Mr. Paresh Khatri
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Former Exxon Station
5175 Broadway
Oakland, California
ACHCSA Fuel Leak Case No. RO0000139
SFRWQCB Site No. 01-0958
UST Fund Claim No. 003406

Dear Mr. Khatri:

I, Mr. Ernie Nadel of Rockridge Heights, LLC, have retained Pangea Environmental Services, Inc. (Pangea) as the environmental consultant for the project referenced above. Pangea is submitting the attached report on my behalf.

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

Feb. 15, 2011

Sincerely,

Ernie Nadel

Ernie Nadel
Rockridge Heights, LLC

November 15, 2011

VIA ALAMEDA COUNTY FTP SITE

Ms. Donna Drogos
Alameda County Environmental Health
1331 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Re: **Groundwater Monitoring and Remediation Report – Third Quarter 2011**
5175 Broadway Street
Oakland, California
ACEH Fuel Leak Case No. RO#0000139

Dear Ms. Drogos:

On behalf of Rockridge Heights LLC, Pangea Environmental Services, Inc., has prepared this *Groundwater Monitoring and Remediation Report — Third Quarter 2011.* The report describes groundwater monitoring, sampling, site remediation, and other site activities. The dramatic contaminant reduction in site wells achieved by site remediation is illustrated on Figures 5 and 6.

If you have any questions or comments, please call me at (510) 435-8664.

Sincerely,
Pangea Environmental Services, Inc.

Bob Clark-Riddell, P.E.
Principal Engineer

Attachment: *Groundwater Monitoring and Remediation Report – Third Quarter 2011*

cc: Rockridge Heights, LLC, C/O Ernie Nadel, 6100 Pinewood Road, Oakland, California 94611
SWRCB Geotracker (Electronic copy)

GROUNDWATER MONITORING AND REMEDIATION REPORT – THIRD QUARTER 2011

5175 Broadway
Oakland, California

November 15, 2011

Prepared for:

Rockridge Heights, LLC
C/O Ernie Nadel
6100 Pinewood Road
Oakland, California 94611

Prepared by:

Pangea Environmental Services, Inc.
1710 Franklin Street, Suite 200
Oakland, California 94612

Written by:

REGISTERED PROFESSIONAL ENGINEER
ROBERT G. CLARK-RIDDELL
No. C 049629
Exp. SEPT 2012
CIVIL
STATE OF CALIFORNIA

FOR

Morgan Gillies
Project Manager

Bob Clark-Riddell, P.E.
Principal Engineer

INTRODUCTION

On behalf of Rockridge Heights, LLC, Pangea Environmental Services, Inc. (Pangea) conducted groundwater monitoring and sampling, and remediation system operation and sampling during this quarter at the subject site (Figure 1). The purpose of the monitoring and sampling is to evaluate dissolved contaminant concentrations, determine the groundwater flow direction, and inspect site wells for separate-phase hydrocarbons (SPH). The purpose of the remediation is to clean up petroleum hydrocarbons from a historic fuel release. Current groundwater analytical results and elevation data are shown on Figures 2 and 3. Current and historical groundwater data are summarized on Table 1. Site remediation data are summarized on Tables 3 and 4.

SITE BACKGROUND

The subject property is located at 5175 Broadway Street, at the southwest corner of the intersection of Broadway and Coronado Avenue in Oakland, California in Alameda County (Figure 1). The site is approximately 0.6 miles south-southeast of Highway 24 and approximately 2.3 miles east of Interstate 80 and the San Francisco Bay. The property is relatively flat lying, with a slight slope to the south-southwest, and lies at an elevation of approximately 160 feet above mean sea level. Topographic relief in the area surrounding the site also slopes generally towards the south-southwest. The western site boundary is the top of an approximately 10 foot high retaining wall that separates the site from an adjacent apartment complex.

The property has been vacant since 1979 and was formerly occupied by an Exxon Service Station used for fuel sales and automobile repair. The site is approximately 13,200 square feet in area and the majority of the ground surface is paved with concrete and/or asphalt, although the former tank location is not paved. Land use to the west and northwest is residential, including apartment buildings and single family homes. Properties to the northeast, east and south of the site are commercial. The site and adjacent properties are shown on Figure 2.

Environmental compliance work commenced when the site USTs were removed in January 1990. Three 8,000-gallon steel single-walled USTs, associated piping, and a 500-gallon steel single-walled waste oil tank were removed. Tank Project Engineering, Inc. (TPE) conducted the tank removal and observed holes in all four tanks. Approximately 700 tons of contaminated soil was excavated during tank removal and was subsequently remediated and reused for onsite backfill by TPE. In April 1990, TPE installed and sampled monitoring wells MW-1, MW-2 and MW-3. In June 1991, Soil Tech Engineering (STE), subsequently renamed Environmental Soil Tech Consultants (ESTC), installed monitoring wells STMW-4 and STMW-5. Groundwater monitoring was conducted on the site intermittently until October 2002. Golden Gate Tank Removal (GGTR) performed additional assessment in January and February 2006. In June 2006, the property was purchased by Rockridge Heights, LLC. Pangea commenced quarterly groundwater monitoring at the site in July 2006. MTBE is not

considered to be a contaminant of concern because use of the site for fuel sales predates widespread use of MTBE in gasoline and because analytical results have not shown significant detections of MTBE.

In January and March 2007, Pangea installed twelve wells (MW-2C, MW-3A, MW-3C, MW-4A, MW-5A, MW-5B, MW-5C, MW-6A, MW-7B, MW-7C, MW-8A and MW-8C) and three offsite soil borings to help define the vertical and lateral extent of groundwater contamination. Pangea also abandoned four monitoring wells (MW-2, MW-3, STMW-4 and STMW-5) to reduce the risk of vertical contaminant migration and improve the quality of monitoring data. New wells installed at the site were categorized according to the depths of their screen intervals. Shallow (A-zone) wells have screen intervals of approximately 10 to 15 feet bgs, which generally straddle the top of the water table and are generally screened in surficial fill and alluvium. Intermediate-depth (B-zone) wells are screened at approximately 15 to 20 feet bgs, either in surficial strata or underlying fractured bedrock, while deep (C-zone) wells are generally screened at approximately 20 to 25 feet bgs and into fractured bedrock. Well MW-1 is screened across both the A-zone and B-zone.

In April 2007, Pangea performed a dual-phase extraction (DPE) pilot test to evaluate whether DPE is an appropriate remedial technology to remove residual hydrocarbons from beneath the site. In July 2007, Pangea submitted an Interim Remedial Action Plan for site corrective action.

In August 2007, Pangea installed three offsite monitoring wells (MW-9A, MW-9C and MW-10A) and conducted subslab vapor sampling in the commercial building located immediately south of the site. The purpose of the offsite well installation was to determine the downgradient extent of contaminant migration, and to help evaluate downgradient effects of any future remediation conducted onsite. The purpose of the subslab vapor sampling was to determine whether vapor migrating from underlying groundwater had impacted soil vapor. Soil gas sampling was also conducted near the southern and western edge of the property. Soil gas sampling and offsite monitoring well installation is described in Pangea's *Soil Gas Sampling and Well Installation Report* dated October 23, 2007. Further subslab/soil gas sampling was conducted at the two adjacent properties in June 2008 and reported in Pangea's *Additional Soil Gas Sampling Report* dated July 14, 2008.

In response to a letter from ACEH dated June 10, 2008, Pangea submitted a *Revised Site Conceptual Model and Corrective Action Plan* (Revised CAP) dated July 23, 2008. ACEH commented on the Revised CAP in a letter dated July 31, 2008 and Pangea prepared a *Corrective Action Plan Addendum* dated August 11, 2008 to address ACEH comments. In a letter dated August 22, 2008, ACEH approved the CAP and Addendum as a 'Draft CAP' and initiated the public-participation process. The *Final Corrective Action Plan* dated March 25, 2009 recommended remediation via DPE and air sparging. In response to an ACEH letter dated April 16, 2009, Pangea submitted a *Final Corrective Action Plan – Addendum* dated May 18, 2009, which provided justification for the recommended remedial action. ACEH approved the *Final CAP Addendum* in a letter dated

June 18, 2009. On August 19, 2009, Pangea oversaw installation of six dual-phase extraction (DPE) wells and one air sparging (AS) well to facilitate implementation of the approved corrective action plan. Operation of the DPE system began on December 8, 2010 and operation of the AS system began on March 16, 2011.

GROUNDWATER MONITORING AND SAMPLING

On September 13 and 14, 2011, Pangea conducted groundwater monitoring and sampling at the site in accordance with the groundwater monitoring program in Appendix A. The monitoring was performed approximately 2.5 hours after the DPE/AS system was temporarily shutdown for groundwater sampling. Site monitoring wells were gauged for depth-to-water and inspected for separate-phase hydrocarbons (SPH). To obtain water levels representative of the piezometric surface, technicians removed all well caps approximately one hour prior to measuring water levels.

Before well purging, the dissolved oxygen (DO) concentration was measured in each well scheduled for sampling. DO was measured by lowering a downwell sensor to the approximate middle of the water column, and allowing the reading to stabilize during gentle height adjustment. Prior to sample collection, approximately three casing volumes of water were purged using disposable bailers, an electric submersible pump, or a clean PVC bailer (although fewer casing volumes were purged if the well dewatered). During well purging, field technicians measured the pH, temperature and conductivity of the water. A groundwater sample was collected from each well with a disposable bailer and decanted into the appropriate containers supplied by the analytical laboratory. Groundwater samples were labeled, placed in protective plastic bags, and stored on crushed ice at or below 4^{o} C. All samples were transported under chain-of-custody to the State-certified analytical laboratory. Purge water was stored onsite in DOT-approved 55-gallon drums. Groundwater monitoring field data sheets, including purge volumes and field parameter measurements, are presented in Appendix B.

MONITORING RESULTS

Current and historical groundwater elevation and analytical data are described below and summarized on Table 1, Figure 2 and Figure 3. To facilitate data evaluation, well construction details are summarized on Table 2. Groundwater samples were analyzed for total petroleum hydrocarbons as diesel (TPHd) by EPA Method 8015C with silica gel cleanup; total petroleum hydrocarbons as gasoline (TPHg) by modified EPA Method 8015C; and benzene, toluene, ethylbenzene, xylenes (BTEX) and methyl tertiary butyl ether (MTBE) by EPA Method 8021B. Samples were analyzed by McCampbell Analytical, Inc., of Pittsburg, California, a State-certified laboratory. The laboratory analytical report is included in Appendix C.

Groundwater Flow Direction

Based on depth-to-water data collected on September 13, 2011, shallow groundwater (A-zone) flows generally *southwestwards* beneath the northeastern portion of the site and turns *southwestwards* beneath the southern portion of the site, as shown on Figure 2. Shallow groundwater beneath the property south of the site flows towards the south. The relatively high groundwater elevation measured in well MW-6A suggests that shallow groundwater is mounded in the former UST excavation and that the local flow direction radiates outwards away from the former excavation area towards the northeast corner of the site in the direction of MW-4A. These observations are interpreted as indicating that the unpaved former UST excavation has acted as a collector for rainwater and that the asphalt pavement covering the remainder of the site serves to reduce infiltration elsewhere while directing rainwater to the unpaved UST excavation area. The current inferred flow direction in shallow groundwater is generally consistent with previous monitoring results. In addition, groundwater flow direction may be affected by dual-phase extraction (DPE) from site wells.

Groundwater flow in deep groundwater (C-zone) is generally *southwards* to *eastwards* beneath the site, as shown on Figure 3. Groundwater flow appears to converge around well MW-3C, which is likely due to operation of the DPE system at the site. Generally, the elevation of the piezometric surface for C-zone wells is lower than elevations for A-zone wells, indicating that a downward gradient is present.

Hydrocarbon Distribution in Groundwater

Current Distribution: The dramatic contaminant reduction in site wells achieved by site remediation is illustrated on Figures 5 and 6. This monitoring was performed 2.5 hours following temporary remediation system shutdown to allow subsurface equilibration. This quarter the maximum TPHg concentration detected was 4,800 µg/L (remediation well DPE-3) and the maximum benzene concentration detected was 37 µg/L (source area well MW-3A). The maximum TPHd concentration detected this quarter was 25,000 µg/L, in remediation well DPE-3. The detected TPHd concentration in remediation well DPE-3 is a slight increase from second quarter 2011, but is significantly lower than the 51,000 µg/L concentration detected during first quarter 2011. Hydrocarbon concentrations were generally within historic ranges and trends in most site wells, except for *historic low* concentrations described below. No measurable thickness of separate-phase hydrocarbons (SPH) was observed in any monitoring wells this quarter.

Most importantly, *historic low* concentrations of TPHg and benzene were detected in shallow wells MW-3A and MW-4A, deep well MW-3C, and remediation well DPE-2. These historic low concentrations are attributed to DPE and AS remediation at the site. Benzene concentrations in well MW-3A were reduced from 350 µg/L in June 2011 to 37 µg/L in September 2011, while TPHg concentrations in well MW-3A were similarly reduced from 5,100 µg/L to 1,700 µg/L in the same time frame. No data is available this quarter for key well

MW-7B because this well was dry at sampling time. TPHg and benzene concentration trends for key shallow and deep wells are illustrated on Figures 5 and 6, respectively.

Historic Distribution: Shallow (A-zone) groundwater contains petroleum hydrocarbons at elevated concentrations in two primary areas near the former UST excavation: a northern area in the vicinity of well MW-4A, and a southwestern area in the vicinity of wells MW-3A and MW-8A. Prior shallow grab groundwater sampling data also indicates that the southern area of contamination extends to the southern site boundary in the vicinity of wells MW-7B and MW-7C (where *benzene* concentrations are apparently biodegrading in these deeper wells). The non-detect concentrations of hydrocarbons in wells MW-9A and MW-10A indicate that offsite migration of petroleum hydrocarbons in shallow groundwater is minimal. The observed distribution of hydrocarbons in A-zone groundwater is presumably due to plume migration radially away from the excavation area, likely caused by mounding of groundwater within the uncapped former UST excavation during the rainy season.

Contaminant distribution in deeper groundwater differs from the distribution of hydrocarbons in shallow groundwater. Elevated contaminant concentrations within deeper groundwater (B-zone and C-zone) are apparently present in the vicinity of wells MW-3C, MW-7B and MW-7C in the central and southern portions of the site. Again, the apparent biodegradation of benzene and select other compounds in wells MW-7B and MW-7C suggests that deeper hydrocarbons are attenuating. Site remediation is also likely improving site conditions. Well screen intervals for shallow and deep wells are summarized on Table 2.

Fuel Oxygenate Distribution in Groundwater

No MTBE was detected above reporting limits in any samples obtained from site monitoring wells this monitoring event. MTBE is not a contaminant of concern at this site both due to the lack of detections, and because the USTs were removed in 1990 prior to widespread use of MTBE as a fuel oxygenate.

REMEDIATION SYSTEM SUMMARY

Dual Phase Extraction/Air Sparging System

The dual phase extraction (DPE) remediation system simultaneously extracts groundwater and soil vapor from site remediation wells. The remediation system layout is shown on Figure 4. Extraction and treatment is performed using a 25 hp liquid ring vacuum pump with a 400 cubic foot per minute (cfm) electric catalytic oxidizer. To maximize groundwater depression, a “stinger” (vacuum tube inserted below the water table) is used to both depress the water table and extract soil vapor in each of the 10 remediation wells (DPE-1 through DPE-6 and MW-3A, MW-4A, MW-7B and MW-8A). Extracted vapors are routed through an air/water separator and then treated by the electric catalytic oxidizer. The treated vapor is discharged to the atmosphere

in accordance with Bay Area Air Quality Management District (BAAQMD) requirements. Groundwater captured within the air/water separator is pumped through two 200-lb canisters of granular activated carbon plumbed in series. The treated groundwater is discharged into the sewer in accordance with East Bay Municipal Utility District's (EBMUD) requirements.

The air sparging (AS) system consists of a 5 hp Ingersoll-Rand rotary-screw air compressor capable of injecting 16 cfm of air and reaching pressures of 125 psig. Injection into the seven air sparge wells (AS-1, MW-1, MW-2C, MW-3C, MW-5B, MW-7C and MW-8C) is controlled by timer-activated solenoid valves and individual well needle valves on the well flow meters. The remediation system layout is shown on Figure 4.

Operation and Performance

DPE and AS system operation commenced on December 8, 2010 and March 16, 2011, respectively. The DPE system was initially operated to target elevated impact within the northern portion of the site (wells DPE-1, MW-3A, MW-4A and MW-8A). After initial contaminant mass removal rates decreased, DPE remediation was focused on the southern portion of the site, and AS was commenced soon thereafter. AS was initiated on wells MW-2C and MW-3C near the center of the site, and later expanded to include well MW-7C and well MW-8C. System operation and performance data is summarized on Tables 3 and 4. Subsequent DPE/AS targets wells across the site to optimize hydrocarbon removal. Pangea periodically optimizes hydrocarbon removal by checking influent vapor concentrations within individual wells.

As of September 26, 2011, the DPE system operated for a total of about 4,823 hours (approximately 201 days). Laboratory analytical and performance data indicates that soil vapor removal rates observed during this reporting period ranged from 0.8 to 14.5 lbs/day TPHg and 0.01 to 0.06 lbs/day benzene. As of September 26, 2011, the vapor-phase portion of the DPE system removed a total of approximately 1,177 lbs TPHg and 8.2 lbs benzene. The groundwater portion of the DPE system has removed a total of approximately 0.26 lbs TPHg and 0.006 lbs benzene. Additional hydrocarbon removal is provided by biodegradation stimulated by oxygenation from DPE/AS processes.

The DPE/AS system is monitored in accordance with air permit requirements of the *Authority to Construct Permit* issued by the Bay Area Air Quality Management District (BAAQMD) and groundwater discharge requirements of the *Wastewater Discharge Permit* issued by East Bay Municipal Utility District.

Evaluation of Remediation Effectiveness

The calculated hydrocarbon mass removal and reported concentration reduction in groundwater suggest that the DPE/AS system is effectively remediating the site subsurface. Hydrocarbon mass removal and concentration reduction are illustrated on Figures 5 and 6 and described above.

FUTURE SITE ACTIVITY

Site Remediation

Pangea plans to continue operation and optimization of the DPE/AS system to target residual elevated impact. The DPE/AS system will focus on residual impact near the southern and central portion of the site (near DPE-3 and DPE-4) and along the western property boundary adjacent the offsite residences (near MW-8A and DPE-5). This will involve primary AS in wells MW-3C, MW-7C and MW-8C. Limited AS will also be performed on wells MW-1 and MW-5B to improve conditions near theses wells.

Groundwater Monitoring

Future groundwater monitoring will help evaluate the effectiveness of dual-phase extraction and air sparging. The next quarterly monitoring event is scheduled for late December 2011 after the holiday tenant removes the Christmas trees and after additional optimization of DPE/AS on residual impact. To further evaluate remedial effectiveness, Pangea plans to sample select wells not part of the regular monitoring program (e.g., AS-1, DPE-1, DPE-5 and DPE-6). For monitoring cost control, Pangea does not plan to sample program wells MW-8C and MW-9C due to limited impact in these wells.

Electronic Reporting

This report will be uploaded to the Alameda County FTP site. The report, laboratory data, and other applicable information will also be uploaded to the State Water Resource Control Board's Geotracker database. As requested, report hard copies will no longer be provided to the local agencies.

