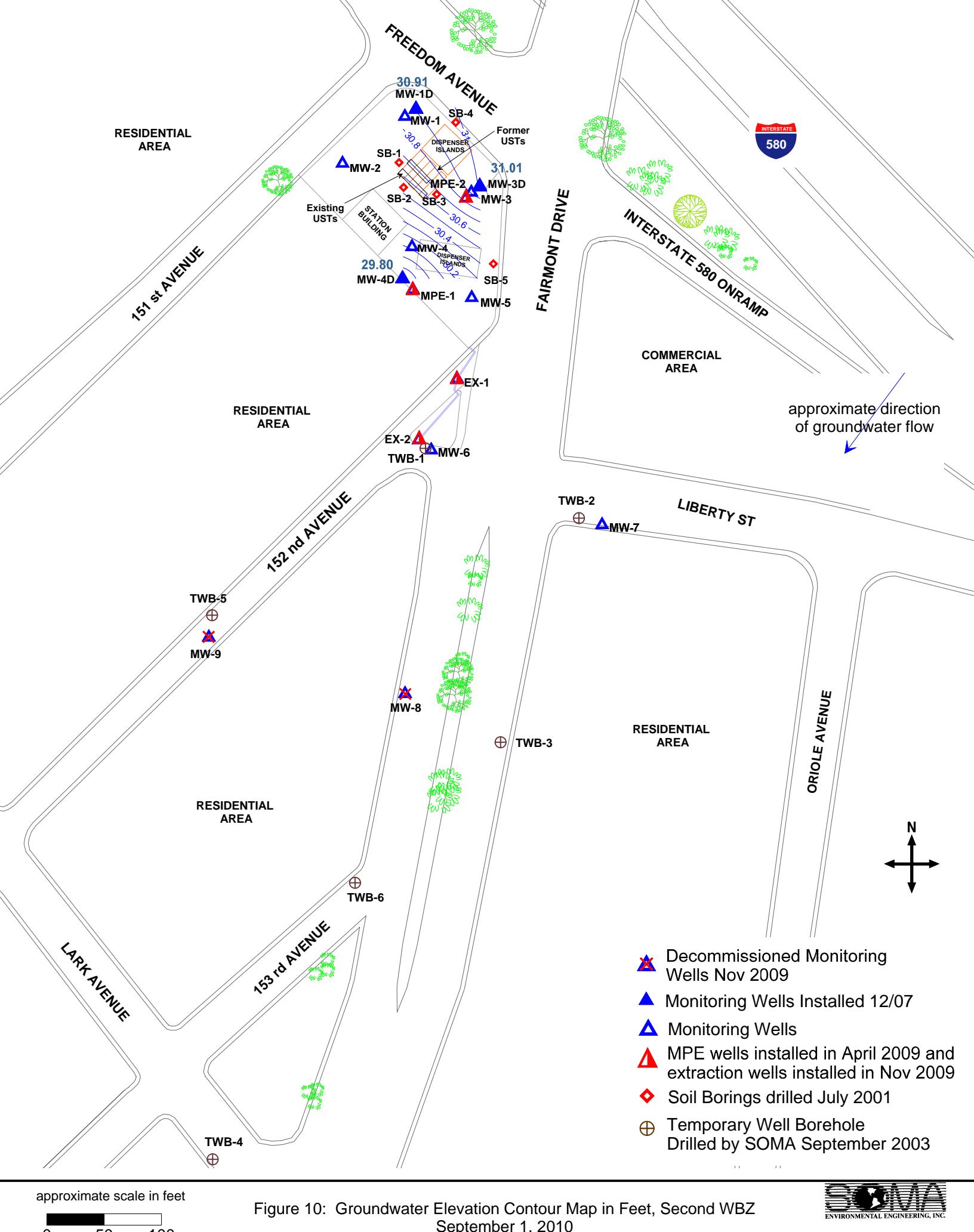


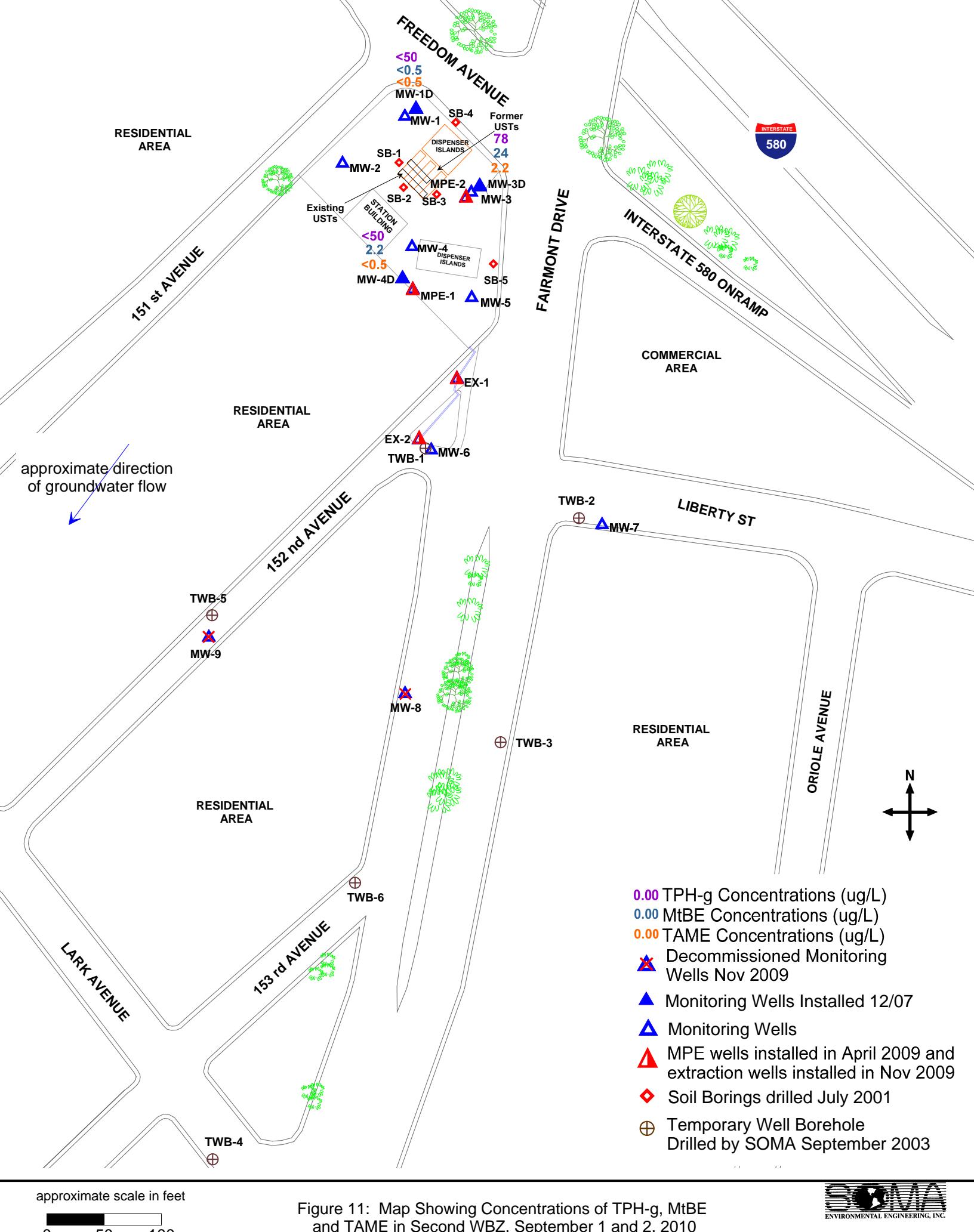












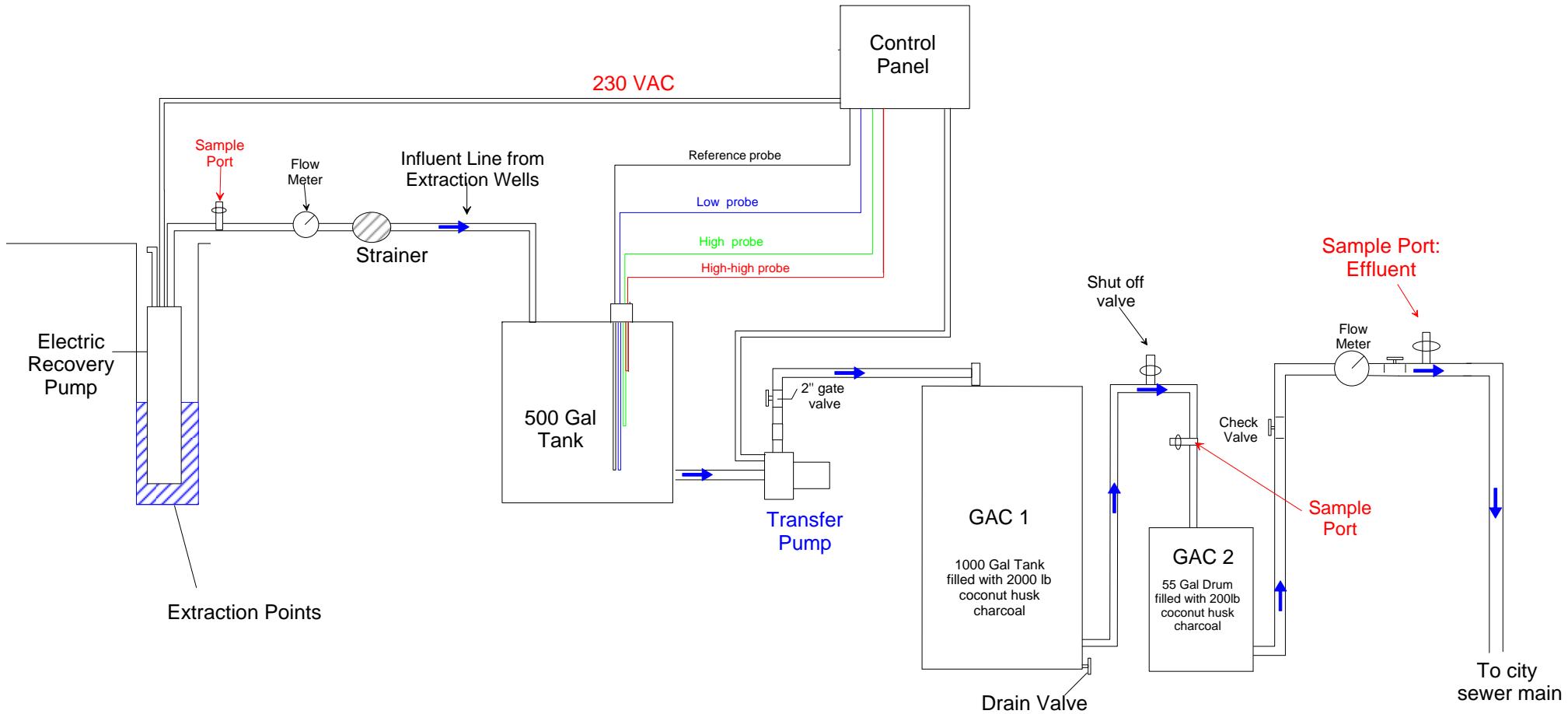


Figure 12: Schematic diagram of Groundwater Remediation System

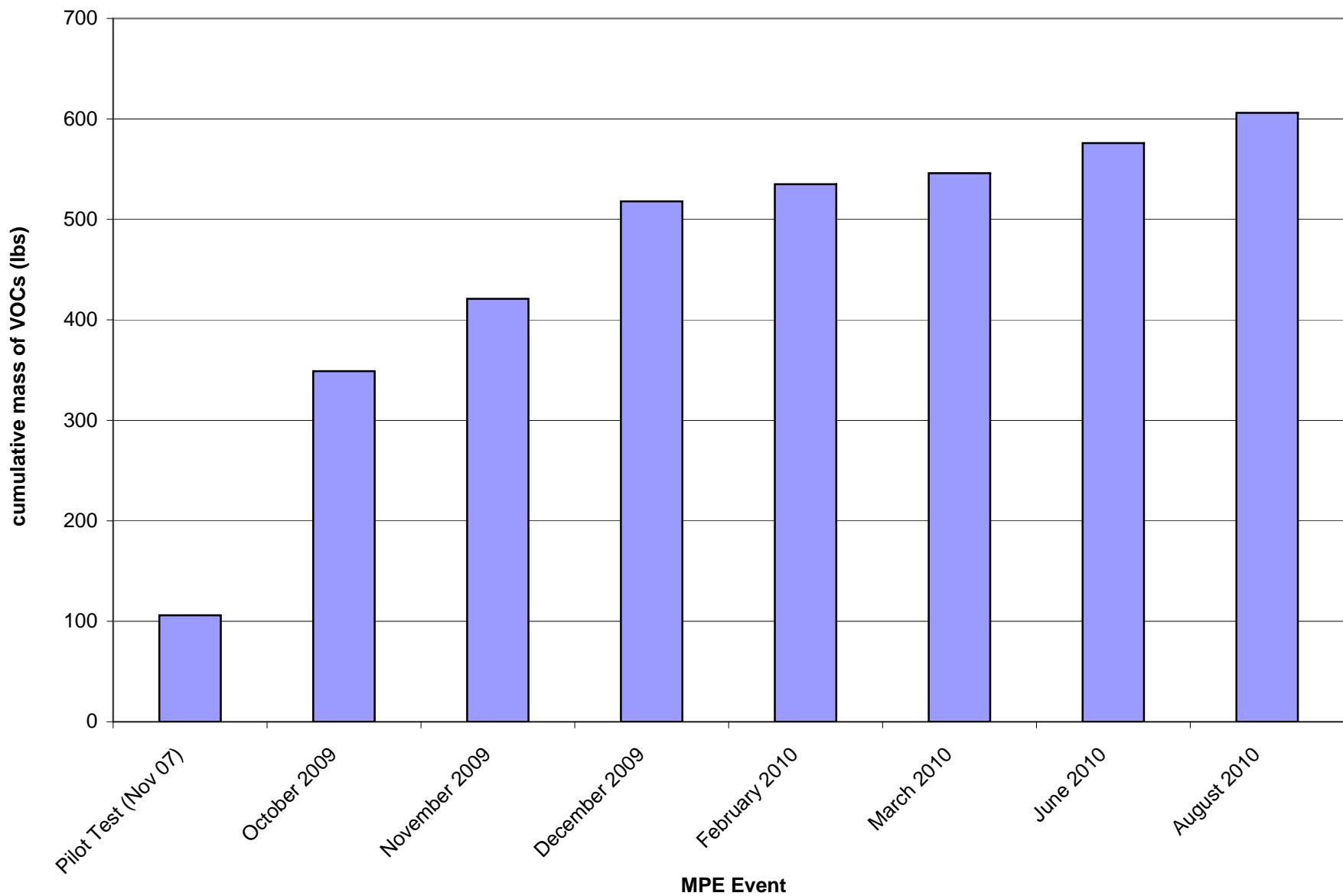


Figure 13: Cumulative mass of VOCs removed

# **Tables**

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

Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g ( $\mu\text{g}/\text{L}$ )	Benzene ( $\mu\text{g}/\text{L}$ )	Toluene ( $\mu\text{g}/\text{L}$ )	Ethyl-benzene ( $\mu\text{g}/\text{L}$ )	Total Xylenes ( $\mu\text{g}/\text{L}$ )	MtBE 8260B <sup>2</sup> ( $\mu\text{g}/\text{L}$ )
<b>1st WBZ</b>										
MW-1	5/10/2002	51.71	22.85	28.86	5,700	360	4.5	340	450	2
	8/8/2002	51.71	23.31	28.40	9,100	590	2.6	830	362	<1.3
	11/8/2002	51.71	23.58	28.13	7,900	570	3.1	680	392	< 1.0
	2/21/2003	51.71	22.62	29.09	2,900	160	1.6 C	170	211	<0.5
	5/28/2003	51.71	22.43	29.28	1,700	55	<0.5	90	115	2.00
	8/12/2003	51.71	21.30	30.41	2,600	2.5	<0.5	190	130	<0.5
	10/9/2003	51.71	23.49	28.22	9,200	560.0	2.7 C	670	648	<1.0
	1/15/2004	51.71	22.43	29.28	5,500	190	<1.0	220	124.4	<0.5
	5/25/2004	51.71	22.94	28.77	8,000	400	1.50	420	393	3.40
	9/21/2004	54.46	23.49	30.97	9,300	580	9.30	690	683	4.60
	12/14/2004	54.46	23.01	31.45	7,360	337	<4.3	731	633	<4.3
	3/11/2005	54.46	21.48	32.98	2,510	45.2	<0.5	23.2	39.63	2.80
	6/15/2005	54.46	22.42	32.04	1,690	36.3	<2.0	59.5	28.73	2.01
	8/26/2005	54.46	23.00	31.46	7,310	318	<8.60	475	316	5.15
	11/11/2005	54.46	21.40	33.06	9,640	341	<8.6	467	329.7	6.04
	2/9/2006	54.46	21.81	32.65	775	14	<2.0	12.6	10.32	4.01
	5/9/2006	54.46	21.68	32.78	444	7.80	<2.0	12.1	6.31	1.75
	8/10/2006	54.46	22.79	31.67	5,090	324	<8.60	108	59.9	8.24
	10/26/2006	54.46	23.19	31.27	6,950	556	<4.0	190	136.09	8.61
	1/25/2007	54.46	22.82	31.64	2,640	196	<2.0	105	25.5	7.92
	4/26/2007	54.46	22.67	31.79	861	95.5	<2.0	17	6.36	4.00
	7/25/2007	54.46	23.25	31.21	4,520	412	<4.0	182	77.9	7.48
	10/23/2007	54.46	23.42	31.04	3,900	117	<2.0	87.1	23.87	4.54

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

Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B <sup>2</sup> (µg/L)
<b>MW-1 cont</b>	1/22/2008	54.46	22.59	31.87	2,260	81.3	<2.0	17.5	<2.0	4.23
	4/16/2008	54.46	22.89	31.57	2,320	248	<2.0	54.1	37.3	<0.5
	7/3/2008	54.46	23.33	31.13	5,240	414	<2.0	168	94	6.56
	10/15/2008	54.46	23.76	30.70	4,500 <sup>Y</sup>	260	<1.0	150	130	3.40
	1/7/2009	54.46	23.25	31.21	4,800	140	<1.3	48	32	1.70
	4/14/2009	54.46	22.52	31.94	1,800 <sup>Y</sup>	78	<0.5	35	18	2.50
	8/27/2009	54.46	23.6	30.86	4,500	330	<2.0	97	42	4.60
	12/2/2009	54.46	23.43	31.03	3,800 <sup>Y</sup>	250	<2.0	110	25	2.50
	3/17/2010	54.46	22.32	32.14	1,100	33	<0.50	46	18	1.70
	6/3/2010	54.46	22.88	31.58	10,000	330	4.3	680	841.5	5.20
	9/2/2010	<b>54.46</b>	<b>23.28</b>	<b>31.18</b>	<b>8,900</b>	<b>440</b>	<b>&lt;5.0</b>	<b>510</b>	<b>310</b>	<b>&lt;5.0</b>
<b>MW-2</b>	5/10/2002	49.66	22.83	26.83 *	3,100	67	8	250	215	56
	8/8/2002	49.66	21.41	28.25	2,700	4.6	<0.5	310	140	<0.5
	11/8/2002	49.66	21.79	27.87	3,400	4.6	<0.5	310	160	<0.5
	2/21/2003	49.66	20.51	29.15	890	1.7 C	0.80 C	68	38.92 C	<0.5
	5/28/2003	49.66	20.33	29.33	2,700	5.2 C	<0.5	120	140	1.2
	8/12/2003	49.66	23.18	26.48*	8,500	640	<2.5	560	659	<0.8
	10/9/2003	49.66	21.71	27.95	3100 H	4.3 C	<0.5	210	160	<0.5
	1/15/2004	49.66	20.31	29.35	660 H	1.5 C	<0.5	8.9	25	<0.5
	5/25/2004	49.66	21.09	28.57	4,500	5.1 C	<0.5	190	230	0.70
	9/21/2004	52.41	21.71	30.70	370	0.76 C	<0.5	25	16	0.50
	12/14/2004	52.41	21.20	31.21	880	1.0	<0.5	66	52	<0.5
	3/11/2005	52.41	19.15	33.26	564	<0.5	<0.5	21	11.9	<0.5
	6/15/2005	52.41	20.30	32.11	2,040	1.2	<2.0	78.2	22	<0.5
	8/26/2005	52.41	20.97	31.44	1,500	0.930	<2.00	87.6	21	0.86
	11/11/2005	52.41	25.30	27.11	2,140	1.08	<2.0	104	29	0.79

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

Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B <sup>2</sup> (µg/L)
MW-2 cont.	2/9/2006	52.41	19.41	33.00	1,410	<0.5	<2.0	99.6	21.4	0.72
	5/9/2006	52.41	19.41	33.00	1,100	<0.5	<2.0	86.5	17	<0.5
	8/10/2006	52.41	20.8	31.61	3,180	2.87	<2.0	88.9	24.8	<0.50
	10/26/2006	52.41	21.22	31.19	1,200	<0.5	<2.0	23.5	4.79	0.6
	1/25/2007	52.41	20.89	31.52	623	0.64	<2.0	42.4	4.37	0.66
	4/26/2007	52.41	20.65	31.76	169	<0.5	<2.0	15.2	2.3	<0.5
	7/25/2007	52.41	21.43	30.98	276	0.78	<2.0	22.1	4.04	<0.5
	10/23/2007	52.41	21.59	30.82	535	<0.5	<2.0	18	5.11	<0.5
	1/22/2008	52.31	20.45	31.86	132	<0.5	<2.0	12.2	<2.0	<0.5
	4/15/2008	52.41	20.89	31.52	852	<0.5	<2.0	27.2	4.78	<0.5
	7/2/2008	52.41	21.5	30.91	98.3	<0.5	<2.0	2.76	<2.0	<0.5
	10/15/2008	52.41	22.06	30.35	1,400 <sup>Y</sup>	<0.5	<0.5	60	17	<0.5
	1/7/2009	52.41	21.35	31.06	93	<0.5	<0.5	2.1	0.74	<0.5
	4/13/2009	52.41	20.52	31.89	480 <sup>Y</sup>	<0.5	<0.5	20	5.5	<0.5
	8/27/2009	52.41	21.85	30.56	130	<0.5	<0.5	2.5	0.61	<0.5
	12/1/2009	52.41	21.59	30.82	760 <sup>Y</sup>	<0.5	<0.5	14	1.5	<0.5
MW-3	3/17/2010	52.41	20.11	32.30	480	<0.5	<0.5	30	6.9	<0.5
	6/3/2010	52.41	21	31.41	690	<0.5	<0.5	14	2.6	<0.5
	9/2/2010	52.41	21.42	30.99	470	<0.5	<0.5	7.6	1.0	<0.5
	5/10/2002	51.16	22.28	28.88	44,000	6,000	900	1,500	6,200	2,400
	8/8/2002	51.16	22.88	28.28	40,000	5,800	1,100	1,600	6,500	1,300
	11/8/2002	51.16	23.19	27.97	47,000	5,300	1,200	2,200	8,600	1,000
	2/21/2003	51.16	22.02	29.14	39,000	5,500	1,500	2,000	8,600	1,300
	5/28/2003	51.16	21.89	29.27	52,000	7,300	3,000	2,800	12,700	2,100
	8/12/2003	51.16	22.66	28.50	31,000	6,100	860	1,500	6,900	1,200
	10/9/2003	51.16	23.06	28.10	41,000	6,100	1,100	2,200	10,200	960

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

Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B <sup>2</sup> (µg/L)
MW-3 cont.	1/15/2004	51.16	21.85	29.31	51,000	4,100	1,100	2,000	8,400	590
	5/25/2004	51.16	22.55	28.61	65,000	4,300	1,300	2,500	10,500	720
	9/21/2004	53.91	23.08	30.83	42,000	4,900	890	2,200	8,700	480
	12/14/2004	53.91	22.52	31.39	35,151	4,066	972	2,942	13,032	491
	3/11/2005	53.91	20.90	33.01	42,600	3,040	1,100	1,530	6,670	968
	6/15/2005	53.91	21.85	32.06	84,100	5,110	2,160	3,030	8,800	2,670
	8/26/2005	53.91	22.49	31.42	43,500	3,630	1,080	2,500	6,830	1,440
	11/11/2005	53.91	22.81	31.10	47,700	4,240	520	2,170	6,320	1,390
	2/9/2006	53.91	21.12	32.79	44,500	5,070	1360	1,920	4,840	3,280
	5/9/2006	53.91	21.09	32.82	48,100	2,510	1,140	1,950	5,030	2,210
	8/10/2006	53.91	22.26	31.65	42,100	3,450	869	1,760	5,650	3,570
	10/26/2006	53.91	22.73	31.18	33,400	4,800	331	1,170	3,510	4,790
	1/25/2007	53.91	22.34	31.57	19,300	4,820	167	1,540	3,740	3,430
	4/26/2007	53.91	22.24	31.67	30,700	2,350	158	1,470	4,320	1,330
	7/25/2007	53.91	22.83	31.08	34,900	5,400	364	2,080	6,360	1,980
	10/23/2007	53.91	23.01	30.9	22,600	4,070	<86	1,120	3,095	970
	1/22/2008	53.96	22.04	31.92	22,100	1,280	453	1,330	3,520	490
	4/16/2008	53.91	22.4	31.51	20,700	2,790	182	860	3,389	263
	7/3/2008	53.91	22.9	31.01	48,500	3,760	346	3,130	12,980	573
	10/16/2008	53.91	23.36	30.55	50,000	3,900	300	3,100	11,000	460
	1/8/2009	53.91	22.82	31.09	54,000	2,600	180	2,500	8,800	220
	4/13/2009	53.91	22.06	31.85	49,000	2,900	170	2,100	8,100	490
	8/27/2009	53.91	23.11	30.80	43,000	2,500	160	1,900	7,000	210
	12/2/2009	53.91	23.00	30.91	30,000	2,100	180	1,600	5,600	91
	3/17/2010	53.91	21.90	32.01	24,000	970	81	1,100	3,700	38
	6/3/2010	53.91	22.49	31.42	31,000	1,200	110	1,300	4,400	34
	9/2/2010	53.91	22.76	31.15	26,000	1,100	81	1,200	3,810	26

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

Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g ( $\mu\text{g}/\text{L}$ )	Benzene ( $\mu\text{g}/\text{L}$ )	Toluene ( $\mu\text{g}/\text{L}$ )	Ethyl-benzene ( $\mu\text{g}/\text{L}$ )	Total Xylenes ( $\mu\text{g}/\text{L}$ )	MtBE 8260B <sup>2</sup> ( $\mu\text{g}/\text{L}$ )
MW-4	5/10/2002	50.54	21.78	28.76	880	25	1.0C	110	52	12,000
	8/8/2002	50.54	22.50	28.04	3,800	70	<5.0	300	115	4,800
	11/8/2002	50.54	22.81	27.73	5,100	150	10	460	258	2,400
	2/21/2003	50.54	21.48	29.06	3,200	98	66	220	360	6,600
	5/28/2003	50.54	21.24	29.30	6,200	140	46	200	790	2,300
	8/12/2003	50.54	22.32	28.22	7,500	180	57	220	1450	1,900
	10/9/2003	50.54	22.74	27.80	5,800	250	32	300	970	7,800
	1/15/2004	50.54	21.19	29.35	5,900	270	17 C	150	640	7,300
	5/25/2004	50.54	22.03	28.51	9,100	210	51	200	1190	1800
	9/21/2004	53.31	22.76	30.55	5,200	290	12	370	600	7300
	12/14/2004	53.31	21.99	31.32	8,937	538	114	416	2379	5021
	3/11/2005	53.31	20.01	33.30	12,300	225	39.6	80.1	1465	3870
	6/15/2005	53.31	21.25	32.06	7,690	114	32.6	77.1	555	1150
	8/26/2005	53.31	22.03	31.28	8,850	175	24.6	150	851	1380
	11/11/2005	53.31	22.43	30.88	9,990	356	<43	196	700	3,640
	2/9/2006	53.31	20.31	33.00	6,850	205	<43	67.2	255.2	5,120
	5/9/2006	53.31	20.33	32.98	1,290	18.1	<8.6	12.9	25.87	799
	8/10/2006	53.31	21.74	31.57	7,830	118	<8.60	25.3	174.6	919
	10/26/2006	53.31	22.29	31.02	1,540	81.9	<43	96	46.4	3,610
	1/25/2007	53.31	21.86	31.45	4,370	163	<8.6	85.1	269.1	1,050
	4/26/2007	53.31	21.63	31.68	4,380	140	<8.6	67	276.8	576
	7/25/2007	53.31	22.49	30.82	4,970	220	<8.60	198	241.5	1,040
	10/23/2007	53.31	22.69	30.62	4,200	267	<8.6	147	155.5	1,220

