Shari London
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May 3, 2013

Ms. Dilan Roe
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502-6577

Re: **Report Submittal**
Pilot Test Evaluation and Additional Assessment Work Plan
76 (Former BP) Service Station No. 2611117
7210 Bancroft Avenue
Oakland, California

Dear Ms. Roe,

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 contact Ms. Nicole Persaud with Antea Group at (407) 758-3428.

Sincerely,

Shari London
Program Manager, Phillips 66
Remediation Management

Enc: Antea Group, *Pilot Test Evaluation and Additional Assessment Work Plan*

Pilot Test Evaluation and Additional Assessment Work Plan

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

Alameda County Environmental Health
Case No. RO0000356

Antea Group Project No. I42611117
April 29, 2013

Prepared for:
Dilan Roe, P.E.
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502-6577

Prepared by:
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Pilot Test Evaluation and Additional Assessment Work Plan

76 (Former BP) Service Station No. 11117
7120 Bancroft Avenue, Oakland, California
Alameda County Environmental Health
Case No. RO0000356

1.0 INTRODUCTION

Antea®Group is submitting this *Pilot Test Evaluation and Additional Assessment Work Plan* for the above referenced site located in Oakland, California (**Figure 1**) to report findings and propose additional work. This report presents analytical data from the 90-day sampling event following the Plume Stop™ Pilot Test conducted in March 2012 and evaluates the feasibility of continuing to use the Plume Stop™ technology. Additionally, this document outlines Antea Group's proposed strategy for assessing potential secondary source conditions beneath the site.

2.0 SITE DESCRIPTION

The site is an active gasoline station that includes a service station building, three 12,000-gallon gasoline underground storage tanks (USTs), one 10,000-gallon diesel UST, and the associated product piping and dispensers (**Figure 2**). Refer to **Appendix A** for additional site information and for a history of the environmental investigations and remedial actions.

2.1 Summary of Geologic and Hydrogeologic Conditions

Fine-grained sediments including clays and silts to depths varying from 6 feet to 10 feet below ground surface (bgs) underlay the site. Coarse-grained sediments consisting of sands, clayey sands, gravels, and clayey gravels underlay the fine-grained sediments to depths varying between approximately 10 feet to 35 feet bgs. The thickness of the coarse-grained sediments generally ranges between 10 feet to 20 feet across the site.

Table 1 summarizes the historical boring and well construction details. Historically, depth to water has ranged from 9.49 feet below top of casing (BTOC) in well MW-3 in second quarter 2000 to 34.07 feet BTOC in well MW-2 in fourth quarter 1993. Groundwater elevation has ranged from 15.43 feet in well MW-3 in fourth quarter 2008 to 40.46 feet in well MW-3 in second quarter 2000. Historical data shows that the groundwater flows predominantly to the northeast at the site, but is sometimes variable and has also been observed to the southeast. Antea Group calculated the average historical groundwater flow gradient to be 0.015 feet per foot (ft/ft) at the site.

3.0 PILOT TEST EVALUATION

3.1 Plume Stop™ Pilot Test Summary

Antea Group contracted with Regenesis, the developer of Plume Stop™, to perform pilot test activities. The Plume Stop™ Pilot Test was centered on monitoring well MW-4. Per our December 13, 2011 *Remedial Investigation Work Plan Addendum*, the pilot test involved three phases:

- Phase 1 – Pre-application investigation work [principally Hydraulic Profile Testing (HPT) and baseline groundwater sampling],
- Phase 2 – Plume Stop™ application using direct-push injection, and
- Phase 3 – Post-injection groundwater monitoring of well MW-4 at a minimum of 30-days, 60-days, 90-days, and 6 months following the completion of injections.

Phases 1 and 2 were completed in the first quarter 2012. Phase 3 was completed in the third quarter 2012. Regenesis prepared a technical memorandum, dated November 28, 2012, summarizing work performed for all pilot test events and provided interpretation of their data and observations. A copy of Regenesis' technical memorandum is presented as **Appendix B.** A final evaluation of the completed pilot test is contained herein.

3.2 Post-Injection Groundwater Monitoring

Data collected from baseline monitoring through the 60-day post-injection monitoring event were reported in the *Site Investigation and Pilot Test Report* dated June 29, 2012. The 6-month post-injection monitoring event was reported with the *Semi-Annual Monitoring Report, Third Quarter 2012* dated November 15, 2012. The 90-day post-injection monitoring event was performed on June 27, 2012. This data was inadvertently omitted from previous reports and is therefore included with this report (**Appendix C** and **D**). Refer to **Table 2** and **Figure 3** for a summary of baseline and post-injection groundwater data collected at well MW-4. **Table 3** contains historical groundwater analytical data for all site monitoring wells.

3.3 Feasibility of Plume Stop™

Following a review of the site data and discussions with Regenesis, Antea Group does not propose to continue using Plume Stop™ in the area surrounding MW-4. This decision is based upon reported increases in gasoline range organics (GRO) concentrations observed as soon as one month following the Plume Stop™ application. **Figure 4** presents a time series graph of hydrocarbon concentrations in MW-4 relative to the Plume Stop™ injection event. These increases in dissolved GRO concentrations suggest that additional hydrocarbon mass may have been desorbed by the injection of the Plume Stop™ material. It appears that the pre-injection baseline data may not accurately represent the hydrocarbon mass present in the subsurface. However, Regenesis stated that Plume Stop™ may have captured a portion of the contaminant mass. This presumption is supported by the decreased and stable concentrations of methyl tert-butyl ether (MTBE) and tertiary butyl alcohol (TBA) reported over the

same period where GRO concentrations increased. MTBE and TBA are the more soluble and less adsorptive compounds present in gasoline.

The pilot test did demonstrate that subsurface soils are amenable to injection remediation techniques with little or no day lighting of the injection amendment at flow rates of 1.2 to 3.4 gallons per minute and pressures of 10 to 110 pounds per square inch. The further use of injectable remediation technologies may be considered in future strategies.

4.0 ADDITIONAL ASSESSMENT WORK PLAN

A more accurate understanding of subsurface conditions is required prior to the continuation of remediation efforts. Antea Group proposes additional investigation near MW-4 to evaluate the horizontal and vertical extent of potential secondary source materials in the subsurface using high resolution soil profiling tools, collecting soil samples and replacing well MW-4. All drilling activities will be performed by a licensed drilling contractor possessing a valid State of California C-57 license.

4.1 Pre-Field Activities

Prior to initiating field activities, Antea Group will produce a Health and Safety Plan (HASP) in accordance with Title 8, Section 5192 of the California Code of Regulations. The HASP will contain a list of emergency contacts, a hospital route map to the nearest emergency facility, and will be reviewed daily in the field. Antea Group will also obtain all necessary soil boring and well installation permits from the appropriate city and county agencies. All field activities will conform to Antea Group's *Standard Operating Procedures* (**Appendix E**).

4.2 Cone Penetrometer Test/Ultraviolet Optical Screening Tool (CPT/UVOST) Investigation

Antea Group proposes to utilize CPT/UVOST technology to assess hydrocarbon concentrations in the area of MW-4. CPT provides continuous lithologic and hydrogeologic data by advancing a piezocone via direct-push that collects relative density, strength, static and dynamic pore pressure, and hydraulic conductivity. The UVOST module is located behind the standard piezocone of a CPT probe and detects the presence of polycyclic aromatic hydrocarbons (PAH). PAHs are contained (to varying degrees) in gasoline, diesel, jet fuel, and hydraulic fluids. Different PAHs fluoresce at different wavelengths, and by measuring the intensity and wavelength of the fluoresced PAHs, UVOST is able to quantify the type and wavelength signal intensity of PAHs detected in a boring. Signal intensities of various wavelengths can be used to assess relative magnitudes of hydrocarbons in each boring.

A CPT/UVOST combination rig will be utilized to assess the presence of hydrocarbons at discrete soil depths and to define the vertical and lateral extent of detected hydrocarbons in the site's source area. Up to ten CPT/UVOST borings (CPT-4 through CPT-13) are proposed for this investigation. Final boring locations will be adjusted in the field and cleared of subsurface utilities to a depth of five feet bgs using a hand auger before borehole

advancement. Proposed CPT/UVOST boring locations are shown on **Figure 5**. Each boring will be completed to approximately 35 feet bgs and will be logged using the real-time data analysis capability provide by the CPT/UVOST system.

Once data logging is complete, each boring will be properly abandoned by backfilling the borehole with neat cement via a tremie pipe. The surface of each abandoned boring will be patched to match existing surface conditions.

4.2.1 Soil Sampling

Soil samples may be collected from CPT/UVOST locations at target depths identified by CPT/UVOST data. To collect soil samples, an additional boring will be advanced adjacent to the CPT/UVOST boring with a soil collection head. Soil samples will be screened in the field using a Photo-Ionization Detector (PID) and a Cheiron-brand Sudan OilScreenSoil field test kit (Sudan strips). The following is a description of the Sudan strip field kit provided by the Cheiron website:

> *Suspected petroleum or dense [non aqueous phase liquid] NAPL (DNAPL* [and light NAPL (LNAPL)]*) contaminated soil is added to the sample bottle, to which potable water is also added and the contents shaken vigorously. A rapidly dissolving cube is attached to the cap. The cube has a Sudan IV based red oil soluble dye and a fluorescing yellow/green water soluble dye disbursed throughout its surface.*
>
> *The red dye stains petroleum products (including DNAPLs* [and LNAPL]*) red; while the green dye colors the water to provide a visual contrast between the two colors. When free petroleum floats to the surface it attaches to an expandable polystyrene (EPS) bead that is supplied with the kit and/or attaches to the walls of the container. From concentrations below about 2,500 ppm to the limit of detection (which is about 500 ppm) the EPS bead will turn pink. At very low concentrations we suggest using a used kit as a comparison for the color depth of the EPS bead as the color change may be slight.*
>
> *The range of detection is approximate because a soil's affinity for oil will vary.*

Based on field observations, soil samples will be selected and immediately capped, placed on ice and submitted for laboratory analysis to Kiff Analytical, LLC (Kiff), a National Environmental Laboratory Accreditation Program (NELAP) certified lab, No. 08263CA for the following:

- GRO by Environmental Protection Agency (EPA) Method 8260B;
- Benzene, toluene, ethylbenzene, total xylenes (BTEX compounds) by EPA Method 8260B.
- MTBE, ethyl tertiary-butyl ether (ETBE), di-isopropyl ether (DIPE), tertiary-amyl methyl ether (TAME), TBA, ethanol, 1,2 dichloroethane (1,2-DCA) and 1,2 dibromoethane (EDB) by EPA Method 8260B.

4.3 Replacement of Well MW-4

Comparison of MW-4's screen interval and the typical depth to water recorded at this well since it's installation in 1992 indicates that the screened interval of MW-4 is likely submerged most of the year. During the 6 month post-Plume Stop™ sampling event, pre- and post-purge groundwater samples were collected from MW-4 in order to evaluate the effect of the submerged screen condition on groundwater samples. The post-purge sample concentrations were generally greater than those of the pre-purge sample indicating possible localized desorption of hydrocarbon mass as a result of actively purging groundwater at MW-4. Therefore, hydrocarbon concentrations previously reported in this well may not be representative due to the submerged screen condition.

4.3.1 Destruction of MW-4

Based on the well construction details**,** MW-4 was installed in an 8-inch borehole. In order to remove all annulus materials, Antea Group proposes to destroy MW-4 via over-drilling with 10-inch diameter hollow stem augers to approximately 40 feet bgs, the total depth of the original borehole. The well construction details are provided in **Table 1**.

Prior to over-drilling, the licensed well driller will use air knife technology or a hand auger to clear the upper 5 feet of the well annulus for subsurface utilities. After over-drilling, the borehole will be backfilled with neat cement and capped with concrete to match existing surface conditions.

4.3.2 Installation of MW-4R

Antea Group will determine, based on results of the CPT/UVOST investigation described in **Section 4.2** above, and historical soil data, the optimal location for installation of replacement monitoring well MW-4R. This location is anticipated to be within a 5-foot radius of MW-4's original location.

The proposed replacement well location will be cleared to a depth of five feet bgs using an air knife or hand auger to insure utility clearance. The driller will then advance the borehole to a total depth of approximately 29 feet below ground surface (bgs) using 8-inch diameter hollow stem augers. Depth to groundwater is typically encountered between 16 and 20 feet bgs in MW-4. Based on historical depth to water data recorded in well MW-4, Antea Group proposes to construct replacement monitoring well MW-4R with 2-inch diameter schedule 40 polyvinyl chloride (PVC) casing with 0.020-inch slotted screen placed from 14 to 29 feet bgs.. Completion of the well annular space will consist of a sand pack from the bottom of the boring to 12 feet bgs, topped with two feet of hydrated bentonite, and followed by neat cement grout up to 1.5 feet bgs. MW-4R will be completed at the surface with a locking well cap and a traffic-rated well box set in concrete dyed to match the existing surface. **Figure 6** includes a construction diagram of MW-4R.

During the drilling of MW-4R, soil samples will be collected continuously to the total depth of the boring, logged according to the unified soil classification system (USCS), and screened with a PID. Signs of petroleum

contamination such as discoloration, elevated PID readings, or discernible odor from the soil samples may warrant submittal to the laboratory for analysis. If soil samples are selected for analyses, Antea Group will submit the soil samples to a certified laboratory as outlined in **Section 4.2.1**.

4.3.3 Well Development

A California licensed well driller will develop MW-4R a minimum of 72 hours after installation by surging the length of the screened interval for a minimum of 15 minutes and evacuating a minimum of ten well casing volumes of groundwater. Antea Group or the driller will record groundwater parameters (depth to water, temperature, pH, conductivity, and turbidity) during the well development process. Antea Group will include the well development log in the final report documenting this scope of work.

4.3.4 Well Survey

Subsequent to the completion of the replacement well MW-4R, a California Licensed Land Surveyor (CLLS) will survey the northing/easting and latitude/longitude using North American Datum 83. The CLLS will survey the top of casing elevations to North American Vertical Datum 88, with the precision of vertical survey data being at least 0.01 foot. Antea Group will include the well survey data in the final report and upload to the GeoTracker database.

4.3.5 Waste Disposal

The licensed driller will store all soil cuttings, wastewater and construction debris generated during field activities in Department of Transportation (DOT) approved 55-gallon drums and in accordance with the corresponding DOT protocols for non-hazardous waste. Antea Group will properly label and inventory all drums. The drums will be temporarily stored on-site, pending analysis and laboratory characterization. Upon receipt of the analytical characterization data, Antea Group will arrange for a licensed disposal contractor to transport and dispose of the waste at an appropriate facility.

5.0 SCHEDULING AND REPORTING

Sixty-days following the submittal of this *Pilot Test Evaluation and Additional Assessment Work Plan* or upon regulatory approval, Antea Group will commence pre-field activities, including permitting and scheduling the field events and execute the outlined scope of work. Upon the completion of field activities and evaluation of data, Antea Group will submit a report summarizing findings and recommendations. A California Professional Geologist will oversee the proposed activities outlined in this work plan and will oversee preparation of a corresponding technical report. In accordance with State of California requirements for the GeoTracker database, Antea Group will upload the reports, maps, and all analytical data to the GeoTracker system per current standards.

6.0 REMARKS

The recommendations contained in this document 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 document 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 document were performed. This document 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 document. 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 document.

Prepared by:

Nadine Periat
Project Professional
Antea Group

Nicole Persaud
Project Manager
Antea Group

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

Licensed Approver:

Douglas K. Umland
Senior Project Manager
California Registered Professional Geologist No. 6159
Antea Group

7.0 REFERENCES

Antea®Group, June 2012, *Site Investigation & Pilot Test Report,* San Jose, California.

Antea®Group, November 2012, *Semi-Annual Monitoring Report, Third Quarter 2012*, San Jose, California.

Cheiron Resources Ltd, (n.d.), "Product Catalogues - OilScreenSoil (Sudan IV)® " *Cheiron Resources Ltd TPH Field Screening Test Kits for Soil, Water and Solid Surfaces* Website: <http://www.cheiron-resources.com/oss-sudanivtphtester.php> Accessed: February 2012

Gregg Drilling & Testing, Inc. (n.d.), "*Laser Induced Fluorescence (UVOST), Cone Penetrating Test*" Website: <http://www.greggdrilling.com/equipment/label?labelid=label_conepenetrationtesting&offset=7>
Accessed: February 2012

Tables

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

Boring/Well ID	Well/Boring Completion Date	TOC Elevation[1] (ft)	Borehole Depth (ft bgs)	Borehole Diameter (in)	Well Depth (ft)	Well Casing Diameter (in)	Well Casing Material	Well Screen Slot Size (in)	Well Screen Interval (ft bgs)	Cement Grout Seal Interval (ft bgs)	Bentonite Seal Interval (ft bgs)	Filter Pack Interval (ft bgs)	Comments
Soil Borings													
B-5	Jul-92	NA	50.0	8.0	NA	NA	NA	NA	NA to NA	0.0 to 50.0	NA to NA	NA to NA	
THP-1	Sep-94	NA	45.0	1.75	NA	NA	NA	NA	NA to NA	0.0 to 45.0	NA to NA	NA to NA	
TB-2	Sep-94	NA	45.0	1.75	NA	NA	NA	NA	NA to NA	0.0 to 45.0	NA to NA	NA to NA	
TB-3	Sep-94	NA	45.0	1.75	NA	NA	NA	NA	NA to NA	0.0 to 45.0	NA to NA	NA to NA	
TB-4	Sep-94	NA	45.0	1.75	NA	NA	NA	NA	NA to NA	0.0 to 45.0	NA to NA	NA to NA	
A-1	Sep-05	NA	46.5	4.25	NA	NA	NA	NA	NA to NA	0.0 to 46.5	NA to NA	NA to NA	
A-2	Sep-05	NA	42.0	2.0	NA	NA	NA	NA	NA to NA	0.0 to 42.0	NA to NA	NA to NA	
A-3	Nov-05	NA	36.0	2.0	NA	NA	NA	NA	NA to NA	0.0 to 36.0	NA to NA	NA to NA	
A-4	Nov-05	NA	36.0	2.0	NA	NA	NA	NA	NA to NA	0.0 to 36.0	NA to NA	NA to NA	
A-5	Nov-05	NA	36.0	2.0	NA	NA	NA	NA	NA to NA	0.0 to 36.0	NA to NA	NA to NA	
A-7	Nov-05	NA	36.5	4.25	NA	NA	NA	NA	NA to NA	0.0 to 36.5	NA to NA	NA to NA	
A-8	Nov-05	NA	36.5	4.25	NA	NA	NA	NA	NA to NA	0.0 to 36.5	NA to NA	NA to NA	
A-9	Nov-05	NA	36.5	4.25	NA	NA	NA	NA	NA to NA	0.0 to 36.5	NA to NA	NA to NA	
A-10	Nov-05	NA	39.0	4.25	NA	NA	NA	NA	NA to NA	0.0 to 39.0	NA to NA	NA to NA	
CPT-1	Apr-07	NA	60.0	1.75	NA	NA	NA	NA	NA to NA	0.0 to 60.0	NA to NA	NA to NA	
CPT-2	Apr-07	NA	60.0	1.75	NA	NA	NA	NA	NA to NA	0.0 to 60.0	NA to NA	NA to NA	
CPT-3	Apr-07	NA	60.0	1.75	NA	NA	NA	NA	NA to NA	0.0 to 60.0	NA to NA	NA to NA	
C-1	Oct-11	NA	35.0	3.25	NA	NA	NA	NA	NA to NA	0.0 to 35.0	NA to NA	NA to NA	
C-2	Oct-11	NA	35.0	3.25	NA	NA	NA	NA	NA to NA	0.0 to 35.0	NA to NA	NA to NA	
C-3	Oct-11	NA	35.0	3.25	NA	NA	NA	NA	NA to NA	0.0 to 35.0	NA to NA	NA to NA	
C-4	Oct-11	NA	35.0	3.25	NA	NA	NA	NA	NA to NA	0.0 to 35.0	NA to NA	NA to NA	
C-5	Oct-11	NA	35.0	3.25	NA	NA	NA	NA	NA to NA	0.0 to 35.0	NA to NA	NA to NA	
CC-1	Mar-12	NA	41.0	2.25	NA	NA	NA	NA	NA to NA	0.0 to 41.0	NA to NA	NA to NA	
CC-2	Mar-12	NA	41.0	2.25	NA	NA	NA	NA	NA to NA	0.0 to 41.0	NA to NA	NA to NA	
CC-3	Mar-12	NA	41.0	2.25	NA	NA	NA	NA	NA to NA	0.0 to 41.0	NA to NA	NA to NA	
CC-4	Mar-12	NA	41.0	2.25	NA	NA	NA	NA	NA to NA	0.0 to 41.0	NA to NA	NA to NA	
CC-5	Mar-12	NA	41.0	2.25	NA	NA	NA	NA	NA to NA	0.0 to 41.0	NA to NA	NA to NA	
CC-6	Mar-12	NA	41.0	2.25	NA	NA	NA	NA	NA to NA	0.0 to 41.0	NA to NA	NA to NA	
CC-7	Mar-12	NA	41.0	2.25	NA	NA	NA	NA	NA to NA	0.0 to 41.0	NA to NA	NA to NA	
CC-8	Mar-12	NA	41.0	2.25	NA	NA	NA	NA	NA to NA	0.0 to 41.0	NA to NA	NA to NA	
CC-9	Mar-12	NA	41.0	2.25	NA	NA	NA	NA	NA to NA	0.0 to 41.0	NA to NA	NA to NA	
Groundwater Monitoring Wells													
MW-1	Dec-91	43.14	40	8	40	2	PVC	0.02	20.0 to 40.0	0.0 to 17.0	17.0 to 18.0	18.0 to 40.0	
MW-2	Dec-91	51.07	40	8	40	2	PVC	0.02	20.0 to 40.0	0.0 to 17.0	17.0 to 18.0	18.0 to 40.0	Well destroyed November 17, 2007
MW-3	Dec-89	43.27	45	8	45	2	PVC	0.02	30.0 to 45.0	0.0 to 3.0	3.0 to 25.0	25.0 to 45.0	
MW-4	Jul-92	43.64	40	8	40	2	PVC	0.02	20.0 to 40.0	0.0 to 17.0	17.0 to 18.0	18.0 to 40.0	
MW-6	Jul-92	43.64	40	8	40	2	PVC	0.02	20.0 to 40.0	0.0 to 17.0	17.0 to 18.0	18.0 to 40.0	
MW-7	Oct-94	44.21	45	8	45	2	PVC	0.02	25.0 to 45.0	0.0 to 21.0	21.0 to 23.0	23.0 to 45.0	
MW-8	Oct-94	44.18	40	8	40	2	PVC	0.02	25.0 to 40.0	0.0 to 21.0	21.0 to 23.0	23.0 to 40.0	
MW-9	Oct-94	44.35	40	8	40	2	PVC	0.02	25.0 to 40.0	0.0 to 21.0	21.0 to 23.0	23.0 to 40.0	
MW-10	Jul-97	46.17	37.5	8	35	2	PVC	0.02	15.0 to 35.0	0.0 to 13.0	13.0 to 14.0	14.0 to 37.5	
MW-11	Nov-07	43.34	40	10	40	4	PVC	0.02	15.0 to 40.0	0.0 to 10.0	10.0 to 13.0	13.0 to 40.0	Graphic log indicates TD = 35 ft bgs

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

Boring/Well ID	Well/Boring Completion Date	TOC Elevation[1] (ft)	Borehole Depth (ft bgs)	Borehole Diameter (in)	Well Depth (ft)	Well Casing Diameter (in)	Well Casing Material	Well Screen Slot Size (in)	Well Screen Interval (ft bgs)	Cement Grout Seal Interval (ft bgs)	Bentonite Seal Interval (ft bgs)	Filter Pack Interval (ft bgs)	Comments
Remediation Wells													
EX-1	Nov-99	44.20	39.5	10	40	4	PVC	0.02	18.0 to 38.0	0.0 to 15.0	15.0 to 16.0	16.0 to 39.5	
EX-2	Nov-99	45.33	36.5	10	40	4	PVC	0.02	15.0 to 35.0	0.0 to 13.0	13.0 to 13.0	13.0 to 36.5	
DPE-1	Nov-07	44.28	40	10	38	4	PVC	0.02	15.0 to 40.0	0.0 to 10.0	10.0 to 13.0	13.0 to 40.0	
DPE-2	Nov-07	43.03	40	10	40	4	PVC	0.02	15.0 to 40.0	0.0 to 10.0	10.0 to 13.0	13.0 to 40.0	
DPE-3	Nov-07	43.27	40	10	40	4	PVC	0.02	13.0 to 38.0	0.0 to 8.0	8.0 to 11.0	11.0 to 40.0	
DPE-4	Nov-07	44.08	45	10	38	4	PVC	0.01	15.0 to 40.0	0.0 to 10.0	10.0 to 13.0	13.0 to 45.0	Installed in same borehole as destroyed well MW-2
DPE-5	Nov-07	44.60	40	10	35	4	PVC	0.01	15.0 to 40.0	0.0 to 10.0	10.0 to 13.0	13.0 to 40.0	Log indicates Screen Interval at 15-38 ft bgs
SVE-1	Oct-11	44.78	28	10	22	4	PVC	0.02	10.0 to 22.0	0.0 to 6.0	6.0 to 8.0	8.0 to 22.0	Boring backfilled from 22-28' with bentonite
AS-1	Oct-11	44.64	33	4.25	33	0.5	0.25" OD Teflon/SS	NA	33.0 to 32.5	0.0 to 28.5	30.5 to 28.5	30.5 to 33.0	6" SS sparge tip

Notes:

ft = feet	B and C = soil boring
in = inches	A = hydropunch boring
TOC = Top of Casing	CPT = cone pentrometer boring
bgs = below ground surface	MW = monitoring well
NA = not applicable	EX = extraction well
PVC = polyvinyl chloride	DPE = extraction well
SS = stainless steel	AS=air sparge well
OD = outside diameter	SVE=soil vapor extraction well

Updated 11/19/2012

[1] = TOC Elevations were surveyed to a local datum on the following dates:
MW-2 -- January 1, 1992 by HETI
MW-1, MW-3 hrough MW-11, EX-1, EX-2, DPE-1 through DPE-5, AS-1, and SVE-1 -- October 24, 2011 by Mid Coast Engineers

TABLE 2
BASELINE AND POST-INJECTION GROUNDWATER GAUGING AND ANALYTICAL DATA
76 (FORMER BP) SERVICE STATION NO. 11117
7210 BANCROFT AVENUE
OAKLAND, CALIFORNIA

Well I.D.	Date	GROUNDWATER GAUGING DATA				GROUNDWATER ANALYTICAL DATA												
		TOC Elevation (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	Water Elevation* (ft)	GRO (ug/L)	Benzene (ug/L)	Ethylbenzene (ug/L)	Toluene (ug/L)	Total Xylenes (ug/L)	MTBE (ug/L)	TBA (ug/L)	DIPE (ug/L)	ETBE (ug/L)	TAME (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	Ethanol (ug/L)
MW-4	3/7/2012	43.64	17.75	NP	25.89	8500	4000	480	42	1090	400	4900	<50	<50	<50	<12	<25	<2500
	3/19/2012	43.64	16.42	NP	27.22	15200	4800	562	125	512	768	25200	<0.50	3.2	6.0	<1.0	<1.0	<250
	4/27/2012	43.64	13.52	NP	30.12	17000	2800	1500	490	3230	370	2900	<50	<50	<50	<12	<25	<2500
	5/29/2012	43.64	15.29	NP	28.35	17000	2800	1400	380	2570	210	2700	<50	<50	<50	<12	<25	<2500
	6/27/2012	43.64	16.50	NP	27.14	16000	2500	1100	390	2400	250	3200	<50	<50	<50	<12	<25	<2500
	8/31/2012	43.64	18.82	NP	24.82	230000	2800	600	6100	17000	240	1800	<25	<25	<25	<25	<25	<300
	9/27/2012[1]	43.64	19.30	NP	24.34	58000	2600	530	7700	15000	160	2400	<100	<100	<100	--	--	<5000

Gauging Notes:
TOC - Top of Casing ft - Feet
NP - LNAPL not present
LNAPL - Light non-aqueous phase liquid
* - Corrected for LNAPL if present (assumes LNAPL specific gravity = 0.75)
-- - No information available
[1] - Sample collected post-purge

Analytical Notes:
TBA- Tertiary-butyl alcohol
TAME- Tertiary-amyl methyl ether
GRO- Gasoline range organics
MTBE- Methyl tertiary-butyl ether
DIPE- Di-isopropyl ether
ETBE- Ethyl tertiary-butyl ether
1,2-DCA - 1,2-Dichloroethane
EDB - 1,2-Dibromoethane
< - Not detected at or above indicated laboratory reporting limit
ug/L - micrograms/liter

