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Alameda County  
Environmental Health

Antea USA, Inc.  
5910 Rice Creek Parkway, Suite 100  
Shoreview, Minnesota 55126 USA  
www.anteagroup.com

April 13, 2011

Paresh Khatri  
Alameda County Environmental Health  
1131 Harbor Bay Parkway  
Alameda, California 94502-6577

Re: **Report Submittal**  
Semi-Annual Monitoring Report - First Quarter 2011  
76 (Former BP) Service Station No. 2611117  
7210 Bancroft Avenue  
Oakland, California

Dear Mr. Khatri,

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

If you have any questions or need additional information, please call me at (408) 826-1874.

Sincerely,

A handwritten signature in blue ink, appearing to read "Douglas K. Umland".

**Douglas K. Umland, P.G.**  
Senior Project Manager

Enc: Antea Group, *Semi-Annual Monitoring Report - First Quarter 2011*, dated April 12, 2011.

# *Semi-Annual Monitoring Report, First Quarter 2011*

*76 (Former BP) Service Station No. 11117  
7210 Bancroft Avenue  
Oakland, California*

*Alameda County Environmental Health  
Case No. R00000356  
San Francisco Bay Region Quality Control  
Board Case No. 01-0215*

*GeoTracker Global ID No. T0600100201*

*Antea Group Project No. I42611117*

*April 13, 2011*

*Prepared for:*

**Mr. Paresh Khatri**  
Alameda County Environmental  
Health  
1131 Harbor Bay Parkway  
Alameda, CA 94502-6577

*Prepared by:*

**Antea™ Group**  
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San Jose, CA 95138  
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Table 1	Soil Boring and Monitoring Well Construction Details
Table 2	Current Groundwater Gauging and Analytical Data
Table 3	Historical Groundwater Gauging and Analytical Data

## Attachments

Attachment A	Site Details and Summary of Previous Environmental Investigations
Attachment B	Blaine Tech Services Groundwater Sampling Procedures
Attachment C	Blaine Tech Services Groundwater Sampling Field Data Sheets
Attachment D	Historical Groundwater Gradient and Flow Direction Data (Rose Diagram)
Attachment E	Certified Laboratory Analytical Report and Data Validation Form
Attachment F	Time Series Graphs
Attachment G	Non-Hazardous Waste Manifest – Third Quarter 2010



## 1.0 INTRODUCTION

Antea™Group, formerly Delta Consultants (Delta), is pleased to submit this *Semi-Annual Monitoring Report, First Quarter 2011*, for the referenced site in Oakland, California (**Figure 1**). The subject site is an active gasoline station that includes a service station building and three 12,000-gallon gasoline underground storage tanks (USTs) and one 10,000-gallon diesel UST with associated piping and dispensers. The site is covered with asphalt or concrete surfacing except for planters along the southeastern and southwestern property boundaries and at the north corner of the property (**Figure 2**). Please refer to **Attachment A** for additional site information and for a history of the environmental investigations and remedial actions.

This report summarizes the data obtained from the recent groundwater monitoring event completed on February 7, 2011. Included herein are site figures, groundwater contaminant data tables, and a discussion of trends. This report has received a technical review by Ms. Regina Bussard, California Professional Geologist No. 8288.

### 1.1 Work Performed in the Fourth Quarter 2010 and First Quarter 2011

1. Delta submitted a *Sensitive Receptor Survey*, dated October 12, 2010 to Alameda County Environmental Health (ACEH).
2. Delta submitted the *Semi-Annual Summary Report - Third Quarter 2010* to ACEH on October 25, 2010.
3. Subcontractor Blaine Tech Services, Inc. (Blaine Tech) conducted the first quarter 2011 groundwater monitoring event on February 7, 2011.

### 1.2 Work Proposed for the Second and Third Quarter 2011

1. Antea Group will submit the *Semi-Annual Monitoring Report, First Quarter 2011* (contained herein) to ACEH.
2. Antea Group will continue semi-annual groundwater monitoring – the next event will be scheduled for August 2011.

## 2.0 CURRENT PROJECT STATUS

Current phase of project:	Semi-Annual Groundwater Monitoring
Local Oversight Program (LOP) – Lead agency for cleanup oversight:	Alameda County Environmental Health, Case No. RO0000356
Secondary agency(s):	San Francisco Bay Regional Water Quality Control Board
Monitoring well gauging schedule:	Semi-Annually (1Q, 3Q): MW-1, MW-3, MW-4, MW-6, MW-7, MW-8, MW-9, MW-11, EX-1, and EX-2
Monitoring well sampling schedule:	Semi-Annually (1Q, 3Q): EX-1, EX-2, MW-4, MW-7, MW-9, MW-10, and MW-11 Annually (1Q): MW-1, MW-3, MW-6, and MW-8

Total number of monitoring/remediation wells (Table 1):	17 wells (10 monitoring wells - MW-1 through MW-4 and MW-6 through MW-11; 7 remediation wells - EX-1, EX-2 and DPE-1 through DPE-5)
Range of well depths (total depth below ground surface, bgs) (Table 1):	35 to 45 feet bgs. (Table 1)
Wells with historical measurable LNAPL (light non-aqueous phase liquid):	Yes, sporadic trace amounts in wells EX-2 and MW-4, and greater amounts in MW-2 between 1993 and 1998 (maximum of 4.25 feet was reported in well MW-2 on 1/25/1995 [Table 2]).
Generalized site geology:	Surface to ~3' bgs: Gravel Fill ~3 to 30' bgs: silt and silty sand ~30 to 45' bgs: clay
Historical depth to water range, in feet below top of casing (BTOC):	Min: 9.49 (MW-3, Q2 2000) Max: 34.07 (MW-2, Q4 1993)
Historical groundwater elevation range (ft):	Min: 15.43 (MW-3, Q4 2008) Max: 41.91 (MW-3, Q2 2000)
Local receptors:	NA
Current remediation technique	None (Dual-phase extraction remedial system construction in progress)

## 2.1 Regulatory Correspondence

No regulatory correspondence was transmitted during the third quarter 2010 or first quarter 2011.

## 2.2 Remedial Activities

Active remediation is not currently taking place on-site. However, a dual-phase extraction (DPE) remediation system has been constructed. Due to the cost impediments of running 3-phase power to the system, Antea Group is currently investigating other potential remedial options. For a summary of previous remedial activities and pilot testing, please refer to **Attachment A**.

## 2.3 Groundwater Monitoring

For the first quarter 2011 groundwater monitoring event, ten wells were gauged, purged, and sampled by subcontractor Blaine Tech per standard sampling protocol (**Attachment B**). MW-7 was not gauged, purged or sampled due to flooding in the remediation compound. Copies of Blaine Tech's field data sheets are included as **Attachment C**. The recent gauging and sampling data are summarized below and in **Table 2**.

Well gauging and sampling date:	February 7, 2011
Wells gauged:	MW-1, MW-3, MW-4, MW-6, MW-8, MW-9, MW-10, MW-11, EX-1, EX-2 (MW-7 was inaccessible due to standing water)
Wells sampled:	MW-1, MW-3, MW-4, MW-6, MW-8, MW-9, MW-10, MW-11, EX-1, EX-2 (MW-7 was inaccessible due to standing water)
Purge method:	3 well casing volumes via electric, submersible pump
Sample collection method:	Disposable bailers
Groundwater parameters measured (Attachment C):	Temperature, pH, Conductivity, Oxidation-reduction potential (ORP), Turbidity, Dissolved Oxygen (DO)
Wells with measurable LNAPL:	None

Current depth to water range (ft BTOC):	Min: 13.55 (MW-11) Max: 17.02 (MW-10)
Current groundwater elevation range (ft):	*Min: 22.45 (MW-9) *Max: 24.09 (MW-8 and MW-11)
Change in groundwater elevations from previous event (average change for all gauged wells):	Increased groundwater elevation averaging 1.81 feet between August 2010 and February 2011
Groundwater flow direction and gradient:	Variable

\*Not including MW-2 or MW-6, which are not surveyed to the same datum as the other wells

### 2.3.1 Groundwater Flow Gradient and Directional Trends

Currently, there are eleven wells present on the site that are gauged on a semi-annual basis. The groundwater flow direction and gradient were determined to be variable in the recent event (**Figure 3**). Overall, it appears that groundwater flow and contaminant migration is to the southeast, in the direction of off-site monitoring well MW-9. The previous monitoring and sampling event (August 2010) reported the groundwater gradient and flow direction to the northeast at 0.022 feet per foot (ft/ft) and to the southwest at 0.032 ft/ft. Historical groundwater flow and gradient data are included for reference in **Attachment D**.

### 2.3.2 Groundwater Quality Data

Groundwater samples collected during the first quarter 2011 were submitted under chain of custody protocol to Pace Analytical Services, Inc. (Pace), a state of California Environmental Laboratory Accreditation Program (ELAP) certified laboratory (Certification No. 01153CA). The complete analytical report is included in **Attachment E**. Groundwater samples were analyzed for one or more of the following:

- Gasoline Range Organics (GRO) by California Method CA-LUFT;
- Benzene, toluene, ethylbenzene, total xylenes (BTEX compounds) by EPA Method 8260B.
- Methyl tert-butyl ether (MTBE), ethyl tert-butyl ether (ETBE), di-isopropyl ether (DIPE), tertiary-amyl methyl ether (TAME), tertiary butyl alcohol (TBA), ethanol, 1,2-dichloroethane (1,2-DCA) and 1,2-dibromoethane (EDB) by EPA Method 8260B.

Groundwater analytical results are presented in **Table 2** (current) and **Table 3** (historical). Isoconcentration maps for GRO, benzene, MTBE, and TBA are presented on **Figures 4 through 7**, respectively. The following ranges of contaminant concentrations were reported in the specified site wells' groundwater samples collected on February 7, 2011. Only the reported contaminants are listed in the table below.

Constituents	Number of Samples Where Constituent was Reported Above LRL of the Total Samples Collected	Minimum Reported Concentration, in µg/L (Sample ID)	Maximum Reported Concentration, in µg/L (Sample ID)
GRO	4 of 10	78.5 (MW-9)	15,900 (EX-1)
Benzene	3 of 10	1.6 (MW-9)	642 (EX-1)

Toluene	3 of 10	0.74 (MW-4)	1,100 (EX-1)
Ethylbenzene	3 of 10	1.2 (MW-4)	846 (EX-1)
Total Xylenes	3 of 10	5.1 (MW-9)	2,500 (EX-1)
MTBE	5 of 10	0.53 (MW-10)	364 (EX-1)
TBA	3 of 10	27.6 (MW-9)	210 (MW-4)
ETBE	1 of 10	N/A	0.78 (EX-1)
TAME	1 of 10	N/A	9.3 (EX-1)

Explanations:

µg/L = Micrograms per liter

LRL = Laboratory reporting limit

### 2.3.3 Groundwater Contaminant Trends

Levels of GRO, BTEX compounds, MTBE and TBA continue to be reported in several of the site’s monitoring wells. Trending for contaminants since these wells were installed shows relatively steady or decreasing concentrations. Concentration versus time graphs for selected wells are included as **Attachment F**. Contaminant plumes in groundwater are limited to the eastern and southeastern portion of the site, and extend offsite into and only slightly beyond 73<sup>rd</sup> Avenue, in the vicinity of MW-9. Dissolved-phase Isoconcentration maps drawn using the most recent data are included as **Figures 4 through 7**.

### 2.3.4 Waste Disposal Summary

Approximately 104 gallons of waste water were generated during well purging/sampling and equipment cleaning in the first quarter event. The waste water was transported to Blaine Tech’s bulk facility in San Jose, California. After the batching process, the wastewater will be transported to Seaport Environmental in Redwood City, California for disposal. A copy of the third quarter 2010 non-hazardous waste manifest is included in **Attachment G**.

### 2.3.5 Quality Assurance / Quality Control

Antea Group’s QA/QC measures included use of a trip blank and a detailed QA/QC data validation check on the Pace Laboratory analytical results for the February 2011 sampling event. Antea Group’s laboratory data validation checklist and the Pace laboratory report are included in **Attachment E**.

Trip Blank (TB1_20110228):	No contaminants reported
Laboratory QA/QC Performed:	Yes (validated by Antea Group)
Laboratory Data Qualifiers:	Yes – one qualifier*
Are the data valid for their intended purpose?	Yes, the data are valid

\*M1 - the matrix spike/matrix spike duplicate samples showed a recovery outside of the recommended range for two compounds. However, the entire batch was accepted based on the acceptable results of the laboratory control sample.

Based on a review of the laboratory’s analytical report, including their QA/QC procedures and those implemented by Antea Group, we conclude that the laboratory data obtained during this groundwater sampling event are valid for their intended purpose.



### **3.0 CONCLUSIONS AND RECOMMENDATIONS**

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- Antea Group (formerly Delta Consultants) and subcontractors continued semi-annual groundwater monitoring with a February 7, 2011 sampling event. Contaminants reported at concentrations above laboratory reporting limits were GRO, benzene, toluene, ethylbenzene, total xylenes, MTBE, TBA, ETBE, and TAME.
- Concentrations of GRO, benzene, and MTBE continue to remain steady or decrease.

At this time, Antea Group is preparing a remedial action plan modification and feasibility study due to the cost impediments of running 3-phase power to the existing DPE system. Antea Group recommends continued semi-annual monitoring of groundwater.

### **4.0 LIMITATIONS**

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The findings contained in this report represent Antea Group's professional opinions based upon the currently available information and are arrived at in accordance with currently acceptable professional standards. For any reports cited that were not generated by Antea USA, Inc., the data from those reports are used "as is" and is assumed to be accurate. Antea USA, Inc does not guarantee the accuracy of this data for the referenced work performed nor the inferences or conclusions stated in these reports. This report is based upon a specific scope of work requested by the client. The Contract between Antea Group and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were performed. This report is intended only for the use of Antea Group's Client and anyone else specifically listed on this report. Antea Group will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Antea Group makes no express or implied warranty as to the contents of this report.

### **5.0 REMARKS**

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The recommendations contained in this report represent Antea USA, Inc.'s professional opinions based upon the currently available information and are arrived at in accordance with currently accepted professional standards. This report is based upon a specific scope of work requested by the client. The contract between Antea USA, Inc. and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were performed.

This report is intended only for the use of Antea USA, Inc.'s client and anyone else specifically identified in writing by Antea USA, Inc. as a user of this report. Antea USA, Inc. will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Antea USA, Inc. makes no express or implied warranty as to the contents of this report.



Semi-Annual Monitoring Report, First Quarter 2011  
76 (Former BP) Service Station No. 11117  
Oakland, California  
Antea Group Project No. I42611117



Prepared by:

  
\_\_\_\_\_

*gor*  
Edward T. Weyrens, G.I.T.  
Staff Professional

  
\_\_\_\_\_

Douglas K. Umland, P.G.  
Senior Project Manager

Information, conclusions, and recommendations provided by Antea Group in this document regarding the site have been prepared under the supervision of and reviewed by the licensed professional whose signature follows.

Licensed Approver:

  
\_\_\_\_\_

Date: 4/13/11

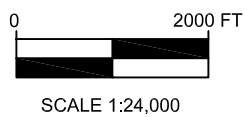
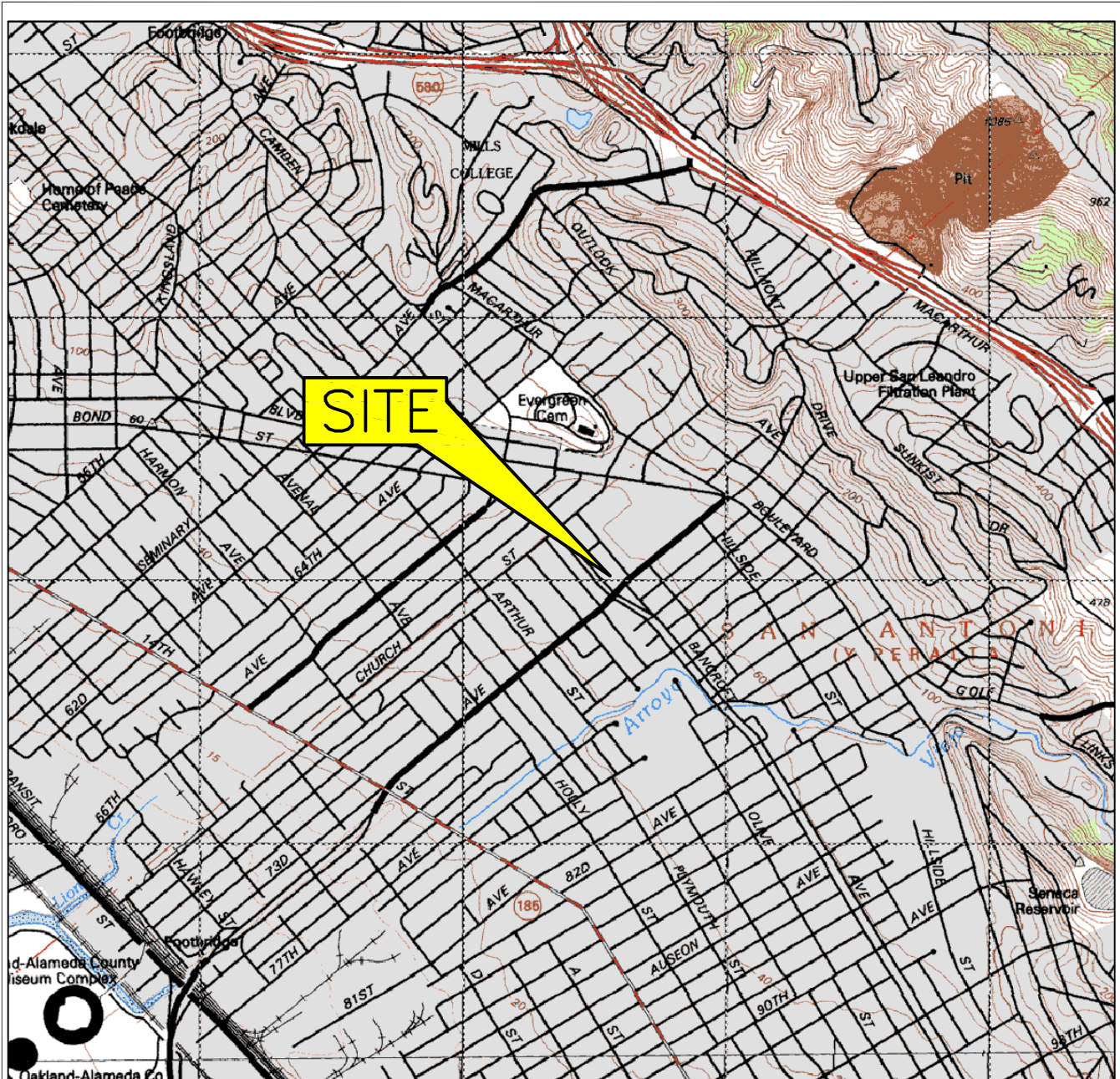
Regina Bussard  
Project Professional  
California Registered Professional Geologist No. 8288



cc: Ms. Tiffany McClendon, One Eastmont Town Center, 7200 Bancroft Avenue, Oakland, CA 94605  
GeoTracker (upload)

## **Figures**

- Figure 1      Site Location Map
- Figure 2      Site Plan
- Figure 3      Groundwater Elevation Contour Map – February 7, 2011
- Figure 4      Dissolved Phase GRO Isoconcentration Map – February 7, 2011
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- Figure 6      Dissolved Phase MTBE Isoconcentration Map – February 7, 2011
- Figure 7      Dissolved Phase TBA Isoconcentration Map – February 7, 2011



QUADRANGLE LOCATION

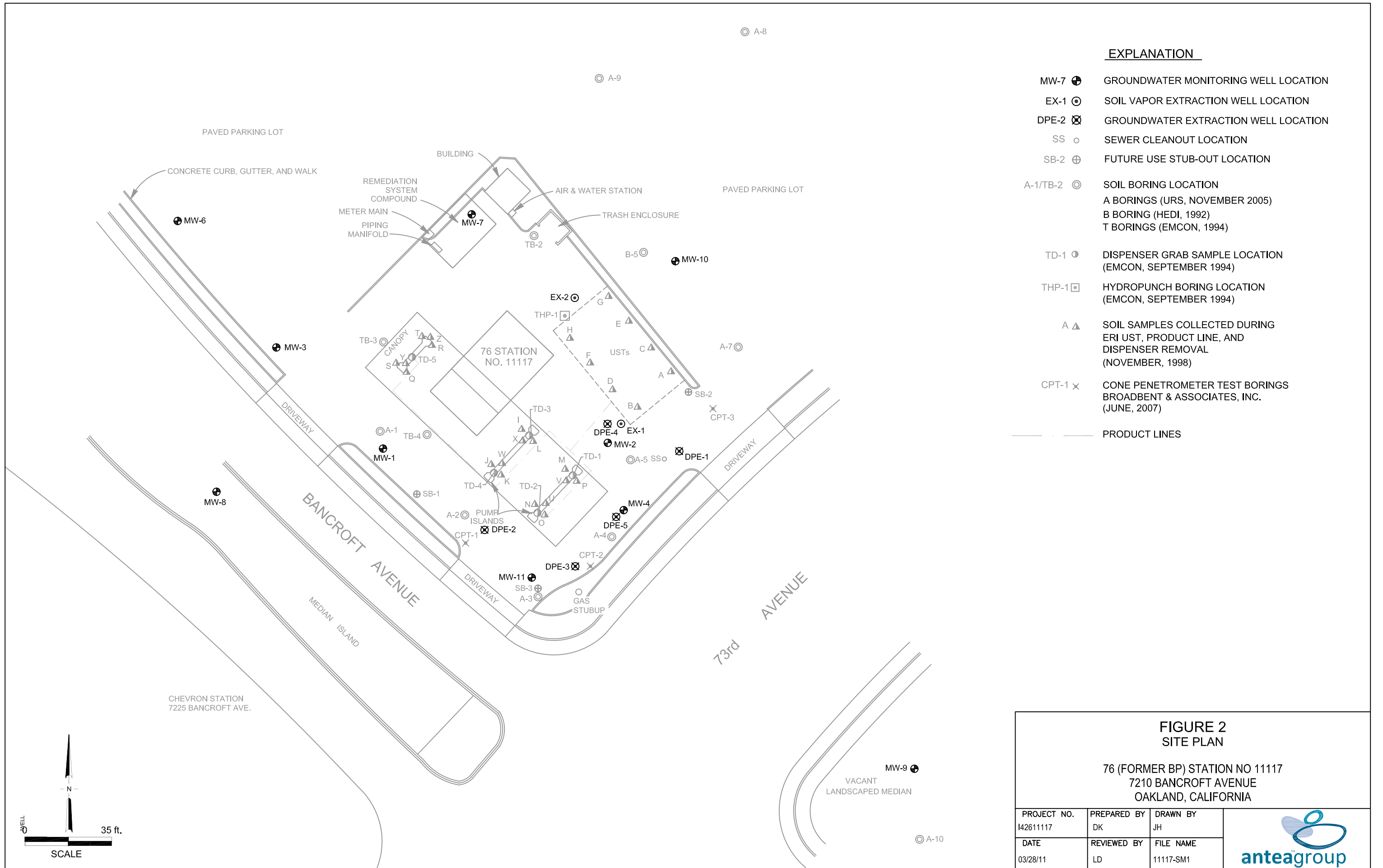
FIGURE 1  
SITE LOCATION MAP

76 (FORMER BP) STATION NO 11117  
7210 BANCROFT AVENUE  
OAKLAND CALIFORNIA

GENERAL NOTES:  
BASE MAP FROM USGS, 7.5 MINUTE  
TOPOGRAPHIC OAKLAND, CA. PHOTO REVISED 1980

PROJECT NO. 142611117	PREPARED BY DK	DRAWN BY JH
DATE 03/30/11	REVIEWED BY DU	FILE NAME 11117-TOP0





**EXPLANATION**

- MW-7 ⊕ GROUNDWATER MONITORING WELL LOCATION
- EX-1 ⊙ SOIL VAPOR EXTRACTION WELL LOCATION
- DPE-2 ⊗ GROUNDWATER EXTRACTION WELL LOCATION
- SS ○ SEWER CLEANOUT LOCATION
- SB-2 ⊕ FUTURE USE STUB-OUT LOCATION
- A-1/TB-2 ⊙ SOIL BORING LOCATION  
 A BORINGS (URS, NOVEMBER 2005)  
 B BORING (HEDI, 1992)  
 T BORINGS (EMCON, 1994)
- TD-1 ● DISPENSER GRAB SAMPLE LOCATION  
(EMCON, SEPTEMBER 1994)
- THP-1 □ HYDROPUNCH BORING LOCATION  
(EMCON, SEPTEMBER 1994)
- A ▲ SOIL SAMPLES COLLECTED DURING  
 ERI UST, PRODUCT LINE, AND  
 DISPENSER REMOVAL  
 (NOVEMBER, 1998)
- CPT-1 × CONE PENETROMETER TEST BORINGS  
 BROADBENT & ASSOCIATES, INC.  
 (JUNE, 2007)
- — — — — PRODUCT LINES

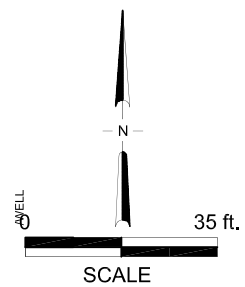
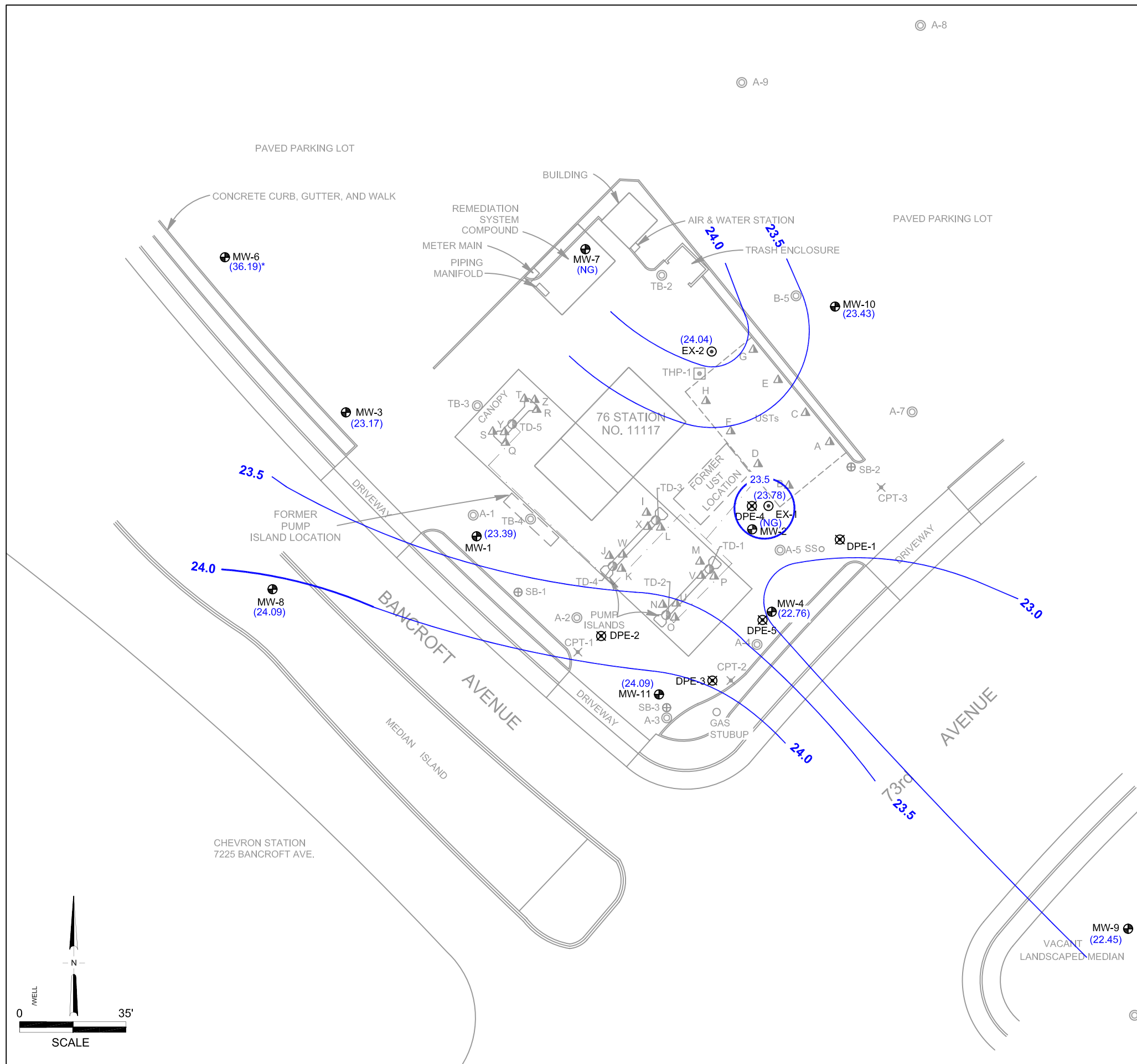


FIGURE 2 SITE PLAN			
76 (FORMER BP) STATION NO 11117 7210 BANCROFT AVENUE OAKLAND, CALIFORNIA			
PROJECT NO. I42611117	PREPARED BY DK	DRAWN BY JH	
DATE 03/28/11	REVIEWED BY LD	FILE NAME 11117-SM1	





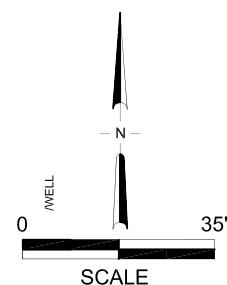
**EXPLANATION**

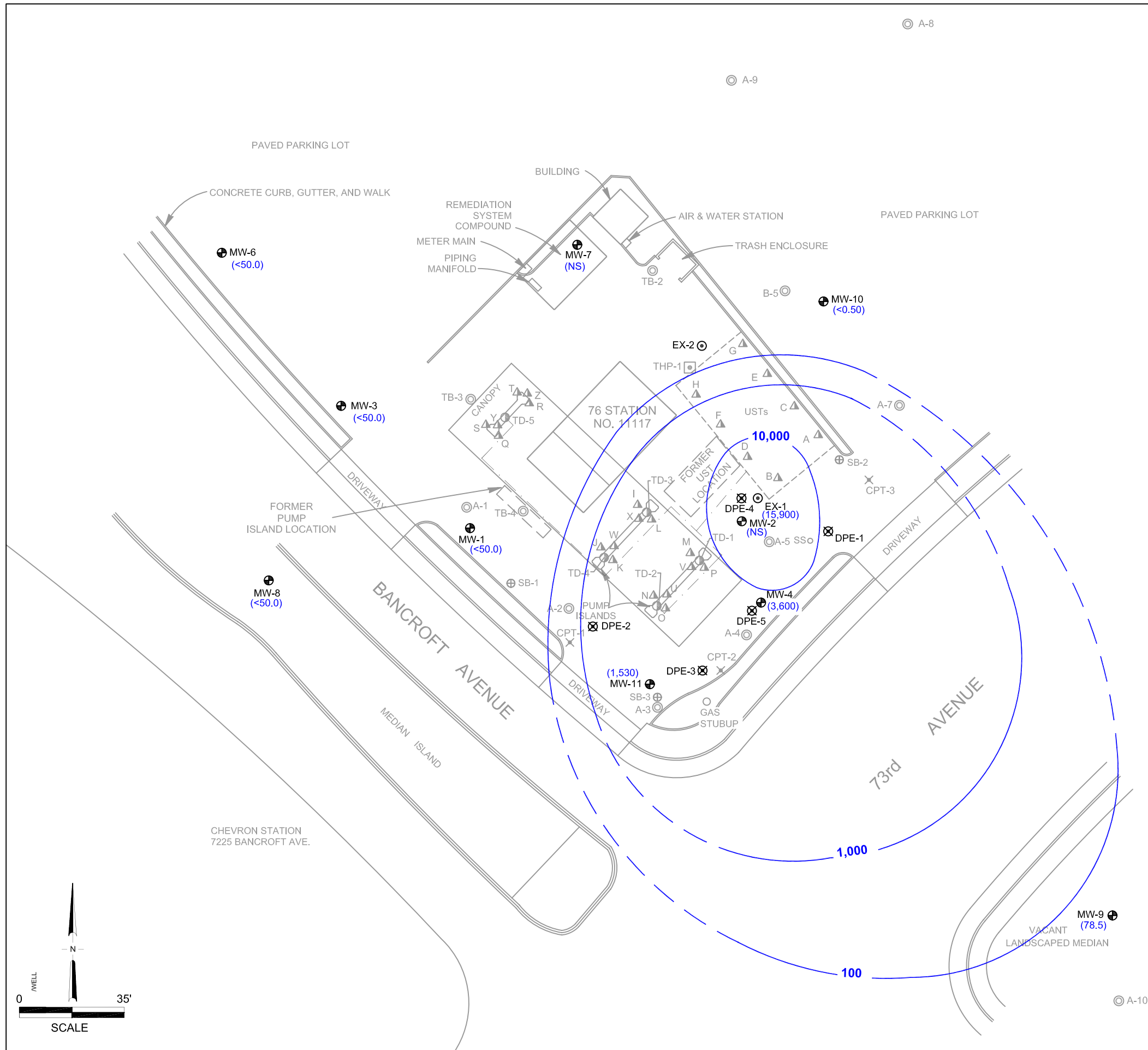
- MW-7 ⊕ GROUNDWATER MONITORING WELL LOCATION
- EX-1 ⊙ SOIL VAPOR EXTRACTION WELL LOCATION
- DPE-2 ⊗ GROUNDWATER EXTRACTION WELL LOCATION
- SS ○ SEWER CLEANOUT LOCATION
- SB-2 ⊕ FUTURE USE STUB-OUT LOCATION
- — — PRODUCT LINES
- SEWER CLEANOUT LOCATION
- SB-2 ⊕ FUTURE USE STUB-OUT LOCATION
- A-1/TB-2 ⊙ SOIL BORING LOCATION  
A BORINGS (URS, NOVEMBER 2005)  
B BORING (HEDI, 1992)  
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- THP-1 □ HYDROPUNCH BORING LOCATION (EMCON, SEPTEMBER 1994)
- A ▲ SOIL SAMPLES COLLECTED DURING ERI UST, PRODUCT LINE, AND DISPENSER REMOVAL (NOVEMBER, 1998)
- CPT-1 ✕ CONE PENETROMETER TEST BORINGS BROADBENT & ASSOCIATES, INC. (JUNE, 2007)
- — — PRODUCT LINES
- (22.76) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (ft/msl)
- (NG) NOT GAUGED
- 23.0 — — GROUNDWATER CONTOUR LINE (μg/L) DASHED WHERE INFERRED (CONTOUR INTERVAL: 0.50 ft.)
- \* WELL NOT INCLUDED IN CONTOURING ELEVATION IS ANOMALOUS.

