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**ENVIRONMENTAL ENGINEERING, INC.**

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January 16, 2013

Ms. Dilan Roe  
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 Ms. Roe:

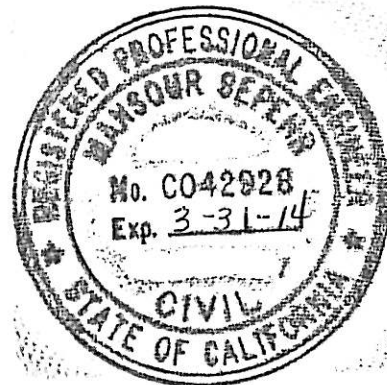
SOMA's "Fourth Quarter 2012 Groundwater Monitoring and Remediation Progress Report" for the subject property has been uploaded to the State's GeoTracker database and Alameda County's FTP site for your review.

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,

Mansour Sepehr, Ph.D., PE  
Principal Hydrogeologist

cc: Mr. Mohammad Pazdel w/report enclosure



**Fourth Quarter 2012  
Groundwater Monitoring and  
Remediation Progress Report**

**Freedom Food and Gas  
15101 Freedom Avenue  
San Leandro, California**

**January 16, 2013**

**Project 2551/2553**

**Prepared for**

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




**ENVIRONMENTAL ENGINEERING, INC.**

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## 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".

  
Mohammad Pazdel  
1770 Pistacia Court  
Fairfield, California 94533  
Responsible Party

## CERTIFICATION

SOMA Environmental Engineering, Inc. has prepared this report on behalf of the responsible party, Mr. Mohammad Pazdel, for property located at 15101 Freedom Avenue, San Leandro, California, to comply with Alameda County Health Care Services requirements for the Fourth Quarter 2012 groundwater monitoring event.



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Mansour Sepehr, PhD, PE  
Principal Hydrogeologist



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- Appendix B: Table of Elevations and Coordinates on Monitoring Wells, Field Measurements of Physical, Chemical, and Natural Attenuation Parameters, and Groundwater Gradient Calculations
- Appendix C: Laboratory Report and Chain of Custody Form for the Fourth Quarter 2012 Monitoring Event
- Appendix D: Laboratory Report and Chain of Custody Form for the Treatment System

# 1. INTRODUCTION

SOMA Environmental Engineering, Inc. (SOMA) has prepared this report on behalf of the responsible party, Mr. Mohammad Pazdel, 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 "Freedom Food and Gas" (formerly "Freedom Arco Mini-Mart").

This report summarizes results of the Fourth Quarter 2012 groundwater monitoring event conducted on December 13 and 14, 2012. 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 2012, which includes operation of a groundwater extraction and treatment system. During this reporting period, no multi-phase extraction (MPE) events were conducted.

## 1.1 Field Activities

In December 2012, SOMA's field crew conducted a groundwater monitoring event in accordance with procedures and guidelines of Alameda County Health Care Services Environmental Health Department (ACEH) and the California Regional Water Quality Control Board (CRWQCB). Figure 2 shows well locations.

On December 13, 2012, 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), 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 June 6 and 7, 2012, additional field measurements and groundwater samples were collected from all monitoring and MPE 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 and MPE wells.



## 1.2 Laboratory Analysis

Curtis & Tompkins Laboratories, 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 Fourth Quarter 2012 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 13.34 feet in MW-7 to 22.77 feet in MW-1. Unlike previous monitoring event (September 2012), no Free-Product was observed during this monitoring event.

Corresponding groundwater elevations ranged from 30.36 feet in MW-6 to 31.70 feet in MW-2. Groundwater elevations at extraction wells EX-1 and EX-2 were 30.81 feet and 30.00 feet, respectively.

Figure 3 displays the contour map of groundwater elevations. As illustrated, groundwater flows towards extraction wells, at a gradient of 0.008 feet/feet. Since the previous monitoring event (Third Quarter 2012) the gradient has decreased. Groundwater gradient calculations are attached in Appendix B.

Upon equalization with the surrounding aquifer at each well location, when the purge cycle was terminated, DO in the First WBZ ranged from 0.47 mg/L in MPE-2 to 2.93 mg/L in MW-7. ORP showed negative redox potentials in all First WBZ 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 (Table A).

### 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 ranged from 760 µg/L in MW-2 to 98,000 µg/L in MPE-1. Since the previous monitoring event (Third Quarter 2012), TPH-g increased in EX-1, EX-2, and MPE-1, decreased in MW-1 through MW-5 and MW-7, and remained same in MPE-2.

Figure 4 displays the contour map of TPH-g concentrations in groundwater. As illustrated, the highest TPH-g impact is in the southern portion of the site and in the vicinity of the dispenser islands around MPE-1.

The following BTEX concentrations were observed:

- In MW-7, benzene, toluene and total xylenes were below laboratory-reporting limits and ethylbenzene was at low level.
- In MW-2, 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 MW-6.
- The highest BTEX was detected in MPE-1 at 7,400 µg/L, 9,600 µg/L, 2,900 µg/L, and 13,300 µg/L, respectively.

Figure 5 displays the contour map of benzene in groundwater. The highest benzene impact is in the southern portion of the site and in the vicinity of the dispenser islands around MPE-1. Since the previous monitoring event (Third Quarter 2012), benzene has increased in EX-1 and EX-2, decreased in MW-1, MW-3, MW-4, MW-5, and MPE-1, and remained same in MPE-2.

MtBE was below the laboratory-reporting limit in MW-1, MW-2, and MW-3. Detectable MtBE ranged from 2.5 µg/L in MW-4 to 1,300 µg/L in MPE-1. Figure 6 displays the contour map of MtBE concentrations in groundwater. The highest MtBE impact is in the southern portion of the site and in the vicinity of the dispenser islands around MPE-1 where MtBE concentration is significantly higher than in other wells. Since the previous monitoring event (Third Quarter 2012), MtBE has slightly increased in MW-7, EX-1, EX-2, and MPE-2 and decreased in MW-1, MW-3, MW-4, MW-5, and MPE-1.

As shown in Table 1, TPH-g and toluene increased and benzene, ethylbenzene, total xylenes, and MtBE decreased in more impacted well MPE-1 since the previous monitoring event (Third Quarter 2012).

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-7, EX-2, and MPE-2, all gasoline oxygenates and lead scavengers were below laboratory-reporting limits.
- Detectable tertiary-butyl alcohol (TBA) ranged from 29 µg/L in MW-6 to 210 µg/L in EX-1.

Figure 7 shows the contour map of TBA concentrations in groundwater. The highest TBA impact was in the vicinity of extraction well EX-1.

- Methyl tertiary-amyl ether (TAME) was detected in MW-5, EX-1, and MPE-1 at 4.2 µg/L, 5.2 µg/L, and 940 µg/L 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 0.65 µg/L and 2.7 µg/L, respectively and was below laboratory-reporting limits in remaining wells. Figure 8 displays the map of ETBE concentrations in First WBZ wells.
- 1,2-dichloroethane (1,2-DCA), Isopropyl ether (DIPE), 1,2-dibromoethane (EDB), and ethanol 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 21.55 feet in MW-4D to 23.04 feet in MW-1D. Corresponding groundwater elevations ranged from 31.38 feet in MW-1D to 31.57 feet in MW-4D.

Figure 9 displays the contour map of groundwater elevations in the Second WBZ. Groundwater flows northwesterly unlike to the previous monitoring event (Third Quarter 2012) when flow direction was southwesterly, at a gradient of 0.0017 feet/feet. The groundwater gradient decreased since the previous monitoring event. Groundwater gradient calculations are attached in Appendix B.

Upon equalization with the surrounding aquifer at each well location, when the purge cycle was terminated, DO in the Second WBZ ranged from 0.85 mg/L in MW-3D to 1.03 mg/L in MW-1D. ORP showed negative redox potential in MW-4D and positive potentials in MW-1D and MW-3D. Positive redox potentials are more energetically favorable in utilizing electron acceptors during chemical reactions. This promotes the removal of organic mass from the contaminated groundwater by indigenous bacteria in the subsurface during the release of the transfer of electrons. 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 and BTEX were below laboratory-reporting limits in all second WBZ wells similar to the previous monitoring event (Third Quarter 2012).

MtBE was below the laboratory-reporting limit in MW-1D and was detected in MW-3D and MW-4D at 4.4 µg/L and 0.94 µg/L, respectively. Since the previous monitoring event (Third Quarter 2012), MtBE has decreased in MW-3D and MW-4D. Figure 10 shows the map of MtBE concentrations in Second WBZ.

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

All gasoline oxygenate, lead scavenger, and ethanol concentrations were below laboratory-reporting limits 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. Since the system began discharging, approximately 2,090,120 gallons of groundwater have been treated and discharged at the site (as of December 27, 2012).

The treatment system operates under discharge permit issued by Oro Loma Sanitary District (OLSD) in May 2009. This discharge permit was most recently renewed in May 2012. Treated groundwater has been discharging to the OLSD sewer since December 9, 2009. Figure 11 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 October 23, 2012, cumulative masses of TPH-g and BTEX extracted from groundwater were approximately 20.25 pounds, 0.93 pounds, 0.22 pounds, 0.42 pounds, and 3.01 pounds, respectively. Appendix D includes laboratory analytical results.

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

No MPE events were performed during Fourth Quarter 2012. The overall estimated total mass of VOCs extracted by previous MPE events is 806 pounds. This includes the following: 106 pounds, November 2007 pilot test; 243 pounds, October 2009 event; 72 pounds, November 2009 event; 97 pounds, December 2009 event; 17 pounds, February 2010 event; 11 pounds, March 2010 event; 30 pounds, June 2010 event; 30 pounds, August 2010 event; 79 pounds, October 2010 event; 27 pounds, April 2011 event; and 94 pounds, August 2011 event. Figure 13 shows the cumulative mass of VOCs removed in pounds.

#### **5. CONCLUSIONS AND RECOMMENDATIONS**

Fourth Quarter 2012 groundwater monitoring and previous MPE events results are summarized below.

- Groundwater flows towards extraction wells in the First WBZ and northwesterly in the Second WBZ.
- The highest hydrocarbon concentrations were observed in the southern portion of the site and in the vicinity of the dispenser islands around MPE extraction well MPE-1.
- Since the previous quarterly monitoring event (Third Quarter 2012), TPH-g increased in EX-1, EX-2, and MPE-1, decreased in MW-1 through MW-5 and MW-7, and remained same in MPE-2.
- In the Second WBZ, TPH-g and BTEX were below laboratory-reporting limits, and MtBE was below laboratory-reporting limit in MW-1D. Since the previous monitoring event (Third Quarter 2012), MtBE decreased in MW-3D and MW-4D.
- The total hydrocarbon removed by MPE operation which was ended in August 2011 was estimated to be 806 pounds.

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

- **Maximum groundwater contamination was detected in two MPE wells (MPE-1 and MPE-2) during this monitoring event. Currently, TPH-g concentration in MPE-1 and MPE-2 are 98,000 and 31,000 ug/l, respectively. The MPE events were discontinued due to lack of regulatory directives since August 2011. We strongly recommend resumption of MPE operation in MPE-1 and MPE-2 immediately. MPE-1 is located next to a resident unit and we also recommend conducting a sub-slab soil gas sampling next to this house in order to evaluate the possibility of soil vapor intrusion to this resident.**
- Continue quarterly groundwater monitoring to increase understanding of seasonal variations in groundwater quality conditions.

Other ongoing activities: Based on ACEH directive dated September 21, 2011, SOMA submitted a site evaluation workplan that discusses construction of extraction well MW-6 and its probable radius of influence (under pumping conditions). The workplan will be implemented upon receipt of written authorization from ACEH.

## **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 Laboratories 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

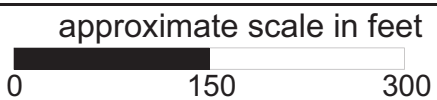
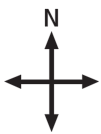
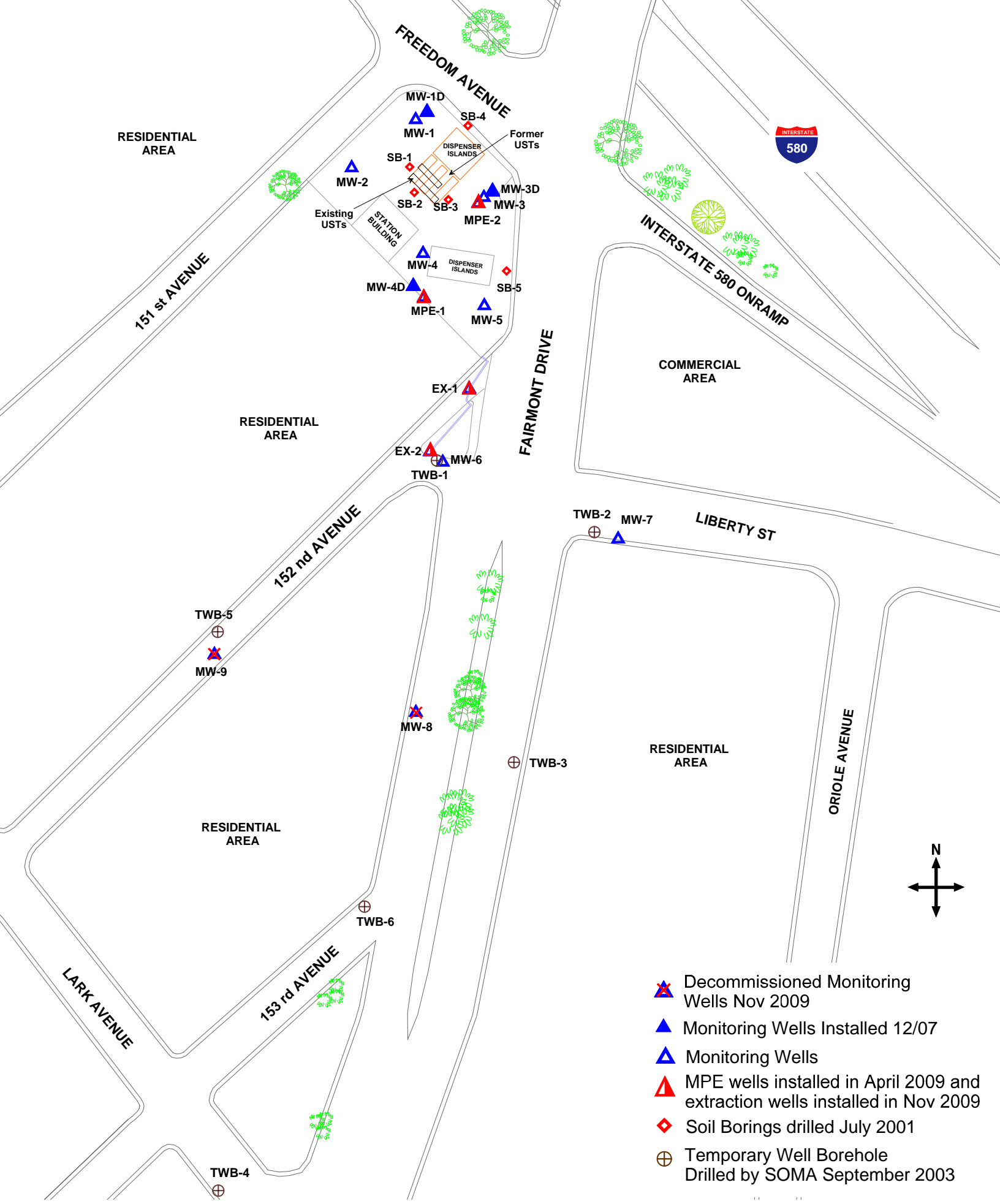








Figure 1: Site vicinity map.





-  Decommissioned Monitoring Wells Nov 2009
-  Monitoring Wells Installed 12/07
-  Monitoring Wells
-  MPE wells installed in April 2009 and extraction wells installed in Nov 2009
-  Soil Borings drilled July 2001
-  Temporary Well Borehole Drilled by SOMA September 2003

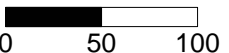
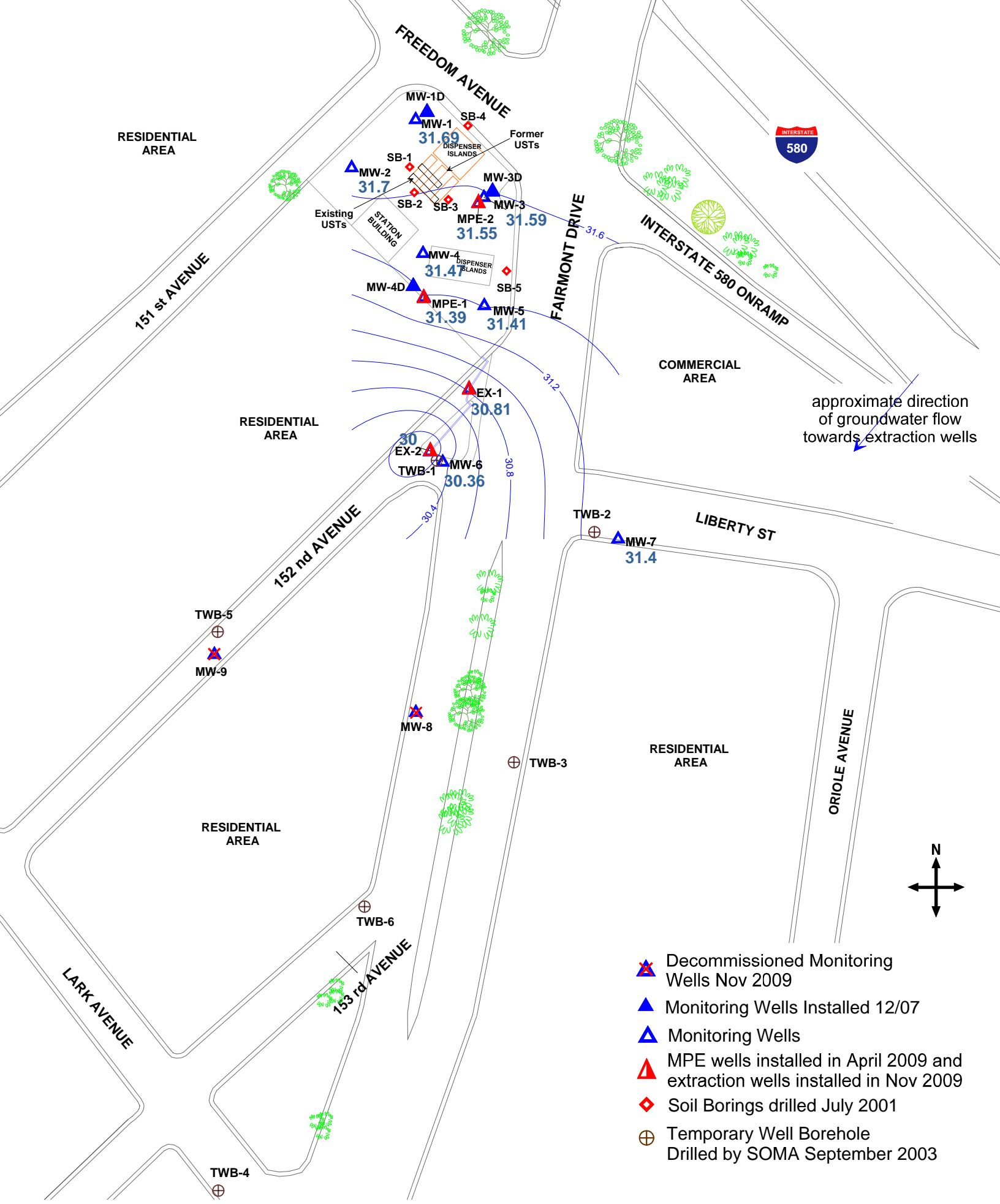






approximate scale in feet  
  
 0 50 100

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



-  Decommissioned Monitoring Wells Nov 2009
-  Monitoring Wells Installed 12/07
-  Monitoring Wells
-  MPE wells installed in April 2009 and extraction wells installed in Nov 2009
-  Soil Borings drilled July 2001
-  Temporary Well Borehole Drilled by SOMA September 2003

approximate scale in feet  
 0 50 100

Figure 3: Groundwater Elevation Contour Map in Feet, First WBZ, December 13, 2012



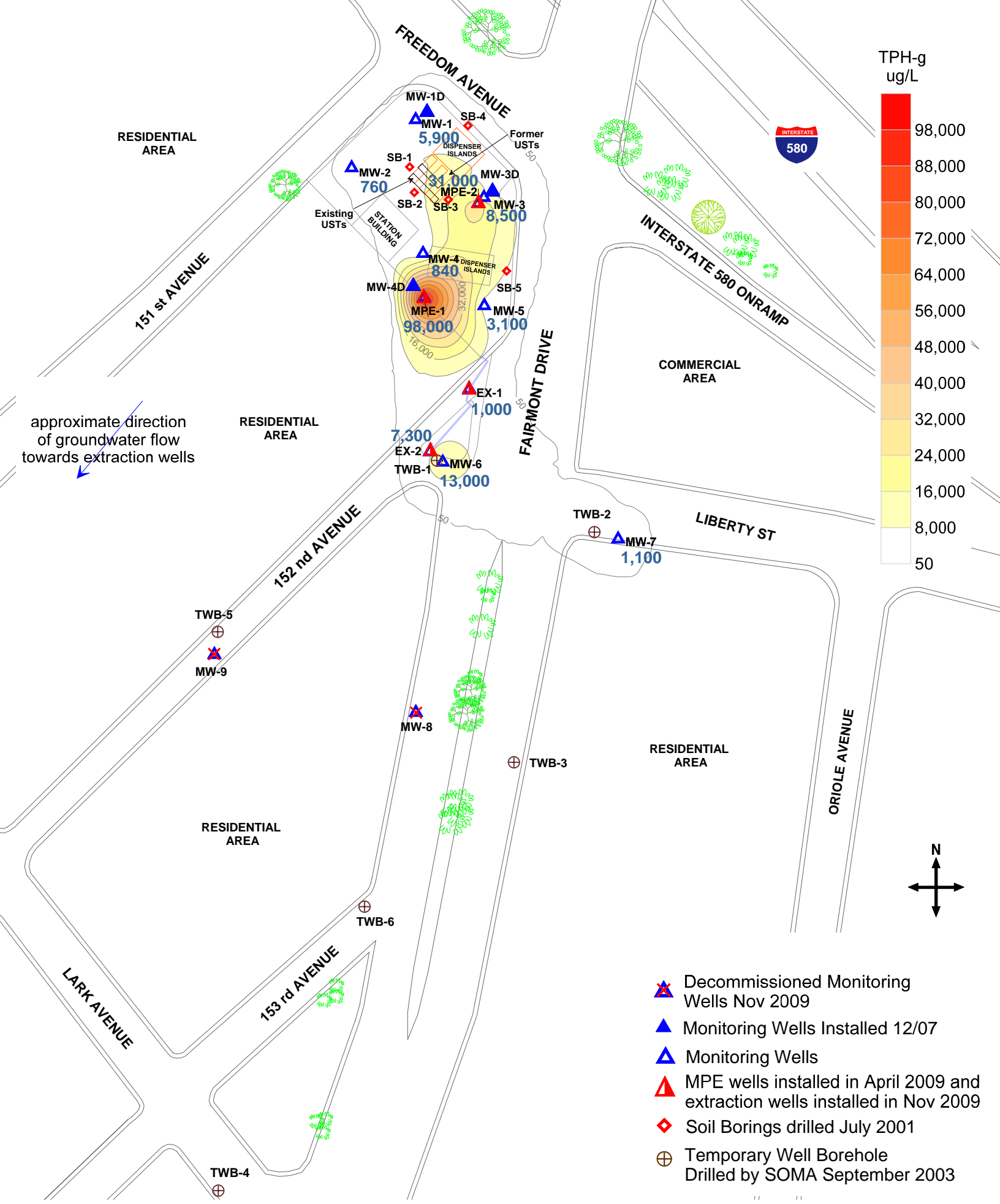


Figure 4: Contour Map of TPH-g Concentrations in Groundwater, First WBZ, December 13 and 14, 2012

- Decommissioned Monitoring Wells Nov 2009
- Monitoring Wells Installed 12/07
- Monitoring Wells
- MPE wells installed in April 2009 and extraction wells installed in Nov 2009
- Soil Borings drilled July 2001
- Temporary Well Borehole Drilled by SOMA September 2003

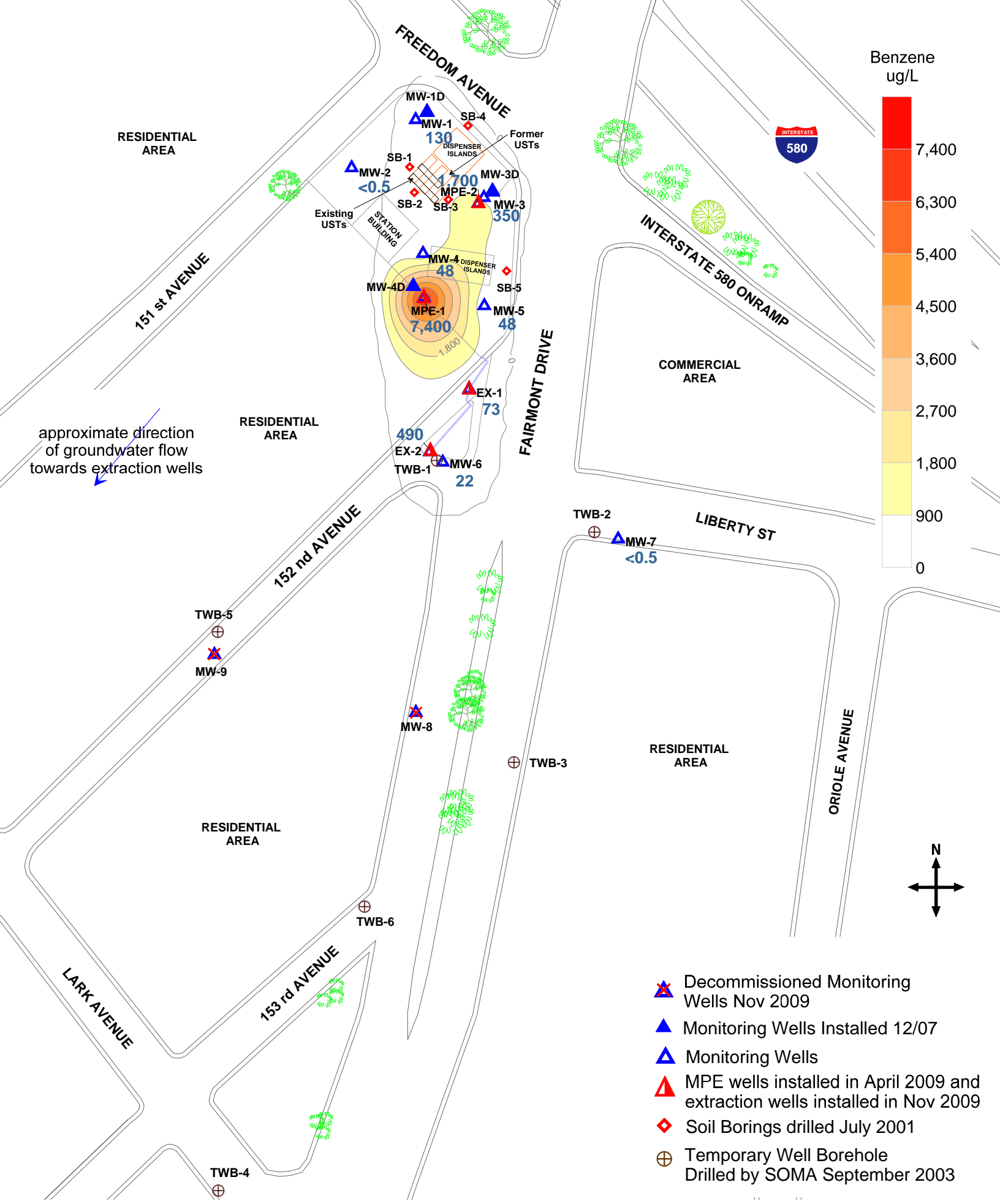
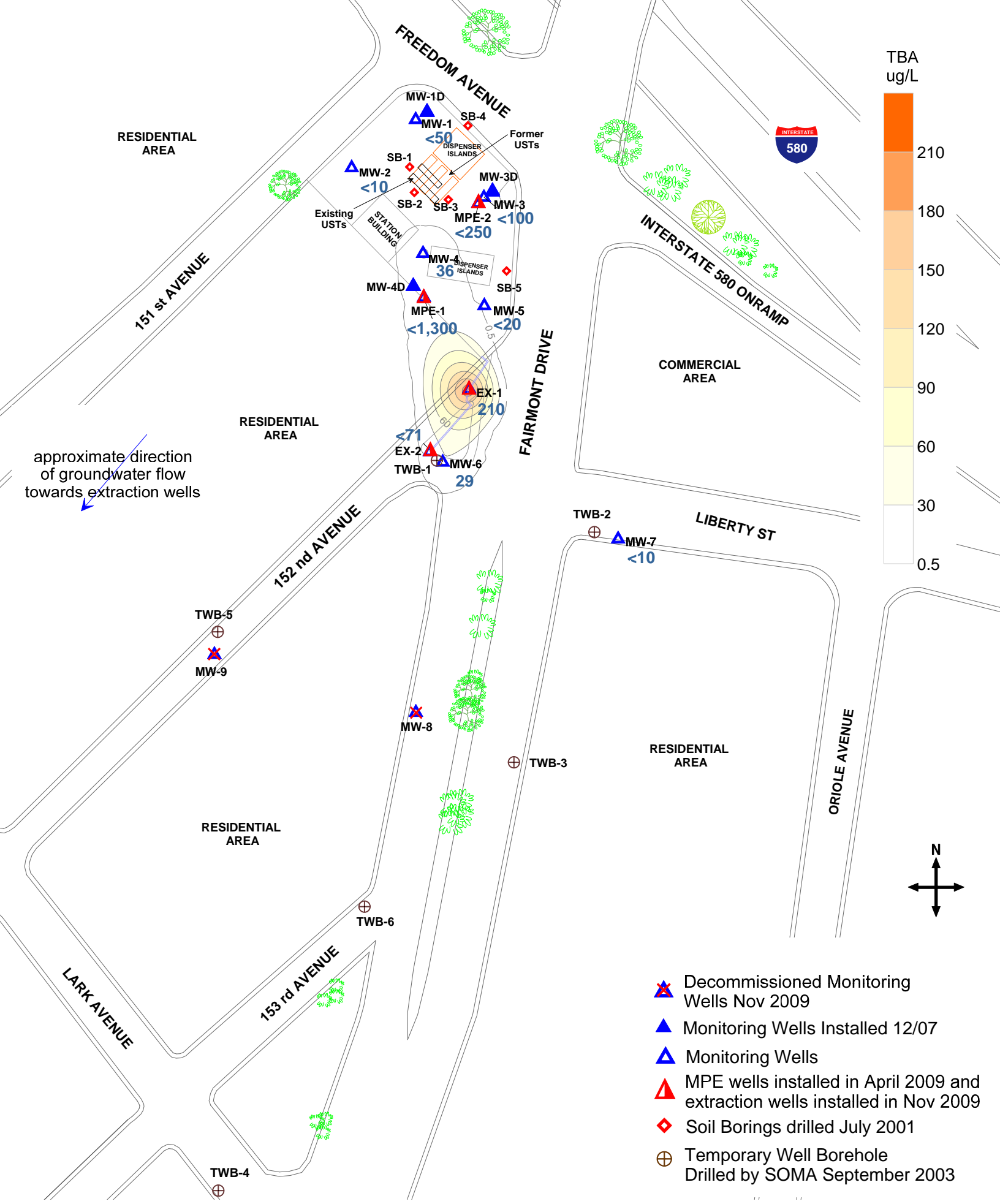