TABLE 3
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA
76 (FORMER BP) SERVICE STATION NO. 11117
7210 BANCROFT AVENUE
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)	DRO (ug/L)	GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (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)
DPE-1	12/14/2007	38.95	21.62	NP	17.33	--	360	24	<0.5	3.4	<0.5	28	<0.5	3.4	<0.5	1300	<300	<0.5	<0.5
	2/12/2008	38.95	16.13	NP	22.82	--	4700	2000	310	130	360	66	<10	<10	<10	3900	<2000	<10	<10
	5/22/2008	38.95	18.03	NP	20.92	--	16000	3900	94	510	1700	<40	<40	<40	<40	4400	<24000	<40	<40
	8/25/2008	38.95	20.95	NP	18.00	--	1300	250	<20	<20	<20	<20	<20	<20	<20	4000	<12000	<20	<20
	12/17/2008	38.95	22.33	NP	16.62	--	480	<5	<5	<5	<5	5.3	<5	<5	<5	1200	<3000	<5	<5
	2/25/2009	38.95	18.15	NP	20.80	--	1100	170	<10	<10	<10	<10	<10	<10	<10	2400	<6000	<10	<10
	8/15/2011	38.95	16.46	NP	22.49	--	571	16.4	5.4	6.3	12.0	1.1	<0.50	<0.50	<0.50	140	<250	<1.0	<1.0
DPE-2	12/14/2007	37.64	20.09	NP	17.55	--	2500	1.2	0.99	12	32	0.71	<0.5	<0.5	<0.5	<20	<300	<0.5	<0.5
	2/12/2008	37.64	14.35	NP	23.29	--	1100	9.1	9.3	33	91	<0.50	<0.5	<0.5	<0.5	<10	<100	<0.5	<0.5
	5/22/2008	37.64	16.60	NP	21.04	--	1000	1.2	3.7	11	18	<0.50	<0.5	<0.5	<0.5	<10	<300	<0.5	<0.5
	8/25/2008	37.64	19.47	NP	18.17	--	780	0.52	<0.5	7.1	6.6	<0.50	<0.5	<0.5	<0.5	<10	<300	<0.5	<0.5
	12/17/2008	37.64	21.35	NP	16.29	--	21000	230	180	630	1900	34	<10	<10	<10	<200	<6000	<10	<10
	2/25/2009	37.64	16.60	NP	21.04	--	16000	170	180	580	1500	<10	<10	<10	<10	<200	<6000	<10	<10
	8/15/2011	37.64	15.29	NP	22.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DPE-3	12/14/2007	37.82	20.45	NP	17.37	--	1300	1800	840	830	1200	770	<25	<25	<25	1700	<15000	<25	<25
	2/12/2008	37.82	14.88	NP	22.94	--	5500	31	55	140	300	<5	<5	<5	<5	<100	<1000	<5	<5
	5/22/2008	37.82	16.92	NP	20.90	--	8600	950	160	890	330	120	<20	<20	<20	<400	<12000	<20	<20
	8/25/2008	37.82	19.77	NP	18.05	--	3900	8.5	21	91	260	<2.5	<2.5	<2.5	<2.5	<50	<1500	<2.5	<2.5
	12/17/2008	37.82	21.61	NP	16.21	--	24000	410	210	980	2900	46	<20	<20	<20	<400	<12000	<20	<20
	2/25/2009	37.82	17.18	NP	20.64	--	4400	22	12	130	150	<2.5	<2.5	<2.5	<2.5	<50	<1500	<2.5	<2.5
	8/15/2011	37.82	15.59	NP	22.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DPE-4	12/14/2007	38.46	21.00	NP	17.46	--	510000	12000	27000	4900	27000	8000	<500	<500	<500	<20000	<300000	<500	<500
	2/12/2008	38.46	15.43	NP	23.03	--	100000	6600	21000	3800	22000	2900	<50	<50	55	<1000	<10000	<50	<50
	5/22/2008	38.46	17.38	NP	21.08	--	130000	9700	26000	5000	28000	4600	<400	<400	<400	<8000	<240000	<400	<400
	8/25/2008	38.46	20.36	NP	18.10	--	190000	9100	19000	4100	22000	4100	<400	<400	<400	<8000	<240000	<400	<400
	12/17/2008	38.46	21.89	NP	16.57	--	160000	10000	20000	4500	22000	5500	<400	<400	<400	<8000	<240000	<400	<400
	2/25/2009	38.46	17.59	NP	20.87	--	130000	9900	21000	4600	22000	4500	<400	<400	<400	<8000	<240000	<400	<400
	8/15/2011	38.46	16.15	NP	22.31	--	57600	5920	7240	3830	12100	5560	<0.50	12.2	132	6920	<250	<1.0	<1.0
DPE-5	12/14/2007	38.23	20.86	NP	17.37	--	300000	9200	4100	4600	20000	16000	<500	<500	<500	<20000	<300000	<500	<500
	2/12/2008	38.23	15.20	NP	23.03	--	63000	5600	2200	3400	12000	8400	<50	<50	<50	2000	<10000	<50	<50
	5/22/2008	38.23	17.37	NP	20.86	--	34000	6800	620	2600	6000	4900	<200	<200	<200	4500	<120000	<200	<200
	8/25/2008	38.23	21.80	NP	16.43	--	40000	5200	940	2100	5400	1800	<100	<100	<100	5100	<60000	<100	<100
	12/17/2008	38.23	21.96	NP	16.27	--	33000	4800	130	1700	2500	1300	<100	<100	<100	6100	<60000	<100	<100
	2/25/2009	38.23	17.47	NP	20.76	--	50000	6600	590	2300	6100	3100	<100	<100	<100	5100	<60000	<100	<100
	8/15/2011	38.23	15.96	NP	22.27	--	15900	2420	127	1340	1650	773	<0.50	1.2	10.0	2510	<250	<1.0	<1.0
EX-1	5/4/2004	NSVD	16.29	NP	--	--	12000	2300	430	740	1100	2500	<25	<25	38	<1000	<5000	<25	<25
	8/31/2004	NSVD	19.39	NP	--	--	13000	2500	95	650	1500	2100	<50	<50	<50	<2000	<10000	<50	<50
	11/23/2004	NSVD	17.90	NP	--	--	13000	2700	94	460	1700	3000	<25	<25	74	<1000	<5000	<25	<25
	1/18/2005	NSVD	14.20	NP	--	--	16000	2100	390	570	2500	2200	<25	<25	54	<1000	<5000	<25	<25
	6/29/2005	NSVD	14.22	NP	--	--	6400	1100	52	280	790	1400	<25	<25	30	<1000	<5000	<25	<25
	9/1/2005	NSVD	17.22	NP	--	--	7900	2000	94	400	870	2000	<25	<25	46	<1000	<5000	<25	<25
	11/3/2005	NSVD	19.92	NP	--	--	22000	3200	640	550	3300	3000	<25	<25	87	<1000	<5000	<25	<25
	2/14/2006	NSVD	15.40	NP	--	--	3500	<25	<25	<25	74	1100	<25	<25	<25	<1000	<15000	<25	<25
	5/30/2006	NSVD	13.43	NP	--	--	8600	1400	120	490	1300	1400	<25	<25	37	<1000	<15000	<25	<25
	8/29/2006	NSVD	17.74	NP	--	--	22000	2900	210	1400	3600	2500	<25	<25	56	<1000	<15000	<25	<25
	11/29/2006	NSVD	20.25	NP	--	--	15000	4000	110	770	2700	2700	<50	<50	75	<2000	<30000	<50	<50
	2/20/2007	NSVD	16.75	NP	--	--	10000	2500	<50	550	1300	920	<50	<50	<50	<2000	<30000	<50	<50
	5/25/2007	NSVD	17.04	NP	--	--	8600	2100	88	700	1400	890	<50	<50	<50	<2000	<30000	<50	<50
	8/9/2007	NSVD	19.76	NP	--	--	4800	870	40	230	460	530	<10	<10	15	440	<6000	<10	<10
	11/9/2007	NSVD	21.57	NP	--	--	5300	2700	29	220	200	370	<25	<25	<25	1900	<15000	<25	<25
	12/14/2007	38.98	21.60	NP	17.38	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/12/2008	38.98	15.92	NP	23.06	--	19000	2500	<50	360	860	320	<50	<50	<50	2200	<10000	<50	<50
	5/22/2008	38.98	17.85	NP	21.13	--	9300	1600	<50	310	1100	970	<50	<50	<50	<1000	<30000	<50	<50
	8/25/2008	38.98	20.71	NP	18.27	--	6100	1100	29	360	370	430	<25	<25	<25	830	<15000	<25	<25
	12/17/2008	38.98	22.20	NP	16.78	--	11000	1400	47	720	360	690	<25	<25	<25	980	<15000	<25	<25
	2/25/2009	38.98	18.01	NP	20.97	--	3300	880	110	190	120	440	<25	<25	<25	<500	<15000	<25	<25
	5/21/2009	38.98	17.10	NP	21.88	--	5000	2100	100	350	89	570	<20	<20	<20	1300	<12000	<20	<20
	8/14/2009	38.98	20.55	NP	18.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/10/2010	38.98	15.61	NP	23.37	--	4040	308	488	393	975	133	<0.50	<0.50	<0.50	43.7	<250	<1.0	<1.0

TABLE 3
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA
76 (FORMER BP) SERVICE STATION NO. 11117
7210 BANCROFT AVENUE
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)	DRO (ug/L)	GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (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)
EX-1	8/20/2010	38.98	17.44	NP	21.54	--	14600	1090	1610	1030	3360	267	<0.50	0.78	8.9	275	<250	<1.0	<1.0
	2/7/2011	38.98	15.20	NP	23.78	--	15900	642	1100	846	2500	364	<0.50	0.78	9.3	151	<250	<1.0	<1.0
	8/15/2011	38.98	16.21	NP	22.77	--	1470	470	516	472	1270	54.2	<5.0	<5.0	17.8	188	<2500	<10.0	13.3
	2/20/2012	44.20	18.27	NP	25.93	--	10300	1810	586	350	712	312	<2.5	<2.5	12.9	481	<1250	<5.0	44.1
	8/31/2012	44.20	19.55	NP	24.65	--	5100	1600	40	53	150	59	<3.0	<3.0	<3.0	1100	<30	<3.0	<3.0
	9/27/2012	44.20	19.62	NP	24.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/5/2013	44.20	16.5	NP	27.7	--	9200	1900	170	250	720	500	<3.0	3.1	19	1100	<30	<3.0	<3.0
EX-2	5/4/2004	NSVD	16.65	NP	--	--	<50	0.63	<0.5	<0.5	0.66	46	<0.5	<0.5	<0.5	<20	<100	<0.5	<0.5
	8/31/2004	NSVD	19.90	NP	--	--	<250	<2.5	<2.5	<2.5	<2.5	130	<2.5	<2.5	3.4	<100	<500	<2.5	<2.5
	11/23/2004	NSVD	18.36	NP	--	--	<50	0.74	<0.5	0.83	3	5.8	<0.5	<0.5	<0.5	<20	<100	<0.5	<0.5
	1/18/2005	NSVD	14.67	NP	--	--	<50	<0.5	<0.5	<0.5	0.69	6.5	<0.5	<0.5	<0.5	<20	<100	<0.5	<0.5
	6/29/2005	NSVD	14.60	NP	--	--	<50	<0.5	<0.5	<0.5	0.5	24	<0.5	<0.5	<0.5	<20	<100	<0.5	<0.5
	9/1/2005	NSVD	17.28	NP	--	--	<50	<0.5	1.4	<0.5	1.4	55	<0.5	<0.5	0.56	<20	<100	<0.5	<0.5
	11/3/2005	NSVD	20.42	NP	--	--	<50	0.5	<0.5	<0.5	1.4	39	<0.5	<0.5	0.8	<20	<100	<0.5	<0.5
	2/14/2006	NSVD	14.54	NP	--	--	220	<0.5	3.2	7.5	33	0.72	<0.5	<0.5	<0.5	<20	<300	<0.5	<0.5
	5/30/2006	NSVD	13.35	NP	--	--	<50	<0.5	<0.5	<0.5	0.7	7.8	<0.5	<0.5	<0.5	<20	<300	<0.5	<0.5
	8/29/2006	NSVD	17.92	NP	--	--	66	0.67	<0.5	0.79	1.9	94	<0.5	<0.5	0.98	<20	<300	<0.5	<0.5
	11/29/2006	NSVD	20.63	NP	--	--	<50	<0.5	<0.5	<0.5	<0.5	4.4	<0.5	<0.5	<0.5	<20	<300	<0.5	<0.5
	2/20/2007	NSVD	17.58	NP	--	--	<50	<0.5	<0.5	<0.5	2	12	<0.5	<0.5	<0.5	<20	<300	<0.5	<0.5
	5/25/2007	NSVD	17.23	0.01	--	--	<50	<0.5	<0.5	<0.5	<0.5	10	<0.5	<0.5	<0.5	<20	<300	<0.5	<0.5
	8/9/2007	NSVD	20.40	NP	--	--	<50	<0.5	<0.5	<0.5	<0.5	27	<0.5	<0.5	<0.5	<20	<300	<0.5	<0.5
	11/9/2007	NSVD	22.07	NP	--	--	120	<0.5	0.53	0.57	2.7	140	<0.5	<0.5	<0.5	<20	<300	<0.5	<0.5
	12/14/2007	39.63	21.97	NP	17.66	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/12/2008	39.63	16.73	NP	22.90	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10	<100	<0.5	<0.5
	5/22/2008	39.63	18.09	NP	21.54	--	<50	<0.5	2.4	0.95	5.5	0.54	<0.5	<0.5	<0.5	<10	<300	<0.5	<0.5
	8/25/2008	39.63	21.51	NP	18.12	--	<50	<0.5	<0.5	<0.5	<0.5	1	<0.5	<0.5	<0.5	<10	<300	<0.5	<0.5
	12/17/2008	39.63	NG	NG	NG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/25/2009	39.63	16.79	NP	22.84	--	<50	<0.50	<0.50	<0.50	<0.50	0.58	<0.50	<0.50	<0.50	<10	<300	<0.50	<0.50
	5/21/2009	39.63	18.56	NP	21.07	--	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<300	<0.50	<0.50
	8/14/2009	39.63	21.00	NP	18.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/10/2010	39.63	16.11	NP	23.52	--	<50.0	<0.50	<0.50	<0.50	<1.5	<0.50	<0.50	<0.50	<0.50	<5.0	<250	<1.0	<1.0
	8/20/2010	39.63	17.20	NP	22.43	--	<50.0	<0.50	<0.50	<0.50	<1.5	26.1	<0.50	<0.50	<0.50	5.6	<250	<1.0	<1.0
	2/7/2011	39.63	15.59	NP	24.04	--	<50.0	<0.50	<0.50	<0.50	<1.5	<0.50	<0.50	<0.50	<0.50	<5.0	<250	<1.0	<1.0
	8/15/2011	39.63	16.39	NP	23.24	--	<50.0	<0.50	<0.50	<0.50	<1.5	3.6	<0.50	<0.50	<0.50	<5.0	<250	<1.0	<1.0
	2/20/2012	45.33	19.10	NP	26.23	--	<50.0	<0.50	<0.50	<0.50	<1.5	<0.50	<0.50	<0.50	<0.50	<5.0	<250	<1.0	<1.0
	8/31/2012	45.33	19.99	NP	25.34	--	<50	<0.50	<0.50	<0.50	<0.50	6.3	<0.50	<0.50	<0.50	<5.0	<5.0	<0.50	<0.50
	9/27/2012	45.33	20.60	NP	24.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/5/2013	45.33	16.53	NP	28.8	--	<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
MW-1	1/5/1992	49.80	33.16	NP	16.64	50000	57000	2400	1000	1100	3100	--	--	--	--	--	--	--	--
	1/10/1992	49.80	33.16	NP	16.64	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/5/1992	49.80	29.01	NP	20.79	--	31000	2800	2100	800	2300	--	--	--	--	--	--	--	--
	7/24/1992	49.80	29.45	NP	20.35	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/27/1992	49.80	29.45	NP	20.35	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/15/1992	49.80	30.53	NP	19.27	1200	40000	3400	3000	1300	3400	--	--	--	--	--	--	--	--
	12/15/1992	49.80	31.26	NP	18.54	1100	27000	1700	580	700	1900	--	--	--	--	--	--	--	--
	3/15/1993	49.80	24.80	NP	25.00	580	17000	1700	1200	590	1800	--	--	--	--	--	--	--	--
	6/7/1993	49.80	25.01	NP	24.79	100	750	0.8	0.8	<0.5	<0.5	--	--	--	--	--	--	--	--
	9/23/1993	49.80	28.70	NP	21.10	770	40000	4000	500	920	3000	6619	--	--	--	--	--	--	--
	12/27/1993	49.80	28.66	NP	21.14	--	27000	2000	400	940	2600	13558	--	--	--	--	--	--	--
	4/5/1994	49.80	26.37	NP	23.43	--	27000	3400	930	950	2900	8595	--	--	--	--	--	--	--
	7/22/1994	49.80	26.54	NP	23.26	--	1700	220	2.3	2	3.4	262	--	--	--	--	--	--	--
	10/13/1994	49.80	27.46	NP	22.34	--	1200	250	21	<0.5	3.2	321	--	--	--	--	--	--	--
	1/25/1995	49.80	20.96	NP	28.84	--	1000	420	8	13	4	--	--	--	--	--	--	--	--
	4/19/1995	49.80	19.59	NP	30.21	--	5200	420	51	230	340	--	--	--	--	--	--	--	--
	7/5/1995	49.80	19.61	NP	30.19	--	320	4.2	<0.5	<0.5	<1	--	--	--	--	--	--	--	--
	10/5/1995	49.80	24.40	NP	25.40	--	5800	1000	40	31	180	7800	--	--	--	--	--	--	--
	1/12/1996	49.80	25.44	NP	24.36	--	370	<0.5	<0.5	<0.5	<1	<5.0	--	--	--	--	--	--	--
	4/22/1996	49.80	18.02	NP	31.78	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--

TABLE 3
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA
76 (FORMER BP) SERVICE STATION NO. 11117
7210 BANCROFT AVENUE
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)	DRO (ug/L)	GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (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	7/2/1996	49.80	19.72	NP	30.08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/3/1996	49.80	NG	NG	NG	--	<250	<2.5	<5	<5	<5	<50	--	--	--	--	--	--	--
	11/8/1996	49.80	19.98	NP	29.82	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	1/3/1997	49.80	19.49	NP	30.31	--	<50	<0.5	14	<1	<1	<10	--	--	--	--	--	--	--
	4/28/1997	49.80	20.20	NP	29.60	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	7/1/1997	49.80	22.53	NP	27.27	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	10/2/1997	49.80	24.27	NP	25.53	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	1/9/1998	49.80	21.07	NP	28.73	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	5/6/1998	49.80	14.94	NP	34.86	--	60	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	7/21/1998	49.80	15.11	NP	34.69	--	70	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	12/30/1998	49.80	19.95	NP	29.85	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/2/1999	49.80	19.12	NP	30.68	--	420	<1	<1	<1	<1	390	--	--	--	--	--	--	--
	5/10/1999	49.80	15.51	NP	34.29	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/23/1999	49.80	21.65	NP	28.15	--	440	49	<1	<1	<1	910.0	--	--	--	--	--	--	--
	12/23/1999	49.80	22.32	NP	27.48	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/27/2000	49.80	15.72	NP	34.08	--	2500	230	3	83	36	4400	--	--	--	--	--	--	--
	5/22/2000	49.80	16.92	NP	32.88	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/31/2000	49.80	20.12	NP	29.68	--	1700	18	5.5	7.9	5	510	--	--	--	--	--	--	--
	12/11/2000	49.80	20.72	NP	29.08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/20/2001	49.80	15.91	NP	33.89	--	880	38.2	<0.5	24.1	<1.5	391	--	--	--	--	--	--	--
	6/19/2001	49.80	18.38	NP	31.42	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/20/2001	49.80	21.23	NP	28.57	--	3200	400	19.8	42	32.5	2510	--	--	--	--	--	--	--
	12/27/2001	49.80	16.72	NP	33.08	--	750	70.1	0.536	4.74	3.76	649	--	--	--	--	--	--	--
	2/28/2002	49.80	15.25	NP	34.55	--	<50	<0.5	<0.5	<0.5	<1	8.7	--	--	--	--	--	--	--
	6/28/2002	49.80	16.57	NP	33.23	--	110	0.977	<0.5	0.818	<1	8.35	--	--	--	--	--	--	--
	9/12/2002	49.80	18.41	NP	31.39	--	98	2.7	1.5	1.5	5.4	48	--	--	--	--	--	--	--
	12/12/2002	49.80	20.26	NP	29.54	--	210	1.9	<0.5	<0.5	<0.5	32	--	--	--	--	--	--	--
	3/10/2003	49.80	16.22	NP	33.58	--	<50	<0.5	<0.5	<0.5	<0.5	3.2	--	--	--	--	--	--	--
	5/12/2003	49.80	14.30	NP	35.50	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--
	8/27/2003	49.80	18.15	NP	31.65	--	<50	<0.5	<0.5	<0.5	<0.5	4.2	<0.5	<0.5	<0.5	<20	<100	--	--
	11/10/2003	49.80	19.24	NP	30.56	--	<50	<0.5	<0.5	<0.5	<0.5	0.57	<0.5	<0.5	<0.5	<20	<100	--	--
	2/3/2004	49.80	14.84	NP	34.96	--	<50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<20	<100	<0.5	<0.5
	5/4/2004	49.80	14.67	NP	35.13	--	<50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<20	<100	<0.5	<0.5
	8/31/2004	49.80	17.75	NP	32.05	--	<50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<20	<100	<0.5	<0.5
	11/23/2004	49.80	16.03	NP	33.77	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/18/2005	49.80	12.47	NP	37.33	--	<50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<20	<100	<0.5	<0.5
	6/29/2005	49.80	12.65	NP	37.15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/1/2005	49.80	15.79	NP	34.01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/3/2005	49.80	18.55	NP	31.25	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2006	49.80	12.29	NP	37.51	--	51 a	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<20	<300	<0.5	<0.5
	5/30/2006	49.80	12.15	NP	37.65	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/29/2006	49.80	16.37	NP	33.43	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/29/2006	49.80	18.73	NP	31.07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/20/2007	49.80	14.71	NP	35.09	--	110	<0.5	<0.5	0.58	<0.5	<0.50	<0.50	<0.50	<0.50	<20	<300	<0.50	<0.50
	5/25/2007	49.80	15.59	NP	34.21	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/9/2007	49.80	18.38	NP	31.42	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/9/2007	49.80	20.00	NP	29.80	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/14/2007	37.41	19.83	NP	17.58	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/12/2008	37.41	14.00	NP	23.41	--	100	<0.5	<0.5	0.55	<0.5	<0.50	<0.50	<0.50	<0.50	<10	<100	<0.50	<0.50
	5/22/2008	37.41	16.31	NP	21.10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/25/2008	37.41	19.20	NP	18.21	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/17/2008	37.41	NG	NG	NG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/25/2009	37.41	16.30	NP	21.11	--	370	<0.50	<0.50	0.79	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<300	<0.5	<0.50
	5/21/2009	37.41	15.97	NP	21.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/14/2009	37.41	19.30	NP	18.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/10/2010	37.41	14.37	NP	23.04	--	<50.0	<0.50	<0.50	<0.50	<1.5	<0.50	<0.50	<0.50	<0.50	<5.0	<250	<1.0	<1.0
	8/20/2010	37.41	15.72	NP	21.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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76 (FORMER BP) SERVICE STATION NO. 11117
7210 BANCROFT AVENUE
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)	DRO (ug/L)	GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (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	2/7/2011	37.41	14.02	NP	23.39	--	<50.0	<0.50	<0.50	<0.50	<1.5	<0.50	<0.50	<0.50	<0.50	<5.0	<250	<1.0	<1.0
	8/15/2011	37.41	15.40	NP	22.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/20/2012	43.14	17.10	NP	26.04	--	<50.0	<0.50	<0.50	<0.50	<1.5	<0.50	<0.50	<0.50	<0.50	<5.0	<250	<1.0	<1.0
	6/27/2012	43.14	15.63	NP	27.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/31/2012	43.14	18.23	NP	24.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/5/2013	43.14	14.71	NP	28.43	--	<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
MW-2	1/5/1992	51.07	NG	NG	NG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/10/1992	51.07	NG	NG	NG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/5/1992	51.07	30.05	NP	21.02	--	11000	2000	180	490	1900	--	--	--	--	--	--	--	--
	7/24/1992	51.07	30.72	NP	20.35	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/27/1992	51.07	30.52	NP	20.55	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/15/1992	51.07	31.56	NP	19.51	3200	75000	2000	6500	2300	13000	--	--	--	--	--	--	--	--
	12/15/1992	51.07	32.40	NP	18.67	1600	34000	6200	8900	2000	7900	--	--	--	--	--	--	--	--
	3/15/1993	51.07	26.14	NP	24.93	8400	150000	12000	18000	3200	22000	82000	--	--	--	--	--	--	--
	6/7/1993	51.07	26.38	NP	24.69	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/23/1993	51.07	31.43	1.92	19.64	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/27/1993	51.07	34.07	1.07	17.00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/5/1994	51.07	30.44	3.30	20.63	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/22/1994	51.07	28.51	0.80	22.56	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/13/1994	51.07	29.33	0.70	21.74	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/25/1995	51.07	25.55	4.25	25.52	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/19/1995	51.07	19.78	0.12	31.29	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/5/1995	51.07	20.88	0.09	30.19	--	140000	14000	30000	3500	26000	--	--	--	--	--	--	--	--
	10/5/1995	51.07	24.68	0.10	26.39	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/12/1996	51.07	25.72	0.06	25.35	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/22/1996	51.07	19.33	0.08	31.74	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/2/1996	51.07	20.01	0.04	31.06	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/8/1996	51.07	20.28	0.01	30.79	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/3/1997	51.07	19.87	0.02	31.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/28/1997	51.07	20.59	0.01	30.48	--	560000	1200	1300	290	2310	6100	--	--	--	--	--	--	--
	7/1/1997	51.07	22.90	0.01	28.17	--	24000	15000	16000	4900	24400	63000	--	--	--	--	--	--	--
	10/2/1997	51.07	24.65	0.02	26.42	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/3/1997	51.07	NG	NG	NG	--	250000	32000	39000	6000	42000	160000	--	--	--	--	--	--	--
	1/9/1998	51.07	21.22	0.01	29.85	--	420000	23000	29000	5800	43000	75000	--	--	--	--	--	--	--
	2/2/1998	51.07	20.11	NP	30.96	--	410000	27000	43000	6700	50000	20000	--	--	--	--	--	--	--
	5/6/1998	51.07	15.10	0.01	35.97	--	180000	25000	26000	3400	22900	35000	--	--	--	--	--	--	--
	7/21/1998	51.07	15.31	0.01	35.76	--	270000	21000	20000	2700	18800	34000	--	--	--	--	--	--	--
	12/30/1998	51.07	21.10	0.10	29.97	--	300000	22000	24000	4200	26000	95000	--	--	--	--	--	--	--
	5/10/1999	51.07	16.68	NP	34.39	--	220000	20000	20000	2800	20000	100000	--	--	--	--	--	--	--
	9/23/1999	51.07	22.50	NP	28.57	--	160000	21000	24000	2900	20000	44000	--	--	--	--	--	--	--
	12/23/1999 b	51.07	22.64	NP	28.43	--	170000	25000	41000	3100	24000	40000	--	--	--	--	--	--	--
	3/27/2000	51.07	16.88	NP	34.19	--	140000	15000	25000	3400	21000	19000	--	--	--	--	--	--	--
	5/22/2000	51.07	17.75	NP	33.32	--	150000	18000	31000	3500	22000	26000	--	--	--	--	--	--	--
	8/31/2000	51.07	21.97	NP	29.10	--	200000	16000	26000	2500	16000	38000	--	--	--	--	--	--	--
	12/11/2000	51.07	22.05	NP	29.02	--	130000	18600	30000	3250	20600	21700	--	--	--	--	--	--	--
	3/20/2001	51.07	17.75	NP	33.32	--	140000	15900	24800	3700	22100	12900	--	--	--	--	--	--	--
	6/19/2001	51.07	20.15	NP	30.92	--	130000	15100	19500	3300	21400	20300	--	--	--	--	--	--	--
	9/20/2001	51.07	22.14	NP	28.93	--	110000	12400	12600	2230	13000	39500	--	--	--	--	--	--	--
	12/27/2001	51.07	18.17	NP	32.90	--	150000	17500	26000	3050	19500	27500	--	--	--	--	--	--	--
	2/28/2002	51.07	17.42	NP	33.65	--	120000	13900	18800	3030	19600	17300	--	--	--	--	--	--	--
	6/28/2002	51.07	17.04	NP	34.03	--	3700	190	23.3	139	287	826	--	--	--	--	--	--	--
	9/12/2002	51.07	19.52	NP	31.55	--	100000	13000	22000	3600	20000	18000	--	--	--	--	--	--	--
	12/12/2002	51.07	21.08	NP	29.99	--	120000	13000	21000	4400	25000	16000	--	--	--	--	--	--	--
	3/10/2003	51.07	17.84	NP	33.23	--	100000	17000	21000	3400	20000	4400	--	--	--	--	--	--	--
	5/12/2003	51.07	16.66	NP	34.41	--	150000	16000	24000	3500	22000	3600	--	--	--	--	--	--	--
	8/27/2003	51.07	19.65	NP	31.42	--	120000	14000	12000	3900	20000	5100	<120	<120	140	<5000	<25000	--	--
	11/10/2003	51.07	20.80	NP	30.27	--	97000	12000	9500	3600	15000	4200	<250	<250	<250	<10000	<50000	--	--