NOTE: GROUNDWATER FLOW IS VARIABLE ACROSS THE SITE.

**FIGURE 3**  
**GROUNDWATER ELEVATION CONTOURS**  
 FEBRUARY 7, 2011  
 76 (FORMER BP) STATION NO 11117  
 7210 BANCROFT AVENUE  
 OAKLAND, CALIFORNIA

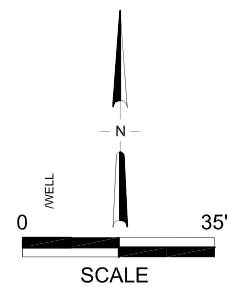
PROJECT NO. I42611117	PREPARED BY DK	DRAWN BY JH
DATE 3/28/11	REVIEWED BY LD	FILE NAME 11117-SM1





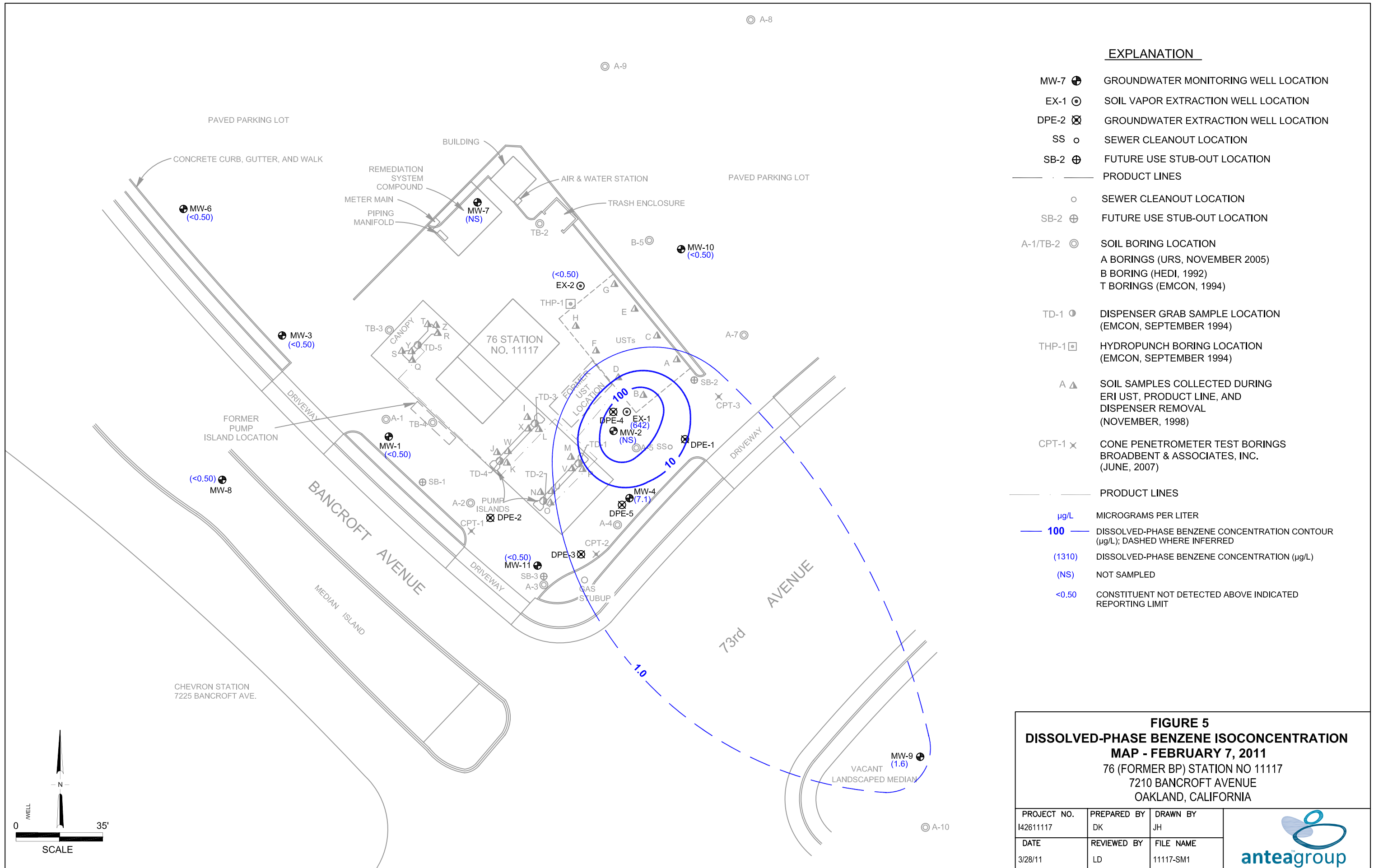
**EXPLANATION**

- MW-7 ⊕ GROUNDWATER MONITORING WELL LOCATION
- EX-1 ⊙ SOIL VAPOR EXTRACTION WELL LOCATION
- DPE-2 ⊗ GROUNDWATER EXTRACTION WELL LOCATION
- SS ○ SEWER CLEANOUT LOCATION
- SB-2 ⊕ FUTURE USE STUB-OUT LOCATION
- — — PRODUCT LINES
- SEWER CLEANOUT LOCATION
- SB-2 ⊕ FUTURE USE STUB-OUT LOCATION
- A-1/TB-2 ⊙ SOIL BORING LOCATION  
A BORINGS (URS, NOVEMBER 2005)  
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- THP-1 □ HYDROPUNCH BORING LOCATION (EMCON, SEPTEMBER 1994)
- A ▲ SOIL SAMPLES COLLECTED DURING ERI UST, PRODUCT LINE, AND DISPENSER REMOVAL (NOVEMBER, 1998)
- CPT-1 × CONE PENETROMETER TEST BORINGS BROADBENT & ASSOCIATES, INC. (JUNE, 2007)
- — — PRODUCT LINES
- GRO GASOLINE RANGE ORGANICS
- µg/L MICROGRAMS PER LITER
- 100 — — — DISSOLVED-PHASE GRO CONCENTRATION CONTOUR (µg/L); DASHED WHERE INFERRED
- (15,900) DISSOLVED-PHASE GRO CONCENTRATION (µg/L)
- (NS) NOT SAMPLED
- <50.0 CONSTITUENT NOT DETECTED ABOVE INDICATED REPORTING LIMIT



**FIGURE 4**  
**DISSOLVED-PHASE GRO ISOCONCENTRATION**  
**MAP - FEBRUARY 7, 2011**  
76 (FORMER BP) STATION NO 11117  
7210 BANCROFT AVENUE  
OAKLAND, CALIFORNIA

PROJECT NO. I42611117	PREPARED BY DK	DRAWN BY JH	
DATE 3/28/11	REVIEWED BY LD	FILE NAME 11117-SM1	




**EXPLANATION**

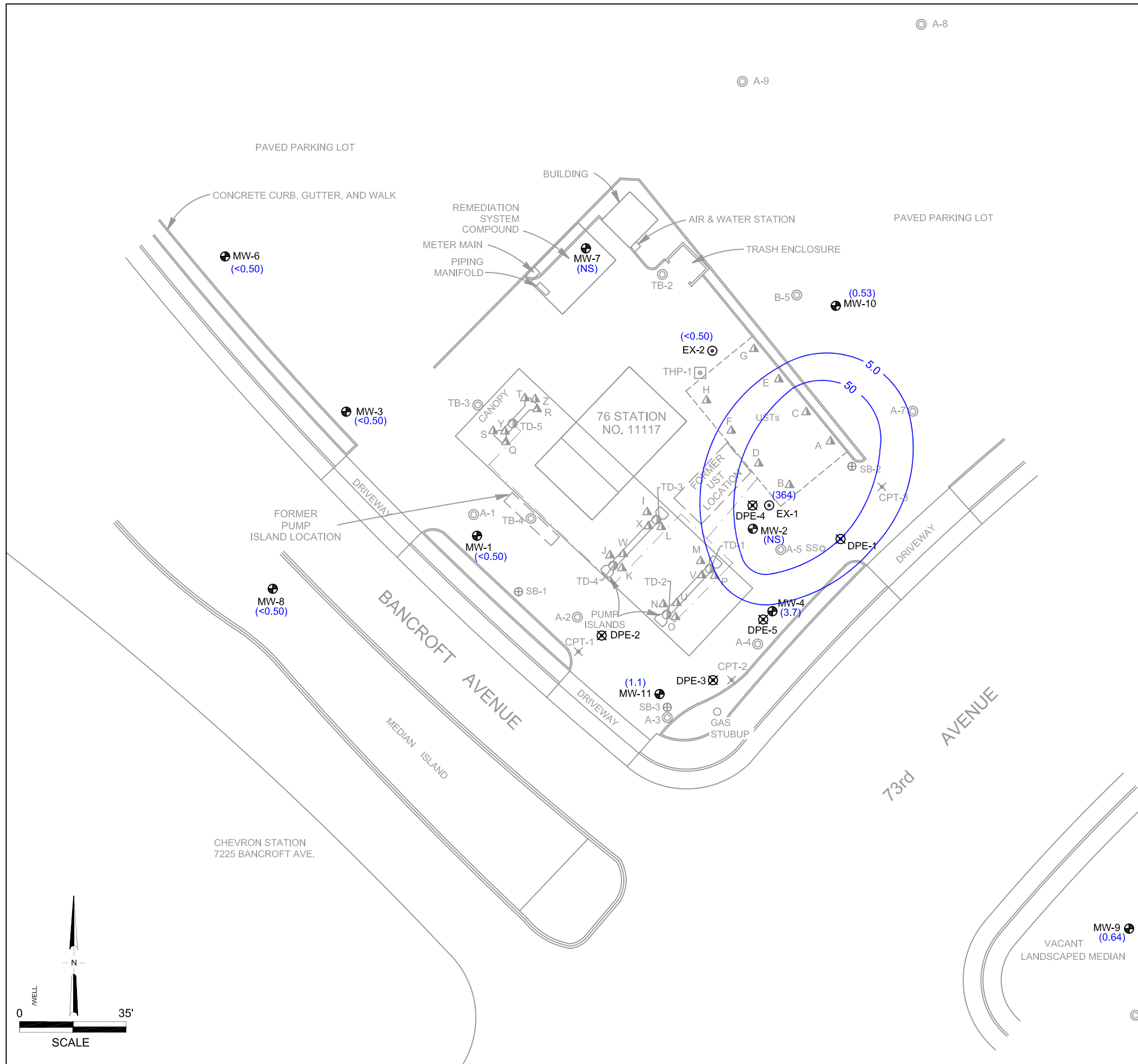
- MW-7 ⊕ GROUNDWATER MONITORING WELL LOCATION
- EX-1 ⊙ SOIL VAPOR EXTRACTION WELL LOCATION
- DPE-2 ⊗ GROUNDWATER EXTRACTION WELL LOCATION
- SS ⊙ SEWER CLEANOUT LOCATION
- SB-2 ⊕ FUTURE USE STUB-OUT LOCATION
- — — PRODUCT LINES
- SEWER CLEANOUT LOCATION
- SB-2 ⊕ FUTURE USE STUB-OUT LOCATION
- A-1/TB-2 ⊙ SOIL BORING LOCATION
- A BORINGS (URS, NOVEMBER 2005)
- B BORING (HEDI, 1992)
- T BORINGS (EMCON, 1994)
- TD-1 ⊙ DISPENSER GRAB SAMPLE LOCATION (EMCON, SEPTEMBER 1994)
- THP-1 ⊠ HYDROPUNCH BORING LOCATION (EMCON, SEPTEMBER 1994)
- A ▲ SOIL SAMPLES COLLECTED DURING ERI UST, PRODUCT LINE, AND DISPENSER REMOVAL (NOVEMBER, 1998)
- CPT-1 × CONE PENETROMETER TEST BORINGS BROADBENT & ASSOCIATES, INC. (JUNE, 2007)
- — — PRODUCT LINES
- µg/L MICROGRAMS PER LITER
- 100 — DISSOLVED-PHASE BENZENE CONCENTRATION CONTOUR (µg/L); DASHED WHERE INFERRED
- (1310) DISSOLVED-PHASE BENZENE CONCENTRATION (µg/L)
- (NS) NOT SAMPLED
- <math><0.50</math> CONSTITUENT NOT DETECTED ABOVE INDICATED REPORTING LIMIT

**FIGURE 5**  
**DISSOLVED-PHASE BENZENE ISOCONCENTRATION**  
**MAP - FEBRUARY 7, 2011**  
 76 (FORMER BP) STATION NO 11117  
 7210 BANCROFT AVENUE  
 OAKLAND, CALIFORNIA

PROJECT NO. I42611117	PREPARED BY DK	DRAWN BY JH
DATE 3/28/11	REVIEWED BY LD	FILE NAME 11117-SM1

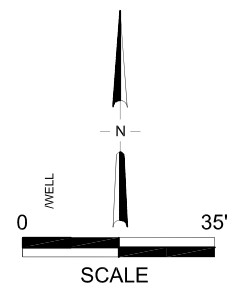






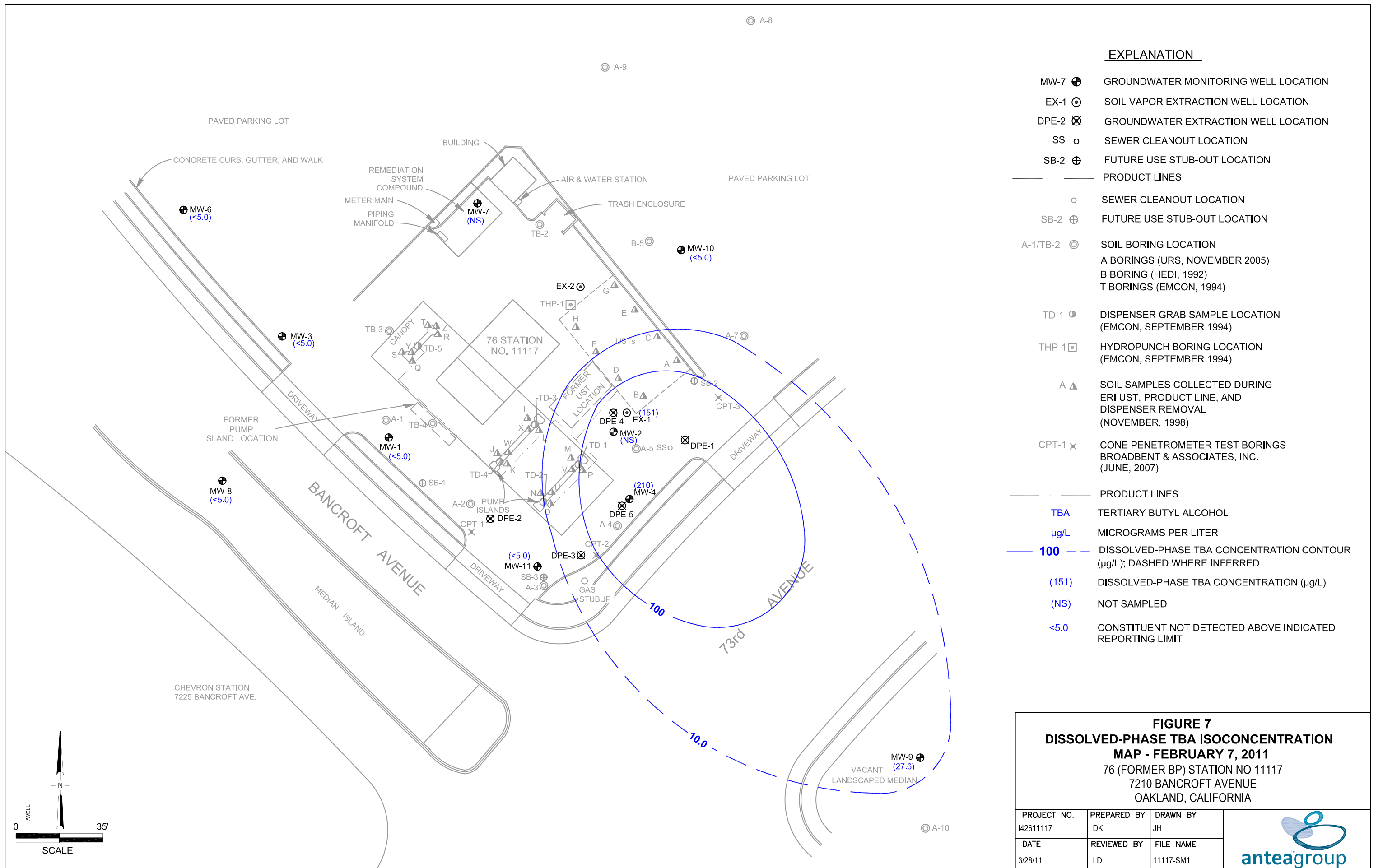
**EXPLANATION**

- MW-7 ⊕ GROUNDWATER MONITORING WELL LOCATION
- EX-1 ⊙ SOIL VAPOR EXTRACTION WELL LOCATION
- DPE-2 ⊗ GROUNDWATER EXTRACTION WELL LOCATION
- SS ○ SEWER CLEANOUT LOCATION
- SB-2 ⊕ FUTURE USE STUB-OUT LOCATION
- — — PRODUCT LINES
- SEWER CLEANOUT LOCATION
- SB-2 ⊕ FUTURE USE STUB-OUT LOCATION
- A-1/TB-2 ⊙ SOIL BORING LOCATION
- A BORINGS (URS, NOVEMBER 2005)
- B BORING (HEDI, 1992)
- T BORINGS (EMCON, 1994)
- TD-1 ● DISPENSER GRAB SAMPLE LOCATION (EMCON, SEPTEMBER 1994)
- THP-1 □ HYDROPUNCH BORING LOCATION (EMCON, SEPTEMBER 1994)
- A ▲ SOIL SAMPLES COLLECTED DURING ERI UST, PRODUCT LINE, AND DISPENSER REMOVAL (NOVEMBER, 1998)
- CPT-1 × CONE PENETROMETER TEST BORINGS BROADBENT & ASSOCIATES, INC. (JUNE, 2007)
- — — PRODUCT LINES
- MTBE METHYL TERTIARY-BUTYL ETHER
- µg/L MICROGRAMS PER LITER
- 50 — DISSOLVED-PHASE MTBE CONCENTRATION CONTOUR (µg/L); DASHED WHERE INFERRED
- (364) DISSOLVED-PHASE MTBE CONCENTRATION (µg/L)
- (NS) NOT SAMPLED
- <0.50 CONSTITUENT NOT DETECTED ABOVE INDICATED REPORTING LIMIT




**FIGURE 6**  
**DISSOLVED-PHASE MTBE ISOCONCENTRATION**  
**MAP - FEBRUARY 7, 2011**  
 76 (FORMER BP) STATION NO 11117  
 7210 BANCROFT AVENUE  
 OAKLAND, CALIFORNIA

PROJECT NO. I42611117	PREPARED BY DK	DRAWN BY JH	
DATE 3/28/11	REVIEWED BY LD	FILE NAME 11117-SM1	



**FIGURE 7**  
**DISSOLVED-PHASE TBA ISOCONCENTRATION**  
**MAP - FEBRUARY 7, 2011**  
 76 (FORMER BP) STATION NO 11117  
 7210 BANCROFT AVENUE  
 OAKLAND, CALIFORNIA

PROJECT NO. I42611117	PREPARED BY DK	DRAWN BY JH
DATE 3/28/11	REVIEWED BY LD	FILE NAME 11117-SM1



## ***Tables***

Table 1	Soil Boring and Monitoring Well Construction Details
Table 2	Current Groundwater Gauging and Analytical Data
Table 3	Historical Groundwater Gauging and Analytical Data

**TABLE 1**  
**SOIL BORING AND MONITORING WELL CONSTRUCTION DETAILS**  
**76 (FORMER BP) SERVICE STATION NO. 11117**  
**7210 BANCROFT AVENUE**  
**OAKLAND, CALIFORNIA**

Updated 2/22/2011

Boring/Well ID	Well/Boring Completion Date	TOC Elevation <sup>1</sup> (ft)	Borehole Depth (ft bgs)	Borehole Diameter (in)	Well Depth (ft)	Well Casing Diameter (in)	Well Casing Material	Well Screen Slot Size (in)	Well Screen Interval (ft bgs)	Cement Grout Seal Interval (ft bgs)	Bentonite Seal Interval (ft bgs)	Filter Pack Interval (ft bgs)	Comments
<b>Soil Borings</b>													
B-5	Jul-92	NA	50.0	8.0	NA	NA	NA	NA	NA to NA	0.0 to 50.0	NA to NA	NA to NA	
THP-1	Sep-94	NA	45.0	1.75	NA	NA	NA	NA	NA to NA	0.0 to 45.0	NA to NA	NA to NA	
TB-2	Sep-94	NA	45.0	1.75	NA	NA	NA	NA	NA to NA	0.0 to 45.0	NA to NA	NA to NA	
TB-3	Sep-94	NA	45.0	1.75	NA	NA	NA	NA	NA to NA	0.0 to 45.0	NA to NA	NA to NA	
TB-4	Sep-94	NA	45.0	1.75	NA	NA	NA	NA	NA to NA	0.0 to 45.0	NA to NA	NA to NA	
A-1	Sep-05	NA	46.5	4.25	NA	NA	NA	NA	NA to NA	0.0 to 46.5	NA to NA	NA to NA	
A-2	Sep-05	NA	42.0	2.0	NA	NA	NA	NA	NA to NA	0.0 to 42.0	NA to NA	NA to NA	
A-3	Nov-05	NA	36.0	2.0	NA	NA	NA	NA	NA to NA	0.0 to 36.0	NA to NA	NA to NA	
A-4	Nov-05	NA	36.0	2.0	NA	NA	NA	NA	NA to NA	0.0 to 36.0	NA to NA	NA to NA	
A-5	Nov-05	NA	36.0	2.0	NA	NA	NA	NA	NA to NA	0.0 to 36.0	NA to NA	NA to NA	
A-7	Nov-05	NA	36.5	4.25	NA	NA	NA	NA	NA to NA	0.0 to 36.5	NA to NA	NA to NA	
A-8	Nov-05	NA	36.5	4.25	NA	NA	NA	NA	NA to NA	0.0 to 36.5	NA to NA	NA to NA	
A-9	Nov-05	NA	36.5	4.25	NA	NA	NA	NA	NA to NA	0.0 to 36.5	NA to NA	NA to NA	
A-10	Nov-05	NA	39.0	4.25	NA	NA	NA	NA	NA to NA	0.0 to 39.0	NA to NA	NA to NA	
CPT-1	Apr-07	NA	60.0	1.75	NA	NA	NA	NA	NA to NA	0.0 to 60.0	NA to NA	NA to NA	
CPT-2	Apr-07	NA	60.0	1.75	NA	NA	NA	NA	NA to NA	0.0 to 60.0	NA to NA	NA to NA	
CPT-3	Apr-07	NA	60.0	1.75	NA	NA	NA	NA	NA to NA	0.0 to 60.0	NA to NA	NA to NA	
<b>Groundwater Monitoring Wells</b>													
MW-1	Dec-91	37.41	40	8	40	2	PVC	0.02	20.0 to 40.0	0.0 to 17.0	17.0 to 18.0	18.0 to 40.0	
MW-2	Dec-91	51.07*	40	8	40	2	PVC	0.02	20.0 to 40.0	0.0 to 17.0	17.0 to 18.0	18.0 to 40.0	
MW-3	Dec-89	37.56	45	8	45	2	PVC	0.02	30.0 to 45.0	0.0 to 3.0	3.0 to 25.0	25.0 to 45.0	
MW-4	Jul-92	38.35	40	8	40	2	PVC	0.02	20.0 to 40.0	0.0 to 17.0	17.0 to 18.0	18.0 to 40.0	
MW-6	Jul-92	51.05*	40	8	40	2	PVC	0.02	20.0 to 40.0	0.0 to 17.0	17.0 to 18.0	18.0 to 40.0	
MW-7	Oct-94	38.99	45	8	45	2	PVC	0.02	25.0 to 45.0	0.0 to 21.0	21.0 to 23.0	23.0 to 45.0	
MW-8	Oct-94	38.44	40	8	40	2	PVC	0.02	25.0 to 40.0	0.0 to 21.0	21.0 to 23.0	23.0 to 40.0	
MW-9	Oct-94	38.63	40	8	40	2	PVC	0.02	25.0 to 40.0	0.0 to 21.0	21.0 to 23.0	23.0 to 40.0	
MW-10	Jul-97	40.45	37.5	8	35	2	PVC	0.02	15.0 to 35.0	0.0 to 13.0	13.0 to 14.0	14.0 to 37.5	
MW-11	Nov-07	37.64	40	10	40	4	PVC	0.02	15.0 to 40.0	0.0 to 10.0	10.0 to 13.0	13.0 to 40.0	Graphic log indicates TD = 35 ft bgs
<b>Remediation Wells</b>													
EX-1	Nov-99	38.98	39.5	10	40	4	PVC	0.02	18.0 to 38.0	0.0 to 15.0	15.0 to 16.0	16.0 to 39.5	
EX-2	Nov-99	39.63	36.5	10	40	4	PVC	0.02	15.0 to 35.0	0.0 to 13.0	13.0 to 13.0	13.0 to 36.5	
DPE-1	Nov-07	38.95	40	10	38	4	PVC	0.02	15.0 to 40.0	0.0 to 10.0	10.0 to 13.0	13.0 to 40.0	
DPE-2	Nov-07	37.64	40	10	40	4	PVC	0.02	15.0 to 40.0	0.0 to 10.0	10.0 to 13.0	13.0 to 40.0	
DPE-3	Nov-07	37.82	40	10	40	4	PVC	0.02	13.0 to 38.0	0.0 to 8.0	8.0 to 11.0	11.0 to 40.0	
DPE-4	Nov-07	38.46	45	10	38	4	PVC	0.01	15.0 to 40.0	0.0 to 10.0	10.0 to 13.0	13.0 to 45.0	
DPE-5	Nov-07	38.23	40	10	35	4	PVC	0.01	15.0 to 40.0	0.0 to 10.0	10.0 to 13.0	13.0 to 40.0	Log indicates Screen Interval at 15-38 ft bgs

Notes:

ft = feet

B = soil boring

in = inches

A = hydropunch boring



**TABLE 1**  
**SOIL BORING AND MONITORING WELL CONSTRUCTION DETAILS**  
**76 (FORMER BP) SERVICE STATION NO. 11117**  
**7210 BANCROFT AVENUE**  
**OAKLAND, CALIFORNIA**

Updated 2/22/2011

Boring/Well ID	Well/Boring Completion Date	TOC Elevation <sup>1</sup> (ft)	Borehole Depth (ft bgs)	Borehole Diameter (in)	Well Depth (ft)	Well Casing Diameter (in)	Well Casing Material	Well Screen Slot Size (in)	Well Screen Interval (ft bgs)	Cement Grout Seal Interval (ft bgs)	Bentonite Seal Interval (ft bgs)	Filter Pack Interval (ft bgs)	Comments
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TOC = Top of Casing                      CPT = cone penetrometer boring  
 bgs = below ground surface            MW = monitoring well  
 NA = not applicable                      EX = extraction well  
    DPE = extraction well

<sup>1</sup> = TOC Elevations were surveyed to a local datum on the following dates:  
 MW-1 through MW-6 -- January 1, 1992 and July 27, 1992 by HETI  
 MW-1, MW-3, MW4, MW-6 through MW-11, EX-1, EX-2, DPE-1 through DPE-5 -- December 3, 2002 by Morrow Surveying  
 \* = Wells not included in 2007 re-surveying.

