



**ENVIRONMENTAL ENGINEERING, INC.**  
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October 13, 2015

**RECEIVED**

By Alameda County Environmental Health 10:54 am, Oct 16, 2015

Mr. Mark Detterman, PG, CEG  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

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

Dear Mr. Detterman:

SOMA's "Third Quarter 2015 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



**Third Quarter 2015  
Groundwater Monitoring and  
Remediation Progress Report**

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

**October 13, 2015**

**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 Third Quarter 2015 groundwater monitoring event.



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 of Groundwater Samples, and Groundwater Gradient Calculations
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# 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 Third Quarter 2015 groundwater monitoring event conducted on September 10 and 11, 2015. 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 2015, which includes operation of a groundwater extraction and treatment system.

## 1.1 Field Activities

In September 2015, SOMA’s field crew conducted a groundwater monitoring event in accordance with procedures and guidelines of Alameda County Health Care Services (ACHCS) and the California Regional Water Quality Control Board (CRWQCB). Figure 2 shows well locations.

On September 10, 2015, the following wells were measured for depth to groundwater: five on-site monitoring wells (MW-1 to MW-5) and four off-site wells (MW-6, MW-7, MW-10 and MW-11) 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 September 10 and 11, 2015, additional field measurements and groundwater samples were collected from all monitoring and MPE wells. Grab groundwater samples were collected from extraction wells EX-1 and EX-2. Free product (FP) was not observed in any well during this monitoring event. 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 Third Quarter 2015 groundwater monitoring event.

### 2.1 Field Measurements, First WBZ Wells

Table 1 presents calculated groundwater elevations and depths to groundwater for each monitoring well. Depths to groundwater ranged from 14.79 feet in MW-11 to 23.76 feet in MW-1. As mentioned above in Section 1.1, no FP was observed in any First WBZ well. Appendix A includes the procedure for FP measurement.

Corresponding groundwater elevations ranged from 24.79 feet in EX-1 to 30.70 feet in MW-1. Groundwater elevations at extraction wells EX-1 and EX-2 were 24.79 feet and 24.81 feet, respectively (Table 1).

Figure 3 displays the contour map of groundwater elevations. As illustrated, groundwater flows towards the extraction wells, at a gradient of 0.022 feet/feet. An effective capture zone is being created by the extraction wells. 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 0.73 mg/L in MPE-1 to 2.97 mg/L in MW-7. ORP showed negative redox potentials in all tested wells. Negative redox potentials indicate that contaminants in the 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 was below laboratory-reporting limit in EX-1. Detectable TPH-g concentrations ranged from 78 µg/L in MW-11 to 28,000 µg/L in MW-10. Since the previous monitoring event (Second Quarter 2015), TPH-g increased in MW-2, MW-4, MW-5, MW-7, and MW-10 and decreased in MW-1, MW-3, MW-6, MW-11, EX-1, EX-2, MPE-1, and MPE-2.

Figure 4 displays the contour map of TPH-g concentrations in groundwater. As illustrated, the highest TPH-g impact is observed offsite, to the southeast of the site in MW-10. High impact is also seen in the northeast corner of the site in the vicinity of MW-3.

The following BTEX concentrations were observed:

- Benzene was below laboratory-reporting limits in MW-2, MW-7, MW-10, and MW-11. Detectable benzene concentrations ranged from 0.66 µg/L in EX-1 to 1,000 µg/L in MPE-2.
- Toluene was detected only in MW-4 and MPE-1 at 1.1 µg/L and 150 µg/L, respectively and was below laboratory-reporting limits in all other wells.
- Ethylbenzene was below laboratory-reporting limits in MW-11 and EX-1 and was detected in concentrations ranging from 2.30 µg/L in MW-2 to 1,200 µg/L in MW-10 and MPE-2.
- Total xylenes were below laboratory-reporting limits in MW-1, MW-2, MW-6, and MW-11. Detectable concentrations ranged from 1.53 µg/L in EX-1 to 2,173 µg/L in MW-10.

Figure 5 displays the contour map of benzene in groundwater. The highest benzene impact is in the northeast corner of the site in the vicinity of MPE-2. Since the previous monitoring event (Second Quarter 2015), detectable benzene concentrations have increased in MW-3, MW-4, MW-5, MPE-1 and MPE-2, decreased in MW-1, MW-6, EX-1, EX-2 and remained below laboratory-reporting limit in the remaining wells.

MtBE was below the laboratory-reporting limit in MW-1, MW-2, MW-3, MW-5, MW-6, MW-10, and MW-11, EX-1, and EX-2. Detectable MtBE ranged from 4.0 µg/L in MW-7 to 50 µg/L in MPE-1. Figure 6 displays the contour map of MtBE concentrations in groundwater. The highest MtBE impact is in the southern section of the site in MPE-1. Since the previous monitoring event (Second Quarter 2015), MtBE has increased in MW-4, MPE-1, and MPE-2 and decreased in MW-1, MW-7, EX-1, EX-2.

MW-3, MW-6, MPE-1, and MPE-2 are the more impacted wells where free-product has been observed in the past. As shown in Table 1, since the previous

monitoring event (Second Quarter 2015), detectable concentrations of TPH-g have decreased in these wells while benzene has increased in MW-3, MPE-1, and MPE-2 and decreased in MW-6.

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

The following gasoline oxygenate and lead scavenger concentrations were observed:

- In MW-1, MW-2, MW-3, MW-5, MW-6, MW-7, MW-10, MW-11, EX-1, EX-2, and MPE-2 all gasoline oxygenates and lead scavengers were below laboratory-reporting limits.
- In addition, tertiary-butyl alcohol (TBA) was also below laboratory-reporting limit in MPE-1 and was detected in MW-4 at 82 µg/L. Figure 7 shows the map of TBA concentrations in First WBZ wells. Since the previous monitoring event (Second Quarter 2015), TBA increased in MW-4 and decreased in EX-1. No comparison could be made for MW-1, MW-10, EX-2, and MPE-2 due to raised dilution and reporting limits.
- Ethyl tertiary-butyl ether (ETBE), Methyl tertiary-amyl ether (TAME), 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 22.89 feet in MW-4D to 23.91 feet in MW-1D. Corresponding groundwater elevations ranged from 30.23 feet in MW-4D to 30.57 feet in MW-3D.

Figure 8 displays the contour map of groundwater elevations in the Second WBZ. Groundwater flows southwesterly at a gradient of 0.0035 feet/feet. The groundwater gradient has decreased since the previous monitoring event (Second Quarter 2015) and the flow direction has changed from northwesterly to southwesterly. 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 0.33 mg/L in MW-3D to 7.98 mg/L in MW-4D. ORP showed negative redox potential in MW-1D and positive redox potential in MW-3D and MW-4D. 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 the groundwater are conducive to anaerobic biodegradation.

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

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

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

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

TPH-g was below laboratory-reporting limits in all Second WBZ wells. Since the previous monitoring event (Second Quarter 2015), TPH-g decreased in MW-4D and remained below laboratory-reporting limits in MW-1D and MW-3D.

Similar to the previous monitoring event (Second Quarter 2015), BTEX analytes were below laboratory-reporting limit in all Second WBZ wells.

Similar to the previous monitoring event (Second Quarter 2015), MtBE was below the laboratory-reporting limit in MW-1D and MW-4D and decreased slightly in MW-3D. MtBE was detected in MW-3D at 1.40 µg/L. Figure 9 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.

### **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) polishing drum provides an additional safety buffer prior to discharge. Effectiveness of the GAC units is monitored by collection and analysis of samples from the system discharge, including a sample collected from water that has passed only through the first GAC unit. When analytical results indicate that the first GAC unit is no longer effectively treating groundwater, the vessel will be removed from the treatment line and refurbished with new carbon. The polishing unit was replaced on June 16, 2014.

Since the system began discharging, approximately 3,708,165 gallons of groundwater have been treated and discharged at the site (as of September 23, 2015). During this reporting period, the treatment system was offline from August 18, 2015 to September 10, 2015 due to maintenance and repairs.

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 2014. Treated groundwater has been discharging to the OLSD sewer since December 9, 2009. Figure 10 shows the schematic diagram of the groundwater treatment system. Treatment system effluent is sampled monthly to comply with OLSD discharge permit requirements. Table 3 includes analytical results and operational history of the treatment system. As shown in Table 4, as of July 14, 2015, cumulative masses of TPH-g and BTEX extracted from groundwater were approximately 39.81 pounds, 1.50 pounds, 0.37 pounds, 0.99 pounds, and 5.15 pounds, respectively. Appendix D includes laboratory analytical results.

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

No MPE events were performed during Third Quarter 2015. The overall estimated total mass of VOCs extracted during previous MPE events is 3,302 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; 94 pounds, August 2011 event; 300 pounds, May 2013 event; 841 pounds, August 2013 event; 790 pounds, October 2013 event and 565 pounds, September 2014 event.

Figure 11 shows the extracted mass of VOCs during different MPE events at the site.

## 5. CONCLUSIONS AND RECOMMENDATIONS

Second Quarter 2015 groundwater monitoring and MPE events results are summarized below.

- No FP was observed during this monitoring event.
- Groundwater flows towards the extraction wells in the First WBZ and southwesterly in the Second WBZ.
- The highest TPH-g concentrations were observed off-site to the southeast of the site in MW-10 and highest benzene was observed in the northeast corner of the site. High TPH-g was also observed in the northeast corner of the site.
- Since the previous monitoring event (Second Quarter 2015), detectable concentrations of TPH-g have decreased in these wells while benzene has increased in MW-3, MPE-1, and MPE-2 and decreased in MW-6.
- In the Second WBZ, MtBE was detected in MW-3D at low levels. All other contaminant concentrations were below laboratory-reporting limits in second WBZ wells.
- The total mass of hydrocarbon removed by MPE operations (as of September 2014) is estimated to be 3,302 pounds.

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

- Continue quarterly groundwater monitoring to increase understanding of seasonal variations in groundwater quality conditions.
- SOMA will conduct additional MPE events at the site based on ACEH's approval dated October 29, 2014.
- Discontinue the monitoring of Second WBZ wells, based on low to non-detectable contaminant levels on these wells.
- Convert MW-10 into an extraction well in order to effectively remediate the high contaminant concentrations observed in this well.

## **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

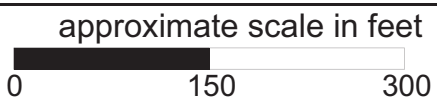
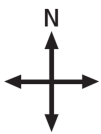
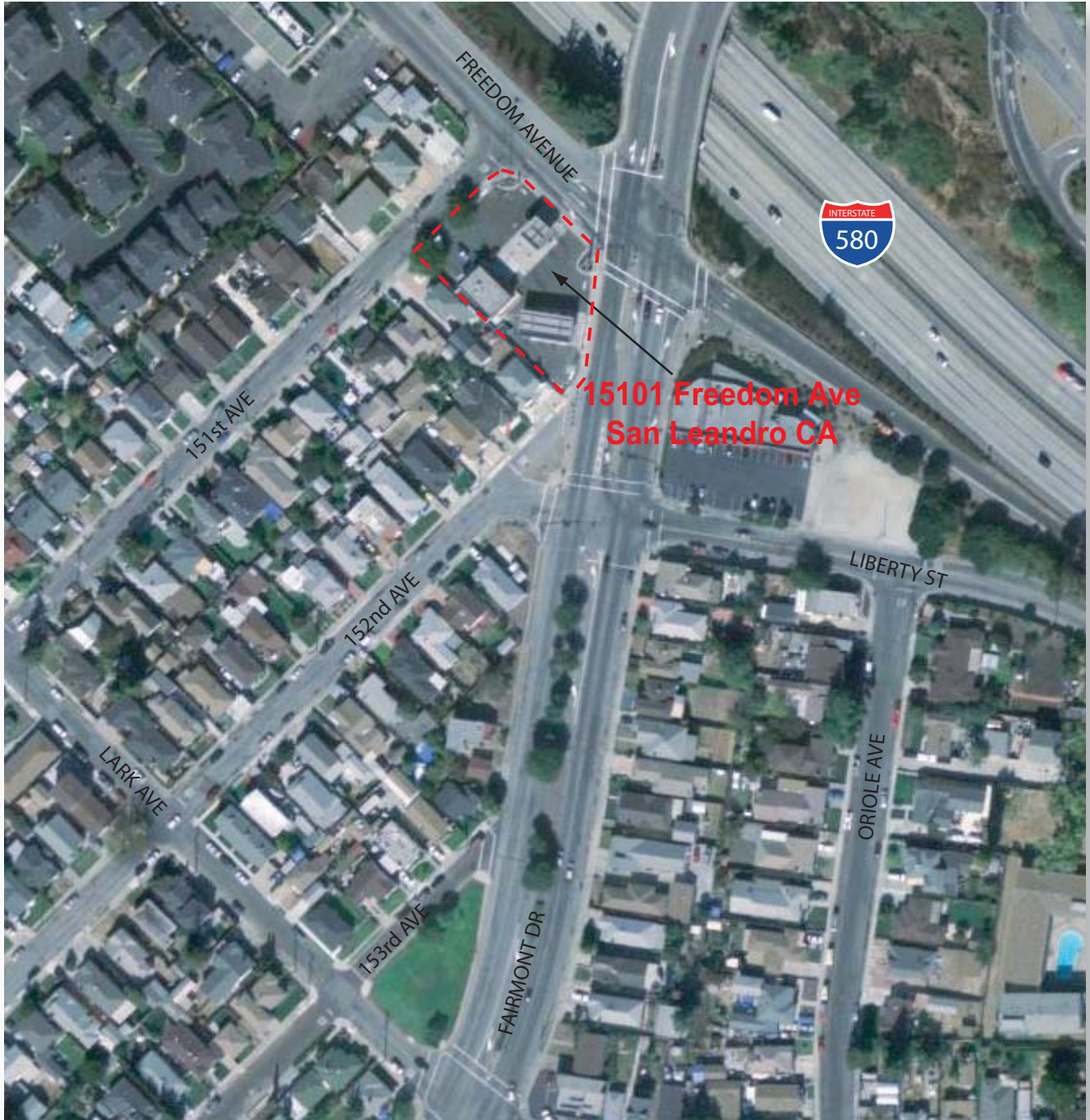
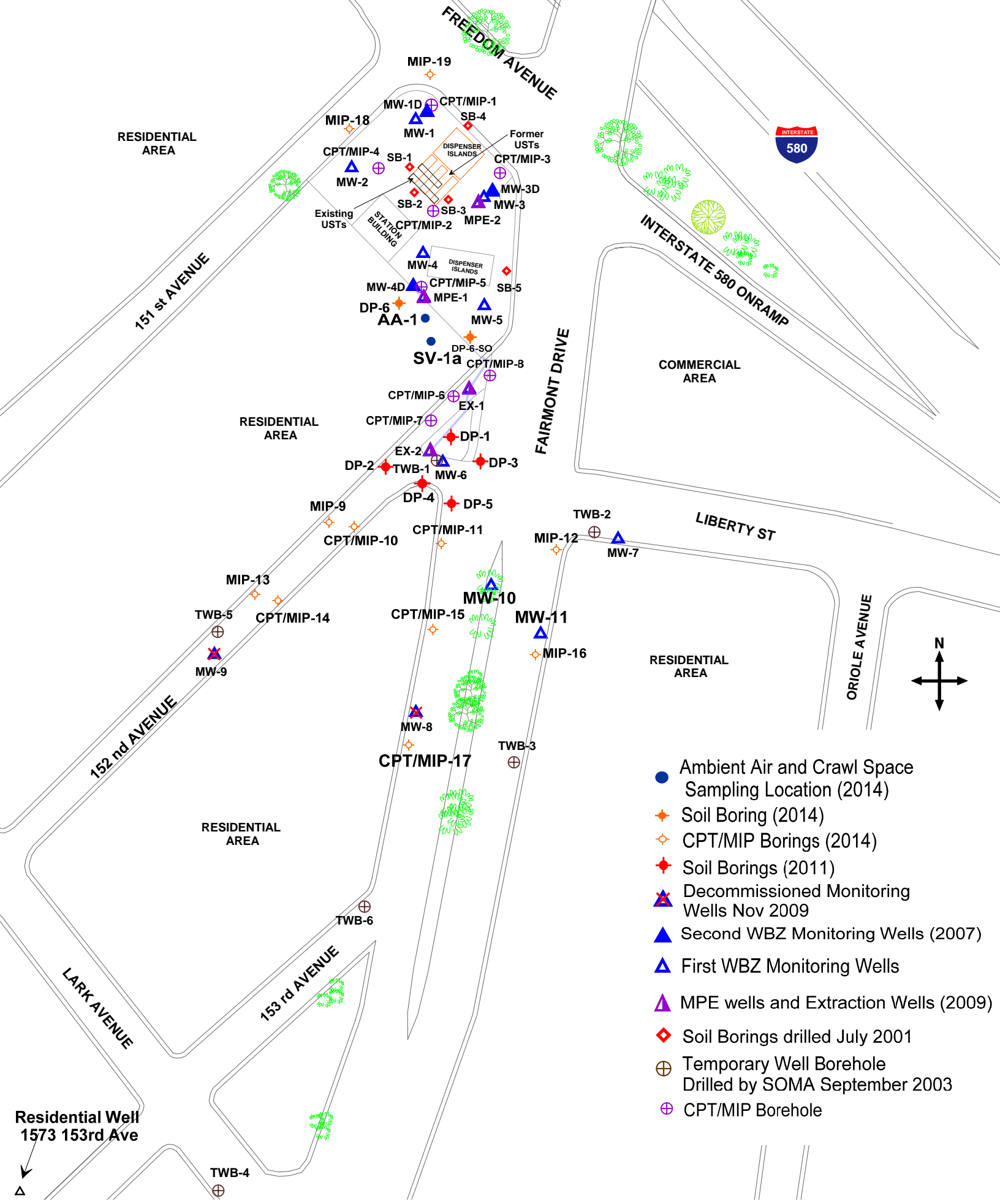


Figure 1: Site vicinity map.



- Ambient Air and Crawl Space Sampling Location (2014)
- ◆ Soil Boring (2014)
- ◇ CPT/MIP Borings (2014)
- ◆ Soil Borings (2011)
- ⊗ Decommissioned Monitoring Wells Nov 2009
- ▲ Second WBZ Monitoring Wells (2007)
- ▲ First WBZ Monitoring Wells
- ▲ MPE wells and Extraction Wells (2009)
- ◆ Soil Borings drilled July 2001
- ⊕ Temporary Well Borehole Drilled by SOMA September 2003
- ⊕ CPT/MIP Borehole

Residential Well  
1573 153rd Ave

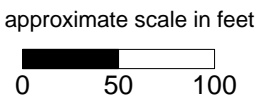


Figure 2: Site Map Showing Locations of USTs, Fuel Dispensers, Soil Borings, Vapor Samples, and Groundwater Monitoring Wells







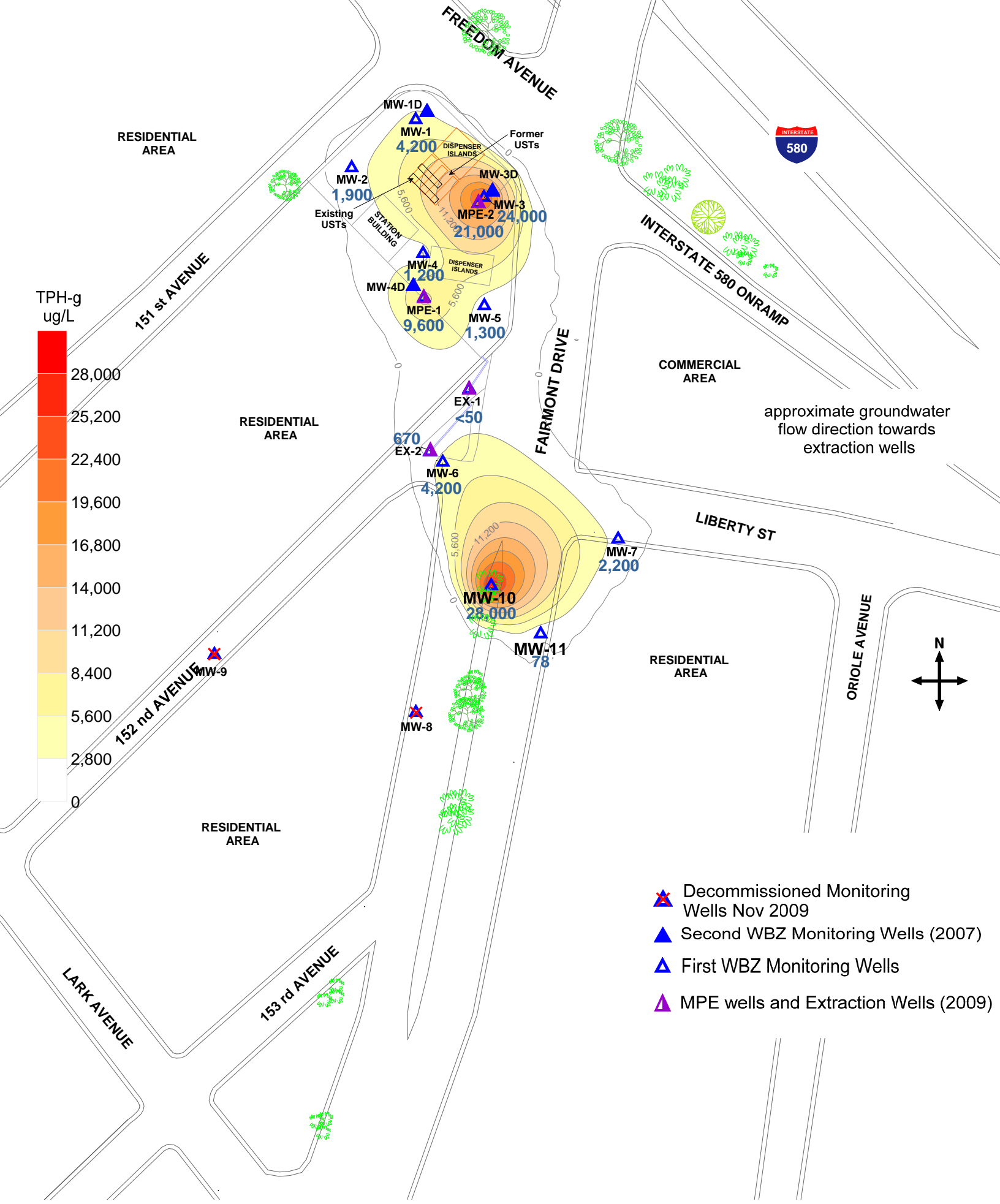
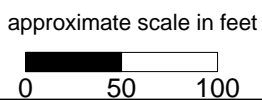


Figure 4: Contour Map of TPH-g Concentrations in Groundwater, First WBZ, September 10 and 11, 2015





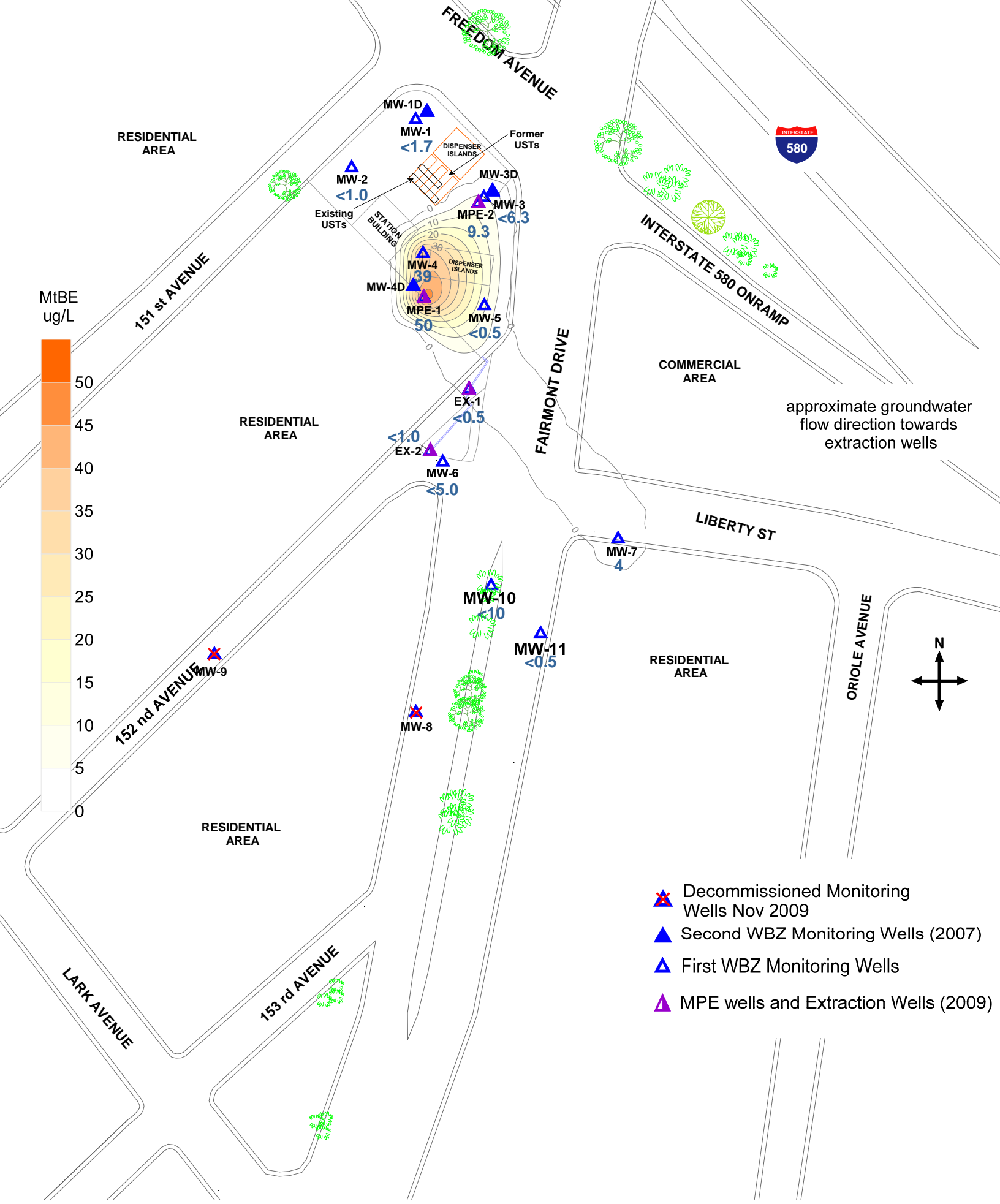
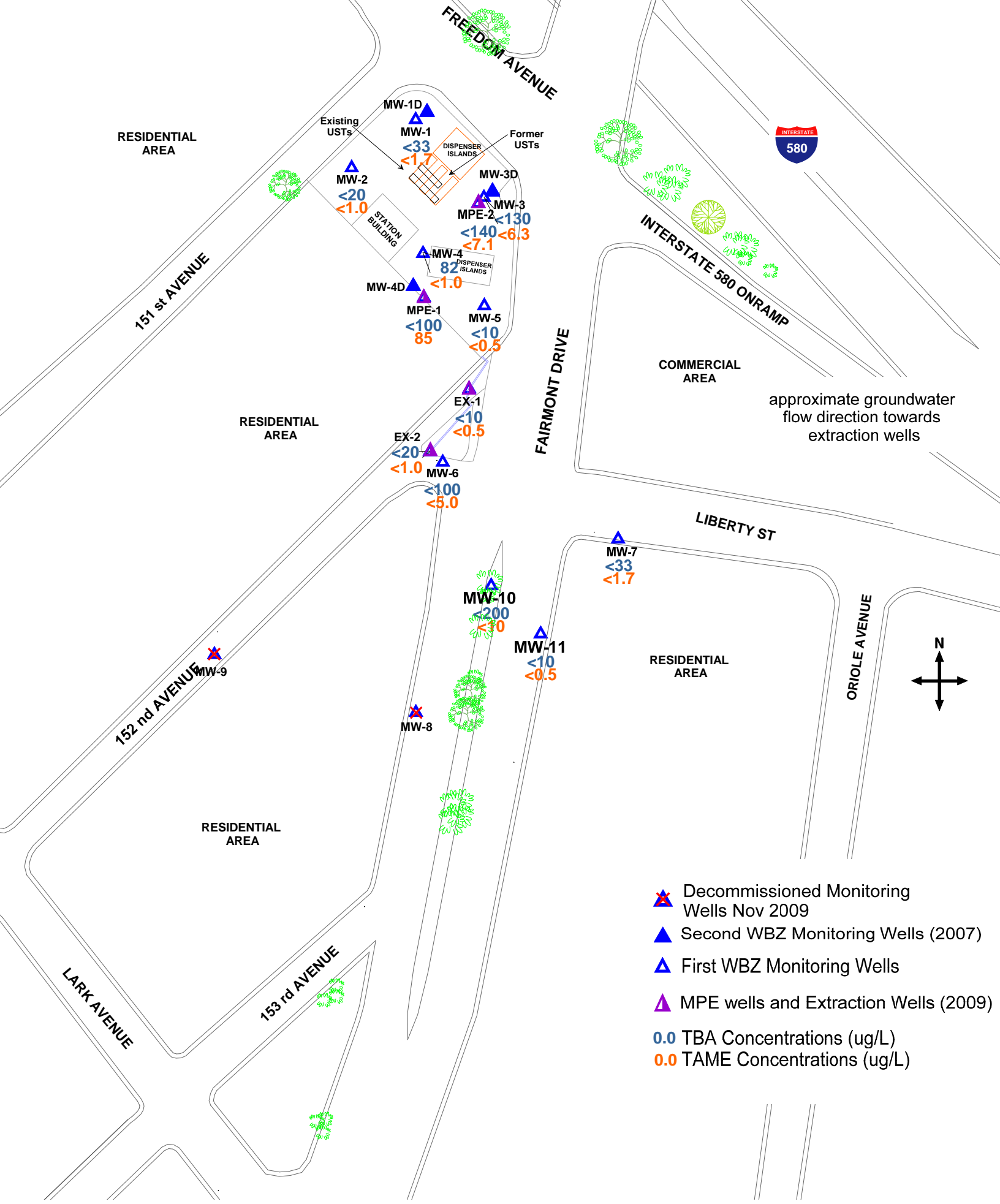


Figure 6: Contour Map of MtBE Concentrations in Groundwater, First WBZ, September 10 and 11, 2015



- Decommissioned Monitoring Wells Nov 2009
- Second WBZ Monitoring Wells (2007)
- First WBZ Monitoring Wells
- MPE wells and Extraction Wells (2009)
- 0.0 TBA Concentrations (ug/L)
- 0.0 TAME Concentrations (ug/L)

approximate scale in feet

0 50 100

Figure 7: Map of TBA and TAME Concentrations in Groundwater, First WBZ, September 10 and 11, 2015