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Well I.D.	Date	GROUNDWATER GAUGING DATA				GROUNDWATER ANALYTICAL DATA													
		TOC Elevation (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	Water Elevation* (ft)	DRO (ug/L)	GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (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-2	2/3/2004	51.07	16.82	NP	34.25	--	130000	14000	19000	3400	20000	1900	<500	<500	<500	<20000	<100000	<500	<500
	5/4/2004	51.07	16.19	NP	34.88	--	120000	12000	16000	3700	22000	2500	<250	<250	<250	<10000	<50000	<250	<250
	8/31/2004	51.07	19.50	NP	31.57	--	99000	10000	13000	3700	18000	3400	<250	<250	<250	<10000	<50000	<250	<250
	11/23/2004	51.07	18.20	NP	32.87	--	110000	8200	17000	4000	23000	2400	<250	<250	<250	<10000	<50000	<250	<250
	1/18/2005	51.07	14.91	NP	36.16	--	96000	6500	14000	3500	21000	3700	<100	<100	<100	<4000	<20000	<100	<100
	6/29/2005	51.07	13.98	NP	37.09	--	54000	6200	4900	3300	12000	3600	<50	<50	72	<2000	<10000	<50	<50
	9/1/2005	51.07	17.00	NP	34.07	--	58000	6300	6000	3300	15000	5100	<100	<100	100	<4000	<20000	<100	<100
	11/3/2005	51.07	20.25	NP	30.82	--	63000	7400	3700	3300	10000	3700	<100	<100	100	<4000	<20000	<100	<100
	2/14/2006	51.07	13.72	NP	37.35	--	97000	7500	11000	4300	16000	3400	<100	<100	<100	<4000	<60000	<100	<100
	5/30/2006	51.07	13.50	NP	37.57	--	28000	5200	2500	1500	3300	2300	<100	<100	<100	<4000	<60000	<100	<100
	8/29/2006	51.07	18.16	NP	32.91	--	65000	7200	4500	3200	11000	13000	<100	<100	100	<4000	<60000	<100	<100
	11/29/2006	51.07	20.06	NP	31.01	--	46000	8500	4600	3300	10000	11000	<120	<120	120	<5000	<75000	<120	<120
	2/20/2007	51.07	16.43	NP	34.64	--	78000	9700	12000	4100	16000	10000	<100	<100	<100	<4000	<60000	<100	<100
	5/25/2007	51.07	16.80	NP	34.27	--	62000	7400	9500	4100	15000	3400	<200	<200	<200	<8000	<120000	<200	<200
	8/9/2007	51.07	19.55	NP	31.52	--	58000	7400	5000	3800	12000	4100	<100	<100	<100	<4000	<60000	<100	<100
	11/9/2007	51.07	21.53	NP	29.54	--	49000	6300	3300	2900	8300	9500	<100	<100	<100	<4000	<60000	<100	<100
MW-3	1/5/1992	49.95	33.69	NP	16.26	4000	7400	790	23	210	40	--	--	--	--	--	--	--	--
	1/10/1992	49.95	33.74	NP	16.21	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/5/1992	49.95	29.65	NP	20.30	--	2000	130	5.3	93	20	--	--	--	--	--	--	--	--
	7/24/1992	49.95	30.14	NP	19.81	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/27/1992	49.95	30.14	NP	19.81	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/15/1992	49.95	31.07	NP	18.88	<50	450	55	3.1	34	7.1	--	--	--	--	--	--	--	--
	12/15/1992	49.95	31.93	NP	18.02	710	12000	940	<50	310	120	--	--	--	--	--	--	--	--
	3/15/1993	49.95	25.71	NP	24.24	60	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
	6/7/1993	49.95	25.80	NP	24.15	<50	150	3.6	<0.5	0.9	1.3	--	--	--	--	--	--	--	--
	9/23/1993	49.95	29.18	NP	20.77	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/24/1993	49.95	NG	NG	NG	<50	160	8.4	<0.5	3.7	1.3	15.3	--	--	--	--	--	--	--
	12/27/1993	49.95	29.25	NP	20.70	--	9400	1100	48	530	120	2871	--	--	--	--	--	--	--
	4/5/1994	49.95	26.84	NP	23.11	--	7000	860	19	330	52	10414	--	--	--	--	--	--	--
	7/22/1994	49.95	26.90	NP	23.05	--	<50	<0.5	<0.5	<0.5	<0.5	<5	--	--	--	--	--	--	--
	10/13/1994	49.95	27.83	NP	22.12	--	<50	<0.5	<0.5	<0.5	<0.5	<5	--	--	--	--	--	--	--
	1/25/1995	49.95	21.65	NP	28.30	--	<50	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--
	4/19/1995	49.95	19.33	NP	30.62	--	2400	170	8	130	27	--	--	--	--	--	--	--	--
	7/5/1995	49.95	20.27	NP	29.68	--	<50	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--
	10/5/1995	49.95	23.73	NP	26.22	--	2300	210	3.1	10	5.1	2400	--	--	--	--	--	--	--
	1/12/1996	49.95	24.84	NP	25.11	--	<50	<0.5	<0.5	<0.5	<1	<5	--	--	--	--	--	--	--
	4/22/1996	49.95	18.60	NP	31.35	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	7/2/1996	49.95	18.88	NP	31.07	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	11/8/1996	49.95	19.14	NP	30.81	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	1/3/1997	49.95	18.72	NP	31.23	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	4/28/1997	49.95	19.38	NP	30.57	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	7/1/1997	49.95	21.65	NP	28.30	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	10/2/1997	49.95	23.45	NP	26.50	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	1/9/1998	49.95	20.10	NP	29.85	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	5/6/1998	49.95	15.57	NP	34.38	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	7/21/1998	49.95	15.88	NP	34.07	--	51	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	12/30/1998	49.95	20.30	NP	29.65	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/2/1999	49.95	19.75	NP	30.20	--	<50	<1	<1	<1	<1	<10	--	--	--	--	--	--	--
	5/10/1999	49.95	16.17	NP	33.78	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/23/1999	49.95	22.05	NP	27.90	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/23/1999	49.95	22.55	NP	27.40	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/27/2000	49.95	16.40	NP	33.55	--	350	22	<0.5	<0.5	<0.5	580	--	--	--	--	--	--	--
	5/22/2000	49.95	9.49	NP	40.46	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/31/2000	49.95	13.02	NP	36.93	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/11/2000	49.95	13.30	NP	36.65	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/20/2001	49.95	16.49	NP	33.46	--	1000	66.4	0.597	6.96	<1.5	398	--	--	--	--	--	--	--
	6/19/2001	49.95	18.82	NP	31.13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

TABLE 3
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA
76 (FORMER BP) SERVICE STATION NO. 11117
7210 BANCROFT AVENUE
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)	DRO (ug/L)	GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (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	9/20/2001	49.95	21.59	NP	28.36	--	230	<0.5	0.593	<0.5	<1.5	289	--	--	--	--	--	--	--
	12/27/2001	49.95	17.37	NP	32.58	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/28/2002	49.95	15.81	NP	34.14	--	<50	<0.5	<0.5	<0.5	<1	0.58	--	--	--	--	--	--	--
	6/28/2002	49.95	17.09	NP	32.86	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/12/2002	49.95	18.80	NP	31.15	--	52	3.3	8.6	1.7	12	11	--	--	--	--	--	--	--
	12/12/2002	49.95	20.57	NP	29.38	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/10/2003	49.95	16.68	NP	33.27	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--
	5/12/2003	49.95	14.72	NP	35.23	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/27/2003	49.95	18.50	NP	31.45	--	<50	<0.5	<0.5	<0.5	0.5	<0.50	<0.5	<0.5	<0.5	<20	<100	--	--
	11/10/2003	49.95	19.66	NP	30.29	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/3/2004	49.95	15.33	NP	34.62	--	<50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<20	<100	<0.5	<0.5
	8/31/2004	49.95	18.13	NP	31.82	--	<50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<20	<100	<0.5	<0.5
	11/23/2004	49.95	16.48	NP	33.47	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/18/2005	49.95	13.06	NP	36.89	--	<50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<20	<100	<0.5	<0.5
	6/29/2005	49.95	13.00	NP	36.95	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/1/2005	49.95	16.00	NP	33.95	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/3/2005	49.95	18.91	NP	31.04	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2006	49.95	12.90	NP	37.05	--	86	<0.5	<0.5	<0.5	0.55	<0.50	<0.5	<0.5	<0.5	<20	<300	<0.5	<0.5
	5/30/2006	49.95	12.55	NP	37.40	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/29/2006	49.95	16.68	NP	33.27	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/29/2006	49.95	19.10	NP	30.85	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/20/2007	49.95	15.29	NP	34.66	--	56	<0.5	<0.5	<0.5	<0.5	0.89	<0.5	<0.5	<0.5	<20	<300	<0.5	<0.5
	5/25/2007	49.95	15.94	NP	34.01	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/9/2007	49.95	18.70	NP	31.25	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/9/2007	49.95	20.27	NP	29.68	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/14/2007	37.56	20.21	NP	17.35	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/11/2008	37.56	14.68	NP	22.88	--	<50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<10	<100	<0.5	<0.5
	5/22/2008	37.56	16.64	NP	20.92	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/25/2008	37.56	19.40	NP	18.16	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/17/2008	37.56	22.13	NP	15.43	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/25/2009	37.56	16.81	NP	20.75	--	71	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<300	<0.50	<0.50
	5/21/2009	37.56	16.40	NP	21.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/14/2009	37.56	19.60	NP	17.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/10/2010	37.56	14.81	NP	22.75	--	<50.0	<0.50	<0.50	<0.50	<1.5	<0.50	<0.50	<0.50	<0.50	<5.0	<250	<1.0	<1.0
	8/20/2010	37.56	16.80	NP	20.76	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/7/2011	37.56	14.39	NP	23.17	--	<50.0	<0.50	<0.50	<0.50	<1.5	<0.50	<0.50	<0.50	<0.50	<5.0	<250	<1.0	<1.0
	8/15/2011	37.56	15.56	NP	22.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/20/2012	43.27	17.41	NP	25.86	--	<50.0	<0.50	<0.50	<0.50	<1.5	<0.50	<0.50	<0.50	<0.50	<5.0	<250	<1.0	<1.0
	8/31/2012	43.27	18.51	NP	24.76	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/5/2013	43.27	15.10	NP	28.17	--	<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
MW-4	7/24/1992	50.76	30.02	NP	20.74	--	42000	3200	3600	1400	4100	--	--	--	--	--	--	--	--
	7/27/1992	50.76	30.02	NP	20.74	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/15/1992	50.76	31.14	NP	19.62	1700	55000	7600	13000	2800	9500	--	--	--	--	--	--	--	--
	12/15/1992	50.76	31.98	NP	18.78	2200	36000	3700	4700	1200	4000	--	--	--	--	--	--	--	--
	3/15/1993	50.76	25.34	NP	25.42	1200	69000	7600	15000	2500	11000	--	--	--	--	--	--	--	--
	6/7/1993	50.76	25.67	NP	25.09	2500	73000	10000	19000	3400	14000	--	--	--	--	--	--	--	--
	9/23/1993	50.76	29.37	NP	21.39	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/24/1993	50.76	NG	NG	NG	5700	68000	11000	2100	8600	990	390	--	--	--	--	--	--	--
	12/27/1993	50.76	29.40	NP	21.36	--	32000	2500	4400	1300	4400	387	--	--	--	--	--	--	--
	4/5/1994	50.76	27.09	NP	23.67	--	64000	6500	14000	1900	9600	413	--	--	--	--	--	--	--
	7/22/1994	50.76	27.33	NP	23.43	--	85000	10000	20000	3200	13000	796	--	--	--	--	--	--	--
	10/13/1994	50.76	28.25	NP	22.51	--	51000	7100	13000	2100	8900	506	--	--	--	--	--	--	--
	1/25/1995	50.76	21.85	NP	28.91	--	26000	3600	9600	1200	6400	--	--	--	--	--	--	--	--
	4/19/1995	50.76	19.44	NP	31.32	--	89000	12000	24000	3500	18000	--	--	--	--	--	--	--	--
	7/5/1995	50.76	20.52	NP	30.24	--	130000	13000	29000	3300	25000	--	--	--	--	--	--	--	--
	10/5/1995	50.76	24.23	NP	26.53	--	110000	10000	23000	3600	17000	34000	--	--	--	--	--	--	--
	1/12/1996	50.76	25.34	NP	25.42	--	46000	3500	8300	1100	8000	3000	--	--	--	--	--	--	--
	4/22/1996	50.76	19.13	NP	31.63	--	40000	5100	9600	980	11800	29000	--	--	--	--	--	--	--

TABLE 3
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA
76 (FORMER BP) SERVICE STATION NO. 11117
7210 BANCROFT AVENUE
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)	DRO (ug/L)	GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (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-4	7/2/1996	50.76	20.67	NP	30.09	--	74000	9800	21000	2100	16600	41000	--	--	--	--	--	--	--
	11/8/1996	50.76	20.95	NP	29.81	--	100000	7900	16000	2500	13700	37000	--	--	--	--	--	--	--
	1/3/1997	50.76	20.54	NP	30.22	--	99000	17000	30000	4300	22700	79000	--	--	--	--	--	--	--
	4/28/1997	50.76	21.28	NP	29.48	--	130000	12000	28000	3800	21000	37000	--	--	--	--	--	--	--
	7/1/1997	50.76	23.61	NP	27.15	--	110000	16000	25000	4900	24400	37000	--	--	--	--	--	--	--
	10/2/1997	50.76	25.39	NP	25.37	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/3/1997	50.76	NG	NG	NG	--	66000	8200	8600	2700	13400	80000	--	--	--	--	--	--	--
	1/9/1998	50.76	21.25	NP	29.51	--	100000	9700	3200	1500	4700	92000	--	--	--	--	--	--	--
	5/6/1998	50.76	15.96	NP	34.8	--	430000	6900	31000	11000	56000	<5000	--	--	--	--	--	--	--
	7/21/1998	50.76	16.10	NP	34.66	--	250000	11000	26000	5500	26900	29000	--	--	--	--	--	--	--
	12/30/1998	50.76	20.91	NP	29.85	--	370000	11000	22000	8500	40000	92000	--	--	--	--	--	--	--
	2/2/1999	50.76	20.13	NP	30.63	--	190000	4100	19000	4800	32000	28000	--	--	--	--	--	--	--
	5/10/1999	50.76	16.63	NP	34.13	--	2700	23	7.1	8.1	25	120	--	--	--	--	--	--	--
	9/23/1999	50.76	22.48	NP	28.28	--	180000	11000	29000	7000	38000	12000	--	--	--	--	--	--	--
	12/23/1999 b	50.76	22.94	NP	27.82	--	66000	6300	5200	2200	7800	35000	--	--	--	--	--	--	--
	3/27/2000	50.76	16.84	NP	33.92	--	120000	8700	12000	3800	16000	27000	--	--	--	--	--	--	--
	5/22/2000	50.76	17.85	NP	32.91	--	110000	7600	16000	4400	20000	25000	--	--	--	--	--	--	--
	8/31/2000	50.76	21.71	NP	29.05	--	110000	8800	7600	3400	14000	18000	--	--	--	--	--	--	--
	12/11/2000	50.76	22.05	NP	28.71	--	70000	4580	3480	2550	9220	24400	--	--	--	--	--	--	--
	3/20/2001	50.76	17.68	NP	33.08	--	100000	7100	4530	2540	9370	63100	--	--	--	--	--	--	--
	6/19/2001	50.76	19.40	NP	31.36	--	180000	7430	14600	5400	25300	36100	--	--	--	--	--	--	--
	9/20/2001	50.76	22.01	0.03	28.75	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/27/2001	50.76	17.96	NP	32.8	--	120000	6880	9030	2840	14600	32300	--	--	--	--	--	--	--
	2/28/2002	50.76	17.06	NP	33.7	--	80000	4920	5450	2220	12300	35900	--	--	--	--	--	--	--
	6/28/2002	50.76	17.76	NP	33	--	48000	2780	2770	1530	6790	25100	--	--	--	--	--	--	--
	9/12/2002	50.76	19.45	NP	31.31	--	46000	4500	6800	2600	10000	9100	--	--	--	--	--	--	--
	12/12/2002	50.76	21.29	NP	29.47	--	36000	5200	3400	2000	6500	12000	--	--	--	--	--	--	--
	3/10/2003	50.76	17.16	NP	33.6	--	70000	7000	4800	3300	13000	29000	--	--	--	--	--	--	--
	5/12/2003	50.76	14.51	NP	36.25	--	75000	7600	3700	3400	13000	26000	--	--	--	--	--	--	--
	8/27/2003	50.76	19.32	NP	31.44	--	77000	7500	1300	2100	4000	32000	<250	<250	250	<10000	<50000	--	--
	11/10/2003	50.76	20.36	NP	30.4	--	110000	7100	3100	2100	5800	25000	<500	<500	<500	<20000	<100000	--	--
	2/3/2004	50.76	16.51	NP	34.25	--	160000	8400	9700	5000	23000	26000	<500	<500	<500	<20000	<100000	<500	<500
	5/4/2004	50.76	16.47	NP	34.29	--	110000	8100	7500	4300	17000	<250	<250	<250	<250	<10000	<50000	<250	<250
	8/31/2004	50.76	19.16	NP	31.6	--	91000	6600	8400	3700	14000	14000	<250	<250	<250	<10000	<50000	<250	<250
	11/23/2004	50.76	18.02	NP	32.74	--	7400000	20000	150000	320000	1400000	23000	<2500	<2500	<2500	<100000	<500000	<2500	<2500
	1/18/2005	50.76	14.21	NP	36.55	--	170000	5400	14000	6900	33000	8800	<250	<250	<250	<10000	<50000	<250	<250
	6/29/2005	50.76	13.86	NP	36.9	--	640000	3500	25000	24000	110000	1700	<250	<250	<250	<10000	<50000	<250	<250
	9/1/2005	50.76	16.89	NP	33.87	--	100000	3800	11000	4900	33000	1100	<500	<500	<500	<20000	<100000	<500	<500
	11/3/2005	50.76	19.33	NP	31.43	--	490000	4700	11000	10000	49000	1500	<500	<500	<500	<20000	<100000	<500	<500
	2/14/2006	50.76	13.55	NP	37.21	--	970000	60000	7000	36000	140000	38000	<500	<500	1000	<20000	<300000	<500	<500
	5/30/2006	50.76	13.52	NP	37.24	--	140000	3000	6600	6200	29000	560	<500	<500	<500	<20000	<300000	<500	<500
	8/29/2006	50.76	17.52	NP	33.24	--	52000	4700	2500	3500	12000	1800	<500	<500	<500	<20000	<300000	<500	<500
	11/29/2006	50.76	19.93	0.11	30.83	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/20/2007	50.76	16.14	NP	34.62	--	68000	8400	2600	4100	13000	15000	<250	<250	<250	<10000	<150000	<250	<250
	5/25/2007	50.76	16.65	NP	34.11	--	37000	5100	1200	2800	6900	3500	<200	<200	<200	<8000	<120000	<200	<200
	8/9/2007	50.76	19.29	NP	31.47	--	180000	5600	7700	5700	21000	2900	<100	<100	<100	4100	<60000	<100	<100
	11/9/2007	50.76	21.27	NP	29.49	--	110000	3300	2400	3600	13000	1200	<100	<100	<100	5700	<60000	<100	<100
	12/14/2007	38.35	21.10	NP	17.25	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/11/2008	38.35	15.45	0.01	22.91	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/22/2008	38.35	17.44	NP	20.91	--	48000	4500	880	1400	5000	1000	<100	<100	<100	6600	<60000	<100	<100
	8/25/2008	38.35	20.32	0.05	18.07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/17/2008	38.35	22.20	NP	16.15	--	45000	3300	520	910	3000	270	<100	<100	<100	6100	<60000	<100	<100
	2/25/2009	38.35	17.60	NP	20.75	--	39000	4600	2100	1800	6300	1300	<100	<100	<100	5600	<60000	<100	<100
	5/21/2009	38.35	17.02	NP	21.33	--	51000	3900	1100	1900	6800	3700	<100	<100	<100	4700	<60000	<100	<100
	8/14/2009	38.35	20.09	NP	18.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/10/2010	38.35	16.09	NP	22.26	--	2500	4.7	1.5	1.3	4.1	3.4	<0.50	<0.50	<0.50	248	<250	<1.0	<1.0
	8/20/2010	38.35	17.29	NP	21.06	--	3530	39.8	0.89	1.3	15.8	7.0	<0.50	<0.50	<0.50	689	<250	<1.0	<1.0

TABLE 3
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA
76 (FORMER BP) SERVICE STATION NO. 11117
7210 BANCROFT AVENUE
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)	DRO (ug/L)	GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (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-4	2/7/2011	38.35	15.59	NP	22.76	--	3600	7.1	0.76	1.2	5.1	3.7	<0.50	<0.50	<0.50	210	<250	<1.0	<1.0
	8/15/2011	38.35	16.06	NP	22.29	--	87600	3430	280	2880	8500	317	<12.5	<12.5	<12.5	3410	<6250	<25.0	<25.0
	2/20/2012	43.64	17.94	NP	25.70	--	692000	4870	505	7080	29800	228	<25.0	<25.0	<25.0	4700	<12500	<50.0	115
	3/7/2012	43.64	17.75	NP	25.89	--	8500	4000	42	480	1090	400	<50	<50	<50	4900	<2500	<12	<25
	3/19/2012	43.64	16.42	NP	27.22	--	15200	4800	125	562	512	768	<0.50	3.2	6	25200	<250	<1.0	<1.0
	4/27/2012	43.64	13.52	NP	30.12	--	17000	2800	490	1500	3230	370	<50	<50	<50	2900	<2500	<12	<25
	5/29/2012	43.64	15.29	NP	28.35	--	17000	2800	380	1400	2570	210	<50	<50	<50	2700	<2500	<12	<25
	6/27/2012	43.64	16.50	NP	27.14	--	16000	2500	390	1100	2400	250	<50	<50	<50	3200	<2500	<12	<25
	8/31/2012 d	43.64	18.82	NP	24.82	--	230000	2800	600	6100	17000	240	<25	<25	<25	1800	<300	<25	<25
	9/27/2012 [1]	43.64	19.30	NP	24.34	--	28000	2300	420	2000	6000	150	<40	<40	<40	3800	<2000	--	--
	9/27/2012 [2]	43.64	19.30	NP	24.34	--	58000	2600	530	7700	15000	160	<100	<100	<100	2400	<5000	--	--
	2/5/2013	43.64	15.60	NP	28.04	--	63000	2200	280	2600	7600	380	<15	<15	<15	3000	<150	<15	<15
MW-6	7/24/1992	50.32	30.63	NP	19.69	--	--	1.6	--	--	--	--	--	--	--	--	--	--	--
	7/27/1992	50.32	30.63	NP	19.69	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/15/1992	50.32	31.52	NP	18.8	<50	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
	12/15/1992	50.32	32.42	NP	17.9	<50	58	1.3	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
	3/15/1993	50.32	26.29	NP	24.03	<50	<50	<0.5	0.6	<0.5	0.7	--	--	--	--	--	--	--	--
	6/7/1993	50.32	26.33	NP	23.99	<50	<50	<0.5	<0.5	<0.5	1.5	--	--	--	--	--	--	--	--
	9/23/1993	50.32	29.64	NP	20.68	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/24/1993	50.32	NG	NG	NG	<50	<50	<0.5	<0.5	<0.5	<0.5	28.5	--	--	--	--	--	--	--
	12/27/1993	50.32	29.75	NP	20.57	--	<50	<0.5	<0.5	<0.5	<0.5	55.4	--	--	--	--	--	--	--
	4/5/1994	50.32	27.26	NP	23.06	--	<50	<0.5	<0.5	<0.5	<0.5	295	--	--	--	--	--	--	--
	7/22/1994	50.32	27.34	NP	22.98	--	350	<0.5	<0.5	<0.5	<0.5	419	--	--	--	--	--	--	--
	10/13/1994	50.32	NG	NG	NG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/25/1995	50.32	22.16	NP	28.16	--	240	6	<0.5	<0.5	<1	--	--	--	--	--	--	--	--
	4/19/1995	50.32	NG	NG	NG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7/5/1995	50.32	20.80	NP	29.52	--	180	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--
	10/5/1995	50.32	24.20	NP	26.12	--	860	<5	<5	<5	<10	3600	--	--	--	--	--	--	--
	1/12/1996	50.32	25.30	NP	25.02	--	860	<5	<5	<5	<10	2800	--	--	--	--	--	--	--
	4/22/1996	50.32	19.13	NP	31.19	--	<50	<0.5	<1	<1	<1	470	--	--	--	--	--	--	--
	7/2/1996	50.32	20.66	NP	29.66	--	100	<0.5	<1	<1	<1	1100	--	--	--	--	--	--	--
	11/8/1996	50.32	20.98	NP	29.34	--	1100	<5	<10	<10	<10	1500	--	--	--	--	--	--	--
	1/3/1997	50.32	20.53	NP	29.79	--	<50	<0.5	<1	<1	<1	450	--	--	--	--	--	--	--
	4/28/1997	50.32	21.25	NP	29.07	--	1400	<0.5	<1	<1	<1	3500	--	--	--	--	--	--	--
	7/1/1997	50.32	23.40	NP	26.92	--	6100	<0.5	<1	<1	<1	9100	--	--	--	--	--	--	--
	10/2/1997	50.32	25.16	NP	25.16	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/3/1997	50.32	NG	NG	NG	--	330	<0.5	<1	<1	<1	2600	--	--	--	--	--	--	--
	1/9/1998	50.32	21.13	NP	29.19	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	5/6/1998	50.32	16.11	NP	34.21	--	410	<0.5	<1	<1	<1	500	--	--	--	--	--	--	--
	7/21/1998	50.32	16.33	NP	33.99	--	4300	<5	<10	<10	<10	3800	--	--	--	--	--	--	--
	12/30/1998	50.32	20.89	NP	29.43	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/2/1999	50.32	20.20	NP	30.12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/10/1999	50.32	16.75	NP	33.57	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/23/1999	50.32	22.55	NP	27.77	--	<50	<1	<1	<1	<1	1600	--	--	--	--	--	--	--
	12/23/1999	50.32	23.00	NP	27.32	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/27/2000	50.32	16.89	NP	33.43	--	1700	4.4	0.54	<0.5	1	14000	--	--	--	--	--	--	--
	5/22/2000	50.32	18.02	NP	32.3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/31/2000	50.32	21.62	NP	28.7	--	1200	<0.5	<0.5	<0.5	<0.5	3900	--	--	--	--	--	--	--
	12/11/2000	50.32	21.81	NP	28.51	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/20/2001	50.32	16.97	NP	33.35	--	3300	<0.5	<0.5	<0.5	<1.5	3760	--	--	--	--	--	--	--
	6/19/2001	50.32	19.30	NP	31.02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/20/2001	50.32	22.00	NP	28.32	--	2200	2.04	8.1	3.62	13.7	2460	--	--	--	--	--	--	--
	12/27/2001	50.32	17.85	NP	32.47	--	830	0.59	<0.5	<0.5	<1	1040	--	--	--	--	--	--	--
	2/28/2002	50.32	16.31	NP	34.01	--	1100	<0.5	<0.5	<0.5	<1	1450	--	--	--	--	--	--	--
	6/28/2002	50.32	17.57	NP	32.75	--	<50	<0.5	<0.5	<0.5	<1	1020	--	--	--	--	--	--	--
	9/12/2002	50.32	19.27	NP	31.05	--	190	1.9	4.6	1	7.3	480	--	--	--	--	--	--	--
	12/12/2002	50.32	20.94	NP	29.38	--	270	<2.5	<2.5	<2.5	<2.5	500	--	--	--	--	--	--	--

