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By Alameda County Environmental Health 10:34 am, Feb 04, 2016

January 28, 2016

Mr. Keith Nowell  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

**Subject: Quarterly Summary Report, Fourth Quarter 2015**  
**Site: 76 Station No. 5191/5043**  
**449 Hegenberger Road**  
**Oakland, California**  
**Fuel Leak Case No. RO0000219**

Dear Mr. Nowell;

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:

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Sincerely,

**APRO LLC.**



**WALTER SPRAGUE**  
Director of Retail Services

Attachment

# *Quarterly Summary Report, Fourth Quarter 2015*

*76 Station No. 5191/5043  
449 Hegenberger Road  
Oakland, California*

*Alameda County Health Care Services  
Agency Fuel Leak Case No. RO0000219*

*San Francisco Bay, Regional Water Quality  
Control Board Case No. 01-1601*

*GeoTracker Global ID No. T0600101476*

*Antea Group Project No. I42705191*

*January 28, 2016*

*Prepared for:*  
**Mr. Keith Nowell**  
Alameda County Health Care  
Services Agency  
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Suite 250  
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Oakland, California*

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Appendix A	Previous Investigation and Site History Summary
Appendix B	Antea Group Groundwater Sampling Procedures
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# Quarterly Summary Report, Fourth Quarter 2015

76 Station No. 5191/5043  
449 Hegenberger Road  
Oakland, California

## 1.0 INTRODUCTION

---

Antea Group is pleased to submit this *Quarterly Summary Report, Fourth Quarter 2015*, for the referenced site in Oakland, California (**Figure 1**). The subject site is an operating 76 station located on the southwestern corner of Hegenberger Road and Edgewater Drive in Oakland, CA. Station facilities include three underground storage tanks (USTs), two dispenser islands, a station building, and a carwash. A total of eight groundwater monitoring wells are located at or near the site (**Figure 2**). Please refer to **Appendix A** for additional site information and for the history of environmental investigations and remedial actions.

This report summarizes the data obtained from the recent groundwater monitoring and sampling event conducted on December 8, 2015. Included herein are site figures, groundwater contaminant data tables, and a discussion of trends. This report has received a technical review by Mr. Dennis Dettloff, California Professional Geologist No. 7480.

### 1.1 Work Performed [Fourth Quarter 2015]

1. Antea Group submitted the *Quarterly Summary Report, Third Quarter 2015*, dated October 14, 2015 to the ACHCSA.
2. Antea Group conducted the fourth quarter 2015 groundwater monitoring and sampling event on September 9, 2015.
3. Antea Group continued preparation for the on-site soil excavation activities.

### 1.2 Work Proposed [First Quarter 2016]

1. Antea Group will submit the *Quarterly Summary Report, Fourth Quarter 2015* (contained herein) to the ACHCSA.
2. Antea Group will destroy off-site monitoring wells MW-7 and MW-8.
3. Antea Group will continue preparation for the on-site soil excavation activities.
4. Antea Group will conduct the first quarter 2016 monitoring and sampling event.

## 2.0 CURRENT PROJECT STATUS

Current phase of project:	Quarterly Groundwater Monitoring
Local Oversight Program (LOP) – Lead agency for cleanup oversight:	Alameda County Health Care Services Agency Case No. RO0000219
Secondary agency(s):	San Francisco Bay Regional Water Quality Control Board Case No. 01-1601
Monitoring well gauging schedule:	Quarterly: MW-3, MW-9, MW-11, MW-13, MW-15, and MW-16
Monitoring well sampling schedule:	Quarterly: MW-11, MW-13, MW-15, and 16 Semi-Annual (second and fourth quarters): MW-3, MW-9, MW-11, MW-13, MW-15, and MW-16
Total number of monitoring/remediation wells ( <b>Table 1</b> ):	Eight (MW-3, MW-7 through MW-9, MW-11, and MW-13, MW-15, and MW-16)
Range of well depths (total depth below ground surface, bgs) ( <b>Table 1</b> ):	Wells are set from 13 feet to 20 feet bgs
Wells with historical measurable LNAPL (light non-aqueous phase liquid):	Former monitoring wells MW-1, MW-2 and MW-6
Historical depth to water range, in feet below top of casing (BTOC):	Min: 0.07 (MW-9, Q1 2005) Max: 8.42 (MW-6, Q4 2010)
Historical groundwater elevation range (ft) for monitoring wells MW-1 through MW-17	Min: 2.77 (MW-3, Q3 1994) Max: 9.70 (MW-9, Q3 2012)
Local receptors:	See <b>Appendix A</b>
Current remediation technique	None

### 2.1 Regulatory Correspondence

In an email conversation with ACHCSA dated December 8 and 10, 2015, Antea Group requested that the *Site Remediation Report*, which will detail the results of the excavation, be due on or before August 31, 2016. ACHCSA approved the change.

### 2.2 Remedial Activities

No remedial activities took place during the fourth quarter 2015. However, preparations for the on-site soil excavation are ongoing.

### 2.3 Groundwater Monitoring

During the fourth quarter 2015 groundwater monitoring and sampling event, six monitoring wells were gauged, purged and sampled by Antea Group per standard sampling protocol (**Appendix B**). Monitoring wells MW-7 and MW-8 were not gauged or sampled due to the off-site property owner, Mr. Beretta, denying access to the property for the purpose of monitoring and sampling. Copies of Antea Group's field data sheets are presented as **Appendix C**. The recent gauging and sampling data are summarized below and in **Table 2**. Historical gauging and sampling data are summarized in **Tables 3, 3a, 3b, 3c, and 3d**.

Well gauging and sampling date:	December 8, 2015
Wells gauged:	MW-3, MW-9, MW-11, MW-13, MW-15, and MW-16
Wells sampled:	MW-3, MW-9, MW-11, MW-13, MW-15, and MW-16
Purge method:	3 well casing volumes via electric, submersible pump
Sample collection method:	Disposable bailers
Groundwater parameters measured ( <b>Appendix C</b> ):	Temperature, pH, Conductivity, Dissolved Oxygen (DO), Oxidation Reduction Potential (ORP), and Turbidity
Wells with measurable LNAPL:	None
Current depth to water range (ft BTOC):	Min: 3.04 (MW-15) Max: 4.13 (MW-13)
Current groundwater elevation range (ft):	Min: 6.95 (MW-13) Max: 8.07 (MW-15)
Change in water depths from previous event (average change for all gauged wells):	0.47 foot decrease
Groundwater flow direction and gradient in foot per foot (ft/ft):	Variable

### 2.3.1 Groundwater Flow Gradient and Directional Trends

The fourth quarter 2015 groundwater monitoring and sampling event was performed by Antea Group on December 8, 2015. The average groundwater elevation increased 0.47 feet from the September 2015 event. Depth to groundwater in the site monitoring wells ranged from 3.04 feet (MW-15) to 4.13 feet (MW-13) BTOC during the current event. A groundwater elevation contour map is shown on **Figure 3**. The groundwater flow direction and gradient were interpreted to be variable during the current event (**Table 4** and **Figure 5**).

### 2.3.2 Groundwater Quality Data

Groundwater samples collected during the fourth quarter 2015 monitoring and sampling event were submitted with chain-of-custody (COC) documentation to Eurofins Calscience, Inc. (Calscience), a state of California Environmental Laboratory Accreditation Program (ELAP) certified laboratory (Certification No. 2944). The complete analytical report and Antea Group's laboratory data validation checklist are presented as **Appendix D**. Groundwater samples were analyzed for one or more of the following:

- Total petroleum hydrocarbons as diesel (TPHd) [silica gel treated] by Environmental Protection Agency (EPA) Method 8015M;
- Gasoline Range Organics (GRO), benzene, toluene, ethylbenzene, and total xylenes (BTEX), methyl tertiary-butyl ether (MTBE), tertiary-butyl alcohol (TBA), and ethanol by EPA Method 8260B.

Groundwater analytical results are presented in **Table 2** (current) and **Tables 3, 3a, 3b, 3c, and 3d** (historical). The following ranges of contaminant concentrations were reported in the specified site wells, groundwater samples collected on December 8, 2015. Only the reported contaminants are listed in the table below.



Constituents	Number of Reported Samples Above LRL of the Samples Collected	Minimum Reported Concentration, in µg/L (Sample ID)	Maximum Reported Concentration, in µg/L (Sample ID)
MTBE	6 of 6	4.6 (MW-9)	82 (MW-15)
TBA	3 of 6	34 (MW-15)	160 (MW-3)

**Explanations:**

µg/L = Micrograms per liter

LRL = Laboratory reporting limit

### 2.3.3 Groundwater Contaminant Trends

During the fourth quarter 2015, analytical results from the groundwater sample collected from monitoring well MW-11 indicated that MTBE increased in concentration. Analytical results from the groundwater sample collected from monitoring well MW-13 indicated that benzene, MTBE, and TBA decreased in concentration. Analytical results from the groundwater sample collected from monitoring well MW-15 indicated that MTBE increased in concentration and GRO and TBA decreased in concentration. Analytical results from the groundwater sample collected from monitoring well MW-16 indicated that MTBE and TBA increased in concentration. A concentration map for TPHg, benzene, and MTBE is presented on **Figures 4** and historical groundwater flow directions are shown on **Figure 5**. Concentration versus time graphs for monitoring wells MW-6, MW-13, MW-14, and MW-17 are presented as **Appendix E**. Based on the graphs, concentrations of TPHd, TPHg, benzene, and MTBE in monitoring well MW-6 were decreasing over time when it was destroyed. Concentrations of TPHg and MTBE are decreasing in monitoring well MW-13 and TPHd and benzene are stable. Concentrations of MTBE were stable in monitoring well MW-14 and TPHg, TPHd, and benzene were decreasing when it was destroyed. Concentrations of TPHg, TPHd, benzene, and MTBE were stable or decreasing over time in monitoring well MW-17 when it was destroyed.

### 2.3.4 Waste Disposal Summary

Approximately 55 gallons of waste water were generated during well purging/sampling and equipment cleaning during the fourth quarter event. Water generated during well sampling and equipment cleaning was placed into a properly labeled 55-gallon Department of Transportation (DOT) approved steel drum and temporarily stored on-site. The waste is currently being profiled using analytical results for the monitoring wells sampled during the recent sampling event. Subsequent to waste profiling, the waste will be transported off-site by Belshire Environmental Services to an approved disposal facility. Field procedures for purge water handling and disposal are included in **Appendix B**.

### 2.3.5 Quality Assurance / Quality Control

Antea Group's QA/QC measures included use of a field duplicate and a detailed QA/QC data validation check of the Calscience laboratory analytical results for the December 2015 sampling event. Antea Group's laboratory data validation checklist and the Calscience laboratory report are presented as **Appendix D**.

Laboratory QA/QC Performed:	Yes (validated by Antea Group)
Laboratory Data Qualifiers:	Yes – two qualifiers*
Are the data valid for their intended purpose?	Yes, the data are valid

\* The sample extract was subjected to Silica Gel treatment prior to analysis.

\*The reporting Limit is elevated resulting from matrix interference. (MW-3)

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 LOW THREAT CLOSURE POLICY CHECKLIST

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An item in the Low Threat Closure Policy (LTCP) checklist on GeoTracker needs to be updated.

Media-Specific Criteria: Direct Contact and Outdoor Air Exposure:

- “Soil Concentrations of Naphthalene: Unknown”
  - Soil samples taken from soil borings in July 2013 were analyzed for Naphthalene. Concentrations ranged from 150 milligrams per kilogram (mg/kg) in SB-1d5.5 to below the laboratory’s indicated reporting limit in the majority of samples.

### 4.0 DISCUSSION

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Petroleum hydrocarbon impact to the groundwater has historically been limited to the vicinities of monitoring wells MW-6 and MW-14 in the southwest corner of the site and monitoring wells MW-12 and MW-17 on the east side of the site. Groundwater elevations beneath the site have ranged historically from the surface to 8 feet bgs. Petroleum hydrocarbon impact to the soil in the southwest corner of the site has been found between 5 and 11 feet bgs. Petroleum hydrocarbon impact to the soil on the east side of the site has been recorded from 8 to 26.5 feet bgs. MTBE impact to the groundwater has historically covered most of the site with higher concentrations in the vicinity of monitoring well MW-12, however it did not extend to off-site monitoring wells MW-7 and MW-8 when they were last sampled in June 2014 or to the off-site soil borings advanced in September 2014 and July 2015. MTBE in the soil in the vicinity of monitoring well MW-12 has been reported between 21 feet bgs and 32 feet bgs. MTBE in the soil in the vicinity of monitoring wells MW-11, MW-13, MW-15, and MW-16 has been reported between 6 and 15 feet bgs. The monitoring wells remaining on-site do not show the areas of impact because the monitoring wells in the impacted areas have been destroyed in preparation for excavation activities at the site. **Figure 4** shows TPHg, benzene, and MTBE in the center of the site but it does not include the area of highest historical petroleum hydrocarbon impact.

## **5.0 CONCLUSION AND RECOMMENDATION**

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The petroleum hydrocarbon impact at the site has been well defined in the soil and groundwater. Soil borings advanced in September 2014 and July 2015 provide a zero line. The areas of petroleum hydrocarbon impact in the soil and groundwater on-site are slated for excavation and disposal, off-site. Source reduction through excavation is the last step towards case closure for this site. Once excavation activities are complete, the environmental case against the site should be closed.

## 6.0 REMARKS


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. For any reports cited that were not generated by Delta or Antea Group, the data from those reports is used "as is" and is assumed to be accurate. Antea Group does not guarantee the accuracy of this data for the referenced work performed nor the inferences or conclusions stated in these reports. 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.

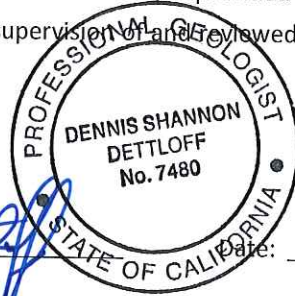
Prepared by:

  
Jonathan Fillingame  
Staff Geologist

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 appears below.

Licensed Approver:

  
Dennis S. Dettloff, P.G.  
Senior Project Manager  
California Registered Professional Geologist No. 7480

  
Date: 1/28/16

cc: GeoTracker (upload)

## ***Figures***

- Figure 1      Site Location Map
- Figure 2      Site Plan
- Figure 3      Groundwater Elevation Contour Map – December 8, 2015
- Figure 4      Dissolved Phase Concentration Map – December 8, 2015
- Figure 5      Historical Groundwater Flow Directions



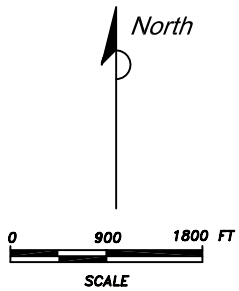
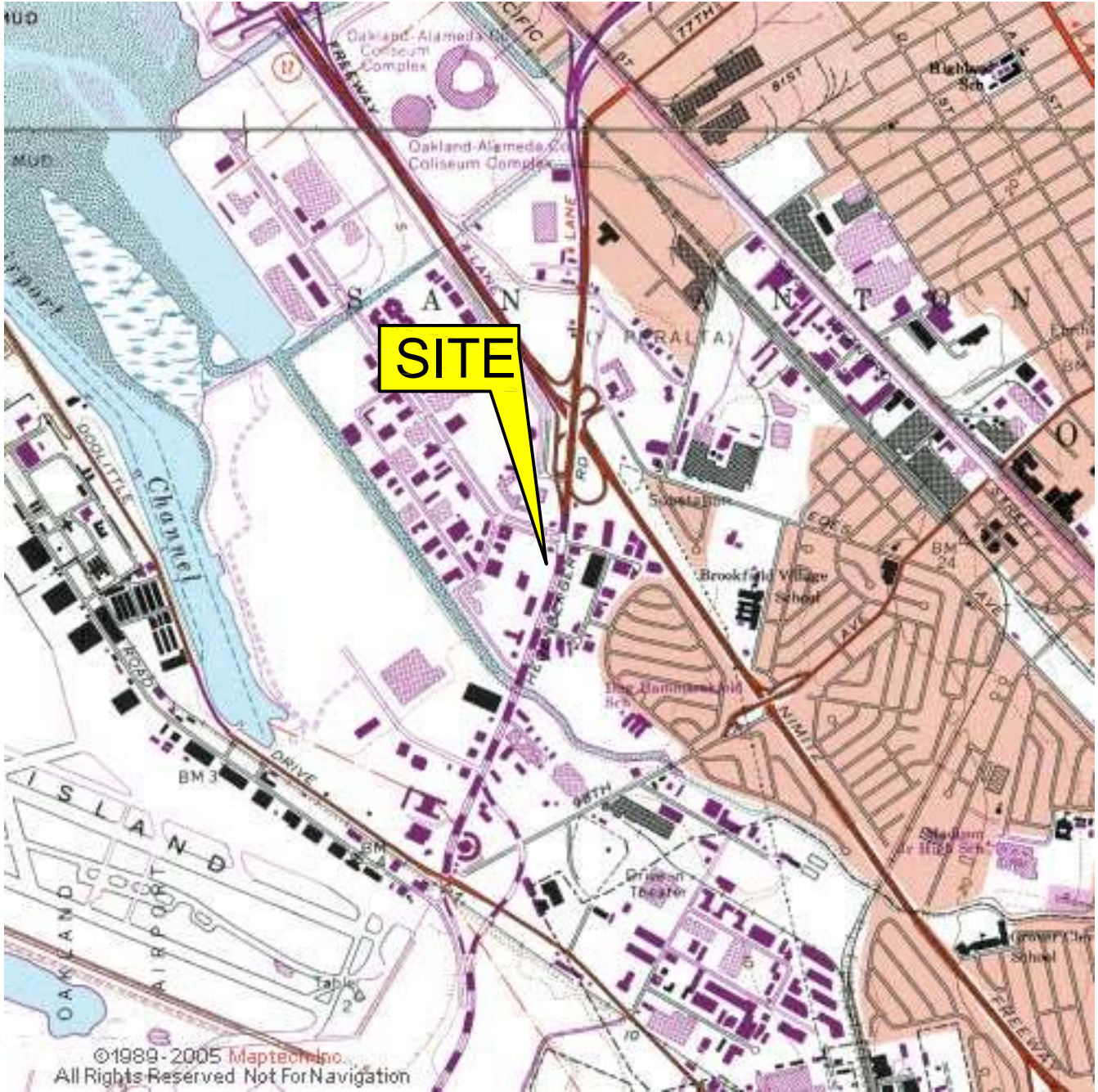
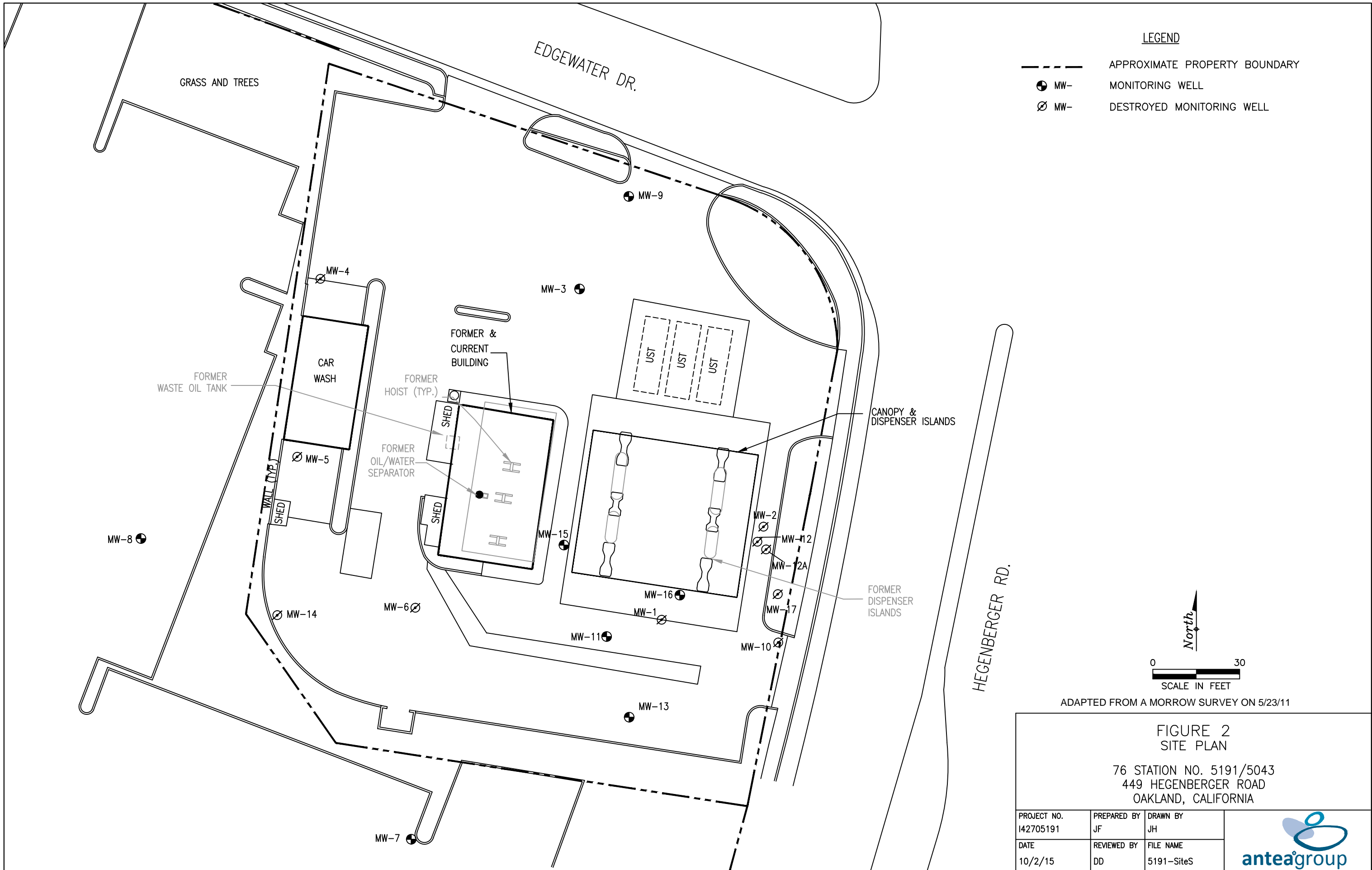


FIGURE 1  
 SITE LOCATION MAP  
 76 STATION NO. 5191/5043  
 449 HEGENBERGER ROAD  
 OAKLAND, CALIFORNIA

PROJECT NO. 142705191	PREPARED BY EW	DRAWN BY DR/JH
DATE 1/31/11	REVIEWED BY DD	FILE NAME 5043-SiteLocator

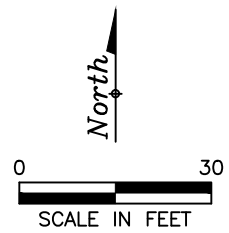


SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, OAKLAND EAST QUADRANGLE (1973)



**LEGEND**


- APPROXIMATE PROPERTY BOUNDARY
- MW- MONITORING WELL
- ⊘ MW- DESTROYED MONITORING WELL



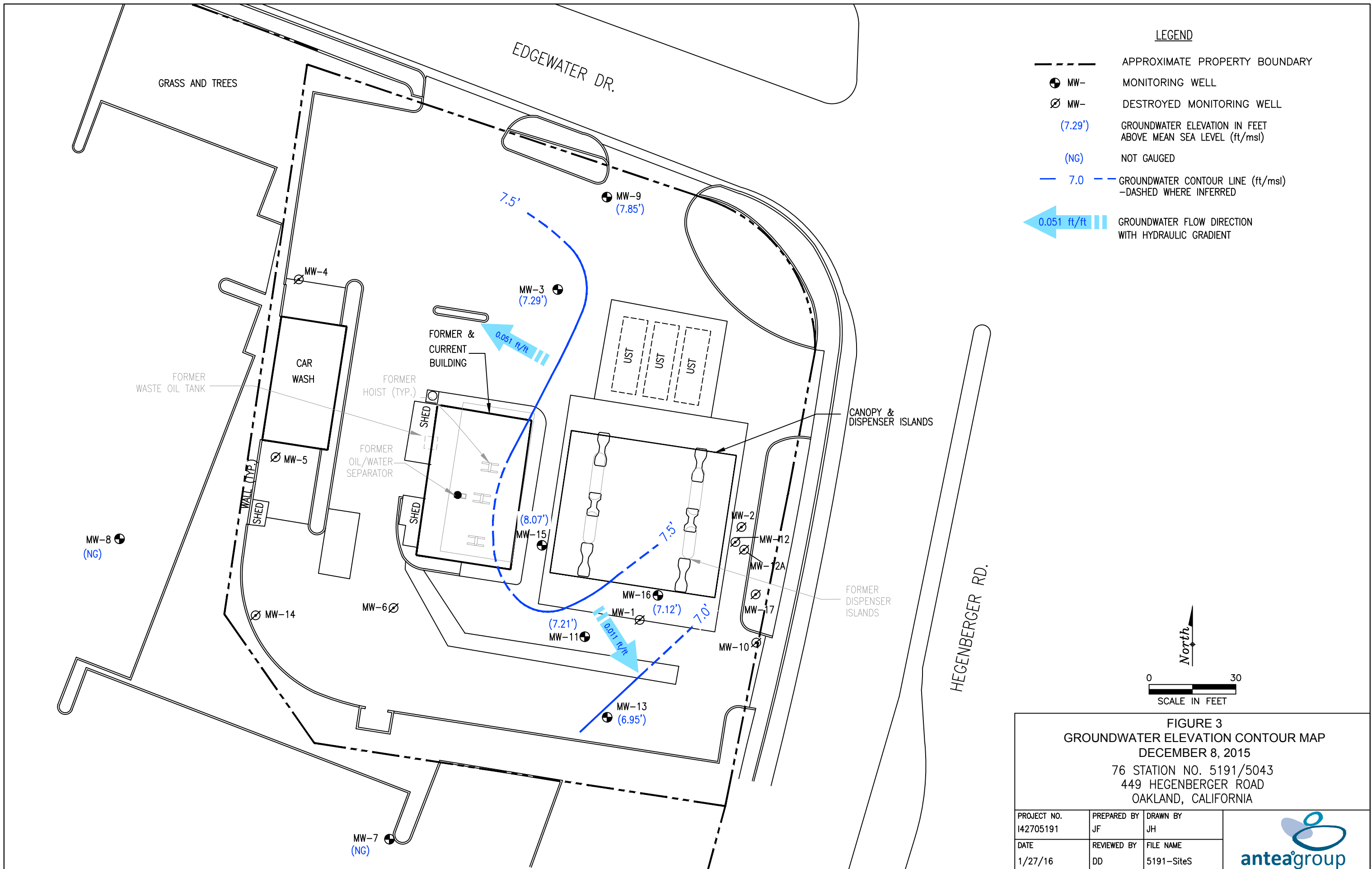
ADAPTED FROM A MORROW SURVEY ON 5/23/11

**FIGURE 2  
SITE PLAN**

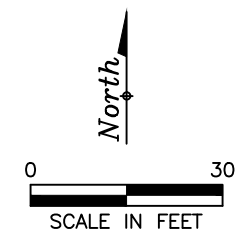
76 STATION NO. 5191/5043  
449 HEGENBERGER ROAD  
OAKLAND, CALIFORNIA

PROJECT NO. I42705191	PREPARED BY JF	DRAWN BY JH	
DATE 10/2/15	REVIEWED BY DD	FILE NAME 5191-SiteS	






- LEGEND**
- APPROXIMATE PROPERTY BOUNDARY
  - ⊕ MW- MONITORING WELL
  - ⊘ MW- DESTROYED MONITORING WELL
  - (7.29') GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (ft/msl)
  - (NG) NOT GAUGED
  - - - 7.0 - - - GROUNDWATER CONTOUR LINE (ft/msl) -DASHED WHERE INFERRED
  - ← 0.051 ft/ft |||| GROUNDWATER FLOW DIRECTION WITH HYDRAULIC GRADIENT