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

Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B <sup>2</sup> (µg/L)
MW-4 cont.	1/22/2008	53.36	21.39	31.97	2,180	133	<22.0	43.1	32.2	1,800
	4/15/2008	53.31	21.9	31.41	4,240	90.4	<22.0	107	380	674
	7/2/2008	53.31	22.55	30.76	2,300	193	<22.0	212	183	4,050
	10/16/2008	53.31	23.13	30.18	8,900	320	3.7	430	1,160	450
	1/8/2009	53.31	22.42	30.89	19,000	430	44	590	3,380	440
	4/13/2009	53.31	21.51	31.80	21,000	400	38	450	2,880	330
	8/27/2009	53.31	22.94	30.37	16,000	960	64	560	2,120	290
	12/2/2009	53.31	22.36	30.95	4,400	480	6	170	640	110
	3/17/2010	53.31	21.39	31.92	14,000	260	6	230	1,220	93
	6/3/2010	53.31	22.23	31.08	18,000	240	4	310	770	41
	9/2/2010	53.31	22.51	30.80	1,800	800	<3.6	150	25	33
MW-5	5/10/2002	47.79	19.02	28.77	25,000	1,000	1200	1,100	3,060	1,800
	8/8/2002	47.79	19.80	27.99	18,000	1,000	660	950	1,720	1,500
	11/8/2002	47.79	20.14	27.65	16,000	1,300	380	930	1,550	1,200
	2/21/2003	47.79	18.70	29.09	12,000	390	71	770	1,100	860
	5/28/2003	47.79	18.52	29.27	9,100	210	31	560	790	600
	8/12/2003	47.79	19.54	28.25	12,000	660	75	660	1,110	1,000
	10/9/2003	47.79	20.06	27.73	15,000	1,000	130	1,000	1,430	1,700
	1/15/2004	47.79	18.42	29.37	9,900	450 C	16	500	431	1,100
	5/25/2004	47.79	19.30	28.49	9,200	380	24	490	536	720
	9/21/2004	50.53	20.15	30.38	10,000	980	71	560	770	1,200
	12/14/2004	50.53	19.30	31.23	10,502	587	64	1040	1133	1,015
	3/11/2005	50.53	17.20	33.33	8,390	407	<5.5	83	42.5	1530
	6/15/2005	50.53	18.54	31.99	9,350	147	18.3	435	146.2	573
	8/26/2005	50.53	19.31	31.22	9,500	261	<22	726	321.3	749
	11/11/2005	50.53	19.75	30.78	10,000	443	41.5	527	278.5	1,430

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Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B <sup>2</sup> (µg/L)
MW-5 cont.	2/9/2006	50.53	17.58	32.95	7,640	237	<22	187	50.2	2,050
	5/9/2006	50.53	17.54	32.99	8,360	111	<8.6	300	75.84	566
	8/10/2006	50.53	19.02	31.51	16,100	250	<22	455	187.4	1,590
	10/26/2006	50.53	19.61	30.92	10,100	430	<22	375	192.6	3,060
	1/25/2007	50.53	19.19	31.34	3,960	340	<22	323	150.1	1,740
	4/26/2007	50.53	18.89	31.64	4,590	187	<8.6	307	116.5	861
	7/25/2007	50.53	19.81	30.72	6,490	419	21.8	413	223.2	913
	10/23/2007	50.53	19.98	30.55	6,120	550	11	284	141.4	433
	1/22/2008	50.18	18.69	31.49	9,810	572	22	574	184.1	126
	4/15/2008	50.18	19.16	31.02	8,890	335	15.1	477	397.5	136
	7/3/2008	50.53	19.88	30.65	13,100	949	34.4	875	825.5	176
	10/16/2008	50.53	20.45	30.08	11,000	870	25	820	668	160
	1/8/2009	50.53	19.72	30.81	12,000	490	21	690	456	76
	4/13/2009	50.53	18.81	31.72	9,000 <sup>Y</sup>	200	11	390	198	44
	8/27/2009	50.53	21.30	29.23	7,400	610	15	320	185	66
	12/2/2009	50.53	20.00	30.53	8,400 <sup>Y</sup>	400	12	540	296	45
MW-6	3/17/2010	50.53	18.73	31.80	4,800	120	8.7	120	107	14
	6/4/2010	50.53	19.60	30.93	7,200	160	5.7	190	149.2	24
	9/2/2010	50.53	19.82	30.71	9,200	110	12	270	318	35
	9/21/2004	45.82	17.64	28.18	34,000	150	130	2200	8100	0.6
	12/14/2004	45.82	15.75	30.07	5,161	137	7	436	1136	<5.5
	3/11/2005	45.82	13.80	32.02	6,040	125	3.22	260	722.1	4.94

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MW-6 cont.	2/9/2006	45.82	13.92	31.90	2,790	32.3	<8.6	131	131.22	7.30
	5/9/2006	45.82	13.95	31.87	3,730	25	<2.0	213	207.82	5.87
	8/10/2006	45.82	15.28	30.54	4,800	41.9	<2.0	201	189	10.4
	10/26/2006	45.82	16.11	29.71	6,080	37.4	<2.0	116	183	9.78
	1/25/2007	45.82	15.76	30.06	3,220	25.2	<2.0	219	174	14.7
	4/26/2007	45.82	15.18	30.64	3,110	28	<2.0	165	138.47	14.6
	7/25/2007	45.82	16.82	29.00	4,960	54.1	<2.0	199	255.87	8.05
	10/23/2007	45.82	16.91	28.91	9,610	64.3	<2.0	188	302.6	5.81
	1/21/2008	45.82	15.36	30.46	3,290	33	<2.0	149	131.31	3.86
	4/15/2008	45.82	15.73	30.09	2,070	10.8	<2.0	51.1	67	<0.5
	7/2/2008	45.82	16.9	28.92	7,900	42.4	<2.0	194	296	3.58
	10/15/2008	45.82	17.21	28.61	18,000 <sup>Y</sup>	42	1.4	320	673	1.7
	1/7/2009	45.82	17.08	28.74	13,000	47	<3.1	210	425	<3.1
	4/13/2009	45.82	15.52	30.30	7,200 <sup>Y</sup>	26	<1.3	170	312.6	2.6
	8/26/2009	45.82	17.82	28.00	10,000 <sup>Y</sup>	25	<2.0	130	294	2.2
	12/1/2009	45.82	17.34	28.48	11,000 <sup>Y</sup>	31	6.1	220	539	<2.0
MW-7	3/16/2010	45.82	14.81	31.01	31,000	63	140	970	4,200	64
	6/3/2010	45.82	15.72	30.10	27,000	22	67	840	3,100	32
	9/1/2010	45.82	16.86	28.96	33,000	24	34	1,100	3,780	12
	9/21/2004	44.74	15.21	29.53	2,900	<0.5	<0.5	52	61	8.1
	12/14/2004	44.74	13.90	30.84	<50	1.6	<0.5	29	58	6.0
	3/11/2005	44.74	11.46	33.28	2,230	<2.5	<2.5	39.4	51.4	12.4
	6/15/2005	44.74	12.97	31.77	2,940	0.85	<2.0	50.6	31.9	13.7
	8/26/2005	44.74	14.10	30.64	2,310	<0.50	<2.0	55.7	29.6	4.01
	11/11/2005	44.74	14.59	30.15	3,030	<0.5	<2.0	66.5	42.3	9.76

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

Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B <sup>2</sup> (µg/L)
MW-7 cont.	2/9/2006	44.74	NM	NM	NA	NA	NA	NA	NA	NA
	5/9/2006	44.74	12.02	32.72	1,400	<0.5	<2.0	19.8	12.4	2.30
	8/10/2006	44.74	13.72	31.02	604	<0.50	<2.0	6.2	4.63	1.42
	10/26/2006	44.74	14.38	30.36	1350	<0.50	<2.0	16.6	10.8	1.87
	1/25/2007	44.74	13.93	30.81	340	<0.5	<2.0	6.84	2.44	1.63
	4/26/2007	44.74	14.44	30.30	552	<0.5	<2.0	11.4	6.11	4.12
	7/25/2007	44.74	14.79	29.95	1,230	<0.5	<2.0	27	19.24	3.2
	10/23/2007	44.74	14.88	29.86	1,730	0.67	<2.0	20.7	17.31	8.44
	1/21/2008	44.74	13.34	31.40	610	1.15	<2.0	8.4	4.34	17.2
	4/15/2008	44.74	13.91	30.83	1,460	<0.5	<2.0	15.9	19.7	17.3
	7/2/2008	44.74	14.87	29.87	1,450	<0.5	<2.0	11	6.8	22.1
	10/15/2008	44.74	15.68	29.06	1,900 <sup>Y</sup>	0.56	1.2	27	39.5	55
	1/7/2009	44.74	14.72	30.02	2,700	1.2	2.9	11	25	39
	4/13/2009	44.74	13.54	31.20	2,300 <sup>Y</sup>	<0.5	<0.5	15	6.3	63
	8/26/2009	44.74	15.84	28.90	2,700 <sup>Y</sup>	<0.5	<0.5	48	53	140
	12/1/2009	44.74	15.03	29.71	1,800 <sup>Y</sup>	<0.5	<0.5	22	15	120
MW-8	3/16/2010	44.74	12.56	32.18	1,100	<0.5	<0.5	3.2	1.4	65
	6/3/2010	44.74	13.80	30.94	740	<0.5	<0.5	1.8	0.62	28
	9/1/2010	44.74	14.84	29.90	1,200	<0.5	<0.5	10	3.2	29
	9/21/2004	41.14	12.98	28.16	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	12/14/2004	41.14	11.22	29.92	<50	<0.5	<0.5	<0.5	<1.0	<0.5
	3/11/2005	41.14	NM	NM	NA	NA	NA	NA	NA	NA
	6/15/2005	41.14	10.46	30.68	<200	0.53	<2.0	<0.5	<1.0	<0.5
	8/26/2005	41.14	11.53	29.61	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	11/11/2005	41.14	11.92	29.22	<50	<0.5	<2.0	1.36	1.8	<0.5

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

Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B <sup>2</sup> (µg/L)
MW-8 cont.	2/9/2006	41.14	9.74	31.40	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	5/9/2006	41.14	9.90	31.24	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	8/10/2006	41.14	10.9	30.24	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	10/26/2006	41.14	11.68	29.46	<50	<0.50	<2.0	3.37	<1.0	<0.50
	1/25/2007	41.14	11.44	29.70	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	4/26/2007	41.14	10.81	30.33	<50	<0.5	<2.0	4.29	<2.0	<0.5
	7/25/2007	41.14	12.31	28.83	<50	<0.5	<2.0	4.39	<2.0	<0.5
	10/23/2007	41.14	12.37	28.77	<50	<0.5	<2.0	4.31	<2.0	<0.5
	1/21/2008	41.14	11.02	30.12	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	4/15/2008	41.14	11.44	29.70	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	7/2/2008	41.14	12.39	28.75	94.8	<0.5	<2.0	1	<2.0	<0.5
	10/15/2008	41.14	13.42	27.72	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	1/7/2009	41.14	12.50	28.64	<50	<0.5	<0.5	<0.5	0.6	<0.5
	4/13/2009	41.14	11.23	29.91	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	8/27/2009	41.14	13.24	27.90	<50	<0.5	<0.5	<0.5	<0.5	<0.5
<b>Well Decommissioned 11/13/2009</b>										
MW-9	9/21/2004	40.26	12.18	28.08	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	12/14/2004	40.26	10.91	29.35	<50	<0.5	<0.5	<0.5	<1.0	<0.5
	3/11/2005	40.26	10.52	29.74	<200	<0.5	<0.5	<0.5	<1.0	<0.5
	6/15/2005	40.26	14.73	25.53	<200	<0.5	<2.0	<0.5	<1.0	<0.5
	8/26/2005	40.26	10.59	29.67	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	11/11/2005	40.26	11.25	29.01	<50	<0.5	<2.0	<0.5	<1.0	<0.5
	2/9/2006	40.26	10.05	30.21	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	5/9/2006	40.26	9.06	31.20	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	8/10/2006	40.26	10.01	30.25	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	10/26/2006	40.26	10.81	29.45	<50	<0.50	<2.0	<0.50	<1.0	<0.50

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

Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B <sup>2</sup> (µg/L)
MW-9 cont.	1/25/2007	40.26	10.67	29.59	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	4/26/2007	40.26	10.05	30.21	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	7/25/2007	40.26	11.44	28.82	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	10/23/2007	40.26	11.59	28.67	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	1/21/2008	40.26	10.37	29.89	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	4/15/2008	40.26	10.56	29.70	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	7/2/2008	40.26	11.95	28.31	161	<0.5	<2.0	2.15	<2.0	<0.5
	10/15/2008	40.26	12.64	27.62	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	1/7/2009	40.26	11.75	28.51	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	4/13/2009	40.26	10.89	29.37	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	8/26/2009	40.26	12.50	27.76	<50	<0.5	<0.5	<0.5	<0.5	<0.5
Well Decommissioned 11/13/2009										
<b>Extraction Wells</b>										
EX-1	12/2/2009	47.36	17.02	30.34	2,900	120	4	64	410	25
	3/16/2010	47.36	19.08	28.28	2,200	150	18	94	326	210
	6/3/2010	47.36	17.02	30.34	3,600	180	6.3	150	428	83
	9/1/2010	47.36	17.88	29.48	550	6.5	<0.5	6.9	31.7	38
<b>MPE Wells</b>										
MPE-1	12/1/2009	51.96	17.56	28.4	7,100 <sup>Y</sup>	9.3	3.2	440	770	<3.1
	3/16/2010	45.96	19.65	26.31	13,000	600	360	770	2,250	15
	6/3/2010	45.96	17.10	28.86	16,000	590	400	700	2,500	9.5
	9/1/2010	45.96	17.94	28.02	6,100	230	74	200	890	11

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

Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B <sup>2</sup> (µg/L)
<b>2nd WBZ</b>										
MPE-2	12/1/2009	53.72	22.87	30.85	NA	NA	NA	NA	NA	NA
	3/16/2010	53.72	21.7	32.02	NA	NA	NA	NA	NA	NA
	6/3/2010	53.72	22.35	31.37	NA	NA	NA	NA	NA	NA
	9/1/2010	53.72	23.7	30.02	NA	NA	NA	NA	NA	NA
MW-1D	1/3/2008	54.42		-	<50	<0.50	<2.0	<0.50	<2.0	<0.50
	1/22/2008	54.42	22.85	31.57	<50	<0.50	<2.0	<0.50	<2.0	<0.50
	4/16/2008	54.42	23.10	31.32	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	7/3/2008	54.42	23.44	30.98	75.9	<0.5	<2.0	0.54	<2.0	<0.5
	10/15/2008	54.42	23.82	30.60	120.0	1.6	<0.5	2.8	3.6	<0.5
	1/8/2009	54.42	23.44	30.98	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	4/14/2009	54.42	23.06	31.36	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	8/26/2009	54.42	23.73	30.69	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	12/1/2009	54.42	23.59	30.83	330 <sup>y</sup>	<0.5	<0.5	1.3	2.2	<0.5
	3/16/2010	54.42	22.60	31.82	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	6/4/2010	54.42	23.10	31.32	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	9/1/2010	54.42	23.51	30.91	<50	<0.5	<0.5	0.52	1.8	<0.5
MW-3D	1/3/2008	54.10		-	<50	<0.50	<2.0	<0.50	<2.0	87.6
	1/22/2008	54.10	22.31	31.79	<50	<0.50	<2.0	<0.50	<2.0	88.3
	4/16/2008	54.10	22.64	31.46	<50	<0.5	<2.0	<0.5	<2.0	71.1
	7/3/2008	54.10	23.17	30.93	<50	<0.5	<2.0	<0.5	<2.0	67.4
	10/16/2008	54.10	23.62	30.48	<50	<0.5	<0.5	<0.5	<0.5	37
	1/8/2009	54.10	23.07	31.03	<50	<0.5	<0.5	<0.5	<0.5	29
	4/14/2009	54.10	22.36	31.74	<50	<0.5	<0.5	<0.5	<0.5	44
	8/26/2009	54.10	23.41	30.69	<50	<0.5	<0.5	<0.5	<0.5	20
	12/1/2009	54.10	23.27	30.83	110 Y	<0.5	<0.5	<0.5	0.52	24

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

Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B <sup>2</sup> (µg/L)
MW-3D cont.	3/16/2010	54.10	22.10	32.00	<50	<0.5	<0.5	<0.5	<0.5	7.1
	6/4/2010	54.10	22.70	31.40	<50	<0.5	<0.5	<0.5	<0.5	17
	9/1/2010	54.10	23.09	31.01	78	<0.5	<0.5	1.1	4.71	24
MW-4D	1/4/2008	53.12	-	-	<50	<0.50	<2.0	<0.50	<2.0	<0.50
	1/22/2008	53.12	21.11	32.01	91.5	18.7	<2.0	7.08	11.42	219
	4/15/2008	53.12	21.67	31.45	<50	<0.5	<2.0	<0.5	<2.0	27
	7/3/2008	53.12	22.39	30.73	<50	<0.5	<2.0	<0.5	<2.0	6.27
	10/16/2008	53.12	22.98	30.14	<50	<0.5	<0.5	<0.5	<0.5	1.9
	1/8/2009	53.12	22.25	30.87	<50	<0.5	<0.5	<0.5	<0.5	2
	4/14/2009	53.12	21.34	31.78	<50	<0.5	<0.5	<0.5	<0.5	2.2
	8/27/2009	53.12	22.79	30.33	<50	<0.5	<0.5	<0.5	<0.5	2.2
	12/1/2009	53.12	22.49	30.63	120 <sup>y</sup>	<0.5	<0.5	1.4	2.3	2.3
	3/16/2010	53.12	21.02	32.10	<50	<0.5	<0.5	<0.5	<0.5	0.65
	6/4/2010	53.12	21.93	31.19	<50	<0.5	<0.5	<0.5	<0.5	1.1
	9/1/2010	53.12	23.32	29.80	<50	<0.5	<0.5	0.85	3.76	2.2
1573 153 RD	7/2/2008	NS	NM	NC	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	10/16/2008	NS	NM	NC	<50	<0.5	<0.5	<0.5	<0.5	<0.5
<b>Equipment Blanks</b>										
EB-PMP	1/21/2008	-	-	-	<50	<0.50	<2.0	<0.50	<2.0	<0.50
EB-PRB	1/21/2008	-	-	-	<50	<0.50	<2.0	<0.50	<2.0	<0.50
EB-PMP2	1/22/2008	-	-	-	<50	<0.50	<2.0	<0.50	<2.0	<0.50
EB-PRB2	1/22/2008	-	-	-	<50	<0.50	<2.0	<0.50	<2.0	<0.50
ESL (ug/L)	-	-	-	-	100	1	40	30	20	5

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

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

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

\*: Due to minimal recharge rates in well MW-2, the groundwater elevation recorded on these dates did not match the overall site conditions, May 2002 & August 2003.

NC: Not Calculated

<sup>1</sup>: Top of casing elevations were surveyed to a datum of 67.07 M.S.L by Kier & Wright Civil Engineers & Land Surveyors on May 7, 2002.

On October 11, 2004, the site was re-surveyed by Harrington Surveys, Inc. of Walnut Creek, CA to a datum of California Coordinate System, Zone 3, NAD 83.

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

<: Not detected above the laboratory reporting limit.

Y: Sample exhibits chromatographic pattern which does not resemble standard

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.

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

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

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

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

EB-PMP/EB-PRB: Equipment Blanks for Pump and Probe

ESL: Environmental Screening Levels per CRWQCB SFBay Region Interim Final Nov. 2007 (Revised May 2008);

Table F-1a,Groundwater Screening Levels (groundwater is a current or potential drinking water resource)

MW-8 and MW-9 were decommissioned November 13, 2009

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

Monitoring Well	Date	TBA ( $\mu\text{g/L}$ )	DIPE ( $\mu\text{g/L}$ )	ETBE ( $\mu\text{g/L}$ )	TAME ( $\mu\text{g/L}$ )	1,2-DCA ( $\mu\text{g/L}$ )	EDB ( $\mu\text{g/L}$ )
1st WBZ							
MW-1	8/8/2002	78	<1.3	<1.3	<1.3	NA	NA
	11/1/2002	42	< 1.0	< 1.0	< 1.0	NA	NA
	2/21/2003	47	<0.5	<0.5	<0.5	NA	NA
	5/28/2003	25	<0.5	<0.5	<0.5	NA	NA
	8/12/2003	<10	<0.5	<0.5	<0.5	NA	NA
	10/9/2003	70	<1.0	<1.0	<1.0	NA	NA
	1/15/2004	55	<0.5	<0.5	<0.5	NA	NA
	5/25/2004	62	<0.7	<0.7	<0.7	NA	NA
	9/21/2004	<10	<0.5	<0.5	<0.5	NA	NA
	12/14/2004	<21.5	<4.3	<4.3	<17.2	NA	NA
	3/11/2005	81	<0.5	<0.5	<2.0	NA	NA
	6/15/2005	<10	<0.5	<0.5	<2.0	NA	NA
	8/26/2005	68.9	<2.15	<2.15	<8.6	NA	NA
	11/11/2005	46	<2.15	<2.15	<8.6	NA	NA
	2/9/2006	11.3	<0.5	<0.5	<2.0	NA	NA
	5/9/2006	<10	<0.5	<0.5	<2.0	0.51	<0.5
	8/10/2006	<43	<2.15	<2.15	<8.60	3.37	<2.15
	10/26/2006	39.4	<1.0	<1.0	<4.0	2.92	<1.0
	1/25/2007	41.4	<0.5	<0.5	<2.0	1.36	<0.5
	4/26/2007	39.6	<0.5	<0.5	<2.0	<0.5	<0.5
	7/25/2007	46.5	<1.0	<1.0	<4.0	<1.0	<1.0
	10/23/2007	53.7	<0.5	<0.5	<2.0	<0.5	<0.5
	1/22/2008	23.8	<0.5	<0.5	2.16	<0.5	<0.5
	4/16/2008	8.36	<0.5	<0.5	<2.0	164	<0.5
	7/3/2008	30.5	<0.5	<0.5	<2.0	1.08	<0.5
	10/15/2008	<20	<1.0	<1.0	<1.0	<1.0	<1.0
	1/7/2009	<25	<1.3	<1.3	<1.3	<1.3	<1.3
	4/14/2009	15	<0.5	<0.5	<0.5	<0.5	<0.5
	8/27/2009	<40	<2.0	<2.0	<2.0	<2.0	<2.0
	12/2/2009	<40	<2.0	<2.0	<2.0	<2.0	<2.0
	3/17/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/3/2010	26	<0.5	<0.5	<0.5	<0.5	<0.5
	9/2/2010	<100	<5.0	<5.0	<5.0	<5.0	<5.0
MW-2	8/8/2002	21	<0.5	<0.5	<0.5	NA	NA
	11/1/2002	15	<0.5	<0.5	<0.5	NA	NA
	2/21/2003	12	<0.5	<0.5	<0.5	NA	NA
	5/28/2003	31	<0.5	<0.5	<0.5	NA	NA
	8/12/2003	69	<0.8	<0.8	<0.8	NA	NA
	10/9/2003	12	<0.5	<0.5	<0.5	NA	NA
	1/15/2004	<10	<0.5	<0.5	<0.5	NA	NA
	5/25/2004	14	<0.5	<0.5	<0.5	NA	NA

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

Monitoring Well	Date	TBA ( $\mu\text{g/L}$ )	DIPE ( $\mu\text{g/L}$ )	ETBE ( $\mu\text{g/L}$ )	TAME ( $\mu\text{g/L}$ )	1,2-DCA ( $\mu\text{g/L}$ )	EDB ( $\mu\text{g/L}$ )
MW-2 cont.	3/11/2005	<2.5	<0.5	<0.5	<2.0	NA	NA
	6/15/2005	<10	<0.5	<0.5	<2.0	NA	NA
	8/26/2005	<10	<0.5	<0.5	<2.0	NA	NA
	11/11/2005	<10	<0.5	<0.5	<2.0	NA	NA
	2/9/2006	<10	<0.5	<0.5	<2.0	NA	NA
	5/9/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5
	8/10/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5
	10/26/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5
	1/25/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	4/26/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	7/25/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	10/23/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	1/22/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	4/15/2008	<2.0	<0.5	<0.5	<2.0	2.44	<0.5
	7/2/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	10/15/2008	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	1/7/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	4/13/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	8/27/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/1/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	3/17/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/3/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	9/2/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
MW-3	8/8/2002	<330	<8.3	<8.3	330	NA	NA
	11/1/2002	85	<1.3	<1.3	220	NA	NA
	2/21/2003	140	<5.0	<5.0	320	NA	NA
	5/28/2003	520	<10	<10	530	NA	NA
	8/12/2003	180	<4.2	<4.2	270	NA	NA
	10/9/2003	<170	<8.3	<8.3	200	NA	NA
	1/15/2004	<100	<5.0	<5.0	150	NA	NA
	5/25/2004	<100	<5.0	<5.0	270	NA	NA
	9/21/2004	<140	<7.1	<7.1	110	NA	NA
	12/14/2004	<100	<20	<20	154	NA	NA
	3/11/2005	<215	<43	<43	256	NA	NA
	6/15/2005	<215	<10.8	<10.8	374	NA	NA
	8/26/2005	699	<21.5	<21.5	277	NA	NA
	11/11/2005	<430	<21.5	<21.5	171	NA	NA
	2/9/2006	<430	<21.5	<21.5	620	NA	NA
	5/9/2006	367	<10.8	<10.8	594	<10.8	<10.8
	8/10/2006	365	<10.8	<10.8	727	<10.8	<10.8
	10/26/2006	591	<10.8	<10.8	899	<10.8	<10.8
	1/25/2007	711	<10.8	<10.8	768	<10.8	<10.8
	4/26/2007	690	<10.8	<10.8	369	<10.8	<10.8
	7/25/2007	1,340	<10.8	<10.8	565	<10.8	<10.8
	10/23/2007	1,050	<21.5	<21.5	301	<21.5	<21.5
	1/22/2008	373	<10.8	<10.8	170	<0.5	<0.5
	4/16/2008	881	<5.50	<5.50	<22.0	1,850	12.1
	7/3/2008	426	<10.8	<10.8	124	<10.8	<10.8
	10/16/2008	<400	<20	<20	<20	<20	<20
	1/8/2009	<500	<25	<25	<25	<25	<25
	4/13/2009	<500	<25	<25	<25	<25	<25
	8/27/2009	<500	<25	<25	<25	<25	<25
	12/2/2009	270	<13	<13	<13	<13	<13
	3/17/2010	<250	<13	<13	<13	<13	<13
	6/3/2010	<250	<13	<13	<13	<13	<13
	9/2/2010	<250	<13	<13	<13	<13	<13

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**15101 Freedom Avenue, San Leandro, CA**

Monitoring Well	Date	TBA ( $\mu\text{g/L}$ )	DIPE ( $\mu\text{g/L}$ )	ETBE ( $\mu\text{g/L}$ )	TAME ( $\mu\text{g/L}$ )	1,2-DCA ( $\mu\text{g/L}$ )	EDB ( $\mu\text{g/L}$ )
<hr/>							
MW-4	8/8/2002	1500	<17	<17	18	NA	NA
	11/1/2002	580	<5.0	6	13	NA	NA
	2/21/2003	1600	<20	22	<20	NA	NA
	5/28/2003	690	<8.3	<8.3	17	NA	NA
	8/12/2003	550	<7.1	7.3	18	NA	NA
	10/9/2003	1400	<31	50	<31	NA	NA
	1/15/2004	1,300	<20	25	21	NA	NA
	5/25/2004	560	<8.3	<8.3	24	NA	NA
	9/21/2004	1,300	<50	<50	<50	NA	NA
	12/14/2004	826	<10.75	21	49	NA	NA
	3/11/2005	1,110	<10.8	12.1	<43	NA	NA
	6/15/2005	<110	<5.5	<5.5	22.9	NA	NA
	8/26/2005	902	<5.50	<5.50	37.4	NA	NA
	11/11/2005	884	<10.8	<10.8	<43	NA	NA
	2/9/2006	769	<10.8	16.4	45.6	NA	NA
	5/9/2006	405	<2.15	2.95	31.3	<2.15	<2.15
	8/10/2006	306	<2.15	<2.15	35.3	<2.15	<2.15
	10/26/2006	3430	<10.8	13.8	<43	<10.8	<10.8
	1/25/2007	822	<2.15	2.4	28	2.25	<2.15
	4/26/2007	556	<2.15	2.28	29.2	<2.15	<2.15
	7/25/2007	1,860	<2.15	9.94	24	<2.15	<2.15
	10/23/2007	3,400	<2.15	18.4	25.9	<2.15	<2.15
MW-5	1/22/2008	2,580	<5.50	64.7	<22	<0.5	<0.5
	4/15/2008	1,100	<5.50	11.7	<22	39.9	<5.50
	7/2/2008	8,720	<5.50	75.2	<22	<5.50	<5.50
	10/16/2008	700	<3.6	4.2	37	5.4	<3.6
	1/8/2009	1,500	<3.6	9.9	41	3.6	<3.6
	4/13/2009	1,100	<8.3	<8.3	28	<8.3	<8.3
	8/27/2009	4,900	<5.0	24	<5.0	<5.0	<5.0
	12/2/2009	6,800	<5.0	69	<5.0	<5.0	<5.0
	3/17/2010	1,900	<3.6	18	<3.6	<3.6	<3.6
	6/3/2010	930	<3.6	7.7	<3.6	<3.6	<3.6
	9/2/2010	7,200	<3.6	57	<3.6	<3.6	<3.6
<hr/>							
MW-5	8/8/2002	<250	<6.3	<6.3	510	NA	NA
	11/1/2002	66	<2.0	<2.0	560	NA	NA
	2/21/2003	<63	<3.1	<3.1	280	NA	NA
	5/28/2003	<33	<1.7	<1.7	110	NA	NA
	8/12/2003	130	<3.6	<3.6	270	NA	NA
	10/9/2003	<100	<5.0	<5.0	740	NA	NA
	1/15/2004	<63	<3.1	<3.1	300	NA	NA
	5/25/2004	<100	<5.0	<5.0	210	NA	NA
	9/21/2004	<130	<6.3	<6.3	550	NA	NA
	12/14/2004	40	<5.5	<5.5	444	NA	NA
	3/11/2005	88.8	<5.5	<5.5	448	NA	NA
	6/15/2005	<43	<2.15	<2.15	88.1	NA	NA
	8/26/2005	274	<5.50	<5.50	195	NA	NA
	11/11/2005	192	<5.50	<5.50	360	NA	NA
	2/9/2006	218	<5.50	<5.50	523	NA	NA
	5/9/2006	91.8	<2.15	<2.15	163	<2.15	<2.15
	8/10/2006	138	<5.50	<5.50	342	<5.50	<5.50
	10/26/2006	322	<5.50	<5.50	712	<5.50	<5.50