ATTACHMENTS

Figure 1 – Site Location Map
Figure 2 – Groundwater Elevation Contour and Hydrocarbon Concentration Map (Shallow)
Figure 3 – Groundwater Elevation Contour and Hydrocarbon Concentration Map (Deep)
Figure 4 – Remediation System Layout
Figure 5 – TPHg and Benzene Concentration Trends in Shallow Groundwater
Figure 6 – TPHg and Benzene Concentration Trends in Deep Groundwater

Table 1 – Groundwater Analytical Data
Table 2 – Well Construction Details
Table 3 – SVE System Performance Data
Table 4 – GWE System Performance Data

Appendix A – Groundwater Monitoring Program
Appendix B – Groundwater Monitoring Field Data Sheets
Appendix C – Laboratory Analytical Reports

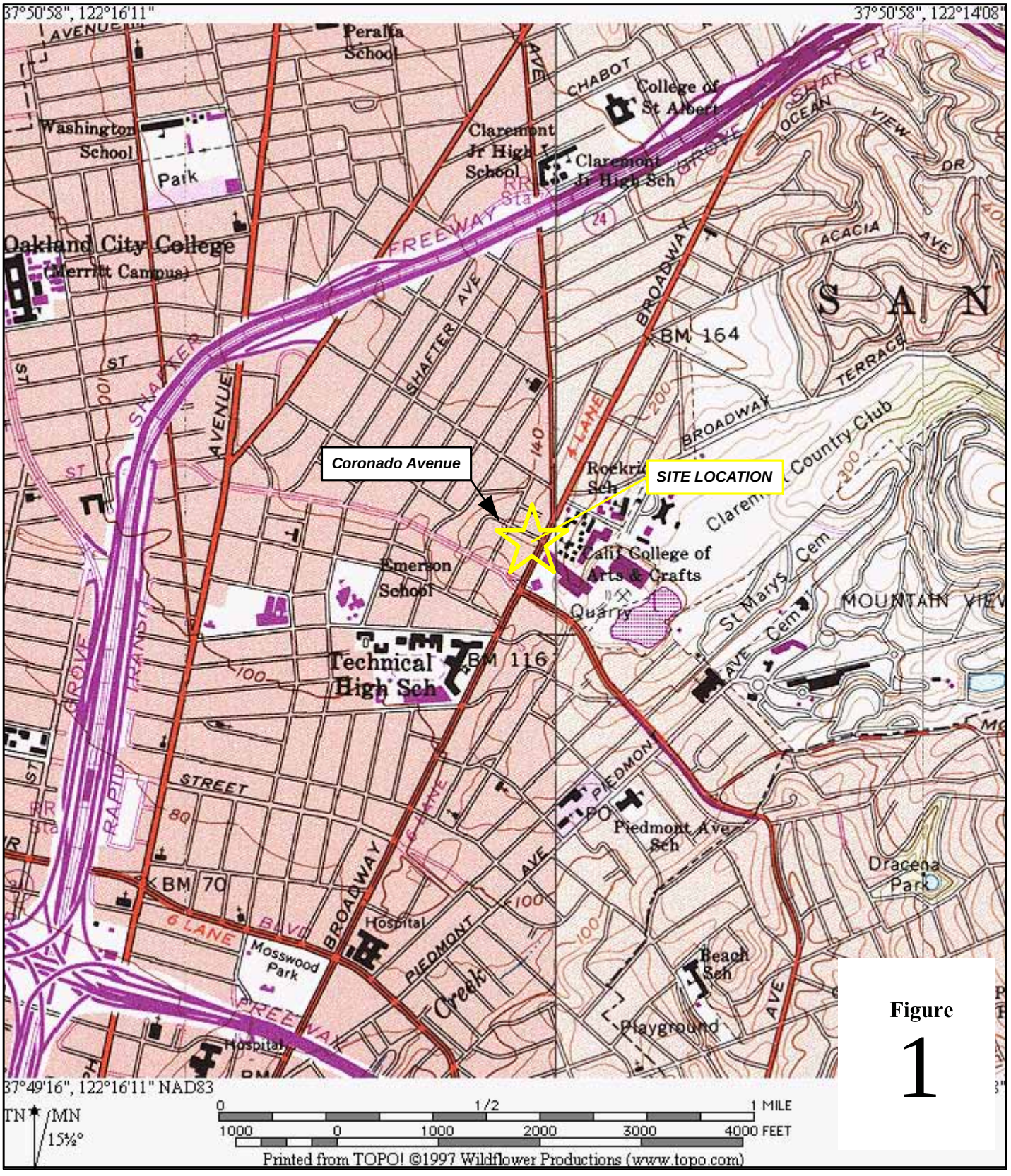


Figure 1

FeinerBroadway site loc.ai 8/30/06

Former Exxon Station
5175 Broadway
Oakland, California

PANGEA

Site Location Map

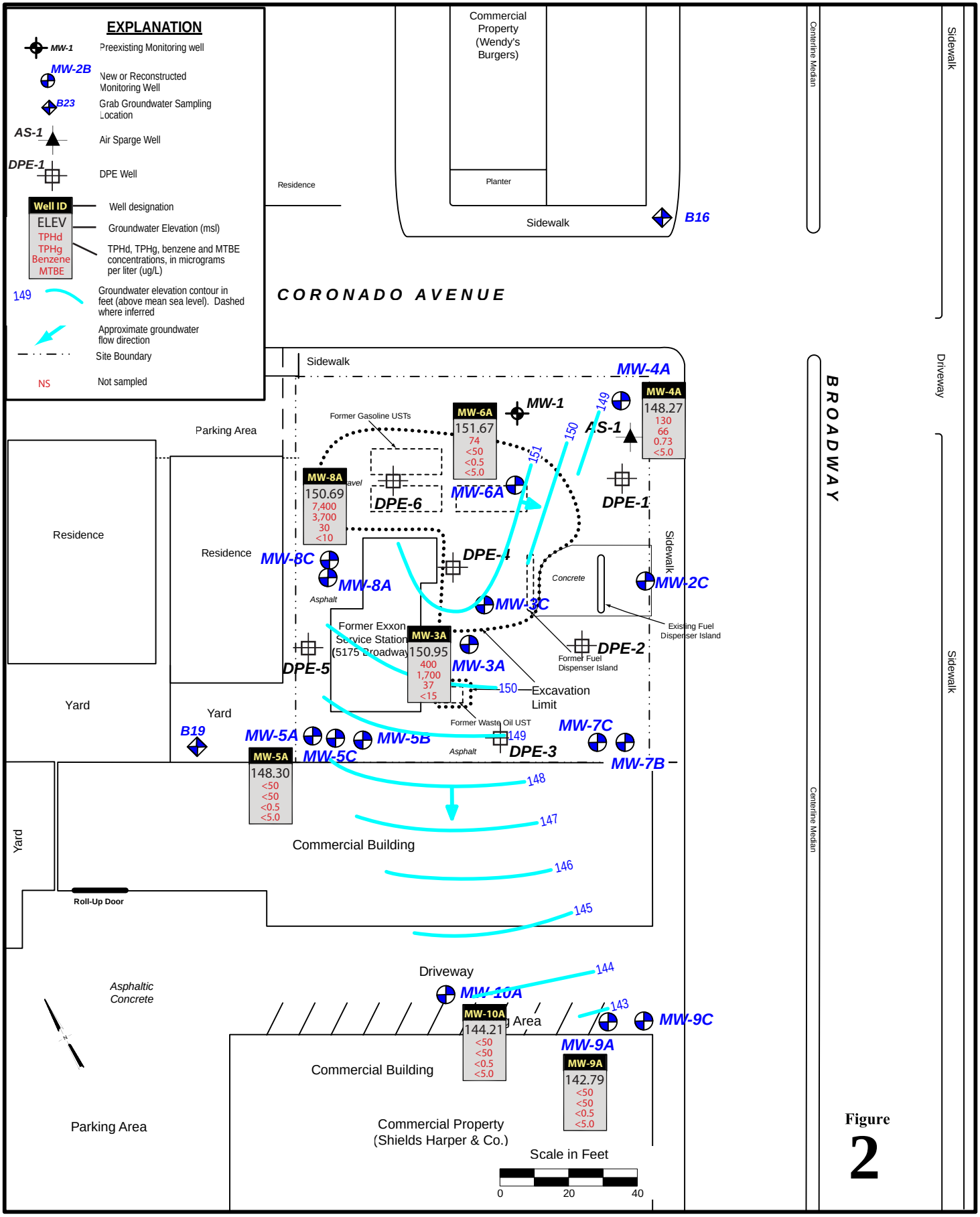


Figure 2

Former Exxon Station
5175 Broadway
Oakland, California

Groundwater Elevation Contour and Hydrocarbon Concentration Map (Shallow)
September 13-14, 2011

PANGEA

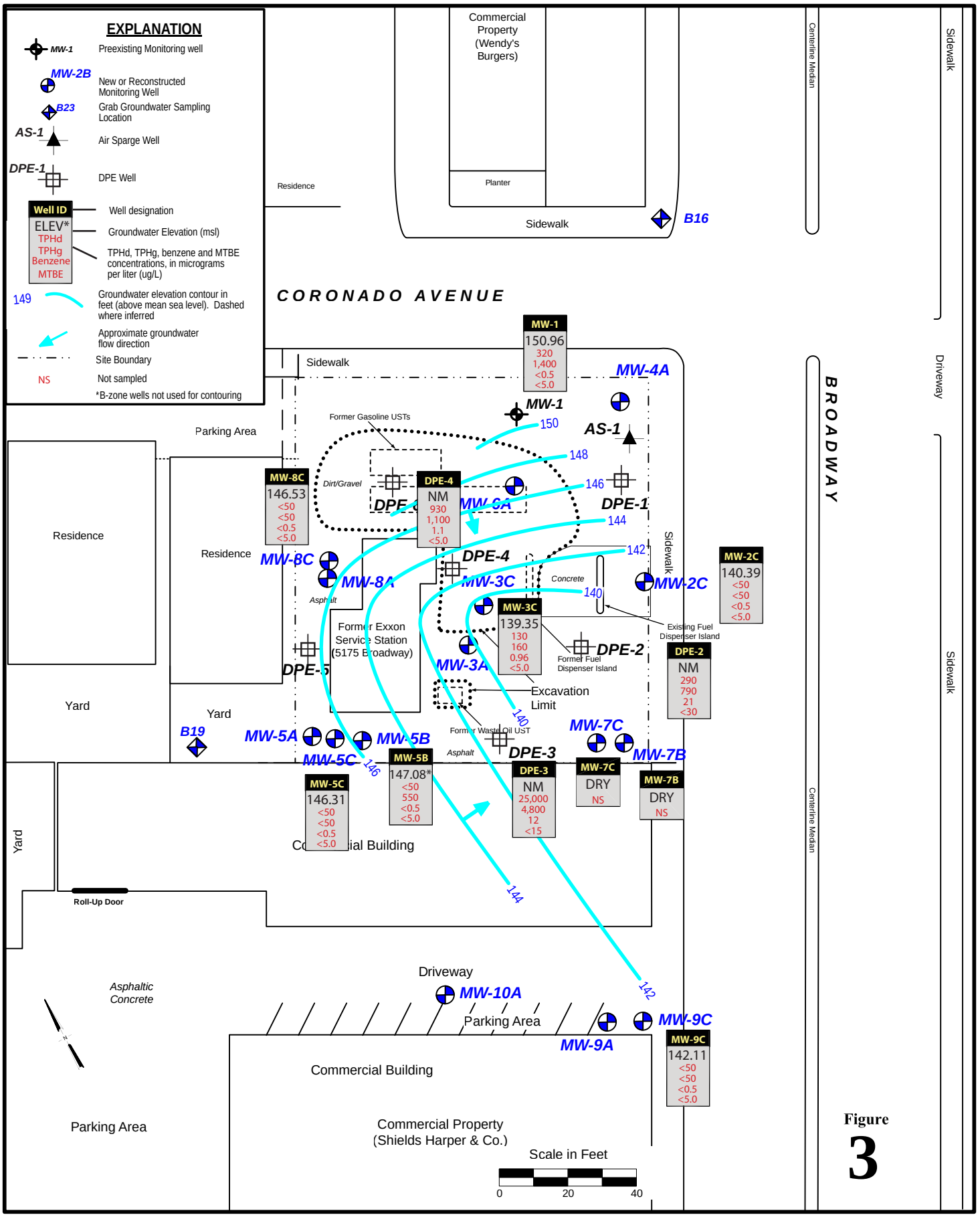


Figure 3

Former Exxon Station
5175 Broadway
Oakland, California

Groundwater Elevation Contour and Hydrocarbon Concentration Map (Deep)
September 13-14, 2011

PANGEA

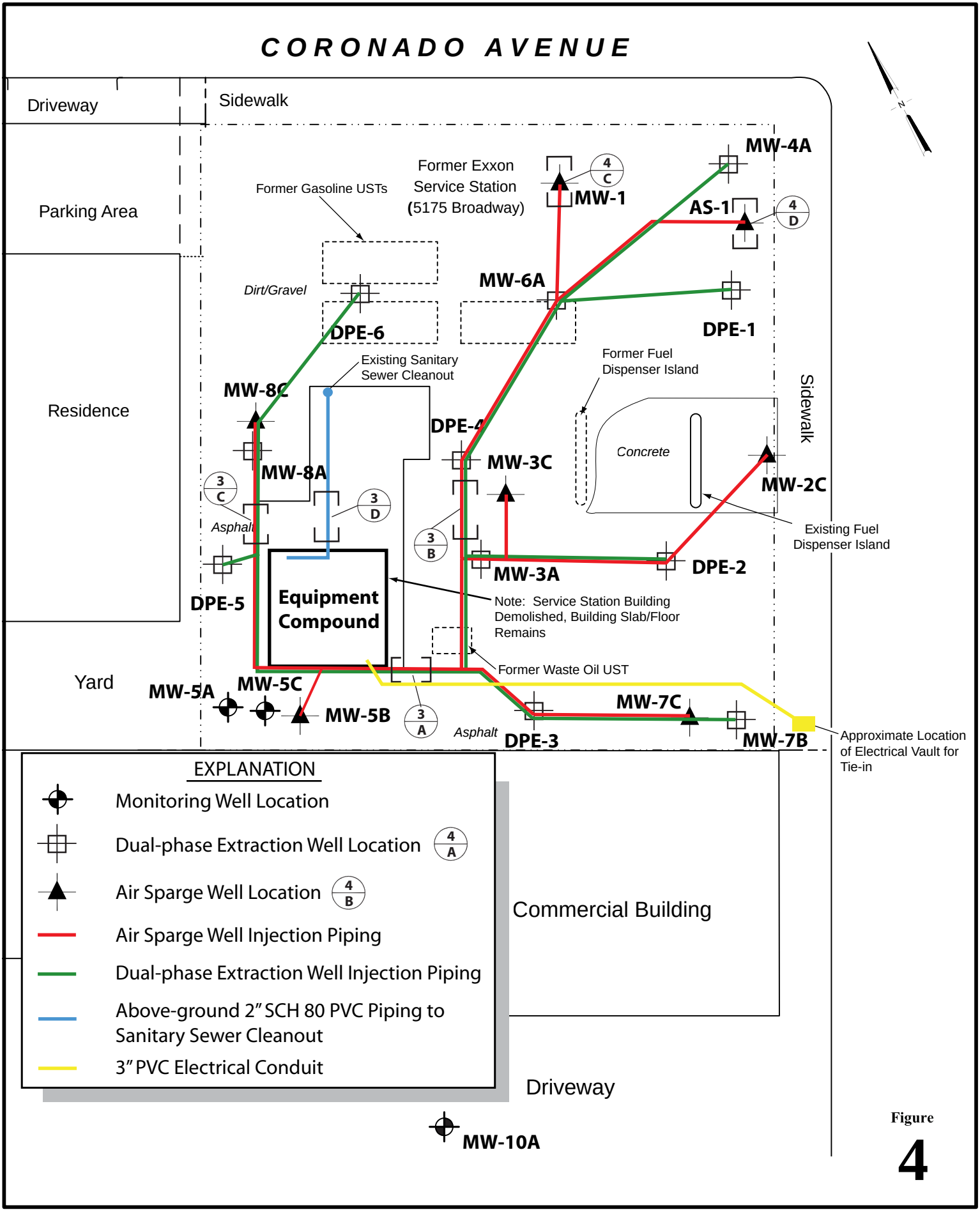
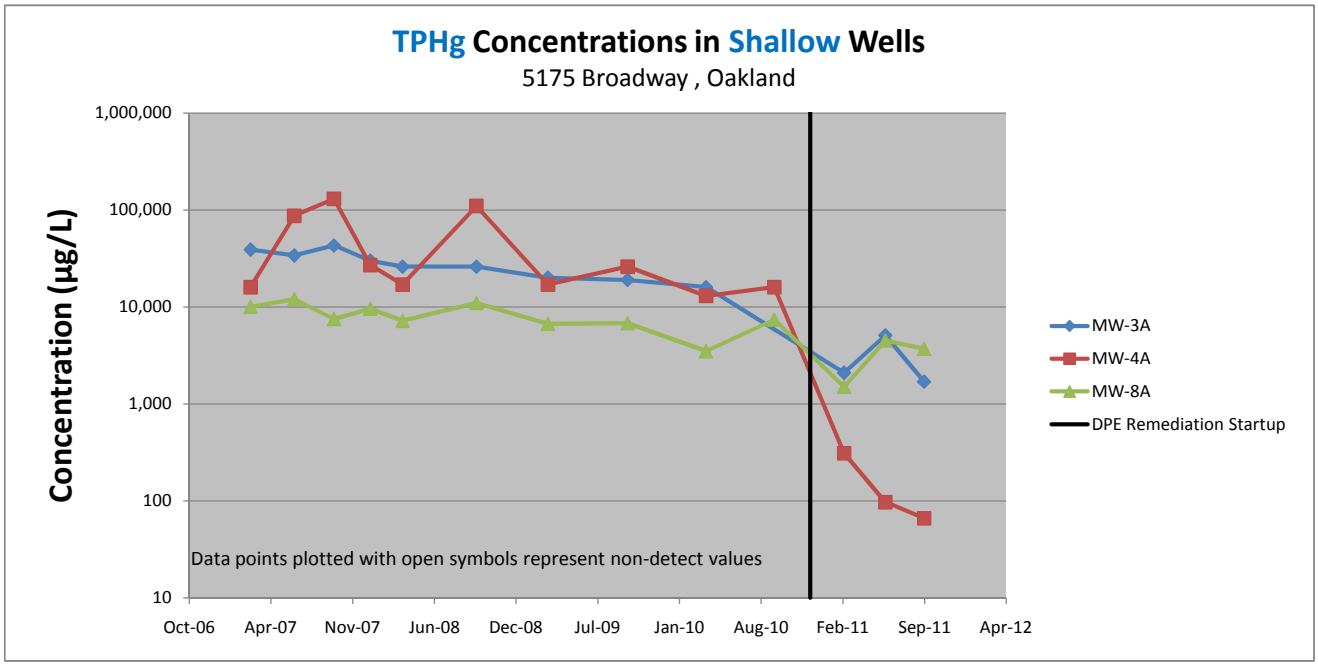