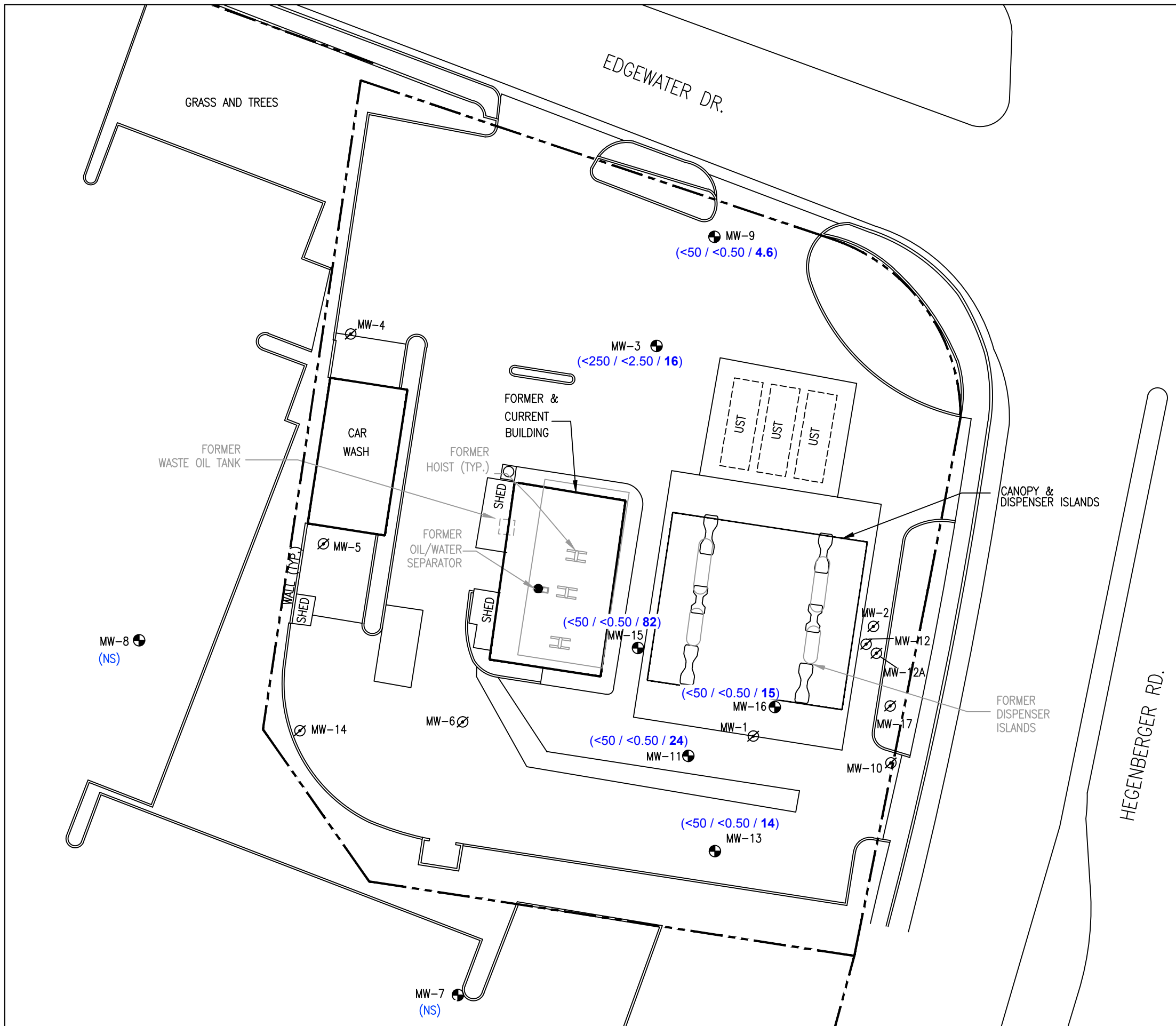


**FIGURE 3**  
GROUNDWATER ELEVATION CONTOUR MAP  
DECEMBER 8, 2015  
76 STATION NO. 5191/5043  
449 HEGENBERGER ROAD  
OAKLAND, CALIFORNIA

PROJECT NO. I42705191	PREPARED BY JF	DRAWN BY JH
DATE 1/27/16	REVIEWED BY DD	FILE NAME 5191-SiteS







**LEGEND**

--- APPROXIMATE PROPERTY BOUNDARY

● MW- MONITORING WELL

⊘ MW- DESTROYED MONITORING WELL

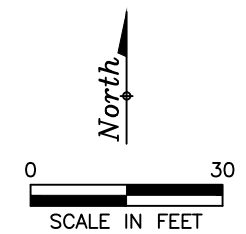
(<50 / <0.50 / 4.6) (TPHg / BENZENE / MTBE) (µg/L)

**NOTES:**

TPHg TOTAL PETROLEUM HYDROCARBONS


MTBE METHYL TERTIARY BUTYL ETHER

<50 LESS THAN LABORATORY INDICATED REPORTING LIMITS

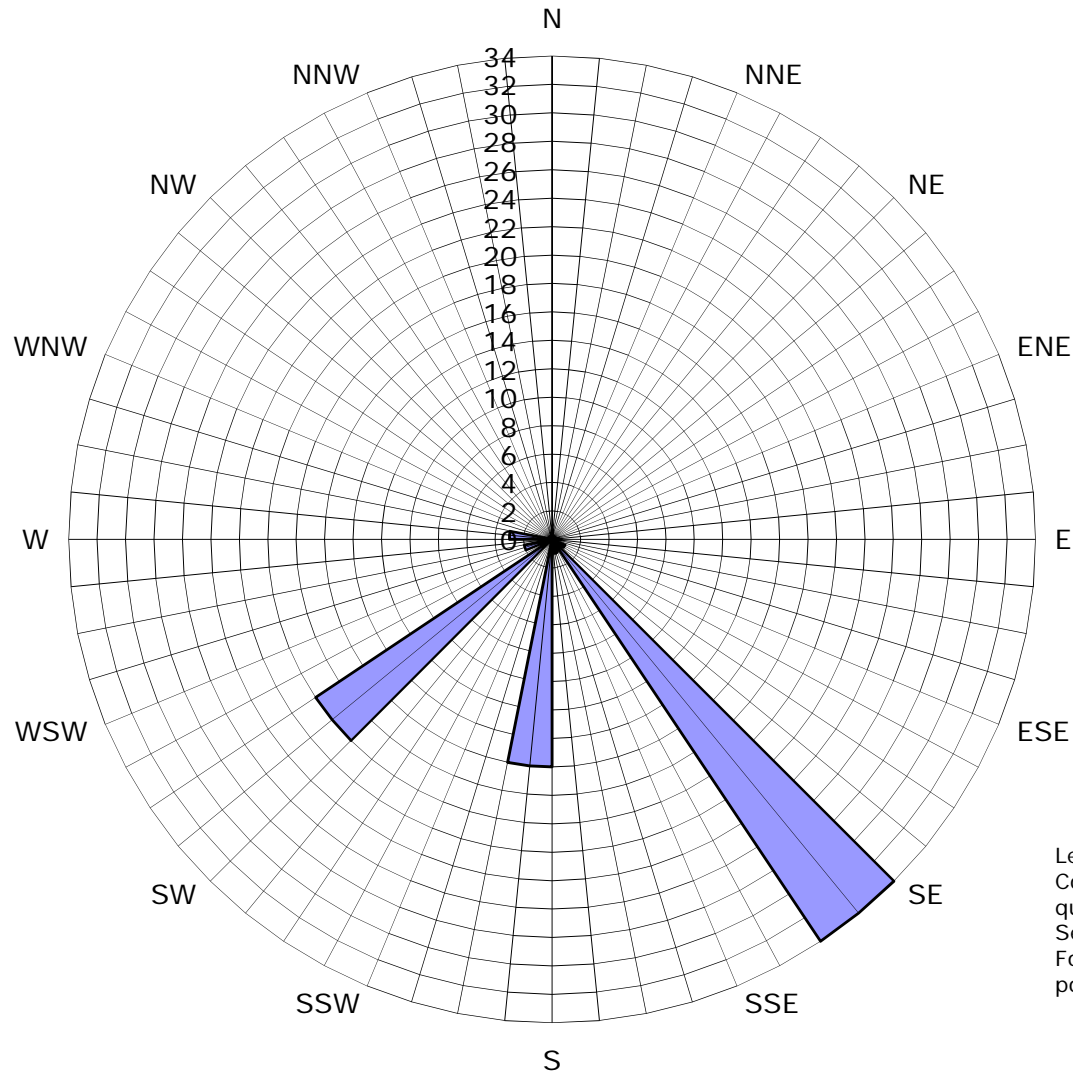


**FIGURE 4**  
DISSOLVED PHASE CONCENTRATION MAP  
DECEMBER 8, 2015  
76 STATION NO. 5191/5043  
449 HEGENBERGER ROAD  
OAKLAND, CALIFORNIA

PROJECT NO. I42705191	PREPARED BY JF	DRAWN BY JH
DATE 10/2/15	REVIEWED BY DD	FILE NAME 5191-SiteS



**Figure 5**  
**Historical Groundwater Flow Directions**  
**76 Station No. 5191/5043**  
 449 Hegenberger Road  
 Oakland, California



Legend  
 Concentric circles represent  
 quarterly monitoring events  
 Second Quarter 1992 through  
 Fourth Quarter 2015. 77 data  
 points shown

■ Groundwater Flow Direction

## ***Tables***

Table 1	Well Construction Details
Table 2	Current Groundwater Gauging and Analytical Data
Table 3	Historical Groundwater Gauging and Analytical Data
Table 3a	Additional Historical Groundwater Analytical Data
Table 3b	Additional Historical Groundwater Analytical Data
Table 3c	Additional Historical Groundwater Analytical Data
Table 3d	Additional Historical Groundwater Analytical Data
Table 4	Historical Groundwater Gradient and Flow Direction Data

**Table 1**  
**Well Construction Details**  
76 Station No. 5191/5043  
449 Hegenberger Road  
Oakland, CA

Well I.D.	Drill Date	Well		Screen		Screen Length (feet)	Comments
		Depth (feet bgs)	Diameter (inches)	Top (feet bgs)	Bottom (feet bgs)		
<b>Monitoring Wells</b>							
MW-1	02/05/91	13.5	2	2.0	13.0	11.0	Destroyed
MW-2	02/05/91	15.0	2	3.0	15.0	12.0	Destroyed
MW-3	02/05/91	14.0	2	2.0	14.0	12.0	
MW-4	08/21/92	13.5	2	2.5	13.5	11.0	Destroyed
MW-5	08/21/92	13.5	2	2.5	13.5	11.0	Destroyed
MW-6	08/21/92	13.5	2	2.5	13.5	11.0	Destroyed
MW-7	04/21/97	13.0	2	3.0	13.0	10.0	
MW-8	04/21/97	15.0	2	3.0	15.0	12.0	
MW-9	01/25/95	13.0	2	3.0	13.0	10.0	
MW-10	01/25/95	13.0	2	3.0	13.0	10.0	Destroyed
MW-11	06/22/10	20.0	4	5.0	20.0	15.0	
MW-12	06/22/10	20.0	4	5.0	20.0	15.0	Destroyed
MW-12A	06/23/10	34.0	2	30.0	34.0	4.0	Destroyed
MW-13	06/22/10	15.0	2	5.0	15.0	10.0	
MW-14	05/17/11	13.0	2	3.0	13.0	10.0	Destroyed
MW-15	05/17/11	13.0	2	3.0	13.0	10.0	
MW-16	05/17/11	13.0	2	3.0	13.0	10.0	
MW-17	05/18/11	13.0	2	3.0	13.0	10.0	Destroyed
<b>Explanation</b>							
Wells are of poly-vinyl-chloride (PVC) construction							
bgs = Below ground surface							

TABLE 2  
 CURRENT GROUNDWATER GAUGING AND ANALYTICAL DATA  
 76 STATION NO. 5191/5043  
 449 HEGENBERGER ROAD  
 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)	TPHd (ug/L)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (ug/L)	TBA (ug/L)	Ethanol (ug/L)
MW-3	12/8/2015	10.81	3.52	NP	7.29	<50	<250	<2.5	<5.0	<5.0	<5.0	<b>16</b>	<b>160</b>	<500
MW-9	12/8/2015	10.94	3.09	NP	7.85	<54	<50	<0.50	<1.0	<1.0	<1.0	<b>4.6</b>	<10	<100
MW-11	12/8/2015	10.53	3.32	NP	7.21	<52	<50	<0.50	<1.0	<1.0	<1.0	<b>24</b>	<10	<100
MW-13	12/8/2015	11.08	4.13	NP	6.95	<52	<50	<0.50	<1.0	<1.0	<1.0	<b>14</b>	<10	<100
MW-15	12/8/2015	11.11	3.04	NP	8.07	<50	<50	<0.50	<1.0	<1.0	<1.0	<b>82</b>	<b>34</b>	<100
MW-16	12/8/2015	10.98	3.86	NP	7.12	<50	<50	<0.50	<1.0	<1.0	<1.0	<b>15</b>	<b>140</b>	<100

**Gauging Notes:**  
 TOS - Top of Screen  
 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:**  
 < - Below laboratory's indicated reporting limit  
 ug/L - micrograms/liter  
 TPHd- Total petroleum hydrocarbons as diesel (silica gel treated)  
 TPHg- Total petroleum hydrocarbons as gasoline, also known as Gasoline Range Organics (GRO)  
 MTBE- Methyl tertiary-butyl ether  
 TBA- Tertiary-butyl alcohol  
**Bold** - Above the laboratory's indicated reporting limit

**TABLE 3  
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA  
76 STATION NO. 5191/5043  
449 HEGENBERGER ROAD  
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)	TPHd (ug/L)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (SW8021B) (ug/L)	MTBE (SW8260B) (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	1,2-Dibromoethane (EDB) (ug/L)	1,2-Dichloroethane (ug/L)
MW-1	2/18/1992	NSVD	NG	NG	NG	13,000	150,000	17,000	26,000	5,200	26,000	--	--	--	--	--	--	--	--	--
	8/31/1992	NSVD	NG	NG	NG	8,900	64,000	13,000	12,000	2,500	22,000	--	--	--	--	--	--	--	--	--
	5/4/1993	8.96	2.13	0.10	6.91	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	8/4/1993	8.96	2.92	0.03	6.06	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	11/3/1993	7.38	3.04	NP	4.34	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	2/7/1994	7.38	2.55	0.03	4.85	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	5/19/1994	7.38	2.23	0.01	5.16	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	6/25/1994	7.38	2.49	0.01	4.90	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	7/27/1994	7.38	3.10	NP	4.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/15/1994	7.38	2.85	0.11	4.61	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	11/14/1994	7.38	2.97	0.12	4.50	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
2/21/1995	7.38	1.53	0.02	5.87	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	
5/18/1995	NSVD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	
MW-2	2/18/1992	NSVD	NG	NG	NG	4,300	29,000	1,000	5,300	260	7,900	--	--	--	--	--	--	--	--	--
	5/20/1992	NSVD	NG	NG	NG	4,300	24,000	2,200	7,600	630	11,000	--	--	--	--	--	--	--	--	--
	8/31/1992	NSVD	NG	NG	NG	1,600	9,000	1,800	640	140	2,000	--	--	--	--	--	--	--	--	--
	11/30/1992	NSVD	NG	NG	NG	5,700	29,000	2,000	3,400	1,200	6,900	--	--	--	--	--	--	--	--	--
	2/4/1993	NSVD	NG	NG	NG	6,100	18,000	1,600	3,000	ND	6,900	--	--	--	--	--	--	--	--	--
	5/4/1993	8.96	2.48	NP	6.48	7,100	63,000	3,200	17,000	470	17,000	--	--	--	--	--	--	--	--	--
	8/4/1993	8.96	3.20	NP	5.76	1,800	45,000	2,100	6,600	1,400	12,000	--	--	--	--	--	--	--	--	--
	11/3/1993	8.58	3.37	NP	5.21	2,600	72,000	3,700	16,000	3,700	20,000	--	--	--	--	--	--	--	--	--
	2/7/1994	8.58	2.40	NP	6.18	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	5/19/1994	8.58	2.13	NP	6.45	3,000	42,000	2,500	1,300	2,300	13,000	--	--	--	--	--	--	--	--	--
	6/25/1994	8.58	2.65	NP	5.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	7/27/1994	8.58	3.44	NP	5.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/15/1994	8.58	3.25	NP	5.33	2,800	35,000	2,400	850	1,700	15,000	--	--	--	--	--	--	--	--	--
11/14/1994	8.58	2.13	NP	6.45	10,000	43,000	2,200	6,500	1,800	14,000	--	--	--	--	--	--	--	--	--	
2/21/1995	8.58	1.65	NP	6.93	2,000	44,000	2,200	3,200	1,300	1,500	--	--	--	--	--	--	--	--	--	
5/18/1995	NSVD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	
MW-3	2/18/1992	NSVD	NG	NG	NG	ND	230	4.8	22	1.8	33	--	--	--	--	--	--	--	--	
	5/20/1992	NSVD	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	
	8/31/1992	NSVD	NG	NG	NG	92	210	1	ND	ND	ND	--	--	--	--	--	--	--	--	
	11/30/1992	NSVD	NG	NG	NG	94	790	ND	ND	ND	ND	--	--	--	--	--	--	--	--	
	2/4/1993	NSVD	NG	NG	NG	550	3,300	320	ND	96	6.1	--	--	--	--	--	--	--	--	
	5/4/1993	7.84	4.32	NP	3.52	250	1,800	95	ND	ND	ND	--	--	--	--	--	--	--	--	
	8/4/1993	7.84	4.94	NP	2.90	100	210	ND	ND	ND	ND	--	--	--	--	--	--	--	--	
	11/3/1993	7.42	4.53	NP	2.89	160	640	ND	ND	ND	ND	--	--	--	--	--	--	--	--	
	2/7/1994	7.42	2.40	NP	5.02	620	2,700	110	ND	17	ND	--	--	--	--	--	--	--	--	
	5/19/1994	7.42	3.60	NP	3.82	480	1,800	83	ND	6.2	9.1	--	--	--	--	--	--	--	--	
	6/25/1994	7.42	4.58	NP	2.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	7/27/1994	7.42	4.58	NP	2.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	8/15/1994	7.42	4.65	NP	2.77	110	130	1.1	0.54	ND	0.97	--	--	--	--	--	--	--	--	
	11/14/1994	7.42	3.18	NP	4.24	150	1,600	ND	ND	ND	ND	--	--	--	--	--	--	--	--	
	2/21/1995	7.42	1.81	NP	5.61	850	3,800	350	ND	130	22	--	--	--	--	--	--	--	--	
5/18/1995	7.42	4.56	NP	2.86	150	1,300	42	ND	ND	ND	--	--	--	--	--	--	--	--		
8/17/1995	7.42	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	
7/26/1996	7.42	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	
10/28/1996	7.42	WO	WO	WO	WO	WO	WO	WO	WO	WO	WO	WO	WO	WO	WO	WO	WO	WO	WO	
1/29/1997	7.42	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	

**TABLE 3  
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA  
76 STATION NO. 5191/5043  
449 HEGENBERGER ROAD  
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)	TPHd (ug/L)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (SW8021B) (ug/L)	MTBE (SW8260B) (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	1,2-Dibromoethane (EDB) (ug/L)	1,2-Dichloroethane (ug/L)
MW-3	4/15/1997	7.42	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI
	5/27/1997	7.42	3.45	NP	3.97	--	670	6.5	ND	ND	ND	250	--	--	--	--	--	--	--	--
	6/1/1997	7.42	3.50	NP	3.92	610	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	7/15/1997	8.04	3.71	NP	4.33	240	240	ND	ND	ND	ND	490	--	--	--	--	--	--	--	--
	10/9/1997	8.04	3.70	NP	4.34	500	270	1.1	ND	2.4	1.4	910	--	--	--	--	--	--	--	--
	1/14/1998	8.04	2.16	NP	5.88	340	310	ND	ND	0.62	0.65	140	--	--	--	--	--	--	--	--
	4/1/1998	8.04	2.20	NP	5.84	320	370	5.7	ND	ND	ND	93	--	--	--	--	--	--	--	--
	7/15/1998	8.04	3.38	NP	4.66	510	460	ND	ND	ND	ND	230	--	--	--	--	--	--	--	--
	10/16/1998	8.04	2.30	NP	5.74	67	330	4.7	ND	ND	ND	60	--	--	--	--	--	--	--	--
	1/25/1999	8.04	2.42	NP	5.62	120	420	1.5	ND	ND	ND	180	--	--	--	--	--	--	--	--
	4/15/1999	8.04	2.16	NP	5.88	170	290	0.54	ND	ND	ND	160	--	--	--	--	--	--	--	--
	7/14/1999	8.04	2.35	NP	5.69	420	290	3.2	ND	ND	ND	160	--	--	--	--	--	--	--	--
	10/21/1999	8.04	2.49	NP	5.55	350	360	0.77	ND	ND	ND	82	--	--	--	--	--	--	--	--
	1/20/2000	8.04	2.38	NP	5.66	2,060	ND	0.81	ND	ND	ND	54	--	--	--	--	--	--	--	--
	4/13/2000	8.04	2.76	NP	5.28	200	250	0.69	ND	ND	ND	91	150	ND	ND	ND	ND	ND	ND	ND
	7/14/2000	8.04	3.26	NP	4.78	423	345	ND	ND	ND	ND	95	--	--	--	--	--	--	--	--
	10/26/2000	8.04	3.12	NP	4.92	330	480	6.0	ND	ND	ND	120	--	--	--	--	--	--	--	--
	1/3/2001	8.04	3.65	NP	4.39	287	364	1.59	ND	ND	ND	118	--	--	--	--	--	--	--	--
	4/4/2001	8.04	3.98	NP	4.06	360	417	1.24	ND	ND	0.802	237	--	--	--	--	--	--	--	--
	7/17/2001	8.04	3.12	NP	4.92	270	480	ND	ND	ND	ND	150	--	--	--	--	--	--	--	--
	10/1/2001	8.04	3.25	NP	4.79	270	310	1.0	<0.50	<0.50	<0.50	53	--	--	--	--	--	--	--	--
	1/31/2002	8.04	2.27	NP	5.77	250	250	3.5	<1.0	<1.0	<1.0	110	--	--	--	--	--	--	--	--
	4/18/2002	8.04	3.55	NP	4.49	320	300	<2.0	<2.0	<2.0	<2.0	--	59	--	--	--	--	--	--	--
	7/28/2002	8.04	2.55	NP	5.49	310	500	<0.50	<0.50	<0.50	<1.0	--	130	--	--	--	--	--	--	--
	10/9/2002	8.04	2.47	NP	5.57	700	690	<5	<5	<5	<10	--	120	--	--	--	--	--	--	--
	1/2/2003	8.04	1.70	NP	6.34	210	310	<0.50	<0.50	<0.50	<1.0	--	110	<2.0	<2.0	<2.0	<100	<500	<2.0	<2.0
	4/1/2003	8.04	3.48	NP	4.56	200	250	<1.0	<1.0	<1.0	<2.0	--	210	--	--	--	--	--	--	--
	7/1/2003	8.04	2.65	NP	5.39	380	450	<2.5	<2.5	<2.5	<5.0	--	70	--	--	--	--	<2500	--	--
	10/2/2003	8.04	3.12	NP	4.92	300	<250	<2.5	<2.5	<2.5	<5.0	--	210	--	--	--	--	<2500	--	--
	1/9/2004	8.04	2.39	NP	5.65	200	300	<0.50	0.53	0.53	1.5	--	66	--	--	--	--	<500	--	--
	4/26/2004	8.04	3.11	NP	4.93	160	440	2.5	5.50	2.90	9.4	--	81	--	--	--	--	<50	--	--
	7/22/2004	8.04	2.51	NP	5.53	330	420	<0.5	<0.5	<0.5	<1	--	72	--	--	--	--	<1000	--	--
	10/29/2004	8.04	2.00	NP	6.04	200	460	5.6	15	10	46	--	48	--	--	--	--	<50	--	--
	1/10/2005	8.04	1.52	NP	6.52	250	280	<0.50	0.62	<0.50	2.4	--	64	--	--	--	--	<50	--	--
	6/15/2005	8.04	2.00	NP	6.04	360	460	<0.50	0.70	0.56	1.9	--	110	--	--	--	--	<50	--	--
	9/27/2005	8.04	1.90	NP	6.14	<200	210	<0.50	0.60	<0.50	<1.0	--	100	<0.50	<0.50	<0.50	79	<250	--	--
12/13/2005	8.04	2.35	NP	5.69	230	230	<0.50	<0.50	<0.50	<1.0	--	92	--	--	--	--	<250	--	--	
3/23/2006	8.04	1.84	NP	6.20	260	290	<0.50	<0.50	<0.50	<1.0	--	88	--	--	--	--	<250	--	--	
6/23/2006	8.04	2.26	NP	5.78	330	500	<0.50	<0.50	<0.50	<1.0	--	75	--	--	--	--	<250	--	--	
9/26/2006	8.04	2.08	NP	5.96	260	270	<0.50	<0.50	<0.50	<0.50	--	73	--	--	--	--	<250	--	--	
12/22/2006	8.04	1.88	NP	6.16	250	260	<0.50	<0.50	<0.50	1.2	--	71	--	--	--	--	<250	--	--	
3/30/2007	8.04	2.47	NP	5.57	210	390	<0.50	<0.50	<0.50	<0.50	--	120	--	--	--	--	<250	--	--	
6/28/2007	8.04	2.54	NP	5.50	290	370	<0.50	<0.50	<0.50	<0.50	--	55	--	--	--	--	<250	--	--	
9/25/2007	8.04	2.56	NP	5.48	210	350	<0.50	<0.50	<0.50	<0.50	--	61	--	--	--	--	<250	--	--	
12/28/2007	8.04	2.29	NP	5.75	150	260	<0.50	<0.50	<0.50	<1.0	--	66	--	--	--	--	<250	--	--	
3/22/2008	8.04	3.26	NP	4.78	230	390	<0.50	<0.50	<0.50	<1.0	--	39	--	--	--	--	<250	--	--	
6/23/2008	8.04	2.60	NP	5.44	130	200	<0.50	<0.50	<0.50	<1.0	--	46	--	--	--	--	<250	--	--	
9/19/2008	8.04	3.45	NP	4.59	93	180	<0.50	<0.50	<0.50	<1.0	--	120	--	--	--	--	<250	--	--	
12/31/2008	8.04	2.55	NP	5.49	110	190	<0.50	<0.50	<0.50	<1.0	--	38	--	--	--	--	<250	--	--	
3/27/2009	8.04	2.37	NP	5.67	130	150	<0.50	<0.50	<0.50	<1.0	--	50	--	--	--	--	<250	--	--	
5/28/2009	8.04	3.32	NP	4.72	120	190	<0.50	<0.50	<0.50	<1.0	--	60	--	--	--	--	<250	--	--	