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<b>MW-5 cont.</b>	1/25/2007	878	<5.50	<5.50	552	<5.50	<5.50
	4/26/2007	708	<2.15	<2.15	310	<2.15	<2.15
	7/25/2007	1,020	<2.15	<2.15	356	<2.15	<2.15
	10/23/2007	1,510	<2.15	<2.15	181	<2.15	<2.15
	1/22/2008	470	<0.5	4.56	62.1	<0.5	<0.5
	4/15/2008	566	<1.0	<1.0	29.6	231	5.66
	7/3/2008	2,320	<2.15	<2.15	53.3	<2.15	<2.15
	10/16/2008	990	<5.0	<5.0	82	<5.0	<5.0
	1/8/2009	360	<6.3	<6.3	51	<6.3	<6.3
	4/13/2009	280	<3.1	<3.1	<3.1	<3.1	<3.1
	8/27/2009	1,300	<5.0	<5.0	<5.0	<5.0	<5.0
	12/2/2009	320	<5.0	<5.0	25	<5.0	<5.0
	3/17/2010	570	<1.0	<1.0	<1.0	<1.0	<1.0
	6/4/2010	340	<1.0	<1.0	<1.0	<1.0	<1.0
	<b>9/2/2010</b>	<b>320</b>	<b>&lt;2.5</b>	<b>&lt;2.5</b>	<b>13</b>	<b>&lt;2.5</b>	<b>&lt;2.5</b>
<b>MW-6</b>	9/21/2004	<10	<0.5	<0.5	<0.5	NA	NA
	12/14/2004	<5.5	<5.5	<5.5	<22	NA	NA
	3/11/2005	2.54	<0.5	<0.5	<2.0	NA	NA
	6/15/2005	<20	<1.0	<1.0	<4.0	NA	NA
	8/26/2005	<43	<2.15	<2.15	<8.6	NA	NA
	11/11/2005	<43	<2.15	<2.15	<8.6	NA	NA
	2/9/2006	<43	<2.15	<2.15	<8.6	NA	NA
	5/9/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5
	8/10/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5
	10/26/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5
	1/25/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	4/26/2007	7.21	<0.5	<0.5	<2.0	<0.5	<0.5
	7/25/2007	5.66	<0.5	<0.5	<2.0	<0.5	<0.5
	10/23/2007	6.68	<0.5	<0.5	<2.0	<0.5	<0.5
	1/21/2008	13.9	<0.5	<0.5	<2.0	<0.5	<0.5
	4/15/2008	<2.0	<0.5	<0.5	<2.0	6.78	1.49
	7/2/2008	4.54	<0.5	<0.5	<2.0	<0.5	<0.5
	10/15/2008	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	1/7/2009	<63	<3.1	<3.1	<3.1	<3.1	<3.1
	4/13/2009	<25	<1.3	<1.3	<1.3	<1.3	<1.3
	8/26/2009	<40	<2.0	<2.0	<2.0	<2.0	<2.0
	12/1/2009	<40	<2.0	<2.0	<2.0	<2.0	<2.0
	3/16/2010	<40	<2.0	<2.0	<2.0	<2.0	<2.0
	6/3/2010	<40	<2.0	<2.0	<2.0	<2.0	<2.0
	<b>9/1/2010</b>	<b>&lt;200</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>
<b>MW-7</b>	9/21/2004	<10	<0.5	<0.5	1.5	NA	NA
	12/14/2004	<2.5	<0.5	<0.5	<2.0	NA	NA
	3/11/2005	<12.5	<2.5	<2.5	<10	NA	NA
	6/15/2005	<10	<0.5	<0.5	2.23	NA	NA
	8/26/2005	<10	<0.5	<0.5	<2.0	NA	NA
	11/11/2005	<10	<0.5	<0.5	<2.0	NA	NA
	2/9/2006	NA	NA	NA	NA	NA	NA
	5/9/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5
	8/10/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5
	10/26/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5
	1/25/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	4/26/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	7/25/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	10/23/2007	6.49	<0.5	<0.5	2.58	<0.5	<0.5

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MW-7 contd.	1/21/2008	<2.0	<0.5	<0.5	6.01	<0.5	<0.5
	4/15/2008	8.8	<0.5	<0.5	<2.0	<0.5	1.26
	7/2/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	10/15/2008	<10	<0.5	<0.5	14	<0.5	<0.5
	1/7/2009	<10	<0.5	<0.5	11	<0.5	<0.5
	4/13/2009	<10	<0.5	<0.5	16	<0.5	<0.5
	8/26/2009	<33	<0.5	<0.5	33	<0.5	<0.5
	12/1/2009	<10	<0.5	<0.5	30	<0.5	<0.5
	3/16/2010	11	<0.5	<0.5	<0.5	<0.5	<0.5
	6/3/2010	20	<0.5	<0.5	7.1	<0.5	<0.5
	9/1/2010	47	<0.5	<0.5	7.2	<0.5	<0.5
MW-8	9/21/2004	<10	<0.5	<0.5	<0.5	NA	NA
	12/14/2004	<2.5	<0.5	<0.5	<2.0	NA	NA
	3/11/2005	NA	NA	NA	NA	NA	NA
	6/15/2005	<10	<0.5	<0.5	<2.0	NA	NA
	8/26/2005	<10	<0.5	<0.5	<2.0	NA	NA
	11/11/2005	<10	<0.5	<0.5	<2.0	NA	NA
	2/9/2006	<10	<0.5	<0.5	<2.0	NA	NA
	5/9/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5
	8/10/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5
	10/26/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5
	1/25/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	4/26/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	7/25/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	10/23/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	1/21/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	4/15/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	7/2/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	10/15/2008	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	1/7/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	4/13/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	8/27/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
Well Decommissioned 11/13/2009							
MW-9	9/21/2004	<10	<0.5	<0.5	<0.5	NA	NA
	12/14/2004	<2.5	<0.5	<0.5	<2.0	NA	NA
	3/11/2005	<2.5	<0.5	<0.5	<2.0	NA	NA
	6/15/2005	<10	<0.5	<0.5	<2.0	NA	NA
	8/26/2005	<10	<0.5	<0.5	<2.0	NA	NA
	11/11/2005	<10	<0.5	<0.5	<2.0	NA	NA
	2/9/2006	<10	<0.5	<0.5	<2.0	NA	NA
	5/9/2006	<10	<0.5	<0.5	<2.0	2.8	<0.5
	8/10/2006	<10	<0.5	<0.5	<2.0	1.83	<0.5
	10/26/2006	<10	<0.5	<0.5	<2.0	3.07	<0.5
	1/25/2007	<2.0	<0.5	<0.5	<2.0	2.92	<0.5
	4/26/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	7/25/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	10/23/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	1/21/2008	<2.0	<0.5	<0.5	<2.0	1.18	<0.5
	4/15/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	7/2/2008	<2.0	<0.5	<0.5	<2.0	2.07	<0.5
	10/15/2008	<10	<0.5	<0.5	<0.5	1.5	<0.5

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MW-9 contd.	1/7/2009	<10	<0.5	<0.5	<0.5	1.4	<0.5
	4/13/2009	<10	<0.5	<0.5	<0.5	0.97	<0.5
	8/26/2009	<10	<0.5	<0.5	<0.5	2.6	<0.5
Well Decommissioned 11/13/2009							
EX-1	12/2/2009	150	<1.3	<1.3	<1.3	<1.3	<1.3
	3/16/2010	980	<1.3	2.4	27	<1.3	<1.3
	6/3/2010	570	<1.3	1.9	<1.3	<1.3	<1.3
	9/1/2010	470	<0.5	1.4	2.0	<0.5	<0.5
2nd WBZ							
MW-1D	1/3/2008	111	<0.5	<0.5	<2.0	NA	NA
	1/22/2008	12.9	<0.5	<0.5	<2.0	<0.5	<0.5
	4/16/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	7/3/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	10/15/2008	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	1/8/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	4/14/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	8/26/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/1/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	3/16/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/4/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	9/1/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
MW-3D	1/3/2008	37.3	<0.5	3.12	15.3	NA	NA
	1/22/2008	15.6	<0.5	3.1	15.3	<0.5	<0.5
	4/16/2008	17.7	<0.5	<0.5	<2.0	<0.5	<0.5
	7/3/2008	<2.0	<0.5	<0.5	7.45	<0.5	<0.5
	10/16/2008	<10	<0.5	<0.5	4.7	<0.5	<0.5
	1/8/2009	<10	<0.5	<0.5	3.4	<0.5	<0.5
	4/14/2009	<10	<0.5	<0.5	5	<0.5	<0.5
	8/26/2009	<10	<0.5	<0.5	1.6	<0.5	<0.5
	12/1/2009	<10	<0.5	<0.5	2.2	<0.5	<0.5
	3/16/2010	<10	<0.5	<0.5	0.65	<0.5	<0.5
	6/4/2010	<10	<0.5	<0.5	1.8	<0.5	<0.5
	9/1/2010	<10	<0.5	<0.5	2.0	<0.5	<0.5
MW-4D	1/4/2008	25	<0.5	<0.5	<2.0	NA	NA
	1/22/2008	124	<0.5	4.9	3.32	<0.5	<0.5
	4/15/2008	25.7	<0.5	<0.5	<2.0	<0.5	<0.5
	7/3/2008	3.38	<0.5	<0.5	<2.0	<0.5	<0.5
	10/16/2008	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	1/8/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	4/14/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	8/27/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/1/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	3/16/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/4/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	9/1/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
1573 153 RD	7/2/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	10/16/2008	<10	<0.5	<0.5	<0.5	<0.5	<0.5

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

Monitoring Well	Date	TBA ( $\mu\text{g/L}$ )	DIPE ( $\mu\text{g/L}$ )	ETBE ( $\mu\text{g/L}$ )	TAME ( $\mu\text{g/L}$ )	1,2-DCA ( $\mu\text{g/L}$ )	EDB ( $\mu\text{g/L}$ )
EB-PMP	1/21/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
EB-PRB	1/21/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
EB-PMP2	1/22/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
EB-PRB2	1/22/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
ESL	12	NE	NE	NE	NE	0.5	0.05

Notes:

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

<: Not detected above the laboratory reporting limit.

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

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

NE: Not Established

TBA: tert-Butyl Alcohol

DIPE: Isopropyl Ether

ETBE: Ethyl tert-Butyl Ether

TAME: Methyl tert-Amyl Ether

ESL: Environmental Screening Levels per CRWQCB SFBay Region Interim Final Nov. 2007 (Revised May 2008);

Table F-1a, Groundwater Screening Levels (groundwater is a current or potential drinking water resource)

MW-8 and MW-9 were decommissioned November 13, 2009

**Table 3**  
**Effluent Chemical Analytical Results**  
**and Operational History of Remediation System**  
 15101 Freedom Ave, San Leandro, CA

Date	Volume (gallons)	TPH-g (µg/L)	TPH-d (µg/L)	TPH-mo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	COD (mg/L)	TSS (mg/L)	pH
<b>2009</b>											
8-Oct-2009	15,351	<50	120 <sup>Y</sup>	NA	NA	NA	NA	NA	NA	NA	NA
19-Nov-2009	8,287	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5	7.7
9-Dec-2009	0										
16-Dec-2009	20,000	<50	<50	<300	<0.5	0.65 C	<0.5	0.84 C	<10	<5	7.4
<b>2010</b>											
18-Jan-2010	215,453	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5	7.4
15-Feb-2010	297,560	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	11	<5	6.7
15-Mar-2010	475,245	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5.0	6.5
19-Apr-2010	621,180	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	8	6.6
17-May-2010	705,770	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	8	6.7
16-Jun-2010	825,200	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	17	9	6.8
19-Jul-2010	910,652	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	8	6.6
<b>16-Aug-2010</b>	<b>939,935</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>&lt;300</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;10</b>	<b>6</b>	<b>6.6</b>

Note:

NA: Not Available/Not Applicable

< : Less than Laboratory-reporting limit

In October and November 2009 discharge occurred only during MPE events

GWETS and totalizer installed in December 2009.

Week # 1 sampling conducted on Oct 8, 2009

C: Presence confirmed, but RPD between column exceeds 40%

Volume discharged during the October 2009 MPE event was 18,669 gallons

Volume discharged during the November 2009 MPE event was 10,507 gallons

Volume discharged during the December 2009 MPE event was 20,298 gallons

Volume discharged during the February 2010 MPE event was 6,339 gallons

Volume discharged during the March 2010 MPE event was 3,810 gallons

Volume discharged during the June 2010 MPE event was 15, 600 gallons

Volume discharged during the August 2010 MPE event was 1,421 gallons

**Table 4**  
**Cumulative Masses of Petroleum Hydrocarbons Removed from**  
**the Groundwater Since Installation of the Treatment System**  
 15101 Freedom Ave, San Leandro, CA

Date	Volume (gallons)	Influent Concentration ( $\mu\text{g}/\text{L}$ )					Mass removed (pounds)					
		TPH-g	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-g	Benzene	Toluene	Ethyl-benzene	Total Xylenes	
<b>2009</b>												
9-Dec-2009	0		Installation of GWETS, began discharging treated groundwater to site sewer main									
<b>2010</b>												
18-Jan-2010	215,453	1,900	79	32.00	2.4	260	3.41	0.14	0.06	0.00	0.47	
19-Apr-2010	621,180	2,100	75	28	56	332	10.50	0.40	0.15	0.19	1.59	
<b>19-Jul-2010</b>	<b>910,652</b>	<b>56<sup>Y</sup></b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>10.64</b>	<b>0.40</b>	<b>0.15</b>	<b>0.19</b>	<b>1.59</b>	

Notes:

< : Below laboratory-reporting limit

Y : sample exhibits chromatographic pattern which does not resemble standard

**Table 5**

**Third Quarter 2010 MPE Event**  
**Operational Data : August 2010**

15101 Freedom Avenue,  
San Leandro, California

DATE	TIME	PID (ppmv)	WELL MANIFOLD VACUUM (In of Hg)	OXIDIZER TEMPERATURE (°F)	PITOT TUBE (In of H <sub>2</sub> O)	EFFLUENT TEMPERATURE (°F)	CALCULATED FLOW RATE USING PITOT TUBE (scfm)	SYSTEM (BLOWER) VACUUM (In of Hg)	SYSTEM TOTALIZER READING (gallons)	COMMENTS
8/9/2010	1000								0	
	1030								0	start up
	1130	1,670	18.4	1,546	0.15		54	23.6	31	start extraction at MPE-2 and MW-5
	1230	1,500	16.0	1,546	0.20		62	22	65	
	1630	615	15.8	1,524	0.20		62	22	195	
	1730	508	14.6	1,523	0.25		69	21.2	195	
	830	IN: 422 EFF:<1	16.8	1,523	0.18		59	22.2	471	
8/10/2010	930	436	16.6	1,527	0.18		59	22.4	471	
	1330	430	16.0	1,526	0.18		59	22	631	
	1500	426	12.0	1,531	0.18		59	22	1,000	
	1600	423	16.0	1,529	0.18		59	22	1,000	
8/11/2010	800	340	16.0	1,523	0.18		59	22	1,041	
	930	354	16.0	1,530	0.20		62	22	1,046	
	1130	340	16.0	1,521	0.22		65	22	1,056	
	1400	317	15.0	1,528	0.22		65	22	1,066	
	1500	265	14.0	1,530	0.29		75	21	1,076	
	1600	240	13.0	1,525	0.30		76	21	1,079	
8/12/2010	830	301	16.6	1,525	0.18		59	22.2	1,080	
	1030	310	16.2	1,480	0.20		62	22	1,081	
	1330	318	16.2	1,531	0.20		62	22	1,101	
	1430	323	16.4	1,531	0.20		62	22	1,116	
	1530	331	16.4	1,531	0.18		59	22	1,131	
	1630	326	16.4	1,521	0.18		59	22	1,131	
8/13/2010	700	268	15.8	1,533	0.20		62	22	1,231	
	930	290	16.2	1,526	0.19		61	22.1	1,285	
	1430	240	15.0	1,500	0.23		67	21.6	1,421	End Extraction

Totalizer readings = 1,421 gallons

Total time of test = 6,000 minutes = 100 hours

Notes

ppmv parts per million vapor  
In of Hg inches of mercury  
In of H<sub>2</sub>O inches of water  
°F degrees Fahrenheit  
scfm standard cubic feet per minute

**Table 6**  
**Third Quarter 2010 MPE Event**  
**Extraction Data and VOC Mass Removal Rate**  
**August 2010**  
15101 Freedom Avenue  
San Leandro, California

WELL	COMMENT	DATE	CLOCK TIME	INCREMENTAL TIME	ELAPSED TIME	Q		PID		MASS REMOVAL			
						minutes	minutes	SCFM	ft <sup>3</sup> of extracted air	Moles of extracted air	ppm as hexane	VOC mole %	lb VOC mass removal as hexane
MPE-2, MW-5	<b>START</b>	8/9/2010	1000										
			1030	0	0								
			1130	60	60	54	3,226	8.5128	1,670	0.0017	1.2254	0.0204	29
			1230	60	120	62	3,725	9.8297	1,500	0.0015	1.2710	0.0212	31
			1630	240	360	62	14,902	39.3188	615	0.0006	2.0844	0.0087	13
			1730	60	420	69	4,165	10.9899	508	0.0005	0.4812	0.0080	12
			830	900	1,320	59	53,014	139.8790	422	0.0004	5.0883	0.0057	8
		8/10/2010	930	60	1,380	59	3,534	9.3253	436	0.0004	0.3505	0.0058	8
			1330	240	1,620	59	14,137	37.3011	430	0.0004	1.3826	0.0058	8
			1500	90	1,710	59	5,301	13.9879	426	0.0004	0.5137	0.0057	8
			1600	60	1,770	59	3,534	9.3253	423	0.0004	0.3400	0.0057	8
			800	960	2,730	59	56,548	149.2043	340	0.0003	4.3729	0.0046	7
			930	90	2,820	62	5,588	14.7445	354	0.0004	0.4499	0.0050	7
			1130	120	2,940	65	7,815	20.6189	340	0.0003	0.6043	0.0050	7
		8/11/2010	1400	150	3,090	65	9,768	25.7737	317	0.0003	0.7043	0.0047	7
			1500	60	3,150	75	4,486	11.8365	265	0.0003	0.2704	0.0045	6
			1600	60	3,210	76	4,563	12.0389	240	0.0002	0.2491	0.0042	6
			830	990	4,200	59	58,316	153.8669	301	0.0003	3.9923	0.0040	6
			1030	120	4,320	62	7,451	19.6594	310	0.0003	0.5253	0.0044	6
			1330	180	4,500	62	11,176	29.4891	318	0.0003	0.8083	0.0045	6
			1430	60	4,560	62	3,725	9.8297	323	0.0003	0.2737	0.0046	7
		8/12/2010	1530	60	4,620	59	3,534	9.3253	331	0.0003	0.2661	0.0044	6
			1630	60	4,680	59	3,534	9.3253	326	0.0003	0.2621	0.0044	6
			700	870	5,550	62	54,019	142.5306	268	0.0003	3.2927	0.0038	5
			930	150	5,700	61	9,078	23.9520	290	0.0003	0.5988	0.0040	6
			1430	300	6,000	67	19,976	52.7059	240	0.0002	1.0904	0.0036	5
			<b>STOP</b>								<b>30</b>	<b>0.0051</b>	<b>7</b>
	TOTAL MEDIAN				6,000	62	365,117	963	336	0.0003			

Notes

Q volumetric flow rate  
 SCFM standard cubic feet per minute  
 ft<sup>3</sup> cubic feet per minute  
 VOC volatile organic compounds  
 PID photo-ionization detector  
 ppmv parts per million vapor

#### DERIVATION OF MASS REMOVAL RATE

ppmv as hexane/1,000,000 = VOC mole %  
 ft<sup>3</sup> of extracted air/(379 ft<sup>3</sup> air/lb-mole air) = moles of extracted air  
 (moles of extracted air)(VOC mole %)(66.2 lb/lb-mole hexane) = lbs of VOC removed as hexane  
 (lbs of VOC removed as hexane)/(elapsed time) = lbs/min of VOC removed as hexane  
 (lbs/min of VOC removed as hexane)(60 min/1 hour)(24 hours/1 day) = lbs/day of VOC removed as hexane

**Table 7**  
**SVE Abatement System Emissions**  
**15101 Freedom Avenue, San Leandro, CA**

Operation Start Date/Time	Onboard Analyzer Sample Date/Time	Onboard Analyzer		Lab Sample Date/Time	USEPA TO-3 MODIFIED		USEPA TO-15 MODIFIED		Q (SCFM)	Abatement Efficiency	Emissions Rate Benzene (lbs/day)				
		Hydrocarbons (TPH-g + BTEX) (ppmv as hexane)			TPH-g (ppmv)		Benzene (ppmv)								
		Inlet	Outlet		Inlet	Outlet	Inlet	Outlet							
8/9/10 @ 10:30	8/10/10 @8:30	422	<1.0	8/10/10 @9:00	207.386	<0.322	2.394	<0.00069	59	99.8447%	1.80E-05				

SCFM standard cubic feet per minute

lbs/day pounds per day

# **Appendix A**

## **Standard Operating Procedures for Conducting Groundwater Monitoring Activities**

# **Standard Operating Procedures for Conducting Groundwater Monitoring Activities**

## **Water Level Measurements**

Prior to measurement of groundwater depth at each well, equalization with the surrounding aquifer must be achieved. Initially, the well cap is removed and the pressure is allowed to dissipate, creating a more stable water table level within the well. After about 10-15 minutes, once the water level in the well stabilizes, the depth to groundwater is measured from the top of the casing to the nearest 0.01 foot using an electric sounder.

## **Purging and Field Measurements**

Prior to sample collection, each well is purged using a battery-operated, 2-inch-diameter pump (Model ES-60 DC). During purging, groundwater is measured for parameters such as dissolved oxygen (DO), pH, temperature, electrical conductivity (EC), and oxygen-reduction potential (ORP) using a Hanna HI-9828 multi-parameter instrument. Turbidity is measured using a Hanna HI-98703 portable turbidimeter. The equipment is calibrated at the site using standard solutions and procedures provided by the manufacturer.

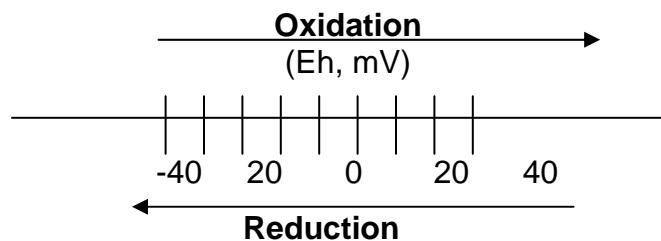
The pH of groundwater has an effect on the activity of microbial populations in the groundwater. The groundwater temperature affects the metabolic activity of bacteria. The groundwater EC is directly related to the concentration of total dissolved solids (TDS) in solution.

There is a strong correlation between the turbidity level and the biological oxygen demand of natural water bodies. The main purpose for checking the turbidity level is to provide a general overview of the extent of the suspended solids in the groundwater.

ORP is the measure of the potential for an oxidation or reduction process to occur. In the oxidation process, a molecule or ion loses one or several electrons. In the reduction process, a molecule or ion gains one or several electrons. The unit of the redox potential is the volt or millivolt. The most important redox reaction in petroleum-contaminated groundwater is the oxidation of petroleum hydrocarbons in the presence of bacteria and free molecular oxygen. Because the solubility of O<sub>2</sub> in water is low (9 mg/L at 25 °C and 11 mg/L at 5 °C), and because the rate of O<sub>2</sub> replenishment in subsurface environments is limited, DO can be entirely consumed when the oxidation of only a small amount of petroleum hydrocarbons occurs.

Oxidation of petroleum hydrocarbons can still occur when all the dissolved O<sub>2</sub> in the groundwater is consumed; however, the oxidizing agents (i.e., the constituents that undergo reduction) now become NO<sub>3</sub><sup>-</sup>, MnO<sub>2</sub>, Fe (OH)<sub>3</sub>, SO<sub>4</sub><sup>2-</sup>

and others (Freeze and Cherry, 1979). As these oxidizing agents are consumed, the groundwater environment becomes more and more reduced. If the process advances far enough, the environment may become so strongly reduced that the petroleum hydrocarbons undergo anaerobic degradation, resulting in the production of methane and carbon dioxide. The concept of oxidation and reduction in terms of changes in oxidation states is illustrated below.



Purging of wells continues until the parameters for DO, pH, temperature, EC, turbidity, and redox stabilize, or three casing volumes are purged.

Once stabilization occurs, the groundwater samples are also tested on-site for ferrous iron ( $\text{Fe}^{+2}$ ), nitrate ( $\text{NO}_3^-$ ), and sulfate ( $\text{SO}_4^{+2}$ ) concentrations.

$\text{Fe}^{+2}$ ,  $\text{NO}_3^-$ , and  $\text{SO}_4^{+2}$  are measured colorimetrically using the Hach Colorimeter Model 890, a microprocessor-controlled photometer suitable for colorimetric testing in the laboratory or the field. The required reagents for each specific test are provided in AccuVac ampuls.

## Sampling

For sampling purposes, after purging a disposable polyethylene bailer is used to collect sufficient samples from each monitoring well for laboratory analyses. Groundwater samples are transferred into 40-mL VOA vials and preserved with hydrochloric acid. The vials are sealed to prevent air bubbles from developing within the headspace. For TPH-d analysis, groundwater samples are collected using 1-L, amber, nonpreserved glass containers. Samples are placed in an ice-filled cooler and maintained at 4°C. A chain of custody form for all samples is prepared to accompany the samples, which are promptly delivered to a California state-certified analytical laboratory.

# **Appendix B**

Table of Elevations and Coordinates on Monitoring Wells  
and Field Measurements of Physical and Chemical  
Parameters of Groundwater Samples

**AMMENDED 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: 1/08/2008  
JOB NUMBER 0208101  
DATE OF SURVEY 1/03/08  
INSTRUMENT LIECA SR520

TABLE OF ELEVATIONS & COORDINATES  
ON MONITORING WELLS

SOMA ENVIRONMENTAL, PROJECT 15101 FREEDOM DRIVE - SAN LEANDRO

WELL ID#	NORTHING (ft.) LATITUDE	EASTING (ft.) LONGITUDE	ELEVATION (ft.)	DESCRIPTION
MW-1D	2084371.23	6092127.90	54.42	MW-1D NOTCH
	37.708104856	122.123200912	54.94	MW-1D RIM
	37° 42' 29.1" N	122° 07' 23" W	54.74	PAVEMENT
MW-3D	2084303.98	6092183.53	54.10	MW-3D NOTCH
	37.707922851	122.123004590	54.56	MW-3D RIM
	37° 42' 28.5" N	122° 07' 22" W	54.47	PAVEMENT
MW-4D	2084222.77	6092116.37	53.12	MW-4D NOTCH
	37.707696648	122.123231858	53.37	MW-4D RIM
	37° 42' 27.7" N	122° 07' 23" W	53.39	PAVEMENT

BENCH MARK: NGS BENCH MARK NO. HT1871

3.0 KM (1.85 MI) NORTH FROM SAM LORENZO. 1.85 MILES NORTH ALONG INTERSTATE HIGHWAY 580 FROM THE JUNCTION OF STATE HIGHWAY 238 IN SAN LORENZO, IN THE WEST CORNER OF THE CROSSING OF 150TH AVENUE, IN TOP OF THE CONCRETE BRIDGE DECK, 15.5 FEET NORTHWEST OF THE SOUTHWEST BOUND LANES OF THE AVENUE, 10.9 FEET NORTHEAST OF THE SOUTH CORNER OF THE SOUTHWEST END OF THE NORTHWEST CONCRETE GUARDRAIL, 0.7 FOOT NORTHEAST OF THE SOUTHWEST EDGE OF THE DECK, 0.9 FOOT SOUTHEAST OF THE NORTHWEST CONCRETE GUARDRAIL, AND ABOUT LEVEL WITH THE HIGHWAY.