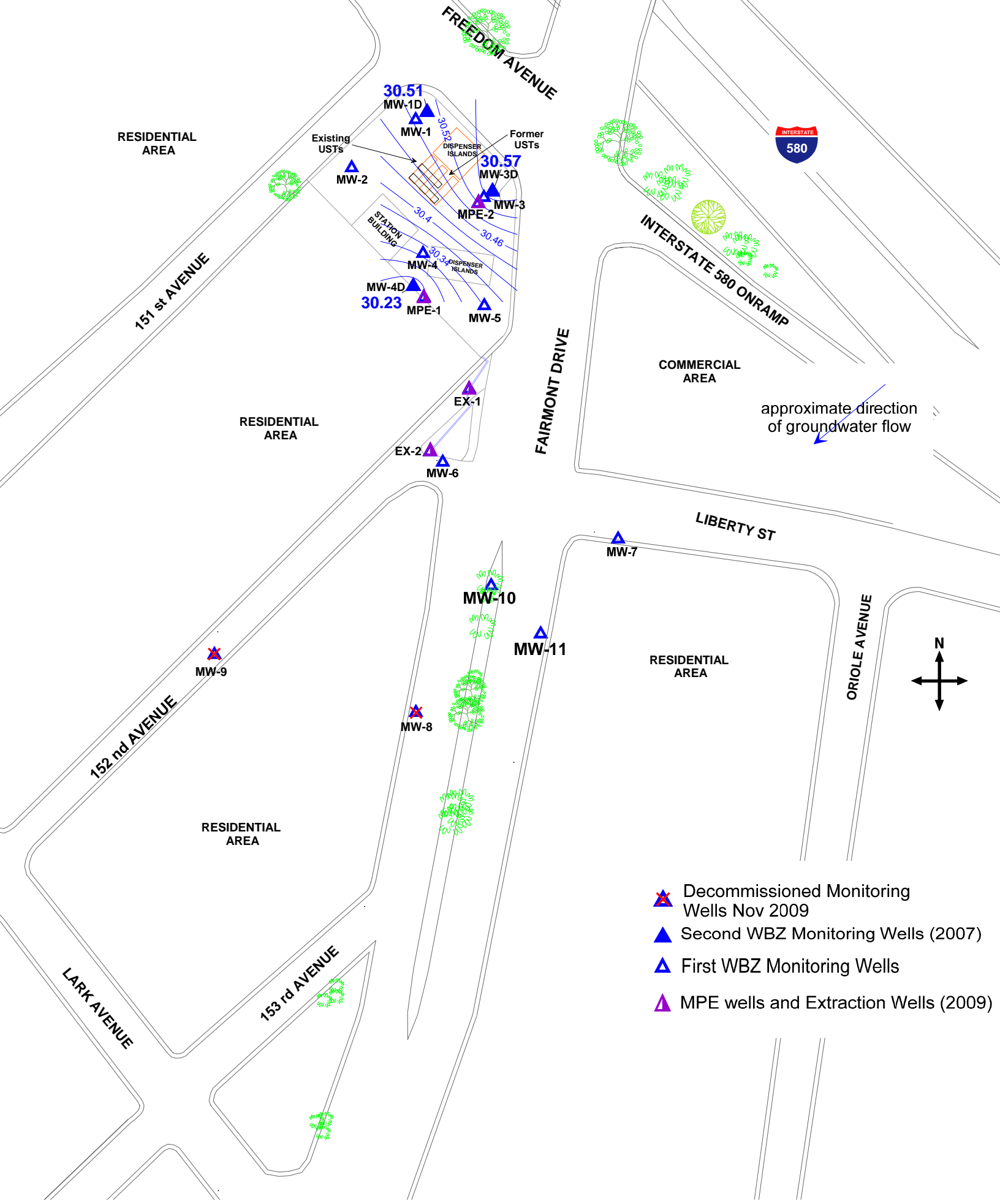
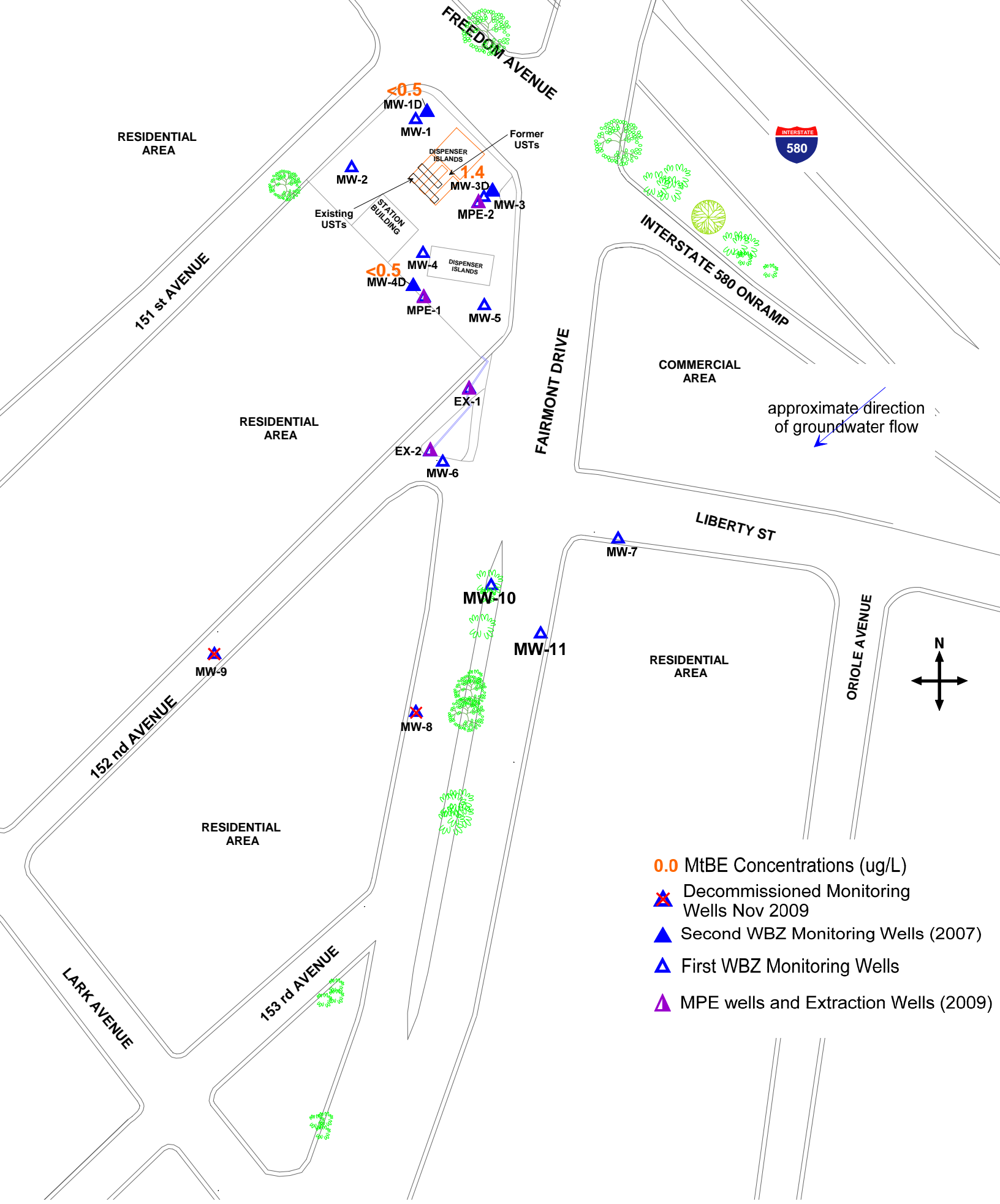


Figure 8: Groundwater Elevation Contour Map in Feet, Second WBZ, September 10, 2015





approximate scale in feet

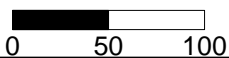


Figure 9: Map Showing MtBE Concentrations in Groundwater, Second WBZ, September 10 and 11, 2015



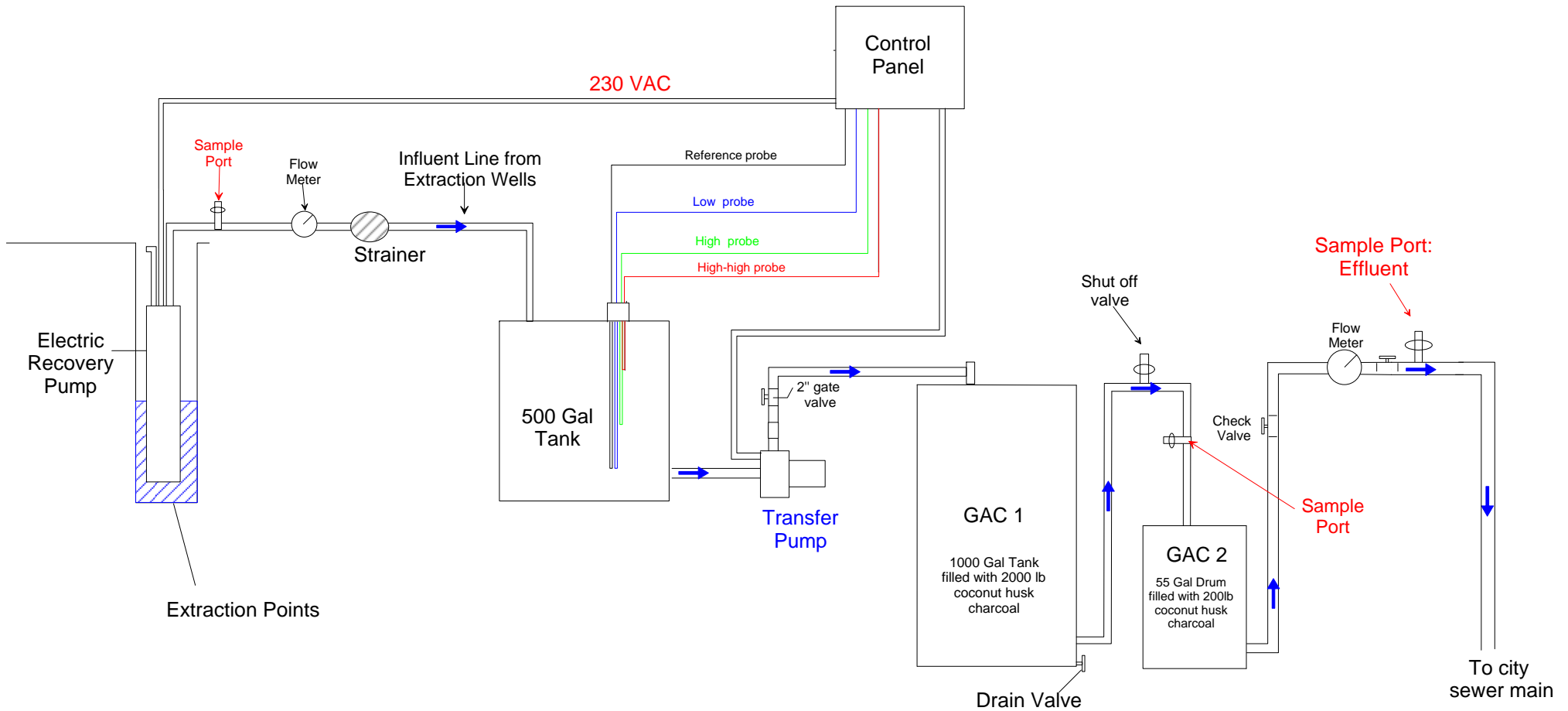


Figure 10: Schematic diagram of Groundwater Remediation System

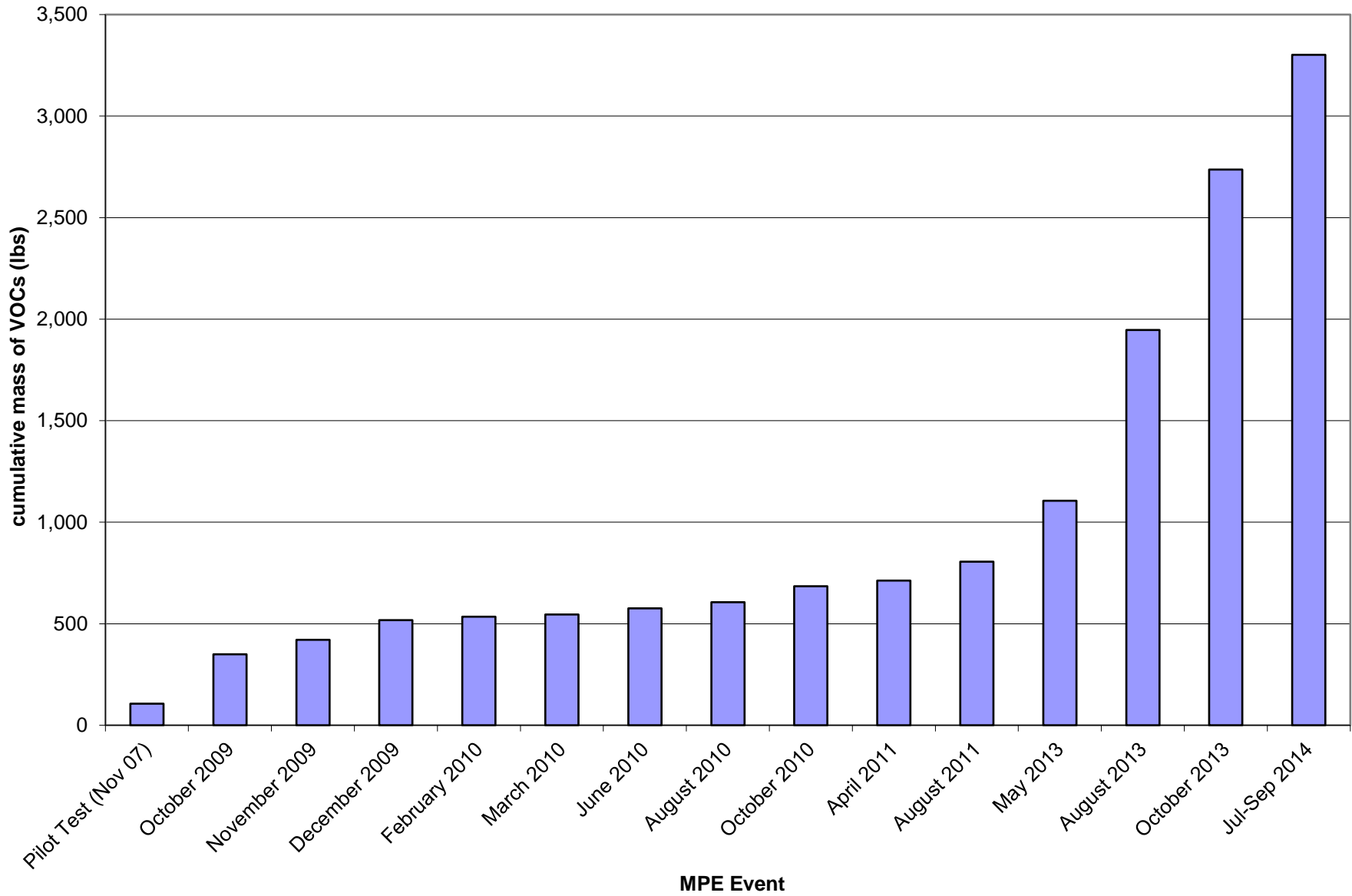


Figure 11: Cumulative mass of VOCs removed

# 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)	Free-Product (feet)/ Sheen (Y/N)	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)	Free-Product (feet)/ Sheen (Y/N)	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	N	32.51	2,400	67	<0.5	45	8.4	2.20
	5/20/2011	54.46	22.8	N	31.66	9,500	260	6.2	970	480	<3.6
	9/9/2011	54.46	22.81	N	31.65	6,400	220	<1.3	380	160	2.30
	12/2/2011	54.46	21.97	N	32.49	4,700 <sup>x</sup>	96	<1.7	310	200	<3.3
	3/2/2012	54.46	22.82	N	31.64	6,800	320	<2.5	430	120	<2.5
	6/7/2012	54.46	22.92	N	31.54	5,600	130	<2.5	360	160	2.9
	9/21/2012	54.46	23.56	N	30.90	8,000	300	<2.5	410	340	2.6
	12/14/2012	54.46	22.77	N	31.69	5,900	130	<2.5	320	97	<2.5
3/28/2013	54.46	23.15	N	31.31	5,100	230	<2.5	280	48	3.6	
6/11/2013	54.46	23.48	N	30.98	6,800	200	<2.5	300	120	<2.5	
9/17/2013	54.46	23.84	N	30.62	7,500	120	<2.5	410	260	<2.5	
12/6/2013	54.46	24.16	N	30.30	5,300	71	<1.7	240	84	<1.7	

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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)	Free-Product (feet)/ Sheen (Y/N)	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.	3/13/2014	54.46	23.47	N	30.99	2,800	16	<0.5	74	15	1.4
	6/6/2014	54.46	23.46	N	31.00	5,000	47	<0.5	240	58	0.9
	9/23/2014	54.46	24.49	N	29.97	6,700	44	<1.7	200	71	<1.7
	12/23/2014	54.46	21.52	N	32.94	730	2.2	<0.5	0.84	<0.5	<0.5
	3/20/2015	54.46	22.83	N	31.63	1,200	8.6	1.9	17	<0.5	0.59
	6/4/2015	54.46	23.22	N	31.24	5,100	23	<0.71	110	3.6	0.73
	<b>9/11/2015</b>	<b>54.46</b>	<b>23.76</b>	<b>N</b>	<b>30.70</b>	<b>4,200</b>	<b>3.3</b>	<b>&lt;1.7</b>	<b>18</b>	<b>&lt;1.7</b>	<b>&lt;1.7</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
	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	

**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)	Free-Product (feet)/ Sheen (Y/N)	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.	1/25/2007	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
	3/4/2011	52.41	19.65	N	32.76	240	<0.5	<0.5	6.6	0.8	<0.5
	5/20/2011	52.41	20.75	N	31.66	310	<0.5	<0.5	4.8	<0.5	<0.5
	9/9/2011	52.41	21.05	N	31.36	1,000	<0.5	<0.5	12	0.76	<0.5
	12/2/2011	52.41	20.14	N	32.27	900 <sup>X</sup>	<2.9	<1.7	14	1.9	<3.3
3/2/2012	52.41	19.98	N	32.43	880	<0.5	<0.5	5.3	0.58	<0.5	
6/7/2012	52.41	21.04	N	31.37	720	<0.5	<0.5	7.9	0.79	<0.5	
9/21/2012	52.41	21.78	N	30.63	1,400	<0.5	<0.5	11	<0.5	<0.5	
12/14/2012	52.41	20.71	N	31.70	760	<0.5	<0.5	10	1.5	<0.5	

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Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Free-Product (feet)/ Sheen (Y/N)	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.	3/28/2013	52.41	21.24	N	31.17	890	<0.5	<0.5	4.3	<0.5	<0.5
	6/11/2013	52.41	21.67	N	30.74	510	150	<0.5	15	12.3	3.1
	9/16/2013	52.41	22.15	N	30.26	210	<0.5	<0.5	1.1	<0.5	<0.5
	12/6/2013	52.41	22.52	N	29.89	290	1.4	<0.5	1.1	<0.5	<0.5
	3/13/2014	52.41	21.56	N	30.85	190	<0.5	<0.5	<0.5	<0.5	<0.5
	6/6/2014	52.41	21.7	N	30.71	97	<0.5	<0.5	<0.5	<0.5	<0.5
	9/23/2014	52.41	22.95	N	29.46	80	<0.5	<0.5	<0.5	<0.5	<0.5
	12/23/2014	52.41	18.91	N	33.50	140	<0.5	0.7	1.8	<0.5	<0.5
	3/20/2015	52.41	20.76	N	31.65	380	<0.5	0.8	0.86	<0.5	<0.5
	6/4/2015	52.41	21.3	N	31.11	700	<0.5	<0.5	0.72	<0.5	<0.5
	<b>9/11/2015</b>	<b>52.41</b>	<b>21.95</b>	<b>N</b>	<b>30.46</b>	<b>1,900</b>	<b>&lt;1.0</b>	<b>&lt;1.0</b>	<b>2.3</b>	<b>&lt;1.0</b>	<b>&lt;1.0</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	



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MW-3 cont.	2/9/2006	53.91	21.12	-	32.79	44,500	5,070	1360	1,920	4,840	3,280
	5/9/2006	53.91	21.09	-	32.82	48,100	2,510	1,140	1,950	5,030	2,210
	8/10/2006	53.91	22.26	-	31.65	42,100	3,450	869	1,760	5,650	3,570
	10/26/2006	53.91	22.73	-	31.18	33,400	4,800	331	1,170	3,510	4,790
	1/25/2007	53.91	22.34	-	31.57	19,300	4,820	167	1,540	3,740	3,430
	4/26/2007	53.91	22.24	-	31.67	30,700	2,350	158	1,470	4,320	1,330
	7/25/2007	53.91	22.83	-	31.08	34,900	5,400	364	2,080	6,360	1,980
	10/23/2007	53.91	23.01	-	30.9	22,600	4,070	<86	1,120	3,095	970
	1/22/2008	53.96	22.04	-	31.92	22,100	1,280	453	1,330	3,520	490
	4/16/2008	53.91	22.4	-	31.51	20,700	2,790	182	860	3,389	263
	7/3/2008	53.91	22.9	-	31.01	48,500	3,760	346	3,130	12,980	573
	10/16/2008	53.91	23.36	-	30.55	50,000	3,900	300	3,100	11,000	460
	1/8/2009	53.91	22.82	-	31.09	54,000	2,600	180	2,500	8,800	220
	4/13/2009	53.91	22.06	-	31.85	49,000	2,900	170	2,100	8,100	490
	8/27/2009	53.91	23.11	-	30.80	43,000	2,500	160	1,900	7,000	210
	12/2/2009	53.91	23.00	-	30.91	30,000	2,100	180	1,600	5,600	91
	3/17/2010	53.91	21.90	-	32.01	24,000	970	81	1,100	3,700	38
	6/3/2010	53.91	22.49	-	31.42	31,000	1,200	110	1,300	4,400	34
	9/2/2010	53.91	22.76	-	31.15	26,000	1,100	81	1,200	3,810	26
	12/2/2010	53.91	22.86	-	31.05	18,000	830	47	780	2,360	14
3/4/2011	53.91	21.44	N	32.47	18,000	410	32	850	2,480	16	
5/20/2011	53.91	22.36	N	31.55	12,000	710	24	620	1,460	11	
9/9/2011	53.91	22.44	N	31.47	11,000	1,100	26	580	1,430	7.8	
12/2/2011	53.91	21.60	N	32.31	5,100 <sup>x</sup>	280	12	370	740	<1.7	

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Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Free-Product (feet)/ Sheen (Y/N)	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.	3/2/2012	53.91	22.39	N	31.52	13,000	440	23	690	1,570	<5.0
	6/7/2012	53.91	22.50	N	31.41	9,000	290	9.3	520	900	<5.0
	9/21/2012	53.91	23.17	N	30.74	12,000	710	26	630	1,230	8.2
	12/14/2012	53.91	22.32	Y	31.59	8,500	350	8.7	550	1,003	<5
	3/28/2013	53.91	22.69	Y	31.22	9,300	790	8.2	760	974	8.7
	6/11/2013	53.91	23.06	Y	30.85	14,000	700	26	860	1,630	6.1
	9/17/2013	53.91	23.41	Y	30.50	28,000	570	37	1,800	3,560	<10
	12/6/2013	53.91	23.76	Y	30.15	23,000	360	26	1,700	3,330	<10
	3/12/2014	53.91	23.13	22.98	30.88	FP	FP	FP	FP	FP	FP
	6/5/2014	53.91	23.08	23.06	30.84	FP	FP	FP	FP	FP	FP
	9/23/2014	53.91	24.16	Y	29.75	41,000	230	84	1,000	4,500	<10
	12/23/2014	53.91	20.83	N	33.08	13,000	64	28	250	1,250	<3.6
	3/20/2015	53.91	22.32	Y	31.59	18,000	140	24	730	1,870	<3.6
	6/4/2015	53.91	22.77	Y	31.14	32,000	200	17	680	1,820	<6.3
	<b>9/11/2015</b>	<b>53.91</b>	<b>23.31</b>	<b>Y</b>	<b>30.60</b>	<b>24,000</b>	<b>260</b>	<b>&lt;6.3</b>	<b>380</b>	<b>1,144</b>	<b>&lt;6.3</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
	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	

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Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Free-Product (feet)/ Sheen (Y/N)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B <sup>2</sup> (µg/L)
MW-4 cont.	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
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	

**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)	Free-Product (feet)/ Sheen (Y/N)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B <sup>2</sup> (µg/L)
MW-4 cont.	3/3/2011	53.31	20.64	N	32.67	2,400	28	<0.71	28	17	3
	5/19/2011	53.31	21.84	N	31.47	1,800	27	<0.5	29	11.2	4.8
	9/8/2011	53.31	22.11	N	31.20	3,600	300	2.6	270	68.5	59
	12/1/2011	53.31	21.38	N	31.93	1,400 <sup>x</sup>	370	<0.84	110	30.6	110
	3/2/2012	53.31	22.02	N	31.29	3,100	780	<2.0	150	59.6	50
	6/7/2012	53.31	22.24	N	31.07	2,000	290	<2.5	66	23	29
	9/21/2012	53.31	22.87	N	30.44	2,900	820	<2.5	75	17	72
	12/14/2012	53.31	21.84	N	31.47	840	48	<0.5	14	4.5	2.5
	3/28/2013	53.31	22.24	N	31.07	790	650	<5.0	26	<5.0	15
	6/11/2013	53.31	22.71	N	30.60	1,100	860	<5.0	64	<5.0	35
	9/17/2013	53.31	23.23	N	30.08	<1,000	1,300	<10	22	<10	44
	12/6/2013	53.31	23.6	N	29.71	2,300	3,300	<10	78	199	42
	3/13/2014	53.31	22.6	N	30.71	<630	600	<6.3	7.0	21	6.8
	6/6/2014	53.31	22.97	N	30.34	<630	710	<6.3	21	<6.3	17.0
	9/23/2014	53.31	24.22	N	29.09	<630	1,100	<6.3	10	6.6	7.5
	12/23/2014	53.31	19.78	N	33.53	<50	0.95	<0.5	<0.5	<0.5	<0.5
3/20/2015	53.31	21.75	N	31.56	56	1.8	<0.5	2.00	<0.5	8.7	
6/4/2015	53.31	22.29	N	31.02	210	35	<0.5	4.10	0.54	12	
	<b>9/11/2015</b>	<b>53.31</b>	<b>23.02</b>	<b>N</b>	<b>30.29</b>	<b>1,200</b>	<b>140</b>	<b>1.1</b>	<b>7.30</b>	<b>19</b>	<b>39</b>
MW-5	5/10/2002	47.79	19.02	-	28.77	25,000	1,000	1200	1,100	3,060	1,800
	8/8/2002	47.79	19.80	-	27.99	18,000	1,000	660	950	1,720	1,500
	11/8/2002	47.79	20.14	-	27.65	16,000	1,300	380	930	1,550	1,200
	2/21/2003	47.79	18.70	-	29.09	12,000	390	71	770	1,100	860
	5/28/2003	47.79	18.52	-	29.27	9,100	210	31	560	790	600
	8/12/2003	47.79	19.54	-	28.25	12,000	660	75	660	1,110	1,000
	10/9/2003	47.79	20.06	-	27.73	15,000	1,000	130	1,000	1,430	1,700

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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)	Free-Product (feet)/ Sheen (Y/N)	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.	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
	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	

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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)	Free-Product (feet)/ Sheen (Y/N)	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.	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
Pre-MPE	3/4/2011	50.53	18.00	N	32.53	2,600	18	0.62	54	18.1	3
	5/20/2011	50.53	19.18	N	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	N	31.12	4,200	120	2.8	140	61.1	22
	12/2/2011	50.53	18.59	N	31.94	6,900 <sup>x</sup>	96	12	220	104	32
	3/2/2012	50.53	19.30	N	31.23	5,400	43	1.8	110	85	7
	6/7/2012	50.53	19.45	N	31.08	3,700	32	<1.0	100	59	4.4
	9/21/2012	50.53	20.17	N	30.36	3,900	68	1.5	140	88.5	9.8
	12/14/2012	50.53	19.12	N	31.41	3,100	48	6.7	100	62.3	5.2
	3/28/2013	50.53	19.47	N	31.06	1,900	30	<1.0	59	48.4	4.5
	6/11/2013	50.53	20.03	N	30.50	2,900	22	3.9	110	131	3.0
	9/17/2013	50.53	20.54	N	29.99	4,200	55	7.9	180	229	5.2
	12/6/2013	50.53	20.86	N	29.67	3,600	35	2.1	160	241	2.5
	3/13/2014	50.53	19.91	N	30.62	2,100	23	<1.0	130	73	1.4
	6/6/2014	50.53	20.27	N	30.26	1,700	8.2	0.56	63	40.2	0.75
	9/23/2014	50.53	21.61	N	28.92	1,700	38	0.52	45	29.8	1.60
12/23/2014	50.53	17.12	N	33.41	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
3/20/2015	50.53	18.91	N	31.62	130	<0.5	<0.5	4.5	3.4	<0.5	
6/4/2015	50.53	19.49	N	31.04	340	0.7	<0.5	4	3.7	<0.5	
	<b>9/11/2015</b>	<b>50.53</b>	<b>20.29</b>	<b>N</b>	<b>30.24</b>	<b>1,300</b>	<b>3.1</b>	<b>&lt;0.5</b>	<b>13</b>	<b>13</b>	<b>&lt;0.5</b>
<b>MW-6</b>	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

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MW-6 cont.	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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Monitoring Well	Date	Casing Elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Free-Product (feet)/ Sheen (Y/N)	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	Y	31.47	7,000	18	<2.5	97	237	11
	5/20/2011	45.82	14.95	Y	30.87	14,000	14	<2.5	300	823	7.2
	9/8/2011	45.82	16.14	Y	29.68	23,000	28	<2.5	360	812	3.4
	12/1/2011	45.82	16.17	16.15	29.66	FP	FP	FP	FP	FP	FP
	3/2/2012	45.82	16.11	Y	29.71	14,000	23	<4.2	400	694.4	<4.2
	6/6/2012	45.82	16.31	Y	29.51	9,200	12	<1.7	210	320	<1.7
	9/20/2012*	45.82	17.36	17.32	28.49	FP	FP	FP	FP	FP	FP
	12/13/2012	45.82	15.46	Y	30.36	13,000	22	<0.71	83	62.8	5.1
	3/27/2013	45.82	16.3	Y	29.52	7,400	27	<1.3	190	221.8	<1.3
	6/10/2013	45.82	17.37	Y	28.45	12,000	20	<2.5	280	230	<2.5
	9/16/2013	45.82	18.11	18.06	27.74	FP	FP	FP	FP	FP	FP
	12/5/2013	45.82	18.75	Y	27.07	18,000	220	330	460	2,030	6.1
	3/12/2014	45.82	17	Y	28.82	8,900	42	5.4	290	760	<2.5
	6/5/2014	45.82	18.15	Y	27.67	9,600	29	<2.5	370	295	<2.5
	9/22/2014	45.82	19.33	Y	26.49	31,000	140	140	1,600	3,590	4.3
	12/22/2014	45.82	13.43	Y	32.39	2,700	20	<0.5	70	55.4	0.63
	3/19/2015	45.82	16.1	N	29.72	2,900	8.2	<0.5	48	3.6	<0.5
6/3/2015	45.82	17.21	N	28.61	4,600	13	<0.5	53	3.4	<0.5	
9/10/2015	45.82	18.25	N	27.57	4,200	8.8	<5.0	27	<5.0	<5.0	
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