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HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA  
76 STATION NO. 5191/5043  
449 HEGENBERGER ROAD  
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)	TPHd (ug/L)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (SW8021B) (ug/L)	MTBE (SW8260B) (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	1,2-Dibromoethane (EDB) (ug/L)	1,2-Dichloroethane (ug/L)	
MW-3	9/17/2009	8.04	2.63	NP	5.41	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/17/2009	8.04	2.13	NP	5.91	338	300	<0.50	<0.50	0.78	<1.5	--	43	--	--	--	--	<250	--	--	
	3/29/2010	8.04	2.22	NP	5.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/30/2010	10.81	2.91	NP	7.90	90	261	<0.50	<0.50	<0.50	<1.5	--	89.0	--	--	--	--	<250	--	--	--
	7/6/2010	10.81	2.66	NP	8.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/20/2010	10.81	3.12	NP	7.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/8/2010	10.81	2.37	NP	8.44	137	306	<0.50	<0.50	<0.50	<1.5	--	58.8	--	--	--	--	<250	--	--	--
	3/14/2011	10.81	2.26	NP	8.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/2/2011	10.81	2.43	NP	8.38	155	283	0.58	1.3	<0.50	2.2	--	42.1	--	--	--	--	55.7	<250	--	--
	9/7/2011	10.81	2.36	NP	8.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/5/2011	10.81	2.55	NP	8.26	81.7	381	<0.50	<0.50	<0.50	<1.5	--	41.8	--	--	--	--	<250	--	--	--
	3/6/2012	10.81	2.63	NP	8.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/11/2012	10.81	2.99	NP	7.82	87.9	371	<0.50	<0.50	<0.50	<1.5	--	55.7	--	--	--	--	77.2	<250	--	--
	9/6/2012	10.81	2.50	NP	8.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/2012	10.81	2.50	NP	8.31	<50	130	<0.50	<0.50	<0.50	<0.50	--	28	--	--	--	--	77	<5.0	--	--
	3/14/2013	10.81	2.63	NP	8.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/11/2013	10.81	3.31	NP	7.50	<50	190	<0.50	<0.50	<0.50	<0.50	--	44	--	--	--	--	97	<5.0	--	--
	9/10/2013	10.81	3.25	NP	7.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/12/2013	10.81	2.60	NP	8.21	<50	400	<0.50	<0.50	<0.50	<0.50	--	22	--	--	--	--	46	<5.0	--	--
	3/4/2014	10.81	2.38	NP	8.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6/12/2014	10.81	3.23	NP	7.58	<50	310	<0.50	<0.50	<0.50	<0.50	--	28	--	--	--	--	74	<5.0	--	--	
9/5/2014	10.81	3.62	NP	7.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
12/22/2014	10.81	2.07	NP	8.74	<50	250	<0.50	<0.50	<0.50	<0.50	--	15	--	--	--	--	35	<5.0	--	--	
3/16/2015	10.81	2.73	NP	8.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
6/11/2015	10.81	3.31	NP	7.50	63 HD	<250	<2.5	<5.0	<5.0	<5.0	--	21	--	--	--	--	85	<500	--	--	
9/9/2015	10.81	3.86	NP	6.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
12/8/2015	10.81	3.52	NP	7.29	<50	<250	<2.5	<5.0	<5.0	<5.0	--	16	--	--	--	--	160	<500	--	--	
MW-4	8/31/1992	NSVD	NG	NG	NG	90	240	ND	ND	ND	0.54	--	--	--	--	--	--	--	--	--	
	11/30/1992	NSVD	NG	NG	NG	61	420	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	
	2/4/1993	NSVD	NG	NG	NG	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	
	5/4/1993	9.00	4.09	NP	4.91	ND	110	0.95	ND	ND	ND	--	--	--	--	--	--	--	--	--	
	8/4/1993	9.00	5.01	NP	3.99	81	250	ND	3.5	ND	4.1	--	--	--	--	--	--	--	--	--	
	11/3/1993	8.41	4.23	NP	4.18	68	130	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	
	2/7/1994	8.41	3.35	NP	5.06	ND	56	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	
	5/19/1994	8.41	3.92	NP	4.49	90	140	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	
	6/25/1994	8.41	4.35	NP	4.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	7/27/1994	8.41	4.28	NP	4.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/15/1994	8.41	4.27	NP	4.14	72	59	ND	0.6	ND	ND	--	--	--	--	--	--	--	--	--	--
	11/14/1994	8.41	4.05	NP	4.36	ND	130	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
2/21/1995	NSVD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	
MW-5	8/31/1992	NSVD	NG	NG	NG	690	78	0.89	ND	ND	13	--	--	--	--	--	--	--	--	--	
	11/30/1992	NSVD	NG	NG	NG	470	930	70	290	0.79	14	--	--	--	--	--	--	--	--	--	
	2/4/1993	NSVD	NG	NG	NG	5,500	5,700	38	ND	620	170	--	--	--	--	--	--	--	--	--	
	5/4/1993	8.95	4.37	NP	4.58	4,600	7,400	41	ND	1,000	35	--	--	--	--	--	--	--	--	--	
	8/4/1993	8.95	5.81	NP	3.14	970	1,500	130	1	460	11	--	--	--	--	--	--	--	--	--	
	11/3/1993	8.95	5.68	NP	3.27	2,100	13,000	350	ND	3,500	530	--	--	--	--	--	--	--	--	--	
	2/7/1994	8.95	5.11	NP	3.84	830	2,000	87	ND	370	110	--	--	--	--	--	--	--	--	--	
	5/19/1994	8.95	5.09	NP	3.86	600	260	44	ND	32	4.1	--	--	--	--	--	--	--	--	--	
	6/25/1994	8.95	4.55	NP	4.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/27/1994	8.95	5.72	NP	3.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
8/15/1994	8.95	5.68	NP	3.27	860	1,600	110	ND	340	72	--	--	--	--	--	--	--	--	--	--	



**TABLE 3  
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA  
76 STATION NO. 5191/5043  
449 HEGENBERGER ROAD  
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)	TPHd (ug/L)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (SW8021B) (ug/L)	MTBE (SW8260B) (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	1,2-Dibromoethane (EDB) (ug/L)	1,2-Dichloroethane (ug/L)
MW-5	11/14/1994	8.95	5.63	NP	3.32	290	250	40	ND	ND	5	--	--	--	--	--	--	--	--	--
	2/21/1995	NSVD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD	WD
MW-6	8/31/1992	NSVD	NG	NG	NG	750	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
	11/30/1992	NSVD	NG	NG	NG	1,400	9,200	550	ND	740	1,600	--	--	--	--	--	--	--	--	--
	2/4/1993	NSVD	NG	NG	NG	890	3,600	340	ND	290	550	--	--	--	--	--	--	--	--	--
	5/4/1993	9.12	3.72	NP	5.40	1,800	4,900	360	18	450	430	--	--	--	--	--	--	--	--	--
	8/4/1993	9.12	5.15	NP	3.97	1,100	3,400	390	ND	440	190	--	--	--	--	--	--	--	--	--
	11/3/1993	8.87	5.25	NP	3.62	390	1,400	320	ND	200	7.7	--	--	--	--	--	--	--	--	--
	2/7/1994	8.87	4.55	NP	4.32	970	4,900	650	ND	250	35	--	--	--	--	--	--	--	--	--
	5/19/1994	8.87	4.62	NP	4.25	1,400	3,600	300	1.7	210	41	--	--	--	--	--	--	--	--	--
	8/15/1994	8.87	5.08	NP	3.79	790	1,300	130	6.7	54	57	--	--	--	--	--	--	--	--	--
	11/14/1994	8.87	5.30	NP	3.57	800	730	50	ND	ND	39	--	--	--	--	--	--	--	--	--
	2/21/1995	8.87	5.37	NP	3.50	730	2,000	250	4.6	25	30	--	--	--	--	--	--	--	--	--
	5/18/1995	8.87	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI
	8/17/1995	8.87	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI	WI
	7/26/1996	8.87	6.40	3.33	4.97	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	10/28/1996	8.87	4.10	0.21	4.93	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	11/13/1996	8.87	4.02	0.25	5.04	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	11/25/1996	8.87	4.01	0.75	5.42	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	12/4/1996	8.87	3.65	0.50	5.60	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	12/19/1996	8.87	4.80	2.20	5.72	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	1/8/1997	8.87	4.84	1.75	5.34	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	1/14/1997	8.87	4.51	1.15	5.22	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	1/27/1997	8.87	4.00	1.75	6.18	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	1/29/1997	8.87	3.24	0.31	5.86	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	2/11/1997	8.87	4.65	1.20	5.12	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	2/24/1997	8.87	4.81	1.10	4.89	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	3/10/1997	8.87	4.60	0.95	4.98	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	3/17/1997	8.87	4.50	0.89	5.04	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	3/31/1997	8.87	4.65	1.00	4.97	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	4/15/1997	8.87	4.90	1.03	4.74	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	4/28/1997	8.87	4.78	0.03	4.11	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	5/15/1997	8.87	4.60	0.25	4.46	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	5/27/1997	8.87	4.50	0.25	4.56	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	6/9/1997	8.87	4.60	0.20	4.42	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
6/24/1997	8.87	4.50	0.25	4.56	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	
7/9/1997	8.87	4.80	0.60	4.52	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	
7/15/1997	8.87	4.63	0.42	4.56	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	
7/21/1997	8.87	4.75	0.25	4.31	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	
8/6/1997	8.87	4.50	0.10	4.45	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	
8/20/1997	8.87	4.55	0.10	4.40	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	
9/2/1997	8.87	4.75	0.05	4.16	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	
10/9/1997	8.87	4.84	0.04	4.06	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	
1/14/1998	8.87	3.90	0.94	5.68	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	
2/12/1998	8.87	3.35	0.64	6.00	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	
3/3/1998	8.87	4.51	0.02	4.38	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	
4/1/1998	8.87	3.67	1.60	6.40	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	
5/26/1998	8.87	4.11	0.50	5.14	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	
6/15/1998	8.87	5.03	0.30	4.07	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	
7/15/1998	8.87	4.56	0.05	4.35	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	
8/21/1998	8.87	4.77	0.02	4.12	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	

**TABLE 3  
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA  
76 STATION NO. 5191/5043  
449 HEGENBERGER ROAD  
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)	TPHd (ug/L)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (SW8021B) (ug/L)	MTBE (SW8260B) (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	1,2-Dibromoethane (EDB) (ug/L)	1,2-Dichloroethane (ug/L)	
MW-6	9/30/1998	8.87	5.08	0.03	3.81	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	10/16/1998	8.87	4.31	2.40	6.36	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	11/6/1998	8.87	3.98	0.17	5.02	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	11/25/1998	8.87	3.92	0.10	5.03	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	12/28/1998	8.87	3.90	0.20	5.12	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	1/25/1999	8.87	4.18	0.60	5.14	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	2/22/1999	8.87	4.07	0.22	4.97	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	3/22/1999	8.87	4.32	0.15	4.66	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	4/15/1999	8.87	4.23	0.95	5.35	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	5/28/1999	8.87	4.38	0.39	4.78	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	6/29/1999	8.87	4.12	0.02	4.77	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	7/14/1999	8.87	4.20	0.03	4.69	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	8/23/1999	8.87	4.51	0.24	4.54	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	9/30/1999	8.87	4.17	0.17	4.83	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	10/21/1999	8.87	4.27	0.12	4.69	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	11/29/1999	8.87	4.18	NP	4.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/20/1999	8.87	4.26	0.01	4.62	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH	LPH
	1/20/2000	8.87	4.31	NP	4.56	67,600	130,000	2,900	8,600	2,000	16,000	ND	--	--	--	--	--	--	--	--	--
	2/26/2000	8.87	3.98	NP	4.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/31/2000	8.87	4.14	NP	4.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/13/2000	8.87	4.04	NP	4.83	8,700	140,000	5,000	14,000	3,600	27,000	7,700	--	--	--	--	--	--	--	--	--
	5/26/2000	8.87	4.41	NP	4.46	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/17/2000	8.87	4.35	NP	4.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	7/14/2000	8.87	4.47	NP	4.40	133,000	259,000	7,670	13,700	6,860	40,700	ND	ND	--	--	--	--	--	--	--	--
	8/24/2000	8.87	3.71	NP	5.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/27/2000	8.87	4.33	NP	4.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/26/2000	8.87	4.32	NP	4.55	61,000	110,000	7,000	6,200	3,700	12,000	670	43	--	--	--	--	--	--	--	--
	1/3/2001	8.87	4.52	NP	4.35	929	84,700	3,950	4,130	3,650	11,800	ND	ND	--	--	--	--	--	--	--	--
	4/4/2001	8.87	4.29	NP	4.58	18,000	69,800	2,060	2,840	3,650	10,900	ND	48	ND	ND	ND	ND	ND	ND	ND	ND
	7/17/2001	8.87	4.37	NP	4.50	20,000	100,000	3,200	3,300	3,400	12,000	ND	--	--	--	--	--	--	--	--	--
	10/1/2001	8.87	4.45	NP	4.42	24,000	110,000	3,200	2,400	4,500	13,000	<1000	--	--	--	--	--	--	--	--	--
	1/31/2002	8.87	4.03	NP	4.84	11,000	230,000	2,400	1,800	5,400	16,000	<2500	--	--	--	--	--	--	--	--	--
	4/18/2002	8.87	3.45	NP	5.42	3,500	94,000	6,800	13,000	3,000	19,000	<500	--	--	--	--	--	--	--	--	--
	7/28/2002	8.87	2.24	NP	6.63	27,000	110,000	530	170	3,200	7,300	--	<100	--	--	--	--	--	--	--	--
	10/9/2002	8.87	3.53	NP	5.34	170,000	970,000	10,000	39,000	13,000	94,000	--	<2000	--	--	--	--	--	--	--	--
	1/2/2003	8.87	2.34	NP	6.53	66,000	270,000	6,100	15,000	5,400	37,000	--	<200	--	--	--	--	--	--	--	--
	4/1/2003	8.87	3.17	NP	5.70	35,000	3,000,000	8,000	39,000	37,000	260,000	--	<2000	--	--	--	--	--	--	--	--
	7/1/2003	8.87	3.55	NP	5.32	11,000	38,000	2,100	990	2,700	6,500	--	<100	--	--	--	--	--	--	<25000	--
	10/2/2003	8.87	3.82	NP	5.05	<50	100,000	5,600	6,900	4,700	18,000	--	<800	--	--	--	--	--	--	<200000	--
	1/9/2004	8.87	2.80	NP	6.07	20,000	170,000	2,800	3,300	4,700	16,000	--	<200	--	--	--	--	--	--	<50000	--
4/26/2004	8.87	3.40	NP	5.47	13,000	97,000	5,900	9,000	5,100	23,000	--	<50	--	--	--	--	--	--	<5000	--	
7/22/2004	8.87	3.54	NP	5.33	33,000	110,000	4,100	5,100	4,000	16,000	--	<200	--	--	--	--	--	--	<300000	--	
10/29/2004	8.87	3.03	NP	5.84	78,000	100,000	5,200	6,100	4,200	15,000	--	<50	--	--	--	--	--	--	<5000	--	
1/10/2005	8.87	2.35	NP	6.52	12,000	71,000	1,600	3,700	2,100	9,900	--	<50	--	--	--	--	--	--	<5000	--	
6/15/2005	8.87	2.47	NP	6.40	16,000	130,000	800	1,800	2,200	9,300	--	<50	--	--	--	--	--	--	<5000	--	
9/27/2005	8.87	2.55	NP	6.32	2,500	13,000	82	120	430	990	--	0.56	1.8	<0.50	<0.50	<10	<250	--	--	--	
12/13/2005	8.87	3.28	NP	5.59	18,000	68,000	1,500	1,100	2,200	7,700	--	<50	--	--	--	--	--	--	<25000	--	
3/23/2006	8.87	2.87	NP	6.00	73,000	41,000	290	140	1,500	2,700	--	<50	--	--	--	--	--	--	<25000	--	
6/23/2006	8.87	3.15	NP	5.72	35,000	50,000	2,200	1,400	1,900	5,700	--	<12	--	--	--	--	--	--	<6200	--	
9/26/2006	8.87	3.08	NP	5.79	22,000	130,000	2,200	1,000	2,900	8,800	--	<50	--	--	--	--	--	--	<25000	--	
12/22/2006	8.87	2.90	NP	5.97	62,000	90,000	940	610	1,900	4,700	--	<50	--	--	--	--	--	--	<25000	--	

TABLE 3  
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA  
76 STATION NO. 5191/5043  
449 HEGENBERGER ROAD  
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)	TPHd (ug/L)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (SW8021B) (ug/L)	MTBE (SW8260B) (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	1,2-Dibromoethane (EDB) (ug/L)	1,2-Dichloroethane (ug/L)	
MW-6	3/30/2007	8.87	3.26	NP	5.61	62,000	210,000	1,100	560	3,400	12,000	--	<10	--	--	--	--	<5000	--	--	
	6/28/2007	8.87	3.46	NP	5.41	71,000	67,000	2,200	1,300	2,700	10,000	--	<25	--	--	--	--	<12000	--	--	
	9/25/2007	8.87	3.52	NP	5.35	58,000	56,000	2,900	720	2,400	9,000	--	<25	--	--	--	--	<12000	--	--	
	12/28/2007	8.87	3.27	NP	5.60	18,000	78,000	28,000	2,700	4,000	8,100	--	16,000	--	--	--	--	<12000	--	--	
	3/22/2008	8.87	2.48	NP	6.39	68,000	66,000	380	150	1,500	2,400	--	<25	--	--	--	--	<12000	--	--	
	6/23/2008	8.87	3.54	NP	5.33	68,000	59,000	1,600	130	1,800	4,100	--	25	--	--	--	--	<12000	--	--	
	9/19/2008	8.87	4.06	NP	4.81	180,000	65,000	2,000	230	2,000	4,500	--	<12	--	--	--	--	<6200	--	--	
	12/31/2008	8.87	3.45	NP	5.42	68,000	91,000	2,000	320	5,300	13,000	--	<50	--	--	--	--	<25000	--	--	
	3/27/2009	8.87	3.09	NP	5.78	170,000	150,000	1,300	240	2,800	7,200	--	<50	--	--	--	--	<25000	--	--	
	5/28/2009	8.87	3.49	NP	5.38	78,000	53,000	1,700	200	2,300	5,400	--	<50	--	--	--	--	<25000	--	--	
	9/17/2009	8.87	3.64	NP	5.23	250,000 T4	77,000	2,100	1,400	2,600	8,500	--	<12	--	--	--	--	<6200	--	--	
	12/17/2009	8.87	3.14	NP	5.73	30,300	59,100	1,730	199	2,260	5,460	--	20	--	--	--	--	<250	--	--	
	3/29/2010	8.87	3.16	NP	5.71	106,000	48,400	1,980	208	3,070	8,070	--	12	--	--	--	--	<250	--	--	
	6/30/2010	11.55	3.50	NP	8.05	170,000	78,700	2,130	281	2,860	8,400	--	6	--	--	--	--	<250	--	--	
	7/6/2010	11.55	3.49	NP	8.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/20/2010	11.55	3.75	NP	7.80	18,800	64,500	2,300	170	2,770	6,260	--	19	--	--	--	--	<250	--	--	
	12/8/2010	11.55	8.42	NP	3.13	28,700	78,400	1,300	1,680	3,490	20,600	--	11	--	--	--	--	<250	--	--	
	3/14/2011	11.55	3.40	NP	8.15	93,000	44,600	912	338	728	3,670	--	16	--	--	--	134	<250	--	--	
	6/2/2011	11.55	2.76	NP	8.79	33,700 T4	56,200	780	262	651	3,890	--	7	--	--	--	81.0	<250	--	--	
	9/7/2011	11.55	2.83	NP	8.72	6,780 T4	16,600	16	11	90	339	--	<0.50	--	--	--	--	<250	--	--	
	12/5/2011	11.55	3.56	NP	7.99	20,200 T4	64,600	646	95	924	4,050	--	15	--	--	--	--	<250	--	--	
	3/6/2012	11.55	3.43	NP	8.12	14,800 T4	55,000	1,020	131	1,320	4,730	--	19	--	--	--	316	<1250	--	--	
	6/11/2012	11.55	3.33	NP	8.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/12/2012	--	--	--	--	47,100 T4	33,400	773	61	840	3,110	--	11	--	--	--	123	<250	--	--	--
	9/6/2012	11.55	2.85	NP	8.70	<1000	24,000	450	51	610	1,800	--	6	<4.0	<4.0	<4.0	82	<40	<4.0	<4.0	<4.0
	12/13/2012	11.55	2.90	NP	8.65	470	20,000	200	16	350	1,100	--	<4.0	--	--	--	22	<40	--	--	--
	3/14/2013	11.55	3.69	NP	7.86	680	24,000	500	25	540	1,700	--	8	--	--	--	110	<40	--	--	--
	6/11/2013	11.55	3.86	NP	7.69	2,400	87,000	1,800	250	2,000	9,400	--	13	--	--	--	230	<40	--	--	--
9/10/2013	11.55	4.11	NP	7.44	470	28,000	440	19	530	1,500	--	10	--	--	--	170	<40	--	--	--	
12/12/2013	11.55	3.55	NP	8.00	100	15,000	220	13	270	660	--	9.5	--	--	--	120	<25	--	--	--	
3/4/2014	11.55	3.07	NP	8.48	580	33,000	490	19	620	1,800	--	13	--	--	--	160	<50	--	--	--	
6/12/2014	11.55	3.79	NP	7.76	570	35,000	390	17	690	1,600	--	12	--	--	--	180	<50	--	--	--	
9/5/2014	11.55	4.5	NP	7.05	3,100	28,000	720	29	920	2,400	--	12	--	--	--	200	<50	--	--	--	
12/22/2014	11.55	2.55	NP	9.00	250 A	49,000	2,000	120	1,600	7,700	--	9.7	--	--	--	150	<150	--	--	--	
3/16/2015	11.55	3.55	NP	8.00	160	72,800	4,070	181	3,050	15,900	--	2.8	--	--	--	56.2	71.8 2V	--	--	--	
6/11/2015	11.55	4.04	NP	7.51	36,000 HD	69,000	2,300	100	1,900	7,800	--	<50	--	--	--	<500	<5,000	--	--	--	
MW-7	5/27/1997	8.83	4.50	NP	4.33	--	68	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	
	6/1/1997	8.83	4.54	NP	4.29	69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	7/15/1997	8.83	4.70	NP	4.13	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
	10/9/1997	8.83	4.30	NP	4.53	190	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
	1/14/1998	8.83	2.88	NP	5.95	65	ND	ND	ND	ND	ND	36	--	--	--	--	--	--	--	--	--
	4/1/1998	8.83	3.13	NP	5.70	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
	7/15/1998	8.83	4.45	NP	4.38	74	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
	10/16/1998	8.83	3.45	NP	5.38	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
	1/25/1999	8.83	3.22	NP	5.61	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
	4/15/1999	8.83	3.11	NP	5.72	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
	7/14/1999	8.83	3.34	NP	5.49	69	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
	10/21/1999	8.83	3.43	NP	5.40	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
	1/20/2000	8.83	3.29	NP	5.54	ND	ND	ND	ND	ND	ND	4.2	--	--	--	--	--	--	--	--	--
	4/13/2000	8.83	3.39	NP	5.44	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
7/14/2000	8.83	4.42	NP	4.41	68.0	ND	ND	ND	ND	ND	7.83	--	--	--	--	--	--	--	--	--	

**TABLE 3  
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA  
76 STATION NO. 5191/5043  
449 HEGENBERGER ROAD  
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)	TPHd (ug/L)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (SW8021B) (ug/L)	MTBE (SW8260B) (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	1,2-Dibromoethane (EDB) (ug/L)	1,2-Dichloroethane (ug/L)
MW-7	7/17/2001	8.83	5.06	NP	3.77	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--
	10/1/2001	8.83	4.98	NP	3.85	<51	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--	--	--	--	--	--	--
	1/31/2002	8.83	3.88	NP	4.95	90	<50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	--	--	--	--	--	--
	4/18/2002	8.83	4.03	NP	4.80	78	<50	<0.50	<0.50	<0.50	<0.50	5.7	--	--	--	--	--	--	--	--
	7/28/2002	8.83	3.59	NP	5.24	<50	<50	<0.50	<0.50	<0.50	<1.0	--	3.9	--	--	--	--	--	--	--
	10/9/2002	8.83	4.53	NP	4.30	<96	<50	<0.50	<0.50	<0.50	<1.0	--	3.9	--	--	--	--	--	--	--
	1/3/2003	8.83	3.36	NP	5.47	78	<50	<0.50	<0.50	<0.50	<1.0	--	<2.0	--	--	--	--	--	--	--
	4/1/2003	8.83	3.94	NP	4.89	67	71	<0.50	<0.50	0.71	<1.0	--	3.4	--	--	--	--	--	--	--
	7/1/2003	8.83	4.60	NP	4.23	68	64	<0.50	<0.50	0.77	2.0	--	35	--	--	--	--	<500	--	--
	10/2/2003	8.83	5.46	NP	3.37	82	<50	<0.50	<0.50	<0.50	<1.0	--	4.9	--	--	--	--	<500	--	--
	1/9/2004	8.83	3.55	NP	5.28	75	54	<0.50	<0.50	<0.50	<1.0	--	2.4	--	--	--	--	<500	--	--
	4/26/2004	8.83	4.49	NP	4.34	<50	<50	<0.50	<0.50	<0.50	1.5	--	2.3	--	--	--	--	<50	--	--
	7/22/2004	8.83	4.93	NP	3.90	<200	82	0.90	2.0	3.5	9.9	--	1.4	--	--	--	--	<1000	--	--
	10/29/2004	8.83	3.71	NP	5.12	54	210	0.67	1.6	1.7	5.8	--	<0.50	--	--	--	--	<50	--	--
	1/10/2005	8.83	2.77	NP	6.06	<50	74	0.51	2.2	1.7	7.0	--	<0.50	--	--	--	--	<50	--	--
	6/15/2005	8.83	3.40	NP	5.43	<50	<50	<0.50	<0.50	<0.50	<1.0	--	0.88	--	--	--	--	<50	--	--
	9/27/2005	8.83	3.44	NP	5.39	<200	<50	0.59	1.2	<0.50	<1.0	--	0.96	<0.50	<0.50	<0.50	<10	<250	--	--
	12/13/2005	8.83	3.98	NP	4.85	<200	<50	<0.50	<0.50	<0.50	<1.0	--	0.65	--	--	--	--	<250	--	--
	3/23/2006	8.83	3.37	NP	5.46	<200	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--
	6/23/2006	8.83	5.25	NP	3.58	<200	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--
	9/26/2006	8.83	4.13	NP	4.70	<50	<50	<0.50	<0.50	<0.50	<0.50	--	0.77	--	--	--	--	<250	--	--
	12/22/2006	8.83	3.63	NP	5.20	630	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	--	<250	--	--
	3/30/2007	8.83	4.31	NP	4.52	94	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	--	<250	--	--
	6/28/2007	8.83	4.62	NP	4.21	<50	<50	<0.50	<0.50	<0.50	<0.50	--	0.54	--	--	--	--	<250	--	--
	9/25/2007	8.83	4.65	NP	4.18	<50	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	--	<250	--	--
	12/28/2007	8.83	3.99	NP	4.84	75	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--
	3/22/2008	8.83	4.08	NP	4.75	<50	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--
	6/23/2008	8.83	4.10	NP	4.73	<50	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--
	9/19/2008	8.83	4.86	NP	3.97	<50	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--
	12/31/2008	8.83	4.17	NP	4.66	<50	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--
	3/27/2009	8.83	4.00	NP	4.83	<50	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--
	5/28/2009	8.83	4.71	NP	4.12	<50	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--
	9/17/2009	8.83	4.87	NP	3.96	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/29/2010	8.83	WI	WI	WI	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/30/2010	11.64	4.45	NP	7.19	66.0	<50.0	<0.50	<0.50	<0.50	<1.5	--	<0.50	--	--	--	--	<250	--	--
	7/6/2010	11.64	4.63	NP	7.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/20/2010	11.64	4.85	NP	6.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/8/2010	11.64	3.99	NP	7.65	57.7	<50.0	<0.50	<0.50	<0.50	<1.5	--	<0.50	--	--	--	--	<250	--	--
	3/14/2011	11.64	3.81	NP	7.83	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/2/2011	11.64	3.90	NP	7.74	63.0 T4	--	<0.50	<0.50	<0.50	<1.5	--	<0.50	--	--	--	<5.0	<250	--	--
9/7/2011	11.64	3.72	NP	7.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
12/5/2011	11.64	4.60	NP	7.04	<50.0	--	<0.50	<0.50	<0.50	<1.5	--	<0.50	--	--	--	--	<250	--	--	
3/6/2012	11.64	4.54	NP	7.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
6/11/2012	11.64	4.93	NP	6.71	<37.9	--	<0.50	<0.50	<0.50	<1.5	--	<0.50	--	--	--	<5.0	<250	--	--	
9/6/2012	11.64	4.03	NP	7.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
12/13/2012	11.64	3.43	NP	8.21	<50	--	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	<5.0	<5.0	--	--	
3/14/2013	11.64	4.9	NP	6.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
6/11/2013	11.64	6.92	NP	4.72	96	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	7	<5.0	--	--	
9/10/2013	11.64	6.54	NP	5.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
12/12/2013	11.64	4.60	NP	7.04	<50	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	<5.0	<5.0	--	--	
3/4/2014	11.64	3.42	NP	8.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