Figure 5: Contour Map of Benzene Concentrations in Groundwater, First WBZ, December 13 and 14, 2012







approximate scale in feet

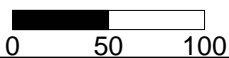


Figure 7: Contour Map of TBA Concentrations in Groundwater, First WBZ, December 13 and 14, 2012

- Decommissioned Monitoring Wells Nov 2009
- Monitoring Wells Installed 12/07
- Monitoring Wells
- MPE wells installed in April 2009 and extraction wells installed in Nov 2009
- Soil Borings drilled July 2001
- Temporary Well Borehole Drilled by SOMA September 2003

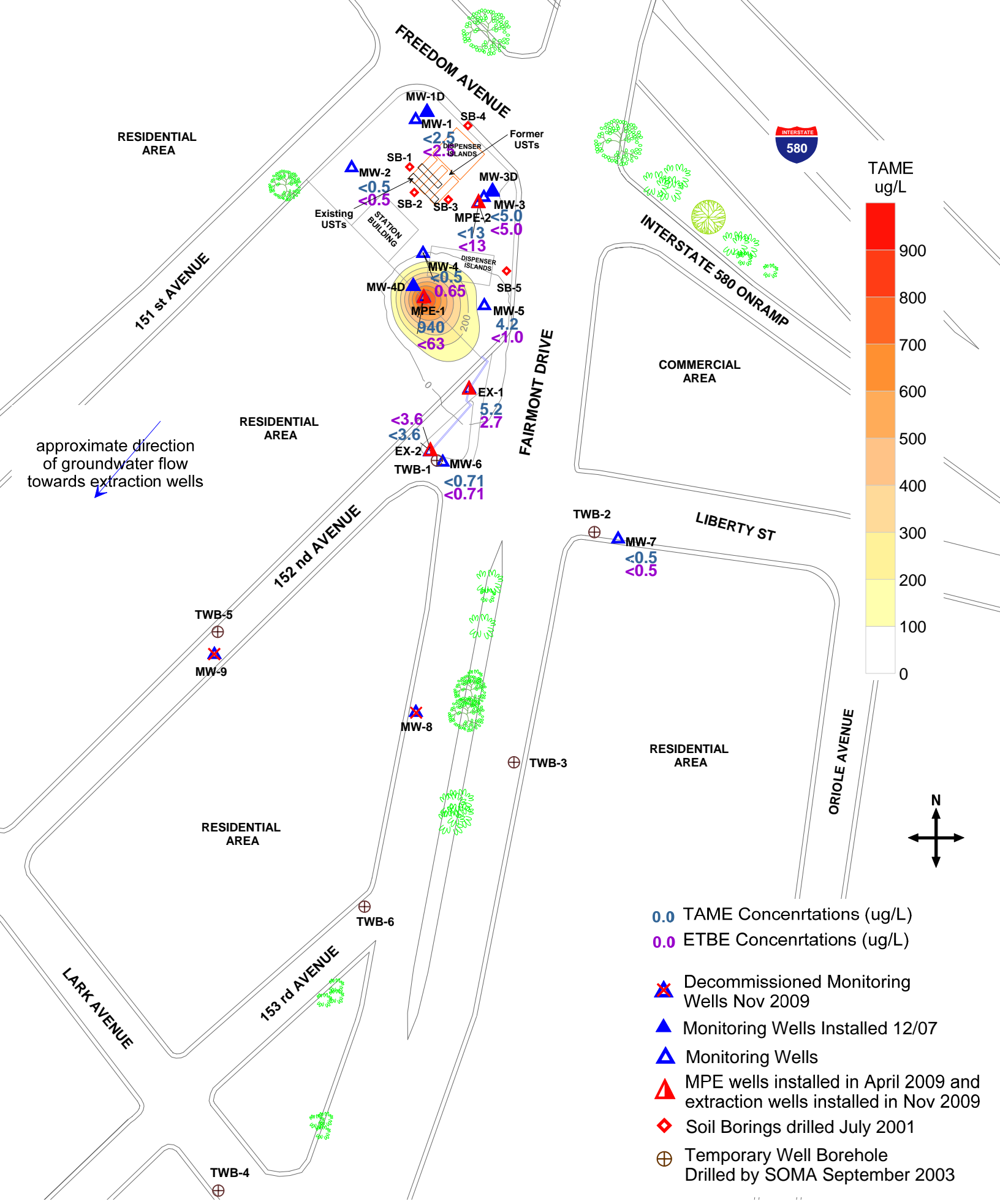
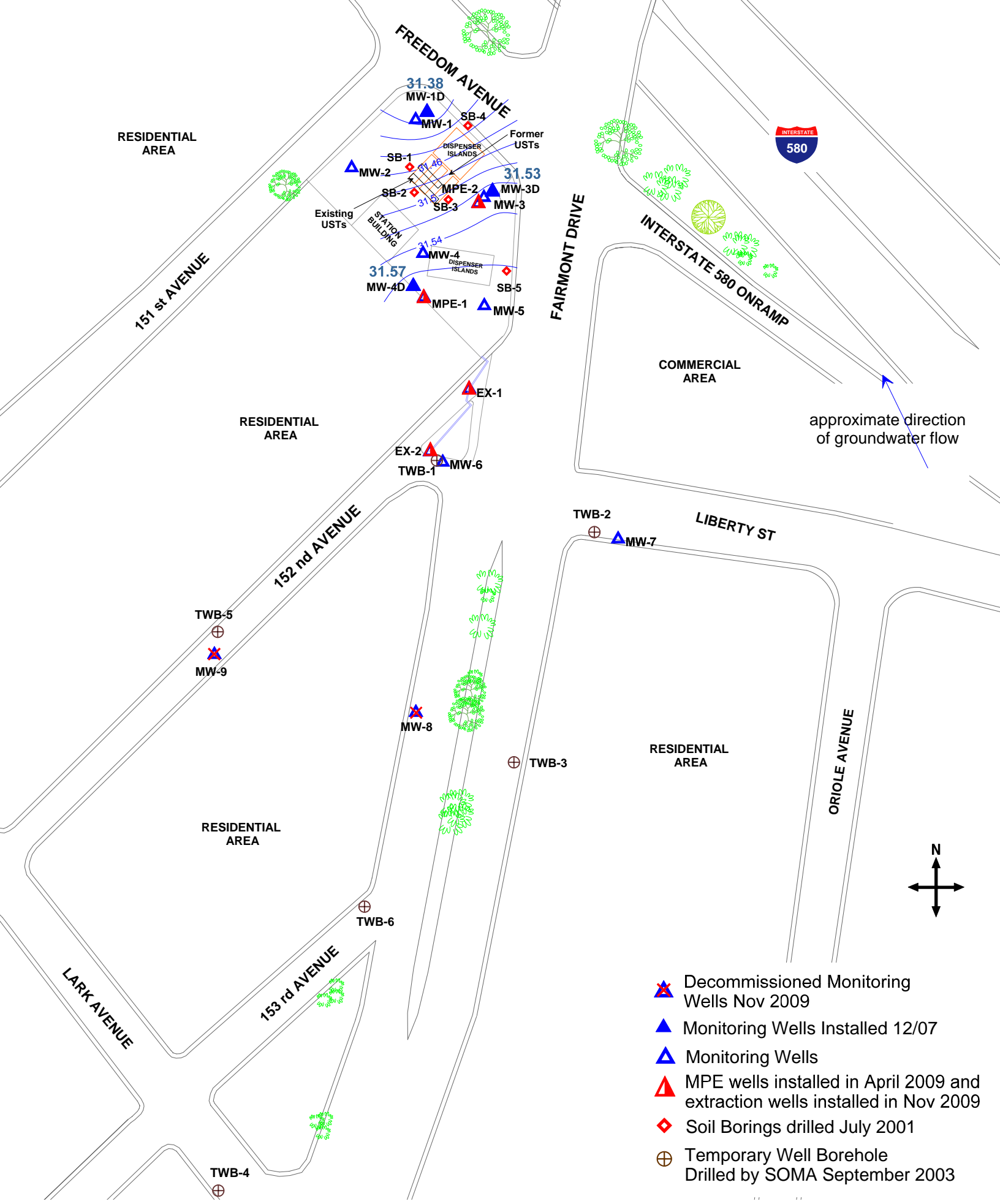


Figure 8: Contour Map of TAME and Map Showing ETBE Concentrations in Groundwater, First WBZ, December 13 and 14, 2012

approximate scale in feet  
 0 50 100



- 0.0 TAME Concentrations (ug/L)
- 0.0 ETBE Concentrations (ug/L)
- Decommissioned Monitoring Wells Nov 2009
- Monitoring Wells Installed 12/07
- Monitoring Wells
- MPE wells installed in April 2009 and extraction wells installed in Nov 2009
- Soil Borings drilled July 2001
- Temporary Well Borehole Drilled by SOMA September 2003



RESIDENTIAL AREA

151 st AVENUE

RESIDENTIAL AREA

152 nd AVENUE

TWB-5  
MW-9

RESIDENTIAL AREA

153 rd AVENUE

TWB-4

FREEDOM AVENUE

31.38  
MW-1D  
MW-1

Former USTs

31.53  
MW-3D

Existing USTs  
STATION BUILDING

31.54  
MW-4  
DISPENSER ISLANDS

31.57  
MW-4D

MPE-1

EX-1

EX-2  
TWB-1

MW-6

FAIRMONT DRIVE

INTERSTATE 580 ONRAMP

COMMERCIAL AREA

approximate direction of groundwater flow

LIBERTY ST

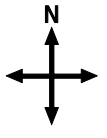
TWB-2

MW-7

RESIDENTIAL AREA

TWB-3

ORIOLE AVENUE



- Decommissioned Monitoring Wells Nov 2009
- Monitoring Wells Installed 12/07
- Monitoring Wells
- MPE wells installed in April 2009 and extraction wells installed in Nov 2009
- Soil Borings drilled July 2001
- Temporary Well Borehole Drilled by SOMA September 2003

approximate scale in feet

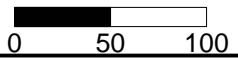
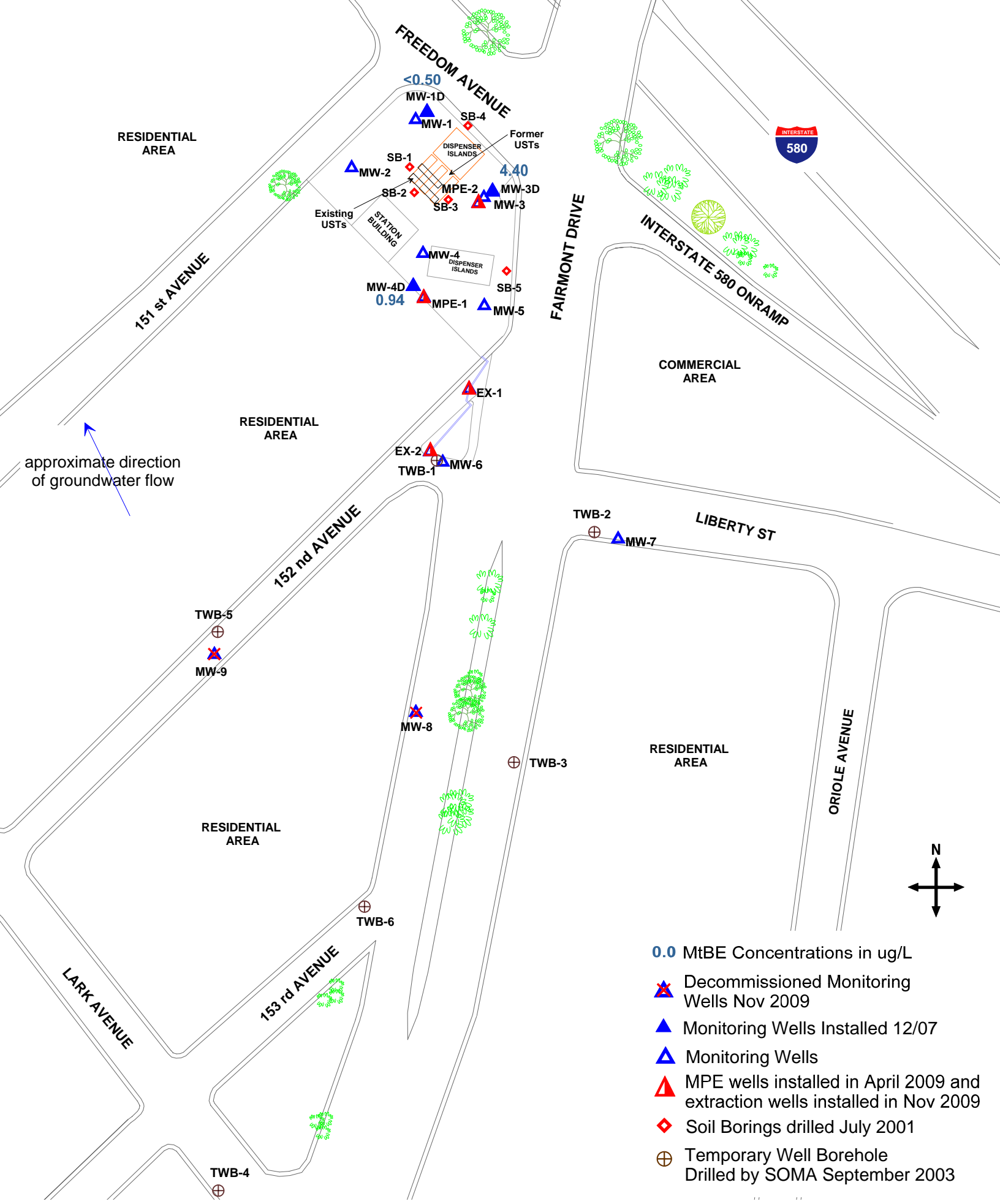


Figure 9: Groundwater Elevation Contour Map in Feet, Second WBZ, December 13, 2012







- 0.0 MtBE Concentrations in ug/L
- Decommissioned Monitoring Wells Nov 2009
  - Monitoring Wells Installed 12/07
  - Monitoring Wells
  - MPE wells installed in April 2009 and extraction wells installed in Nov 2009
  - Soil Borings drilled July 2001
  - Temporary Well Borehole Drilled by SOMA September 2003

approximate scale in feet  
 0 50 100

Figure 10: Map Showing Concentrations of MtBE in Groundwater, Second WBZ, December 13 and 14, 2012



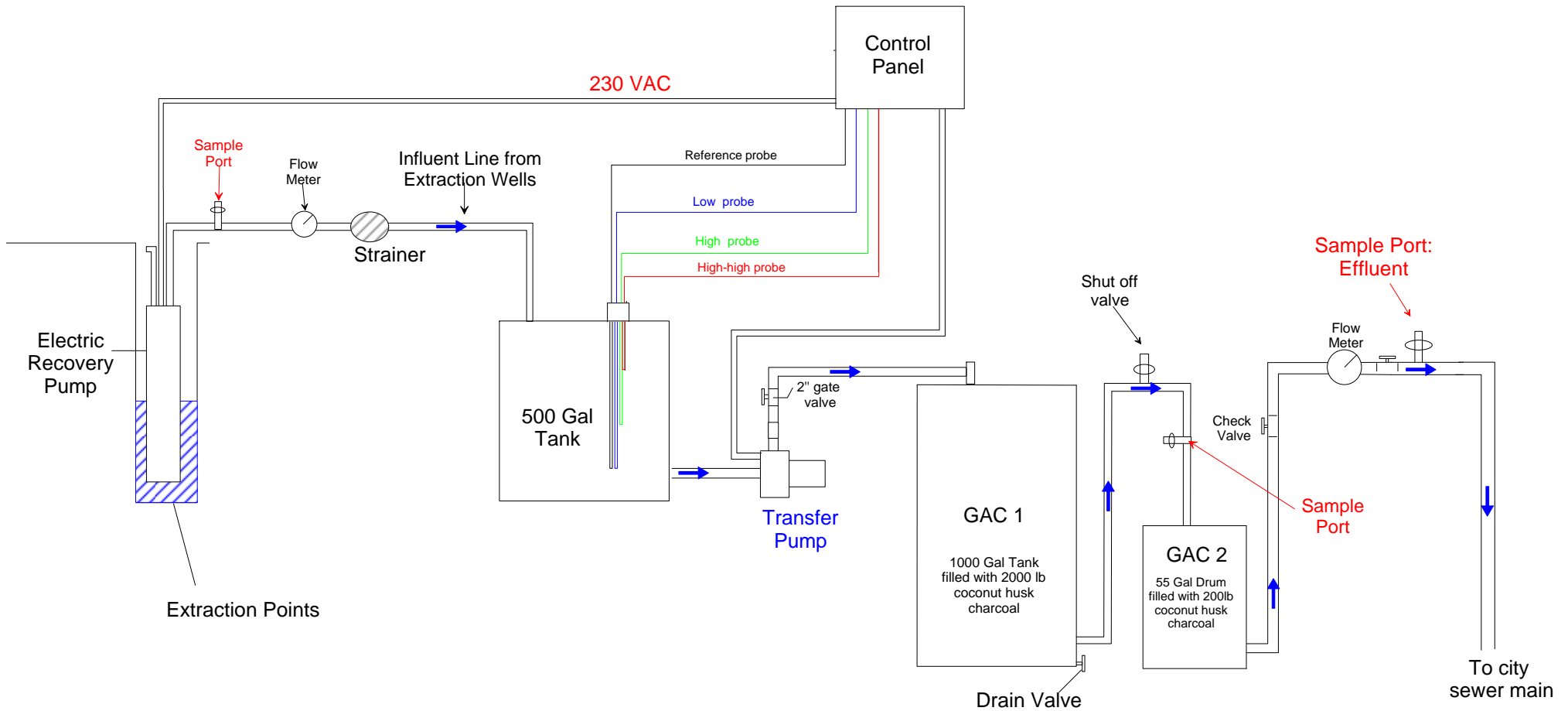


Figure 11: Schematic diagram of Groundwater Remediation System

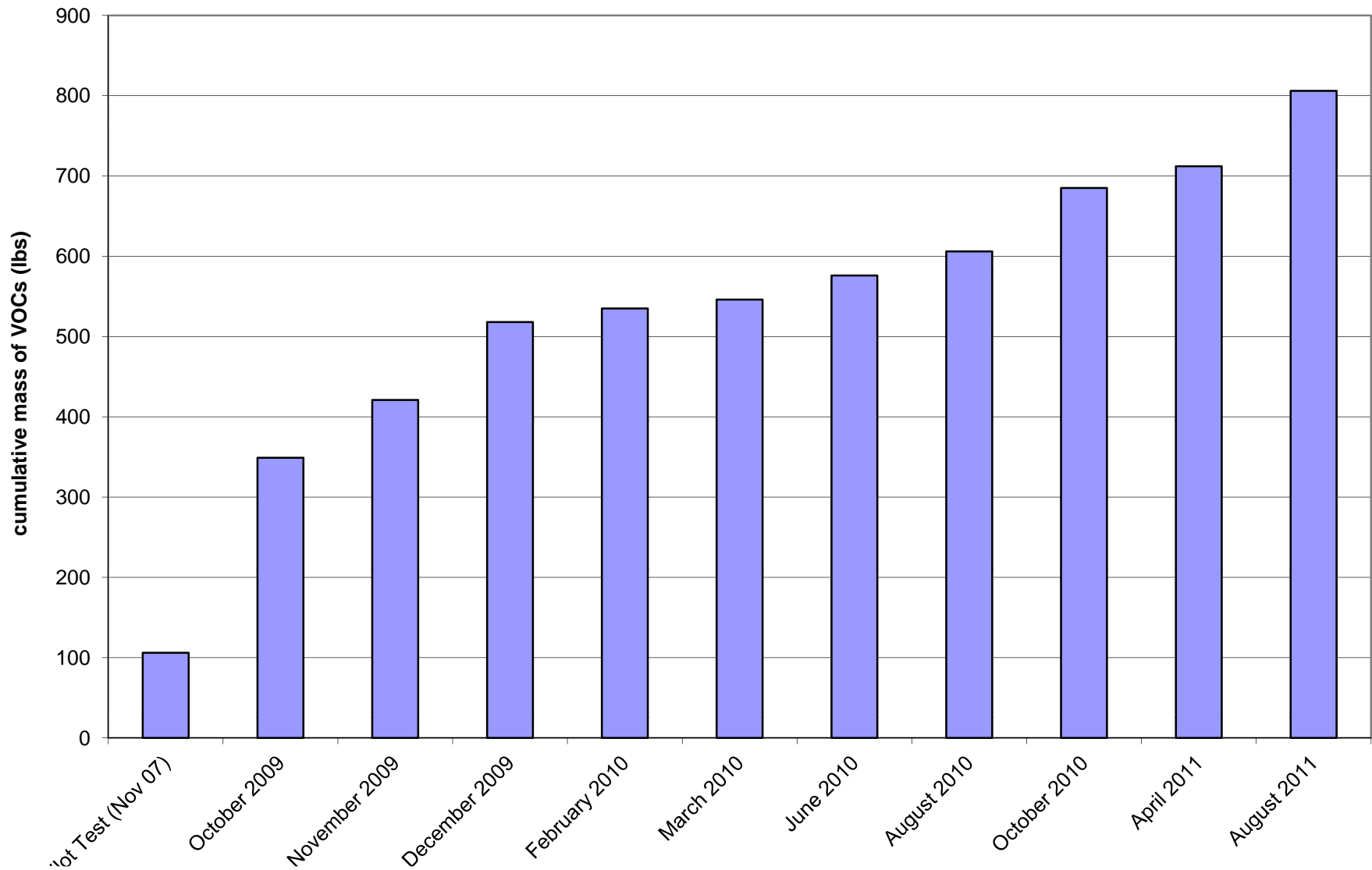


Figure 12: Cumulative mass of VOCs removed

# 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)	Depth to Free-Product (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>1st WBZ</b>											
<b>MW-1</b>	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)	Depth to Free-Product (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B <sup>2</sup> (µg/L)
MW-1 cont	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	54.46	23.28	-	31.18	8,900	440	<5.0	510	310	<5.0
	12/2/2010	54.46	23.21	-	31.25	7,400	250	<3.1	390	180	<3.1
	3/4/2011	54.46	21.95	-	32.51	2,400	67	<0.5	45	8.4	2.20
	5/20/2011	54.46	22.8	-	31.66	9,500	260	6.2	970	480	<3.6
	9/9/2011	54.46	22.81	-	31.65	6,400	220	<1.3	380	160	2.30
	12/2/2011	54.46	21.97	-	32.49	4,700 <sup>x</sup>	96	<1.7	310	200	<3.3
	3/2/2012	54.46	22.82	-	31.64	6,800	320	<2.5	430	120	<2.5
	6/7/2012	54.46	22.92	-	31.54	5,600	130	<2.5	360	160	2.9
	9/21/2012	54.46	23.56	-	30.90	8,000	300	<2.5	410	340	2.6
<b>12/14/2012</b>	<b>54.46</b>	<b>22.77</b>	-	<b>31.69</b>	<b>5,900</b>	<b>130</b>	<b>&lt;2.5</b>	<b>320</b>	<b>97</b>	<b>&lt;2.5</b>	
MW-2	5/10/2002	49.66	22.83	-	26.83 *	3,100	67	8	250	215	56
	8/8/2002	49.66	21.41	-	28.25	2,700	4.6	<0.5	310	140	<0.5
	11/8/2002	49.66	21.79	-	27.87	3,400	4.6	< 0.5	310	160	< 0.5
	2/21/2003	49.66	20.51	-	29.15	890	1.7 C	0.80 C	68	38.92 C	<0.5
	5/28/2003	49.66	20.33	-	29.33	2,700	5.2 C	<0.5	120	140	1.2
	8/12/2003	49.66	23.18	-	26.48*	8,500	640	<2.5	560	659	<0.8
	10/9/2003	49.66	21.71	-	27.95	3100 H	4.3 C	<0.5	210	160	<0.5

**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)	Depth to Free-Product (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.	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
	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
	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	<0.5	
12/2/2010	52.41	21.44	-	30.97	470	<0.5	<0.5	7.6	3.3	<0.5	

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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)	Depth to Free-Product (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B <sup>2</sup> (µg/L)
MW-2 cont.	3/4/2011	52.41	19.65	-	32.76	240	<0.5	<0.5	6.6	0.8	<0.5
	5/20/2011	52.41	20.75	-	31.66	310	<0.5	<0.5	4.8	<0.5	<0.5
	9/9/2011	52.41	21.05	-	31.36	1,000	<0.5	<0.5	12	0.76	<0.5
	12/2/2011	52.41	20.14	-	32.27	900 <sup>x</sup>	<2.9	<1.7	14	1.9	<3.3
	3/2/2012	52.41	19.98	-	32.43	880	<0.5	<0.5	5.3	0.58	<0.5
	6/7/2012	52.41	21.04	-	31.37	720	<0.5	<0.5	7.9	0.79	<0.5
	9/21/2012	52.41	21.78	-	30.63	1,400	<0.5	<0.5	11	<0.5	<0.5
	<b>12/14/2012</b>	<b>52.41</b>	<b>20.71</b>	<b>-</b>	<b>31.70</b>	<b>760</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>10</b>	<b>1.5</b>	<b>&lt;0.5</b>
MW-3	5/10/2002	51.16	22.28	-	28.88	44,000	6,000	900	1,500	6,200	2,400
	8/8/2002	51.16	22.88	-	28.28	40,000	5,800	1,100	1,600	6,500	1,300
	11/8/2002	51.16	23.19	-	27.97	47,000	5,300	1,200	2,200	8,600	1,000
	2/21/2003	51.16	22.02	-	29.14	39,000	5,500	1,500	2,000	8,600	1,300
	5/28/2003	51.16	21.89	-	29.27	52,000	7,300	3,000	2,800	12,700	2,100
	8/12/2003	51.16	22.66	-	28.50	31,000	6,100	860	1,500	6,900	1,200
	10/9/2003	51.16	23.06	-	28.10	41,000	6,100	1,100	2,200	10,200	960
	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	