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MW-7 cont.	2/9/2006	44.74	NM	-	NM	NA	NA	NA	NA	NA	NA
	5/9/2006	44.74	12.02	-	32.72	1,400	<0.5	<2.0	19.8	12.4	2.30
	8/10/2006	44.74	13.72	-	31.02	604	<0.50	<2.0	6.2	4.63	1.42
	10/26/2006	44.74	14.38	-	30.36	1350	<0.50	<2.0	16.6	10.8	1.87
	1/25/2007	44.74	13.93	-	30.81	340	<0.5	<2.0	6.84	2.44	1.63
	4/26/2007	44.74	14.44	-	30.30	552	<0.5	<2.0	11.4	6.11	4.12
	7/25/2007	44.74	14.79	-	29.95	1,230	<0.5	<2.0	27	19.24	3.2
	10/23/2007	44.74	14.88	-	29.86	1,730	0.67	<2.0	20.7	17.31	8.44
	1/21/2008	44.74	13.34	-	31.40	610	1.15	<2.0	8.4	4.34	17.2
	4/15/2008	44.74	13.91	-	30.83	1,460	<0.5	<2.0	15.9	19.7	17.3
	7/2/2008	44.74	14.87	-	29.87	1,450	<0.5	<2.0	11	6.8	22.1
	10/15/2008	44.74	15.68	-	29.06	1,900 <sup>Y</sup>	0.56	1.2	27	39.5	55
	1/7/2009	44.74	14.72	-	30.02	2,700	1.2	2.9	11	25	39
	4/13/2009	44.74	13.54	-	31.20	2,300 <sup>Y</sup>	<0.5	<0.5	15	6.3	63
	8/26/2009	44.74	15.84	-	28.90	2,700 <sup>Y</sup>	<0.5	<0.5	48	53	140
	12/1/2009	44.74	15.03	-	29.71	1,800 <sup>Y</sup>	<0.5	<0.5	22	15	120
	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	
12/13/2012	44.74	13.34	-	31.40	1,100	<0.5	<0.5	0.99	<0.5	3.4	

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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)	Free-Product (feet)/ Sheen (Y/N)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B <sup>2</sup> (µg/L)
MW-7 cont.	3/27/2013	44.74	14.30	N	30.44	680	<0.5	<0.5	1.8	<0.5	4.2
	6/10/2013	44.74	15.06	N	29.68	890	<0.5	<0.5	2.6	<0.5	2.3
	9/16/2013	44.74	15.78	N	28.96	1,400	<0.5	<0.5	7.9	2.7	4.1
	12/5/2013	44.74	16.21	N	28.53	1,800	<0.5	<0.5	8	3.1	5.7
	3/12/2014	44.74	14.56	N	30.18	920	<0.5	<0.5	3.7	1.5	4.6
	6/5/2014	44.74	15.18	N	29.56	1,600	<0.5	<0.5	11	3.0	5.7
	9/22/2014	44.74	16.63	N	28.11	1,900	<0.5	<0.5	9.6	3.5	5.3
	12/22/2014	44.74	11.37	N	33.37	320	<0.5	<0.5	2.2	2.3	1.7
	3/19/2015	44.74	13.82	N	30.92	1,400	<0.5	<0.5	4.6	2.0	4.7
	6/3/2015	44.74	14.53	N	30.21	2,000	<0.5	<0.5	12	5.4	4.4
	<b>9/10/2015</b>	<b>44.74</b>	<b>15.62</b>	<b>N</b>	<b>29.12</b>	<b>2,200</b>	<b>&lt;1.7</b>	<b>&lt;1.7</b>	<b>9.9</b>	<b>1.7</b>	<b>4.0</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
	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	

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MW-8 cont.	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
	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	

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MW-9 cont.	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>											
MW-10	9/22/2014	44.66	17.84	N	26.82	23,000	<10	<10	1200	2,610	<10
	12/22/2014	44.66	12.33	N	32.33	6,000	<2.5	<2.5	390	802	<2.5
	3/19/2015	44.66	15.01	N	29.65	3,500	<1.0	<1.0	130	279	<1.0
	6/3/2015	44.66	15.81	N	28.85	24,000	<5.0	<5.0	870	1,358	<5.0
	<b>9/10/2015</b>	<b>44.66</b>	<b>17.03</b>	<b>N</b>	<b>27.63</b>	<b>28,000</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>1,200</b>	<b>2,173</b>	<b>&lt;10</b>
MW-11	9/22/2014	42.45	15.52	N	26.93	2,100	<0.5	<0.5	2.7	4.5	<0.5
	12/22/2014	42.45	10.08	N	32.37	310	<0.5	<0.5	1.8	2.7	<0.5
	3/19/2015	42.45	12.77	N	29.68	870	<0.5	<0.5	1.4	2.2	<0.5
	6/3/2015	42.45	13.5	N	28.95	330	<0.5	<0.5	2.0	3.1	<0.5
	<b>9/10/2015</b>	<b>42.45</b>	<b>14.79</b>	<b>N</b>	<b>27.66</b>	<b>78</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>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	N	32.4	530	51	0.94	15	31.3	110
	5/19/2011	47.36	16.12	N	31.24	370	42	<0.71	7.6	17.2	110
	9/8/2011	47.36	16.47	N	30.89	110	5	<0.5	2.2	6.4	12
12/1/2011	47.36	16.1	N	31.26	780 <sup>x</sup>	91	3	29	85	150	

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EX-1 cont.	3/2/2012	47.36	16.35	N	31.01	140	6	<0.5	3.5	8	14
	6/6/2012	47.36	24.76	N	22.6	250	22	<0.5	4.7	20	71
	9/20/2012	47.36	17.26	N	30.1	95	24	<0.5	<0.5	2.61	36
	12/13/2012	47.36	16.55	N	30.81	1,000	73	2.3	47	110	48
	3/27/2013	47.36	16.15	N	31.21	69	4.1	<0.5	3.3	10	1.8
	6/10/2013	47.36	24.25	N	23.11	340	37	<0.5	5.9	15.1	62
	9/16/2013	47.36	22.54	N	24.82	97	14	<0.5	<0.5	<0.5	65
	12/5/2013	47.36	22.53	N	24.83	390	42	2.5	9.8	32.6	76
	3/12/2014	47.36	21.15	N	26.21	250	12	<0.5	4.7	17.2	40
	6/5/2014	47.36	21.31	N	26.05	1,700	70	11	92	208	40
	9/22/2014	47.36	21.15	N	26.21	1,500	23	1.3	73	161	51
	12/22/2014	47.36	19.74	N	27.62	530	8.6	<0.5	3.2	29.3	11
	3/19/2015	47.36	15.59	N	31.77	<50	1.2	<0.5	<0.5	1.0	<0.5
	6/3/2015	47.36	22.89	N	24.47	770	31	<0.5	8.2	17.1	22
	<b>9/10/2015</b>	<b>47.36</b>	<b>22.57</b>	<b>N</b>	<b>24.79</b>	<b>&lt;50</b>	<b>0.66</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>1.53</b>	<b>&lt;0.5</b>
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
	3/3/2011	45.96	14.61	N	31.35	8,600	340	52	460	1,350	13
	5/19/2011	45.96	15.08	N	30.88	7,500	260	65	390	1,080	11
	9/8/2011	45.96	16.34	N	29.62	3,400	190	28	160	451	5.4
	12/1/2011	45.96	22.60	N	23.36	9,900 <sup>x</sup>	630	200	690	1,760	<3.3
	3/2/2012	45.96	16.48	N	29.48	5,000	220	25	200	600	7.1
	6/6/2012	45.96	18.90	N	27.06	6,900	290	97	310	790	5.2
	9/20/2012	45.96	17.49	N	28.47	1,800	170	14	62	204	5.0
	12/13/2012	45.96	15.96	N	30	7,300	490	180	610	1,290	5.2

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EX-2 cont.	3/27/2013	45.96	16.59	N	29.37	2,200	130	9.6	100	288	4.3
	6/10/2013	45.96	23.11	N	22.85	2,600	190	20	100	248	6.8
	9/20/2013	45.96	23.11	N	22.85	3,900	210	37	170	450	6.3
	12/5/2013	45.96	23.28	N	22.68	3,700	160	46	110	394	7.2
	3/12/2014	45.96	22.04	N	23.92	3,700	100	9.8	220	498	5.7
	6/5/2014	45.96	23.41	N	22.55	4,400	120	37	280	590	5.4
	9/22/2014	45.96	23.20	N	22.76	2,200	63	8.8	88	240	7.1
	12/22/2014	45.96	20.22	N	25.74	1,600	42	4.2	94	148	6.0
	3/19/2015	45.96	16.46	N	29.50	890	42	<0.5	54	10.5	<0.5
	6/3/2015	45.96	21.06	N	24.90	4,700	100	8.7	120	311	1.9
	<b>9/10/2015</b>	<b>45.96</b>	<b>21.15</b>	<b>N</b>	<b>24.81</b>	<b>670</b>	<b>8.1</b>	<b>&lt;1.0</b>	<b>13</b>	<b>27.4</b>	<b>&lt;1.0</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	Y	31.02	62,000	6,300	3,700	1,800	9,400	1,200
	12/2/2011	51.96	20.14	Y	31.82	56,000	9,000	7,700	2,200	10,800	2,600
	3/2/2012	51.96	20.73	Y	31.23	97,000	11,000	11,000	2,600	12,600	2,700
	6/6/2012	51.96	20.96	Y	31.00	78,000	4,500	4,900	2,300	10,700	750
	9/20/2012	51.96	21.58	Y	30.38	89,000	8,600	9,200	3,400	14,800	1,900
	12/14/2012	51.96	20.57	Y	31.39	98,000	7,400	9,600	2,900	13,300	1,300

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MPE-1 cont.	3/27/2013	51.96	20.91	Y	31.05	61,000	6,600	4,500	2,200	9,400	1,500	
	6/10/2013	51.96	21.47	Y	30.49	42,000	1,900	980	630	4,400	670	
	9/17/2013	51.96	21.98	Y	29.98	45,000	2,400	1,400	1,200	8,000	150	
	12/6/2013	51.96	22.41	Y	29.55	27,000	1,600	220	990	5,000	110	
	3/13/2014	51.96	21.33	Y	30.63	67,000	1,800	3,500	1,800	10,100	170	
	6/5/2014	51.96	21.89	21.8	30.13	FP	FP	FP	FP	FP	FP	
	9/23/2014	51.96	23.12	Y	28.84	12,000	380	31	100	1,630	39	
	12/23/2014	51.96	18.3	Y	33.66	3,100	23	24	23	220	<1.0	
	3/20/2015	51.96	20.14	Y	31.82	9,700	58	43	77	1,000	<2.5	
	6/4/2015	51.96	21.00	Y	30.96	14,000	110	49	66	620	10	
	<b>9/11/2015</b>	<b>51.96</b>	<b>21.77</b>	<b>Y</b>	<b>30.19</b>	<b>9,600</b>	<b>590</b>	<b>150</b>	<b>83</b>	<b>590</b>	<b>50</b>	
MPE-2	12/1/2009	53.72	22.87	-	30.85	NA	NA	NA	NA	NA	NA	
	3/16/2010	53.72	21.7	-	32.02	NA	NA	NA	NA	NA	NA	
	6/3/2010	53.72	22.35	-	31.37	NA	NA	NA	NA	NA	NA	
	9/1/2010	53.72	23.7	-	30.02	NA	NA	NA	NA	NA	NA	
	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	N	31.34	37,000	1,800	33	1,700	2,760	<17
		12/2/2011	53.72	21.44	N	32.28	26,000	1,600	43	1,800	3,370	<17
		3/2/2012	53.72	22.24	N	31.48	36,000	1,100	19	1,700	2,970	<17
		6/7/2012	53.72	22.35	N	31.37	33,000	1,800	27	1,600	2,700	29
		9/21/2012	53.72	23.03	N	30.69	31,000	1,700	13	1,900	2,747	14
		12/14/2012	53.72	22.17	N	31.55	31,000	1,700	20	1,800	2,490	16

**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)	Free-Product (feet)/ Sheen (Y/N)	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.	3/28/2013	53.72	22.53	N	31.19	20,000	2,200	<20	1,300	960	<20
	6/11/2013	53.72	22.9	N	30.82	26,000	920	<13	1,500	1,352	<13
	9/17/2013	53.72	23.29	N	30.43	23,000	680	15	1,400	1,059	<13
	12/5/2013	53.72	23.73	23.61	30.07	FP	FP	FP	FP	FP	FP
	3/12/2014	53.72	22.89	22.85	30.86	FP	FP	FP	FP	FP	FP
	6/5/2014	53.72	22.96	22.94	30.77	FP	FP	FP	FP	FP	FP
	9/23/2014	53.72	24.05	Y	29.67	22,000	550	340	760	2,760	<6.3
	12/23/2014	53.72	20.65	N	33.07	12,000	430	77	420	1,670	4.6
	3/20/2015	53.72	22.16	Y	31.56	14,000	670	21	630	1,150	6.9
	6/4/2015	53.72	22.6	Y	31.12	27,000	730	6.5	930	1,343	6.9
	<b>9/11/2015</b>	<b>53.72</b>	<b>23.15</b>	<b>Y</b>	<b>30.57</b>	<b>21,000</b>	<b>1,000</b>	<b>&lt;7.1</b>	<b>1,200</b>	<b>760</b>	<b>9.3</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
	3/3/2011	54.42	22.27	N	32.15	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	5/19/2011	54.42	22.89	N	31.53	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	9/8/2011	54.42	23.08	N	31.34	220	<0.5	<0.5	0.6	1.4	<0.5
12/1/2011	54.42	22.26	N	32.16	<22	<0.33	<0.19	<0.15	<0.20	<0.38	



**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)	Free-Product (feet)/ Sheen (Y/N)	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.	3/2/2012	54.42	23.01	N	31.41	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	6/6/2012	54.42	23.18	N	31.24	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	9/20/2012	54.42	23.76	N	30.66	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	12/13/2012	54.42	23.04	N	31.38	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	3/27/2013	54.42	23.34	N	31.08	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	6/10/2013	54.42	23.69	N	30.73	110	<0.5	<0.5	0.55	<0.5	<0.5
	9/16/2013	54.42	24.02	N	30.40	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	12/5/2013	54.42	24.31	N	30.11	<50	<0.5	<0.5	<0.5	1.3	<0.5
	3/12/2014	54.42	23.68	N	30.74	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	6/5/2014	54.42	23.68	N	30.74	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	9/22/2014	54.42	24.65	N	29.77	<50	<0.5	<0.5	<0.5	0.88	<0.5
	12/23/2014	54.42	21.84	N	32.58	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	3/19/2015	54.42	23.04	N	31.38	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	6/3/2015	54.42	23.43	N	30.99	<50	<0.5	<0.5	<0.5	<0.5	<0.5
<b>9/10/2015</b>	<b>54.42</b>	<b>23.91</b>	<b>N</b>	<b>30.51</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

**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)	Free-Product (feet)/ Sheen (Y/N)	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.	3/3/2011	54.10	21.66	N	32.44	<50	1.3	<0.5	<0.5	0.59	14
	5/19/2011	54.10	22.61	N	31.49	<50	<0.5	<0.5	<0.5	<0.5	5.2
	9/8/2011	54.10	22.68	N	31.42	69	<0.5	<0.5	<0.5	0.62	4.8
	12/1/2011	54.10	22.86	N	31.24	<22	<0.33	<0.19	<0.15	<0.20	10
	3/2/2012	54.10	22.60	N	31.50	<50	<0.5	<0.5	<0.5	<0.5	4.2
	6/6/2012	54.10	22.77	N	31.33	<50	<0.5	<0.5	<0.5	<0.5	4.8
	9/20/2012	54.10	23.42	N	30.68	<50	<0.5	<0.5	<0.5	<0.5	5.1
	12/13/2012	54.10	22.57	N	31.53	<50	<0.5	<0.5	<0.5	<0.5	4.4
	3/27/2013	54.10	22.87	N	31.23	<50	<0.5	<0.5	<0.5	<0.5	4.4
	6/10/2013	54.10	23.27	N	30.83	<50	<0.5	<0.5	<0.5	<0.5	3.5
	9/16/2013	54.10	23.65	N	30.45	<50	<0.5	<0.5	<0.5	<0.5	2.1
	12/5/2013	54.10	23.97	N	30.13	<50	<0.5	<0.5	<0.5	0.53	1.6
	3/13/2014	54.10	23.22	N	30.88	130	<0.5	2.9	2.5	16.6	0.97
	6/5/2014	54.10	23.33	N	30.77	<50	<0.5	<0.5	<0.5	0.77	1.5
	9/22/2014	54.10	24.40	N	29.70	<50	<0.5	<0.5	<0.5	<0.5	0.96
	12/23/2014	54.10	21.09	N	33.01	<50	<0.5	<0.5	<0.5	<0.5	1
3/19/2015	54.10	22.50	N	31.60	<50	<0.5	<0.5	<0.5	<0.5	1.6	
6/3/2015	54.10	22.85	N	31.25	<50	<0.5	<0.5	<0.5	<0.5	1.6	
	<b>9/10/2015</b>	<b>54.10</b>	<b>23.53</b>	<b>N</b>	<b>30.57</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>1.4</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

**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)	Free-Product (feet)/ Sheen (Y/N)	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-4D cont.	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	N	32.67	<50	<0.5	<0.5	<0.5	<0.5	0.58
	5/19/2011	53.12	21.57	N	31.55	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	9/8/2011	53.12	21.92	N	31.20	59	<0.5	<0.5	<0.5	0.51	1.7
	12/1/2011	53.12	21.19	N	31.93	<22	<0.33	<0.19	<0.15	<0.20	4.2
	3/2/2012	53.12	21.8	N	31.32	<50	<0.5	<0.5	0.85	1.2	2.7
	6/6/2012	53.12	22.00	N	31.12	<50	<0.5	<0.5	<0.5	<0.5	1.3
	9/20/2012	53.12	22.67	N	30.45	<50	<0.5	<0.5	<0.5	<0.5	1.6
	12/13/2012	53.12	21.55	N	31.57	<50	<0.5	<0.5	<0.5	<0.5	0.94
	3/27/2013	53.12	21.98	N	31.14	<50	<0.5	<0.5	<0.5	<0.5	2.1
	6/10/2013	53.12	22.55	N	30.57	<50	<0.5	<0.5	<0.5	<0.5	1.7
	9/16/2013	53.12	23.05	N	30.07	<50	<0.5	<0.5	<0.5	<0.5	4.6
	12/6/2013	53.12	23.43	N	29.69	<50	<0.5	<0.5	<0.5	<0.5	3.4
	3/13/2014	53.12	22.38	N	30.74	<50	<0.5	<0.5	<0.5	<0.5	4.0
	6/6/2014	53.12	22.78	N	30.34	<50	<0.5	<0.5	<0.5	<0.5	1.8
	9/23/2014	53.12	24.05	N	29.07	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	12/23/2014	53.12	19.66	N	33.46	<50	<0.5	<0.5	<0.5	<0.5	<0.5
3/19/2015	53.12	21.54	N	31.58	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
6/3/2015	53.12	22.10	N	31.02	75	<0.5	<0.5	<0.5	<0.5	<0.5	
	<b>9/10/2015</b>	<b>53.12</b>	<b>22.89</b>	<b>N</b>	<b>30.23</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>
1573 153 RD	1/3/2008	NS	NM	-	NC	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	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

**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)	Free-Product (feet)/ Sheen (Y/N)	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

FP: Groundwater not sampled due to presence of free-product

Groundwater elevation corrected upon presence of FP as follows:

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
	3/11/2005	81	<0.5	<0.5	<2.0	NA	NA
	6/15/2005	<10	<0.5	<0.5	<2.0	NA	NA
	8/26/2005	68.9	<2.15	<2.15	<8.6	NA	NA
	11/11/2005	46	<2.15	<2.15	<8.6	NA	NA
	2/9/2006	11.3	<0.5	<0.5	<2.0	NA	NA
	5/9/2006	<10	<0.5	<0.5	<2.0	0.51	<0.5
	8/10/2006	<43	<2.15	<2.15	<8.60	3.37	<2.15
	10/26/2006	39.4	<1.0	<1.0	<4.0	2.92	<1.0
	1/25/2007	41.4	<0.5	<0.5	<2.0	1.36	<0.5
	4/26/2007	39.6	<0.5	<0.5	<2.0	<0.5	<0.5
	7/25/2007	46.5	<1.0	<1.0	<4.0	<1.0	<1.0
	10/23/2007	53.7	<0.5	<0.5	<2.0	<0.5	<0.5
	1/22/2008	23.8	<0.5	<0.5	2.16	<0.5	<0.5
	4/16/2008	8.36	<0.5	<0.5	<2.0	164	<0.5
	7/3/2008	30.5	<0.5	<0.5	<2.0	1.08	<0.5
	10/15/2008	<20	<1.0	<1.0	<1.0	<1.0	<1.0
	1/7/2009	<25	<1.3	<1.3	<1.3	<1.3	<1.3
	4/14/2009	15	<0.5	<0.5	<0.5	<0.5	<0.5
	8/27/2009	<40	<2.0	<2.0	<2.0	<2.0	<2.0
	12/2/2009	<40	<2.0	<2.0	<2.0	<2.0	<2.0
	3/17/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/3/2010	26	<0.5	<0.5	<0.5	<0.5	<0.5
	9/2/2010	<100	<5.0	<5.0	<5.0	<5.0	<5.0
	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	
3/28/2013	<50	<2.5	<2.5	<2.5	<2.5	<2.5	
6/11/2013	<50	<2.5	<2.5	<2.5	<2.5	<2.5	
9/17/2013	<50	<2.5	<2.5	<2.5	<2.5	<2.5	
12/6/2013	<33	<1.7	<1.7	<1.7	<1.7	<1.7	
3/13/2014	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
6/6/2014	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
9/23/2014	<33	<1.7	<1.7	<1.7	<1.7	<1.7	
12/23/2014	4.7 J	<0.5	<0.5	<0.5	<0.5	<0.5	
3/20/2015	11	<0.5	<0.5	<0.5	<0.5	<0.5	
6/4/2015	14 J	<0.71	<0.71	<0.71	<0.71	<0.71	
9/11/2015	<33	<1.7	<1.7	<1.7	<1.7	<1.7	
<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

**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.	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
	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
	3/28/2013	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/11/2013	150	<0.5	1.6	<0.5	<0.5	<0.5
	9/16/2013	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/6/2013	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	3/13/2014	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/6/2014	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	9/23/2014	<10	<0.5	<0.5	<0.5	<0.5	<0.5
12/23/2014	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
3/20/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
6/4/2015	<1.7	<0.5	<0.5	<0.5	<0.5	<0.5	
9/11/2015	<20	<1.0	<1.0	<1.0	<1.0	<1.0	
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

**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.	2/9/2006	<430	<21.5	<21.5	620	NA	NA
	5/9/2006	367	<10.8	<10.8	594	<10.8	<10.8
	8/10/2006	365	<10.8	<10.8	727	<10.8	<10.8
	10/26/2006	591	<10.8	<10.8	899	<10.8	<10.8
	1/25/2007	711	<10.8	<10.8	768	<10.8	<10.8
	4/26/2007	690	<10.8	<10.8	369	<10.8	<10.8
	7/25/2007	1,340	<10.8	<10.8	565	<10.8	<10.8
	10/23/2007	1,050	<21.5	<21.5	301	<21.5	<21.5
	1/22/2008	373	<10.8	<10.8	170	<0.5	<0.5
	4/16/2008	881	<5.50	<5.50	<22.0	1,850	12.1
	7/3/2008	426	<10.8	<10.8	124	<10.8	<10.8
	10/16/2008	<400	<20	<20	<20	<20	<20
	1/8/2009	<500	<25	<25	<25	<25	<25
	4/13/2009	<500	<25	<25	<25	<25	<25
	8/27/2009	<500	<25	<25	<25	<25	<25
	12/2/2009	270	<13	<13	<13	<13	<13
	3/17/2010	<250	<13	<13	<13	<13	<13
	6/3/2010	<250	<13	<13	<13	<13	<13
	9/2/2010	<250	<13	<13	<13	<13	<13
	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
	3/28/2013	<100	<5.0	<5.0	<5.0	<5.0	<5.0
	6/11/2013	<100	<5.0	<5.0	<5.0	<5.0	<5.0
	9/17/2013	<200	<10	<10	<10	<10	<10
	12/6/2013	<200	<10	<10	<10	<10	<10
	3/12/2014	FP	FP	FP	FP	FP	FP
6/5/2014	FP	FP	FP	FP	FP	FP	
9/23/2014	<200	<10	<10	<10	<10	<10	
12/23/2014	<71	<3.6	<3.6	<3.6	<3.6	<3.6	
3/20/2015	29 J	<3.6	<3.6	<3.6	<3.6	<3.6	
6/4/2015	<17	<6.3	<6.3	<6.3	<6.3	<6.3	
9/11/2015	<130	<6.3	<6.3	<6.3	<6.3	<6.3	
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	

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**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-4 cont.	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	
	3/28/2013	2,500	<5.0	29	<5.0	<5.0	<5.0	
	6/11/2013	890	<5.0	12	<5.0	<5.0	<5.0	
	9/17/2013	1,100	<10	<10	<10	<10	<10	
	12/6/2013	1,500	<10	<10	<10	<10	<10	
	3/13/2014	190	<6.3	<6.3	<6.3	<6.3	<6.3	
	6/6/2014	360	<6.3	<6.3	<6.3	<6.3	<6.3	
	9/23/2014	1,100	<6.3	6.3	<6.3	<6.3	<6.3	
	12/23/2014	8.1 J	<0.5	<0.5	<0.5	<0.5	<0.5	
	3/20/2015	29	<0.5	<0.5	<0.5	<0.5	<0.5	
	6/4/2015	62	<0.5	0.62	<0.5	<0.5	<0.5	
	9/11/2015	82	<1.0	<1.0	<1.0	<1.0	<1.0	
	MW-5	8/8/2002	<250	<6.3	<6.3	510	NA	NA
		11/1/2002	66	< 2.0	< 2.0	560	NA	NA
2/21/2003		<63	<3.1	<3.1	280	NA	NA	
5/28/2003		<33	<1.7	<1.7	110	NA	NA	
8/12/2003		130	<3.6	<3.6	270	NA	NA	
10/9/2003		<100	<5.0	<5.0	740	NA	NA	
1/15/2004		<63	<3.1	<3.1	300	NA	NA	
5/25/2004		<100	<5.0	<5.0	210	NA	NA	
9/21/2004		<130	<6.3	<6.3	550	NA	NA	
12/14/2004		40	<5.5	<5.5	444	NA	NA	
3/11/2005		88.8	<5.5	<5.5	448	NA	NA	
6/15/2005		<43	<2.15	<2.15	88.1	NA	NA	
8/26/2005		274	<5.50	<5.50	195	NA	NA	
11/11/2005		192	<5.50	<5.50	360	NA	NA	
2/9/2006		218	<5.50	<5.50	523	NA	NA	
5/9/2006		91.8	<2.15	<2.15	163	<2.15	<2.15	
8/10/2006		138	<5.50	<5.50	342	<5.50	<5.50	
10/26/2006		322	<5.50	<5.50	712	<5.50	<5.50	
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		



**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.  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
	3/28/2013	<20	<1.0	<1.0	<1.0	<1.0	<1.0
	6/11/2013	<20	<1.0	<1.0	2.5	<1.0	<1.0
	9/17/2013	20	<1.0	<1.0	5.7	<1.0	<1.0
	12/6/2013	<20	<1.0	<1.0	3.9	<1.0	<1.0
	3/13/2014	<20	<1.0	<1.0	2.2	<1.0	<1.0
	6/6/2014	<10	<0.5	<0.5	0.81	<0.5	<0.5
	9/23/2014	<10	<0.5	<0.5	<0.5	<0.5	<0.5
12/23/2014	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
3/20/2015	3.1 J	<0.5	<0.5	<0.5	<0.5	<0.5	
6/4/2015	<1.3	<0.5	<0.5	<0.5	<0.5	<0.5	
9/11/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
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
	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	
3/27/2013	<25	<1.3	<1.3	<1.3	<1.3	<1.3	
6/10/2013	<50	<2.5	<2.5	<2.5	<2.5	<2.5	
9/16/2013	FP	FP	FP	FP	FP	FP	
12/5/2013	270	<2.5	<2.5	<2.5	<2.5	<2.5	

**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)
MW-6 cont.	3/12/2014	<50	<2.5	<2.5	<2.5	<2.5	<2.5
	6/5/2014	<50	<2.5	<2.5	<2.5	<2.5	<2.5
	9/22/2014	160	<2.5	<2.5	<2.5	<2.5	<2.5
	12/22/2014	13 J	<0.5	<0.5	<0.5	<0.5	<0.5
	3/19/2015	4.1 J	<0.5	<0.5	<0.5	<0.5	<0.5
	6/3/2015	<1.3	<0.5	<0.5	<0.5	<0.5	<0.5
	9/10/2015	<100	<5.0	<5.0	<5.0	<5.0	<5.0
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	
3/27/2013	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
6/10/2013	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
9/16/2013	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
12/5/2013	<10	<0.5	<0.5	0.73	<0.5	<0.5	
3/12/2014	<10	<0.5	<0.5	0.64	<0.5	<0.5	
6/5/2014	<10	<0.5	<0.5	0.76	<0.5	<0.5	
9/22/2014	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
12/22/2014	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
3/19/2015	3.0 J	<0.5	<0.5	0.68	<0.5	<0.5	
6/3/2015	<1.3	<0.5	<0.5	<0.5	<0.5	<0.5	
9/10/2015	<33	<1.7	<1.7	<1.7	<1.7	<1.7	
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