TABLE 3
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA
76 (FORMER BP) SERVICE STATION NO. 11117
7210 BANCROFT AVENUE
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)	DRO (ug/L)	GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (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	3/10/2003	50.32	17.11	NP	33.21	--	110	<0.5	<0.5	<0.5	<0.5	190	--	--	--	--	--	--	--
	5/12/2003	50.32	15.18	NP	35.14	--	<50	<0.5	<0.5	<0.5	<0.5	36	--	--	--	--	--	--	--
	8/27/2003	50.32	18.90	NP	31.42	--	<50	<0.5	<0.5	<0.5	<0.5	8.9	<0.5	<0.5	<0.5	<20	<100	--	--
	11/10/2003	50.32	20.13	NP	30.19	--	<50	<0.5	<0.5	<0.5	<0.5	4.5	<0.5	<0.5	<0.5	<20	<100	--	--
	2/3/2004	50.32	15.83	NP	34.49	--	<50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<20	<100	<0.5	<0.5
	5/4/2004	50.32	15.62	NP	34.7	--	<50	<0.5	<0.5	<0.5	<0.5	24	<0.5	<0.5	<0.5	<20	<100	<0.5	<0.5
	8/31/2004	50.32	18.56	NP	31.76	--	<50	<0.5	<0.5	<0.5	<0.5	27	<0.5	<0.5	<0.5	<20	<100	<0.5	<0.5
	11/23/2004	50.32	16.95	NP	33.37	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/18/2005	50.32	13.61	NP	36.71	--	<50	<0.5	<0.5	<0.5	<0.5	1.3	<0.5	<0.5	<0.5	<20	<100	<0.5	<0.5
	6/29/2005	50.32	13.55	NP	36.77	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/1/2005	50.32	16.52	NP	33.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/3/2005	50.32	19.28	NP	31.04	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2006	50.32	NG	NG	NG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/30/2006	50.32	NG	NG	NG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/29/2006	50.32	17.15	NP	33.17	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/29/2006	50.32	19.50	NP	30.82	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/20/2007	50.32	15.81	NP	34.51	--	<50	<0.5	<0.5	<0.5	<0.5	24	<0.5	<0.5	<0.5	<20	<300	<0.5	<0.5
	5/25/2007	50.32	16.38	NP	33.94	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/9/2007	50.32	19.15	NP	31.17	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/9/2007	50.32	20.70	NP	29.62	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/14/2007	50.32	NG	NG	NG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/11/2008	50.32	15.08	NP	35.24	--	<50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<10	<100	<0.5	<0.5
	5/22/2008	50.32	17.07	NP	33.25	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/25/2008	50.32	19.82	NP	30.5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/17/2008	50.32	21.58	NP	28.74	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/25/2009	50.32	17.34	NP	32.98	--	120	<0.50	<0.50	<0.50	<0.50	13	<0.50	<0.50	<0.50	<10	<300	<0.50	<0.50
	5/21/2009	50.32	16.85	NP	33.47	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/14/2009	50.32	20.03	NP	30.29	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/10/2010	50.32	15.31	NP	35.01	--	<50.0	<0.50	<0.50	<0.50	<1.5	<0.50	<0.50	<0.50	<0.50	<5.0	<250	<1.0	<1.0
	8/20/2010	50.32	16.60	NP	33.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/7/2011	50.32	14.86	NP	35.46	--	<50.0	<0.50	<0.50	<0.50	<1.5	<0.50	<0.50	<0.50	<0.50	<5.0	<250	<1.0	<1.0
	8/15/2011	50.32	16.07	NP	34.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/20/2012	43.64	17.83	NP	25.81	--	<50.0	<0.50	<0.50	<0.50	<1.5	0.66	<0.50	<0.50	<0.50	<5.0	<250	<1.0	<1.0
	8/31/2012	43.64	18.82	NP	24.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/5/2013	43.64	15.53	NP	28.11	--	<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
MW-7	1/25/1995	51.40	21.67	NP	29.73	--	<50	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--
	4/19/1995	51.40	25.27	NP	26.13	--	<50	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--
	7/5/1995	51.40	24.63	NP	26.77	--	<50	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--
	10/5/1995	51.40	28.21	NP	23.19	--	83	<0.5	<0.5	<0.5	<1	77	--	--	--	--	--	--	--
	1/12/1996	51.40	29.29	NP	22.11	--	63	<0.5	<0.5	<0.5	<1	120	--	--	--	--	--	--	--
	4/22/1996	51.40	23.11	NP	28.29	--	<50	<0.5	<1	<1	<1	13	--	--	--	--	--	--	--
	7/2/1996	51.40	23.56	NP	27.84	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	11/8/1996	51.40	20.06	NP	31.34	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	1/3/1997	51.40	23.42	NP	27.98	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	4/28/1997	51.40	24.12	NP	27.28	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	7/1/1997	51.40	26.40	NP	25.00	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	10/2/1997	51.40	28.14	NP	23.26	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	1/9/1998	51.40	24.02	NP	27.38	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	5/6/1998	51.40	21.00	NP	30.40	--	1900	<0.5	<1	<1	<1	1800	--	--	--	--	--	--	--
	7/21/1998	51.40	21.17	NP	30.23	--	50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	12/30/1998	51.40	22.13	NP	29.27	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/2/1999	51.40	22.08	NP	29.32	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/10/1999	51.40	18.58	NP	32.82	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/23/1999	51.40	24.29	NP	27.11	--	70	<1	<1	<1	<1	4700	--	--	--	--	--	--	--
	12/23/1999	51.40	24.53	NP	26.87	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/27/2000	51.40	18.58	NP	32.82	--	910	<0.5	<0.5	<0.5	<0.5	2600	--	--	--	--	--	--	--
	5/22/2000	51.40	19.49	NP	31.91	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/31/2000	51.40	22.53	NP	28.87	--	440	<0.5	<0.5	<0.5	<0.5	900	--	--	--	--	--	--	--

TABLE 3
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA
76 (FORMER BP) SERVICE STATION NO. 11117
7210 BANCROFT AVENUE
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)	DRO (ug/L)	GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (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	12/11/2000	51.40	22.75	NP	28.65	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/20/2001	51.40	18.79	NP	32.61	--	1100	<0.5	<0.5	<0.5	<1.5	1210	--	--	--	--	--	--	--
	6/19/2001	51.40	19.82	NP	31.58	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/20/2001	51.40	21.35	NP	30.05	--	1300	1.21	<0.5	<0.5	<1.5	1550	--	--	--	--	--	--	--
	12/27/2001	51.40	20.36	NP	31.04	--	510	<0.5	<0.5	<0.5	<1	643	--	--	--	--	--	--	--
	2/28/2002	51.40	21.86	NP	29.54	--	250	<0.5	<0.5	<0.5	<1	317	--	--	--	--	--	--	--
	6/28/2002	51.40	22.64	NP	28.76	--	<50	<0.5	<0.5	<0.5	<1	102	--	--	--	--	--	--	--
	9/12/2002	51.40	23.51	NP	27.89	--	<50	<0.5	<0.5	<0.5	1	14	--	--	--	--	--	--	--
	12/12/2002	51.40	23.75	NP	27.65	--	<50	<0.5	<0.5	<0.5	<0.5	<2.5	--	--	--	--	--	--	--
	3/10/2003	51.40	21.25	NP	30.15	--	61	<0.5	<0.5	<0.5	<0.5	99	--	--	--	--	--	--	--
	5/12/2003	51.40	21.44	NP	29.96	--	<100	<1	<1	<1	<1	120	--	--	--	--	--	--	--
	8/27/2003	51.40	23.30	NP	28.10	--	120	<0.5	<0.5	<0.5	<0.5	84	<0.5	<0.5	<0.5	<20	<100	--	--
	11/10/2003	51.40	20.24	NP	31.16	--	230	<1	<1	<1	<1	92	<1	<1	<1	<40	<200	--	--
	2/3/2004	51.40	20.63	NP	30.77	--	<250	<2.5	<2.5	<2.5	<2.5	91	<2.5	<2.5	<2.5	<100	<500	<2.5	<2.5
	5/4/2004 b	51.40	21.89	NP	29.51	--	<250	<2.5	<2.5	<2.5	<2.5	190	<2.5	<2.5	<2.5	<100	<500	<2.5	<2.5
	8/31/2004	51.40	23.16	NP	28.24	--	<500	<5	<5	<5	<5	220	<5	<5	<5	<200	<1000	<5	<5
	11/23/2004	51.40	21.65	NP	29.75	--	590	<2.5	5	11	51	290	<2.5	<2.5	<2.5	<100	<500	<2.5	<2.5
	1/18/2005	51.40	16.28	NP	35.12	--	<250	<2.5	<2.5	<2.5	2.5	92	<2.5	<2.5	<2.5	<100	<500	<2.5	<2.5
	6/29/2005	51.40	14.50	NP	36.90	--	2200	43	97	92	390	250	<2.5	<2.5	<2.5	<100	<500	<2.5	<2.5
	9/1/2005	51.40	20.41	NP	30.99	--	<500	<5	<5	<5	<5	60	<5	<5	<5	<200	<1000	<5	<5
	11/3/2005	51.40	21.00	NP	30.40	--	130 a	<1	<1	<1	1	130	<1	<1	<1	<40	<200	<1	<1
	2/14/2006	51.40	16.31	NP	35.09	--	100	<0.5	<0.5	<0.5	0.87	62	<0.5	<0.5	<0.5	<20	<300	<0.5	<0.5
	5/30/2006	51.40	17.58	NP	33.82	--	<50	<0.5	<0.5	<0.5	<0.5	9.1	<0.5	<0.5	<0.5	<20	<300	<0.5	<0.5
	8/29/2006	51.40	18.64	NP	32.76	--	100	<2.5	<2.5	<2.5	<2.5	140	<2.5	<2.5	<2.5	<100	<1500	<2.5	<2.5
	11/29/2006	51.40	20.35	NP	31.05	--	84	<2.5	<2.5	<2.5	<2.5	190	<2.5	<2.5	<2.5	<100	<1500	<2.5	<2.5
	2/20/2007	51.40	17.09	NP	34.31	--	160 a	<2.5	<2.5	<2.5	<2.5	170	<2.5	<2.5	<2.5	<100	<1500	<2.5	<2.5
	5/25/2007	51.40	17.20	NP	34.20	--	70 a	<1	<1	<1	<1	93	<1	<1	<1	<40	<600	<1	<1
	8/9/2007	51.40	19.95	NP	31.45	--	<50	<0.5	<0.5	<0.5	<0.5	42	<0.5	<0.5	<0.5	<20	<300	<0.5	<0.5
	11/9/2007	51.40	23.28	NP	28.12	--	61	<0.5	<0.5	<0.5	1.3	71	<0.5	<0.5	<0.5	<20	<300	<0.5	<0.5
	12/14/2007	38.99	23.07	NP	15.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/11/2008	38.99	17.21	NP	21.78	--	<50	<0.5	<0.5	<0.5	<0.5	200	<0.5	<0.5	<0.5	<10	<100	<0.5	<0.5
	5/22/2008	38.99	17.55	NP	21.44	--	200	<1	<1	<1	<1	81	<1	<1	<1	<20	<600	<1	<1
	8/25/2008	38.99	20.55	NP	18.44	--	<50	<0.5	<0.5	<0.5	<0.5	30	<0.5	<0.5	<0.5	<10	<300	<0.5	<0.5
	12/17/2008	38.99	21.86	NP	17.13	--	<50	<0.5	<0.5	<0.5	<0.5	2.6	<0.5	<0.5	<0.5	<10	<300	<0.5	<0.5
	8/14/2009	38.99	20.31	NP	18.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/20/2010	38.99	16.82	NP	22.17	--	<50.0	<0.50	<0.50	<0.50	<1.5	17.2	<0.50	<0.50	<0.50	9.8	<250	<1.0	<1.0
	8/15/2011	38.99	16.28	NP	22.71	--	<50.0	<0.50	<0.50	<0.50	<1.5	14.8	<0.50	<0.50	<0.50	13.1	<250	<1.0	<1.0
	2/20/2012	44.21	18.48	NP	25.73	--	<50.0	<0.50	<0.50	<0.50	<1.5	9.6	<0.50	<0.50	<0.50	<5.0	<250	<1.0	<1.0
	6/27/2012	44.21	16.70	NP	27.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/31/2012	44.21	19.39	NP	24.82	--	<50	<0.50	<0.50	<0.50	<0.50	20	<0.50	<0.50	<0.50	<5.0	<5.0	<0.50	<0.50
	2/5/2013	44.21	15.83	NP	28.38	--	<50	<0.50	<0.50	<0.50	<0.50	25	<0.50	<0.50	<0.50	<5.0	<5.0	<0.50	<0.50
MW-8	1/25/1995	50.88	31.59	NP	19.29	--	54	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--
	4/19/1995	50.88	19.18	NP	31.70	--	<50	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--
	7/5/1995	50.88	19.03	NP	31.85	--	<50	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--
	10/5/1995	50.88	24.40	NP	26.48	--	<50	<0.5	<0.5	<0.5	<1	<5	--	--	--	--	--	--	--
	1/12/1996	50.88	25.51	NP	25.37	--	<50	<0.5	<0.5	<0.5	<1	<5	--	--	--	--	--	--	--
	4/22/1996	50.88	18.00	NP	32.88	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	7/2/1996	50.88	19.83	NP	31.05	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	11/8/1996	50.88	20.09	NP	30.79	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	1/3/1997	50.88	19.72	NP	31.16	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	4/28/1997	50.88	20.44	NP	30.44	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	7/1/1997	50.88	22.72	NP	28.16	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	10/2/1997	50.88	24.51	NP	26.37	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	1/9/1998	50.88	21.17	NP	29.71	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	5/6/1998	50.88	18.34	NP	32.54	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	7/21/1998	50.88	18.55	NP	32.33	--	90	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	12/30/1998	50.88	20.40	NP	30.48	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/2/1999	50.88	19.28	NP	31.60	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

TABLE 3
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA
76 (FORMER BP) SERVICE STATION NO. 11117
7210 BANCROFT AVENUE
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)	DRO (ug/L)	GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (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	5/10/1999	50.88	15.62	NP	35.26	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/23/1999	50.88	21.74	NP	29.14	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/23/1999	50.88	22.83	NP	28.05	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/27/2000	50.88	16.25	NP	34.63	--	<50	<0.5	<0.5	<0.5	<0.5	<0.50	--	--	--	--	--	--	--
	5/22/2000	50.88	17.06	NP	33.82	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/31/2000	50.88	21.72	NP	29.16	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/11/2000	50.88	22.03	NP	28.85	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/20/2001	50.88	16.23	NP	34.65	--	<50	<0.5	<0.5	<0.5	<1.5	0.991	--	--	--	--	--	--	--
	6/19/2001	50.88	19.35	NP	31.53	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/20/2001	50.88	21.95	NP	28.93	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/27/2001	50.88	16.98	NP	33.90	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/28/2002	50.88	15.38	NP	35.50	--	<50	<0.5	<0.5	<0.5	<1	<0.50	--	--	--	--	--	--	--
	6/28/2002	50.88	16.97	NP	33.91	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/12/2002	50.88	19.47	NP	31.41	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/12/2002	50.88	20.84	NP	30.04	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/10/2003	50.88	16.56	NP	34.32	--	<50	<0.5	<0.5	<0.5	<0.5	3	--	--	--	--	--	--	--
	5/12/2003	50.88	13.63	NP	37.25	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/27/2003	50.88	18.90	NP	31.98	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/10/2003	50.88	19.68	NP	31.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/3/2004	50.88	14.76	NP	36.12	--	<50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<20	<100	<0.5	<0.5
	5/4/2004	50.88	14.69	NP	36.19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/31/2004	50.88	18.08	NP	32.80	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/23/2004	50.88	15.77	NP	35.11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/18/2005	50.88	12.04	NP	38.84	--	<50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<20	<100	<0.50	<0.50
	6/29/2005	50.88	NG	NG	NG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/1/2005	50.88	16.12	NP	34.76	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/3/2005	50.88	19.42	NP	31.46	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2006	50.88	12.43	NP	38.45	--	<50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<20	<300	<0.5	<0.5
	5/30/2006	50.88	12.40	NP	38.48	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/29/2006	50.88	17.16	NP	33.72	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/29/2006	50.88	19.35	NP	31.53	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/20/2007	50.88	14.57	NP	36.31	--	<50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<20	<300	<0.5	<0.5
	5/25/2007	50.88	16.11	NP	34.77	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/9/2007	50.88	19.25	NP	31.63	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/9/2007	50.88	20.92	NP	29.96	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/14/2007	38.44	21.26	NP	17.18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/12/2008	38.44	14.00	NP	24.44	--	<50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<10	<100	<0.5	<0.5
	5/22/2008	38.44	16.86	NP	21.58	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/25/2008	38.44	19.92	NP	18.52	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/17/2008	38.44	21.45	NP	16.99	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/25/2009	38.44	16.19	NP	22.25	--	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<300	<0.50	<0.50
	5/21/2009	38.44	16.10	NP	22.34	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/14/2009	38.44	20.17	NP	18.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/10/2010	38.44	15.33	NP	23.11	--	<50.0	<0.50	<0.50	<0.50	<1.5	<0.50	<0.50	<0.50	<0.50	<5.0	<250	<1.0	<1.0
	8/20/2010	38.44	16.29	NP	22.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/7/2011	38.44	14.35	NP	24.09	--	<50.0	<0.50	<0.50	<0.50	<1.5	<0.50	<0.50	<0.50	<0.50	<5.0	<250	<1.0	<1.0
	8/15/2011	38.44	15.83	NP	22.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/20/2012	44.18	17.50	NP	26.68	--	<50.0	<0.50	<0.50	<0.50	<1.5	<0.50	<0.50	<0.50	<0.50	<5.0	<250	<1.0	<1.0
	8/31/2012	44.18	18.81	NP	25.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/5/2013	44.18	15.00	NP	29.18	--	<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
MW-9	1/25/1995	51.05	22.32	NP	28.73	--	<50	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--
	4/19/1995	51.05	19.86	NP	31.19	--	<50	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--
	7/5/1995	51.05	20.78	NP	30.27	--	<50	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--
	10/5/1995	51.05	24.33	NP	26.72	--	<50	<0.5	<0.5	<0.5	<1	160	--	--	--	--	--	--	--
	1/12/1996	51.05	25.44	NP	25.61	--	<50	<0.5	<0.5	<0.5	<1	<5	--	--	--	--	--	--	--
	4/22/1996	51.05	18.01	NP	33.04	--	<50	<0.5	<1	<1	<1	11	--	--	--	--	--	--	--
	7/2/1996	51.05	19.70	NP	31.35	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	11/8/1996	51.05	19.96	NP	31.09	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--

TABLE 3
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA
76 (FORMER BP) SERVICE STATION NO. 11117
7210 BANCROFT AVENUE
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)	DRO (ug/L)	GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (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	1/3/1997	51.05	19.52	NP	31.53	--	<250	<2.5	<5	<5	<5	<50	--	--	--	--	--	--	--
	4/28/1997	51.05	20.22	NP	30.83	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	7/1/1997	51.05	22.59	NP	28.46	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	10/2/1997	51.05	24.33	NP	26.72	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/3/1997	51.05	NG	NG	NG	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	1/9/1998	51.05	21.11	NP	29.94	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	5/6/1998	51.05	18.26	NP	32.79	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	7/21/1998	51.05	18.46	NP	32.59	--	70	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	12/30/1998	51.05	NG	NG	NG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/2/1999	51.05	NG	NG	NG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/10/1999	51.05	NG	NG	NG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/23/1999	51.05	NG	NG	NG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/23/1999	51.05	NG	NG	NG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/27/2000	51.05	NG	NG	NG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/22/2000	51.05	NG	NG	NG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/31/2000	51.05	NG	NG	NG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/11/2000	51.05	NG	NG	NG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/20/2001	51.05	NG	NG	NG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/19/2001	51.05	NG	NG	NG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/20/2001	51.05	22.20	NP	28.85	--	6300	2.87	<0.5	<0.5	<1.5	8640	--	--	--	--	--	--	--
	12/27/2001	51.05	18.92	NP	32.13	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/28/2002	51.05	17.22	NP	33.83	--	19000	1560	61.3	84	111	20200	--	--	--	--	--	--	--
	6/28/2002	51.05	18.20	NP	32.85	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/12/2002	51.05	19.92	NP	31.13	--	5100	570	180	<25	220	6400	--	--	--	--	--	--	--
	12/12/2002	51.05	21.78	NP	29.27	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/10/2003	51.05	18.25	NP	32.80	--	26000	2500	<100	<100	<100	33000	--	--	--	--	--	--	--
	5/12/2003	51.05	16.29	NP	34.76	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/27/2003	51.05	19.69	NP	31.36	--	11000	830	<50	<50	<50	6300	<50	<50	<50	<2000	<10000	--	--
	11/10/2003	51.05	19.97	NP	31.08	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/3/2004	51.05	17.23	NP	33.82	--	6200	180	<50	<50	<50	2100	<50	<50	<50	<2000	<10000	<50	<50
	5/4/2004	51.05	17.17	NP	33.88	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/31/2004	51.05	19.71	NP	31.34	--	<2500	210	<25	<25	<25	1500	<25	<25	<25	<1000	<5000	<25	<25
	11/23/2004	51.05	18.58	NP	32.47	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/18/2005	51.05	14.98	NP	36.07	--	490	32	<2.5	<2.5	8.9	130	<2.5	<2.5	<2.5	150	<500	<2.5	<2.5
	6/29/2005	51.05	14.74	NP	36.31	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/1/2005	51.05	17.42	NP	33.63	--	3500	1300	<25	<25	28	240	<25	<25	<25	2700	<5000	<25	<25
	11/3/2005	51.05	19.90	NP	31.15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/14/2006	51.05	12.95	NP	38.10	--	2700 a	<25	<25	<25	<25	2200	<25	<25	<25	<1000	<15000	<25	<25
	5/30/2006	51.05	13.76	NP	37.29	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/29/2006	51.05	17.86	NP	33.19	--	1200	580	<25	<25	<25	<25	<25	<25	<25	2100	<15000	<25	<25
	11/29/2006	51.05	20.25	NP	30.80	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/20/2007	51.05	16.91	NP	34.14	--	780	66	1.5	2	1.4	3.2	<1	<1	<1	380	<600	<1	<1
	5/25/2007	51.05	17.28	NP	33.77	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/9/2007	51.05	19.71	NP	31.34	--	650	150	<0.5	<0.5	2	1.4	<0.5	<0.5	<0.5	790	<300	<0.5	<0.5
	11/9/2007	51.05	21.62	NP	29.43	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/14/2007	38.63	21.66	NP	16.97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/12/2008	38.63	16.30	NP	22.33	--	890	27	2.5	28	5.4	<0.50	<0.5	<0.5	<0.5	37	<100	<0.5	<0.5
	5/22/2008	38.63	18.10	NP	20.53	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/25/2008	38.63	20.93	NP	17.70	--	180	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	75	<300	<0.5	<0.5
	12/17/2008	38.63	22.86	NP	15.77	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/25/2009	38.63	18.78	NP	19.85	--	600	11	0.86	1.1	2.2	<0.50	<0.50	<0.50	<0.50	17	<300	<0.50	<0.50
	5/21/2009	38.63	17.95	NP	20.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/14/2009	38.63	20.81	NP	17.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/10/2010	38.63	16.71	NP	21.92	--	<50.0	<0.50	<0.50	<0.50	<1.5	<0.50	<0.50	<0.50	<0.50	<5.0	<250	<1.0	<1.0
	8/20/2010	38.63	17.22	NP	21.41	--	137	26.5	<0.50	<0.50	<1.5	0.91	<0.50	<0.50	<0.50	92.5	<250	<1.0	<1.0
	2/7/2011	38.63	16.18	NP	22.45	--	78.5	1.6	<0.50	<0.50	<1.5	0.64	<0.50	<0.50	<0.50	27.6	<250	<1.0	<1.0
	8/15/2011	38.63	VO	VO	VO	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 3
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA
76 (FORMER BP) SERVICE STATION NO. 11117
7210 BANCROFT AVENUE
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)	DRO (ug/L)	GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (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	2/20/2012	44.35	18.88	NP	25.47	--	204	43.2	<0.50	<0.50	<1.5	<0.50	<0.50	<0.50	<0.50	59.1	<250	<1.0	<1.0
	8/31/2012	44.35	19.68	NP	24.67	--	<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
	9/27/2012	44.35	20.25	NP	24.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/5/2013	44.35	16.44	NP	27.91		<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
MW-10	1/9/1998	NSVD	20.97	NP	--	--	<50	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	5/6/1998	NSVD	18.07	NP	--	--	800	<0.5	<1	<1	<1	980	--	--	--	--	--	--	--
	7/21/1998	NSVD	18.28	NP	--	--	80	<0.5	<1	<1	<1	<10	--	--	--	--	--	--	--
	12/30/1998	NSVD	22.22	NP	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/2/1999	NSVD	21.83	NP	--	--	940	<10	<10	<10	<10	690	--	--	--	--	--	--	--
	5/10/1999	NSVD	17.99	NP	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/23/1999	NSVD	22.61	NP	--	--	<50	<1	<1	<1	1.4	1000	--	--	--	--	--	--	--
	12/23/1999	NSVD	23.75	NP	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/27/2000	NSVD	18.83	NP	--	--	1900	<0.5	<0.5	<0.5	<0.5	2800	--	--	--	--	--	--	--
	5/22/2000	NSVD	19.47	NP	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/31/2000	NSVD	22.64	NP	--	--	1700	<0.5	<0.5	<0.5	<0.5	13000	--	--	--	--	--	--	--
	12/11/2000	NSVD	22.84	NP	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/20/2001	NSVD	19.57	NP	--	--	16000	<0.5	<0.5	<0.5	<1.5	11900	--	--	--	--	--	--	--
	6/19/2001	NSVD	20.63	NP	--	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/20/2001	NSVD	23.07	NP	--	--	5800	<0.5	<0.5	<0.5	<1.5	8160	--	--	--	--	--	--	--
	12/27/2001	NSVD	20.92	NP	--	--	6600	17.3	14.5	<12.5	<25	7750	--	--	--	--	--	--	--
	2/28/2002	NSVD	18.52	NP	--	--	3600	10.8	<0.5	<0.5	<1	5380	--	--	--	--	--	--	--
	6/28/2002	NSVD	18.41	NP	--	--	<50	<0.5	<0.5	<0.5	<1	2570	--	--	--	--	--	--	--
	9/12/2002	NSVD	20.57	NP	--	--	660	<5	<5	<5	<5	3300	--	--	--	--	--	--	--
	12/12/2002	NSVD	22.80	NP	--	--	1400	<5	<5	<5	<5	3300	--	--	--	--	--	--	--
	3/10/2003	NSVD	19.26	NP	--	--	1700	<5	<5	5.3	15	2800	--	--	--	--	--	--	--
	5/12/2003	NSVD	17.90	NP	--	--	1500	<12	<12	<12	<12	2200	--	--	--	--	--	--	--
	8/27/2003	NSVD	20.82	NP	--	--	4100	<25	<25	<25	<25	2800	<25	<25	<25	<1000	<5000	--	--
	11/10/2003	NSVD	21.92	NP	--	--	<5000	<50	<50	<50	<50	3300	<50	<50	<50	<2000	<10000	--	--
	2/3/2004	NSVD	18.52	NP	--	--	5100	<50	<50	<50	<50	2300	<50	<50	<50	<2000	<10000	<50	<50
	5/4/2004	NSVD	17.63	NP	--	--	<2500	<25	<25	<25	<25	1600	<25	<25	<25	<1000	<5000	<25	<25
	8/31/2004	NSVD	20.67	NP	--	--	<5000	<50	<50	<50	<50	1900	<50	<50	<50	<2000	<10000	<50	<50
	11/23/2004	NSVD	19.79	NP	--	--	2600	<25	<25	<25	<25	2300	<25	<25	<25	<1000	<5000	<25	<25
	1/18/2005	NSVD	16.13	NP	--	--	560	<5	<5	<5	<5	530	<5	<5	<5	<200	<1000	<5	<5
	6/29/2005	NSVD	15.56	NP	--	--	110	1.9	4.6	4.2	17	71	<0.5	<0.5	<0.5	<20	<100	<0.5	<0.5
	9/1/2005	NSVD	18.10	NP	--	--	<250	<2.5	<2.5	<2.5	<2.5	280	<2.5	<2.5	<2.5	<100	<500	<2.5	<2.5
	11/3/2005	NSVD	20.90	NP	--	--	800 a	<5	<5	<5	7	770	<5	<5	<5	<200	<1000	<5	<5
	2/14/2006	NSVD	15.58	NP	--	--	600	<0.5	<0.5	<0.5	<0.5	400 c	<0.5	<0.5	1.2	34	<300	<0.5	<0.5
	5/30/2006	NSVD	14.70	NP	--	--	95	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<20	<300	<0.5	<0.5
	8/29/2006	NSVD	18.69	NP	--	--	250	<5	<5	<5	<5	490	<5	<5	<5	<200	<3000	<5	<5
	11/29/2006	NSVD	21.35	NP	--	--	650 a	<5	<5	<5	<5	1400	<5	<5	5.8	<200	<3000	<5	<5
	2/20/2007	NSVD	18.65	NP	--	--	720	<5	<5	<5	<5	850	<5	<5	<5	<200	<3000	<5	<5
	5/25/2007	NSVD	18.15	NP	--	--	130 a	<0.5	<0.5	<0.5	<0.5	170	<0.5	<0.5	0.69	<20	<300	<0.5	<0.5
	8/9/2007	NSVD	20.83	NP	--	--	970	<10	<10	<10	<10	1600	<10	<10	<10	<400	<6000	<10	<10
	11/9/2007	NSVD	22.53	NP	--	--	1100	<10	<10	<10	13	1600	<10	<10	<10	<400	<6000	<10	<10
	12/14/2007	40.45	22.62	NP	17.83	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/11/2008	40.45	17.86	NP	22.59	--	<50	<0.5	<0.5	<0.5	<0.5	770	<0.5	<0.5	2.6	<10	<100	<0.5	<0.5
	5/22/2008	40.45	19.05	NP	21.40	--	81	<0.5	<0.5	<0.5	<0.5	2.8	<0.5	<0.5	<0.5	<10	<300	<0.5	<0.5
	8/25/2008	40.45	21.88	NP	18.57	--	<50	<0.5	1	<0.5	0.98	500	<0.5	<0.5	2.2	<10	<300	<0.5	<0.5
	12/17/2008	40.45	23.32	NP	17.13	--	<50	<20	<20	<20	<20	910	<20	<20	<20	<400	<12000	<20	<20
	2/25/2009	40.45	20.07	NP	20.38	--	84	<5.0	<5.0	<5.0	<5.0	290	<5	<5	<5	<100	<3000	<5	<5
	5/21/2009	40.45	18.80	NP	21.65	--	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<300	<0.50	<0.50
	8/14/2009	40.45	21.76	NP	18.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/10/2010	40.45	17.80	NP	22.65	--	<50.0	<0.50	<0.50	<0.50	<1.5	21.9	<0.50	<0.50	<0.50	<5.0	<250	<1.0	<1.0
	8/20/2010	40.45	18.64	NP	21.81	--	<50.0	<0.50	<0.50	<0.50	<1.5	<0.50	<0.50	<0.50	<0.50	<5.0	<250	<1.0	<1.0
	2/7/2011	40.45	17.02	NP	23.43	--	<50.0	<0.50	<0.50	<0.50	<1.5	0.53	<0.50	<0.50	<0.50	<5.0	<250	<1.0	<1.0
	8/15/2011	40.45	17.76	NP	22.69	--	<50.0	<0.50	<0.50	<0.50	<1.5	13.8	<0.50	<0.50	<0.50	13.1	<250	<1.0	<1.0
	2/20/2012	46.17	20.00	NP	26.17	--	<50.0	<0.50	<0.50	<0.50	<1.5	65.1	<0.50	<0.50	<0.50	5.3	<250	<1.0	<1.0
	8/31/2012	46.17	20.79	NP	25.38	--	<50	<0.50	<0.50	<0.50	<0.50	57	<0.50	<0.50	<0.50	<5.0	<5.0	<0.50	<0.50