ELEVATION = 58.50 NAVD 88 DATUM

HORIZONTAL AND VERTICAL CONTROL BASED ON HARRINGTON SURVEY DATED 10-12-2004

FD CHABOT A, CALIFORNIA STATE PLAIN COORDINATE SYSTEM, NAD 83, ZONE 3. NORTH 2,088,584.99 EAST 6,093,351.39. LAT N 37°43'11.04190" LONG W 122°07'09.20691", ELEVATION 492.08 NAVD 88.

FD CHABOT B, CALIFORNIA STATE PLAIN COORDINATE SYSTEM, NAD 83, ZONE 3. NORTH 2,087,731.02 EAST 6,094,039.23. . LAT N 37°43'02.71762" LONG W 122°07'00.46339", ELEVATION 442.77 NAVD 88.

DATE: 12/11/2009

JOB# 09039

**TABLE OF ELEVATIONS & COORDINATES****ON MONITORING WELLS**

SOMA ENVIRONMENTAL ENGINEERING

15101 FREEDOM AVENUE

SAN LEANDRO, CA 94579

WELL ID #	NORTHING (FT.) / LATITUDE (D.DEG.)	EASTING (FT.) / LONGITUDE (D.DEG.)	ELEVATION (FT.)	DESCRIPTION
EX-1	2084135.454 37.707459134	6092163.720 122.123062972	47.36 47.61 47.60	4" PVC NOTCH NORTH SIDE SET PUNCH NORTH SIDE RIM PAVEMENT NORTH SIDE
EX-2	2084082.018 37.707310806	6092130.224 122.123175540	45.96 47.04 47.00	4" PVC NOTCH NORTH SIDE SET PUNCH NORTH SIDE RIM CONCRETE NORTH SIDE
MPE-1	2084213.168 37.707670702	6092125.258 122.123200567	51.96 52.49 52.51	4" PVC NOTCH NORTH SIDE SET PUNCH NORTH SIDE RIM CONCRETE NORTH SIDE
MPE-2	2084293.133 37.707892479	6092171.374 122.123045970	53.72 54.29 54.27	4" PVC NOTCH NORTH SIDE SET PUNCH NORTH SIDE RIM PAVEMENT NORTH SIDE

**HORIZONTAL AND VERTICAL CONTROL**

SURVEY BASED ON PREVIOUS SURVEY BY HARRINGTON SURVEY INC. DATED: 2/21/2008

COORDINATE VALUES ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM, ZONE 3, NAD83.  
ELEVATIONS ARE NAVD 88 DATUM.

MW-2, PUNCH

NORTHING 2,084323.44, EASTING 6,092063.77, ELEVATION 52.92

MW-4 PUNCH

NORTHING 2,084250.55, EASTING 6,092124.46, ELEVATION 53.74

EQUIPMENT USED: TRIMBLE S6

Edgis Land Surveying  
 Land Surveying and mapping  
 1374 Garland Avenue, Clovis, CA 93612  
 Phone (559) 906-3554 Fax (559) 292-0560  
 email: edgis@aol.com





## ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-1  
Casing Diameter: 4 inches  
Depth of Well: 30.50 feet  
Top of Casing Elevation: 54.46 feet  
Depth to Groundwater: 23.28 feet  
Groundwater Elevation: 31.18 feet  
Water Column Height: 7.22 feet  
Purged Volume: 14 gallons

Project No.: 2551  
Address: 15101 Freedom Avenue  
San Leandro, CA  
Date: September 2, 2010  
Sampler: Lizzie Hightower

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	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP
09:41	Started purging well						
09:42	2	1.33	6.23	20.65	1298	2.82	-66.2
09:44	6	1.25	6.08	20.69	1311	2.45	-77.5
09:46	10	1.03	6.05	20.67	1337	2.11	-82.8
09:47	12	0.98	6.04	20.65	1351	1.94	-85.2
09:48	14	0.92	6.04	20.66	1361	2.46	-86.4
09:53	Sampled						



## ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-2 Project No.: 2551  
Casing Diameter: 4 inches Address: 15101 Freedom Avenue  
Depth of Well: 30.15 feet San Leandro, CA  
Top of Casing Elevation: 52.41 feet Date: September 2, 2010  
Depth to Groundwater: 21.42 feet Sampler: Lizzie Hightower  
Groundwater Elevation: 30.99 feet  
Water Column Height: 8.73 feet  
Purged Volume: 14 gallons

Purging Method: Bailer  Pump   
Sampling Method: Bailer  Pump

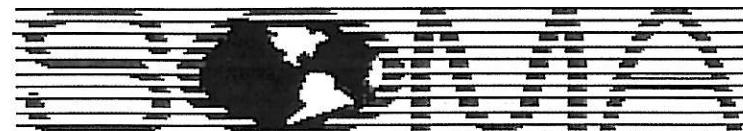
Color: Yes  No  Describe: \_\_\_\_\_

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

Odor: Yes  No  Describe: Slight Petro

## Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. ( $\mu$ S/cm)	Turb. NTU	ORP
09:14	Started purging well						
09:15	2	0.93	6.55	20.71	1438	10.8	-150.3
09:17	6	0.85	6.30	20.78	1249	7.73	-178.6
09:19	10	0.71	6.25	20.76	1271	4.06	-172.9
09:20	12	0.73	6.27	20.74	1270	3.36	-173.0
09:21	14	0.66	6.29	20.73	1269	2.67	-174.2
09:26	Sampled						



## ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-3  
Casing Diameter: 4 inches  
Depth of Well: 29.90 feet  
Top of Casing Elevation: 53.91 feet  
Depth to Groundwater: 22.76 feet  
Groundwater Elevation: 31.15 feet  
Water Column Height: 7.14 feet  
Purged Volume: 14 gallons

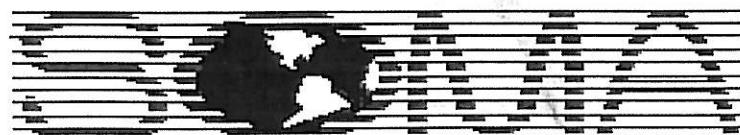
Project No.: 2551  
Address: 15101 Freedom Avenue  
San Leandro, CA  
Date: September 2, 2010  
Sampler: Lizzie Hightower

Purging Method: Bailer  Pump   
Sampling Method: Bailer  Pump

Color: Yes  No  Describe: \_\_\_\_\_  
Sheen: Yes  No  Describe: Slight Rainbow Sheen  
Odor: Yes  No  Describe: Petro Odor

## Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP
10:16	Started purging well						
10:17	2	1.92	6.38	21.06	1256	5.50	-67.4
10:19	6	1.63	6.23	21.04	1251	2.24	-88.2
10:21	10	1.51	6.19	21.02	1256	2.65	-117.3
10:22	12	1.32	6.18	21.03	1258	2.57	-126.2
10:23	14	1.17	6.18	21.04	1256	2.86	-131.2
10:23	Sampled						



## ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-4  
Casing Diameter: 4 inches  
Depth of Well: 30.20 feet  
Top of Casing Elevation: 53.31 feet  
Depth to Groundwater: 22.51 feet  
Groundwater Elevation: 30.80 feet  
Water Column Height: 7.69 feet  
Purged Volume: 14 gallons

Project No.: 2551  
Address: 15101 Freedom Avenue  
San Leandro, CA  
Date: September 2, 2010  
Sampler: Lizzie Hightower

Purging Method: Bailer  Pump   
Sampling Method: Bailer  Pump

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

## Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP
11:18	Started purging well						
11:19	2	2.72	6.49	20.29	1255	2.40	-95.1
11:21	6	1.99	6.21	20.24	1267	1.29	-102.3
11:23	10	1.92	6.07	20.22	1294	1.11	-106.5
11:24	12	1.87	6.07	20.22	1294	1.15	-104.4
11:25	14	1.80	6.06	20.21	1305	1.45	-101.5
11:30	Sampled						



## ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-5  
Casing Diameter: 4 inches  
Depth of Well: 29.80 feet  
Top of Casing Elevation: 50.53 feet  
Depth to Groundwater: 19.82 feet  
Groundwater Elevation: 30.71 feet  
Water Column Height: 9.98 feet  
Purged Volume: 14 gallons

Project No.: 2551  
Address: 15101 Freedom Avenue  
San Leandro, CA  
Date: September 2, 2010  
Sampler: Lizzie Hightower

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump

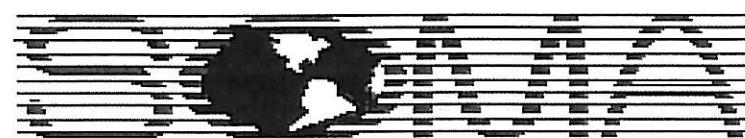
Color: Yes  No  Describe: \_\_\_\_\_

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

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

## Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP
10:45	Started purging well						
10:46	2	1.88	6.35	21.24	1166	29.4	-130.1
10:48	6	1.53	6.26	21.22	1169	17.2	-156.5
10:50	10	1.45	6.19	21.23	1175	11.6	-165.5
10:51	12	1.22	6.17	21.21	1176	13.4	-166.9
10:52	14	1.03	6.16	21.22	1178	13.0	-168.4
10:57	Sampled						



## ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-6  
Casing Diameter: 4 inches  
Depth of Well: 27.30 feet  
Top of Casing Elevation: 45.82 feet  
Depth to Groundwater: 16.86 feet  
Groundwater Elevation: 28.96 feet  
Water Column Height: 10.44 feet  
Purged Volume: 14 gallons

Project No.: 2551  
Address: 15101 Freedom Avenue  
San Leandro, CA  
Date: September 1, 2010  
Sampler: Lizzie Hightower  
Erica Fisker

Purging Method: Bailer  Pump   
Sampling Method: Bailer  Pump

Color: Yes  No  Describe: \_\_\_\_\_  
Sheen: Yes  No  Describe: Rainbow Sheen - some fp globs visible  
Odor: Yes  No  Describe: Strong Petro Odor

## Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP
11:24	Started purging well						
11:25	2	0.88	6.51	20.86	1416	7.04	-76.6
11:27	6	0.62	6.47	20.88	1417	2.60	-87.6
11:29	10	0.55	6.44	20.88	1418	2.69	-107.0
11:30	12	0.50	6.44	20.80	1419	2.73	-115.7
11:31	14	0.41	6.44	20.86	1419	2.77	-120.3
11:36	Sampled						



## ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-7  
Casing Diameter: 2 inches  
Depth of Well: 21.00 feet  
Top of Casing Elevation: 44.74 feet  
Depth to Groundwater: 14.84 feet  
Groundwater Elevation: 29.90 feet  
Water Column Height: 6.16 feet  
Purged Volume: 3 gallons

Project No.: 2551  
Address: 15101 Freedom Avenue  
San Leandro, CA  
Date: September 1, 2010  
Sampler: Lizzie Hightower  
Erica Fisher

Purging Method: Bailer  Pump   
Sampling Method: Bailer  Pump

Color: Yes  No  Describe: Cloudy  
Sheen: Yes  No  Describe: \_\_\_\_\_  
Odor: Yes  No  Describe: Slight Petro

## Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP
10:57	Started purging well						
10:59	1	1.32	6.32	20.33	1277	1000	-68.3
11:02	2	1.17	6.37	21.91	1203	999	-64.6
11:05	3	0.98	6.40	19.83	1271	999	-60.0
11:10	Sampled						



## ENVIRONMENTAL ENGINEERING, INC.

Well No.:	<u>EX-1</u>	Project No.:	2551
Casing Diameter:	<u>6</u> inches	Address:	15101 Freedom Avenue
Depth of Well:	<u>—</u> feet		San Leandro, CA
Top of Casing Elevation:	<u>47.36</u> feet	Date:	September 1, 2010
Depth to Groundwater:	<u>17.88</u> feet	Sampler:	Lizzie Hightower
Groundwater Elevation:	<u>29.45</u> feet		<u>Erica Fisker</u>
Water Column Height:	<u>NC</u> feet		
Purged Volume:	<u>—</u> gallons		
<u>Not purged</u>			
Purging Method:	Bailer <input type="checkbox"/>	Pump <input type="checkbox"/>	
Sampling Method:	Bailer <input checked="" type="checkbox"/>	Pump <input type="checkbox"/>	
Color:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Describe: _____
Sheen:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Describe: _____
Odor:	Yes <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	Describe: <u>Slight Petro</u>

#### **Field Measurements:**



ENVIRONMENTAL ENGINEERING, INC.

Well No.:	<u>EX-2</u>		Project No.:	2551	
Casing Diameter:	<u>6</u>	inches	Address:	15101 Freedom Avenue	
Depth of Well:	<u>—</u>	feet	San Leandro, CA		
Top of Casing Elevation:	<u>45.96</u>	feet	Date:	September 1, 2010	
Depth to Groundwater:	<u>17.94</u>	feet	Sampler:	Lizzie Hightower	
Groundwater Elevation:	<u>28.02</u>	feet	<i>Erica Fisker</i>		
Water Column Height:	<u>NC</u>	feet			
	<u>—</u>	gallons			
Purged Volume:	<i>Not purged</i>				
Purging Method:	Bailer	<input type="checkbox"/>	Pump	<input type="checkbox"/>	
Sampling Method:	Bailer	<input checked="" type="checkbox"/>	Pump	<input type="checkbox"/>	
Color:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	Describe: _____
Sheen:	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	Describe: _____
Odor:	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	Describe: <u>Slight Petro</u>

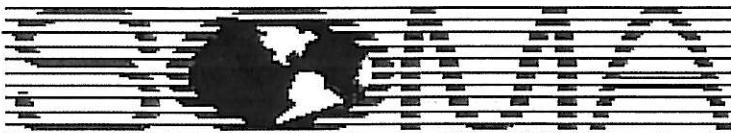
## **Field Measurements:**



## ENVIRONMENTAL ENGINEERING, INC.

Well No.:	<u>MPE-1</u>		Project No.:	2551
Casing Diameter:	<u>4</u>	inches	Address:	15101 Freedom Avenue
Depth of Well:	<u>30.00</u> feet		San Leandro, CA	
Top of Casing Elevation:	<u>51.96</u> feet		Date:	September 1, 2010
Depth to Groundwater:	<u>21.25</u> feet		Sampler:	Lizzie Hightower
Groundwater Elevation:	<u>30.71</u> feet		<u>Erica Fisher</u>	
Water Column Height:	<u>8.75</u> feet			
Purged Volume:	<u>—</u> gallons			
<u>Not purged</u>				
Purging Method:	Bailer	<input type="checkbox"/>	Pump	<input type="checkbox"/>
Sampling Method:	Bailer	<input type="checkbox"/>	Pump	<input type="checkbox"/> Not Sampled
Color:	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Sheen:	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Odor:	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
			Describe:	<u>Unknown</u>
			Describe:	<u>Unknown</u>
			Describe:	<u>Unknown</u>

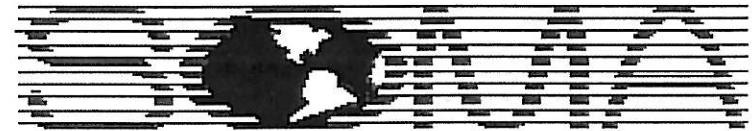
## Field Measurements:



## ENVIRONMENTAL ENGINEERING, INC.

Well No.:	<u>MPE-2</u>		Project No.:	2551	
Casing Diameter:	<u>4</u> inches		Address:	15101 Freedom Avenue	
Depth of Well:	<u>30.00</u> feet		San Leandro, CA		
Top of Casing Elevation:	<u>53.72</u> feet		Date:	September 1, 2010	
Depth to Groundwater:	<u>23.70</u> feet		Sampler:	Lizzie Hightower	
Groundwater Elevation:	<u>30.02</u> feet		Erica Fisker		
Water Column Height:	<u>6.30</u> feet				
Purged Volume:	<u>—</u> gallons <i>Not purged</i>				
Purging Method:	Bailer	<input type="checkbox"/>	Pump	<input type="checkbox"/>	
Sampling Method:	Bailer	<input type="checkbox"/>	Pump	<input type="checkbox"/> <i>Not sampled</i>	
Color:	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	Describe: <u>Unknown</u>
Sheen:	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	Describe: <u>Unknown</u>
Odor:	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	Describe: <u>Unknown</u>

#### **Field Measurements:**



## ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-1D  
Casing Diameter: 2 inches  
Depth of Well: 59.81 feet  
Top of Casing Elevation: 54.42 feet  
Depth to Groundwater: 23.51 feet  
Groundwater Elevation: 30.91 feet  
Water Column Height: 36.30 feet  
Purged Volume: 14 gallons

Project No.: 2551  
Address: 15101 Freedom Avenue  
San Leandro, CA  
Date: September 1, 2010  
Sampler: Lizzie Hightower  
*Erica Fisler*

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump

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

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

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

## Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP
14:24	Started purging well						
14:25	2	0.98	7.16	20.42	1396	2.32	-8.3
14:27	6	0.75	7.08	20.20	1399	0.58	-6.1
14:29	10	0.70	7.00	20.16	1402	0.79	-6.0
14:30	12	0.66	6.97	20.14	1403	4.37	-6.3
14:31	14	0.52	6.94	20.12	1404	4.14	-6.6
14:36	Sampled						



## ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-3D  
Casing Diameter: 2 inches  
Depth of Well: 58.59 feet  
Top of Casing Elevation: 54.10 feet  
Depth to Groundwater: 23.09 feet  
Groundwater Elevation: 31.01 feet  
Water Column Height: 35.50 feet  
Purged Volume: 14 gallons

Project No.: 2551  
Address: 15101 Freedom Avenue  
San Leandro, CA  
Date: September 1, 2010  
Sampler: Lizzie Hightower  
Erica Fisher

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump

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

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

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

## Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP
13:27	Started purging well						
13:28	2	1.85	7.08	20.53	1239	1.36	-30.7
13:30	6	1.20	6.96	20.42	1282	0.48	-28.6
13:32	10	1.09	6.90	20.39	1298	0.38	-28.8
13:33	12	0.85	6.87	20.34	1303	0.29	-29.1
13:34	14	0.79	6.85	20.33	1304	0.25	-29.4
13:39	Sampled						



## ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-4D  
Casing Diameter: 2 inches  
Depth of Well: 58.79 feet  
Top of Casing Elevation: 53.12 feet  
Depth to Groundwater: 23.32 feet  
Groundwater Elevation: 29.80 feet  
Water Column Height: 35.47 feet  
Purged Volume: 14 gallons

Project No.: 2551  
Address: 15101 Freedom Avenue  
San Leandro, CA  
Date: September 1, 2010  
Sampler: Lizzie Hightower  
Erica Fisker

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump

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

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

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

## Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP
13:51	Started purging well						
13:52	2	2.25 (9.82)	9.80	19.80	1250	5.01	-49.1
13:54	6	1.98	7.06	19.71	1317	1.50	-29.5
13:56	10	1.77	6.94	19.68	1331	3.97	-26.6
13:57	12	1.53	6.92	19.67	1332	3.79	-26.7
13:58	14	1.44	6.92	19.67	1333	2.20	-26.9
14:03	Sampled						

# **Appendix C**

**Laboratory Report and Chain of Custody Form  
for the Third Quarter 2010 Monitoring Event**



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

**Laboratory Job Number 222204  
ANALYTICAL REPORT**

SOMA Environmental Engineering Inc.  
6620 Owens Dr.  
Pleasanton, CA 94588

Project : 2551  
Location : 15101 Freedom Avenue  
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
MW-1	222204-001
MW-2	222204-002
MW-3	222204-003
MW-4	222204-004
MW-5	222204-005
MW-6	222204-006
MW-7	222204-007
MW-1D	222204-008
MW-3D	222204-009
MW-4D	222204-010
EX-1	222204-011
EX-2	222204-012

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Troy Barber  
Project Manager

Date: 09/10/2010

NELAP # 01107CA

**CASE NARRATIVE**

Laboratory number: **222204**  
Client: **SOMA Environmental Engineering Inc.**  
Project: **2551**  
Location: **15101 Freedom Avenue**  
Request Date: **09/02/10**  
Samples Received: **09/02/10**

This data package contains sample and QC results for twelve water samples, requested for the above referenced project on 09/02/10. The samples were received cold and intact.

**Volatile Organics by GC/MS (EPA 8260B):**  
No analytical problems were encountered.

# CHAIN OF CUSTODY

Page 1 of 1

## Curtis & Tompkins, Ltd.

Analytical Laboratory Since 1878  
 2323 Fifth Street  
 Berkeley, CA 94710  
 (510)486-0900 Phone  
 (510)486-0532 Fax

C&T LOGIN # 222204

## Analyses

Project No: 2551

Report To: Joyce Bobek

Project Name: 15101 Freedom Ave., San Leandro Company : SOMA Environmental

Turnaround Time: Standard

Telephone: 925-734-6400

Fax: 925-734-6401

Lab No.	Sample ID.	Sampling Date Time	Matrix			Preservative			
			Soil	Water	VWaste	# of Containers	HCL	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>
1	MW-1	9/2/10 09:53	*			3-VOAs	*		*
2	MW-2	9/2/10 09:26	*			3-VOAs	*		*
3	MW-3	9/2/10 10:28	*			3-VOAs	*		*
4	MW-4	9/2/10 11:30	*			3-VOAs	*		*
5	MW-5	9/2/10 10:57	*			3-VOAs	*		*
6	MW-6	9/1/10 11:36	*			3-VOAs	*		*
7	MW-7	9/1/10 11:10	*			3-VOAs	*		*
8	MW-1D	9/1/10 14:36	*			3-VOAs	*		*
9	MW-3D	9/1/10 13:39	*			3-VOAs	*		*
10	MW-4D	9/1/10 14:03	*			3-VOAs	*		*
11	EX-1	9/1/10 11:50	*			3-VOAs	*		*
12	EX-2	9/1/10 11:58	*			3-VOAs	*		*

Notes: EDF OUTPUT REQUIRED

Ethanol

RELINQUISHED BY:

L.Hight 9/2/10  
12:52 DATE/TIME

RECEIVED BY:

Desiree Thanh 9/2/10 12:52  
DATE/TIME

Received on ice DNT 9/2/10

DATE/TIME

DATE/TIME

DATE/TIME

## COOLER RECEIPT CHECKLIST



Curtis &amp; Tompkins, Ltd.

Login # 222204 Date Received 9/2/10 Number of coolers 1  
 Client 304X Project 15101 FREEDOM AVE, SL

Date Opened 9/2/10 By (print) M. Hillman (sign) J. M. Hillman  
 Date Logged in ✓ By (print) \_\_\_\_\_ (sign) \_\_\_\_\_

1. Did cooler come with a shipping slip (airbill, etc) YES  NO  
 Shipping info \_\_\_\_\_
  
- 2A. Were custody seals present? ...  YES (circle) on cooler      on samples  NO  
 How many \_\_\_\_\_ Name \_\_\_\_\_ Date \_\_\_\_\_
  
- 2B. Were custody seals intact upon arrival? YES  NO  N/A
3. Were custody papers dry and intact when received? YES  NO
4. Were custody papers filled out properly (ink, signed, etc)? YES  NO
5. Is the project identifiable from custody papers? (If so fill out top of form) YES  NO
6. Indicate the packing in cooler: (if other, describe) \_\_\_\_\_

Bubble Wrap       Foam blocks       Bags       None  
 Cloth material       Cardboard       Styrofoam       Paper towels

## 7. Temperature documentation:

Type of ice used:  Wet       Blue/Gel       None      Temp(°C) \_\_\_\_\_

Samples Received on ice & cold without a temperature blank

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES  NO  
 If YES, what time were they transferred to freezer?
9. Did all bottles arrive unbroken/unopened? YES  NO
10. Are samples in the appropriate containers for indicated tests? YES  NO
11. Are sample labels present, in good condition and complete? YES  NO
12. Do the sample labels agree with custody papers? YES  NO
13. Was sufficient amount of sample sent for tests requested? YES  NO
14. Are the samples appropriately preserved? YES  NO  N/A
15. Are bubbles > 6mm absent in VOA samples? YES  NO  N/A
16. Was the client contacted concerning this sample delivery? YES  NO  
 If YES, Who was called? \_\_\_\_\_ By \_\_\_\_\_ Date: \_\_\_\_\_

## COMMENTS

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**Gasoline by GC/MS**

Lab #:	222204	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MW-1	Batch#:	166582
Lab ID:	222204-001	Sampled:	09/02/10
Matrix:	Water	Received:	09/02/10
Units:	ug/L	Analyzed:	09/07/10
Diln Fac:	10.00		

Analyte	Result	RL
Gasoline C7-C12	8,900	500
tert-Butyl Alcohol (TBA)	ND	100
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Ethanol	ND	10,000
MTBE	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	440	5.0
Toluene	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	510	5.0
m,p-Xylenes	310	5.0
o-Xylene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-122
1,2-Dichloroethane-d4	98	71-140
Toluene-d8	96	80-120
Bromofluorobenzene	93	80-121

ND= Not Detected

RL= Reporting Limit

**Gasoline by GC/MS**

Lab #:	222204	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MW-2	Batch#:	166582
Lab ID:	222204-002	Sampled:	09/02/10
Matrix:	Water	Received:	09/02/10
Units:	ug/L	Analyzed:	09/07/10
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	470	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
Ethanol	ND	1,000
MTBE	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	7.6	0.50
m,p-Xylenes	1.0	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-122
1,2-Dichloroethane-d4	100	71-140
Toluene-d8	95	80-120
Bromofluorobenzene	94	80-121

ND= Not Detected

RL= Reporting Limit

**Gasoline by GC/MS**

Lab #:	222204	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MW-3	Batch#:	166582
Lab ID:	222204-003	Sampled:	09/02/10
Matrix:	Water	Received:	09/02/10
Units:	ug/L	Analyzed:	09/08/10
Diln Fac:	25.00		

Analyte	Result	RL
Gasoline C7-C12	26,000	1,300
tert-Butyl Alcohol (TBA)	ND	250
Isopropyl Ether (DIPE)	ND	13
Ethyl tert-Butyl Ether (ETBE)	ND	13
Methyl tert-Amyl Ether (TAME)	ND	13
Ethanol	ND	25,000
MTBE	26	13
1,2-Dichloroethane	ND	13
Benzene	1,100	13
Toluene	81	13
1,2-Dibromoethane	ND	13
Ethylbenzene	1,200	13
m,p-Xylenes	2,900	13
o-Xylene	910	13

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-122
1,2-Dichloroethane-d4	97	71-140
Toluene-d8	97	80-120
Bromofluorobenzene	94	80-121

ND= Not Detected

RL= Reporting Limit

**Gasoline by GC/MS**

Lab #:	222204	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MW-4	Units:	ug/L
Lab ID:	222204-004	Sampled:	09/02/10
Matrix:	Water	Received:	09/02/10

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Gasoline C7-C12	1,800	360	7.143	166582	09/07/10
tert-Butyl Alcohol (TBA)	7,200	1,300	125.0	166622	09/08/10
Isopropyl Ether (DIPE)	ND	3.6	7.143	166582	09/07/10
Ethyl tert-Butyl Ether (ETBE)	57	3.6	7.143	166582	09/07/10
Methyl tert-Amyl Ether (TAME)	ND	3.6	7.143	166582	09/07/10
Ethanol	ND	7,100	7.143	166582	09/07/10
MTBE	33	3.6	7.143	166582	09/07/10
1,2-Dichloroethane	ND	3.6	7.143	166582	09/07/10
Benzene	800	63	125.0	166622	09/08/10
Toluene	ND	3.6	7.143	166582	09/07/10
1,2-Dibromoethane	ND	3.6	7.143	166582	09/07/10
Ethylbenzene	150	3.6	7.143	166582	09/07/10
m,p-Xylenes	25	3.6	7.143	166582	09/07/10
o-Xylene	ND	3.6	7.143	166582	09/07/10

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	91	80-122	7.143	166582	09/07/10
1,2-Dichloroethane-d4	94	71-140	7.143	166582	09/07/10
Toluene-d8	98	80-120	7.143	166582	09/07/10
Bromofluorobenzene	94	80-121	7.143	166582	09/07/10

ND= Not Detected

RL= Reporting Limit

**Gasoline by GC/MS**

Lab #:	222204	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MW-5	Batch#:	166582
Lab ID:	222204-005	Sampled:	09/02/10
Matrix:	Water	Received:	09/02/10
Units:	ug/L	Analyzed:	09/07/10
Diln Fac:	5.000		