**TABLE 2**  
**CURRENT GROUNDWATER GAUGING AND ANALYTICAL DATA**  
**76 (FORMER BP) SERVICE STATION NO. 11117**  
**7210 BANCROFT AVE**  
**OAKLAND, CALIFORNIA**



Well I.D.	Date	GROUNDWATER GAUGING DATA				GROUNDWATER ANALYTICAL DATA												
		TOC Elevation (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	Water Elevation* (ft)	GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (ug/L)	TBA (ug/L)	Ethanol (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	1,2-Dibromoethane (EDB) (ug/L)	1,2-Dichloroethane (ug/L)
EX-1	2/7/2011	38.98	15.20	NP	23.78	15900	642	1100	846	2500	364	151	<250	<0.50	0.78	9.3	<1.0	<1.0
EX-2	2/7/2011	39.63	15.59	NP	24.04	<50.0	<0.50	<0.50	<0.50	<1.5	<0.50	<5.0	<250	<0.50	<0.50	<0.50	<1.0	<1.0
MW-1	2/7/2011	37.41	14.02	NP	23.39	<50.0	<0.50	<0.50	<0.50	<1.5	<0.50	<5.0	<250	<0.50	<0.50	<0.50	<1.0	<1.0
MW-3	2/7/2011	37.56	14.39	NP	23.17	<50.0	<0.50	<0.50	<0.50	<1.5	<0.50	<5.0	<250	<0.50	<0.50	<0.50	<1.0	<1.0
MW-4	2/7/2011	38.35	15.59	NP	22.76	3600	7.1	0.76	1.2	5.1	3.7	210	<250	<0.50	<0.50	<0.50	<1.0	<1.0
MW-6	2/7/2011	51.05	14.86	NP	36.19	<50.0	<0.50	<0.50	<0.50	<1.5	<0.50	<5.0	<250	<0.50	<0.50	<0.50	<1.0	<1.0
MW-8	2/7/2011	38.44	14.35	NP	24.09	<50.0	<0.50	<0.50	<0.50	<1.5	<0.50	<5.0	<250	<0.50	<0.50	<0.50	<1.0	<1.0
MW-9	2/7/2011	38.63	16.18	NP	22.45	78.5	1.6	<0.50	<0.50	<1.5	0.64	27.6	<250	<0.50	<0.50	<0.50	<1.0	<1.0
MW-10	2/7/2011	40.45	17.02	NP	23.43	<50.0	<0.50	<0.50	<0.50	<1.5	0.53	<5.0	<250	<0.50	<0.50	<0.50	<1.0	<1.0
MW-11	2/7/2011	37.64	13.55	NP	24.09	1530	<0.50	1.3	14.3	24.1	1.1	<5.0	<250	<0.50	<0.50	<0.50	<1.0	<1.0

**Gauging Notes:**

TOC - Top of Casing  
ft - Feet  
NP - LNAPL not present  
LNAPL - Light non-aqueous phase liquid  
\* - Corrected for LNAPL if present (assumes LNAPL specific gravity = 0.75)  
-- - No information available

**Analytical Notes:**

< - Not detected at or above indicated laboratory reporting limit  
ug/L - micrograms/liter  
GRO- gasoline range organics  
MTBE- Methyl tertiary-butyl ether  
TBA- Tertiary-butyl alcohol  
DIPE- Di-isopropyl ether  
ETBE- Ethyl tertiary-butyl ether  
TAME- Tertiary-amyl methyl ether









**TABLE 3  
 HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA  
 76 (FORMER BP) SERVICE STATION NO. 11117  
 7210 BANCROFT AVE  
 OAKLAND, CALIFORNIA**



Well I.D.	Date	GROUNDWATER GAUGING DATA				GROUNDWATER ANALYTICAL DATA													
		TOC Elevation (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	Water Elevation* (ft)	GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (ug/L)	TBA (ug/L)	Ethanol (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	1,2-Dibromoethane (EDB) (ug/L)	1,2-Dichloroethane (ug/L)	DRO (ug/L)
MW-2	6/7/1993	49.95	26.38	NP	23.57	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/23/1993	49.95	31.43	1.92	19.96	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/27/1993	49.95	34.07	1.07	16.68	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/5/1994	49.95	30.44	3.30	21.99	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/1994	49.95	28.51	0.80	22.04	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/13/1994	49.95	29.33	0.70	21.15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/25/1995	49.95	25.55	4.25	27.59	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/19/1995	49.95	19.78	0.12	30.26	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/5/1995	49.95	20.88	0.09	29.14	140000	14000	30000	3500	26000	--	--	--	--	--	--	--	--	--
	10/5/1995	49.95	24.68	0.10	25.35	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/12/1996	49.95	25.72	0.06	24.28	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/22/1996	49.95	19.33	0.08	30.68	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/2/1996	49.95	20.01	0.04	29.97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/8/1996	49.95	20.28	0.01	29.68	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/3/1997	49.95	19.87	0.02	30.10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/28/1997	49.95	20.59	0.01	29.37	560000	1200	1300	290	2310	--	--	--	--	--	--	--	--	--
	7/1/1997	49.95	22.90	0.01	27.06	24000	15000	16000	4900	24400	--	--	--	--	--	--	--	--	--
	10/2/1997	49.95	24.65	0.02	25.32	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/3/1997	49.95	NG	NG	NG	250000	32000	39000	6000	42000	--	--	--	--	--	--	--	--	--
	1/9/1998	49.95	21.22	0.01	28.74	420000	23000	29000	5800	43000	--	--	--	--	--	--	--	--	--
	2/2/1998	49.95	20.11	NP	29.84	410000	27000	43000	6700	50000	--	--	--	--	--	--	--	--	--
	5/6/1998	49.95	15.10	0.01	34.86	180000	25000	26000	3400	22900	--	--	--	--	--	--	--	--	--
	7/21/1998	49.95	15.31	0.01	34.65	270000	21000	20000	2700	18800	--	--	--	--	--	--	--	--	--
	12/30/1998	49.95	21.10	0.10	28.93	300000	22000	24000	4200	26000	95000	--	--	--	--	--	--	--	--
	5/10/1999	49.95	16.68	NP	33.27	220000	20000	20000	2800	20000	--	--	--	--	--	--	--	--	--
	9/23/1999	49.95	22.50	NP	27.45	160000	21000	24000	2900	20000	--	--	--	--	--	--	--	--	--
	12/23/1999	49.95	22.64	NP	27.31	170000	25000	41000	3100	24000	--	--	--	--	--	--	--	--	--
	3/27/2000	49.95	16.88	NP	33.07	140000	15000	25000	3400	21000	--	--	--	--	--	--	--	--	--
	5/22/2000	49.95	17.75	NP	32.20	150000	18000	31000	3500	22000	--	--	--	--	--	--	--	--	--
	8/31/2000	49.95	21.97	NP	27.98	200000	16000	26000	2500	16000	--	--	--	--	--	--	--	--	--
	12/11/2000	49.95	22.05	NP	27.90	130000	18600	30000	3250	20600	--	--	--	--	--	--	--	--	--
	3/20/2001	49.95	17.75	NP	32.20	140000	15900	24800	3700	22100	--	--	--	--	--	--	--	--	--
	6/19/2001	49.95	20.15	NP	29.80	130000	15100	19500	3300	21400	--	--	--	--	--	--	--	--	--
	9/20/2001	49.95	22.14	NP	27.81	110000	12400	12600	2230	13000	--	--	--	--	--	--	--	--	--
	12/27/2001	49.95	18.17	NP	31.78	150000	17500	26000	3050	19500	--	--	--	--	--	--	--	--	--
	2/28/2002	49.95	17.42	NP	32.53	120000	13900	18800	3030	19600	--	--	--	--	--	--	--	--	--
6/28/2002	49.95	17.04	NP	32.91	3700	190	23.3	139	287	--	--	--	--	--	--	--	--	--	
9/12/2002	49.95	19.52	NP	30.43	100000	13000	22000	3600	20000	--	--	--	--	--	--	--	--	--	
12/12/2002	49.95	21.08	NP	28.87	120000	13000	21000	4400	25000	--	--	--	--	--	--	--	--	--	
3/10/2003	49.95	17.84	NP	32.11	100000	17000	21000	3400	20000	--	--	--	--	--	--	--	--	--	
5/12/2003	49.95	16.66	NP	33.29	150000	16000	24000	3500	22000	--	--	--	--	--	--	--	--	--	
8/27/2003	49.95	19.65	NP	30.30	120000	14000	12000	3900	20000	--	<5000	<25000	<120	<120	140	--	--	--	
11/10/2003	49.95	20.80	NP	29.15	97000	12000	9500	3600	15000	--	<10000	<50000	<250	<250	<250	--	--	--	
2/3/2004	49.95	16.82	NP	33.13	130000	14000	19000	3400	20000	--	--	--	--	--	--	--	--	--	
5/4/2004	49.95	16.19	NP	33.76	120000	12000	16000	3700	22000	--	<10000	<50000	<250	<250	<250	<250	<250	--	
8/31/2004	49.95	19.50	NP	30.45	99000	10000	13000	3700	18000	--	--	--	--	--	--	--	--	--	
11/23/2004	49.95	18.20	NP	31.75	110000	8200	17000	4000	23000	--	<10000	<50000	<250	<250	<250	<250	<250	--	
1/18/2005	49.95	14.91	NP	35.04	96000	6500	14000	3500	21000	--	<4000	<20000	<100	<100	<100	<100	<100	--	
6/29/2005	49.95	13.98	NP	35.97	54000	6200	4900	3300	12000	--	--	--	--	--	--	--	--	--	
9/1/2005	49.95	17.00	NP	32.95	58000	6300	6000	3300	15000	--	<4000	<20000	<100	<100	100	<100	<100	--	
11/3/2005	49.95	20.25	NP	29.70	63000	7400	3700	3300	10000	--	<4000	<20000	<100	<100	100	<100	<100	--	
2/14/2006	49.95	13.72	NP	36.23	97000	7500	11000	4300	16000	--	<4000	<60000	<100	<100	<100	<100	<100	--	
5/30/2006	49.95	13.50	NP	36.45	28000	5200	2500	1500	3300	--	<4000	<60000	<100	<100	<100	<100	<100	--	
8/29/2006	49.95	18.16	NP	31.79	65000	7200	4500	3200	11000	--	<4000	<60000	<100	<100	100	<100	<100	--	
11/29/2006	49.95	20.06	NP	29.89	46000	8500	4600	3300	10000	--	<5000	<75000	<120	<120	120	<120	<120	--	
2/20/2007	49.95	16.43	NP	33.52	78000	9700	12000	4100	16000	--	<4000	<60000	<100	<100	<100	<100	<100	--	
5/25/2007	49.95	16.80	NP	33.15	62000	7400	9500	4100	15000	--	<8000	<120000	<200	<200	<200	<200	<200	--	













**TABLE 3  
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA  
76 (FORMER BP) SERVICE STATION NO. 11117  
7210 BANCROFT AVE  
OAKLAND, CALIFORNIA**



Well I.D.	Date	GROUNDWATER GAUGING DATA				GROUNDWATER ANALYTICAL DATA													
		TOC Elevation (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	Water Elevation* (ft)	GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (ug/L)	TBA (ug/L)	Ethanol (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	1,2-Dibromoethane (EDB) (ug/L)	1,2-Dichloroethane (ug/L)	DRO (ug/L)
MW-6	12/17/2008	51.05	21.58	NP	29.47	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/25/2009	51.05	17.34	NP	33.71	120	<0.50	<0.50	<0.50	<0.50	13	--	--	--	--	--	--	--	--
	5/21/2009	51.05	16.85	NP	34.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/14/2009	51.05	20.03	NP	31.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/10/2010	51.05	15.31	NP	35.74	<50.0	<0.50	<0.50	<0.50	<1.5	<0.50	<5.0	<250	<0.50	<0.50	<0.50	<1.0	<1.0	--
	8/20/2010	51.05	16.60	NP	34.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/7/2011	51.05	14.86	NP	36.19	<50.0	<0.50	<0.50	<0.50	<1.5	<0.50	<5.0	<250	<0.50	<0.50	<0.50	<1.0	<1.0	--
MW-7	1/25/1995	51.40	21.67	NP	29.73	<50	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--	--
	4/19/1995	51.40	25.27	NP	26.13	<50	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--	--
	7/5/1995	51.40	24.63	NP	26.77	<50	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--	--
	10/5/1995	51.40	28.21	NP	23.19	83	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--	--
	1/12/1996	51.40	29.29	NP	22.11	63	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--	--
	4/22/1996	51.40	23.11	NP	28.29	<50	<0.5	<1	<1	<1	--	--	--	--	--	--	--	--	--
	7/2/1996	51.40	23.56	NP	27.84	<50	<0.5	<1	<1	<1	--	--	--	--	--	--	--	--	--
	11/8/1996	51.40	20.06	NP	31.34	<50	<0.5	<1	<1	<1	--	--	--	--	--	--	--	--	--
	1/3/1997	51.40	23.42	NP	27.98	<50	<0.5	<1	<1	<1	--	--	--	--	--	--	--	--	--
	4/28/1997	51.40	24.12	NP	27.28	<50	<0.5	<1	<1	<1	--	--	--	--	--	--	--	--	--
	7/1/1997	51.40	26.40	NP	25.00	<50	<0.5	<1	<1	<1	--	--	--	--	--	--	--	--	--
	10/2/1997	51.40	28.14	NP	23.26	<50	<0.5	<1	<1	<1	--	--	--	--	--	--	--	--	--
	1/9/1998	51.40	24.02	NP	27.38	<50	<0.5	<1	<1	<1	--	--	--	--	--	--	--	--	--
	5/6/1998	51.40	21.00	NP	30.40	1900	<0.5	<1	<1	<1	--	--	--	--	--	--	--	--	--
	7/21/1998	51.40	21.17	NP	30.23	50	<0.5	<1	<1	<1	--	--	--	--	--	--	--	--	--
	12/30/1998	51.40	22.13	NP	29.27	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/2/1999	51.40	22.08	NP	29.32	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/10/1999	51.40	18.58	NP	32.82	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/23/1999	51.40	24.29	NP	27.11	70	<1	<1	<1	<1	--	--	--	--	--	--	--	--	--
	12/23/1999	51.40	24.53	NP	26.87	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/27/2000	51.40	18.58	NP	32.82	910	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--
	5/22/2000	51.40	19.49	NP	31.91	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/31/2000	51.40	22.53	NP	28.87	440	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--
	12/11/2000	51.40	22.75	NP	28.65	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/20/2001	51.40	18.79	NP	32.61	1100	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	--	--	--	--
	6/19/2001	51.40	19.82	NP	31.58	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/20/2001	51.40	21.35	NP	30.05	1300	1.21	<0.5	<0.5	<1.5	--	--	--	--	--	--	--	--	--
	12/27/2001	51.40	20.36	NP	31.04	510	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--	--
	2/28/2002	51.40	21.86	NP	29.54	250	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--	--
	6/28/2002	51.40	22.64	NP	28.76	<50	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--	--
	9/12/2002	51.40	23.51	NP	27.89	<50	<0.5	<0.5	<0.5	1	--	--	--	--	--	--	--	--	--
	12/12/2002	51.40	23.75	NP	27.65	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--
	3/10/2003	51.40	21.25	NP	30.15	61	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--
	5/12/2003	51.40	21.44	NP	29.96	<100	<1	<1	<1	<1	--	--	--	--	--	--	--	--	--
	8/27/2003	51.40	23.30	NP	28.10	120	<0.5	<0.5	<0.5	<0.5	--	<20	<100	<0.5	<0.5	<0.5	--	--	--
	11/10/2003	51.40	20.24	NP	31.16	230	<1	<1	<1	<1	--	<40	<200	<1	<1	<1	--	--	--
	2/3/2004	51.40	20.63	NP	30.77	<250	<2.5	<2.5	<2.5	<2.5	--	<100	<500	<2.5	<2.5	<2.5	<2.5	<2.5	--
	5/4/2004	51.40	21.89	NP	29.51	<250	<2.5	<2.5	<2.5	<2.5	--	<100	<500	<2.5	<2.5	<2.5	<2.5	<2.5	--
	8/31/2004	51.40	23.16	NP	28.24	<500	<5	<5	<5	<5	--	<200	<1000	<5	<5	<5	<5	<5	--
	11/23/2004	51.40	21.65	NP	29.75	590	<2.5	5	11	51	--	<100	<500	<2.5	<2.5	<2.5	<2.5	<2.5	--
1/18/2005	51.40	16.28	NP	35.12	<250	<2.5	<2.5	<2.5	2.5	--	<100	<500	<2.5	<2.5	<2.5	<2.5	<2.5	--	
6/29/2005	51.40	14.50	NP	36.90	2200	43	97	92	390	--	<100	<500	<2.5	<2.5	<2.5	<2.5	<2.5	--	
9/1/2005	51.40	20.41	NP	30.99	<500	<5	<5	<5	<5	--	<200	<1000	<5	<5	<5	<5	<5	--	
11/3/2005	51.40	21.00	NP	30.40	130	<1	<1	<1	1	--	<40	<200	<1	<1	<1	<1	<1	--	
2/14/2006	51.40	16.31	NP	35.09	100	<0.5	<0.5	<0.5	0.87	--	<20	<300	<0.5	<0.5	<0.5	<0.5	<0.5	--	
5/30/2006	51.40	17.58	NP	33.82	<50	<0.5	<0.5	<0.5	<0.5	--	<20	<300	<0.5	<0.5	<0.5	<0.5	<0.5	--	
8/29/2006	51.40	18.64	NP	32.76	100	<2.5	<2.5	<2.5	<2.5	--	<100	<1500	<2.5	<2.5	<2.5	<2.5	<2.5	--	
11/29/2006	51.40	20.35	NP	31.05	84	<2.5	<2.5	<2.5	<2.5	--	<100	<1500	<2.5	<2.5	<2.5	<2.5	<2.5	--	
2/20/2007	51.40	17.09	NP	34.31	160	<2.5	<2.5	<2.5	<2.5	--	<100	<1500	<2.5	<2.5	<2.5	<2.5	<2.5	--	

**TABLE 3  
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA  
76 (FORMER BP) SERVICE STATION NO. 11117  
7210 BANCROFT AVE  
OAKLAND, CALIFORNIA**



Well I.D.	Date	GROUNDWATER GAUGING DATA				GROUNDWATER ANALYTICAL DATA													
		TOC Elevation (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	Water Elevation* (ft)	GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (ug/L)	TBA (ug/L)	Ethanol (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	1,2-Dibromoethane (EDB) (ug/L)	1,2-Dichloroethane (ug/L)	DRO (ug/L)
MW-7	5/25/2007	51.40	17.20	NP	34.20	70	<1	<1	<1	<1	--	<40	<600	<1	<1	<1	<1	<1	--
	8/9/2007	51.40	19.95	NP	31.45	<50	<0.5	<0.5	<0.5	<0.5	--	<20	<300	<0.5	<0.5	<0.5	<0.5	<0.5	--
	11/9/2007	51.40	23.28	NP	28.12	61	<0.5	<0.5	<0.5	1.3	--	<20	<300	<0.5	<0.5	<0.5	<0.5	<0.5	--
	12/14/2007	38.99	23.07	NP	15.92	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/11/2008	38.99	17.21	NP	21.78	<50	<0.5	<0.5	<0.5	<0.5	--	<10	<100	<0.5	<0.5	<0.5	<0.5	<0.5	--
	5/22/2008	38.99	17.55	NP	21.44	200	<1	<1	<1	<1	--	<20	<600	<1	<1	<1	<1	<1	--
	8/25/2008	38.99	20.55	NP	18.44	<50	<0.5	<0.5	<0.5	<0.5	--	<10	<300	<0.5	<0.5	<0.5	<0.5	<0.5	--
	12/17/2008	38.99	21.86	NP	17.13	<50	<0.5	<0.5	<0.5	<0.5	--	<10	<300	<0.5	<0.5	<0.5	<0.5	<0.5	--
	8/14/2009	38.99	20.31	NP	18.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/20/2010	38.99	16.82	NP	22.17	<50.0	<0.50	<0.50	<0.50	<1.5	17.2	9.8	<250	<0.50	<0.50	<0.50	<1.0	<1.0	--
MW-8	1/25/1995	50.88	31.59	NP	19.29	54	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--	--
	4/19/1995	50.88	19.18	NP	31.70	<50	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--	--
	7/5/1995	50.88	19.03	NP	31.85	<50	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--	--
	10/5/1995	50.88	24.40	NP	26.48	<50	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--	--
	1/12/1996	50.88	25.51	NP	25.37	<50	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--	--
	4/22/1996	50.88	18.00	NP	32.88	<50	<0.5	<1	<1	<1	--	--	--	--	--	--	--	--	--
	7/2/1996	50.88	19.83	NP	31.05	<50	<0.5	<1	<1	<1	--	--	--	--	--	--	--	--	--
	11/8/1996	50.88	20.09	NP	30.79	<50	<0.5	<1	<1	<1	--	--	--	--	--	--	--	--	--
	1/3/1997	50.88	19.72	NP	31.16	<50	<0.5	<1	<1	<1	--	--	--	--	--	--	--	--	--
	4/28/1997	50.88	20.44	NP	30.44	<50	<0.5	<1	<1	<1	--	--	--	--	--	--	--	--	--
	7/1/1997	50.88	22.72	NP	28.16	<50	<0.5	<1	<1	<1	--	--	--	--	--	--	--	--	--
	10/2/1997	50.88	24.51	NP	26.37	<50	<0.5	<1	<1	<1	--	--	--	--	--	--	--	--	--
	1/9/1998	50.88	21.17	NP	29.71	<50	<0.5	<1	<1	<1	--	--	--	--	--	--	--	--	--
	5/6/1998	50.88	18.34	NP	32.54	<50	<0.5	<1	<1	<1	--	--	--	--	--	--	--	--	--
	7/21/1998	50.88	18.55	NP	32.33	90	<0.5	<1	<1	<1	--	--	--	--	--	--	--	--	--
	12/30/1998	50.88	20.40	NP	30.48	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/2/1999	50.88	19.28	NP	31.60	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/10/1999	50.88	15.62	NP	35.26	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/23/1999	50.88	21.74	NP	29.14	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/23/1999	50.88	22.83	NP	28.05	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/27/2000	50.88	16.25	NP	34.63	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--
	5/22/2000	50.88	17.06	NP	33.82	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/31/2000	50.88	21.72	NP	29.16	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/11/2000	50.88	22.03	NP	28.85	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/20/2001	50.88	16.23	NP	34.65	<50	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	--	--	--	--
	6/19/2001	50.88	19.35	NP	31.53	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/20/2001	50.88	21.95	NP	28.93	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/27/2001	50.88	16.98	NP	33.90	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/28/2002	50.88	15.38	NP	35.50	<50	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--	--
	6/28/2002	50.88	16.97	NP	33.91	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/12/2002	50.88	19.47	NP	31.41	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/12/2002	50.88	20.84	NP	30.04	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/10/2003	50.88	16.56	NP	34.32	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--
	5/12/2003	50.88	13.63	NP	37.25	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
8/27/2003	50.88	18.90	NP	31.98	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
11/10/2003	50.88	19.68	NP	31.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
2/3/2004	50.88	14.76	NP	36.12	<50	<0.5	<0.5	<0.5	<0.5	--	<20	<100	<0.5	<0.5	<0.5	<0.5	<0.5	--	
5/4/2004	50.88	14.69	NP	36.19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
8/31/2004	50.88	18.08	NP	32.80	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
11/23/2004	50.88	15.77	NP	35.11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
1/18/2005	50.88	12.04	NP	38.84	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	
6/29/2005	50.88	NG	NG	NG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
9/1/2005	50.88	16.12	NP	34.76	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
11/3/2005	50.88	19.42	NP	31.46	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
2/14/2006	50.88	12.43	NP	38.45	<50	<0.5	<0.5	<0.5	<0.5	--	<20	<300	<0.5	<0.5	<0.5	<0.5	<0.5	--	



**TABLE 3  
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76 (FORMER BP) SERVICE STATION NO. 11117  
7210 BANCROFT AVE  
OAKLAND, CALIFORNIA**



Well I.D.	Date	GROUNDWATER GAUGING DATA				GROUNDWATER ANALYTICAL DATA													
		TOC Elevation (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	Water Elevation* (ft)	GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (ug/L)	TBA (ug/L)	Ethanol (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	1,2-Dibromoethane (EDB) (ug/L)	1,2-Dichloroethane (ug/L)	DRO (ug/L)
MW-9	2/3/2004	51.05	17.23	NP	33.82	6200	180	<50	<50	<50	--	<2000	<10000	<50	<50	<50	<50	<50	--
	5/4/2004	51.05	17.17	NP	33.88	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/31/2004	51.05	19.71	NP	31.34	<2500	210	<25	<25	<25	--	<1000	<5000	<25	<25	<25	<25	<25	--
	11/23/2004	51.05	18.58	NP	32.47	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/18/2005	51.05	14.98	NP	36.07	490	32	<2.5	<2.5	8.9	--	150	<500	<2.5	<2.5	<2.5	<2.5	<2.5	--
	6/29/2005	51.05	14.74	NP	36.31	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/1/2005	51.05	17.42	NP	33.63	3500	1300	<25	<25	28	--	2700	<5000	<25	<25	<25	<25	<25	--
	11/3/2005	51.05	19.90	NP	31.15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2006	51.05	12.95	NP	38.10	2700	<25	<25	<25	<25	--	<1000	<15000	<25	<25	<25	<25	<25	--
	5/30/2006	51.05	13.76	NP	37.29	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/29/2006	51.05	17.86	NP	33.19	1200	580	<25	<25	<25	--	2100	<15000	<25	<25	<25	<25	<25	--
	11/29/2006	51.05	20.25	NP	30.80	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/20/2007	51.05	16.91	NP	34.14	780	66	1.5	2	1.4	--	380	<600	<1	<1	<1	<1	<1	--
	5/25/2007	51.05	17.28	NP	33.77	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/9/2007	51.05	19.71	NP	31.34	650	150	<0.5	<0.5	2	--	790	<300	<0.5	<0.5	<0.5	<0.5	<0.5	--
	11/9/2007	51.05	21.62	NP	29.43	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/14/2007	38.63	21.66	NP	16.97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/12/2008	38.63	16.30	NP	22.33	890	27	2.5	28	5.4	--	37	<100	<0.5	<0.5	<0.5	<0.5	<0.5	--
	5/22/2008	38.63	18.10	NP	20.53	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/25/2008	38.63	20.93	NP	17.70	180	<0.5	<0.5	<0.5	<0.5	--	75	<300	<0.5	<0.5	<0.5	<0.5	<0.5	--
	12/17/2008	38.63	22.86	NP	15.77	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/25/2009	38.63	18.78	NP	19.85	600	11	0.86	1.1	2.2	<0.50	--	--	--	--	--	--	--	--
	5/21/2009	38.63	17.95	NP	20.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--
8/14/2009	38.63	20.81	NP	17.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2/10/2010	38.63	16.71	NP	21.92	<50.0	<0.50	<0.50	<0.50	<1.5	<0.50	<5.0	<250	<0.50	<0.50	<0.50	<1.0	<1.0	--	
8/20/2010	38.63	17.22	NP	21.41	137	26.5	<0.50	<0.50	<1.5	0.91	92.5	<250	<0.50	<0.50	<0.50	<1.0	<1.0	--	
2/7/2011	38.63	16.18	NP	22.45	78.5	1.6	<0.50	<0.50	<1.5	0.64	27.6	<250	<0.50	<0.50	<0.50	<1.0	<1.0	--	
MW-10	1/9/1998	51.07	20.97	NP	30.10	<50	<0.5	<1	<1	<1	--	--	--	--	--	--	--	--	
	5/6/1998	51.07	18.07	NP	33.00	800	<0.5	<1	<1	<1	--	--	--	--	--	--	--	--	
	7/21/1998	51.07	18.28	NP	32.79	80	<0.5	<1	<1	<1	--	--	--	--	--	--	--	--	
	12/30/1998	51.07	22.22	NP	28.85	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	2/2/1999	51.07	21.83	NP	29.24	940	<10	<10	<10	<10	--	--	--	--	--	--	--	--	
	5/10/1999	51.07	17.99	NP	33.08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/23/1999	51.07	22.61	NP	28.46	<50	<1	<1	<1	1.4	--	--	--	--	--	--	--	--	
	12/23/1999	51.07	23.75	NP	27.32	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/27/2000	51.07	18.83	NP	32.24	1900	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	
	5/22/2000	51.07	19.47	NP	31.60	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8/31/2000	51.07	22.64	NP	28.43	1700	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	
	12/11/2000	51.07	22.84	NP	28.23	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	3/20/2001	51.07	19.57	NP	31.50	16000	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	--	--	--	
	6/19/2001	51.07	20.63	NP	30.44	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/20/2001	51.07	23.07	NP	28.00	5800	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	--	--	--	
	12/27/2001	51.07	20.92	NP	30.15	6600	17.3	14.5	<12.5	<25	--	--	--	--	--	--	--	--	
	2/28/2002	51.07	18.52	NP	32.55	3600	10.8	<0.5	<0.5	<1	--	--	--	--	--	--	--	--	
	6/28/2002	51.07	18.41	NP	32.66	<50	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--	
	9/12/2002	51.07	20.57	NP	30.50	660	<5	<5	<5	<5	--	--	--	--	--	--	--	--	
	12/12/2002	51.07	22.80	NP	28.27	1400	<5	<5	<5	<5	--	--	--	--	--	--	--	--	
	3/10/2003	51.07	19.26	NP	31.81	1700	<5	<5	5.3	15	--	--	--	--	--	--	--	--	
	5/12/2003	51.07	17.90	NP	33.17	1500	<12	<12	<12	<12	--	--	--	--	--	--	--	--	
	8/27/2003	51.07	20.82	NP	30.25	4100	<25	<25	<25	<25	--	<1000	<5000	<25	<25	<25	--	--	
11/10/2003	51.07	21.92	NP	29.15	<5000	<50	<50	<50	<50	--	<2000	<10000	<50	<50	<50	--	--		
2/3/2004	51.07	18.52	NP	32.55	5100	<50	<50	<50	<50	--	<2000	<10000	<50	<50	<50	<50	<50	--	
5/4/2004	51.07	17.63	NP	33.44	<2500	<25	<25	<25	<25	--	<1000	<5000	<25	<25	<25	<25	<25	--	
8/31/2004	51.07	20.67	NP	30.40	<5000	<50	<50	<50	<50	--	<2000	<10000	<50	<50	<50	<50	<50	--	

**TABLE 3  
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA  
76 (FORMER BP) SERVICE STATION NO. 11117  
7210 BANCROFT AVE  
OAKLAND, CALIFORNIA**