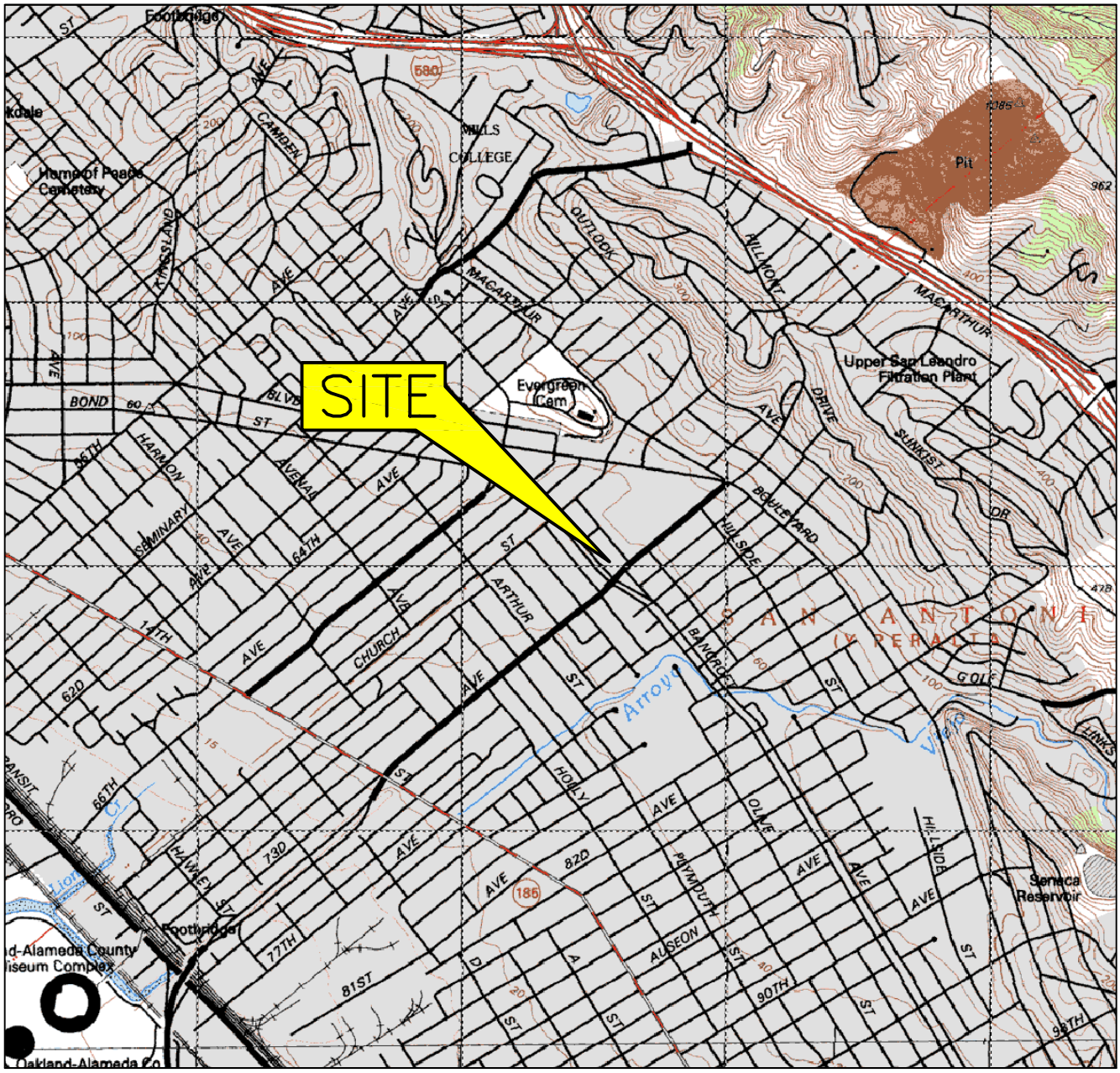
TABLE 3
HISTORICAL GROUNDWATER GAUGING AND ANALYTICAL DATA
76 (FORMER BP) SERVICE STATION NO. 11117
7210 BANCROFT AVENUE
OAKLAND, CALIFORNIA

Well I.D.	Date	GROUNDWATER GAUGING DATA				GROUNDWATER ANALYTICAL DATA													
		TOC Elevation (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	Water Elevation* (ft)	DRO (ug/L)	GRO (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (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	2/5/2013	46.17	17.59	NP	28.58		<50	<0.50	<0.50	<0.50	<0.50	3.1	<0.50	<0.50	<0.50	<5.0	<5.0	<0.50	<0.50
MW-11	12/14/2007	37.64	20.16	NP	17.48	--	8000	<10	72	230	760	<10	<10	<10	<10	<400	<6000	<10	<10
	2/12/2008	37.64	14.35	NP	23.29	--	5500	46	13	220	160	<2.5	<2.5	<2.5	<2.5	<50	<500	<2.5	<2.5
	5/22/2008	37.64	16.63	NP	21.01	--	5700	80	21	320	150	<5	<5	<5	<5	<100	<3000	<5	<5
	8/25/2008	37.64	19.48	NP	18.16	--	5300	<5	20	120	320	<5	<5	<5	<5	<100	<3000	<5	<5
	12/17/2008	37.64	21.26	NP	16.38	--	12000	2.4	2.6	30	54	<0.50	<0.5	<0.5	<0.5	<10	<300	<0.5	<0.5
	2/25/2009	37.64	16.38	NP	21.26	--	6800	0.86	20	150	390	<0.50	<0.50	<0.50	<0.50	<10	<300	<0.50	<0.50
	5/21/2009	37.64	16.16	NP	21.48	--	2500	1.5	4.4	36	82	1.5	<0.50	<0.50	<0.50	<10	<300	<0.50	<0.50
	8/14/2009	37.64	19.27	NP	18.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/10/2010	37.64	13.35	NP	24.29	--	820	0.53	0.86	9.0	15.4	1.4	<0.50	<0.50	<0.50	6.1	<250	<1.0	<1.0
	8/20/2010	37.64	15.66	NP	21.98	--	1740	0.52	1.4	16.5	26.1	1.2	<0.50	<0.50	<0.50	8.2	<250	<1.0	<1.0
	2/7/2011	37.64	13.55	NP	24.09	--	1530	<0.50	1.3	14.3	24.1	1.1	<0.50	<0.50	<0.50	<5.0	<250	<1.0	<1.0
	8/15/2011	37.64	14.58	NP	23.06	--	1530	<0.50	0.80	9.2	8.0	<0.50	<0.50	<0.50	<0.50	<5.0	<250	<1.0	<1.0
	2/20/2012	43.34	16.24	NP	27.10	--	2180	0.65	3.5	48.9	70.6	0.73	<0.50	<0.50	<0.50	<5.0	<250	<1.0	<1.0
	6/27/2012	43.34	15.4	NP	27.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/31/2012	43.34	17.61	NP	25.73	--	1800	<0.50	2.3	40	46	0.58	<0.50	<0.50	<0.50	5.1	<5.0	<0.50	<0.50
	9/27/2012	43.34	18.45	NP	24.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/5/2013	43.34	14.30	NP	29.04		870	<0.50	<0.50	8.5	8.4	<0.50	<0.50	<0.50	<0.50	<5.0	<8.0	<0.50	<0.50

Gauging Notes:
TOC - Top of Casing
ft - Feet
NP - LNAPL not present
LNAPL - Light non-aqueous phase liquid
* - Corrected for LNAPL if present (assumes LNAPL specific gravity = 0.75)
NG - Not gauged
VO - Vehicle Obstruction
NSVD - Not surveyed
-- - No information available
[1] - Sample taken pre-purge
[2]- Sample taken post-purge

Analytical Notes:
-- - No information available
< - Not detected at or above indicated laboratory reporting limit
NS - Well not sampled.
ug/L - micrograms/liter
DRO- diesel range organics
GRO- gasoline range organics
MTBE- Methyl tertiary-butyl ether
TBA- Tertiary-butyl alcohol
DIPE- Di-isopropyl ether
ETBE- Ethyl tertiary-butyl ether
TAME- Tertiary-amyl methyl ether
a - The hydrocarbon result for GRO was partly due to individual peaks in the quantitation range
b - Samples run outside of hold time
c - Initial analysis for MTBE within holding time but required dilution
d - Repeat analysis of EPA Method 8260B yielded inconsistent results; the concentrations appear to vary between the bottles. The highest concentration results are reported.

Figures



QUADRANGLE LOCATION

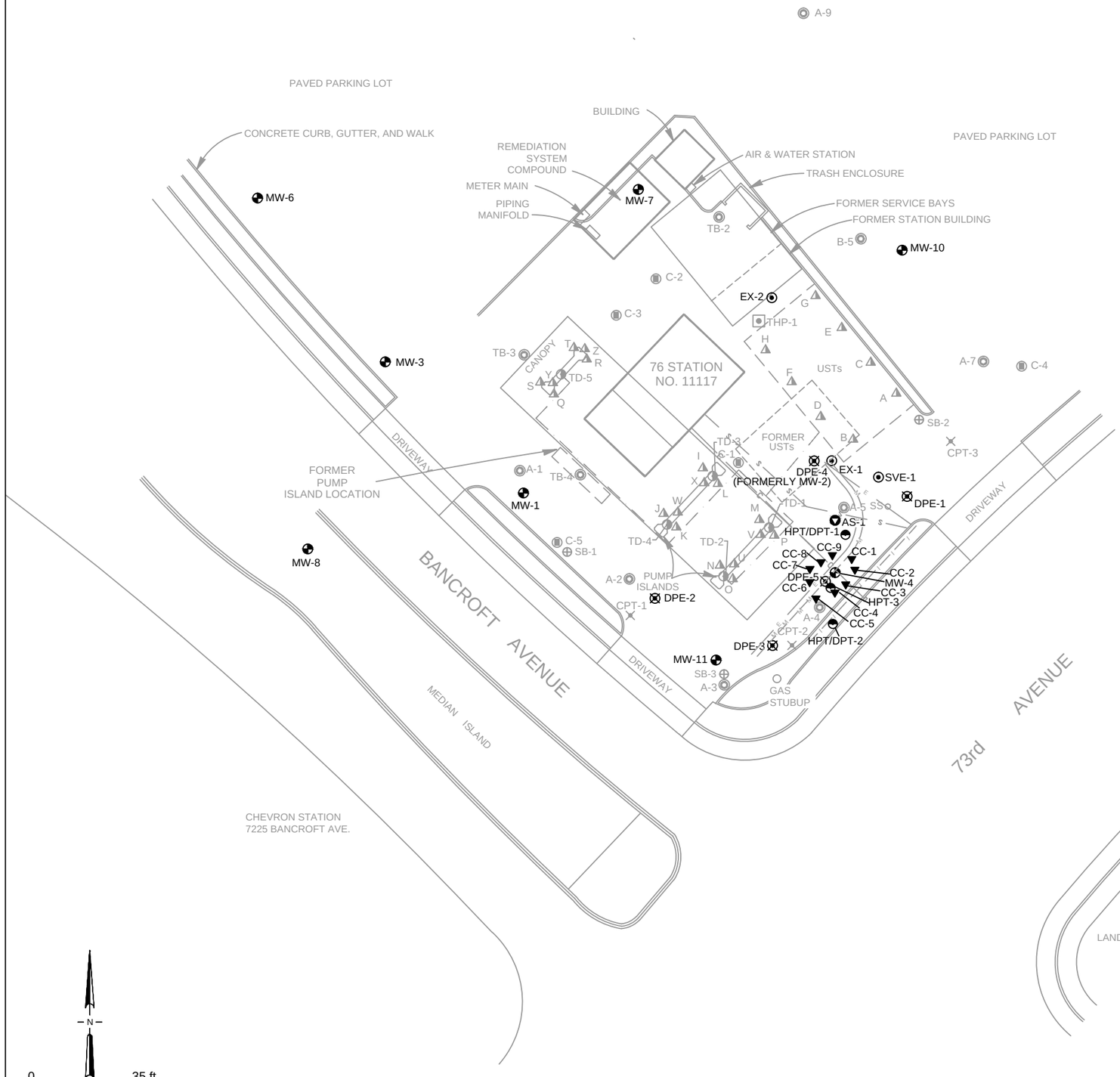
GENERAL NOTES:
BASE MAP FROM USGS, 7.5 MINUTE
TOPOGRAPHIC OAKLAND, CA. PHOTO REVISED 1980

FIGURE 1
SITE LOCATION MAP

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

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

anteagroup



EXPLANATION

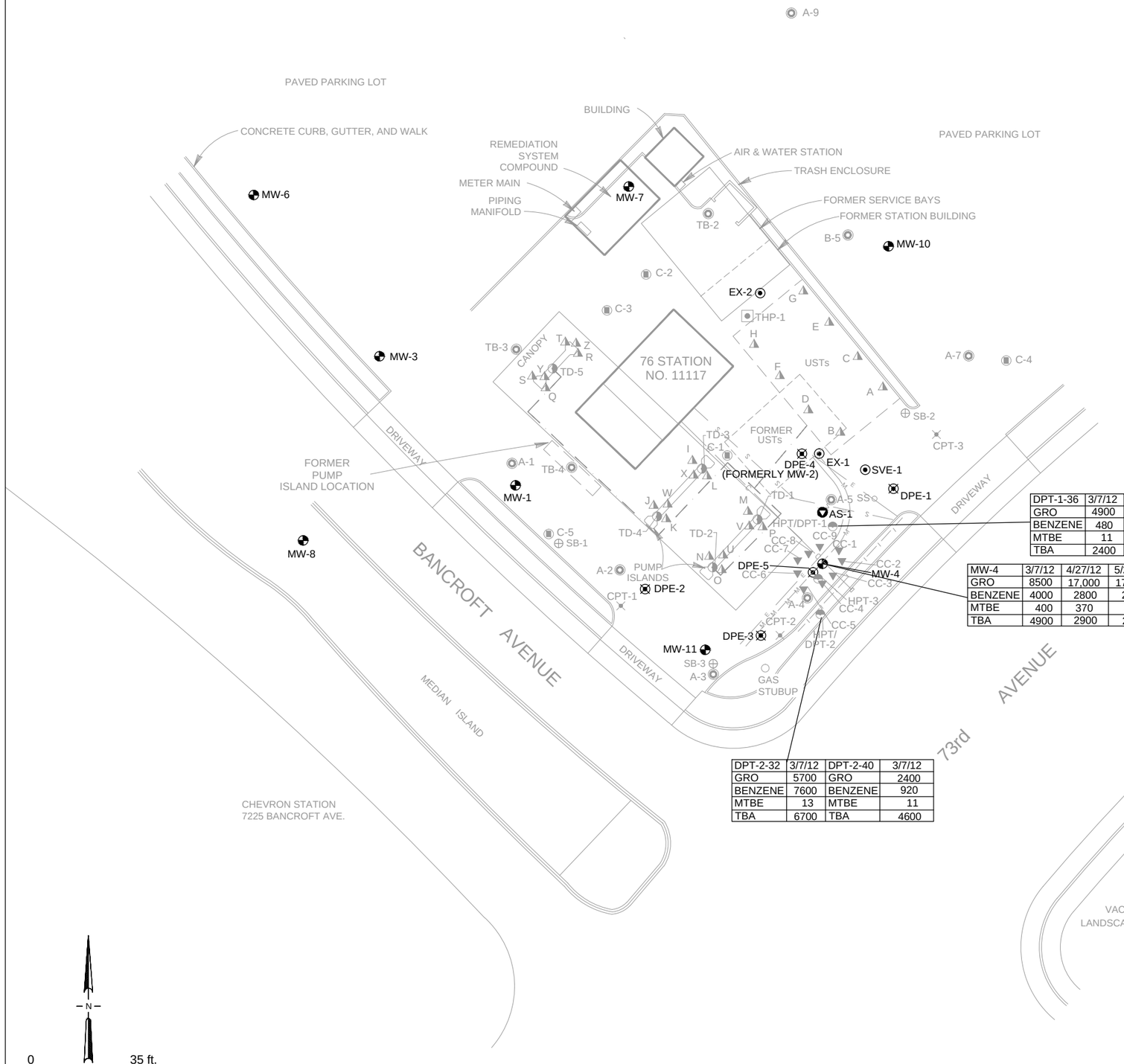
- MW-7 — GROUNDWATER MONITORING WELL LOCATION
- EX-1 — SOIL VAPOR EXTRACTION WELL LOCATION
- DPE-2 — GROUNDWATER EXTRACTION WELL LOCATION
- AS-1 — AIR SPARGE WELL LOCATION
- HPT-3 — HPT BORING LOCATION
- CC-1 — INJECTION LOCATION
- SS — SEWER CLEANOUT LOCATION
- SB-2 — FUTURE USE STUB-OUT LOCATION
- C-1 — SOIL BORING LOCATION (ANTEA GROUP, 2011)
- A-1/TB-2 — SOIL BORING LOCATION
  - A BORINGS (URS, NOVEMBER 2005)
  - B BORING (HEDI, 1992)
  - T BORINGS (EMCON, 1994)
- TD-1 — DISPENSER GRAB SAMPLE LOCATION (EMCON, SEPTEMBER 1994)
- THP-1 — HYDROPUNCH BORING LOCATION (EMCON, SEPTEMBER 1994)
- A — SOIL SAMPLES COLLECTED DURING ERI UST, PRODUCT LINE, AND DISPENSER REMOVAL (NOVEMBER, 1998)
- CPT-1 — CONE PENETROMETER TEST BORINGS BROADBENT & ASSOCIATES, INC. (JUNE, 2007)
- PRODUCT LINES
- C — UNDERGROUND COMMUNICATIONS LINE
- E — UNDERGROUND ELECTRIC LINE
- I — UNDERGROUND IRRIGATION LINE
- M — UNDERGROUND METAL PIPE LINE
- S — UNDERGROUND SEWER LINE

FIGURE 2
SITE PLAN

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

PROJECT NO.	PREPARED BY	DRAWN BY
142611117	JW	JH
DATE	REVIEWED BY	FILE NAME
06/27/12	DU	11117-SMS

antea group



DPT-1-36	3/7/12
GRO	4900
BENZENE	480
MTBE	11
TBA	2400

MW-4	3/7/12	4/27/12	5/29/12	6/27/12	8/31/12	9/27/12
GRO	8500	17,000	17,000	16,000	230,000	58,000
BENZENE	4000	2800	2800	2500	2800	2600
MTBE	400	370	210	250	240	160
TBA	4900	2900	2700	3200	1800	2400

DPT-2-32	3/7/12	DPT-2-40	3/7/12
GRO	5700	GRO	2400
BENZENE	7600	BENZENE	920
MTBE	13	MTBE	11
TBA	6700	TBA	4600

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- THP-1 — HYDROPUNCH BORING LOCATION (EMCON, SEPTEMBER 1994)
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- S — UNDERGROUND SEWER LINE

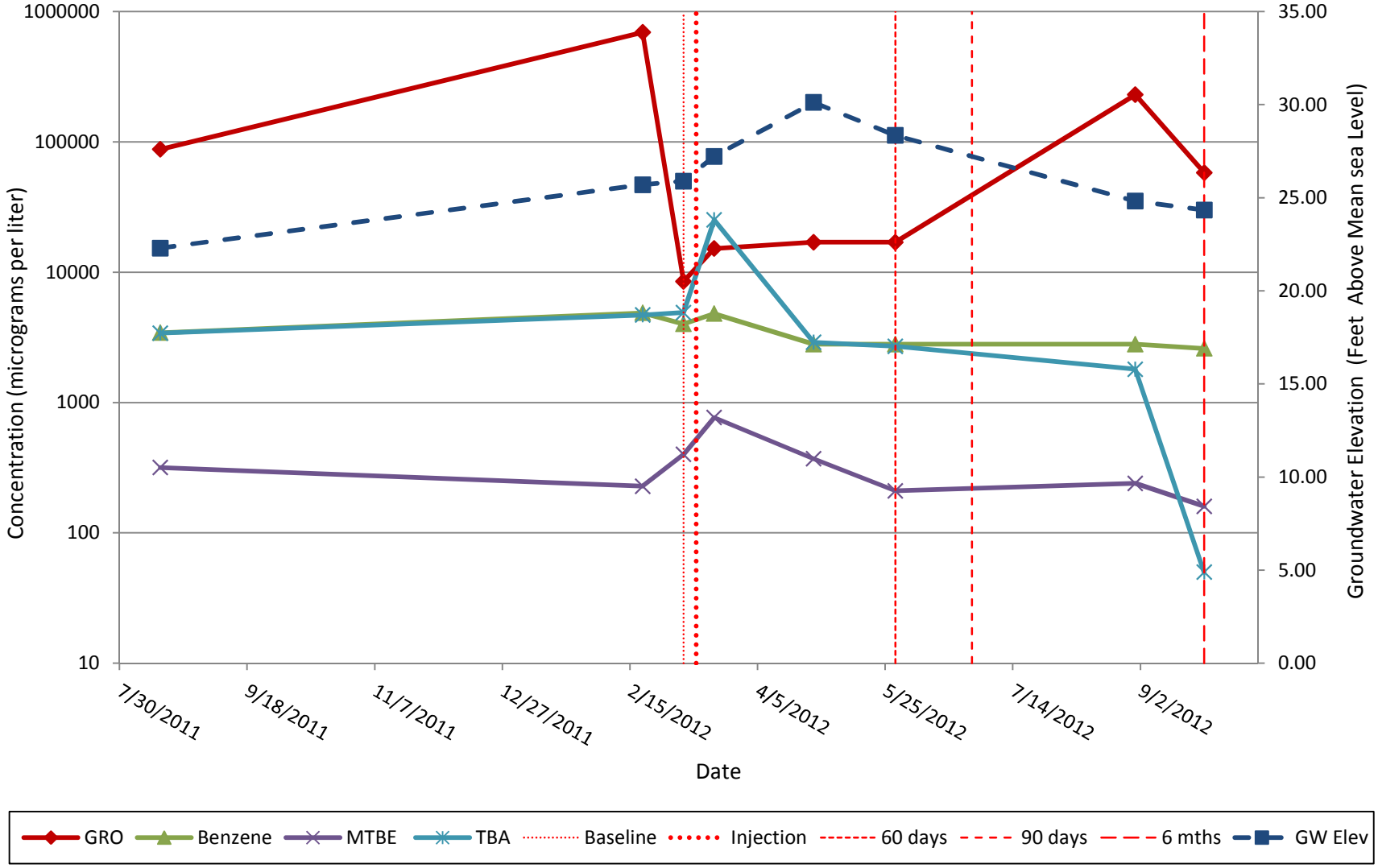
NOTES:
GRO = GASOLINE RANGE ORGANICS
MTBE = METHYL TERTIARY BUTYL ETHER
TBA = TERTIARY BUTYL ALCOHOL

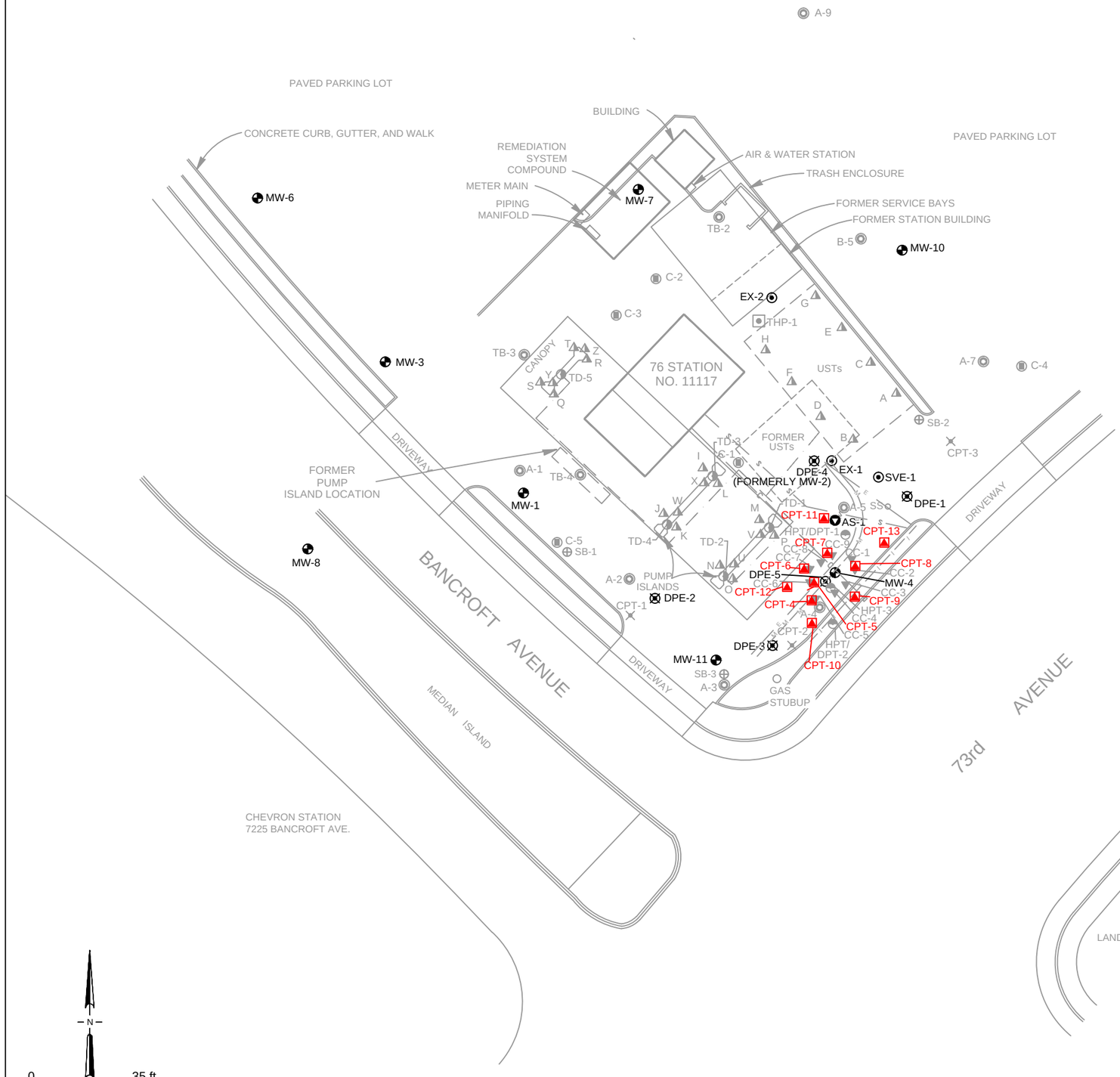
CONCENTRATIONS IN MICROGRAMS PER LITER (µg/L).