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

Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Depth to Free-Product (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B <sup>2</sup> (µg/L)
MW-3 cont.	1/25/2007	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
	12/2/2010	53.91	22.86	-	31.05	18,000	830	47	780	2,360	14
	3/4/2011	53.91	21.44	-	32.47	18,000	410	32	850	2,480	16
	5/20/2011	53.91	22.36	-	31.55	12,000	710	24	620	1,460	11
	9/9/2011	53.91	22.44	-	31.47	11,000	1,100	26	580	1,430	7.8
	12/2/2011	53.91	21.60	-	32.31	5,100 <sup>x</sup>	280	12	370	740	<1.7
3/2/2012	53.91	22.39	-	31.52	13,000	440	23	690	1,570	<5.0	
6/7/2012	53.91	22.50	-	31.41	9,000	290	9.3	520	900	<5.0	
9/21/2012	53.91	23.17	-	30.74	12,000	710	26	630	1,230	8.2	
<b>12/14/2012</b>	<b>53.91</b>	<b>22.32</b>	<b>-</b>	<b>31.59</b>	<b>8,500</b>	<b>350</b>	<b>8.7</b>	<b>550</b>	<b>1,003</b>	<b>&lt;5</b>	
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

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MW-4 cont.	2/21/2003	50.54	21.48	-	29.06	3,200	98	66	220	360	6,600
	5/28/2003	50.54	21.24	-	29.30	6,200	140	46	200	790	2,300
	8/12/2003	50.54	22.32	-	28.22	7,500	180	57	220	1450	1,900
	10/9/2003	50.54	22.74	-	27.80	5,800	250	32	300	970	7,800
	1/15/2004	50.54	21.19	-	29.35	5,900	270	17 C	150	640	7,300
	5/25/2004	50.54	22.03	-	28.51	9,100	210	51	200	1190	1800
	9/21/2004	53.31	22.76	-	30.55	5,200	290	12	370	600	7300
	12/14/2004	53.31	21.99	-	31.32	8,937	538	114	416	2379	5021
	3/11/2005	53.31	20.01	-	33.30	12,300	225	39.6	80.1	1465	3870
	6/15/2005	53.31	21.25	-	32.06	7,690	114	32.6	77.1	555	1150
	8/26/2005	53.31	22.03	-	31.28	8,850	175	24.6	150	851	1380
	11/11/2005	53.31	22.43	-	30.88	9,990	356	<43	196	700	3,640
	2/9/2006	53.31	20.31	-	33.00	6,850	205	<43	67.2	255.2	5,120
	5/9/2006	53.31	20.33	-	32.98	1,290	18.1	<8.6	12.9	25.87	799
	8/10/2006	53.31	21.74	-	31.57	7,830	118	<8.60	25.3	174.6	919
	10/26/2006	53.31	22.29	-	31.02	1,540	81.9	<43	96	46.4	3,610
	1/25/2007	53.31	21.86	-	31.45	4,370	163	<8.6	85.1	269.1	1,050
	4/26/2007	53.31	21.63	-	31.68	4,380	140	<8.6	67	276.8	576
	7/25/2007	53.31	22.49	-	30.82	4,970	220	<8.60	198	241.5	1,040
	10/23/2007	53.31	22.69	-	30.62	4,200	267	<8.6	147	155.5	1,220
	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	

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<b>MW-4 cont.</b>	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
	12/2/2010	53.31	22.71	-	30.60	3,800	1,500	<10	200	115	29
	3/3/2011	53.31	20.64	-	32.67	2,400	28	<0.71	28	17	3
	5/19/2011	53.31	21.84	-	31.47	1,800	27	<0.5	29	11.2	4.8
	9/8/2011	53.31	22.11	-	31.20	3,600	300	2.6	270	68.5	59
	12/1/2011	53.31	21.38	-	31.93	1,400 <sup>x</sup>	370	<0.84	110	30.6	110
	3/2/2012	53.31	22.02	-	31.29	3,100	780	<2.0	150	59.6	50
	6/7/2012	53.31	22.24	-	31.07	2,000	290	<2.5	66	23	29
9/21/2012	53.31	22.87	-	30.44	2,900	820	<2.5	75	17	72	
	<b>12/14/2012</b>	<b>53.31</b>	<b>21.84</b>	<b>-</b>	<b>31.47</b>	<b>840</b>	<b>48</b>	<b>&lt;0.5</b>	<b>14</b>	<b>4.5</b>	<b>2.5</b>
<b>MW-5</b>	5/10/2002	47.79	19.02	-	28.77	25,000	1,000	1200	1,100	3,060	1,800
	8/8/2002	47.79	19.80	-	27.99	18,000	1,000	660	950	1,720	1,500
	11/8/2002	47.79	20.14	-	27.65	16,000	1,300	380	930	1,550	1,200
	2/21/2003	47.79	18.70	-	29.09	12,000	390	71	770	1,100	860
	5/28/2003	47.79	18.52	-	29.27	9,100	210	31	560	790	600
	8/12/2003	47.79	19.54	-	28.25	12,000	660	75	660	1,110	1,000
	10/9/2003	47.79	20.06	-	27.73	15,000	1,000	130	1,000	1,430	1,700
	1/15/2004	47.79	18.42	-	29.37	9,900	450 C	16	500	431	1,100
	5/25/2004	47.79	19.30	-	28.49	9,200	380	24	490	536	720
	9/21/2004	50.53	20.15	-	30.38	10,000	980	71	560	770	1200
	12/14/2004	50.53	19.30	-	31.23	10,502	587	64	1040	1133	1015
	3/11/2005	50.53	17.20	-	33.33	8,390	407	<5.5	83	42.5	1530
	6/15/2005	50.53	18.54	-	31.99	9,350	147	18.3	435	146.2	573
8/26/2005	50.53	19.31	-	31.22	9,500	261	<22	726	321.3	749	
11/11/2005	50.53	19.75	-	30.78	10,000	443	41.5	527	278.5	1,430	

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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)	Depth to Free-Product (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
Pre-MPE	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
	12/2/2010	50.53	20.10	-	30.43	9,100	170	6.7	350	442	23
	3/4/2011	50.53	18.00	-	32.53	2,600	18	0.62	54	18.1	3
	5/20/2011	50.53	19.18	-	31.35	4,000	91	8.5	110	106	33
	8/4/2011	50.53	NM	-	NC	3,000	23	0.95	92	43.7	5.4
	9/9/2011	50.53	19.41	-	31.12	4,200	120	2.8	140	61.1	22
	12/2/2011	50.53	18.59	-	31.94	6,900 <sup>x</sup>	96	12	220	104	32
	3/2/2012	50.53	19.30	-	31.23	5,400	43	1.8	110	85	7
	6/7/2012	50.53	19.45	-	31.08	3,700	32	<1.0	100	59	4.4
	9/21/2012	50.53	20.17	-	30.36	3,900	68	1.5	140	88.5	9.8
	12/14/2012	50.53	19.12	-	31.41	3,100	48	6.7	100	62.3	5.2

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Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Depth to Free-Product (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-6	9/21/2004	45.82	17.64	-	28.18	34,000	150	130	2200	8100	0.6
	12/14/2004	45.82	15.75	-	30.07	5,161	137	7	436	1136	<5.5
	3/11/2005	45.82	13.80	-	32.02	6,040	125	3.22	260	722.1	4.94
	6/15/2005	45.82	14.78	-	31.04	5,590	44.3	6.60	272	382	5.85
	8/26/2005	45.82	15.91	-	29.91	6,130	99	<8.6	378	492.9	5.66
	11/11/2005	45.82	16.55	-	29.27	11,400	101	<8.6	645	834.7	4.33
	2/9/2006	45.82	13.92	-	31.90	2,790	32.3	<8.6	131	131.22	7.30
	5/9/2006	45.82	13.95	-	31.87	3,730	25	<2.0	213	207.82	5.87
	8/10/2006	45.82	15.28	-	30.54	4,800	41.9	<2.0	201	189	10.4
	10/26/2006	45.82	16.11	-	29.71	6,080	37.4	<2.0	116	183	9.78
	1/25/2007	45.82	15.76	-	30.06	3,220	25.2	<2.0	219	174	14.7
	4/26/2007	45.82	15.18	-	30.64	3,110	28	<2.0	165	138.47	14.6
	7/25/2007	45.82	16.82	-	29.00	4,960	54.1	<2.0	199	255.87	8.05
	10/23/2007	45.82	16.91	-	28.91	9,610	64.3	<2.0	188	302.6	5.81
	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
	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	
12/2/2010	45.82	16.98	-	28.84	70,000	32	55	1,700	5,670	18	

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

Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Depth to Free-Product (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-6 cont.	3/3/2011	45.82	14.35	-	31.47	7,000	18	<2.5	97	237	11
	5/20/2011	45.82	14.95	-	30.87	14,000	14	<2.5	300	823	7.2
	9/8/2011	45.82	16.14	-	29.68	23,000	28	<2.5	360	812	3.4
	12/1/2011	45.82	16.17	-	29.65	NA	NA	NA	NA	NA	NA
	3/2/2012	45.82	16.11	-	29.71	14,000	23	<4.2	400	694.4	<4.2
	6/6/2012	45.82	16.31	-	29.51	9,200	12	<1.7	210	320	<1.7
	9/20/2012*	45.82	17.36	17.32	28.49	NA	NA	NA	NA	NA	NA
	<b>12/13/2012</b>	<b>45.82</b>	<b>15.46</b>	<b>-</b>	<b>30.36</b>	<b>13,000</b>	<b>22</b>	<b>&lt;0.71</b>	<b>83</b>	<b>62.8</b>	<b>5.1</b>
MW-7	9/21/2004	44.74	15.21	-	29.53	2,900	<0.5	<0.5	52	61	8.1
	12/14/2004	44.74	13.90	-	30.84	<50	1.6	<0.5	29	58	6.0
	3/11/2005	44.74	11.46	-	33.28	2,230	<2.5	<2.5	39.4	51.4	12.4
	6/15/2005	44.74	12.97	-	31.77	2,940	0.85	<2.0	50.6	31.9	13.7
	8/26/2005	44.74	14.10	-	30.64	2,310	<0.50	<2.0	55.7	29.6	4.01
	11/11/2005	44.74	14.59	-	30.15	3,030	<0.5	<2.0	66.5	42.3	9.76
	2/9/2006	44.74	NM	-	NM	NA	NA	NA	NA	NA	NA
	5/9/2006	44.74	12.02	-	32.72	1,400	<0.5	<2.0	19.8	12.4	2.30
	8/10/2006	44.74	13.72	-	31.02	604	<0.50	<2.0	6.2	4.63	1.42
	10/26/2006	44.74	14.38	-	30.36	1350	<0.50	<2.0	16.6	10.8	1.87
	1/25/2007	44.74	13.93	-	30.81	340	<0.5	<2.0	6.84	2.44	1.63
	4/26/2007	44.74	14.44	-	30.30	552	<0.5	<2.0	11.4	6.11	4.12
	7/25/2007	44.74	14.79	-	29.95	1,230	<0.5	<2.0	27	19.24	3.2
	10/23/2007	44.74	14.88	-	29.86	1,730	0.67	<2.0	20.7	17.31	8.44
	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	

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MW-7 cont.	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
	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
	12/2/2010	44.74	14.74	-	30.00	1,400	<0.5	<0.5	8	0.74	21
	3/3/2011	44.74	13.31	-	31.43	1,000	<0.5	<0.5	1.8	<0.5	16
	5/19/2011	44.74	13.43	-	31.31	810	<0.5	<0.5	2.2	0.79	7.8
	9/8/2011	44.74	14.38	-	30.36	1,000	<0.5	<0.5	8.3	2.9	5.4
	12/1/2011	44.74	13.57	-	31.17	1,500 <sup>x</sup>	<0.33	<0.19	12	5.7	13
	3/2/2012	44.74	14.16	-	30.58	1,000	<0.5	<0.5	4	1.1	5.1
	6/6/2012	44.74	14.00	-	30.74	780	<0.5	<0.5	2.9	1.0	2.6
	9/20/2012	44.74	15.26	-	29.48	1,200	<0.5	<0.5	4.3	0.92	2.7
<b>12/13/2012</b>	<b>44.74</b>	<b>13.34</b>	<b>-</b>	<b>31.40</b>	<b>1,100</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>0.99</b>	<b>&lt;0.5</b>	<b>3.4</b>	
MW-8	9/21/2004	41.14	12.98	-	28.16	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	12/14/2004	41.14	11.22	-	29.92	<50	<0.5	<0.5	<0.5	<1.0	<0.5
	3/11/2005	41.14	NM	-	NM	NA	NA	NA	NA	NA	NA
	6/15/2005	41.14	10.46	-	30.68	<200	0.53	<2.0	<0.5	<1.0	<0.5
	8/26/2005	41.14	11.53	-	29.61	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	11/11/2005	41.14	11.92	-	29.22	<50	<0.5	<2.0	1.36	1.8	<0.5
	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

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MW-8 cont.	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
	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



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MW-9 cont.	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
<b>Well Decommissioned 11/13/2009</b>											
<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	16.88	-	30.48	550	6.5	0.5	6.9	31.7	38
	12/2/2010	47.36	19.84	-	27.52	<200	3.1	<2.0	<2.0	<2.0	210
	3/3/2011	47.36	14.96	-	32.4	530	51	0.94	15	31.3	110
	5/19/2011	47.36	16.12	-	31.24	370	42	<0.71	7.6	17.2	110
	9/8/2011	47.36	16.47	-	30.89	110	5	<0.5	2.2	6.4	12
	12/1/2011	47.36	16.1	-	31.26	780 <sup>x</sup>	91	3	29	85	150
	3/2/2012	47.36	16.35	-	31.01	140	6	<0.5	3.5	8	14
	6/6/2012	47.36	24.76	-	22.6	250	22	<0.5	4.7	20	71
9/20/2012	47.36	17.26	-	30.1	95	24	<0.5	<0.5	2.61	36	
12/13/2012	47.36	16.55	-	30.81	1,000	73	2.3	47	110	48	
EX-2	12/2/2009	45.96	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	16.99	-	28.97	6,100	230	74	200	890	11
	12/2/2010	45.96	20.87	-	25.09	14,000	510	270	640	2,170	15

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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)	Depth to Free-Product (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)
EX-2 cont.	3/3/2011	45.96	14.61	-	31.35	8,600	340	52	460	1,350	13
	5/19/2011	45.96	15.08	-	30.88	7,500	260	65	390	1,080	11
	9/8/2011	45.96	16.34	-	29.62	3,400	190	28	160	451	5.4
	12/1/2011	45.96	22.60	-	23.36	9,900 <sup>x</sup>	630	200	690	1,760	<3.3
	3/2/2012	45.96	16.48	-	29.48	5,000	220	25	200	600	7.1
	6/6/2012	45.96	18.90	-	27.06	6,900	290	97	310	790	5.2
	9/20/2012	45.96	17.49	-	28.47	1,800	170	14	62	204	5.0
	<b>12/13/2012</b>	<b>45.96</b>	<b>15.96</b>	<b>-</b>	<b>30</b>	<b>7,300</b>	<b>490</b>	<b>180</b>	<b>610</b>	<b>1,290</b>	<b>5.2</b>
<b>MPE Wells</b>											
MPE-1	12/1/2009	51.96	21.41	-	30.55	NA	NA	NA	NA	NA	NA
	3/16/2010	51.96	20.22	-	31.74	NA	NA	NA	NA	NA	NA
	6/3/2010	51.96	21.18	-	30.78	NA	NA	NA	NA	NA	NA
	9/1/2010	51.96	21.25	-	30.71	NA	NA	NA	NA	NA	NA
	12/2/2010	51.96	21.64	-	30.32	NA	NA	NA	NA	NA	NA
Pre-MPE	3/3/2011	51.96	19.33	-	32.63	NA	NA	NA	NA	NA	NA
	5/19/2011	51.96	20.6	-	31.36	NA	NA	NA	NA	NA	NA
	8/4/2011	51.96	NM	-	NC	49,000	210	100	840	7,070	45
Post-MPE	9/8/2011	51.96	20.83	-	31.13	NA	NA	NA	NA	NA	NA
	9/26/2011	51.96	20.94	-	31.02	62,000	6,300	3,700	1,800	9,400	1,200
	12/2/2011	51.96	20.14	-	31.82	56,000	9,000	7,700	2,200	10,800	2,600
	3/2/2012	51.96	20.73	-	31.23	97,000	11,000	11,000	2,600	12,600	2,700
	6/6/2012	51.96	20.96	-	31.00	78,000	4,500	4,900	2,300	10,700	750
	9/20/2012	51.96	21.58	-	30.38	89,000	8,600	9,200	3,400	14,800	1,900
	<b>12/14/2012</b>	<b>51.96</b>	<b>20.57</b>	<b>-</b>	<b>31.39</b>	<b>98,000</b>	<b>7,400</b>	<b>9,600</b>	<b>2,900</b>	<b>13,300</b>	<b>1,300</b>
<b>MPE-2</b>											
MPE-2	12/1/2009	53.72	22.87	-	30.85	NA	NA	NA	NA	NA	NA

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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)	Depth to Free-Product (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)
MPE-2 cont.	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
	12/2/2010	53.72	22.7	-	31.02	NA	NA	NA	NA	NA	NA
Pre-MPE	3/3/2011	53.72	21.25	-	32.47	NA	NA	NA	NA	NA	NA
	5/19/2011	53.72	22.19	-	31.53	NA	NA	NA	NA	NA	NA
	8/4/2011	53.72	NM	-	NC	46,000	2,100	80	1,900	5,300	75
Post-MPE	9/8/2011	53.72	22.31	-	31.41	NA	NA	NA	NA	NA	NA
	9/26/2011	53.72	22.38	-	31.34	37,000	1,800	33	1,700	2,760	<17
	12/2/2011	53.72	21.44	-	32.28	26,000	1,600	43	1,800	3,370	<17
	3/2/2012	53.72	22.24	-	31.48	36,000	1,100	19	1,700	2,970	<17
	6/7/2012	53.72	22.35	-	31.37	33,000	1,800	27	1,600	2,700	29
	9/21/2012	53.72	23.03	-	30.69	31,000	1,700	13	1,900	2,747	14
	<b>12/14/2012</b>	<b>53.72</b>	<b>22.17</b>	<b>-</b>	<b>31.55</b>	<b>31,000</b>	<b>1,700</b>	<b>20</b>	<b>1,800</b>	<b>2,490</b>	<b>16</b>
<b>2nd WBZ</b>											
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	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
	12/3/2010	54.42	23.41	-	31.01	61	<0.5	<0.5	1.0	3.73	<0.5

**Table 1**  
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**15101 Freedom Avenue, San Leandro, CA**

Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Depth to Free-Product (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-1D cont.	3/3/2011	54.42	22.27	-	32.15	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	5/19/2011	54.42	22.89	-	31.53	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	9/8/2011	54.42	23.08	-	31.34	220	<0.5	<0.5	0.6	1.4	<0.5
	12/1/2011	54.42	22.26	-	32.16	<22	<0.33	<0.19	<0.15	<0.20	<0.38
	3/2/2012	54.42	23.01	-	31.41	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	6/6/2012	54.42	23.18	-	31.24	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	9/20/2012	54.42	23.76	-	30.66	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	<b>12/13/2012</b>	<b>54.42</b>	<b>23.04</b>	<b>-</b>	<b>31.38</b>	<b>&lt;50</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>
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
	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
	12/3/2010	54.10	22.90	-	31.20	<50	<0.5	<0.5	0.56	1.4	13
	3/3/2011	54.10	21.66	-	32.44	<50	1.3	<0.5	<0.5	0.59	14
	5/19/2011	54.10	22.61	-	31.49	<50	<0.5	<0.5	<0.5	<0.5	5.2
9/8/2011	54.10	22.68	-	31.42	69	<0.5	<0.5	<0.5	0.62	4.8	
12/1/2011	54.10	22.86	-	31.24	<22	<0.33	<0.19	<0.15	<0.20	10	

**Table 1**  
**Historical Groundwater Elevation Data and Analytical Results**  
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Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Depth to Free-Product (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-3D cont.	3/2/2012	54.10	22.60	-	31.50	<50	<0.5	<0.5	<0.5	<0.5	4.2
	6/6/2012	54.10	22.77	-	31.33	<50	<0.5	<0.5	<0.5	<0.5	4.8
	9/20/2012	54.10	23.42	-	30.68	<50	<0.5	<0.5	<0.5	<0.5	5.1
	<b>12/13/2012</b>	<b>54.10</b>	<b>22.57</b>	-	<b>31.53</b>	<b>&lt;50</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>4.4</b>
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
	12/3/2010	53.12	22.46	-	30.66	<50	<0.5	<0.5	<0.5	0.67	<0.5
	3/3/2011	53.12	20.45	-	32.67	<50	<0.5	<0.5	<0.5	<0.5	0.58
	5/19/2011	53.12	21.57	-	31.55	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	9/8/2011	53.12	21.92	-	31.20	59	<0.5	<0.5	<0.5	0.51	1.7
	12/1/2011	53.12	21.19	-	31.93	<22	<0.33	<0.19	<0.15	<0.20	4.2
3/2/2012	53.12	21.8	-	31.32	<50	<0.5	<0.5	0.85	1.2	2.7	
6/6/2012	53.12	22.00	-	31.12	<50	<0.5	<0.5	<0.5	<0.5	1.3	
9/20/2012	53.12	22.67	-	30.45	<50	<0.5	<0.5	<0.5	<0.5	1.6	
<b>12/13/2012</b>	<b>53.12</b>	<b>21.55</b>	-	<b>31.57</b>	<b>&lt;50</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>0.94</b>
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

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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)	Depth to Free-Product (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>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

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

<sup>c</sup> Presence confirmed, but confirmation concentration differed by more than a factor of two.

C: Presence confirmed, but RPD between columns exceeds 40%.

H: Heavier hydrocarbons contributed to the quantitation.

x: Does not match pattern of reference Gasoline Standard. Hydrocarbons in the range of C5-C12 quantified as gasoline (possibly aged gasoline)

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

\* During September 2012 groundwater monitoring event, free-product was observed in MW-6. groundwater elevation in this well has been corrected for the presence of FP:  
 Corrected depth to groundwater is equal to (measured depth)- 0.68(free product thickness)  
 The correction factor is derived by the following: specific gravity of gas at 20°C is 0.68, then specific gravity is multiplied by the thickness of free product

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

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
<b>1st WBZ</b>							
<b>MW-1</b>	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
	3/1/2005	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	
12/2/2010	<63	<3.1	<3.1	<3.1	<3.1	<3.1	
3/4/2011	40	<0.5	<0.5	<0.5	<0.5	<0.5	
5/20/2011	<71	<3.6	<3.6	<3.6	<3.6	<3.6	
9/9/2011	33	<1.3	<1.3	<1.3	<1.3	<1.3	
12/2/2011	49	<3.2	<3.5	<2.8	<2.4	<1.7	
3/2/2012	<50	<2.5	<2.5	<2.5	<2.5	<2.5	
6/7/2012	<50	<2.5	<2.5	<2.5	<2.5	<2.5	
9/21/2012	<50	<2.5	<2.5	<2.5	<2.5	<2.5	
12/14/2012	<50	<2.5	<2.5	<2.5	<2.5	<2.5	
<b>MW-2</b>	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
	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

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

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/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
	12/2/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	3/4/2011	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	5/20/2011	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	9/9/2011	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/2/2011	<13	<3.2	<3.5	<2.8	<2.4	<1.7
	3/2/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/7/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	9/21/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/14/2012	<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	



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

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	
MW-3 cont.	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	
	12/2/2010	<130	<6.3	<6.3	<6.3	<6.3	<6.3	
	3/4/2011	<170	<8.3	<8.3	<8.3	<8.3	<8.3	
	5/20/2011	<130	<6.3	<6.3	<6.3	<6.3	<6.3	
	9/9/2011	<140	<7.1	<7.1	<7.1	<7.1	<7.1	
	12/2/2011	<6.6	<1.6	<1.7	<1.4	<1.2	<0.86	
	3/2/2012	<100	<5.0	<5.0	<5.0	<5.0	<5.0	
	6/7/2012	<100	<5.0	<5.0	<5.0	<5.0	<5.0	
	9/21/2012	<100	<5.0	<5.0	<5.0	<5.0	<5.0	
	12/14/2012	<100	<5.0	<5.0	<5.0	<5.0	<5.0	
	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	
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	
12/2/2010		3,800	<10	30	<10	<10	<10	
3/3/2011	410	<0.71	3.2	<0.71	<0.71	<0.71		
5/19/2011	130	<0.5	1.4	<0.5	<0.5	<0.5		
9/8/2011	380	<0.5	3.5	<0.5	1.1	<0.5		
12/1/2011	790	<1.6	5.4	8.2	<1.2	<0.86		
3/2/2012	920	<2.0	5.9	24	<2.0	<2.0		
6/7/2012	1,000	<2.5	13	<2.5	<2.5	<2.5		
9/21/2012	1,300	<2.5	14	<2.5	<2.5	<2.5		
12/14/2012	36	<0.5	0.65	<0.5	<0.5	<0.5		
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	

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

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	
MW-5 cont.	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	
	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	
Pre- MPE	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	
	9/2/2010	320	<2.5	<2.5	13	<2.5	<2.5	
	12/2/2010	200	<3.1	<3.1	<3.1	<3.1	<3.1	
	3/4/2011	180	<0.5	<0.5	<0.5	<0.5	<0.5	
	5/20/2011	480	<1.0	<1.0	<1.0	<1.0	<1.0	
	8/4/2011	110	<0.71	<0.71	2.6	<0.71	<0.71	
	9/9/2011	260	<1.0	<1.0	11	<1.0	<1.0	
	12/2/2011	95	<3.2	<3.5	14	<2.4	<1.7	
	3/2/2012	59	<1.0	<1.0	4.1	<1.0	<1.0	
	6/7/2012	22	<1.0	<1.0	2.8	<1.0	<1.0	
	9/21/2012	66	<1.0	<1.0	<1.0	<1.0	<1.0	
	12/14/2012	<20	<1.0	<1.0	4.2	<1.0	<1.0	
	MW-6	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		
9/1/2010	<200	<10	<10	<10	<10	<10		
12/2/2010	<330	<17	<17	<17	<17	<17		
3/3/2011	<50	<2.5	<2.5	<2.5	<2.5	<2.5		
5/20/2011	<50	<2.5	<2.5	<2.5	<2.5	<2.5		
9/8/2011	<50	<2.5	<2.5	<2.5	<2.5	<2.5		
12/1/2011	NA	NA	NA	NA	NA	NA		

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

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
MW-6 cont.	3/2/2012	<83	<4.2	<4.2	<4.2	<4.2	<4.2
	6/6/2012	<33	<1.7	<1.7	<1.7	<1.7	<1.7
	9/20/2012	NA	NA	NA	NA	NA	NA
	12/13/2012	29	<0.71	<0.71	<0.71	<0.71	<0.71
MW-7	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
	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
	12/2/2010	22	<0.5	<0.5	4.9	<0.5	<0.5
	3/4/2011	14	<0.5	<0.5	4.0	<0.5	<0.5
	5/19/2011	<10	<0.5	<0.5	2.1	<0.5	<0.5
9/8/2011	<10	<0.5	<0.5	1.6	<0.5	<0.5	
12/1/2011	15	<0.36	<0.40	2.4	<0.28	<0.19	
3/2/2012	<10	<0.5	<0.5	0.82	<0.5	<0.5	
6/6/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
9/20/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
12/13/2012	<10	<0.5	<0.5	<0.5	<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

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

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
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
	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	
<b>Well Decommissioned 11/13/2009</b>							
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	<0.5	<0.5
	12/2/2010	1,300	<2.0	3.6	15	<2.0	<2.0
	3/3/2011	690	<0.71	2.5	12	<0.71	<0.71
	5/19/2011	370	<0.71	1.9	13	<0.71	<0.71
	9/8/2011	32	<0.5	<0.5	0.53	<0.5	<0.5
	12/1/2011	1,200	<1.6	8.3	6.8	<1.2	<0.86
	3/2/2012	31	<0.5	<0.5	<0.5	<0.5	<0.5
	6/6/2012	390	<0.5	2.9	4.8	0.57	<0.5
	9/20/2012	170	<0.5	1.5	<0.5	<0.5	<0.5
	12/13/2012	210	<0.5	2.7	5.2	<0.5	<0.5
	EX-2	12/2/2009	<63	<3.1	<3.1	<3.1	<3.1
3/16/2010		<100	<5.0	<5.0	<5.0	<5.0	<5.0
6/3/2010		<100	<5.0	<5.0	<5.0	<5.0	<5.0
9/1/2010		<50	<2.5	<2.5	<2.5	<2.5	<2.5
12/2/2010		<100	<5.0	<5.0	<5.0	<5.0	<5.0
3/3/2011		<100	<5.0	<5.0	<5.0	<5.0	<5.0
5/19/2011		<100	<5.0	<5.0	<5.0	<5.0	<5.0
9/8/2011		<25	<1.3	<1.3	<1.3	<1.3	<1.3
12/1/2011		74	<3.2	<3.5	<2.8	<2.4	<1.7
3/2/2012		<25	<1.3	<1.3	<1.3	<1.3	<1.3
6/6/2012		<33	<1.7	<1.7	<1.7	<1.7	<1.7
9/20/2012		<33	<1.7	<1.7	<1.7	<1.7	<1.7
12/13/2012		<71	<3.6	<3.6	<3.6	<3.6	<3.6
<b>MPE Wells</b>							
MPE-1	8/4/2011	<500	<25	<25	<25	<25	<25
	9/26/2011	<500	<25	<25	600	<25	<25
	12/2/2011	830	<32	<35	750	<24	<17
	3/2/2012	<710	<36	<36	1,200	<36	<36
	6/6/2012	<630	<31	<31	430	<31	<31
	9/20/2012	<1,300	<63	<63	1,200	<63	<63
	12/14/2012	<1,300	<63	<63	940	<63	<63
MPE-2	8/4/2011	<330	<17	<17	<17	<17	<17
	9/26/2011	<330	<17	<17	<17	<17	<17
	12/2/2011	<66	<16	<17	<14	<12	<8.6
	3/2/2012	<330	<17	<17	<17	<17	<17
	6/7/2012	<250	<13	<13	<13	<13	<13
	9/21/2012	<250	<13	<13	<13	<13	<13
	12/14/2012	<250	<13	<13	<13	<13	<13