Well I.D.	Date	GROUNDWATER GAUGING DATA				GROUNDWATER ANALYTICAL DATA													
		TOC Elevation (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	Water Elevation* (ft)	GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (ug/L)	TBA (ug/L)	Ethanol (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	1,2-Dibromoethane (EDB) (ug/L)	1,2-Dichloroethane (ug/L)	DRO (ug/L)
MW-10	11/23/2004	51.07	19.79	NP	31.28	2600	<25	<25	<25	<25	--	<1000	<5000	<25	<25	<25	<25	<25	--
	1/18/2005	51.07	16.13	NP	34.94	560	<5	<5	<5	<5	--	<200	<1000	<5	<5	<5	<5	<5	--
	6/29/2005	51.07	15.56	NP	35.51	110	1.9	4.6	4.2	17	--	<20	<100	<0.5	<0.5	<0.5	<0.5	<0.5	--
	9/1/2005	51.07	18.10	NP	32.97	<250	<2.5	<2.5	<2.5	<2.5	--	<100	<500	<2.5	<2.5	<2.5	<2.5	<2.5	--
	11/3/2005	51.07	20.90	NP	30.17	800	<5	<5	<5	7	--	<200	<1000	<5	<5	<5	<5	<5	--
	2/14/2006	51.07	15.58	NP	35.49	600	<0.5	<0.5	<0.5	<0.5	--	34	<300	<0.5	<0.5	1.2	<0.5	<0.5	--
	5/30/2006	51.07	14.70	NP	36.37	95	<0.5	<0.5	<0.5	<0.5	--	<20	<300	<0.5	<0.5	<0.5	<0.5	<0.5	--
	8/29/2006	51.07	18.69	NP	32.38	250	<5	<5	<5	<5	--	<200	<3000	<5	<5	<5	<5	<5	--
	11/29/2006	51.07	21.35	NP	29.72	650	<5	<5	<5	<5	--	<200	<3000	<5	<5	5.8	<5	<5	--
	2/20/2007	51.07	18.65	NP	32.42	720	<5	<5	<5	<5	--	<200	<3000	<5	<5	<5	<5	<5	--
	5/25/2007	51.07	18.15	NP	32.92	130	<0.5	<0.5	<0.5	<0.5	--	<20	<300	<0.5	<0.5	0.69	<0.5	<0.5	--
	8/9/2007	51.07	20.83	NP	30.24	970	<10	<10	<10	<10	--	<400	<6000	<10	<10	<10	<10	<10	--
	11/9/2007	51.07	22.53	NP	28.54	1100	<10	<10	<10	13	--	<400	<6000	<10	<10	<10	<10	<10	--
	12/14/2007	40.45	22.62	NP	17.83	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/11/2008	40.45	17.86	NP	22.59	<50	<0.5	<0.5	<0.5	<0.5	--	<10	<100	<0.5	<0.5	2.6	<0.5	<0.5	--
	5/22/2008	40.45	19.05	NP	21.40	81	<0.5	<0.5	<0.5	<0.5	--	<10	<300	<0.5	<0.5	<0.5	<0.5	<0.5	--
	8/25/2008	40.45	21.88	NP	18.57	<50	<0.5	1	<0.5	0.98	--	<10	<300	<0.5	<0.5	2.2	<0.5	<0.5	--
	12/17/2008	40.45	23.32	NP	17.13	<50	<20	<20	<20	<20	--	<400	<12000	<20	<20	<20	<20	<20	--
	2/25/2009	40.45	20.07	NP	20.38	84	<5.0	<5.0	<5.0	<5.0	290	--	--	--	--	--	--	--	--
	5/21/2009	40.45	18.80	NP	21.65	<50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--	--	--
8/14/2009	40.45	21.76	NP	18.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2/10/2010	40.45	17.80	NP	22.65	<50.0	<0.50	<0.50	<0.50	<1.5	21.9	<5.0	<250	<0.50	<0.50	<0.50	<1.0	<1.0	--	
8/20/2010	40.45	18.64	NP	21.81	<50.0	<0.50	<0.50	<0.50	<1.5	<0.50	<5.0	<250	<0.50	<0.50	<0.50	<1.0	<1.0	--	
2/7/2011	40.45	17.02	NP	23.43	<50.0	<0.50	<0.50	<0.50	<1.5	0.53	<5.0	<250	<0.50	<0.50	<0.50	<1.0	<1.0	--	
MW-11	12/14/2007	37.64	20.16	NP	17.48	8000	<10	72	230	760	--	<400	<6000	<10	<10	<10	<10	<10	--
	2/12/2008	37.64	14.35	NP	23.29	5500	46	13	220	160	--	<50	<500	<2.5	<2.5	<2.5	<2.5	<2.5	--
	5/22/2008	37.64	16.63	NP	21.01	5700	80	21	320	150	--	<100	<3000	<5	<5	<5	<5	<5	--
	8/25/2008	37.64	19.48	NP	18.16	5300	<5	20	120	320	--	<100	<3000	<5	<5	<5	<5	<5	--
	12/17/2008	37.64	21.26	NP	16.38	12000	2.4	2.6	30	54	--	<10	<300	<0.5	<0.5	<0.5	<0.5	<0.5	--
	2/25/2009	37.64	16.38	NP	21.26	6800	0.86	20	150	390	<0.50	--	--	--	--	--	--	--	--
	5/21/2009	37.64	16.16	NP	21.48	2500	1.5	4.4	36	82	1.5	--	--	--	--	--	--	--	--
	8/14/2009	37.64	19.27	NP	18.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2/10/2010	37.64	13.35	NP	24.29	820	0.53	0.86	9.0	15.4	1.4	6.1	<250	<0.50	<0.50	<0.50	<1.0	<1.0	--	
8/20/2010	37.64	15.66	NP	21.98	1740	0.52	1.4	16.5	26.1	1.2	8.2	<250	<0.50	<0.50	<0.50	<1.0	<1.0	--	
2/7/2011	37.64	13.55	NP	24.09	1530	<0.50	1.3	14.3	24.1	1.1	<5.0	<250	<0.50	<0.50	<0.50	<1.0	<1.0	--	

**Gauging Notes:**

TOC - Top of Casing  
ft - Feet  
NP - LNAPL not present  
LNAPL - Light non-aqueous phase liquid  
\* - Corrected for LNAPL if present (assumes LNAPL specific gravity = 0.75)  
NG - Not gauged  
NSVD - Not surveyed  
-- - No information available

**Analytical Notes:**

-- - No information available  
< - Not detected at or above indicated laboratory reporting limit  
NS - Well not sampled.  
ug/L - micrograms/liter  
GRO- gasoline range organics  
MTBE- Methyl tertiary-butyl ether  
TBA- Tertiary-butyl alcohol  
DIPE- Di-isopropyl ether  
ETBE- Ethyl tertiary-butyl ether  
TAME- Tertiary-amyl methyl ether  
DRO- diesel range organics

*Semi-Annual Monitoring Report, First Quarter 2011  
76 (Former BP) Service Station No. 11117  
Oakland, California  
Antea Group Project No. I42611117*



## ***Attachment A***

Site Details and Summary of Previous Environmental Investigations

## SITE LOCATION AND BACKGROUND

The Site is an active 76-brand gasoline retail outlet located on the northern corner of Bancroft Avenue and 73rd Avenue in Oakland, California (**Figure 1**). The land use in the immediate vicinity of the Site is mixed commercial and residential. BP acquired the facility from Mobil Oil Corporation in 1989. In January 1994, BP transferred the property to TOSCO Marketing Company (TOSCO) and has not operated the facility since that time.

The Site consists of a service station building, three 12,000-gallon gasoline underground storage tanks (USTs), and one 10,000-gallon diesel UST with associated piping and dispensers. The site is covered with asphalt or concrete surfacing except for planters along the southeastern and southwestern property boundaries and at the north corner of the property.

## SUMMARY OF PREVIOUS ENVIRONMENTAL INVESTIGATIONS

**1984 UST Replacement:** In 1984, the pre-existing USTs at the Site were removed and three gasoline USTs (6,000, 10,000, and 12,000-gallon) and one 6,000-gallon diesel UST were installed immediately to the east. The newly installed USTs were single-walled, fiberglass USTs. An associated UST removal report is not on file, and it is unknown if one was ever prepared. No documentation was reportedly found referencing the conditions of the removed USTs or reporting evidence of the hydrocarbon impacts in the soil and groundwater, if any, at the time of the UST removal.

**1989 Phase II Environmental Audit:** In December 1989, a Phase II environmental audit was conducted on the adjacent Eastmont Town Center site located to the north and northwest of the former BP Site. Part of the respective Phase II study relevant to the former BP Site included the installation of the monitoring well MW-3 near the western boundary of the former BP Site.

The analytical results of soil samples collected from 10 and 20 feet below ground surface (bgs) from MW-3 reported total petroleum hydrocarbons (TPH), benzene, toluene, ethyl benzene, and total xylenes (BTEX), and oil and grease concentrations below their respective laboratory reporting limits. The analytical results of ground-water samples from MW-3 reported TPH and benzene concentrations of 2,700 micrograms per liter ( $\mu\text{g/L}$ ) and 530  $\mu\text{g/L}$ , respectively.

**1991 Phase I Subsurface Investigation:** In December 1991, two soil borings (MW-1 and MW-2) were drilled onsite to total depths of 40 feet bgs, and soil samples were collected at 10-foot intervals between 5 and 25 feet bgs. First groundwater was encountered at approximately 30 feet bgs. The analytical results of the soil samples from MW-1 and MW-2 reported total petroleum hydrocarbons as gasoline (TPH-g) and BTEX at concentrations below their respective laboratory reporting limits.

**1992 Phase I Subsurface Investigation:** In July 1992, boring MW-4 and MW-6 were advanced to total depths of 40 feet bgs, and boring B-5 was advanced to 50 feet bgs. First groundwater was encountered at approximately 30 feet bgs in borings MW-4 and MW-6, and no free water was encountered in boring B-5. The analytical results of soil samples collected at 30 feet bgs from B-5 and MW-6 reported TPH-g and BTEX at concentrations below their respective laboratory reporting limits. The maximum TPH-g and BTEX concentrations in soil reported in MW-4 were 6,000 milligrams per kilogram (mg/kg) and 34 mg/kg, respectively, from a depth of 20 feet bgs. Borings MW-4 and MW-6 were subsequently converted into monitoring wells.



**1994 Baseline Assessment Report:** In September 1994, a supplemental Site Assessment was conducted at the Site. Four exploratory soil borings (THP-1, TB-2, TB-3, TB-4) were advanced to a maximum depth of 45 feet bgs, north of the former and existing UST complexes (THP-1), at the former service bays (TB-2), north of the northern pump island (TB-3), and at a former pump island (TB-4). Additionally, one soil sample was collected from beneath each of the five dispensers (TD-1 through TD-5).

Groundwater was encountered in TB-2 and TB-3 at approximately 33 to 36 feet bgs and groundwater samples were collected from TB-2 and TB-3 via temporarily well points. Maximum concentrations of 16 mg/kg TPH-g (TD-3), TPH as diesel (TPH-d) at concentrations ranging from 110 mg/kg to 5,000 mg/kg (TD-1 through TD-5), and benzene at concentrations below laboratory reporting limits were reported in soil samples. No TPH-g was detected at concentrations above the laboratory reporting limits and a maximum concentration of 0.7 µg/L benzene (TB-3) was reported in groundwater samples.

Boring MW-7 was advanced to a total depth of 45 feet bgs, and borings MW-8 and MW-9 were advanced to total depths of 40 feet bgs. First encountered groundwater was at approximately 27 feet bgs to 32 feet bgs. No TPH-g or BTEX were detected above their respective laboratory reporting limits in soil samples collected from 25 feet bgs in each boring. The three borings were subsequently converted into monitoring wells MW-7 through MW-9.

**1997 Offsite Well Installation:** In July 1997, one boring (MW-10) was drilled offsite to a depth of approximately 37.5 feet bgs. Soil samples were collected and the boring was subsequently converted into a monitoring well. First groundwater was encountered at approximately 26 feet bgs. No TPH-g, BTEX or methyl tertiary butyl ether (MTBE) was detected in soil samples at concentrations above their respective laboratory reporting limits in MW-10. No TPH-g or BTEX was detected in the groundwater sample from MW-10 at concentrations above their respective laboratory reporting limits. However, MTBE was detected at concentration of 13 µg/L using EPA Method 8020.

**1998 UST and Associated Piping and Dispenser Removal:** In August 1998, the three gasoline USTs (6,000, 10,000, and 12,000-gallon) and one 6,000-gallon diesel UST, and associated dispensers and piping were removed from the Site. There was no visible evidence of leakage from the USTs removed.

A total of eight native soil samples were collected from beneath each end of the removed USTs at depths of 14 to 16 feet bgs, and a total of 18 soil samples were collected from the former dispenser locations and from beneath the associated product lines at three feet bgs.

TPH-g was reported in five of the eight UST excavation samples at concentrations ranging from 3.7 mg/kg (S-15-T2S) to 5,300 mg/kg (S-15-T1S). TPH-d was detected at 630 mg/kg (S-15-T1N) and 800mg/kg (S-15 T1S) into two samples, benzene concentrations ranged between 0.40 mg/kg (S-15-T1N) to 0.95 mg/kg (S-16-T3N) in three samples, MTBE concentrations ranged between 0.028 mg/kg (S-14-T4S) to 5.3 mg/kg (S-16-T3N) in seven samples, and lead was not reported in the sample analyzed for lead.

TPH-g was reported in nine of the eighteen dispenser and product line samples with concentrations ranging between 1.4 mg/kg (S-3-PL12) to 7,200 mg/kg (S-3-D4). TPH-d was detected between 4.8 mg/kg (S-3-PL12) to 190 mg/kg (S-3-PL11) in five samples, benzene was detected between 0.0089 mg/kg (S-3-PL12) to 22 mg/kg (S-3-D4) in three samples and MTBE was detected between 0.048 mg/kg (S-3-PL12) to 15 mg/kg (S-3-PL1) in ten samples.

During the 1998 UST replacement activities, approximately 389 tons of soil and backfill were transported off-site disposal. The existing 10,000- gallon diesel and three 12,000-gallon gasoline USTs were installed as replacements.

**1999 Groundwater Recovery Test:** In April 1999, a groundwater recovery test was performed on wells MW-1 through MW-4, MW-6, MW-7 and MW-10 to assess the spatial variation in hydraulic conductivity in the shallow water-bearing zone across the Site.

The hydraulic conductivity values estimated from the recovery testing are presented in Alisto Engineering Group's *Results of Recovery Testing* dated June 4, 1999. Testing by the Bouwer-Rice method yielded hydraulic conductivities of  $2.46 \times 10^{-2}$  ft/min for MW-1,  $2.42 \times 10^{-4}$  ft/min for MW-2,  $3.82 \times 10^{-4}$  ft/min for MW-3,  $5.75 \times 10^{-4}$  ft/min for MW-4,  $1.99 \times 10^{-2}$  ft/min for MW-6  $1.09 \times 10^{-4}$  ft/min for MW-7 and  $8.78 \times 10^{-5}$  ft/min for MW-10. The geometric mean of the hydraulic conductivity and flow velocity values were calculated to be  $1.37 \times 10^{-5}$  feet per second and 73.85 feet per year, respectively.

**1999 Extraction Well Installation:** In November 1999, two 4-inch diameter wells (EX-1 and EX-2) were installed on-site to facilitate potential remedial activities at the site. Well EX-1 was drilled to 39.5 feet bgs and EX-2 was drilled to 36.5 feet bgs. Groundwater was first encountered at 26 feet bgs. No TPH-G or BTEX, and relatively low MTBE concentrations were reported in soil samples collected from EX-1 and EX-2.

**2000 Interim Remedial Action and Recovery Testing:** Between March 16 and April 30, 2000, interim remedial activities were conducted at the Site to evaluate the effectiveness of hydrocarbon and MTBE reduction using short-term groundwater extraction. During eight extractions events, approximately 10,900 gallons of groundwater was extracted from wells EX-1, EX-2 and MW-2. During the extraction events, stable to slightly decreasing hydrocarbons and MTBE concentration trends were exhibited in samples collected from wells MW-2 and EX-1, located immediately southwest of the existing USTs.

Samples from well EX-2, located north of the existing USTs, exhibited lower hydrocarbon and MTBE concentrations than MW-2 and EX-1. In April 2000, during the batch extraction events, recovery tests were conducted on wells EX-1, EX-2 and MW-2. Based on the recovery test measurements, the calculated hydraulic conductivity values ranged from  $1.85 \times 10^{-4}$  ft/min to  $8.33 \times 10^{-4}$  ft/min with resulting flow velocities of 16 ft/year to 73 ft/year at well MW-2.

The calculated hydraulic conductivity values ranged from  $2.02 \times 10^{-5}$  ft/min to  $3.85 \times 10^{-5}$  ft/min for well EX-1 with resulting flow velocities of 1.8 to 3.4 Ft/yr. And a well EX-2, the calculated hydraulic conductivity values ranged from  $3.04 \times 10^{-4}$  ft/min to  $2.13 \times 10^{-3}$  ft/min for resulting flow velocities of 27 ft/year to 187 ft/year. The geometric mean of these values is a hydraulic conductivity of  $3.0 \times 10^{-4}$  ft/min and resulting flow velocity of 26 ft./year.

**2001 Dual-Phase Extraction Pilot Test:** During October 29, through November 2, 2001, a dual phase soil vapor and groundwater extraction (DPE) pilot test was performed on the monitoring wells with the highest historical hydrocarbon concentrations (i.e., MW-2 and MW-4) and the extraction wells (EX-1 and EX-2) at the Site.

The DPE test results indicated that the vacuum influence was limited to within 18 to 28 feet of the extraction well. Water levels typically decreased several feet in the extraction wells and had a varied response in the observation wells. Estimated vapor-phase removal rates were approximately 200-pounds of hydrocarbon per day in wells MW-4 and EX-1, and less than 5-pounds of hydrocarbon per day in wells MW-2 and EX-2.

Soil vapor concentrations showed a decreasing trend in wells MW-4 and EX-1 during the short-term pilot tests. Grab water samples collected before and after the pilot tests remained the same order of magnitude. A total of 6,500 gallons of water was extracted during the DPE pilot test and appropriately disposed off-site. Overall, the test results indicated that DPE is a feasible remedial alternative for the Site and ACEH approved Cambria's August 8, 2002, Dual Phase Extraction Pilot Test Report as a Corrective Action Plan (CAP).

**2005 Soil and Water Investigation:** In Fall 2005, URS completed nine Geoprobe soil borings with co-located Hydropunch borings. The first phase of work was onsite source area characterization: five boring locations (A-1 through A-5) were advanced in the vicinity of the possible hydrocarbons source areas such as locations of former and current USTs, products dispensers, and in the vicinity of MW-4 to adequately characterize the lateral and vertical extent of petroleum hydrocarbons in soils in the identified source areas.

An offsite assessment was completed during the second phase of work (borings A-7 through A-10) to further define the downgradient, cross-gradient, and up-gradient extent of the groundwater plume (soil boring A-6 was unable to be advanced due to close proximity to electric lines and product piping). Maximum concentrations of gasoline range organics (GRO), benzene and methyl tert-butyl ether (MTBE) were detected in soil at concentrations of 490 mg/kg [A-4 (23.5-24')], 28 mg/kg [A-5 (35-35.5')], and 0.84 mg/kg [A-1 (46-46.5')], respectively. Maximum concentrations of GRO, benzene, and MTBE were detected in ground water at concentrations of 510,000 µg/L [A-2 (21.3')], 11,000 µg/L [A-4 (34-36')], and 39,000 µg/L [A-4 (34-36')], and 39,000 µg/L [A-4 (34-36')], respectively.

The cross-gradient and downgradient lateral extents of the dissolved hydrocarbon plume were characterized during the last investigation. However, the vertical extent of the dissolved-phase hydrocarbons on the southern portion of the site was not defined. Specifically, significantly elevated concentrations were detected in Hydropunch groundwater samples collected from the bottom depths of soil borings A-2, A-3 and A-4.

The bottom Hydropunch sample from boring A-2 (40-42 ft bgs) contained concentrations of GRO, benzene, and MTBE at 36,000 µg/L, 1,800 µg/L, and 110 µg/L, respectively. The bottom Hydropunch sample from boring A-3 (34-36 ft bgs) contained concentrations of GRO, benzene, and MTBE at 12,000µg/L, 21µg/L, and 8.3µg/L respectively. The bottom Hydropunch sample from boring A-4 (34-36 ft bgs) contained GRO, benzene, and MTBE concentrations of 120,000µg/L, 11,000µg/L and 39,000 µg/L respectively.

Therefore, the vertical extent of dissolved phase petroleum hydrocarbon contamination remains unknown in this southern area of the site. A work plan for soil and water investigation to delineate the vertical extent of contamination in the southern portion of the Site was submitted to ACEH in October 2006.

**2007 Soil and Groundwater Investigation:** In April 2007, Stratus Environmental, Inc. advanced cone penetrometer test (CPT) borings in three locations onsite (CPT-1 through CPT-3) to maximum depths of 60 feet below grade. CPT-1 was advanced southwest of the dispenser islands and southeast of monitoring well MW-1; CPT-2 was advanced south of the dispenser islands and southwest of monitoring well MW-4; CPT-3 was advanced in the eastern corner of the side as requested by the ACEH.

An Ultraviolet Induced Fluorescence (UVIF) module was used at each CPT boring location, analyzing the vertical extent of petroleum hydrocarbons in addition to providing soil profiling data. Groundwater samples were collected from multiple depths at each boring locations; physical soil samples were not collected during this investigation.

- GRO was detected above laboratory reporting limits in five of the seven groundwater samples, ranging from 170 µg/L (CPT-3-28-32') to 170,000 µg/L (CPT-1-37-41').
- Benzene was detected above laboratory reporting limits in four of the seven groundwater samples, ranging from 0.51 µg/L (CPT-3-23-27') to 7,700 µg/L (CPT-2-37-41').
- Toluene was detected above laboratory reporting limits in three of the seven groundwater samples, ranging from 57 µg/L (CPT-1-30-34') to 670 µg/L (CPT-2-28-32').
- Ethylbenzene was detected above laboratory reporting limits in four of the seven groundwater samples, ranging from 530 µg/L (CPT-2-37-41') to 2,600 µg/L (CPT-1-37-41').
- Total xylenes were detected above laboratory reporting limits in four of the seven groundwater samples, ranging from 290 µg/L (CPT-2-37-41') to 9,600 µg/L (CPT-1-37-41').
- MTBE was detected above laboratory reporting limits in five of the seven groundwater samples, ranging from 4.4 µg/L (CPT-3-56-60') to 6,500 µg/L (CPT-2-37-41').
- TBA was detected above laboratory reporting limits in groundwater sample CPT-2-37-41' at 2,400 µg/L.

## SENSITIVE RECEPTORS

**2000 Potential Receptor Survey, Expanded Site Plan and Well Search:** In October 2000, Alisto Engineering Group completed a potential receptor survey, prepared an expanded site plan with neighboring property parcel information and underground utilities mapped, and identified wells in the vicinity of the Site.

A review of the files of the California Department of Water Resources (DWR) was performed to identify all known wells within one-half mile radius of the Site. The results of the well search revealed that there were 17 wells other than the onsite monitoring wells. Of these, 11 were offsite monitoring wells; four were cathodic protection wells, on an industrial well, and one irrigation well for a nearby cemetery. No domestic/municipal water supply wells were identified from review of the DWR files. Copies of the completion logs from the DWR files for these wells are contained within the 19 October 2000 Alisto report.

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*76 (Former BP) Service Station No. 11117*  
*Oakland, California*  
*Antea Group Project No. I42611117*



## ***Attachment B***

Blaine Tech Services Groundwater Sampling Procedures

# BLAINE TECH SERVICES, INC. METHODS AND PROCEDURES FOR THE ROUTINE MONITORING OF GROUNDWATER WELLS

## SAMPLING PROCEDURES OVERVIEW

### SAFETY

All groundwater monitoring assignments performed for DELTA comply with safety guidelines, 29 CFR 1910.120 and SB-198 Injury and Illness Prevention Program (IIPP). All Field Technicians receive the full 40 hour 29CFR 1910.120 OSHA SARA HAZWOPER course, medical clearance and on-the-job training prior to commencing any work on any DELTA COP/ELT site.

### INSPECTION AND GAUGING

Wells are inspected prior to evacuation and sampling. The condition of the wellhead is checked and noted according to a wellhead inspection checklist.

Standard measurements include the depth to water (DTW) and the total well depth (TD) obtained with industry standard electronic sounders which are graduated in increments of hundredths of a foot.

The water in each well is inspected for the presence of Immiscibles or sheen and when free product is suspected, it is confirmed using an electronic interface probe (e.g. MMC). No samples are collected from a well containing free product.

### EVACUATION

Depth to water measurements are collected by our personnel prior to purging and minimum purge volumes are calculated anew for each well based on the height of the water column and the diameter of the well. Expected purge volumes are never less than three case volumes and are set at no less than four case volumes in some jurisdictions.

Well purging devices are selected on the basis of the well diameter and the total volume to be evacuated. In most cases the well will be purged using an electric submersible pump (i.e. Grundfos) suspended near (but not touching) the bottom of the well. Small volumes of purgewater are often removed by hand bailing with a disposable bailer.

### PARAMETER STABILIZATION

Well purging completion standards include minimum purge volumes, but additionally require stabilization of specific groundwater parameters prior to sample collection. Typical groundwater parameters used to measure stability are electrical conductivity, pH, and temperature. Instrument readings are obtained at regular intervals during the evacuation process (no less



than once per case volume).

Stabilization standards for routine quarterly monitoring of fuel sites include the following: Temperature is considered to have stabilized when successive readings do not fluctuate more than +/- 1 degree Celsius. Electrical conductivity is considered stable when successive readings are within 10%. pH is considered to be stable when successive readings remain constant or vary no more than 0.2 of a pH unit.

## DEWATERED WELLS

Normal evacuation removes no less than three case volumes of water from the well. However, less water may be removed in cases where the well dewateres and does not recharge.

Wells known to dewater are evacuated as early as possible during each site visit in order to allow for the greatest amount of recovering. Any well that does not recharge to 80% of its original volume will be sampled prior to the departure of our personnel from the site in order to eliminate the need of a return visit.

In jurisdictions where a certain percentage of recovery is included in the local completion standard, our personnel follow the regulatory expectation.

## PURGEWATER CONTAINMENT

All non-hazardous purgewater evacuated from each groundwater monitoring well is captured and contained in on-board storage tanks on the Sampling Vehicle and/or special water hauling trailers. Effluent from the decontamination of reusable apparatus (sounders, electric pumps and hoses etc.), consisting of groundwater combined with deionized water and non-phosphate soap, is also captured and pumped into effluent tanks.

Non hazardous purgewater is transported under standard Bill of Lading or Non-Hazardous manifest to a Blaine Tech Services, Inc. facility before being transported to an approved disposal facility.

## SAMPLE COLLECTION DEVICES

All samples are collected using disposable bailers.

## SAMPLE CONTAINERS

Sample material is decanted directly from the sampling bailer into sample containers provided by the laboratory which will analyze the samples. The type of sample container, material of construction, method of closure and filling requirements are specific to the intended analysis. Chemicals needed to preserve the sample material are commonly placed inside the sample containers by the laboratory or glassware vendor prior to delivery of the bottle to our personnel. The laboratory sets the number of replicate containers.

## TRIP BLANKS

Upon request, a Trip Blank is carried to each site and is kept inside the cooler for the duration of the sampling event. It is turned over to the laboratory for analysis with the samples from that site.

## DUPLICATES

Upon request, one Duplicate sample is collected at each site. It is up to the Field Technician to choose the well at which the Duplicate is collected. Typically, a duplicate is collected from one of the most contaminated wells. The Duplicate sample is labeled DUP thus rendering the sample blind.

## SAMPLE STORAGE

All sample containers are promptly placed in food grade ice chests for storage in the field and transport (direct or via our facility) to the analytical laboratory that will perform the intended analytical procedures. These ice chests contain quantities of restaurant grade ice as a refrigerant material. The samples are maintained in either an ice chest or a refrigerator until relinquished into the custody of the laboratory or laboratory courier.

## DOCUMENTATION CONVENTIONS

Each and every sample container has a label affixed to it. In most cases these labels are generated by our office personnel and are partially preprinted. Labels can also be hand written by our field personnel. The site is identified with the store number and site address, as is the particular groundwater well from which the sample is drawn (e.g. MW-1, MW-2, S-1 etc.). The time at which the sample was collected and the initials of the person collecting the sample are handwritten onto the label.

Chain of Custody records are created using client specific preprinted forms following USEPA specifications.

Bill of Lading records are contemporaneous records created in the field at the site where the non-hazardous purgewater is generated. Field Technicians use preprinted Bill of Lading forms.

## DECONTAMINATION

All equipment is brought to the site in clean and serviceable condition and is cleaned after use in each well and before subsequent use in any other well. Equipment is decontaminated before leaving the site.

The primary decontamination device is a commercial steam cleaner. The steam cleaner is de-tuned to function as a hot pressure washer which is then operated with high quality deionized water which is produced at our facility and stored onboard our sampling vehicle. Cleaning is facilitated by the use of proprietary fixtures and devices included in the patented workstation that is incorporated in each sampling vehicle. The steam cleaner is used to decon reels, pumps

and bailers.

Any sensitive equipment or parts (i.e. Dissolved Oxygen sensor membrane, sounder etc.) that cannot be washed using the hot high pressure water, will be sprayed with a non-phosphate soap and deionized water solution and rinsed with deionized water.

EXAMPLE: The sounder is cleaned between wells using the non-phosphate soap and deionized water solution followed by deionized water rinses. The sounder is then washed with the steam cleaner between sites or as necessitated by use in a particularly contaminated well.

#### DISSOLVED OXYGEN READINGS

All Dissolved Oxygen readings are taken using YSI meters (e.g. YSI Model 550 meter). These meters are equipped with membrane probe that enables them to collect accurate in-situ readings.

The probe and reel is decontaminated between wells as described above. The meter is calibrated as per the instructions in the operating manual. The probe is lowered into the water column allowed to stabilize before use.

#### OXYIDATON REDUCTION POTENTIAL READINGS

All readings are obtained with either Corning or Myron-L meters (e.g. Corning ORP-65 or a Myron-L Ultrameter GP). The meter is cleaned between wells as described above. The meter is calibrated at the start of each day according to the instruction manual. In use the probe is placed in a cup of freshly obtained monitoring well water and allowed to stabilize.

Blaine Tech Services, Inc.  
Standard Operating Procedure

**Purge Water Handling Procedure**

**Purpose**

Control of non-hazardous purge water disposal. This procedure outlines the handling and disposing of non-hazardous purge water for the DELTA/COP portfolio.

**Procedure**

- 1) All purge and rinsate water will be contained in onboard truck tanks or trailers. Water may be commingled with other sites in the same portfolio of DELTA/COP sites.
- 2) A Non-Hazardous Waste manifest will be generated prior to leaving site.
- 3) All water will be offloaded into a commingled DELTA/COP tank at BLAINE facility.
- 4) Water will then be offloaded from the DELTA/COP tank and the BLAINE facility and transported to a disposal facility.

For Southern California sites water will be disposed at Crosby and Overton in Wilmington, CA.  
For Northern California water will be disposed at Seaport Environmental in Redwood City, CA.