**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-8 cont.	1/25/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5	
	4/26/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5	
	7/25/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5	
	10/23/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5	
	1/21/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5	
	4/15/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5	
	7/2/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5	
	10/15/2008	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
	1/7/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
	4/13/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
	8/27/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
	Well Decommissioned 11/13/2009							
	MW-9	9/21/2004	<10	<0.5	<0.5	<0.5	NA	NA
12/14/2004		<2.5	<0.5	<0.5	<2.0	NA	NA	
3/11/2005		<2.5	<0.5	<0.5	<2.0	NA	NA	
6/15/2005		<10	<0.5	<0.5	<2.0	NA	NA	
8/26/2005		<10	<0.5	<0.5	<2.0	NA	NA	
11/11/2005		<10	<0.5	<0.5	<2.0	NA	NA	
2/9/2006		<10	<0.5	<0.5	<2.0	NA	NA	
5/9/2006		<10	<0.5	<0.5	<2.0	2.8	<0.5	
8/10/2006		<10	<0.5	<0.5	<2.0	1.83	<0.5	
10/26/2006		<10	<0.5	<0.5	<2.0	3.07	<0.5	
1/25/2007		<2.0	<0.5	<0.5	<2.0	2.92	<0.5	
4/26/2007		<2.0	<0.5	<0.5	<2.0	<0.5	<0.5	
7/25/2007		<2.0	<0.5	<0.5	<2.0	<0.5	<0.5	
10/23/2007		<2.0	<0.5	<0.5	<2.0	<0.5	<0.5	
1/21/2008		<2.0	<0.5	<0.5	<2.0	1.18	<0.5	
4/15/2008		<2.0	<0.5	<0.5	<2.0	<0.5	<0.5	
7/2/2008		<2.0	<0.5	<0.5	<2.0	2.07	<0.5	
10/15/2008		<10	<0.5	<0.5	<0.5	1.5	<0.5	
1/7/2009		<10	<0.5	<0.5	<0.5	1.4	<0.5	
4/13/2009		<10	<0.5	<0.5	<0.5	0.97	<0.5	
8/26/2009	<10	<0.5	<0.5	<0.5	2.6	<0.5		
Well Decommissioned 11/13/2009								
MW-10	9/22/2014	<200	<10	<10	<10	<10	<10	
	12/22/2014	30 J	<2.5	<2.5	<2.5	<2.5	<2.5	
	3/19/2015	85	<1.0	<1.0	<1.0	<1.0	<1.0	
	6/3/2015	170 J	<5.0	<5.0	<5.0	<5.0	<5.0	
	9/10/2015	<200	<10	<10	<10	<10	<10	
MW-11	9/22/2014	69	<0.5	<0.5	<0.5	<0.5	<0.5	
	12/22/2014	15	<0.5	<0.5	<0.5	<0.5	<0.5	
	3/19/2015	3.5 J	<0.5	<0.5	<0.5	<0.5	<0.5	
	6/3/2015	<2.1	<0.5	<0.5	<0.5	<0.5	<0.5	
	9/10/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
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	

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**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)	
EX-1 cont.	3/27/2013	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
	6/10/2013	280	<0.5	4.0	1.6	<0.5	<0.5	
	9/16/2013	450	<0.5	2.4	1.9	<0.5	<0.5	
	12/5/2013	230	<0.5	1.7	5.5	<0.5	<0.5	
	3/12/2014	48	<0.5	0.77	3.1	<0.5	<0.5	
	6/5/2014	70	<0.5	1.1	3.9	0.69	<0.5	
	9/22/2014	96	<0.5	0.94	5.6	<0.5	<0.5	
	12/22/2014	91	<0.5	0.84	<0.5	<0.5	<0.5	
	3/19/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
	6/3/2015	35	<0.5	1.4	<0.5	<0.5	<0.5	
	9/10/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
	<b>MPE Wells</b>							
	EX-2	12/2/2009	<63	<3.1	<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	
3/27/2013		<20	<1.0	<1.0	<1.0	<1.0	<1.0	
6/10/2013		32	<1.0	<1.0	<1.0	<1.0	<1.0	
9/20/2013		<20	<1.0	<1.0	<1.0	1.4	<1.0	
12/5/2013		30	<1.0	<1.0	<1.0	1.2	<1.0	
3/12/2014		<40	<2.0	<2.0	<2.0	<2.0	<2.0	
6/5/2014		<40	<2.0	<2.0	<2.0	<2.0	<2.0	
9/22/2014	<10	<0.5	<0.5	<0.5	1.1	<0.5		
12/22/2014	37	<0.5	<0.5	<0.5	0.8	<0.5		
3/19/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5		
6/3/2015	17 J	<1.0	<1.0	<1.0	<1.0	<1.0		
9/10/2015	<20	<1.0	<1.0	<1.0	<1.0	<1.0		
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	
	3/27/2013	<710	<36	<36	890	<36	<36	
	6/10/2013	660	<13	<13	380	<13	<13	
	9/17/2013	1,400	<13	<13	<13	<13	<13	
	12/6/2013	1,500	<20	<20	30	<20	<20	
	3/13/2014	1,100	<20	<20	160	<20	<20	
	6/5/2014	FP	FP	FP	FP	FP	FP	
	9/23/2014	420	<3.6	3.7	24	<3.6	<3.6	
	12/23/2014	<20	<1.0	<1.0	<1.0	<1.0	<1.0	
3/20/2015	<50	<2.5	<2.5	<2.5	<2.5	<2.5		
6/4/2015	<13	<5.0	<5.0	9.2	<5.0	<5.0		
9/11/2015	<100	<5.0	<5.0	85	<5.0	<5.0		
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)	
MPE-2 cont.	3/28/2013	<400	<20	<20	<20	<20	<20	
	6/11/2013	<250	<13	<13	<13	<13	<13	
	9/17/2013	<250	<13	<13	<13	<13	<13	
	12/5/2013	FP	FP	FP	FP	FP	FP	
	3/12/2014	FP	FP	FP	FP	FP	FP	
	6/5/2014	FP	FP	FP	FP	FP	FP	
	9/23/2014	<130	<6.3	<6.3	<6.3	<6.3	<6.3	
	12/23/2014	23 J	<4.2	<4.2	<4.2	<4.2	<4.2	
	3/20/2015	57 J	<4.2	<4.2	5.2	<4.2	<4.2	
	6/4/2015	66 J	<5.0	<5.0	<5.0	<5.0	<5.0	
	9/11/2015	<140	<7.1	<7.1	<7.1	<7.1	<7.1	
	<b>2nd WBZ</b>							
	MW-1D	1/3/2008	111	<0.5	<0.5	<2.0	NA	NA
1/22/2008		12.9	<0.5	<0.5	<2.0	<0.5	<0.5	
4/16/2008		<2.0	<0.5	<0.5	<2.0	<0.5	<0.5	
7/3/2008		<2.0	<0.5	<0.5	<2.0	<0.5	<0.5	
10/15/2008		<10	<0.5	<0.5	<0.5	<0.5	<0.5	
1/8/2009		<10	<0.5	<0.5	<0.5	<0.5	<0.5	
4/14/2009		<10	<0.5	<0.5	<0.5	<0.5	<0.5	
8/26/2009		<10	<0.5	<0.5	<0.5	<0.5	<0.5	
12/1/2009		<10	<0.5	<0.5	<0.5	<0.5	<0.5	
3/16/2010		<10	<0.5	<0.5	<0.5	<0.5	<0.5	
6/4/2010		<10	<0.5	<0.5	<0.5	<0.5	<0.5	
9/1/2010		<10	<0.5	<0.5	<0.5	<0.5	<0.5	
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	
3/27/2013		<10	<0.5	<0.5	<0.5	<0.5	<0.5	
6/10/2013		<10	<0.5	<0.5	<0.5	<0.5	<0.5	
9/16/2013		<10	<0.5	<0.5	<0.5	<0.5	<0.5	
12/5/2013		<10	<0.5	<0.5	<0.5	<0.5	<0.5	
3/12/2014		<10	<0.5	<0.5	<0.5	<0.5	<0.5	
6/5/2014		<10	<0.5	<0.5	<0.5	<0.5	<0.5	
9/22/2014		<10	<0.5	<0.5	<0.5	<0.5	<0.5	
12/23/2014		<10	<0.5	<0.5	<0.5	<0.5	<0.5	
3/19/2015		<10	<0.5	<0.5	<0.5	<0.5	<0.5	
6/3/2015	<2.1	<0.5	<0.5	<0.5	<0.5	<0.5		
9/10/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5		
<b>MW-3D</b>								
MW-3D	1/3/2008	37.3	<0.5	3.12	15.3	NA	NA	
	1/22/2008	15.6	<0.5	3.1	15.3	<0.5	<0.5	
	4/16/2008	17.7	<0.5	<0.5	<2.0	<0.5	<0.5	
	7/3/2008	<2.0	<0.5	<0.5	7.45	<0.5	<0.5	
	10/16/2008	<10	<0.5	<0.5	4.7	<0.5	<0.5	
	1/8/2009	<10	<0.5	<0.5	3.4	<0.5	<0.5	
	4/14/2009	<10	<0.5	<0.5	5	<0.5	<0.5	
	8/26/2009	<10	<0.5	<0.5	1.6	<0.5	<0.5	
	12/1/2009	<10	<0.5	<0.5	2.2	<0.5	<0.5	
	3/16/2010	<10	<0.5	<0.5	0.65	<0.5	<0.5	
	6/4/2010	<10	<0.5	<0.5	1.8	<0.5	<0.5	
	9/1/2010	<10	<0.5	<0.5	<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	

**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-3D cont.	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
	3/27/2013	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/10/2013	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	9/16/2013	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/5/2013	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	3/13/2014	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/5/2014	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	9/22/2014	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/23/2014	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	3/19/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/3/2015	<2.1	<0.5	<0.5	<0.5	<0.5	<0.5
	9/10/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	MW-4D	1/4/2008	25	<0.5	<0.5	<2.0	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
3/27/2013		<10	<0.5	<0.5	<0.5	<0.5	<0.5
6/10/2013		<10	<0.5	<0.5	<0.5	<0.5	<0.5
9/16/2013		<10	<0.5	<0.5	<0.5	<0.5	<0.5
12/6/2013		<10	<0.5	<0.5	<0.5	<0.5	<0.5
3/13/2014		<10	<0.5	<0.5	<0.5	<0.5	<0.5
6/6/2014	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
9/23/2014	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
12/23/2014	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
3/19/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
6/3/2015	4.8 J	<0.5	<0.5	<0.5	<0.5	<0.5	
9/10/2015	<10	<0.5	<0.5	<0.5	<0.5	<0.5	
1573 153 RD	1/3/2008	21	<0.5	<0.5	<2.0	<0.5	<2.0
	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
ESL		12	NE	NE	NE	0.5	0.05

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

<b>Monitoring Well</b>	<b>Date</b>	<b>TBA (µg/L)</b>	<b>DIPE (µg/L)</b>	<b>ETBE (µg/L)</b>	<b>TAME (µg/L)</b>	<b>1,2-DCA (µg/L)</b>	<b>EDB (µg/L)</b>
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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  
FP: Groundwater not sampled due to presence of free-product in MW-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
<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**  
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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
4-Dec-2012	2,024,040	<50	<49	<290	<0.5	<0.5	<0.5	<0.5	NA	NA	6.86
<b>2013</b>											
7-Jan-2013	2,099,002	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	7.01
14-Feb-2013	2,186,595	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	7.08
14-Mar-2013	2,193,121	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.98
12-Apr-2013	2,198,793	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.83
10-Jun-2013	2,273,686	<50	<58	<350	<0.5	<0.5	<0.5	<0.5	NA	NA	6.91

**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
5-Jul-2013	2,282,444	<50	<49	<290	<0.5	<0.5	<0.5	<0.5	NA	NA	6.87
15-Aug-2013	2,403,250	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.64
24-Sep-2013	2,449,583	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.59
28-Oct-2013	2,551,538	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.71
14-Nov-2013	2,665,016	<50	<49	<290	<0.5	<0.5	<0.5	<0.5	NA	NA	6.53
6-Dec-2013	2,770,675	<50	<49	<290	<0.5	<0.5	<0.5	<0.5	NA	NA	6.44
<b>2014</b>											
9-Jan-2014	2,884,292	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.49
18-Feb-2014	2,953,173	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.66
14-Mar-2014	2,977,698	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.58
17-Apr-2014	3,035,679	89 Y	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.60
15-May-2014	3,054,723	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.19
16-Jun-2014	55-Gallon polishing drum replaced due to leak										
17-Jun-2014	3,070,826	<50	<49	<290	<0.5	<0.5	<0.5	<0.5	NA	NA	6.74
21-Jul-2014	3,136,493	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.92
13-Aug-2014	3,229,086	<50	<49	<290	<0.5	<0.5	<0.5	<0.5	NA	NA	6.50
9-Sep-2014	3,360,607	<50	<49	<290	<0.5	<0.5	<0.5	<0.5	NA	NA	6.44
13-Oct-2014	3,431,247	<50	<49	<290	<0.5	<0.5	<0.5	<0.5	NA	NA	6.39
18-Nov-2014	3,504,809	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.51
8-Dec-2014	3,544,218	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.65
<b>2015</b>											
13-Jan-2015	3,560,504	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.44
9-Feb-2015	3,560,780	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.22
20-Mar-2015	3,560,801	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.38
15-Apr-2015	3,575,395	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.4
21-May-2015	3,577,714	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.29
4-Jun-2015	3,580,407	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.66
14-Jul-2015	3,629,420	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.34
18-Aug-2015	3,672,646	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.21
<b>23-Sep-2015</b>	<b>3,708,165</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>&lt;300</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>NA</b>	<b>NA</b>	<b>6.32</b>

**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

Note:  
 NA: Not Available/Not Applicable  
 < : Less than Laboratory-reporting limit  
 Y: Sample exhibits chromatographic pattern which does not resemble standard  
 In October and November 2009 discharge occurred only during MPE events  
 GWETS and totalizer installed in December 2009.  
 Week # 1 sampling conducted on Oct 8, 2009  
 C: Presence confirmed, but RPD between column exceeds 40%  
 Volume discharged during the October 2009 MPE event was 18,669 gallons  
 Volume discharged during the November 2009 MPE event was 10,507 gallons  
 Volume discharged during the December 2009 MPE event was 20,298 gallons  
 Volume discharged during the February 2010 MPE event was 6,339 gallons  
 Volume discharged during the March 2010 MPE event was 3,810 gallons  
 Volume discharged during the June 2010 MPE event was 15,600 gallons  
 Volume discharged during the August 2010 MPE event was 1,421 gallons  
 Volume discharged during the October 2010 MPE event was 13,282 gallons  
 SOMA ceased COD and TSS testing based on a request from OLSA 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
23-Oct-2012	1,989,022	1,400 <sup>Y</sup>	130	12	42	153	20.25	0.93	0.22	0.42	3.01
<b>2013</b>											
7-Jan-2013	2,099,002	1,500	66	9.8	37	228	21.63	0.99	0.23	0.46	3.22
12-Apr-2013	2,198,793	1,600	110	3.8	64	131	22.96	1.08	0.24	0.51	3.32
5-Jul-2013	2,282,444	680	71	1.8	22	33.9	23.43	1.13	0.24	0.52	3.35
28-Oct-2013	2,551,538	4,900	88	49	150	583	34.41	1.33	0.35	0.86	4.65
<b>2014</b>											
9-Jan-2014	2,884,292	590	17	4.1	9.1	68	36.04	1.38	0.36	0.89	4.84
17-Apr-2014	3,035,679	650	19	0.67	16	50.1	36.86	1.40	0.36	0.91	4.91
21-Jul-2014	3,136,493	1,000	54	1.70	35	71.1	37.70	1.45	0.36	0.94	4.97
13-Oct-2014	3,431,247	370	6.50	0.75	6.30	41	38.61	1.46	0.36	0.95	5.07
<b>2015</b>											
13-Jan-2015	3,560,504	550	21	<0.5	23	19	39.20	1.48	0.36	0.98	5.09
15-Apr-2015	3,575,395	1,300	46	3.30	52	136	39.36	1.49	0.36	0.98	5.10
<b>14-Jul-2015</b>	<b>3,629,420</b>	<b>1,000</b>	<b>31</b>	<b>4.90</b>	<b>24</b>	<b>94</b>	<b>39.81</b>	<b>1.50</b>	<b>0.37</b>	<b>0.99</b>	<b>5.15</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 and Free-Product 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.

For free-product (FP) measurement, an oil-water interface probe is used. When the probe is lowered into the FP, the oil/water light and beeper are continuously on at which point a reading for depth to FP is noted. The probe is lowered further into the well until the water signal is given (light flashes and beeps intermittently). Then the probe is carefully raised until the FP signal is given and the reading is noted. This gives the depth to interface of product and water.

## **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.

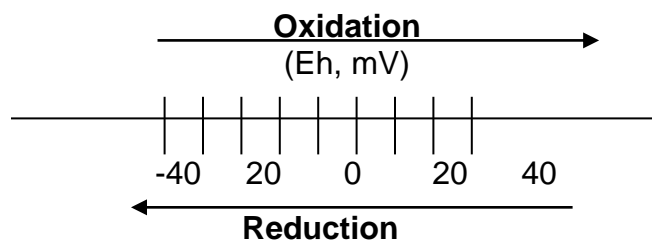
The pH of groundwater has an effect on the activity of microbial populations in the groundwater. The groundwater temperature affects the metabolic activity of bacteria. The groundwater EC is directly related to the concentration of total dissolved solids (TDS) in solution.

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 (Fe<sup>+2</sup>), nitrate (NO<sub>3</sub><sup>-</sup>), and sulfate (SO<sub>4</sub><sup>-2</sup>) concentrations.

Fe<sup>+2</sup>, NO<sub>3</sub><sup>-</sup>, and SO<sub>4</sub><sup>-2</sup> 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



DATE: 9/27/2014  
JOB#

**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
MW-10	2083967.378	6092174.688	44.66	2" PVC NOTCH NORTH SIDE
	37.706998127N	122.123014988W	45.08	PUNCH NORTH SIDE RIM
			44.98	GROUND NORTH SIDE
MW-11	2083923.210	6092215.039	42.45	2" PVC NOTCH NORTH SIDE
	37.706878766N	122.122872877W	42.83	PUNCH NORTH SIDE RIM
			42.84	PAVEMENT NORTH SIDE

**HORIZONTAL AND VERTICAL CONTROL**  
 SURVEY BASED ON PREVIOUS SURVEY BY EDGIS LAND SURVEYING DATED: 12/11/2009  
 COORDINATE VALUES ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM, ZONE 3, NAD83.  
 ELEVATIONS ARE NAVD 88 DATUM.

EX-1, PUNCH  
 NORTHING 2,084,135.63, EASTING 6,092,163.63, ELEVATION 47.61

EX-2, PUNCH  
 NORTHING 2,084,082, EASTING 6,092,129.99, ELEVATION 47.04

EQUIPMENT USED: TRIMBLE S6



*E. Espinoza*  
9/27/14

**EDGIS LAND SURVEYING**  
 Land Surveying and mapping  
 2519 W. Shaw Avenue, Ste. 111  
 Fresno, CA 93711  
 Phone (559) 803-2679 Fax (559) 823-9037  
 email: edgis@aol.com

**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:**

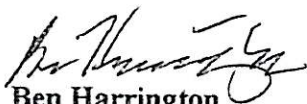
NGS 1974, STATION K 1256, NAVD 88 ELEV. 58.50.  
PID # HT1871

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



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

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

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

	NAD 83	NAD 83	NAVD 88		NORTH	WEST
PT	NORTH (sft)	EAST(sft)	ELEV.	DESCRIPTION	LATITUDE (DMS)	LONGITUDE (DMS)
1	2087731.02	6094039.23	442.77	FD CHABOT B	37°43'02.71762"	122°07'00.46339"
2	2088584.99	6093351.39	492.08	FD CHABOT A	37°43'11.04190"	122°07'09.20691"
51	2084348.54	6092159.32	55.44	FD. X-8		
52	2084073.17	6092141.24	46.15	MW-6 PAV		
53	2084072.72	6092140.95	46.15	MW-6 PUNCH		
54	2084072.47	6092140.95	45.82	MW-6 NOTCH	37°42'26.22635"	122°07'23.29643
55	2083909.71	6091947.10	40.61	MW-9 PAV		
56	2083909.10	6091946.97	40.61	MW-9 PUNCH		
57	2083908.71	6091947.00	40.26	MW-9 NOTCH	37°42'24.57425"	122°07'25.67431"
58	2083861.20	6092118.11	41.38	MW-8 PAV		
59	2083860.43	6092118.36	41.44	MW-8 PUNCH		
60	2083860.03	6092118.52	41.14	MW-8 NOTCH	37°42'24.12245"	122°07'23.52966"
61	2084008.21	6092290.11	44.94	MW-7 PAV		
62	2084007.88	6092290.27	44.95	MW-7 PVNCH		
63	2084007.68	6092290.40	44.74	MW-7 NOTCH	37°42'25.61150"	122°07'21.42290"
64	2084206.49	6092175.95	51.03	MW-5 PAV		
65	2084206.17	6092176.55	50.96	MW-5 PUNCH		
66	2084206.01	6092176.79	50.53	MW-5 NOTCH	37°42'27.55260	122°07'22.87930
67	2084670.41	6092307.68	69.79	FD BM FAIR580		
68	2084443.65	6092198.88	53.70	MW-4 PAV		
69	2084444.39	6092199.72	53.74	MW-4 PUNCH		
70	2084444.59	6092199.51	53.31	MW-4 NOTCH	37°42'29.91496"	122°07'22.64809"
71	2084399.10	6092145.43	54.37	MW-3 PAV		
72	2084399.78	6092145.28	54.33	MW-3 PUNCH		
73	2084400.15	6092145.27	53.91	MW-3 NOTCH	37°42'29.46636"	122°07'23.31339"
74	2084329.47	6092199.72	54.82	MW-1 PAV		
75	2084330.44	6092199.45	54.79	MW-1 PUNCH		
76	2084330.75	6092199.20	54.46	MW-1 NOTCH	37°42'28.78955"	122°07'22.62738"
77	2084367.59	6092256.38	52.88	MW-2 PAV		
78	2084368.15	6092256.14	52.92	MW-2 PUNCH		
79	2084368.53	6092256.06	52.41	MW-2 NOTCH	37°42'29.17277"	122°07'21.92804"
80	2084930.49	6091759.33	58.50	FD BM K1256	37°42'34.64279"	122°07'28.23011"



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



*Eduardo A. Espinoza* 1 of 1



ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-1  
 Casing Diameter: 4 inches  
 Depth of Well: 29.90 feet  
 Top of Casing Elevation: 54.46 feet  
 Depth to Groundwater: 23.76 feet  
 Groundwater Elevation: 30.70 feet  
 Water Column Height: 6.14 feet  
 Purged Volume: 8 gallons

Project No.: 2551  
 Address: 15101 Freedom Ave.  
 San Leandro, CA  
 Date: 9/11/15  
 Sampler: Lizzie Hightower

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump

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

Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP
09:07	Started purging well						
09:08	2	1.19	6.76	21.17	1179	3.21	-43.5
09:09	4	1.24	6.73	21.13	1121	4.08	-45.1
09:10	6	1.34	6.70	21.16	1092	2.18	-46.1
09:11	8	1.40	6.67	21.17	1080	2.05	-46.7
09:16	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: 21.95 feet  
 Groundwater Elevation: 30.46 feet  
 Water Column Height: 8.20 feet  
 Purged Volume: 8 gallons

Project No.: 2551  
 Address: 15101 Freedom Ave.  
 San Leandro, CA  
 Date: 9/11/15  
 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
08:42	Started purging well						
08:43	2	3.36	6.63	20.78	1410	5.24	-61.7
08:44	4	3.26	6.49	20.75	1379	3.18	-60.1
08:45	6	3.13	6.47	20.79	1350	3.05	-63.7
08:46	8	2.78	6.44	20.84	1303	2.83	-73.5
08:51	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: 23.31 feet  
 Groundwater Elevation: 30.60 feet  
 Water Column Height: 6.59 feet  
 Purged Volume: 8 gallons

Project No.: 2551  
 Address: 15101 Freedom Ave.  
 San Leandro, CA  
 Date: 9/11/15  
 Sampler: Lizzie Hightower

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump

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

Sheen: Yes  No  Describe: Rainbow Sheen

Odor: Yes  No  Describe: Petro Odor

Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP
10:15	Started purging well						
10:16	2	1.73	6.93	21.51	1250	21.2	-78.7
10:17	4	1.32	6.84	21.37	1249	10.8	-77.1
10:18	6	1.10	6.80	21.37	1246	9.17	-75.6
10:19	8	1.04	6.77	21.37	1242	8.32	-76.8
10:24	Sampled						



**ENVIRONMENTAL ENGINEERING, INC**

Well No.: MW-4  
 Casing Diameter: 4 inches  
 Depth of Well: 30.20 feet  
 Top of Casing Elevation: 53.31 feet  
 Depth to Groundwater: 23.02 feet  
 Groundwater Elevation: 30.29 feet  
 Water Column Height: 7.18 feet  
 Purged Volume: 8 gallons

Project No.: 2551  
 Address: 15101 Freedom Ave.  
 San Leandro, CA  
 Date: 9/11/15  
 Sampler: Lizzie Hightower

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump

Color: Yes  No  Describe: Cloudy

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

Odor: Yes  No  Describe: Very Slight Petro

**Field Measurements:**

Time	Volume (gallons)	D.O. (mg/L)	pH	Temp (°C)	E.C. (µS/cm)	Turb. NTU	ORP
09:28	Started purging well						
09:29	2	1.09	6.80	20.52	1222	73.5	-54.6
09:30	4	1.00	6.64	20.44	1260	93.7	-55.2
09:31	6	1.15	6.61	20.45	1292	101	-58.9
09:32	8	1.35	6.58	20.45	1311	170	-59.7
09:37	Sampled						



ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-5 Project No.: 2551  
 Casing Diameter: 4 inches Address: 15101 Freedom Ave.  
 Depth of Well: 29.80 feet San Leandro, CA  
 Top of Casing Elevation: 50.53 feet Date: 9/11/15  
 Depth to Groundwater: 20.29 feet Sampler: Lizzie Hightower  
 Groundwater Elevation: 30.24 feet  
 Water Column Height: 9.51 feet  
 Purged Volume: 8 gallons

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump   
 Color: Yes  No  Describe: \_\_\_\_\_  
 Sheen: Yes  No  Describe: \_\_\_\_\_  
 Odor: Yes  No  Describe: Slight Petro

Field Measurements:

Time	Volume (gallons)	D.O. (mg/L)	pH	Temp (°C)	E.C. (µS/cm)	Turb. NTU	ORP
09:47	Started purging well						
09:48	2	1.59	6.99	21.82	1327	12.5	-119.3
09:49	4	1.21	6.90	21.82	1320	9.73	-124.8
09:50	6	1.08	6.88	21.85	1316	6.37	-128.0
09:51	8	1.00	6.87	21.88	1309	6.08	-131.4
09:56	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: 18.25 feet  
 Groundwater Elevation: 27.57 feet  
 Water Column Height: 9.05 feet  
 Purged Volume: 10 gallons

Project No.: 2551  
 Address: 15101 Freedom Ave.  
 San Leandro, CA  
 Date: 9/10/15  
 Sampler: Lizzie Hightower

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump

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

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

Odor: Yes  No  Describe: Petro odor

Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP
<u>12:56</u>	<u>Started purging well</u>						
<u>12:57</u>	<u>2</u>	<u>0.99</u>	<u>7.06</u>	<u>22.11</u>	<u>1168</u>	<u>4.01</u>	<u>-63.3</u>
<u>12:58</u>	<u>4</u>	<u>0.72</u>	<u>6.89</u>	<u>21.81</u>	<u>1171</u>	<u>3.75</u>	<u>-72.5</u>
<u>12:59</u>	<u>6</u>	<u>0.75</u>	<u>6.78</u>	<u>21.81</u>	<u>1173</u>	<u>3.02</u>	<u>-78.9</u>
<u>13:00</u>	<u>8</u>	<u>0.92</u>	<u>6.76</u>	<u>21.82</u>	<u>1174</u>	<u>2.30</u>	<u>-81.1</u>
<u>13:01</u>	<u>10</u>	<u>0.22</u>	<u>6.74</u>	<u>21.83</u>	<u>1174</u>	<u>2.07</u>	<u>-76.1</u>
<u>13:06</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: 21.77 feet  
 Groundwater Elevation: 30.19 feet  
 Water Column Height: 8.23 feet  
 Purged Volume: 8 gallons

Project No.: 2551  
 Address: 15101 Freedom Ave.  
 San Leandro, CA  
 Date: 9/11/15  
 Sampler: Lizzie Hightower

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump

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

Field Measurements:

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU	ORP
<u>11:02</u>	<u>Started purging well</u>						
<u>11:03</u>	<u>2</u>	<u>1.04</u>	<u>6.90</u>	<u>20.78</u>	<u>1276</u>	<u>7.75</u>	<u>-142.0</u>
<u>11:04</u>	<u>4</u>	<u>0.77</u>	<u>6.80</u>	<u>20.58</u>	<u>1278</u>	<u>6.32</u>	<u>-143.2</u>
<u>11:05</u>	<u>6</u>	<u>0.74</u>	<u>6.77</u>	<u>20.58</u>	<u>1276</u>	<u>5.91</u>	<u>-145.1</u>
<u>11:06</u>	<u>8</u>	<u>0.73</u>	<u>6.75</u>	<u>20.64</u>	<u>1270</u>	<u>3.18</u>	<u>-146.4</u>
<u>11:11</u>	<u>Sampled</u>						



ENVIRONMENTAL ENGINEERING, INC

Well No.: MPE-2 Project No.: 2551  
 Casing Diameter: 4 inches Address: 15101 Freedom Ave.  
 Depth of Well: 30.00 feet San Leandro, CA  
 Top of Casing Elevation: 53.72 feet Date: 9/11/15  
 Depth to Groundwater: 23.15 feet Sampler: Lizzie Hightower  
 Groundwater Elevation: 30.57 feet  
 Water Column Height: 6.85 feet  
 Purged Volume: 8 gallons

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump

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

Field Measurements:

Time	Volume (gallons)	D.O. (mg/L)	pH	Temp (°C)	E.C. (µS/cm)	Turb. NTU	ORP
10:35	Started purging well						
10:36	2	1.51	6.71	21.70	1360	8.75	-73.3
10:37	4	1.04	6.65	21.59	1354	6.21	-77.5
10:38	6	0.87	6.64	21.63	1352	5.98	-81.9
10:39	8	0.79	6.63	21.64	1353	5.72	-84.2
10:44	Sampled						



**ENVIRONMENTAL ENGINEERING, INC**

Well No.: MW-1D Project No.: 2551  
 Casing Diameter: 2 inches Address: 15101 Freedom Ave.  
 Depth of Well: 59.81 feet San Leandro, CA  
 Top of Casing Elevation: 54.42 feet Date: 9/10/15  
 Depth to Groundwater: 23.91 feet Sampler: Lizzie Hightower  
 Groundwater Elevation: 30.51 feet  
 Water Column Height: 35.90 feet  
 Purged Volume: 10 gallons