Analyte	Result	RL
Gasoline C7-C12	9,200	250
tert-Butyl Alcohol (TBA)	320	50
Isopropyl Ether (DIPE)	ND	2.5
Ethyl tert-Butyl Ether (ETBE)	ND	2.5
Methyl tert-Amyl Ether (TAME)	13	2.5
Ethanol	ND	5,000
MTBE	35	2.5
1,2-Dichloroethane	ND	2.5
Benzene	110	2.5
Toluene	12	2.5
1,2-Dibromoethane	ND	2.5
Ethylbenzene	270	2.5
m,p-Xylenes	290	2.5
o-Xylene	28	2.5

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-122
1,2-Dichloroethane-d4	99	71-140
Toluene-d8	96	80-120
Bromofluorobenzene	94	80-121

ND= Not Detected

RL= Reporting Limit

**Gasoline by GC/MS**

Lab #:	222204	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MW-6	Batch#:	166582
Lab ID:	222204-006	Sampled:	09/01/10
Matrix:	Water	Received:	09/02/10
Units:	ug/L	Analyzed:	09/08/10
Diln Fac:	20.00		

Analyte	Result	RL
Gasoline C7-C12	33,000	1,000
tert-Butyl Alcohol (TBA)	ND	200
Isopropyl Ether (DIPE)	ND	10
Ethyl tert-Butyl Ether (ETBE)	ND	10
Methyl tert-Amyl Ether (TAME)	ND	10
Ethanol	ND	20,000
MTBE	12	10
1,2-Dichloroethane	ND	10
Benzene	24	10
Toluene	34	10
1,2-Dibromoethane	ND	10
Ethylbenzene	1,100	10
m,p-Xylenes	3,100	10
o-Xylene	680	10

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-122
1,2-Dichloroethane-d4	97	71-140
Toluene-d8	97	80-120
Bromofluorobenzene	95	80-121

ND= Not Detected

RL= Reporting Limit

**Gasoline by GC/MS**

Lab #:	222204	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MW-7	Batch#:	166582
Lab ID:	222204-007	Sampled:	09/01/10
Matrix:	Water	Received:	09/02/10
Units:	ug/L	Analyzed:	09/07/10
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	1,200	50
tert-Butyl Alcohol (TBA)	47	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	7.2	0.50
Ethanol	ND	1,000
MTBE	29	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	10	0.50
m,p-Xylenes	3.2	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-122
1,2-Dichloroethane-d4	99	71-140
Toluene-d8	96	80-120
Bromofluorobenzene	94	80-121

ND= Not Detected

RL= Reporting Limit

**Gasoline by GC/MS**

Lab #:	222204	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MW-1D	Batch#:	166582
Lab ID:	222204-008	Sampled:	09/01/10
Matrix:	Water	Received:	09/02/10
Units:	ug/L	Analyzed:	09/07/10
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
Ethanol	ND	1,000
MTBE	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	0.52	0.50
m,p-Xylenes	1.8	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-122
1,2-Dichloroethane-d4	100	71-140
Toluene-d8	97	80-120
Bromofluorobenzene	94	80-121

ND= Not Detected

RL= Reporting Limit

**Gasoline by GC/MS**

Lab #:	222204	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MW-3D	Batch#:	166582
Lab ID:	222204-009	Sampled:	09/01/10
Matrix:	Water	Received:	09/02/10
Units:	ug/L	Analyzed:	09/07/10
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	78	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	2.0	0.50
Ethanol	ND	1,000
MTBE	24	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	1.1	0.50
m,p-Xylenes	3.9	0.50
o-Xylene	0.81	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-122
1,2-Dichloroethane-d4	100	71-140
Toluene-d8	98	80-120
Bromofluorobenzene	93	80-121

ND= Not Detected

RL= Reporting Limit

**Gasoline by GC/MS**

Lab #:	222204	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MW-4D	Batch#:	166582
Lab ID:	222204-010	Sampled:	09/01/10
Matrix:	Water	Received:	09/02/10
Units:	ug/L	Analyzed:	09/07/10
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
Ethanol	ND	1,000
MTBE	2.2	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	0.85	0.50
m,p-Xylenes	3.1	0.50
o-Xylene	0.66	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-122
1,2-Dichloroethane-d4	99	71-140
Toluene-d8	97	80-120
Bromofluorobenzene	92	80-121

ND= Not Detected

RL= Reporting Limit

**Gasoline by GC/MS**

Lab #:	222204	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	EX-1	Batch#:	166622
Lab ID:	222204-011	Sampled:	09/01/10
Matrix:	Water	Received:	09/02/10
Units:	ug/L	Analyzed:	09/08/10
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	550	50
tert-Butyl Alcohol (TBA)	470	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	1.4	0.50
Methyl tert-Amyl Ether (TAME)	2.0	0.50
Ethanol	ND	1,000
MTBE	38	0.50
1,2-Dichloroethane	ND	0.50
Benzene	6.5	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	6.9	0.50
m,p-Xylenes	28	0.50
o-Xylene	3.7	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-122
1,2-Dichloroethane-d4	99	71-140
Toluene-d8	96	80-120
Bromofluorobenzene	91	80-121

ND= Not Detected

RL= Reporting Limit

**Gasoline by GC/MS**

Lab #:	222204	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	EX-2	Batch#:	166622
Lab ID:	222204-012	Sampled:	09/01/10
Matrix:	Water	Received:	09/02/10
Units:	ug/L	Analyzed:	09/08/10
Diln Fac:	5.000		

Analyte	Result	RL
Gasoline C7-C12	6,100	250
tert-Butyl Alcohol (TBA)	ND	50
Isopropyl Ether (DIPE)	ND	2.5
Ethyl tert-Butyl Ether (ETBE)	ND	2.5
Methyl tert-Amyl Ether (TAME)	ND	2.5
Ethanol	ND	5,000
MTBE	11	2.5
1,2-Dichloroethane	ND	2.5
Benzene	230	2.5
Toluene	74	2.5
1,2-Dibromoethane	ND	2.5
Ethylbenzene	200	2.5
m,p-Xylenes	700	2.5
o-Xylene	190	2.5

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-122
1,2-Dichloroethane-d4	98	71-140
Toluene-d8	97	80-120
Bromofluorobenzene	93	80-121

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**
**Gasoline by GC/MS**

Lab #:	222204	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	166582
Units:	ug/L	Analyzed:	09/07/10
Diln Fac:	1.000		

Type: BS Lab ID: QC558805

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	122.9	98	45-152
Isopropyl Ether (DIPE)	25.00	21.78	87	56-134
Ethyl tert-Butyl Ether (ETBE)	25.00	23.08	92	60-124
Methyl tert-Amyl Ether (TAME)	25.00	24.18	97	66-120
MTBE	25.00	22.39	90	66-120
1,2-Dichloroethane	25.00	24.37	97	70-135
Benzene	25.00	24.36	97	80-122
Toluene	25.00	25.99	104	80-120
1,2-Dibromoethane	25.00	26.14	105	80-120
Ethylbenzene	25.00	26.62	106	80-123
m,p-Xylenes	50.00	54.23	108	80-126
o-Xylene	25.00	27.15	109	80-122

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-122
1,2-Dichloroethane-d4	99	71-140
Toluene-d8	98	80-120
Bromofluorobenzene	94	80-121

Type: BSD Lab ID: QC558806

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	115.8	93	45-152	6	30
Isopropyl Ether (DIPE)	25.00	21.41	86	56-134	2	20
Ethyl tert-Butyl Ether (ETBE)	25.00	22.50	90	60-124	3	20
Methyl tert-Amyl Ether (TAME)	25.00	23.48	94	66-120	3	20
MTBE	25.00	21.79	87	66-120	3	20
1,2-Dichloroethane	25.00	24.50	98	70-135	1	20
Benzene	25.00	24.15	97	80-122	1	20
Toluene	25.00	25.79	103	80-120	1	20
1,2-Dibromoethane	25.00	25.75	103	80-120	1	20
Ethylbenzene	25.00	25.87	103	80-123	3	20
m,p-Xylenes	50.00	53.40	107	80-126	2	20
o-Xylene	25.00	26.92	108	80-122	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-122
1,2-Dichloroethane-d4	98	71-140
Toluene-d8	98	80-120
Bromofluorobenzene	94	80-121

RPD= Relative Percent Difference

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**Batch QC Report**
**Gasoline by GC/MS**

Lab #:	222204	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC558807	Batch#:	166582
Matrix:	Water	Analyzed:	09/07/10
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
Ethanol	ND	1,000
MTBE	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-122
1,2-Dichloroethane-d4	100	71-140
Toluene-d8	97	80-120
Bromofluorobenzene	92	80-121

ND= Not Detected

RL= Reporting Limit

## Batch QC Report

**Gasoline by GC/MS**

Lab #:	222204	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	166582
Units:	ug/L	Analyzed:	09/07/10
Diln Fac:	1.000		

Type: BS Lab ID: QC558825

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,079	108	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	91	80-122
1,2-Dichloroethane-d4	100	71-140
Toluene-d8	96	80-120
Bromofluorobenzene	93	80-121

Type: BSD Lab ID: QC558826

Analyte	Spiked	Result	%REC	Limits	RPD Lim
Gasoline C7-C12	1,000	1,005	101	80-120	7 20

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-122
1,2-Dichloroethane-d4	100	71-140
Toluene-d8	96	80-120
Bromofluorobenzene	94	80-121

RPD= Relative Percent Difference

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**Batch QC Report**
**Gasoline by GC/MS**

Lab #:	222204	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	166622
Units:	ug/L	Analyzed:	09/08/10
Diln Fac:	1.000		

Type: BS Lab ID: QC558982

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	116.8	93	45-152
Isopropyl Ether (DIPE)	25.00	19.56	78	56-134
Ethyl tert-Butyl Ether (ETBE)	25.00	21.00	84	60-124
Methyl tert-Amyl Ether (TAME)	25.00	22.39	90	66-120
MTBE	25.00	20.56	82	66-120
1,2-Dichloroethane	25.00	22.99	92	70-135
Benzene	25.00	22.30	89	80-122
Toluene	25.00	23.55	94	80-120
1,2-Dibromoethane	25.00	24.52	98	80-120
Ethylbenzene	25.00	23.92	96	80-123
m,p-Xylenes	50.00	49.05	98	80-126
o-Xylene	25.00	25.04	100	80-122

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-122
1,2-Dichloroethane-d4	98	71-140
Toluene-d8	98	80-120
Bromofluorobenzene	91	80-121

Type: BSD Lab ID: QC558983

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	113.5	91	45-152	3	30
Isopropyl Ether (DIPE)	25.00	20.23	81	56-134	3	20
Ethyl tert-Butyl Ether (ETBE)	25.00	21.07	84	60-124	0	20
Methyl tert-Amyl Ether (TAME)	25.00	22.00	88	66-120	2	20
MTBE	25.00	20.62	82	66-120	0	20
1,2-Dichloroethane	25.00	22.97	92	70-135	0	20
Benzene	25.00	22.14	89	80-122	1	20
Toluene	25.00	23.97	96	80-120	2	20
1,2-Dibromoethane	25.00	24.66	99	80-120	1	20
Ethylbenzene	25.00	24.55	98	80-123	3	20
m,p-Xylenes	50.00	49.87	100	80-126	2	20
o-Xylene	25.00	24.97	100	80-122	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-122
1,2-Dichloroethane-d4	97	71-140
Toluene-d8	96	80-120
Bromofluorobenzene	93	80-121

RPD= Relative Percent Difference

Page 1 of 1

18.0

## Batch QC Report

**Gasoline by GC/MS**

Lab #:	222204	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	166622
Units:	ug/L	Analyzed:	09/08/10
Diln Fac:	1.000		

Type: BS Lab ID: QC558984

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,099	110	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-122
1,2-Dichloroethane-d4	98	71-140
Toluene-d8	97	80-120
Bromofluorobenzene	93	80-121

Type: BSD Lab ID: QC558985

Analyte	Spiked	Result	%REC	Limits	RPD Lim
Gasoline C7-C12	1,000	1,081	108	80-120	2 20

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-122
1,2-Dichloroethane-d4	99	71-140
Toluene-d8	98	80-120
Bromofluorobenzene	94	80-121

RPD= Relative Percent Difference

Page 1 of 1

19.0

**Batch QC Report**
**Gasoline by GC/MS**

Lab #:	222204	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC558986	Batch#:	166622
Matrix:	Water	Analyzed:	09/08/10
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
Ethanol	ND	1,000
MTBE	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-122
1,2-Dichloroethane-d4	100	71-140
Toluene-d8	97	80-120
Bromofluorobenzene	94	80-121

ND= Not Detected

RL= Reporting Limit

Page 1 of 1

20.0

**Batch QC Report**
**Gasoline by GC/MS**

Lab #:	222204	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	166622
MSS Lab ID:	222254-013	Sampled:	09/07/10
Matrix:	Water	Received:	09/08/10
Units:	ug/L	Analyzed:	09/09/10
Diln Fac:	1.000		

Type: MS Lab ID: QC559047

Analyte	MSS Result	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	<1.343	125.0	119.4	95	57-142
Isopropyl Ether (DIPE)	<0.1000	25.00	22.00	88	70-122
Ethyl tert-Butyl Ether (ETBE)	<0.1000	25.00	22.93	92	71-120
Methyl tert-Amyl Ether (TAME)	0.4875	25.00	23.55	92	75-120
MTBE	14.88	25.00	37.35	90	70-120
1,2-Dichloroethane	<0.1000	25.00	24.69	99	79-131
Benzene	<0.1000	25.00	24.26	97	80-121
Toluene	0.2262	25.00	26.06	103	80-120
1,2-Dibromoethane	<0.1000	25.00	26.14	105	80-120
Ethylbenzene	<0.1022	25.00	26.28	105	80-122
m,p-Xylenes	0.2219	50.00	52.60	105	80-123
o-Xylene	<0.1322	25.00	26.51	106	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-122
1,2-Dichloroethane-d4	99	71-140
Toluene-d8	97	80-120
Bromofluorobenzene	92	80-121

Type: MSD Lab ID: QC559048

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	103.6	83	57-142	14	32
Isopropyl Ether (DIPE)	25.00	20.17	81	70-122	9	20
Ethyl tert-Butyl Ether (ETBE)	25.00	20.72	83	71-120	10	20
Methyl tert-Amyl Ether (TAME)	25.00	21.87	86	75-120	7	20
MTBE	25.00	33.95	76	70-120	10	20
1,2-Dichloroethane	25.00	22.99	92	79-131	7	20
Benzene	25.00	22.12	88	80-121	9	20
Toluene	25.00	24.06	95	80-120	8	20
1,2-Dibromoethane	25.00	24.25	97	80-120	8	20
Ethylbenzene	25.00	24.25	97	80-122	8	20
m,p-Xylenes	50.00	49.70	99	80-123	6	20
o-Xylene	25.00	24.87	99	80-120	6	20

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-122
1,2-Dichloroethane-d4	97	71-140
Toluene-d8	97	80-120
Bromofluorobenzene	92	80-121

RPD= Relative Percent Difference

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21.0

**Batch QC Report**
**Gasoline by GC/MS**

Lab #:	222204	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC559095	Batch#:	166622
Matrix:	Water	Analyzed:	09/08/10
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	NA	
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
Ethanol	ND	1,000
MTBE	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-122
1,2-Dichloroethane-d4	100	71-140
Toluene-d8	96	80-120
Bromofluorobenzene	92	80-121

NA= Not Analyzed

ND= Not Detected

RL= Reporting Limit

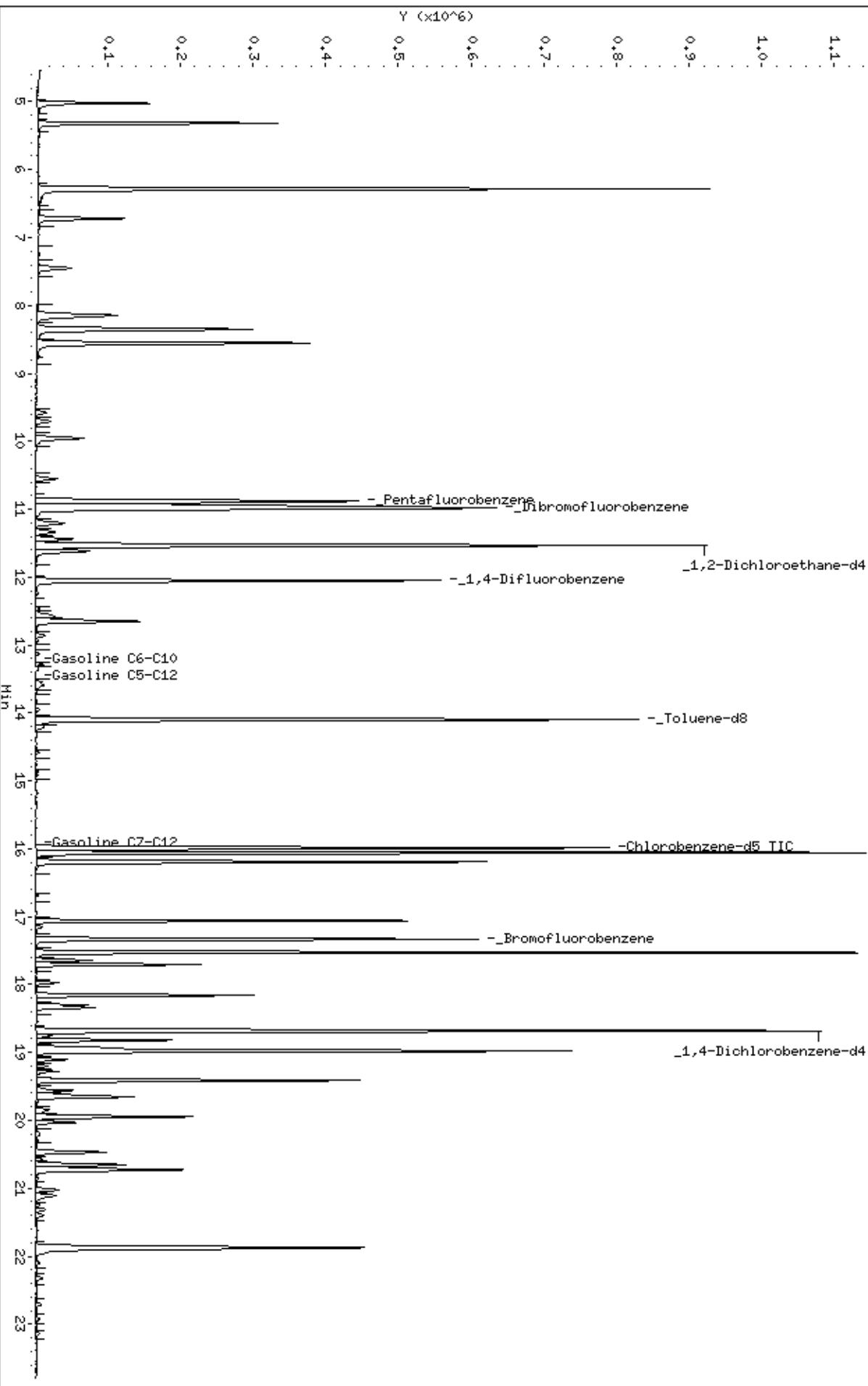
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Column phase:

Instrument: MSWD10.i  
Operator: WOA  
Column diameter: 2.00

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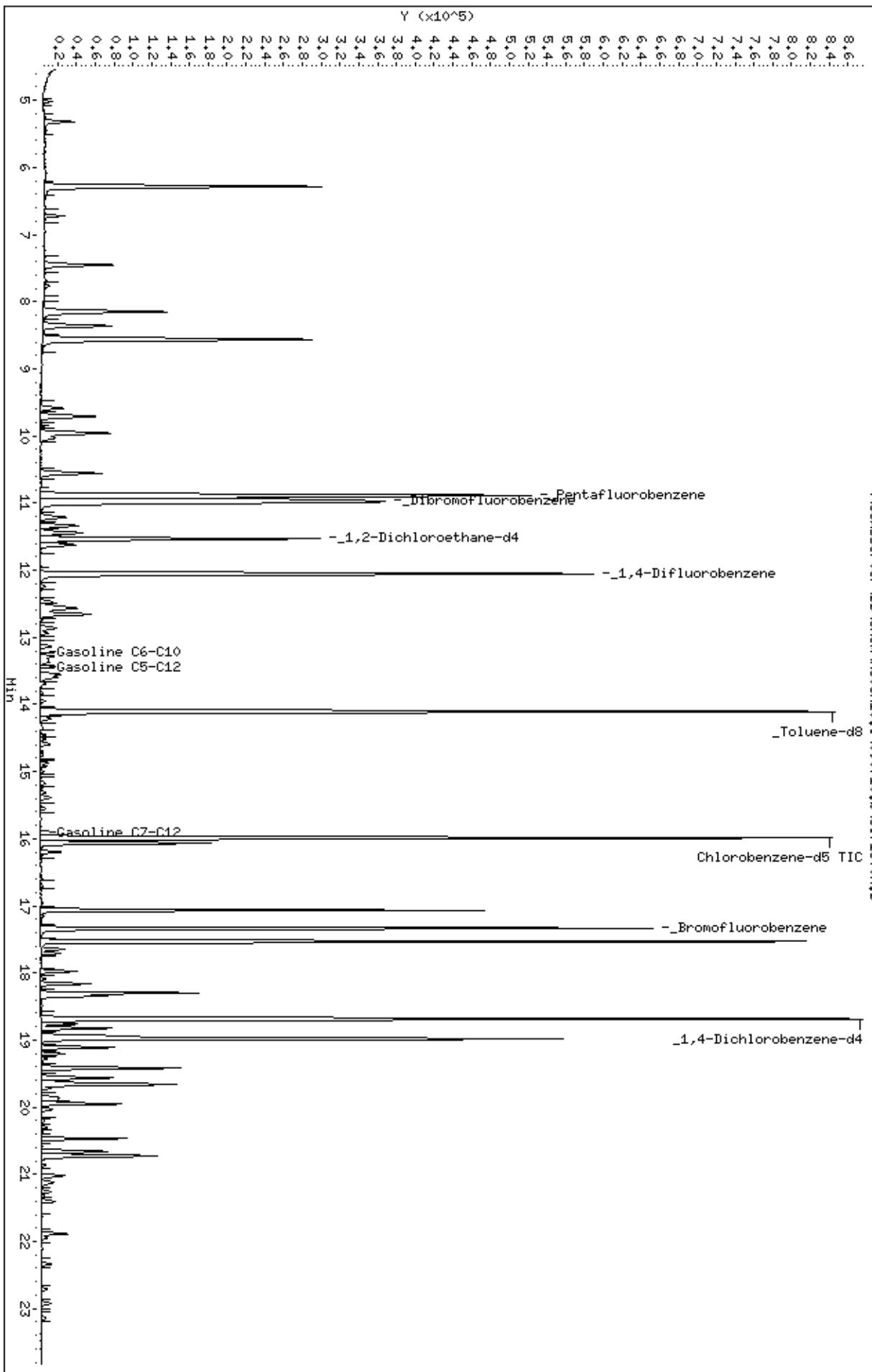


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Instrument: MSWD10.i  
Operator: WOA  
Column diameter: 2.00

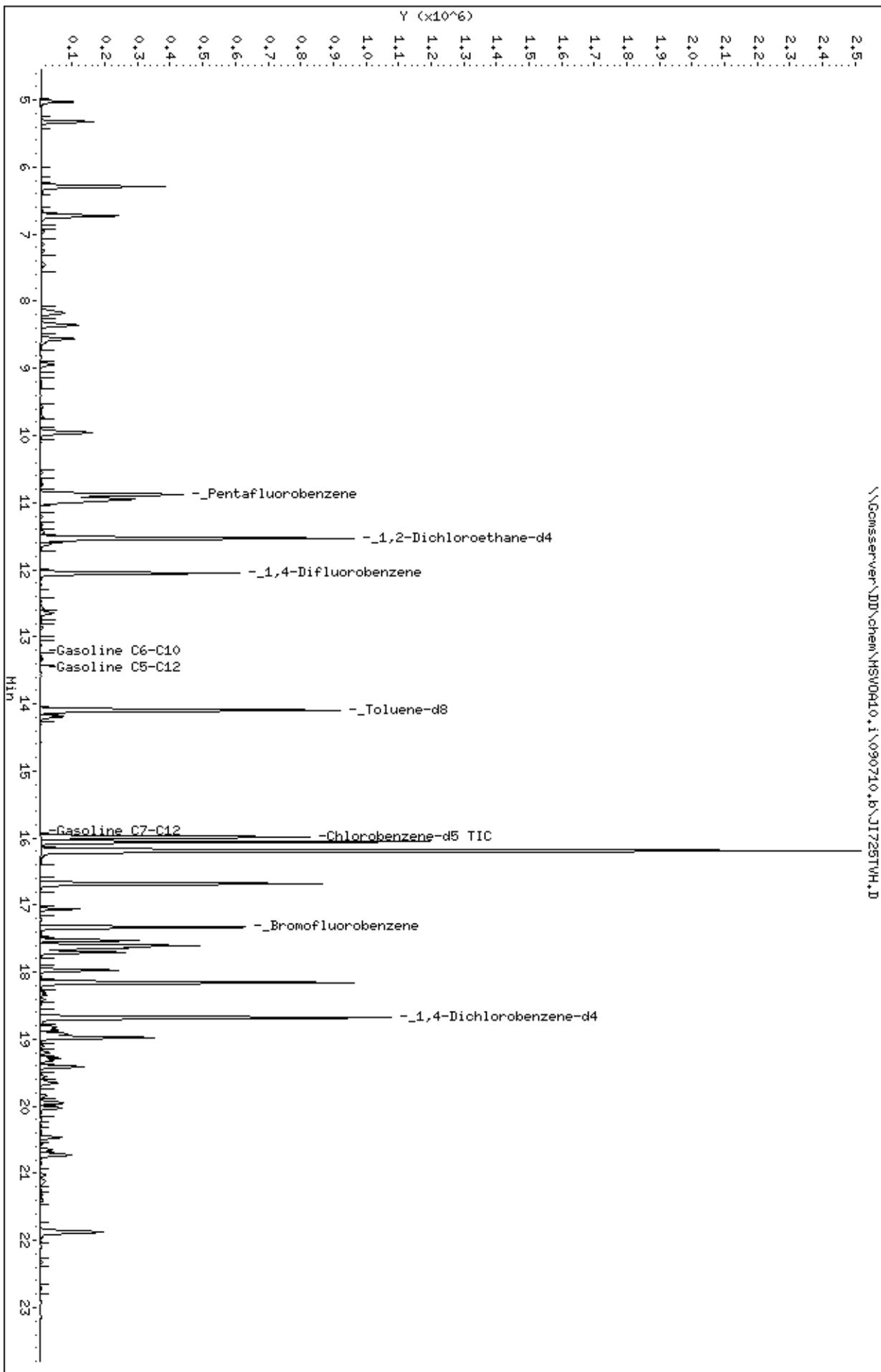
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Sample Info: 222204-003,  
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Instrument: MSWD10.i  
Operator: WOA  
Column diameter: 2.00

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Client ID: DYNH P&amp;T

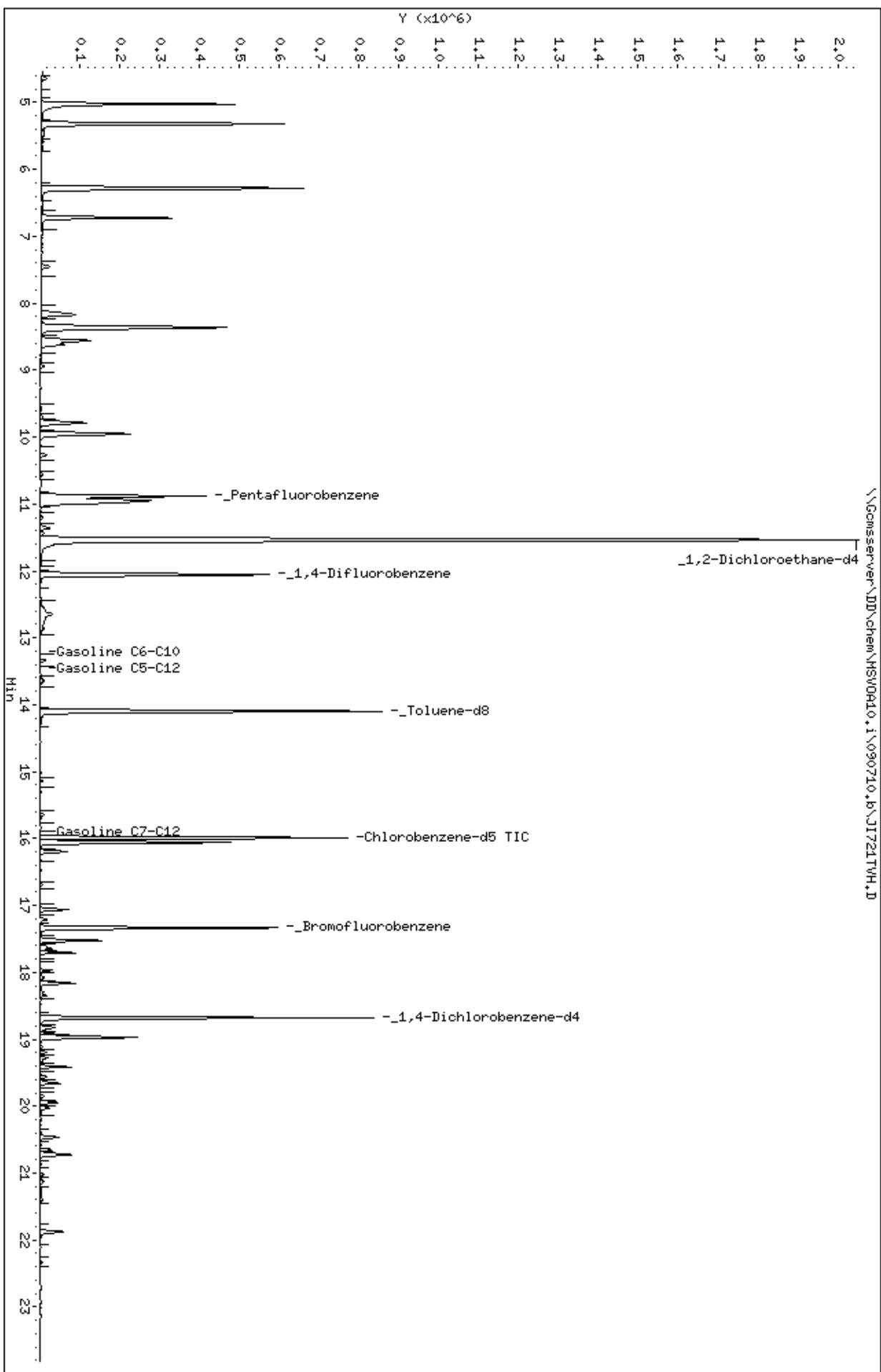
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Instrument: MSWD10.i  
Operator: WOA  
Column diameter: 2.00