Figure
4

Former Exxon Station
5175 Broadway
Oakland, California

PANGEA

Remediation System Layout



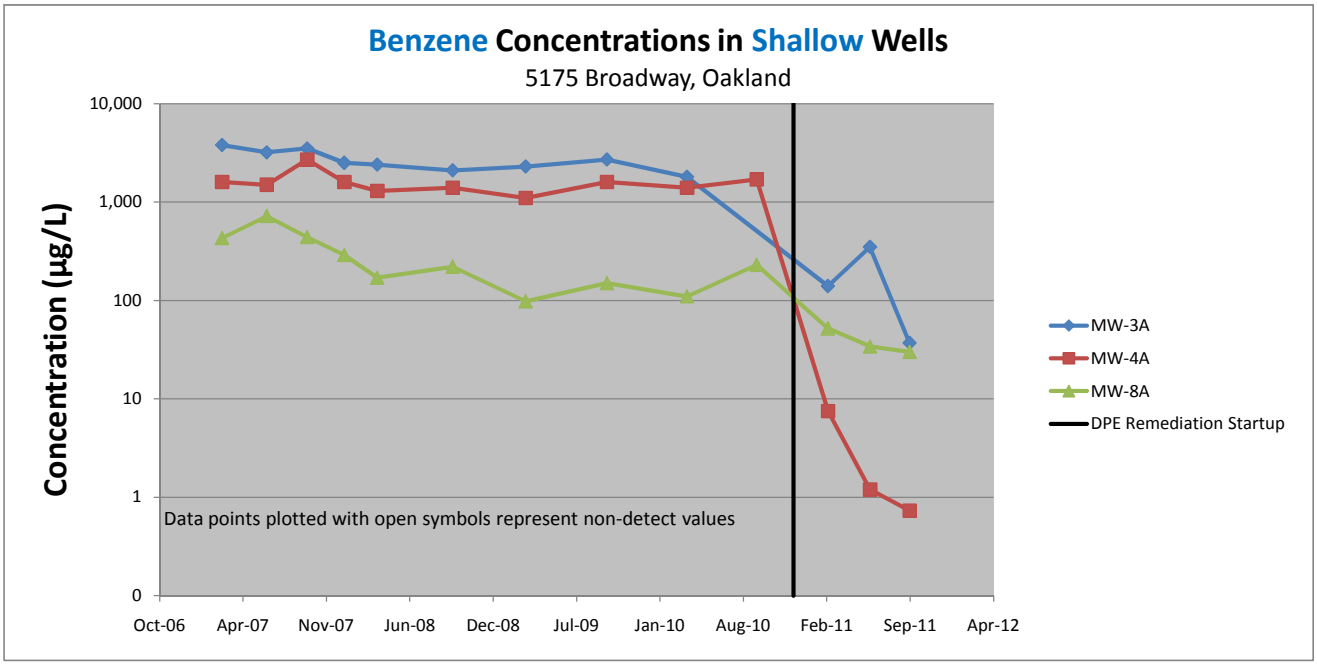
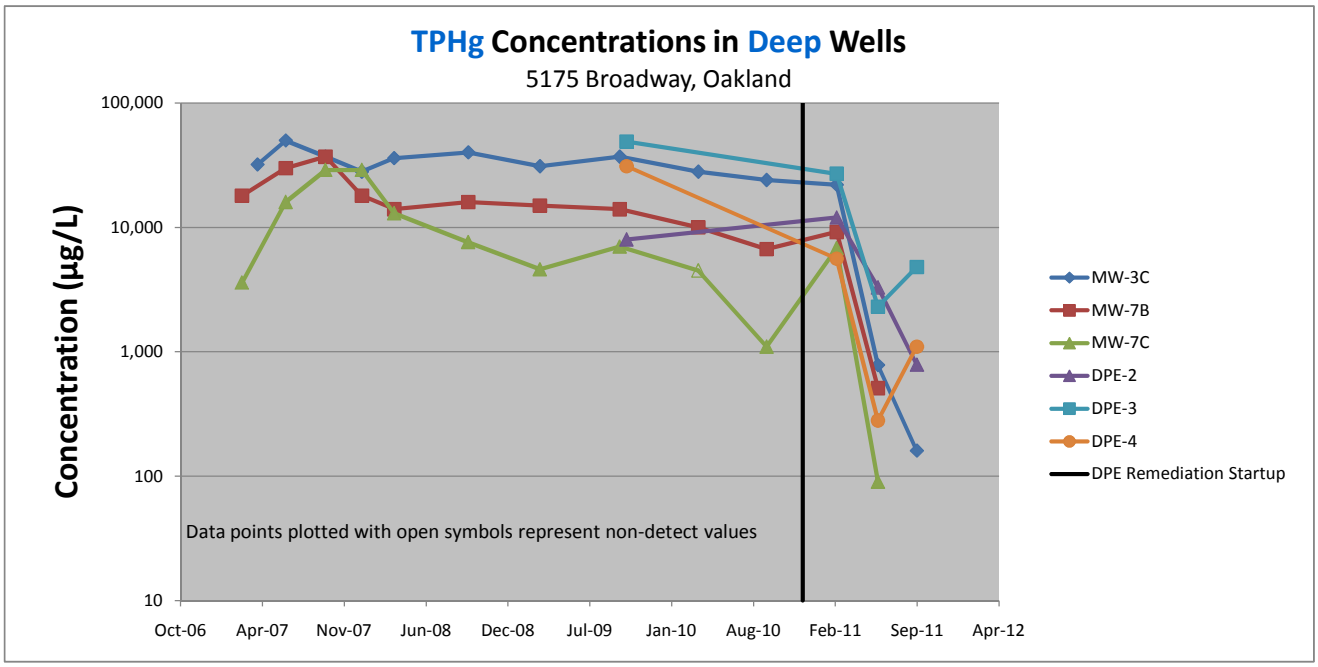


Figure 5. TPHg and Benzene Concentration Trends in Shallow Groundwater



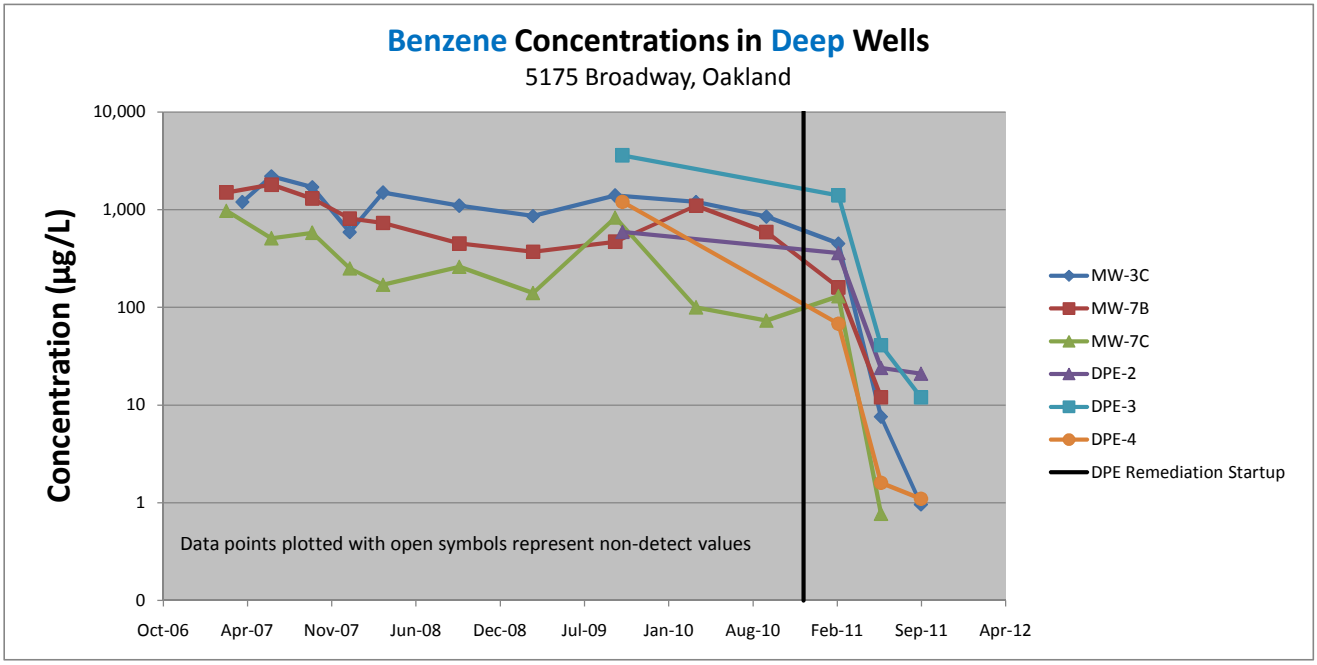


Figure 6. TPHg and Benzene Concentration Trends in Deep Groundwater

Table 1. Groundwater Analytical Data - Former Exxon Station, 5175 Broadway, Oakland, CA

Well ID *TOC Elev* *(ft)*	Date Sampled	SPH (ft)	Groundwater Elevation (ft)	Depth to Water (ft)	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DIPE	1,2-DCA	Dissolved Oxygen mg/L
					←				µg/L				→	
SHALLOW WELLS														
MW-3A	03/09/07	--	152.20	9.35	4,500	39,000	3,800	220	830	2,800	<500	--	--	--
(161.55)	03/26/07	--	152.33	9.22	--	--	--	--	--	--	--	--	--	--
(161.57)	06/24/07	--	151.61	9.94	11,000	34,000	3,200	330	990	3,200	<250	--	--	--
	09/29/07	--	150.21	11.36	11,000	43,000	3,500	150	730	2,200	<1,000	--	--	--
	12/27/07	--	150.20	11.37	8,700	30,000	2,500	24	520	930	<100	--	--	--
	03/15/08	--	152.27	9.30	10,000	26,000	2,400	110	700	1,200	<250	--	--	--
	09/12/08	--	149.57	12.00	9,000	26,000	2,100	29	560	280	<100	--	--	--
	03/06/09	--	152.66	8.91	6,500	20,000	2,300	59	740	410	<180	--	--	--
	09/17/09	--	149.47	12.10	6,900	19,000	2,700	33	660	110	<250	--	--	--
	03/28/10	--	152.50	9.07	4,300	16,000	1,800	38	220	340	<100	--	--	--
	09/11/10	--	149.44	12.13	Insufficent water to sample									
	03/01/11	--	150.01	11.56	2,200	2,100	140	10	37	97	<10	--	--	--
	06/10/11	--	151.89	9.68	1,400	5,100	350	140	110	490	<80	--	--	--
	09/13/11	**--**	**150.95**	**10.62**	**400**	**1,700**	**37**	**38**	**17**	**110**	**<15**	**--**	**--**	**0.36**
MW-4A	03/09/07	--	152.88	9.56	3,600	16,000	1,600	36	37	150	<250	--	--	--
(162.44)	03/26/07	--	152.56	9.88	--	--	--	--	--	--	--	--	--	--
	06/24/07	--	152.02	10.42	110,000	87,000	1,500	59	290	800	<500	--	--	--
	09/29/07	--	151.33	11.11	170,000	130,000	2,700	69	400	1,400	<240	--	--	--
	12/27/07	--	152.33	10.11	19,000	27,000	1,600	31	100	320	<90	--	--	--
	03/15/08	--	152.51	9.93	38,000	17,000	1,300	<50	120	380	<500	--	--	--
	09/12/08	--	151.72	10.72	120,000	110,000	1,400	<50	210	660	<500	--	--	--
	03/06/09	--	153.84	8.60	32,000	17,000	1,100	15	<10	190	<100	--	--	--
	09/17/09	--	151.44	11.00	25,000	26,000	1,600	63	140	320	<350	--	--	--
	03/28/10	--	152.69	9.75	9,200	13,000	1,400	29	16	160	<100	--	--	--
	09/11/10	--	151.34	11.10	23,000	16,000	1,700	43	140	330	<250	--	--	--
	03/01/11	--	148.94	13.50	270	310	7.5	1.0	<0.5	7.7	<5.0	--	--	--
	06/10/11	--	152.32	10.12	110	97	1.2	<0.5	<0.5	1.7	<5.0	--	--	--
	09/13/11	**--**	**148.27**	**14.17**	**130**	**66**	**0.73**	**<0.5**	**<0.5**	**<0.5**	**<5.0**	**--**	**--**	**0.48**
MW-5A	03/09/07	--	150.40	10.42	56	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
(160.82)	03/26/07	--	150.00	10.82	--	--	--	--	--	--	--	--	--	--
	06/24/07	--	148.94	11.88	<50	180	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	09/29/07	--	147.86	12.96	--	--	--	--	--	--	--	--	--	--
	12/27/07	--	148.40	12.42	--	--	--	--	--	--	--	--	--	--
	03/15/08	--	149.96	10.86	<50	180	0.91	<0.5	<0.5	<0.5	<5.0	--	--	--
	09/12/08	--	147.50	13.32	Insufficent water to sample									
	03/06/09	--	151.33	9.49	230	460	2.0	3.0	0.68	1.9	<5.0	--	--	--
	09/17/09	--	148.02	12.80	Insufficent water to sample									
	03/28/10	--	150.30	10.52	<50	69	<0.5	<0.5	<0.5	<0.5	<5.0	---	---	---
	09/11/10	--	147.72	13.10	Insufficent water to sample									
	03/01/11	--	150.98	9.84	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	06/10/11	--	149.95	10.87	--	--	--	--	--	--	--	--	--	--
	09/13/11	**--**	**148.30**	**12.52**	**<50**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**	**--**	**--**	**0.36**
MW-6A	03/09/07	--	154.91	6.67	380	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
(161.58)	03/26/07	--	154.41	7.17	--	--	--	--	--	--	--	--	--	--
	06/24/07	--	153.79	7.79	590	140	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	09/29/07	--	152.84	8.74	540	52	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	12/27/07	--	154.27	7.31	170	94	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/15/08	--	154.42	7.16	150	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--

Table 1. Groundwater Analytical Data - Former Exxon Station, 5175 Broadway, Oakland, CA

Well ID *TOC Elev* *(ft)*	Date Sampled	SPH (ft)	Groundwater Elevation (ft)	Depth to Water (ft)	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DIPE	1,2-DCA	Dissolved Oxygen mg/L
					←				µg/L				→	
MW-6A	09/12/08	--	152.92	8.66	510	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
(cont.)	03/06/09	--	155.76	5.82	110	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	09/17/09	--	152.89	8.69	280	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/28/10	--	154.55	7.03	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	09/11/10	--	152.99	8.59	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/01/11	--	154.57	7.01	67	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	06/10/11	--	154.11	7.47	--	--	--	--	--	--	--	--	--	--
	09/13/11	**--**	**151.67**	**9.91**	**74**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**	**--**	**--**	**0.23**
MW-8A	03/09/07	--	152.05	9.52	4,200	10,000	430	18	<10	88	<100	--	--	--
(161.57)	03/26/07	--	151.74	9.83	--	--	--	--	--	--	--	--	--	--
	06/24/07	--	151.40	10.17	17,000	12,000	720	500	230	880	<300	--	--	--
	09/29/07	--	150.64	10.95	5,300	7,500	440	67	26	240	<90	--	--	--
(161.59)	12/27/07	--	152.00	9.59	13,000	9,600	290	100	90	360	<100	--	--	--
	03/15/08	--	152.00	9.59	7,500	7,200	170	28	270	110	<100	--	--	--
	09/12/08	--	150.27	11.32	9,900	11,000	220	31	110	180	<50	--	--	--
	03/06/09	--	153.01	8.58	5,500	6,700	98	17	57	63	<50	--	--	--
	09/17/09	--	150.83	10.76	5,200	6,800	150	19	10	35	<25	--	--	--
	03/28/10	--	151.86	9.73	2,600	3,500	110	7.2	<1.7	19	<17	--	--	--
	09/11/10	--	150.43	11.16	4,800	7,400	230	25	15	40	<90	--	--	--
	03/01/11	--	152.80	8.79	1,000	1,500	52	3.5	24	11	<10	--	--	--
	06/10/11	--	151.80	9.79	5,100	4,500	34	11	42	240	<50	--	--	--
	09/13/11	**--**	**150.69**	**10.90**	**7,400**	**3,700**	**30**	**4.3**	**12**	**99**	**<10**	**--**	**--**	**0.23**
MW-9A	09/29/07	--	142.76	12.61	86	<50	2.6	<0.5	<0.5	<0.5	<5.0	--	--	--
(155.37)	12/27/07	--	143.51	11.86	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/15/08	--	143.35	12.02	<50	<50	0.85	<0.5	<0.5	<0.5	<5.0	--	--	--
	09/12/08	--	142.60	12.77	<50	<50	1.2	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/06/09	--	144.18	11.19	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	09/17/09	--	142.91	12.46	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/28/10	--	143.49	11.88	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	09/11/10	--	142.71	12.66	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/01/11	--	143.86	11.51	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	06/10/11	--	143.63	11.74	--	--	--	--	--	--	--	--	--	--
	09/13/11	**--**	**142.79**	**12.58**	**<50**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**	**--**	**--**	**0.42**
MW-10A	09/29/07	--	144.35	10.53	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
(154.88)	12/27/07	--	145.50	9.38	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/15/08	--	145.96	8.92	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	09/12/08	--	143.82	11.06	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/06/09	--	147.45	7.43	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	09/17/09	--	144.11	10.77	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/28/10	--	146.25	8.63	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	09/11/10	--	144.19	10.69	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/01/11	--	147.12	7.76	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	06/10/11	--	146.11	8.77	--	--	--	--	--	--	--	--	--	--
	09/13/11	**--**	**144.21**	**10.67**	**<50**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**	**--**	**--**	**0.42**

Table 1. Groundwater Analytical Data - Former Exxon Station, 5175 Broadway, Oakland, CA