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
14:02	Started purging well						
14:03	2	0.59	7.53	20.95	1243	3.65	-13.6
14:04	4	0.51	7.30	20.40	1250	2.17	-15.1
14:05	6	0.48	6.91	20.23	1253	2.30	-3.2
14:06	8	0.44	6.89	20.18	1254	1.85	-0.8
14:07	10	0.41	6.86	20.12	1254	1.15	-1.0
14:12	Sampled						





ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-3D  
 Casing Diameter: 2 inches  
 Depth of Well: 59.81 feet  
 Top of Casing Elevation: 54.10 feet  
 Depth to Groundwater: 23.53 feet  
 Groundwater Elevation: 30.57 feet  
 Water Column Height: 36.28 feet  
 Purged Volume: 10 gallons

Project No.: 2551  
 Address: 15101 Freedom Ave.  
 San Leandro, CA  
 Date: 9/10/15  
 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
14:37	Started purging well						
14:38	2	0.73	7.42	21.57	1093	12.6	+53.7
14:39	4	0.50	7.32	21.09	1134	7.35	+50.7
14:40	6	0.40	7.24	20.95	1159	4.10	+46.5
14:41	8	0.35	7.22	20.90	1174	3.22	+44.4
14:42	10	0.33	7.20	20.85	1184	1.15	+39.9
14:47	Sampled						



ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-40  
 Casing Diameter: 2 inches  
 Depth of Well: 58.79 feet  
 Top of Casing Elevation: 53.12 feet  
 Depth to Groundwater: 22.89 feet  
 Groundwater Elevation: 30.23 feet  
 Water Column Height: 35.90 feet  
 Purged Volume: 8 gallons

Project No.: 2551  
 Address: 15101 Freedom Ave.  
 San Leandro, CA  
 Date: 9/10/15  
 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
15:01	Started purging well						
15:02	2	1.77	7.39	20.84	954	22.5	-26.6
15:03	4	5.05	7.38	20.10	993	32.7	-9.6
15:04	6	6.20	7.37	19.99	1002	15.6	-2.7
15:05	8	7.98	7.37	19.90	1022	17.8	+3.6
15:10	Sampled						

**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
	12/14/2012	0.63	6.6	19.71	1314	6.56	-99.2
	3/28/2013	1.07	6.4	20.67	1307	5.93	-70.5
	6/11/2013	0.71	6.52	20.43	1284	11.10	-49.4
	9/17/2013	1.56	6.44	20.47	1225	16.90	2.5
	12/6/2013	0.71	6.56	19.38	1153	15.60	-45.2
	3/13/2014	0.27	6.84	20.69	1105	17.50	-52.0
	9/23/2014	0.95	6.61	20.60	1168	8.42	-92.6
	12/23/2014	1.00	6.63	21.19	1078	22.00	-19.2
3/20/2015	0.78	6.68	20.79	786	4.15	-85.3	
6/4/2015	0.89	6.77	20.73	920	4.14	-90.3	
9/11/2015	1.40	6.67	21.17	1080	2.05	-46.7	
<b>MW-2</b>	8/27/2009	0.43	6.57	20.72	1530	2.59	-168.1
	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
	12/14/2012	1.06	6.67	19.91	1067	7.75	-82.3
	3/28/2013	1.35	6.46	20.59	1107	5.98	-88.0
	6/11/2013	0.5	6.61	20.44	1118	20.9	-42.7
	9/16/2013	1.04	6.68	20.82	1276	17.1	-51.3
	12/6/2013	0.74	6.64	19.63	1025	18	-77.5
	3/13/2014	0.25	6.35	20.74	1078	34.9	-41.0
	9/23/2014	1.14	6.77	20.6	1372	5.92	-123.8
	12/23/2014	1.2	6.43	21.45	1057	13.8	-36.6
3/20/2015	0.7	6.63	20.71	674	3.66	-87.5	
6/4/2015	1.45	6.5	20.48	801	11.1	-128.7	
9/11/2015	2.78	6.44	20.84	1303	2.83	-73.5	
<b>MW-3</b>	8/27/2009	1.90	6.36	20.82	1318	5.57	-119.3
	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
	12/14/2012	0.53	6.66	19.81	1017	7.42	-59.3
	3/28/2013	0.90	6.49	20.71	1188	7.83	-56.8
	6/11/2013	0.38	6.64	20.67	1280	96.3	-39.6
	9/17/2013	0.94	6.64	20.93	1203	108	-44.7
	12/6/2013	0.61	6.68	20.2	1131	62.6	-58.7
	3/12/2014	FP	FP	FP	FP	FP	FP
9/23/2014	0.61	6.73	21.5	1135	12.8	-169.7	
12/23/2014	1.15	6.66	21.69	1071	15.2	-122.8	

**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-3 cont.	3/20/2015	0.86	6.6	21.4	975	10.2	-74.4
	6/4/2015	1.04	6.72	21.16	1243	8.76	-126.6
	9/11/2015	1.04	6.77	21.37	1242	8.32	-76.8
MW-4	8/27/2009	2.90	6.26	20.11	1649	2.78	-115.5
	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
	12/14/2012	0.62	6.58	19.12	1216	5.42	-46
	3/28/2013	0.94	6.54	19.99	1350	5.03	-35.1
	6/11/2013	0.81	6.47	20.06	1372	16.20	-3
	9/17/2013	1.18	6.5	20.01	1353	11.70	3.8
	12/6/2013	1.09	6.57	19.01	1335	42.40	-11.8
	3/13/2014	0.30	6.6	20.49	1333	22.60	-52
	9/23/2014	0.81	6.59	20.4	1251	20.70	-69
	12/23/2014	1.75	6.66	20.46	972	19.80	-23.6
3/20/2015	1.34	6.67	20.16	1098	3.66	-28.7	
6/4/2015	1.40	6.55	20.12	1232	28.20	-85.1	
9/11/2015	1.35	6.58	20.45	1311	170	-59.7	
MW-5	8/27/2009	1.00	6.38	20.8	1321	6.63	-91.9
	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
	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
	3/28/2013	1.01	6.59	21.24	1068	6.39	-141.5
	6/11/2013	0.50	6.69	20.94	1016	17	-44.8
	9/17/2013	0.65	6.85	21.44	1165	20.9	-64.7
	12/6/2013	0.60	7.01	20.82	747	16.7	-110.6
	3/13/2014	0.22	6.89	21.92	1184	17.1	-79.0
	9/23/2014	0.56	7.02	21.6	1031	9.32	-192.6
	12/23/2014	0.66	7.38	22.89	978	13.7	-98.9
3/20/2015	0.62	7.28	21.81	977	2.55	-76.4	
6/4/2015	0.80	7.02	21.52	1094	7.93	-199.0	
9/11/2015	1.00	6.87	21.88	1309	6.08	-131.4	
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	FP	FP	FP	FP	FP	FP
	12/13/2012	1.47	6.72	21.05	1231	9.99	-46.2
	3/27/2013	1.53	6.58	20.81	1179	6.82	-54.9
6/10/2013	0.70	6.64	20.55	1209	13	-13.9	
9/16/2013	FP	FP	FP	FP	FP	FP	
12/5/2013	0.90	6.66	20.26	1342	21.4	-73.5	



**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-6 cont.	3/12/2014	0.33	6.56	21.62	2500	78.3	-163
	9/22/2014	1.06	6.67	21.4	1361	8.19	-147
	12/22/2014	1.25	6.72	22.96	1787	13.7	-94.2
	3/19/2015	0.74	6.78	21.55	929	3.88	-131.8
	6/3/2015	0.79	6.77	21.2	1176	5.00	-177.9
	9/10/2015	1.22	6.74	21.83	1174	2.07	-76.1
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
	3/27/2013	3.01	6.51	17.1	1256	335	2.1
	6/10/2013	2.55	6.22	17.81	1232	672	8
	9/16/2013	3.59	6.21	19.19	1264	999	45.9
	12/5/2013	2.76	6.63	17.96	1212	999	6.5
	3/12/2014	2.59	6.22	18.85	1406	1086	36
9/22/2014	1.84	6.67	20.2	1297	999	-85	
12/22/2014	2.11	6.56	20.19	1300	33.2	-51.1	
3/19/2015	1.37	6.51	19.09	1267	33.4	-34.7	
6/3/2015	1.56	6.7	18.81	1393	59.9	-88.5	
9/10/2015	2.97	6.77	20.35	1381	207	-31.1	
MW-10	9/22/2014	1.8	6.53	19.9	1266	252	-36.7
	12/22/2014	2.57	6.56	20.05	1183	200	37.7
	3/19/2015	1.78	6.53	19.72	1233	221	-49.8
	6/3/2015	0.91	6.54	19.48	1381	273	-109.1
	9/10/2015	0.98	6.33	21.2	1385	315	-11
MW-11	9/22/2014	1.31	6.85	19.2	1158	999	-57.2
	12/22/2014	1.85	6.78	19.7	1137	780	-28.8
	3/19/2015	1.17	6.74	18.68	1052	932	-31.5
	6/3/2015	1.12	6.85	18.36	1226	440	-79.9
	9/10/2015	1.97	6.74	19.6	1187	313	-12.4
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	1473	16.4	-63.5
	3/27/2013	2.01	6.64	19.96	1499	7.03	-214.9
	6/10/2013	0.59	6.62	20.05	1497	20	-59.7
	9/17/2013	0.65	6.59	19.97	1467	16.2	-66.7
	12/6/2013	0.78	6.63	19.41	1390	32	-77.5
	3/13/2014	0.2	6.58	20.53	1163	52.4	-73
	9/23/2014	0.73	6.77	20.8	1253	67.4	-150.1
	12/23/2014	0.9	7.04	21.09	1170	14	-37.6
	3/20/2015	0.7	6.91	20.15	1019	4.97	-108.6
	6/4/2015	0.84	6.96	20.1	1075	8.64	-161.4
9/11/2015	0.73	6.75	20.64	1270	3.18	-146.4	
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
	3/28/2013	0.84	6.51	20.93	1327	8.35	-64.3
	6/11/2013	0.52	6.63	20.34	1192	29.70	-56.8
	9/17/2013	0.61	6.69	21.15	1201	26.50	-80.7
	12/5/2013	FP	FP	FP	FP	FP	FP
	3/12/2014	FP	FP	FP	FP	FP	FP
	9/23/2014	0.55	6.83	21.7	1062	6.41	-190.8
	12/23/2014	1.03	6.67	22.33	1376	16.90	-123.2
	3/20/2015	1.33	6.61	21.7	1472	3.95	-91.9
	6/4/2015	1.05	6.66	21.35	1549	2.79	-125.4
9/11/2015	0.79	6.63	21.64	1353	5.72	-84.2	

**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>2nd WBZ</b>							
<b>MW-1D</b>	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
	3/27/2013	1.45	7.08	19.7	1253	5.8	-1
	6/10/2013	0.52	7.27	19.8	1238	16	111.5
	9/16/2013	0.78	7.09	19.88	1225	19	80.1
	12/5/2013	0.87	7.29	18.47	1184	23.2	5.2
3/12/2014	0.34	8.11	19.69	1375	51.5	8	
9/22/2014	1.04	7.29	19.8	1236	9.9	16.8	
12/23/2014	2.56	7.19	19.62	1238	18.3	189.3	
3/19/2015	0.69	7.14	19.46	1201	9.4	41	
6/3/2015	0.93	7.26	19.35	1297	15.1	-43.1	
9/10/2015	0.41	6.86	20.12	1254	1.15	-1.0	
<b>MW-3D</b>	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
	3/27/2013	2.11	7.01	19.94	1241	5.31	66.3
	6/10/2013	0.73	7.19	20.32	1238	12.6	100.2
	9/16/2013	0.84	7.03	20	1236	16	72.9
	12/5/2013	0.74	7.16	18.64	1193	11.9	28.3
3/13/2014	0.35	8.09	19.82	1373	8.2	217.0	
9/22/2014	0.76	7.19	20	1208	3.73	41.7	
12/23/2014	1.32	7.19	19.95	1205	8.20	147.8	
3/19/2015	0.66	6.98	19.87	1212	0.68	56.2	
6/3/2015	0.58	7.17	19.9	1266	0.97	4.0	
9/10/2015	0.33	7.2	20.85	1184	1.15	39.9	
<b>MW-4D</b>	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
	12/13/2012	0.89	7.2	18.46	1210	7.34	-15.7
	3/27/2013	2.01	7.02	19.39	1236	5.31	47.4
	6/10/2013	0.75	7.14	19.54	1223	24.7	43.7
	9/16/2013	0.77	7.13	19.44	1220	24.2	42.8
	12/6/2013	1.34	7.17	18.05	1175	20	75
3/13/2014	0.55	7.69	19.26	1359	20.3	150	
9/23/2014	8.52	7.36	19.6	1092	338	147.7	
12/23/2014	7.73	7.46	19.76	1074	115	129.1	
3/19/2015	7.93	7.28	19.47	1023	3.25	20.2	
6/3/2015	6.42	7.29	19.09	1143	134	-18.3	
9/10/2015	7.98	7.37	19.9	1022	17.8	3.6	



# 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

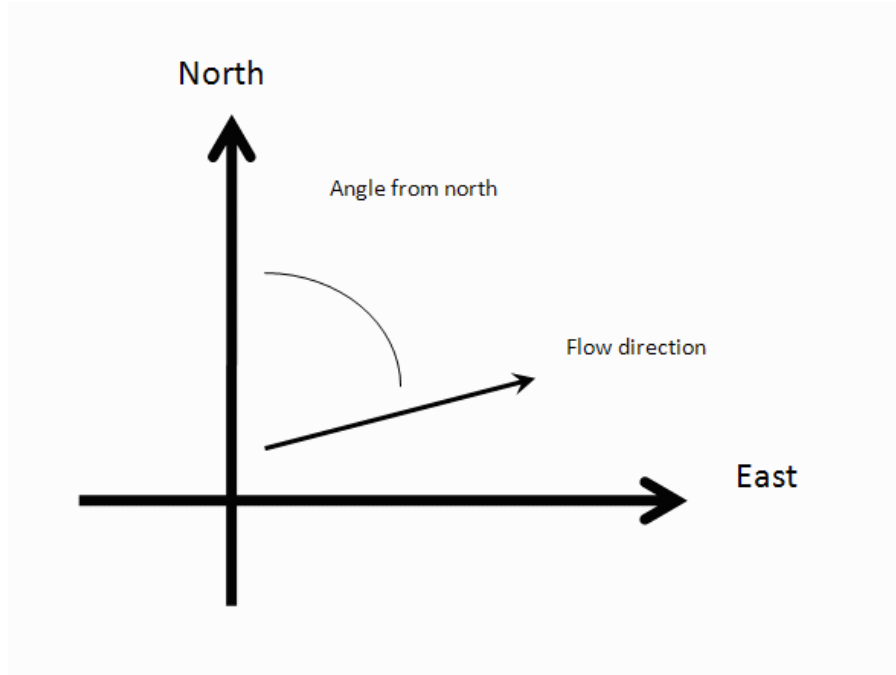
$$\begin{aligned}
 a x_1 + b y_1 + c &= h_1 \\
 a x_2 + b y_2 + c &= h_2 \\
 a x_3 + b y_3 + c &= h_3 \\
 &\dots \\
 a x_{30} + b y_{30} + c &= h_{30}
 \end{aligned}$$

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: 15101 Freedom Ave, San L

Date: September 10, 2015 | Current Date

Calculation basis: Head

Coordinates: ft

I.D.	x-coordinate	y-coordinate	head	ft
1) MW-1	6092119.016	2084364.691	30.70	
2) MW-2	6092063.978	2084323.224	30.46	
3) MW-3	6092176.317	2084298.343	30.60	
4) MW-4	6092124.294	2084251.598	30.29	
5) MW-5	6092177.071	2084206.361	30.24	
6) MW-6	6092140.881	2084072.911	27.57	
7) MW-7	6092290.918	2084008.071	29.12	
8) MW-10	6092182.374	2083967.53	27.63	
9) MW-11	6092224.568	2083926.493	27.66	
10) EX-1	6092163.5	2084133.982	24.79	
11) EX-2	6092131.08	2084082.713	24.81	

12)	MPE-1	6092125.048	2084212.393	30.19
13)	MPE-2	6092171.793	2084292.312	30.57
14)				
15)				
16)				
17)				
18)				
19)				
20)				
21)				
22)				
23)				
24)				
25)				
26)				
27)				
28)				
29)				
30)				

**Results**

Number of Points Used in Calculation	13
Max. Difference Between Head Values	1.801
Gradient Magnitude (i)	0.02183
Flow direction as degrees from North (positive y axis)	230.9
Coefficient of Determination ( $R^2$ )	0.532

WCMS

Last updated on 9/2/2015



# EPA On-line Tools for Site Assessment Calculation

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## Hydraulic Gradient

**Gradient Calculation** from fitting a plane to three points

$$a x_1 + b y_1 + c = h_1$$

$$a x_2 + b y_2 + c = h_2$$

$$a x_3 + b y_3 + c = h_3$$

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

$h_i$  is the head

$i = 1, 2, 3$

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

<input type="button" value="Example Data Set 1"/>	<input type="button" value="Calculate"/>	<input type="button" value="Clear"/>
<input type="button" value="Save Data"/>	<input type="button" value="Recall Data"/>	<input type="button" value="Go Back"/>
Site Name <input type="text" value="15101 Freedom Ave, San L"/>		
Date <input type="text" value="September 10, 2015"/>	<input type="button" value="Current Date"/>	
Calculation basis <input type="text" value="Head"/>		
Coordinates <input type="text" value="ft"/>		
x-coordinate	y-coordinate	head <input type="text" value="ft"/>
<input type="text" value="6092128.064"/>	<input type="text" value="2084372.231"/>	<input type="text" value="30.51"/>
<input type="text" value="6092183.856"/>	<input type="text" value="2084303.621"/>	<input type="text" value="30.57"/>
<input type="text" value="6092116.755"/>	<input type="text" value="2084222.948"/>	<input type="text" value="30.23"/>
Gradient Magnitude (i) <input type="text" value="0.003502"/>		
Degrees from North (+ y axis) <input type="text" value="242.1"/>		

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# Appendix C

Laboratory Reports and Chain of Custody Forms  
for the Third Quarter 2015 Monitoring Event



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

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

Laboratory Job Number 269778
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. Lists various sample identifiers like MW-1 through MPE-2 and their corresponding lab IDs.

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]
Mike Dahlquist
Project Manager
mike.dahlquist@ctberk.com

Date: 09/22/2015

### CASE NARRATIVE

Laboratory number: 269778  
Client: SOMA Environmental Engineering Inc.  
Project: 2551  
Location: 15101 Freedom Avenue San Leandro  
Request Date: 09/14/15  
Samples Received: 09/14/15

This data package contains sample and QC results for sixteen water samples, requested for the above referenced project on 09/14/15. The samples were received cold and intact.

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

High surrogate recovery was observed for bromofluorobenzene in the method blank for batch 227325; no target analytes were detected in the sample. A number of samples were diluted due to high non-target analytes. No other analytical problems were encountered.



# CHAIN OF CUSTODY

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

C&T LOGIN # 269778

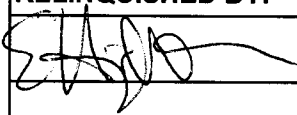
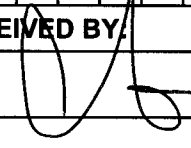
**Analyses**

**Project No:** 2551  
**Report To:** Joyce Bobek  
**Project Name:** 15101 Freedom Ave., San Leandro **Company:** SOMA Environmental  
**Turnaround Time:** Standard **Telephone:** 925-734-6400  
**Fax:** 925-734-6401

Lab No.	Sample ID.	Sampling Date	Time	Matrix			# of Containers	Preservative			
				Soil	Water	Waste		HCL	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	ICE
1	MW-1	9/11/15	09:16	*			3-VOAs	*			*
2	MW-2		08:51	*			3-VOAs	*			*
3	MW-3		10:24	*			3-VOAs	*			*
4	MW-4		09:37	*			3-VOAs	*			*
5	MW-5		09:56	*			3-VOAs	*			*
6	MW-6	9/10/15	13:06	*			3-VOAs	*			*
7	MW-7		12:23	*			3-VOAs	*			*
8	MW-10		11:14	*			3-VOAs	*			*
9	MW-11		11:48	*			3-VOAs	*			*
10	MW-1D		14:12	*			3-VOAs	*			*
11	MW-3D		14:47	*			3-VOAs	*			*
12	MW-4D		15:10	*			3-VOAs	*			*
13	EX-1		13:38	*			3-VOAs	*			*
14	EX-2		13:30	*			3-VOAs	*			*
15	MPE-1	9/11/15	11:11	*			3-VOAs	*			*
16	MPE-2		10:44	*			3-VOAs	*			*

TPHg, BTEX, MIBE 8260B Gasoline Oxygenates & Lead Scavengers																				
	*	*																		
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**Notes:** EDF OUTPUT REQUIRED  
 Ethanol

**RELINQUISHED BY:**  9/14/15 14:25 DATE/TIME  
**RECEIVED BY:**  9/14/15 14:25 DATE/TIME

**COOLER RECEIPT CHECKLIST**



Login # 269778 Date Received 9/14/15 Number of coolers 1  
 Client SOMA Project 1501 Freedom Ave, San Leandro  
 Date Opened 9/14 By (print) SL (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) 5.3°

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**

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

### Detections Summary for 269778

Results for any subcontracted analyses are not included in this summary.

Client : SOMA Environmental Engineering Inc.  
 Project : 2551  
 Location : 15101 Freedom Avenue San Leandro

Client Sample ID : MW-1                      Laboratory Sample ID :                      269778-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	4,200		170	ug/L	As Recd	3.333	EPA 8260B	EPA 5030B
Benzene	3.3		1.7	ug/L	As Recd	3.333	EPA 8260B	EPA 5030B
Ethylbenzene	18		1.7	ug/L	As Recd	3.333	EPA 8260B	EPA 5030B

Client Sample ID : MW-2                      Laboratory Sample ID :                      269778-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	1,900		100	ug/L	As Recd	2.000	EPA 8260B	EPA 5030B
Ethylbenzene	2.3		1.0	ug/L	As Recd	2.000	EPA 8260B	EPA 5030B

Client Sample ID : MW-3                      Laboratory Sample ID :                      269778-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	24,000		630	ug/L	As Recd	12.50	EPA 8260B	EPA 5030B
Benzene	260		6.3	ug/L	As Recd	12.50	EPA 8260B	EPA 5030B
Ethylbenzene	380		6.3	ug/L	As Recd	12.50	EPA 8260B	EPA 5030B
m,p-Xylenes	1,100		6.3	ug/L	As Recd	12.50	EPA 8260B	EPA 5030B
o-Xylene	44		6.3	ug/L	As Recd	12.50	EPA 8260B	EPA 5030B

Client Sample ID : MW-4                      Laboratory Sample ID :                      269778-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	1,200		100	ug/L	As Recd	2.000	EPA 8260B	EPA 5030B
tert-Butyl Alcohol (TBA)	82		20	ug/L	As Recd	2.000	EPA 8260B	EPA 5030B
MTBE	39		1.0	ug/L	As Recd	2.000	EPA 8260B	EPA 5030B
Benzene	140		1.0	ug/L	As Recd	2.000	EPA 8260B	EPA 5030B
Toluene	1.1		1.0	ug/L	As Recd	2.000	EPA 8260B	EPA 5030B
Ethylbenzene	7.3		1.0	ug/L	As Recd	2.000	EPA 8260B	EPA 5030B
m,p-Xylenes	18		1.0	ug/L	As Recd	2.000	EPA 8260B	EPA 5030B
o-Xylene	1.0		1.0	ug/L	As Recd	2.000	EPA 8260B	EPA 5030B

Client Sample ID : MW-5

Laboratory Sample ID :

269778-005

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	1,300		50	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Benzene	3.1		0.50	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Ethylbenzene	13		0.50	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
m,p-Xylenes	13		0.50	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : MW-6

Laboratory Sample ID :

269778-006

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	4,200		500	ug/L	As Recd	10.00	EPA 8260B	EPA 5030B
Benzene	8.8		5.0	ug/L	As Recd	10.00	EPA 8260B	EPA 5030B
Ethylbenzene	27		5.0	ug/L	As Recd	10.00	EPA 8260B	EPA 5030B

Client Sample ID : MW-7

Laboratory Sample ID :

269778-007

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	2,200		170	ug/L	As Recd	3.333	EPA 8260B	EPA 5030B
MTBE	4.0		1.7	ug/L	As Recd	3.333	EPA 8260B	EPA 5030B
Ethylbenzene	9.9		1.7	ug/L	As Recd	3.333	EPA 8260B	EPA 5030B
m,p-Xylenes	1.7		1.7	ug/L	As Recd	3.333	EPA 8260B	EPA 5030B

Client Sample ID : MW-10

Laboratory Sample ID :

269778-008

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	28,000		1,000	ug/L	As Recd	20.00	EPA 8260B	EPA 5030B
Ethylbenzene	1,200		10	ug/L	As Recd	20.00	EPA 8260B	EPA 5030B
m,p-Xylenes	2,100		10	ug/L	As Recd	20.00	EPA 8260B	EPA 5030B
o-Xylene	73		10	ug/L	As Recd	20.00	EPA 8260B	EPA 5030B

Client Sample ID : MW-11

Laboratory Sample ID :

269778-009

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	78		50	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : MW-1D

Laboratory Sample ID :

269778-010

No Detections

Client Sample ID : MW-3D

Laboratory Sample ID :

269778-011

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
MTBE	1.4		0.50	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : MW-4D

Laboratory Sample ID :

269778-012

No Detections

Client Sample ID : EX-1

Laboratory Sample ID :

269778-013

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Benzene	0.66		0.50	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
m,p-Xylenes	0.82		0.50	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
o-Xylene	0.71		0.50	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : EX-2

Laboratory Sample ID :

269778-014

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	670		100	ug/L	As Recd	2.000	EPA 8260B	EPA 5030B
Benzene	8.1		1.0	ug/L	As Recd	2.000	EPA 8260B	EPA 5030B
Ethylbenzene	13		1.0	ug/L	As Recd	2.000	EPA 8260B	EPA 5030B
m,p-Xylenes	21		1.0	ug/L	As Recd	2.000	EPA 8260B	EPA 5030B
o-Xylene	6.4		1.0	ug/L	As Recd	2.000	EPA 8260B	EPA 5030B

Client Sample ID : MPE-1

Laboratory Sample ID :

269778-015

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	9,600		500	ug/L	As Recd	10.00	EPA 8260B	EPA 5030B
Methyl tert-Amyl Ether (TAME)	85		5.0	ug/L	As Recd	10.00	EPA 8260B	EPA 5030B
MTBE	50		5.0	ug/L	As Recd	10.00	EPA 8260B	EPA 5030B
Benzene	590		5.0	ug/L	As Recd	10.00	EPA 8260B	EPA 5030B
Toluene	150		5.0	ug/L	As Recd	10.00	EPA 8260B	EPA 5030B
Ethylbenzene	83		5.0	ug/L	As Recd	10.00	EPA 8260B	EPA 5030B
m,p-Xylenes	290		5.0	ug/L	As Recd	10.00	EPA 8260B	EPA 5030B
o-Xylene	300		5.0	ug/L	As Recd	10.00	EPA 8260B	EPA 5030B

Client Sample ID : MPE-2

Laboratory Sample ID :

269778-016

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	21,000		710	ug/L	As Recd	14.29	EPA 8260B	EPA 5030B
MTBE	9.3		7.1	ug/L	As Recd	14.29	EPA 8260B	EPA 5030B
Benzene	1,000		7.1	ug/L	As Recd	14.29	EPA 8260B	EPA 5030B
Ethylbenzene	1,200		7.1	ug/L	As Recd	14.29	EPA 8260B	EPA 5030B
m,p-Xylenes	760		7.1	ug/L	As Recd	14.29	EPA 8260B	EPA 5030B

### Purgeable Organics by GC/MS

Lab #: 269778	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: MW-1	Batch#: 227325
Lab ID: 269778-001	Sampled: 09/11/15
Matrix: Water	Received: 09/14/15
Units: ug/L	Analyzed: 09/18/15
Diln Fac: 3.333	

Analyte	Result	RL
Gasoline C7-C12	4,200	170
tert-Butyl Alcohol (TBA)	ND	33
Isopropyl Ether (DIPE)	ND	1.7
Ethyl tert-Butyl Ether (ETBE)	ND	1.7
Methyl tert-Amyl Ether (TAME)	ND	1.7
Ethanol	ND	3,300
MTBE	ND	1.7
1,2-Dichloroethane	ND	1.7
Benzene	3.3	1.7
Toluene	ND	1.7
1,2-Dibromoethane	ND	1.7
Ethylbenzene	18	1.7
m,p-Xylenes	ND	1.7
o-Xylene	ND	1.7

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-128
1,2-Dichloroethane-d4	98	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	95	80-120

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #: 269778	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: MW-2	Batch#: 227247
Lab ID: 269778-002	Sampled: 09/11/15
Matrix: Water	Received: 09/14/15
Units: ug/L	Analyzed: 09/17/15
Diln Fac: 2.000	

Analyte	Result	RL
Gasoline C7-C12	1,900	100
tert-Butyl Alcohol (TBA)	ND	20
Isopropyl Ether (DIPE)	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	1.0
Ethanol	ND	2,000
MTBE	ND	1.0
1,2-Dichloroethane	ND	1.0
Benzene	ND	1.0
Toluene	ND	1.0
1,2-Dibromoethane	ND	1.0
Ethylbenzene	2.3	1.0
m,p-Xylenes	ND	1.0
o-Xylene	ND	1.0

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-128
1,2-Dichloroethane-d4	99	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	97	80-120

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #: 269778	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: MW-3	Batch#: 227247
Lab ID: 269778-003	Sampled: 09/11/15
Matrix: Water	Received: 09/14/15
Units: ug/L	Analyzed: 09/17/15
Diln Fac: 12.50	

Analyte	Result	RL
Gasoline C7-C12	24,000	630
tert-Butyl Alcohol (TBA)	ND	130
Isopropyl Ether (DIPE)	ND	6.3
Ethyl tert-Butyl Ether (ETBE)	ND	6.3
Methyl tert-Amyl Ether (TAME)	ND	6.3
Ethanol	ND	13,000
MTBE	ND	6.3
1,2-Dichloroethane	ND	6.3
Benzene	260	6.3
Toluene	ND	6.3
1,2-Dibromoethane	ND	6.3
Ethylbenzene	380	6.3
m,p-Xylenes	1,100	6.3
o-Xylene	44	6.3