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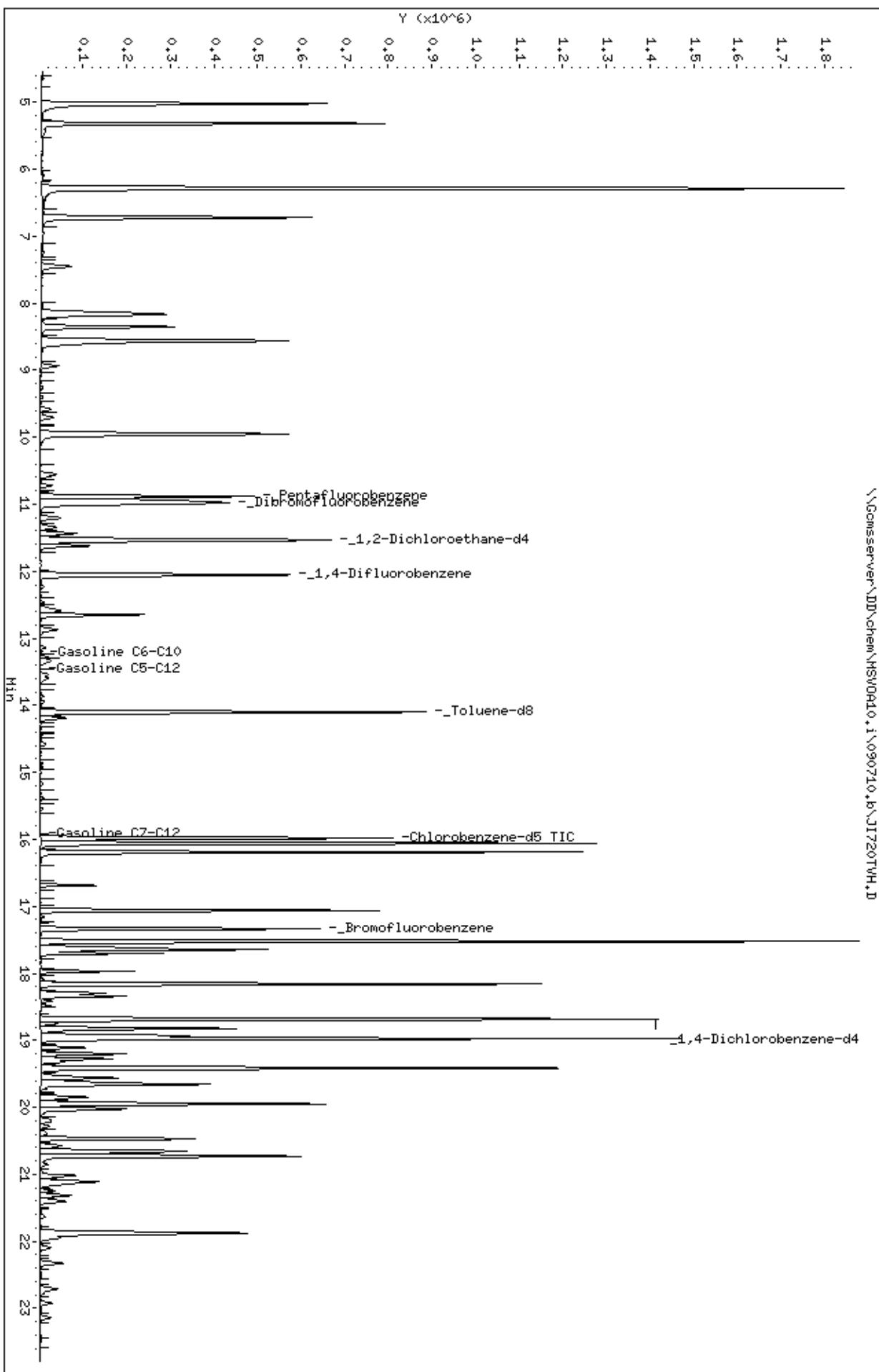


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Column phase:

Instrument: MSWD10.i  
Operator: WOA  
Column diameter: 2.00

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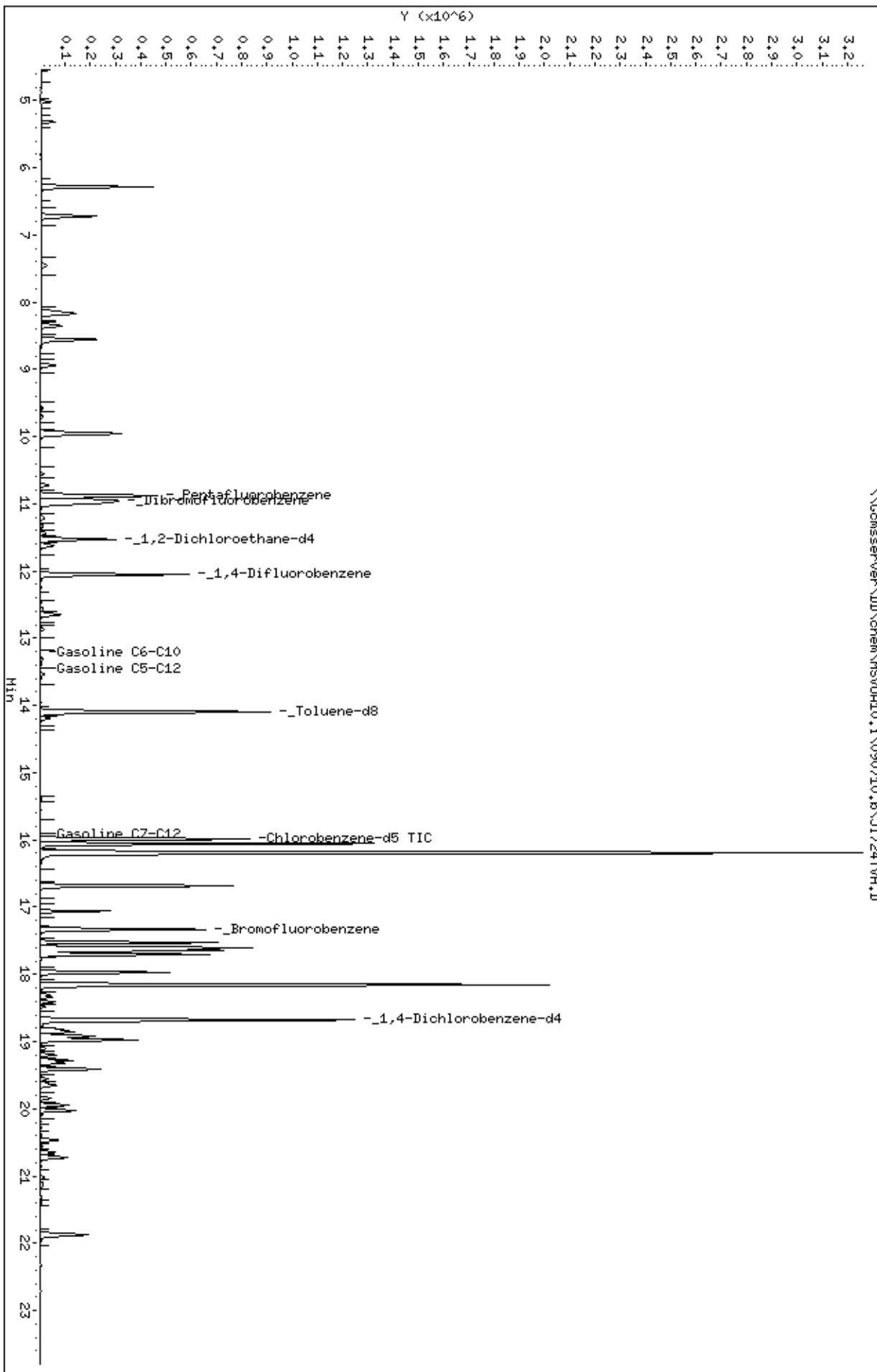
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Sample Info: 222204-006,

Column phase:

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Instrument: MSWD10.i  
Operator: WOA  
Column diameter: 2.00



Client ID: DYNH P&T

Sample Info: 222204-007,

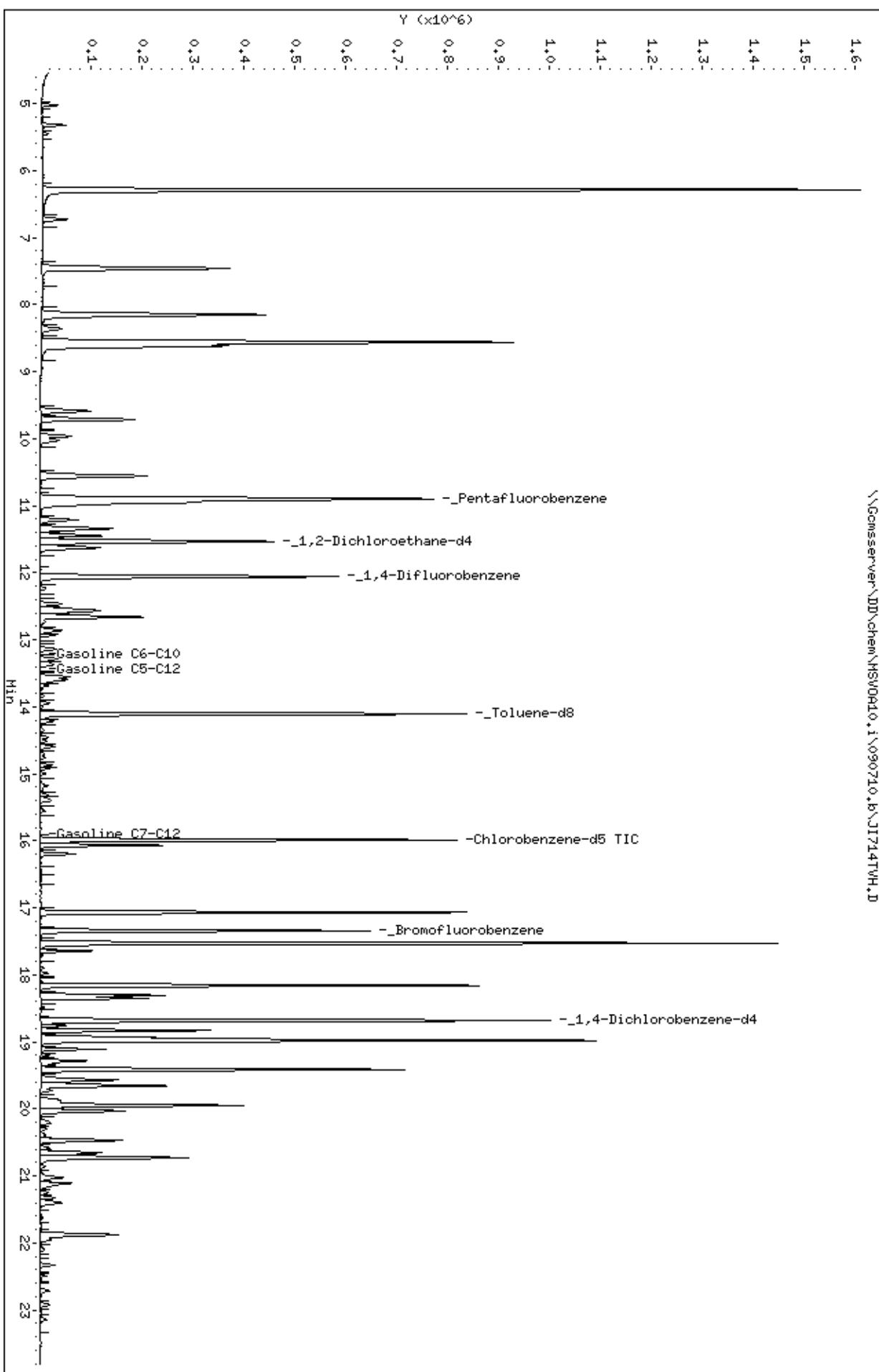
Page 2

Instrument: MSWD10.i

Operator: WOA

Column diameter: 2.00

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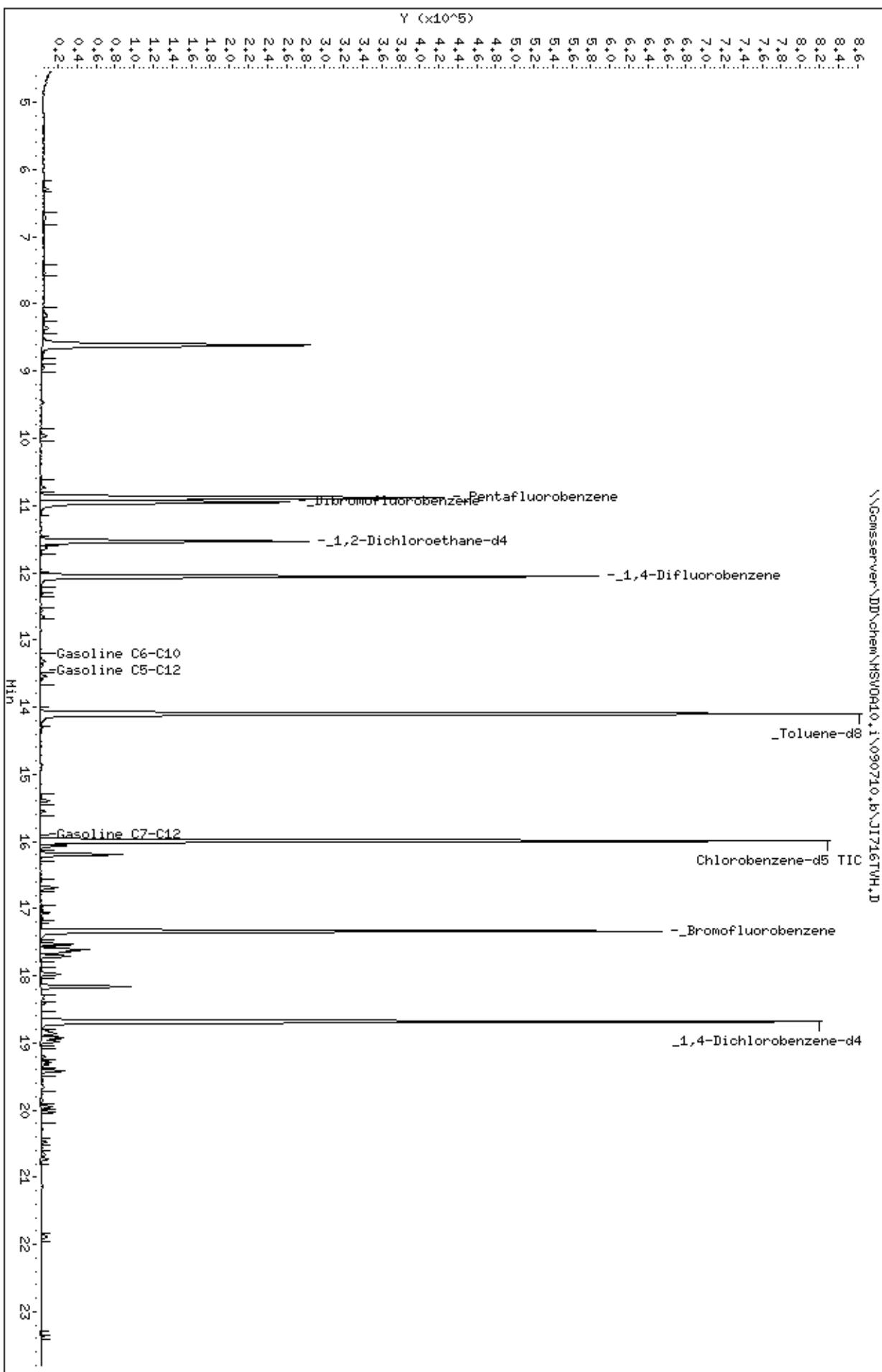
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Column phase:

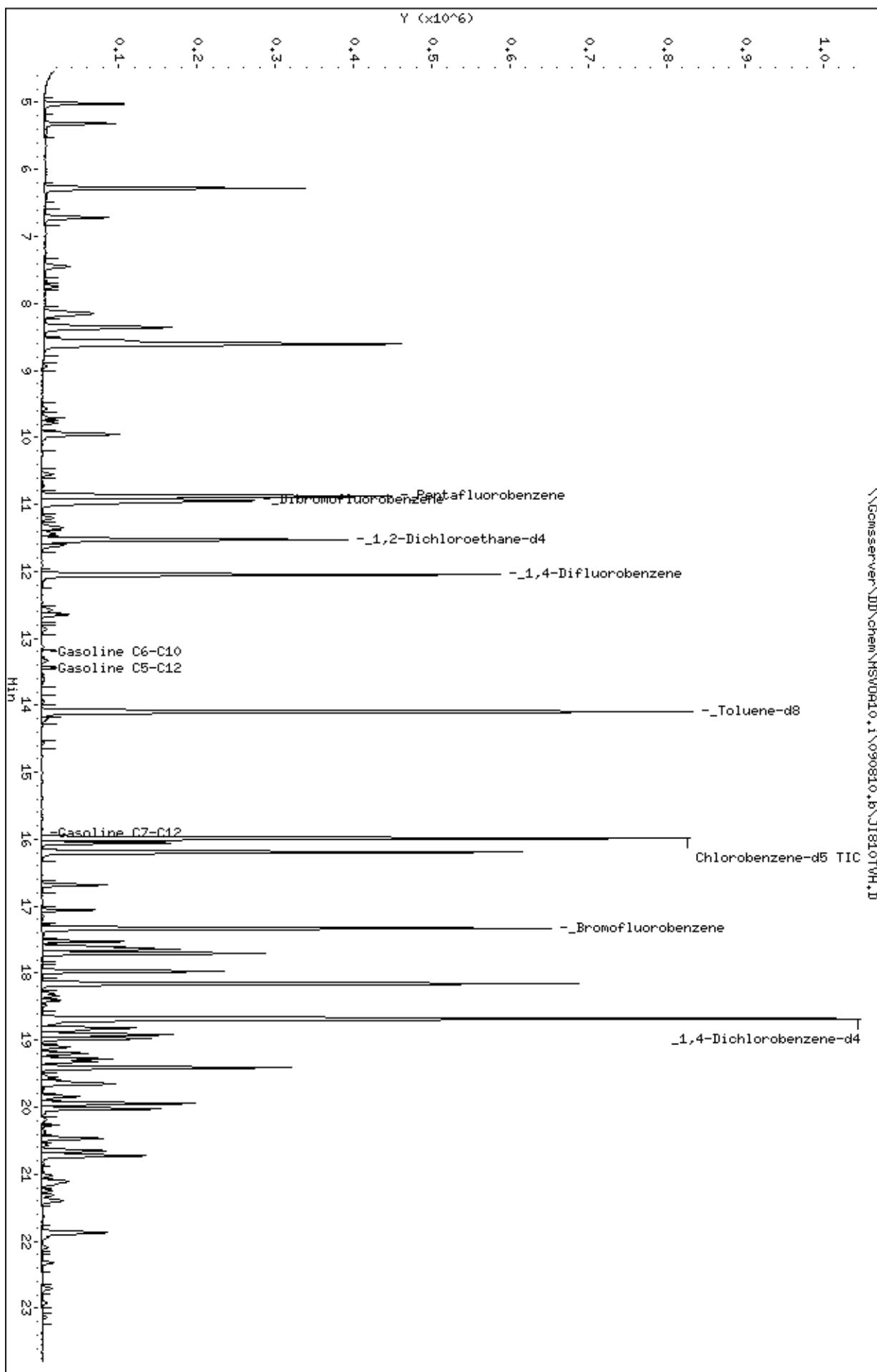
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Sample Info: S\_222204-011,  
Column phase:

Page 2

Instrument: MSDQA10.i  
Operator: WOA  
Column diameter: 2.00  
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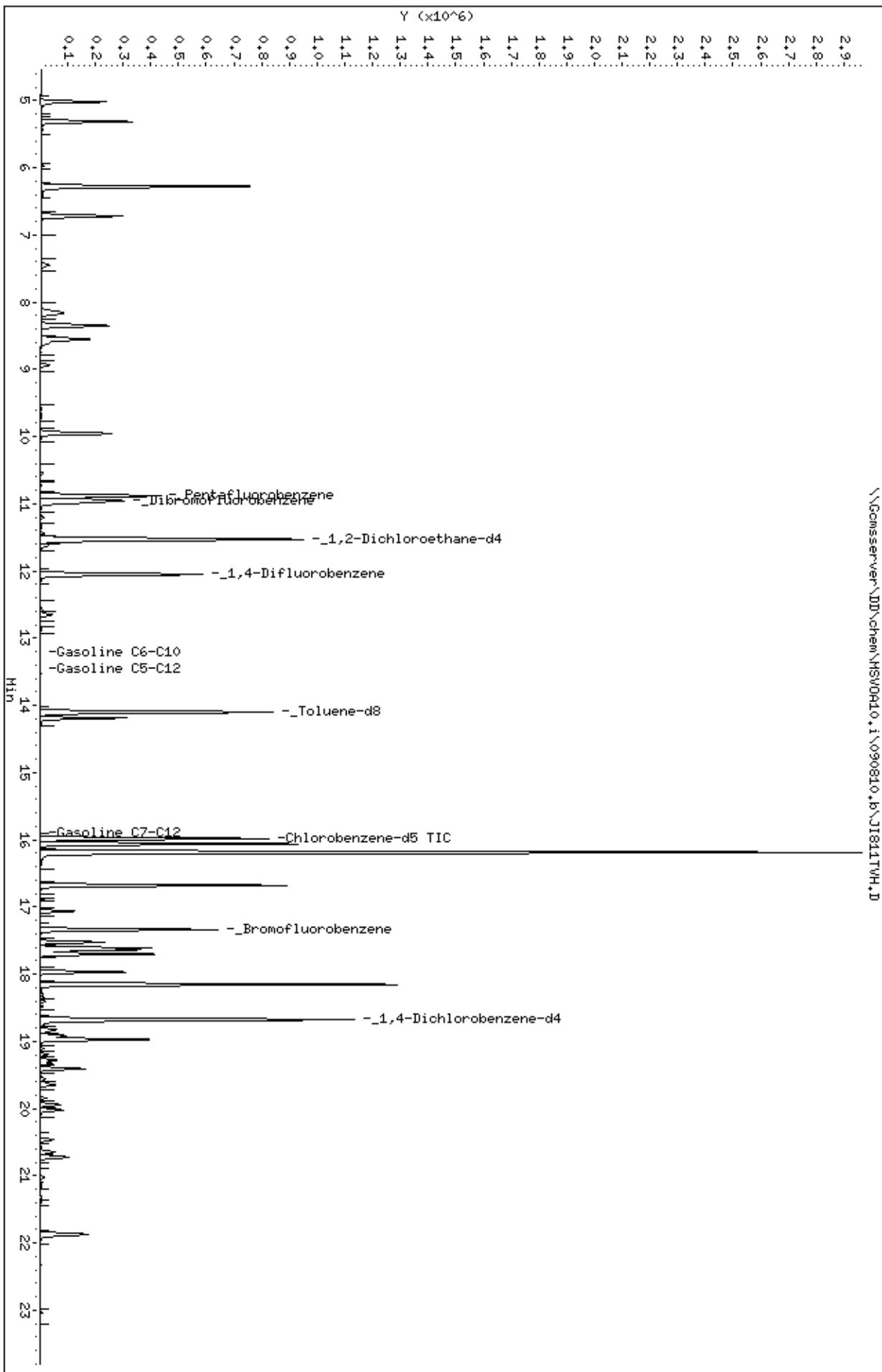


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Column phase:

Instrument: MSWD10.i  
Operator: WOA  
Column diameter: 2.00

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Client ID: DYNH P&T

Sample Info: CCW/BS, QC558825, 166582, S14540,

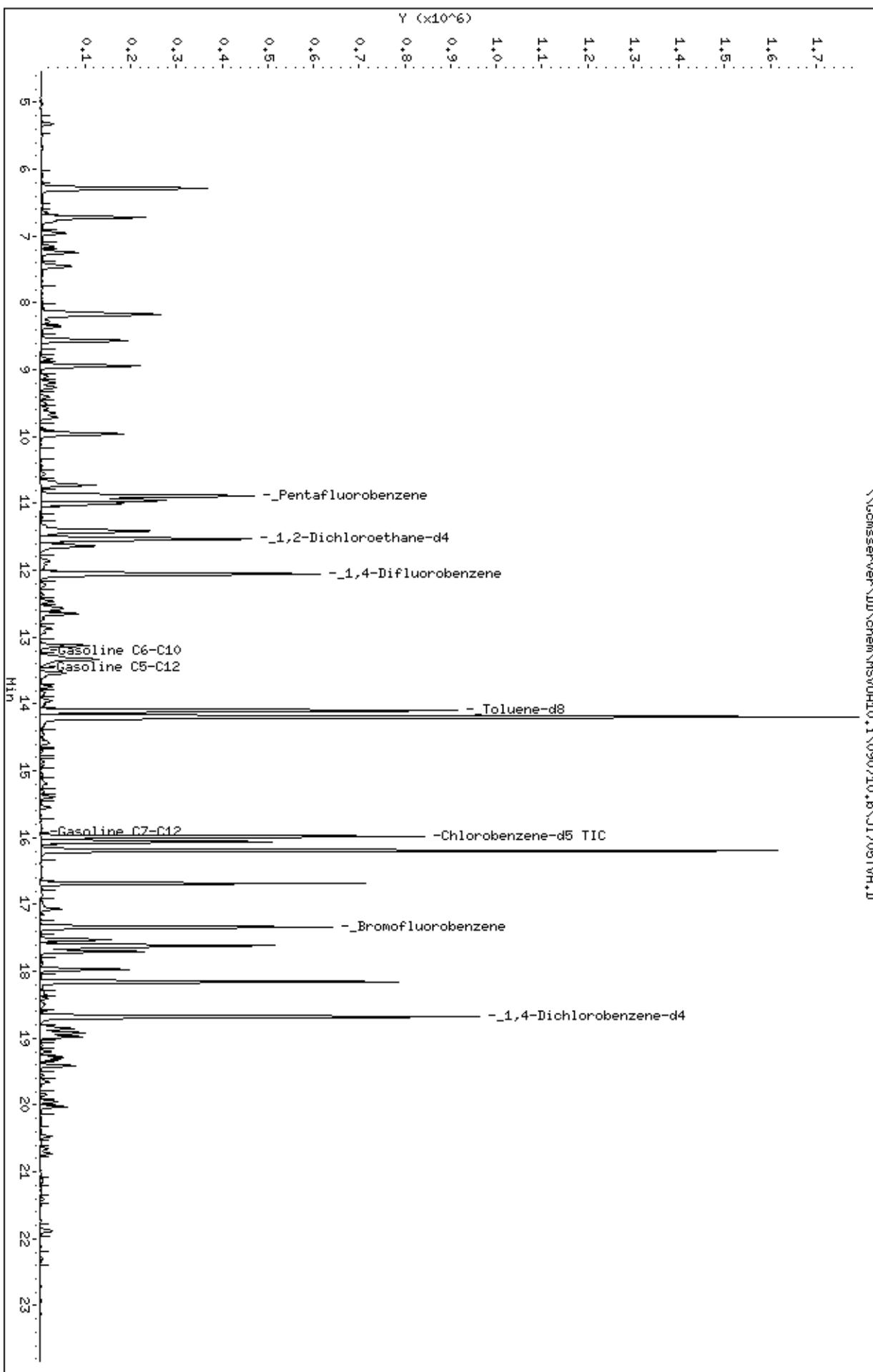
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Instrument: MSWD410.i

Operator: WOA

Column diameter: 2.00

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# **Appendix D**

**Laboratory report and Chain of Custody  
Form for the Treatment System**



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

**Laboratory Job Number 221324  
ANALYTICAL REPORT**

SOMA Environmental Engineering Inc.  
6620 Owens Dr.  
Pleasanton, CA 94588

Project : 2553  
Location : 15101 Freedom Ave. San Leandro  
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
EFFLUENT	221324-001
GAC-1	221324-002
INFLUENT	221324-003

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Troy Barber  
Project Manager

Date: 07/26/2010

NELAP # 01107CA

## CASE NARRATIVE

Laboratory number: 221324  
Client: SOMA Environmental Engineering Inc.  
Project: 2553  
Location: 15101 Freedom Ave. San Leandro  
Request Date: 07/19/10  
Samples Received: 07/19/10

This data package contains sample and QC results for three water samples, requested for the above referenced project on 07/19/10. The samples were received cold and intact.