FIGURE 3
BASELINE AND POST-INJECTION GROUNDWATER ANALYTICAL DATA
76 (FORMER BP) STATION NO 11117
7210 BANCROFT AVENUE
OAKLAND, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY	
142611117	NP	JH	antea group
DATE	REVIEWED BY	FILE NAME	
4/23/13	DU	11117-SMS	

Figure 4
MW-4 Contaminant Concentrations versus Time
76 (Former BP) Service Station No. 11117
7210 Bancroft Avenue, Oakland, CA





EXPLANATION

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- I — UNDERGROUND IRRIGATION LINE
- M — UNDERGROUND METAL PIPE LINE
- S — UNDERGROUND SEWER LINE
- CPT-12 — PROPOSED CPT / UVOST BORING

FIGURE 5
SITE PLAN WITH PROPOSED BORING LOCATIONS
76 (FORMER BP) STATION NO 11117
7210 BANCROFT AVENUE
OAKLAND, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
142611117	NP	JH
DATE	REVIEWED BY	FILE NAME
4/23/13	DU	11117-SMS

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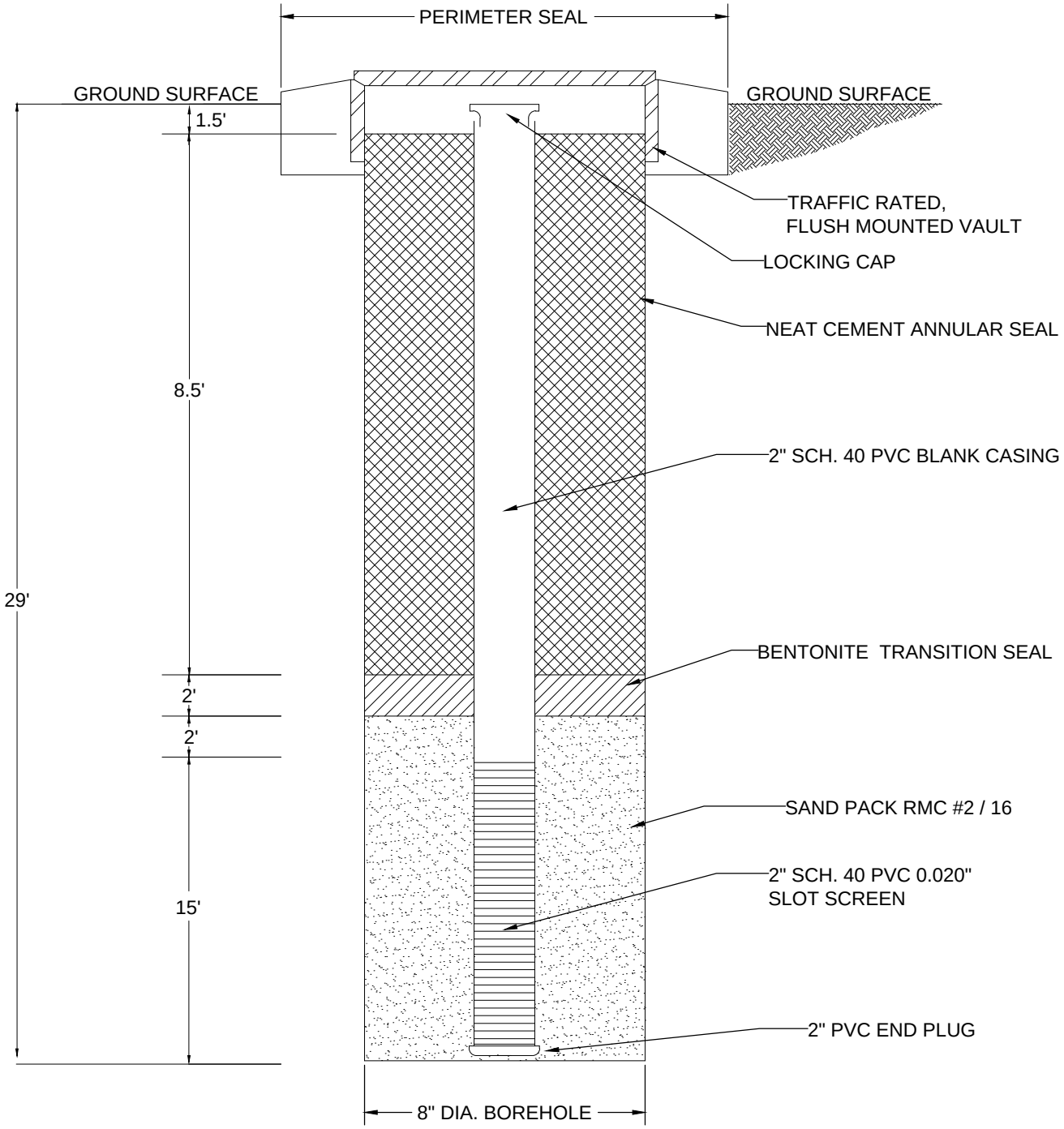

FIGURE 6

PROPOSED WELL CONSTRUCTION DIAGRAM
MW-4R

FORMER BP SERVICE STATION NO. 11117
9210 BANCROFT AVENUE
OAKLAND, CALIFORNIA

PROJECT NO. I42611117	DRAWN BY JH 4/23/13
FILE NO. 11117-SG_Well	PREPARED BY NP
REVISION NO. 1	REVIEWED BY DU

NOT TO SCALE

antea group

Appendix A

Site Details and Summary of Previous Environmental Investigations

SITE LOCATION AND BACKGROUND

The Site is an active 76-brand gasoline retail outlet located on the northern corner of Bancroft Avenue and 73rd Avenue at 7210 Bancroft Avenue in Oakland, Alameda County, California. The site consists of a service station building, three 12,000-gallon gasoline underground storage tanks (USTs), and one 10,000-gallon diesel UST with associated piping and dispensers. The site is covered with asphalt or concrete surfacing except for planters along the southeastern and southwestern property boundaries and at the north corner of the property.

Land use in the immediate vicinity of the site is mixed commercial and residential. BP acquired the facility from Mobil Oil Corporation in 1989. In January 1994, BP transferred the property to TOSCO Marketing Company (TOSCO) and has not operated the facility since that time.

SUMMARY OF PREVIOUS ENVIRONMENTAL INVESTIGATIONS

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

1989 Phase II Environmental Audit: In December 1989, Hunter Environmental Services, Inc. (Hunter) performed a Phase II Environmental Audit on the adjacent Eastmont Town Center site located to the north and northwest of the former BP Site. Part of the Phase II study included the installation monitoring well MW-3 near the western boundary of the former BP Site. Soil samples collected from 10 and 20 feet below ground surface (bgs) from MW-3 were analyzed for total petroleum hydrocarbons (TPH), benzene, toluene, ethyl benzene, and total xylenes (BTEX), and oil and grease. No analytes were reported above their respective laboratory reporting limits (LRLs). A groundwater sample collected from MW-3 was reported to contain TPH and benzene at concentrations of 2,700 micrograms per liter (µg/L) and 530 µg/L, respectively (Hunter, 1989).

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

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

1994 Baseline Assessment Report: In September 1994, EMCON performed a Supplemental Site Assessment at the site. Four exploratory soil borings (THP-1, TB-2, TB-3, TB-4) were advanced to a maximum depth of 45 feet bgs north of the

former and existing UST complexes (THP-1), at the former service bays (TB-2), north of the northern pump island (TB-3), and at a former pump island (TB-4). Additionally, one soil sample was collected from beneath each of the five dispensers (TD-1 through TD-5). Groundwater was encountered in TB-2 and TB-3 at approximately 33 to 36 feet bgs and groundwater samples were collected from TB-2 and TB-3 via temporarily well points. Maximum concentrations of 16 mg/kg TPH-g (TD-3), TPH as diesel (TPH-d) at concentrations ranging from 110 mg/kg to 5,000 mg/kg (TD-1 through TD-5), and benzene at concentrations below LRLs were reported in soil samples. TPHg was not reported above the LRLs and a maximum concentration of 0.7 µg/L benzene (TB-3) was reported in groundwater samples (EMCON, 1994).

1994 Well Installation: In October 1994, Hydro advanced boring MW-7 to a total depth of 45 feet bgs, and borings MW-8 and MW-9 were advanced to total depths of 40 feet bgs. First encountered groundwater was at approximately 27 feet bgs to 32 feet bgs. TPH-g and BTEX were not detected above their respective LRLs in soil samples collected from 25 feet bgs in each boring. The three borings were subsequently converted into monitoring wells MW-7 through MW-9 (Hydro, 1995).

1997 Offsite Well Installation: In July 1997, Pacific Environmental Group (PEG) drilled one boring (MW-10) offsite to a depth of approximately 37.5 feet bgs. Soil samples were collected and the boring was subsequently converted into a monitoring well. First groundwater was encountered at approximately 26 feet bgs. No TPH-g, BTEX or methyl tertiary butyl ether (MTBE) was detected in soil samples at concentrations above their respective LRLs in MW-10. TPH-g and BTEX were not detected in the groundwater sample from MW-10 at concentrations above their respective LRLs. However, MTBE was detected at concentration of 13 µg/L using EPA Method 8020 (PEG, 1997).

1998 UST and Associated Piping and Dispenser Removal: In August 1998, Environmental Resolutions, Inc. (ERI) removed the three gasoline USTs (6,000-gallon, 10,000-gallon, and 12,000-gallon), one 6,000-gallon diesel UST, and associated dispensers and piping from the site. There was no visible evidence of leakage from the USTs removed. A total of eight native soil samples were collected from beneath each end of the removed USTs (denoted as A through H on **Figure 2**) at depths of 14 to 16 feet bgs, and a total of 18 soil samples (denoted as I through Z on **Figure 2**) were collected from the former dispenser locations and from beneath the associated product lines at three feet bgs (ERI, 1998).

TPH-g was reported in five of the eight UST excavation samples at concentrations ranging from 3.7 mg/kg (S-15-T2S) to 5,300 mg/kg (S-15-T1S). TPH-d was detected at 630 mg/kg (S-15-T1N) and 800mg/kg (S-15 T1S) into two samples, benzene concentrations ranged between 0.40 mg/kg (S-15-T1N) to 0.95 mg/kg (S-16-T3N) in three samples, MTBE concentrations ranged between 0.028 mg/kg (S-14-T4S) to 5.3 mg/kg (S-16-T3N) in seven samples, and lead was not reported in the sample analyzed for lead. TPH-g was reported in nine of the eighteen dispenser and product line samples with concentrations ranging between 1.4 mg/kg (S-3-PL12) to 7,200 mg/kg (S-3-D4). TPH-d was detected between 4.8 mg/kg (S-3-PL12) to 190 mg/kg (S-3-PL11) in five samples, benzene was detected between 0.0089 mg/kg (S-3-PL12) to 22 mg/kg (S-3-D4) in three samples and MTBE was detected between 0.048 mg/kg (S-3-PL12) to 15 mg/kg (S-3-PL1) in ten samples (ERI, 1998).

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

1999 Groundwater Recovery Test: In April 1999, Alisto Engineering Group (Alisto) conducted groundwater recovery tests on wells MW-1 through MW-4, MW-6, MW-7 and MW-10 to assess the spatial variation in hydraulic conductivity in the

shallow water-bearing zone across the Site. Testing by the Bouwer-Rice method yielded hydraulic conductivities of 2.46 x 10^{-2} ft/min for MW-1, 2.42 x 10^{-4} ft/min for MW-2, 3.82 x 10^{-4} ft/min for MW-3, 5.75 x 10-4 ft/min for MW-4, 1.99 x 10^{-2} ft/min for MW-6 1.09 x 10^{-4} ft/min for MW-7 and 8.78 x 10^{-5} ft/min for MW-10. The geometric mean of the hydraulic conductivity and flow velocity values were calculated to be 1.37 x 10-5 feet per second and 73.85 feet per year, respectively (Alisto, 1999).

1999 Extraction Well Installation: In November 1999, Cambria Environmental Technology, Inc. (Cambria) installed two 4-inch diameter wells (EX-1 and EX-2) on-site to facilitate potential remedial activities at the site. Well EX-1 was drilled to 39.5 feet bgs and EX-2 was drilled to 36.5 feet bgs. Groundwater was first encountered at 26 feet bgs. No TPH-G or BTEX, and relatively low MTBE concentrations (below 0.012 mg/kg) were reported in soil samples collected from EX-1 and EX-2 (Cambria, 2000).

2000 Interim Remedial Action and Recovery Testing: Between March 16 and April 30, 2000, Cambria conducted interim remedial activities at the site to evaluate the effectiveness of hydrocarbon and MTBE reduction using short-term groundwater extraction. During eight extraction events, approximately 10,900 gallons of groundwater was extracted from wells EX-1, EX-2 and MW-2. During the extraction events, stable to slightly decreasing hydrocarbon and MTBE concentration trends were reported in samples collected from wells MW-2 and EX-1, located immediately southwest of the existing USTs. Samples from well EX-2, located north of the existing USTs, exhibited lower hydrocarbon and MTBE concentrations than MW-2 and EX-1. In April 2000, during the batch extraction events, recovery tests were conducted on wells EX-1, EX-2 and MW-2. Based on the recovery test measurements, the calculated hydraulic conductivity values ranged from 1.85 x 10^{-4} ft/min to 8.33 x 10^4 ft/min with resulting flow velocities of 16 ft/year to 73 ft/year at well MW-2 (Cambria, 2000).

The calculated hydraulic conductivity values ranged from 2.02 x 10^{5} ft/min to 3.85 x 10^{-5} ft/min for well EX-1 with resulting flow velocities of 1.8 to 3.4 Ft/yr. And a well EX-2, the calculated hydraulic conductivity values ranged from 3.04 x 10^{-4} ft/min to 2.13 x 10^{-3} ft/min for resulting flow velocities of 27 ft/year to 187 ft/year. The geometric mean of these values is a hydraulic conductivity of 3.0 x 10^{-4} ft/min and resulting flow velocity of 26 ft/year (Cambria, 2000).

2001 Dual-Phase Extraction Pilot Test: From October 29, through November 2, 2001, Cambia performed a dual phase soil vapor and groundwater extraction (DPE) pilot test on the monitoring wells with the highest historical hydrocarbon concentrations (i.e., MW-2 and MW-4) and the extraction wells (EX-1 and EX-2) at the site. The DPE test results indicated that the vacuum influence was limited to within 18 to 28 feet of the extraction well. Water levels typically decreased several feet in the extraction wells and had a varied response in the observation wells. Estimated vapor-phase removal rates were approximately 200-pounds of hydrocarbon per day in wells MW-4 and EX-1, and less than 5-pounds of hydrocarbon per day in wells MW-2 and EX-2 (Cambria 2002).

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

2005 Soil and Water Investigation: In Fall 2005, URS completed nine Geoprobe soil borings with co-located Hydropunch borings. The first phase of work was on-site source area characterization: five boring locations (A-1 through A-5) were advanced in the vicinity of the possible hydrocarbons source areas such as locations of former and current USTs, products dispensers, and in the vicinity of MW-4 to adequately characterize the lateral and vertical extent of petroleum hydrocarbons in soils in the identified source areas. An off-site assessment was completed during the second phase of work (borings A-7 through A-10) to further define the downgradient, cross-gradient, and up-gradient extent of the groundwater plume (soil boring A-6 was unable to be advanced due to close proximity to electric lines and product piping). Maximum concentrations of gasoline range organics (GRO), benzene, and MTBE were detected in soil at concentrations of 490 mg/kg [A-4 (23.5-24')], 0.11 mg/kg [A-5 (35-35.5')], and 0.84 mg/kg [A-1 (46-46.5')], respectively. Maximum concentrations of GRO, benzene, and MTBE were detected in ground water at concentrations of 510,000 µg/L [A-2 (21.3')], 11,000 µg/L [A-4 (34-36')], and 39,000 ug/L [A-4 (34-36')], respectively (URS, 2005).

The cross-gradient and downgradient lateral extents of the dissolved hydrocarbon plume were characterized during the last investigation. However, the vertical extent of the dissolved-phase hydrocarbons on the southern portion of the site was not defined. Specifically, significantly elevated concentrations were detected in Hydropunch groundwater samples collected from the bottom depths of soil borings A-2, A-3 and A-4. The bottom Hydropunch sample from boring A-2 (40-42 ft bgs) contained concentrations of GRO, benzene, and MTBE at 36,000 µg/L. 1,800 µg/L, and 110 µg/L, respectively. The bottom Hydropunch sample from boring A-3 (34-36 ft bgs) contained concentrations of GRO, benzene, and MTBE at 12,000µg/L, 21µg/L, and 8.3µg/L respectively. The bottom Hydropunch sample from boring A-4 (34-36 ft bgs) contained GRO, benzene, and MTBE concentrations of 120,000µg/L, 11,000µg/L and 39,000 µg/L respectively (URS, 2005).

Therefore, the vertical extent of dissolved phase petroleum hydrocarbon contamination remains unknown in this southern area of the site (URS, 2005). A work plan for soil and water investigation to delineate the vertical extent of contamination in the southern portion of the site was submitted to ACEH in October 2006.

2007 Soil and Groundwater Investigation: In April 2007, Stratus Environmental, Inc. (Stratus) advanced cone penetrometer test (CPT) borings in three locations onsite (CPT-1 through CPT-3) to maximum depths of 60 feet bgs. CPT-1 was advanced southwest of the dispenser islands and southeast of monitoring well MW-1; CPT-2 was advanced south of the dispenser islands and southwest of monitoring well MW-4; CPT-3 was advanced in the eastern corner of the side as requested by the ACEH. An Ultraviolet Induced Fluorescence (UVIF) module was used at each CPT boring location, analyzing the vertical extent of petroleum hydrocarbons in additional to providing soil profiling data. Groundwater samples were collected from multiple depths at each boring locations; physical soil samples were not collected during this investigation.

- GRO was detected above laboratory reporting limits in five of the seven groundwater samples, ranging from 170 µg/L (CPT-3-28-32') to 170,000 µg/L (CPT-1-37-41').
- Benzene was detected above laboratory reporting limits in four of the seven groundwater samples, ranging from 0.51 µg/L (CPT-3-23-27') to 7,700 µg/L (CPT-2-37-41').
- Toluene was detected above laboratory reporting limits in three of the seven groundwater samples, ranging from 57 µg/L (CPT-1-30-34') to 670 µg/L (CPT-2-28-32').

- Ethylbenzene was detected above laboratory reporting limits in four of the seven groundwater samples, ranging from 530 µg/L (CPT-2-37-41') to 2,600 µg/L (CPT-1-37-41').
- Total xylenes were detected above laboratory reporting limits in four of the seven groundwater samples, ranging from 290 µg/L (CPT-2-37-41') to 9,600 µg/L (CPT-1-37-41').
- MTBE was detected above laboratory reporting limits in five of the seven groundwater samples, ranging from 4.4 µg/L (CPT-3-56-60') to 6,500 µg/L (CPT-2-37-41').
- TBA was detected above laboratory reporting limits in groundwater sample CPT-2-37-41' at 2,400 µg/L.

2007-2008 DPE System Installation: Construction of the DPE system was started by Broadbent & Associates, Inc (BAI) and Stratus in late 2007. The system consists of a thermal/catalytic oxidizer with a 25 horsepower liquid ring blower designed to extract water and vapor from six on-site extraction wells. Extracted vapor were to be treated by thermal/catalytic oxidation and discharged to the atmosphere under the oversight of the Bay Area Air Quality Management District. Extracted groundwater was to be treated by a sediment filter and three 1,000 pounds carbon vessels before being discharged into the City of Oakland sanitary sewer system. DPE wells DPE-1 through DPE-5 were installed at the site to total depths ranging from 35 feet to 40 feet bgs. Well MW-2 was overdrilled and destroyed to allow DPE-4 to be installed in the same borehole. The system is currently connected to six wells (DPE-1 through DPE-5 and EX-1) (BAI, 2008a).

As of the end of the fourth quarter 2008 the system had not been started. BAI and Stratus were still coordinating with Pacific Gas & Electric (PG&E) to install electrical service to the system. Natural gas was completed to the site and system in third quarter 2008 (BAI, 2008a).

During DPE construction activities, on-site groundwater monitoring well MW-11 was installed to a total depth of 40 feet bgs on the southern corner of the site. Soil samples collected at 20 feet and 30 feet bgs reported maximum concentrations of 1.9 mg/kg GRO and 0.0089 mg/kg benzene. MTBE was not reported above the LRL in either of the soil samples (BAI, 2008a).

2009-2011 DPE System Startup Efforts: In 2009, Antea Group (formerly Delta Consultants) began coordinating with nearby businesses (Eastmont Mall and Burger King) for the 3-phase power source. Due to financial considerations, Antea Group also explored another alternative for the startup of the DPE system, which included reconfiguring the current system for single phase power.

2011-2012 Remedial Action Site Investigation: Antea Group submitted the *Remedial Action Investigation Work Plan*, dated August 03, 2011 to the ACEH. The ACEH approved the proposed scope of work in an agency letter to Antea Group dated September 1, 2011. In October 2011, Antea Group and subcontractors advanced borings C-1 through C-5, and advanced and installed remedial wells SVE-1 and AS-1 per the August 2011 Work Plan. Antea Group submitted a *Remedial Investigation Work Plan Addendum*, dated December 13, 2011 which proposes a postponement of the AS/SVE pilot test described in the August 3, 2011 *Remedial Action Investigation Work Plan* to utilize a new remedial strategy called Plume Stop, a product created by Regenesis. Between March 26 and 30, 2012, Antea Group and Regenesis oversaw subcontractor Vironex inject Plume Stop at nine soil boring locations using direct push technology. Antea Group is currently conducting the post injection groundwater monitoring events as outlined in the December 2011 Work Plan Addendum.

FREE PRODUCT RECOVERY DURING GROUNDWATER MONITORING EVENTS

Free product was observed in groundwater monitoring well MW-2 between 1993 and 1998, at thicknesses ranging from 2.60 feet (3/30/1994) to less than 0.01 feet (10/2/1997 to 7/21/1998). When free product was observed in the well, it was removed by bailer. Between 1993 and 1998, a cumulative total of 24.9 gallons of free product had been removed from the well (Alisto, 1998).

Free product was also observed in well MW-4 during the third quarter 2001 (0.03 inches), fourth quarter 2006 (0.11 inches), first quarter 2008 (0.01 inches), and third quarter 2008 (0.05 inches); and in EX-2 during the second quarter 2007 (0.01 inch). With the exception of 1.5 gallons of a free product/water mixture recovered from MW-4 during the third quarter 2008 (BAI, 2008b), free product was not recovered from these wells when observed.

SENSTIVE RECEPTORS

2000 Potential Receptor Survey, Expanded Site Plan and Well Search: In October 2000, Alisto completed a potential receptor survey, prepared an expanded site plan with neighboring property parcel information and underground utilities mapped, and identified wells in the vicinity of the site. A review of the files of the California Department of Water Resources (DWR) was performed to identify all known wells within one-half mile radius of the site. The results of the well search revealed that there were 17 wells other than the on-site monitoring sells. Of these, 11 were offsite monitoring wells; four were cathodic protection wells, one an industrial well, and one an irrigation well for a nearby cemetery. No domestic/municipal water supply wells were identified from review of the DWR files (Alisto, 2000).

2010 Sensitive Receptor Survey: Delta Consultants (Delta) submitted a *Sensitive Receptor Survey* in October 2010. As part of that receptor survey, Delta conducted a records review (environmental database search), a well radius search, and a search for other sensitive receptors which have the potential to be affected by the petroleum hydrocarbon release at the site. Delta's review of the historical aerial photographs indicated that the site in 1939 was primarily used for agricultural purposes with small family residences. In general, the site was developed to the current conditions with the station building in 1974. The historical topographic maps support the indication of residential houses and agriculture in the site region as early as 1915 to 1948. The well search indicated that 10 wells were within a one-mile radius of the site. DWR indicated the presence of 7 wells within a one-mile radius of the site. However, no records were found for the status of these wells as being active or abandoned. The main surface water bodies were Lake Merritt located northwest of the site and San Leandro Bay located west of the site. Several churches, schools and day care centers were located within a one-mile radius of the site. Based on the above identified receptors' distances form the site, directions from the site, and extent of hydrocarbon impact at the site, they were not anticipated to be affected by the petroleum hydrocarbon release at the site.

Appendix B

Regenesis' Technical Memorandum dated November 28, 2012

TECHNICAL MEMORANDUM

REGENESIS
Advanced Technologies for Groundwater Resources

From: Craig Sandefur and Ben Mork, Ph.D. November 28, 2012

To: Antea Group

RE: Project Summary: New Remediation Technology Application at 76 (Former BP) Station No. 11117 Oakland, CA

Regenesis and Antea Group (Antea) collaborated on the field testing of a new groundwater remediation technology to assist in the immobilization and remediation of Total Petroleum Hydrocarbons-Gasoline (TPH-G) present in groundwater at the 76 Site Former BP Station No. 1117. This new technology, tentatively named "Plume Stop™", is in development by Regenesis' Research & Development department, and serves the purpose of trapping groundwater contaminants to minimize their health risks and facilitate in-place biodegradation. This memo serves to outline the work performed at the service station located at 7210 Bancroft Avenue in Oakland, CA, present data collected for the project, and summarize Regenesis' hypotheses regarding the data and observations.

Technology Description

Plume Stop™ is comprised of water-soluble, non-toxic ingredients typically applied via direct push injection or injection wells. This technology is protected by Regenesis patents and patents pending. It is an environmentally friendly, water-soluble composition (see attached MSDS) that is injected into soil and groundwater. After the material is distributed in the subsurface, it undergoes a cross-linking process on the order of days to weeks which forms a sorbent network on the surface of soil without plugging the formation. Plume Stop™ reacts in situ to form a sorbent network throughout the contaminated zone. The intended function of the Plume-Stop™ technology is to 1) Adsorb contaminants and reduce groundwater concentrations, 2) Inhibit transport of contaminants in groundwater, and 3) Provide a matrix for bacteria and contaminants to facilitate natural attenuation.

Recent laboratory and field studies on the Plume Stop™ technology indicate that it should have negligible impacts on groundwater oxidation-reduction potential (redox) and geochemistry. The sorbent network is intended to last in excess of a few years, and possibly 10 years or more. Laboratory studies have also shown that the biodegradation of the Plume Stop™ itself is negligible under both anaerobic and aerobic conditions for time periods of at least one year.

Project Goals

The intended result of the Plume Stop™ application is a substantial and sustained reduction of contaminant concentrations in groundwater of the targeted treatment area. This capture of contamination will inhibit migration and hold the contaminant in-place. Laboratory studies on this technology indicate that Plume Stop™ causes on the order of 50-90% drop in groundwater contaminant concentrations within weeks of application due to a sorption of contaminant onto the Plume Stop™ material. Additional Regenesis objectives of this study are to validate and optimize performance of the new Plume Stop™ technology, and possibly to demonstrate its expected longevity of multiple years.

Site Background and Treatment Plan

Hydrocarbon contamination in the groundwater at this site is in the form of Total Petroleum Hydrocarbons - Gasoline (TPH-g) and benzene, toluene, ethyl benzene and total xylenes (BTEX). In addition to the fuel hydrocarbons the fuel additive/oxygenate Methyl Tertiary Butyl Ether (MTBE) and its biodegradation daughter product Tertiary Butyl Alcohol (TBA) were also detected. The targeted treatment area for this Plume Stop™ application was based on analytical results from existing monitoring well (MW-4) and for which long term data was available. As part of the Plume Stop™ Test, baseline groundwater monitoring of Well MW-4 was performed in March 2012. The laboratory analysis results indicated the presence of TPH-G (8.5 mg/L), BTEX (5.6 mg/L), MTBE (0.4 mg/L) and TBA (4.9 mg/L). These concentration levels were generally consistent with previous groundwater monitoring results. Based on this data as well as previous analytical results from this well, an injection of Plume Stop™ was designed. The intent of this design was to partition the hydrocarbons and fuel additives out of groundwater in the vicinity of this well resulting in demonstrable reduction in concentration over time. The approved application plan was for injection of approximately 6,300 gallons of Plume Stop™ solution via 12 injection points arranged around a central monitoring well (MW-4). Well DPE-5 was not sampled as part of this study due to its' immediate proximity to MW-4.

Application of Plume Stop™

Due to the orientation of underground utilities a total of 9 injection points were cleared and advanced at the site. Overall the application volume was less than specified in the original plan; however, the field injection volume per point was increased slightly from approximately 525 to 598 gallons per point. This resulted in a total Plume Stop application volume of 4,186 gallons. A map of the Plume Stop™ application array is shown in Figure 1.

Results and Discussion

After application, groundwater in Well MW-4 was monitored monthly for 3 months and again at six months. Based on prior experience, Plume Stop™ effects are expected to occur in less than 3 months after injection. The monitoring well data collected are provided in Table 1. We have made the following observations based on the information collected in this study:

- Following the Plume Stop™ application, groundwater in the treatment area well exhibited the following post-application changes in hydrocarbon:
    - TPH-G Concentrations
        - Increased approximately 2X
            - Stable across months 1 - 3
        - Increased approximately 10X
            - Between months 3 and 6
    - BTEX Concentrations
        - Increased by 1-3 mg/L
            - Across months 1 - 3
        - Increased by a factor of 10X

        - Between months 3 and 6
    - MTBE+TBA (total of the combined concentrations)
        - Declined by 1.9 – 2.8 mg/L
            - Across months 1-3
        - Lowest combined concentration
            - Month 6: 2.5 mg/L or about 50% reduction
            - Generally trended lower over the course of the test
        - Geochemistry was relatively unchanged through the test period (Table 1.)

Our initial approach to this site as well as the overall Plume Stop™ test was assumptions that the petroleum hydrocarbons as well as fuel oxygenate concentrations were relatively stable and homogeneous in the soil and groundwater matrix surrounding MW-4. This was based on the long term groundwater data for the site made available to Regenesis as well as soil and GW data collected as part of the baseline assessment and groundwater sampling event. It appears, based on the results in Table 1, that a significant hydrocarbon mass may have been perturbed/desorbed by the Plume Stop™ injection program. This contaminant mass has subsequently become represented in the MW-4 groundwater results.

Using the 1-month time point as a baseline level and supported by pre-baseline long term data from MW-4, we believe that it is reasonable to hypothesize that Plume Stop™ appears to have significantly reduced MTBE, TBA and benzene fractions in groundwater in the area of MW-4. Over a period of 3-6 months following Plume Stop™ application MTBE+TBA was reduced from its baseline level of 5.3 mg/L to between 2.5 and 3.5 mg/L and benzene was reduced from its baseline level of 4 mg/L to ≤2.8 mg/L. Over the same time frame TPH-G rose from a baseline level of 8.5 mg/L to ≥17 mg/L.

The reductions presented above for MTBE+TBA and benzene in GW were significant given the overall elevation in TPH-G concentrations. The reduction in MTBE+TBA as a percentage of baseline ranged from 35% to >50% while benzene reduction percentages remained relatively stabilized at between 30-38%.

Conclusions

A careful review of the Plume Stop™ technology was performed at the Oakland site. While data interpretation is somewhat challenging, it is Regenesis' hypothesis that an additional hydrocarbon mass was disturbed/desorbed by the injection of the Plume Stop™ material. Thus, the pre-application baseline data does not represent the full nature and/or extent of the hydrocarbon mass present. This is demonstrated by the elevated levels of TPH-G observed in the 1 month monitoring event. This elevated concentration remained relatively stable for 3 months followed by what is interpreted as an in-flux of elevated levels of TPG-G (10X) between months 3 and 6. Presumably capture of a portion of the contaminant mass was achieved by the Plume Stop™ material. We believe this is indicated by the lower

and stable concentrations of MTBE and TBA (less adsorptive species) over the same time frame as the increased TPH-G levels in this area.

Some additional benefits of the study are 1) emplaced plume-stop material should assist in minimizing future transport and dissolution of contamination remaining at the Oakland site 2) Regenesis continues to learn and improve Plume Stop™ form, function, and field application.