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-128
1,2-Dichloroethane-d4	97	75-139
Toluene-d8	96	80-120
Bromofluorobenzene	91	80-120

ND= Not Detected  
 RL= Reporting Limit



### Purgeable Organics by GC/MS

Lab #: 269778	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: MW-4	Batch#: 227247
Lab ID: 269778-004	Sampled: 09/11/15
Matrix: Water	Received: 09/14/15
Units: ug/L	Analyzed: 09/17/15
Diln Fac: 2.000	

Analyte	Result	RL
Gasoline C7-C12	1,200	100
tert-Butyl Alcohol (TBA)	82	20
Isopropyl Ether (DIPE)	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	1.0
Ethanol	ND	2,000
MTBE	39	1.0
1,2-Dichloroethane	ND	1.0
Benzene	140	1.0
Toluene	1.1	1.0
1,2-Dibromoethane	ND	1.0
Ethylbenzene	7.3	1.0
m,p-Xylenes	18	1.0
o-Xylene	1.0	1.0

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-128
1,2-Dichloroethane-d4	98	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	95	80-120

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #: 269778	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: MW-5	Batch#: 227247
Lab ID: 269778-005	Sampled: 09/11/15
Matrix: Water	Received: 09/14/15
Units: ug/L	Analyzed: 09/16/15
Diln Fac: 1.000	

Analyte	Result	RL
Gasoline C7-C12	1,300	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	3.1	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	13	0.50
m,p-Xylenes	13	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-128
1,2-Dichloroethane-d4	97	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	113	80-120

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #: 269778	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: MW-6	Batch#: 227247
Lab ID: 269778-006	Sampled: 09/10/15
Matrix: Water	Received: 09/14/15
Units: ug/L	Analyzed: 09/17/15
Diln Fac: 10.00	

Analyte	Result	RL
Gasoline C7-C12	4,200	500
tert-Butyl Alcohol (TBA)	ND	100
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Ethanol	ND	10,000
MTBE	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	8.8	5.0
Toluene	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	27	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-128
1,2-Dichloroethane-d4	102	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	97	80-120

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #: 269778	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: MW-7	Batch#: 227325
Lab ID: 269778-007	Sampled: 09/10/15
Matrix: Water	Received: 09/14/15
Units: ug/L	Analyzed: 09/18/15
Diln Fac: 3.333	

Analyte	Result	RL
Gasoline C7-C12	2,200	170
tert-Butyl Alcohol (TBA)	ND	33
Isopropyl Ether (DIPE)	ND	1.7
Ethyl tert-Butyl Ether (ETBE)	ND	1.7
Methyl tert-Amyl Ether (TAME)	ND	1.7
Ethanol	ND	3,300
MTBE	4.0	1.7
1,2-Dichloroethane	ND	1.7
Benzene	ND	1.7
Toluene	ND	1.7
1,2-Dibromoethane	ND	1.7
Ethylbenzene	9.9	1.7
m,p-Xylenes	1.7	1.7
o-Xylene	ND	1.7

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-128
1,2-Dichloroethane-d4	99	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	103	80-120

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #: 269778	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: MW-10	Batch#: 227325
Lab ID: 269778-008	Sampled: 09/10/15
Matrix: Water	Received: 09/14/15
Units: ug/L	Analyzed: 09/19/15
Diln Fac: 20.00	

Analyte	Result	RL
Gasoline C7-C12	28,000	1,000
tert-Butyl Alcohol (TBA)	ND	200
Isopropyl Ether (DIPE)	ND	10
Ethyl tert-Butyl Ether (ETBE)	ND	10
Methyl tert-Amyl Ether (TAME)	ND	10
Ethanol	ND	20,000
MTBE	ND	10
1,2-Dichloroethane	ND	10
Benzene	ND	10
Toluene	ND	10
1,2-Dibromoethane	ND	10
Ethylbenzene	1,200	10
m,p-Xylenes	2,100	10
o-Xylene	73	10

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-128
1,2-Dichloroethane-d4	97	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	94	80-120

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #: 269778	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: MW-11	Batch#: 227247
Lab ID: 269778-009	Sampled: 09/10/15
Matrix: Water	Received: 09/14/15
Units: ug/L	Analyzed: 09/16/15
Diln Fac: 1.000	

Analyte	Result	RL
Gasoline C7-C12	78	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	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	100	80-128
1,2-Dichloroethane-d4	99	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	101	80-120

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #: 269778	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: MW-1D	Batch#: 227247
Lab ID: 269778-010	Sampled: 09/10/15
Matrix: Water	Received: 09/14/15
Units: ug/L	Analyzed: 09/16/15
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	102	80-128
1,2-Dichloroethane-d4	100	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	104	80-120

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #: 269778	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: MW-3D	Batch#: 227233
Lab ID: 269778-011	Sampled: 09/10/15
Matrix: Water	Received: 09/14/15
Units: ug/L	Analyzed: 09/17/15
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	1.4	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	108	80-128
1,2-Dichloroethane-d4	114	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	105	80-120

ND= Not Detected  
 RL= Reporting Limit



### Purgeable Organics by GC/MS

Lab #: 269778	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: MW-4D	Batch#: 227233
Lab ID: 269778-012	Sampled: 09/10/15
Matrix: Water	Received: 09/14/15
Units: ug/L	Analyzed: 09/17/15
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	111	80-128
1,2-Dichloroethane-d4	107	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	107	80-120

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #: 269778	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: EX-1	Batch#: 227233
Lab ID: 269778-013	Sampled: 09/10/15
Matrix: Water	Received: 09/14/15
Units: ug/L	Analyzed: 09/17/15
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	0.66	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	0.82	0.50
o-Xylene	0.71	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	111	80-128
1,2-Dichloroethane-d4	113	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	105	80-120

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #: 269778	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: EX-2	Batch#: 227233
Lab ID: 269778-014	Sampled: 09/10/15
Matrix: Water	Received: 09/14/15
Units: ug/L	Analyzed: 09/17/15
Diln Fac: 2.000	

Analyte	Result	RL
Gasoline C7-C12	670	100
tert-Butyl Alcohol (TBA)	ND	20
Isopropyl Ether (DIPE)	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	1.0
Ethanol	ND	2,000
MTBE	ND	1.0
1,2-Dichloroethane	ND	1.0
Benzene	8.1	1.0
Toluene	ND	1.0
1,2-Dibromoethane	ND	1.0
Ethylbenzene	13	1.0
m,p-Xylenes	21	1.0
o-Xylene	6.4	1.0

Surrogate	%REC	Limits
Dibromofluoromethane	109	80-128
1,2-Dichloroethane-d4	108	75-139
Toluene-d8	96	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #: 269778	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: MPE-1	Batch#: 227233
Lab ID: 269778-015	Sampled: 09/10/15
Matrix: Water	Received: 09/14/15
Units: ug/L	Analyzed: 09/17/15
Diln Fac: 10.00	

Analyte	Result	RL
Gasoline C7-C12	9,600	500
tert-Butyl Alcohol (TBA)	ND	100
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
Methyl tert-Amyl Ether (TAME)	85	5.0
Ethanol	ND	10,000
MTBE	50	5.0
1,2-Dichloroethane	ND	5.0
Benzene	590	5.0
Toluene	150	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	83	5.0
m,p-Xylenes	290	5.0
o-Xylene	300	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	111	80-128
1,2-Dichloroethane-d4	115	75-139
Toluene-d8	100	80-120
Bromofluorobenzene	90	80-120

ND= Not Detected  
 RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #: 269778	Location: 15101 Freedom Avenue San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2551	Analysis: EPA 8260B
Field ID: MPE-2	Batch#: 227233
Lab ID: 269778-016	Sampled: 09/10/15
Matrix: Water	Received: 09/14/15
Units: ug/L	Analyzed: 09/17/15
Diln Fac: 14.29	

Analyte	Result	RL
Gasoline C7-C12	21,000	710
tert-Butyl Alcohol (TBA)	ND	140
Isopropyl Ether (DIPE)	ND	7.1
Ethyl tert-Butyl Ether (ETBE)	ND	7.1
Methyl tert-Amyl Ether (TAME)	ND	7.1
Ethanol	ND	14,000
MTBE	9.3	7.1
1,2-Dichloroethane	ND	7.1
Benzene	1,000	7.1
Toluene	ND	7.1
1,2-Dibromoethane	ND	7.1
Ethylbenzene	1,200	7.1
m,p-Xylenes	760	7.1
o-Xylene	ND	7.1

Surrogate	%REC	Limits
Dibromofluoromethane	108	80-128
1,2-Dichloroethane-d4	109	75-139
Toluene-d8	96	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

Purgeable Organics by GC/MS			
Lab #:	269778	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	227233
Units:	ug/L	Analyzed:	09/16/15
Diln Fac:	1.000		

Type: BS Lab ID: QC803859

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	62.50	74.25	119	32-155
Isopropyl Ether (DIPE)	12.50	13.15	105	57-128
Ethyl tert-Butyl Ether (ETBE)	12.50	13.02	104	62-120
Methyl tert-Amyl Ether (TAME)	12.50	12.43	99	69-120
MTBE	12.50	13.29	106	65-120
1,2-Dichloroethane	12.50	13.09	105	74-133
Benzene	12.50	13.12	105	80-123
Toluene	12.50	12.67	101	80-121
1,2-Dibromoethane	12.50	12.35	99	80-120
Ethylbenzene	12.50	12.27	98	80-123
m,p-Xylenes	25.00	24.42	98	80-126
o-Xylene	12.50	12.26	98	80-126

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-128
1,2-Dichloroethane-d4	110	75-139
Toluene-d8	94	80-120
Bromofluorobenzene	97	80-120

Type: BSD Lab ID: QC803860

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	62.50	73.72	118	32-155	1	33
Isopropyl Ether (DIPE)	12.50	11.92	95	57-128	10	20
Ethyl tert-Butyl Ether (ETBE)	12.50	11.82	95	62-120	10	20
Methyl tert-Amyl Ether (TAME)	12.50	11.38	91	69-120	9	20
MTBE	12.50	12.62	101	65-120	5	22
1,2-Dichloroethane	12.50	13.03	104	74-133	1	20
Benzene	12.50	12.16	97	80-123	8	20
Toluene	12.50	11.63	93	80-121	9	20
1,2-Dibromoethane	12.50	12.22	98	80-120	1	20
Ethylbenzene	12.50	11.67	93	80-123	5	21
m,p-Xylenes	25.00	23.26	93	80-126	5	21
o-Xylene	12.50	11.75	94	80-126	4	20

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-128
1,2-Dichloroethane-d4	111	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	101	80-120

RPD= Relative Percent Difference

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>		
Lab #:	269778	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:	QC803861	Batch#: 227233
Matrix:	Water	Analyzed: 09/17/15
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	110	80-128
1,2-Dichloroethane-d4	112	75-139
Toluene-d8	94	80-120
Bromofluorobenzene	106	80-120

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	269778	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	227233
Units:	ug/L	Analyzed:	09/16/15
Diln Fac:	1.000		

Type: BS Lab ID: QC803862

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	978.2	98	76-120

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-128
1,2-Dichloroethane-d4	107	75-139
Toluene-d8	96	80-120
Bromofluorobenzene	100	80-120

Type: BSD Lab ID: QC803863

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	893.7	89	76-120	9	20

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-128
1,2-Dichloroethane-d4	106	75-139
Toluene-d8	96	80-120
Bromofluorobenzene	98	80-120

RPD= Relative Percent Difference



**Batch QC Report**

Purgeable Organics by GC/MS			
Lab #:	269778	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	227247
Units:	ug/L	Analyzed:	09/16/15
Diln Fac:	1.000		

Type: BS Lab ID: QC803915

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	62.50	46.70	75	32-155
Isopropyl Ether (DIPE)	12.50	12.68	101	57-128
Ethyl tert-Butyl Ether (ETBE)	12.50	12.79	102	62-120
Methyl tert-Amyl Ether (TAME)	12.50	11.86	95	69-120
MTBE	12.50	12.40	99	65-120
1,2-Dichloroethane	12.50	13.50	108	74-133
Benzene	12.50	14.27	114	80-123
Toluene	12.50	13.79	110	80-121
1,2-Dibromoethane	12.50	12.70	102	80-120
Ethylbenzene	12.50	13.67	109	80-123
m,p-Xylenes	25.00	27.09	108	80-126
o-Xylene	12.50	13.65	109	80-126

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-128
1,2-Dichloroethane-d4	95	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	100	80-120

Type: BSD Lab ID: QC803916

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	62.50	51.36	82	32-155	9	33
Isopropyl Ether (DIPE)	12.50	12.93	103	57-128	2	20
Ethyl tert-Butyl Ether (ETBE)	12.50	12.89	103	62-120	1	20
Methyl tert-Amyl Ether (TAME)	12.50	11.92	95	69-120	1	20
MTBE	12.50	12.63	101	65-120	2	22
1,2-Dichloroethane	12.50	13.71	110	74-133	1	20
Benzene	12.50	14.17	113	80-123	1	20
Toluene	12.50	13.82	111	80-121	0	20
1,2-Dibromoethane	12.50	13.17	105	80-120	4	20
Ethylbenzene	12.50	13.84	111	80-123	1	21
m,p-Xylenes	25.00	27.46	110	80-126	1	21
o-Xylene	12.50	13.79	110	80-126	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-128
1,2-Dichloroethane-d4	94	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	101	80-120

RPD= Relative Percent Difference

## Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	269778	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:	QC803917	Batch#: 227247
Matrix:	Water	Analyzed: 09/16/15
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	101	80-128
1,2-Dichloroethane-d4	98	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	110	80-120

ND= Not Detected

RL= Reporting Limit

## Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	269778	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	227247
Units:	ug/L	Analyzed:	09/16/15
Diln Fac:	1.000		

Type: BS Lab ID: QC803918

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	899.1	90	76-120

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-128
1,2-Dichloroethane-d4	96	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	100	80-120

Type: BSD Lab ID: QC803919

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	873.6	87	76-120	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-128
1,2-Dichloroethane-d4	96	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	100	80-120

RPD= Relative Percent Difference

**Batch QC Report**

Purgeable Organics by GC/MS			
Lab #:	269778	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	227325
Units:	ug/L	Analyzed:	09/18/15
Diln Fac:	1.000		

Type: BS Lab ID: QC804238

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	62.50	60.06	96	32-155
Isopropyl Ether (DIPE)	12.50	13.63	109	57-128
Ethyl tert-Butyl Ether (ETBE)	12.50	13.73	110	62-120
Methyl tert-Amyl Ether (TAME)	12.50	12.94	104	69-120
MTBE	12.50	13.61	109	65-120
1,2-Dichloroethane	12.50	14.28	114	74-133
Benzene	12.50	14.73	118	80-123
Toluene	12.50	14.23	114	80-121
1,2-Dibromoethane	12.50	13.59	109	80-120
Ethylbenzene	12.50	14.55	116	80-123
m,p-Xylenes	25.00	28.47	114	80-126
o-Xylene	12.50	14.36	115	80-126

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-128
1,2-Dichloroethane-d4	95	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	101	80-120

Type: BSD Lab ID: QC804239

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	62.50	49.02	78	32-155	20	33
Isopropyl Ether (DIPE)	12.50	13.16	105	57-128	3	20
Ethyl tert-Butyl Ether (ETBE)	12.50	13.21	106	62-120	4	20
Methyl tert-Amyl Ether (TAME)	12.50	12.36	99	69-120	5	20
MTBE	12.50	12.93	103	65-120	5	22
1,2-Dichloroethane	12.50	13.17	105	74-133	8	20
Benzene	12.50	14.18	113	80-123	4	20
Toluene	12.50	13.69	110	80-121	4	20
1,2-Dibromoethane	12.50	12.88	103	80-120	5	20
Ethylbenzene	12.50	13.73	110	80-123	6	21
m,p-Xylenes	25.00	26.45	106	80-126	7	21
o-Xylene	12.50	13.24	106	80-126	8	20

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-128
1,2-Dichloroethane-d4	95	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	103	80-120

RPD= Relative Percent Difference

## Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	269778	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:	QC804240	Batch#: 227325
Matrix:	Water	Analyzed: 09/18/15
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	100	80-128
1,2-Dichloroethane-d4	98	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	123 *	80-120

\*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

## Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	269778	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	227325
Units:	ug/L	Analyzed:	09/18/15
Diln Fac:	1.000		

Type: BS Lab ID: QC804241

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	847.0	85	76-120

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-128
1,2-Dichloroethane-d4	94	75-139
Toluene-d8	96	80-120
Bromofluorobenzene	104	80-120

Type: BSD Lab ID: QC804242

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	903.2	90	76-120	6	20

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-128
1,2-Dichloroethane-d4	95	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	106	80-120

RPD= Relative Percent Difference

Date : 18-SEP-2015 23:08

Client ID: DYNA P&T

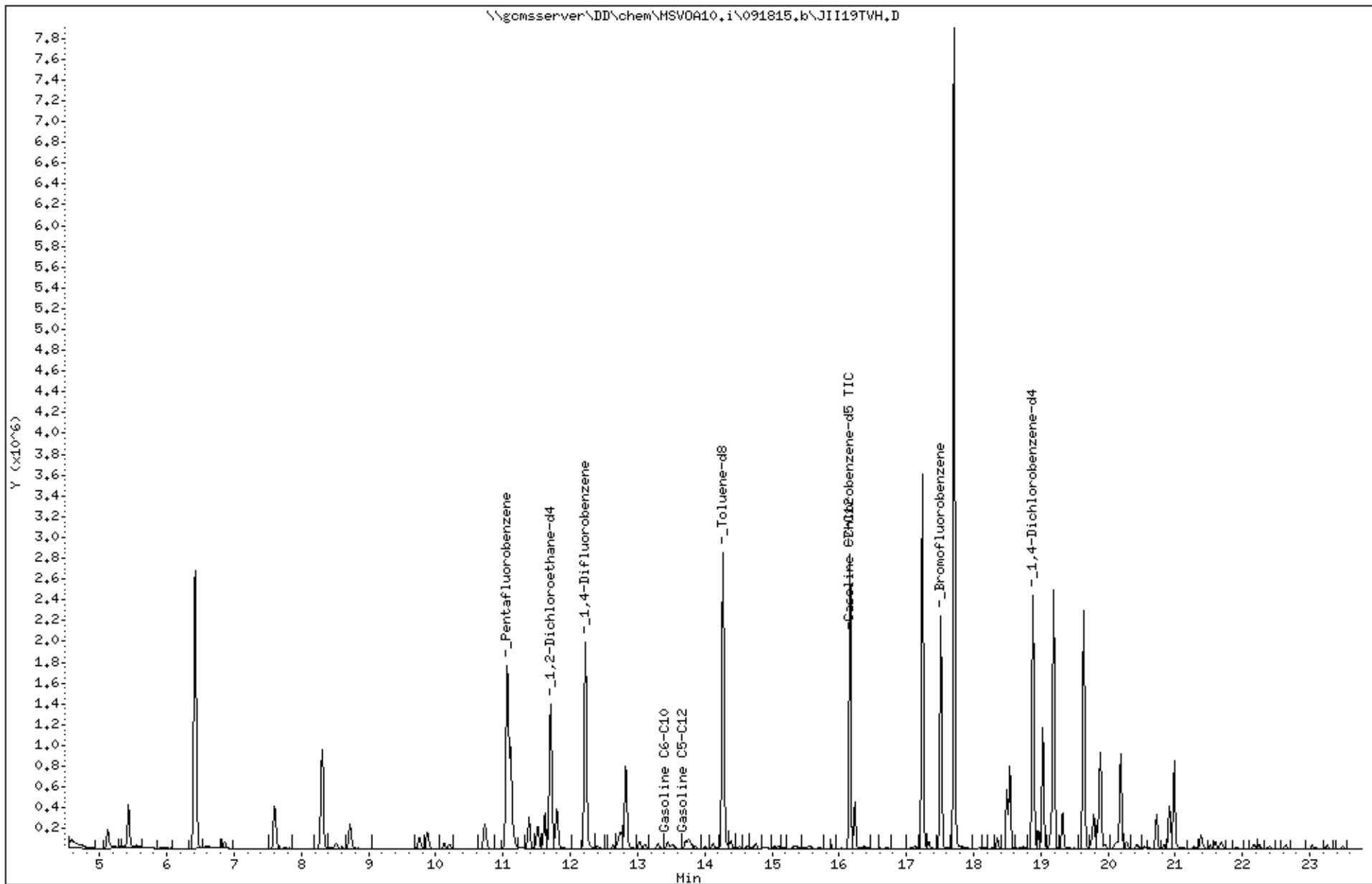
Sample Info: s,269778-001

Instrument: MSV0A10.i

Operator: VOA

Column diameter: 2.00

Column phase:



Date : 17-SEP-2015 00:10

Client ID: DYNA P&T

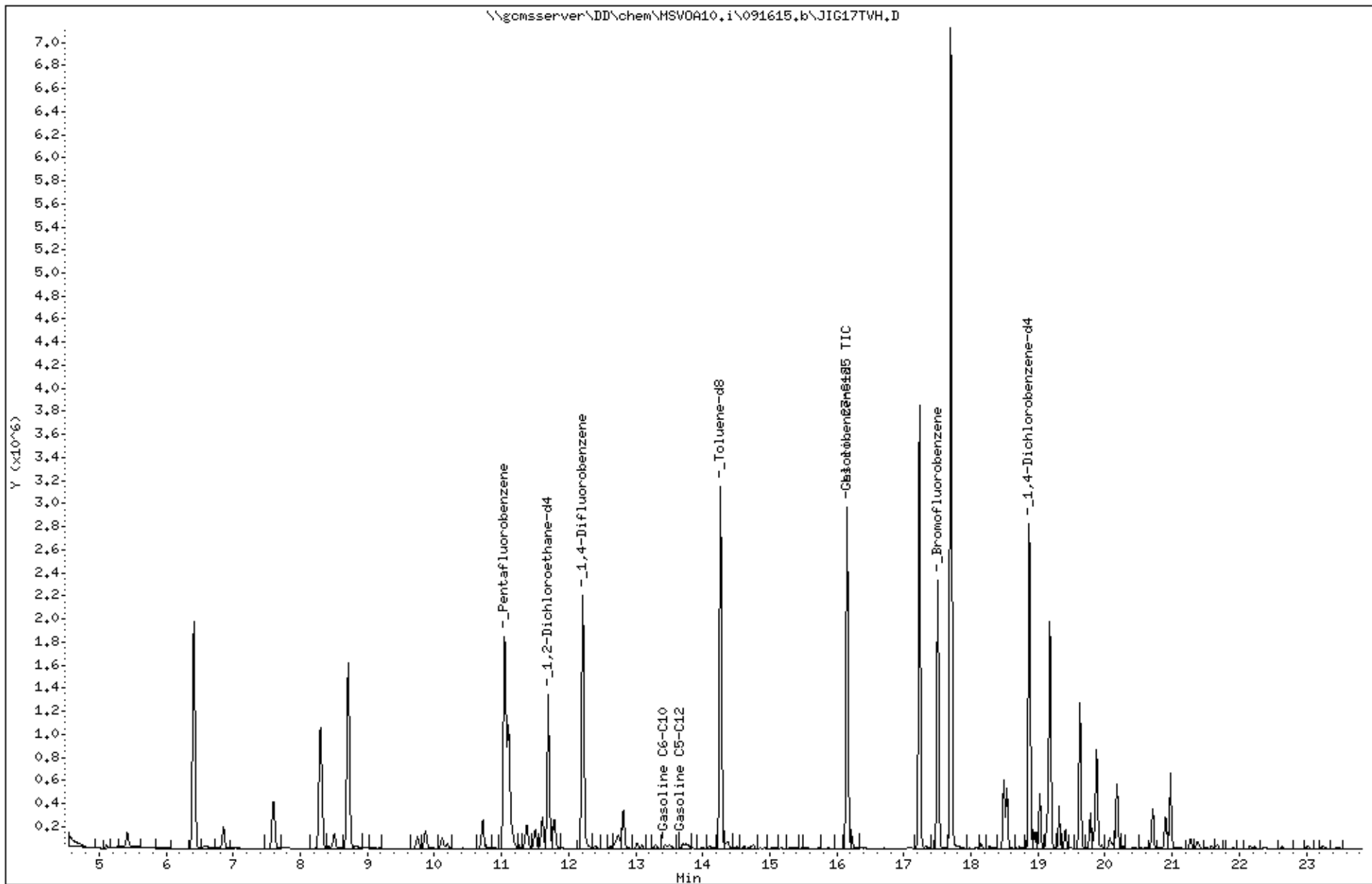
Sample Info: s,269778-002

Instrument: MSV0A10.i

Operator: VOA

Column diameter: 2.00

Column phase:





Date : 17-SEP-2015 03:50

Client ID: DYNA P&T

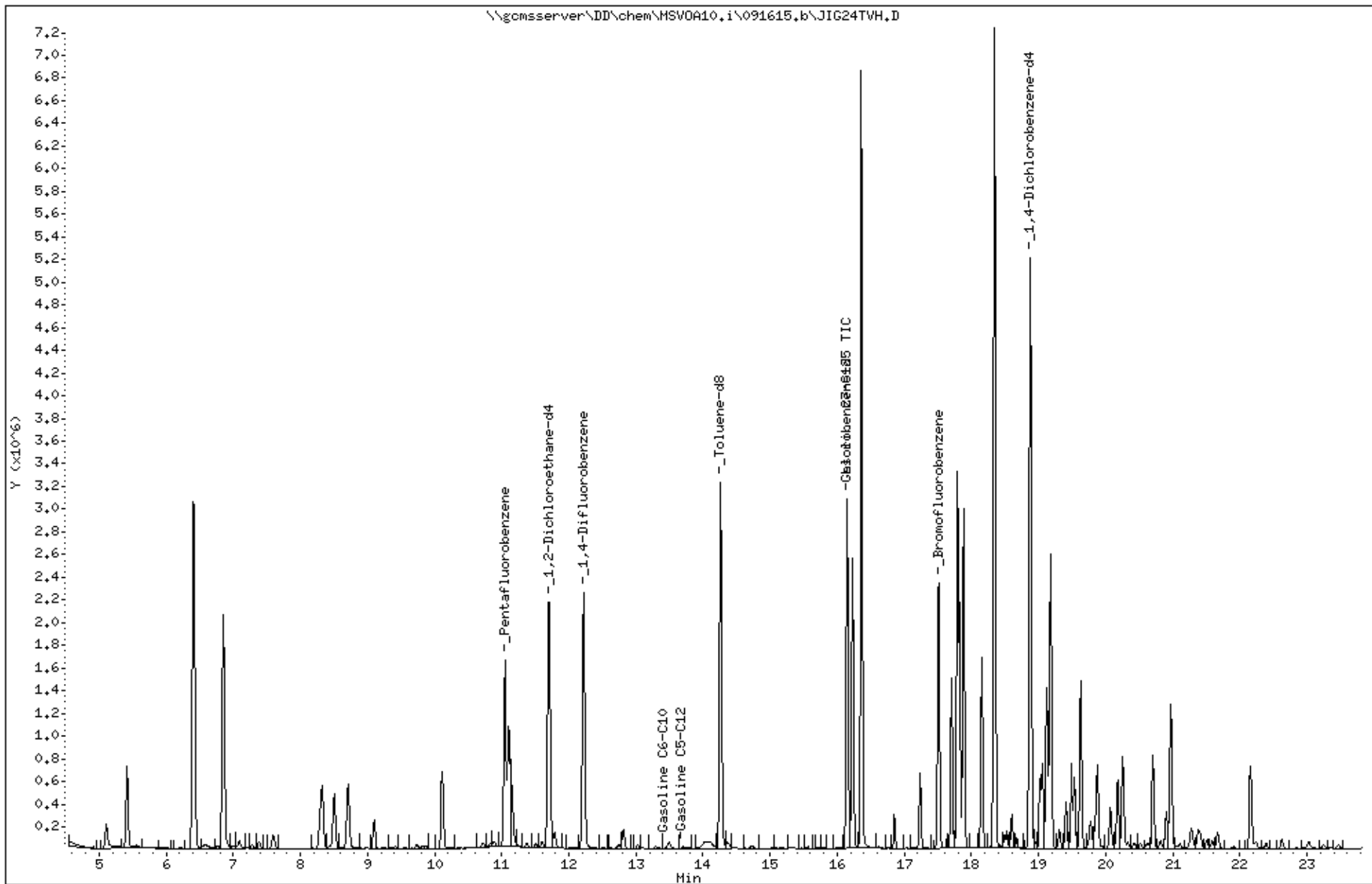
Sample Info: s,269778-003

Instrument: MSV0A10.i

Operator: VOA

Column diameter: 2.00

Column phase:



Date : 17-SEP-2015 00:42

Client ID: DYNA P&T

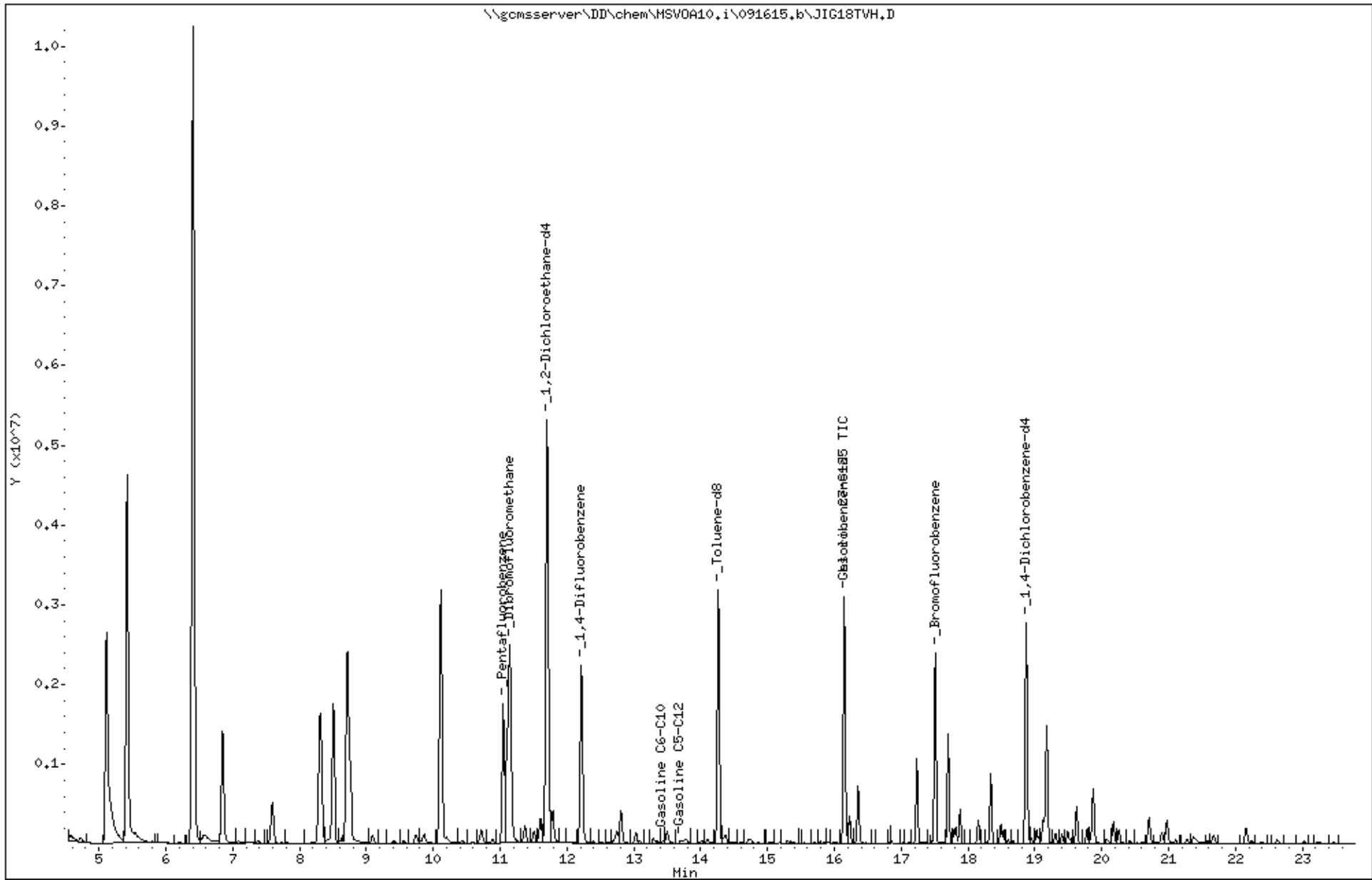
Sample Info: s,269778-004

Instrument: MSV0A10.i

Operator: VOA

Column diameter: 2.00

Column phase:



Date : 16-SEP-2015 22:36

Client ID: DYNA P&T

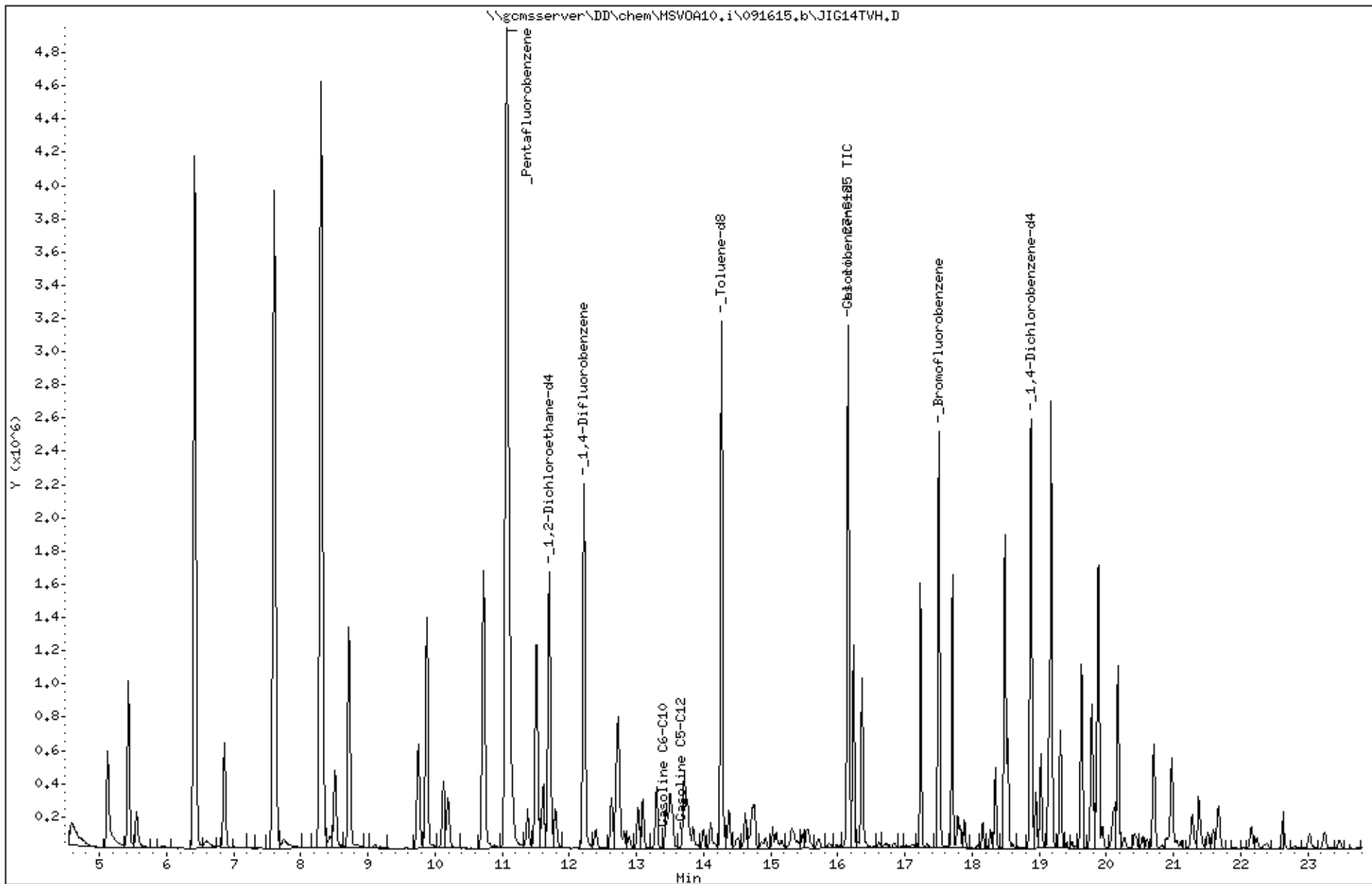
Sample Info: s,269778-005

Instrument: MSV0A10.i

Operator: VOA

Column diameter: 2.00

Column phase:



Date : 17-SEP-2015 01:45

Client ID: DYNA P&T

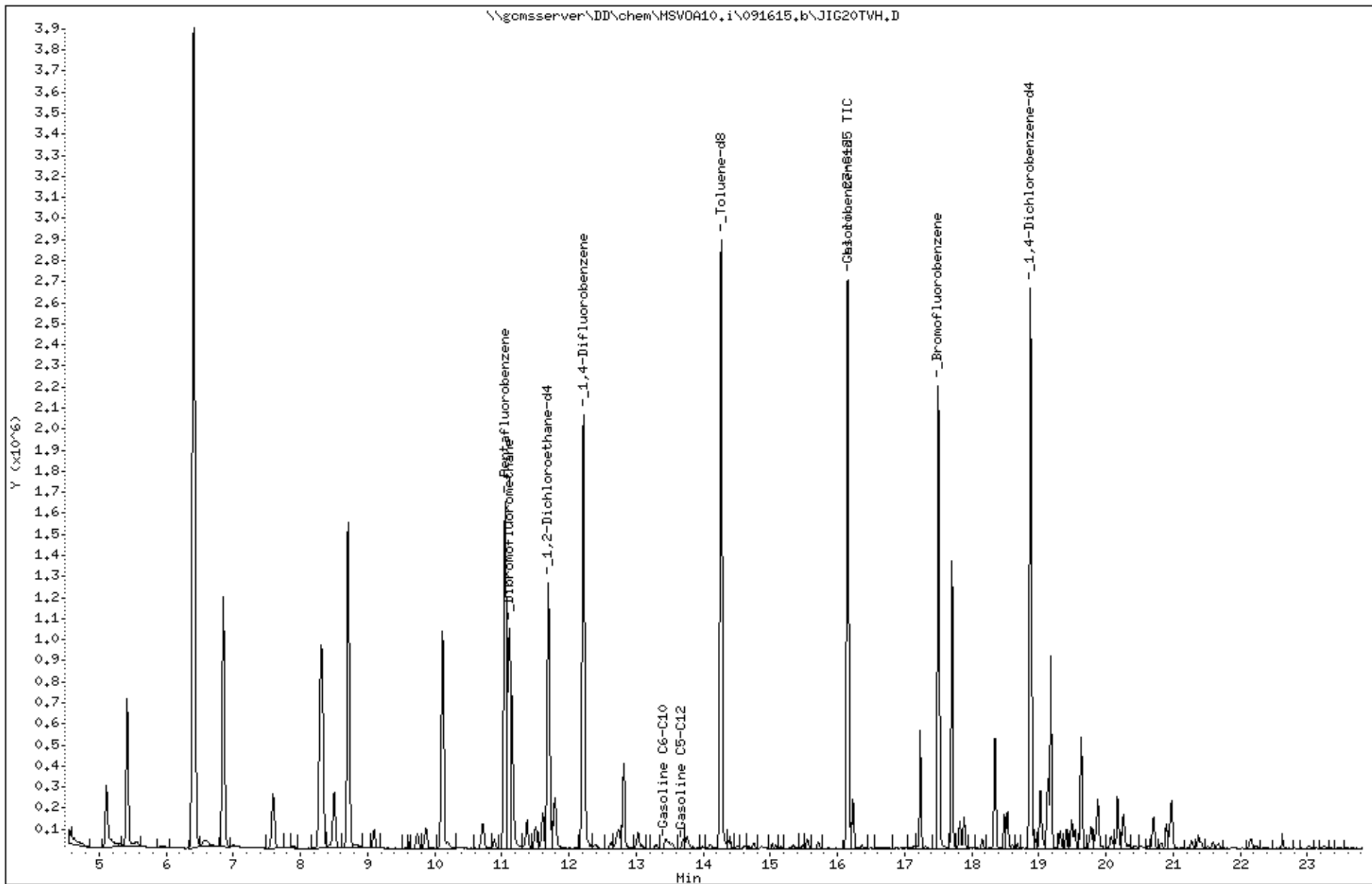
Sample Info: s,269778-006

Instrument: MSV0A10.i

Operator: VOA

Column diameter: 2.00

Column phase:



Date : 18-SEP-2015 23:39

Client ID: DYNA P&T

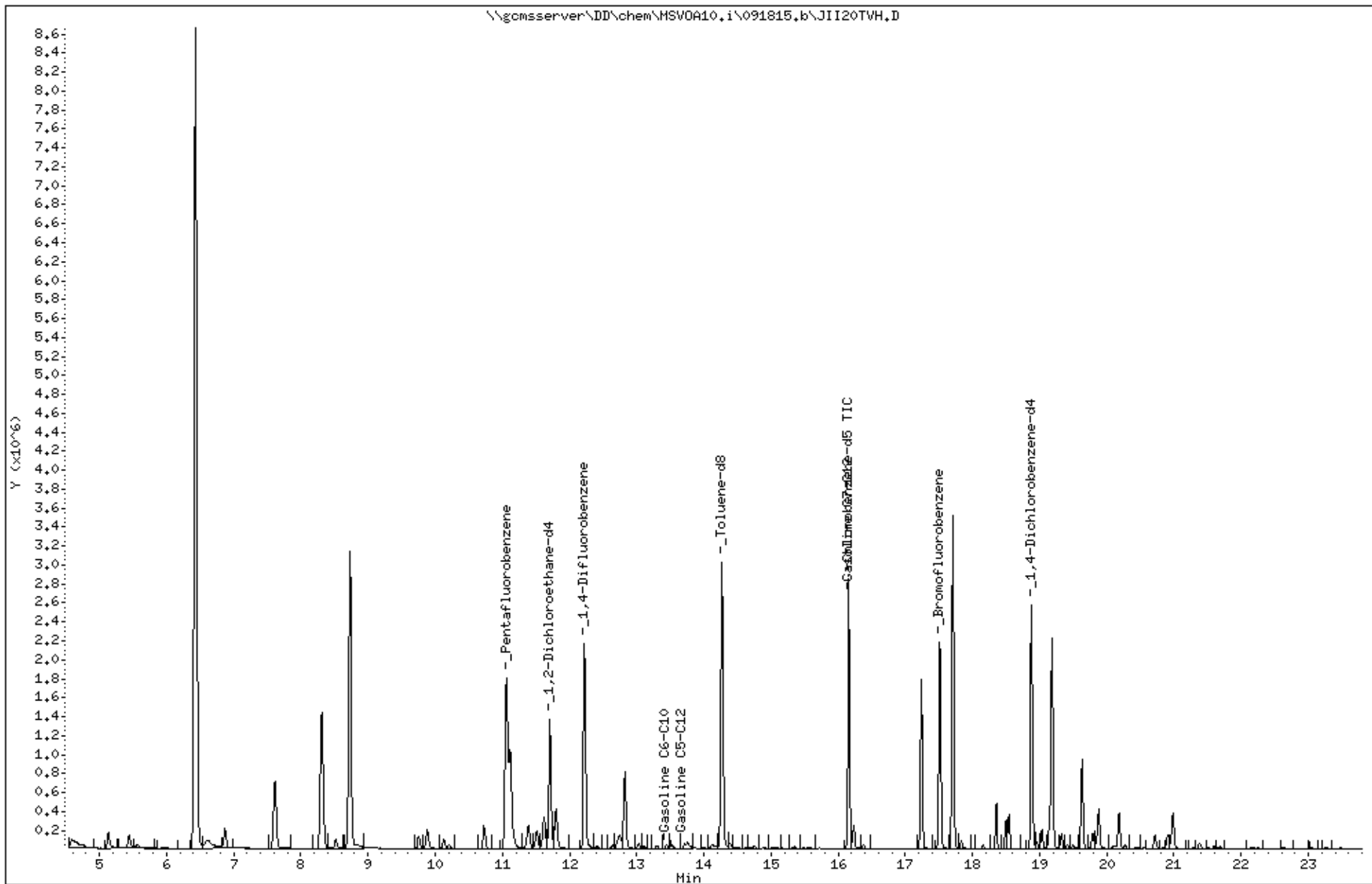
Sample Info: s,269778-007

Instrument: MSV0A10.i

Operator: VOA

Column diameter: 2.00

Column phase:



Date : 19-SEP-2015 00:41

Client ID: DYNA P&T

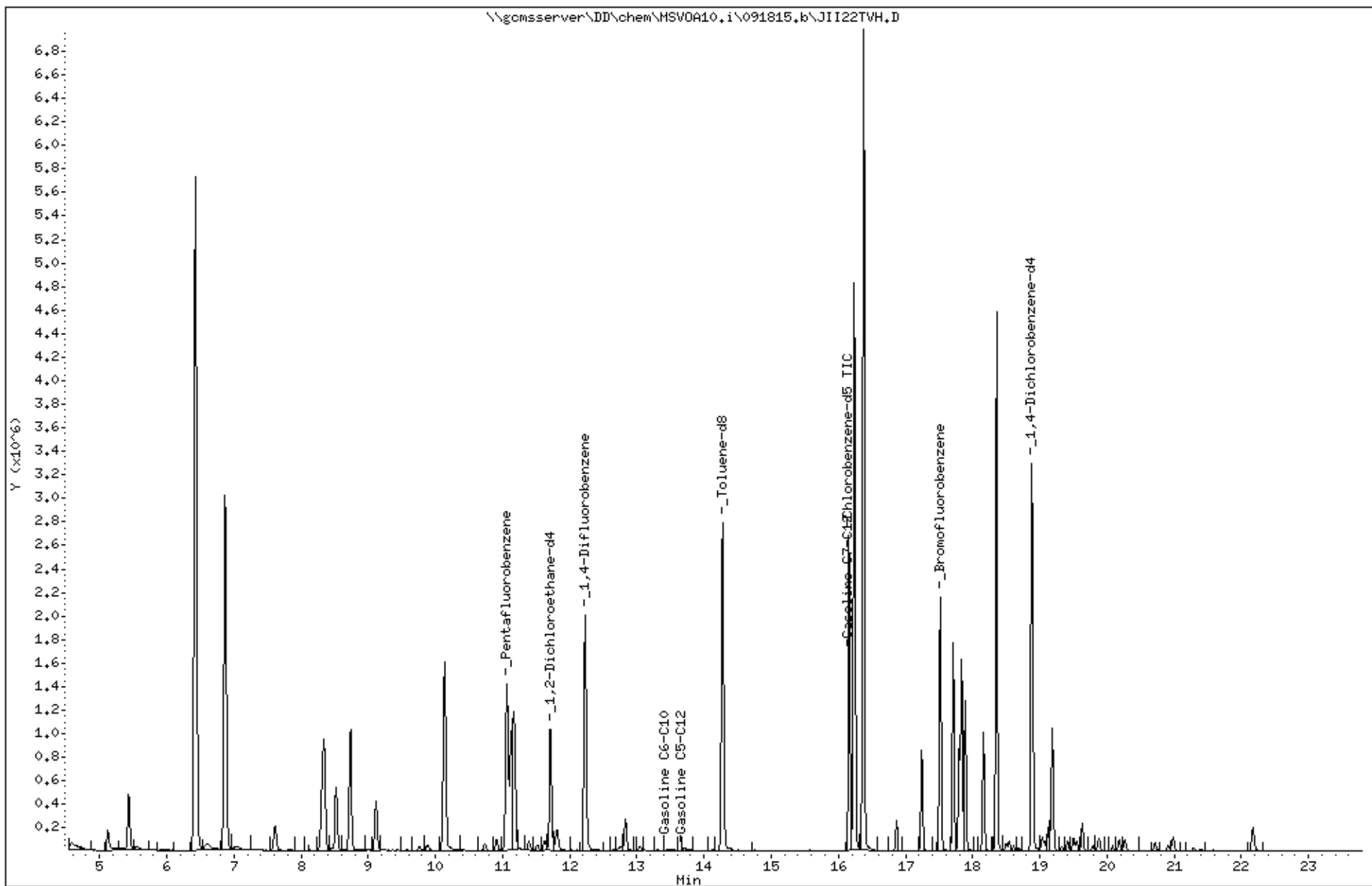
Sample Info: s,269778-008

Instrument: MSV0A10.i

Operator: VOA

Column diameter: 2.00

Column phase:



Date : 16-SEP-2015 23:08

Client ID: DYNA P&T

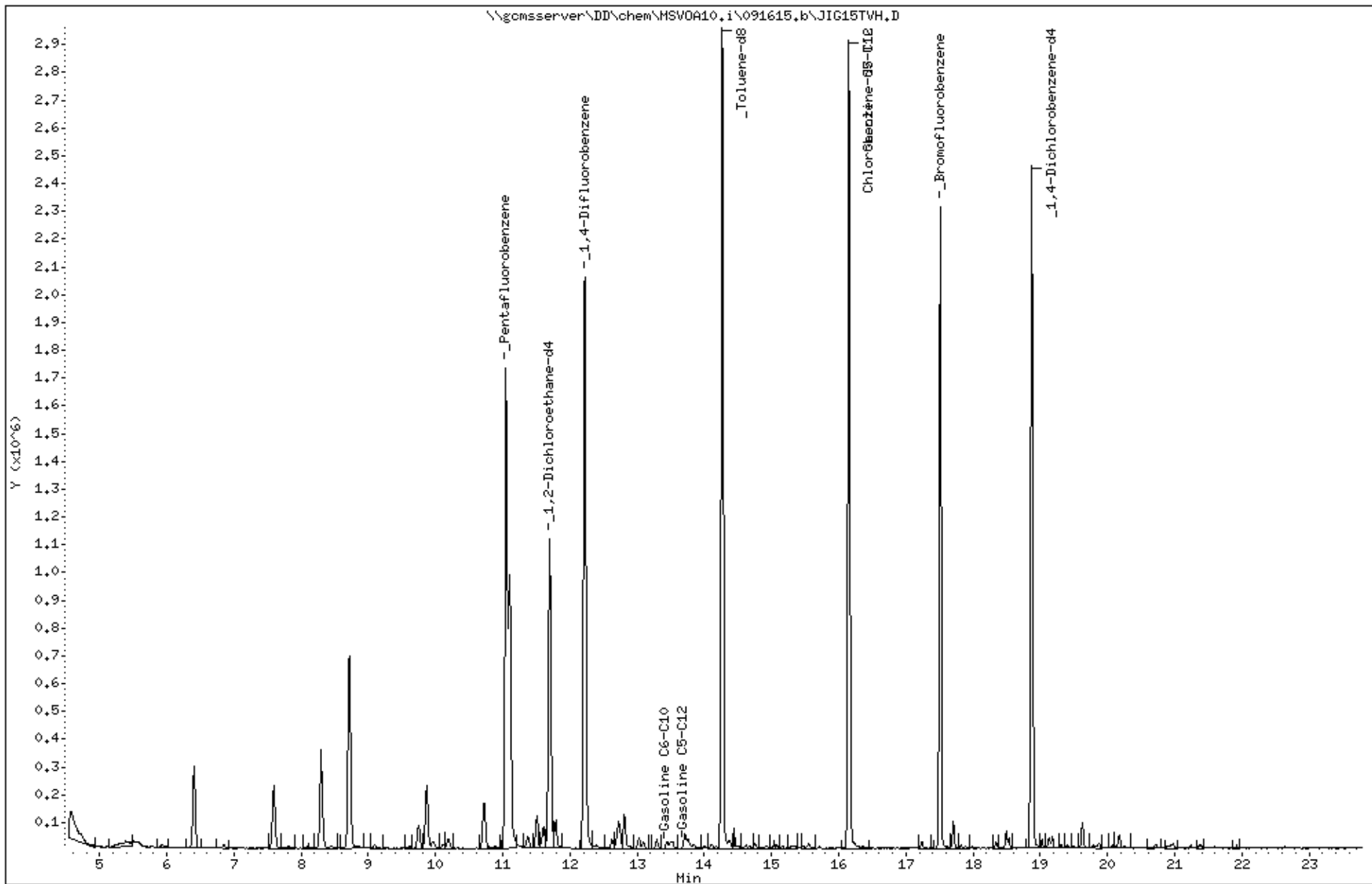
Sample Info: s,269778-009

Instrument: MSV0A10.i

Operator: VOA

Column diameter: 2.00

Column phase:

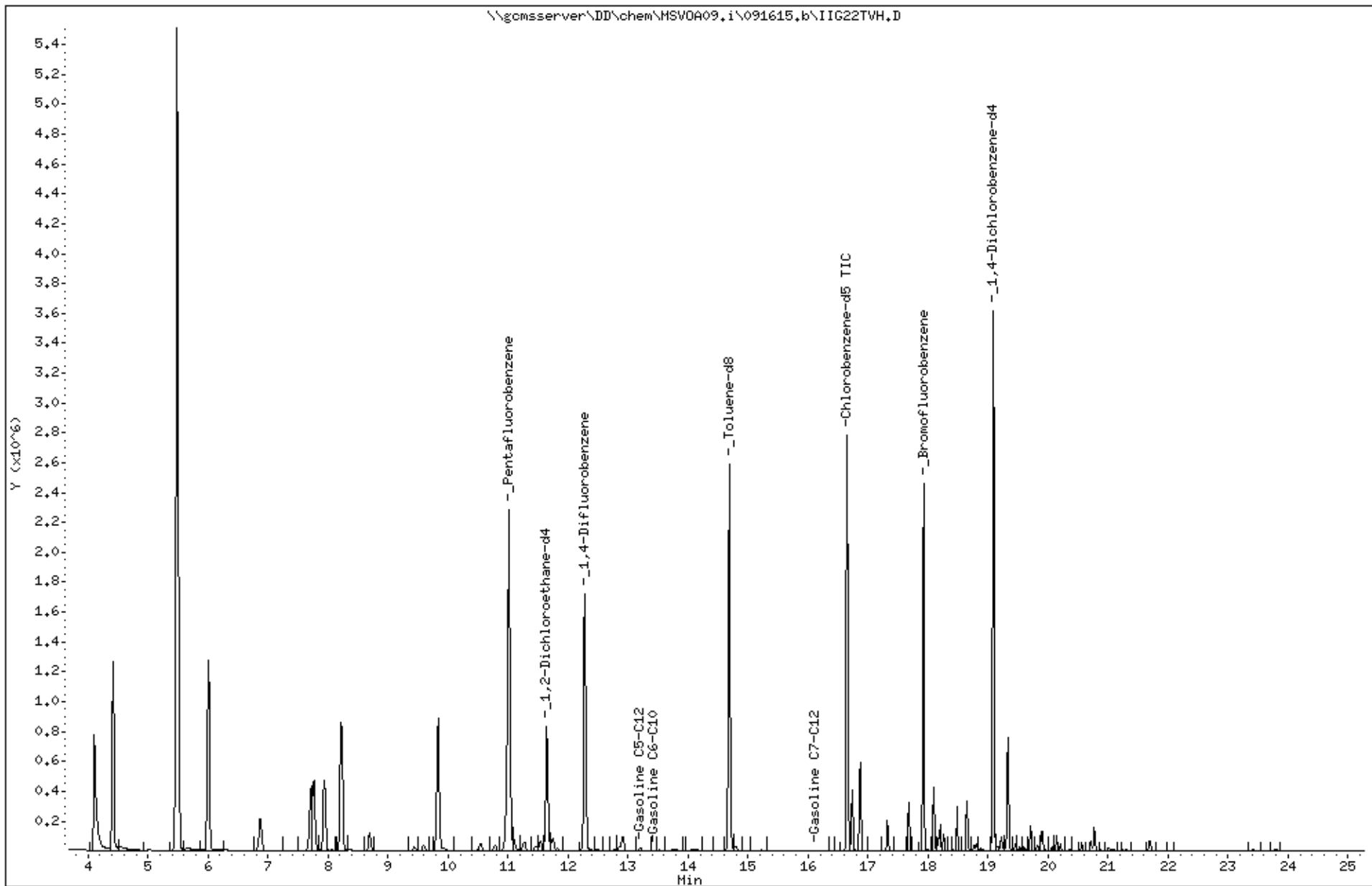


Date : 17-SEP-2015 02:47  
Client ID: DYNA P&T  
Sample Info: s,269778-014

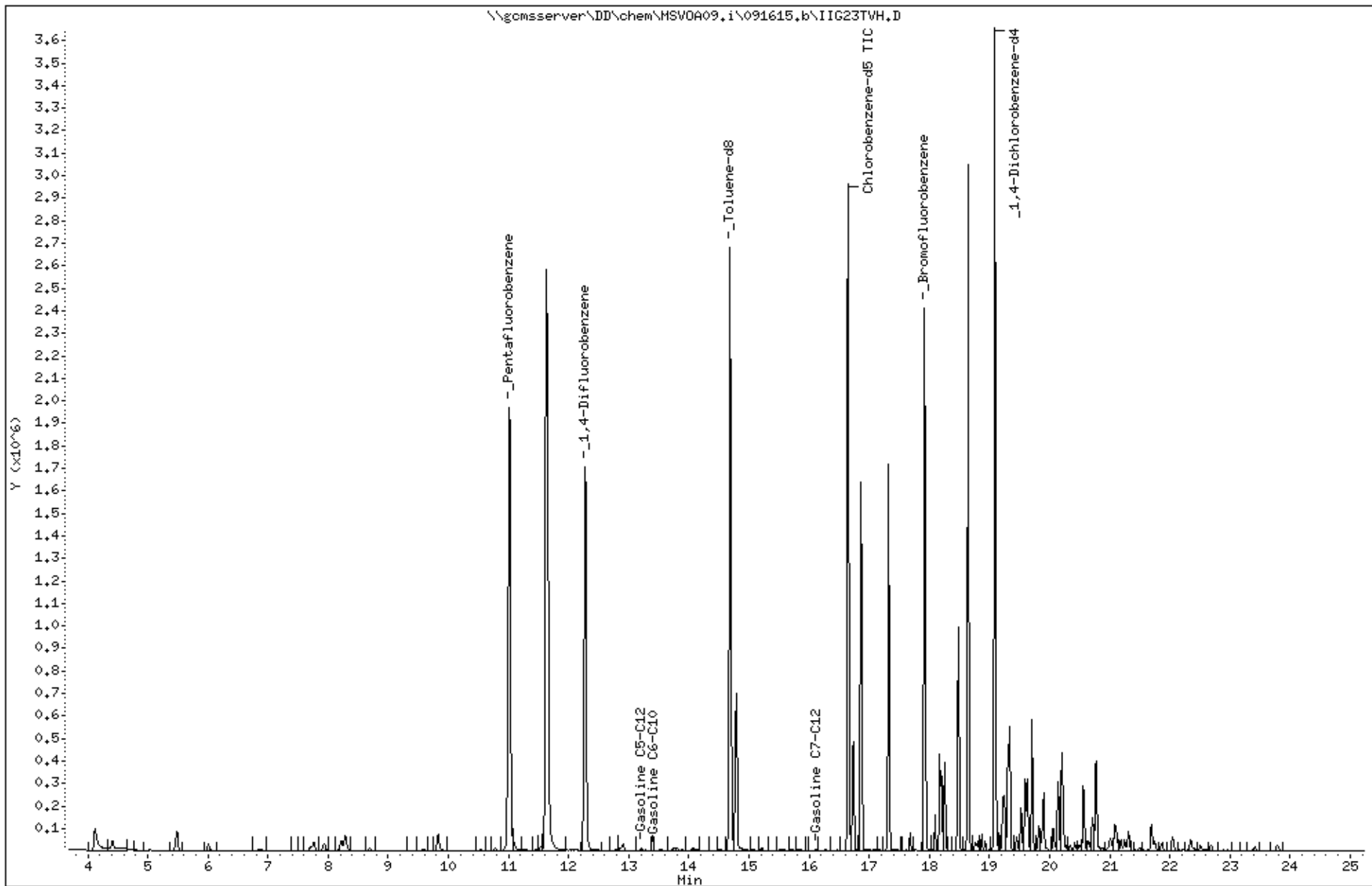
Instrument: MSV0A09.i

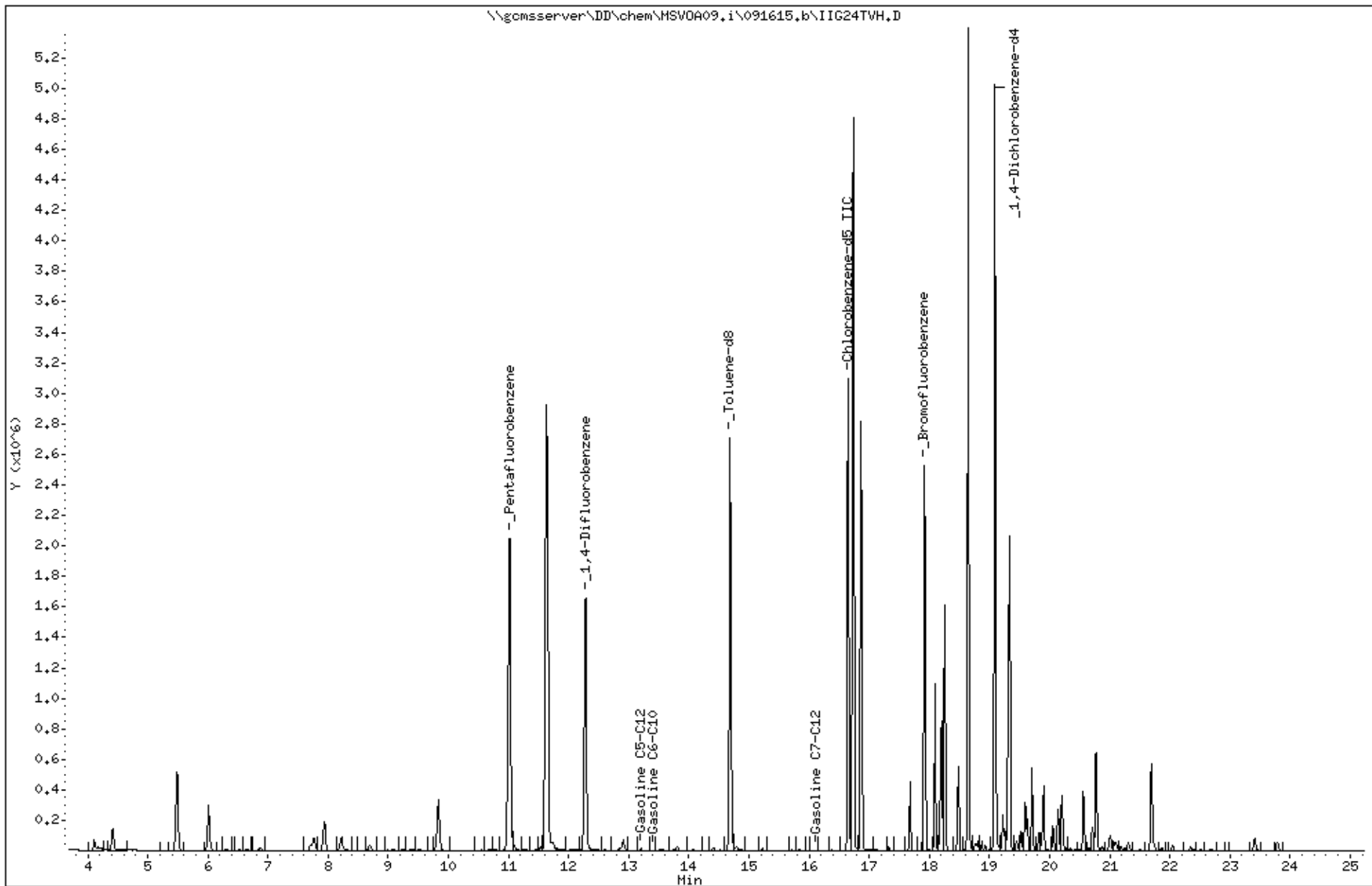
Operator: VOC  
Column diameter: 2.00

Column phase:









Date : 16-SEP-2015 21:07

Client ID: DYNA P&T

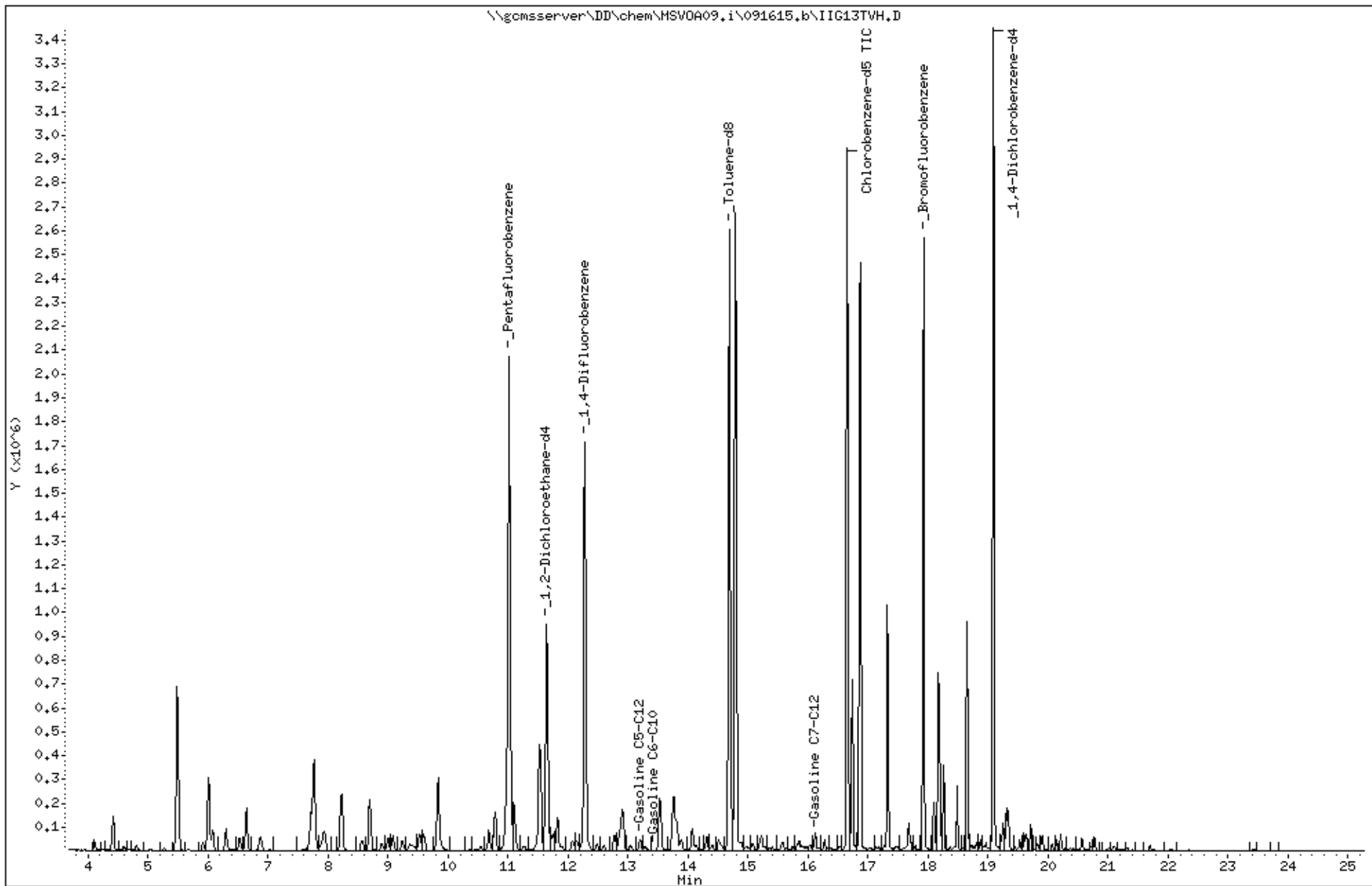
Sample Info: bs,qc803862,227233,s27677,0,01/100

Instrument: MSV0A09.i

Operator: VOC

Column diameter: 2.00

Column phase:



# Appendix D

## Laboratory Reports and Chain of Custody Forms for the Treatment System



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

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

**Laboratory Job Number 268175  
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	268175-001
GAC-1	268175-002
INFLUENT	268175-003

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  
tracy.babjar@ctberk.com  
(510) 204-2226

Date: 07/21/2015

CA ELAP# 2896, NELAP# 4044-001

### CASE NARRATIVE

Laboratory number: 268175  
Client: SOMA Environmental Engineering Inc.  
Project: 2553  
Location: 15101 Freedom Ave. San Leandro  
Request Date: 07/14/15  
Samples Received: 07/14/15

This data package contains sample and QC results for three water samples, requested for the above referenced project on 07/14/15. The samples were received cold and intact.

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

High surrogate recovery was observed for bromofluorobenzene (FID) in the MSD for batch 225066; the parent sample was not a project sample. No other analytical problems were encountered.

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

No analytical problems were encountered.



COOLER RECEIPT CHECKLIST



Login # 268175 Date Received 7/14/15 Number of coolers 1
Client SOMA Environmental Project 15101 Freedom Ave, San Leandro

Date Opened 7/14 By (print) BL (sign) [Signature]
Date Logged in [Signature] 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, Cloth material, Foam blocks, Cardboard, Bags, Styrofoam, None, 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

[Blank lines for comments]



## Detections Summary for 268175

Results for any subcontracted analyses are not included in this summary.

Client : SOMA Environmental Engineering Inc.  
 Project : 2553  
 Location : 15101 Freedom Ave. San Leandro

Client Sample ID : EFFLUENT                      Laboratory Sample ID :                      268175-001

No Detections

Client Sample ID : GAC-1                      Laboratory Sample ID :                      268175-002

No Detections

Client Sample ID : INFLUENT                      Laboratory Sample ID :                      268175-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	1,000		50	ug/L	As Recd	1.000	EPA 8015B	EPA 5030B
Benzene	31		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
Toluene	4.9		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
Ethylbenzene	24		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
m,p-Xylenes	70		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
o-Xylene	24		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B





## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	268175	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:	QC795448	Batch#:	225066	
Matrix:	Water	Analyzed:	07/14/15	
Units:	ug/L			

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,135	113	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	110	80-132

## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	268175	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2553	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	225066
MSS Lab ID:	268159-001	Sampled:	07/13/15
Matrix:	Water	Received:	07/13/15
Units:	ug/L	Analyzed:	07/14/15
Diln Fac:	1.000		

Type: MS Lab ID: QC795450

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	36.63	2,000	2,131	105	76-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	119	80-132

Type: MSD Lab ID: QC795451

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,083	102	76-120	2	20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	147 *	80-132

\*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference



## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	268175	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:	QC795969	Batch#:	225200	
Matrix:	Water	Analyzed:	07/17/15	
Units:	ug/L			

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,064	106	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	112	80-132

## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	268175	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2553	Analysis:	EPA 8015B
Field ID:	INFLUENT	Batch#:	225200
MSS Lab ID:	268175-003	Sampled:	07/14/15
Matrix:	Water	Received:	07/14/15
Units:	ug/L	Analyzed:	07/17/15
Diln Fac:	1.000		

Type: MS Lab ID: QC795970

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,049	2,000	2,828	89	76-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	111	80-132

Type: MSD Lab ID: QC795971

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,707	83	76-120	4	20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	105	80-132

RPD= Relative Percent Difference



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

Lab #:	268175	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2553	Analysis:	EPA 8021B
Matrix:	Water	Batch#:	225200
Units:	ug/L	Analyzed:	07/17/15
Diln Fac:	1.000		

Type: BS Lab ID: QC796001

Analyte	Spiked	Result	%REC	Limits
Benzene	10.00	10.87	109	80-120
Toluene	10.00	10.85	108	80-120
Ethylbenzene	10.00	10.77	108	80-120
m,p-Xylenes	10.00	11.18	112	80-120
o-Xylene	10.00	10.84	108	80-120

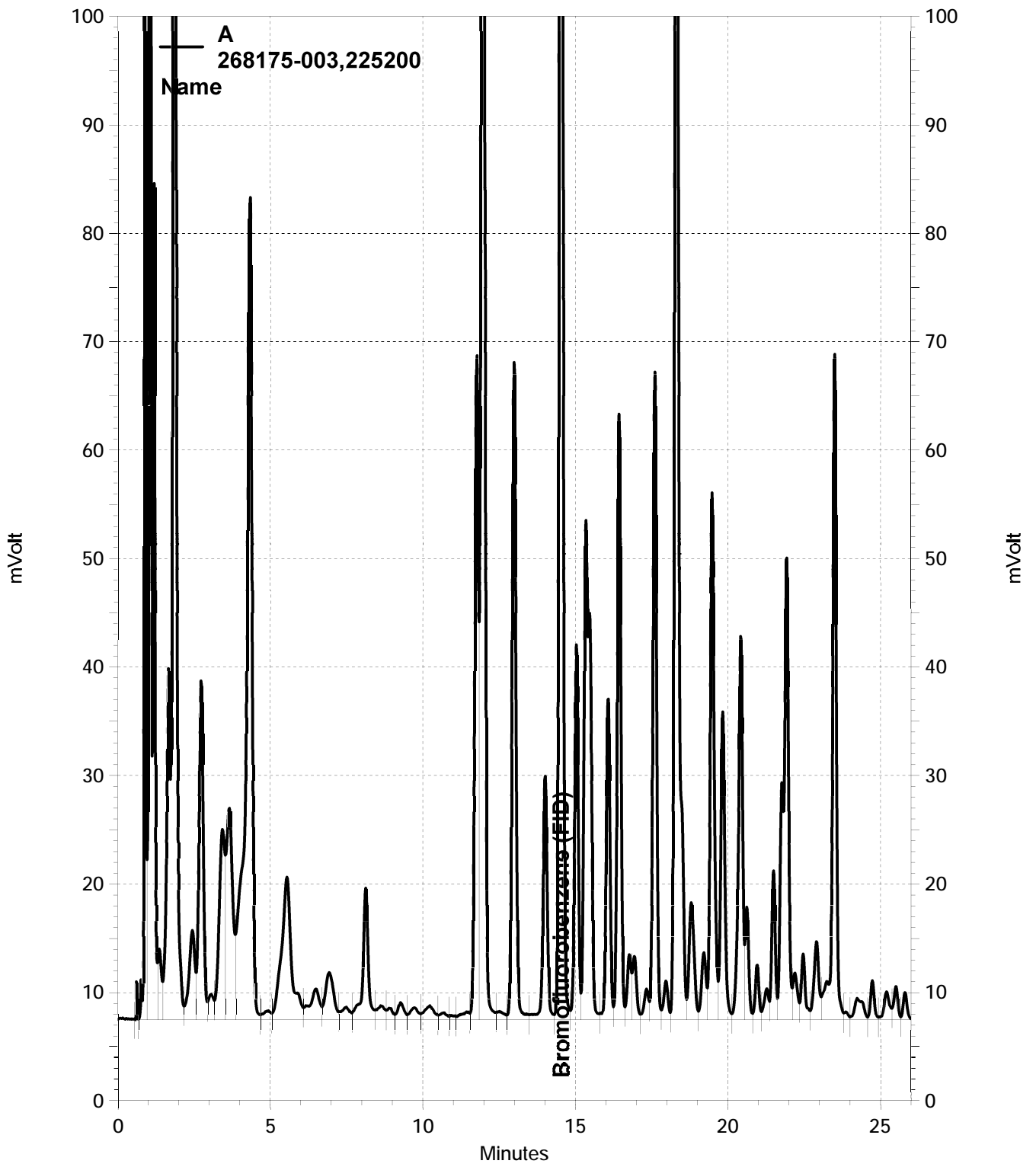
Surrogate	%REC	Limits
Bromofluorobenzene (PID)	108	71-141

Type: BSD Lab ID: QC796002

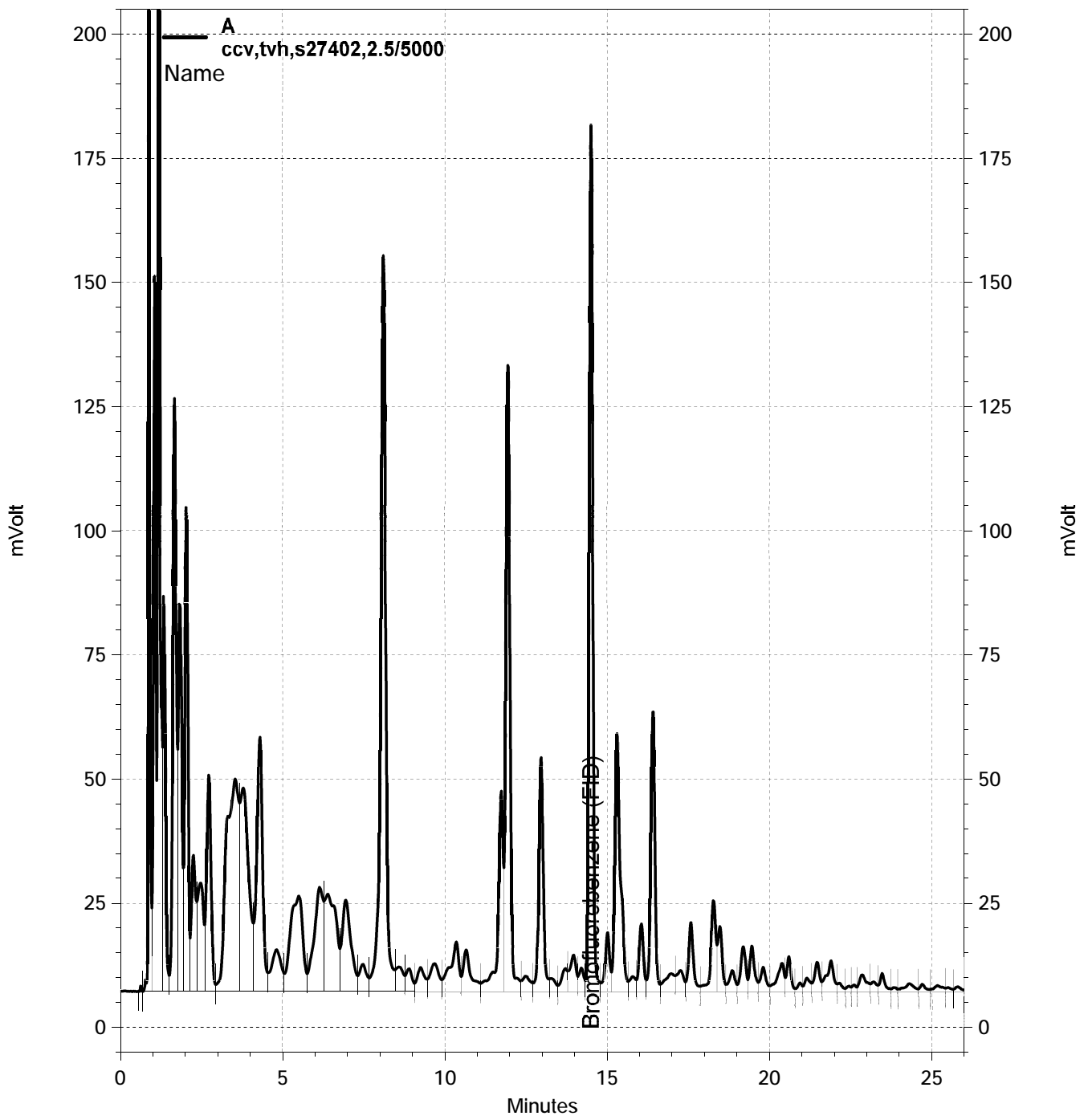
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	10.00	10.66	107	80-120	2	20
Toluene	10.00	10.68	107	80-120	2	20
Ethylbenzene	10.00	11.05	111	80-120	3	20
m,p-Xylenes	10.00	10.99	110	80-120	2	20
o-Xylene	10.00	10.80	108	80-120	0	20

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	104	71-141

RPD= Relative Percent Difference



— \\Lims\gdrive\ezchrom\Projects\GC19\Data\198-015, A



— \\Lims\gdrive\ezchrom\Projects\GC19\Data\195-003, A

Total Extractable Hydrocarbons			
Lab #:	268175	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3520C
Project#:	2553	Analysis:	EPA 8015B
Field ID:	EFFLUENT	Batch#:	225136
Matrix:	Water	Sampled:	07/14/15
Units:	ug/L	Received:	07/14/15
Diln Fac:	1.000		

Type: SAMPLE Prepared: 07/16/15  
 Lab ID: 268175-001 Analyzed: 07/18/15

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

Surrogate	%REC	Limits
o-Terphenyl	89	67-136

Type: BLANK Prepared: 07/15/15  
 Lab ID: QC795717 Analyzed: 07/16/15

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

Surrogate	%REC	Limits
o-Terphenyl	103	67-136

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	268175	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3520C
Project#:	2553	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	225136
Units:	ug/L	Prepared:	07/15/15
Diln Fac:	1.000	Analyzed:	07/16/15

Type: BS Lab ID: QC795718

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,536	101	60-121

Surrogate	%REC	Limits
o-Terphenyl	100	67-136

Type: BSD Lab ID: QC795719

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,528	101	60-121	0	32

Surrogate	%REC	Limits
o-Terphenyl	107	67-136

RPD= Relative Percent Difference



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

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

**Laboratory Job Number 269114  
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  
269114-001

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  
tracy.babjar@ctberk.com  
(510) 204-2226

Date: 08/25/2015

CA ELAP# 2896, NELAP# 4044-001

**CASE NARRATIVE**

Laboratory number: 269114  
Client: SOMA Environmental Engineering Inc.  
Project: 2553  
Location: 15101 Freedom Ave. San Leandro  
Request Date: 08/18/15  
Samples Received: 08/18/15

This data package contains sample and QC results for one water sample, requested for the above referenced project on 08/18/15. The sample was received cold and intact.

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

No analytical problems were encountered.

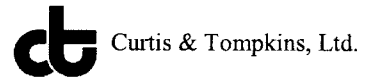
**TPH-Extractables by GC (EPA 8015B):**

No analytical problems were encountered.





COOLER RECEIPT CHECKLIST



Login # 269114 Date Received 8/18/15 Number of coolers 0
Client Soma Environmental Project 1501 Freedom Ave, San Leandro

Date Opened 8/18 By (print) PL (sign) [Signature]
Date Logged in L By (print) L (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)

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

Blank lines for handwritten comments.

Detections Summary for 269114

Results for any subcontracted analyses are not included in this summary.

Client : SOMA Environmental Engineering Inc.  
Project : 2553  
Location : 15101 Freedom Ave. San Leandro

Client Sample ID : EFFLUENT                      Laboratory Sample ID :                      269114-001

No Detections

**Curtis & Tompkins Laboratories Analytical Report**

Lab #: 269114	Location: 15101 Freedom Ave. San Leandro
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2553	
Field ID: EFFLUENT	Batch#: 226261
Matrix: Water	Sampled: 08/18/15
Units: ug/L	Received: 08/18/15
Diln Fac: 1.000	Analyzed: 08/19/15

Type: SAMPLE                      Lab ID: 269114-001

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

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	115	80-132	EPA 8015B
Bromofluorobenzene (PID)	108	71-141	EPA 8021B

Type: BLANK                      Lab ID: QC800057

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)	104	80-132	EPA 8015B
Bromofluorobenzene (PID)	97	71-141	EPA 8021B

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	269114	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:	QC800052	Batch#:	226261	
Matrix:	Water	Analyzed:	08/19/15	
Units:	ug/L			

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	976.0	98	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	100	80-132

## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	269114	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2553	Analysis:	EPA 8021B
Matrix:	Water	Batch#:	226261
Units:	ug/L	Analyzed:	08/19/15
Diln Fac:	1.000		

Type: BS Lab ID: QC800053

Analyte	Spiked	Result	%REC	Limits
Benzene	10.00	9.383	94	80-120
Toluene	10.00	9.336	93	80-120
Ethylbenzene	10.00	9.797	98	80-120
m,p-Xylenes	10.00	9.716	97	80-120
o-Xylene	10.00	9.434	94	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	88	71-141

Type: BSD Lab ID: QC800054

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	10.00	9.815	98	80-120	4	20
Toluene	10.00	9.847	98	80-120	5	20
Ethylbenzene	10.00	9.889	99	80-120	1	20
m,p-Xylenes	10.00	10.37	104	80-120	7	20
o-Xylene	10.00	9.890	99	80-120	5	20

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	95	71-141

RPD= Relative Percent Difference

## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	269114	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2553	Analysis:	EPA 8015B
Field ID:	EFFLUENT	Batch#:	226261
MSS Lab ID:	269114-001	Sampled:	08/18/15
Matrix:	Water	Received:	08/18/15
Units:	ug/L	Analyzed:	08/19/15
Diln Fac:	1.000		

Type: MS Lab ID: QC800055

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	11.22	2,000	1,983	99	76-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	121	80-132

Type: MSD Lab ID: QC800056

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,965	98	76-120	1	20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	115	80-132

RPD= Relative Percent Difference

Total Extractable Hydrocarbons			
Lab #:	269114	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3520C
Project#:	2553	Analysis:	EPA 8015B
Field ID:	EFFLUENT	Sampled:	08/18/15
Matrix:	Water	Received:	08/18/15
Units:	ug/L	Prepared:	08/19/15
Diln Fac:	1.000	Analyzed:	08/20/15
Batch#:	226285		

Type: SAMPLE Lab ID: 269114-001

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

Surrogate	%REC	Limits
o-Terphenyl	115	67-136

Type: BLANK Lab ID: QC800139

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

Surrogate	%REC	Limits
o-Terphenyl	100	67-136

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	269114	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3520C
Project#:	2553	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Batch#:	226285

Type: BS Prepared: 08/19/15  
 Lab ID: QC800140 Analyzed: 08/20/15

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,411	96	60-121

Surrogate	%REC	Limits
o-Terphenyl	121	67-136

Type: BSD Prepared: 08/20/15  
 Lab ID: QC800141 Analyzed: 08/21/15

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,624	105	60-121	8	32

Surrogate	%REC	Limits
o-Terphenyl	121	67-136

RPD= Relative Percent Difference





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

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

**Laboratory Job Number 270079  
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  
270079-001

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  
tracy.babjar@ctberk.com  
(510) 204-2226

Date: 10/05/2015

CA ELAP# 2896, NELAP# 4044-001

**CASE NARRATIVE**

Laboratory number: 270079  
Client: SOMA Environmental Engineering Inc.  
Project: 2553  
Location: 15101 Freedom Ave. San Leandro  
Request Date: 09/23/15  
Samples Received: 09/23/15

This data package contains sample and QC results for one water sample, requested for the above referenced project on 09/23/15. The sample was received cold and intact.

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

No analytical problems were encountered.

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

No analytical problems were encountered.

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

No analytical problems were encountered.

# CHAIN OF CUSTODY

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

## Analyses

LOGIN # 270079  
~~270079~~

**Sampler:** Davoud Bazrpash

**Project No:** 2553

**Report To:** Joyce Bobek

**Project Name:** 15101 Freedom Ave, San Leandr

**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	9/23/15 9:35 AM	*	*		6 VOAs	*			*
			*			2-500 mL Ambers				*

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

**Notes:** EDF OUTPUT REQUIRED

rect on BLUE ICE

**RELINQUISHED BY:**

9/23/15 3:00 PM

**RECEIVED BY:**

9/23/15 1:00  
 DATE/TIME

DATE/TIME

DATE/TIME

DATE/TIME

DATE/TIME

DATE/TIME

COOLER RECEIPT CHECKLIST



Login # 270079 Date Received 9/23/15 Number of coolers 0
Client SOMA Environmental Project 15101 Freedom Ave
Date Opened 9/23 By (print) SL (sign) [Signature]
Date Logged in 9/24 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)
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

Blank lines for handwritten comments.

Detections Summary for 270079

Results for any subcontracted analyses are not included in this summary.

Client : SOMA Environmental Engineering Inc.  
 Project : 2553  
 Location : 15101 Freedom Ave. San Leandro

Client Sample ID : EFFLUENT                      Laboratory Sample ID :                      270079-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
MTBE	0.7		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Total Volatile Hydrocarbons			
Lab #:	270079	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2553	Analysis:	EPA 8015B
Field ID:	EFFLUENT	Batch#:	227522
Matrix:	Water	Sampled:	09/23/15
Units:	ug/L	Received:	09/23/15
Diln Fac:	1.000	Analyzed:	09/24/15

Type: SAMPLE Lab ID: 270079-001

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	116	80-132

Type: BLANK Lab ID: QC805053

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	111	80-132

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	270079	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:	QC805052	Batch#:	227522
Matrix:	Water	Analyzed:	09/24/15
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	977.5	98	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	105	80-132

## Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	270079	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2553	Analysis:	EPA 8015B
Field ID:	EFFLUENT	Batch#:	227522
MSS Lab ID:	270079-001	Sampled:	09/23/15
Matrix:	Water	Received:	09/23/15
Units:	ug/L	Analyzed:	09/24/15
Diln Fac:	1.000		

Type: MS Lab ID: QC805054

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	34.01	2,000	1,988	98	76-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	122	80-132

Type: MSD Lab ID: QC805055

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,933	95	76-120	3	20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	114	80-132

RPD= Relative Percent Difference



Total Extractable Hydrocarbons			
Lab #:	270079	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3520C
Project#:	2553	Analysis:	EPA 8015B
Field ID:	EFFLUENT	Sampled:	09/23/15
Matrix:	Water	Received:	09/23/15
Units:	ug/L	Prepared:	09/28/15
Diln Fac:	1.000	Analyzed:	10/01/15
Batch#:	227665		

Type: SAMPLE Lab ID: 270079-001

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

Surrogate	%REC	Limits
o-Terphenyl	96	67-136

Type: BLANK Cleanup Method: EPA 3630C  
 Lab ID: QC805610

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

Surrogate	%REC	Limits
o-Terphenyl	99	67-136

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	270079	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3520C
Project#:	2553	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	227665
Units:	ug/L	Prepared:	09/28/15
Diln Fac:	1.000	Analyzed:	10/01/15

Type: BS Cleanup Method: EPA 3630C  
 Lab ID: QC805611

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,068	83	60-121

Surrogate	%REC	Limits
o-Terphenyl	92	67-136

Type: BSD Cleanup Method: EPA 3630C  
 Lab ID: QC805612

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	1,948	78	60-121	6	32

Surrogate	%REC	Limits
o-Terphenyl	95	67-136

RPD= Relative Percent Difference

**Purgeable Aromatics by GC/MS**

Lab #:	270079	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2553	Analysis:	EPA 8260B
Field ID:	EFFLUENT	Batch#:	227531
Lab ID:	270079-001	Sampled:	09/23/15
Matrix:	Water	Received:	09/23/15
Units:	ug/L	Analyzed:	09/24/15
Diln Fac:	1.000		

Analyte	Result	RL
MTBE	0.7	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-128
1,2-Dichloroethane-d4	104	75-139
Toluene-d8	95	80-120
Bromofluorobenzene	94	80-120

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Purgeable Aromatics by GC/MS		
Lab #:	270079	Location: 15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#:	2553	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC805063	Batch#: 227531
Matrix:	Water	Analyzed: 09/24/15
Units:	ug/L	

Analyte	Result	RL
MTBE	ND	0.5
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-128
1,2-Dichloroethane-d4	103	75-139
Toluene-d8	102	80-120
Bromofluorobenzene	95	80-120

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

Purgeable Aromatics by GC/MS		
Lab #:	270079	Location: 15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#:	2553	Analysis: EPA 8260B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC805172	Batch#: 227531
Matrix:	Water	Analyzed: 09/24/15
Units:	ug/L	

Analyte	Spiked	Result	%REC	Limits
MTBE	25.00	17.98	72	65-120
Benzene	25.00	24.16	97	80-123
Toluene	25.00	24.30	97	80-121
Ethylbenzene	25.00	23.98	96	80-123
m,p-Xylenes	50.00	47.61	95	80-126
o-Xylene	25.00	24.08	96	80-126

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-128
1,2-Dichloroethane-d4	96	75-139
Toluene-d8	101	80-120
Bromofluorobenzene	99	80-120