Well ID *TOC Elev* *(ft)*	Date Sampled	SPH (ft)	Groundwater Elevation (ft)	Depth to Water (ft)	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DIPE	1,2-DCA	Dissolved Oxygen mg/L
					←				µg/L				→	
DEEP WELLS														
MW-1	04/30/89	--	--	--	--	200	18	5	2	12	--	--	--	--
(97.71)	05/17/90	--	88.45	9.26	--	--	--	--	--	--	--	--	--	--
	09/26/90	--	87.79	9.92	--	1,300	55	31	120	100	--	--	--	--
	01/14/91	--	88.17	9.54	--	3,100	350	83	86	130	--	--	--	--
(102.04)	07/03/91	--	92.62	9.42	--	580	32	41	40	55	--	--	--	--
	11/11/91	--	92.59	9.45	--	330	20	2	2	11	--	--	--	--
(101.83)	03/04/92	--	93.90	7.93	--	810	11	5	10	23	--	--	--	--
	06/02/92	--	92.85	8.98	--	2,200	93	32	40	120	--	--	--	--
	09/28/92	--	92.54	9.29	--	2,900	24	78	19	37	--	--	--	--
	01/11/93	--	94.27	7.56	--	1,700	5.7	6	11	28	--	--	--	--
	08/15/94	--	92.64	9.19	--	2,000	120	3	6	16	--	--	--	--
(97.50)	11/07/96	--	88.77	8.73	270	1,200	3	1.1	1.5	3.8	<0.5	--	--	--
	02/12/97	--	89.58	7.92	<50	1,800	13	5.7	4.8	17	<0.5	--	--	--
	06/16/97	--	88.46	9.04	<50	330	27	<0.5	<0.5	1.2	<0.5	--	--	--
	09/30/97	--	89.94	7.56	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--
(97.50)	01/27/98	--	89.54	7.96	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	04/24/98	--	89.52	7.98	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	08/17/98	--	88.52	8.98	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	11/16/98	--	88.60	8.90	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	02/16/99	--	88.86	8.64	<50	110	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	05/17/99	--	89.00	8.50	--	280	1.1	0.6	<0.5	<0.5	<0.5	--	--	--
	08/17/99	--	88.26	9.24	86	790	5.6	4.3	4.5	11	<5.0	--	--	--
	11/17/99	--	87.06	10.44	--	1,300	3.6	1.9	2.7	6.6	<1.0	--	--	--
	02/17/00	--	89.02	8.48	--	580	1.1	2.3	3.6	4.9	<5.0	--	--	--
	05/17/00	--	89.26	8.24	--	1,500	130	6.8	6.1	<5.0	<5.0	--	--	--
	08/17/00	--	88.73	8.77	--	550	160	<25	<25	<25	<25	--	--	--
	11/15/00	--	88.46	9.04	--	130	<5.0	<5.0	<5.0	<5.0	<5.0	--	--	--
	02/16/01	--	89.90	7.60	--	400	26	<5.0	<5.0	<5.0	<5.0	--	--	--
	01/11/02	--	89.42	8.08	160	600	74	53	14	52	110	--	--	--
(161.03)	07/01/02	--	152.01	9.02	280	670	25	<5.0	<5.0	<5.0	<5.0	--	--	--
	10/04/02	--	151.29	9.74	520	1,800	130	7.8	8.1	14	<5.0	--	--	--
	07/28/06	--	151.93	9.10	86	250	42	1.7	1.4	3.1	<1.0	51	1.5	0.21
	10/16/06	--	151.98	9.05	110	390	16	<0.5	1.5	2.2	<0.5	41	1.6	0.17
(161.10)	01/09/07	--	152.90	8.20	160	530	21	1.7	2.8	5.1	--	--	--	0.22
	03/26/07	--	152.84	8.26	--	--	--	--	--	--	--	--	--	--
	06/24/07	--	152.12	8.98	220	500	24	1.1	2.2	4.2	<5.0	--	--	--
	09/29/07	--	151.44	9.66	180	540	19	1.2	2.3	5.3	<5.0	--	--	--
	12/27/07	--	152.60	8.50	200	290	10	0.65	1.2	3.0	<5.0	--	--	--
	03/15/08	--	152.72	8.38	340	680	24	1.1	1.9	2.9	<10	--	--	--
	09/12/08	--	151.86	9.24	320	1,000	13	<0.5	0.61	1.4	<5.0	--	--	--
	03/06/09	--	154.40	6.70	2,700	2,500	28	3.2	4.8	10	<17	--	--	--
	09/17/09	--	151.67	9.43	170	300	4.4	<0.5	<0.5	2.3	<5.0	--	--	--
	03/28/10	--	153.05	8.05	290	1,000	16	1.2	1.1	4.2	<5.0	--	--	--
	09/11/10	--	151.50	9.60	190	270	6.9	<0.5	0.75	2.1	<5.0	--	--	--
	03/01/11	--	152.61	8.49	1,600	940	<0.5	<0.5	0.55	2.0	<5.0	--	--	--
	06/10/11	--	152.89	8.21	1,900	1,500	2.4	<0.5	0.84	7.9	<5.0	--	--	--
	09/13/11	--	**150.96**	**10.14**	**320**	**1,400**	**<0.5**	**<0.5**	**<0.5**	**6.3**	**<5.0**	--	--	**0.66**
MW-2C	03/09/07	--	152.24	8.41	140	450	40	9.3	2.9	16	<10	--	--	--
(160.65)	03/26/07	--	151.93	8.72	--	--	--	--	--	--	--	--	--	--
	06/24/07	--	151.21	9.44	160	440	30	1.8	5.9	7.4	<5.0	--	--	--

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Well ID *TOC Elev* *(ft)*	Date Sampled	SPH (ft)	Groundwater Elevation (ft)	Depth to Water (ft)	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DIPE	1,2-DCA	Dissolved Oxygen mg/L
					←				µg/L				→	
MW-2C	09/29/07	--	150.45	10.20	120	200	13	<0.5	<0.5	2.0	<5.0	--	--	--
(cont.)	12/27/07	--	151.42	9.23	83	190	13	0.83	<0.5	1.9	<5.0	--	--	--
	03/15/08	--	151.83	8.82	120	250	24	2.2	5.2	4.5	<5.0	--	--	--
	09/12/08	--	150.73	9.92	<50	130	7.1	<0.5	1.2	0.83	<5.0	--	--	--
	03/06/09	--	153.21	7.44	95	180	8.0	1.1	1.5	2.8	<5.0	--	--	--
	09/17/09	--	150.57	10.08	<50	64	4.3	<0.5	0.62	0.88	<5.0	--	--	--
	03/28/10	--	152.02	8.63	<50	94	4.6	<0.5	0.77	1.2	<5.0	--	--	--
	09/11/10	--	150.31	10.34	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/01/11	--	146.88	13.77	66	670	9.9	<0.5	0.92	0.58	<5.0	--	--	--
	06/10/11	--	150.19	10.46	--	--	--	--	--	--	--	--	--	--
	09/13/11	**--**	**140.39**	**20.26**	**<50**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**	**--**	**--**	**3.24**
MW-3C	03/26/07	--	151.15	10.64	--	--	--	--	--	--	--	--	--	--
(161.79)	04/16/07	--	150.87	10.92	36,000	32,000	1,200	710	600	1,900	<500	--	--	--
	06/24/07	--	149.43	12.36	200,000	50,000	2,200	4,100	860	6,100	<500	--	--	--
	09/29/07	--	148.33	13.46	48,000	37,000	1,700	3,300	830	4,800	<1,000	--	--	--
	12/27/07	--	149.79	12.00	29,000	28,000	590	900	630	2,000	<500	--	--	--
	03/15/08	--	150.70	11.09	21,000	36,000	1,500	2,400	570	3,700	<500	--	--	--
	09/12/08	--	148.37	13.42	11,000	40,000	1,100	1,200	600	3,000	<500	--	--	--
	03/06/09	--	152.04	9.75	13,000	31,000	860	420	540	2,200	<500	--	--	--
	09/17/09	--	148.59	13.20	14,000	37,000	1,400	690	400	4,300	<1,200	--	--	--
	03/28/10	--	151.15	10.64	10,000	28,000	1,200	540	750	3,200	<150	--	--	--
	09/11/10	--	148.48	13.31	13,000	24,000	850	390	550	3,100	<1,000	--	--	--
	03/01/11	--	148.27	13.52	19,000	22,000	450	110	600	1,500	<300	--	--	--
	06/10/11	--	147.89	13.90	530	780	7.6	3.4	2.7	16	<5.0	--	--	--
	09/13/11	**--**	**139.35**	**22.44**	**130**	**160**	**0.96**	**0.51**	**<0.5**	**0.99**	**<5.0**	**--**	**--**	**3.32**
MW-5B	03/09/07	--	146.42	15.08	59	140	1.3	0.77	<0.5	1.6	<5.0	--	--	--
(161.50)	03/26/07	--	148.88	12.62	--	--	--	--	--	--	--	--	--	--
	06/24/07	--	147.98	13.52	53	52	1.1	<0.5	<0.5	<0.5	<5.0	--	--	--
	09/29/07	--	146.60	14.90	<50	<50	0.95	<0.5	<0.5	<0.5	<5.0	--	--	--
	12/27/07	--	148.41	13.09	<50	58	1.4	<0.5	0.60	<0.5	<5.0	--	--	--
	03/15/08	--	148.95	12.55	<50	61	2.6	1.1	1.1	3.0	<5.0	--	--	--
	09/12/08	--	146.35	15.15	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/06/09	--	150.36	11.14	<50	67	2.0	1.4	1.3	3.3	<5.0	--	--	--
	09/17/09	--	146.94	14.56	<50	58	0.66	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/28/10	--	149.38	12.12	<50	110	2.7	0.78	<0.5	1.6	<5.0	--	--	--
	09/11/10	--	145.55	15.95	<50	110	0.56	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/01/11	--	149.53	11.97	97	120	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	06/10/11	--	148.26	13.24	--	--	--	--	--	--	--	--	--	--
	09/13/11	**--**	**147.08**	**14.42**	**<50**	**550**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**	**--**	**--**	**0.33**
MW-5C	03/09/07	--	148.12	12.91	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
(161.03)	03/26/07	--	148.41	12.62	--	--	--	--	--	--	--	--	--	--
	06/24/07	--	147.58	13.45	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	09/29/07	--	146.41	14.62	66	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	12/27/07	--	148.10	12.93	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/15/08	--	148.48	12.55	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	09/12/08	--	146.04	14.99	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/06/09	--	149.73	11.30	<50	<50	0.52	<0.5	<0.5	<0.5	<5.0	--	--	--
	09/17/09	--	146.60	14.43	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/28/10	--	148.68	12.35	<50	<50	1.3	<0.5	<0.5	<0.5	<5.0	--	--	--
	09/11/10	--	146.22	14.81	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--

Table 1. Groundwater Analytical Data - Former Exxon Station, 5175 Broadway, Oakland, CA

Well ID *TOC Elev* *(ft)*	Date Sampled	SPH (ft)	Groundwater Elevation (ft)	Depth to Water (ft)	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DIPE	1,2-DCA	Dissolved Oxygen mg/L
					←			µg/L					→	
MW-5C	03/01/11	--	148.95	12.08	66	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
(cont.)	06/10/11	--	147.51	13.52	--	--	--	--	--	--	--	--	--	--
	09/13/11	**--**	**146.31**	**14.72**	**<50**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**	**--**	**--**	**0.27**
MW-7B	03/09/07	--	147.97	11.18	930	18,000	1,500	1,600	140	1,800	<600	--	--	--
(159.15)	03/26/07	--	148.10	11.05	--	--	--	--	--	--	--	--	--	--
	06/24/07	--	147.54	11.61	40,000	30,000	1,800	2,400	240	2,800	<700	--	--	--
(159.02)	09/29/07	--	146.91	12.11	16,000	37,000	1,300	1,500	180	2,700	<500	--	--	--
	12/27/07	--	147.37	11.65	7,700	18,000	810	880	38	1,600	<50	--	--	--
	03/15/08	--	147.66	11.36	7,900	14,000	730	820	110	1,200	<250	--	--	--
	09/12/08	--	146.87	12.15	27,000	16,000	450	340	19	1,300	<120	--	--	--
	03/06/09	--	147.90	11.12	15,000	15,000	370	270	13	1,000	<150	--	--	--
	09/17/09	--	146.94	12.08	10,000	14,000	470	330	44	1,100	<170	--	--	--
	03/28/10	--	148.17	10.85	2,300	10,000	1,100	750	46	1,100	<300	--	--	--
	09/11/10	--	146.81	12.21	2,900	6,700	590	260	84	550	<210	--	--	--
	03/01/11	--	147.28	11.74	31,000	9,200	160	96	53	510	<50	--	--	--
	06/10/11	--	145.90	13.12	780	510	12	5.5	1.4	28	<5.0	--	--	--
	09/13/11							**Well Dry**						
MW-7C	03/09/07	--	145.44	13.09	190	3,600	970	100	12	90	<120	--	--	--
(158.53)	03/26/07	--	147.53	11.00	--	--	--	--	--	--	--	--	--	--
	06/24/07	--	146.65	11.88	7,100	16,000	510	520	190	1,300	<100	--	--	--
	09/29/07	--	146.21	12.32	11,000	29,000	580	1,400	600	4,800	<1,000	--	--	--
	12/27/07	--	146.74	11.79	56,000	29,000	250	410	430	3,300	<50	--	--	--
	03/15/08	--	147.45	11.08	7,000	13,000	170	58	170	1,300	<100	--	--	--
	09/12/08	--	146.02	12.51	2,600	7,600	260	38	76	330	<50	--	--	--
	03/06/09	--	147.65	10.88	1,900	4,600	140	21	15	93	<15	--	--	--
	09/17/09	--	146.23	12.30	2,200	7,000	830	38	23	90	<100	--	--	--
	03/28/10	--	147.32	11.21	940	4,500	<100	79	2.0	59	66	--	--	--
	09/11/10	--	145.77	12.76	350	1,100	73	3.6	2.0	5.2	<15	--	--	--
	03/01/11	--	146.11	12.42	1,400	6,800	130	9.6	3.1	8.0	<10	--	--	--
	06/10/11	--	143.45	15.08	190	90	0.77	1.1	<0.5	1.1	<5.0	--	--	--
	09/13/11							**Well Dry**						
MW-8C	03/09/07	--	149.18	12.15	<50	150	9.8	1.3	2.0	3.9	<5.0	--	--	--
(161.33)	03/26/07	--	149.56	11.77	--	--	--	--	--	--	--	--	--	--
	06/24/07	--	148.96	12.37	<50	<50	0.57	<0.5	<0.5	<0.5	<5.0	--	--	--
	09/29/07	--	148.35	12.98	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	12/27/07	--	149.84	11.49	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/15/08	--	149.94	11.39	<50	110	6.0	1.7	2.4	2.4	<5.0	--	--	--
	09/12/08	--	148.18	13.15	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/06/09	--	151.25	10.08	<50	<50	2.1	<0.5	0.87	0.76	<5.0	--	--	--
	09/17/09	--	148.63	12.70	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/28/10	--	149.94	11.39	<50	84	6.6	0.89	2.9	2.7	<5.0	--	--	--
	09/11/10	--	148.33	13.00	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/01/11	--	150.45	10.88	65	280	16	3.7	7.9	6.2	<10	--	--	--
	06/10/11	--	149.56	11.77	<50	110	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	09/13/11	**--**	**146.53**	**14.80**	**<50**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**	**--**	**--**	**3.07**

Table 1. Groundwater Analytical Data - Former Exxon Station, 5175 Broadway, Oakland, CA

Well ID *TOC Elev* *(ft)*	Date Sampled	SPH (ft)	Groundwater Elevation (ft)	Depth to Water (ft)	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DIPE	1,2-DCA	Dissolved Oxygen mg/L
					←				µg/L				→	
MW-9C	09/29/07	--	142.67	12.27	390	68	2.2	0.88	<0.5	<0.5	<5.0	--	--	--
(154.94)	12/27/07	--	143.40	11.54	<50	<50	0.84	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/15/08	--	143.98	10.96	<50	<50	0.55	<0.5	<0.5	<0.5	<5.0	--	--	--
	09/12/08	--	142.53	12.41	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/06/09	--	144.09	10.85	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	09/17/09	--	142.84	12.10	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/28/10	--	143.34	11.60	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	09/11/10	--	139.13	15.81	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	03/01/11	--	143.74	11.20	480	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	06/10/11	--	142.48	12.46	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	09/13/11	**--**	**142.11**	**12.83**	**<50**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**	**--**	**--**	**--**
REMEDIATION WELLS														
AS-1	10/04/09	--	--	11.38	--	<50	3.6	<0.5	<0.5	<0.5	<5.0	--	--	--
DPE-1	10/04/09	--	--	10.38	--	1,600	210	4.4	5.1	34	<35	--	--	--
DPE-2	10/04/09	--	--	11.33	--	8,000	590	220	92	760	<250	--	--	--
	03/01/11	--	--	16.10	14,000	12,000	360	130	96	1,700	<50	--	--	--
	06/10/11	--	--	12.41	3,100	3,300	24	40	16	340	<10	--	--	--
	09/13/11	**--**	**--**	**9.68**	**290**	**790**	**21**	**7.0**	**2.3**	**44**	**<30**	**--**	**--**	**0.34**
DPE-3	10/04/09	--	--	11.85	--	49,000	3,600	4,400	1,300	6,500	<2,500	--	--	--
	03/01/11	--	--	11.37	51,000	27,000	1,400	810	870	3,300	<700	--	--	--
	06/10/11	--	--	15.34	1,100	2,300	41	19	16	130	<15	--	--	--
	09/13/11	**--**	**--**	**17.91**	**25,000**	**4,800**	**12**	**13**	**9.1**	**180**	**<15**	**--**	**--**	**0.33**
DPE-4	10/04/09	--	--	11.50	--	31,000	1,200	2,900	530	4,700	<1,200	--	--	--
	03/01/11	--	--	13.88	5,100	5,600	68	100	42	350	<50	--	--	--
	06/10/11	--	--	11.07	280	280	1.6	4.2	2.5	25	<5.0	--	--	--
	09/13/11	**--**	**--**	**15.71**	**930**	**1,100**	**1.1**	**3.4**	**2.4**	**58**	**<5.0**	**--**	**--**	**0.29**
DPE-5	10/04/09	--	--	14.46	--	2,900	78	71	29	260	<50	--	--	--
DPE-6	10/04/09	--	--	11.05	--	1,800	6.7	5.2	2.6	34	<5.0	--	--	--
DESTROYED WELLS														
MW-2	04/30/89	--	--	--	--	230	39	18	5	23	--	--	--	--
(97.78)	05/17/90	--	87.78	10.00	--	--	--	--	--	--	--	--	--	--
	09/29/90	--	86.95	10.83	--	850	970	5	25	47	--	--	--	--
	01/14/91	--	87.15	10.63	--	3,100	30	52	24	34	--	--	--	--
(102.02)	07/03/91	--	91.94	10.08	--	1,590	30	52	24	34	--	--	--	--
	11/11/91	--	91.81	10.21	--	960	320	15	4	29	--	--	--	--
	03/04/92	--	93.32	8.70	--	1,500	9.5	8.4	9.8	22	--	--	--	--
	06/02/92	--	92.50	9.52	--	2,800	84	41	59	95	--	--	--	--
	09/28/92	--	91.93	10.09	--	1,600	47	20	47	97	--	--	--	--
	01/11/93	--	93.50	8.52	--	2,500	8.6	10	17	32	--	--	--	--
(97.49)	08/15/94	--	87.58	9.91	--	6,000	450	60	100	95	--	--	--	--
	11/07/96	--	87.47	10.02	780	4,200	25	4.9	8.1	14	<0.5	--	--	--
	02/12/97	--	88.58	8.91	5,700	1,800	16	3.1	3.4	8.8	<0.5	--	--	--
	06/16/97	--	87.74	9.75	<50	2,500	22	5.1	7.8	11	<0.5	--	--	--