**TABLE 3  
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA  
76 STATION NO. 5191/5043  
449 HEGENBERGER ROAD  
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)	TPHd (ug/L)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (SW8021B) (ug/L)	MTBE (SW8260B) (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	1,2-Dibromoethane (EDB) (ug/L)	1,2-Dichloroethane (ug/L)
MW-7	6/12/2014	11.64	5.76	NP	5.88	<50	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	<5.0	<5.0	--	--
MW-8	5/27/1997	8.52	3.42	NP	5.10	--	310	0.88	0.67	15	70	ND	--	--	--	--	--	--	--	--
	6/1/1997	8.52	3.46	NP	5.06	320	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	7/15/1997	8.52	3.49	NP	5.03	ND	ND	ND	ND	2.7	3.8	ND	--	--	--	--	--	--	--	--
	10/9/1997	8.52	3.73	NP	4.79	390	590	1.4	ND	32	4.1	ND	--	--	--	--	--	--	--	--
	1/14/1998	8.52	1.92	NP	6.60	230	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--
	4/1/1998	8.52	2.38	NP	6.14	510	ND	ND	ND	ND	ND	4.7	--	--	--	--	--	--	--	--
	7/15/1998	8.52	3.53	NP	4.99	140	ND	ND	ND	0.56	1.1	ND	--	--	--	--	--	--	--	--
	10/16/1998	8.52	3.04	NP	5.48	170	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--
	1/25/1999	8.52	2.92	NP	5.60	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--
	4/15/1999	8.52	2.40	NP	6.12	91	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--
	7/14/1999	8.52	3.03	NP	5.49	120	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--
	10/21/1999	8.52	3.11	NP	5.41	110	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--
	1/20/2000	8.52	3.06	NP	5.46	583	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--
	4/13/2000	8.52	2.84	NP	5.68	80	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--
	7/14/2000	8.52	3.39	NP	5.13	113	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--
	7/17/2001	8.52	3.46	NP	5.06	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--
	10/1/2001	8.52	3.51	NP	5.01	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--	--	--	--	--	--
	1/31/2002	8.52	2.75	NP	5.77	260	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	--	--	--	--	--
	4/18/2002	8.52	2.98	NP	5.54	160	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.5	--	--	--	--	--	--	--
	7/28/2002	8.52	2.41	NP	6.11	140	<50	<0.50	<0.50	<0.50	<1.0	--	<2.0	--	--	--	--	--	--	--
	10/9/2002	8.52	2.09	NP	6.43	120	<50	<0.50	<0.50	<0.50	<1.0	--	<2.0	--	--	--	--	--	--	--
	1/2/2003	8.52	1.98	NP	6.54	210	<50	<0.50	<0.50	<0.50	<1.0	--	<2.0	--	--	--	--	--	--	--
	4/1/2003	8.52	2.66	NP	5.86	220	<50	<0.50	<0.50	<0.50	<1.0	--	<2.0	--	--	--	--	--	--	--
	7/1/2003	8.52	3.08	NP	5.44	170	<50	<0.50	<0.50	<0.50	<1.0	--	<2.0	--	--	--	--	<500	--	--
	10/2/2003	8.52	3.89	NP	4.63	350	540	3.9	15	29	80	--	<2.0	--	--	--	--	<500	--	--
	1/9/2004	8.52	2.38	NP	6.14	180	<50	<0.50	<0.50	<0.50	<1.0	--	<2.0	--	--	--	--	<500	--	--
	4/26/2004	8.52	2.89	NP	5.63	100	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<50	--	--
	7/22/2004	8.52	3.25	NP	5.27	250	<50	<0.5	<0.5	<0.5	<1	--	<0.5	--	--	--	--	<1000	--	--
	10/29/2004	8.52	3.06	NP	5.46	120	<50	<0.50	<0.50	0.82	2.5	--	<0.50	--	--	--	--	<50	--	--
	1/10/2005	8.52	1.92	NP	6.60	140	58	<0.50	0.61	1.2	4.0	--	<0.50	--	--	--	--	<50	--	--
	6/15/2005	8.52	2.22	NP	6.30	140	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<50	--	--
	9/27/2005	8.52	2.43	NP	6.09	<200	<50	<0.50	<0.50	1.2	<1.0	--	<0.50	<0.50	<0.50	<0.50	<10	<250	--	--
	12/13/2005	8.52	2.89	NP	5.63	<200	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--
3/23/2006	8.52	2.12	NP	6.40	<200	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--	
6/23/2006	8.52	2.65	NP	5.87	<230	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--	
9/26/2006	8.52	2.75	NP	5.77	110	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	--	<250	--	--	
12/22/2006	8.52	2.58	NP	5.94	100	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	--	<250	--	--	
3/30/2007	8.52	2.74	NP	5.78	120	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	--	<250	--	--	
6/28/2007	8.52	2.90	NP	5.62	140	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	--	<250	--	--	
9/25/2007	8.52	3.26	NP	5.26	110	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	--	<250	--	--	
12/28/2007	8.52	2.64	NP	5.88	110	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--	
3/22/2008	8.52	2.31	NP	6.21	<50	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--	
6/23/2008	8.52	3.13	NP	5.39	<58	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--	
9/19/2008	8.52	3.72	NP	4.80	79	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--	
12/31/2008	8.52	2.98	NP	5.54	110	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--	
3/27/2009	8.52	2.49	NP	6.03	89	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--	
5/28/2009	8.52	3.12	NP	5.40	91	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--	
9/17/2009	8.52	3.63	NP	4.89	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
3/29/2010	8.52	WI	WI	WI	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
6/30/2010	11.32	2.60	NP	8.72	182	<50.0	<0.50	<0.50	<0.50	<1.5	--	<0.50	--	--	--	--	<250	--	--	

**TABLE 3**  
**HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA**  
**76 STATION NO. 5191/5043**  
**449 HEGENBERGER ROAD**  
**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)	TPHd (ug/L)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (SW8021B) (ug/L)	MTBE (SW8260B) (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	1,2-Dibromoethane (EDB) (ug/L)	1,2-Dichloroethane (ug/L)
MW-8	7/6/2010	11.32	3.03	NP	8.29	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/20/2010	11.32	3.33	NP	7.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/8/2010	11.32	2.82	NP	8.50	<b>116</b>	<50.0	<0.50	<0.50	<0.50	<1.5	--	<0.50	--	--	--	--	<250	--	--
	3/14/2011	11.32	3.84	NP	7.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/2/2011	11.32	2.77	NP	8.55	--	<50.0	<0.50	<0.50	<0.50	<1.5	--	<0.50	--	--	--	--	<5.0	<250	--
	9/7/2011	11.32	2.84	NP	8.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/5/2011	11.32	2.68	NP	8.64	<50.0	<50.0	<0.50	<0.50	<0.50	<1.5	--	<0.50	--	--	--	--	<250	--	--
	3/6/2012	11.32	3.07	NP	8.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/11/2012	11.32	3.08	NP	8.24	<37.9	<50.0	<0.50	<0.50	<0.50	<1.5	--	<0.50	--	--	--	<b>8.3</b>	<250	--	--
	9/6/2012	11.32	2.91	NP	8.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/13/2012	11.32	2.31	NP	9.01	<50	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	--	<5.0	<5.0	--
	3/14/2013	11.32	3.19	NP	8.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/11/2013	11.32	3.4	NP	7.92	<50	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	--	<5.0	<5.0	--
	9/10/2013	11.32	3.54	NP	7.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
12/12/2013	11.32	2.80	NP	8.52	<50	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	--	<5.0	<5.0	--	
3/4/2014	11.32	2.88	NP	8.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
6/12/2014	11.32	3.24	NP	8.08	<50	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	--	<5.0	<5.0	--	
MW-9	2/21/1995	8.29	1.98	NP	6.31	<b>71</b>	<b>70</b>	ND	ND	ND	ND	--	--	--	--	--	--	--	--	
	5/18/1995	8.29	3.47	NP	4.82	ND	<b>52</b>	ND	<b>1.1</b>	ND	<b>1.9</b>	--	--	ND	--	--	--	--	--	
	8/17/1995	8.29	1.49	NP	6.80	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	
	7/26/1996	8.29	0.28	NP	8.01	<b>98</b>	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	
	10/28/1996	8.29	1.15	NP	7.14	<b>99</b>	ND	ND	ND	ND	ND	<b>7.6</b>	--	--	--	--	--	--	--	
	1/29/1997	8.29	1.05	NP	7.24	<b>54</b>	ND	ND	ND	ND	ND	<b>5.4</b>	--	--	--	--	--	--	--	
	4/15/1997	8.29	1.88	NP	6.41	<b>94</b>	ND	ND	ND	ND	ND	<b>5.4</b>	--	--	--	--	--	--	--	
	5/27/1997	8.29	1.05	NP	7.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	7/15/1997	8.29	1.90	NP	6.39	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	
	10/9/1997	8.29	1.76	NP	6.53	<b>160</b>	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	
	1/14/1998	8.29	1.26	NP	7.03	<b>110</b>	ND	ND	ND	ND	ND	<b>3.0</b>	--	--	--	--	--	--	--	
	4/1/1998	8.29	0.85	NP	7.44	<b>110</b>	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	
	7/15/1998	8.29	1.52	NP	6.77	<b>200</b>	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	
	10/16/1998	8.29	0.81	NP	7.48	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	
	1/25/1999	8.29	0.92	NP	7.37	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	
	4/15/1999	8.29	0.90	NP	7.39	ND	<b>75</b>	<b>21</b>	ND	ND	<b>1.1</b>	<b>680</b>	--	--	--	--	--	--	--	
	7/14/1999	8.29	1.04	NP	7.25	<b>140</b>	ND	<b>1.9</b>	ND	ND	ND	<b>260</b>	--	--	--	--	--	--	--	
	10/21/1999	8.29	1.23	NP	7.06	<b>210</b>	ND	ND	ND	ND	ND	<b>170</b>	--	--	--	--	--	--	--	
	1/20/2000	8.29	1.18	NP	7.11	<b>519</b>	ND	<b>1.1</b>	ND	ND	ND	<b>35</b>	--	--	--	--	--	--	--	
	4/13/2000	8.29	1.08	NP	7.21	<b>81</b>	<b>160</b>	<b>0.64</b>	ND	ND	ND	<b>53</b>	--	--	--	--	--	--	--	
	7/14/2000	8.29	1.43	NP	6.86	<b>107</b>	ND	ND	ND	ND	ND	<b>20.2</b>	--	--	--	--	--	--	--	
	10/26/2000	8.29	1.38	NP	6.91	<b>240</b>	<b>240</b>	<b>2.9</b>	ND	ND	ND	<b>56</b>	--	--	--	--	--	--	--	
	1/3/2001	8.29	1.66	NP	6.63	<b>164</b>	<b>166</b>	<b>0.763</b>	<b>0.776</b>	ND	<b>1.28</b>	<b>50.2</b>	--	--	--	--	--	--	--	
	4/4/2001	8.29	1.27	NP	7.02	<b>240</b>	<b>296</b>	<b>0.738</b>	ND	ND	0.907	<b>135</b>	--	--	--	--	--	--	--	
	7/17/2001	8.29	1.38	NP	6.91	ND	ND	ND	ND	ND	ND	<b>13</b>	--	--	--	--	--	--	--	
	10/1/2001	8.29	1.93	NP	6.36	<52	<b>51</b>	<0.50	<0.50	<0.50	<0.50	<b>5.0</b>	--	--	--	--	--	--	--	
	1/31/2002	8.29	2.08	NP	6.21	<b>200</b>	<50	<0.50	<0.50	<0.50	<0.50	<b>5.8</b>	--	--	--	--	--	--	--	
	4/18/2002	8.29	1.76	NP	6.53	<50	<50	<0.50	<0.50	<0.50	<0.50	<b>5.1</b>	--	--	--	--	--	--	--	
7/28/2002	8.29	1.57	NP	6.72	<50	<50	<0.50	<0.50	<0.50	<1.0	--	<b>3.5</b>	--	--	--	--	--	--		
10/9/2002	8.29	1.45	NP	6.84	<b>100</b>	<50	<0.50	<0.50	<0.50	<1.0	--	<b>17</b>	--	--	--	--	--	--		
1/2/2003	8.29	1.18	NP	7.11	<50	<50	<0.50	<0.50	<0.50	<1.0	--	<b>8.6</b>	--	--	--	--	--	--		
4/1/2003	8.29	2.04	NP	6.25	56	<50	<0.50	<0.50	<0.50	<1.0	--	<b>9.4</b>	--	--	--	--	--	--		
7/1/2003	8.29	2.80	NP	5.49	<50	<50	<0.50	<0.50	<0.50	<1.0	--	<b>3.2</b>	--	--	--	--	<500	--		
10/2/2003	8.29	2.70	NP	5.59	<50	<50	<0.50	<0.50	<0.50	<1.0	--	<2.0	--	--	--	--	<500	--		



**TABLE 3  
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA  
76 STATION NO. 5191/5043  
449 HEGENBERGER ROAD  
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)	TPHd (ug/L)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (SW8021B) (ug/L)	MTBE (SW8260B) (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	1,2-Dibromoethane (EDB) (ug/L)	1,2-Dichloroethane (ug/L)	
MW-9	1/9/2004	8.29	1.90	NP	6.39	91	74	<0.50	0.98	2.3	6.2	--	<2.0	--	--	--	--	<500	--	--	
	4/26/2004	8.29	1.62	NP	6.67	<50	51	<0.50	<0.50	<0.50	<1.0	--	0.51	--	--	--	--	<50	--	--	
	7/22/2004	8.29	1.88	NP	6.41	<200	<50	<0.5	<0.5	<0.5	<1	--	0.78	--	--	--	--	<1000	--	--	
	10/29/2004	8.29	1.28	NP	7.01	76	<50	<0.50	<0.50	<0.50	1.0	--	<0.50	--	--	--	--	<50	--	--	
	1/10/2005	8.29	0.07	NP	8.22	77	93	0.60	2.3	2.4	9.0	--	<0.50	--	--	--	--	<50	--	--	
	6/15/2005	8.29	1.70	NP	6.59	67	<50	<0.50	<0.50	<0.50	<1.0	--	6.6	--	--	--	--	<50	--	--	
	9/27/2005	8.29	1.98	NP	6.31	<200	<50	<0.50	0.73	<0.50	<1.0	--	2.3	<0.50	<0.50	<0.50	<10	<250	--	--	
	12/13/2005	8.29	2.26	NP	6.03	<200	<50	<0.50	<0.50	<0.50	<1.0	--	2.9	--	--	--	--	<250	--	--	
	3/23/2006	8.29	1.32	NP	6.97	<200	<50	<0.50	<0.50	<0.50	<1.0	--	2.7	--	--	--	--	<250	--	--	
	6/23/2006	8.29	1.98	NP	6.31	<200	<50	<0.50	<0.50	<0.50	<1.0	--	1.9	--	--	--	--	<250	--	--	
	9/26/2006	8.29	2.52	NP	5.77	<50	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	--	<250	--	--	
	12/22/2006	8.29	1.98	NP	6.31	150	<50	<0.50	0.57	1.8	4.6	--	1.6	--	--	--	--	<250	--	--	
	3/30/2007	8.29	2.01	NP	6.28	72	<50	<0.50	<0.50	<0.50	<0.50	--	3.4	--	--	--	--	<250	--	--	
	6/28/2007	8.29	1.90	NP	6.39	1000	<50	<0.50	<0.50	<0.50	<0.50	--	4.9	--	--	--	--	<250	--	--	
	9/25/2007	8.29	1.57	NP	6.72	100	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	--	<250	--	--	
	12/28/2007	8.29	1.98	NP	6.31	56	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--	
	3/22/2008	8.29	0.80	NP	7.49	<50	<50	<0.50	<0.50	<0.50	<1.0	--	0.61	--	--	--	--	<250	--	--	
	6/23/2008	8.29	1.80	NP	6.49	<50	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--	
	9/19/2008	8.29	2.43	NP	5.86	56	<50	<0.50	<0.50	<0.50	<1.0	--	3.9	--	--	--	--	<250	--	--	
	12/31/2008	8.29	2.66	NP	5.63	<50	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--	
	3/27/2009	8.29	2.01	NP	6.28	<50	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--	
	5/28/2009	8.29	2.20	NP	6.09	<50	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--	
	9/17/2009	8.29	1.83	NP	6.46	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/17/2009	8.29	1.52	NP	6.77	105	<50.0	<0.50	<0.50	<0.50	<1.5	--	<0.50	--	--	--	--	<250	--	--	
	3/29/2010	8.29	2.21	NP	6.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/30/2010	10.94	2.32	NP	8.62	95.0	<50.0	<0.50	<0.50	<0.50	<1.5	--	0.85	--	--	--	--	<250	--	--	
	7/6/2010	10.94	2.02	NP	8.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/20/2010	10.94	2.03	NP	8.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/8/2010	10.94	1.77	NP	9.17	<50.0	<50.0	<0.50	<0.50	<0.50	<1.5	--	<0.50	--	--	--	--	<250	--	--	
	3/14/2011	10.94	2.24	NP	8.70	<50.0	<50.0	<0.50	<0.50	<0.50	<1.5	--	<0.50	--	--	--	<5.0	<250	--	--	
	6/2/2011	10.94	2.24	NP	8.70	<50.0	<50.0	<0.50	<0.50	<0.50	<1.5	--	<0.50	--	--	--	<5.0	<250	--	--	
	9/7/2011	10.94	2.46	NP	8.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
12/5/2011	10.94	2.43	NP	8.51	<50.0	<50.0	<0.50	<0.50	<0.50	<1.5	--	4.0	--	--	--	--	<250	--	--		
3/6/2012	10.94	3.03	NP	7.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
6/11/2012	10.94	1.75	NP	9.19	<37.9	<50.0	<0.50	<0.50	<0.50	<1.5	--	<0.50	--	--	--	<5.0	<250	--	--		
9/6/2012	10.94	1.24	NP	9.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
12/13/2012	10.94	1.80	NP	9.14	<50	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	<5.0	<5.0	--	--	--	
3/14/2013	10.94	2.38	NP	8.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
6/11/2013	10.94	2.81	NP	8.13	<50	<50	<0.50	<0.50	<0.50	<0.50	--	4.2	--	--	--	<5.0	<5.0	--	--	--	
9/10/2013	10.94	2.63	NP	8.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
12/12/2013	10.94	1.78	NP	9.16	<50	<50	<0.50	<0.50	<0.50	<0.50	--	0.56	--	--	--	<5.0	<5.0	--	--	--	
3/4/2014	10.94	1.93	NP	9.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
6/12/2014	10.94	2.39	NP	8.55	<50	<50	<0.50	<0.50	<0.50	<0.50	--	3.3	--	--	--	<5.0	<5.0	--	--	--	
9/5/2014	10.94	3.49	NP	7.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
12/22/2014	10.94	1.58	NP	9.36	<50	<50	<0.50	<0.50	<0.50	<0.50	--	5.2	--	--	--	<5.0	<5.0	--	--	--	
3/16/2015	10.94	2.42	NP	8.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
6/11/2015	10.94	2.95	NP	7.99	<50	<100	<1.0	<2.0	<2.0	<2.0	--	3.8	--	--	--	<20	<200	--	--	--	
9/9/2015	10.94	3.72	NP	7.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
12/8/2015	10.94	3.09	NP	7.85	<54	<50	<0.50	<1.0	<1.0	<1.0	--	4.6	--	--	--	<10	<100	--	--	--	
MW-10	2/21/1995	8.62	4.69	NP	3.93	270	1500	250	26	9.1	160	--	--	--	--	--	--	--	--	--	
	5/18/1995	8.62	4.92	NP	3.70	75	810	520	ND	18	23	--	--	--	--	--	--	--	--	--	

**TABLE 3  
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA  
76 STATION NO. 5191/5043  
449 HEGENBERGER ROAD  
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)	TPHd (ug/L)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (SW8021B) (ug/L)	MTBE (SW8260B) (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	1,2-Dibromoethane (EDB) (ug/L)	1,2-Dichloroethane (ug/L)
MW-10	8/17/1995	8.62	4.05	NP	4.57	ND	67	25	ND	2.4	ND	--	--	--	--	--	--	--	--	--
	7/26/1996	8.62	4.08	NP	4.54	ND	ND	3.7	ND	ND	ND	ND	--	--	--	--	--	--	--	--
	10/28/1996	8.62	4.09	NP	4.53	ND	ND	1.1	ND	ND	ND	ND	--	--	--	--	--	--	--	--
	1/29/1997	8.62	2.94	NP	5.68	ND	210	41	0.67	7.2	4.8	11	--	--	--	--	--	--	--	--
	4/15/1997	8.62	4.07	NP	4.55	ND	110	12	ND	0.77	ND	9.7	--	--	--	--	--	--	--	--
	5/27/1997	8.62	4.40	NP	4.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	7/15/1997	8.62	4.19	NP	4.43	ND	ND	2.1	ND	0.67	0.73	ND	--	--	--	--	--	--	--	--
	10/9/1997	8.62	4.75	NP	3.87	ND	190	38	0.92	6.6	7.6	ND	--	--	--	--	--	--	--	--
	1/14/1998	8.62	2.66	NP	5.96	--	59	9.5	0.85	1.2	1.7	4.5	--	--	--	--	--	--	--	--
	4/1/1998	8.62	3.45	NP	5.17	62	230	66	1.7	12	17	6.4	--	--	--	--	--	--	--	--
	7/15/1998	8.62	4.21	NP	4.41	78	290	98	45	21	38	21	--	--	--	--	--	--	--	--
	10/16/1998	8.62	4.11	NP	4.51	ND	160	44	0.96	2.5	10	17	--	--	--	--	--	--	--	--
	1/25/1999	8.62	3.26	NP	5.36	ND	140	27	ND	2.8	6.8	23	--	--	--	--	--	--	--	--
	4/15/1999	8.62	3.63	NP	4.99	ND	120	18	ND	1.8	5.1	14	--	--	--	--	--	--	--	--
	7/14/1999	8.62	3.89	NP	4.73	180	280	55	3.2	11	31	6.1	--	--	--	--	--	--	--	--
	10/21/1999	8.62	4.09	NP	4.53	96	140	22	0.59	1.7	7.7	5.3	--	--	--	--	--	--	--	--
	1/20/2000	8.62	3.92	NP	4.70	252	ND	0.73	0.86	ND	ND	5.2	--	--	--	--	--	--	--	--
	4/13/2000	8.62	3.85	NP	4.77	69	67	54	ND	2.6	ND	3.8	--	--	--	--	--	--	--	--
	7/14/2000	8.62	4.18	NP	4.44	149	ND	0.547	ND	ND	ND	ND	--	--	--	--	--	--	--	--
	10/26/2000	8.62	3.96	NP	4.66	83	ND	3.3	ND	0.83	1.5	ND	--	--	--	--	--	--	--	--
	1/3/2001	8.62	4.14	NP	4.48	126	52.7	5.15	ND	0.823	1.57	ND	--	--	--	--	--	--	--	--
	4/4/2001	8.62	3.88	NP	4.74	75	129	28.1	1.67	4.97	10.1	ND	--	--	--	--	--	--	--	--
	7/17/2001	8.62	4.08	NP	4.54	ND	ND	4.1	ND	1.0	1.8	ND	--	--	--	--	--	--	--	--
	10/1/2001	8.62	4.22	NP	4.40	100	140	30	0.51	4.0	12	<5.0	--	--	--	--	--	--	--	--
	1/31/2002	8.62	3.68	NP	4.94	170	110	16	<0.50	2.3	5.6	<2.5	--	--	--	--	--	--	--	--
	4/18/2002	8.62	4.01	NP	4.61	130	<50	11	<0.50	1.4	4.5	<2.5	--	--	--	--	--	--	--	--
	7/28/2002	8.62	4.11	NP	4.51	58	67	15	<0.50	0.94	7.3	--	<2.0	--	--	--	--	--	--	--
	10/9/2002	8.62	3.97	NP	4.65	<94	<50	0.67	<0.50	<0.50	<1.0	--	<2.0	--	--	--	--	--	--	--
	1/2/2003	8.62	3.03	NP	5.59	64	<50	<0.50	<0.50	<0.50	<1.0	--	<2.0	--	--	--	--	--	--	--
	4/1/2003	8.62	3.83	NP	4.79	76	<50	11	<0.50	<0.50	<1.0	--	<2.0	--	--	--	--	--	--	--
	7/1/2003	8.62	4.13	NP	4.49	87	<50	<0.50	<0.50	<0.50	<1.0	--	<2.0	--	--	--	--	<500	--	--
	10/2/2003	8.62	4.05	NP	4.57	160	77	9.9	0.78	2.3	4.9	--	<2.0	--	--	--	--	<500	--	--
	1/9/2004	8.62	3.40	NP	5.22	74	53	1.2	<0.50	0.70	1.6	--	<2.0	--	--	--	--	<500	--	--
	4/26/2004	8.62	3.89	NP	4.73	<50	<50	2.8	1.3	1.0	2.9	--	<0.50	--	--	--	--	<50	--	--
	7/22/2004	8.62	3.73	NP	4.89	<200	<50	<0.5	<0.5	<0.5	<1	--	<0.5	--	--	--	--	<1000	--	--
	10/29/2004	8.62	3.41	NP	5.21	<50	100	2.0	1.2	1.1	3.6	--	<0.50	--	--	--	--	<50	--	--
	1/10/2005	8.62	2.68	NP	5.94	94	84	7.8	2.7	2.2	8.9	--	<0.50	--	--	--	--	<50	--	--
	6/15/2005	8.62	4.63	NP	3.99	62	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<50	--	--
	9/27/2005	8.62	3.96	NP	4.66	<200	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	<0.50	<0.50	<0.50	<10	<250	--	--
	12/13/2005	8.62	3.75	NP	4.87	<200	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--
3/23/2006	8.62	3.13	NP	5.49	<200	50	13	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--	
6/23/2006	8.62	3.90	NP	4.72	<200	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--	
9/26/2006	8.62	3.66	NP	4.96	<50	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	--	<250	--	--	
12/22/2006	8.62	3.56	NP	5.06	81	<50	<0.50	<0.50	<0.50	1.8	--	<0.50	--	--	--	--	<250	--	--	
3/30/2007	8.62	3.93	NP	4.69	82	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	--	<250	--	--	
6/28/2007	8.62	4.03	NP	4.59	57	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	--	<250	--	--	
9/25/2007	8.62	3.91	NP	4.71	82	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	--	<250	--	--	
12/28/2007	8.62	3.64	NP	4.98	62	<50	2.1	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--	
3/22/2008	8.62	4.00	NP	4.62	<50	64	13	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--	
6/23/2008	8.62	3.90	NP	4.72	<50	94	30	0.53	3.4	3.5	--	<0.50	--	--	--	--	<250	--	--	
9/19/2008	8.62	3.85	NP	4.77	<50	130	15	1.7	5.7	11	--	<0.50	--	--	--	--	<250	--	--	