PUMP ISLAND

CANOPY

PLANTER

SIDEWALK

AS-1

CC-9

CC-1

CC-8

CC-7

CC-2

MW-4

DPE-5

CC-6

CC-3

CC-4

CC-5

A-4

EXPLANATION

- CC-1 — INJECTION LOCATION
- MW-7 — GROUNDWATER MONITORING WELL LOCATION
- DPE-2 — GROUNDWATER EXTRACTION WELL LOCATION
- AS-1 — AIR SPARGE WELL LOCATION
- A-1/TB-2 — SOIL BORING LOCATION (URS, NOVEMBER 2005)
- PRODUCT LINES
- C — UNDERGROUND COMMUNICATIONS LINE
- E — UNDERGROUND ELECTRIC LINE
- I — UNDERGROUND IRRIGATION LINE
- M — UNDERGROUND METAL PIPE LINE
- S — UNDERGROUND SEWER LINE

N

0 4 ft.

SCALE

FIGURE 2
DETAILED SITE PLAN WITH PROPOSED INJECTION WELLS

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

PROJECT NO.	PREPARED BY	DRAWN BY
142611117	SM	JH
DATE	REVIEWED BY	FILE NAME
04/10/12	DU	11117-SMS

anteagroup

Table 1. Antea Group Groundwater Monitoring Data, 76 (former BP) SS No. 11117, 7210 Bancroft Avenue, Oakland, CA.

Well ID			MW-4					DPT-1-36	DPT-2-32	DPT-2-40
Sample ID			MW-4	MW-4	MW-4	MW-4	MW-4_20120930	DPT-1-36	DPT-2-32	DPT-2-40
Date Sampled			3/7/2012	4/27/2012	5/30/2012	6/27/2012	9/27/2012	3/7/2012	3/7/2012	3/7/2012
Monitoring Event			baseline	1 month	2 month	3 month	6 month	baseline	baseline	baseline
Analyte	Units	Reporting Limit								
Dissolved Oxygen (DO)	mg/L	--	2.66	0.56	1.76	0.6	1.6			
ORP (Redox Potential)	mV	--	-32.5	-244.3	-113.8	-110.9	-67.2			
Conductivity	µS/cm	--	1058	1242	1351	1215	1080			
pH		--	6.64	6.55	6.55	6.53	6.56			
Turbidity	NTU	--	35	17	218	60	73			
Temperature	°C	--	19.83	22.17	20.52	19.02	17.44			
Water Levels		--	17.76	13.67	15.33	16.51	20.65			
Alkalinity, Total (as $CaCO_3$)	mg/L	5	525	742	496	510	556			
Total Iron	mg/L	0.1	4.55	4.89	5.62	8.33	27.1			
Dissolved Iron	mg/L	0.1	2.08	2.23	3.88	4.55	6.57			
Methane	µg/L	8	5,870	5,020	4,300	6,060	4,340	--	1,880	4,790
Sulfate	mg/L	1	--	13	< 1.0	< 1.0	< 1.0			
Sulfide	mg/L	0.05	< 0.05	0.2	0.25	0.3	0.2			
Nitrate (as N)	mg/L	0.1	--	< 0.10	< 0.10	< 0.10	< 0.10			
TOC	mg/L	5	7.8	25	63	84	73			
COD	mg/L	5	63	120	100	78	520			
TPH-G	µg/L	50	8,500	17,000	17,000	16,000	58,000	4,900	5,700	2,400
Benzene	µg/L	0.5	4,000	2,800	2,800	2,500	2,600	480	76,00	920
Ethylbenzene	µg/L	1	480	1,500	1,400	1,100	7,700	170	760	58
Toluene	µg/L	1	42	490	380	390	530	15	47	44
p/m-Xylene	µg/L	1	890	2,500	2,000	2,400	15,000	710	78	150
o-Xylene	µg/L	1	200	730	570			270	18	71
Methyl-t-Butyl Ether (MTBE)	µg/L	1	400	370	210	250	160	11	13	11
Tert-Butyl Alcohol (TBA)	µg/L	10	4,900	2,900	2,700	3,200	2,400	2,400	6,700	4,600
Diisopropyl Ether (DIPE)	µg/L	2	< 50	< 50	< 50	< 50	< 100	< 10	< 2	< 2
Ethyl-t-Butyl Ether (ETBE)	µg/L	2	< 50	< 50	< 50	< 50	< 100	< 10	< 2	3.7
Tert-Amyl-Methyl Ether (TAME)	µg/L	2	< 50	< 50	< 50	< 50	< 100	< 10	< 2	< 2
Ethanol	µg/L	100	< 200	< 2,500	< 2,500	< 2,500	< 5,000	< 500	< 100	< 100

Key to Abbreviations	
TPH-G	Total Petroleum Hydrocarbons - Gasoline Range
TPH	Total Petroleum Hydrocarbons
ORP	Oxidation Reduction Potential
TOC	Total Organic Carbon
COD	Chemical Oxygen Demand
mg/L	milligrams per liter
µg/L	micrograms per liter
mV	millivolts
µs/cm	microseimens per centimeter
NTU	Nephelometric Turbidity Units

MATERIAL SAFETY DATA SHEET
for
Plume Stop™ Part A (CCM Part A)

Last Revised: October 27, 2011

****
Section 1 - Material Identification
****

Supplier: Regenesis Bioremediation Products, Inc.
1011 Calle Sombra #100
San Clemente, CA 92673

Telephone: (949) 366-8000
Facsimile: (949) 366-8090

Trade Name: Plume Stop Part A

Section 2 - Hazardous Ingredients

Classification: None of the ingredients of this material meets the definition of "Dangerous" as defined in European Directives 67/548/EEC, 1999/45/EC, 2001/58/EC.

DOT Hazard Classification: Non-hazardous material

Slip Hazard: Slip hazard when spilled materials becomes wet.

Eyes: Gel may cause foreign body irritation in some individuals.

Skin: Prolonged contact with gel may cause drying or chapping.

Ingestion: Not toxic if swallowed (less than a mouthful) based on available information.

CAS #	Chemical
9000-07-1	food grade biopolymer
7732-18-5	Water

****

Section 3 - Physical Data

****

Melting Point:	N/A
Boiling Point:	N/A
Physical State:	Gel
Solubility in Water:	Soluble.
Appearance:	Beige Gelatinous Material
Odor:	odorless
pH	6.0-8.0

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Section 4 – Fire-Fighting Measures

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General Advice: Treat as "Class A" fire. Product will burn when in contact with a flame. Self extinguishes when ingnition source is removed. Tends to smoulder.

Suitable Extinguishing Media: Water. Dry Chemical. Carbon dioxide.

Hazardous Combustion Products: Carbon Monoxide
Carbon Dioxide

Specific Hazards: Do not breathe smoke, gases or vapors generated.

Special Protective Equipment for Firefighters: In the event of a fire, wear self-contained breathing apparatus.

NPPA: Health 1 Flammability 1 Instability 0
HMIS: Health 1 Flammability 1 Reactivity 0

****

Section 5 – First Aid Measures

****

General Advice:	Remove material from eyes, skin and clothing. In case of doubt or when symptoms persist, seek medical attention. Wash heavily contaminated clothing before reuse.
Eye Contact:	Hold eyelids apart and flush eyes with a steady, gentle stream of water for several minutes. If eye irritation persists, seek medical attention.
Skin Contact:	Wash off with soap and plenty of water.
Inhalation:	Move to fresh air. If symptoms persist, call a physician. If not breathing, give artifical respiration.
Ingestion:	No signficant adverse health effects are expected to develop if only small amount (less than a mouthful) are swallowed.

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Section 6 - Stability and Reactivity Data
****

Stability: Material is stable under certain conditions

Materials to Avoid: Strong oxidizing agents.

Hazardous Decompostion Products: Thermal decomposition products are carbon monoxide and carbon dioxide.

****
Section 7 - Spill, Leak or Accident Procedures
****

After Spillage or Leakage: Neutralization is not required. Sweep up dry or wet. For dry sweep beware of limitations on dust. Wet sweep is preferable. Collect in suitable containers. Wash remainder with copious quantities of water.

Disposal: Laws and regulations for disposal vary widely by locality. Observe all applicable regulations and laws. This

material, may be disposed of in solid waste in a manner similar to other nuisance dust materials. Disposal in sanitary landfill is usual but local regulations should be checked and observed.

Extinguishing Media: Large quantities of water. In case of a fire in close proximity, all means of extinguishing are acceptable. Self containted breathing apparatus or approved gas mask should be worn due to small particle size. Use extinguishing media appropriate for surrounding fire. Apply cooling water to sides to transport or storage vessels that are exposed to flames until the fire is extinguised. Do not approach hot vessels that ocntain the product.

First Aid: After contact with skin, wash immediately with plenty of water and soap. In case of contact with eyes, rinse immediately with plenty of water and seek medical attention. Consult an opthalmologist in all cases.

****

Section 8 - Special Protection or Handling

****

Storage: Store in a roofed and well ventilated area in the unopened original package.

Protective Gloves: Vinyl or Rubber
Eyes: Splash Goggles or Full Face Shield
Area should have approved means of washing eyes.
Ventilation: General exhaust.
Storage: Store in cool, dry, ventilated area.

Protect from incompatible materials.

****

Section 9- Toxicology

****

LD50 Oral: >5000 mg/kg rat

Carcinogenicity: Not listed as a carcinogen by NTP. Not regulated as a carcinogen by OSHA.

Reported Human Effects: No human toxicity studies have been carried out with this product. Due to the physical nature of this product, may cuase eye, skin and respiratory irritation.

Reported Animal Effects: Eye irritation (rabbit) mild. Fedding studies of this or smilar products indicate no evidence of risk at anticipated workplace exposure levels. Species tested: mice, rats and monkeys.

Mutagenicity/Genotoxicity: Not a mutgen in IN VITRO tests.

Section 10- Ecological Information

Ecotocity: Contains no substance known to be hazardous to the environment or not degradalbe in waste water treatment plants.

Section 11-Regulatory Information

Internation Inventories:

Components of the product are on the following Inventory Lists:

- *TSCA
- *Canada (DSL)
- *Europe (EINECS/ELINCS)
- *Australia (AICS)
- *Philippines (PICCS)
- *China

Section 12 - Other Information

Materials containing reactive chemicals should be used only by personnel with appropriate chemical training.

MATERIAL SAFETY DATA SHEET
For
Plume Stop™ Part B (CCM Part B)

Last Revised: October 27, 2011

SECTION 1----------Chemical Identification----------

Supplier: Regenesis Bioremediation Products, Inc.
1011 Calle Sombra #100
San Clemente, CA 92673

Telephone: (949) 366-8000
Facsimile: (949) 366-8090

Trade Name: Plume Stop Part B

SECTION 2---------Composition on Ingredients----------

CAS #	Chemical
10035-04-8	Calcium Chloride
7732-18-5	Water

SECTION 3--------Hazards Identification----------

Label Precautionary Statements:
Harmful if swallowed.
Irritating to eyes, respiratory system and skin.
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Wear suitable protective clothing.

SECTION 4-------First-Aid Measures----------

In case of contact, immediately flush eyes or skin with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes.
If inhaled, remove to fresh air. If not breathing give artificail respiration. If breathing is difficult, give oxygen.
If swallowed, wash out mouth with water provided person is conscious.

Call physician.
Wash contaminated clothing before reuse.

SECTION 5--------Fire Fighting Measures---------------

Extinguishing Media: Noncombustible. Use extinguishing media appropriate to surround fire conditions.

Special Firefighting Procedures
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Usual Fire and Explosions Hazards
Emits toxic fumes under fire conditions.

SECTION 6--------Accidental Release Measures----------

Evacuate area.
Wear self-contained brathing apparatus, rubber boots and heavy rubber gloves.
Keep in a closed containter and hold for waste disposal.
Ventilate area and wash spill site after material pickup is complete.

SECTION 7------Handling and Storage---------------------

Refer to section 8.

Additional Information:
Calcium chloride is attacked by bromine trifluoride.

SECTION 8------Exposure Controls/Personal Protection----

Wear approporiate safety goggles, for breathing use NIOSH/MSHA-approved respirator, chemical-resistant gloves and other protetive clothing.
Have access to safety shower or eye wash station.
Do not get into eyes, on skin or clothing.
Avoid prolonged and repeated exposure.
Wash thoroughly after handling.
Eye Irritant
Keep tightly closed

Store in a cool dry place.

SECTION 9-----Physical and Chemical Properites--------

Appearance	Liquid
Odor	None
Density	1.30-1.40 g/ml

SECTION 10----Stability and Reactivity----------

Incompatibilities
Strong acids

Hazardous Combutions or Decomposition Products
Hydrogen chloride gas

SECTION 11-----Toxicological Information----------

Acute Effects
May be harmful by inhalation, ingestion, or skin absorption.
Causes eye and skin irritation.
Material is irritating to mucous membranes and upper respiratory tract.

To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated.

For Pure Calcium Chloride Dihydrate (Solid)

Toxidity Data
IPR-MUS LD50: 20500 MG/KG CYLPDN 4,110,83

SECTION 12-------Disposal Considerations----------

Contact a licensed professional waste disposal service to dispose of this material.
Ovserve all federal, state and local environmental regulaitons.

SECTION 13-----Other Information----------

Materials containing reactive chemicals should be used only by personnel with appropriate chemical training.

Appendix C

Laboratory Analytical Report and Validation Forms – 90 Day Event

Is the Data Set Valid?	Preservation Temperature
(circle) Yes / No	*(if Known)*: 1.1 ºC

Antea™Group Laboratory Data Validation Sheet

Project/Client: ELT

Project #: I4261117

Date of Validation: 11/21/2012 **Date of Analysis:** 6/28/2012

Sample Date: 6/27/2012 **Completed By:** Josh Wolff

Signature:

Circle or Highlight Yes / No (below)

Analytical Lab Used and Report # (if any): Cal Science #12-06-1887

1.	Were the analyses the ones requested?	Yes / No
2.	Do the sample number(s) on the chain-of-custody (COC) match the one(s) that appear on the laboratory data sheet?	Yes / No
3.	Were samples prepared (extracted, filtered, etc.) within EPA holding times?	Yes / No
4.	Once prepared/extracted, were the samples analyzed within the EPA holding times?	Yes / No
5.	Were Laboratory blanks performed, if so, were they non-detect?	Yes / No
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^3,etc.)	Yes / No
7.	Were appropriate Matrix Spike (MS) and Matrix Spike Duplicate (MSD) samples included in the laboratory batch sample?	Yes / No
8.	In lieu of MS/ MSD, were surrogate spike (SS) or surrogate spike duplicate (SSD) samples included in the laboratory batch samples?	Yes / No
9.	Were MS/ MSD (or SS/SSD) within the acceptable range of % recovery (i.e., approximately 80-120%, depending on the analyte)?	Yes / No
10.	Were MS/MSD (or SS/SSD) values used to calculate Relative Percent Difference (RPD)?	Yes / No
11.	Were Relative Percent Difference values within the acceptable range (i.e. ±25%)?	Yes / No

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

Data Qualifiers:

See Page 24 of 27.

Calscience Environmental Laboratories, Inc.

CALSCIENCE

WORK ORDER NUMBER: 12-06-1887

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Regenesis

Client Project Name: Antea Oakland

Attention: Joy Gravitt
1011 Calle Sombra
San Clemente, CA 92673-4204

Approved for release on 07/6/2012 by:
Richard Villafania
Project Manager

ResultLink ▸

Email your PM ▸

Calscience Environmental Laboratories, Inc.

Contents

Client Project Name: Antea Oakland
Work Order Number: 12-06-1887

Calscience Environmental Laboratories, Inc.

ACCREDITED IN ACCORDANCE WITH nelac

Client:	Regenesis	Work Order:	12-06-1887
	1011 Calle Sombra	Project name:	Antea Oakland
	San Clemente, CA 92673-4204	Received:	06/28/12 10:30
Attn:	Joy Gravitt		

DETECTIONS SUMMARY

Client Sample ID Analyte	Result	Qualifiers	Reporting Limit	Units	Method	Extraction
MW-4 (12-06-1887-1)						
Methane	**6060**		20.0	ug/L	RSK-175M	N/A
Iron	**8.33**		0.100	mg/L	EPA 6010B	EPA 3010A Total
Iron	**4.55**		0.100	mg/L	EPA 6010B	EPA 3005A Filt.
Alkalinity, Total (as CaCO3)	**510**		5.00	mg/L	SM 2320B	N/A
Chemical Oxygen Demand	**78**		5.0	mg/L	EPA 410.4	N/A
Sulfide, Total	**0.30**		0.050	mg/L	SM 4500 S2 - D	N/A
Carbon, Total Organic	**84**		25	mg/L	SM 5310 D	N/A
TPH as Gasoline	**16000**		500	ug/L	EPA 8015B (M)	EPA 5030C
Benzene	**2500**		12	ug/L	EPA 8260B	EPA 5030C
Ethylbenzene	**1100**		25	ug/L	EPA 8260B	EPA 5030C
Toluene	**390**		25	ug/L	EPA 8260B	EPA 5030C
Xylenes (total)	**2400**		25	ug/L	EPA 8260B	EPA 5030C
Methyl-t-Butyl Ether (MTBE)	**250**		25	ug/L	EPA 8260B	EPA 5030C
Tert-Butyl Alcohol (TBA)	**3200**		250	ug/L	EPA 8260B	EPA 5030C

Subcontracted analyses, if any, are not included in this summary.

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*MDL is shown.

Calscience Environmental Laboratories, Inc.

Analytical Report

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Regenesis
1011 Calle Sombra
San Clemente, CA 92673-4204

Date Received: 06/28/12
Work Order No: 12-06-1887
Preparation: N/A
Method: RSK-175M

Project: Antea Oakland

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-4	**12-06-1887-1-D**	**06/27/12 09:25**	**Aqueous**	**GC 61**	**N/A**	**06/29/12 12:10**	**120629L01**

Parameter	Result	RL	DF	Qual	Units
Methane	6060	20.0	20		ug/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-663-1,652**	**N/A**	**Aqueous**	**GC 61**	**N/A**	**06/29/12 11:15**	**120629L01**

Parameter	Result	RL	DF	Qual	Units
Methane	ND	1.00	1		ug/L

Return to Contents

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Regenesis		Date Received:	06/28/12
1011 Calle Sombra		Work Order No:	12-06-1887
San Clemente, CA 92673-4204		Preparation:	EPA 5030C
		Method:	EPA 8015B (M)

Project: Antea Oakland

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-4	**12-06-1887-1-G**	**06/27/12 09:25**	**Aqueous**	**GC 25**	**06/28/12**	**06/28/12 20:03**	**120628B01**

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	16000	500	10		ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	108	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-436-7,589**	**N/A**	**Aqueous**	**GC 25**	**06/28/12**	**06/28/12 12:36**	**120628B01**

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	50	1		ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	90	38-134	

Return to Contents

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

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Regenesis	Date Received:	06/28/12
1011 Calle Sombra	Work Order No:	12-06-1887
San Clemente, CA 92673-4204	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	ug/L
Project: Antea Oakland		Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-4	**12-06-1887-1-A**	**06/27/12 09:25**	**Aqueous**	**GC/MS W**	**06/28/12**	**06/29/12 03:53**	**120628L02**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	2500	12	25		Methyl-t-Butyl Ether (MTBE)	250	25	25	
1,2-Dibromoethane	ND	25	25		Tert-Butyl Alcohol (TBA)	3200	250	25	
1,2-Dichloroethane	ND	12	25		Diisopropyl Ether (DIPE)	ND	50	25	
Ethylbenzene	1100	25	25		Ethyl-t-Butyl Ether (ETBE)	ND	50	25	
Toluene	390	25	25		Tert-Amyl-Methyl Ether (TAME)	ND	50	25	
Xylenes (total)	2400	25	25		Ethanol	ND	2500	25	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	98	80-120			Dibromofluoromethane	106	80-126		
1,2-Dichloroethane-d4	109	80-134			Toluene-d8	102	80-120		

Method Blank	099-14-001-8,177	N/A	Aqueous	GC/MS W	06/28/12	06/29/12 00:32	120628L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
1,2-Dibromoethane	ND	1.0	1		Tert-Butyl Alcohol (TBA)	ND	10	1	
1,2-Dichloroethane	ND	0.50	1		Diisopropyl Ether (DIPE)	ND	2.0	1	
Ethylbenzene	ND	1.0	1		Ethyl-t-Butyl Ether (ETBE)	ND	2.0	1	
Toluene	ND	1.0	1		Tert-Amyl-Methyl Ether (TAME)	ND	2.0	1	
Xylenes (total)	ND	1.0	1		Ethanol	ND	100	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	97	80-120			Dibromofluoromethane	109	80-126		
1,2-Dichloroethane-d4	111	80-134			Toluene-d8	102	80-120		

Return to Contents

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

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Regenesis		Date Received:	06/28/12
1011 Calle Sombra		Work Order No:	12-06-1887
San Clemente, CA 92673-4204		Preparation:	EPA 3005A Filt.
		Method:	EPA 6010B

Project: Antea Oakland

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-4	**12-06-1887-1-L**	**06/27/12 09:25**	**Aqueous**	**ICP 7300**	**06/29/12**	**06/30/12 12:23**	**120629LA2F**

Parameter	Result	RL	DF	Qual	Units
Iron	4.55	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-003-12,741**	**N/A**	**Aqueous**	**ICP 7300**	**06/29/12**	**06/30/12 11:36**	**120629LA2F**

Parameter	Result	RL	DF	Qual	Units
Iron	ND	0.100	1		mg/L

Return to Contents

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

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Regenesis		Date Received:	06/28/12
1011 Calle Sombra		Work Order No:	12-06-1887
San Clemente, CA 92673-4204		Preparation:	EPA 3010A Total
		Method:	EPA 6010B

Project: Antea Oakland

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-4	**12-06-1887-1-M**	**06/27/12 09:25**	**Aqueous**	**ICP 7300**	**06/29/12**	**06/30/12 12:24**	**120629LA2**

Parameter	Result	RL	DF	Qual	Units
Iron	8.33	0.100	1		mg/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-003-12,740**	**N/A**	**Aqueous**	**ICP 7300**	**06/29/12**	**06/30/12 11:38**	**120629LA2**

Parameter	Result	RL	DF	Qual	Units
Iron	ND	0.100	1		mg/L

Return to Contents

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

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Analytical Report

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Regenesis
1011 Calle Sombra
San Clemente, CA 92673-4204

Date Received: 06/28/12
Work Order No: 12-06-1887

Project: Antea Oakland

Client Sample Number	Lab Sample Number	Date Collected	Matrix
MW-4	**12-06-1887-1**	**06/27/12**	**Aqueous**

Parameter	Results	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Nitrate (as N)	ND	0.10	1		mg/L	N/A	06/28/12	EPA 300.0
Sulfate	ND	1.0	1		mg/L	N/A	06/28/12	EPA 300.0
Chemical Oxygen Demand	78	5.0	1		mg/L	07/02/12	07/02/12	EPA 410.4
Alkalinity, Total (as CaCO3)	510	5.00	1		mg/L	N/A	06/28/12	SM 2320B
Sulfide, Total	0.30	0.050	1		mg/L	06/29/12	06/29/12	SM 4500 S2 - D
Carbon, Total Organic	84	25	50		mg/L	06/29/12	06/29/12	SM 5310 D

Method Blank					**N/A**	**Aqueous**		

Parameter	Results	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Nitrate (as N)	ND	0.10	1		mg/L	N/A	06/28/12	EPA 300.0
Sulfate	ND	1.0	1		mg/L	N/A	06/28/12	EPA 300.0
Chemical Oxygen Demand	ND	5.0	1		mg/L	07/02/12	07/02/12	EPA 410.4
Alkalinity, Total (as CaCO3)	ND	1.0	1		mg/L	N/A	06/28/12	SM 2320B
Sulfide, Total	ND	0.050	1		mg/L	06/29/12	06/29/12	SM 4500 S2 - D
Carbon, Total Organic	ND	0.50	1		mg/L	06/29/12	06/29/12	SM 5310 D

Return to Contents

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

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Quality Control - Spike/Spike Duplicate

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Regenesis
1011 Calle Sombra
San Clemente, CA 92673-4204

Date Received: 06/28/12
Work Order No: 12-06-1887
Preparation: EPA 3010A Total
Method: EPA 6010B

Project Antea Oakland

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
12-06-1803-3	Aqueous	ICP 7300	06/29/12	06/30/12	120629SA2

Parameter	SAMPLE CONC	SPIKE ADDED	MS CONC	MS %REC	MSD CONC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Iron	1.541	0.5000	2.016	95	2.021	96	65-149	0	0-21	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - PDS / PDSD

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Regenesis		Date Received	06/28/12
1011 Calle Sombra		Work Order No:	12-06-1887
San Clemente, CA 92673-4204		Preparation:	EPA 3010A Total
		Method:	EPA 6010B

Project: Antea Oakland

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	PDS / PDSD Batch Number
12-06-1803-3	**Aqueous**	**ICP 7300**	**06/29/12**	**06/30/12**	**120629SA2**

Analysis Comment: * - Analyzed 7/2/2012 6:11:00 PM

Parameter	SAMPLE CONC	SPIKE ADDED	PDS CONC	PDS %REC	PDSD CONC	PDSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Iron	1.541	0.5000	2.038	99	2.010	94	75-125	1	0-21	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Regenesis
1011 Calle Sombra
San Clemente, CA 92673-4204

Date Received: 06/28/12
Work Order No: 12-06-1887
Preparation: N/A
Method: EPA 300.0

Project Antea Oakland

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-4	**Aqueous**	**IC 7**	**N/A**	**06/28/12**	**120628S01**

Parameter	SAMPLE CONC	SPIKE ADDED	MS CONC	MS %REC	MSD CONC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Nitrate (as N)	ND	500	500	101	500	100	80-120	0	0-20	
Sulfate	ND	5000	4900	98	4900	98	80-120	0	0-20	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Regenesis
1011 Calle Sombra
San Clemente, CA 92673-4204

Date Received: 06/28/12
Work Order No: 12-06-1887
Preparation: N/A
Method: SM 5310 D

Project Antea Oakland

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-4	**Aqueous**	**TOC 6**	**06/29/12**	**06/29/12**	**C0629TOCS1**

Parameter	SAMPLE CONC	SPIKE ADDED	MS CONC	MS %REC	MSD CONC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Carbon, Total Organic	84	250	340	102	330	100	75-125	1	0-25	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Regenesis
1011 Calle Sombra
San Clemente, CA 92673-4204

Date Received: 06/28/12
Work Order No: 12-06-1887
Preparation: EPA 5030C
Method: EPA 8015B (M)

Project Antea Oakland

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
12-06-1840-1	Aqueous	GC 25	06/28/12	06/28/12	120628S01

Parameter	SAMPLE CONC	SPIKE ADDED	MS CONC	MS %REC	MSD CONC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	ND	2000	1822	91	1973	99	68-122	8	0-18	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Regenesis
1011 Calle Sombra
San Clemente, CA 92673-4204

Date Received: 06/28/12
Work Order No: 12-06-1887
Preparation: EPA 5030C
Method: EPA 8260B

Project Antea Oakland

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
12-06-1917-1	Aqueous	GC/MS W	06/28/12	06/29/12	120628S02

Parameter	SAMPLE CONC	SPIKE ADDED	MS CONC	MS %REC	MSD CONC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	ND	50.00	57.45	115	56.44	113	78-120	2	0-20	
1,2-Dibromoethane	ND	50.00	55.00	110	55.48	111	80-123	1	0-20	
1,2-Dichloroethane	ND	50.00	57.85	116	57.29	115	76-130	1	0-20	
Ethylbenzene	ND	50.00	56.69	113	56.22	112	73-127	1	0-20	
Toluene	ND	50.00	57.04	114	56.12	112	72-126	2	0-20	
Methyl-t-Butyl Ether (MTBE)	ND	50.00	47.76	96	48.39	97	69-123	1	0-20	
Tert-Butyl Alcohol (TBA)	ND	250.0	220.3	88	206.3	83	65-131	7	0-22	
Diisopropyl Ether (DIPE)	ND	50.00	53.82	108	54.24	108	68-128	1	0-22	
Ethyl-t-Butyl Ether (ETBE)	ND	50.00	51.07	102	51.37	103	69-123	1	0-21	
Tert-Amyl-Methyl Ether (TAME)	ND	50.00	49.10	98	49.13	98	70-124	0	0-20	
Ethanol	ND	500.0	748.8	150	718.6	144	41-155	4	0-35	

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RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Regenesis
1011 Calle Sombra
San Clemente, CA 92673-4204

Date Received: N/A
Work Order No: 12-06-1887

Project: Antea Oakland

Matrix: Aqueous or Solid

Parameter	Method	QC Sample ID	Date Analyzed	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
Alkalinity, Total (as CaCO3)	SM 2320B	12-06-1535-6	06/28/12	834	838	0	0-25	
Sulfide, Total	SM 4500 S2 - D	12-06-1723-7	06/29/12	ND	ND	NA	0-25	
Chemical Oxygen Demand	EPA 410.4	MW-4	07/02/12	78	77	1	0-25	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Regenesis	Date Received:	N/A
1011 Calle Sombra	Work Order No:	12-06-1887
San Clemente, CA 92673-4204	Preparation:	N/A
	Method:	RSK-175M

Project: Antea Oakland

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-663-1,652	Aqueous	GC 61	N/A	06/29/12	120629L01

Parameter	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Methane	98.50	90.77	92	89.81	91	79-109	1	0-20	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Regenesis		Date Received:	N/A
1011 Calle Sombra		Work Order No:	12-06-1887
San Clemente, CA 92673-4204		Preparation:	EPA 3010A Total
		Method:	EPA 6010B

Project: Antea Oakland

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-01-003-12,740	**Aqueous**	**ICP 7300**	**06/29/12**	**06/30/12**	**120629LA2**