**TPH-Purgeables and/or BTXE by GC (EPA 8015B and EPA 8021B):**

No analytical problems were encountered.

**TPH-Extractables by GC (EPA 8015B):**

No analytical problems were encountered.

**Total Suspended Solids (TSS) (SM2540D):**

No analytical problems were encountered.

**pH (EPA 9040C):**

No analytical problems were encountered.

**Chemical Oxygen Demand (SM5220D):**

No analytical problems were encountered.

# CHAIN OF CUSTODY

Page \_1\_ of \_1\_

## Curtis & Tompkins, Ltd

Analytical Laboratory Since 1878  
 2323 Fifth Street  
 Berkeley, CA 94710  
 (510)486-0900 Phone  
 (510)486-0532 Fax

LOGIN # 221324

## Analyses

Project No: 2553

Sampler: MASOUD-SEPEHRI

Project Name: 15101 Freedom Ave, San Leandro Company : SOMA Environmental

Turnaround Time: Standard Telephone: 925-734-6400

Fax: 925-734-6401

Lab No.	Sample ID.	Sampling Date Time	Matrix			Preservative			
			Soil	Water	Waste	# of Containers	HCL	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>
1	EFFLUENT	7/19/10 - 13:00	*			6 VOAs	*		*
			*			2-1L Amber			*
			*			250 mL Poly	*		*
			*			500 mL Poly			*
2	GAC-1	7/19/10 13:30	*			6 VOAs	*		*
3	INFLUENT	7/19/10 13:45	*			6 VOAs	*		*

Notes: EDF OUTPUT REQUIRED

RELINQUISHED BY:

MASOUD - 7/19/10 - 3:20 DATE/TIME

RECEIVED BY:

Pat Hargrave 7/19/10 3:20 pm DATE/TIME

DATE/TIME

DATE/TIME

DATE/TIME

DATE/TIME

## **COOLER RECEIPT CHECKLIST**



Curtis & Tompkins, Ltd.

Login # 721324 Date Received 7/19/10 Number of coolers 1  
Client SOMX Project 15101 FREDERICK & VILLE SC

Date Opened 7/19/10 By (print) M. Villarosa (sign)   
Date Logged in ✓ By (print) b (sign) 

- |  |   |  |                             |
|--|---|--|-----------------------------|
| 1. Did cooler come with a shipping slip (airbill, etc) _____                     | YES <input checked="" type="checkbox"/> | NO <input type="checkbox"/>            |                             |
| Shipping info _____  |   |  |                             |
| 2A. Were custody seals present? ... <input type="checkbox"/> YES (circle)        | on cooler                               | on samples                             | <input type="checkbox"/> NO |
| How many _____   | Name _____                              | Date _____                             |                             |
| 2B. Were custody seals intact upon arrival?                                      | YES <input type="checkbox"/>            | NO <input checked="" type="checkbox"/> | NA <input type="checkbox"/> |
| 3. Were custody papers dry and intact when received?                             | YES <input checked="" type="checkbox"/> | NO <input type="checkbox"/>            |                             |
| 4. Were custody papers filled out properly (ink, signed, etc)?                   | YES <input checked="" type="checkbox"/> | NO <input type="checkbox"/>            |                             |
| 5. Is the project identifiable from custody papers? (If so fill out top of form) | YES <input checked="" type="checkbox"/> | NO <input type="checkbox"/>            |                             |
| 6. Indicate the packing in cooler: (if other, describe)                          |   |  |                             |

Bubble Wrap       Foam blocks       Bags       None  
 Cloth material       Cardboard       Styrofoam       Paper towels

7. Temperature documentation:

Type of ice used:  Wet     Blue/Gel     None    Temp(°C) \_\_\_\_\_

Samples Received on ice & cold without a temperature blank

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? \_\_\_\_\_ YES

If YES, what time were they transferred to freezer? \_\_\_\_\_

9. Did all bottles arrive unbroken/unopened? \_\_\_\_\_ YES  NO

10. Are samples in the appropriate containers for indicated tests? \_\_\_\_\_ YES  NO

11. Are sample labels present, in good condition and complete? \_\_\_\_\_ YES  NO

12. Do the sample labels agree with custody papers? \_\_\_\_\_ YES  NO

13. Was sufficient amount of sample sent for tests requested? \_\_\_\_\_ YES  NO

14. Are the samples appropriately preserved? \_\_\_\_\_ YES  NO  N/A

15. Are bubbles > 6mm absent in VOA samples? \_\_\_\_\_ YES  NO  N/A

16. Was the client contacted concerning this sample delivery? \_\_\_\_\_ YES  NO

If YES, Who was called? \_\_\_\_\_ By \_\_\_\_\_ Date: \_\_\_\_\_

## COMMENTS

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SOP Volume: Client Services  
Section: 1.1.2  
Page: 1 of 1

Rev. 6 Number 1 of 3  
Effective: 23 July 2008

### **Curtis & Tompkins Laboratories Analytical Report**

Lab #:	221324	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2553		
Matrix:	Water	Batch#:	165119
Units:	ug/L	Sampled:	07/19/10
Diln Fac:	1.000	Received:	07/19/10

Field ID:           **EFFLUENT**                                  Lab ID:           **221324-001**  
 Type:              **SAMPLE**    Analyzed:       **07/22/10**

<b>Analyte</b>	<b>Result</b>	<b>RL</b>	<b>Analysis</b>
Gasoline C7-C12	ND	50	EPA 8015B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>	<b>Analysis</b>
Bromofluorobenzene (FID)	95	70-140	EPA 8015B
Bromofluorobenzene (PID)	91	54-134	EPA 8021B

Field ID:           **GAC-1**    Lab ID:           **221324-002**  
 Type:              **SAMPLE**    Analyzed:       **07/21/10**

<b>Analyte</b>	<b>Result</b>	<b>RL</b>	<b>Analysis</b>
Gasoline C7-C12	ND	50	EPA 8015B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>	<b>Analysis</b>
Bromofluorobenzene (FID)	95	70-140	EPA 8015B
Bromofluorobenzene (PID)	94	54-134	EPA 8021B

Y= Sample exhibits chromatographic pattern which does not resemble standard

ND= Not Detected

RL= Reporting Limit



Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #: 221324 Location: 15101 Freedom Ave. San Leandro  
Client: SOMA Environmental Engineering Inc. Prep: EPA 5030B  
Project#: 2553

---

Matrix: Water Batch#: 165119  
Units: ug/L Sampled: 07/19/10  
Diln Fac: 1.000 Received: 07/19/10

Field ID: INFLUENT Lab ID: 221324-003  
Type: SAMPLE Analyzed: 07/21/10

Analyte	Result	RL	Analysis
Gasoline C7-C12	56 Y	50	EPA 8015B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>	<b>Analysis</b>
Bromofluorobenzene (FID)	96	70-140	EPA 8015B
Bromofluorobenzene (PID)	92	54-134	EPA 8021B

Type: BLANK Analyzed: 07/21/10  
Lab ID: QC552938

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>	<b>Analysis</b>
Bromofluorobenzene (FID)	89	70-140	EPA 8015B
Bromofluorobenzene (PID)	87	54-134	EPA 8021B

**X=** Sample exhibits chromatographic pattern which does not resemble standard.

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**
**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	221324	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2553	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC552939	Batch#:	165119
Matrix:	Water	Analyzed:	07/21/10
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	955.9	96	73-127

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	94	70-140

**Batch QC Report**
**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	221324	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2553	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	165119
MSS Lab ID:	221334-005	Sampled:	07/14/10
Matrix:	Water	Received:	07/19/10
Units:	ug/L	Analyzed:	07/21/10
Diln Fac:	1.000		

Type: MS                                  Lab ID: QC552940

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	12.39	2,000	1,878	93	68-120
<b>Surrogate</b>					
Bromofluorobenzene (FID)	97	70-140			

Type: MSD                                  Lab ID: QC552941

Analyte	Spiked	Result	%REC	Limits	RPD Lim
Gasoline C7-C12	2,000	1,753	87	68-120	7 20
<b>Surrogate</b>					
Bromofluorobenzene (FID)	94	70-140			

RPD= Relative Percent Difference

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**Batch QC Report**
**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	221324	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2553	Analysis:	EPA 8021B
Matrix:	Water	Batch#:	165119
Units:	ug/L	Analyzed:	07/21/10
Diln Fac:	1.000		

Type: BS Lab ID: QC552948

Analyte	Spiked	Result	%REC	Limits
Benzene	10.00	10.33	103	70-122
Toluene	10.00	10.40	104	72-125
Ethylbenzene	10.00	10.66	107	72-126
m,p-Xylenes	10.00	10.95	109	73-126
o-Xylene	10.00	10.70	107	71-127

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	90	54-134

Type: BSD Lab ID: QC552949

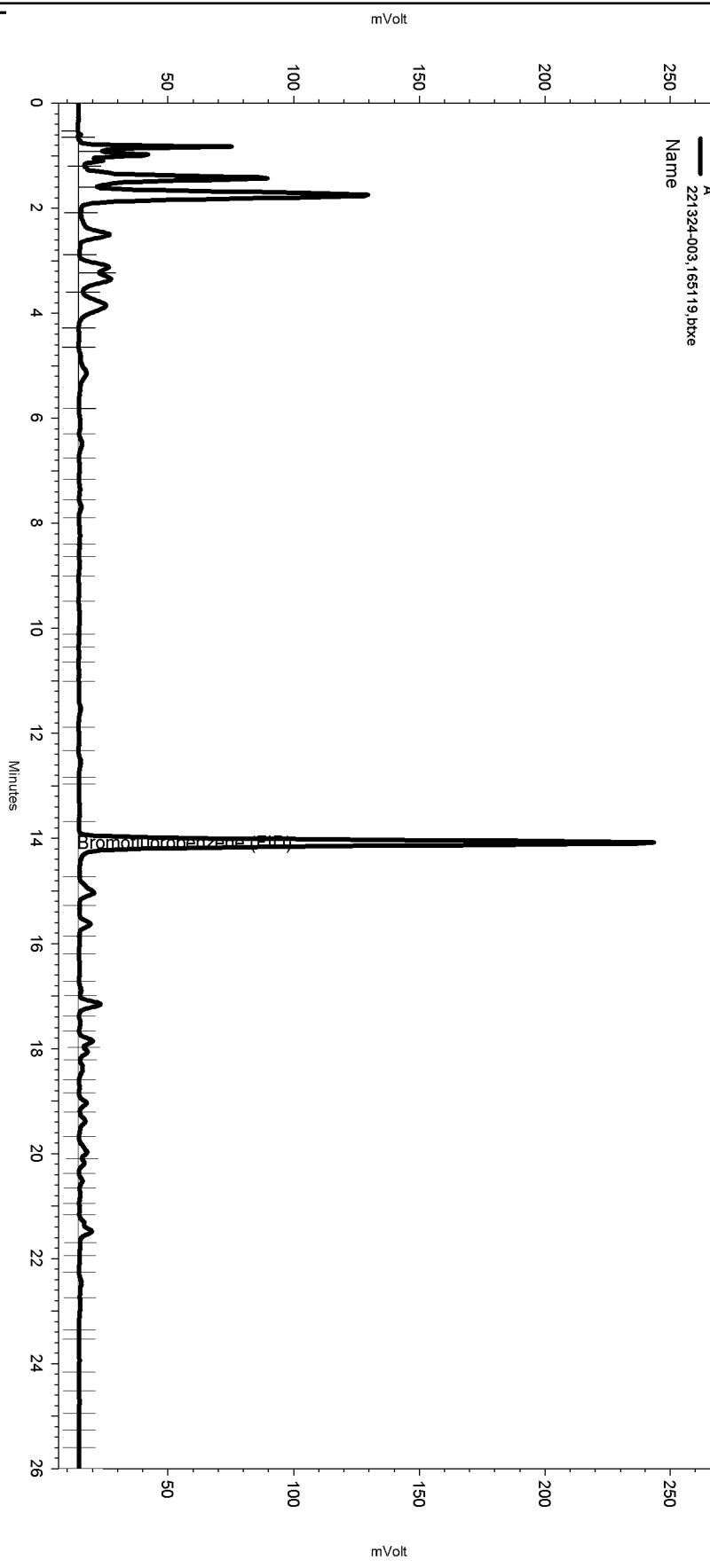
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	10.00	10.41	104	70-122	1	33
Toluene	10.00	10.54	105	72-125	1	25
Ethylbenzene	10.00	10.65	106	72-126	0	26
m,p-Xylenes	10.00	10.66	107	73-126	3	25
o-Xylene	10.00	10.75	107	71-127	0	25

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	93	54-134

RPD= Relative Percent Difference

Sequence File: \\Lims\\gdrive\\ezchrom\\Projects\\GC19\\Sequence\\202.seq  
Sample Name: 221324-003,165119,btxe  
Data File: \\Lims\\gdrive\\ezchrom\\Projects\\GC19\\Data\\202\_011  
Instrument: GC19 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\\tvh2)  
Method Name: \\Lims\\gdrive\\ezchrom\\Projects\\GC19\\Method\\tvhbtxe200.met

Software Version 3.1.7  
Run Date: 7/21/2010 8:02:01 PM  
Analysis Date: 7/22/2010 1:05:38 PM  
Sample Amount: 5 Multiplier: 5  
Vial & pH or Core ID: b1.0



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No items selected for this section

-----< A >-----

No items selected for this section

Integration Events

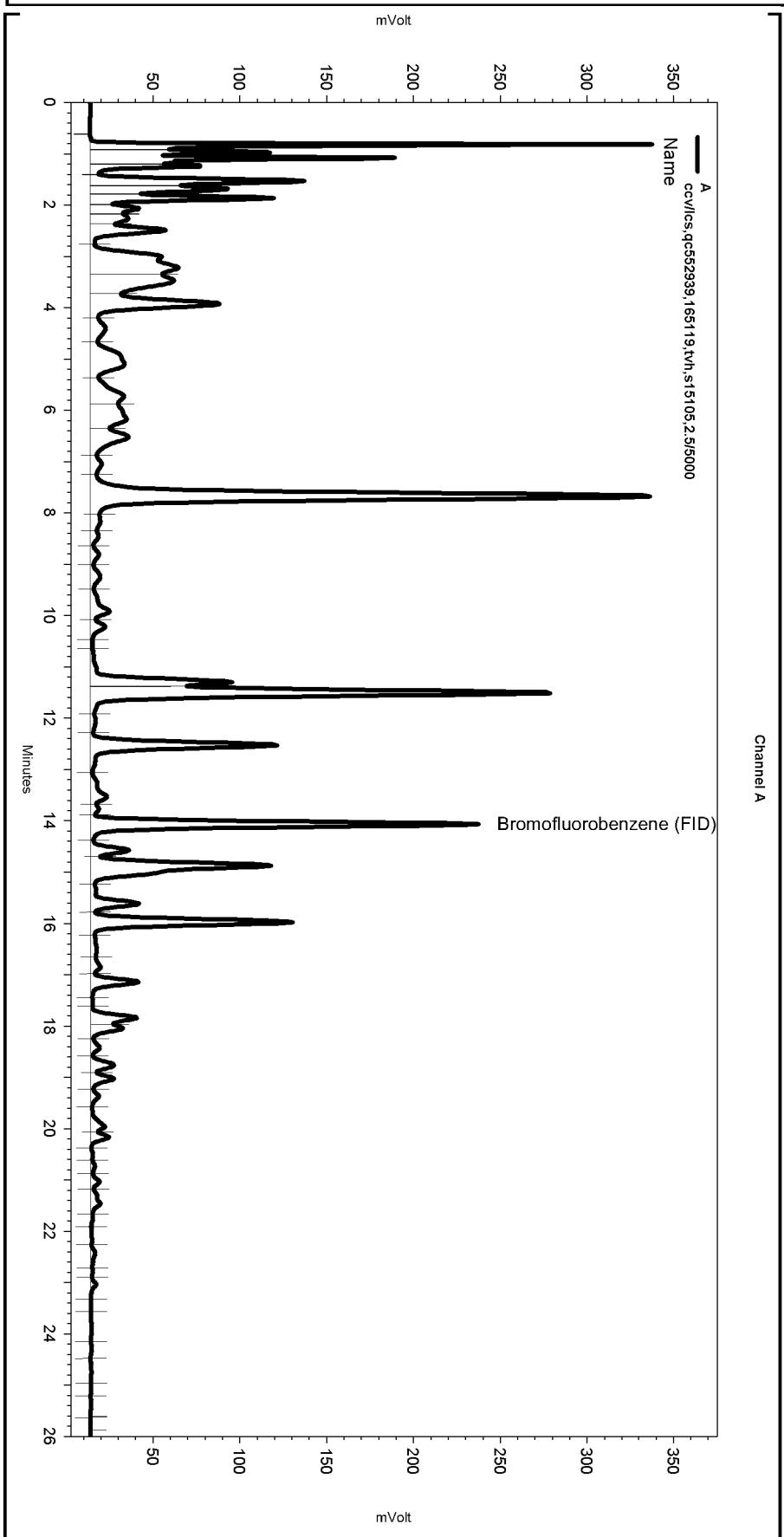
Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

Manual Integration Fixes

Data File:	Start	Stop		
Enabled	Event Type	(Minutes)	(Minutes)	Value
Yes	Lowest Point Horizontal Baseli	0	26.017	0

Sequence File: \\Lims\\gdrive\\ezchrom\\Projects\\GC19\\Sequence\\202.seq  
Sample Name: ccv\\lcs,qc552939,165119,tvh,s15105,2.5\\5000  
Data File: \\Lims\\gdrive\\ezchrom\\Projects\\GC19\\Data\\202\_004  
Instrument: GC19 (Offline) Vial: N/A Operator: Tvh 2. Analyst (\\ims2k3\\tvh2)  
Method Name: \\Lims\\gdrive\\ezchrom\\Projects\\GC19\\Method\\tvhtxe200.met

Software Version 3.1.7  
Run Date: 7/21/2010 2:07:03 PM  
Analysis Date: 7/22/2010 1:04:54 PM  
Sample Amount: 5 Multiplier: 5  
Vial & pH or Core ID: {Data Description}



-----< General Method Parameters >-----

No items selected for this section

-----< A >-----

No items selected for this section

Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

Manual Integration Fixes

Data File:	\\Lims\\gdrive\\ezchrom\\Projects\\GC19\\Data\\202_004			
Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
None				

### Total Extractable Hydrocarbons

Lab #:	221324	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3520C
Project#:	2553	Analysis:	EPA 8015B
Field ID:	EFFLUENT	Sampled:	07/19/10
Matrix:	Water	Received:	07/19/10
Units:	ug/L	Prepared:	07/20/10
Diln Fac:	1.000	Analyzed:	07/21/10
Batch#:	165080		

Type: SAMPLE Lab ID: 221324-001

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	105	60-129

Type: BLANK Lab ID: QC552793

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	101	60-129

ND= Not Detected

RL= Reporting Limit

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**Batch QC Report**
**Total Extractable Hydrocarbons**

Lab #:	221324	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3520C
Project#:	2553	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	165080
Units:	ug/L	Prepared:	07/20/10
Diln Fac:	1.000	Analyzed:	07/21/10

Type: BS Cleanup Method: EPA 3630C  
 Lab ID: QC552794

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,330	93	54-125
<b>Surrogate</b>				
o-Terphenyl	96	60-129		

Type: BSD Cleanup Method: EPA 3630C  
 Lab ID: QC552795

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,394	96	54-125	3	53
<b>Surrogate</b>						
o-Terphenyl	95	60-129				

RPD= Relative Percent Difference

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### Chemical Oxygen Demand

Lab #:	221324	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2553	Analysis:	SM5220D
Analyte:	Chemical Oxygen Demand	Batch#:	165154
Field ID:	EFFLUENT	Sampled:	07/19/10 13:00
Matrix:	Water	Received:	07/19/10
Units:	mg/L	Prepared:	07/22/10 13:00
Diln Fac:	1.000	Analyzed:	07/22/10 15:00

Type	Lab ID	Result	RL
SAMPLE	221324-001	ND	10
BLANK	QC553075	ND	10

ND= Not Detected

RL= Reporting Limit

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## Batch QC Report

## Chemical Oxygen Demand

Lab #:	221324	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2553	Analysis:	SM5220D
Analyte:	Chemical Oxygen Demand	Batch#:	165154
Field ID:	EFFLUENT	Sampled:	07/19/10 13:00
MSS Lab ID:	221324-001	Received:	07/19/10
Matrix:	Water	Prepared:	07/22/10 13:00
Units:	mg/L	Analyzed:	07/22/10 15:00
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
LCS	QC553076		75.00	80.77	108	90-110		
MS	QC553077	<10.00	150.0	144.2	96	67-130		
MSD	QC553078		150.0	144.6	96	67-130	0	20

RPD= Relative Percent Difference

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**pH**

Lab #:	221324	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2553	Analysis:	EPA 9040C
Analyte:	pH	Diln Fac:	1.000
Field ID:	EFFLUENT	Batch#:	165048
Lab ID:	221324-001	Sampled:	07/19/10 13:00
Matrix:	Water	Received:	07/19/10
Units:	SU	Analyzed:	07/19/10 17:50

Result	RL
6.6	1.0

## Batch QC Report

**pH**

Lab #:	221324	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2553	Analysis:	EPA 9040C
Analyte:	pH	Units:	SU
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
Type:	SDUP	Batch#:	165048
MSS Lab ID:	221327-007	Sampled:	07/19/10 12:55
Lab ID:	QC552645	Received:	07/19/10
Matrix:	Water	Analyzed:	07/19/10 17:50

MSS	Result	Result	RL	RPD	Lim
	7.310	7.330	1.000	0	20

RL= Reporting Limit

RPD= Relative Percent Difference

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### Total Suspended Solids (TSS)

Lab #:	221324	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2553	Analysis:	SM2540D
Analyte:	Total Suspended Solids	Batch#:	165165
Field ID:	EFFLUENT	Sampled:	07/19/10
Matrix:	Water	Received:	07/19/10
Units:	mg/L	Prepared:	07/22/10
Diln Fac:	1.000	Analyzed:	07/23/10

Type	Lab ID	Result	RL
SAMPLE	221324-001	8	5
BLANK	QC553120	ND	5

ND= Not Detected

RL= Reporting Limit

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## Batch QC Report

**Total Suspended Solids (TSS)**

Lab #:	221324	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2553	Analysis:	SM2540D
Analyte:	Total Suspended Solids	Batch#:	165165
Field ID:	ZZZZZZZZZZ	Sampled:	07/21/10
MSS Lab ID:	221385-001	Received:	07/21/10
Matrix:	Water	Prepared:	07/22/10
Units:	mg/L	Analyzed:	07/23/10
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
LCS	QC553121		50.00	49.00	98	80-120		
MS	QC553122	14.00	50.00	55.00	82	53-132		
MSD	QC553123		50.00	54.00	80	53-132	2	38

RPD= Relative Percent Difference

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Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

**Laboratory Job Number 221881  
ANALYTICAL REPORT**

SOMA Environmental Engineering Inc.  
6620 Owens Dr.  
Pleasanton, CA 94588

Project : 2553  
Location : 15101 Freedom Ave. San Leandro  
Level : II

Sample ID  
EFFLUENT

Lab ID  
221881-001

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Troy Baker  
Project Manager

Date: 08/24/2010

NELAP # 01107CA

## CASE NARRATIVE

Laboratory number: **221881**  
Client: **SOMA Environmental Engineering Inc.**  
Project: **2553**  
Location: **15101 Freedom Ave. San Leandro**  
Request Date: **08/16/10**  
Samples Received: **08/16/10**

This data package contains sample and QC results for one water sample, requested for the above referenced project on 08/16/10. The sample was received cold and intact.

**TPH-Purgeables and/or BTXE by GC (EPA 8015B and EPA 8021B):**

No analytical problems were encountered.

**TPH-Extractables by GC (EPA 8015B):**

No analytical problems were encountered.

**Total Suspended Solids (TSS) (SM2540D):**

No analytical problems were encountered.

**pH (EPA 9040C):**

No analytical problems were encountered.

**Chemical Oxygen Demand (SM5220D):**

No analytical problems were encountered.

# **CHAIN OF CUSTODY**

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## **Curtis & Tompkins, Ltd**

Analytical Laboratory Since 1878  
2323 Fifth Street  
Berkeley, CA 94710  
(510)486-0900 Phone  
(510)486-0532 Fax

**Project No: 2553**

**Project Name:** 15101 Freedom Ave, San Leandro Company : **SOMA Environmental**

**Turnaround Time: Standard**      **Telephone:** 925-734-6400

**Fax:** 925-734-6401

**RELINQUISHED BY:**

RECEIVED BY:

~~846,10 - 11,50~~

**DATE/TIME**

8/16/10 11:50 DATE/TIME

~~227~~

DATE/TIME

**DATE/TIME**

1

*[Signature]*

**DATETIME**

**DATE/TIME**

## **Analyses**

## COOLER RECEIPT CHECKLIST



Curtis &amp; Tompkins, Ltd.