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Well ID *TOC Elev* *(ft)*	Date Sampled	SPH (ft)	Groundwater Elevation (ft)	Depth to Water (ft)	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DIPE	1,2-DCA	Dissolved Oxygen mg/L
					←				µg/L				→	
MW-2	09/30/97	--	89.60	7.89	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--
(cont.)	01/27/98	--	89.11	8.38	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	04/24/98	--	88.81	8.68	1,400	2,100	18	6.5	4.8	21	<0.5	--	--	--
	08/17/98	--	87.75	9.74	<50	2,900	5.1	4.5	5.8	17	<0.5	--	--	--
	11/16/98	--	87.35	10.14	<50	1,400	2.1	1.9	2.3	4.8	<0.5	--	--	--
	02/16/99	--	88.57	8.92	<50	1,600	82	16	<2.5	40	59	--	--	--
	05/17/99	--	88.23	9.26	--	8,200	43	73	140	100	<250	--	--	--
	08/17/99	--	87.45	10.04	260	2,900	20	81	17	38	<5.0	--	--	--
	11/17/99	--	85.97	11.52	<50	2,600	7	3.7	5.3	12.9	<1.0	--	--	--
	02/17/00	--	87.99	9.50	--	1,700	3.2	6.8	11	12.3	<5.0	--	--	--
	05/17/00	--	88.65	8.84	--	3,800	450	65	110	80	<25	--	--	--
	08/17/00	--	88.99	8.50	--	4,300	440	<50	78	<50	<50	--	--	--
	11/15/00	--	87.55	9.94	--	5,800	320	41	78	64	<25	--	--	--
	02/16/01	--	88.97	8.52	--	2,200	110	20	38	33	<5.0	--	--	--
	01/11/02	--	88.67	8.82	620	3,100	280	86	84	110	<50	--	--	--
(160.98)	07/01/02	--	151.34	9.64	940	2,600	300	29	45	27	<10	--	--	--
	10/04/02	--	150.46	10.52	390	4,000	440	66	140	120	<25	--	--	--
	07/28/06	--	150.96	10.02	340	1,300	150	9.9	6	18	<0.5	3.6	<0.5	0.17
	10/16/06	--	150.45	10.53	76	150	16	1.0	3.5	2.2	<0.5	1.2	<0.5	0.19
	01/09/07	--	151.65	9.33	84	210	27	2.6	8.1	6.8	--	--	--	0.14
	01/25/07	--				Well Destroyed								
MW-3	04/30/90	--	--	--	--	56,000	3,600	8,600	1,300	7,200	--	--	--	--
(98.14)	05/17/90	--	85.72	12.42	--	--	--	--	--	--	--	--	--	--
	09/26/90	--	84.64	13.50	--	54,000	5,100	420	1,600	8,000	--	--	--	--
	01/14/91	--	85.56	12.58	--	35,000	2,600	6,600	1,500	5,700	--	--	--	--
(102.46)	07/03/91	--	90.38	12.08	--	33,000	4,120	4,300	1,400	4,800	--	--	--	--
	11/11/91	--	90.17	12.29	--	57,000	3,900	8,400	2,100	14,000	--	--	--	--
(102.18)	03/04/92	--	91.92	10.26	--	57,000	720	870	81	3,100	--	--	--	--
(97.94)	06/02/92	--	86.54	11.40	--	50,000	240	240	220	740	--	--	--	--
	09/28/92	--	85.30	12.64	--	64,000	110	93	97	250	--	--	--	--
	01/11/93	--	87.84	10.10	--	68,000	210	280	360	990	--	--	--	--
	08/15/94	--	85.74	12.20	--	50,000	870	1,200	1,300	3,000	--	--	--	--
	11/07/96	--	85.54	12.40	470	68,000	33	27	63	120	<0.5	--	--	--
	02/12/97	--	87.71	10.23	3,500	25,000	39	43	15	91	<0.5	--	--	--
	06/16/97	--	86.15	11.79	<50	9,700	26	29	45	81	<0.5	--	--	--
	09/30/97	--	88.54	9.40	1,600	6,000	43	36	12	11	<0.5	--	--	--
	01/27/98	--	88.14	9.80	560	380	5.7	4.1	1.7	9.1	<0.5	--	--	--
	04/24/98	--	88.04	9.90	680	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	08/17/98	--	86.48	11.46	<50	16,000	200	18	31	82	<0.5	--	--	--
	11/16/98	--	85.54	12.40	<50	68,000	86	54	69	130	<0.5	--	--	--
	02/16/99	--	87.22	10.72	<50	33,000	270	110	<5.0	770	170	--	--	--
	05/17/99	--	87.40	10.54	--	72,000	280	230	320	890	<250	--	--	--
	08/17/99	--	85.99	11.95	1,800	20,000	51	41	61	130	<5.0	--	--	--
	11/17/99	--	84.34	13.60	--	1,700	39	22	31	84	<1.0	--	--	--
	02/17/00	--	87.26	10.68	--	8,800	16	39	74	90	<5.0	--	--	--
MW-3	05/17/00	--	87.69	10.25	--	22,000	300	260	410	940	<5.0	--	--	--
(cont.)	08/17/00	--	86.10	11.84	--	15,000	230	140	470	750	<50	--	--	--
	11/15/00	--	86.12	11.82	--	12,000	250	210	390	700	<25	--	--	--
	02/16/01	--	88.26	9.68	--	7,400	40	72	700	250	<25	--	--	--
	01/11/02	--	88.36	9.58	1,900	9,300	230	200	290	580	<25	--	--	--
(161.43)	07/01/02	--	150.29	11.14	5,200	13,000	230	220	450	890	<13	--	--	--
	10/04/02	--	148.61	12.82	4,900	11,000	280	170	450	730	<25	--	--	--

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Well ID *TOC Elev* *(ft)*	Date Sampled	SPH (ft)	Groundwater Elevation (ft)	Depth to Water (ft)	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DIPE	1,2-DCA	Dissolved Oxygen mg/L
					←				µg/L				→	
MW-3	07/28/06	--		Not Sampled - Unable to locate well										
(cont.)	10/16/06	--		Not Sampled - Unable to locate well										
	01/09/07	--		Not Sampled - Unable to locate well										
	01/22/07	--	149.81	11.62	93,000	34,000	770	250	760	2,000	<1,000	--	--	--
	03/16/07	--					Well Destroyed							
STMW-4	07/03/91	--	92.58	11.00	--	3,100	610	62	39	150	--	--	--	--
(103.58)	11/11/91	--	92.50	11.08	--	3,600	990	15	2.6	180	--	--	--	--
(101.08)	03/04/92	--	91.64	9.44	--	5,000	35	20	22	71	--	--	--	--
(98.80)	06/02/92	--	88.48	10.32	--	13,000	140	45	63	210	--	--	--	--
	09/28/92	--	88.04	10.76	--	40,000	35	20	48	110	--	--	--	--
	01/11/93	--	89.52	9.28	--	24,000	26	88	92	280	--	--	--	--
	08/15/94	--	88.26	10.54	--	9,000	500	34	46	130	--	--	--	--
	11/07/96	--	88.43	10.37	180	13,000	40	2.9	7.8	19	<0.5	--	--	--
	02/12/97	--	89.44	9.36	5,700	5,300	95	5.3	5.9	18	<0.5	--	--	--
	06/16/97	--	88.40	10.40	<50	5,300	37	6.2	1.7	11	<0.5	--	--	--
	09/30/97	--	90.30	8.50	<50	2,700	42	7.7	5.7	26	<0.5	--	--	--
	01/27/98	--	89.90	8.90	300	3,000	60	17	12	49	<0.5	--	--	--
	04/24/98	--	89.30	9.50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	08/17/98	--	88.44	10.36	<50	29,000	36	24	59	160	<0.5	--	--	--
	11/16/98	--	88.24	10.56	<50	13,000	26	21	20	41	--	--	--	--
	02/16/99	--	89.16	9.64	<50	32,000	660	16	16	150	<100	--	--	--
	05/17/99	--	88.84	9.96	--	13,000	1600	30	45	78	<250	--	--	--
	08/17/99	--	88.16	10.64	990	12,000	260	22	33	72	<5.0	--	--	--
	11/17/99	--	86.78	12.02	--	7,900	21	12	17	40	<1.0	--	--	--
	02/17/00	--	89.48	9.32	--	4,900	8.9	21	38	50	<5.0	--	--	--
	05/17/00	--	89.15	9.65	--	9,600	840	<50	61	<50	<50	--	--	--
	08/17/00	--	88.46	10.34	--	5,100	680	<50	62	<50	<50	--	--	--
	11/15/00	--	88.28	10.52	--	3,900	640	<25	26	27	<25	--	--	--
	02/16/01	--	89.60	9.20	--	5,700	560	<25	<25	<25	<25	--	--	--
	01/11/02	--	89.22	9.58	930	4,900	560	59	25	<25	<250	--	--	--
(162.13)	07/01/02	--	151.85	10.28	6,700	6,700	470	18	32	45	<13	--	--	--
	10/04/02	--	151.05	11.08	2,900	13,000	590	26	65	110	<25	--	--	--
	07/28/06	0.04	151.53	10.60	39,000	25,000	960	21	73	130	<5.0	65	<5.0	0.22
	10/16/06	0.06	151.30	10.83	14,000	14,000	790	28	81	130	<5.0	30	<5.0	0.26
	01/09/07	0.03	152.20	9.93			Not Sampled - SPH							0.24
	01/26/07						Well Destroyed							0.24
STMW-5	07/03/91	--	88.70	13.29	--	690	99	81	19	98	--	--	--	--
(101.99)	11/11/91	--	87.99	14.00	--	410	61	2.4	1.4	20	--	--	--	--
(101.36)	03/04/92	--	89.56	11.80	--	460	13	6.5	11	18	--	--	--	--
	06/02/92	--	88.30	13.06	--	1,800	27	20	21	43	--	--	--	--
	09/28/92	--	87.32	14.04	--	1,500	14	6.1	18	22	--	--	--	--
	01/11/93	--	89.75	11.61	--	800	1.8	3	3.1	9.4	--	--	--	--
	08/15/94	--	87.51	13.85	--	3,000	320	62	34	220	--	--	--	--
(97.14)	11/07/96	--	83.47	13.67	330	1,200	11	1.7	4.4	13	<0.5	--	--	--
	02/17/97	--	85.07	12.07	3,700	1,000	11	17	1.7	9.7	<0.5	--	--	--
	06/19/97	--	83.81	13.33	2,300	950	7.4	1	1	7.2	<0.5	--	--	--
	09/30/97	--	85.90	11.24	1,100	710	5.8	4	1	1	<0.5	--	--	--
	01/27/98	--	85.50	11.64	1,100	340	2	1.8	1.6	8.2	<0.5	--	--	--

Table 1. Groundwater Analytical Data - Former Exxon Station, 5175 Broadway, Oakland, CA

Well ID *TOC Elev* *(ft)*	Date Sampled	SPH (ft)	Groundwater Elevation (ft)	Depth to Water (ft)	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DIPE	1,2-DCA	Dissolved Oxygen mg/L
					←				µg/L				→	
STMW-5	04/24/98	--	85.30	11.84	<50	3,300	12	9.4	8.5	37	<0.5	--	--	--
(cont.)	08/17/98	--	83.94	13.20	<50	5,300	26	17	14	39	<0.5	--	--	--
	11/16/98	--	83.40	13.74	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	02/16/99	--	84.92	12.22	<50	950	150	3.8	1.4	14	11	--	--	--
	05/17/99	--	84.56	12.58	--	2,800	67	9.4	<2.5	16	30	--	--	--
	08/17/99	--	83.66	13.48	230	2,800	18	17	18	36	<5.0	--	--	--
	11/17/99	--	82.26	14.88	--	1,600	3.9	2.3	3.2	7.5	<1.0	--	--	--
	02/17/00	--	84.58	12.56	--	770	1.5	3.2	5.8	7	<5.0	--	--	--
	05/17/00	--	85.06	12.08	--	4,500	<25	<25	<25	<25	<25	--	--	--
	08/17/00	--	83.58	13.56	--	2,900	170	64	100	250	<10	--	--	--
	11/15/00	--	83.86	13.28	--	2,100	120	24	40	54	<5.0	--	--	--
	02/16/01	--	85.54	11.60	--	850	58	9.8	9.4	18	<5.0	--	--	--
	01/11/02	--	85.42	11.72	<50	920	76	16	16	28	13	--	--	--
(160.65)	07/01/02	--	147.51	13.14	1,500	4,300	71	14	14	36	<5.0	--	--	--
	10/04/02	--	146.13	14.52	60	1,400	71	17	26	35	<5.0	--	--	--
	07/28/06	--	147.30	13.35	370	700	22	4.3	1.2	6.6	<0.5	<0.5	<0.5	0.24
	10/16/06	--	146.91	13.74	240	590	14	1.6	1.3	3.2	<0.5	<0.5	<0.5	0.21
	01/09/07	--	148.19	12.46	180	390	30	3.2	1.8	3.2	--	--	--	0.17
	01/18/07						Well Destroyed							
GRAB GROUNDWATER SAMPLING - 2007														
B-18	01/23/07	--	--	7.1	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--
B-19	03/19/07	--	--	4	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--
GRAB GROUNDWATER SAMPLING - 2006														
B1-W	02/01/06	--	--	9.5	<84	710	(0.52)	(0.59)	(<0.50)	(0.66)	<1.0	<5.0	<0.50	--
B3-W	02/08/06	--	--	9.63	<280	23,000	(3,300)	(660)	(170)	(910)	<50	380	<25	--
B4-W	02/08/06	--	--	8.24	--	9,700	(320)	(13)	(200)	(180)	<20	1,300	12	--
B5-W	02/08/06	--	--	6.96	--	10,000	(150)	(11)	(210)	(190)	<10	<50	<5.0	--
B6-W	02/06/06	--	--	12.1	--	5,600	(3.9)	(3.1)	(54)	(61)	<5.0	<25	<2.5	--
B7-W	02/08/06	--	--	11.72	--	8,000	(2,200)	(300)	(240)	(830)	<20	<100	53	--
B8-W	02/08/06	--	--	9.97	--	18,000	(330)	(53)	(440)	(1,200)	<20	<100	11	--
B10-W	02/06/06	--	--	13.3	--	6,800	(<5.0)	(5.7)	(170)	(69)	<10	<50	<5.0	--
B11-W	02/10/06	--	--	14.3	--	230,000	(13,000)	(19,000)	(960)	(20,000)	<200	<1,000	150	--
B12-W	02/03/06	--	--	7.92	--	460	(1.6)	(2.1)	(1.6)	(3.5)	<1.0	<5.0	0.62	--
B13-W	02/03/06	--	--	11.67	<60	1,700	(12)	(9.4)	(18)	(22)	<5.0	<25	<2.5	--
B14-W	02/06/06	--	--	13.1	--	38,000	(410)	(25)	(290)	(95)	<50	<250	<25	--
B15-W	02/01/06	--	--	8.75	<620	2,700	(3.2)	(2.7)	(22)	(4.3)	<5.0	<25	<2.5	--

Abbreviations:

µg/L = Micrograms per liter - approximately equal to parts per billion = ppb.

mg/L = Milligrams per liter - approximately equal to parts per million = ppm.

SPH = Separate-phase hydrocarbons encountered in well (value in parentheses is thickness in feet).

Groundwater elevation is calculated according to the relationship: groundwater elevation = TOC (elevation) - (depth to water) + (0.8)(SPH thickness).

TPHg = Total petroleum hydrocarbons as gasoline by EPA Method 8015Cm.

TPHd = Total petroleum hydrocarbons as diesel by EPA Method 8015C.

BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8021B.

MTBE = Methyl tertiary-butyl ether by EPA Method 8021B. (Concentrations in parentheses are by EPA Method 8260B).

DIPE = Diisopropyl ether by EPA Method 8260B.

1,2-DCA = 1,2-Dichloroethane by EPA Method 8260B.

Table 2 – Well Use and Construction Details–5175 Broadway, Oakland, CA

Well ID	Total Depth of Well (feet bgs)	Screened Interval (ft bgs)	Well Casing Nominal Diameter (inches)	Sand & Slot Size
DPE – Existing Wells				
MW-3A (DPE)	14	9-14	2	#2/12 – 0.01 Slot
MW-4A (DPE)	15	8-15	2	#2/12 – 0.01 Slot
MW-6A (DPE)	17	8-17	2	#2/12 – 0.01 Slot
MW-7B (DPE)	18.5	15.5-18.5	2	#2/12 – 0.01 Slot
MW-8A (DPE)	15	8-15	2	#2/12 – 0.01 Slot
DPE – New Wells				
DPE 1 – DPE 6	19 – 20	10-13/19-20	2	#2/12 – 0.01 Slot
AIR SPARGING – Existing Wells				
MW-1 (AS)	23	13-23	4	8x20 – 0.02 Slot
MW-2C (AS)	23	18-23	2	#2/12 – 0.01 Slot
MW-3C (AS)	27	22-27	2	#2/12 – 0.01 Slot
MW-5B (AS)	20	17-20	2	#2/12 – 0.01 Slot
MW-7C (AS)	25	20-25	2	#2/12 – 0.01 Slot
MW-8C (AS)	25	20-25	2	#2/12 – 0.01 Slot
AIR SPARGING –New Well				
AS-1	20	16-20	1	#2/12 – 0.01 Slot
GROUNDWATER MONITORING ONLY				
MW-5A	14	10-14	2	#2/12 – 0.01 Slot
MW-5C	27	22-27	2	#2/12 – 0.01 Slot
MW-9A	15.5	7.5-15.5	2	#2/12 – 0.01 Slot
MW-9C	21	17-21	2	#2/12 – 0.01 Slot
MW-10A	18	8-18	2	#2/12 – 0.01 Slot

bgs = below ground surface

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Table 3. SVE (DPE) Performance Data - 5175 Broadway, Oakland, CA