Example Manifest:

**NON-HAZARDOUS WASTE MANIFEST**

Form designed by LabelMaster (see the VHS label agreement)

<b>NON-HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No.		Manifest Number No.		2. Page # of	
3. Generator's Name and Mailing Address							
4. Generator's Phone ( )							
5. Transporter 1 Company Name		6. US EPA ID Number		A. State Transporter ID			
7. Transporter 2 Company Name		8. US EPA ID Number		B. State Transporter ID			
9. Disposal Facility Name and Site Address				10. US EPA ID Number		C. State Facility ID	
						D. State Facility ID	
						E. State Facility ID	
						F. Facility's Phone	
11. WASTE DESCRIPTION		12. Containers	13. Vol. Quantity	14. U.S. Vol. Quantity			
a.		No.	Type				
b.							
c.							
d.							
15. Additional Descriptions for Materials Listed Above				16. Handling Codes for Wastes Listed Above			
17. Special Handling Instructions and Additional Information							
18. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this document are true and accurately describe the site in all respects pertinent to this manifest. The manifest prepared on this manifest may be subject to federal hazardous waste regulations.							
Person's Typed Name		Signature		Month		Day Year	
17. Transporter 1 Acknowledgment of Receipt of Manifest				Date			
Person's Typed Name		Signature		Month		Day Year	
18. Transporter 2 Acknowledgment of Receipt of Manifest				Date			
Person's Typed Name		Signature		Month		Day Year	
19. Discrepancy Indication Space							
20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 15.							
Person's Typed Name		Signature		Month		Day Year	

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THANK YOU FOR HELPING PROTECT THE ENVIRONMENT

Rev. 3/05

*Semi-Annual Monitoring Report, First Quarter 2011*  
*76 (Former BP) Service Station No. 11117*  
*Oakland, California*  
*Antea Group Project No. I42611117*



## ***Attachment C***

Blaine Tech Services Groundwater Sampling Field Data Sheets

## COP-ELT Well-Head Inspection & Well Gauging Form

Project No: 261117 Site Address: 7210 Bancroft + Ave Oakland  
 Field Technician: BP Date: 2/7/11 Weather: clear

Well Condition														
Sample Order	Field Point	Bolts	Seal	Lid Secure	Lock	Expanding Cap	Water in Well Box	Well Casing Dia.	Time Gauged	Depth to Water (Feet)	Depth to Bottom (Feet)	Depth to LNAPL (Feet)	LNAPL Thickness (Feet)	Comments
7	MW-1	G	G	G	G	G	N	2	0856	14.02	36.58	—	—	
4	MW-3	G	G	G	G	G	N	2	0840	14.39	40.73	—	—	
12	MW-4	G	P	P	G	G	N	2	0918	13.59	24.84	—	—	1/3 tabs stripped
6	MW-6	G		G	G	G	N	2	0850	14.86	39.43	—	—	
2	MW-7							2	0830					INACCESSIBLE
1	MW-8	G	G	G	G	G	N	2	0824	14.35	39.33	—	—	
8	MW-9	G	G	G	G	G	X	2	0902	16.18	38.86	—	—	
5	MW-10	G	G	G	G	G	N	2	0845	17.02	35.44	—	—	
11	MW-11	G		G	G	G	N	4	0913	13.55	37.05	—	—	
10	EX-1	G	P	G	G	G	N	4	0908	15.20	37.30	—	—	
3	EX-2	G	G	G	G	G	N	4	0835	15.59	35.02	—	—	
												—	—	
												—	—	
												—	—	
												—	—	

Notes: MW-7 Remediation compound containment area flooded preventing access to MW-7

\*\* All well caps opened at least 15 minutes or longer before gauging wells:

**CIRCLE ONE: YES or NO\*\***





## COP-ELT Groundwater Sampling Form

Site Address:	7210 Bancroft Ave Oakland		
Project No:	261117	Field Technician:	BP
Field Point:	MW-1	Date:	2/7/11
Depth to Water (DTW) (ft bgs):	14.02	Well Diameter (in):	② 4 6 8 —
Depth to LNAPL (ft bgs):	—	Thickness of LNAPL (ft):	—
Total Depth of Well (ft bgs):	36.58	Water Column Height (ft):	22.56

### Purging Info and Calculations:

<b>Purge Method:</b> Low-Flow <u>3 casing volumes</u> Other: NP@20.5'	<b>Purge Equipment:</b> <u>Disposable Bailer</u> <u>Electric Submersible</u> Peristaltic Pump Bladder Pump Other: _____	<b>Sample Collection Method:</b> <u>Disposable Bailer</u> Extraction Port Dedicated Tubing Disposable Tubing Other: _____
Water Column Height (ft): 22.56	X Conversion Factor (gal/ft): 0.17	= Casing Volume (gal): 3.8
Casing Volume (gal): 3.8	X Specified Volumes: 3	= Calculated Purge (gal): 11.4
Conversion Factors (gal/ft): 2" = 0.17    4" = 0.66    6" = 1.5    8" = 2.6    Other = radius <sup>2</sup> * 0.163		

Purge: Start Time: 12:30 Stop Time: 12:36

Time	Temp (°C)	pH	Conductivity (µS/cm)	ORP (mV)	Turbidity (NTU)	D.O. (mg/L)	Volume Purged (gal)	Water Level (for Low-Flow only)
<b>Pre-Purge</b>				—		—		
1231	20.53	6.89	500	-88.6	71000	1.40	1.9	
1232	19.64	6.94	402	-95.9	71000	0.57	3.8	
1233	19.30	6.98	386	-102.8	71000	0.43	5.7	
1234	19.20	6.99	377	-109.7	71000	0.34	7.6	
1235	19.12	7.00	372	-114.7	398	0.31	9.5	
1236	19.10	6.99	369	-117.2	237	0.30	11.4	
<b>Post-Purge</b>				—		—		

Did Well dewater? Yes  No  Total Purge volume (gal): 11.4

**Other Comments:** 80% @ : 18.53  
DTW: 14.48

### Sample Info:

Sample ID: MW-1 20110228	Sample Date and Time: 2/7/11 @ 1240
Selected Analysis: SEECOC	

Signature: B. Dell Date: 2/7/11

**CO<sup>2</sup>-ELT Groundwater Sampling Form**

Site Address:	7210 Bancroft Ave Oakland		
Project No:	261117	Field Technician:	BP
Field Point:	MW-3	Date:	2/7/11
Depth to Water (DTW) (ft bgs):	14.39	Well Diameter (in):	② 4 6 8
Depth to LNAPL (ft bgs):	—	Thickness of LNAPL (ft):	—
Total Depth of Well (ft bgs):	40.73	Water Column Height (ft):	26.34

**Purging Info and Calculations:**

<b>Purge Method:</b> Low-Flow <u>3 casing volumes</u> Other: <u>NP@ 30.5'</u>	<b>Purge Equipment:</b> Disposable Bailer <u>Electric Submersible</u> Peristaltic Pump Bladder Pump Other: _____	<b>Sample Collection Method:</b> <u>Disposable Bailer</u> Extraction Port Dedicated Tubing Disposable Tubing Other: _____
Water Column Height (ft): <u>26.34</u>	X Conversion Factor (gal/ft): <u>0.17</u>	= Casing Volume (gal): <u>4.5</u>
Casing Volume (gal): <u>4.5</u>	X Specified Volumes: <u>3 13.5</u>	= Calculated Purge (gal): <u>13.5</u>
Conversion Factors (gal/ft): 2" = 0.17    4" = 0.66    6" = 1.5    8" = 2.6    Other = radius <sup>2</sup> * 0.163		

Purge: Start Time: 1055 Stop Time: 1109

Time	Temp (°C)	pH	Conductivity (µS/cm)	ORP (mV)	Turbidity (NTU)	D.O. (mg/L)	Volume Purged (gal)	Water Level (for Low-Flow only)
<b>Pre-Purge</b>				—		—		
1057	21.25	7.28	380	-130.5	71000	2.45	2.2	
1058	19.84	6.94	342	-55.1	650	1.92	4.5	
1100	19.75	6.87	344	-43.4	575	1.37	7.7	
1102	19.50	6.88	341	-42.4	323	1.35	9.0	
1103	19.46	6.89	340	-42.6	92	1.21	11.2	
1104	19.46	6.89	339	-42.9	75	1.16	13.5	
<b>Post-Purge</b>				—		—		

Did Well dewater? Yes  No  Total Purge volume (gal): 13.5

**Other Comments:** 80% @ ; 31.60 FDI-20110228 @ 1120  
DTW: 14.69

**Sample Info:**

Sample ID:	MN-3_20110228	Sample Date and Time:	2/7/11 @ 1110
Selected Analysis:	SEE COL		

Signature: B. Dell Date: 2/7/11

Antea™ Group, 1-800-477-7411

LNAPL = light non-aqueous phase liquids  
bgs = below ground surface  
ORP = Oxidation-Reduction Potential  
D.O. = dissolved oxygen

gal = gallon/s  
temp = temperature  
NTU = Nephelometric Turbidity Units  
mV = millivolts



**CO-ELT Groundwater Sampling Form**

Site Address:	7210 Bancroft Ave Oakland		
Project No:	261117	Field Technician:	BP
Field Point:	MW-4	Date:	2/7/11
Depth to Water (DTW) (ft bgs):	15.59	Well Diameter (in):	② 4 6 8
Depth to LNAPL (ft bgs):	—	Thickness of LNAPL (ft):	—
Total Depth of Well (ft bgs):	24.84	Water Column Height (ft):	9.25

**Purging Info and Calculations:**

<b>Purge Method:</b> Low-Flow <u>3 casing volumes</u> Other: _____	<b>Purge Equipment:</b> <u>Disposable Bailer</u> <u>Electric Submersible</u> Peristaltic Pump Bladder Pump Other: _____	<b>Sample Collection Method:</b> <u>Disposable Bailer</u> Extraction Port Dedicated Tubing Disposable Tubing Other: _____
Water Column Height (ft): <u>9.25</u>	X Conversion Factor (gal/ft): <u>0.17</u>	= Casing Volume (gal): <u>1.6</u>
Casing Volume (gal): <u>1.6</u>	X Specified Volumes: <u>3</u>	= Calculated Purge (gal): <u>4.8</u>
Conversion Factors (gal/ft): 2" = 0.17    4" = 0.66    6" = 1.5    8" = 2.6    Other = radius <sup>2</sup> * 0.163		

Purge:	Start Time: <u>1252</u>	Stop Time: <u>1257</u>						
Time	Temp (°C)	pH	Conductivity (µS/cm)	ORP (mV)	Turbidity (NTU)	D.O. (mg/L)	Volume Purged (gal)	Water Level (for Low-Flow only)
<b>Pre-Purge</b>				—		—		
1253	19.41	6.99	371	-106.1	71000	0.85	0.8	
1253	21.05	6.58	705	-101.9	71000	0.64	1.6	
1254	21.00	6.56	706	-104.7	757	0.65	2.4	
1255	21.06	6.56	713	-106.8	713	0.69	3.2	
1256	21.12	6.56	714	-108.9	337	0.73	4.0	
1257	21.24	6.57	711	-110.4	256	0.74	4.8	
<b>Post-Purge</b>				—		—		
Did Well dewater?	Yes	<u>No</u>	Total Purge volume (gal):		<u>4.8</u>			

**Other Comments:** 80% @ : 17.44  
DTW: 16.52

<b>Sample Info:</b>	
Sample ID: MW-4_20110228	Sample Date and Time: 2/7/11 @ 1305
Selected Analysis: SEECOL	
Signature: <u>[Signature]</u>	Date: 2/7/11



# CO-ELT Groundwater Sampling Form

Site Address: <b>7210 Bancroft Ave Oakland</b>	
Project No: <b>261117</b>	Field Technician: <b>BP</b>
Field Point: <b>MW-6</b>	Date: <b>2/7/11</b>
Depth to Water (DTW) (ft bgs): <b>14.86</b>	Well Diameter (in): <b>② 4 6 8</b>
Depth to LNAPL (ft bgs): <b>—</b>	Thickness of LNAPL (ft): <b>—</b>
Total Depth of Well (ft bgs): <b>39.43</b>	Water Column Height (ft): <b>24.57</b>

### Purging Info and Calculations:

<b>Purge Method:</b> Low-Flow <u>Casing Volumes</u> Other: <u>NP @ 20.5'</u>	<b>Purge Equipment:</b> <u>Disposable Bailer</u> <u>Electric Submersible</u> Peristaltic Pump Bladder Pump Other: _____	<b>Sample Collection Method:</b> <u>Disposable Bailer</u> Extraction Port Dedicated Tubing Disposable Tubing Other: _____
Water Column Height (ft): <u>24.57</u>	X Conversion Factor (gal/ft): <u>0.17</u>	= Casing Volume (gal): <u>4.2</u>
Casing Volume (gal): <u>4.2</u>	X Specified Volumes: <u>3</u>	= Calculated Purge (gal): <u>12.6</u>
Conversion Factors (gal/ft): 2" = 0.17    4" = 0.66    6" = 1.5    8" = 2.6    Other = radius <sup>2</sup> * 0.163		

<b>Purge:</b>		<b>Start Time:</b> <u>1207</u>	<b>Stop Time:</b> <u>1213</u>					
Time	Temp (°C)	pH	Conductivity (µS/cm)	ORP (mV)	Turbidity (NTU)	D.O. (mg/L)	Volume Purged (gal)	Water Level (for Low-Flow only)
<b>Pre-Purge</b>								
<u>1208</u>	<u>20.69</u>	<u>6.90</u>	<u>344</u>	<u>-92.0</u>	<u>71000</u>	<u>3.20</u>	<u>2.1</u>	
<u>1209</u>	<u>21.13</u>	<u>6.81</u>	<u>719</u>	<u>-93.9</u>	<u>71000</u>	<u>1.49</u>	<u>4.2</u>	
<u>1210</u>	<u>21.20</u>	<u>6.80</u>	<u>721</u>	<u>-100.4</u>	<u>71000</u>	<u>0.93</u>	<u>6.3</u>	
<u>1211</u>	<u>21.26</u>	<u>6.80</u>	<u>720</u>	<u>-104.3</u>	<u>265</u>	<u>0.77</u>	<u>8.9</u>	
<u>1212</u>	<u>21.33</u>	<u>6.80</u>	<u>717</u>	<u>-105.7</u>	<u>205</u>	<u>0.70</u>	<u>10.5</u>	
<u>1213</u>	<u>21.36</u>	<u>6.80</u>	<u>716</u>	<u>-106.4</u>	<u>177</u>	<u>0.67</u>	<u>12.6</u>	
<b>Post-Purge</b>								
Did Well dewater? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Total Purge volume (gal): <u>12.6</u>						

**Other Comments:** 80% @ : 19.77  
DTW: 14.99

<b>Sample Info:</b>	
Sample ID: <u>MW-6-20110228</u>	Sample Date and Time: <u>2/7/11 @ 1220</u>
Selected Analysis: <u>SEECOL</u>	

Signature: [Signature] Date: 2/7/11

Antea™ Group, 1-800-477-7411

LNAPL = light non-aqueous phase liquids  
bgs = below ground surface  
ORP = Oxidation-Reduction Potential  
D.O. = dissolved oxygen

gal = gallon/s  
temp = temperature  
NTU = Nephelometric Turbidity Units  
mV = millivolts



6

# CO<sup>2</sup>-ELT Groundwater Sampling Form

Site Address:	7210 Bancroft Ave Oakland		
Project No:	261117	Field Technician:	BP
Field Point:	MW-7	Date:	2/7/11
Depth to Water (DTW) (ft bgs):	N/A	Well Diameter (in):	2 4 6 8
Depth to LNAPL (ft bgs):	—	Thickness of LNAPL (ft):	—
Total Depth of Well (ft bgs):	N/A	Water Column Height (ft):	—

### Purging Info and Calculations:

<b>Purge Method:</b> Low-Flow 3 casing volumes Other: <u>NPA @ 25.5'</u>	<b>Purge Equipment:</b> Disposable Bailer Electric Submersible Peristaltic Pump Bladder Pump Other: _____	<b>Sample Collection Method:</b> <u>Disposable Bailer</u> Extraction Port Dedicated Tubing Disposable Tubing Other: _____
Water Column Height (ft): _____	X Conversion Factor (gal/ft): _____	= Casing Volume (gal): _____
Casing Volume (gal): _____	X Specified Volumes: _____	= Calculated Purge (gal): _____
Conversion Factors (gal/ft): 2" = 0.17    4" = 0.66    6" = 1.5    8" = 2.6    Other = radius <sup>2</sup> * 0.163		

Purge:	Start Time:							Stop Time:		
Time	Temp (°C)	pH	Conductivity (µS/cm)	ORP (mV)	Turbidity (NTU)	D.O. (mg/L)	Volume Purged (gal)	Water Level (for Low-Flow only)		
<b>Pre-Purge</b>				—						
* WELL IS INACCESSIBLE / REMEDIATION COMPOUND FLOODED *										
<b>Post-Purge</b>				—						

Did Well dewater?    Yes    No    Total Purge volume (gal): \_\_\_\_\_

**Other Comments:**    80% @ ; WELL IS INACCESSIBLE, REMEDIATION  
 DTW: COMPOUND FLOODED

### Sample Info:

Sample ID: MW-7-2010228	Sample Date and Time: 2/7/11 @
Selected Analysis: SEECOL	

Signature: B. Dell    Date: 2/7/11



# CO<sub>2</sub>-ELT Groundwater Sampling Form

Site Address:	7210 Bancroft Ave Oakland		
Project No:	261117	Field Technician:	BP
Field Point:	MW-8	Date:	2/7/11
Depth to Water (DTW) (ft bgs):	14.35	Well Diameter (in):	② 4 6 8
Depth to LNAPL (ft bgs):	—	Thickness of LNAPL (ft):	—
Total Depth of Well (ft bgs):	39.33	Water Column Height (ft):	24.98

### Purging Info and Calculations:

<b>Purge Method:</b> Low-Flow 3 casing volumes Other: NP @ 25.5'	<b>Purge Equipment:</b> <u>Disposable Bailor</u> Electric Submersible Peristaltic Pump Bladder Pump Other: _____	<b>Sample Collection Method:</b> <u>Disposable Bailor</u> Extraction Port Dedicated Tubing Disposable Tubing Other: _____
Water Column Height (ft): 24.98	X Conversion Factor (gal/ft): 0.17	= Casing Volume (gal): 4.2
Casing Volume (gal): 4.2	X Specified Volumes: 3	= Calculated Purge (gal): 12.6

Conversion Factors (gal/ft): 2" = 0.17    4" = 0.66    6" = 1.5    8" = 2.6    Other = radius<sup>2</sup> \* 0.163

<b>Purge:</b>	<b>Start Time:</b> 0946	<b>Stop Time:</b> 1005						
Time	Temp (°C)	pH	Conductivity (µS/cm)	ORP (mV)	Turbidity (NTU)	D.O. (mg/L)	Volume Purged (gal)	Water Level (for Low-Flow only)
<b>Pre-Purge</b>				—		—		
0951	14.05	7.32	351	150.0	36	1.20	4.2	
0957	14.11	7.17	335	102.1	24	1.27	8.4	
1005	14.82	7.11	331	93.1	17	1.19	12.6	
<b>Post-Purge</b>				—		—		

Did Well dewater? Yes  No  Total Purge volume (gal): 12.6

**Other Comments:** 80% @ : 19.34 MS/MSD  
DTW: 14.41

**Sample Info:**

Sample ID: MW-8-20110228	Sample Date and Time: 2/7/11 @ 1010
Selected Analysis: SEECOC	

Signature: B. Dell Date: 2/7/11





# COP-ELT Groundwater Sampling Form

Site Address:	7210 Bancroft Ave Oakland		
Project No:	261117	Field Technician:	BP
Field Point:	MW-9	Date:	2/7/11
Depth to Water (DTW) (ft bgs):	16.18	Well Diameter (in):	② 4 6 8 —
Depth to LNAPL (ft bgs):	—	Thickness of LNAPL (ft):	—
Total Depth of Well (ft bgs):	38.86	Water Column Height (ft):	22.68

### Purging Info and Calculations:

<b>Purge Method:</b>	<b>Purge Equipment:</b>	<b>Sample Collection Method:</b>
Low-Flow casing volumes Other: NP @ 25.5'	Disposable Bailer <del>Electric Submersible</del> Peristaltic Pump Bladder Pump Other:	<del>Disposable Bailer</del> Extraction Port Dedicated Tubing Disposable Tubing Other:
Water Column Height (ft): 22.68	X Conversion Factor (gal/ft): 0.17	= Casing Volume (gal): 3.9
Casing Volume (gal): 3.9	X Specified Volumes: 3	= Calculated Purge (gal): 11.7

Conversion Factors (gal/ft): 2" = 0.17    4" = 0.66    6" = 1.5    8" = 2.6    Other = radius<sup>2</sup> \* 0.163

<b>Purge:</b>	<b>Start Time:</b> 1321	<b>Stop Time:</b> 1327						
Time	Temp (°C)	pH	Conductivity (µS/cm)	ORP (mV)	Turbidity (NTU)	D.O. (mg/L)	Volume Purged (gal)	Water Level (for Low-Flow only)
<b>Pre-Purge</b>				—		—		
1322	22.96	6.68	612	-102.7	71000	2.04	1.9	
1323	20.73	6.85	541	-107.9	71000	0.56	3.9	
1324	20.38	6.88	487	-111.3	108	0.34	5.8	
1325	20.32	6.87	450	-113.5	51	0.32	7.8	
1326	20.33	6.89	446	-116.4	38	0.31	9.7	
1327	20.35	6.90	449	-120.2	30	0.30	11.7	
<b>Post-Purge</b>				—		—		

Did Well dewater? Yes  No  Total Purge volume (gal): 11.7

**Other Comments:** 80% @ : 20.71  
DTW: 17.00

**Sample Info:**

Sample ID: MW-9_20110228	Sample Date and Time: 2/7/11 @ 1335
Selected Analysis: SEECOL	

Signature: B. Dell Date: 2/7/11

Antea™ Group, 1-800-477-7411

LNAPL = light non-aqueous phase liquids  
 bgs = below ground surface  
 ORP = Oxidation-Reduction Potential  
 D.O. = dissolved oxygen

gal = gallon/s  
 temp = temperature  
 NTU = Nephelometric Turbidity Units  
 mV = millivolts



# CO<sub>2</sub>-ELT Groundwater Sampling Form

Site Address:	7210 Bancroft Ave Oakland		
Project No:	261117	Field Technician:	BP
Field Point:	MW-10	Date:	2/7/11
Depth to Water (DTW) (ft bgs):	17.02	Well Diameter (in):	② 4 6 8
Depth to LNAPL (ft bgs):	—	Thickness of LNAPL (ft):	—
Total Depth of Well (ft bgs):	35.44	Water Column Height (ft):	18.42

### Purging Info and Calculations:

<b>Purge Method:</b> Low-Flow 3 casing volumes Other: <u>NP @ 15.5'</u>	<b>Purge Equipment:</b> Disposable Bailer Electric Submersible Peristaltic Pump Bladder Pump Other: _____	<b>Sample Collection Method:</b> <u>Disposable Bailer</u> Extraction Port Dedicated Tubing Disposable Tubing Other: _____
Water Column Height (ft): <u>18.42</u>	X Conversion Factor (gal/ft): _____	= Casing Volume (gal): _____
Casing Volume (gal): _____	X Specified Volumes: _____	= Calculated Purge (gal): _____

Conversion Factors (gal/ft): 2" = 0.17    4" = 0.66    6" = 1.5    8" = 2.6    Other = radius<sup>2</sup> \* 0.163

Purge:	Start Time:	Stop Time:						
Time	Temp (°C)	pH	Conductivity (µS/cm)	ORP (mV)	Turbidity (NTU)	D.O. (mg/L)	Volume Purged (gal)	Water Level (for Low-Flow only)
<b>Pre-Purge</b>				—		—		
1135	25.07	6.69	962	-75.4	7	1.77	—	
<b>Post-Purge</b>				—		—		

Did Well dewater?    Yes    No    Total Purge volume (gal): \_\_\_\_\_

**Other Comments:** 80% @ DTW: (BP)

<b>Sample Info:</b>	
Sample ID: MW-10_20110228	Sample Date and Time: 2/7/11 @ 1135
Selected Analysis: SEECOL	

Signature: B. Dell    Date: 2/7/11

Antea™ Group, 1-800-477-7411

LNAPL= light non-aqueous phase liquids  
 bgs = below ground surface  
 ORP = Oxidation-Reduction Potential  
 D.O.= dissolved oxygen

gal = gallon/s  
 temp = temperature  
 NTU = Nephelometric Turbidity Units  
 mV = millivolts



3

# CO<sub>2</sub>-ELT Groundwater Sampling Form

Site Address: <b>7210 Bancroft Ave Oakland</b>	
Project No: <b>261117</b>	Field Technician: <b>BP</b>
Field Point: <b>MW-11</b>	Date: <b>2/7/11</b>
Depth to Water (DTW) (ft bgs): <b>13.55</b>	Well Diameter (in): <b>2 4 6 8</b>
Depth to LNAPL (ft bgs): <b>—</b>	Thickness of LNAPL (ft): <b>—</b>
Total Depth of Well (ft bgs): <b>37.05</b>	Water Column Height (ft): <b>23.5</b>

### Purging Info and Calculations:

<b>Purge Method:</b> Low-Flow <u>3 casing volumes</u> Other: _____	<b>Purge Equipment:</b> Disposable Bailer <u>Electric Submersible</u> Peristaltic Pump Bladder Pump Other: _____	<b>Sample Collection Method:</b> <u>Disposable Bailer</u> Extraction Port Dedicated Tubing Disposable Tubing Other: _____
Water Column Height (ft): <u>23.5</u> X Conversion Factor (gal/ft): <u>0.66</u> = Casing Volume (gal): <u>15.5</u> Casing Volume (gal): <u>15.5</u> X Specified Volumes: <u>3</u> = Calculated Purge (gal): <u>46.5</u>		
Conversion Factors (gal/ft): 2" = 0.17 4" = 0.66 6" = 1.5 8" = 2.6 Other = radius <sup>2</sup> * 0.163		

**Purge:** Start Time: 1414 Stop Time: 1431

Time	Temp (°C)	pH	Conductivity (µS/cm)	ORP (mV)	Turbidity (NTU)	D.O. (mg/L)	Volume Purged (gal)	Water Level (for Low-Flow only)
<b>Pre-Purge</b>				—		—		
1420	20.71	6.78	447	-126.9	23	0.42	7.7	
1422	20.75	6.79	471	-138.4	17	0.46	15.5	
1424	20.88	6.81	473	-143.3	14	0.44	23.2	
1427	20.89	6.83	480	-144.9	12	0.37	31.0	
1429	20.88	6.83	465	-145.8	10	0.31	38.7	
1431	20.87	6.82	457	-145.8	9	0.34	46.5	
<b>Post-Purge</b>				—		—		

Did Well dewater? Yes  No  Total Purge volume (gal): 46.5

**Other Comments:** 80% @ : 18.25  
DTW: 16.48

### Sample Info:

Sample ID: <u>MW-11_20110228</u>	Sample Date and Time: <u>2/7/11 @ 1440</u>
Selected Analysis: <u>SEECOC</u>	

Signature: [Signature] Date: 2/7/11

Antea™ Group, 1-800-477-7411

LNAPL = light non-aqueous phase liquids  
 bgs = below ground surface  
 ORP = Oxidation-Reduction Potential  
 D.O. = dissolved oxygen

gal = gallon/s  
 temp = temperature  
 NTU = Nephelometric Turbidity Units  
 mV = millivolts



# CO<sub>2</sub>-ELT Groundwater Sampling Form

Site Address:	7210 Bancroft Ave Oakland		
Project No:	261117	Field Technician:	BP
Field Point:	EX-1	Date:	2/7/11
Depth to Water (DTW) (ft bgs):	15.20	Well Diameter (in):	2 (4) 6 8
Depth to LNAPL (ft bgs):	—	Thickness of LNAPL (ft):	—
Total Depth of Well (ft bgs):	37.30	Water Column Height (ft):	22.10

### Purging Info and Calculations:

<b>Purge Method:</b> Low-Flow <u>3 casing volumes</u> Other: <u>NP @ 18.5'</u>	<b>Purge Equipment:</b> <del>Disposable Bailer</del> <del>Electric Submersible</del> Peristaltic Pump Bladder Pump Other: _____	<b>Sample Collection Method:</b> <u>Disposable Bailer</u> Extraction Port Dedicated Tubing Disposable Tubing Other: _____
Water Column Height (ft): <u>22.10</u>	X Conversion Factor (gal/ft): <u>0.66</u>	= Casing Volume (gal): <u>14.6</u>
Casing Volume (gal): <u>14.6</u>	X Specified Volumes: <u>3</u>	= Calculated Purge (gal): <u>43.8</u>
Conversion Factors (gal/ft): 2" = 0.17    4" = 0.66    6" = 1.5    8" = 2.6    Other = radius <sup>2</sup> * 0.163		

<b>Purge:</b>	Start Time: <u>1347</u>	Stop Time: <u>1400</u>						
Time	Temp (°C)	pH	Conductivity (µS/cm)	ORP (mV)	Turbidity (NTU)	D.O. (mg/L)	Volume Purged (gal)	Water Level (for Low-Flow only)
<b>Pre-Purge</b>				—		—		
1349	21.31	6.60	338	-122.4	36	0.38	7.3	
1351	21.31	6.58	332	-127.3	45	0.52	14.6	
1355	21.63	6.49	368	-116.1	32	0.48	21.9	
1358	22.10	6.52	392	-108.7	21	0.39	29.2	
1400	Well Dewatered @			31.5 gals			36.5 (43.8)	35.10
							43.8	
1600	21.18	6.87	445	-85.9	18	0.73	—	
<b>Post-Purge</b>				—		—		
Did Well dewater? <input checked="" type="checkbox"/> Yes    No			Total Purge volume (gal): <u>31.5</u>					

**Other Comments:** 80% @ : 19.62  
DTW: 21.07 (2 hr)

<b>Sample Info:</b>	
Sample ID: EX-1_20110228	Sample Date and Time: 2/7/11 @ 1600
Selected Analysis: SEECOL	

Signature: [Signature] Date: 2/7/11



# CO<sub>2</sub>-ELT Groundwater Sampling Form

Site Address: <u>7210 Bancroft Ave Oakland</u>	
Project No: <u>261117</u>	Field Technician: <u>BP</u>
Field Point: <u>EX-2</u>	Date: <u>2/7/11</u>
Depth to Water (DTW) (ft bgs): <u>15.59</u>	Well Diameter (in): 2 <u>(4)</u> 6 8
Depth to LNAPL (ft bgs): <u>—</u>	Thickness of LNAPL (ft): <u>—</u>
Total Depth of Well (ft bgs): <u>35.02</u>	Water Column Height (ft): <u>—</u>

### Purging Info and Calculations:

<b>Purge Method:</b> Low-Flow 3 casing volumes Other: <u>NP@15.5'</u>	<b>Purge Equipment:</b> Disposable Bailor Electric Submersible Peristaltic Pump Bladder Pump Other: <u>—</u>	<b>Sample Collection Method:</b> <u>Disposable Bailor</u> Extraction Port Dedicated Tubing Disposable Tubing Other: <u>—</u>
Water Column Height (ft): <u>—</u>	X Conversion Factor (gal/ft): <u>—</u>	= Casing Volume (gal): <u>—</u>
Casing Volume (gal): <u>—</u>	X Specified Volumes: <u>—</u>	= Calculated Purge (gal): <u>—</u>
Conversion Factors (gal/ft): 2" = 0.17    4" = 0.66    6" = 1.5    8" = 2.6    Other = radius <sup>2</sup> * 0.163		

### Purge:                      Start Time:                      Stop Time:

Time	Temp (°C)	pH	Conductivity (µS/cm)	ORP (mV)	Turbidity (NTU)	D.O. (mg/L)	Volume Purged (gal)	Water Level (for Low-Flow only)
<b>Pre-Purge</b>				<u>—</u>		<u>—</u>		
<u>1030</u>	<u>20.31</u>	<u>6.87</u>	<u>298</u>	<u>559</u>	<u>12</u>	<u>1.77</u>	<u>—</u>	
<b>Post-Purge</b>				<u>—</u>		<u>—</u>		

Did Well dewater?    Yes    No                      Total Purge volume (gal): —

**Other Comments:**    80% @ : —  
DTW: —

### Sample Info:

Sample ID: <u>EX-2_20110228</u>	Sample Date and Time: <u>2/7/11 @ 1030</u>
Selected Analysis: <u>SEECOL</u>	

Signature: *[Signature]*                      Date: 2/7/11

Antea™ Group, 1-800-477-7411

LNAPL = light non-aqueous phase liquids  
 bgs = below ground surface  
 ORP = Oxidation-Reduction Potential  
 D.O. = dissolved oxygen

gal = gallon/s  
 temp = temperature  
 NTU = Nephelometric Turbidity Units  
 mV = millivolts



3





### COP ELT CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

1Q 2011 GW Event

<b>Required Lab Information:</b>		<b>Required Project Information:</b>			<b>Required Invoice Information:</b>								
Lab Name:	Pace-Seattle	Site ID #:	2611117	Task:	WG_Q_201102	Send Invoice to:	David Sowle						
Address:		Antea Group project #:		Address:	11050 White Rock Road, Suite 110					Turn around time (days)	10		
940 S. Harney Street Seattle WA 98108		Site Address:	7210 BANCROFT AVE		City/State:	Rancho Cordova CA 95670	Phone #:	1-800-477-7411			QC level Required: Standard	Special	Mark
Lab PM:	Regina Ste. Marie	City:	OAKLAND	State:	CA 94605	Reimbursement project?		Non-reimbursement project?	Y	Mark one	NJ Reduced Deliverable Package?		
Phone/Fax:	P: 206-957-2433 F: 206-767-5063	Antea Group PM Name:	Doug Umland		Send EDD to:	copelldata@intelligentechs.com					MA MCP Cert?	CT RCP Cert?	Mark
Lab PM email:	Regina.SteMarie@pacelabs.com	Phone/Fax:	P: 1-800-477-7411 F: 408-225-8506		CC Hardcopy report to:						Lab Project ID (lab use)		
Applicable Lab Quote #:		Antea Group PM Email:	doug.umland@anteagroup.com		CC Hardcopy report to:						Requested Analyses		

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / . -) Samples IDs MUST BE UNIQUE	Valid Matrix Codes		MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives										Requested Analyses	Comments/Lab Sample I.D.						
		MATRIX	MATRIX							Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>8</sub>	Methanol	Other	8015TPHGRD	826816LMTBE70WVCA								
1	EX-1_20110228	DRINKING WATER	WP WATER	WG	G	2/7/11	1600	6	N					X													
2	EX-2_20110228	GROUND WATER	WG SURFACE WATER	WG	G	2/7/11	1030	6	N					X													7 Oxy's = DIPE, ETBE, TAMI TBA, Ethanol, 1,2DCIA, EDB
3	MW-1_20110228	WASTE WATER	WW	WG	G	2/7/11	1240	6	N					X													
4	MW-10_20110228	FREE PRODUCT	LF	WG	G	2/7/11	1135	6	N					X													
5	MW-11_20110228	SOIL	SO	WG	G	2/7/11	1440	6	N					X													
6	MW-3_20110228	OIL	OL	WG	G	2/7/11	1110	6	N					X													
7	MW-4_20110228	WPIE	SW	WG	G	2/7/11	1305	6	N					X													
8	MW-6_20110228	AMBIENT AIR	AA	WG	G	2/7/11	1220	6	N					X													
9	<del>MW-7_20110228</del>	SVE AIR	AE																								
10	MW-8_20110228	SOIL GAS	GS	WG	G	2/7/11	1010	10	N					X													
11	MW-9_20110228			WG	G	2/7/11	1335	6	N					X													
12	TB1_20110228			W	G	2/7/11	0900	4	N					X													
13	FD1_20110228			W	G	2/7/11	1120	6	N					X													

Additional Comments/Special Instructions:  <b>Global ID: T0600100201</b>	RELINQUISHED BY / AFFILIATION		DATE	TIME	ACCEPTED BY / AFFILIATION		DATE	TIME	Sample Receipt Conditions					
	Ben Panell		2/7/11	1700						Y/N	Y/N	Y/N	Y/N	
										Y/N	Y/N	Y/N	Y/N	
										Y/N	Y/N	Y/N	Y/N	
SHIPPING METHOD. (mark as appropriate)					SAMPLER NAME AND SIGNATURE									
UPS COURIER <input checked="" type="checkbox"/> FEDEX <input type="checkbox"/>					PRINT Name of SAMPLER: Ben Panell									
US MAIL <input type="checkbox"/>					SIGNATURE of SAMPLER: <i>[Signature]</i>				DATE Signed: 2/7/11 Time: 1700					
Temp in °C												Samples on Ice?	Sample intact?	Tran. Disinfect.