Login # 721881 Date Received 8/16/10 Number of coolers 1  
 Client SOMA Project IS101 PREZON INC

Date Opened 8/16/10 By (print) S. Evans (sign) [Signature]  
 Date Logged in / By (print) / (sign) /

1. Did cooler come with a shipping slip (airbill, etc) \_\_\_\_\_ YES NO  
 Shipping info \_\_\_\_\_

2A. Were custody seals present? ...  YES (circle) on cooler on samples  NO  
 How many \_\_\_\_\_ Name \_\_\_\_\_ Date \_\_\_\_\_

2B. Were custody seals intact upon arrival? \_\_\_\_\_ YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe) \_\_\_\_\_

<input type="checkbox"/> Bubble Wrap	<input checked="" type="checkbox"/> Foam blocks	<input checked="" type="checkbox"/> Bags	<input type="checkbox"/> None
<input type="checkbox"/> Cloth material	<input type="checkbox"/> Cardboard	<input type="checkbox"/> Styrofoam	<input type="checkbox"/> Paper towels

7. Temperature documentation:

Type of ice used:  Wet  Blue/Gel  None Temp(°C) \_\_\_\_\_

Samples Received on ice & cold without a temperature blank

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? \_\_\_\_\_ YES NO

If YES, what time were they transferred to freezer? \_\_\_\_\_

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are samples in the appropriate containers for indicated tests? YES NO

11. Are sample labels present, in good condition and complete? YES NO

12. Do the sample labels agree with custody papers? YES NO

13. Was sufficient amount of sample sent for tests requested? YES NO

14. Are the samples appropriately preserved? YES NO N/A

15. Are bubbles > 6mm absent in VOA samples? YES NO N/A

16. Was the client contacted concerning this sample delivery? \_\_\_\_\_ YES NO

If YES, Who was called? \_\_\_\_\_ By \_\_\_\_\_ Date: \_\_\_\_\_

## COMMENTS

### **Curtis & Tompkins Laboratories Analytical Report**

Lab #:	221881	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2553		
Field ID:	EFFLUENT	Batch#:	166085
Matrix:	Water	Sampled:	08/16/10
Units:	ug/L	Received:	08/16/10
Diln Fac:	1.000		

Type: SAMPLE Analyzed: 08/19/10  
 Lab ID: 221881-001

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	99	70-140	EPA 8015B
Bromofluorobenzene (PID)	87	54-134	EPA 8021B

Type: BLANK Analyzed: 08/18/10  
 Lab ID: QC556783

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	100	70-140	EPA 8015B
Bromofluorobenzene (PID)	87	54-134	EPA 8021B

ND= Not Detected  
 RL= Reporting Limit

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**Batch QC Report**
**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	221881	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2553		
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Batch#:	166085

Type: BS Analyzed: 08/18/10  
 Lab ID: QC556781

Analyte	Spiked	Result	%REC	Limits	Analysis
Benzene	10.00	8.691	87	70-122	EPA 8021B
Toluene	10.00	8.634	86	72-125	EPA 8021B
Ethylbenzene	10.00	8.513	85	72-126	EPA 8021B
m,p-Xylenes	10.00	8.951	90	73-126	EPA 8021B
o-Xylene	10.00	8.733	87	71-127	EPA 8021B

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	101	70-140	EPA 8015B
Bromofluorobenzene (PID)	90	54-134	EPA 8021B

Type: BSD Analyzed: 08/19/10  
 Lab ID: QC556782

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	Analysis
Benzene	30.00	24.65	82	70-122	6	33	EPA 8021B
Toluene	30.00	24.53	82	72-125	5	25	EPA 8021B
Ethylbenzene	30.00	25.32	84	72-126	1	26	EPA 8021B
m,p-Xylenes	30.00	25.47	85	73-126	5	25	EPA 8021B
o-Xylene	30.00	25.66	86	71-127	2	25	EPA 8021B

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	100	70-140	EPA 8015B
Bromofluorobenzene (PID)	90	54-134	EPA 8021B

RPD= Relative Percent Difference

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**Batch QC Report**
**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	221881	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2553		
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC556784	Batch#:	166085
Matrix:	Water	Analyzed:	08/18/10
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits	Analysis
Gasoline C7-C12	1,000	892.4	89	73-127	EPA 8015B

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	95	70-140	EPA 8015B
Bromofluorobenzene (PID)	87	54-134	EPA 8021B

**Batch QC Report**
**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	221881	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2553		
Field ID:	ZZZZZZZZZZ	Batch#:	166085
MSS Lab ID:	221880-001	Sampled:	08/16/10
Matrix:	Water	Received:	08/16/10
Units:	ug/L	Analyzed:	08/19/10
Diln Fac:	1.000		

Type: MS                                      Lab ID: QC556785

Analyte	MSS	Result	Spiked	Result	%REC	Limits	Analysis
Gasoline C7-C12		17.25	2,000	1,764	87	68-120	EPA 8015B

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	99	70-140	EPA 8015B
Bromofluorobenzene (PID)	91	54-134	EPA 8021B

Type: MSD                                      Lab ID: QC556786

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	Analysis
Gasoline C7-C12	2,000	1,769	88	68-120	0	20	EPA 8015B

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	100	70-140	EPA 8015B
Bromofluorobenzene (PID)	91	54-134	EPA 8021B

RPD= Relative Percent Difference

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### Total Extractable Hydrocarbons

Lab #:	221881	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3520C
Project#:	2553	Analysis:	EPA 8015B
Field ID:	EFFLUENT	Sampled:	08/16/10
Matrix:	Water	Received:	08/16/10
Units:	ug/L	Prepared:	08/16/10
Diln Fac:	1.000	Analyzed:	08/17/10
Batch#:	165984		

Type: SAMPLE Lab ID: 221881-001

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	104	60-129

Type: BLANK Lab ID: QC556354

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
o-Terphenyl	101	60-129

ND= Not Detected

RL= Reporting Limit

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## Batch QC Report

**Total Extractable Hydrocarbons**

Lab #:	221881	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3520C
Project#:	2553	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	165984
Units:	ug/L	Prepared:	08/16/10
Diln Fac:	1.000	Analyzed:	08/18/10

Type: BS Lab ID: QC556355

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,630	105	54-125

Surrogate	%REC	Limits
o-Terphenyl	107	60-129

Type: BSD Lab ID: QC556356

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,686	107	54-125	2	53

Surrogate	%REC	Limits
o-Terphenyl	111	60-129

RPD= Relative Percent Difference

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### Chemical Oxygen Demand

Lab #:	221881	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2553	Analysis:	SM5220D
Analyte:	Chemical Oxygen Demand	Batch#:	166205
Field ID:	EFFLUENT	Sampled:	08/16/10 11:00
Matrix:	Water	Received:	08/16/10
Units:	mg/L	Prepared:	08/23/10 13:00
Diln Fac:	1.000	Analyzed:	08/23/10 15:00

Type	Lab ID	Result	RL
SAMPLE	221881-001	ND	10
BLANK	QC557302	ND	10

ND= Not Detected

RL= Reporting Limit

Page 1 of 1

17.0

## Batch QC Report

## Chemical Oxygen Demand

Lab #:	221881	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2553	Analysis:	SM5220D
Analyte:	Chemical Oxygen Demand	Batch#:	166205
Field ID:	EFFLUENT	Sampled:	08/16/10 11:00
MSS Lab ID:	221881-001	Received:	08/16/10
Matrix:	Water	Prepared:	08/23/10 13:00
Units:	mg/L	Analyzed:	08/23/10 15:00
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
LCS	QC557303		75.00	77.66	104	90-110		
MS	QC557304	<10.00	150.0	163.7	109	67-130		
MSD	QC557305		150.0	167.1	111	67-130	2	20

RPD= Relative Percent Difference

Page 1 of 1

18.0

**pH**

Lab #:	221881	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2553	Analysis:	EPA 9040C
Analyte:	pH	Diln Fac:	1.000
Field ID:	EFFLUENT	Batch#:	165979
Lab ID:	221881-001	Sampled:	08/16/10 11:00
Matrix:	Water	Received:	08/16/10
Units:	SU	Analyzed:	08/16/10 15:30

Result	RL
6.6	1.0

**Batch QC Report**
**pH**

Lab #:	221881	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2553	Analysis:	EPA 9040C
Analyte:	pH	Units:	SU
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
Type:	SDUP	Batch#:	165979
MSS Lab ID:	221880-001	Sampled:	08/16/10 10:00
Lab ID:	QC556340	Received:	08/16/10
Matrix:	Water	Analyzed:	08/16/10 15:30

MSS	Result	Result	RL	RPD	Lim
	7.180	7.170	1.000	0	20

RL= Reporting Limit

RPD= Relative Percent Difference

Page 1 of 1

4.0

### Total Suspended Solids (TSS)

Lab #:	221881	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2553	Analysis:	SM2540D
Analyte:	Total Suspended Solids	Batch#:	166060
Field ID:	EFFLUENT	Sampled:	08/16/10
Matrix:	Water	Received:	08/16/10
Units:	mg/L	Analyzed:	08/18/10
Diln Fac:	1.000		

Type	Lab ID	Result	RL
SAMPLE	221881-001	6	5
BLANK	QC556690	ND	5

ND= Not Detected

RL= Reporting Limit

Page 1 of 1

6.0

## Batch QC Report

**Total Suspended Solids (TSS)**

Lab #:	221881	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2553	Analysis:	SM2540D
Analyte:	Total Suspended Solids	Diln Fac:	1.000
Field ID:	EFFLUENT	Batch#:	166060
MSS Lab ID:	221881-001	Sampled:	08/16/10
Matrix:	Water	Received:	08/16/10
Units:	mg/L	Analyzed:	08/18/10

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
LCS	QC556691		50.00	48.00	96	80-120		
MS	QC556692	6.000	50.00	54.00	96	53-132		
MSD	QC556693		50.00	55.00	98	53-132	2	38

RPD= Relative Percent Difference

Page 1 of 1

7.0

# **Appendix E**

## **Third Quarter 2010 MPE Events Field Data Sheets**



ADDRESS: 15101 Freedom Avenue, San Leandro, CA.  
PROJECT #: 2555

**MTS OPERATIONAL DATA**

DATE	TIME	OXIDIZER TEMPERATURE (F)	PUMP/AIR TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	TOTAL FLOW (SCFM)	DILUTION FLOW (SCFM)	WELL FLOW (SCFM)	PITOT TUBE (IN-H <sub>2</sub> O)	INFLUENT CONCENTRATION (PPMV)	WATER TOTALIZER
8/9/2010	1000	start up									0
	1030	start extraction at MPE-2 and MW-5									0
	1130	1546	189	18.4	23.6	54	0	54	0.15	1,670	31
	1230	1546	194	16	22	62	0	62	0.20	1,500	65
	1630	1524	206	15.8	22	62	0	62	0.20	615	195
	1730	1523	200	14.6	21.2	69	0	69	0.25	508	195
8/10/2010	830	1523	190	16.8	22.2	59	0	59	0.18	IN: 422 EFF:<1	471
	930	1527	191	16.6	22.4	59	0	59	0.18	436	471
	1330	1526	195	16	22	59	0	59	0.18	430	631
	1500	1531	218	12	22	59	0	59	0.18	426	1,000
	1600	1529	196	16	22	59	0	59	0.18	423	1,000
8/11/2010	800	1523	189	16	22	59	0	59	0.18	340	1,041
	930	1530	191	16	22	62	0	62	0.20	354	1,046
	1130	1521	188	16	22	65	0	65	0.22	340	1,056
	1400	1528	192	15	22	65	0	65	0.22	317	1,066
	1500	1530	192	14	21	75	0	75	0.29	265	1,076
	1600	1525	182	13	21	76	0	76	0.30	240	1,079
8/12/2010	830	1525	184	16.6	22.2	59	0	59	0.18	301	1,080



ADDRESS: 15101 Freedom Avenue, San Leandro, CA.  
PROJECT #: 2555

MTS OPERATIONAL DATA											
DATE	TIME	OXIDIZER TEMPERATURE (F)	PUMP/AIR TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	TOTAL FLOW (SCFM)	DILUTION FLOW (SCFM)	WELL FLOW (SCFM)	PITOT TUBE (IN-H <sub>2</sub> O)	INFILUENT CONCENTRATION (PPMV)	WATER TOTALIZER
	1030	1480	189	16.2	22	62	0	62	0.20	310	1,081
	1330	1531	208	16.2	22	62	0	62	0.20	318	1,101
	1430	1531	210	16.4	22	62	0	62	0.20	323	1,116
	1530	1531	209	16.4	22	59	0	59	0.18	331	1,131
	1630	1521	210	16.4	22	59	0	59	0.18	326	1,131
8/13/2010	700	1533	188	15.8	22	62	0	62	0.20	268	1,231
	930	1526	190	16.2	22.1	61	0	61	0.19	290	1,285
	1430	1500	211	15	21.6	67	0	67	0.23	240	1,421
	1500	end extraction									

# **Appendix F**

**Laboratory report and Chain of Custody  
Form for Soil Vapor Samples**



Soma Environmental  
6620 Owens Dr. Suite A  
Pleasanton, California 94588  
Tel: 925-734-6400  
Fax: 925-734-6401

RE: 15101 Freedom Ave., San Leandro, CA

Work Order No.: 1008083

Dear Joyce Bobek:

Torrent Laboratory, Inc. received 2 sample(s) on August 11, 2010 for the analyses presented in the following Report.

All data for associated QC met EPA or laboratory specification(s) except where noted in the case narrative.

Torrent Laboratory, Inc. is certified by the State of California, ELAP #1991. If you have any questions regarding these test results, please feel free to contact the Project Management Team at (408)263-5258; ext 204.

A handwritten signature in blue ink that appears to read "Patti Sandrock".

---

Patti Sandrock

---

August 17, 2010

Date



**Date:** 8/17/2010

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**Client:** Soma Environmental

**Project:** 15101 Freedom Ave., San Leandro, CA

**Work Order:** 1008083

### CASE NARRATIVE

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No issues encountered with the receiving, preparation, analysis or reporting of the results associated with this work order.



## Sample Result Summary

**Report prepared for:** Joyce Bobek  
Soma Environmental

**Date Received:** 08/11/10  
**Date Reported:** 08/17/10

EFF

<u>Parameters:</u>	<u>Analysis Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Results ug/m3</u>
Toluene	ETO15	5	4.7	9.4	12.3
m,p-Xylene	ETO15	5	8.1	22	16.5

INF

<u>Parameters:</u>	<u>Analysis Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Results ug/m3</u>
TPH-Gasoline	ETO3	200	35000	70000	730000
Toluene	ETO15	250	240	470	37300
Benzene	ETO15	50	34	80	7640
m,p-Xylene	ETO15	50	81	220	5960
o-Xylene	ETO15	50	41	110	981



## SAMPLE RESULTS

**Report prepared for:** Joyce Bobek  
Soma Environmental

**Date Received:** 08/11/10  
**Date Reported:** 08/17/10

<b>Client Sample ID:</b>	EFF	<b>Lab Sample ID:</b>	1008083-001A
<b>Project Name/Location:</b>	15101 Freedom Ave., San Leandro, CA	<b>Sample Matrix:</b>	Soil Vapor
<b>Project Number:</b>			
<b>Date/Time Sampled:</b>	08/10/10 / 9:00	<b>Certified Clean WO # :</b>	
<b>Canister/Tube ID:</b>		<b>Received PSI :</b>	0.0
<b>Collection Volume (L):</b>		<b>Corrected PSI :</b>	
<b>Tag Number:</b>	15101 Freedom Ave		

**The results shown below are reported using their MDL.**

MTBE	ETO15	NA	08/11/10	5	4.4	9.0	ND	ND	401760	NA	
Benzene	ETO15	NA	08/11/10	5	3.4	8.0	ND	ND	401760	NA	
Toluene	ETO15	NA	08/11/10	5	4.7	9.4	12.3	3.26	401760	NA	
Ethyl Benzene	ETO15	NA	08/11/10	5	5.0	11	ND	ND	401760	NA	
m,p-Xylene	ETO15	NA	08/11/10	5	8.1	22	16.5	3.80	J	401760	NA
o-Xylene	ETO15	NA	08/11/10	5	4.1	11	ND	ND	401760	NA	
(S) 4-Bromofluorobenzene	ETO15	NA	08/11/10	5	65	135	132 %		401760	NA	

**NOTE:** Reporting limits were raised due to limited sample volume received (tedlar).

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
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The results shown below are reported using their MDL.

The results shown below are reported using their MDEA.

**NOTE:** Raised reporting limit - see comment for TO-15 analysis



## SAMPLE RESULTS

**Report prepared for:** Joyce Bobek  
Soma Environmental **Date Received:** 08/11/10  
**Date Reported:** 08/17/10

<b>Client Sample ID:</b>	INF	<b>Lab Sample ID:</b>	1008083-002A
<b>Project Name/Location:</b>	15101 Freedom Ave., San Leandro, CA	<b>Sample Matrix:</b>	Soil Vapor
<b>Project Number:</b>			
<b>Date/Time Sampled:</b>	08/10/10 / 9:15	<b>Certified Clean WO # :</b>	
<b>Canister/Tube ID:</b>		<b>Received PSI :</b>	0.0
<b>Collection Volume (L):</b>		<b>Corrected PSI :</b>	
<b>Tag Number:</b>	15101 Freedom Ave		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
Toluene	ETO15	NA	08/11/10	250	240	470	37300	9,893.90		401760	NA
MTBE	ETO15	NA	08/11/10	50	44	90	ND	ND		401760	NA
Benzene	ETO15	NA	08/11/10	50	34	80	7640	2,394.98		401760	NA
Ethyl Benzene	ETO15	NA	08/11/10	50	50	110	ND	ND		401760	NA
m,p-Xylene	ETO15	NA	08/11/10	50	81	220	5960	1,373.27		401760	NA
o-Xylene	ETO15	NA	08/11/10	50	41	110	981	226.04		401760	NA
(S) 4-Bromofluorobenzene	ETO15	NA	08/11/10	50	65	135	111 %			401760	NA

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
TPH-Gasoline	ETO3	NA	08/11/10	200	35000	70000	730000	207,386.36	x	401761	NA

**NOTE:** x-Although some TPH as Gasoline is present, the reported result is elevated due to presence of non-target compounds within range of C5-C12 quantified as Gasoline.



## MB Summary Report

Work Order:	1008083	Prep Method:	NA	Prep Date:	NA	Prep Batch:	NA
Matrix:	Air	Analytical Method:	ETO15	Analyzed Date:	08/11/10	Analytical Batch:	401760
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier	
Dichlorodifluoromethane	0.30	1.00	ND		
1,1-Difluoroethane	0.18	0.500	ND		
1,2-Dichlorotetrafluoroethane	0.70	2.00	ND		
Chloromethane	0.15	0.500	ND		
Vinyl Chloride	0.26	1.00	ND		
1,3-Butadiene	0.20	0.500	ND		
Bromomethane	0.18	0.500	ND		
Chloroethane	0.19	0.500	ND		
Trichlorofluoromethane	0.32	1.00	ND		
1,1-Dichloroethene	0.15	0.500	ND		
Freon 113	0.11	0.500	ND		
Carbon Disulfide	0.26	1.00	ND		
2-Propanol (Isopropyl Alcohol)	0.39	4.00	ND		
Methylene Chloride	0.17	0.500	ND		
Acetone	0.37	4.00	ND		
trans-1,2-Dichloroethene	0.16	0.500	ND		
Hexane	0.15	0.500	ND		
MTBE	0.24	0.500	ND		
tert-Butanol	0.22	2.00	ND		
Diisopropyl ether (DIPE)	0.21	0.500	ND		
1,1-Dichloroethane	0.18	0.500	ND		
ETBE	0.16	0.500	ND		
cis-1,2-Dichloroethene	0.13	0.500	ND		
Chloroform	0.25	1.00	ND		
Vinyl Acetate	0.16	0.500	ND		
Carbon Tetrachloride	0.14	0.500	ND		
1,1,1-Trichloroethane	0.15	0.500	ND		
2-Butanone (MEK)	0.21	0.500	ND		
Ethyl Acetate	0.21	0.500	ND		
Tetrahydrofuran	0.10	0.500	ND		
Benzene	0.21	0.500	ND		
TAME	0.086	0.500	ND		
1,2-Dichloroethane (EDC)	0.24	0.500	ND		
Trichloroethylene	0.26	1.00	ND		
1,2-Dichloropropane	0.29	1.00	ND		
Bromodichloromethane	0.13	0.500	ND		
1,4-Dioxane	0.35	1.00	ND		



## MB Summary Report

Work Order:	1008083	Prep Method:	NA	Prep Date:	NA	Prep Batch:	NA
Matrix:	Air	Analytical Method:	ETO15	Analyzed Date:	08/11/10	Analytical Batch:	401760
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier	
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trans-1,3-Dichloropropene	0.19	0.500	ND	
Toluene	0.25	0.500	ND	
4-Methyl-2-Pentanone (MIBK)	0.21	0.500	ND	
cis-1,3-Dichloropropene	0.25	0.500	ND	
Tetrachloroethylene	0.13	0.500	ND	
1,1,2-Trichloroethane	0.17	0.500	ND	
Dibromochloromethane	0.20	0.500	ND	
1,2-Dibromoethane (EDB)	0.27	1.00	ND	
2-Hexanone	0.27	1.00	ND	
Ethyl Benzene	0.23	0.500	ND	
Chlorobenzene	0.15	0.500	ND	
1,1,1,2-Tetrachloroethane	0.15	0.500	ND	
m,p-Xylene	0.38	1.00	ND	
o-Xylene	0.19	0.500	ND	
Styrene	0.16	0.500	ND	
Bromoform	0.11	0.500	ND	
1,1,2,2-Tetrachloroethane	0.10	0.500	ND	
4-Ethyl Toluene	0.17	0.500	ND	
1,3,5-Trimethylbenzene	0.15	0.500	ND	
1,2,4-Trimethylbenzene	0.14	0.500	ND	
1,4-Dichlorobenzene	0.11	0.500	ND	
1,3-Dichlorobenzene	0.14	0.500	ND	
Benzyl Chloride	0.12	0.500	ND	
1,2-Dichlorobenzene	0.15	0.500	ND	
Hexachlorobutadiene	0.22	0.500	ND	
1,2,4-Trichlorobenzene	0.46	1.00	ND	
Naphthalene	0.28	1.00	ND	
(S) 4-Bromofluorobenzene			128 %	

Work Order:	1008083	Prep Method:	NA	Prep Date:	NA	Prep Batch:	NA
Matrix:	Air	Analytical Method:	ETO3	Analyzed Date:	08/11/10	Analytical Batch:	401761
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier	
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TPH-Gasoline	50	100	ND	
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## LCS/LCSD Summary Report

Raw values are used in quality control assessment.

Work Order:	1008083	Prep Method:	NA	Prep Date:	NA	Prep Batch:	NA
Matrix:	Air	Analytical Method:	ETO15	Analyzed Date:	08/11/10	Analytical Batch:	401760
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
1,1-Dichloroethene	0.15	0.500		20	112	117	4.55	65 - 135	30	
Benzene	0.21	0.500		20	116	116	0.345	65 - 135	30	
Trichloroethylene	0.26	1.00		20	108	107	0.512	65 - 135	30	
Toluene	0.25	0.500		20	106	104	2.24	65 - 135	30	
Chlorobenzene	0.15	0.500		20	96.3	88.8	8.05	65 - 135	30	
(S) 4-Bromofluorobenzene				20	100	100		65 - 135		

Work Order:	1008083	Prep Method:	NA	Prep Date:	NA	Prep Batch:	NA
Matrix:	Air	Analytical Method:	ETO3	Analyzed Date:	08/11/10	Analytical Batch:	401761
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
TPH-Gasoline	50	100		500	83.2	79.7	4.31	50 - 150	30	



## Laboratory Qualifiers and Definitions

### DEFINITIONS:

<b>Accuracy/Bias (% Recovery)</b> - The closeness of agreement between an observed value and an accepted reference value.
<b>Blank (Method/Preparation Blank)</b> -MB/PB - An analyte-free matrix to which all reagents are added in the same volumes/proportions as used in sample processing. The method blank is used to document contamination resulting from the analytical process.
<b>Duplicate</b> - a field sample and/or laboratory QC sample prepared in duplicate following all of the same processes and procedures used on the original sample (sample duplicate, LCSD, MSD)
<b>Laboratory Control Sample (LCS ad LCSD)</b> - A known matrix spiked with compounds representative of the target analyte(s). This is used to document laboratory performance.
<b>Matrix</b> - the component or substrate that contains the analyte of interest (e.g., - groundwater, sediment, soil, waste water, etc)
<b>Matrix Spike (MS/MSD)</b> - Client sample spiked with identical concentrations of target analyte (s). The spiking occurs prior to the sample preparation and analysis. They are used to document the precision and bias of a method in a given sample matrix.
<b>Method Detection Limit (MDL)</b> - the minimum concentration of a substance that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero
<b>Practical Quantitation Limit (PQL)</b> - a laboratory determined value at 2 to 5 times above the MDL that can be reproduced in a manner that results in a 99% confidence level that the result is both accurate and precise. PQLs reflect all preparation factors and/or dilution factors that have been applied to the sample during the preparation and/or analytical processes.
<b>Precision (%RPD)</b> - The agreement among a set of replicate/duplicate measurements without regard to known value of the replicates
<b>Surrogate (S) or (Surr)</b> - An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. Surrogates are used in most organic analysis to demonstrate matrix compatibility with the chosen method of analysis
<b>Tentatively Identified Compound (TIC)</b> - A compound not contained within the analytical calibration standards but present in the GCMS library of defined compounds. When the library is searched for an unknown compound, it can frequently give a tentative identification to the compound based on retention time and primary and secondary ion match. TICs are reported as estimates and are candidates for further investigation.
<b>Units:</b> the unit of measure used to express the reported result - <b>mg/L</b> and <b>mg/Kg</b> (equivalent to PPM - parts per million in <b>liquid</b> and <b>solid</b> ), <b>ug/L</b> and <b>ug/Kg</b> (equivalent to PPB - parts per billion in <b>liquid</b> and <b>solid</b> ), <b>ug/m3</b> , <b>mg.m3</b> , <b>ppbv</b> and <b>ppmv</b> (all units of measure for reporting concentrations in air), % ( equivalent to 10000 ppm or 1,000,000 ppb), <b>ug/Wipe</b> (concentration found on the surface of a single Wipe usually taken over a 100cm <sup>2</sup> surface)

### LABORATORY QUALIFIERS:

<b>B</b> - Indicates when the analyte is found in the associated method or preparation blank
<b>D</b> - Surrogate is not recoverable due to the necessary dilution of the sample
<b>E</b> - Indicates the reportable value is outside of the calibration range of the instrument but within the linear range of the instrument (unless otherwise noted) Values reported with an E qualifier should be considered as estimated.
<b>H</b> - Indicates that the recommended holding time for the analyte or compound has been exceeded
<b>J</b> - Indicates a value between the method MDL and PQL and that the reported concentration should be considered as estimated rather than quantitative
<b>NA</b> - Not Analyzed
<b>N/A</b> - Not Applicable
<b>NR</b> - Not recoverable - a matrix spike concentration is not recoverable due to a concentration within the original sample that is greater than four times the spike concentration added
<b>R</b> - The % RPD between a duplicate set of samples is outside of the absolute values established by laboratory control charts
<b>S</b> - Spike recovery is outside of established method and/or laboratory control limits. Further explanation of the use of this qualifier should be included within a case narrative
<b>X</b> -Used to indicate that a value based on pattern identification is within the pattern range but not typical of the pattern found in standards. Further explanation may or may not be provided within the sample footnote and/or the case narrative.



## Sample Receipt Checklist

Client Name: Soma Environmental

Date and Time Received: 8/11/2010 13:55

Project Name: 15101 Freedom Ave., San Leandro, CA

Received By: NG

Work Order No.: 1008083

Physically Logged By: NG

Checklist Completed By: NG

Carrier Name: Gold Bullet Courier

### Chain of Custody (COC) Information

Chain of custody present? Yes

Chain of custody signed when relinquished and received? Yes

Chain of custody agrees with sample labels? Yes

Custody seals intact on sample bottles? Not Present

### Sample Receipt Information

Custody seals intact on shipping container/cooler? Not Present

Shipping Container/Cooler In Good Condition? Yes

Samples in proper container/bottle? Yes

Samples containers intact? Yes

Sufficient sample volume for indicated test? Yes

### Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes

Container/Temp Blank temperature in compliance? Temperature:                           °C

Water-VOA vials have zero headspace? No VOA vials submitted

Water-pH acceptable upon receipt?

pH Checked by: pH Adjusted by:



## Login Summary Report

**Client ID:** TL5237      **Soma Environmental**  
**Project Name:** 15101 Freedom Ave., San Leandro, CA  
**Project # :**  
**Report Due Date:** 8/18/2010  
**QC Level:**  
**TAT Requested:** 5+ day:0  
**Date Received:** 8/11/2010  
**Comments:** 5 day TAT! Received 2 tedlars for TPHg,MBTEX  
**Time Received:** 13:55  
**Work Order # :** **1008083**

<u>WO Sample ID</u>	<u>Client Sample ID</u>	<u>Collection Date/Time</u>	<u>Matrix</u>	<u>Scheduled Disposal</u>	<u>Sample On Hold</u>	<u>Test On Hold</u>	<u>Requested Tests</u>	<u>Subbed</u>
1008083-001A	EFF	08/10/10 9:00	Air				A_TO-3GRO A_TO-15MBTEX	
1008083-001A10 X	EFF	08/10/10 9:00	Air				A_TO-3GRO	
1008083-001A5x	EFF	08/10/10 9:00	Air				A_TO-15MBTEX	
1008083-002A	INF	08/10/10 9:15	Air				A_TO-3GRO A_TO-15MBTEX	
1008083-002A20 0x	INF	08/10/10 9:15	Air				A_TO-3GRO	
1008083-002A25 0x	INF	08/10/10 9:15	Air				A_TO-15MBTEX	
1008083-002A50 X	INF	08/10/10 9:15	Air				A_TO-15MBTEX	



483 Sinclair Frontage Road  
Milpitas, CA 95035  
Phone: 408.263.5258    **RESET**  
FAX: 408.263.8293  
[www.torrentlab.com](http://www.torrentlab.com)

## **CHAIN OF CUSTODY**

**LAB WORK ORDER NO**

1008083

Company Name: <b>SOMA Environmental Engineering, Inc.</b>			Location of Sampling: <b>15101 Freedom Ave., San Leandro, CA</b>
Address: <b>6620 Owens Drive, Suite A</b>			Purpose: <b>soil vapor extraction</b>
<b>City: Pleasanton</b>	<b>State: CA</b>	<b>Zip Code: 94588</b>	Special Instructions / Comments: <b>gasoline station</b>
<b>Telephone: 925-734-6400</b>	<b>FAX: 925-734-6401</b>		
<b>REPORT TO:</b> Joyce Bobek	<b>SAMPLER:</b> Jesse Acedillo		<b>P.O. #:</b> 2555 <b>EMAIL:</b> jbobek@somaenv.com

**Relinquished By:** Print: Jesse Date: 2/10/10 Time: 1440 Received By: Print: Date: 8/11/10 Time: 12:49  
2 Relinquished By: Print: Date: 8/11/10 Time: 14:00 Received By: Print: Date: 8/11/10 Time: 13:55

Were Samples Received in Good Condition?  Yes  No Samples on Ice?  Yes  NO Method of Shipment: 4B Sample seals intact?  Yes  NO  N/A

**NOTE:** Samples are discarded by the laboratory 30 days from date of receipt unless other arrangements are made.

Log In Reviewed By \_\_\_\_\_ Date: \_\_\_\_\_ Log In Reviewed By \_\_\_\_\_ Date: \_\_\_\_\_ Page \_\_\_\_\_ of \_\_\_\_\_

Log in By: \_\_\_\_\_ Date: \_\_\_\_\_ Log in Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_