Date	Wells	Oxidizer Hr Meter Reading (hours)	Interval Time (days)	System Vapor Flow Rate (cfm)	Applied Vacuum ("Hg)	Lab Sample ID	Influent TPHg Data (ppmv)	Influent Benzene Data (ppmv)	Influent OVA Reading (ppmv)	Removal: SVE TPHg Removal Rate (lbs/day)	Removal: SVE Benzene Removal Rate (lbs/day)	Removal: Cumulative SVE TPHg Removal (lbs)	Removal: Cumulative SVE Benzene Removal (lbs)	Emission Reporting: Effluent TPHg Lab (ppmv)	Effluent Benzene Lab (ppmv)	TPHg Abatement Efficiency (lbs/day)	Benzene Abatement Efficiency (lbs/day)	Benzene Emission Rate (lbs/day)	Cumulative Vapor Flow (cf)	Notes
12/08/10	DPE-1, MW-3A, 4A, 8A	5040.8	0.0	65	22	INF-V	**1,300**	**6.4**	1,270	27.1	0.12	0.0	0	---	---	---	---	---	0	Startup Test
12/10/10	DPE-1, MW-3A, 4A, 8A	5051.8	0.5	65	22	---	900	5.7	916	18.8	0.11	8.6	0.05	---	---	---	---	---	42,900	Off. Start.
12/13/10	DPE-1, MW-3A, 4A, 8A	5120.8	2.9	93	20	INF-V	**430**	**1.7**	---	12.8	0.05	45.5	0.18	< **7.0**	< **0.077**	> **98.4**	> **95.5**	**0.002**	427,920	On.
12/22/10	DPE-1, MW-3A, 4A, 8A	5337.2	9.0	125	17	INF-V	**460**	**5.2**	758	18.4	0.19	211.8	1.89	---	---	---	---	---	2,050,920	On. Shutdown due to noise. Restart 12/29.
01/07/11	DPE-1, 4	5585.0	10.3	31	25	INF-V	**640**	**6.1**	1,000	6.4	0.06	277.5	2.46	---	---	---	---	---	2,511,828	Shutdown 1/14 due to noise. Restart 1/19.
02/02/11	DPE-1, 4	6019.4	18.1	31	18	INF-V	**1,200**	**6.1**	1,168	11.9	0.06	493.6	3.45	---	---	---	---	---	3,319,812	Off on arrival, restart. Add oil.
02/22/11	DPE-1, 2, 4, MW-4A	6490.1	19.6	30	18	INF-V	**370**	**1.8**	632	3.6	0.02	563.4	3.76	---	---	---	---	---	4,167,072	On. Add oil.
02/28/11	DPE-1, 2, 4, MW-4A	6633.6	6.0	30	26	---	370	1.8	---	3.6	0.02	584.7	3.85	---	---	---	---	---	4,425,372	On. Shutdown for GWM and restarted.
03/09/11	DPE-1, 2, 4, MW-4A	6797.1	6.8	86	18	INF-V	**77**	**0.12**	54	2.1	0.00	599.2	3.87	---	---	---	---	---	5,269,032	On.
03/15/11	DPE-1, 2, 4, MW-4A	6940.7	6.0	31	21	---	77	0.12	63	0.8	0.00	603.8	3.88	---	---	---	---	---	5,536,128	On.
03/16/11	DPE-2, 3, 4, MW-7B	6966.5	1.1	31	22	---	160	0.12	200	1.6	0.00	605.5	3.88	---	---	---	---	---	5,584,116	On.
03/21/11	DPE-2, 3, 4, MW-7B	7081.1	4.8	53	23	INF-V	**420**	**4.8**	760	7.1	0.07	639.6	4.23	---	---	---	---	---	5,948,544	Start Air Sparging (AS)
03/31/11	DPE-2, 3, 4, MW-7B	7131.3	2.1	98	26	---	350	3.5	603	11.0	0.10	662.6	4.57	---	---	---	---	---	6,243,720	Off. Install additional soundproofing. Restart.
04/06/11	DPE-2, 3, 4, MW-7B	7272.9	5.9	77	24	---	350	3.5	---	8.6	0.08	713.6	4.86	---	---	---	---	---	6,897,912	On. Optimize.
04/12/11	DPE-2, 3, 4, MW-7B	7293.0	0.8	73	17	---	350	3.5	---	8.2	0.07	720.5	5.07	---	---	---	---	---	6,985,950	Off on arrival, restart.
04/26/11	DPE-2, 3, 4, MW-7B, 8A	7626.9	13.9	130	20	INF-V	**240**	**2.5**	259	10.0	0.09	859.7	6.26	---	---	---	---	---	9,590,370	On.
05/04/11	DPE-2, 3, 4, MW-7B, 8A	7818.0	8.0	110	18	---	200	2.0	213	7.1	0.06	915.9	6.77	---	---	---	---	---	10,851,630	Off on arrival, restart.
05/24/11	DPE-2, 3, 4, MW-7B, 8A	8278.0	19.2	104	18	INF-V	**160**	**0.97**	235	5.3	0.03	1018.3	7.33	< **7.0**	< **0.077**	> **95.6**	> **92.1**	**0.002**	13,722,030	On. Add oil.
06/02/11	DPE-1,2,3,4, MW-4A,7B,8A	8488.2	8.8	90	18	---	100	0.50	130	2.9	0.01	1043.5	7.44	---	---	---	---	---	14,857,110	On.
06/06/11	DPE-1,2,3,4, MW-4A,7B,8A	8529.1	1.7	90	18	---	100	0.50	130	2.9	0.01	1048.5	7.47	---	---	---	---	---	15,077,970	Off on arrival. AS shutdown. Off on departure.
06/27/11	DPE-1,2,3,4, MW-4A,7B,8A	8661.0	5.5	90	18	---	100	0.50	130	2.9	0.01	1064.3	7.54	---	---	---	---	---	15,790,230	Off on arrival, blown fuse. Off on departure.
07/11/11	DPE-1,2,3,4, MW-4A,7B,8A	8730.7	2.9	90	18	---	90	0.40	116	2.6	0.01	1071.9	7.57	---	---	---	---	---	16,166,610	Off on arrival, overheating, restart.
07/18/11	DPE-1, 2, 3, MW-4A, 7B, 8A	8874.8	6.0	90	18	---	90	0.40	116	2.6	0.01	1087.5	7.63	---	---	---	---	---	16,944,750	Off on arrival, overheating, restart.
07/19/11	DPE-1, 2, 3, MW-4A, 7B, 8A	8876.3	0.1	87	19	---	100	0.50	127	2.8	0.01	1087.7	7.63	---	---	---	---	---	16,952,580	Off on arrival, overheating, restart.
07/21/11	DPE-1, 2, 3, MW-4A, 7B, 8A	8903.6	1.1	82	22	---	100	0.50	132	2.6	0.01	1090.7	7.65	---	---	---	---	---	17,087,060	Off on arrival, restart.
07/26/11	DPE-1, 3, 4, MW-4A, 7B	9020.9	4.9	75	19	---	100	0.50	117	2.4	0.01	1102.5	7.70	---	---	---	---	---	17,617,725	On.
07/28/11	DPE-1, 3, 4, MW-4A, 7B	9069.3	2.0	76	18	---	100	0.50	123	2.4	0.01	1107.4	7.72	---	---	---	---	---	17,839,010	On.
08/08/11	DPE-1, 3, 4, MW-4A, 7B	9216.3	6.1	79	19	---	100	0.50	131	2.5	0.01	1122.9	7.79	---	---	---	---	---	18,533,849	Off on arrival, restart.
08/18/11	DPE-1, 3, 4, MW-4A, 7B	9457.8	10.1	79	21	---	100	0.50	119	2.5	0.01	1148.4	7.91	---	---	---	---	---	19,678,559	On.
08/31/11	DPE-1, 3, 4, MW-4A, 7B	9579.9	5.1	97	15	---	50	0.50	53	1.6	0.01	1156.3	7.98	---	---	---	---	---	20,392,478	Off on arrival, overheating, restart.
09/22/11	DPE-1, 3, 4, MW-4A, 7B	9843.7	11.0	97	14	---	25	0.50	25	0.8	0.01	1164.9	8.13	---	---	---	---	---	21,927,794	Off on arrival, restart.
09/26/11	DPE-4, 5, MW-8A	9863.5	0.8	101	20	INF-V	**450**	**1.9**	427	14.5	0.06	1176.9	8.18	---	---	---	---	---	22,047,331	Off on arrival, restart.

Notes:
ALL = Wells DPE-1 through DPE-6, MW-3A, MW-4A, MW-7B and MW-8A
NA = not analyzed; NM = not measured; --- = not available
System data estimated when specific data not available.
cfm = actual cubic feet (cf) per minute based on anemometer readings (from vacuum side of vacuum pump during SVE). Flow rate is estimated on select days when anemometer measurements are anomalous (anemometer repair was required 2nd Qtr 2011).
ppmv = parts per million on volume to volume basis. Actual lab data shown in **bold.** Lab data estimated for dates without lab data to allow mass removal calculation.
lbs = Pounds
"Hg = Inches of mercury vacuum
SVE = Soil Vapor Extraction
OVA = Organic Vapor Analyzer (Horiba Model MEXA 324JU)
TPHg and Benzene Removal Rates = For dates where no laboratory analytical data was collected, the lab data is estimated based on prior lab data and OVA readings to calculate period and cumulative mass removal.
Hydrocarbon Removal/Emission Rate = Rate based on Bay Area Air Quality Management District's Manual of Procedures for Soil Vapor Extraction dated July 17, 1991.
Rate = lab concentration (ppmv) x system flowrate (scfm) x (1lb-mole/386 ft³) x molecular weight (86 lb/lb-mole for TPH-Gas hexane) x 1440 min/day x 1/1,000,000.

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Table 4. GWE (DPE) System Performance Summary - 5175 Broadway, Oakland, California

Well ID	Date	Totalizer Reading[1] (gallons)	Interval Flow Volume (gallons)	Interval Duration (days)	Average Flow Rate (gpm)	**TPHg** Concentration (ug/L)	**Benzene** Concentration (ug/L)	**MTBE** Concentration (ug/L)	TPHg Removed (Lbs)	Benzene Removed (Lbs)	MTBE Removed (Lbs)	Comments
System	12/08/10	0	0	0	--	---	---	---	0.000	0.000	0.000	System startup testing, water not discharged to sewer yet.
Influent	12/10/10	248	248	2	0.09	---	---	---	0.000	0.000	0.000	Off; restart.
	12/14/10	1,120	872	4	0.15	**300**	**4.6**	**ND (<5.0)**	0.002	0.000	0.000	Startup water sampling of influent (12/14)
	12/22/10	3,585	2,465	8	0.21	---	---	---	0.006	0.000	0.000	On. Shutdown due to noise, restarted 12/29.
	01/07/11	7,622	4,037	16	0.18	---	---	---	0.010	0.000	0.000	On. System off 1/14 due to noise, restart 1/19.
	02/02/11	16,840	9,218	26	0.25	**1,300**	**52**	**ND (<10)**	0.100	0.004	0.000	Off on arrival; add oil and restart.
	02/22/11	25,427	8,587	20	0.30	**680**	**8.4**	**ND (<5.0)**	0.049	0.001	0.000	On. Add more oil.
	02/28/11	28,855	3,428	6	0.40	---	---	---	0.019	0.000	0.000	On. Shutdown for GWM and restarted.
	03/09/11	31,981	3,126	9	0.24	---	---	---	0.018	0.000	0.000	On.
	03/15/11	34,398	2,417	6	0.28	---	---	---	0.014	0.000	0.000	On.
	03/16/11	34,961	563	1	0.39	---	---	---	0.003	0.000	0.000	On.
	03/31/11	36,763	1,802	15	0.08	---	---	---	0.010	0.000	0.000	Off. Add more soundproffing and restart.
	04/06/11	39,571	2,808	6	0.33	---	---	---	0.016	0.000	0.000	On.
	04/12/11	39,671	100	6	0.01	**240**	**4.8**	**ND (<5.0)**	0.000	0.000	0.000	See NOTE below.
	04/26/11	41,195	1,524	14	0.08	---	---	---	0.003	0.000	0.000	On.
	05/04/11	41,703	508	8	0.04	---	---	---	0.001	0.000	0.000	Off. Pump overheating. Restart
	05/24/11	42,965	1,262	20	0.04	**66**	**0.92**	**ND (<5.0)**	0.001	0.000	0.000	Off. Restart
	06/02/11	43,908	943	9	0.07	---	---	---	0.001	0.000	0.000	On.
	06/06/11	47,392	3,484	4	0.60	---	---	---	0.002	0.000	0.000	Off on arrival; restart. Off on departure
	07/13/11	48,851	1,459	37	0.03	---	---	---	0.001	0.000	0.000	Off on arrival; restart.
	07/21/11	51,271	2,420	8	0.21	---	---	---	0.001	0.000	0.000	Off. Restart.
	07/26/11	53,411	2,140	5	0.30	**68**	**0.51**	**ND (<5.0)**	0.001	0.000	0.000	On.
	07/28/11	54,069	658	2	0.23	---	---	---	0.000	0.000	0.000	On.
	08/08/11	55,829	1,760	11	0.11	---	---	---	0.001	0.000	0.000	Off. Restart.
	08/18/11	60,036	4,207	10	0.29	---	---	---	0.002	0.000	0.000	On.
	08/31/11	61,771	1,735	13	0.09	---	---	---	0.001	0.000	0.000	Off. Restart.
	09/22/11	65,179	3,408	22	0.11	---	---	---	0.002	0.000	0.000	Off. Restart.
	09/26/11	65,389	210	4	0.04	---	---	---	0.000	0.000	0.000	Off. Restart.
									0.264	**0.006**	**0.000**	**Total Cumulative Removal (Lbs)**
System Midpoint	04/12/11	---	---	---	---	**ND (<50)**	**ND (<0.5)**	**ND (<5.0)**	---	---	---	See NOTE below.
	05/24/11	---	---	---	---	**ND (<50)**	**ND (<0.5)**	**ND (<5.0)**	---	---	---	
	07/26/11	---	---	---	---	**ND (<50)**	**ND (<0.5)**	**ND (<5.0)**	---	---	---	
System Effluent	12/08/10	---	---	---	---	---	---	---	---	---	---	
	12/14/10	---	---	---	---	**ND (<50)**	**ND (<0.5)**	**ND (<5.0)**	---	---	---	Startup water sampling of effluent (12/14)
	02/22/11	---	---	---	---	**ND (<50)**	**ND (<0.5)**	**ND (<5.0)**	---	---	---	
	05/24/11	---	---	---	---	**ND (<50)**	**ND (<0.5)**	**ND (<5.0)**	---	---	---	
	07/26/11	---	---	---	---	**ND (<50)**	**ND (<0.5)**	**ND (<5.0)**	---	---	---	

Discharge Limits (ug/L):	***5***	***5***	***5***	***5***
	Benzene	***Toluene***	***Ethylbenzene***	***Total Xylenes***

ABBREVIATIONS AND NOTES:

NOTE = Based on previous and subsequent analytical results Pangea switched the 4/12/11 analyltical results for System Influent and Midpoint. Pangea suspects that the samples were accidently switched by the lab or mislabeled by the technician.

1 = Initial totalizer reading was 23,559. Therefore, shown reading above 0 is actual reading minus 23,559. The 12/10/10 reading of 23,807 less 23,559 equals 248 gallons discharged.

gpm = Gallons per minute

TPHd = Total Petroleum Hydrocarbon as Diesel analyzed by EPA Method 8015B with silica gel cleanup

TPHg = Total Petroleum Hydrocarbon as Gasoline analyzed by EPA Method 8015B

Benzene analyzed by EPA Method 8021B

MTBE = Methyl tertiary butyl ether analyzed by EPA Method 8021 Cm

Toulene, Ethylbenzene and Total Xylenes analyzed by EPA Method 8015B

-- = not measured/not available

* Estimated contaminant mass calculated by multiplying average concentration detected during period (Table 1) by volume of extracted groundwater. Uses most recent lab data.

**Unless noted Toulene, Ethylbenzene and Total Xylenes non-detect (<0.5)

APPENDIX A

Groundwater Monitoring Program

Table A. Quarterly Groundwater Monitoring Program During Active Remediation

Rockridge Heights, 5175 Broadway, Oakland, CA

Well ID	Well Type	Screened Interval (ft bgs)	Well Location for Monitoring	Casing Diam. (in)	Gauge Frequency	Sample Frequency[1]
Shallow Wells						
MW-3A	Mon + DPE	9-14	Downgradient (Onsite)	2	Q	Q
MW-4A	Mon + DPE	8-15	NE Corner, Upgradient (Onsite)	2	Q	Q
MW-5A	Mon	10-14	SW Corner, Downgradient (Onsite)	2	Q	A
MW-6A	Mon + DPE	8-17	Source Area, Upgradient (Onsite)	2	Q	A
MW-8A	Mon + DPE	8-15	W Boundary, Downgradient (Onsite)	2	Q	Q
MW-9A	Mon	7.5-15.5	Downgradient (Offsite)	2	Q	A
MW-10A	Mon	7.5-15.5	Downgradient (Offsite)	2	Q	A
Deep Wells						
MW-1	Mon + AS	13-23	N Boundary, Upgradient (Onsite)	2	Q	Q
MW-2C	Mon + AS	18-23	E Boundary, Downgradient (Onsite)	2	Q	A
MW-3C	Mon + AS	22-27	Source Area, Downgradient (Onsite)	2	Q	Q
MW-5B	Mon + AS	17-20	SW Corner, Downgradient (Onsite)	2	Q	A
MW-5C	Mon	22-27	SW Corner, Downgradient (Onsite)	2	Q	A
MW-7B	Mon + DPE	15.5-18.5	SE Corner, Downgradient (Onsite)	2	Q	Q
MW-7C	Mon + AS	20-25	SE Corner, Downgradient (Onsite)	2	Q	Q
MW-8C	Mon + AS	20-25	W Boundary, Crossgradient (Onsite)	2	Q	Q
MW-9C	Mon	17-21	Downgradient (Offsite)	2	Q	Q
AS-1	AS	16-20	NE Corner, Upgradient (Onsite)	1	---	---
DPE-1	DPE	9-19	NE Corner, Upgradient (Onsite)	4	---	---
DPE-2	DPE	9-19	E Boundary, Downgradient (Onsite)	4	Q	Q
DPE-3	DPE	10-20	S Boundary, Downgradient (Onsite)	4	Q	Q
DPE-4	DPE	13-18	Source Area, Downgradient (Onsite)	4	Q	Q
DPE-5	DPE	9-19	W Boundary, Crossgradient (Onsite)	4	---	---
DPE-6	DPE	14-19	Source Area (Onsite)	4	---	---

Notes and Abbreviations:

1= Sample Analytes: Total Petroleum Hydrocarbons as Gasoline (TPHg), benzene, toluene, ethylbenzene, xylenes (BTEX) and methyl tertiary butyl ether (MTBE) by EPA Method 8015Cm/8021B and Total Petroleum Hydrocarbons as Diesel (TPHd) by EPA Method 8015C with silica gel clean-up.

Q = Quarterly (Typically March, June, September and December)

A = Annually (Typically September)

Mon = Groundwater Monitoring Well

N, S, W, E = Cardinal directions North, South, West, East and other directions (e.g., Northeast = NE)

DPE = Dual Phase Extraction Well

AS = Air Sparge Well

APPENDIX B

Groundwater Monitoring Field Data Sheets

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Well Gauging Data Sheet

Project.Task #: 1045.001.228	Project Name: Rockridge Heights
Address: 5175 Broadway, Oakland, CA	Date:9-13-11
Name: Steve Hunter	Signature:

Well ID	Well Size (in.)	Time	Depth to Immiscible Liquid (ft)	Thickness of Immiscible Liquid (ft)	Depth to Water (ft)	Total Depth (ft)	Measuring Point
MW-1	2"	1104	—	—	10.14	22.82	TOC
MW-2C	2"	1034	—	—	20.26	23.51	
MW-3A	2"	1115	—	—	10.62	13.83	
MW-3C	2"	1117	—	—	22.44	26.84	
MW-4A	2"	1027	—	—	14.17	14.76	
MW-5A	2"	1013	—	—	12.52	13.64	
MW-5B	2"	1018	—	—	14.42	19.32	
MW-5C	2"	1016	—	—	14.72	26.83	
MW-6A	2"	1030	—	—	9.91	14.95	
MW-7B	2"	1041	—	—	Dry	18.30	
MW-7C	2"	1046	—	—	Dry	24.16	

Comments: System shut down at 0730. Wells opened 1 hour before monitoring.