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

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
<b>2nd WBZ</b>							
<b>MW-1D</b>	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
	12/3/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	3/3/2011	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	5/19/2011	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	9/8/2011	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/1/2011	<1.5	<0.36	<0.40	<0.32	<0.28	<0.19
	3/2/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/6/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
9/20/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
12/13/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
<b>MW-3D</b>	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	<0.5	<0.5	<0.5
	12/3/2010	<10	<0.5	<0.5	0.93	<0.5	<0.5
	3/3/2011	<10	<0.5	<0.5	1.0	<0.5	<0.5
	5/19/2011	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	9/8/2011	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/1/2011	<1.5	<0.36	<0.40	0.52	<0.28	<0.19
	3/2/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/6/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
9/20/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
12/13/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
<b>MW-4D</b>	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
	12/3/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	3/3/2011	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	5/19/2011	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	9/8/2011	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/1/2011	<1.5	<0.36	<0.40	<0.32	<0.28	<0.19
	3/2/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/6/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
9/20/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
12/13/2012	<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 (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
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
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
<b>ESL</b>		<b>12</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>0.5</b>	<b>0.05</b>

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	Installation of GWETS									
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
16-Aug-2010	939,935	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	6	6.6
28-Sep-2010	970,450	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	10	6.8
26-Oct-2010	1,013,700	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5	7.2
15-Nov-2010	1,052,591	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5	6.5
7-Dec-2010	1,100,492	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	6	6.6
<b>2011</b>											
11-Jan-2011	1,179,075	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	12	6	6.6
10-Feb-2011	1,249,569	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5	6.6
14-Mar-2011	1,336,784	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5	6.5
11-Apr-2011	1,364,272	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	6	6.5
10-May-2011	1,466,472	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	12	7	6.6
7-Jun-2011	1,532,263	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	6	6.6

**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
28-Jul-2011	1,573,295	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	5	6.3
25-Aug-2011	1,613,935	77	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5	7.1
23-Sep-2011	1,631,273	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5	6.7
27-Oct-2011	1,642,277	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	7	7.1
18-Nov-2011	1,676,170	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5	7.8
1-Dec-2011	1,694,889	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5	6.97
<b>2012</b>											
19-Jan-2012	1,715,163	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5	7.02
23-Feb-2012	1,794,185	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5	6.98
20-Mar-2012	1,803,832	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	7	7.02
17-Apr-2012	1,876,439	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.95
29-May-2012	1,900,111	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.89
11-Jun-2012	1,914,130	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	7.1
12-Jul-2012	1,943,456	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	7.3
17-Aug-2012	1,955,438	<50	<52	<310	<0.5	<0.5	<0.5	<0.5	NA	NA	7.04
17-Sep-2012	1,979,852	<50	<54	<330	<0.5	<0.5	<0.5	<0.5	NA	NA	7.02
23-Oct-2012	1,989,022	<50	<49	<290	<0.5	<0.5	<0.5	<0.5	NA	NA	6.95
12-Nov-2012	1,995,170	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.90
<b>4-Dec-2012</b>	<b>2,024,040</b>	<b>&lt;50</b>	<b>&lt;49</b>	<b>&lt;290</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>NA</b>	<b>NA</b>	<b>6.86</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



**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
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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  
 Volume discharged during the October 2010 MPE event was 13,282 gallons  
 SOMA ceased COD and TSS testing based on a request from OLSD dated April 5, 2012

**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 (µg/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
19-Jul-2010	910,652	56 <sup>Y</sup>	<0.5	<0.5	<0.5	<0.5	10.64	0.40	0.15	0.19	1.59
26-Oct-2010	1,013,700	2,600	200	25	68	405	12.87	0.57	0.17	0.25	1.94
<b>2011</b>											
11-Jan-2011	1,179,075	1,700	80	19	50	295	15.21	0.68	0.20	0.32	2.34
11-Apr-2011	1,364,272	1,200	41	3.3	23	185	17.06	0.75	0.20	0.36	2.63
28-Jul-2011	1,573,295	540	21	2.8	5.4	49	18.00	0.78	0.21	0.37	2.71
27-Oct-2011	1,642,277	<50	1.50	<0.5	<0.5	2.9	18.00	0.78	0.21	0.37	2.71
<b>2012</b>											
19-Jan-2012	1,715,163	110 <sup>Y</sup>	<0.5	<0.5	<0.5	<0.5	18.07	0.78	0.21	0.37	2.71
17-Apr-2012	1,876,439	1,100	60	6.8	24	161	19.54	0.87	0.22	0.40	2.93
12-Jul-2012	1,943,456	320	30	1.6	15	34	19.72	0.88	0.22	0.41	2.95
<b>23-Oct-2012</b>	<b>1,989,022</b>	<b>1,400<sup>Y</sup></b>	<b>130</b>	<b>12</b>	<b>42</b>	<b>153</b>	<b>20.25</b>	<b>0.93</b>	<b>0.22</b>	<b>0.42</b>	<b>3.01</b>

Notes:

< : Below laboratory-reporting limit

Y : sample exhibits chromatographic pattern which does not resemble standard

# **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.

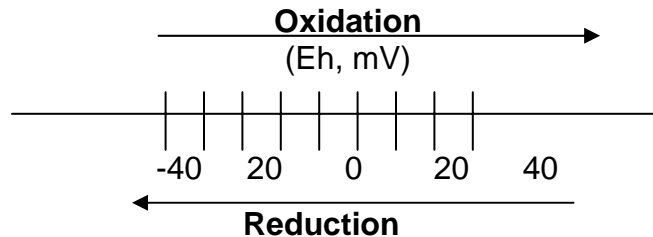
The pH of groundwater has an effect on the activity of microbial populations in the groundwater. The groundwater temperature affects the metabolic activity of bacteria. The groundwater EC is directly related to the concentration of total dissolved solids (TDS) in solution.

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, non-preserved 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,  
Field Measurements of Physical, Chemical, and Natural  
Attenuation Parameters of Groundwater Samples, and  
Groundwater Gradient Calculations

**Harrington Surveys Inc.**

**Land Surveying & Mapping**

2278 Larkey Lane, Walnut Creek, Ca. 94596 Phone (925)935-7228 Fax (925)935-5118

Cel (925)788-7359 E-Mail (ben5132@pacbell.net)

Soma Environmental Engineering  
2680 Bishop Dr. # 203  
San Ramon, Ca. 94583

Oct. 14, 2004

Attn: Elena Manzo  
Job # 2445

Ref: 15101 Freedom Ave, San Leandro, Ca.

**HORIZONTAL CONTROL, NAD 88:**

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

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

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

**VERTICAL CONTROL, NAVD 88:**

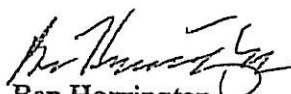
NGS 1974, STATION K 1256, NAVD 88 ELEV. 58.50.  
PID # HT1871

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

EPOCH DATE 1998.5

OBSERVATION: EPOCH=180.

FIELD SURVEY: OCT. 11, 2004.

  
Ben Harrington  
PLS 5132









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	6092163.720	47.36	4" PVC NOTCH NORTH SIDE
	37.707459134	122.123062972	47.61	SET PUNCH NORTH SIDE RIM
			47.60	PAVEMENT NORTH SIDE
EX-2	2084082.018	6092130.224	45.96	4" PVC NOTCH NORTH SIDE
	37.707310806	122.123175540	47.04	SET PUNCH NORTH SIDE RIM
			47.00	CONCRETE NORTH SIDE
MPE-1	2084213.168	6092125.258	51.96	4" PVC NOTCH NORTH SIDE
	37.707670702	122.123200567	52.49	SET PUNCH NORTH SIDE RIM
			52.51	CONCRETE NORTH SIDE
MPE-2	2084293.133	6092171.374	53.72	4" PVC NOTCH NORTH SIDE
	37.707892479	122.123045970	54.29	SET PUNCH NORTH SIDE RIM
			54.27	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

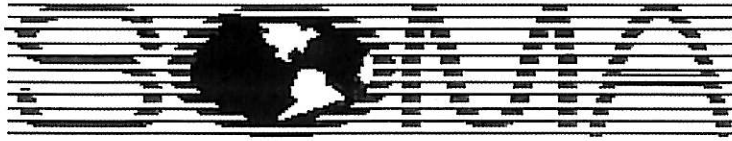
**MW-4 PUNCH**

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: 22.77 feet  
 Groundwater Elevation: 31.69 feet  
 Water Column Height: 07.73 feet  
 Purged Volume: 11 gallons

Project No.: 2551  
 Address: 15101 Freedom Avenue  
 San Leandro, CA  
 Date: December 14, 2012  
 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
09:49	Started purging well						
09:50	1	1.31	6.59	19.57	1247	5.67	-83.1
09:53	4	0.15	6.62	19.79	1259	8.12	-104.1
09:56	7	0.76	6.60	19.76	1299	8.10	-101.4
10:00	11	0.63	6.60	19.71	1314	6.56	-99.2
10:05	Sampled						



ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-2  
 Casing Diameter: 4 inches  
 Depth of Well: 30.15 feet  
 Top of Casing Elevation: 52.41 feet  
 Depth to Groundwater: 20.71 feet  
 Groundwater Elevation: 31.70 feet  
 Water Column Height: 9.44 feet  
 Purged Volume: 11 gallons

Project No.: 2551  
 Address: 15101 Freedom Avenue  
 San Leandro, CA  
 Date: December 14, 2012  
 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
09:13	Started purging well						
09:14	1	2.63	6.67	19.67	1098	10.5	-37.5
09:17	4	1.85	6.63	19.97	944	11.6	-70.3
09:20	7	1.46	6.65	20.02	1004	9.25	-75.4
09:24	11	1.06	6.67	19.91	1067	7.75	-82.3
09:29	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: 22.32 feet  
 Groundwater Elevation: 31.59 feet  
 Water Column Height: 7.58 feet  
 Purged Volume: 11 gallons

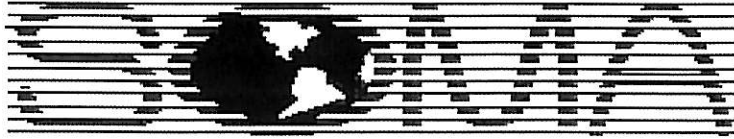
Project No.: 2551  
 Address: 15101 Freedom Avenue  
 San Leandro, CA  
 Date: December 14, 2012  
 Sampler: Lizzie Hightower

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump

Color: Yes  No  Describe: \_\_\_\_\_  
 Sheen: Yes  No  Describe: Slight Sheen  
 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
10:18	Started purging well						
10:19	1	1.41	6.50	19.72	818	11.0	-32.9
10:22	4	0.84	6.66	19.80	938	7.46	-51.3
10:25	7	0.64	6.66	19.82	985	6.43	-55.4
10:29	11	0.53	6.66	19.81	1017	7.42	-59.3
10:34	Sampled						



ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-4 Project No.: 2551  
 Casing Diameter: 4 inches Address: 15101 Freedom Avenue  
 Depth of Well: 30.20 feet San Leandro, CA  
 Top of Casing Elevation: 53.31 feet Date: December 4, 2012  
 Depth to Groundwater: 21.84 feet Sampler: Lizzie Hightower  
 Groundwater Elevation: 31.47 feet  
 Water Column Height: 8.36 feet  
 Purged Volume: 11 gallons

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump

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

Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP
11:12	Started purging well						
11:13	1	1.33	6.41	19.01	928	6.67	-21.9
11:16	4	0.82	6.60	19.10	1126	5.99	-47.0
11:19	7	0.72	6.58	19.10	1175	5.54	-46.6
11:23	11	0.62	6.58	19.12	1216	5.42	-46.0
11:28	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: 19.12 feet  
 Groundwater Elevation: 31.41 feet  
 Water Column Height: 10.68 feet  
 Purged Volume: 11 gallons

Project No.: 2551  
 Address: 15101 Freedom Avenue  
 San Leandro, CA  
 Date: December 14, 2012  
 Sampler: Lizzie Hightower

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump

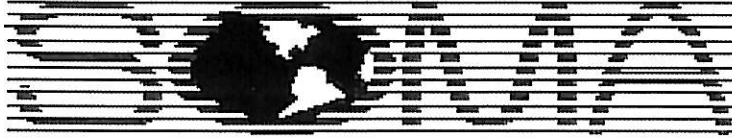
Color: Yes  No  Describe: Cloudy

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
12:10	Start Acid purging well						
12:11	1	1.31	6.75	20.42	1217	8.97	-93.1
12:14	4	0.83	6.78	20.70	1214	9.70	-114.3
12:17	7	0.66	6.78	20.70	1202	7.11	-121.3
12:21	11	0.52	6.76	20.70	1173	17.0	-126.5
12:26	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: 15.46 feet  
 Groundwater Elevation: 30.36 feet  
 Water Column Height: 11.84 feet  
 Purged Volume: 14 gallons

Project No.: 2551  
 Address: 15101 Freedom Avenue  
 San Leandro, CA  
 Date: December 13, 2012  
 Sampler: Lizzie Hightower

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump

Color: Yes  No  Describe: \_\_\_\_\_  
 Sheen: Yes  No  Describe: Rainbow Sheen + Product Globbs  
 Odor: Yes  No  Describe: Strong Petro

Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP
12:18	Started purging well						
12:19	2	1.64	6.69	21.19	1224	9.87	-21.3
12:21	6	1.30	6.71	21.22	1231	8.04	-34.9
12:23	10	1.40	6.72	21.19	1231	8.37	-42.0
12:25	14	1.47	6.72	21.05	1231	9.99	-46.2
12:30	sampled						



ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-7 Project No.: 2551  
 Casing Diameter: 2 inches Address: 15101 Freedom Avenue  
 Depth of Well: 21.00 feet San Leandro, CA  
 Top of Casing Elevation: 44.74 feet Date: December 13, 2012  
 Depth to Groundwater: 13.34 feet Sampler: Lizzie Hightower  
 Groundwater Elevation: 31.40 feet  
 Water Column Height: 7.66 feet  
 Purged Volume: 3.5 gallons

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump

Color: Yes  No  Describe: Cloudy

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

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

Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP
<u>11:40</u>	<u>Started purging well</u>						
<u>11:43</u>	<u>1</u>	<u>7.79</u>	<u>6.55</u>	<u>18.15</u>	<u>1249</u>	<u>253</u>	<u>+97.6</u>
<u>11:47</u>	<u>2</u>	<u>4.52</u>	<u>6.89</u>	<u>18.26</u>	<u>1257</u>	<u>429</u>	<u>+1.3</u>
<u>11:51</u>	<u>3</u>	<u>3.16</u>	<u>6.68</u>	<u>18.40</u>	<u>1261</u>	<u>538</u>	<u>-14.9</u>
<u>11:54</u>	<u>3.75</u>	<u>2.93</u>	<u>6.67</u>	<u>18.42</u>	<u>1274</u>	<u>524</u>	<u>-22.0</u>
<u>11:59</u>	<u>Sampled</u>						







ENVIRONMENTAL ENGINEERING, INC

Well No.: MPE-1  
 Casing Diameter: 4 inches  
 Depth of Well: 30.00 feet  
 Top of Casing Elevation: 51.96 feet  
 Depth to Groundwater: 20.57 feet  
 Groundwater Elevation: 31.39 feet  
 Water Column Height: 9.43 feet  
 Purged Volume: 11 gallons

Project No.: 2551  
 Address: 15101 Freedom Avenue  
 San Leandro, CA  
 Date: December 14, 2012  
 Sampler: Lizzie Hightower

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump

Color: Yes  No  Describe: Slightly Cloudy

Sheen: Yes  No  Describe: Rainbow Sheen

Odor: Yes  No  Describe: Strong Petro

Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP
11:37	Start Acid purging well						
11:38	1	1.26	6.91	18.89	1464	19.4	-35.7
11:41	4	0.91	6.73	19.08	1456	15.1	-53.0
11:44	7	0.82	6.74	19.13	1459	15.8	-59.5
11:48	11	0.70	6.76	19.14	1476	16.4	-63.5
11:53	sampled						



ENVIRONMENTAL ENGINEERING, INC

Well No.: MPE-2  
 Casing Diameter: 4 inches  
 Depth of Well: 30.00 feet  
 Top of Casing Elevation: 53.72 feet  
 Depth to Groundwater: 22.17 feet  
 Groundwater Elevation: 31.55 feet  
 Water Column Height: 7.83 feet  
 Purged Volume: 11 gallons

Project No.: 2551  
 Address: 15101 Freedom Avenue  
 San Leandro, CA  
 Date: December 14, 2012  
 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
10:40	Started purging well						
10:41	1	1.18	6.63	19.86	1208	13.2	-32.9
10:44	4	0.78	6.67	20.06	1210	9.00	-48.3
10:47	7	0.59	6.68	20.13	1213	8.04	-54.3
10:51	11	0.47	6.68	20.14	1223	7.29	-60.5
10:56	Sampled						



ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-1D  
 Casing Diameter: 2 inches  
 Depth of Well: 59.81 feet  
 Top of Casing Elevation: 54.92 feet  
 Depth to Groundwater: 23.04 feet  
 Groundwater Elevation: 31.38 feet  
 Water Column Height: 36.77 feet  
 Purged Volume: 11 gallons

Project No.: 2551  
 Address: 15101 Freedom Avenue  
 San Leandro, CA  
 Date: December 13, 2012  
 Sampler: Lizzie Hightower

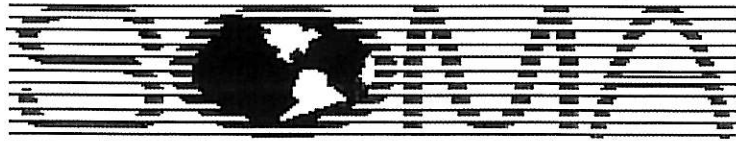
Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump

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
14:31	Started purging well						
14:32	1	2.02	7.34	18.75	1224	8.40	+117.1
14:35	4	1.60	7.33	18.81	1229	6.43	+107.0
14:38	7	1.30	7.31	18.81	1232	14.7	+99.1
14:42	11	1.03	7.29	18.82	1234	11.4	+93.7
14:47	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: 22.57 feet  
 Groundwater Elevation: 31.53 feet  
 Water Column Height: 36.02 feet  
 Purged Volume: 11 gallons

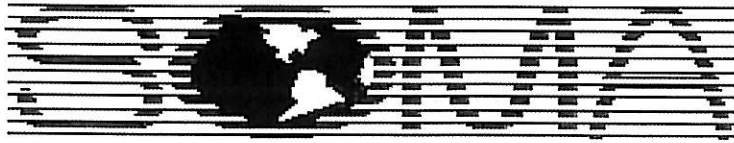
Project No.: 2551  
 Address: 15101 Freedom Avenue  
 San Leandro, CA  
 Date: December 13, 2012  
 Sampler: Lizzie Hightower

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
15:02	Started purging well						
15:03	1	1.44	7.14	18.92	1068	10.3	+130.2
15:06	4	1.20	7.16	19.00	1202	6.21	+111.6
15:09	7	1.05	7.15	19.02	1223	5.64	+108.1
15:13	11	0.85	7.14	19.02	1229	5.27	+104.1
15:18	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: 21.55 feet  
 Groundwater Elevation: 31.57 feet  
 Water Column Height: 37.24 feet  
 Purged Volume: 11 gallons

Project No.: 2551  
 Address: 15101 Freedom Avenue  
 San Leandro, CA  
 Date: December 13, 2012  
 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
15:42	Started purging well						
15:43	1	1.34	7.26	18.26	1168	10.6	-71.0
15:46	4	0.84	7.22	18.41	1214	5.67	-46.6
15:49	7	0.80	7.22	18.44	1214	10.5	-31.9
15:53	11	0.89	7.20	18.46	1210	7.34	-15.7
15:58	Sampled						

# EPA On-line Tools for Site Assessment Calculation

## Hydraulic Gradient -- Magnitude and Direction

Gradient Calculation from fitting a plane to as many as thirty points

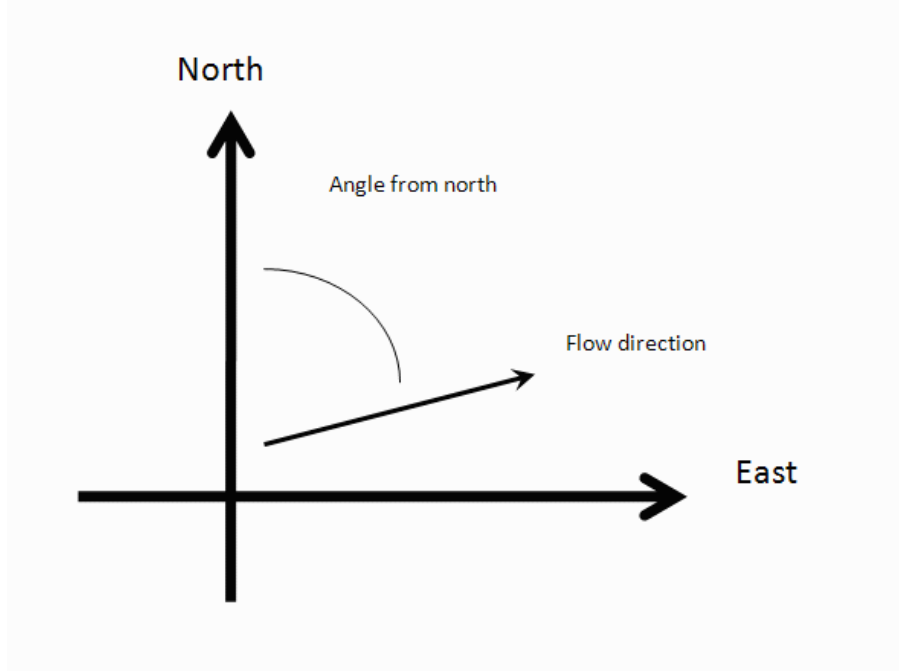
$$\begin{aligned}
 a x_1 + b y_1 + c &= h_1 \\
 a x_2 + b y_2 + c &= h_2 \\
 a x_3 + b y_3 + c &= h_3 \\
 &\dots \\
 a x_{30} + b y_{30} + c &= h_{30}
 \end{aligned}$$

where  $(x_i, y_i)$  are the coordinates of the well and  $h_i$  is the head

$i = 1, 2, 3, \dots, 30$

The coefficients  $a$ ,  $b$ , and  $c$  are calculated by a least-squares fitting of the the data to a plane

The gradient is calculated from the square root of  $(a^2 + b^2)$  and the angle from the arctangent of  $a/b$  or  $b/a$  depending on the quadrant



### Inputs

Example Data Set 1 Example Data Set 2 Calculate Clear

Save Data Recall Data Go Back

Site Name

Date  Current Date

Calculation basis

Coordinates

I.D.	x-coordinate	y-coordinate	head	ft
1) MW-1	6092119.016	2084364.691	31.69	
2) MW-2	6092063.978	2084323.224	31.70	
3) MW-3	6092176.317	2084298.343	31.59	
4) MW-4	6092124.294	2084251.598	31.47	
5) MW-5	6092177.071	2084206.361	31.41	
6) MW-6	6092140.881	2084072.911	30.36	
7) MW-7	6092290.918	2084008.071	31.40	
8) EX-1	6092163.5	2084133.982	30.81	
9) EX-2	6092131.08	2084082.713	30.00	
10) MPE-1	6092125.048	2084212.393	31.39	
11) MPE-2	6092171.793	2084292.312	31.55	
12)				
13)				
14)				

15)			
16)			
17)			
18)			
19)			
20)			
21)			
22)			
23)			
24)			
25)			
26)			
27)			
28)			
29)			
30)			

**Results**

Number of Points Used in Calculation	11
Max. Difference Between Head Values	0.5182
Gradient Magnitude (i)	0.008155
Flow direction as degrees from North (positive y axis)	230.3
Coefficient of Determination ( $R^2$ )	0.756

WCMS

Last updated on 1/10/2013

# EPA On-line Tools for Site Assessment Calculation

## Hydraulic Gradient -- Magnitude and Direction

**Gradient Calculation** from fitting a plane to as many as thirty points

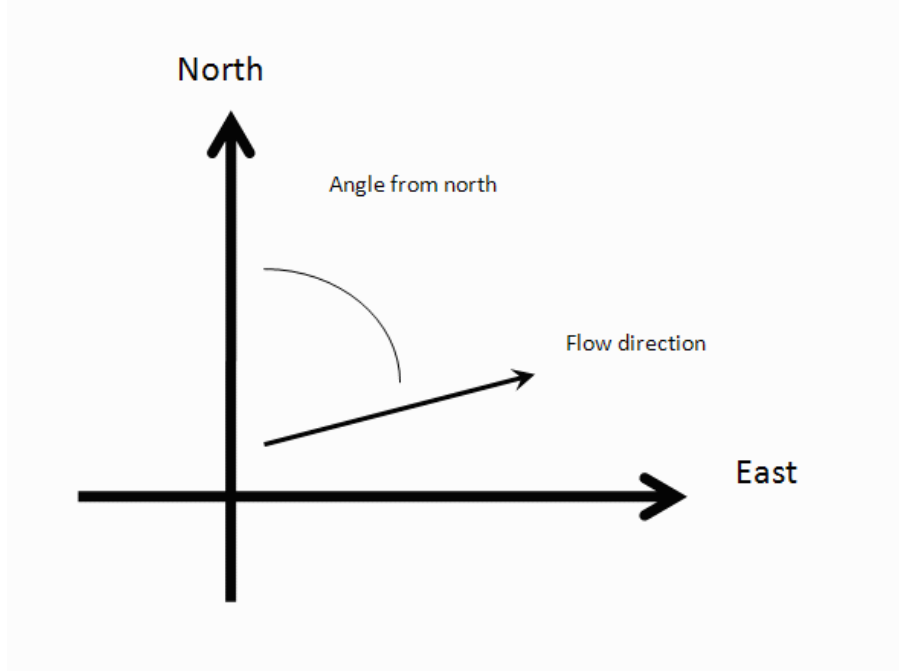
$$\begin{aligned}
 a x_1 + b y_1 + c &= h_1 \\
 a x_2 + b y_2 + c &= h_2 \\
 a x_3 + b y_3 + c &= h_3 \\
 &\dots \\
 a x_{30} + b y_{30} + c &= h_{30}
 \end{aligned}$$

where  $(x_i, y_i)$  are the coordinates of the well and  $h_i$  is the head

$i = 1, 2, 3, \dots, 30$

The coefficients  $a$ ,  $b$ , and  $c$  are calculated by a least-squares fitting of the the data to a plane

The gradient is calculated from the square root of  $(a^2 + b^2)$  and the angle from the arctangent of  $a/b$  or  $b/a$  depending on the quadrant



### Inputs

Example Data Set 1 Example Data Set 2 Calculate Clear

Save Data Recall Data Go Back

Site Name

Date  Current Date

Calculation basis

Coordinates

I.D.	x-coordinate	y-coordinate	head	ft
1) MW-1D	6092128.064	2084372.231	31.38	
2) MW-3D	6092183.856	2084303.621	31.53	
3) MW-4D	6092116.755	2084222.948	31.57	
4)				
5)				
6)				
7)				
8)				
9)				
10)				
11)				
12)				
13)				
14)				

15)			
16)			
17)			
18)			
19)			
20)			
21)			
22)			
23)			
24)			
25)			
26)			
27)			
28)			
29)			
30)			

**Results**

Number of Points Used in Calculation	3
Max. Difference Between Head Values	0.05791
Gradient Magnitude (i)	0.001697
Flow direction as degrees from North (positive y axis)	322.7
Coefficient of Determination ( $R^2$ )	1.00