TABLE 3  
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA  
76 STATION NO. 5191/5043  
449 HEGENBERGER ROAD  
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)	TPHd (ug/L)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (SW8021B) (ug/L)	MTBE (SW8260B) (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	1,2-Dibromoethane (EDB) (ug/L)	1,2-Dichloroethane (ug/L)	
MW-10	12/31/2008	8.62	3.69	NP	4.93	<50	82	11	<0.50	0.81	1.7	--	<0.50	--	--	--	--	<250	--	--	
	3/27/2009	8.62	3.75	NP	4.87	730	210	28	1.4	1.2	3.9	--	<0.50	--	--	--	--	<250	--	--	
	5/28/2009	8.62	3.66	NP	4.96	<50	<50	0.91	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--	
	9/17/2009	8.62	3.85	NP	4.77	65	<50	<0.50	<0.50	<0.50	<1.0	--	<0.50	--	--	--	--	<250	--	--	
	12/17/2009	8.62	3.00	NP	5.62	57.7	<50.0	1.2	<0.50	<0.50	<1.5	--	<0.50	--	--	--	--	<250	--	--	
	3/29/2010	8.62	3.81	NP	4.81	82.2	<50.0	0.77	<0.50	<0.50	3.4	--	<0.50	--	--	--	--	<250	--	--	
	6/30/2010	10.97	3.90	NP	7.07	53.4	<50.0	<0.50	<0.50	<0.50	<1.5	--	<0.50	--	--	--	--	<250	--	--	
	7/6/2010	10.97	3.73	NP	7.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/20/2010	10.97	3.85	NP	7.12	<50.0	<50.0	<0.50	<0.50	<0.50	<1.5	--	<0.50	--	--	--	--	<250	--	--	
	12/8/2010	10.97	3.63	NP	7.34	<50.0	<50.0	1.8	<0.50	<0.50	<1.5	--	<0.50	--	--	--	--	<250	--	--	
	3/14/2011	10.97	3.46	NP	7.51	63.3	<50.0	1.1	<0.50	<0.50	<1.5	--	<0.50	--	--	--	<5.0	<250	--	--	
	6/2/2011	10.97	3.92	NP	7.05	<50.0	58.7	4.8	4.2	0.96	5.1	--	<0.50	--	--	--	<5.0	<250	--	--	
	9/7/2011	10.97	4.06	NP	6.91	<50.0	<50.0	4.1	<0.50	0.66	2.4	--	<0.50	--	--	--	--	<250	--	--	
	12/5/2011	10.97	3.82	NP	7.15	<50.0	<50.0	<0.50	<0.50	<0.50	<1.5	--	<0.50	--	--	--	--	<250	--	--	
	3/6/2012	10.97	3.74	NP	7.23	<50.0	<50.0	<0.50	<0.50	<0.50	<1.5	--	<0.50	--	--	--	58.7	<250	--	--	
	6/11/2012	10.97	3.99	NP	6.98	<37.9	<50.0	0.79	<0.50	<0.50	<1.5	--	0.72	--	--	--	17.2	<250	--	--	
	9/6/2012	10.97	4.00	NP	6.97	110	64	6.9	0.89	1.8	3.9	--	<0.50	<0.50	<0.50	<0.50	<5.0	<5.0	<0.50	<0.50	
	12/13/2012	10.97	3.40	NP	7.57	<50	120	15	1.1	1.7	5.2	--	<0.50	--	--	--	<5.0	<5.0	--	--	
3/14/2013	10.97	4.00	NP	6.97	<50	86	25	<0.50	0.6	0.8	--	<0.50	--	--	--	<5.0	<5.0	--	--		
6/11/2013	10.97	4.20	NP	6.77	<50	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	<5.0	<8.0	--	--		
9/10/2013	10.97	3.92	NP	7.05	<50	<50	<0.50	<0.50	<0.50	1.2	--	<0.50	--	--	--	<5.0	<5.0	--	--		
12/12/2013	10.97	3.85	NP	7.12	<50	<50	2.4	<0.50	<0.50	<0.50	--	<0.50	--	--	--	<5.0	<5.0	--	--		
3/4/2014	10.97	3.38	NP	7.59	<50	<50	1.5	<0.50	<0.50	<0.50	--	<0.50	--	--	--	<5.0	<5.0	--	--		
6/12/2014	10.97	3.92	NP	7.05	<50	<50	4.4	<0.50	<0.50	0.91	--	<0.50	--	--	--	<5.0	<8.0	--	--		
MW-11	7/6/2010	10.53	2.44	NP	8.09	226	99.2	<0.50	<0.50	<0.50	<1.5	--	165	<0.50	<0.50	<0.50	174	<250	<1.0	<1.0	
	9/20/2010	10.53	2.80	NP	7.73	<50.0	76.4 1n	<0.50	<0.50	<0.50	<1.5	--	82.7	--	--	--	--	<250	--	--	
	12/8/2010	10.53	1.90	NP	8.63	52.7	<50.0	<0.50	<0.50	<0.50	<1.5	--	59.1	--	--	--	--	<250	--	--	
	3/14/2011	10.53	1.89	NP	8.64	67.8	<50.0	<0.50	<0.50	<0.50	<1.5	--	44.0	--	--	--	<5.0	<250	--	--	
	6/2/2011	10.53	1.75	NP	8.78	69.0 T4	<50.0	<0.50	<0.50	0.61	<1.5	--	24.9	--	--	--	7.1	<250	--	--	
	9/7/2011	10.53	1.56	NP	8.97	<50.0	<50.0	<0.50	<0.50	<0.50	<1.5	--	3.8	--	--	--	--	<250	--	--	
	12/5/2011	10.53	2.05	NP	8.48	<50.0	<50.0	<0.50	<0.50	<0.50	<1.5	--	26.4	--	--	--	--	<250	--	--	
	3/6/2012	10.53	2.31	NP	8.22	<50.0	<50.0	<0.50	<0.50	<0.50	<1.5	--	35.3	--	--	--	5.7	<250	--	--	
	6/11/2012	10.53	2.24	NP	8.29	<37.9	<50.0	<0.50	<0.50	<0.50	<1.5	--	20.9	--	--	--	10.4	<250	--	--	
	9/6/2012	10.53	1.70	NP	8.83	64	<50	<0.50	<0.50	<0.50	<0.50	--	7.7	<0.50	<0.50	<0.50	<5.0	<5.0	<0.50	<0.50	
	12/13/2012	10.53	1.56	NP	8.97	<50	<50	<0.50	<0.50	<0.50	<0.50	--	27	--	--	--	<5.0	<5.0	--	--	
	3/14/2013	10.53	2.20	NP	8.33	<50	<50	<0.50	<0.50	<0.50	<0.50	--	20	--	--	--	<5.0	<5.0	--	--	
	6/11/2013	10.53	2.92	NP	7.61	<50	<50	<0.50	<0.50	<0.50	<0.50	--	32	--	--	--	<5.0	<5.0	--	--	
	9/10/2013	10.53	2.98	NP	7.55	<50	<50	<0.50	<0.50	<0.50	<0.50	--	22	--	--	--	<5.0	<5.0	--	--	
	12/12/2013	10.53	2.20	NP	8.33	<50	<50	<0.50	<0.50	<0.50	<0.50	--	20	--	--	--	<5.0	<5.0	--	--	
	3/4/2014	10.53	1.75	NP	8.78	<50	<50	<0.50	<0.50	<0.50	<0.50	--	12	--	--	--	<5.0	<5.0	--	--	
	6/12/2014	10.53	2.51	NP	8.02	<50	<50	<0.50	<0.50	<0.50	<0.50	--	3.7	--	--	--	<5.0	<5.0	--	--	
	9/5/2014	10.53	3.27	NP	7.26	<50	<50	<0.50	<0.50	<0.50	<0.50	--	17	--	--	--	<5.0	<5.0	--	--	
12/22/2014	10.53	1.53	NP	9.00	<50	<50	<0.50	<0.50	<0.50	<0.50	--	37	--	--	--	<5.0	<5.0	--	--		
3/16/2015	10.53	2.40	NP	8.13	<51	<50	<0.50	<0.50	<0.50	<1.0	--	19.6	--	--	--	<5.0	<5.0	--	--		
6/11/2015	10.53	2.87	NP	7.66	<50	56	<0.50	<1.0	<1.0	<1.0	--	8.2	--	--	--	<10	<100	--	--		
9/9/2015	10.53	3.58	NP	6.95	<54	<50	<0.50	<1.0	<1.0	<1.0	--	14	--	--	--	<10	<100	--	--		
12/8/2015	10.53	3.32	NP	7.21	<52	<50	<0.50	<1.0	<1.0	<1.0	--	24	--	--	--	<10	<100	--	--		
MW-12	7/6/2010	11.01	4.00	NP	7.01	990	20,300	1,030	955	311	2,450	--	1,650	<0.50	<0.50	1.0	1,430	<250	<1.0	<1.0	
	9/20/2010	11.01	4.18	NP	6.83	5,220	73,700	6,020	6,390	2,970	18,300	--	894	--	--	--	--	<250	--	--	
	12/8/2010	11.01	3.92	NP	7.09	428	3,350	249	117	90	3,350	--	1,470	--	--	--	--	<2500	--	--	
	3/14/2011	11.01	3.70	NP	7.31	283	2,420	287	81	49	243	--	1,020	--	--	--	70	<250	--	--	

**TABLE 3  
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA  
76 STATION NO. 5191/5043  
449 HEGENBERGER ROAD  
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)	TPHd (ug/L)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (SW8021B) (ug/L)	MTBE (SW8260B) (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	1,2-Dibromoethane (EDB) (ug/L)	1,2-Dichloroethane (ug/L)	
MW-12	6/2/2011	11.01	4.40	NP	6.61	1,330 T4	12,200	688	71	225	619	--	824	--	--	--	110	<250	--	--	
	9/7/2011	11.01	4.37	NP	6.64	1,270 T4	7,900	920	25	187	267	--	896	--	--	--	--	<2500	--	--	
	12/5/2011	11.01	4.32	NP	6.69	286 T4	2,240	296	38	38.0	122	--	1,040	--	--	--	--	<250	--	--	
	3/6/2012	11.01	4.01	NP	7.00	272 T4	1,260	193	23	29	81	--	835	--	--	--	78	<250	--	--	
	6/11/2012	11.01	4.20	NP	6.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/12/2012	--	--	--	--	957 T4	1,030	178	17.0	24	69	--	993	--	--	--	--	448	<250	--	--
	9/6/2012	11.01	4.15	NP	6.86	<200	580	120	10	15	37	--	840	<1.5	<1.5	<1.5	15	<15	<1.5	14	
	12/13/2012	11.01	3.35	NP	7.66	<50	480	70	4.60	7.20	19	--	820	--	--	--	19	<15	--	--	
	3/14/2013	11.01	4.11	NP	6.90	<50	370	76	3.40	12.00	18	--	810	--	--	--	21	<15	--	--	
	6/11/2013	11.01	4.30	NP	6.71	62	290	51	<1.5	4.30	6	--	840	--	--	--	19	<15	--	--	
	9/10/2013	11.01	3.96	NP	7.05	<50	340	52	1.90	6.40	4.5	--	820	--	--	--	17	<15	--	--	
	12/12/2013	11.01	4.00	NP	7.01	<50	180	18	<1.5	1.60	<1.5	--	940	--	--	--	14	<15	--	--	
3/4/2014	11.01	3.46	NP	7.55	<50	<200	19	<2.0	<2.0	<2.0	--	990	--	--	--	<9.0	<20	--	--		
6/12/2014	11.01	3.96	NP	7.05	<50	200	30	3.3	4.2	6.1	--	920	--	--	--	8.6	<9.0	--	--		
MW-12A	7/6/2010	11.29	4.22	NP	7.07	89	664	18	0.78	2.30	50	--	14	<0.50	<0.50	<0.50	12	<250	<1.0	<1.0	
	9/20/2010	11.29	4.39	NP	6.90	<50.0	<50.0	<0.50	<0.50	<0.50	<1.5	--	8.50	--	--	--	--	<250	--	--	
	12/8/2010	11.29	4.00	NP	7.29	76	<50.0	<0.50	<0.50	<0.50	<1.5	--	9.40	--	--	--	--	<250	--	--	
	3/14/2011	11.29	3.81	NP	7.48	62	<50.0	<0.50	<0.50	<0.50	<1.5	--	<0.50	--	--	--	<5.0	<250	--	--	
	6/2/2011	11.29	4.20	NP	7.09	<50.0	<50.0	<0.50	<0.50	<0.50	<1.5	--	<0.50	--	--	--	<5.0	<250	--	--	
	9/7/2011	11.29	4.42	NP	6.87	<50.0	<50.0	<0.50	<0.50	<0.50	<1.5	--	0.74	--	--	--	--	<250	--	--	
	12/5/2011	11.29	4.30	NP	6.99	<50.0	<50.0	<0.50	<0.50	<0.50	<1.5	--	<0.50	--	--	--	--	<250	--	--	
	3/6/2012	11.29	4.32	NP	6.97	52.0 T4	<50.0	<0.50	<0.50	<0.50	<1.5	--	<0.50	--	--	--	<5.0	<250	--	--	
	6/11/2012	11.29	4.36	NP	6.93	<37.9	<50.0	<0.50	<0.50	<0.50	<1.5	--	<0.50	--	--	--	<5.0	<250	--	--	
	9/6/2012	11.29	4.45	NP	6.84	300	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	<0.50	<0.50	<0.50	<5.0	<5.0	<0.50	<0.50	
	12/13/2012	11.29	3.80	NP	7.49	62	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	<5.0	<5.0	--	--	
	3/14/2013	11.29	4.36	NP	6.93	<50	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	<5.0	<5.0	--	--	
	6/11/2013	11.29	4.53	NP	6.76	<50	<50	<0.50	<0.50	<0.50	<0.50	--	0.78	--	--	--	<5.0	<5.0	--	--	
	9/10/2013	11.29	4.40	NP	6.89	<50	<50	<0.50	<0.50	<0.50	<0.50	--	6.3	--	--	--	<5.0	<5.0	--	--	
	12/12/2013	11.29	4.35	NP	6.94	<50	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	<5.0	<5.0	--	--	
3/4/2014	11.29	3.73	NP	7.56	<50	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	<5.0	<5.0	--	--		
6/12/2014	11.29	4.37	NP	6.92	<50	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	--	--	--	<5.0	<5.0	--	--		
MW-13	7/6/2010	11.08	4.26	NP	6.82	469	122	<0.50	<0.50	<0.50	<1.5	--	217	<0.50	<0.50	<0.50	199	<250	<1.0	<1.0	
	9/20/2010	11.08	4.81	NP	6.27	<50.0	250 1n	<0.50	<0.50	<0.50	<1.5	--	272	--	--	--	--	<250	--	--	
	12/8/2010	11.08	5.02	NP	6.06	97.0	177 1n	<0.50	<0.50	<0.50	<1.5	--	390	--	--	--	--	<250	--	--	
	3/14/2011	11.08	4.32	NP	6.76	162	127	<0.50	<0.50	<0.50	<1.5	--	241	--	--	--	125	<250	--	--	
	6/2/2011	11.08	3.98	NP	7.10	89.9 T4	260 1n	<0.50	<0.50	<0.50	<1.5	--	228	--	--	--	45	<250	--	--	
	9/7/2011	11.08	5.74	NP	5.34	<50.0	167	<0.50	<0.50	<0.50	<1.5	--	207	--	--	--	--	<250	--	--	
	12/5/2011	11.08	5.00	NP	6.08	<50.0	166 1n	<0.50	<0.50	<0.50	<1.5	--	215	--	--	--	--	<250	--	--	
	3/6/2012	11.08	5.37	NP	5.71	<50.0	63.9 1n	<0.50	<0.50	<0.50	<1.5	--	110	--	--	--	39	<250	--	--	
	6/11/2012	11.08	5.73	NP	5.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/12/2012	--	--	--	--	<37.9	118 1n	<0.50	<0.50	<0.50	<1.5	--	220	--	--	--	--	82	<250	--	--
	9/6/2012	11.08	4.14	NP	6.94	87	<50	<0.50	<0.50	<0.50	<0.50	--	140	<0.50	<0.50	<0.50	10	<5.0	<0.50	<0.50	
	12/13/2012	11.08	3.80	NP	7.28	<50	<50	<0.50	<0.50	<0.50	<0.50	--	130	--	--	--	14	<5.0	--	--	
	3/14/2013	11.08	4.20	NP	6.88	<50	<50	<0.50	<0.50	<0.50	<0.50	--	110	--	--	--	24	<5.0	--	--	
	6/11/2013	11.08	4.10	NP	6.98	<50	<50	<0.50	<0.50	<0.50	<0.50	--	97	--	--	--	31	<5.0	--	--	
	9/10/2013	11.08	4.20	NP	6.88	<50	<50	<0.50	<0.50	<0.50	0.62	--	64	--	--	--	47	<5.0	--	--	
	12/12/2013	11.08	4.05	NP	7.03	<50	<50	<0.50	<0.50	<0.50	<0.50	--	63	--	--	--	43	<5.0	--	--	
	3/4/2014	11.08	3.51	NP	7.57	<50	<50	<0.50	<0.50	<0.50	<0.50	--	54	--	--	--	30	<5.0	--	--	
6/12/2014	11.08	4.08	NP	7.00	<50	<50	<0.50	<0.50	<0.50	<0.50	--	36	--	--	--	43	<5.0	--	--		
9/5/2014	11.05	4.23	NP	6.85	<50	<50	<0.50	<0.50	<0.50	<0.50	--	28	--	--	--	49	<5.0	--	--		
12/22/2014	11.08	3.07	NP	8.01	<50	<50	<0.50	<0.50	<0.50	<0.50	--	28	--	--	--	39	<5.0	--	--		

**TABLE 3  
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA  
76 STATION NO. 5191/5043  
449 HEGENBERGER ROAD  
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)	TPHd (ug/L)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (SW8021B) (ug/L)	MTBE (SW8260B) (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	1,2-Dibromoethane (EDB) (ug/L)	1,2-Dichloroethane (ug/L)	
MW-13	3/16/2015	11.08	3.97	NP	7.11	<50	<50	<0.50	<0.50	<0.50	<1.0	--	27.7	--	--	--	35.5	<5.0	--	--	
	6/11/2015	11.08	3.86	NP	7.22	<50	<250	<2.5	<5.0	<5.0	<5.0	--	20.0	--	--	--	<50	<500	--	--	
	9/9/2015	11.08	4.48	NP	6.60	<52	<50	0.84	<1.0	<1.0	<1.0	--	17	--	--	--	38	<100	--	--	
	12/8/2015	11.08	4.13	NP	6.95	<52	<50	<0.50	<1.0	<1.0	<1.0	--	14	--	--	--	<10	<100	--	--	
MW-14	6/2/2011	12.00	3.58	NP	8.42	4,180 T4	51,600	2,750	67.9	1,790	13,400	--	1.9	--	--	--	27.2	<250	--	--	
	9/7/2011	12.00	3.02	NP	8.98	2,970 T4	42,600	1,050	28.1	2,990	7,300	--	<25.0	--	--	--	--	<12500	--	--	
	12/5/2011	12.00	4.05	NP	7.95	3,980 T4	14,000	709	9.1	1,420	2,530	--	0.97	--	--	--	--	<250	--	--	
	3/6/2012	12.00	3.94	NP	8.06	3,640 T4	16,600	959	15.0	2,330	3,830	--	<2.5	--	--	--	28.1	<1250	--	--	
	6/11/2012	12.00	3.91	NP	8.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/12/2012	--	--	--	--	4,580	15,700	1,200	14.0	1,580	3,010	--	1.4	--	--	--	23.3	<250	--	--	
	9/6/2012	12.00	3.35	NP	8.65	<2000	12,000	210	9.1	1,100	1,800	--	<4.0	<4.0	<4.0	<4.0	<20	<40	<4.0	<4.0	
	12/13/2012	12.00	3.26	NP	8.74	<50	10,000	72	5.8	610	780	--	<1.5	--	--	--	<7.0	<15	--	--	
	3/14/2013	12.00	4.16	NP	7.84	<50	5,700	290	11	750	960	--	<1.5	--	--	--	12	<15	--	--	
	6/11/2013	12.00	7.37	NP	7.37	<50	6,900	630	5.3	480	680	--	<1.5	--	--	--	24	<15	--	--	
	9/10/2013	12.00	4.88	NP	7.12	120	31,000	1,500	39	2,300	5,200	--	<1.5	--	--	--	32	<15	--	--	
	12/12/2013	12.00	4.35	NP	7.65	<50	27,000	1,400	32	2,200	4,800	--	<9.0	--	--	--	<50	<90	--	--	
	3/4/2014	12.00	3.60	NP	8.40	250	40,000	1,600	41	2,900	6,700	--	<9.0	--	--	--	<50	<90	--	--	
	6/12/2014	12.00	4.51	NP	7.49	64	36,000	1,600	43	3,000	6,500	--	<9.0	--	--	--	<50	<90	--	--	
	9/5/2014	12.00	5.47	NP	6.53	250	16,000	850	17	1,200	2,800	--	<4.0	--	--	--	24	<40	--	--	
	12/22/2014	12.00	3.18	NP	8.82	<50	3,200	220	3.8	260	540	--	<0.90	--	--	--	12	<9.0	--	--	
3/16/2015	12.00	4.18	NP	7.82	<50	2,990	393	1.6	278	413	--	0.66	--	--	--	15.0	<5.0	--	--		
6/11/2015	12.00	4.74	NP	7.26	1,800 HD	3,900	510	<5.0	340	470	--	<5.0	--	--	--	<50	<500	--	--		
MW-15	6/2/2011	11.11	2.50	NP	8.61	124 T4	357	<0.50	<0.50	<0.50	<1.5	--	15	--	--	--	6.4	<250	--	--	
	9/7/2011	11.11	2.54	NP	8.57	<50.0	412	6.2	<0.50	43	<1.5	--	128	--	--	--	--	<250	--	--	
	12/5/2011	11.11	2.70	NP	8.41	50.5 T4	201	6.6	<0.50	0.93	<1.5	--	142	--	--	--	--	<250	--	--	
	3/6/2012	11.11	2.69	NP	8.42	56.2 T4	<50.0	<0.50	<0.50	<0.50	<1.5	--	106	--	--	--	101	<250	--	--	
	6/11/2012	11.11	2.84	NP	8.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	6/12/2012	--	--	--	--	<37.9	74.3 1n	<0.50	<0.50	<0.50	<1.5	--	114	--	--	--	91	<250	--	--	
	9/6/2012	11.11	2.24	NP	8.87	64	59	<0.50	<0.50	<0.50	<0.50	--	76	<0.50	<0.50	<0.50	45	<5.0	<0.50	<0.50	
	12/13/2012	11.11	2.51	NP	8.60	<50	<50	<0.50	<0.50	<0.50	<0.50	--	33	--	--	--	7.4	<5.0	--	--	
	3/14/2013	11.11	2.91	NP	8.20	<50	<50	<0.50	<0.50	<0.50	<0.50	--	46	--	--	--	21	<5.0	--	--	
	6/11/2013	11.11	3.36	NP	7.75	<50	<50	<0.50	<0.50	<0.50	<0.50	--	73	--	--	--	31	<5.0	--	--	
	9/10/2013	11.11	3.28	NP	7.83	<50	68	<0.50	<0.50	<0.50	<0.50	--	120	--	--	--	39	<5.0	--	--	
	12/12/2013	11.11	3.00	NP	8.11	<50	<50	<0.50	<0.50	<0.50	<0.50	--	130	--	--	--	59	<10	--	--	
	3/4/2014	11.11	2.34	NP	8.77	<50	<50	<0.50	<0.50	<0.50	<0.50	--	96	--	--	--	45	<5.0	--	--	
	6/12/2014	11.11	3.15	NP	7.96	<50	<50	<0.50	<0.50	<0.50	<0.50	--	100	--	--	--	31	<5.0	--	--	
	9/5/2014	11.11	4.00	NP	7.11	<50	<50	<0.50	<0.50	<0.50	<0.50	--	100	--	--	--	41	<5.0	--	--	
	12/22/2014	11.11	2.38	NP	8.73	<50	<50	0.50	<0.50	<0.50	<0.50	--	65	--	--	--	36	<5.0	--	--	
3/16/2015	11.11	3.17	NP	7.94	<50	<50	<0.50	<0.50	<0.50	<1.0	--	46.7	--	--	--	27.0	<5.0	--	--		
6/11/2015	11.11	3.47	NP	7.64	<50	94	<0.50	<1.0	<1.0	<1.0	--	46.0	--	--	--	15.0	<100	--	--		
9/9/2015	11.11	4.03	NP	7.08	<52	150	<0.50	<1.0	<1.0	<1.0	--	75	--	--	--	36	<100	--	--		
12/8/2015	11.11	3.04	NP	8.07	<50	<50	<0.50	<1.0	<1.0	<1.0	--	82	--	--	--	34	<100	--	--		
MW-16	6/2/2011	10.98	3.00	NP	7.98	509 T4	1,420 1n	79	<0.50	4.2	<1.5	--	1,200	--	--	--	257	<250	--	--	
	9/7/2011	10.98	2.65	NP	8.33	90.0 T4	934	<0.50	<0.50	<0.50	<1.5	--	1,240	--	--	--	--	<250	--	--	
	12/5/2011	10.98	3.18	NP	7.80	196 T4	948 1n	<0.50	<0.50	<0.50	<1.5	--	1,320	--	--	--	--	<250	--	--	
	3/6/2012	10.98	2.91	NP	8.07	204 T4	392 1n	<0.50	<0.50	<0.50	<1.5	--	1,090	--	--	--	134	<250	--	--	
	6/11/2012	10.98	3.04	NP	7.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	6/12/2012	--	--	--	--	48.1 T4	430 1n	<0.50	<0.50	<0.50	<1.5	--	1,100	--	--	--	374	<250	--	--	
	9/6/2012	10.98	2.61	NP	8.37	390	<150	<1.5	<1.5	<1.5	<1.5	--	960	<1.5	<1.5	<1.5	70	<15	<1.5	<1.5	
12/13/2012	10.98	2.50	NP	8.48	52	<150	<1.5	<1.5	<1.5	<1.5	--	980	--	--	--	55	<20	--	--		
3/14/2013	10.98	3.15	NP	7.83	<50	<200	<2.0	<2.0	<2.0	<2.0	--	950	--	--	--	67	<20	--	--		

**TABLE 3**  
**HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA**  
**76 STATION NO. 5191/5043**  
**449 HEGENBERGER ROAD**  
**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)	TPHd (ug/L)	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (SW8021B) (ug/L)	MTBE (SW8260B) (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	1,2-Dibromoethane (EDB) (ug/L)	1,2-Dichloroethane (ug/L)
MW-16	6/11/2013	10.98	3.19	NP	7.79	<50	<150	<1.5	<1.5	<1.5	<1.5	--	<b>820</b>	--	--	--	<b>70</b>	<15	--	--
	9/10/2013	10.98	3.44	NP	7.54	<50	<50	<0.50	<0.50	<0.50	<b>0.67</b>	--	<b>240</b>	--	--	--	<b>440</b>	<5.0	--	--
	12/12/2013	10.98	2.90	NP	8.08	<50	<50	<0.50	<0.50	<0.50	<0.50	--	<b>62</b>	--	--	--	<b>530</b>	<5.0	--	--
	3/4/2014	10.98	3.25	NP	7.73	<50	<b>60</b>	<0.50	<0.50	<0.50	<0.50	--	<b>440</b>	--	--	--	<b>400</b>	<5.0	--	--
	6/12/2014	10.98	3.67	NP	7.31	<50	<50	<0.50	<0.50	<0.50	<0.50	--	<b>92</b>	--	--	--	<b>440</b>	<5.0	--	--
	9/5/2014	10.98	3.70	NP	7.28	<50	<50	<0.50	<0.50	<0.50	<0.50	--	<b>28</b>	--	--	--	<b>220</b>	<5.0	--	--
	12/22/2014	10.98	3.11	NP	7.87	<50	<50	<b>0.52</b>	<0.50	<0.50	<0.50	--	<b>23</b>	--	--	--	<b>140</b>	<5.0	--	--
	3/16/2015	10.98	3.03	NP	7.95	<50	<50	<0.50	<0.50	<0.50	<1.0	--	<b>9.2</b>	--	--	--	<b>185</b>	<5.0	--	--
	6/11/2015	10.98	3.62	NP	7.36	<50	<250	<2.5	<5.0	<5.0	<5.0	--	<b>5.1</b>	--	--	--	<b>130</b>	<500	--	--
	9/9/2015	10.98	3.98	NP	7.00	<50	<50	<0.5	<1.0	<1.0	<1.0	--	<b>12</b>	--	--	--	<b>100</b>	<501	--	--
12/8/2015	10.98	3.86	NP	7.12	<50	<50	<0.50	<1.0	<1.0	<1.0	--	<b>15</b>	--	--	--	<b>140</b>	<100	--	--	
MW-17	6/2/2011	11.52	5.78	NP	5.74	<b>687 T4</b>	<b>9,130</b>	<b>2,530</b>	<b>960</b>	<b>35</b>	<b>907</b>	--	<b>0.74</b>	--	--	--	<b>366</b>	<250	--	--
	9/7/2011	11.52	4.56	NP	6.96	<b>1,900 T4</b>	<b>47,200</b>	<b>9,620</b>	<b>5,510</b>	<b>1,210</b>	<b>4,510</b>	--	<25.0	--	--	--	--	<12500	--	--
	12/5/2011	11.52	4.70	NP	6.82	<b>1,790 T4</b>	<b>17,300</b>	<b>4,720</b>	<b>511</b>	<b>238</b>	<b>747</b>	--	<2.5	--	--	--	--	<1250	--	--
	3/6/2012	11.52	4.64	NP	6.88	<b>1,530 T4</b>	<b>1,580</b>	<b>2,090</b>	<b>24</b>	<b>39</b>	<b>166</b>	--	<b>1.1</b>	--	--	--	<b>481</b>	<250	--	--
	6/11/2012	11.52	4.67	NP	6.85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/12/2012	--	--	--	--	<b>1,090 T4</b>	<b>4,950</b>	<b>2,340</b>	<b>123</b>	<b>153</b>	<b>610</b>	--	<2.5	--	--	--	<b>411</b>	<1250	--	--
	9/6/2012	11.52	4.39	NP	7.13	<1,000	<b>18,000</b>	<b>4,300</b>	<b>170</b>	<b>370</b>	<b>1,100</b>	--	<10	<10	<10	<10	<b>300</b>	<100	<10	110
	12/13/2012	11.52	4.20	NP	7.32	<100	<b>55,000</b>	<b>7,300</b>	<b>2,700</b>	<b>1,700</b>	<b>4,600</b>	--	<10	--	--	--	<b>300</b>	<100	--	--
	3/14/2013	11.52	4.70	NP	6.82	<200	<b>63,000</b>	<b>13,000</b>	<b>5,400</b>	<b>3,100</b>	<b>8,800</b>	--	<15	--	--	--	<b>260</b>	<150	--	--
	6/11/2013	11.52	4.83	NP	6.69	<b>710</b>	<b>110,000</b>	<b>10,000</b>	<b>11,000</b>	<b>3,100</b>	<b>12,000</b>	--	<25	--	--	--	<150	<250	--	--
	9/10/2013	11.52	4.60	NP	6.92	<b>160</b>	<b>36,000</b>	<b>8,200</b>	<b>510</b>	<b>1,200</b>	<b>2,400</b>	--	<15	--	--	--	<b>320</b>	<150	--	--
	12/12/2013	11.52	5.00	NP	6.52	<50	<b>92,000</b>	<b>17,000</b>	<b>9,000</b>	<b>2,900</b>	<b>9,100</b>	--	<15	--	--	--	<b>250</b>	<150	--	--
3/4/2014	11.52	3.99	NP	7.53	<b>400</b>	<b>13,000</b>	<b>1,600</b>	<b>270</b>	<b>260</b>	<b>540</b>	--	<3.0	--	--	--	<b>330</b>	<b>48</b>	--	--	
6/12/2014	11.52	4.49	NP	7.03	<b>87</b>	<b>17,000</b>	<b>3,600</b>	<b>410</b>	<b>650</b>	<b>1,100</b>	--	<3.0	--	--	--	<b>300</b>	<30	--	--	