### FIELD WORK LOG

CLIENT: ELT

JOB NO. I4261117

PERSONNEL: JOE DUMAS

DATE: 11-18-2010

TIME	NOTES/OBSERVATIONS
12:05	ARRIVE ON SITE NOTIFY ATTENDANT TARGET SAFETY REMOVE OLD CONSULTANT SIGN AND INSTALL DELTA SIGN. CHECK ALL LOCKS. REMOVE 1 BAG OF TRASH FROM COMPOUND.
12:50	LEAVE SITE

SIGNATURE: Joe Dumas

DATE: 11-19-10 PAGE 1 OF 1

*Semi-Annual Monitoring Report, First Quarter 2011*  
*76 (Former BP) Service Station No. 11117*  
*Oakland, California*  
*Antea Group Project No. I42611117*



## ***Attachment D***

Groundwater Flow and Gradient Data (Rose Diagram)

GROUNDWATER GRADIENT AND FLOW DIRECTION DATA  
 76 (FORMER BP) SERVICE STATION NO. 11117  
 7210 BANCROFT AVENUE  
 OAKLAND, CALIFORNIA



Site	Monitoring Date	Groundwater Gradient (feet per foot)	Groundwater Flow Direction																
			N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
11171	9/12/2002	0.03	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12/12/2002	0.02	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3/10/2003	0.03	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5/12/2003	0.055	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8/27/2003	0.036	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11/10/2003	0.012	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2/3/2004	0.013	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5/4/2004	0.015	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8/31/2004	0.01	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11/23/2004	0.04	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1/18/2005	0.02	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6/29/2005	0.003	V*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6/29/2005	0.006	V*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9/1/2005	0.03		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11/3/2005	0.008		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2/14/2006	0.02		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
	5/30/2006	0.03		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8/29/2006	0.006		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
	11/29/2006	0.002	*	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
	11/29/2006	0.001	*	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
	2/20/2007	0.004		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
	5/25/2007	0.005		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8/9/2007	0.002		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
	11/9/2007	0.02		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12/14/2007	0.005	*	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
	12/14/2007	0.003	*	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
	2/11/2008	0.02		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
	5/22/2008	0.02		0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
	8/25/2008	0.003		0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
	12/17/2008	0.005		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
	2/25/2009	0.006		0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
	5/21/2009	0.004		0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
	8/14/2009	0.006	*	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
	8/14/2009	0.004	*	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
	2/10/2010	0.011	*	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
	2/10/2010	0.040	*	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	
	8/20/2010	0.022	*	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
	8/20/2010	0.032	*	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
	2/7/2011	0.009	V*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		<b>0.015</b>	<b>Average</b>	<b>5</b>	<b>5</b>	<b>10</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>0</b>

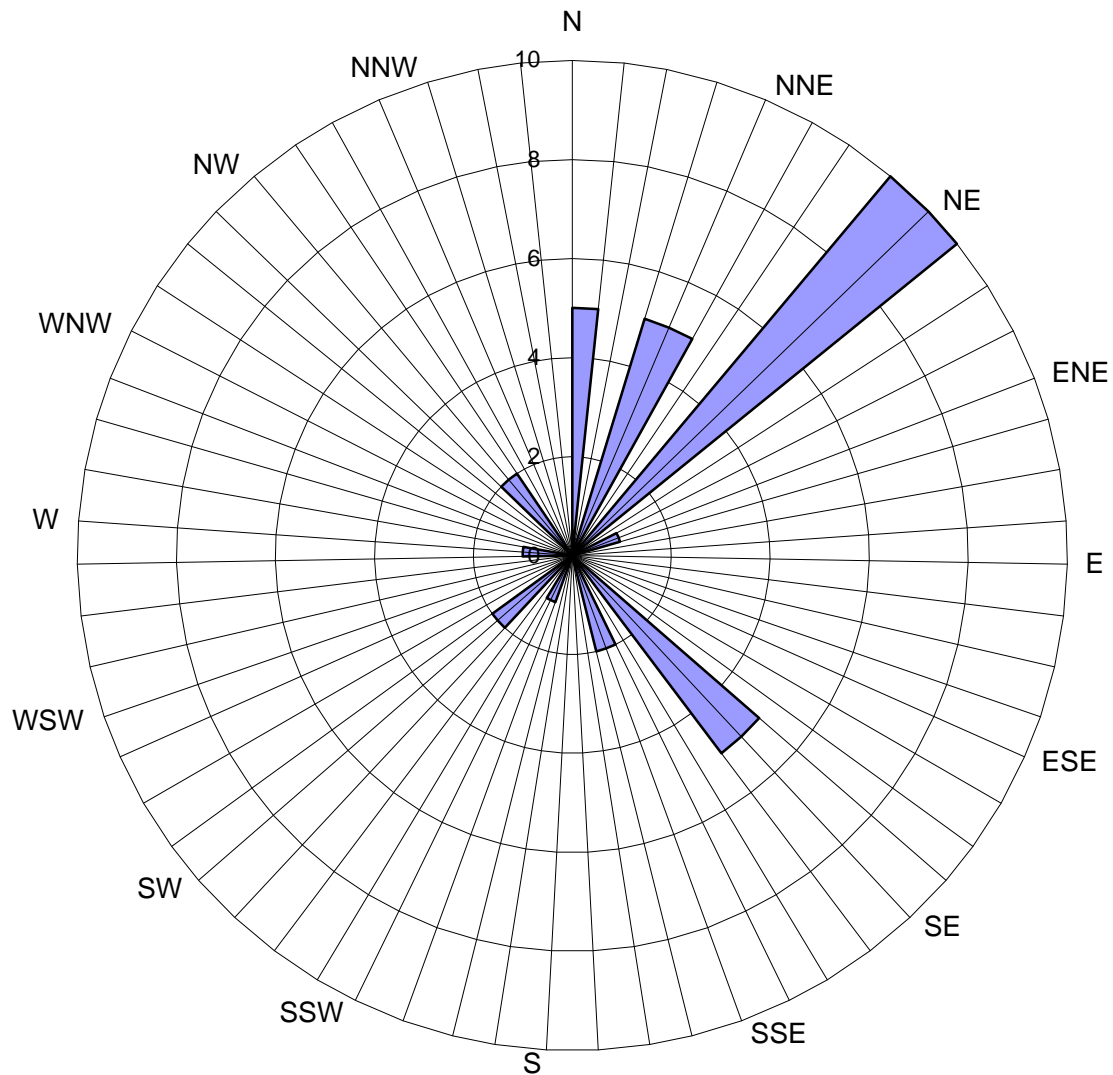
**Explanation**

V = Groundwater flow direction variable for reported event.

\* = Multiple groundwater flow directions and gradients reported for date.

Number of Events with determined flow direction =

GROUNDWATER FLOW DIRECTION ROSE DIAGRAM  
76 (FORMER BP) SERVICE STATION NO. 11117  
7210 BANCROFT AVENUE  
OAKLAND, CALIFORNIA



Groundwater Flow Direction

*Semi-Annual Monitoring Report, First Quarter 2011*  
*76 (Former BP) Service Station No. 11117*  
*Oakland, California*  
*Antea Group Project No. I42611117*



## ***Attachment E***

Certified Laboratory Analytical Report and Data Validation Form

**Is the Data Set Valid?**

(circle)

Yes / No

**Preservation Temperature**

(if Known): \_\_\_\_\_ °C

**Antea™ Group Laboratory Data Validation Sheet**

Project/Client: COP-ELT 76 (former DP) Service Station No. 11117

Project #: 14261117

Date of Validation: 3/1/11 Date of Analysis: 2/8 - 2/16

Sample Date: 2/7/11 Completed By: ETW

Signature: *[Signature]*

Circle  
or  
Highlight

Yes / No

(below)

Analytical Lab Used and Report # (if any): Pace # 256522

1. Were the analyses the ones requested?
2. Do the sample number(s) on the chain-of-custody (COC) match the one(s) that appear on the laboratory data sheet?
3. Were samples prepared (extracted, filtered, etc.) within EPA holding times?
4. Once prepared/extracted, were the samples analyzed within the EPA holding times?
5. Were Laboratory blanks performed, if so, were they non-detect?
6. Are the units correct? (i.e., soil samples in mg/kg or ug/g, water samples mg/L, ug/L, and air samples in volume mg/m<sup>3</sup>, etc.)
7. Were appropriate Matrix Spike (MS) and Matrix Spike Duplicate (MSD) samples included in the laboratory batch sample?
8. In lieu of MS/ MSD, were surrogate spike (SS) or surrogate spike duplicate (SSD) samples included in the laboratory batch samples?
9. Were MS/ MSD (or SS/SSD) within the acceptable range of % recovery (i.e., approximately 80-120%, depending on the analyte)?
10. Were MS/MSD (or SS/SSD) values used to calculate Relative Percent Difference (RPD)?
11. Were Relative Percent Difference values within the acceptable range (i.e. ±25%)?

- Yes / No
- Yes / No
- Yes / No
- Yes / No
- Yes / No
- Yes / No
- Yes / No
- Yes /  No
- Yes / No
- Yes / No

**If any answer is no, explain why and what corrective action was taken (use additional sheet(s), as necessary:**

9. Matrix Spike for TPH-GRO Sample 58522 and MW-4 ~~recovery~~ recovery exceeded QC Limits. Batch accepted based on Laboratory Control Sample Recovery

February 22, 2011

Doug Umland  
Antea USA  
312 Piercy Rd  
San Jose, CA 95138

RE: Project: 2611117 7210 Bancroft Ave  
Pace Project No.: 256522

Dear Doug Umland:

Enclosed are the analytical results for sample(s) received by the laboratory on February 08, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Regina SteMarie

regina.stemarie@pacelabs.com  
Project Manager

Enclosures

cc: Tara Bosch, Antea USA  
Dennis Dettloff, Antea USA  
Jonathon Fillingame, Antea USA  
Lia Holden, Antea USA  
Dan Keltner, Antea USA  
Josh Mahoney, Antea USA  
Tony Perini, Antea USA  
Nicole Persaud, Antea USA  
Don Pinkerton, Antea USA  
David Sowle, Antea USA

Ed Weyrens, Antea USA

## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 2611117 7210 Bancroft Ave

Pace Project No.: 256522

### Washington Certification IDs

940 South Harney Street, Seattle, WA 98108

Alaska CS Certification #: UST-025

Alaska Drinking Water VOC Certification #: WA01230

Alaska Drinking Water Micro Certification #: WA01230

California Certification #: 01153CA

Florida/NELAP Certification #: E87617

Oregon Certification #: WA200007

Washington Certification #: C1229

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## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: 2611117 7210 Bancroft Ave

Pace Project No.: 256522

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
256522001	EX-1_20110228	EPA 5030B/8015B	CC	3	PASI-S
		EPA 5030B/8260	LPM	16	PASI-S
256522002	EX-2_20110228	EPA 5030B/8015B	CC	3	PASI-S
		EPA 5030B/8260	LPM	16	PASI-S
256522003	MW-1_20110228	EPA 5030B/8015B	CC	3	PASI-S
		EPA 5030B/8260	LPM	16	PASI-S
256522004	MW-10_20110228	EPA 5030B/8015B	CC	3	PASI-S
		EPA 5030B/8260	LPM	16	PASI-S
256522005	MW-11_20110228	EPA 5030B/8015B	CC	3	PASI-S
		EPA 5030B/8260	LPM	16	PASI-S
256522006	MW-3_20110228	EPA 5030B/8015B	CC	3	PASI-S
		EPA 5030B/8260	LPM	16	PASI-S
256522007	MW-4_20110228	EPA 5030B/8015B	CC	3	PASI-S
		EPA 5030B/8260	LPM	16	PASI-S
256522008	MW-6_20110228	EPA 5030B/8015B	CC	3	PASI-S
		EPA 5030B/8260	LPM	16	PASI-S
256522009	MW-8_20110228	EPA 5030B/8015B	CC	3	PASI-S
		EPA 5030B/8260	ATH	16	PASI-S
256522010	MW-9_20110228	EPA 5030B/8015B	CC	3	PASI-S
		EPA 5030B/8260	ATH	16	PASI-S
256522011	FD1_20110228	EPA 5030B/8015B	CC	3	PASI-S
		EPA 5030B/8260	ATH	16	PASI-S
256522012	TB1_20110228	EPA 5030B/8015B	CC	3	PASI-S
		EPA 5030B/8260	ATH	16	PASI-S

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 2611117 7210 Bancroft Ave

Pace Project No.: 256522

Sample: EX-1_20110228		Lab ID: 256522001	Collected: 02/07/11 16:00	Received: 02/08/11 09:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Gasoline Range Organics</b>		Analytical Method: EPA 5030B/8015B						
CA TPH-GRO (C5-C12)	15900 ug/L		250	5		02/11/11 15:03		
4-Bromofluorobenzene (S)	115 %		50-150	5		02/11/11 15:03	460-00-4	
a,a,a-Trifluorotoluene (S)	113 %		50-150	5		02/11/11 15:03	98-08-8	
<b>8260 MSV</b>		Analytical Method: EPA 5030B/8260						
tert-Amylmethyl ether	9.3 ug/L		0.50	1		02/16/11 05:58	994-05-8	
Benzene	642 ug/L		25.0	50		02/16/11 05:22	71-43-2	
tert-Butyl Alcohol	151 ug/L		5.0	1		02/16/11 05:58	75-65-0	
1,2-Dibromoethane (EDB)	ND ug/L		1.0	1		02/16/11 05:58	106-93-4	
1,2-Dichloroethane	ND ug/L		1.0	1		02/16/11 05:58	107-06-2	
Diisopropyl ether	ND ug/L		0.50	1		02/16/11 05:58	108-20-3	
Ethanol	ND ug/L		250	1		02/16/11 05:58	64-17-5	
Ethylbenzene	846 ug/L		25.0	50		02/16/11 05:22	100-41-4	
Ethyl-tert-butyl ether	0.78 ug/L		0.50	1		02/16/11 05:58	637-92-3	
Methyl-tert-butyl ether	364 ug/L		0.50	1		02/16/11 05:58	1634-04-4	
Toluene	1100 ug/L		25.0	50		02/16/11 05:22	108-88-3	
Xylene (Total)	2500 ug/L		75.0	50		02/16/11 05:22	1330-20-7	
4-Bromofluorobenzene (S)	105 %		80-120	1		02/16/11 05:58	460-00-4	
Dibromofluoromethane (S)	98 %		80-122	1		02/16/11 05:58	1868-53-7	
1,2-Dichloroethane-d4 (S)	106 %		80-124	1		02/16/11 05:58	17060-07-0	
Toluene-d8 (S)	106 %		80-123	1		02/16/11 05:58	2037-26-5	

Sample: EX-2_20110228		Lab ID: 256522002	Collected: 02/07/11 10:30	Received: 02/08/11 09:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Gasoline Range Organics</b>		Analytical Method: EPA 5030B/8015B						
CA TPH-GRO (C5-C12)	ND ug/L		50.0	1		02/08/11 17:15		
4-Bromofluorobenzene (S)	98 %		50-150	1		02/08/11 17:15	460-00-4	
a,a,a-Trifluorotoluene (S)	109 %		50-150	1		02/08/11 17:15	98-08-8	
<b>8260 MSV</b>		Analytical Method: EPA 5030B/8260						
tert-Amylmethyl ether	ND ug/L		0.50	1		02/16/11 02:30	994-05-8	
Benzene	ND ug/L		0.50	1		02/16/11 02:30	71-43-2	
tert-Butyl Alcohol	ND ug/L		5.0	1		02/16/11 02:30	75-65-0	
1,2-Dibromoethane (EDB)	ND ug/L		1.0	1		02/16/11 02:30	106-93-4	
1,2-Dichloroethane	ND ug/L		1.0	1		02/16/11 02:30	107-06-2	
Diisopropyl ether	ND ug/L		0.50	1		02/16/11 02:30	108-20-3	
Ethanol	ND ug/L		250	1		02/16/11 02:30	64-17-5	
Ethylbenzene	ND ug/L		0.50	1		02/16/11 02:30	100-41-4	
Ethyl-tert-butyl ether	ND ug/L		0.50	1		02/16/11 02:30	637-92-3	
Methyl-tert-butyl ether	ND ug/L		0.50	1		02/16/11 02:30	1634-04-4	
Toluene	ND ug/L		0.50	1		02/16/11 02:30	108-88-3	
Xylene (Total)	ND ug/L		1.5	1		02/16/11 02:30	1330-20-7	
4-Bromofluorobenzene (S)	108 %		80-120	1		02/16/11 02:30	460-00-4	

Date: 02/22/2011 11:40 AM

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 2611117 7210 Bancroft Ave  
Pace Project No.: 256522

Sample: EX-2_20110228		Lab ID: 256522002	Collected: 02/07/11 10:30	Received: 02/08/11 09:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>		Analytical Method: EPA 5030B/8260						
Dibromofluoromethane (S)	102 %		80-122	1		02/16/11 02:30	1868-53-7	
1,2-Dichloroethane-d4 (S)	108 %		80-124	1		02/16/11 02:30	17060-07-0	
Toluene-d8 (S)	106 %		80-123	1		02/16/11 02:30	2037-26-5	

Sample: MW-1_20110228		Lab ID: 256522003	Collected: 02/07/11 12:40	Received: 02/08/11 09:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Gasoline Range Organics</b>		Analytical Method: EPA 5030B/8015B						
CA TPH-GRO (C5-C12)	ND ug/L		50.0	1		02/08/11 17:39		
4-Bromofluorobenzene (S)	102 %		50-150	1		02/08/11 17:39	460-00-4	
a,a,a-Trifluorotoluene (S)	116 %		50-150	1		02/08/11 17:39	98-08-8	

<b>8260 MSV</b>		Analytical Method: EPA 5030B/8260						
tert-Amylmethyl ether	ND ug/L		0.50	1		02/16/11 02:47	994-05-8	
Benzene	ND ug/L		0.50	1		02/16/11 02:47	71-43-2	
tert-Butyl Alcohol	ND ug/L		5.0	1		02/16/11 02:47	75-65-0	
1,2-Dibromoethane (EDB)	ND ug/L		1.0	1		02/16/11 02:47	106-93-4	
1,2-Dichloroethane	ND ug/L		1.0	1		02/16/11 02:47	107-06-2	
Diisopropyl ether	ND ug/L		0.50	1		02/16/11 02:47	108-20-3	
Ethanol	ND ug/L		250	1		02/16/11 02:47	64-17-5	
Ethylbenzene	ND ug/L		0.50	1		02/16/11 02:47	100-41-4	
Ethyl-tert-butyl ether	ND ug/L		0.50	1		02/16/11 02:47	637-92-3	
Methyl-tert-butyl ether	ND ug/L		0.50	1		02/16/11 02:47	1634-04-4	
Toluene	ND ug/L		0.50	1		02/16/11 02:47	108-88-3	
Xylene (Total)	ND ug/L		1.5	1		02/16/11 02:47	1330-20-7	
4-Bromofluorobenzene (S)	108 %		80-120	1		02/16/11 02:47	460-00-4	
Dibromofluoromethane (S)	102 %		80-122	1		02/16/11 02:47	1868-53-7	
1,2-Dichloroethane-d4 (S)	108 %		80-124	1		02/16/11 02:47	17060-07-0	
Toluene-d8 (S)	106 %		80-123	1		02/16/11 02:47	2037-26-5	

Sample: MW-10_20110228		Lab ID: 256522004	Collected: 02/07/11 11:35	Received: 02/08/11 09:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Gasoline Range Organics</b>		Analytical Method: EPA 5030B/8015B						
CA TPH-GRO (C5-C12)	ND ug/L		50.0	1		02/08/11 18:02		
4-Bromofluorobenzene (S)	90 %		50-150	1		02/08/11 18:02	460-00-4	
a,a,a-Trifluorotoluene (S)	101 %		50-150	1		02/08/11 18:02	98-08-8	

<b>8260 MSV</b>		Analytical Method: EPA 5030B/8260						
tert-Amylmethyl ether	ND ug/L		0.50	1		02/16/11 03:04	994-05-8	
Benzene	ND ug/L		0.50	1		02/16/11 03:04	71-43-2	
tert-Butyl Alcohol	ND ug/L		5.0	1		02/16/11 03:04	75-65-0	

Date: 02/22/2011 11:40 AM

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 2611117 7210 Bancroft Ave

Pace Project No.: 256522

Sample: MW-10_20110228		Lab ID: 256522004	Collected: 02/07/11 11:35	Received: 02/08/11 09:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>		Analytical Method: EPA 5030B/8260						
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		02/16/11 03:04	106-93-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		02/16/11 03:04	107-06-2	
Diisopropyl ether	ND	ug/L	0.50	1		02/16/11 03:04	108-20-3	
Ethanol	ND	ug/L	250	1		02/16/11 03:04	64-17-5	
Ethylbenzene	ND	ug/L	0.50	1		02/16/11 03:04	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	0.50	1		02/16/11 03:04	637-92-3	
Methyl-tert-butyl ether	<b>0.53</b>	ug/L	0.50	1		02/16/11 03:04	1634-04-4	
Toluene	ND	ug/L	0.50	1		02/16/11 03:04	108-88-3	
Xylene (Total)	ND	ug/L	1.5	1		02/16/11 03:04	1330-20-7	
4-Bromofluorobenzene (S)	109	%	80-120	1		02/16/11 03:04	460-00-4	
Dibromofluoromethane (S)	101	%	80-122	1		02/16/11 03:04	1868-53-7	
1,2-Dichloroethane-d4 (S)	109	%	80-124	1		02/16/11 03:04	17060-07-0	
Toluene-d8 (S)	108	%	80-123	1		02/16/11 03:04	2037-26-5	

Sample: MW-11_20110228		Lab ID: 256522005	Collected: 02/07/11 14:40	Received: 02/08/11 09:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Gasoline Range Organics</b>		Analytical Method: EPA 5030B/8015B						
CA TPH-GRO (C5-C12)	<b>1530</b>	ug/L	50.0	1		02/08/11 22:26		
4-Bromofluorobenzene (S)	104	%	50-150	1		02/08/11 22:26	460-00-4	
a,a,a-Trifluorotoluene (S)	108	%	50-150	1		02/08/11 22:26	98-08-8	
<b>8260 MSV</b>		Analytical Method: EPA 5030B/8260						
tert-Amylmethyl ether	ND	ug/L	0.50	1		02/16/11 04:12	994-05-8	
Benzene	ND	ug/L	0.50	1		02/16/11 04:12	71-43-2	
tert-Butyl Alcohol	ND	ug/L	5.0	1		02/16/11 04:12	75-65-0	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		02/16/11 04:12	106-93-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		02/16/11 04:12	107-06-2	
Diisopropyl ether	ND	ug/L	0.50	1		02/16/11 04:12	108-20-3	
Ethanol	ND	ug/L	250	1		02/16/11 04:12	64-17-5	
Ethylbenzene	<b>14.3</b>	ug/L	0.50	1		02/16/11 04:12	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	0.50	1		02/16/11 04:12	637-92-3	
Methyl-tert-butyl ether	<b>1.1</b>	ug/L	0.50	1		02/16/11 04:12	1634-04-4	
Toluene	<b>1.3</b>	ug/L	0.50	1		02/16/11 04:12	108-88-3	
Xylene (Total)	<b>24.1</b>	ug/L	1.5	1		02/16/11 04:12	1330-20-7	
4-Bromofluorobenzene (S)	108	%	80-120	1		02/16/11 04:12	460-00-4	
Dibromofluoromethane (S)	104	%	80-122	1		02/16/11 04:12	1868-53-7	
1,2-Dichloroethane-d4 (S)	110	%	80-124	1		02/16/11 04:12	17060-07-0	
Toluene-d8 (S)	106	%	80-123	1		02/16/11 04:12	2037-26-5	

## ANALYTICAL RESULTS

Project: 2611117 7210 Bancroft Ave

Pace Project No.: 256522

Sample: MW-3_20110228		Lab ID: 256522006	Collected: 02/07/11 11:10	Received: 02/08/11 09:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Gasoline Range Organics</b>		Analytical Method: EPA 5030B/8015B						
CA TPH-GRO (C5-C12)	ND ug/L		50.0	1		02/08/11 18:50		
4-Bromofluorobenzene (S)	92 %		50-150	1		02/08/11 18:50	460-00-4	
a,a,a-Trifluorotoluene (S)	102 %		50-150	1		02/08/11 18:50	98-08-8	
<b>8260 MSV</b>		Analytical Method: EPA 5030B/8260						
tert-Amylmethyl ether	ND ug/L		0.50	1		02/16/11 03:21	994-05-8	
Benzene	ND ug/L		0.50	1		02/16/11 03:21	71-43-2	
tert-Butyl Alcohol	ND ug/L		5.0	1		02/16/11 03:21	75-65-0	
1,2-Dibromoethane (EDB)	ND ug/L		1.0	1		02/16/11 03:21	106-93-4	
1,2-Dichloroethane	ND ug/L		1.0	1		02/16/11 03:21	107-06-2	
Diisopropyl ether	ND ug/L		0.50	1		02/16/11 03:21	108-20-3	
Ethanol	ND ug/L		250	1		02/16/11 03:21	64-17-5	
Ethylbenzene	ND ug/L		0.50	1		02/16/11 03:21	100-41-4	
Ethyl-tert-butyl ether	ND ug/L		0.50	1		02/16/11 03:21	637-92-3	
Methyl-tert-butyl ether	ND ug/L		0.50	1		02/16/11 03:21	1634-04-4	
Toluene	ND ug/L		0.50	1		02/16/11 03:21	108-88-3	
Xylene (Total)	ND ug/L		1.5	1		02/16/11 03:21	1330-20-7	
4-Bromofluorobenzene (S)	108 %		80-120	1		02/16/11 03:21	460-00-4	
Dibromofluoromethane (S)	103 %		80-122	1		02/16/11 03:21	1868-53-7	
1,2-Dichloroethane-d4 (S)	106 %		80-124	1		02/16/11 03:21	17060-07-0	
Toluene-d8 (S)	107 %		80-123	1		02/16/11 03:21	2037-26-5	

Sample: MW-4_20110228		Lab ID: 256522007	Collected: 02/07/11 13:05	Received: 02/08/11 09:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Gasoline Range Organics</b>		Analytical Method: EPA 5030B/8015B						
CA TPH-GRO (C5-C12)	3600 ug/L		50.0	1		02/11/11 13:53		M1
4-Bromofluorobenzene (S)	86 %		50-150	1		02/11/11 13:53	460-00-4	
a,a,a-Trifluorotoluene (S)	91 %		50-150	1		02/11/11 13:53	98-08-8	
<b>8260 MSV</b>		Analytical Method: EPA 5030B/8260						
tert-Amylmethyl ether	ND ug/L		0.50	1		02/16/11 03:55	994-05-8	
Benzene	7.1 ug/L		0.50	1		02/16/11 03:55	71-43-2	
tert-Butyl Alcohol	210 ug/L		5.0	1		02/16/11 03:55	75-65-0	
1,2-Dibromoethane (EDB)	ND ug/L		1.0	1		02/16/11 03:55	106-93-4	
1,2-Dichloroethane	ND ug/L		1.0	1		02/16/11 03:55	107-06-2	
Diisopropyl ether	ND ug/L		0.50	1		02/16/11 03:55	108-20-3	
Ethanol	ND ug/L		250	1		02/16/11 03:55	64-17-5	
Ethylbenzene	1.2 ug/L		0.50	1		02/16/11 03:55	100-41-4	
Ethyl-tert-butyl ether	ND ug/L		0.50	1		02/16/11 03:55	637-92-3	
Methyl-tert-butyl ether	3.7 ug/L		0.50	1		02/16/11 03:55	1634-04-4	
Toluene	0.76 ug/L		0.50	1		02/16/11 03:55	108-88-3	
Xylene (Total)	5.1 ug/L		1.5	1		02/16/11 03:55	1330-20-7	
4-Bromofluorobenzene (S)	104 %		80-120	1		02/16/11 03:55	460-00-4	