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Well Gauging Data Sheet

Project.Task #: 1045.001.228	Project Name: Rockridge Heights
Address: 5175 Broadway, Oakland, CA	Date:9-13-11
Name: Steve Hunter	Signature:

Well ID	Well Size (in.)	Time	Depth to Immiscible Liquid (ft)	Thickness of Immiscible Liquid (ft)	Depth to Water (ft)	Total Depth (ft)	Measuring Point
MW-8A	2"	1057	–	–	10.90	14.60	TOC
MW-8C	2"	1037	–	–	14.30	24.21	
DPE-2	4"	1111	–	–	9.68	19.26	
DPE-3	4"	1049	–	–	17.91	19.45	
DPE-4	4"	1120	–	–	15.71	16.78	
MW-9A	2"	1007	–	–	12.58	15.31	
MW-9C	2"	1011	–	–	12.83	20.56	
MW-10A	2"	1003	–	–	10.07	18.06	

Comments:

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MONITORING FIELD DATA SHEET

Well ID: MW-1

Project.Task #:1145.001.228	Project Name: Rockridge Heights			
Address: 5175 Broadway, Oakland, CA				
Date: 9-14-11	Weather: Clear			
Well Diameter: 2"	Volume/ft.	1" = 0.04	3" = 0.37	6" = 1.47
		2" = 0.16	4" = 0.65	radius^2 * 0.163
Total Depth (TD): 22.82	Depth to Product:			
Depth to Water (DTW): 10.14	Product Thickness:			
Water Column Height: 12.68	1 Casing Volume: 2 gallons			
Reference Point: N.T.O.C.	3 Casing Volumes: 6 gallons			
Purging Device: Disposable Bailer				
Sampling Device: Disposable Bailer				

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
1453					0.06		0	
1458	20.9	7.36	940			-202	2	
1503	20.6	7.21	953			-163	4	
1507	20.5	7.23	962			-151	6	

Comments:

Sample ID: MW-1	Sample Time: 1520
Laboratory: McCampbell	Sample Date: 9-14-11
Containers/Preservative: 3 Voas (HCL), 1-One Liter Ambers (HCL)	
Analyzed for: TPHg/BTEX/MTBE(8015Cm/8021),TPHd (8015C) with silica gel clean-up	
Sampler Name: Steve Hunter	Signature: Steve Hunter

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MONITORING FIELD DATA SHEET

Well ID: MW-2C

Project.Task #:1145.001.228	Project Name: Rockridge Heights
Address: 5175 Broadway, Oakland, CA	
Date: 9-13-11	Weather : Clear
Well Diameter: 2"	Volume/ft. 1" = 0.04 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 6" = 1.47 | radius^2 * 0.163
Total Depth (TD): 23.51	Depth to Product:
Depth to Water (DTW): 20.26	Product Thickness:
Water Column Height: 3.25	1 Casing Volume: 0.52 gallons
Reference Point: N.T.O.C.	3 Casing Volumes: 1.5 gallons
Purging Device: Disposable Bailer	
Sampling Device: Disposable Bailer	

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
1551					3.24		0	
1556	19.6	6.97	1097			-47	0.5	
1600	19.3	6.81	1103			-61	1.0	
1606	19.1	6.83	1111			-66	1.5	

Comments:

Sample ID: MW-2C	Sample Time: 1625
Laboratory: McCampbell	Sample Date: 9-13-11
Containers/Preservative: 3 Voas (HCL), 1-One Liter Ambers (HCL)	
Analyzed for:TPHg/BTEX/MTBE(8015Cm/8021),TPHd (8015C) with silica gel clean-up	
Sampler Name: Steve Hunter	Signature:

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MONITORING FIELD DATA SHEET

Well ID: MW-3A

Project.Task #:1145.001.228	Project Name: Rockridge Heights
Address: 5175 Broadway, Oakland, CA	
Date: 9-14-11	Weather: Clear
Well Diameter: 2"	Volume/ft. 1" = 0.04; 2" = 0.16; 3" = 0.37; 4" = 0.65; 6" = 1.47; radius^2 * 0.163
Total Depth (TD): 13.83	Depth to Product:
Depth to Water (DTW): 10.62	Product Thickness:
Water Column Height: 3.21	1 Casing Volume: ~~0.5~~ 0.5 gallons
Reference Point: N.T.O.C.	3 Casing Volumes: ~~1.5~~ 1.5 gallons
Purging Device: Disposable Bailer	
Sampling Device: Disposable Bailer	

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
1315					~~0.36~~		0	
1316	19.3	7.15	1228			-50	~~0.5~~	
1320	19.1	7.06	1239			-47	1	
1325	19.1	7.09	1246			-43	~~1.5~~	

Comments:

Sample ID: MW-3A	Sample Time: 1330
Laboratory: McCampbell	Sample Date: 9-14-11
Containers/Preservative: 3 Voas (HCL), 1-One Liter Ambers (HCL)	
Analyzed for: TPHg/BTEX/MTBE(8015Cm/8021),TPHd (8015C) with silica gel clean-up	
Sampler Name: Steve Hunter	Signature:

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MONITORING FIELD DATA SHEET

Well ID: MW-3C

Project.Task #:1145.001.228	Project Name: Rockridge Heights			
Address: 5175 Broadway, Oakland, CA				
Date: 9-14-11	Weather : Clear			
Well Diameter: 2"	Volume/ft.	1" = 0.04	3" = 0.37	6" = 1.47
		2" = 0.16	4" = 0.65	radius^2 * 0.163
Total Depth (TD): 26.84	Depth to Product:			
Depth to Water (DTW): 22.44	Product Thickness:			
Water Column Height: 4.40	1 Casing Volume: 0.70 gallons			
Reference Point: N.T.O.C.	3 Casing Volumes: 2.5 gallons			
Purging Device: Disposable Bailer				
Sampling Device: Disposable Bailer				

3.32

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
1343					~~3.32~~		0	
1347	20.1	7.57	948			42	1	
1351	19.6	7.41	~~951~~ 951			45	2	
1355	19.3	7.38	956			47	2.5	

Comments:

Sample ID: MW-3C	Sample Time: 1405
Laboratory: McCampbell	Sample Date: 9-14-11
Containers/Preservative: 3 Voas (HCL), 1-One Liter Ambers (HCL)	
Analyzed for:TPHg/BTEX/MTBE(8015Cm/8021),TPHd (8015C) with silica gel clean-up	
Sampler Name: Steve Hunter	Signature:

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MONITORING FIELD DATA SHEET

Well ID: MW-4A

Project.Task #:1145.001.228	Project Name: Rockridge Heights
Address: 5175 Broadway, Oakland, CA	
Date: 9-14-11	Weather : overcast
Well Diameter: 2"	Volume/ft. 1" = 0.04 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 6" = 1.47 | radius^2 * 0.163
Total Depth (TD): 14.76	Depth to Product:
Depth to Water (DTW): 14.17	Product Thickness:
Water Column Height:	1 Casing Volume: gallons
Reference Point: N.T.O.C.	3 Casing Volumes: gallons
Purging Device: Disposable Bailer	
Sampling Device: Disposable Bailer	

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
1038	19.0	6.93	936		0.48	-72	0	

Comments: Insufficient water to purge. No purge sample taken

Sample ID: MW-4A	Sample Time: 1040
Laboratory: McCampbell	Sample Date: 9-14-11
Containers/Preservative: 3 Voas (HCL), 1-One Liter Ambers (HCL)	
Analyzed for:TPHg/BTEX/MTBE(8015Cm/8021),TPHd (8015C) with silica gel clean-up	
Sampler Name: Steve Hunter	Signature:

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MONITORING FIELD DATA SHEET

Well ID: MW-5A

Project.Task #:1145.001.228	Project Name: Rockridge Heights			
Address: 5175 Broadway, Oakland, CA				
Date: 9-13-11	Weather : Clear			
Well Diameter: 2"	Volume/ft.	1" = 0.04	3" = 0.37	6" = 1.47
		2" = 0.16	4" = 0.65	radius^2 * 0.163
Total Depth (TD): 13.64	Depth to Product:			
Depth to Water (DTW): 12.52	Product Thickness:			
Water Column Height: 1.12	1 Casing Volume: 0.18 gallons			
Reference Point: N.T.O.C.	3 Casing Volumes: 0.5 gallons			
Purging Device: Disposable Bailer				
Sampling Device: Disposable Bailer				

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
1235	20.5	6.80	1811		0.36	-42	Ø	

Comments: Insufficient Water to purge. No purge sample taken.

Sample ID: MW-5A	Sample Time: 1241
Laboratory: McCampbell	Sample Date: 9-13-11
Containers/Preservative: 3 Voas (HCL), 1-One Liter Ambers (HCL)	
Analyzed for:TPHg/BTEX/MTBE(8015Cm/8021),TPHd (8015C) with silica gel clean-up	
Sampler Name: Steve Hunter	Signature:

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MONITORING FIELD DATA SHEET

Well ID: MW-5B

Project.Task #:1145.001.228	Project Name: Rockridge Heights
Address: 5175 Broadway, Oakland, CA	
Date: 9-13-11	Weather: Clear
Well Diameter: 2"	Volume/ft. 1" = 0.04, 2" = 0.16, 3" = 0.37, 4" = 0.65, 6" = 1.47, radius^2 * 0.163
Total Depth (TD): 19.32	Depth to Product:
Depth to Water (DTW): 14.42	Product Thickness:
Water Column Height: 4.90	1 Casing Volume: 0.78 gallons
Reference Point: N.T.O.C.	3 Casing Volumes: 2.5 gallons
Purging Device: Disposable Bailer	
Sampling Device: Disposable Bailer	

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
1342					0.33			
1348	18.9	6.90	993			-55	1	
1353	19.1	6.87	991			-60	2	
1359	19.0	6.85	985			-61	2.5	

Comments:

Sample ID: MW-5B	Sample Time: 1410
Laboratory: McCampbell	Sample Date: 9-13-11
Containers/Preservative: 3 Voas (HCL), 1-One Liter Ambers (HCL)	
Analyzed for: TPHg/BTEX/MTBE(8015Cm/8021), TPHd (8015C) with silica gel clean-up	
Sampler Name: Steve Hunter	Signature: Steve Hunter

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MONITORING FIELD DATA SHEET

Well ID: MW-5C

Project.Task #:1145.001.228	Project Name: Rockridge Heights
Address: 5175 Broadway, Oakland, CA	
Date: 9-13-11	Weather : Clear
Well Diameter: 2 "	Volume/ft. 1" = 0.04 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 6" = 1.47 | radius^2 * 0.163
Total Depth (TD): 26.83	Depth to Product:
Depth to Water (DTW): 14.72	Product Thickness:
Water Column Height: 12.11	1 Casing Volume: 2 gallons
Reference Point: N.T.O.C.	3 Casing Volumes: 6 gallons
Purging Device: Disposable Bailer	
Sampling Device: Disposable Bailer	

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
1257					0.27			
1302	13.5	6.68	1792			-9	2	
1307	13.1	6.66	1814			19	4	
1312	13.0	6.65	1809			11	6	

Comments:

Sample ID: MW-5C	Sample Time: 1325
Laboratory: McCampbell	Sample Date: 9-13-11
Containers/Preservative: 3 Voas (HCL), 1-One Liter Ambers (HCL)	
Analyzed for:TPHg/BTEX/MTBE(8015Cm/8021),TPHd (8015C) with silica gel clean-up	
Sampler Name: Steve Hunter	Signature:

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MONITORING FIELD DATA SHEET

Well ID: MW-6A

Project.Task #:1145.001.228	Project Name: Rockridge Heights
Address: 5175 Broadway, Oakland, CA	
Date: 9-14-11	Weather : overcast
Well Diameter: 2"	Volume/ft. 1" = 0.04 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 6" = 1.47 | radius^2 * 0.163
Total Depth (TD): 14.95	Depth to Product:
Depth to Water (DTW): 9.91	Product Thickness:
Water Column Height: 5.04	1 Casing Volume: 1 gallons
Reference Point: N.T.O.C.	3 Casing Volumes: 3 gallons
Purging Device: Disposable Bailer	
Sampling Device: Disposable Bailer	

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
1053					0.23		6	
1058	19.9	7.36	936			6	1	
1102	19.7	7.40	941			5	2	
1105	19.8	7.42	978			2	3	

Comments:

Sample ID: MW-6A	Sample Time: 1111
Laboratory: McCampbell	Sample Date: 9-14-11
Containers/Preservative: 3 Voas (HCL), 1-One Liter Ambers (HCL)	
Analyzed for:TPHg/BTEX/MTBE(8015Cm/8021),TPHd (8015C) with silica gel clean-up	
Sampler Name: Steve Hunter	Signature:

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MONITORING FIELD DATA SHEET

Well ID: MW-8A

Project.Task #:1145.001.228	Project Name: Rockridge Heights
Address: 5175 Broadway, Oakland, CA	
Date: 9-13-11	Weather : Clear
Well Diameter: 2"	Volume/ft. 1" = 0.04 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 6" = 1.47 | radius^2 * 0.163
Total Depth (TD): 14.60	Depth to Product:
Depth to Water (DTW): 10.90	Product Thickness:
Water Column Height: 3.70	1 Casing Volume: 0.60 gallons
Reference Point: N.T.O.C.	3 Casing Volumes: 2 gallons
Purging Device: Disposable Bailer	
Sampling Device: Disposable Bailer	

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
1421					0.23		0	
1428	18.7	7.03	1436			41	1	
1435	18.9	6.99	1492			58	1.5	
1442	18.6	6.93	1503			56	2	

Comments:

Sample ID: MW-8A	Sample Time: 1455
Laboratory: McCampbell	Sample Date: 9-13-11
Containers/Preservative: 3 Voas (HCL), 1-One Liter Ambers (HCL)	
Analyzed for:TPHg/BTEX/MTBE(8015Cm/8021),TPHd (8015C) with silica gel clean-up	
Sampler Name: Steve Hunter	Signature:

Pangea
ENVIRONMENTAL SERVICES, INC.

MONITORING FIELD DATA SHEET

Well ID: MW-8C

Project.Task #:1145.001.228	Project Name: Rockridge Heights			
Address: 5175 Broadway, Oakland, CA				
Date: 9-13-11	Weather : Clear			
Well Diameter: 2"	Volume/ft.	1" = 0.04	3" = 0.37	6" = 1.47
		2" = 0.16	4" = 0.65	radius^2 * 0.163
Total Depth (TD): ~~14.80~~ 24.21	Depth to Product:			
Depth to Water (DTW): 14.80	Product Thickness:			
Water Column Height: 9.41	1 Casing Volume: 1.5 gallons			
Reference Point: N.T.O.C.	3 Casing Volumes: 4.5 gallons			
Purging Device: Disposable Bailer				
Sampling Device: Disposable Bailer				

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
1507					3.07		0	
1513	19.1	6.87	1035			90	1.5	
1519	19.0	6.93	1111			83	3	
1524	19.0	6.98	1127			71	4.5	

Comments:

Sample ID: MW-8C	Sample Time: 1535
Laboratory: McCampbell	Sample Date: 9-13-11
Containers/Preservative: 3 Voas (HCL), 1-One Liter Ambers (HCL)	
Analyzed for:TPHg/BTEX/MTBE(8015Cm/8021),TPHd (8015C) with silica gel clean-up	
Sampler Name: Steve Hunter	Signature:

Pangea
ENVIRONMENTAL SERVICES, INC.

MONITORING FIELD DATA SHEET

Well ID: DPE-2

Project.Task #:1145.001.228	Project Name: Rockridge Heights
Address: 5175 Broadway, Oakland, CA	
Date: 9-14-11	Weather : overcast
Well Diameter: 4"	Volume/ft. 1" = 0.04 | 3" = 0.37 | 6" = 1.47 | 2" = 0.16 | 4" = 0.65 | radius^2 * 0.163
Total Depth (TD): 19.26	Depth to Product:
Depth to Water (DTW): 9.68	Product Thickness:
Water Column Height: 9.58	1 Casing Volume: 1.53 gallons
Reference Point: N.T.O.C.	3 Casing Volumes: 4.5 gallons
Purging Device: Disposable Bailer	
Sampling Device: Disposable Bailer	

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
1233					0.31		0	
1237	~~19.5~~	7.00	1149			-131	1.5	
1245	19.3	6.97	1153			-104	3	
1250	19.1	6.98	1157			-96	4.5	

Comments:

Sample ID: DPE-2	Sample Time: 1305
Laboratory: McCampbell	Sample Date: 9-14-11
Containers/Preservative: 3 Voas (HCL), 1-One Liter Ambers (HCL)	
Analyzed for:TPHg/BTEX/MTBE(8015Cm/8021),TPHd (8015C) with silica gel clean-up	
Sampler Name: Steve Hunter	Signature:

Pangea
ENVIRONMENTAL SERVICES, INC.

MONITORING FIELD DATA SHEET

Well ID: DPE-3

Project.Task #:1145.001.228	Project Name: Rockridge Heights
Address: 5175 Broadway, Oakland, CA	
Date: 9-14-11	Weather: overcast
Well Diameter: 4"	Volume/ft. 1" = 0.04 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 6" = 1.47 | radius^2 * 0.163
Total Depth (TD): 19.45	Depth to Product:
Depth to Water (DTW): 17.91	Product Thickness:
Water Column Height: 1.54	1 Casing Volume: 1 gallons
Reference Point: N.T.O.C.	3 Casing Volumes: 3 gallons
Purging Device: Disposable Bailer	
Sampling Device: Disposable Bailer	

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
1131					0.33		0	
1140	19.1	6.98	453			15	1	
1147	18.9	7.03	496			10	2	
1152	18.7	7.11	512			11	3	

Comments:

Sample ID: DPE-3	Sample Time: 1210
Laboratory: McCampbell	Sample Date: 9-14-11
Containers/Preservative: 3 Voas (HCL), 1-One Liter Ambers (HCL)	
Analyzed for: TPHg/BTEX/MTBE(8015Cm/8021),TPHd (8015C) with silica gel clean-up	
Sampler Name: Steve Hunter	Signature:

Pangea
ENVIRONMENTAL SERVICES, INC.

MONITORING FIELD DATA SHEET

Well ID: DPE-4

Project.Task #:1145.001.228	Project Name: Rockridge Heights
Address: 5175 Broadway, Oakland, CA	
Date: 9-14-11	Weather : Clear
Well Diameter: 4"	Volume/ft. 1" = 0.04 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 6" = 1.47 | radius^2 * 0.163
Total Depth (TD): 16.78	Depth to Product:
Depth to Water (DTW): 15.71	Product Thickness:
Water Column Height: 1.07	1 Casing Volume: .70 gallons
Reference Point: N.T.O.C.	3 Casing Volumes: 2 gallons
Purging Device: Disposable Bailer	
Sampling Device: Disposable Bailer	

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
1414					0.29		0	
1419	21.1	7.43	1116			65	1	
1424	20.5	7.31	1120			67	2	
1431	20.3	7.29	1124			71	2.5	

Comments:

Sample ID: DPE-4	Sample Time: 1440
Laboratory: McCampbell	Sample Date: 9-14-11
Containers/Preservative: 3 Voas (HCL), 1-One Liter Ambers (HCL)	
Analyzed for:TPHg/BTEX/MTBE(8015Cm/8021),TPHd (8015C) with silica gel clean-up	
Sampler Name: Steve Hunter	Signature:

Pangea
ENVIRONMENTAL SERVICES, INC.

MONITORING FIELD DATA SHEET

Well ID: MW-9A

Project.Task #:1145.001.228	Project Name: Rockridge Heights
Address: 5175 Broadway, Oakland, CA	
Date: 9-14-11	Weather: Overcast
Well Diameter: 2 1/	Volume/ft. 1" = 0.04 | 3" = 0.37 | 6" = 1.47 | 2" = 0.16 | 4" = 0.65 | radius^2 * 0.163
Total Depth (TD): 15.31	Depth to Product:
Depth to Water (DTW): 12.58	Product Thickness:
Water Column Height: 2.73	1 Casing Volume: 0.44 gallons
Reference Point: N.T.O.C.	3 Casing Volumes: 1.2 gallons
Purging Device: Disposable Bailer	
Sampling Device: Disposable Bailer	

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
0853					0.42		0	
0859	19.1	7.31	803			109	0.44	
0903	12.0	7.36	821			111	0.88	
0913	14.0	7.45	861			125	1.2	

Comments: Slow recovery

Sample ID: MW-9A	Sample Time: 0930
Laboratory: McCampbell	Sample Date: 9-14-11
Containers/Preservative: 3 Voas (HCL), 1-One Liter Ambers (HCL)	
Analyzed for: TPHg/BTEX/MTBE(8015Cm/8021),TPHd (8015C) with silica gel clean-up	
Sampler Name: Steve Hunter	Signature:

Pangea
ENVIRONMENTAL SERVICES, INC.

MONITORING FIELD DATA SHEET

Well ID: MW-9C

Project.Task #:1145.001.228	Project Name: Rockridge Heights
Address: 5175 Broadway, Oakland, CA	
Date: 9-14-11	Weather: overcast
Well Diameter: 2"	Volume/ft. 1" = 0.04 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 6" = 1.47 | radius^2 * 0.163
Total Depth (TD): 20.56	Depth to Product:
Depth to Water (DTW): 12.83	Product Thickness:
Water Column Height: 7.73	1 Casing Volume: 1.24 gallons
Reference Point: N.T.O.C.	3 Casing Volumes: 4 gallons
Purging Device: Disposable Bailer	
Sampling Device: Disposable Bailer	

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
0947							0	
0951	19.6	8.03	443			-142	1.5	
0954	19.5	8.04	458			-168	3	
1003	19.7	8.01	461			-170	4	

Comments: began to dewater at 3 gallons, recovered quickly

Sample ID: MW-9C	Sample Time: 1015
Laboratory: McCampbell	Sample Date: 9-14-11
Containers/Preservative: 3 Voas (HCL), 1-One Liter Ambers (HCL)	
Analyzed for: TPHg/BTEX/MTBE(8015Cm/8021), TPHd (8015C) with silica gel clean-up	
Sampler Name: Steve Hunter	Signature:

Pangea
ENVIRONMENTAL SERVICES, INC.