**Gauging Notes:**  
TOS - Top of Screen  
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:**  
< - Below laboratory's indicated reporting limit  
ug/L - micrograms/liter  
TPHd- Total petroleum hydrocarbons as diesel  
TPHg- Total petroleum hydrocarbons as gasoline, also known as Gasoline Range Organics (GRO)  
MTBE- Methyl tertiary-butyl ether  
TBA- Tertiary-butyl alcohol  
**Bold** - Above the laboratory's indicated reporting limit  
1n - The TPHg result for this sample did not match the laboratory standard for gasoline. This is likely due to the presence of MTBE in the sample.  
A - Lower boiling hydrocarbons present, atypical for Diesel Fuel.  
2V - The detection of Ethanol is biased high likely due to the presence of interfering compounds  
HD - The chromatographic pattern was inconsistent with the profile of the reference fuel standard

TABLE 3a  
 ADDITIONAL HISTORICAL GROUNDWATER ANALYTICAL DATA  
 76 STATION NO. 5191/5043  
 449 HEGENBERGER ROAD  
 OAKLAND, CALIFORNIA



Well I.D.	Date	GROUNDWATER ANALYTICAL DATA																			
		Acetone (ug/L)	Alkalinity, Bicarbonate (mg/L)	Alkalinity, Hydroxide (CaCO) (mg/L)	Alkalinity, Total A2320B (mg/L)	Alkalinity, Total as CaCO3 A2320B (mg/L)	Antimony (ug/L)	Arsenic (ug/L)	Barium (ug/L)	Beryllium (ug/L)	Biochemical Oxygen Demand (ug/L)	Bromate (mg/L)	Bromide (mg/L)	Cadmium S(ug/L)	Chemical Oxygen Demand (ug/L)	Chloride (ug/L)	Chromium (ug/L)	Chromium, Hexavalent (ug/L)	Cobalt (ug/L)	Coliform, Total (MPN/100ML)	E. Coli (MPN/100ML)
MW-6	3/14/2011	<b>18</b>	--	--	--	--	<60.0	<b>23</b>	<b>216</b>	<5.0	<b>32,200</b>	--	--	<5.0	<b>173,000</b>	<b>204,000</b>	--	--	<50.0	--	--
	6/2/2011	<5.0	<b>828</b>	<1	<b>828</b>	<1	<60.0	<b>22.0</b>	<b>191</b>	<5.0	<b>45,100</b>	<0.005	<b>2.1</b>	<5.0	<b>121,000</b>	<b>149,000</b>	<b>4.3</b>	<2	<50.0	<b>42,000</b>	<100
	9/6/2012	--	--	--	--	<b>650</b>	--	--	--	--	--	--	--	--	--	--	<5.0	<10	--	--	--
	3/4/2014	--	--	--	--	--	--	<b>31</b>	--	--	--	--	--	<1.0	--	--	<5.0	--	--	--	--
MW-9	3/14/2011	<5.0	--	--	--	--	<60.0	<20.0	<100	<5.0	<b>7,160.0</b>	--	--	<5.0	<b>11,500.0</b>	<b>34,700.0</b>	--	--	<50.0	--	--
	6/2/2011	<5.0	<b>226.0</b>	<1	<b>226.0</b>	<1	<60.0	<20.0	<100	<5.0	<b>4,170.0</b>	<0.005	<b>2.0</b>	<5.0	<b>15,100.0</b>	<b>32,400.0</b>	<b>2.4</b>	<0.2	<50.0	<b>2.0</b>	<1
MW-10	9/6/2012	--	--	--	--	<b>561</b>	--	--	--	--	--	--	--	--	--	<b>17</b>	<10	--	--	--	
MW-12	3/14/2011	<5.0	--	--	--	--	<60.0	<20.0	<100	<5.0	<2000	--	--	<5.0	<b>80,100</b>	<b>8,240,000</b>	--	--	<50.0	--	--
	6/2/2011	<5.0	<b>905</b>	<1	<b>905</b>	<1	<60.0	<20.0	<100	<5.0	<b>7,240</b>	<0.05	<b>33</b>	<5.0	<b>191,000</b>	<b>7,260,000</b>	<b>3.3</b>	<2	<50.0	<b>210</b>	<1
	9/6/2012	--	--	--	--	<b>806</b>	--	--	--	--	--	--	--	--	--	--	<5.0	<10	--	--	--
	3/4/2014	--	--	--	--	--	--	<15	--	--	--	--	--	<b>1.8</b>	--	--	<5.0	--	--	--	--
MW-14	9/6/2012	--	--	--	--	<b>1,720</b>	--	--	--	--	--	--	--	--	--	<b>24</b>	<10	--	--	--	
MW-17	9/6/2012	--	--	--	--	<b>2,820</b>	--	--	--	--	--	--	--	--	--	<b>38</b>	<10	--	--	--	

**Analytical Notes:**  
 < - Below laboratory's indicated reporting limit  
 mg/L - milligrams per liter  
 MPN/100ML - most probable number per 100 ml  
 ug/L - micrograms/liter  
**Bold** - Above the laboratory's indicated reporting limit

TABLE 3b  
 ADDITIONAL HISTORICAL GROUNDWATER ANALYTICAL DATA  
 76 STATION NO. 5191/504  
 449 HEGENBERGER ROAD  
 OAKLAND, CALIFORNIA



Well I.D.	Date	GROUND WATER ANALYTICAL DATA																			
		Copper (ug/L)	Inorganic Carbon (mg/L)	Iron SW6010 D (ug/L)	Iron SW6010 T (ug/L)	Iron, Ferric (ug/L)	Iron, Ferrous (ug/L)	Lead (ug/L)	Manganese (ug/L)	Mercury (ug/L)	Methane (ug/L)	Molybdenum (ug/L)	Nickel (ug/L)	Nitrate as N E300.0 (mg/L)	Nitrate as N E353/E351 (ug/L)	Nitrite as N (ug/L)	Nitrogen, Ammonia (mg/L)	Nitrogen, NO2 plus NO3 (ug/L)	Nitrogen, Total Kjeldahl (mg/L)	Oil and Grease (ug/L)	Salinity (mg/L)
MW-3	12/17/2009	--	--	--	12,300	--	--	--	--	--	--	--	--	--	<50.0	<50.0	--	<50.0	--	--	--
	6/30/2010	--	--	5,550	10,700	--	--	--	--	--	--	--	--	--	<50.0	95.0	--	75.7	--	--	--
	6/2/2011	--	--	--	13,600	--	--	--	--	--	--	--	--	--	<50.0	<10.0	--	52.5	--	--	--
	6/11/2012	--	--	--	10,900	--	--	--	--	--	--	--	--	--	<50.0	<10	--	<50.0	--	--	--
MW-6	9/17/2009	--	--	--	1,500	--	--	--	--	--	--	--	--	<0.00044	<0.44	--	--	--	--	--	--
	12/17/2009	--	--	--	2,460	--	--	--	--	--	--	--	--	--	<50.0	<50.0	--	<50.0	--	--	--
	3/29/2010	--	--	1,790	1,510	--	--	--	--	--	--	--	--	--	<50.0	41.3	--	54.9	--	--	--
	6/30/2010	--	--	946	2,310	--	--	--	--	--	--	--	--	--	<50.0	57.9	--	69.3	--	--	--
	9/20/2010	--	--	2,730	2,600	--	--	--	--	--	--	--	--	--	<50.0	<10.0	--	52.1	--	--	--
	3/14/2011	--	--	--	4,900	3,900	1,000	27	1,270	<0.20	474	<20.0	<40.0	--	50.1	<10.0	--	54.2	--	--	--
	6/2/2011	--	870	--	4,320	2,520	1,800	23	1,510	<0.20	445	<20.0	<40.0	--	<50.0	<10.0	2.9	50.5	4.8	--	1,500
	6/12/2012	--	--	--	1,240	--	--	--	--	--	--	--	--	--	<50.0	<10	--	<50.0	--	--	--
	9/6/2012	--	--	--	--	1,000	--	--	--	--	2,890	--	--	--	--	--	--	--	--	--	--
9/11/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.10	--	--	--	--	--	--	
3/4/2014	<5.0	--	--	2,000	--	--	14	--	<0.5	--	--	17	--	--	--	--	--	--	--	--	
MW-7	6/30/2010	--	--	836	7,550	--	--	--	--	--	--	--	--	--	<50.0	73.9	--	73.6	--	--	--
	6/2/2011	--	--	--	7,800	--	--	--	--	--	--	--	--	--	233	<10.0	--	239	--	--	--
	6/11/2012	--	--	--	264	--	--	--	--	--	--	--	--	--	<50.0	67	--	111	--	--	--
MW-8	6/30/2010	--	--	4,710	8,000	--	--	--	--	--	--	--	--	--	<50.0	68.2	--	59.7	--	--	--
	6/2/2011	--	--	--	24,900	--	--	--	--	--	--	--	--	--	60.9	<10.0	--	60.9	--	--	--
	6/11/2012	--	--	--	21,000	--	--	--	--	--	--	--	--	--	<50.0	48.0	--	<50.0	--	--	--
MW-9	12/17/2009	--	--	--	2,270	--	--	--	--	--	--	--	--	--	<50.0	<50.0	--	<50.0	--	--	--
	6/30/2010	--	--	3,210	8,820	--	--	--	--	--	--	--	--	--	<50.0	14.9	--	<50.0	--	--	--
	3/14/2011	--	--	--	1,560	157	1,400	<10.0	148	<0.20	419	<20.0	<40.0	--	<50.0	<10.0	--	<50.0	--	--	--
	6/2/2011	--	240	--	1,260	1,060	200	<10.0	92	<0.20	673	<20.0	<40.0	--	<50.0	<10.0	0.86	<50.0	0.6	--	405
6/11/2012	--	--	--	731	--	--	--	--	--	--	--	--	--	<50.0	<10	--	<50.0	--	--	--	
MW-10	9/17/2009	--	--	--	9,800	--	--	--	--	--	--	--	--	0.012	12	--	--	--	--	--	--
	12/17/2009	--	--	--	3,410	--	--	--	--	--	--	--	--	--	1,970	60.3	--	2,030	--	--	--
	3/29/2010	--	--	365	2,410	--	--	--	--	--	--	--	--	--	1,960	18.7	--	1,970	--	--	--
	6/30/2010	--	--	216	1,860	--	--	--	--	--	--	--	--	--	2,120	68.1	--	2,190	--	--	--
	9/20/2010	--	--	280	3,080	--	--	--	--	--	--	--	--	--	2,690	68.2	--	2,750	--	--	--
	3/14/2011	--	--	--	2,620	--	--	--	--	--	--	--	--	--	--	--	--	2,350	--	--	--
	6/2/2011	--	--	--	9,870	--	--	--	--	--	--	--	--	--	1,290	49.3	--	1,340	--	--	--
	6/11/2012	--	--	--	11,300	--	--	--	--	--	--	--	--	--	1,510	57.0	--	1,570	--	--	--
9/6/2012	--	--	--	--	11,000	--	--	--	--	467	--	--	--	--	--	--	--	--	--	--	
9/11/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	0.45	--	--	--	--	--	--	
MW-11	7/6/2010	--	--	<100	3,510	--	--	--	--	--	--	--	--	--	<50.0	31.0	--	66.9	--	--	--
	9/20/2010	--	--	<100	1,690	--	--	--	--	--	--	--	--	--	167	<10.0	--	172	--	--	--
	3/14/2011	--	--	--	756	--	--	--	--	--	--	--	--	--	--	--	--	<50.0	--	--	--
	6/2/2011	--	--	--	1,040	--	--	--	--	--	--	--	--	--	110	<10.0	--	115	--	--	--
	6/11/2012	--	--	--	1,300	--	--	--	--	--	--	--	--	--	88.8	<10	--	93.5	--	--	--
MW-12	7/6/2010	--	--	<100	30,200	--	--	--	--	--	--	--	--	--	<50.0	60.5	--	<50.0	--	--	--
	9/20/2010	--	--	552	3,890	--	--	--	--	--	--	--	--	--	72.3	<10.0	--	75.2	--	--	--
	3/14/2011	--	--	--	793	593	200	<10.0	12,400	<0.20	114	<20.0	151	--	<50.0	60.6	--	54.4	--	--	--
	6/2/2011	--	1,100	--	9,340	8,740	600	<10.0	12,800	<0.20	287	<20.0	119	--	<50.0	<10.0	0.14	58.0	0.91	--	15,600
	6/12/2012	--	--	--	497	--	--	--	--	--	--	--	--	--	<50.0	<10	--	<50.0	--	--	--
	9/6/2012	--	--	--	--	190	--	--	--	--	63.8	--	--	--	--	--	--	--	--	--	--
3/4/2014	<5.0	--	--	680	--	--	<5.0	--	<0.5	--	--	120	--	--	--	--	--	--	--	--	
MW-12A	7/6/2010	--	--	716	57,300	--	--	--	--	--	--	--	--	--	3,680	164	--	3,840	--	--	--
	9/20/2010	--	--	<100	523	--	--	--	--	--	--	--	--	--	4,680	10.2	--	4,690	--	--	--
	3/14/2011	--	--	--	523	--	--	--	--	--	--	--	--	--	--	--	--	4,790	--	--	--
	6/2/2011	--	--	--	754	--	--	--	--	--	--	--	--	--	4,710	<10.0	--	4,720	--	--	--
	6/11/2012	--	--	--	859	--	--	--	--	--	--	--	--	--	4,250	<10	--	4,260	--	--	--

**TABLE 3b**  
**ADDITIONAL HISTORICAL GROUNDWATER ANALYTICAL DATA**  
**76 STATION NO. 5191/504**  
**449 HEGENBERGER ROAD**  
**OAKLAND, CALIFORNIA**



Well I.D.	Date	GROUND WATER ANALYTICAL DATA																			
		Copper (ug/L)	Inorganic Carbon (mg/L)	Iron SW6010 D (ug/L)	Iron SW6010 T (ug/L)	Iron, Ferric (ug/L)	Iron, Ferrous (ug/L)	Lead (ug/L)	Manganese (ug/L)	Mercury (ug/L)	Methane (ug/L)	Molybdenum (ug/L)	Nickel (ug/L)	Nitrate as N E300.0 (mg/L)	Nitrate as N E353/E351 (ug/L)	Nitrite as N (ug/L)	Nitrogen, Ammonia (mg/L)	Nitrogen, NO2 plus NO3 (ug/L)	Nitrogen, Total Kjeldahl (mg/L)	Oil and Grease (ug/L)	Salinity (mg/L)
MW-13	7/6/2010	--	--	<b>116</b>	<b>92,600</b>	--	--	--	--	--	--	--	--	--	<50.0	<b>65</b>	--	<b>70</b>	--	--	--
	9/20/2010	--	--	<b>279</b>	<b>59,500</b>	--	--	--	--	--	--	--	--	--	<50.0	<10.0	--	<50.0	--	--	--
	3/14/2011	--	--	--	<b>44,600</b>	--	--	--	--	--	--	--	--	--	--	--	--	<50.0	--	--	--
	6/2/2011	--	--	--	<b>36,700</b>	--	--	--	--	--	--	--	--	--	<b>71.5</b>	<b>14.5</b>	--	<b>86.0</b>	--	--	--
	6/12/2012	--	--	--	<b>3,760</b>	--	--	--	--	--	--	--	--	--	<50.0	<b>19.0</b>	--	<50.0	--	--	--
MW-14	6/2/2011	--	--	--	<b>47,500</b>	--	--	--	--	--	--	--	--	--	<50.0	<b>10.4</b>	--	<b>50.1</b>	--	--	--
	6/12/2012	--	--	--	<b>1,150</b>	--	--	--	--	--	--	--	--	--	<50.0	<10	--	<50.0	--	--	--
	9/6/2012	--	--	--	--	<b>8,900</b>	--	--	--	<b>718</b>	--	--	--	--	--	--	--	--	--	--	--
	9/11/2012	--	--	--	--	--	--	--	--	--	--	--	--	<0.10	--	--	--	--	--	--	--
MW-15	6/2/2011	--	--	--	<b>11,700</b>	--	--	--	--	--	--	--	--	--	<b>890</b>	<b>38.0</b>	--	<b>928</b>	--	--	--
	6/12/2012	--	--	--	<b>2,920</b>	--	--	--	--	--	--	--	--	--	<50.0	<10	--	<50.0	--	--	--
MW-16	6/2/2011	--	--	--	<b>34,200</b>	--	--	--	--	--	--	--	--	--	<50.0	<10.0	--	<50.0	--	--	--
	6/12/2012	--	--	--	<b>1,730</b>	--	--	--	--	--	--	--	--	--	<50.0	<10	--	<50.0	--	--	--
MW-17	6/2/2011	--	--	--	<b>109,000</b>	--	--	--	--	--	--	--	--	--	<50.0	<b>29.7</b>	--	<50.0	--	--	--
	6/12/2012	--	--	--	<b>44,300</b>	--	--	--	--	--	--	--	--	--	<50.0	<b>39.0</b>	--	<50.0	--	--	--
	9/6/2012	--	--	--	--	<b>21,000</b>	--	--	--	--	<b>182</b>	--	--	--	--	--	--	--	--	--	--
	9/11/2012	--	--	--	--	--	--	--	--	--	--	--	--	<0.50	--	--	--	--	--	--	--

**Analytical Notes:**  
 < - Below laboratory's indicated reporting limit  
 mg/L - milligrams per liter  
 ug/L - micrograms/liter  
**Bold** - Above the laboratory's indicated reporting limit

**TABLE 3c**  
**ADDITIONAL HISTORICAL GROUNDWATER ANALYTICAL DATA**  
**76 STATION NO. 5191/5041**  
**449 HEGENBERGER ROAD**  
**OAKLAND, CALIFORNIA**



Well I.D.	Date	GROUNDWATER ANALYTICAL DATA							
		Selenium (ug/L)	Silver (ug/L)	Sulfate E300 (ug/L)	Sulfate E300.1 (mg/L)	Thallium (ug/L)	Total Organic Carbon (mg/L)	Vanadium (ug/L)	Zinc (ug/L)
MW-3	12/17/2009	--	--	--	<0.5	--	--	--	--
	6/30/2010	--	--	<5000	--	--	--	--	--
	6/2/2011	--	--	<5000	--	--	--	--	--
	6/11/2012	--	--	<2000	--	--	--	--	--
MW-6	9/17/2009	--	--	<1.0	<0.0010	--	--	--	--
	12/17/2009	--	--	--	<0.5	--	--	--	--
	3/29/2010	--	--	<1000	--	--	--	--	--
	6/30/2010	--	--	<5000	--	--	--	--	--
	9/20/2010	--	--	<1000	--	--	--	--	--
	3/14/2011	<10.0	<10.0	<b>35,400</b>	--	<20.0	--	<50.0	<40.0
	6/2/2011	<10.0	<10.0	<b>38,900</b>	--	<20.0	<b>41</b>	<50.0	<40.0
	6/12/2012	--	--	<b>1,110</b>	--	--	--	--	--
3/4/2014	--	<5.0	--	--	--	--	--	<b>36</b>	
MW-7	6/30/2010	--	--	<b>191,000</b>	--	--	--	--	--
	6/2/2011	--	--	<b>48,900</b>	--	--	--	--	--
	6/11/2012	--	--	<b>56,900</b>	--	--	--	--	--
MW-8	6/30/2010	--	--	<b>2,360,000</b>	--	--	--	--	--
	6/2/2011	--	--	<b>2,830,000</b>	--	--	--	--	--
	6/11/2012	--	--	<b>2,570,000</b>	--	--	--	--	--
MW-9	12/17/2009	--	--	--	<b>11</b>	--	--	--	--
	6/30/2010	--	--	<b>19,000</b>	--	--	--	--	--
	3/14/2011	<10.0	<10.0	<b>8,980</b>	--	<20.0	--	<50.0	<40.0
	6/2/2011	<10.0	<10.0	<b>18,600</b>	--	<20.0	<b>4.7</b>	<50.0	<40.0
	6/11/2012	--	--	<b>42,500</b>	--	--	--	--	--



**TABLE 3c**  
**ADDITIONAL HISTORICAL GROUNDWATER ANALYTICAL DATA**  
**76 STATION NO. 5191/5041**  
**449 HEGENBERGER ROAD**  
**OAKLAND, CALIFORNIA**



Well I.D.	Date	GROUNDWATER ANALYTICAL DATA							
		Selenium (ug/L)	Silver (ug/L)	Sulfate E300 (ug/L)	Sulfate E300.1 (mg/L)	Thallium (ug/L)	Total Organic Carbon (mg/L)	Vanadium (ug/L)	Zinc (ug/L)
MW-10	9/17/2009	--	--	<b>84</b>	<b>0.084</b>	--	--	--	--
	12/17/2009	--	--	--	<b>86</b>	--	--	--	--
	3/29/2010	--	--	<b>73,600</b>	--	--	--	--	--
	6/30/2010	--	--	<b>70,800</b>	--	--	--	--	--
	9/20/2010	--	--	<b>82,000</b>	--	--	--	--	--
	3/14/2011	--	--	<b>68,600</b>	--	--	--	--	--
	6/2/2011	--	--	<b>71,700</b>	--	--	--	--	--
	6/11/2012	--	--	<b>70,100</b>	--	--	--	--	--
MW-11	7/6/2010	--	--	<b>82,100</b>	--	--	--	--	--
	9/20/2010	--	--	<b>58,300</b>	--	--	--	--	--
	3/14/2011	--	--	<b>59,900</b>	--	--	--	--	--
	6/2/2011	--	--	<b>62,900</b>	--	--	--	--	--
	6/11/2012	--	--	<b>79,400</b>	--	--	--	--	--
MW-12	7/6/2010	--	--	<b>3,030,000</b>	--	--	--	--	--
	9/20/2010	--	--	<b>1,970,000</b>	--	--	--	--	--
	3/14/2011	<10.0	<10.0	<b>2,500,000</b>	--	<20.0	--	<50.0	<40.0
	6/2/2011	<10.0	<10.0	<b>2,330,000</b>	--	<20.0	<b>9.1</b>	<50.0	<40.0
	6/12/2012	--	--	<b>2,130,000</b>	--	--	--	--	--
	3/4/2014	--	<5.0	--	--	--	--	--	<b>46</b>
MW-12A	7/6/2010	--	--	<b>100,000</b>	--	--	--	--	--
	9/20/2010	--	--	<b>82,500</b>	--	--	--	--	--
	3/14/2011	--	--	<b>81,000</b>	--	--	--	--	--
	6/2/2011	--	--	<b>101,000</b>	--	--	--	--	--
	6/11/2012	--	--	<b>118,000</b>	--	--	--	--	--

**TABLE 3c**  
**ADDITIONAL HISTORICAL GROUNDWATER ANALYTICAL DATA**  
**76 STATION NO. 5191/5041**  
**449 HEGENBERGER ROAD**  
**OAKLAND, CALIFORNIA**



Well I.D.	Date	GROUNDWATER ANALYTICAL DATA							
		Selenium (ug/L)	Silver (ug/L)	Sulfate E300 (ug/L)	Sulfate E300.1 (mg/L)	Thallium (ug/L)	Total Organic Carbon (mg/L)	Vanadium (ug/L)	Zinc (ug/L)
MW-13	7/6/2010	--	--	<b>450,000</b>	--	--	--	--	--
	9/20/2010	--	--	<b>241,000</b>	--	--	--	--	--
	3/14/2011	--	--	<b>375,000</b>	--	--	--	--	--
	6/2/2011	--	--	<b>188,000</b>	--	--	--	--	--
	6/12/2012	--	--	<b>131,000</b>	--	--	--	--	--
MW-14	6/2/2011	--	--	<b>56,300</b>	--	--	--	--	--
	6/12/2012	--	--	<b>439,000</b>	--	--	--	--	--
MW-15	6/2/2011	--	--	<b>62,700</b>	--	--	--	--	--
	6/12/2012	--	--	<b>42,100</b>	--	--	--	--	--
MW-16	6/2/2011	--	--	<b>8,740</b>	--	--	--	--	--
	6/12/2012	--	--	<b>19,900</b>	--	--	--	--	--
MW-17	6/2/2011	--	--	<b>3,920,000</b>	--	--	--	--	--
	6/12/2012	--	--	<b>2,520,000</b>	--	--	--	--	--

**Analytical Notes:**

< - Below laboratory's indicated reporting limit

mg/L - milligrams per liter

ug/L - micrograms/liter

**Bold** - Above the laboratory's indicated reporting limit

TABLE 3d  
 ADDITIONAL HISTORICAL GROUNDWATER ANALYTICAL DATA  
 76 STATION NO. 5191/5043  
 449 HEGENBERGER ROAD  
 OAKLAND, CALIFORNIA



Well I.D.	Date	GROUNDWATER ANALYTICAL DATA												
		1,2,4-Trimethylbenzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	Isopropyl Benzene (ug/L)	Naphthalene (ug/L)	O-Xylene (ug/L)	P,M-Xylene (ug/L)	n-Butylbenzene (ug/L)	n-Propylbenzene (ug/L)	p-Isopropyltoluene (ug/L)	sec-Butylbenzene (ug/L)	HEM:Oil and Grease (mg/L)	Phenolics, Total (mg/L)	Cyanide, Total (mg/L)
MW-6	3/4/2014	<b>3,000</b>	<b>860</b>	<b>200</b>	<b>990</b>	<b>300</b>	<b>1,400</b>	<b>100</b>	<b>530</b>	<b>22</b>	<b>53</b>	<b>1.6</b>	<0.1	<0.02
MW-12	3/4/2014	<b>3.7</b>	<b>11</b>	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<b>1.9</b>	<b>0.1</b>	<0.02

**Analytical Notes:**

< - Below laboratory's indicated reporting limit  
 mg/L - milligrams per liter  
 MPN/100ML - most probable number per 100 ml  
 ug/L - micrograms/liter  
**Bold** - Above the laboratory's indicated reporting limit



**TABLE 4**  
**Historical Groundwater Gradient and Flow Direction Data**  
76 Station No. 5191/5043  
449 Hegenberger Road  
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
	03/06/12	0.010	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	06/11/12	0.050	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	09/06/12	Variable	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12/13/12	0.020	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	03/14/13	0.050	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	06/11/13	0.001	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	09/10/13	0.014	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	12/12/13	0.018	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	03/04/14	0.010	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	06/12/14	0.020	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	09/05/14	0.003	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	12/22/14	Variable	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	03/16/15	Variable	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	06/11/15	Variable	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	09/09/15	Variable	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12/08/15	Variable	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>0.024 Average</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>34</b>	<b>1</b>	<b>16</b>	<b>0</b>	<b>20</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Explanation</b>																		
NA = Not available																		
Number of Events = 81																		

*Quarterly Summary Report, Fourth Quarter 2015*  
*76 Station No. 5191/5043*  
*Oakland, CA*  
*Antea Group Project No. I42705191*



## ***Appendix A***

Previous Investigation and Site History Summary

## PREVIOUS INVESTIGATION AND SITE HISTORY SUMMARY

October 1991 - Four soil samples were collected from the product pipe trenches at depths of approximately 3 feet below ground surface (bgs) during a dispenser island modification. The product pipe trenches were subsequently excavated to the groundwater depth at 4 to 4.5 feet bgs.

February 1992 - Three monitoring wells, MW-1 through MW-3, were installed at the site to depths ranging from 13.5 to 15 feet bgs.

August 1992 - Three additional monitoring wells, MW-4 through MW-6, were installed at the site to a depth of 13.5 feet bgs.

September 1994 - One 280-gallon waste-oil UST was removed from the site. The UST was made of steel, and no apparent holes or cracks were observed in the UST. One soil sample was collected from beneath the former UST at a depth of approximately 9 feet bgs. No petroleum hydrocarbons were reported.