WCMS

Last updated on 1/10/2013

**Table A**  
**Historical Field Parameters**  
**15101 Freedom Avenue, San Leandro, CA**

Monitoring Well	Date	Dissolved Oxygen (mg/L)	pH	Temperature °C	Electrical Conductivity µS/cm	Turbidity NTU	ORP
<b>1st WBZ</b>							
<b>MW-1</b>	8/27/2009	0.38	6.32	20.8	1357	4.69	-95.7
	12/2/2009	0.15	6.4	20.82	1261	6.19	-136.4
	3/17/2010	0.58	5.68	20.97	1186	7.00	-155.9
	6/3/2010	0.91	6.11	20.81	1285	2.49	-131.6
	9/2/2010	0.92	6.04	20.66	1361	2.46	-86.4
	12/2/2010	0.97	5.96	20.74	1309	4.32	-119.7
	3/4/2011	1.4	6.69	20.96	1169	1.98	-101.2
	5/20/2011	1.51	6.22	20.68	1305	1.85	-164.5
	9/9/2011	1.73	6.02	20.53	1320	4.63	-179.2
	3/2/2012	1.39	6.53	20.84	1309	12.00	-204.4
	6/7/2012	0.89	6.51	20.00	1234	3.92	-20.0
	9/21/2012	0.55	6.12	19.96	1313	5.98	-31.4
	<b>12/14/2012</b>	<b>0.63</b>	<b>6.6</b>	<b>19.71</b>	<b>1314</b>	<b>6.56</b>	<b>-99.2</b>
	<b>MW-2</b>	8/27/2009	0.43	6.57	20.72	1530	2.59
12/1/2009		0.48	6.75	21.12	1297	5.01	-191.3
3/17/2010		0.51	5.78	21.08	1025	5.65	-108
6/3/2010		0.62	6.28	20.84	930	2.66	-150.2
9/2/2010		0.66	6.29	20.73	1269	2.67	-174.2
12/2/2010		0.63	6.06	20.94	1439	2062	-162.4
3/4/2011		1.55	6.84	20.91	815	3.34	-87.8
5/20/2011		1.22	6.39	20.59	981	2.58	-185.9
9/9/2011		1.67	5.89	20.48	1303	6.19	-157.7
3/2/2012		1.98	6.37	20.83	1014	11.8	-204.5
6/7/2012		0.93	6.53	19.87	877	4.64	-22.9
9/21/2012		0.63	5.97	20.01	1359	7.56	-55.0
<b>12/14/2012</b>		<b>1.06</b>	<b>6.67</b>	<b>19.91</b>	<b>1067</b>	<b>7.75</b>	<b>-82.3</b>
<b>MW-3</b>		8/27/2009	1.90	6.36	20.82	1318	5.57
	12/2/2009	1.80	6.52	20.94	1239	5.88	-206.6
	3/17/2010	1.60	5.78	21.28	1080	5.37	-166.4
	6/3/2010	1.05	6.24	21.16	1130	2.03	-134.8
	9/2/2010	1.17	6.18	21.04	1256	2.86	-131.2
	12/2/2010	1.27	6.06	21.03	1152	1.83	-171.9
	3/4/2011	1.26	6.77	21.18	1074	3.57	-109.8
	5/20/2011	1.04	6.4	20.9	1180	2.72	-220.1
	9/9/2011	1.05	6.13	20.74	1272	3.23	-179.4
	3/2/2012	1.72	6.58	20.87	1120	12.00	-162.7
	6/7/2012	0.54	6.66	20.13	1057	3.11	-20.9
	9/21/2012	0.60	6.08	20.04	1229	8.61	-74.9
	<b>12/14/2012</b>	<b>0.53</b>	<b>6.66</b>	<b>19.81</b>	<b>1017</b>	<b>7.42</b>	<b>-59.3</b>
	<b>MW-4</b>	8/27/2009	2.90	6.26	20.11	1649	2.78
12/2/2009		0.87	6.4	20.12	1578	5.06	-173.2
3/17/2010		2.30	5.63	20.39	1506	4.01	-119.4
6/3/2010		1.90	6.14	20.45	1418	1.56	-131.8
9/2/2010		1.80	6.06	20.21	1305	1.45	-101.5
12/2/2010		1.63	5.89	20.28	1465	102	-180
3/3/2011		1.89	6.66	20.47	1278	0.97	-90.5
5/19/2011		1.78	6.42	20.51	1251	1.5	-168.3
9/8/2011		1.77	6.27	20.32	1430	3.82	-157.4
3/2/2012		1.55	6.39	20.21	1486	8.00	-165.9
6/7/2012		0.58	6.58	19.53	1315	2.62	-0.3
9/21/2012		0.48	6.08	19.49	1425	5.12	-82.6
<b>12/14/2012</b>		<b>0.62</b>	<b>6.58</b>	<b>19.12</b>	<b>1216</b>	<b>5.42</b>	<b>-46</b>
<b>MW-5</b>		8/27/2009	1.00	6.38	20.8	1321	6.63
	12/2/2009	1.50	6.47	21.03	1227	5.66	-109.1
	3/17/2010	1.10	5.82	21.28	1150	75.3	-60.7
	6/4/2010	1.10	5.99	20.87	1128	3.84	-33.8
	9/2/2010	1.03	6.16	21.22	1178	13.0	-168.4
	12/2/2010	1.05	6.02	21.46	1112	12.3	-167.7
	3/4/2011	1.11	6.89	21.46	1078	4.59	-106.9
	5/20/2011	1.18	6.47	21.02	1106	26.5	-222.5
	9/9/2011	1.14	6.2	21.07	1194	5.83	-215.4

**Table A**  
**Historical Field Parameters**  
**15101 Freedom Avenue, San Leandro, CA**

Monitoring Well	Date	Dissolved Oxygen (mg/L)	pH	Temperature °C	Electrical Conductivity µS/cm	Turbidity NTU	ORP
MW-5 cont.	3/2/2012	1.70	6.72	21.34	1187	11.7	-228.6
	6/7/2012	0.40	6.68	20.29	1200	5.35	-50.7
	9/21/2012	0.44	6.24	20.73	1164	9.74	33.0
	12/14/2012	0.52	6.76	20.7	1173	17	-126.5
MW-6	8/26/2009	0.42	6.47	20.93	1201	6.53	-172.3
	12/1/2009	0.26	6.89	21.64	1171	6.83	-207.9
	3/16/2010	0.63	5.91	21.26	1544	6.72	-168.2
	6/3/2010	0.58	6.38	20.74	1346	2.61	-116.4
	9/1/2010	0.41	6.44	20.86	1419	2.77	-120.3
	12/2/2010	0.37	6.24	21.17	1362	4.5	-148
	3/3/2011	1.54	6.81	21	1262	1.87	-98.3
	5/20/2011	1.23	6.62	20.51	1312	2.53	-221.1
	9/8/2011	1.07	6.2	20.84	1292	5.17	-167.9
	3/2/2012	1.10	6.55	21.03	1197	13.2	-166.4
	6/6/2012	1.18	6.78	19.82	1091	3.46	-32.8
	9/20/2012	NA	NA	NA	NA	NA	NA
	12/13/2012	1.47	6.72	21.05	1231	9.99	-46.2
MW-7	8/26/2009	0.98	6.36	19.24	1375	145	-128.3
	12/1/2009	1.05	6.83	19.51	1340	997	-4.3
	3/16/2010	0.83	5.88	18.37	1266	382	-37.9
	6/3/2010	0.77	6.46	18.67	1199	873	-30.4
	9/1/2010	0.98	6.4	19.83	1271	999	-60
	12/2/2010	1.01	6.23	19.17	1253	999	-85.6
	3/4/2011	3.66	6.68	18.33	1098	609	-49.5
	5/19/2011	1.35	6.42	17.71	1192	879	-53.7
	9/8/2011	2.01	6.07	18.91	1198	748	-17.8
	3/2/2012	1.82	6.39	18.12	1308	363	-69.3
	6/6/2012	2.78	6.57	17.41	1106	362	1.3
	9/20/2012	1.61	6.11	18.8	1303	1000	95.9
	12/13/2012	2.93	6.67	18.42	1274	524	-22
MPE-1	6/6/2012	1.73	6.83	19.34	1269	16.8	-41.9
	9/20/2012	0.62	5.87	19.36	1389	16.2	20.2
	12/14/2012	0.7	6.76	19.14	1476	16.4	-63.5
MPE-2	3/2/2012	1.30	6.40	21.18	1303	8.70	-164.9
	6/7/2012	0.48	6.62	20.32	1309	3.63	-20.4
	9/21/2012	0.46	6.29	20.27	1284	7.05	72.4
	12/14/2012	0.47	6.68	20.14	1223	7.29	-60.5
<b>2nd WBZ</b>							
MW-1D	8/26/2009	0.45	7.04	19.93	1388	7.75	-11
	12/1/2009	0.51	7.4	19.79	1342	19.1	-21.7
	3/16/2010	0.57	6.45	19.99	1353	98.9	-28.2
	6/4/2010	0.58	6.66	19.98	1336	3.85	97.7
	9/1/2010	0.52	6.94	20.12	1404	4.41	-6.6
	12/3/2010	0.49	6.64	19.73	1328	7.12	-75.3
	3/3/2011	2.77	7.35	19.79	1294	9.97	18.8
	5/19/2011	2.81	7.07	19.95	1330	5.26	6.6
	9/8/2011	3.21	6.66	20.03	1309	9.98	-35.5
	3/2/2012	2.04	6.75	19.76	1306	22.0	-71.3
	6/6/2012	1.1	7.29	19.54	1228	10.8	58.7
	9/20/2012	0.42	6.85	19.57	1256	18.6	93.7
	12/13/2012	1.03	7.29	18.82	1234	11.4	93.7
MW-3D	8/26/2009	0.73	6.93	20.17	1276	1.73	-18.8
	12/1/2009	0.98	7.3	20.04	1236	2.48	-23.5
	3/16/2010	0.69	6.38	20.29	1272	8.05	-27.8
	6/4/2010	0.77	6.54	20.2	1254	0.42	78.1
	9/1/2010	0.79	6.85	20.33	1304	0.25	-29.4
	12/3/2010	0.81	6.49	20.04	1252	1.49	-79.2
	3/3/2011	2	7.24	20.02	1254	0.85	54
	5/19/2011	1.99	6.91	20.21	1260	2.03	-14.8
	9/8/2011	1.73	6.52	20.19	1247	3.53	-32.6
	3/2/2012	2.17	6.99	20.02	1269	9.02	-84.2
	6/6/2012	0.33	7.16	19.76	1225	4.78	67.5
	9/20/2012	0.54	6.77	19.71	1233	4.70	88.0
	12/13/2012	0.85	7.14	19.02	1229	5.27	104.1



**Table A**  
**Historical Field Parameters**  
**15101 Freedom Avenue, San Leandro, CA**

Monitoring Well	Date	Dissolved Oxygen (mg/L)	pH	Temperature °C	Electrical Conductivity µS/cm	Turbidity NTU	ORP
MW-4D	8/27/2009	0.98	6.93	19.46	1280	4.31	-26.4
	12/1/2009	1.9	7.36	19.42	1249	4.66	-24.2
	3/16/2010	1.4	6.36	19.58	1283	24.8	-16.7
	6/4/2010	1.3	6.53	19.49	1259	5.1	115.8
	9/1/2010	1.44	6.92	19.67	1333	2.2	-26.9
	12/3/2010	1.3	6.5	19.4	1266	1.57	-116.6
	3/3/2011	2.11	7.36	19.42	1219	1.8	-96.4
	5/19/2011	2.12	6.95	19.56	1262	2.09	-15.5
	9/8/2011	2.03	6.57	19.62	1261	3.13	-54
	3/2/2012	2.15	6.92	19.39	1272	13.1	-86.5
	6/6/2012	0.32	7.27	19.25	1189	6.32	22.9
	9/20/2012	0.39	6.76	19.21	1232	6.12	91.1
	<b>12/13/2012</b>	<b>0.89</b>	<b>7.2</b>	<b>18.46</b>	<b>1210</b>	<b>7.34</b>	<b>-15.7</b>

# Appendix C

Laboratory Report and Chain of Custody Form  
for the Fourth Quarter 2012 Monitoring Event



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

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

Laboratory Job Number 241995
ANALYTICAL REPORT

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

Project : 2551
Location : 15101 Freedom Avenue San Leandro
Level : II

Table with 2 columns: Sample ID and Lab ID. Rows include MW-1 through MW-7, MW-1D through MW-4D, EX-1 through EX-2, and MPE-1 through MPE-2.

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: [Handwritten Signature]
Tracy Babjar
Project Manager
(510) 204-2226

Date: 12/27/2012

NELAP # 01107CA

### CASE NARRATIVE

Laboratory number: 241995  
Client: SOMA Environmental Engineering Inc.  
Project: 2551  
Location: 15101 Freedom Avenue San Leandro  
Request Date: 12/17/12  
Samples Received: 12/17/12

This data package contains sample and QC results for fourteen water samples, requested for the above referenced project on 12/17/12. The samples were received cold and intact.

#### Volatile Organics by GC/MS (EPA 8260B):

Low response was observed for tert-butyl alcohol (TBA) in the CCV analyzed 12/19/12 15:33; this analyte met minimum response criteria, and affected data was qualified with "b". Low response was observed for tert-butyl alcohol (TBA) in the CCV analyzed 12/20/12 12:01; this analyte met minimum response criteria, and affected data was qualified with "b". No other analytical problems were encountered.

# CHAIN OF CUSTODY

## Analyses

**Curtis & Tompkins, Ltd.**  
 Analytical Laboratory Since 1878  
 2323 Fifth Street  
 Berkeley, CA 94710  
 (510)486-0900 Phone  
 (510)486-0532 Fax

C&T LOGIN # 241995

**Sampler:** Lizzie Hightower/

**Project No:** 2551

**Report To:** Joyce Bobek

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

**Company:** SOMA Environmental

**Turnaround Time:** Standard


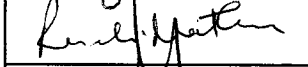

**Telephone:** 925-734-6400

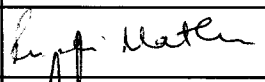


**Fax:** 925-734-6401

TPHg, BTEX, MtBE 8260B																				
Gasoline Oxygenates & Lead Scavengers																				
*	*																			
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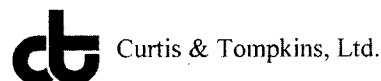
Lab No.	Sample ID.	Sampling Date Time	Matrix			# of Containers	Preservative			
			Soil	Water	Waste		HCL	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	ICE
1	MW-1	12/14/12 10:05	*			3-VOAs	*			*
2	MW-2	12/14/12 09:29	*			3-VOAs	*			*
3	MW-3	12/14/12 10:34	*			3-VOAs	*			*
4	MW-4	12/14/12 11:28	*			3-VOAs	*			*
5	MW-5	12/14/12 12:26	*			3-VOAs	*			*
6	MW-6	12/13/12 12:30	*			3-VOAs	*			*
7	MW-7	12/13/12 11:59	*			3-VOAs	*			*
8	MW-1D	12/13/12 14:47	*			3-VOAs	*			*
9	MW-3D	12/13/12 15:12	*			3-VOAs	*			*
10	MW-4D	12/13/12 15:58	*			3-VOAs	*			*
11	EX-1	12/13/12 12:44	*			3-VOAs	*			*
12	EX-2	12/13/12 12:57	*			3-VOAs	*			*
13	MPE-1	12/14/12 11:53	*			3-VOAs	*			*
14	MPE-2	12/14/12 10:56	*			3-VOAs	*			*

**Notes: EDF OUTPUT REQUIRED**  
 Ethanol

**RELINQUISHED BY:**  
  
 12/17/12 09:01 DATE/TIME  
  
 12/17/12 12:20 DATE/TIME  
  
 12/17/12 14:00 DATE/TIME

**RECEIVED BY:**  
 12/17/12 9:00 DATE/TIME  
 12/17/12 12:20 DATE/TIME  
 12/17/12 14:00 DATE/TIME

**COOLER RECEIPT CHECKLIST**



Login # 241995 Date Received 12/17/12 Number of coolers 1  
 Client S&MA Project 2551

Date Opened 12/17/12 By (print) Y (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) \_\_\_\_\_

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

7. Temperature documentation: \* Notify PM if temperature exceeds 6°C

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

Samples Received on ice & cold without a temperature blank; ~~temp. taken with IR gun~~

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 there any missing / extra samples? \_\_\_\_\_ YES  NO

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

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

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

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

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

16. Did you check preservatives for all bottles for each sample? \_\_\_\_\_  YES NO N/A

17. Did you document your preservative check? \_\_\_\_\_ YES NO  N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? \_\_\_\_\_ YES NO  N/A

19. Did you change the hold time in LIMS for preserved terracores? \_\_\_\_\_ YES NO  N/A

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

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

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

**COMMENTS**

13) -001 - 2 of 3 VOAs is labeled as MW-2, but time matches CUC for -001 (MW-1)

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

### Purgeable Organics by GC/MS

Lab #: 241995	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: MW-1	Diln Fac: 5.000
Lab ID: 241995-001	Sampled: 12/14/12
Matrix: Water	Received: 12/17/12
Units: ug/L	

Analyte	Result	RL	Batch#	Analyzed
Gasoline C7-C12	5,900	250	194036	12/20/12
tert-Butyl Alcohol (TBA)	ND	50	194074	12/21/12
Isopropyl Ether (DIPE)	ND	2.5	194074	12/21/12
Ethyl tert-Butyl Ether (ETBE)	ND	2.5	194074	12/21/12
Methyl tert-Amyl Ether (TAME)	ND	2.5	194074	12/21/12
Ethanol	ND	5,000	194074	12/21/12
MTBE	ND	2.5	194074	12/21/12
1,2-Dichloroethane	ND	2.5	194074	12/21/12
Benzene	130	2.5	194074	12/21/12
Toluene	ND	2.5	194074	12/21/12
1,2-Dibromoethane	ND	2.5	194074	12/21/12
Ethylbenzene	320	2.5	194074	12/21/12
m,p-Xylenes	97	2.5	194074	12/21/12
o-Xylene	ND	2.5	194074	12/21/12

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	96	80-127	194074	12/21/12
1,2-Dichloroethane-d4	100	69-148	194074	12/21/12
Toluene-d8	101	80-120	194074	12/21/12
Bromofluorobenzene	97	80-121	194074	12/21/12

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #: 241995	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: MW-2	Diln Fac: 1.000
Lab ID: 241995-002	Sampled: 12/14/12
Matrix: Water	Received: 12/17/12
Units: ug/L	

Analyte	Result	RL	Batch#	Analyzed
Gasoline C7-C12	760	50	194036	12/20/12
tert-Butyl Alcohol (TBA)	ND	10	194074	12/21/12
Isopropyl Ether (DIPE)	ND	0.50	194074	12/21/12
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	194074	12/21/12
Methyl tert-Amyl Ether (TAME)	ND	0.50	194074	12/21/12
Ethanol	ND	1,000	194074	12/21/12
MTBE	ND	0.50	194074	12/21/12
1,2-Dichloroethane	ND	0.50	194074	12/21/12
Benzene	ND	0.50	194074	12/21/12
Toluene	ND	0.50	194074	12/21/12
1,2-Dibromoethane	ND	0.50	194074	12/21/12
Ethylbenzene	10	0.50	194074	12/21/12
m,p-Xylenes	1.5	0.50	194074	12/21/12
o-Xylene	ND	0.50	194074	12/21/12

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	100	80-127	194074	12/21/12
1,2-Dichloroethane-d4	105	69-148	194074	12/21/12
Toluene-d8	100	80-120	194074	12/21/12
Bromofluorobenzene	101	80-121	194074	12/21/12

ND= Not Detected  
 RL= Reporting Limit



### Purgeable Organics by GC/MS

Lab #: 241995	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: MW-3	Diln Fac: 10.00
Lab ID: 241995-003	Sampled: 12/14/12
Matrix: Water	Received: 12/17/12
Units: ug/L	

Analyte	Result	RL	Batch#	Analyzed
Gasoline C7-C12	8,500	500	194036	12/20/12
tert-Butyl Alcohol (TBA)	ND	100	194074	12/21/12
Isopropyl Ether (DIPE)	ND	5.0	194074	12/21/12
Ethyl tert-Butyl Ether (ETBE)	ND	5.0	194074	12/21/12
Methyl tert-Amyl Ether (TAME)	ND	5.0	194074	12/21/12
Ethanol	ND	10,000	194074	12/21/12
MTBE	ND	5.0	194074	12/21/12
1,2-Dichloroethane	ND	5.0	194074	12/21/12
Benzene	350	5.0	194074	12/21/12
Toluene	8.7	5.0	194074	12/21/12
1,2-Dibromoethane	ND	5.0	194074	12/21/12
Ethylbenzene	550	5.0	194074	12/21/12
m,p-Xylenes	910	5.0	194074	12/21/12
o-Xylene	93	5.0	194074	12/21/12

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	97	80-127	194074	12/21/12
1,2-Dichloroethane-d4	102	69-148	194074	12/21/12
Toluene-d8	101	80-120	194074	12/21/12
Bromofluorobenzene	100	80-121	194074	12/21/12

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #: 241995	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: MW-4	Batch#: 194071
Lab ID: 241995-004	Sampled: 12/14/12
Matrix: Water	Received: 12/17/12
Units: ug/L	Analyzed: 12/21/12
Diln Fac: 1.000	

Analyte	Result	RL
Gasoline C7-C12	840	50
tert-Butyl Alcohol (TBA)	36	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	0.65	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
Ethanol	ND	1,000
MTBE	2.5	0.50
1,2-Dichloroethane	ND	0.50
Benzene	48	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	14	0.50
m,p-Xylenes	4.5	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	108	80-127
1,2-Dichloroethane-d4	72	69-148
Toluene-d8	100	80-120
Bromofluorobenzene	100	80-121

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #: 241995	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: MW-5	Diln Fac: 2.000
Lab ID: 241995-005	Sampled: 12/14/12
Matrix: Water	Received: 12/17/12
Units: ug/L	

Analyte	Result	RL	Batch#	Analyzed
Gasoline C7-C12	3,100	100	194036	12/20/12
tert-Butyl Alcohol (TBA)	ND	20	194074	12/21/12
Isopropyl Ether (DIPE)	ND	1.0	194074	12/21/12
Ethyl tert-Butyl Ether (ETBE)	ND	1.0	194074	12/21/12
Methyl tert-Amyl Ether (TAME)	4.2	1.0	194074	12/21/12
Ethanol	ND	2,000	194074	12/21/12
MTBE	5.2	1.0	194074	12/21/12
1,2-Dichloroethane	ND	1.0	194074	12/21/12
Benzene	48	1.0	194074	12/21/12
Toluene	6.7	1.0	194074	12/21/12
1,2-Dibromoethane	ND	1.0	194074	12/21/12
Ethylbenzene	100	1.0	194074	12/21/12
m,p-Xylenes	54	1.0	194074	12/21/12
o-Xylene	8.3	1.0	194074	12/21/12

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	96	80-127	194074	12/21/12
1,2-Dichloroethane-d4	99	69-148	194074	12/21/12
Toluene-d8	100	80-120	194074	12/21/12
Bromofluorobenzene	98	80-121	194074	12/21/12

ND= Not Detected  
 RL= Reporting Limit

Purgeable Organics by GC/MS					
Lab #:	241995	Location:	15101 Freedom Avenue San Leandro		
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B		
Project#:	2551	Analysis:	EPA 8260B		
Field ID:	MW-6	Units:	ug/L		
Lab ID:	241995-006	Sampled:	12/13/12		
Matrix:	Water	Received:	12/17/12		

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Gasoline C7-C12	13,000	1,300	25.00	194007	12/20/12
tert-Butyl Alcohol (TBA)	29	14	1.429	194071	12/21/12
Isopropyl Ether (DIPE)	ND	0.71	1.429	194071	12/21/12
Ethyl tert-Butyl Ether (ETBE)	ND	0.71	1.429	194071	12/21/12
Methyl tert-Amyl Ether (TAME)	ND	0.71	1.429	194071	12/21/12
Ethanol	ND	1,400	1.429	194071	12/21/12
MTBE	5.1	0.71	1.429	194071	12/21/12
1,2-Dichloroethane	ND	0.71	1.429	194071	12/21/12
Benzene	22	0.71	1.429	194071	12/21/12
Toluene	ND	0.71	1.429	194071	12/21/12
1,2-Dibromoethane	ND	0.71	1.429	194071	12/21/12
Ethylbenzene	83	0.71	1.429	194071	12/21/12
m,p-Xylenes	60	0.71	1.429	194071	12/21/12
o-Xylene	2.8	0.71	1.429	194071	12/21/12

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	112	80-127	1.429	194071	12/21/12
1,2-Dichloroethane-d4	79	69-148	1.429	194071	12/21/12
Toluene-d8	100	80-120	1.429	194071	12/21/12
Bromofluorobenzene	99	80-121	1.429	194071	12/21/12

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #: 241995	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: MW-7	Batch#: 194007
Lab ID: 241995-007	Sampled: 12/13/12
Matrix: Water	Received: 12/17/12
Units: ug/L	Analyzed: 12/19/12
Diln Fac: 1.000	

Analyte	Result	RL
Gasoline C7-C12	1,100	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	3.4	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	0.99	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-127
1,2-Dichloroethane-d4	76	69-148
Toluene-d8	98	80-120
Bromofluorobenzene	97	80-121

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #: 241995	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: MW-1D	Batch#: 194007
Lab ID: 241995-008	Sampled: 12/13/12
Matrix: Water	Received: 12/17/12
Units: ug/L	Analyzed: 12/19/12
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	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-127
1,2-Dichloroethane-d4	74	69-148
Toluene-d8	102	80-120
Bromofluorobenzene	101	80-121

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #: 241995	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: MW-3D	Batch#: 194007
Lab ID: 241995-009	Sampled: 12/13/12
Matrix: Water	Received: 12/17/12
Units: ug/L	Analyzed: 12/19/12
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	4.4	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	106	80-127
1,2-Dichloroethane-d4	78	69-148
Toluene-d8	99	80-120
Bromofluorobenzene	98	80-121

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #: 241995	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: MW-4D	Batch#: 194007
Lab ID: 241995-010	Sampled: 12/13/12
Matrix: Water	Received: 12/17/12
Units: ug/L	Analyzed: 12/19/12
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	0.94	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	102	80-127
1,2-Dichloroethane-d4	74	69-148
Toluene-d8	100	80-120
Bromofluorobenzene	101	80-121

ND= Not Detected  
 RL= Reporting Limit



**Purgeable Organics by GC/MS**

Lab #:	241995	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	EX-1	Diln Fac:	1.000
Lab ID:	241995-011	Sampled:	12/13/12
Matrix:	Water	Received:	12/17/12
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Gasoline C7-C12	1,000	50	194007	12/20/12
tert-Butyl Alcohol (TBA)	210	10	194071	12/21/12
Isopropyl Ether (DIPE)	ND	0.50	194071	12/21/12
Ethyl tert-Butyl Ether (ETBE)	2.7	0.50	194071	12/21/12
Methyl tert-Amyl Ether (TAME)	5.2	0.50	194071	12/21/12
Ethanol	ND	1,000	194071	12/21/12
MTBE	48	0.50	194071	12/21/12
1,2-Dichloroethane	ND	0.50	194071	12/21/12
Benzene	73	0.50	194071	12/21/12
Toluene	2.3	0.50	194071	12/21/12
1,2-Dibromoethane	ND	0.50	194071	12/21/12
Ethylbenzene	47	0.50	194071	12/21/12
m,p-Xylenes	92	0.50	194071	12/21/12
o-Xylene	18	0.50	194071	12/21/12

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	110	80-127	194071	12/21/12
1,2-Dichloroethane-d4	73	69-148	194071	12/21/12
Toluene-d8	101	80-120	194071	12/21/12
Bromofluorobenzene	100	80-121	194071	12/21/12

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #: 241995	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: EX-2	Units: ug/L
Lab ID: 241995-012	Sampled: 12/13/12
Matrix: Water	Received: 12/17/12

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Gasoline C7-C12	7,300	170	3.333	194007	12/20/12
tert-Butyl Alcohol (TBA)	ND	71	7.143	194071	12/21/12
Isopropyl Ether (DIPE)	ND	3.6	7.143	194071	12/21/12
Ethyl tert-Butyl Ether (ETBE)	ND	3.6	7.143	194071	12/21/12
Methyl tert-Amyl Ether (TAME)	ND	3.6	7.143	194071	12/21/12
Ethanol	ND	7,100	7.143	194071	12/21/12
MTBE	5.2	3.6	7.143	194071	12/21/12
1,2-Dichloroethane	ND	3.6	7.143	194071	12/21/12
Benzene	490	3.6	7.143	194071	12/21/12
Toluene	180	3.6	7.143	194071	12/21/12
1,2-Dibromoethane	ND	3.6	7.143	194071	12/21/12
Ethylbenzene	610	3.6	7.143	194071	12/21/12
m,p-Xylenes	1,000	3.6	7.143	194071	12/21/12
o-Xylene	290	3.6	7.143	194071	12/21/12

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	110	80-127	7.143	194071	12/21/12
1,2-Dichloroethane-d4	74	69-148	7.143	194071	12/21/12
Toluene-d8	101	80-120	7.143	194071	12/21/12
Bromofluorobenzene	100	80-121	7.143	194071	12/21/12

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #: 241995	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: MPE-1	Diln Fac: 125.0
Lab ID: 241995-013	Sampled: 12/14/12
Matrix: Water	Received: 12/17/12
Units: ug/L	