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### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 2611117 7210 Bancroft Ave

Pace Project No.: 256522

Sample: MW-4_20110228		Lab ID: 256522007	Collected: 02/07/11 13:05	Received: 02/08/11 09:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>		Analytical Method: EPA 5030B/8260						
Dibromofluoromethane (S)	103 %		80-122	1		02/16/11 03:55	1868-53-7	
1,2-Dichloroethane-d4 (S)	108 %		80-124	1		02/16/11 03:55	17060-07-0	
Toluene-d8 (S)	107 %		80-123	1		02/16/11 03:55	2037-26-5	

Sample: MW-6_20110228		Lab ID: 256522008	Collected: 02/07/11 12:20	Received: 02/08/11 09:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Gasoline Range Organics</b>		Analytical Method: EPA 5030B/8015B						
CA TPH-GRO (C5-C12)	ND ug/L		50.0	1		02/08/11 19:14		
4-Bromofluorobenzene (S)	94 %		50-150	1		02/08/11 19:14	460-00-4	
a,a,a-Trifluorotoluene (S)	104 %		50-150	1		02/08/11 19:14	98-08-8	

<b>8260 MSV</b>		Analytical Method: EPA 5030B/8260						
tert-Amylmethyl ether	ND ug/L		0.50	1		02/16/11 03:38	994-05-8	
Benzene	ND ug/L		0.50	1		02/16/11 03:38	71-43-2	
tert-Butyl Alcohol	ND ug/L		5.0	1		02/16/11 03:38	75-65-0	
1,2-Dibromoethane (EDB)	ND ug/L		1.0	1		02/16/11 03:38	106-93-4	
1,2-Dichloroethane	ND ug/L		1.0	1		02/16/11 03:38	107-06-2	
Diisopropyl ether	ND ug/L		0.50	1		02/16/11 03:38	108-20-3	
Ethanol	ND ug/L		250	1		02/16/11 03:38	64-17-5	
Ethylbenzene	ND ug/L		0.50	1		02/16/11 03:38	100-41-4	
Ethyl-tert-butyl ether	ND ug/L		0.50	1		02/16/11 03:38	637-92-3	
Methyl-tert-butyl ether	ND ug/L		0.50	1		02/16/11 03:38	1634-04-4	
Toluene	ND ug/L		0.50	1		02/16/11 03:38	108-88-3	
Xylene (Total)	ND ug/L		1.5	1		02/16/11 03:38	1330-20-7	
4-Bromofluorobenzene (S)	108 %		80-120	1		02/16/11 03:38	460-00-4	
Dibromofluoromethane (S)	101 %		80-122	1		02/16/11 03:38	1868-53-7	
1,2-Dichloroethane-d4 (S)	106 %		80-124	1		02/16/11 03:38	17060-07-0	
Toluene-d8 (S)	105 %		80-123	1		02/16/11 03:38	2037-26-5	

Sample: MW-8_20110228		Lab ID: 256522009	Collected: 02/07/11 10:10	Received: 02/08/11 09:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Gasoline Range Organics</b>		Analytical Method: EPA 5030B/8015B						
CA TPH-GRO (C5-C12)	ND ug/L		50.0	1		02/08/11 19:38		
4-Bromofluorobenzene (S)	100 %		50-150	1		02/08/11 19:38	460-00-4	
a,a,a-Trifluorotoluene (S)	110 %		50-150	1		02/08/11 19:38	98-08-8	

<b>8260 MSV</b>		Analytical Method: EPA 5030B/8260						
tert-Amylmethyl ether	ND ug/L		0.50	1		02/11/11 14:45	994-05-8	
Benzene	ND ug/L		0.50	1		02/11/11 14:45	71-43-2	
tert-Butyl Alcohol	ND ug/L		5.0	1		02/11/11 14:45	75-65-0	

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## ANALYTICAL RESULTS

Project: 2611117 7210 Bancroft Ave

Pace Project No.: 256522

Sample: MW-8_20110228		Lab ID: 256522009	Collected: 02/07/11 10:10	Received: 02/08/11 09:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>		Analytical Method: EPA 5030B/8260						
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		02/11/11 14:45	106-93-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		02/11/11 14:45	107-06-2	
Diisopropyl ether	ND	ug/L	0.50	1		02/11/11 14:45	108-20-3	
Ethanol	ND	ug/L	250	1		02/11/11 14:45	64-17-5	
Ethylbenzene	ND	ug/L	0.50	1		02/11/11 14:45	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	0.50	1		02/11/11 14:45	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	0.50	1		02/11/11 14:45	1634-04-4	
Toluene	ND	ug/L	0.50	1		02/11/11 14:45	108-88-3	
Xylene (Total)	ND	ug/L	1.5	1		02/11/11 14:45	1330-20-7	
4-Bromofluorobenzene (S)	88	%	80-120	1		02/11/11 14:45	460-00-4	
Dibromofluoromethane (S)	107	%	80-122	1		02/11/11 14:45	1868-53-7	
1,2-Dichloroethane-d4 (S)	121	%	80-124	1		02/11/11 14:45	17060-07-0	
Toluene-d8 (S)	94	%	80-123	1		02/11/11 14:45	2037-26-5	

Sample: MW-9_20110228		Lab ID: 256522010	Collected: 02/07/11 13:35	Received: 02/08/11 09:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Gasoline Range Organics</b>		Analytical Method: EPA 5030B/8015B						
CA TPH-GRO (C5-C12)	78.5	ug/L	50.0	1		02/08/11 20:02		
4-Bromofluorobenzene (S)	104	%	50-150	1		02/08/11 20:02	460-00-4	
a,a,a-Trifluorotoluene (S)	115	%	50-150	1		02/08/11 20:02	98-08-8	
<b>8260 MSV</b>		Analytical Method: EPA 5030B/8260						
tert-Amylmethyl ether	ND	ug/L	0.50	1		02/11/11 15:25	994-05-8	
Benzene	1.6	ug/L	0.50	1		02/11/11 15:25	71-43-2	
tert-Butyl Alcohol	27.6	ug/L	5.0	1		02/11/11 15:25	75-65-0	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		02/11/11 15:25	106-93-4	
1,2-Dichloroethane	ND	ug/L	1.0	1		02/11/11 15:25	107-06-2	
Diisopropyl ether	ND	ug/L	0.50	1		02/11/11 15:25	108-20-3	
Ethanol	ND	ug/L	250	1		02/11/11 15:25	64-17-5	
Ethylbenzene	ND	ug/L	0.50	1		02/11/11 15:25	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	0.50	1		02/11/11 15:25	637-92-3	
Methyl-tert-butyl ether	0.64	ug/L	0.50	1		02/11/11 15:25	1634-04-4	
Toluene	ND	ug/L	0.50	1		02/11/11 15:25	108-88-3	
Xylene (Total)	ND	ug/L	1.5	1		02/11/11 15:25	1330-20-7	
4-Bromofluorobenzene (S)	83	%	80-120	1		02/11/11 15:25	460-00-4	
Dibromofluoromethane (S)	101	%	80-122	1		02/11/11 15:25	1868-53-7	
1,2-Dichloroethane-d4 (S)	121	%	80-124	1		02/11/11 15:25	17060-07-0	
Toluene-d8 (S)	96	%	80-123	1		02/11/11 15:25	2037-26-5	

## ANALYTICAL RESULTS

Project: 2611117 7210 Bancroft Ave

Pace Project No.: 256522

Sample: <b>FD1_20110228</b>		Lab ID: <b>256522011</b>	Collected: 02/07/11 11:20	Received: 02/08/11 09:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Gasoline Range Organics</b>		Analytical Method: EPA 5030B/8015B						
CA TPH-GRO (C5-C12)	ND ug/L		50.0	1		02/08/11 20:26		
4-Bromofluorobenzene (S)	89 %		50-150	1		02/08/11 20:26	460-00-4	
a,a,a-Trifluorotoluene (S)	99 %		50-150	1		02/08/11 20:26	98-08-8	
<b>8260 MSV</b>		Analytical Method: EPA 5030B/8260						
tert-Amylmethyl ether	ND ug/L		0.50	1		02/11/11 15:05	994-05-8	
Benzene	ND ug/L		0.50	1		02/11/11 15:05	71-43-2	
tert-Butyl Alcohol	ND ug/L		5.0	1		02/11/11 15:05	75-65-0	
1,2-Dibromoethane (EDB)	ND ug/L		1.0	1		02/11/11 15:05	106-93-4	
1,2-Dichloroethane	ND ug/L		1.0	1		02/11/11 15:05	107-06-2	
Diisopropyl ether	ND ug/L		0.50	1		02/11/11 15:05	108-20-3	
Ethanol	ND ug/L		250	1		02/11/11 15:05	64-17-5	
Ethylbenzene	ND ug/L		0.50	1		02/11/11 15:05	100-41-4	
Ethyl-tert-butyl ether	ND ug/L		0.50	1		02/11/11 15:05	637-92-3	
Methyl-tert-butyl ether	ND ug/L		0.50	1		02/11/11 15:05	1634-04-4	
Toluene	ND ug/L		0.50	1		02/11/11 15:05	108-88-3	
Xylene (Total)	ND ug/L		1.5	1		02/11/11 15:05	1330-20-7	
4-Bromofluorobenzene (S)	95 %		80-120	1		02/11/11 15:05	460-00-4	
Dibromofluoromethane (S)	102 %		80-122	1		02/11/11 15:05	1868-53-7	
1,2-Dichloroethane-d4 (S)	107 %		80-124	1		02/11/11 15:05	17060-07-0	
Toluene-d8 (S)	96 %		80-123	1		02/11/11 15:05	2037-26-5	

Sample: <b>TB1_20110228</b>		Lab ID: <b>256522012</b>	Collected: 02/07/11 08:00	Received: 02/08/11 09:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Gasoline Range Organics</b>		Analytical Method: EPA 5030B/8015B						
CA TPH-GRO (C5-C12)	ND ug/L		50.0	1		02/08/11 16:51		
4-Bromofluorobenzene (S)	84 %		50-150	1		02/08/11 16:51	460-00-4	
a,a,a-Trifluorotoluene (S)	99 %		50-150	1		02/08/11 16:51	98-08-8	
<b>8260 MSV</b>		Analytical Method: EPA 5030B/8260						
tert-Amylmethyl ether	ND ug/L		0.50	1		02/11/11 14:25	994-05-8	
Benzene	ND ug/L		0.50	1		02/11/11 14:25	71-43-2	
tert-Butyl Alcohol	ND ug/L		5.0	1		02/11/11 14:25	75-65-0	
1,2-Dibromoethane (EDB)	ND ug/L		1.0	1		02/11/11 14:25	106-93-4	
1,2-Dichloroethane	ND ug/L		1.0	1		02/11/11 14:25	107-06-2	
Diisopropyl ether	ND ug/L		0.50	1		02/11/11 14:25	108-20-3	
Ethanol	ND ug/L		250	1		02/11/11 14:25	64-17-5	
Ethylbenzene	ND ug/L		0.50	1		02/11/11 14:25	100-41-4	
Ethyl-tert-butyl ether	ND ug/L		0.50	1		02/11/11 14:25	637-92-3	
Methyl-tert-butyl ether	ND ug/L		0.50	1		02/11/11 14:25	1634-04-4	
Toluene	ND ug/L		0.50	1		02/11/11 14:25	108-88-3	
Xylene (Total)	ND ug/L		1.5	1		02/11/11 14:25	1330-20-7	
4-Bromofluorobenzene (S)	94 %		80-120	1		02/11/11 14:25	460-00-4	

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## ANALYTICAL RESULTS

Project: 2611117 7210 Bancroft Ave

Pace Project No.: 256522

Sample: <b>TB1_20110228</b>		Lab ID: <b>256522012</b>	Collected: 02/07/11 08:00	Received: 02/08/11 09:15	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>		Analytical Method: EPA 5030B/8260						
Dibromofluoromethane (S)	100 %		80-122	1		02/11/11 14:25	1868-53-7	
1,2-Dichloroethane-d4 (S)	110 %		80-124	1		02/11/11 14:25	17060-07-0	
Toluene-d8 (S)	91 %		80-123	1		02/11/11 14:25	2037-26-5	

**QUALITY CONTROL DATA**

Project: 2611117 7210 Bancroft Ave

Pace Project No.: 256522

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QC Batch: GCV/2147 Analysis Method: EPA 5030B/8015B  
 QC Batch Method: EPA 5030B/8015B Analysis Description: Gasoline Range Organics  
 Associated Lab Samples: 256522002, 256522003, 256522004, 256522005, 256522006, 256522008, 256522009, 256522010, 256522011, 256522012

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METHOD BLANK: 57512 Matrix: Water  
 Associated Lab Samples: 256522002, 256522003, 256522004, 256522005, 256522006, 256522008, 256522009, 256522010, 256522011, 256522012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
CA TPH-GRO (C5-C12)	ug/L	ND	50.0	02/08/11 12:22	
4-Bromofluorobenzene (S)	%	88	50-150	02/08/11 12:22	
a,a,a-Trifluorotoluene (S)	%	102	50-150	02/08/11 12:22	

LABORATORY CONTROL SAMPLE: 57513

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
CA TPH-GRO (C5-C12)	ug/L	250	242	97	79-126	
4-Bromofluorobenzene (S)	%			108	50-150	
a,a,a-Trifluorotoluene (S)	%			119	50-150	

MATRIX SPIKE SAMPLE: 57861

Parameter	Units	256415025 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
CA TPH-GRO (C5-C12)	ug/L	ND	250	204	80	62-136	
4-Bromofluorobenzene (S)	%				102	50-150	
a,a,a-Trifluorotoluene (S)	%				113	50-150	

SAMPLE DUPLICATE: 57859

Parameter	Units	256415021 Result	Dup Result	RPD	Qualifiers
CA TPH-GRO (C5-C12)	ug/L	ND	7.9J		
4-Bromofluorobenzene (S)	%	86	92	7	
a,a,a-Trifluorotoluene (S)	%	99	104	4	

### QUALITY CONTROL DATA

Project: 2611117 7210 Bancroft Ave  
Pace Project No.: 256522

QC Batch: GCV/2153 Analysis Method: EPA 5030B/8015B  
QC Batch Method: EPA 5030B/8015B Analysis Description: Gasoline Range Organics  
Associated Lab Samples: 256522001, 256522007

METHOD BLANK: 58135 Matrix: Water  
Associated Lab Samples: 256522001, 256522007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
CA TPH-GRO (C5-C12)	ug/L	ND	50.0	02/11/11 13:25	
4-Bromofluorobenzene (S)	%	97	50-150	02/11/11 13:25	
a,a,a-Trifluorotoluene (S)	%	108	50-150	02/11/11 13:25	

LABORATORY CONTROL SAMPLE: 58136

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
CA TPH-GRO (C5-C12)	ug/L	250	290	116	79-126	
4-Bromofluorobenzene (S)	%			102	50-150	
a,a,a-Trifluorotoluene (S)	%			104	50-150	

MATRIX SPIKE SAMPLE: 58522

Parameter	Units	256522007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
CA TPH-GRO (C5-C12)	ug/L	3600	250	3560	-17	62-136	M1
4-Bromofluorobenzene (S)	%				84	50-150	
a,a,a-Trifluorotoluene (S)	%				86	50-150	

SAMPLE DUPLICATE: 58521

Parameter	Units	256522001 Result	Dup Result	RPD	Qualifiers
CA TPH-GRO (C5-C12)	ug/L	15900	16600	4	
4-Bromofluorobenzene (S)	%	115	125	9	
a,a,a-Trifluorotoluene (S)	%	113	123	8	

### QUALITY CONTROL DATA

Project: 2611117 7210 Bancroft Ave  
Pace Project No.: 256522

QC Batch: MSV/3845 Analysis Method: EPA 5030B/8260  
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge  
Associated Lab Samples: 256522009, 256522010, 256522011, 256522012

METHOD BLANK: 58190 Matrix: Water  
Associated Lab Samples: 256522009, 256522010, 256522011, 256522012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	02/11/11 13:24	
1,2-Dichloroethane	ug/L	ND	1.0	02/11/11 13:24	
Benzene	ug/L	ND	0.50	02/11/11 13:24	
Diisopropyl ether	ug/L	ND	0.50	02/11/11 13:24	
Ethanol	ug/L	ND	250	02/11/11 13:24	
Ethyl-tert-butyl ether	ug/L	ND	0.50	02/11/11 13:24	
Ethylbenzene	ug/L	ND	0.50	02/11/11 13:24	
Methyl-tert-butyl ether	ug/L	ND	0.50	02/11/11 13:24	
tert-Amylmethyl ether	ug/L	ND	0.50	02/11/11 13:24	
tert-Butyl Alcohol	ug/L	ND	5.0	02/11/11 13:24	
Toluene	ug/L	ND	0.50	02/11/11 13:24	
Xylene (Total)	ug/L	ND	1.5	02/11/11 13:24	
1,2-Dichloroethane-d4 (S)	%	110	80-124	02/11/11 13:24	
4-Bromofluorobenzene (S)	%	95	80-120	02/11/11 13:24	
Dibromofluoromethane (S)	%	106	80-122	02/11/11 13:24	
Toluene-d8 (S)	%	92	80-123	02/11/11 13:24	

LABORATORY CONTROL SAMPLE: 58191

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	20	16.3	81	73-124	
1,2-Dichloroethane	ug/L	20	21.9	109	78-125	
Benzene	ug/L	20	18.2	91	76-127	
Diisopropyl ether	ug/L	20	19.1	96	70-137	
Ethanol	ug/L	400	499	125	31-182	
Ethyl-tert-butyl ether	ug/L	20	19.6	98	70-137	
Ethylbenzene	ug/L	20	18.5	93	72-125	
Methyl-tert-butyl ether	ug/L	20	20.0	100	58-145	
tert-Amylmethyl ether	ug/L	20	20.4	102	71-133	
tert-Butyl Alcohol	ug/L	100	101	101	31-166	
Toluene	ug/L	20	16.1	80	69-125	
Xylene (Total)	ug/L	60	56.9	95	74-124	
1,2-Dichloroethane-d4 (S)	%			110	80-124	
4-Bromofluorobenzene (S)	%			90	80-120	
Dibromofluoromethane (S)	%			104	80-122	
Toluene-d8 (S)	%			86	80-123	

### QUALITY CONTROL DATA

Project: 2611117 7210 Bancroft Ave

Pace Project No.: 256522

Parameter	Units	58507		58508		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
		256522009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	16.2	16.3	81	82	78-117	.5		
1,2-Dichloroethane	ug/L	ND	20	20	19.9	21.9	99	110	73-127	10		
Benzene	ug/L	ND	20	20	17.2	17.7	86	88	75-124	3		
Diisopropyl ether	ug/L	ND	20	20	20.1	15.3	100	76	69-130	27		
Ethanol	ug/L	ND	400	400	491	526	123	131	36-177	7		
Ethyl-tert-butyl ether	ug/L	ND	20	20	19.2	16.4	96	82	67-131	16		
Ethylbenzene	ug/L	ND	20	20	18.9	18.1	94	90	76-124	4		
Methyl-tert-butyl ether	ug/L	ND	20	20	20.7	17.3	103	87	72-130	18		
tert-Amylmethyl ether	ug/L	ND	20	20	18.0	18.9	90	95	67-132	5		
tert-Butyl Alcohol	ug/L	ND	100	100	106	99.3	106	99	36-164	6		
Toluene	ug/L	ND	20	20	18.6	18.2	93	91	75-124	2		
Xylene (Total)	ug/L	ND	60	60	55.9	53.5	93	89	76-123	4		
1,2-Dichloroethane-d4 (S)	%						106	102	80-124			
4-Bromofluorobenzene (S)	%						99	91	80-120			
Dibromofluoromethane (S)	%						97	89	80-122			
Toluene-d8 (S)	%						99	94	80-123			



### QUALITY CONTROL DATA

Project: 2611117 7210 Bancroft Ave  
Pace Project No.: 256522

QC Batch: MSV/3867 Analysis Method: EPA 5030B/8260  
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 10 mL Purge  
Associated Lab Samples: 256522001, 256522002, 256522003, 256522004, 256522005, 256522006, 256522007, 256522008

METHOD BLANK: 58667 Matrix: Water  
Associated Lab Samples: 256522001, 256522002, 256522003, 256522004, 256522005, 256522006, 256522007, 256522008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	02/15/11 23:56	
1,2-Dichloroethane	ug/L	ND	1.0	02/15/11 23:56	
Benzene	ug/L	ND	0.50	02/15/11 23:56	
Diisopropyl ether	ug/L	ND	0.50	02/15/11 23:56	
Ethanol	ug/L	ND	250	02/15/11 23:56	
Ethyl-tert-butyl ether	ug/L	ND	0.50	02/15/11 23:56	
Ethylbenzene	ug/L	ND	0.50	02/15/11 23:56	
Methyl-tert-butyl ether	ug/L	ND	0.50	02/15/11 23:56	
tert-Amylmethyl ether	ug/L	ND	0.50	02/15/11 23:56	
tert-Butyl Alcohol	ug/L	ND	5.0	02/15/11 23:56	
Toluene	ug/L	ND	0.50	02/15/11 23:56	
Xylene (Total)	ug/L	ND	1.5	02/15/11 23:56	
1,2-Dichloroethane-d4 (S)	%	106	80-124	02/15/11 23:56	
4-Bromofluorobenzene (S)	%	107	80-120	02/15/11 23:56	
Dibromofluoromethane (S)	%	99	80-122	02/15/11 23:56	
Toluene-d8 (S)	%	106	80-123	02/15/11 23:56	

LABORATORY CONTROL SAMPLE: 58668

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	20	20.4	102	73-124	
1,2-Dichloroethane	ug/L	20	20.1	101	78-125	
Benzene	ug/L	20	18.3	91	76-127	
Diisopropyl ether	ug/L	20	21.5	108	70-137	
Ethanol	ug/L	400	380	95	31-182	
Ethyl-tert-butyl ether	ug/L	20	20.2	101	70-137	
Ethylbenzene	ug/L	20	17.9	90	72-125	
Methyl-tert-butyl ether	ug/L	20	20.3	102	58-145	
tert-Amylmethyl ether	ug/L	20	20.8	104	71-133	
tert-Butyl Alcohol	ug/L	100	95.3	95	31-166	
Toluene	ug/L	20	17.8	89	69-125	
Xylene (Total)	ug/L	60	54.2	90	74-124	
1,2-Dichloroethane-d4 (S)	%			107	80-124	
4-Bromofluorobenzene (S)	%			107	80-120	
Dibromofluoromethane (S)	%			105	80-122	
Toluene-d8 (S)	%			105	80-123	

### QUALITY CONTROL DATA

Project: 2611117 7210 Bancroft Ave

Pace Project No.: 256522

Parameter	Units	58706		58707		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
		256509010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	20.3	20.8	102	104	78-117	2		
1,2-Dichloroethane	ug/L	ND	20	20	20.7	21.1	104	105	73-127	2		
Benzene	ug/L	ND	20	20	18.8	19.5	94	98	75-124	4		
Diisopropyl ether	ug/L	ND	20	20	21.6	21.9	108	110	69-130	2		
Ethanol	ug/L	ND	400	400	436	394	109	98	36-177	10		
Ethyl-tert-butyl ether	ug/L	ND	20	20	19.9	20.1	100	100	67-131	.9		
Ethylbenzene	ug/L	ND	20	20	18.9	19.4	94	97	76-124	3		
Methyl-tert-butyl ether	ug/L	ND	20	20	19.9	20.1	100	101	72-130	1		
tert-Amylmethyl ether	ug/L	ND	20	20	20.7	20.5	104	102	67-132	1		
tert-Butyl Alcohol	ug/L	ND	100	100	101	95.9	101	96	36-164	5		
Toluene	ug/L	ND	20	20	18.6	19.5	93	97	75-124	5		
Xylene (Total)	ug/L	ND	60	60	55.8	58.3	93	97	76-123	4		
1,2-Dichloroethane-d4 (S)	%						106	105	80-124			
4-Bromofluorobenzene (S)	%						108	106	80-120			
Dibromofluoromethane (S)	%						106	104	80-122			
Toluene-d8 (S)	%						105	106	80-123			

## QUALIFIERS

Project: 2611117 7210 Bancroft Ave

Pace Project No.: 256522

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel Clean-Up

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

### LABORATORIES

PASI-S Pace Analytical Services - Seattle

### ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 261117 7210 Bancroft Ave

Pace Project No.: 256522

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
256522001	EX-1_20110228	EPA 5030B/8015B	GCV/2153		
256522002	EX-2_20110228	EPA 5030B/8015B	GCV/2147		
256522003	MW-1_20110228	EPA 5030B/8015B	GCV/2147		
256522004	MW-10_20110228	EPA 5030B/8015B	GCV/2147		
256522005	MW-11_20110228	EPA 5030B/8015B	GCV/2147		
256522006	MW-3_20110228	EPA 5030B/8015B	GCV/2147		
256522007	MW-4_20110228	EPA 5030B/8015B	GCV/2153		
256522008	MW-6_20110228	EPA 5030B/8015B	GCV/2147		
256522009	MW-8_20110228	EPA 5030B/8015B	GCV/2147		
256522010	MW-9_20110228	EPA 5030B/8015B	GCV/2147		
256522011	FD1_20110228	EPA 5030B/8015B	GCV/2147		
256522012	TB1_20110228	EPA 5030B/8015B	GCV/2147		
256522001	EX-1_20110228	EPA 5030B/8260	MSV/3867		
256522002	EX-2_20110228	EPA 5030B/8260	MSV/3867		
256522003	MW-1_20110228	EPA 5030B/8260	MSV/3867		
256522004	MW-10_20110228	EPA 5030B/8260	MSV/3867		
256522005	MW-11_20110228	EPA 5030B/8260	MSV/3867		
256522006	MW-3_20110228	EPA 5030B/8260	MSV/3867		
256522007	MW-4_20110228	EPA 5030B/8260	MSV/3867		
256522008	MW-6_20110228	EPA 5030B/8260	MSV/3867		
256522009	MW-8_20110228	EPA 5030B/8260	MSV/3845		
256522010	MW-9_20110228	EPA 5030B/8260	MSV/3845		
256522011	FD1_20110228	EPA 5030B/8260	MSV/3845		
256522012	TB1_20110228	EPA 5030B/8260	MSV/3845		



# Sample Container Count

CLIENT: Antea



COC PAGE 1 of 1

COC ID#         

2 5 6 5 2 2

Sample Line	Item	VG9H	AG1H	AG1U	BG1H	BP1U	BP2U	BP3U	BP2N	BP2S	WGFU	WGKU	Comments	
1	6													
2	↓													
3														
4														
5														
6														
7														
8														
9	0													
10	10													
11	6													
12	4												Trip Blank? <u>yes</u>	

13. 6

AG1H	1 liter HCL amber glass							BP2S	500mL H2SO4 plastic	JGFU	4oz unpreserved amber wide
AG1U	1liter unpreserved amber glass							BP2U	500mL unpreserved plastic	R	terra core kit
AG2S	500mL H2SO4 amber glass							BP2Z	500mL NaOH, Zn Ac	U	Summa Can
AG2U	500mL unpreserved amber glass							BP3C	250mL NaOH plastic	VG9H	40mL HCL clear vial
AG3S	250mL H2SO4 amber glass							BP3N	250mL HNO3 plastic	VG9T	40mL Na Thio. clear vial
BG1H	1 liter HCL clear glass							BP3S	250mL H2SO4 plastic	VG9U	40mL unpreserved clear vial
BG1U	1 liter unpreserved glass							BP3U	250mL unpreserved plastic	VG9W	40mL glass vial preweighted (EPA 5035)
BP1N	1 liter HNO3 plastic							DG9B	40mL Na Bisulfate amber vial	VSG	Headspace septa vial & HCL
BP1S	1 liter H2SO4 plastic							DG9H	40mL HCL amber vial	WGFU	4oz clear soil jar
BP1U	1 liter unpreserved plastic							DG9M	40mL MeOH clear vial	WGFY	4oz wide jar w/hexane wipe
BP1Z	1 liter NaOH, Zn, Ac							DG9T	40mL Na Thio amber vial	ZPLC	Ziploc Bag
BP2N	500mL HNO3 plastic							DG9U	40mL unpreserved amber vial		
BP2O	500mL NaOH plastic							I	Wipe/Swab		



Sample Condition Upon Receipt

Client Name: Antea CA Project # 256522

Courier: [x] Fed Ex [ ] UPS [ ] USPS [ ] Client [ ] Commercial [ ] Pace Other

Tracking #: 8738 8211 4502

Custody Seal on Cooler/Box Present: [ ] Yes [ ] No Seals intact: [x] Yes [ ] No

Packing Material: [ ] Bubble Wrap [x] Bubble Bags [ ] None [ ] Other Temp. Blank [x] Yes [ ] No

Thermometer Used 132013 or 101731962 or 228099 Type of Ice: [x] Wet [ ] Blue [ ] None [ ] Samples on ice, cooling process has begun

Cooler Temperature 1.6°C Biological Tissue Is Frozen: Yes No

Temp should be above freezing ≤ 6°C

Date and initials of person examining contents: MS 2/8/11

Table with 16 rows of inspection criteria and checkboxes. Includes items like Chain of Custody Present, Samples Arrived within Hold Time, and Containers Intact.