January 1995 - Two additional monitoring wells, MW-9 and MW-10, were installed to depths of 13 and 15 feet bgs. In addition, monitoring wells MW-4 and MW-5 were destroyed by over-drilling the wells and backfilling with neat cement.

March 1995 - Two 10,000-gallon gasoline USTs and one 10,000-gallon diesel UST were removed from the site. Groundwater was encountered in the tank cavity at a depth of approximately 8.5 feet bgs. Soil samples contained total petroleum hydrocarbons as diesel (TPHd) and benzene, and TPH as gasoline (TPHg). Approximately 125,000 gallons of groundwater were pumped from the site for remediation and properly disposed off-site. Four fuel dispenser islands and associated product piping were also removed. Based on the results of the confirmation samples, the product dispenser islands were over excavated to approximately 6 feet bgs.

March-April 1995 - During demolition activities of the former station building, soil samples were collected from two excavations, which were subsequently over excavated. Confirmation samples contained petroleum hydrocarbons. An additional area on the south side of the former station building was excavated based on photo-ionization detector (PID) readings. Two monitoring wells, MW-1 and MW-2, were destroyed in order to allow for over excavation activities to extend to an area adjacent to the dispenser islands in the southeastern quadrant of the site. The excavated areas were subsequently backfilled with clean-engineered fill.

April 1997 - Two additional monitoring wells, MW-7 and MW-8, were installed off-site to the south and east on the neighboring property to a depth of 13 feet bgs. In addition, monitoring well MW-3, which was damaged during site renovation activities, was fully drilled out and reconstructed in the same borehole.

October 2003 - Site environmental consulting responsibilities were transferred to TRC.



April 8-9, 2005 - TRC conducted a 24-hour dual phase extraction (DPE) test at the site using monitoring well MW-6. The 24-hour DPE test was only moderately successful at removing vapor-phase petroleum hydrocarbons from the subsurface; therefore, TRC recommended DPE no longer be considered a viable remedial alternative for the site.

October 2007 - Site environmental consulting responsibilities were transferred to Delta Consultants.

December 2009 - Delta advanced two borings, B-4 and B-5, to depths of 20 feet bgs and 32 feet bgs, respectively. Analytical results from the soil and groundwater samples collected from these two borings indicated that the soil and the groundwater were impacted by petroleum hydrocarbons at these locations.

June 2010 – Delta installed two 4-inch diameter monitoring/extraction wells, MW-11 and MW-12, and two 2-inch diameter monitoring wells, MW-12A and MW-13, at the site. Analytical results from the soil and groundwater samples collected from the MW-12 and MW-12A boring locations indicated that the soil and the groundwater were impacted by petroleum hydrocarbons at these locations.

May 2011 – Antea Group (formally Delta Consultants) installed four 2-inch diameter monitoring wells, MW-14 through MW-17, and advanced one soil boring, B-6, at the site. All four monitoring wells were installed with ten feet of screen from 3 feet bgs to 13 feet bgs. Analytical results of soil samples collected during the monitoring well installation reported TPHg concentrations ranging from 1.0 milligrams per kilogram (mg/kg) (MW-14d13) to 2,490 mg/kg (B-6d9), benzene concentrations ranging from 0.67 mg/kg (B-6d21) to 26.4 mg/kg (B-6d9), toluene concentrations ranging from 0.2 mg/kg (MW-14d10) to 73.9 mg/kg (B-6d9), ethylbenzene concentrations ranging from 0.037 mg/kg (MW-14d13) to 58.1 mg/kg (B-6d9), total xylenes concentrations ranging from 0.066 mg/kg (MW-14d13) to 230 mg/kg (B-6d9), methyl tertiary-butyl ether (MTBE) concentrations ranging from 0.015 mg/kg (MW-15d13) to 0.19 mg/kg (MW-15d8), tertiary-butyl alcohol (TBA) concentrations ranging from 0.014 mg/kg (MW-16d8 and B-6d21) to 0.16 mg/kg (MW-15d8), and lead concentrations ranging from 5.5 mg/kg (MW-16d13) to 16.3 mg/kg (MW-17d9). Diesel range organics (DRO) and DRO with silica gel concentrations were reported; however, all of the results did not match the laboratory standard for diesel. Concentrations of DRO ranged from 2.9 mg/kg (MW-17d13) to 258 mg/kg (B-6d14) and DRO with silica gel concentrations ranged from 2.5 mg/kg (MW-17d13) to 250 mg/kg (B-6d14).

March 2012 – Antea Group advanced five soil borings (HPB-1 through HPB-5) at the site. The borings were advanced using direct push technology. The borings were used to obtain a hydraulic profile of the substrate beneath the site. The data obtained during the investigation will be used to determine the best path forward in terms of remediation.

July 2013 – Antea Group advanced ten soil borings (SB-1 through SB-10) at the site. The borings were advanced using direct push technology. The borings were used to delineate petroleum hydrocarbon impacted soil around

monitoring well MW-6. Results of the investigation can be found in the *Site Investigation Report*, dated January 9, 2014.

June 2014 – Antea Group destroyed monitoring wells MW-10, MW-12, MW-12A, and MW-17 by pressure grouting. The wells were destroyed in preparation for on-site soil excavation activities.

September 2014 – Antea Group advanced two (2) cone penetration test (CPT) borings CPT-1 and CPT-2 in preparation for soil excavations on site. Soil and groundwater samples were not collected. Data from the CPT borings was used to help design shoring for excavations. Antea Group advanced three (3) off-site soil borings, SB-13 through SB-15. Soil and grab-groundwater samples were collected from the borings.

July 2015 – Antea Group destroyed on-site monitoring wells MW-6 and MW-14 in preparation for on-site soil excavation activities. On-site soil borings were advanced for waste characterization (WC-1 to WC-3) and delineate soil (SB-16 to SB-18) concentrations in the vicinity of the proposed soil excavation. Two off-site soil borings were advanced (SB-11 and SB-12) for delineation down-gradient.

#### **SENSITIVE RECEPTORS**

April 24, 2006, TRC completed a sensitive receptor survey for the site. According to the Department of Water Resources (DWR) records, three water supply wells are located within one-half mile of the site. The closest well is an irrigation well, reported to be, approximately 1,080 feet southeast of the site. In addition, two surface water bodies were observed within a one-half mile radius of the site. San Leandro Creek is located approximately 1,400 feet southwest of the site and flows into the San Leandro Bay. Elmhurst Creek is located approximately 2,220 feet north of the site and also flows into the San Leandro Bay.

Current Consultant: **Antea Group**

*Quarterly Summary Report, Fourth Quarter 2015*  
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*Oakland, CA*  
*Antea Group Project No. I42705191*



## ***Appendix B***

Antea Group Groundwater Sampling Procedures

## **FIELD METHODS AND PROCEDURES**

The following section describes field procedures that are to be used by Antea Group personnel in the performance of the tasks involved with this project.

### **1.0 HEALTH AND SAFETY PLAN**

Fieldwork performed by Antea Group and Antea Group's subcontractors at the site will be conducted according to guidelines established in a Site Health and Safety Plan (SHSP). The SHSP is a document that describes the hazards that may be encountered in the field and specifies protective equipment, work procedures and emergency information. A copy of the SHSP will be at the site and available for reference by appropriate parties during work at the site.

### **2.0 GROUNDWATER DEPTH ASSESSMENT**

A water/product interface probe is used to assess the liquid-phase hydrocarbons (LPH) thickness, if present, and a water level indicator is used to measure the groundwater depth in monitoring wells that do not contain LPH. Depth to groundwater or LPH is measured from a datum point at the top of each monitoring well casing. The datum point is typically a notch cut in the north side of the casing edge. If a water level indicator is used, the tip is subjectively analyzed for LPH sheen.

### **3.0 SUBJECTIVE ANALYSIS OF GROUNDWATER**

Prior to purging, a water sample is collected from the monitoring well for subjective assessment. The sample is retrieved by gently lowering a clean, disposable bailer to approximately one-half the bailer length past the air/liquid interface. The bailer is then retrieved and the sample contained within the bailer is examined for floating LPH and the appearance of a LPH sheen.

### **4.0 MONITORING WELL SAMPLING**

Monitoring wells are purged using a pump or bailer until pH, temperature and conductivity of the purge water has stabilized and a minimum of three well volumes of water has been removed. The purge water is placed in 55-gallon drums and temporarily stored onsite pending evaluation of disposal options. If three well volumes cannot be removed in one-half an hour's time, the well is allowed to recharge to 80 percent of original level. After recharging, a groundwater sample is then removed from each of the wells using a pump or disposable bailer. The water sample is collected, labeled and handled according to the Quality Assurance Plan. Water generated during the monitoring event is disposed of according to the accepted regulatory method pertaining to the site.

## **5.0 QUALITY ASSURANCE PLAN**

This section describes the field and analytical procedures to be followed by Antea Group throughout the investigation.

### **5.1 General Sample Collection and Handling Procedures**

Proper collection and handling are essential to ensure the quality of a sample. Each sample will be collected in the appropriate container, preserved correctly for the intended analysis and stored, prior to analysis, for no longer than the maximum allowable holding time. Details on the procedures for collection and handling of soil samples from this project can be found in previous sections.

### **5.2 Sample Identification and Chain-of-Custody Procedures**

Sample identification and chain-of-custody procedures ensure sample integrity and document sample possession from the time of collection to its ultimate disposal. Each sample container submitted for analysis will have a label affixed to identify the job number, sampler, date and time of sample collection and a sample number unique to that sample. During soil sampling, this information, in addition to a description of the sample, field measurements made, sampling methodology, names of on-site personnel and any other pertinent field observations will be recorded on the borehole log or in the field records.

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*Oakland, CA*  
*Antea Group Project No. I42705191*



## ***Appendix C***

Antea Group Groundwater Sampling Field Data Sheets





# Groundwater Sampling Form

Site Address: 449 Hegenberger, Oakland, CA 94621	
Project No: I42705191	Field Technician: Jonathan Fillingame
Field Point: MW-3	Date: 12/8/15
Depth to Water (DTW) (ft bgs): 3.52	Well Diameter (in): ② 4 6 8
Depth to LNAPL (ft bgs):	Thickness of LNAPL (ft):
Total Depth of Well (ft bgs): 14.02	Water Column Height (ft): 10.50

### Purging Info and Calculations:

<b>Purge Method:</b> Low-Flow <input checked="" type="checkbox"/> 3 casing volumes Other: _____	<b>Purge Equipment:</b> <input type="checkbox"/> Disposable Bailer <input checked="" type="checkbox"/> Electric Submersible <input type="checkbox"/> Peristaltic Pump <input type="checkbox"/> Bladder Pump Other: _____	<b>Sample Collection Method:</b> <input checked="" type="checkbox"/> Disposable Bailer <input type="checkbox"/> Extraction Port <input type="checkbox"/> Dedicated Tubing <input type="checkbox"/> Disposable Tubing Other: _____
Water Column Height (ft): 10.50 X Conversion Factor (gal/ft): 0.17 = Casing Volume (gal): 1.79 Casing Volume (gal): 1.79 X Specified Volumes: 3 = Calculated Purge (gal): 5.36		
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>								
13:46	21.76	6.83	5570	-190.6	77.6	2.46	0.1	
13:47	21.79	6.42	5132	-228.3	11.8	0.82	1.8	
13:48	23.14	6.21	6338	-203.9	14.7	1.46	3.6	
							5.4	
<b>Post-Purge</b>								

Did Well dewater?  Yes  No      Total Purge volume (gal): 4.5

**Other Comments:** \_\_\_\_\_

<b>Sample Info:</b>	
Sample ID: MW-3-20151231	Sample Date and Time: 12/8/15 14:10
Selected Analysis: _____	

This form was provided by Antea Group and completed by: (Print Full Name) \_\_\_\_\_

Signature: Jonathan Fillingame      Date: 12/8/15

LNAPL = light non-aqueous phase liquids
gal = gallon/s  
bgs = below ground surface
temp = temperature  
ORP = Oxidation-Reduction Potential
NTU = Nephelometric Turbidity Units  
D.O. = dissolved oxygen
mV = millivolts

# Groundwater Sampling Form

Site Address: 449 Hegenberger, Oakland, CA 94621	
Project No: I42705191	Field Technician: Jonathan Fillingame
Field Point: MW-9	Date: 12/8/15
Depth to Water (DTW) (ft bgs): 3.09	Well Diameter (in): (2) 4 6 8
Depth to LNAPL (ft bgs):	Thickness of LNAPL (ft):
Total Depth of Well (ft bgs): 12.52	Water Column Height (ft): 9.43'

### Purging Info and Calculations:

<b>Purge Method:</b> Low-Flow -3 casing volumes Other: _____	<b>Purge Equipment:</b> Disposable Bailer -Electric Submersible Peristaltic Pump Bladder Pump Other: _____	<b>Sample Collection Method:</b> -Disposable Bailer Extraction Port Dedicated Tubing Disposable Tubing Other: _____
Water Column Height (ft): 9.43	X Conversion Factor (gal/ft): 0.17	= Casing Volume (gal): 1.60
Casing Volume (gal): 1.60	X Specified Volumes: 3	= Calculated Purge (gal): 4.80
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)	
Pre-Purge									
13:11	22.56	6.10	7868	-183.2	84.1	1.97	0.1		
13:12	22.24	6.23	5298	-203.6	13.7	1.18	1.6		
13:13	23.43	6.12	8502	-136.4	120	3.21	3.2		
							4.8		
Post-Purge									
Did Well dewater? (Yes) No		Total Purge volume (gal): 4.0							

**Other Comments:** \_\_\_\_\_

<b>Sample Info:</b>	
Sample ID: MW-9-20151231	Sample Date and Time: 12/8/15 13:30
Selected Analysis: _____	

This form was provided by Antea Group and completed by: (Print Full Name) \_\_\_\_\_

Signature: *Jonathan Fillingame* Date: 12/8/15



LNAPL = light non-aqueous phase liquids  
 gal = gallon/s  
 bgs = below ground surface  
 temp = temperature  
 ORP = Oxidation-Reduction Potential  
 NTU = Nephelometric Turbidity Units  
 D.O. = dissolved oxygen  
 mV = millivolts



# Groundwater Sampling Form

Site Address: 449 Hegenberger, Oakland, CA 94621	
Project No: I42705191	Field Technician: Jonathan Fillingame
Field Point: MW-11	Date: 12/8/15
Depth to Water (DTW) (ft bgs): 3.32	Well Diameter (in): 2 ④ 6 8
Depth to LNAPL (ft bgs):	Thickness of LNAPL (ft):
Total Depth of Well (ft bgs): 19.63	Water Column Height (ft): 16.31

### Purging Info and Calculations:

<b>Purge Method:</b> Low-Flow <input checked="" type="checkbox"/> 3 casing volumes Other: _____	<b>Purge Equipment:</b> Disposable Bailer <input type="checkbox"/> Electric Submersible Peristaltic Pump Bladder Pump Other: _____	<b>Sample Collection Method:</b> <input checked="" type="checkbox"/> Disposable Bailer Extraction Port Dedicated Tubing Disposable Tubing Other: _____
Water Column Height (ft): 16.31	X Conversion Factor (gal/ft): 0.66	= Casing Volume (gal): 10.76
Casing Volume (gal): 10.76	X Specified Volumes: 3	= Calculated Purge (gal): 32.29
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)
Pre-Purge									
	14:14	21.17	6.94	2929	-153.6	134	1.44	0.1	
	14:18	21.46	6.42	2906	-192.1	41.6	0.36	10.8	
	14:23	21.66	6.28	2488	-159.8	14.2	0.29	21.5	
	14:27	21.76	6.24	2448	-169.2	5.95	0.28	32.3	
Post-Purge									
Did Well dewater?	Yes	<input checked="" type="radio"/> No		Total Purge volume (gal): 32.3					

**Other Comments:** \_\_\_\_\_

**Sample Info:**

Sample ID: MW-11_20151231	Sample Date and Time: 12/8/15 14:50
Selected Analysis:	

This form was provided by Antea Group and completed by: (Print Full Name) \_\_\_\_\_

Signature: *Jonathan Fillingame* Date: 12/8/15

# Groundwater Sampling Form

Site Address: 449 Hegenberger, Oakland, CA 94621	
Project No: I42705191	Field Technician: Jonathan Fillingame
Field Point: MW-13	Date: 12/8/15
Depth to Water (DTW) (ft bgs): 4.13	Well Diameter (in): 6 4 6 8
Depth to LNAPL (ft bgs):	Thickness of LNAPL (ft):
Total Depth of Well (ft bgs): 14.66	Water Column Height (ft): 12.53

### Purging Info and Calculations:

<b>Purge Method:</b> Low-Flow -3 casing volumes Other: _____	<b>Purge Equipment:</b> Disposable Bailer -Electric Submersible Peristaltic Pump Bladder Pump Other: _____	<b>Sample Collection Method:</b> -Disposable Bailer Extraction Port Dedicated Tubing Disposable Tubing Other: _____
Water Column Height (ft): <u>12.53</u> X Conversion Factor (gal/ft): <u>0.17</u> = Casing Volume (gal): <u>2.13</u> Casing Volume (gal): <u>2.13</u> X Specified Volumes: <u>3</u> = Calculated Purge (gal): <u>6.39</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>									
14:57	19.49	6.29	6811	-222.2	64.7	2.02	0.1		
14:58	18.62	6.26	7382	-230.7	57.7	0.65	2.1		
14:59	19.21	6.19	8117	-226.4	16.0	0.54	4.3		
<del>15:00</del>	19.68	6.18	8450	-225.3	11.6	0.54	6.4		
<b>Post-Purge</b>									
Did Well dewater? Yes <input checked="" type="radio"/> No <input type="radio"/>		Total Purge volume (gal): <u>6.9</u>							

**Other Comments:** \_\_\_\_\_

<b>Sample Info:</b>	
Sample ID: MW-13-20151231	Sample Date and Time: 12/8/15 15:20
Selected Analysis: _____	

This form was provided by Antea Group and completed by: (Print Full Name) \_\_\_\_\_

Signature: Jonathan Fillingame Date: 12/8/15



# Groundwater Sampling Form

Site Address: 449 Hegenberger, Oakland, CA 94621	
Project No: I42705191	Field Technician: Jonathan Fillingame
Field Point: MW-15	Date: 12/8/15
Depth to Water (DTW) (ft bgs): 3.04	Well Diameter (in): ② 4 6 8
Depth to LNAPL (ft bgs):	Thickness of LNAPL (ft):
Total Depth of Well (ft bgs): 12.78	Water Column Height (ft): 9.74

### Purging Info and Calculations:

<b>Purge Method:</b> Low-Flow <input checked="" type="checkbox"/> 3 casing volumes Other: _____	<b>Purge Equipment:</b> Disposable Bailer <input checked="" type="checkbox"/> Electric Submersible Peristaltic Pump Bladder Pump Other: _____	<b>Sample Collection Method:</b> <input checked="" type="checkbox"/> Disposable Bailer Extraction Port Dedicated Tubing Disposable Tubing Other: _____
Water Column Height (ft): 9.74	X Conversion Factor (gal/ft): 0.17	= Casing Volume (gal): 1.66
Casing Volume (gal): 1.66	X Specified Volumes: 3	= Calculated Purge (gal): 4.97
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)
Pre-Purge									
	16:22	19.71	7.58	5210	-226.7	168	2.70	0.1	
	16:23	20.43	7.66	3199	-213.9	77.6	1.06	1.7	
	16:24	21.11	6.90	5699	-209.0	26.1	1.48	3.8	
	#							5.0	
Post-Purge									

Did Well dewater?  Yes    No    Total Purge volume (gal): 4.0

**Other Comments:** Pre-purge sample: MW-15 sent to Pace  
FD1-20151231

<b>Sample Info:</b>	
Sample ID: MW-15-20151231	Sample Date and Time: 12/8/15 16:40
Selected Analysis:	

This form was provided by Antea Group and completed by: (Print Full Name) \_\_\_\_\_

Signature: Jonathan Fillingame    Date: 12/8/15



LNAPL = light non-aqueous phase liquids  
 gal = gallon/s  
 bgs = below ground surface  
 temp = temperature  
 ORP = Oxidation-Reduction Potential  
 NTU = Nephelometric Turbidity Units  
 D.O. = dissolved oxygen  
 mV = millivolts

# Groundwater Sampling Form

Site Address: 449 Hegenberger, Oakland, CA 94621	
Project No: I42705191	Field Technician: Jonathan Fillingame
Field Point: MW-16	Date: 12/8/15
Depth to Water (DTW) (ft bgs): 3.86	Well Diameter (in): ② 4 6 8
Depth to LNAPL (ft bgs):	Thickness of LNAPL (ft):
Total Depth of Well (ft bgs): 12.73	Water Column Height (ft): 8.87

### Purging Info and Calculations:

<b>Purge Method:</b> Low-Flow -3 casing volumes Other: _____	<b>Purge Equipment:</b> Disposable Bailer - Electric Submersible Peristaltic Pump Bladder Pump Other: _____	<b>Sample Collection Method:</b> - Disposable Bailer Extraction Port Dedicated Tubing Disposable Tubing Other: _____
Water Column Height (ft): 8.87	X Conversion Factor (gal/ft): 0.17	= Casing Volume (gal): 1.51
Casing Volume (gal): 1.51	X Specified Volumes: 3	= Calculated Purge (gal): 4.53
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>									
17:18	21.64	7.25	5819	-209.7	21000	2.22	0.1		
17:19	21.42	7.23	5027	-194.6	167	0.80	1.5		
17:20	21.39	7.05	5043	-187.4	105	0.69	3.0		
17:21	22.39	6.81	5769	-201.2	612	0.67	4.5		
<b>Post-Purge</b>									
Did Well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Total Purge volume (gal): 4.5							

**Other Comments:**

### Sample Info:

Sample ID: MW-16-20151231	Sample Date and Time: 12/8/15 17:40
Selected Analysis:	

This form was provided by Antea Group and completed by: (Print Full Name)

Signature: Jonathan Fillingame Date: 12/8/15



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







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*Oakland, CA*  
*Antea Group Project No. I42705191*



## ***Appendix D***

Certified Laboratory Analytical Report and Data Validation Form



Calscience



**WORK ORDER NUMBER: 15-12-0927**

*The difference is service*



AIR | SOIL | WATER | MARINE CHEMISTRY

**Analytical Report For**

**Client:** Antea Group

**Client Project Name:** 2705191

**Attention:** Dennis Dettloff  
11050 White Rock Rd. Suite# 110  
Rancho Cordova, CA 95670-6001

Approved for release on 12/18/2015 by:  
Terri Chang  
Project Manager

ResultLink ▶

Email your PM ▶



Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



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Work Order Number: 15-12-0927

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**Condition Upon Receipt:**

Samples were received under Chain-of-Custody (COC) on 12/11/15. They were assigned to Work Order 15-12-0927.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

**Holding Times:**

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of  $\leq 15$  minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

**Quality Control:**

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

**Subcontractor Information:**

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

**Additional Comments:**

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.



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## Sample Summary

Client: Antea Group	Work Order:	15-12-0927
11050 White Rock Rd. Suite# 110	Project Name:	2705191
Rancho Cordova, CA 95670-6001	PO Number:	
	Date/Time Received:	12/11/15 11:50
	Number of Containers:	44

Attn: Dennis Dettloff

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
MW-11_20151231	15-12-0927-1	12/08/15 14:50	6	Aqueous
MW-13_20151231	15-12-0927-2	12/08/15 15:20	6	Aqueous
MW-15_20151231	15-12-0927-3	12/08/15 16:40	6	Aqueous
MW-16_20151231	15-12-0927-4	12/08/15 17:40	6	Aqueous
MW-3_20151231	15-12-0927-5	12/08/15 14:10	6	Aqueous
MW-9_20151231	15-12-0927-6	12/08/15 13:30	6	Aqueous
TB1_20151231	15-12-0927-7	12/08/15 00:00	2	Aqueous
FD1_20151231	15-12-0927-8	12/08/15 00:00	6	Aqueous

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## Analytical Report

Antea Group  
11050 White Rock Rd. Suite# 110  
Rancho Cordova, CA 95670-6001

Date Received: 12/11/15  
Work Order: 15-12-0927  
Preparation: EPA 3510C  
Method: EPA 8015B (M)  
Units: ug/L

Project: 2705191

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-11_20151231	15-12-0927-1-F	12/08/15 14:50	Aqueous	GC 48	12/14/15	12/14/15 14:57	151214B01

Comment(s): - The sample extract was subjected to Silica Gel treatment prior to analysis.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
TPH as Diesel	ND	52	1.00	SG

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
n-Octacosane	90	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-13_20151231	15-12-0927-2-F	12/08/15 15:20	Aqueous	GC 48	12/14/15	12/14/15 15:12	151214B01

Comment(s): - The sample extract was subjected to Silica Gel treatment prior to analysis.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
TPH as Diesel	ND	52	1.00	SG

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
n-Octacosane	100	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-15_20151231	15-12-0927-3-F	12/08/15 16:40	Aqueous	GC 48	12/14/15	12/14/15 15:29	151214B01

Comment(s): - The sample extract was subjected to Silica Gel treatment prior to analysis.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
TPH as Diesel	ND	50	1.00	SG

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
n-Octacosane	101	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-16_20151231	15-12-0927-4-F	12/08/15 17:40	Aqueous	GC 48	12/14/15	12/14/15 15:45	151214B01

Comment(s): - The sample extract was subjected to Silica Gel treatment prior to analysis.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
TPH as Diesel	ND	50	1.00	SG

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
n-Octacosane	98	68-140	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



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## Analytical Report

Antea Group  
11050 White Rock Rd. Suite# 110  
Rancho Cordova, CA 95670-6001

Date Received: 12/11/15  
Work Order: 15-12-0927  
Preparation: EPA 3510C  
Method: EPA 8015B (M)  
Units: ug/L

Project: 2705191

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-3_20151231	15-12-0927-5-F	12/08/15 14:10	Aqueous	GC 48	12/14/15	12/14/15 16:02	151214B01

Comment(s): - The sample extract was subjected to Silica Gel treatment prior to analysis.

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	50	1.00	SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	100	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-9_20151231	15-12-0927-6-F	12/08/15 13:30	Aqueous	GC 48	12/14/15	12/14/15 16:18	151214B01

Comment(s): - The sample extract was subjected to Silica Gel treatment prior to analysis.

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	54	1.00	SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	104	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TB1_20151231	15-12-0927-7-C	12/08/15 00:00	Aqueous	GC 48	12/14/15	12/14/15 16:34	151214B01

Comment(s): - The sample extract was subjected to Silica Gel treatment prior to analysis.

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	47	1.00	SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	94	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
FD1_20151231	15-12-0927-8-F	12/08/15 00:00	Aqueous	GC 48	12/14/15	12/14/15 16:50	151214B01

Comment(s): - The sample extract was subjected to Silica Gel treatment prior to analysis.

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	50	1.00	SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	99	68-140	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.