Analyte	Result	RL	Batch#	Analyzed
Gasoline C7-C12	98,000	6,300	194036	12/20/12
tert-Butyl Alcohol (TBA)	ND	1,300	194074	12/21/12
Isopropyl Ether (DIPE)	ND	63	194074	12/21/12
Ethyl tert-Butyl Ether (ETBE)	ND	63	194074	12/21/12
Methyl tert-Amyl Ether (TAME)	940	63	194074	12/21/12
Ethanol	ND	130,000	194074	12/21/12
MTBE	1,300	63	194074	12/21/12
1,2-Dichloroethane	ND	63	194074	12/21/12
Benzene	7,400	63	194074	12/21/12
Toluene	9,600	63	194074	12/21/12
1,2-Dibromoethane	ND	63	194074	12/21/12
Ethylbenzene	2,900	63	194074	12/21/12
m,p-Xylenes	9,700	63	194074	12/21/12
o-Xylene	3,600	63	194074	12/21/12

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	98	80-127	194074	12/21/12
1,2-Dichloroethane-d4	104	69-148	194074	12/21/12
Toluene-d8	100	80-120	194074	12/21/12
Bromofluorobenzene	100	80-121	194074	12/21/12

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #: 241995	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: MPE-2	Diln Fac: 25.00
Lab ID: 241995-014	Sampled: 12/14/12
Matrix: Water	Received: 12/17/12
Units: ug/L	

Analyte	Result	RL	Batch#	Analyzed
Gasoline C7-C12	31,000	1,300	194036	12/20/12
tert-Butyl Alcohol (TBA)	ND	250	194074	12/21/12
Isopropyl Ether (DIPE)	ND	13	194074	12/21/12
Ethyl tert-Butyl Ether (ETBE)	ND	13	194074	12/21/12
Methyl tert-Amyl Ether (TAME)	ND	13	194074	12/21/12
Ethanol	ND	25,000	194074	12/21/12
MTBE	16	13	194074	12/21/12
1,2-Dichloroethane	ND	13	194074	12/21/12
Benzene	1,700	13	194074	12/21/12
Toluene	20	13	194074	12/21/12
1,2-Dibromoethane	ND	13	194074	12/21/12
Ethylbenzene	1,800	13	194074	12/21/12
m,p-Xylenes	2,300	13	194074	12/21/12
o-Xylene	190	13	194074	12/21/12

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	96	80-127	194074	12/21/12
1,2-Dichloroethane-d4	102	69-148	194074	12/21/12
Toluene-d8	100	80-120	194074	12/21/12
Bromofluorobenzene	97	80-121	194074	12/21/12

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

Purgeable Organics by GC/MS			
Lab #:	241995	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	194007
Units:	ug/L	Analyzed:	12/19/12
Diln Fac:	1.000		

Type: BS Lab ID: QC670803

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	64.00 b	51	46-138
Isopropyl Ether (DIPE)	25.00	25.18	101	53-132
Ethyl tert-Butyl Ether (ETBE)	25.00	21.91	88	61-132
Methyl tert-Amyl Ether (TAME)	25.00	17.57	70	65-120
MTBE	25.00	18.72	75	59-120
1,2-Dichloroethane	25.00	20.51	82	72-139
Benzene	25.00	28.88	116	80-123
Toluene	25.00	28.66	115	80-120
1,2-Dibromoethane	25.00	20.78	83	80-120
Ethylbenzene	25.00	27.51	110	80-123
m,p-Xylenes	50.00	55.00	110	80-123
o-Xylene	25.00	26.03	104	80-122

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-127
1,2-Dichloroethane-d4	72	69-148
Toluene-d8	99	80-120
Bromofluorobenzene	96	80-121

Type: BSD Lab ID: QC670804

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	60.42 b	48	46-138	6	24
Isopropyl Ether (DIPE)	25.00	25.37	101	53-132	1	20
Ethyl tert-Butyl Ether (ETBE)	25.00	21.79	87	61-132	1	20
Methyl tert-Amyl Ether (TAME)	25.00	17.76	71	65-120	1	20
MTBE	25.00	18.71	75	59-120	0	20
1,2-Dichloroethane	25.00	20.77	83	72-139	1	20
Benzene	25.00	29.72	119	80-123	3	20
Toluene	25.00	28.74	115	80-120	0	20
1,2-Dibromoethane	25.00	20.53	82	80-120	1	20
Ethylbenzene	25.00	27.86	111	80-123	1	20
m,p-Xylenes	50.00	53.71	107	80-123	2	20
o-Xylene	25.00	26.41	106	80-122	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-127
1,2-Dichloroethane-d4	73	69-148
Toluene-d8	101	80-120
Bromofluorobenzene	99	80-121

b= See narrative  
 RPD= Relative Percent Difference  
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## Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	241995	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	194007
Units:	ug/L	Analyzed:	12/19/12
Diln Fac:	1.000		

Type: BS Lab ID: QC670805

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,029	103	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-127
1,2-Dichloroethane-d4	70	69-148
Toluene-d8	99	80-120
Bromofluorobenzene	97	80-121

Type: BSD Lab ID: QC670806

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	1,008	101	80-120	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-127
1,2-Dichloroethane-d4	72	69-148
Toluene-d8	99	80-120
Bromofluorobenzene	98	80-121

RPD= Relative Percent Difference

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>		
Lab #:	241995	Location: 15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#:	2551	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC670807	Batch#: 194007
Matrix:	Water	Analyzed: 12/19/12
Units:	ug/L	

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
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

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	101	80-127
1,2-Dichloroethane-d4	72	69-148
Toluene-d8	99	80-120
Bromofluorobenzene	99	80-121

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

Purgeable Organics by GC/MS			
Lab #:	241995	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	194036
Units:	ug/L	Analyzed:	12/20/12
Diln Fac:	1.000		

Type: BS Lab ID: QC670902

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	65.72 b	53	46-138
Isopropyl Ether (DIPE)	25.00	26.23	105	53-132
Ethyl tert-Butyl Ether (ETBE)	25.00	23.31	93	61-132
Methyl tert-Amyl Ether (TAME)	25.00	18.47	74	65-120
MTBE	25.00	19.82	79	59-120
1,2-Dichloroethane	25.00	21.38	86	72-139
Benzene	25.00	29.79	119	80-123
Toluene	25.00	29.33	117	80-120
1,2-Dibromoethane	25.00	21.72	87	80-120
Ethylbenzene	25.00	28.25	113	80-123
m,p-Xylenes	50.00	55.56	111	80-123
o-Xylene	25.00	27.04	108	80-122

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-127
1,2-Dichloroethane-d4	71	69-148
Toluene-d8	99	80-120
Bromofluorobenzene	97	80-121

Type: BSD Lab ID: QC670903

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	62.07 b	50	46-138	6	24
Isopropyl Ether (DIPE)	25.00	25.11	100	53-132	4	20
Ethyl tert-Butyl Ether (ETBE)	25.00	22.48	90	61-132	4	20
Methyl tert-Amyl Ether (TAME)	25.00	17.90	72	65-120	3	20
MTBE	25.00	19.11	76	59-120	4	20
1,2-Dichloroethane	25.00	20.74	83	72-139	3	20
Benzene	25.00	28.30	113	80-123	5	20
Toluene	25.00	28.17	113	80-120	4	20
1,2-Dibromoethane	25.00	20.96	84	80-120	4	20
Ethylbenzene	25.00	26.76	107	80-123	5	20
m,p-Xylenes	50.00	53.29	107	80-123	4	20
o-Xylene	25.00	25.60	102	80-122	5	20

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-127
1,2-Dichloroethane-d4	71	69-148
Toluene-d8	99	80-120
Bromofluorobenzene	97	80-121

b= See narrative  
 RPD= Relative Percent Difference  
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## Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	241995	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	194036
Units:	ug/L	Analyzed:	12/20/12
Diln Fac:	1.000		

Type: BS Lab ID: QC670904

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	978.6	98	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-127
1,2-Dichloroethane-d4	76	69-148
Toluene-d8	97	80-120
Bromofluorobenzene	97	80-121

Type: BSD Lab ID: QC670905

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	983.7	98	80-120	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-127
1,2-Dichloroethane-d4	78	69-148
Toluene-d8	99	80-120
Bromofluorobenzene	99	80-121

RPD= Relative Percent Difference

## Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	241995	Location: 15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#:	2551	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC670906	Batch#: 194036
Matrix:	Water	Analyzed: 12/20/12
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	107	80-127
1,2-Dichloroethane-d4	78	69-148
Toluene-d8	101	80-120
Bromofluorobenzene	98	80-121

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>		
Lab #:	241995	Location: 15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#:	2551	Analysis: EPA 8260B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC671051	Batch#: 194071
Matrix:	Water	Analyzed: 12/21/12
Units:	ug/L	

<b>Analyte</b>	<b>Spiked</b>	<b>Result</b>	<b>%REC</b>	<b>Limits</b>
tert-Butyl Alcohol (TBA)	125.0	132.8	106	46-138
Isopropyl Ether (DIPE)	25.00	27.73	111	53-132
Ethyl tert-Butyl Ether (ETBE)	25.00	26.96	108	61-132
Methyl tert-Amyl Ether (TAME)	25.00	22.17	89	65-120
MTBE	25.00	24.31	97	59-120
1,2-Dichloroethane	25.00	23.31	93	72-139
Benzene	25.00	28.02	112	80-123
Toluene	25.00	26.34	105	80-120
1,2-Dibromoethane	25.00	24.07	96	80-120
Ethylbenzene	25.00	25.23	101	80-123
m,p-Xylenes	50.00	51.26	103	80-123
o-Xylene	25.00	24.64	99	80-122

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	112	80-127
1,2-Dichloroethane-d4	84	69-148
Toluene-d8	96	80-120
Bromofluorobenzene	95	80-121

## Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	241995	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	194071
Units:	ug/L	Analyzed:	12/21/12
Diln Fac:	1.000		

Type: BS Lab ID: QC671053

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	989.6	99	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	113	80-127
1,2-Dichloroethane-d4	88	69-148
Toluene-d8	98	80-120
Bromofluorobenzene	96	80-121

Type: BSD Lab ID: QC671054

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	967.4	97	80-120	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-127
1,2-Dichloroethane-d4	76	69-148
Toluene-d8	99	80-120
Bromofluorobenzene	98	80-121

RPD= Relative Percent Difference

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>		
Lab #:	241995	Location: 15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#:	2551	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC671055	Batch#: 194071
Matrix:	Water	Analyzed: 12/21/12
Units:	ug/L	

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
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

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	109	80-127
1,2-Dichloroethane-d4	80	69-148
Toluene-d8	99	80-120
Bromofluorobenzene	100	80-121

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

Purgeable Organics by GC/MS			
Lab #:	241995	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	194074
Units:	ug/L	Analyzed:	12/21/12
Diln Fac:	1.000		

Type: BS Lab ID: QC671062

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	150.0	131.5	88	46-138
Isopropyl Ether (DIPE)	30.00	24.91	83	53-132
Ethyl tert-Butyl Ether (ETBE)	30.00	27.98	93	61-132
Methyl tert-Amyl Ether (TAME)	30.00	27.41	91	65-120
MTBE	30.00	26.35	88	59-120
1,2-Dichloroethane	30.00	33.11	110	72-139
Benzene	30.00	29.76	99	80-123
Toluene	30.00	31.13	104	80-120
1,2-Dibromoethane	30.00	31.81	106	80-120
Ethylbenzene	30.00	32.77	109	80-123
m,p-Xylenes	60.00	69.01	115	80-123
o-Xylene	30.00	32.65	109	80-122

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-127
1,2-Dichloroethane-d4	110	69-148
Toluene-d8	100	80-120
Bromofluorobenzene	98	80-121

Type: BSD Lab ID: QC671063

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	150.0	116.0	77	46-138	13	24
Isopropyl Ether (DIPE)	30.00	23.20	77	53-132	7	20
Ethyl tert-Butyl Ether (ETBE)	30.00	26.36	88	61-132	6	20
Methyl tert-Amyl Ether (TAME)	30.00	26.64	89	65-120	3	20
MTBE	30.00	25.59	85	59-120	3	20
1,2-Dichloroethane	30.00	31.26	104	72-139	6	20
Benzene	30.00	27.94	93	80-123	6	20
Toluene	30.00	28.97	97	80-120	7	20
1,2-Dibromoethane	30.00	31.04	103	80-120	2	20
Ethylbenzene	30.00	30.38	101	80-123	8	20
m,p-Xylenes	60.00	62.65	104	80-123	10	20
o-Xylene	30.00	30.12	100	80-122	8	20

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-127
1,2-Dichloroethane-d4	109	69-148
Toluene-d8	98	80-120
Bromofluorobenzene	97	80-121

RPD= Relative Percent Difference

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>		
Lab #:	241995	Location: 15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#:	2551	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC671064	Batch#: 194074
Matrix:	Water	Analyzed: 12/21/12
Units:	ug/L	

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
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

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	101	80-127
1,2-Dichloroethane-d4	107	69-148
Toluene-d8	100	80-120
Bromofluorobenzene	107	80-121

NA= Not Analyzed  
 ND= Not Detected  
 RL= Reporting Limit

Date : 20-DEC-2012 17:25

Client ID: DYNA P&T

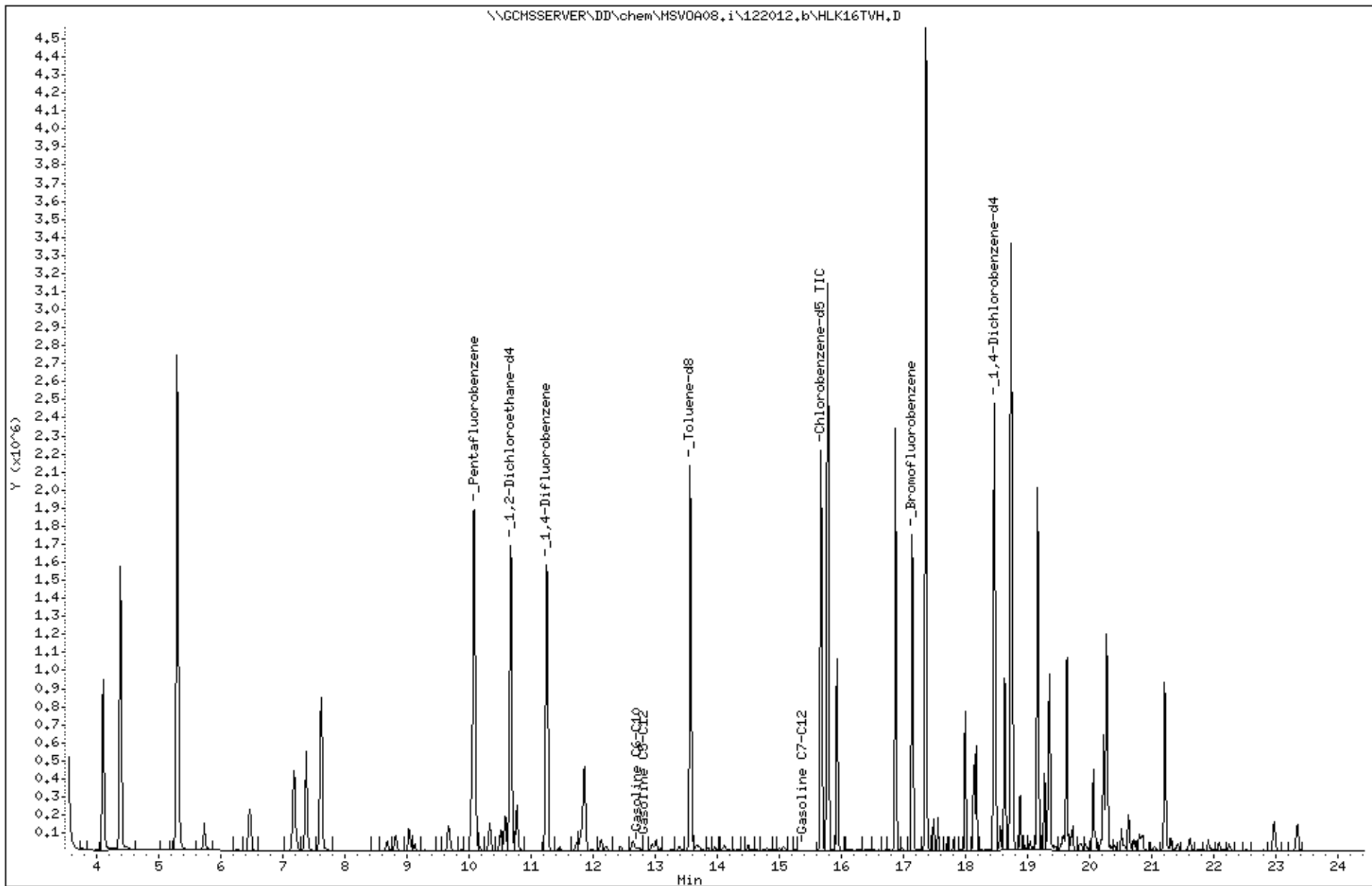
Sample Info: S,241995-001

Instrument: MSV0A08.i

Operator: VOC

Column diameter: 2.00

Column phase:





Date : 20-DEC-2012 16:13

Client ID: DYNA P&T

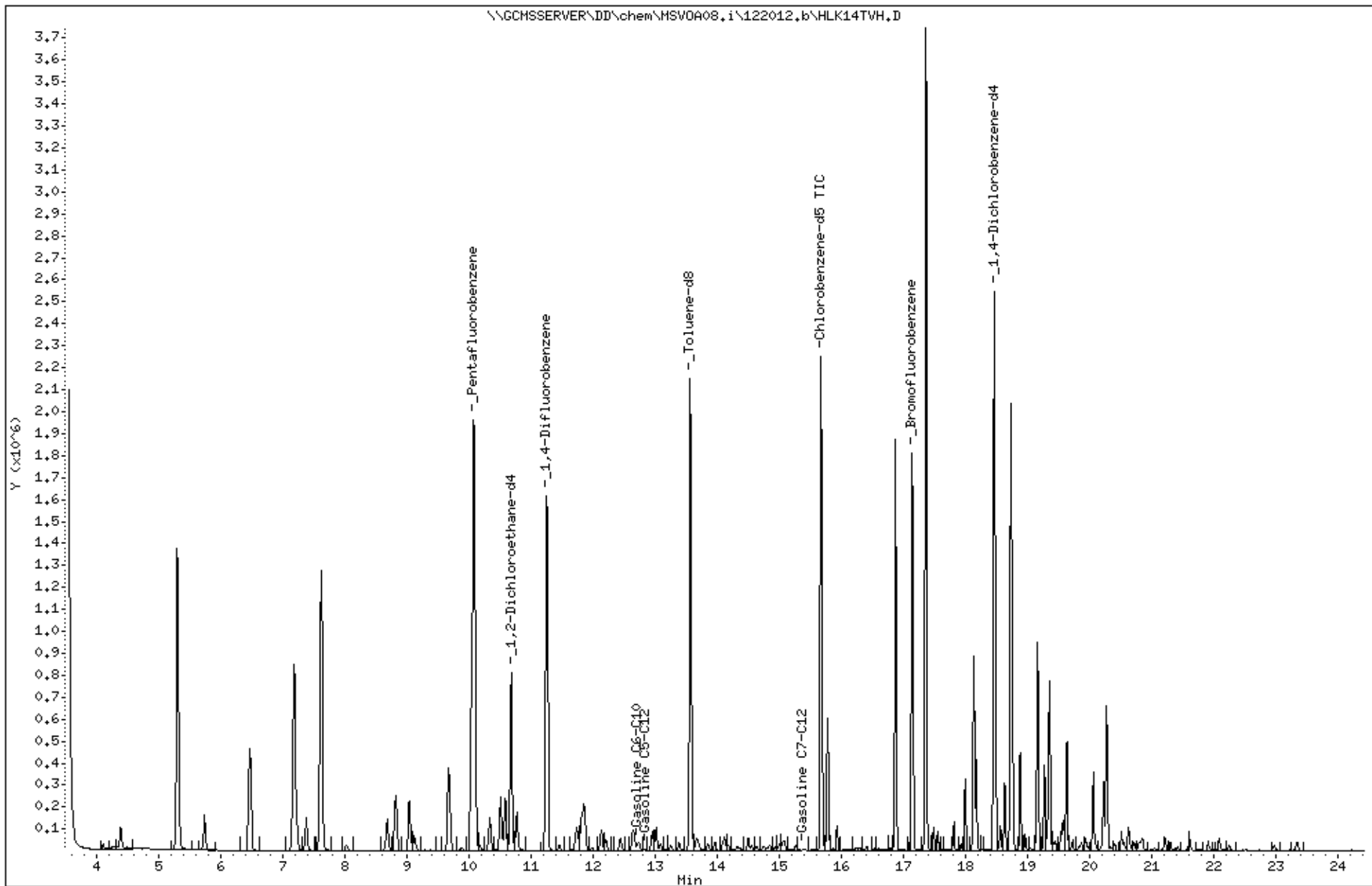
Sample Info: S,241995-002

Instrument: MSV0A08.i

Operator: VOC

Column diameter: 2.00

Column phase:



Date : 20-DEC-2012 18:01

Client ID: DYNA P&T

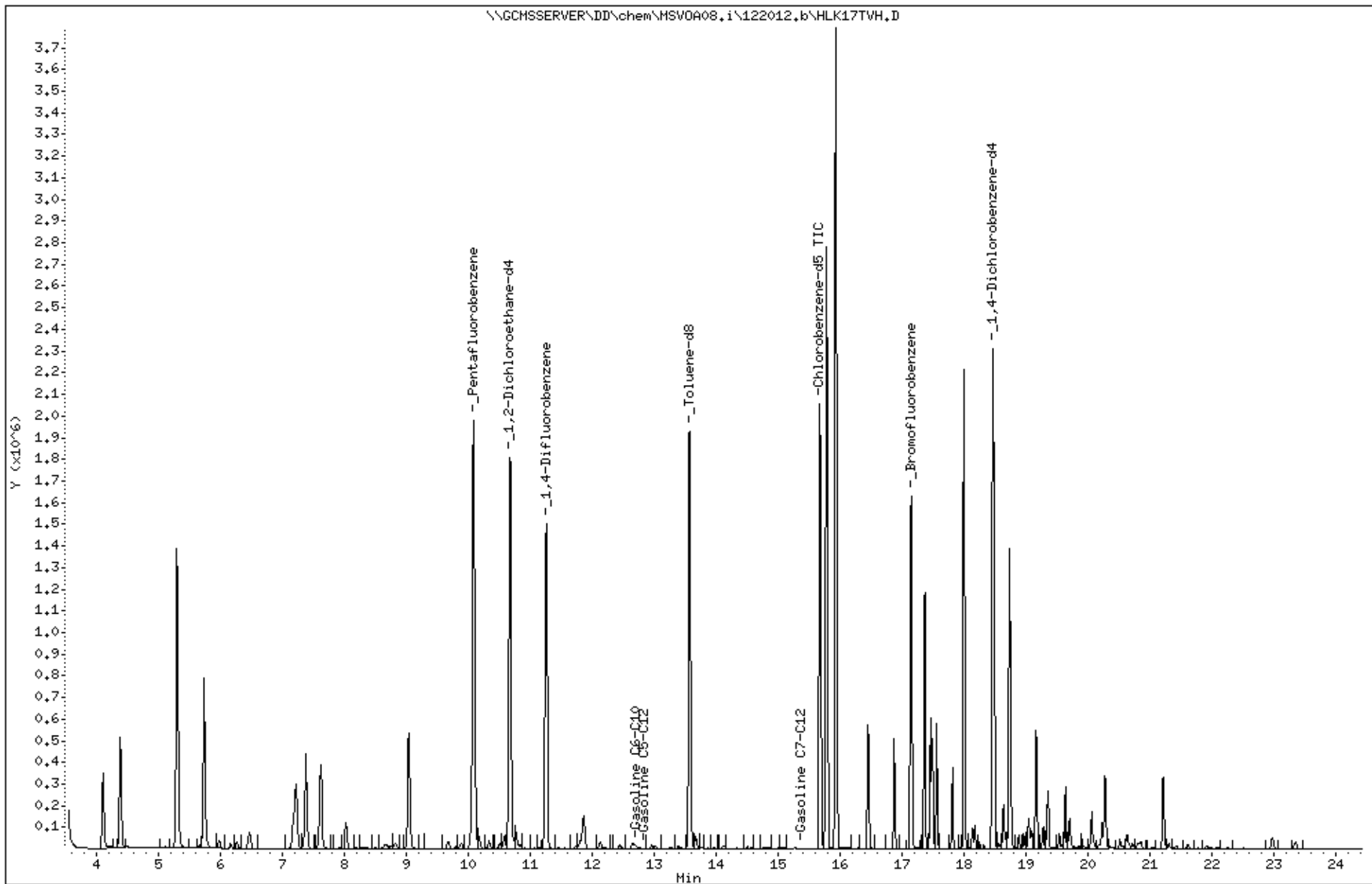
Sample Info: S,241995-003

Instrument: MSV0A08.i

Operator: VOC

Column diameter: 2.00

Column phase:



Date : 21-DEC-2012 17:31

Client ID: DYNA P&T

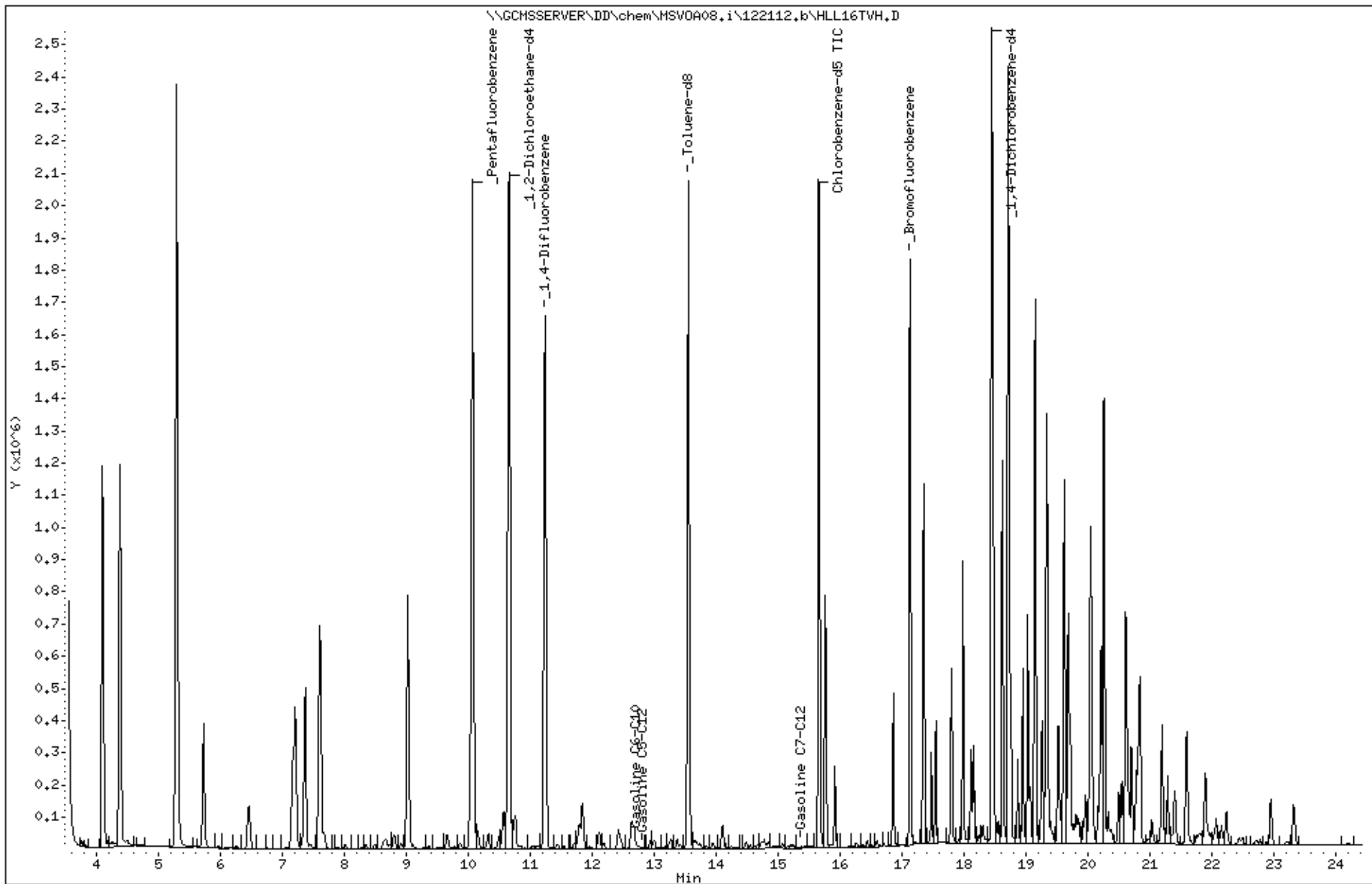
Sample Info: S,241995-004

Instrument: MSV0A08.i

Operator: VOC

Column diameter: 2.00

Column phase:



Date : 20-DEC-2012 16:49

Client ID: DYNA P&T

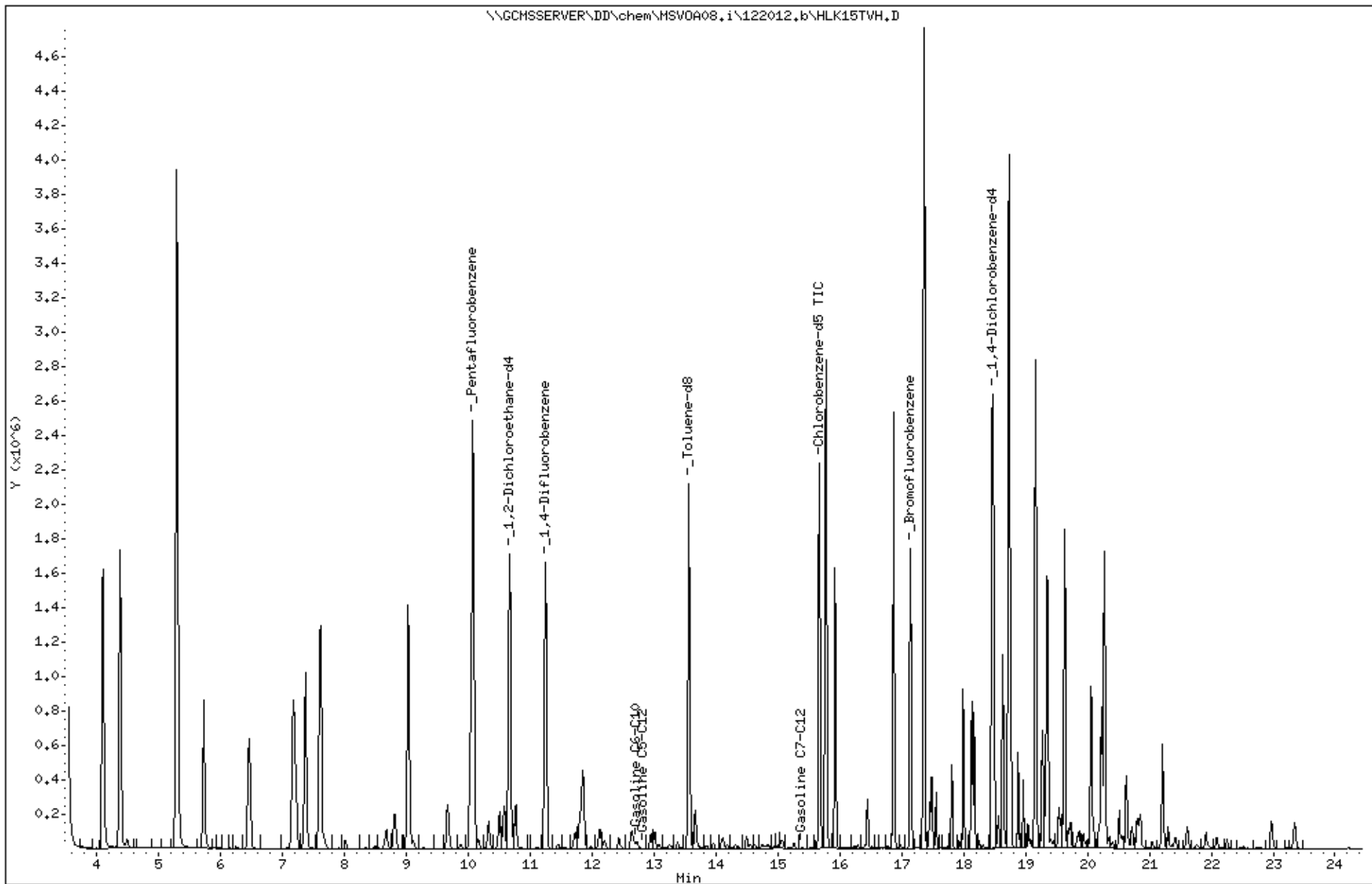
Sample Info: S,241995-005

Instrument: MSV0A08.i

Operator: VOC

Column diameter: 2.00

Column phase:

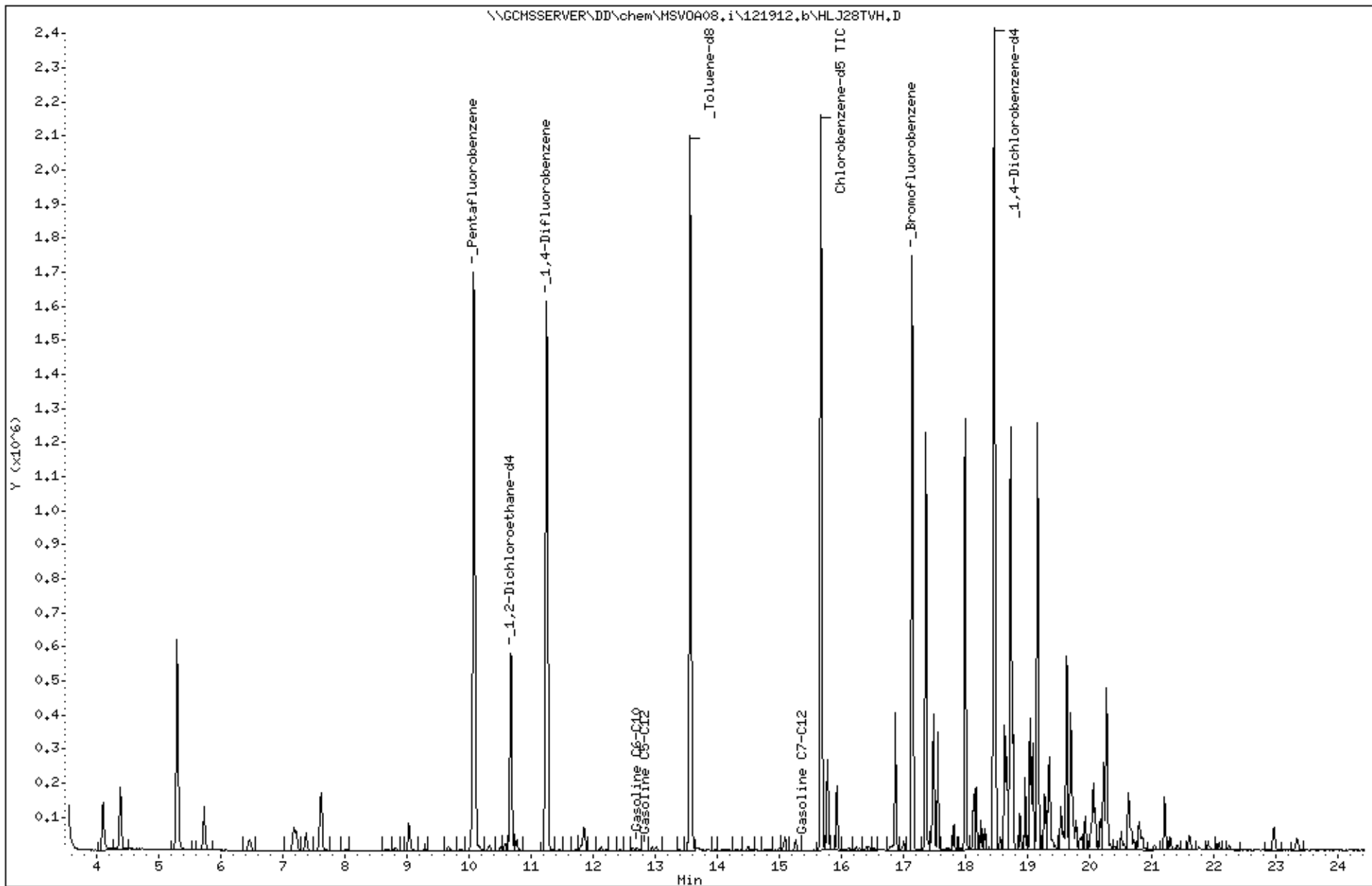


Date : 20-DEC-2012 02:05  
Client ID: DYNA P&T  
Sample Info: S,241995-006

Instrument: MSV0A08.i

Operator: VOC  
Column diameter: 2.00

Column phase:



Date : 19-DEC-2012 21:55

Client ID: DYNA P&T

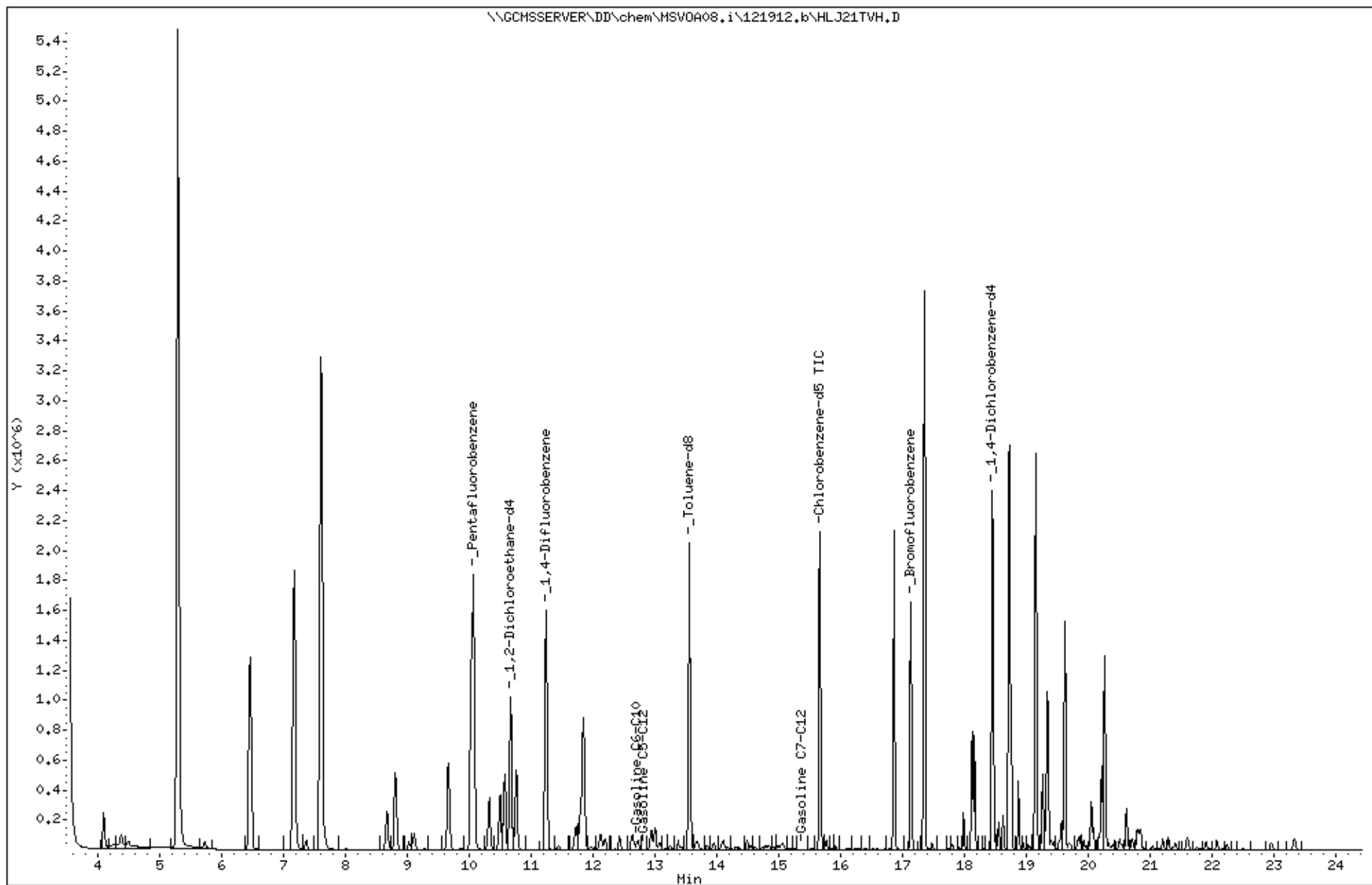
Sample Info: S,241995-007

Instrument: MSV0A08.i

Operator: VOC

Column diameter: 2.00

Column phase:



Date : 20-DEC-2012 00:18

Client ID: DYNA P&T

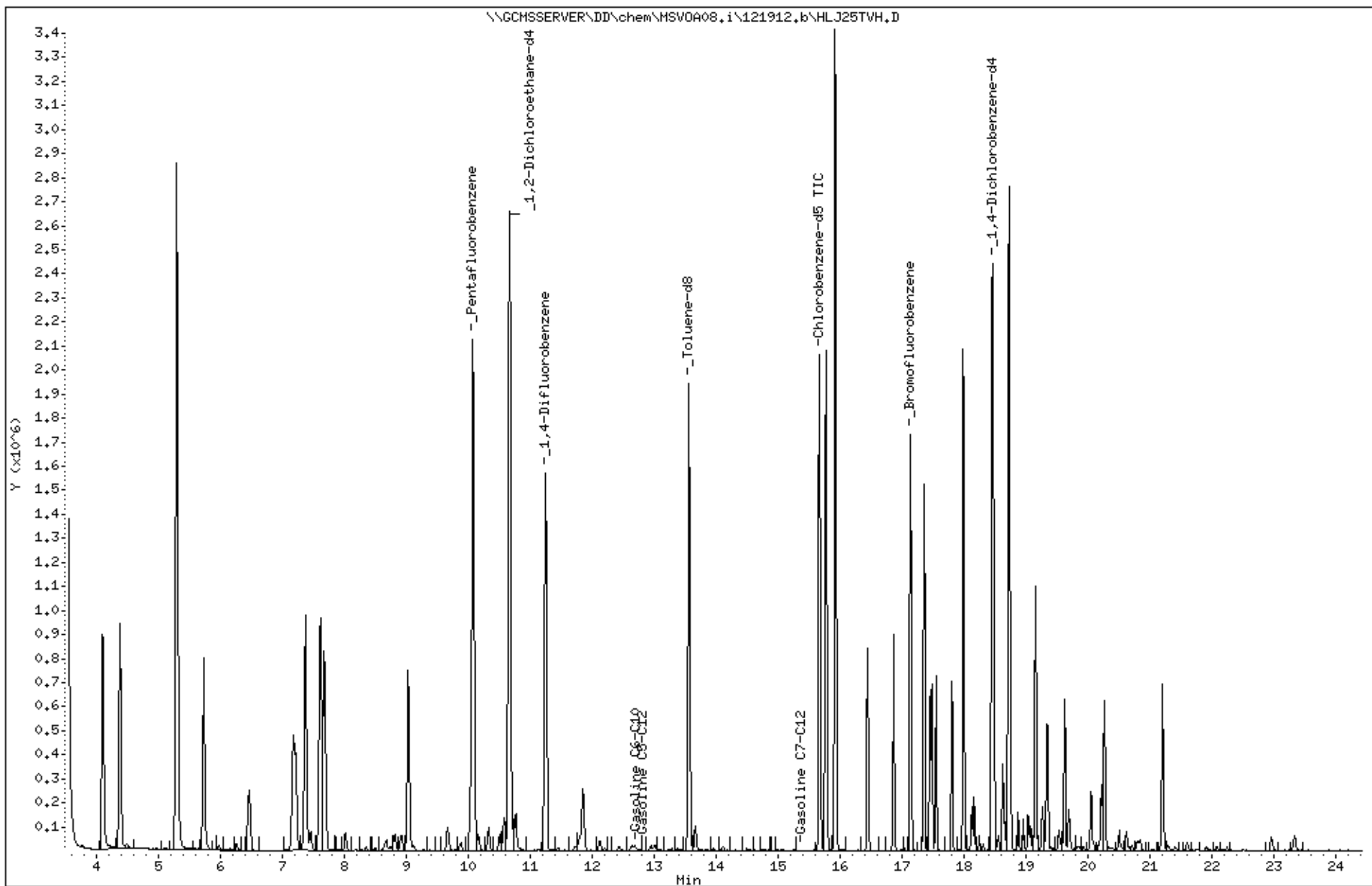
Sample Info: S,241995-011

Instrument: MSVOA08.i

Operator: VOC

Column diameter: 2.00

Column phase:



Date : 20-DEC-2012 01:30

Client ID: DYNA P&T

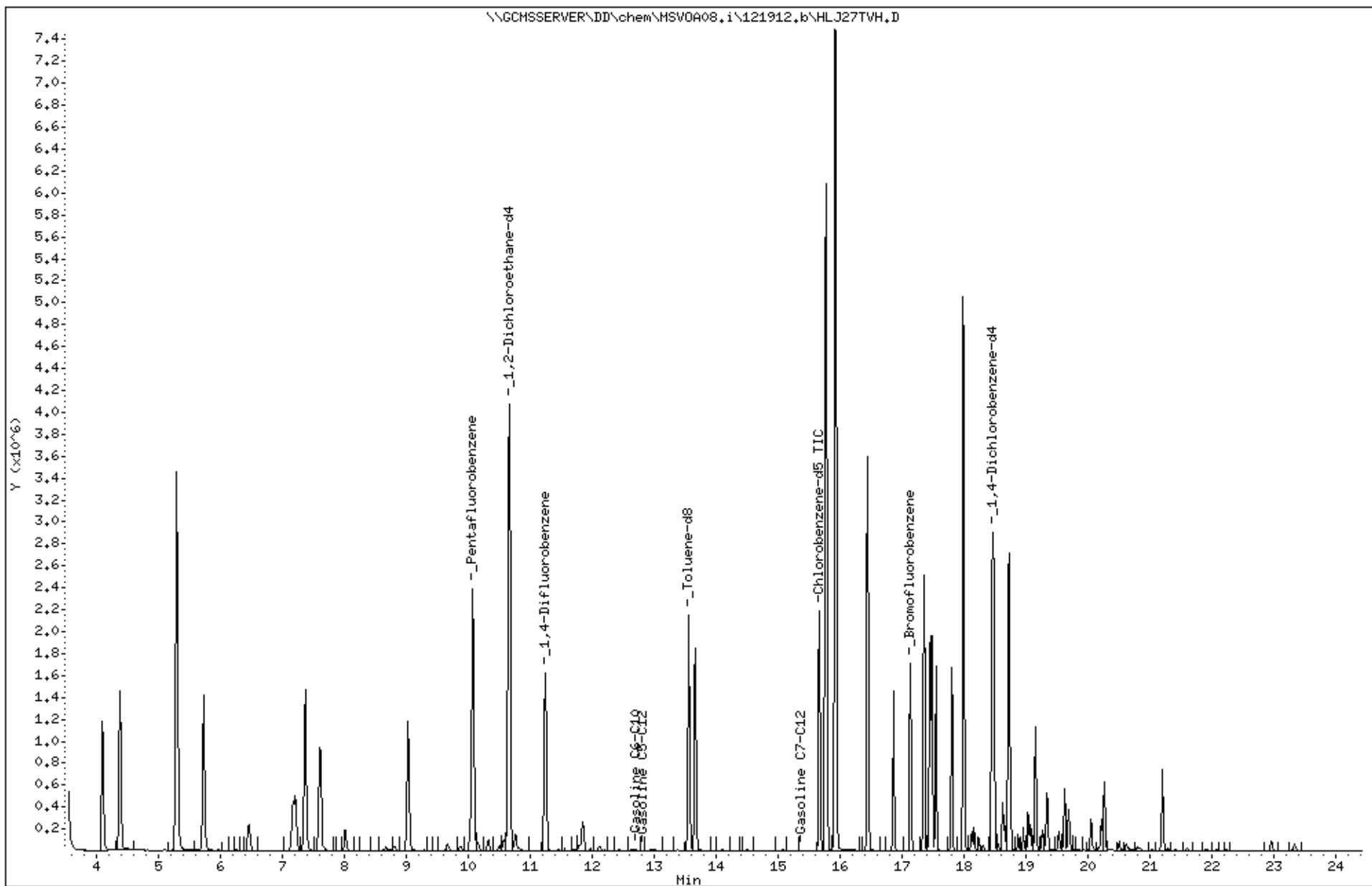
Sample Info: S,241995-012

Instrument: MSV0A08,i

Operator: VOC

Column diameter: 2.00

Column phase:





Date : 20-DEC-2012 19:48

Client ID: DYNA P&T

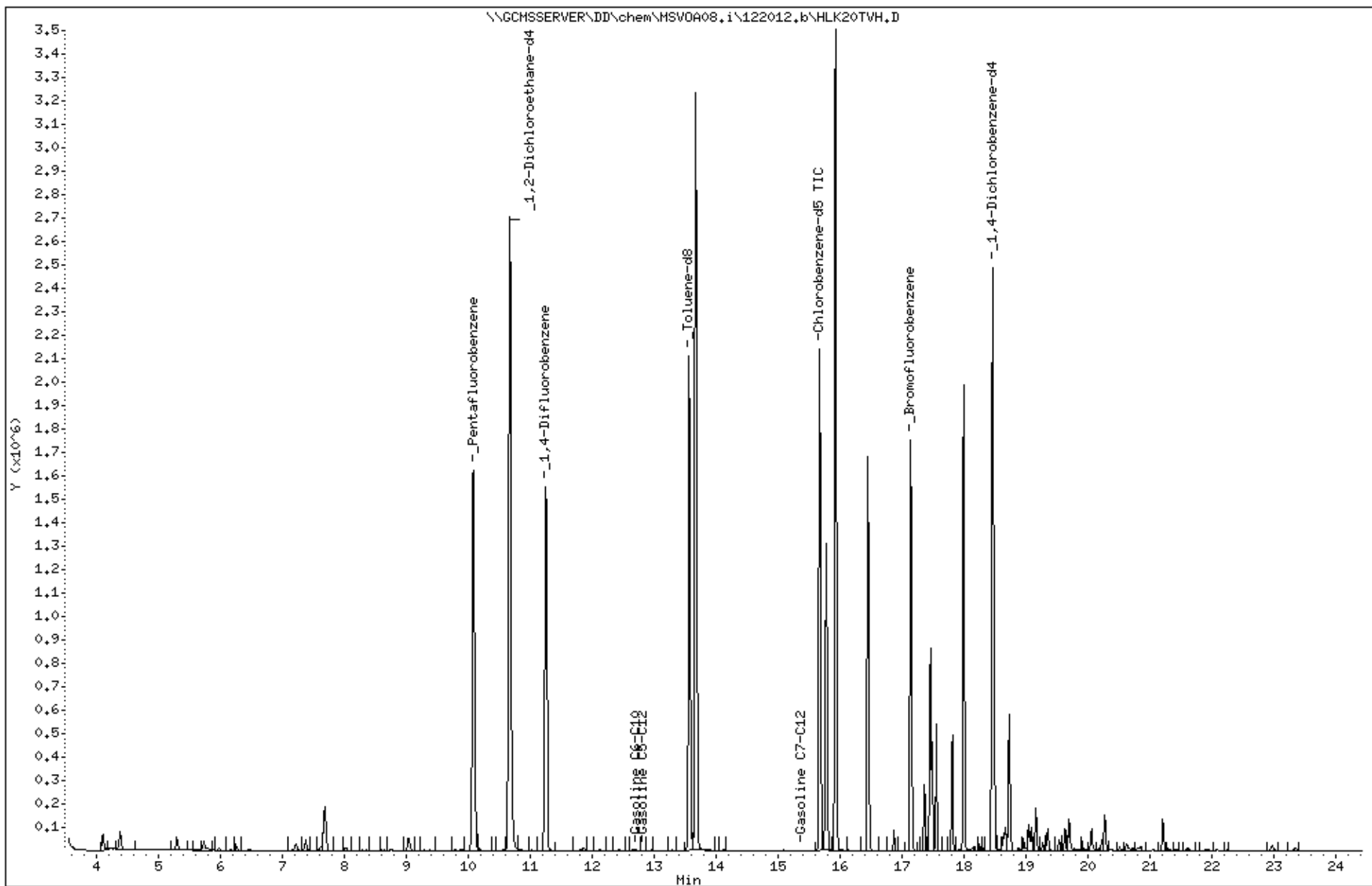
Sample Info: S,241995-013

Instrument: MSV0A08.i

Operator: VOC

Column diameter: 2.00

Column phase:



Date : 20-DEC-2012 19:12

Client ID: DYNA P&T

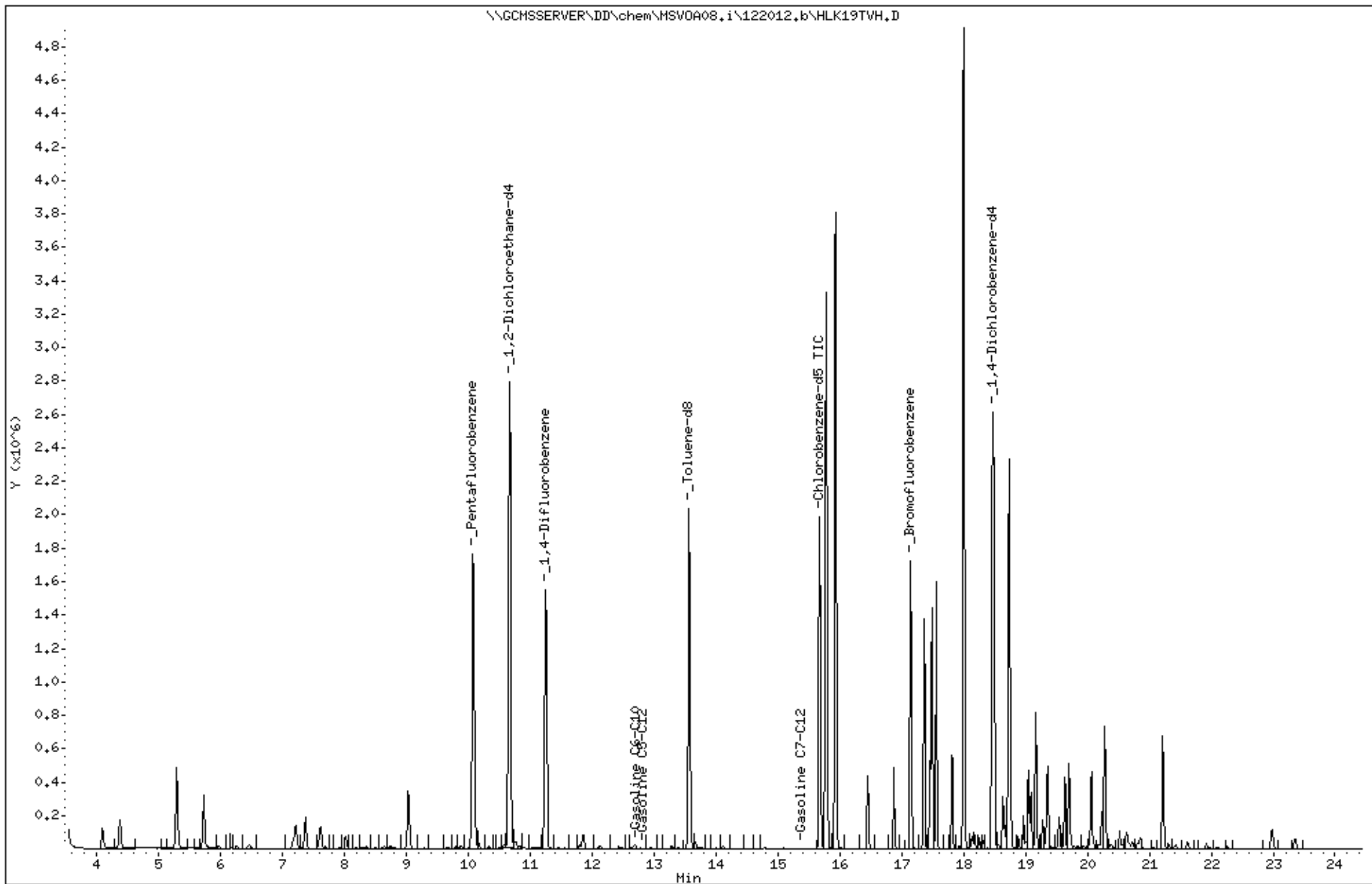
Sample Info: S,241995-014

Instrument: MSV0A08,i

Operator: VOC

Column diameter: 2,00

Column phase:



Date : 19-DEC-2012 17:44

Client ID: DYNA P&T

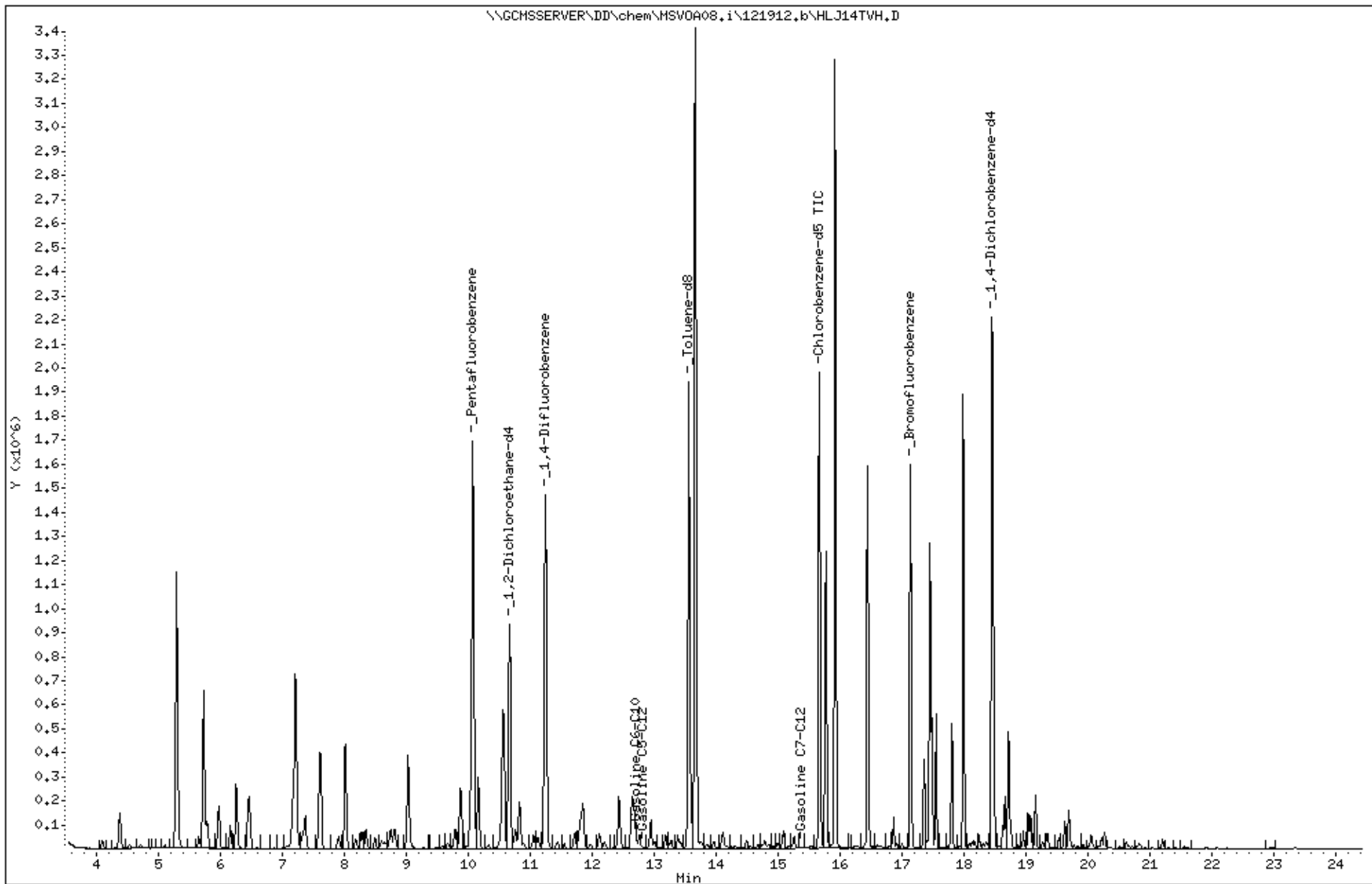
Sample Info: CCV/BS,QC670805,194010,S20554,,01/100

Instrument: MSV0A08,i

Operator: VOC

Column diameter: 2.00

Column phase:



# 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 240635  
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	240635-001
GAC-1	240635-002
INFLUENT	240635-003

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: \_\_\_\_\_

Tracy Babjar  
Project Manager  
(510) 204-2226

Date: 10/29/2012

NELAP # 01107CA

**CASE NARRATIVE**

Laboratory number: 240635  
Client: SOMA Environmental Engineering Inc.  
Project: 2553  
Location: 15101 Freedom Ave. San Leandro  
Request Date: 10/23/12  
Samples Received: 10/23/12

This data package contains sample and QC results for three water samples, requested for the above referenced project on 10/23/12. 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.