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: RSM Date: 02/08/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e out of hold, incorrect preservative, out of temp, incorrect containers)



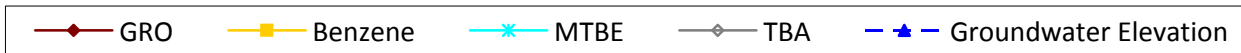
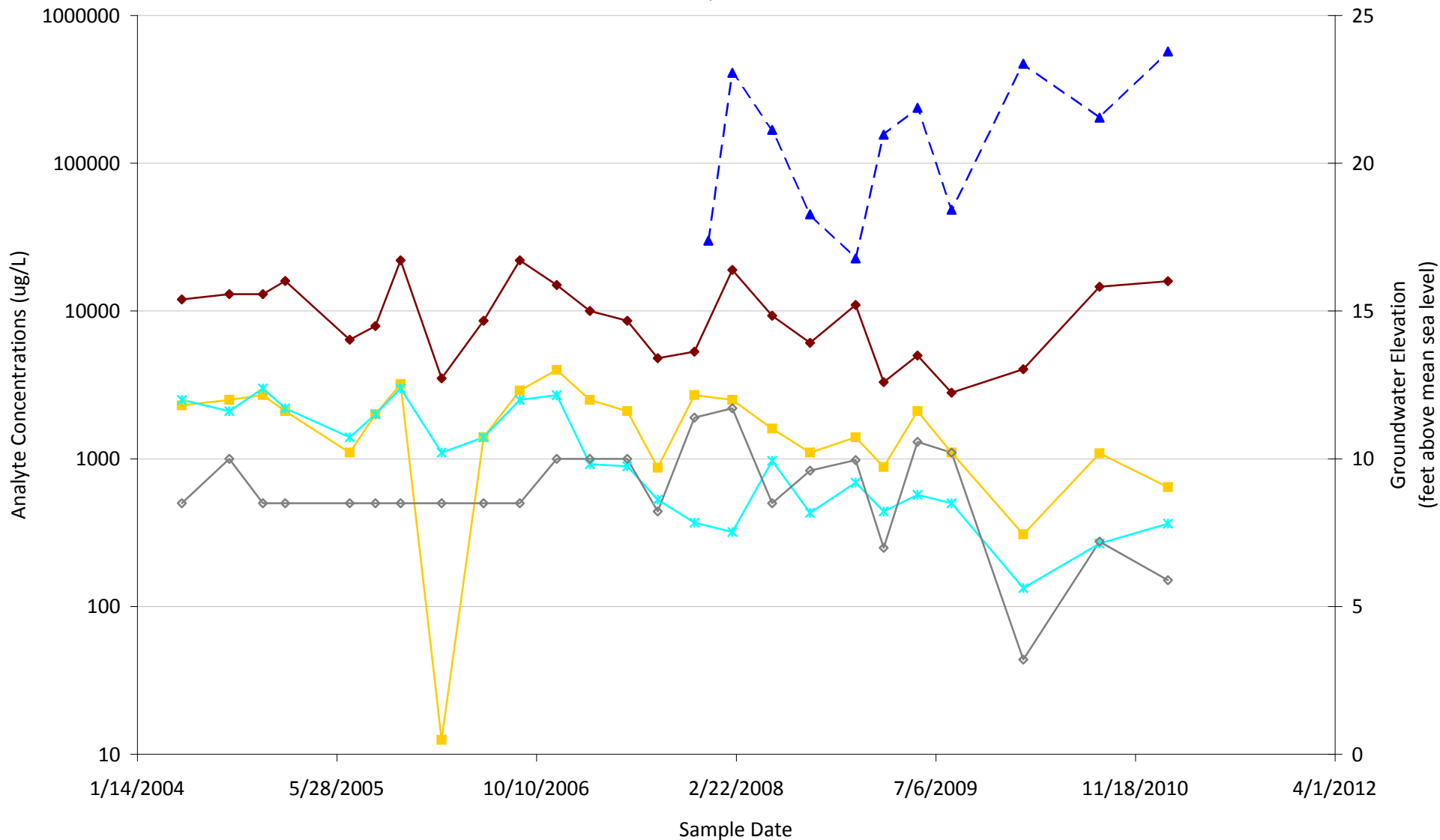
*Semi-Annual Monitoring Report, First Quarter 2011*  
*76 (Former BP) Service Station No. 11117*  
*Oakland, California*  
*Antea Group Project No. I42611117*



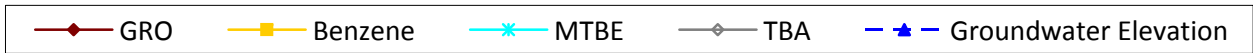
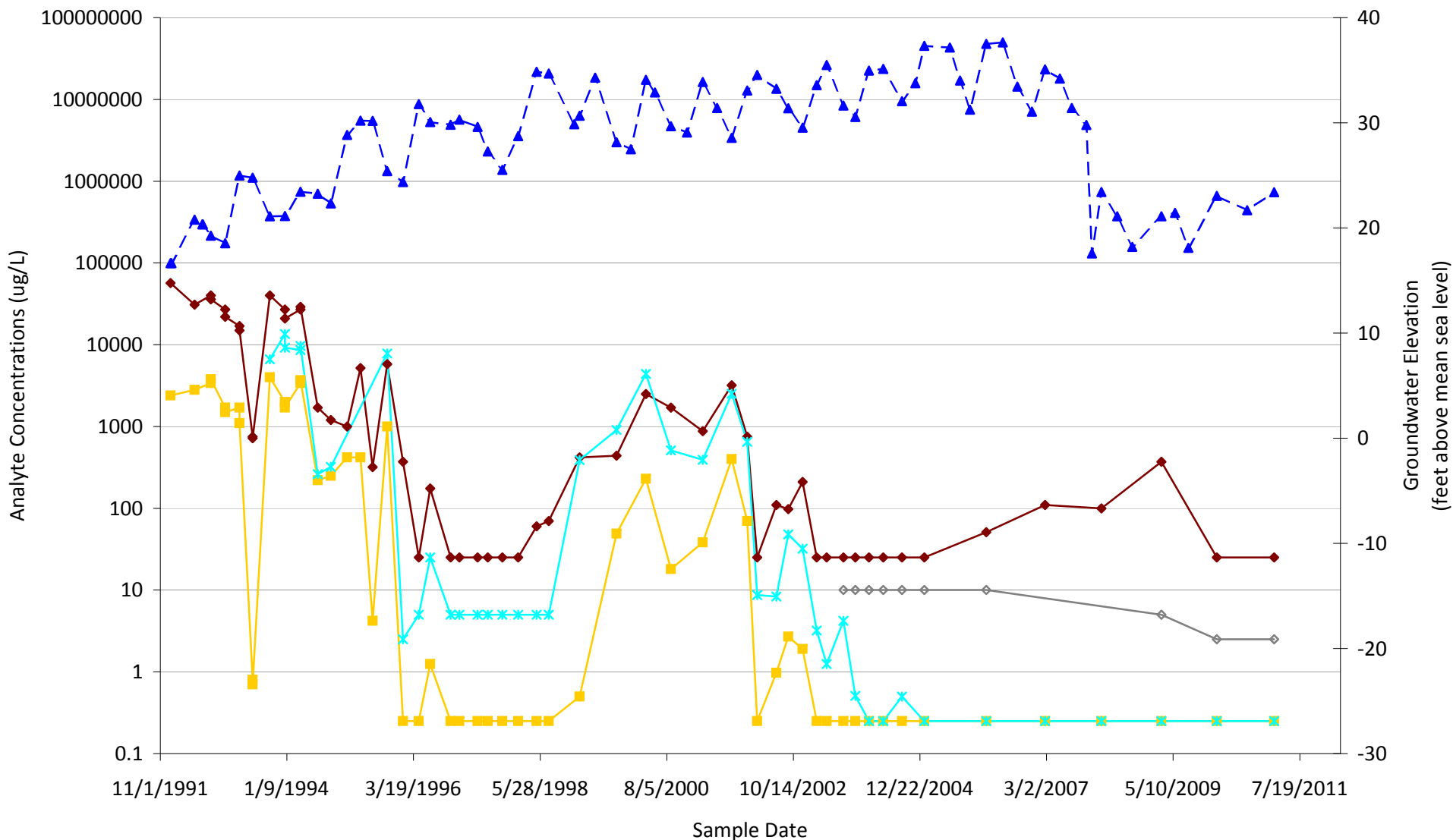
## ***Attachment F***

Time Series Graphs

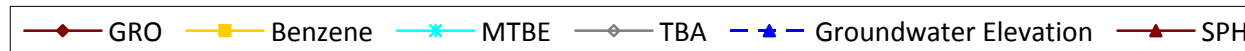
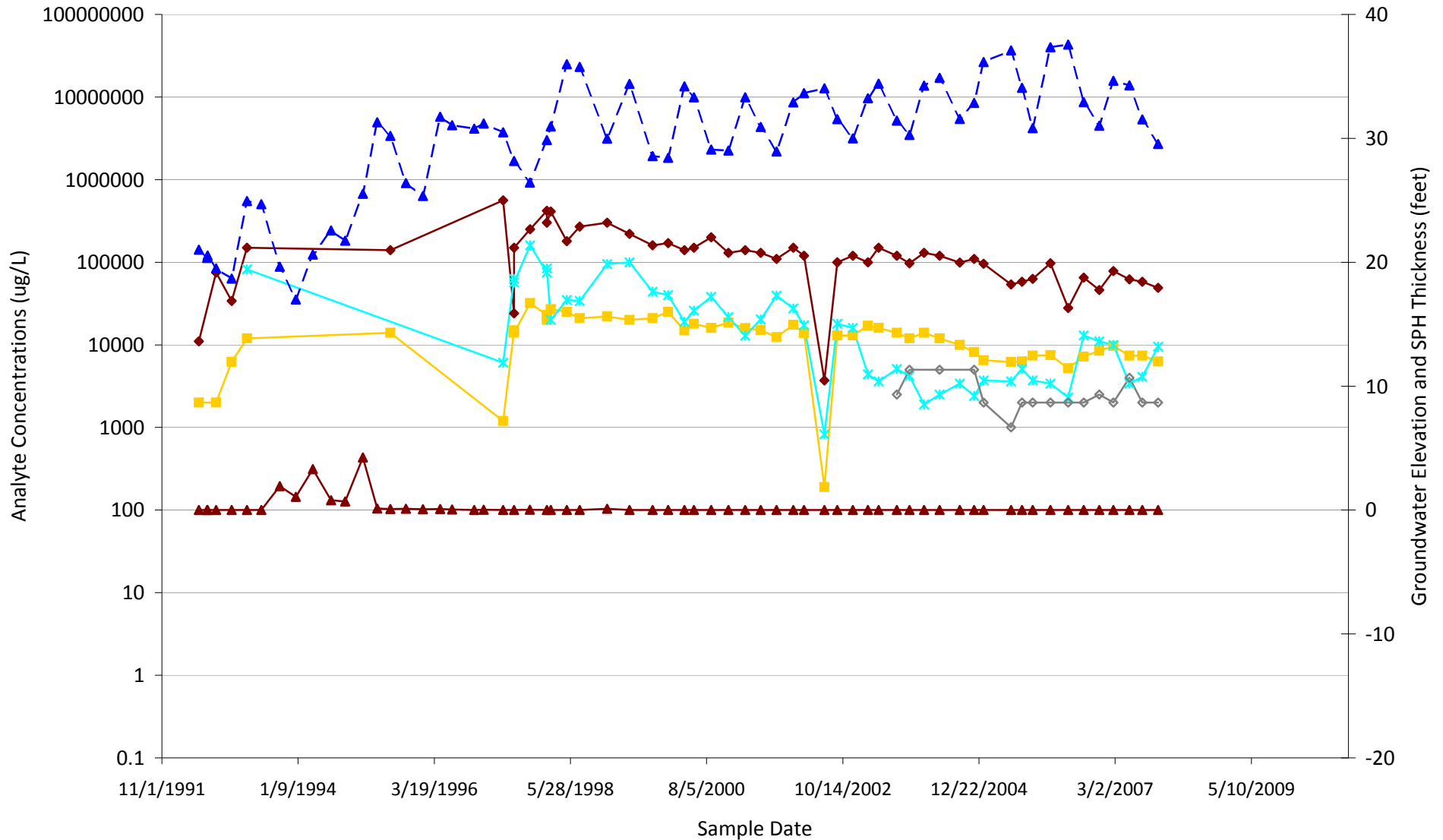
WELL EX-1  
 CONTAMINANT CONCENTRATIONS AND GROUNDWATER ELEVATION VERSUS TIME  
 76 (FORMER BP) SERVICE STATION NO. 11117  
 7210 BANCROFT AVENUE  
 OAKLAND, CALIFORNIA



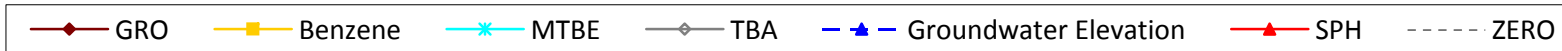
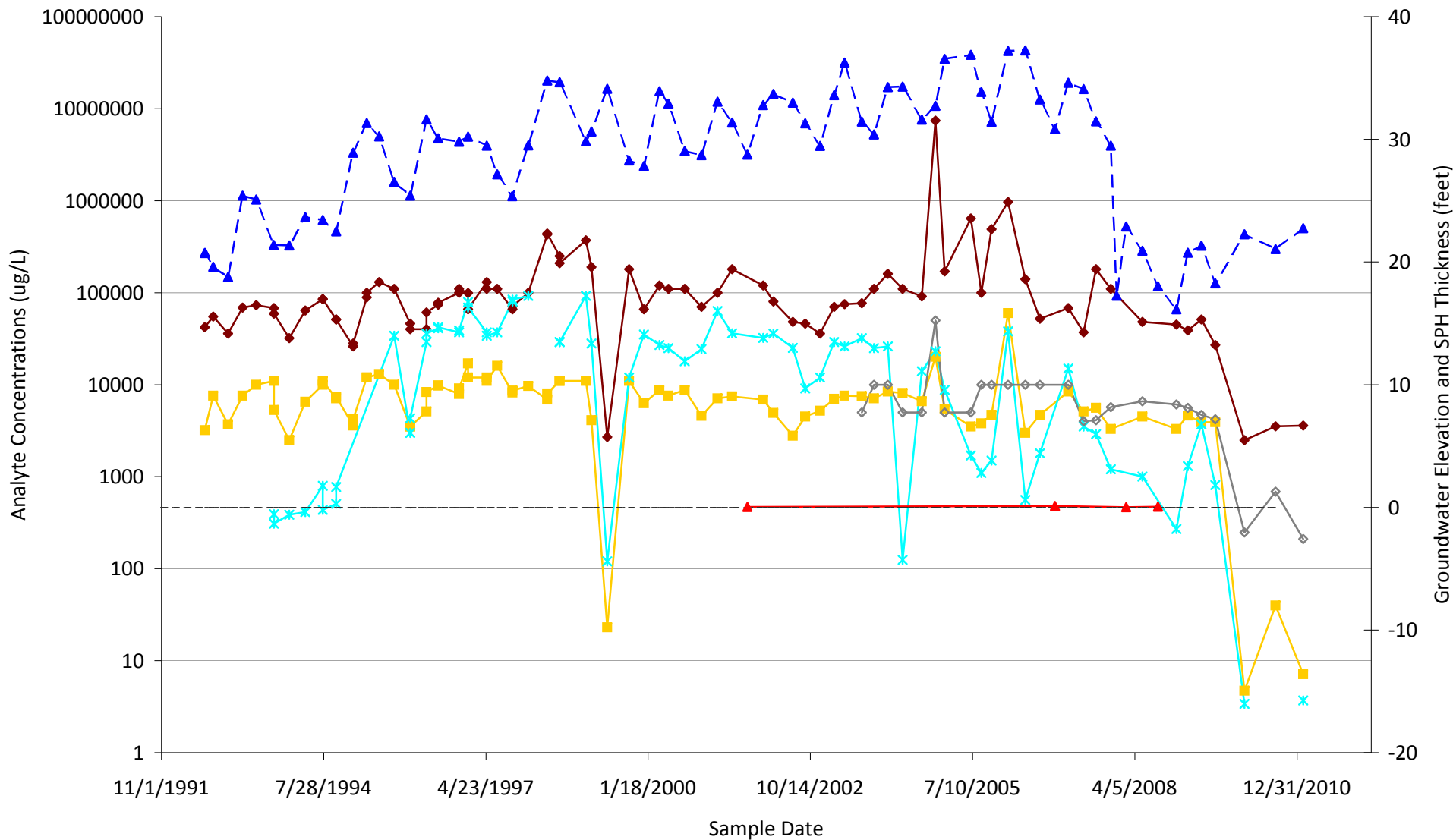
WELL MW-1  
 CONTAMINANT CONCENTRATIONS AND GROUNDWATER ELEVATION VERSUS TIME  
 76 (FORMER BP) SERVICE STATION NO. 11117  
 7210 BANCROFT AVENUE  
 OAKLAND, CALIFORNIA



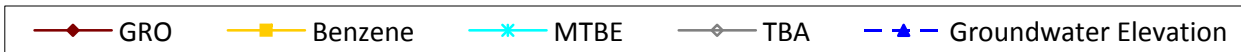
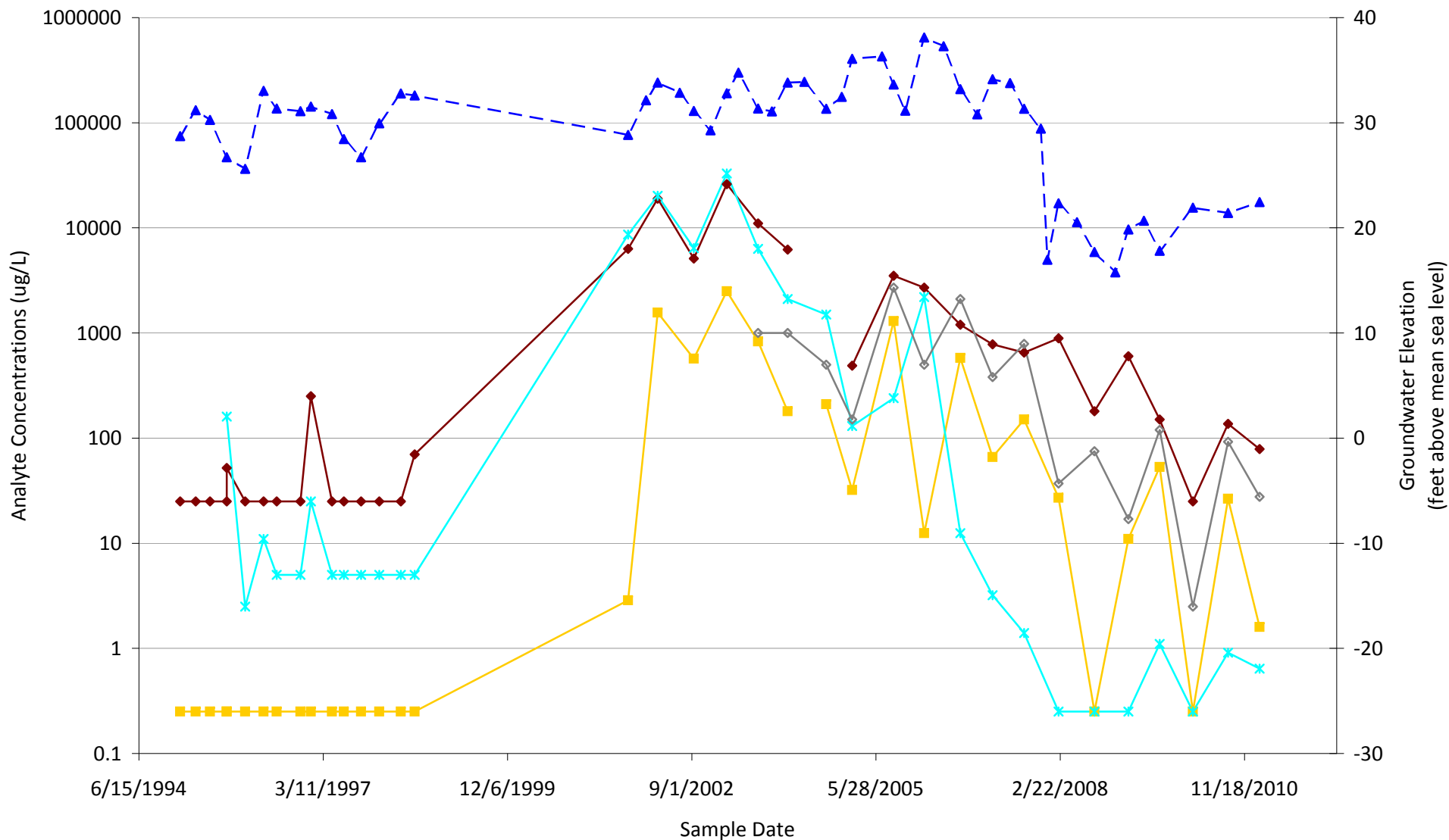
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**CONTAMINANT CONCENTRATIONS AND GROUNDWATER ELEVATION VERSUS TIME**  
**76 (FORMER BP) SERVICE STATION NO. 11117**  
**7210 BANCROFT AVENUE**  
**OAKLAND, CALIFORNIA**



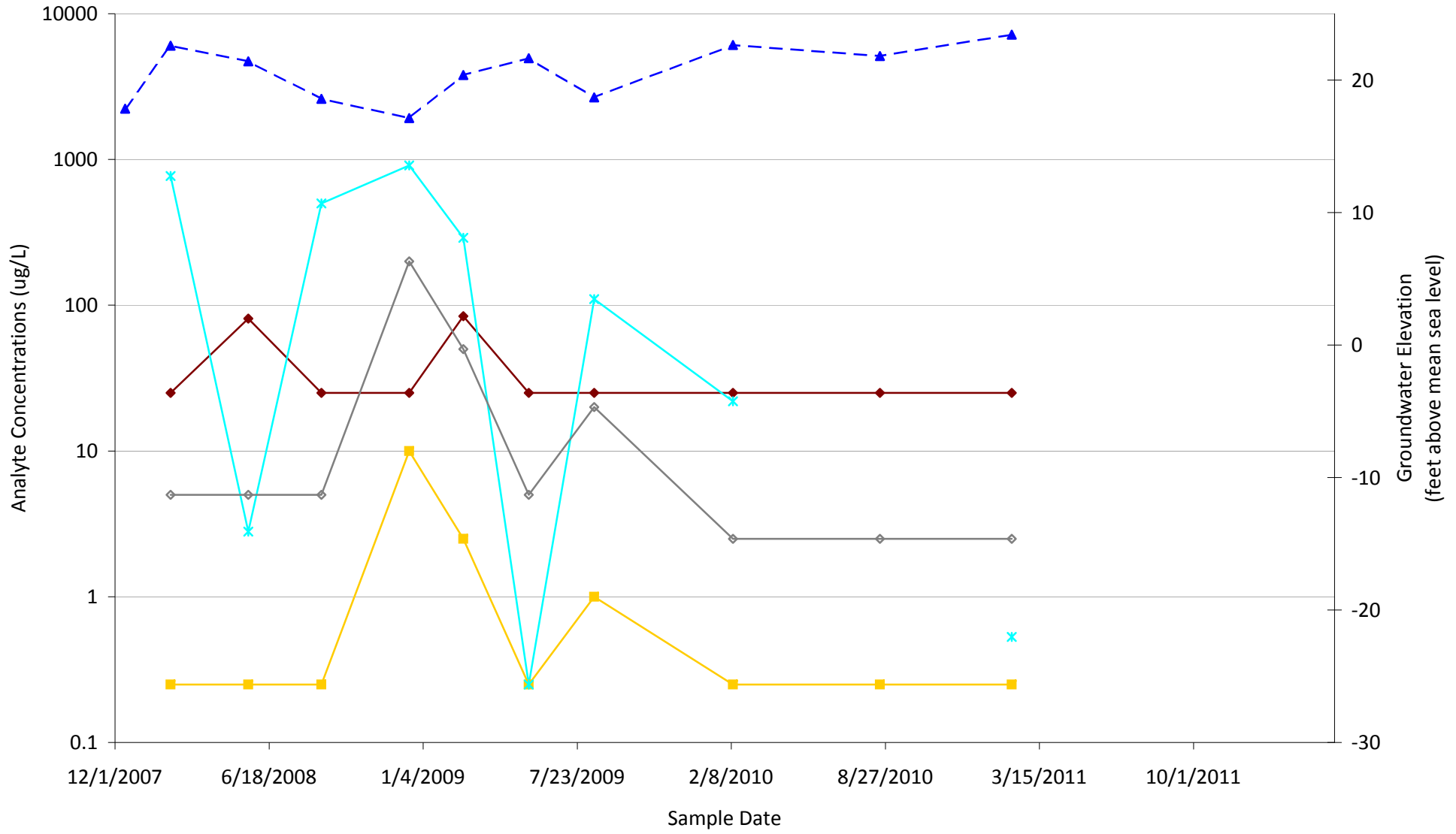
WELL MW-4  
 CONTAMINANT CONCENTRATIONS AND GROUNDWATER ELEVATION VERSUS TIME  
 76 (FORMER BP) SERVICE STATION NO. 11117  
 7210 BANCROFT AVENUE  
 OAKLAND, CALIFORNIA



WELL MW-9  
 CONTAMINANT CONCENTRATIONS AND GROUNDWATER ELEVATION VERSUS TIME  
 76 (FORMER BP) SERVICE STATION NO. 11117  
 7210 BANCROFT AVENUE  
 OAKLAND, CALIFORNIA



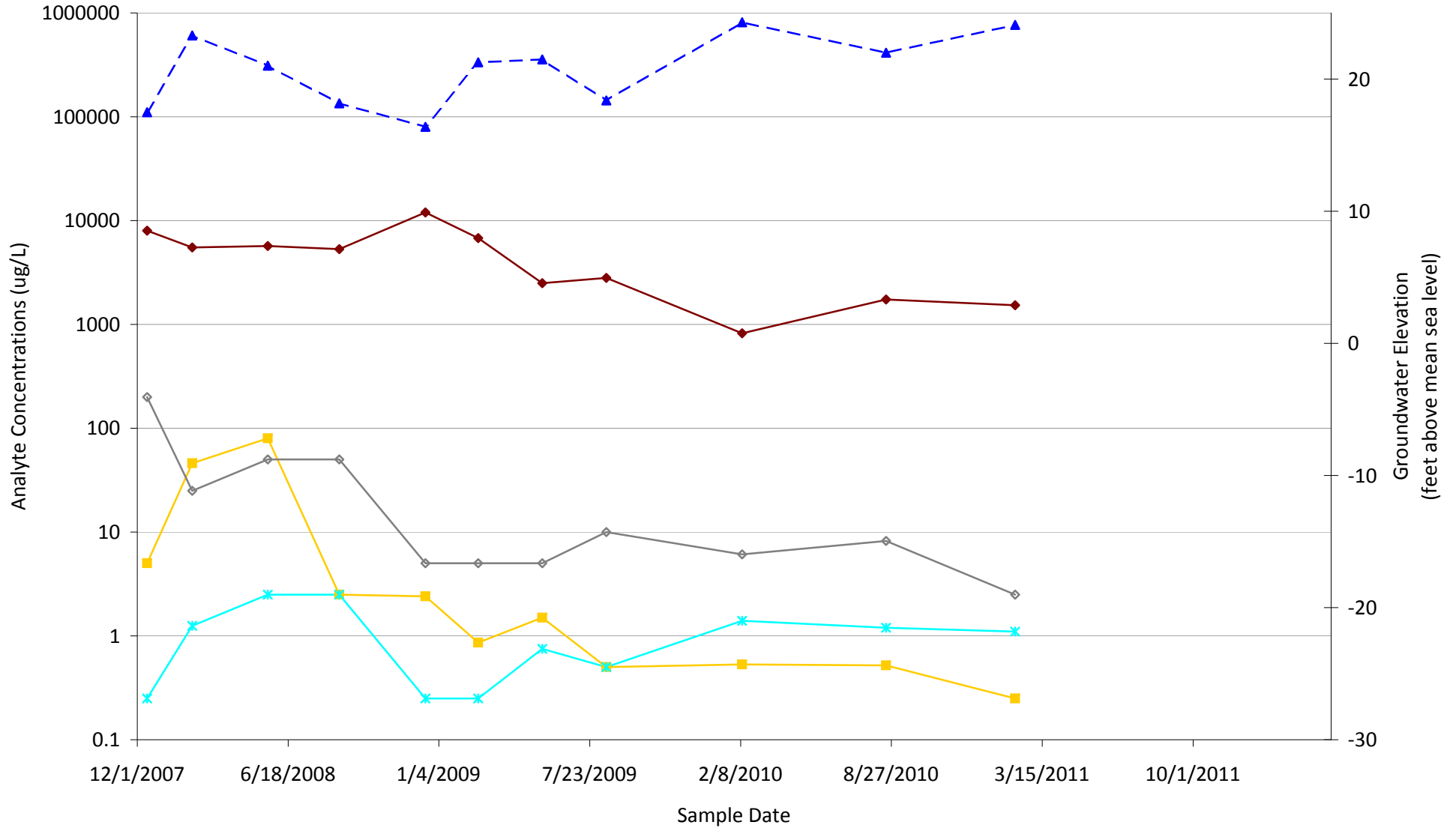
WELL MW-10  
 CONTAMINANT CONCENTRATIONS AND GROUNDWATER ELEVATION VERSUS TIME  
 76 (FORMER BP) SERVICE STATION NO. 11117  
 7210 BANCROFT AVENUE  
 OAKLAND, CALIFORNIA



◆ GRO   
 ■ Benzene   
 ✱ MTBE   
 ◇ TBA   
 -▲- Groundwater Elevation



**WELL MW-11**  
**CONTAMINANT CONCENTRATIONS AND GROUNDWATER ELEVATION VERSUS TIME**  
**76 (FORMER BP) SERVICE STATION NO. 11117**  
**7210 BANCROFT AVENUE**  
**OAKLAND, CALIFORNIA**



GRO    
 Benzene    
 MTBE    
 TBA    
 Groundwater Elevation

*Semi-Annual Monitoring Report, First Quarter 2011*  
*76 (Former BP) Service Station No. 11117*  
*Oakland, California*  
*Antea Group Project No. I42611117*



## ***Attachment G***

Non-Hazardous Waste Manifest – Third Quarter 2010

# NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

<b>NON-HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. <span style="font-size: 1.5em;">na</span>		Manifest Document No. <span style="font-size: 1.5em;">261117-0810</span>		2. Page 1 of 1	
3. Generator's Name and Mailing Address <span style="font-size: 1.2em;">Power Quality + Electrical Systems, Inc, Tejinder Singh 7210 Bancroft Ave. Oakland, CA 94605</span>				<span style="font-size: 1.5em;">Site # 261117</span> <span style="font-size: 1.2em;">7210 Bancroft Ave Oakland, CA 94605</span>			
4. Generator's Phone ( <span style="font-size: 1.2em;">510) 553-6109</span>		5. Transporter 1 Company Name <span style="font-size: 1.5em;">Blaine Tech Services</span>		6. US EPA ID Number		A. State Transporter's ID	
7. Transporter 2 Company Name		8. US EPA ID Number		9. Designated Facility Name and Site Address <span style="font-size: 1.2em;">Seaport Environmental 200 Seaport Blvd. Redwood City, CA 94063</span>		10. US EPA ID Number <span style="font-size: 1.5em;">000013572</span>	
11. WASTE DESCRIPTION		12. Containers		13. Total Quantity		14. Unit Wt./Vol.	
a. <span style="font-size: 1.2em;">Non hazardous waste liquid groundwater used 1/19/11</span>		No. <span style="font-size: 1.5em;">1</span> Type <span style="font-size: 1.5em;">TT</span>		<span style="font-size: 1.5em;">104.2</span>		<span style="font-size: 1.5em;">G</span>	
b.							
c.							
d.							
G. Additional Descriptions for Materials Listed Above				H. Handling Codes for Wastes Listed Above			
15. Special Handling Instructions and Additional Information <span style="font-size: 1.2em;">Wear protective equipment while handling. Weights and volumes are approximate. 24 hr emergency phone number (310) 885-4455</span> <span style="float: right; font-size: 1.2em;">Approval Number 520-1049 Direct bill to Blaine Tech Blaine Tech PO# MN 012011-FSI</span>							
16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.							
<span style="font-size: 1.5em;">(Antea Group)</span>						Date	
Printed/Typed Name <span style="font-size: 1.2em;">Tara L. Bosch on behalf of Tejinder Singh</span>		Signature <span style="font-size: 1.5em;">Tara Bosch</span>		Month <span style="font-size: 1.5em;">1</span> Day <span style="font-size: 1.5em;">10</span> Year <span style="font-size: 1.5em;">11</span>			
17. Transporter 1 Acknowledgement of Receipt of Materials							
Printed/Typed Name <span style="font-size: 1.2em;">Jose Ortiz</span>		Signature <span style="font-size: 1.5em;">[Signature]</span>		Month <span style="font-size: 1.5em;">8</span> Day <span style="font-size: 1.5em;">20</span> Year <span style="font-size: 1.5em;">10</span>		Date	
18. Transporter 2 Acknowledgement of Receipt of Materials							
Printed/Typed Name		Signature		Month		Day Year	
19. Discrepancy Indication Space							
20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.							
Printed/Typed Name <span style="font-size: 1.2em;">Jaquim D. Camero</span>		Signature <span style="font-size: 1.5em;">[Signature]</span>		Month <span style="font-size: 1.5em;">9</span> Day <span style="font-size: 1.5em;">20</span> Year <span style="font-size: 1.5em;">11</span>		Date	

**NON-HAZARDOUS WASTE**

**GENERATOR**

**TRANSPORTER**

**FACILITY**