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## Analytical Report

Antea Group  
11050 White Rock Rd. Suite# 110  
Rancho Cordova, CA 95670-6001

Date Received: 12/11/15  
Work Order: 15-12-0927  
Preparation: EPA 3510C  
Method: EPA 8015B (M)  
Units: ug/L

Project: 2705191

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>Method Blank</b>	<b>099-15-304-1259</b>	<b>N/A</b>	<b>Aqueous</b>	<b>GC 48</b>	<b>12/14/15</b>	<b>12/14/15 11:31</b>	<b>151214B01</b>

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
TPH as Diesel	ND	50	1.00	
<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>	
n-Octacosane	93	68-140		

  
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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

## Analytical Report

Antea Group  
11050 White Rock Rd. Suite# 110  
Rancho Cordova, CA 95670-6001

Date Received: 12/11/15  
Work Order: 15-12-0927  
Preparation: EPA 5030C  
Method: GC/MS / EPA 8260B  
Units: ug/L

Project: 2705191

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-11_20151231	15-12-0927-1-A	12/08/15 14:50	Aqueous	GC/MS R	12/14/15	12/14/15 13:00	151214L005

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.50	1.00	
Ethylbenzene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
p/m-Xylene	ND	1.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	24	1.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	1.00	
Ethanol	ND	100	1.00	
Gasoline Range Organics (C6-C12)	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	101	78-126	
1,2-Dichloroethane-d4	108	75-135	
Toluene-d8	105	80-120	
Toluene-d8-TPPH	104	88-112	
1,4-Bromofluorobenzene	103	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



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## Analytical Report

Antea Group  
11050 White Rock Rd. Suite# 110  
Rancho Cordova, CA 95670-6001

Date Received: 12/11/15  
Work Order: 15-12-0927  
Preparation: EPA 5030C  
Method: GC/MS / EPA 8260B  
Units: ug/L

Project: 2705191

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-13_20151231	15-12-0927-2-A	12/08/15 15:20	Aqueous	GC/MS R	12/14/15	12/14/15 13:28	151214L005

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.50	1.00	
Ethylbenzene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
p/m-Xylene	ND	1.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	14	1.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	1.00	
Ethanol	ND	100	1.00	
Gasoline Range Organics (C6-C12)	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	101	78-126	
1,2-Dichloroethane-d4	107	75-135	
Toluene-d8	104	80-120	
Toluene-d8-TPPH	103	88-112	
1,4-Bromofluorobenzene	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

## Analytical Report

Antea Group  
11050 White Rock Rd. Suite# 110  
Rancho Cordova, CA 95670-6001

Date Received: 12/11/15  
Work Order: 15-12-0927  
Preparation: EPA 5030C  
Method: GC/MS / EPA 8260B  
Units: ug/L

Project: 2705191

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-15_20151231	15-12-0927-3-A	12/08/15 16:40	Aqueous	GC/MS R	12/14/15	12/14/15 13:56	151214L005

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.50	1.00	
Ethylbenzene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
p/m-Xylene	ND	1.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	82	1.0	1.00	
Tert-Butyl Alcohol (TBA)	34	10	1.00	
Ethanol	ND	100	1.00	
Gasoline Range Organics (C6-C12)	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	101	78-126	
1,2-Dichloroethane-d4	107	75-135	
Toluene-d8	106	80-120	
Toluene-d8-TPPH	104	88-112	
1,4-Bromofluorobenzene	100	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



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## Analytical Report

Antea Group  
11050 White Rock Rd. Suite# 110  
Rancho Cordova, CA 95670-6001

Date Received: 12/11/15  
Work Order: 15-12-0927  
Preparation: EPA 5030C  
Method: GC/MS / EPA 8260B  
Units: ug/L

Project: 2705191

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-16_20151231	15-12-0927-4-A	12/08/15 17:40	Aqueous	GC/MS R	12/14/15	12/14/15 14:24	151214L005

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.50	1.00	
Ethylbenzene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
p/m-Xylene	ND	1.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	15	1.0	1.00	
Tert-Butyl Alcohol (TBA)	140	10	1.00	
Ethanol	ND	100	1.00	
Gasoline Range Organics (C6-C12)	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	100	78-126	
1,2-Dichloroethane-d4	103	75-135	
Toluene-d8	105	80-120	
Toluene-d8-TPPH	104	88-112	
1,4-Bromofluorobenzene	100	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

## Analytical Report

Antea Group  
11050 White Rock Rd. Suite# 110  
Rancho Cordova, CA 95670-6001

Date Received: 12/11/15  
Work Order: 15-12-0927  
Preparation: EPA 5030C  
Method: GC/MS / EPA 8260B  
Units: ug/L

Project: 2705191

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-3_20151231	15-12-0927-5-A	12/08/15 14:10	Aqueous	GC/MS R	12/14/15	12/14/15 14:52	151214L005

Comment(s): - The reporting limit is elevated resulting from matrix interference.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Benzene	ND	2.5	5.00	
Ethylbenzene	ND	5.0	5.00	
Toluene	ND	5.0	5.00	
p/m-Xylene	ND	5.0	5.00	
o-Xylene	ND	5.0	5.00	
Methyl-t-Butyl Ether (MTBE)	16	5.0	5.00	
Tert-Butyl Alcohol (TBA)	160	50	5.00	
Ethanol	ND	500	5.00	
Gasoline Range Organics (C6-C12)	ND	250	5.00	

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
Dibromofluoromethane	99	78-126	
1,2-Dichloroethane-d4	105	75-135	
Toluene-d8	104	80-120	
Toluene-d8-TPPH	102	88-112	
1,4-Bromofluorobenzene	99	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



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## Analytical Report

Antea Group  
11050 White Rock Rd. Suite# 110  
Rancho Cordova, CA 95670-6001

Date Received: 12/11/15  
Work Order: 15-12-0927  
Preparation: EPA 5030C  
Method: GC/MS / EPA 8260B  
Units: ug/L

Project: 2705191

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-9_20151231	15-12-0927-6-A	12/08/15 13:30	Aqueous	GC/MS R	12/14/15	12/14/15 15:20	151214L005

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.50	1.00	
Ethylbenzene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
p/m-Xylene	ND	1.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	4.6	1.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	1.00	
Ethanol	ND	100	1.00	
Gasoline Range Organics (C6-C12)	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	100	78-126	
1,2-Dichloroethane-d4	106	75-135	
Toluene-d8	105	80-120	
Toluene-d8-TPPH	104	88-112	
1,4-Bromofluorobenzene	99	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



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## Analytical Report

Antea Group  
11050 White Rock Rd. Suite# 110  
Rancho Cordova, CA 95670-6001

Date Received: 12/11/15  
Work Order: 15-12-0927  
Preparation: EPA 5030C  
Method: GC/MS / EPA 8260B  
Units: ug/L

Project: 2705191

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TB1_20151231	15-12-0927-7-A	12/08/15 00:00	Aqueous	GC/MS R	12/14/15	12/14/15 15:48	151214L005

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.50	1.00	
Ethylbenzene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
p/m-Xylene	ND	1.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	1.00	
Ethanol	ND	100	1.00	
Gasoline Range Organics (C6-C12)	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	99	78-126	
1,2-Dichloroethane-d4	103	75-135	
Toluene-d8	105	80-120	
Toluene-d8-TPPH	104	88-112	
1,4-Bromofluorobenzene	99	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



## Analytical Report

Antea Group  
11050 White Rock Rd. Suite# 110  
Rancho Cordova, CA 95670-6001

Date Received: 12/11/15  
Work Order: 15-12-0927  
Preparation: EPA 5030C  
Method: GC/MS / EPA 8260B  
Units: ug/L

Project: 2705191

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
FD1_20151231	15-12-0927-8-A	12/08/15 00:00	Aqueous	GC/MS R	12/14/15	12/14/15 16:16	151214L005

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.50	1.00	
Ethylbenzene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
p/m-Xylene	ND	1.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	65	1.0	1.00	
Tert-Butyl Alcohol (TBA)	31	10	1.00	
Ethanol	ND	100	1.00	
Gasoline Range Organics (C6-C12)	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	101	78-126	
1,2-Dichloroethane-d4	103	75-135	
Toluene-d8	106	80-120	
Toluene-d8-TPPH	105	88-112	
1,4-Bromofluorobenzene	99	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

## Analytical Report

Antea Group  
11050 White Rock Rd. Suite# 110  
Rancho Cordova, CA 95670-6001

Date Received: 12/11/15  
Work Order: 15-12-0927  
Preparation: EPA 5030C  
Method: GC/MS / EPA 8260B  
Units: ug/L

Project: 2705191

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>Method Blank</b>	<b>099-12-767-7184</b>	<b>N/A</b>	<b>Aqueous</b>	<b>GC/MS R</b>	<b>12/14/15</b>	<b>12/14/15 12:32</b>	<b>151214L005</b>

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Benzene	ND	0.50	1.00	
Ethylbenzene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
p/m-Xylene	ND	1.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	10	1.00	
Ethanol	ND	100	1.00	
Gasoline Range Organics (C6-C12)	ND	50	1.00	

<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
Dibromofluoromethane	97	78-126	
1,2-Dichloroethane-d4	106	75-135	
Toluene-d8	104	80-120	
Toluene-d8-TPPH	103	88-112	
1,4-Bromofluorobenzene	102	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

## Quality Control - Spike/Spike Duplicate

Antea Group  
11050 White Rock Rd. Suite# 110  
Rancho Cordova, CA 95670-6001

Date Received: 12/11/15  
Work Order: 15-12-0927  
Preparation: EPA 5030C  
Method: GC/MS / EPA 8260B

Project: 2705191

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
<b>MW-11_20151231</b>	<b>Sample</b>	<b>Aqueous</b>	<b>GC/MS R</b>	<b>12/14/15</b>	<b>12/14/15 13:00</b>	<b>151214S004</b>
<b>MW-11_20151231</b>	<b>Matrix Spike</b>	<b>Aqueous</b>	<b>GC/MS R</b>	<b>12/14/15</b>	<b>12/14/15 11:09</b>	<b>151214S004</b>
<b>MW-11_20151231</b>	<b>Matrix Spike Duplicate</b>	<b>Aqueous</b>	<b>GC/MS R</b>	<b>12/14/15</b>	<b>12/14/15 11:37</b>	<b>151214S004</b>

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	50.00	53.67	107	54.09	108	74-122	1	0-21	
Ethylbenzene	ND	50.00	56.91	114	55.73	111	77-125	2	0-24	
Toluene	ND	50.00	55.71	111	55.69	111	72-126	0	0-23	
p/m-Xylene	ND	100.0	113.3	113	113.7	114	63-129	0	0-25	
o-Xylene	ND	50.00	57.26	115	56.35	113	62-128	2	0-24	
Methyl-t-Butyl Ether (MTBE)	23.67	50.00	77.80	108	79.68	112	68-134	2	0-21	
Tert-Butyl Alcohol (TBA)	ND	250.0	213.8	86	204.0	82	65-143	5	0-30	
Ethanol	ND	500.0	454.1	91	429.6	86	34-178	6	0-58	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

## Quality Control - LCS/LCSD

Antea Group  
11050 White Rock Rd. Suite# 110  
Rancho Cordova, CA 95670-6001

Date Received: 12/11/15  
Work Order: 15-12-0927  
Preparation: EPA 3510C  
Method: EPA 8015B (M)

Project: 2705191

Page 1 of 2

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number			
099-15-304-1259	LCS	Aqueous	GC 48	12/14/15	12/14/15 11:47	151214B01			
099-15-304-1259	LCSD	Aqueous	GC 48	12/14/15	12/14/15 12:03	151214B01			
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	2000	1831	92	1919	96	75-117	5	0-13	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Calscience

## Quality Control - LCS/LCSD

Antea Group  
11050 White Rock Rd. Suite# 110  
Rancho Cordova, CA 95670-6001

Date Received: 12/11/15  
Work Order: 15-12-0927  
Preparation: EPA 5030C  
Method: GC/MS / EPA 8260B

Project: 2705191

Page 2 of 2

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number			
099-12-767-7184	LCS	Aqueous	GC/MS R	12/14/15	12/14/15 10:13	151214L005			
099-12-767-7184	LCSD	Aqueous	GC/MS R	12/14/15	12/14/15 10:41	151214L005			
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	50.00	50.47	101	N/A	N/A	80-120	N/A	0-20	
Ethylbenzene	50.00	53.41	107	N/A	N/A	80-123	N/A	0-20	
Toluene	50.00	52.28	105	N/A	N/A	80-120	N/A	0-20	
p/m-Xylene	100.0	108.3	108	N/A	N/A	75-123	N/A	0-25	
o-Xylene	50.00	53.99	108	N/A	N/A	74-122	N/A	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	55.98	112	N/A	N/A	69-129	N/A	0-22	
Tert-Butyl Alcohol (TBA)	250.0	220.5	88	N/A	N/A	69-129	N/A	0-25	
Ethanol	500.0	469.6	94	N/A	N/A	42-168	N/A	0-20	
Gasoline Range Organics (C6-C12)	1000	968.1	97	945.8	95	80-120	2	0-20	

RPD: Relative Percent Difference. CL: Control Limits

## Sample Analysis Summary Report

Work Order: 15-12-0927

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<u>Method</u>	<u>Extraction</u>	<u>Chemist ID</u>	<u>Instrument</u>	<u>Analytical Location</u>
EPA 8015B (M)	EPA 3510C	974	GC 48	1
GC/MS / EPA 8260B	EPA 5030C	927	GC/MS R	2

## Glossary of Terms and Qualifiers

Work Order: 15-12-0927

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<u>Qualifiers</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
	Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.
	A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.





SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: Antea Group

DATE: 12/11/2015

TEMPERATURE: (Criteria: 0.0°C - 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC2 (CF:-0.4°C); Temperature (w/o CF): 1.6 °C (w/ CF): 1.2 °C; [x] Blank [ ] Sample

[ ] Sample(s) outside temperature criteria (PM/APM contacted by: \_\_\_\_\_)

[ ] Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

[ ] Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: [ ] Air [ ] Filter

Checked by: 836

CUSTODY SEAL:

Cooler [x] Present and Intact [ ] Present but Not Intact [ ] Not Present [ ] N/A

Checked by: 836

Sample(s) [ ] Present and Intact [ ] Present but Not Intact [x] Not Present [ ] N/A

Checked by: 965

SAMPLE CONDITION:

Chain-of-Custody (COC) document(s) received with samples [x] Yes [ ] No [ ] N/A
COC document(s) received complete [x] Yes [ ] No [ ] N/A

[ ] Sampling date [ ] Sampling time [ ] Matrix [ ] Number of containers

[ ] No analysis requested [ ] Not relinquished [ ] No relinquished date [ ] No relinquished time

Sampler's name indicated on COC [x] Yes [ ] No [ ] N/A

Sample container label(s) consistent with COC [x] Yes [ ] No [ ] N/A

Sample container(s) intact and in good condition [x] Yes [ ] No [ ] N/A

Proper containers for analyses requested [x] Yes [ ] No [ ] N/A

Sufficient volume/mass for analyses requested [x] Yes [ ] No [ ] N/A

Samples received within holding time [x] Yes [ ] No [ ] N/A

Aqueous samples for certain analyses received within 15-minute holding time

[ ] pH [ ] Residual Chlorine [ ] Dissolved Sulfide [ ] Dissolved Oxygen [ ] N/A

Proper preservation chemical(s) noted on COC and/or sample container [x] Yes [ ] No [ ] N/A

Unpreserved aqueous sample(s) received for certain analyses

[ ] Volatile Organics [ ] Total Metals [ ] Dissolved Metals

Container(s) for certain analysis free of headspace [x] Yes [ ] No [ ] N/A

[x] Volatile Organics [ ] Dissolved Gases (RSK-175) [ ] Dissolved Oxygen (SM 4500)

[ ] Carbon Dioxide (SM 4500) [ ] Ferrous Iron (SM 3500) [ ] Hydrogen Sulfide (Hach)

Tedlar™ bag(s) free of condensation [ ] Yes [ ] No [x] N/A

CONTAINER TYPE:

(Trip Blank Lot Number: 151116A)

Aqueous: [ ] VOA [x] VOAh [ ] VOAna2 [ ] 100PJ [ ] 100PJna2 [ ] 125AGB [ ] 125AGBh [ ] 125AGBp [ ] 125PB

[ ] 125PBzanna [ ] 250AGB [ ] 250CGB [ ] 250CGBs [ ] 250PB [ ] 250PBn [ ] 500AGB [x] 500AGJ [ ] 500AGJs

[ ] 500PB [ ] 1AGB [ ] 1AGBna2 [ ] 1AGBs [ ] 1PB [ ] 1PBna [ ] [ ] [ ] [ ] [ ]

Solid: [ ] 4ozCGJ [ ] 8ozCGJ [ ] 16ozCGJ [ ] Sleeve ( ) [ ] EnCores® ( ) [ ] TerraCores® ( ) [ ]

Air: [ ] Tedlar™ [ ] Canister [ ] Sorbent Tube [ ] PUF [ ] Other Matrix ( ): [ ] [ ] [ ]

Container: A = Amber, B = Bottle, C = Clear, E = Envelope, G = Glass, J = Jar, P = Plastic, and Z = Ziploc/Resealable Bag

Preservative: b = buffered, f = filtered, h = HCl, n = HNO3, na = NaOH, na2 = Na2S2O3, p = H3PO4, Labeled/Checked by: 965

s = H2SO4, u = ultra-pure, zanna = Zn(CH3CO2)2 + NaOH

Reviewed by: 1017



Is the Data Valid?  
(circle)  
Yes / No

Preservation Temperature  
(if Known): 1.2 °C

## Antea Group Lab Validation Sheet

Project/Client: COP/ELT

Project #: 142705191

Date of Validation: 1/27/16 Date of Analysis: 12/14/15 Sample Date: 12/8/15

Completed By: Jon F. Signature: Jonathan Fillingame

Analytical Lab Used and Report # (if any): Eurofins Calscience 15-12-0927

Circle or Highlight Yes/No below
<u>Yes</u> / No
<u>Yes</u> / No
<u>Yes</u> / No
<u>Yes</u> / No
<u>Yes</u> / No
<u>Yes</u> / No
<u>Yes</u> / No
Yes / No <u>N/</u>
<u>Yes</u> / No
<u>Yes</u> / No
<u>Yes</u> / No

1. Was the analysis the one 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 below 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., approx 80-120% depending on analyte)?

10. Were MS/MSD (or SS/SSD) values used to calculate Relative Percent Difference (RPD)?

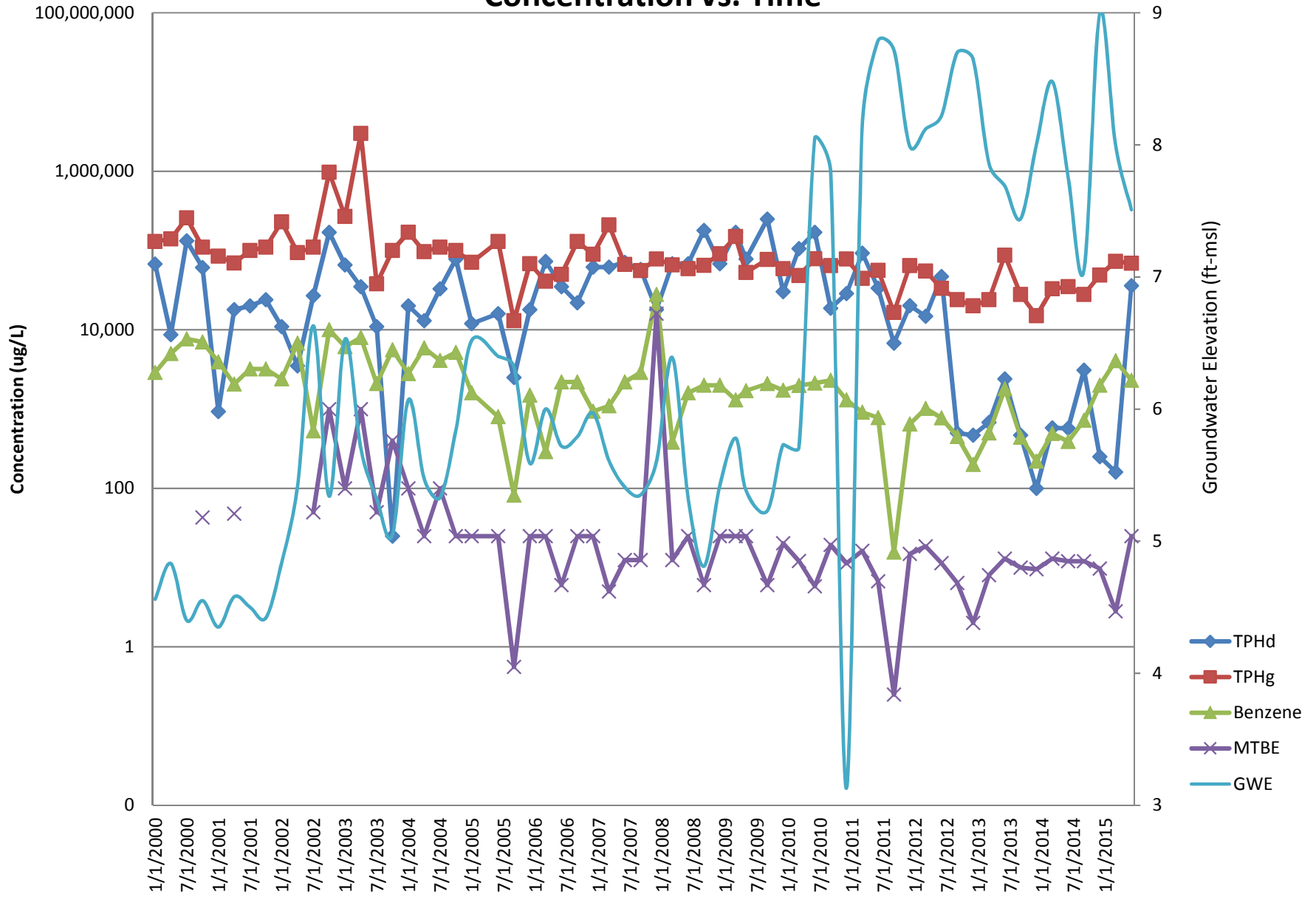
11. Were Relative Percent Difference values within the acceptable range (i.e. ± 25%)?

If any answer is no, explain why and what corrective action was taken:

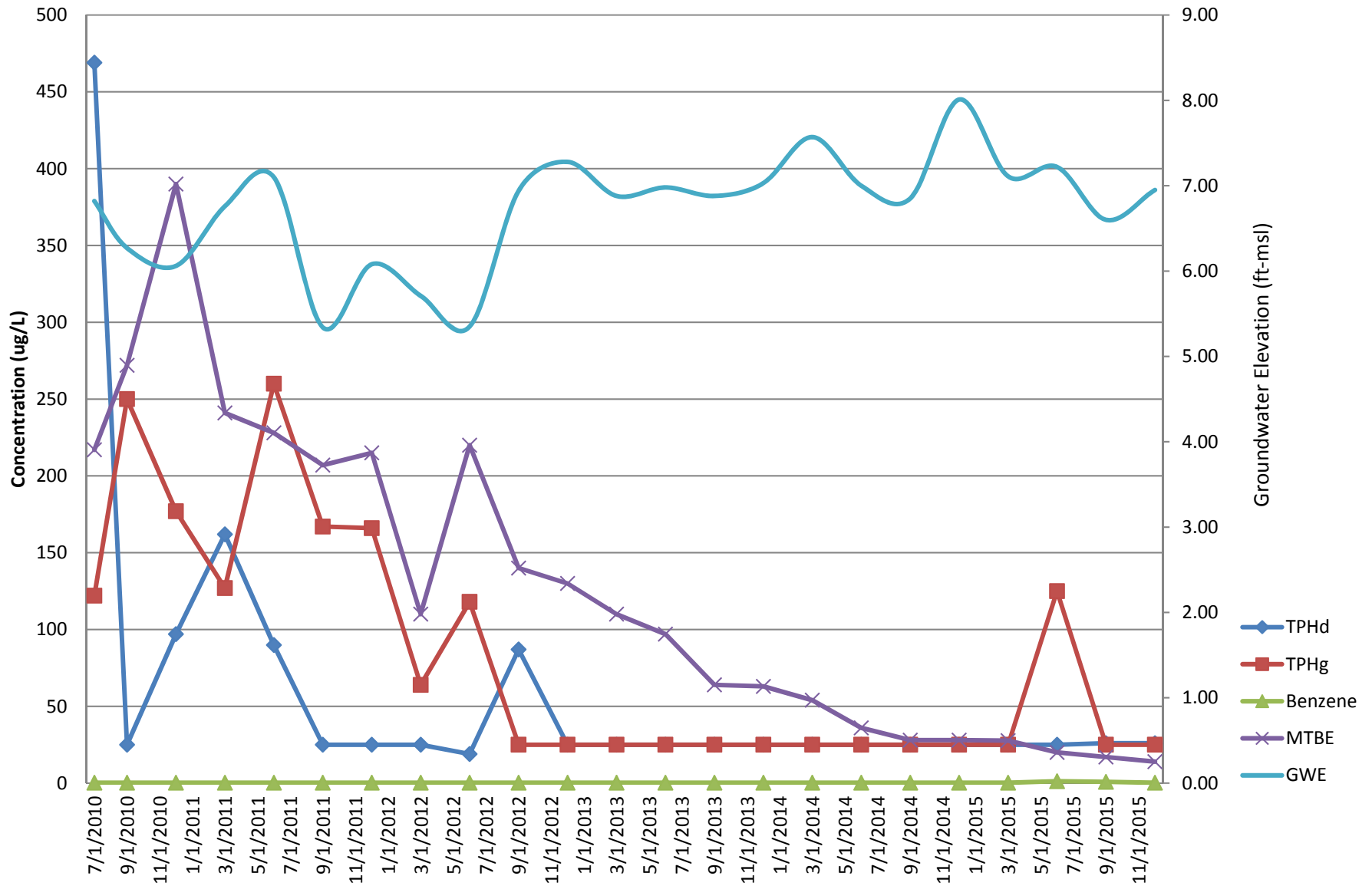
## ***Appendix E***

Concentration vs. Time Graphs

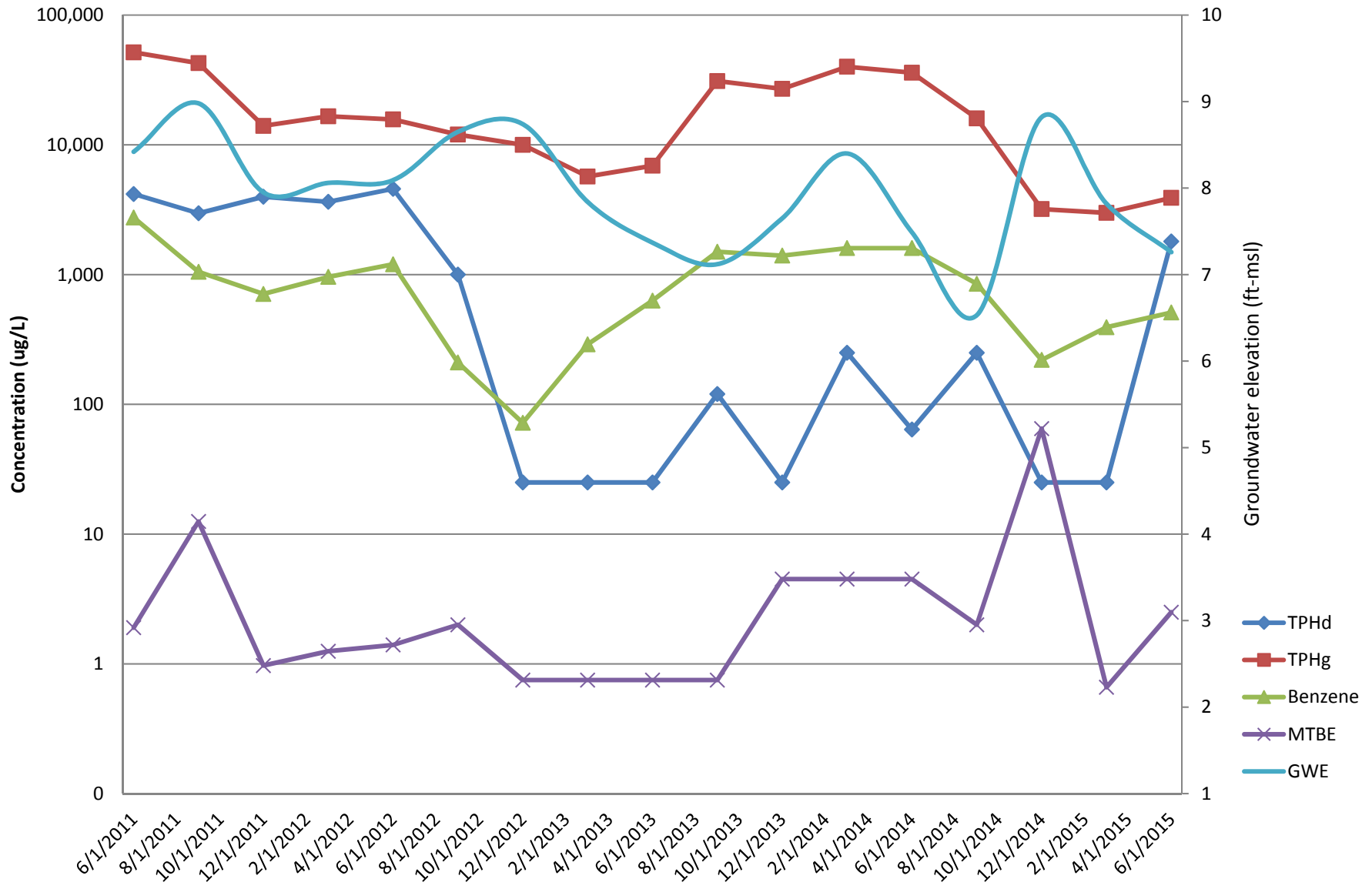
# MW-6 Concentration vs. Time



# MW-13 Concentration vs. Time



# MW-14 Concentration vs. Time



# MW-17 Concentration Vs. Time