# CHAIN OF CUSTODY

## Analyses

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

LOGIN # 240635

Sampler: MASOUD

Project No: 2553

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

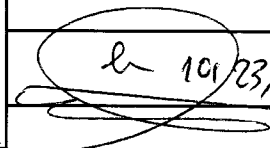
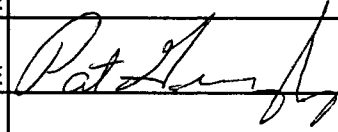
Lab No.	Sample ID.	Sampling Date Time	Matrix			# of Containers	Preservative				
			Soil	Water	Waste		HCL	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	ICE	
1	EFFLUENT	10,23,12-12	*			6 VOAs	*			*	
			*			2-500 ml Ambers				*	
2	GAC-1		*			6 VOAs	*			*	
3	INFLUENT		*			6 VOAs	*			*	

TPH-g 8015																			
TPH-d, TPH-mo 8015	*																		
BTEX 8020	*																		

Notes: **EDF OUTPUT REQUIRED**

RELINQUISHED BY:

RECEIVED BY:

	DATE/TIME		DATE/TIME
	10/23/12-14		10/23/12 1100
	DATE/TIME		DATE/TIME

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 240635 Date Received 10/23/12 Number of coolers 1  
 Client SCMA ENVIRONMENTAL Project 15101 FREEDOM AVE. SAN GABRIEL

Date Opened 10/23 By (print) P.S. (sign) [Signature]  
 Date Logged in ✓ By (print) E (sign) [Signature]

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

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: \* Notify PM if temperature exceeds 6°C  
 Type of ice used:  Wet  Blue/Gel  None Temp(°C) 14.6

Samples Received on ice & cold without a temperature blank; temp. taken with IR gun  
 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 there any missing / extra samples? \_\_\_\_\_ YES  NO
- 11. Are samples in the appropriate containers for indicated tests? \_\_\_\_\_ YES NO
- 12. Are sample labels present, in good condition and complete? \_\_\_\_\_ YES NO
- 13. Do the sample labels agree with custody papers? \_\_\_\_\_ YES NO
- 14. Was sufficient amount of sample sent for tests requested? \_\_\_\_\_ YES NO
- 15. Are the samples appropriately preserved? \_\_\_\_\_ YES NO N/A
- 16. Did you check preservatives for all bottles for each sample? \_\_\_\_\_ YES NO  N/A
- 17. Did you document your preservative check? \_\_\_\_\_ YES NO  N/A
- 18. Did you change the hold time in LIMS for unpreserved VOAs? \_\_\_\_\_ YES NO  N/A
- 19. Did you change the hold time in LIMS for preserved terracores? \_\_\_\_\_ YES NO  N/A
- 20. Are bubbles > 6mm absent in VOA samples? \_\_\_\_\_ YES NO  N/A
- 21. Was the client contacted concerning this sample delivery? \_\_\_\_\_ YES  NO
- If YES, Who was called? \_\_\_\_\_ By \_\_\_\_\_ Date: \_\_\_\_\_

COMMENTS  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	240635	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2553		
Matrix:	Water	Sampled:	10/23/12
Units:	ug/L	Received:	10/23/12
Diln Fac:	1.000	Analyzed:	10/25/12
Batch#:	192091		

Field ID:           EFFLUENT                                   Lab ID:                   240635-001  
 Type:               SAMPLE

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)	91	75-124	EPA 8015B
Bromofluorobenzene (PID)	104	62-134	EPA 8021B

Field ID:           GAC-1                                       Lab ID:                   240635-002  
 Type:               SAMPLE

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)	91	75-124	EPA 8015B
Bromofluorobenzene (PID)	104	62-134	EPA 8021B

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit



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

Lab #:	240635	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2553	Analysis:	EPA 8021B
Matrix:	Water	Batch#:	192091
Units:	ug/L	Analyzed:	10/25/12
Diln Fac:	1.000		

Type: BS Lab ID: QC662735

Analyte	Spiked	Result	%REC	Limits
Benzene	10.00	10.93	109	80-120
Toluene	10.00	10.80	108	80-120
Ethylbenzene	10.00	10.56	106	80-120
m,p-Xylenes	10.00	10.93	109	80-120
o-Xylene	10.00	10.42	104	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	99	62-134

Type: BSD Lab ID: QC662736

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	10.00	10.55	106	80-120	4	30
Toluene	10.00	10.74	107	80-120	1	20
Ethylbenzene	10.00	10.47	105	80-120	1	20
m,p-Xylenes	10.00	10.98	110	80-120	0	20
o-Xylene	10.00	10.22	102	80-120	2	20

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	91	62-134

RPD= Relative Percent Difference

## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	240635	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:	QC662738	Batch#:	192091	
Matrix:	Water	Analyzed:	10/25/12	
Units:	ug/L			

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,087	109	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	91	75-124

Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	240635	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2553	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	192091
MSS Lab ID:	240675-001	Sampled:	10/23/12
Matrix:	Water	Received:	10/24/12
Units:	ug/L	Analyzed:	10/25/12
Diln Fac:	1.000		

Type: MS Lab ID: QC662739

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	17.15	2,000	2,100	104	71-120

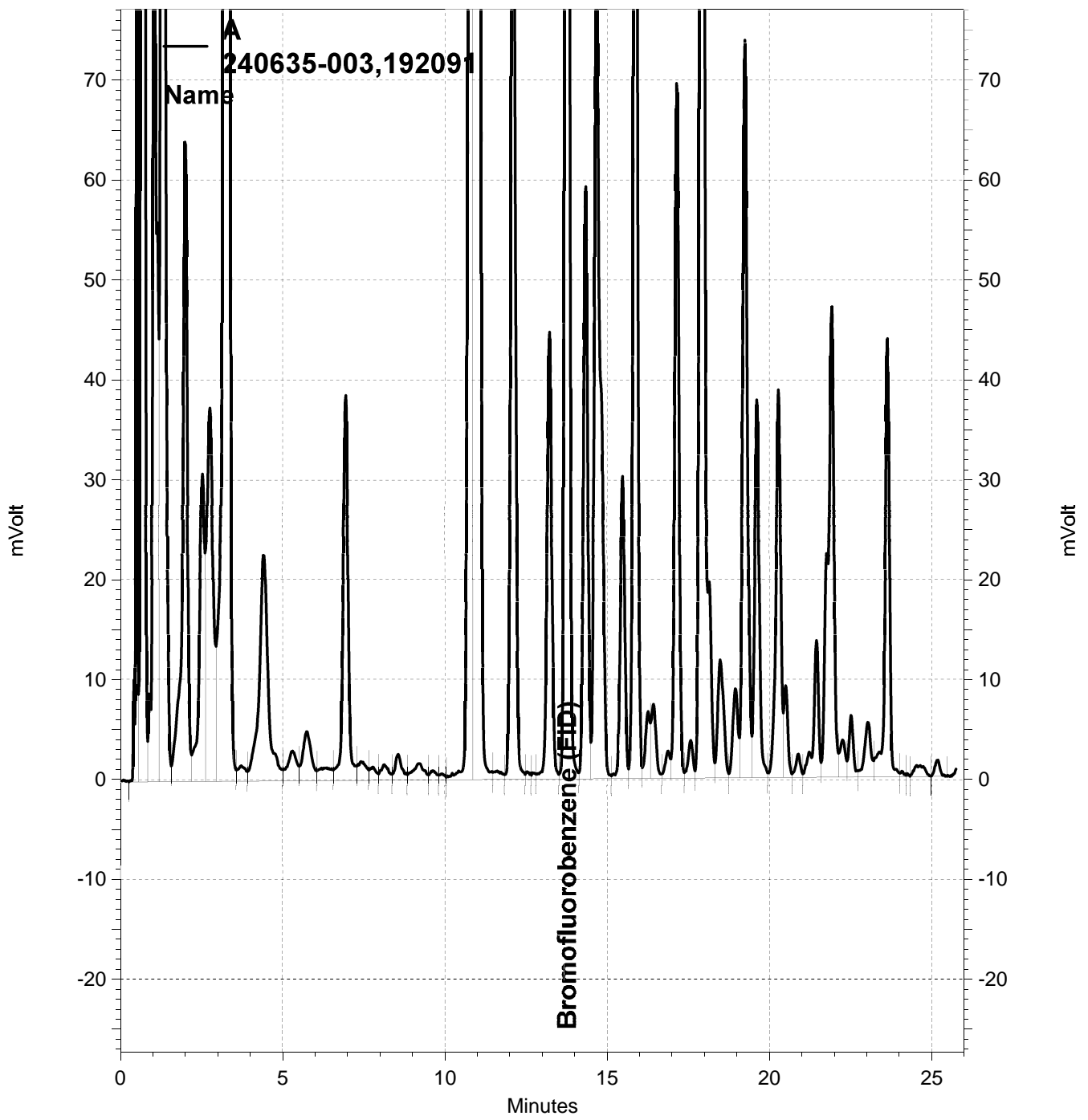
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	102	75-124

Type: MSD Lab ID: QC662740

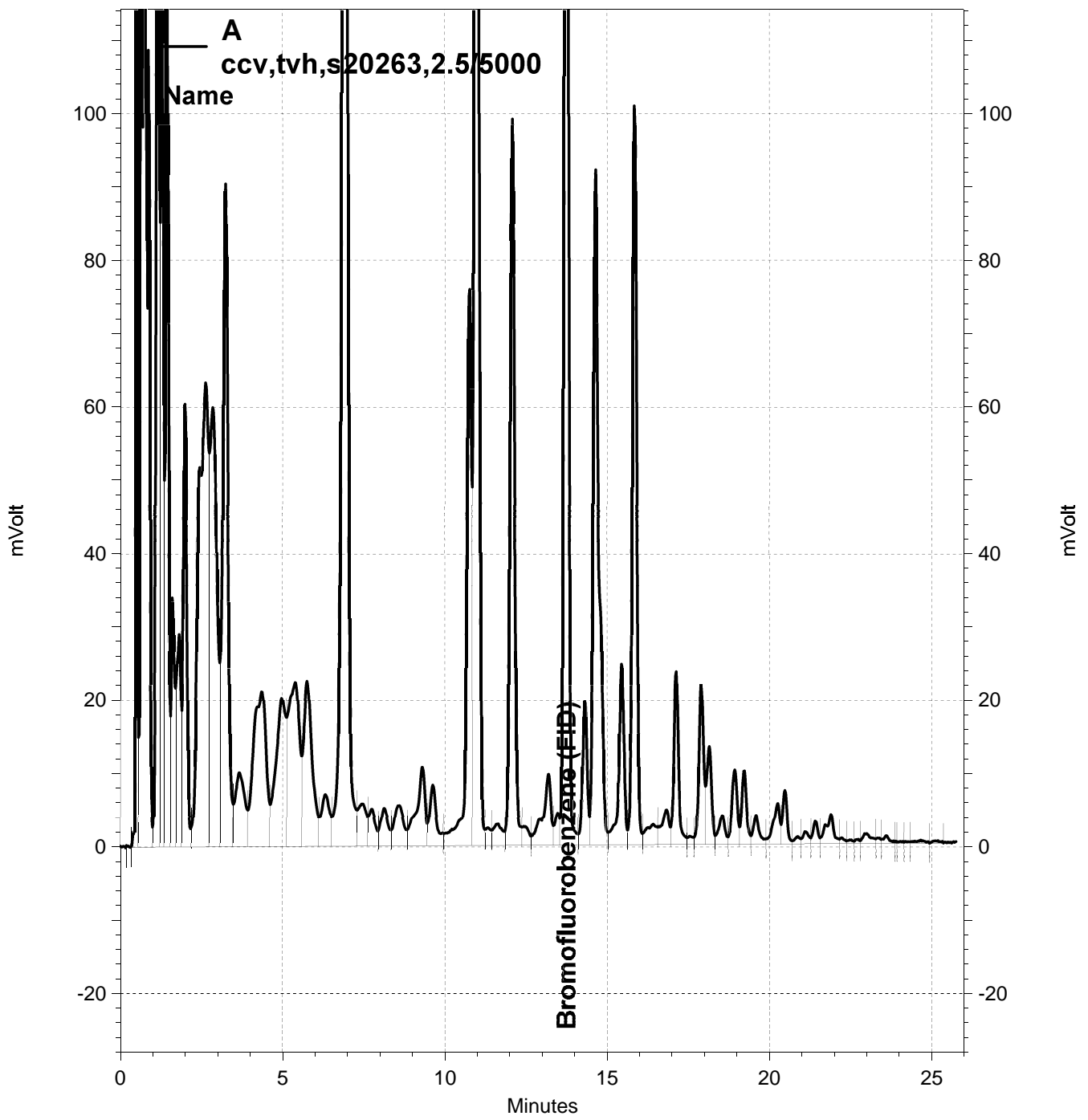
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,074	103	71-120	1	22

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	101	75-124

RPD= Relative Percent Difference



— \\Lims\gdrive\ezchrom\Projects\GC05\Data\299-011, A



— \\Lims\gdrive\ezchrom\Projects\GC05\Data\299-003, A

### Total Extractable Hydrocarbons

Lab #: 240635	Location: 15101 Freedom Ave. San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 3520C
Project#: 2553	Analysis: EPA 8015B
Field ID: EFFLUENT	Sampled: 10/23/12
Matrix: Water	Received: 10/23/12
Units: ug/L	Prepared: 10/24/12
Diln Fac: 1.000	Analyzed: 10/25/12
Batch#: 192059	

Type: SAMPLE                      Lab ID: 240635-001

Analyte	Result	RL
Diesel C10-C24	ND	49
Motor Oil C24-C36	ND	290

Surrogate	%REC	Limits
o-Terphenyl	102	61-134

Type: BLANK                      Lab ID: QC662598

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

Surrogate	%REC	Limits
o-Terphenyl	106	61-134

ND= Not Detected  
 RL= Reporting Limit



Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	240635	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3520C
Project#:	2553	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	192059
Units:	ug/L	Prepared:	10/24/12
Diln Fac:	1.000	Analyzed:	10/26/12

Type: BS Cleanup Method: EPA 3630C  
 Lab ID: QC662599

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,013	81	60-120

Surrogate	%REC	Limits
o-Terphenyl	99	61-134

Type: BSD Cleanup Method: EPA 3630C  
 Lab ID: QC662600

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,481	99	60-120	21	35

Surrogate	%REC	Limits
o-Terphenyl	121	61-134

RPD= Relative Percent Difference



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

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

**Laboratory Job Number 241177  
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  
241177-001

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: \_\_\_\_\_

Tracy Babjar  
Project Manager  
(510) 204-2226

Date: 11/16/2012

NELAP # 01107CA

**CASE NARRATIVE**

Laboratory number: 241177  
Client: SOMA Environmental Engineering Inc.  
Project: 2553  
Location: 15101 Freedom Ave. San Leandro  
Request Date: 11/12/12  
Samples Received: 11/12/12

This data package contains sample and QC results for one water sample, requested for the above referenced project on 11/12/12. 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.



COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 241177 Date Received 11/12/12 Number of coolers 0
Client SIMA Project 2553

Date Opened 11/12/12 By (print) [signature] (sign) [signature]
Date Logged in [arrow] By (print) [arrow] (sign) [arrow]

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: \* Notify PM if temperature exceeds 6°C
Type of ice used: Wet Blue/Gel None Temp(°C)

Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

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 there any missing / extra samples? YES NO

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

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

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

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

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

16. Did you check preservatives for all bottles for each sample? YES NO N/A

17. Did you document your preservative check? YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A

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

21. Was the client contacted concerning this sample delivery? YES NO
If YES, Who was called? By Date:

COMMENTS

**Curtis & Tompkins Laboratories Analytical Report**

Lab #: 241177	Location: 15101 Freedom Ave. San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2553	
Field ID: EFFLUENT	Diln Fac: 1.000
Matrix: Water	Sampled: 11/12/12
Units: ug/L	Received: 11/12/12

Type: SAMPLE Analyzed: 11/13/12  
 Lab ID: 241177-001

Analyte	Result	RL	Batch#	Analysis
Gasoline C7-C12	ND	50	192760	EPA 8015B
Benzene	ND	0.50	192813	EPA 8021B
Toluene	ND	0.50	192813	EPA 8021B
Ethylbenzene	ND	0.50	192813	EPA 8021B
m,p-Xylenes	ND	0.50	192813	EPA 8021B
o-Xylene	ND	0.50	192813	EPA 8021B

Surrogate	%REC	Limits	Batch#	Analysis
Bromofluorobenzene (FID)	91	75-124	192760	EPA 8015B
Bromofluorobenzene (PID)	95	62-134	192813	EPA 8021B

Type: BLANK Analyzed: 11/12/12  
 Lab ID: QC665599 Analysis: EPA 8015B  
 Batch#: 192760

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	Result	%REC	Limits
Bromofluorobenzene (FID)		97	75-124
Bromofluorobenzene (PID)	NA		

Type: BLANK Analyzed: 11/13/12  
 Lab ID: QC665850 Analysis: EPA 8021B  
 Batch#: 192813

Analyte	Result	RL
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	Result	%REC	Limits
Bromofluorobenzene (FID)	NA		
Bromofluorobenzene (PID)		94	62-134

NA= Not Analyzed  
 ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	241177	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:	QC665598	Batch#:	192760	
Matrix:	Water	Analyzed:	11/12/12	
Units:	ug/L			

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	898.9	90	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	91	75-124

Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	241177	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2553	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	192760
MSS Lab ID:	241157-005	Sampled:	11/09/12
Matrix:	Water	Received:	11/09/12
Units:	ug/L	Analyzed:	11/12/12
Diln Fac:	1.000		

Type: MS Lab ID: QC665600

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	271.3	2,000	2,047	89	71-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	110	75-124

Type: MSD Lab ID: QC665601

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,943	84	71-120	5	22

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	108	75-124

RPD= Relative Percent Difference



## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	241177	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2553	Analysis:	EPA 8021B
Matrix:	Water	Batch#:	192813
Units:	ug/L	Analyzed:	11/13/12
Diln Fac:	1.000		

Type: BS Lab ID: QC665847

Analyte	Spiked	Result	%REC	Limits
Benzene	10.00	9.084	91	80-120
Toluene	10.00	9.237	92	80-120
Ethylbenzene	10.00	9.145	91	80-120
m,p-Xylenes	10.00	9.944	99	80-120
o-Xylene	10.00	9.195	92	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	97	62-134

Type: BSD Lab ID: QC665848

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	10.00	8.905	89	80-120	2	30
Toluene	10.00	9.087	91	80-120	2	20
Ethylbenzene	10.00	8.859	89	80-120	3	20
m,p-Xylenes	10.00	9.597	96	80-120	4	20
o-Xylene	10.00	8.934	89	80-120	3	20

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	97	62-134

RPD= Relative Percent Difference



## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	241177	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3520C
Project#:	2553	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	192811
Units:	ug/L	Prepared:	11/13/12
Diln Fac:	1.000	Analyzed:	11/14/12

Type: BS Cleanup Method: EPA 3630C  
 Lab ID: QC665839

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,234	89	60-120

Surrogate	%REC	Limits
o-Terphenyl	108	61-134

Type: BSD Cleanup Method: EPA 3630C  
 Lab ID: QC665840

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,172	87	60-120	3	35

Surrogate	%REC	Limits
o-Terphenyl	106	61-134

RPD= Relative Percent Difference



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

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

**Laboratory Job Number 241746  
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  
241746-001

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: \_\_\_\_\_

Tracy Babjar  
Project Manager  
(510) 204-2226

Date: 12/12/2012

NELAP # 01107CA

**CASE NARRATIVE**

Laboratory number: 241746  
Client: SOMA Environmental Engineering Inc.  
Project: 2553  
Location: 15101 Freedom Ave. San Leandro  
Request Date: 12/05/12  
Samples Received: 12/05/12

This data package contains sample and QC results for one water sample, requested for the above referenced project on 12/05/12. 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.



**COOLER RECEIPT CHECKLIST**



Curtis & Tompkins, Ltd.

Login # 241746 Date Received 12/5/12 Number of coolers 2  
 Client SOMA Project 15101 FREEDOM AVE. SAN LEANDRO

Date Opened 12/5 By (print) P.S. (sign) [Signature]  
 Date Logged in 6 By (print) [Signature] (sign) [Signature]

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: \* Notify PM if temperature exceeds 6°C

Type of ice used:  Wet  Blue/Gel  None Temp(°C) 1-2, 1-8

Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

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 there any missing / extra samples? \_\_\_\_\_ YES NO

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

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

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

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

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

16. Did you check preservatives for all bottles for each sample? \_\_\_\_\_ YES NO  N/A

17. Did you document your preservative check? \_\_\_\_\_ YES NO  N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? \_\_\_\_\_ YES NO  N/A

19. Did you change the hold time in LIMS for preserved terracores? \_\_\_\_\_ YES NO  N/A

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

21. Was the client contacted concerning this sample delivery? \_\_\_\_\_ YES  NO  
 If YES, Who was called? \_\_\_\_\_ By \_\_\_\_\_ Date: \_\_\_\_\_

**COMMENTS**

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## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	241746	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:	QC668969	Batch#:	193566	
Matrix:	Water	Analyzed:	12/06/12	
Units:	ug/L			

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,023	102	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	97	75-124

## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	241746	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2553	Analysis:	EPA 8015B
Field ID:	EFFLUENT	Batch#:	193566
MSS Lab ID:	241746-001	Sampled:	12/04/12
Matrix:	Water	Received:	12/05/12
Units:	ug/L	Analyzed:	12/06/12
Diln Fac:	1.000		

Type: MS Lab ID: QC668985

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	21.03	2,000	1,967	97	71-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	101	75-124

Type: MSD Lab ID: QC668986

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,892	94	71-120	4	22

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	100	75-124

RPD= Relative Percent Difference

## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	241746	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2553	Analysis:	EPA 8021B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC669169	Batch#:	193612
Matrix:	Water	Analyzed:	12/07/12
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Benzene	10.00	10.45	105	80-120
Toluene	10.00	10.53	105	80-120
m,p-Xylenes	10.00	10.19	102	80-120
o-Xylene	10.00	10.42	104	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	90	62-134

## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	241746	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2553	Analysis:	EPA 8021B
Field ID:	EFFLUENT	Batch#:	193612
MSS Lab ID:	241746-001	Sampled:	12/04/12
Matrix:	Water	Received:	12/05/12
Units:	ug/L	Analyzed:	12/08/12
Diln Fac:	1.000		

Type: MS Lab ID: QC669171

Analyte	MSS Result	Spiked	Result	%REC	Limits
Benzene	0.1107	20.00	18.99	94	80-120
Toluene	0.1528	20.00	18.69	93	77-120
m,p-Xylenes	<0.1000	20.00	17.84	89	76-123
o-Xylene	<0.1000	20.00	18.78	94	78-125

Type: MSD Lab ID: QC669172

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	20.00	18.45	92	80-120	3	40
Toluene	20.00	18.68	93	77-120	0	30
m,p-Xylenes	20.00	17.55	88	76-123	2	30
o-Xylene	20.00	18.51	93	78-125	1	30

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	98	62-134

RPD= Relative Percent Difference

## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	241746	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2553	Analysis:	EPA 8021B
Field ID:	ZZZZZZZZZZ	Batch#:	193675
MSS Lab ID:	241791-001	Sampled:	12/05/12
Matrix:	Water	Received:	12/06/12
Units:	ug/L	Analyzed:	12/11/12
Diln Fac:	1.000		

Type: MS Lab ID: QC669644

Analyte	MSS Result	Spiked	Result	%REC	Limits
Ethylbenzene	0.2117	20.00	17.78	88	76-125

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	88	62-134

Type: MSD Lab ID: QC669645

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Ethylbenzene	20.00	18.23	90	76-125	2	30

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	88	62-134

RPD= Relative Percent Difference

Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	241746	Location:	15101 Freedom Ave. San Leandro	
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B	
Project#:	2553	Analysis:	EPA 8021B	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC669646	Batch#:	193675	
Matrix:	Water	Analyzed:	12/10/12	
Units:	ug/L			

Analyte	Spiked	Result	%REC	Limits
Ethylbenzene	10.00	9.094	91	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	91	62-134

### Total Extractable Hydrocarbons

Lab #: 241746	Location: 15101 Freedom Ave. San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 3520C
Project#: 2553	Analysis: EPA 8015B
Field ID: EFFLUENT	Sampled: 12/04/12
Matrix: Water	Received: 12/05/12
Units: ug/L	Prepared: 12/06/12
Diln Fac: 1.000	Analyzed: 12/07/12
Batch#: 193572	

Type: SAMPLE                      Lab ID: 241746-001

Analyte	Result	RL
Diesel C10-C24	ND	49
Motor Oil C24-C36	ND	290

Surrogate	%REC	Limits
o-Terphenyl	97	61-134

Type: BLANK                      Lab ID: QC668994

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

Surrogate	%REC	Limits
o-Terphenyl	104	61-134

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	241746	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3520C
Project#:	2553	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	193572
Units:	ug/L	Prepared:	12/06/12
Diln Fac:	1.000	Analyzed:	12/10/12

Type: BS Cleanup Method: EPA 3630C  
 Lab ID: QC668995

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,052	82	60-120

Surrogate	%REC	Limits
o-Terphenyl	119	61-134

Type: BSD Cleanup Method: EPA 3630C  
 Lab ID: QC668996

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	1,776	71	60-120	14	35

Surrogate	%REC	Limits
o-Terphenyl	105	61-134

RPD= Relative Percent Difference