Parameter	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Iron	0.5000	0.5326	107	0.5332	107	80-120	0	0-20	

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RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Regenesis	Date Received:	N/A
1011 Calle Sombra	Work Order No:	12-06-1887
San Clemente, CA 92673-4204	Preparation:	EPA 3005A Filt.
	Method:	EPA 6010B

Project: Antea Oakland

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-01-003-12,741	Aqueous	ICP 7300	06/29/12	06/30/12	120629LA2F

Parameter	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Iron	0.5000	0.5326	107	0.5332	107	80-120	0	0-20	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Regenesis
1011 Calle Sombra
San Clemente, CA 92673-4204

Date Received: N/A
Work Order No: 12-06-1887
Preparation: N/A
Method: EPA 300.0

Project: Antea Oakland

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-906-2,836	Aqueous	IC 7	N/A	06/28/12	120628L01

Parameter	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Nitrate (as N)	5.0	5.1	102	4.9	97	90-110	4	0-15	
Sulfate	50	50	100	48	96	90-110	4	0-15	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Regenesis		Date Received:	N/A
1011 Calle Sombra		Work Order No:	12-06-1887
San Clemente, CA 92673-4204		Preparation:	N/A
		Method:	SM 5310 D

Project: Antea Oakland

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-05-097-4,646	Aqueous	TOC 6	06/29/12	06/29/12	C0629TOCL1

Parameter	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Carbon, Total Organic	5.0	4.6	92	4.5	90	80-120	2	0-20	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Regenesis	Date Received:	N/A
1011 Calle Sombra	Work Order No:	12-06-1887
San Clemente, CA 92673-4204	Preparation:	EPA 5030C
	Method:	EPA 8015B (M)

Project: Antea Oakland

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-436-7,589	Aqueous	GC 25	06/28/12	06/28/12	120628B01

Parameter	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	2000	2070	103	2115	106	78-120	2	0-10	

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RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Regenesis		Date Received:	N/A
1011 Calle Sombra		Work Order No:	12-06-1887
San Clemente, CA 92673-4204		Preparation:	EPA 5030C
		Method:	EPA 8260B

Project: Antea Oakland

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-001-8,177	Aqueous	GC/MS W	06/28/12	06/28/12	120628L02

Parameter	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	ME_CL	RPD	RPD CL	Qualifiers
Benzene	50.00	55.39	111	56.50	113	80-120	73-127	2	0-20	
1,2-Dibromoethane	50.00	54.92	110	55.73	111	80-120	73-127	1	0-20	
1,2-Dichloroethane	50.00	56.28	113	56.95	114	80-129	72-137	1	0-20	
Ethylbenzene	50.00	55.74	111	56.77	114	80-123	73-130	2	0-20	
Toluene	50.00	55.52	111	56.66	113	79-121	72-128	2	0-20	
Methyl-t-Butyl Ether (MTBE)	50.00	47.28	95	48.55	97	72-126	63-135	3	0-22	
Tert-Butyl Alcohol (TBA)	250.0	233.3	93	230.8	92	71-125	62-134	1	0-25	
Diisopropyl Ether (DIPE)	50.00	52.57	105	53.71	107	69-129	59-139	2	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	50.38	101	51.46	103	69-129	59-139	2	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	49.31	99	49.77	100	67-133	56-144	1	0-20	
Ethanol	500.0	690.2	138	669.8	134	47-155	29-173	3	0-36	

Total number of LCS compounds : 11
Total number of ME compounds : 0
Total number of ME compounds allowed : 1
LCS ME CL validation result : Pass

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RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 12-06-1887

Qualifier	Definition
*	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 matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
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.
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.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
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.
MPN - Most Probable Number

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Global ID
T0600100201

Calscience Environmental Laboratories, Inc.
7440 LINCOLN WAY
GARDEN GROVE, CA 92841-1427
TEL: (714) 895-5494 . FAX: (714) 894-7501

CHAIN OF CUSTODY RECORD

DATE: June 27, 2012
PAGE: 1 OF 1

LABORATORY CLIENT: Regenesis
ADDRESS: 1011 Calle Sombra
CITY: San Clemente STATE: CA ZIP: 92673
TEL: 949.366.8000 FAX: 949.366.8090 E-MAIL: jgravitt@regenesis.com

CLIENT PROJECT NAME / NUMBER: Antea Oakland
P.O. NO.:
PROJECT CONTACT: Joy Gravitt
LAB CONTACT OR QUOTE NO.: Alan Kemp
SAMPLER(S): (SIGNATURE)
LAB USE ONLY 12-06-1887

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAYS ☐ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS:
Please see Joy Gravitt for questions or concerns.
*Required Oxygenates: BTEX, MTBE, TBA, ETBE, TAME, DIPE, EDB, ethanol, 1,2-DCA

REQUESTED ANALYSIS

LAB USE ONLY	SAMPLE ID	LOCATION / DESCRIPTION	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH-g (EPA 8015)	BTEX/Oxygenates* (EPA 8260)	Nitrate/Sulfate (EPA 300.0)	Total Iron (EPA 6010B)	Dissolved Iron (EPA 6010B)	Sulfide (SM4500S2D)	Methane (RSK-175)	TOC (SM5310D)	COD (SM5220D)	Alkalinity (SM2320B)
1	MW-4	7210 Bancroft Ave Oakland, CA	6/27/2012	0925	W	13	x	x	x	x	x	x	x	x	x	x

Relinquished by: (Signature) — Received by: (Signature) — Date: 6/27/2012 — Time: 0945
Relinquished by: (Signature) — Received by: (Signature) Tom Malloy CER — Date: 6/27/12 — Time: 1055
Relinquished by: (Signature) Tom Malloy TOGSO 6/27/12 1730 — Received by: (Signature) — Date: 6/28/12 — Time: 10:30

06/01/10 Revision

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1887

GSO

< WebShip > > > > >

800-322-5555 www.gso.com

Ship From:
ALAN KEMP
CAL SCIENCE- CONCORD
5063 COMMERCIAL CIRCLE #H
CONCORD, CA 94520

Ship To:
SAMPLE RECEIVING
CEL
7440 LINCOLN WAY
GARDEN GROVE, CA 92841

COD:
$0.00

Reference:
ERM, APEX, REGENESIS, PHILLIPS 66

Delivery Instructions:

Signature Type:
SIGNATURE REQUIRED

Tracking #: 519431666

NPS

ORC

A

GARDEN GROVE

D92841A

2517009

Print Date : 06/27/12 16:34 PM

Package 1 of 1

Send Label To Printer ☑ Print All Edit Shipment Finish

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.

STEP 1 - Use the "Send Label to Printer" button on this page to print the shipping label on a laser or inkjet printer.

STEP 2 - Fold this page in half.

STEP 3 - Securely attach this label to your package, do not cover the barcode.

STEP 4 - Request an on-call pickup for your package, if you do not have scheduled daily pickup service or Drop-off your package at the nearest GSO drop box. Locate nearest GSO dropbox locations using this link.

ADDITIONAL OPTIONS:

Send Label Via Email Create Return Label

TERMS AND CONDITIONS:

By giving us your shipment to deliver, you agree to all the service terms and conditions described in this section.
Our liability for loss or damage to any package is limited to your actual damages or $100 whichever is less, unless you pay for and declare a higher authorized value. If you declare a higher value and pay the additional charge, our liability will be the lesser of your declared value or the actual value of your loss or damage. In any event, we will not be liable for any damage, whether direct, incidental, special or consequential, in excess of the declared value of a shipment whether or not we had knowledge that such damage might be incurred including but not limited to loss of income or profit. We will not be liable for your acts or omissions, including but not limited to improper or insufficient packaging, securing, marking or addressing. Also, we will not be liable if you or the recipient violates any of the terms of our agreement. We will not be liable for loss, damage or delay caused by events we cannot control, including but not limited to acts of God, perils of the air, weather conditions, act of public enemies, war, strikes, or civil commotion. The highest declared value for our GSO Priority Letter or GSO Priority Package is $500. For other shipments the highest declared value is $10,000 unless your package contains items of "extraordinary value", in which case the highest declared value we allow is $500. Items of "extraordinary value" include, but or not limited to, artwork, jewelry, furs, precious metals, tickets, negotiable instruments and other items with intrinsic value.

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Calscience Environmental Laboratories, Inc.

WORK ORDER #: 12-06-1887

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: REGENESIS DATE: 06/28/12

TEMPERATURE: Thermometer ID: SC2 (Criteria: 0.0 °C – 6.0 °C, not frozen)

Temperature 1.4 °C - 0.3 °C (CF) = 1.1 °C ☑ 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.

☐ **Received at ambient temperature, placed on ice for transport by Courier.**

Ambient Temperature: ☐ Air ☐ Filter Initial: PS

CUSTODY SEALS INTACT:

☑ Cooler ☐_____ ☐ No (Not Intact) ☐ Not Present ☐ N/A Initial: PS

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present Initial: SH

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	☐	☑	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Proper containers and sufficient volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours	☐	☐	☑
Proper preservation noted on COC or sample container	☑	☐	☐
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☑	☐	☐
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

Solid: ☐4ozCGJ ☐8ozCGJ ☐16ozCGJ ☐Sleeve (_____) ☐EnCores® ☐TerraCores® ☐_____

Water: ☐VOA ☑VOA**h** ☐VOA**na$_2$** ☐125AGB ☐125AGB**h** ☐125AGB**p** ☐1AGB ☐1AGB**na$_2$** ☐1AGB**s**

☐500AGB ☐500AGJ ☐500AGJ**s** ☐250AGB ☐250CGB ☑250CGB**s** ☐1PB ☐1PB**na** ☐500PB

☐250PB ☑250PB**n** ☐125PB ☑125PB**znna** ☐100PJ ☐100PJ**na$_2$** ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Summa® **Other:** ☐_____ **Trip Blank Lot#:**_____ **Labeled/Checked by:** SH

Container: **C:** Clear **A:** Amber **P:** Plastic **G:** Glass **J:** Jar **B:** Bottle **Z:** Ziploc/Resealable Bag **E:** Envelope **Reviewed by:** bc

Preservative: **h:** HCL **n:** HNO_3 **na$_2$:**$Na_2S_2O_3$ **na:** NaOH **p:** H_3PO_4 **s:** H_2SO_4 **u:** Ultra-pure **znna:** $ZnAc_2$+NaOH **f:** Filtered **Scanned by:** VC

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Appendix D

Blaine Tech Services Field Data Sheets – 90 Day Event

Well-Head Inspection & Well Gauging Form

Antea Group Project No: 261117 Site Address: 7210 Bancroft Ave, Oakland

Field Technician: Daniel Allen, BTS Date: 6/27/12 Weather: Clear

(Print Full Name & Company*)

Sample Order	Field Point	Well Condition: Bolts	Seal	Lid Secure	Lock	Expanding Cap	Water in Well Box	Well Casing Dia.	Time Gauged	Depth to Water (Feet)	Depth to Bottom (Feet)	Depth to LNAPL (Feet)	LNAPL Thickness (Feet)	Comments
2	MW-1	G	G	G	G	G	N	2	0851	15.73	38.50			
4	MW-4	G	G	G	N/A	N/A	N	2	0844	16.50	38.90			vault
1	MW-7	G	G	G	G	G	N	2	0826	16.70	44.20			
3	MW-11	G	G	G	G	G	N	4	0840	15.40	37.00			

Notes:

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

CIRCLE ONE: YES or NO**

anteagroup

*Form provided by Antea Group

Note: Use G=good and P=poor for well condition

Groundwater Sampling Form

Site Address:	7210 Bancroft Ave, Oakland CA		
Project No:	261117	Field Technician:	DW
Field Point:	MW-4	Date:	6/27/12
Depth to Water (DTW) (ft bgs):	16.50	Well Diameter (in):	(2) 4 6 8 ___
Depth to LNAPL (ft bgs):	———	Thickness of LNAPL (ft):	———
Total Depth of Well (ft bgs):	38.90	Water Column Height (ft):	22.40

Purging Info and Calculations:

Purge Method:

(Low-Flow)
3 casing volumes
Other:_____

Purge Equipment:

~~Disposable Bailer~~
(Electric Submersible)
Peristaltic Pump
Bladder Pump
Other:_____

Sample Collection Method:

Disposable Bailer
Extraction Port
Dedicated Tubing
(Disposable Tubing)
Other:_____

Water Column Height (ft):_____ X Conversion Factor (gal/ft):_____ = Casing Volume (gal):_____

Casing Volume (gal):_____ X Specified Volumes:_____ = Calculated Purge (gal):_____

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

Purge: **Start Time:** 0900 **Stop Time:** 0921

Time	Temp (°C)	pH	Conductivity (µS/cm)	ORP (mV)	Turbidity (NTU)	D.O. (mg/L)	Volume Purged ~~(gal)~~ (ml)	Water Level (for Low-Flow only)
Pre-Purge								
0903	18.55	6.47	1273	-89.0	331	1.62	600ml	16.51
0906	18.46	6.35	1276	-98.7	307	1.35	1200ml	16.51
0909	18.60	6.38	1266	-105.7	190	1.46	1800ml	16.51
0912	18.76	6.45	1247	-108.4	108	0.81	2400ml	16.51
0915	18.82	6.49	1224	-111.8	91	0.68	3000ml	16.51
0918	18.91	6.51	1220	-110.9	68	0.65	3600ml	16.51
0921	19.02	6.53	1215	-110.2	60	0.60	4200ml	16.51
Post-Purge								

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

Other Comments: Flow Rate: 200 ml/min *Purged through flow cell
Pump Depth: 30'

Sample Info:

Sample ID: MW-4 Sample Date and Time: 6/27/12 @ 0925

Selected Analysis: SEE COC

This form was provided by Antea Group and completed by: (Print Full Name) Daniel Allen, an employee of Blaine Tech Services, Inc.

Signature: Daniel Allen Date: 6/27/12

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Antea™Group, 1-800-477-7411

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

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME	Okland, 7210 Bancroft Ave	PROJECT NUMBER	2611117

EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP. C°	INITIALS
YSI 556	09B100592	6/27/12 @0630	DO 100%	100	Yes	20	DW
			ph 7.00 10.00 4.00	7.00 10.00 3.99	Yes	21	DW
			3900 us/cm	3900	Yes	21	DW
			238 mv	238	Yes	21	DW

Appendix E

Antea Group's Standard Operating Procedures

STANDARD OPERATING PROCEDURES

Utility Locating

Prior to drilling, boring and excavation locations and an approximate 15-foot by 15-foot box are marked with white paint or other distinct marking and cleared for underground utilities through Underground Service Alert (USA). In addition, Antea Group will contract an independent locator services to clear boring or excavation locations of subsurface assets. The first five feet (or more in instances where utilities are suspected in close proximity) of each borehole are air-knifed, or carefully advanced with a hand auger if shallow soil samples are necessary, to help evaluate the borehole location for underground structures or utilities in accordance with Antea Group's subsurface hazard avoidance policy.

Subsurface Investigation Methods – GeoProbe®, Sonic, Hollow Stem Auger Drilling, Sampling, and Borehole Completion

Borehole Advancement using Single-Wall GeoProbe®

Pre-cleaned push rods (typically one to two inches in diameter) are advanced using a hydraulic direct push-type rig for the purpose of collecting samples and evaluating subsurface conditions. The sample barrel located at the leading end of the drill rod serves as a soil sampler, and an acetate liner is inserted into the sample barrel rod prior to advancement of the push rod. Once the sample is collected, the rods and sampler are retracted and the acetate sample tubes are removed from the sampler. The sample barrel is then cleaned, filled with clean sample tubes, inserted into the borehole and advanced to the next sampling point where the sample collection process is repeated.

Undisturbed soil samples selected for laboratory analysis are cut away from the acetate sample liner using a hacksaw, or equivalent tool, in sections approximately 6 inches in length. The 6 inch samples are lined at each end with Teflon® sheets and capped with plastic caps. Labels documenting project number, borehole identification, collection date, and depth are affixed to each sample. The samples are then placed into an ice-filled cooler for delivery under chain-of-custody to a laboratory certified by the State of California for analysis. The remaining collected soil that has not been selected for laboratory analysis is logged using the United Soil Classification System (USCS) under the direction of a State Registered Professional Geologist, and is field screened for organic vapors using a photo ionization detector (PID), or an equivalent tool.

Borehole Advancement using Sonic Drilling

Pre-cleaned heavy-walled down-hole casings (typically 6 to 8 inches in diameter) are advanced using a sonic head. A smaller diameter core barrel (typically 4 to 6 inches in diameter) is advanced through the inside of the down-hole casings to remove the soil cuttings from the borehole for sample collection and evaluation of subsurface conditions.

During drilling, soil samples are collected continuously using the sonic core barrel. A physical description of soil characteristics (i.e. moisture content, consistency or density, odor, color, and plasticity), drilling difficulty, and soil type as a function of depth are described on boring logs. The soil cuttings are classified in accordance with the USCS and field screened for organic vapors using a PID.

Borehole Advancement using Hollow Stem Auger

Pre-cleaned hollow stem augers (typically 8 to 10 inches in diameter) are advanced using a drill rig for the purpose of collecting samples and evaluating subsurface conditions. A pre-cleaned split spoon sampler is lined with three 6-inch long brass or stainless steel tubes and attached to the drill rods. The sampler is then driven 18 inches into the underlying soils at the target sample interval by repeatedly dropping a 140-pound hammer over a 30-inch free fall distance. The number of blow counts to drive the sampler each 6-inch interval of sampler advancement are recorded on the field logs. The sampler is driven 18 inches or until the sampler has met refusal (typically 50 blows per six inches), then the sampler is retrieved. Alternatively, soil samples are retrieved by driving the sampler using a pneumatic hammer, when using a limited access rig.

Generally the bottom sample tube is selected for laboratory analysis. The middle tube is extruded for logging and PID screening, and the top tube is considered slough caved off from the sides of the boring prior to sampling.

The retained sample is carefully packaged for chemical analysis by capping each end of the sample with a Teflon sheet followed by a tight-fitting plastic cap and stored in a zip-type plastic bag. A label is affixed to the sample indicating the sample identification number, borehole number, sampling depth, sample collection date, and job number. The sample is then annotated on a chain-of-custody form and placed in an ice-filled cooler for transport to the laboratory.

During the drilling process, a physical description of the encountered soil characteristics (i.e. moisture content, consistency or density, odor, color, and plasticity), drilling difficulty, and soil type as a function of depth are described on boring logs. The soil cuttings are classified in accordance with the USCS.

Grab Groundwater Sample Collection

Once the target groundwater sampling depth has been reached, a Hydropunch™ tip is placed on leading end of the sampling rods. The Hydropunch™ tip is advanced approximately 2 feet to place the sample port within the target groundwater sampling zone (effort is made to position the center of the Hydropunch™ screen across the water table surface, if appropriate), and retracted to expose the Hydropunch™ screen. Grab groundwater samples are collected by lowering a pre-cleaned, single-sample polypropylene, disposable bailer or pre-cleaned stainless steel bailer down the inside of the sampler rod. The groundwater sample is decanted from the bailer to the sample container through a bottom emptying flow control valve to minimize volatilization. Alternatively, groundwater samples are collected by lowering a disposable bailer through the sampler rod or into the borehole.

Collected water samples are decanted directly into laboratory provided, pre-cleaned, vials or containers and sealed with Teflon-lined septum, screw-on lids. Labels documenting sample number, well identification, collection date, and type of preservative (if applicable, i.e. HCl for GRO, BTEX, and fuel oxygenates) are affixed to each sample. The samples are then placed into an ice-filled cooler for delivery under chain-of-custody to a laboratory certified by the State of California to perform the specified tests.

Borehole Completion

Upon completion of drilling and sampling, the inner casing rods are retracted. Neat cement grout, mixed at a ratio of 6 gallons of water per 94 pounds of Portland cement, is introduced via a tremie pipe to displace standing water in the

borehole, through the annulus of the outer casing rods. The outer rods are retracted as the grout is introduced to bottom of the boring to prevent the cross contamination of encountered water bearing zones. Displaced groundwater is collected at the surface and placed into DOT approved 55-gallon steel drums, or an equivalent storage container. In areas where the borehole penetrates asphalt or concrete, the borehole is capped with an equivalent thickness of asphalt or concrete patch to match finished grade.

Well Construction (typical)

Selected borings will be converted to groundwater monitoring wells by the installation of 2-inch or 4-inch diameter Schedule 40 polyvinyl chloride well casing with 0.020-inch factory slotted well screen as stated in the body of the work plan. A filter pack of Monterey #3 grade sand (or equivalent) will be placed in the annular space of the monitoring well borings, extending from the bottom of each well casing to approximately 2-feet above the top of the screened casing. A sanitary seal consisting of a 2-foot bentonite will be placed on above the filter sand and charged with water to create a seal. Neat cement grout, mixed at a ratio of 6 gallons of water per 94 pounds of Portland cement, is introduced via a tremie pipe to displace standing water in the well annulus bentonite to within two feet of the ground surface. Antea Group will install a minimum of a 5-foot annual seal. A traffic-rated well box will be installed on each well to protect and finish the well to surface grade.

The groundwater monitoring wells will be allowed to stabilize for a minimum of 72 hours after installation prior to development. Following development, the wells will be allowed stabilize for a minimum of 48 hours prior to the collection of any groundwater samples.

Organic Vapor Procedures

Soil samples are collected for analysis in the field for ionizable organic compounds using a PID with a 10.2 eV lamp. The test procedure involves measuring approximately 30 grams from an undisturbed soil sample, placing this sub-sample in a Zip-type bag. The container is warmed for approximately 20 minutes in the sun; then the head-space within the container is tested for total organic vapor, measured in parts per million as benzene (ppm; volume/volume). The instrument is calibrated prior to drilling. The results of the field-testing are noted on the boring logs. PID readings are useful as a qualitative indication of relative levels of contamination, but cannot be used to quantify petroleum hydrocarbon concentrations with the confidence of laboratory analyses.

Equipment Decontamination

Equipment that could potentially come in contact subsurface media and compromise the integrity of the samples is carefully decontaminated prior to drilling and sampling. Drilling auger and other large pieces of equipment are decontaminated using high pressure hot water spray. Soil and groundwater sampling apparatus, groundwater pumps, liners and other equipment are decontaminated in an Alconox scrub solution and double rinsed in clean tap water rinse followed by a final distilled water rinse.

The rinsate and other wastewater are contained in 55-gallon DOT-approved drums, labeled (to identify the contents, generation date and project) and stored on-site pending waste profiling and disposal.

Waste Handling and Disposal *(Soil Cuttings and Rinsate/Purge Water)*

Soil cuttings and rinsate/purge water generated during drilling and sampling are stored on-site in DOT-approved 55-gallon steel drums pending characterization. A label is affixed to the drums indicating the contents of the drum, suspected contaminants, date of generation, and the boring number from which the waste is generated. The drums are removed from the site by a licensed waste disposal contractor to an appropriate facility for treatment/recycling.

SOIL VAPOR WELLS STANDARD FIELD AND SAMPLING PROCEDURES

Utility Locating

Prior to drilling, boring and excavation locations and an approximate 15-foot by 15-foot box are marked with white paint or other distinct marking and cleared for underground utilities through Underground Service Alert (USA). In addition, Antea Group will contract an independent locator services to clear boring or excavation locations of subsurface assets. Soil vapor wells are not air-knifed, and are instead carefully advanced using hand auger drilling techniques.

Borehole Advancement using Hand Auger

A pre-cleaned hand auger (typically three inches in diameter) is advanced by hand for the purpose of collecting samples and evaluating subsurface conditions. If required, soil samples are collected into one 6-inch brass or stainless steel tube inserted into the hand auger during advancement. Soil samples may also be collected into pre-cleaned certified laboratory-provided glass jars.

The retained sample is carefully packaged for chemical analysis by capping each end of the sample with a Teflon sheet followed by a tight-fitting plastic cap and stored in a zip-type plastic bag. A label is affixed to the sample indicating the sample identification number, borehole number, sampling depth, sample collection date, and job number. The sample is then annotated on a chain-of-custody form and placed in an ice-filled cooler for transport to the laboratory.

During the drilling process, a physical description of the encountered soil characteristics (i.e. moisture content, consistency or density, odor, color, and plasticity), drilling difficulty, and soil type as a function of depth are described on boring logs. The soil cuttings are classified in accordance with the USCS.

Soil Vapor Well Completion (Typical)

Shallow soil vapor well borings are typically advanced to 5.5 feet below ground surface (bgs), but may be completed deeper if necessary or shallower if groundwater is present. The borings will be completed into soil vapor wells by placing one foot of Monterey #3 or #30 sand into the borehole. A soil vapor probe connected to seven feet of 0.25-inch outside diameter Teflon® tubing and installed in center of the sand pack at a depth of five feet bgs. A one foot interval of dry granular bentonite transition seal is placed on top of the sand pack. A neat cement sanitary seal is placed on top of the transition seal to approximately one foot bgs. Concrete is placed from 1.0 feet bgs to approximately 4 inches below the surface and a traffic-rated well box is installed at the surface. The well is completed by installing a Swagelok® valve on the terminating end of the Teflon® tubing.

Organic Vapor Procedures

Soil samples are collected for analysis in the field for ionizable organic compounds using a PID with a 10.2 eV lamp. The test procedure involves measuring approximately 30 grams from an undisturbed soil sample, placing this sub-sample in a Zip-type bag. The container is warmed for approximately 20 minutes in the sun; then the head-space within the container is tested for total organic vapor, measured in parts per million as benzene (ppm; volume/volume). The instrument is calibrated prior to drilling. The results of the field-testing are noted on the boring logs. PID readings are useful as a qualitative indication of relative levels of contamination, but cannot be used to quantify petroleum hydrocarbon concentrations with the confidence of laboratory analyses.

Equipment Decontamination

Equipment that could potentially come in contact subsurface media and compromise the integrity of the samples is carefully decontaminated prior to drilling and sampling. Drilling auger and other large pieces of equipment are decontaminated using high pressure hot water spray. Soil and groundwater sampling apparatus, groundwater pumps, liners and other equipment are decontaminated in an Alconox scrub solution and double rinsed in clean tap water rinse followed by a final distilled water rinse.

The rinsate and other wastewater are contained in 55-gallon DOT-approved drums, labeled (to identify the contents, generation date and project) and stored on-site pending waste profiling and disposal.

Waste Handling and Disposal (Soil Cuttings and Rinsate/Purge Water)

Soil cuttings and rinsate/purge water generated during drilling and sampling are stored on-site in DOT-approved 55-gallon steel drums pending characterization. A label is affixed to the drums indicating the contents of the drum, suspected contaminants, date of generation, and the boring number from which the waste is generated. The drums are removed from the site by a licensed waste disposal contractor to an appropriate facility for treatment/recycling.

Soil Vapor Well Sampling

Following installation, the soil vapor wells will be allowed to equilibrate for a minimum of three days and then sampled using the standard operating procedure described below:

1. One-foot sections of 0.25-inch outside diameter Teflon tubing will be used to connect the Swagelok wellhead valve to a Swagelok T-union fitting, one 6-liter Summa canister (purge), and one 1-liter or 6-liter Summa canister (sample). Each Summa canister will be outfitted with its own particulate filter, vacuum gauge, and flow regulator calibrated to a flow rate of between 100 and 200 milliliters per minute (ml/min). With the exception of the 6-liter purge Summa canister, dedicated equipment and materials will be used at each well to avoid cross-contamination.
2. Once the sampling train is assembled, a vacuum test will be performed to ensure the integrity of the sampling train. With the Swagelok wellhead valve closed, the 6-liter purge Summa canister will be opened for a minimum of 10 minutes. If a vacuum is not maintained for at least 10 minutes, the fittings will be tightened and the vacuum test repeated.
3. Once the integrity of the sampling train has been verified by the vacuum test, the well will be purged. The purge

amount will be based on Department of Toxic Substances Control (DTSC) guidelines, which involves purging three dead space volumes (tubing volume + void space of the sand pack). Assuming a total well and sampling train tubing length of 10 feet and 35% porosity of the well's sand pack, the well will be purged approximately 1.4 liters (1,400 ml). Assuming a sustained flow rate of 150ml/min, a purging time of 9 minutes and 20 seconds should be anticipated. Total purge times may be adjusted based on actual flow rates observed in the field.

4. After purging activities are complete, Antea Group will construct a sampling shroud and place it over the well and wellhead valve. During sample collection, Antea Group field staff will continually utilize laboratory-grade helium as a leak check compound to evaluate the integrity of the system. Prior to vapor sample collection, the vapor sampling manifold where it exits the well will be enclosed in a vapor containment shroud that will be filled with a known concentration of helium in order to provide an accurate leak test. The shroud will be sealed with a bentonite slurry or appropriate substitute, and a helium detector will be used to verify the percent saturation within the shroud is achieved and maintained throughout the sampling process. It is recommended that a predetermined concentration of 10 to 30 percent by volume of helium be added to the shroud, and that concentration must then be maintained for the duration of sampling activities. If the percent helium cannot maintained at the desired concentration, all fittings, joints, and seals will be checked and helium reapplied until the concentration is maintained at a steady percent. Laboratory analytical results for the leak check compound will be used to determine the air-tightness of the sampling system.

5. Upon completion of shroud construction, the sample Summa canister will be opened and sample collected. Once the sample Summa canister is filled to -5 inches mercury (in Hg), the canister will be closed. All general sampling information, purge times, sample times, and PID readings will be recorded on field sampling forms.

6. After sampling, the Swagelok wellhead valve will be returned to the closed position. Collected samples will be given unique sample names and transported under chain of custody protocol to a California-certified analytical laboratory. Analyzed compounds will include the constituents of concern and the leak check compound used during sampling.