MONITORING FIELD DATA SHEET

Well ID: MW-4

Project.Task #:1145.001.228	Project Name: Rockridge Heights
Address: 5175 Broadway, Oakland, CA	
Date: 9-14-11	Weather: Overcast
Well Diameter: 2	Volume/ft. 1" = 0.04 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 6" = 1.47 | radius^2 * 0.163
Total Depth (TD): 18.06	Depth to Product:
Depth to Water (DTW): 10.67	Product Thickness:
Water Column Height: 7.39	1 Casing Volume: 1.18 gallons
Reference Point: N.T.O.C.	3 Casing Volumes: 3.5 gallons
Purging Device: Disposable Bailer	
Sampling Device: Disposable Bailer	

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
0814					0.42		0	
0819	14.1	6.53	1036			-103	1.5	
0823	14.3	6.69	1042			-96	2.5	
0826	14.3	6.72	1037			-95	3.5	

Comments:

Sample ID: MW-4A	Sample Time: 0840
Laboratory: McCampbell	Sample Date: 9-14-11
Containers/Preservative: 3 Voas (HCL), 1-One Liter Ambers (HCL)	
Analyzed for: TPHg/BTEX/MTBE(8015Cm/8021),TPHd (8015C) with silica gel clean-up	
Sampler Name: Steve Hunter	Signature:

APPENDIX C

Laboratory Analytical Report

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Pangea Environmental Svcs., Inc. 1710 Franklin Street, Ste. 200 Oakland, CA 94612	Client Project ID: #5175 Broadway; Rockridge Heights	Date Sampled: 09/13/11-09/14/11
		Date Received: 09/15/11
	Client Contact: Tina De La Fuente	Date Reported: 09/23/11
	Client P.O.:	Date Completed: 09/23/11

WorkOrder: 1109389

September 27, 2011

Dear Tina:

Enclosed within are:

1) The results of the **17** analyzed samples from your project: **#5175 Broadway; Rockridge Heights,**
2) A QC report for the above samples,
3) A copy of the chain of custody, and
4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

The analytical results relate only to the items tested.

1109389

1 of 2

McCAMPBELL ANALYTICAL, INC.

1534 Willow Pass Rd.
Pittsburg, CA 94565
Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (925) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAY
EDF Required? Coelt (Normal) No Write On (DW) No

Report To: Tina de la Fuente Bill To: Pangea
Company: Pangea Environmental Services, Inc.
1710 Franklin Street, Suite 200, Oakland, CA 94612
E-Mail: tdelafuente@pangeaenv.com
Tele: (510) 836-3702 Fax: (510) 836-3709
Project #: 5175 Broadway Project Name: Rockridge Heights
Project Location: 5175 Broadway, Oakland, CA
Sampler Signature:

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED ICE	HCL	HNO_3	Other	TPHg/BTEX/MTBE (8015Cm/8021)	TPHd (8015C) w/silica gel clean-up	Analysis Request	Other	Comments
MW-1		9-14-11	1520	4	Amber VOA's	X					X	X			X	X			Filter Samples for Metals analysis: Yes / No
MW-2C		9-13-11	1625			X					X	X			X	X			
MW-3A		9-14-11	1330			X					X	X			X	X			
MW-3C		9-14-11	1405			X					X	X			X	X			
MW-4A		9-14-11	1040			X					X	X			X	X			
MW-5A		9-13-11	1241			X					X	X			X	X			
MW-5B		9-13-11	1410			X					X	X			X	X			
MW-5C		9-13-11	1325			X					X	X			X	X			
MW-6A		9-14-11	1111			X					X	X			X	X			
MW-8A		9-13-11	1455			X					X	X			X	X			
MW-8C		9-13-11	1535			X					X	X			X	X			
MW-9A		9-14-11	0930			X					X	X			X	X			
MW-9C		9-14-11	1015			X					X	X			X	X			
MW-10A		9-14-11	0840			X					X	X			X	X			

Relinquished By:	Date:	Time:	Received By:
	9-15-11	1550	
Relinquished By:	Date:	Time:	Received By:
	9/15	1650	
Relinquished By:	Date:	Time:	Received By:

ICE/t° 4.8 COMMENTS:
GOOD CONDITION
HEAD SPACE ABSENT
DECHLORINATED IN LAB
APPROPRIATE CONTAINERS
PRESERVED IN LAB

VOAS O&G METALS OTHER
PRESERVATION pH<2

McCAMPBELL ANALYTICAL, INC.

1534 Willow Pass Rd.
Pittsburg, CA 94565
Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (925) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAY

EDF Required? Coelt (Normal) No Write On (DW) No

Report To: Tina de la Fuente Bill To: Pangea

Company: Pangea Environmental Services, Inc.

1710 Franklin Street, Suite 200, Oakland, CA 94612

E-Mail: tdelafuente@pangeaenv.com

Tele: (510) 836-3702 Fax: (510) 836-3709

Project #: 5175 Broadway Project Name: Rockridge Heights

Project Location: 5175 Broadway, Oakland, CA

Sampler Signature:

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED ICE	HCL	HNO_3	Other	TPHg/BTEX/MTBE (8015Cm/8021)	TPHd (8015C) w/silica gel clean-up	Other	Comments
X DPE-2		9-14-11	1305	4	4x40ml Vials	X					X	X			X	X		Filter Samples for Metals analysis: Yes / No
XS DPE-3		9-14-11	1210	↓	↓	X					X	X			X	X		
X DPE-4		9-14-11	1440	↓	↓	X					X	X			X	X		

Relinquished By:	Date:	Time:	Received By:
	9-15-11	1554	
Relinquished By:	Date:	Time:	Received By:
	9/15	1650	
Relinquished By:	Date:	Time:	Received By:

ICE/t°_____ COMMENTS:

GOOD CONDITION_____

HEAD SPACE ABSENT_____

DECHLORINATED IN LAB_____

APPROPRIATE CONTAINERS_____

PRESERVED IN LAB_____

	VOAS	O&G	METALS	OTHER
PRESERVATION			pH<2	

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1109389 **ClientCode: PEO**

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Tina De La Fuente
Pangea Environmental Svcs., Inc.
1710 Franklin Street, Ste. 200
Oakland, CA 94612
(510) 836-3700 FAX: (510) 836-3709

Email: tdelafuente@pangeaenv.com
cc:
PO:
ProjectNo: #5175 Broadway; Rockridge Heights

Bill to:
Bob Clark-Riddell
Pangea Environmental Svcs., Inc.
1710 Franklin Street, Ste. 200
Oakland, CA 94612

Requested TAT: 5 days

Date Received: **09/15/2011**
Date Printed: **09/15/2011**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1109389-001	MW-1	Water	9/14/2011 15:20	☐	A	A	B									
1109389-002	MW-2C	Water	9/13/2011 15:20	☐	A		B									
1109389-003	MW-3A	Water	9/14/2011 13:30	☐	A		B									
1109389-004	MW-3C	Water	9/14/2011 14:05	☐	A		B									
1109389-005	MW-4A	Water	9/14/2011 10:40	☐	A		B									
1109389-006	MW-5A	Water	9/13/2011 12:41	☐	A		B									
1109389-007	MW-5B	Water	9/13/2011 14:10	☐	A		B									
1109389-008	MW-5C	Water	9/13/2011 13:25	☐	A		B									
1109389-009	MW-6A	Water	9/14/2011 11:11	☐	A		B									
1109389-010	MW-8A	Water	9/13/2011 14:55	☐	A		B									
1109389-011	MW-8C	Water	9/13/2011 15:35	☐	A		B									
1109389-012	MW-9A	Water	9/14/2011 9:30	☐	A		B									
1109389-013	MW-9C	Water	9/14/2011 10:15	☐	A		B									
1109389-014	MW-10A	Water	9/14/2011 8:40	☐	A		B									

Test Legend:

1	G-MBTEX_W	2	PREDF REPORT	3	TPH(D)WSG_W	4		5	
6		7		8		9		10	
11		12							

Prepared by: Ana Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1109389 **ClientCode: PEO**

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Tina De La Fuente
Pangea Environmental Svcs., Inc.
1710 Franklin Street, Ste. 200
Oakland, CA 94612
(510) 836-3700 FAX: (510) 836-3709

Email: tdelafuente@pangeaenv.com
cc:
PO:
ProjectNo: #5175 Broadway; Rockridge Heights

Bill to:
Bob Clark-Riddell
Pangea Environmental Svcs., Inc.
1710 Franklin Street, Ste. 200
Oakland, CA 94612

Requested TAT: 5 days

Date Received: **09/15/2011**
Date Printed: **09/15/2011**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1109389-015	DPE-2	Water	9/14/2011 13:05	☐	A		B									
1109389-016	DPE-3	Water	9/14/2011 12:10	☐	A		B									
1109389-017	DPE-4	Water	9/14/2011 14:40	☐	A		B									

Test Legend:

1	G-MBTEX_W	2	PREDF REPORT	3	TPH(D)WSG_W	4		5	
6		7		8		9		10	
11		12							

Prepared by: Ana Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name: **Pangea Environmental Svcs., Inc.**

Date and Time Received: **9/15/2011 6:27:13 PM**

Project Name: **#5175 Broadway; Rockridge Heights**

Checklist completed and reviewed by: Ana Venegas

WorkOrder N°: **1109389** Matrix: Water

Carrier: Benjamin Yslas (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp: 4.8°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	No VOA vials submitted ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☑	No ☐	

(Ice Type: WET ICE)

** NOTE: If the "No" box is checked, see comments below.*

Client contacted: Date contacted: Contacted by:

Comments:

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Pangea Environmental Svcs., Inc.	Client Project ID: #5175 Broadway; Rockridge Heights	Date Sampled: 09/13/11-09/14/11
		Date Received: 09/15/11
1710 Franklin Street, Ste. 200	Client Contact: Tina De La Fuente	Date Extracted: 09/17/11-09/21/11
Oakland, CA 94612	Client P.O.:	Date Analyzed: 09/17/11-09/21/11

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 1109389

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	MW-1	W	1400	ND	ND	ND	ND	6.3	1	89	d9
002A	MW-2C	W	ND	ND	ND	ND	ND	ND	1	105	b1
003A	MW-3A	W	1700	ND<15	37	38	17	110	2	94	d1
004A	MW-3C	W	160	ND	0.96	0.51	ND	0.99	1	110	d1
005A	MW-4A	W	66	ND	0.73	ND	ND	ND	1	101	d1
006A	MW-5A	W	ND	ND	ND	ND	ND	ND	1	106	b1
007A	MW-5B	W	550	ND	ND	ND	ND	ND	1	102	d6,b1
008A	MW-5C	W	ND	ND	ND	ND	ND	ND	1	106	b1
009A	MW-6A	W	ND	ND	ND	ND	ND	ND	1	100	b1
010A	MW-8A	W	3700	ND<10	30	4.3	12	99	2	113	d1,b1
011A	MW-8C	W	ND	ND	ND	ND	ND	ND	1	96	b1
012A	MW-9A	W	ND	ND	ND	ND	ND	ND	1	97	b1
013A	MW-9C	W	ND	ND	ND	ND	ND	ND	1	95	b1
014A	MW-10A	W	ND	ND	ND	ND	ND	ND	1	97	b1
015A	DPE-2	W	790	ND<30	21	7.0	2.3	44	1	92	d1
016A	DPE-3	W	4800	ND<15	12	13	9.1	180	2	107	d2,d9,b1

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	µg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

* water and vapor samples are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts in mg/L.

cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference. %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
b1) aqueous sample that contains greater than ~1 vol. % sediment
d1) weakly modified or unmodified gasoline is significant
d2) heavier gasoline range compounds are significant (aged gasoline?)
d6) one to a few isolated non-target peaks present in the TPH(g) chromatogram
d9) no recognizable pattern

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Pangea Environmental Svcs., Inc.	Client Project ID: #5175 Broadway; Rockridge Heights	Date Sampled: 09/13/11-09/14/11
		Date Received: 09/15/11
1710 Franklin Street, Ste. 200	Client Contact: Tina De La Fuente	Date Extracted: 09/17/11-09/21/11
Oakland, CA 94612	Client P.O.:	Date Analyzed: 09/17/11-09/21/11

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 1109389

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
017A	DPE-4	W	1100	ND	1.1	3.4	2.4	58	1	104	d2,d9

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	µg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

* water and vapor samples are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts in mg/L.

cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference. %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
b1) aqueous sample that contains greater than ~1 vol. % sediment
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d9) no recognizable pattern

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Pangea Environmental Svcs., Inc.	Client Project ID: #5175 Broadway; Rockridge Heights	Date Sampled: 09/13/11-09/14/11
		Date Received: 09/15/11
1710 Franklin Street, Ste. 200	Client Contact: Tina De La Fuente	Date Extracted 09/15/11
Oakland, CA 94612	Client P.O.:	Date Analyzed 09/17/11-09/23/11

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up*

Extraction method: SW3510C/3630C Analytical methods: SW8015B Work Order: 1109389

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS	Comments
1109389-001B	MW-1	W	320	1	85	e11,e2
1109389-002B	MW-2C	W	ND	1	85	b1
1109389-003B	MW-3A	W	400	1	99	e4
1109389-004B	MW-3C	W	130	1	84	e2
1109389-005B	MW-4A	W	130	1	116	e2
1109389-006B	MW-5A	W	ND	1	97	b1
1109389-007B	MW-5B	W	ND	1	85	b1
1109389-008B	MW-5C	W	ND	1	92	b1
1109389-009B	MW-6A	W	74	1	88	e2,b1
1109389-010B	MW-8A	W	7400	1	109	e11/e4,b1
1109389-011B	MW-8C	W	ND	1	102	b1
1109389-012B	MW-9A	W	ND	1	95	b1
1109389-013B	MW-9C	W	ND	1	84	b1
1109389-014B	MW-10A	W	ND	1	96	b1
1109389-015B	DPE-2	W	290	1	99	e4

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	µg/L
	S	NA	NA

* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract/matrix interference.

%SS = Percent Recovery of Surrogate Standard. DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
b1) aqueous sample that contains greater than ~1 vol. % sediment
e2) diesel range compounds are significant; no recognizable pattern
e11) stoddard solvent/mineral spirit (?); and/or e4) gasoline range compounds are significant.

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Pangea Environmental Svcs., Inc.	Client Project ID: #5175 Broadway; Rockridge Heights	Date Sampled: 09/13/11-09/14/11
		Date Received: 09/15/11
1710 Franklin Street, Ste. 200	Client Contact: Tina De La Fuente	Date Extracted 09/15/11
Oakland, CA 94612	Client P.O.:	Date Analyzed 09/17/11-09/23/11

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up*

Extraction method: SW3510C/3630C Analytical methods: SW8015B Work Order: 1109389

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS	Comments
1109389-016B	DPE-3	W	25,000	40	96	e11,e2,b1
1109389-017B	DPE-4	W	930	1	98	e4,e2

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	µg/L
	S	NA	NA

* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract/matrix interference.

%SS = Percent Recovery of Surrogate Standard. DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
b1) aqueous sample that contains greater than ~1 vol. % sediment
e2) diesel range compounds are significant; no recognizable pattern
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QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 61050 | WorkOrder: 1109389

EPA Method: SW8021B/8015Bm **Extraction: SW5030B** **Spiked Sample ID: 1109341-002A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	60	110	112	1.76	111	114	2.81	70 - 130	20	70 - 130	20
MTBE	ND	10	106	112	5.22	109	108	1.05	70 - 130	20	70 - 130	20
Benzene	ND	10	93.9	97.4	3.66	97.1	97.6	0.488	70 - 130	20	70 - 130	20
Toluene	ND	10	97.7	98.1	0.416	98.3	98.8	0.458	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	101	105	4.19	104	104	0	70 - 130	20	70 - 130	20
Xylenes	ND	30	102	105	3.29	105	104	0.548	70 - 130	20	70 - 130	20
%SS:	103	10	92	93	1.04	91	91	0	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 61050 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1109389-001A	09/14/11 3:20 PM	09/17/11	09/17/11 5:04 AM	1109389-002A	09/13/11 3:20 PM	09/17/11	09/17/11 6:33 AM
1109389-003A	09/14/11 1:30 PM	09/17/11	09/17/11 9:37 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.

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QA/QC Officer

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QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 61104 | WorkOrder: 1109389

EPA Method: SW8021B/8015Bm **Extraction: SW5030B** **Spiked Sample ID: 1109384-008A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	60	112	110	1.82	114	115	1.33	70 - 130	20	70 - 130	20
MTBE	ND	10	106	111	4.48	116	112	3.21	70 - 130	20	70 - 130	20
Benzene	ND	10	99.4	102	2.23	101	102	0.528	70 - 130	20	70 - 130	20
Toluene	ND	10	99.8	102	2.23	106	102	3.18	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	101	106	3.95	104	107	2.13	70 - 130	20	70 - 130	20
Xylenes	ND	30	100	105	4.49	105	107	1.82	70 - 130	20	70 - 130	20
%SS:	100	10	92	92	0	93	91	2.98	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 61104 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1109389-004A	09/14/11 2:05 PM	09/17/11	09/17/11 7:02 AM	1109389-005A	09/14/11 10:40 AM	09/17/11	09/17/11 7:32 AM
1109389-006A	09/13/11 12:41 PM	09/17/11	09/17/11 8:02 AM	1109389-007A	09/13/11 2:10 PM	09/17/11	09/17/11 8:32 AM
1109389-008A	09/13/11 1:25 PM	09/17/11	09/17/11 9:02 AM	1109389-009A	09/14/11 11:11 AM	09/17/11	09/17/11 9:32 AM
1109389-010A	09/13/11 2:55 PM	09/21/11	09/21/11 1:25 AM	1109389-011A	09/13/11 3:35 PM	09/17/11	09/17/11 3:33 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.

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QA/QC Officer

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QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 61107 | WorkOrder: 1109389

EPA Method: SW8021B/8015Bm **Extraction: SW5030B** **Spiked Sample ID: 1109389-012A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	60	113	112	0.908	114	116	1.76	70 - 130	20	70 - 130	20
MTBE	ND	10	108	119	9.76	110	107	2.75	70 - 130	20	70 - 130	20
Benzene	ND	10	101	99.8	1.18	103	99.8	3.29	70 - 130	20	70 - 130	20
Toluene	ND	10	101	100	0.976	104	100	3.62	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	105	104	1.12	109	104	4.49	70 - 130	20	70 - 130	20
Xylenes	ND	30	106	104	1.63	109	104	4.32	70 - 130	20	70 - 130	20
%SS:	97	10	92	93	0.655	91	93	1.73	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 61107 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1109389-012A	09/14/11 9:30 AM	09/17/11	09/17/11 4:05 PM	1109389-013A	09/14/11 10:15 AM	09/17/11	09/17/11 4:35 PM
1109389-014A	09/14/11 8:40 AM	09/17/11	09/17/11 5:05 PM	1109389-015A	09/14/11 1:05 PM	09/17/11	09/17/11 6:36 PM
1109389-016A	09/14/11 12:10 PM	09/17/11	09/17/11 5:36 PM	1109389-017A	09/14/11 2:40 PM	09/17/11	09/17/11 7:07 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.

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QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 61108 | WorkOrder: 1109389

EPA Method: SW8015B | **Extraction: SW3510C/3630C** | **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	101	110	8.22	N/A	N/A	70 - 130	30
%SS:	N/A	625	N/A	N/A	N/A	84	97	14.5	N/A	N/A	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 61108 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1109389-001B	09/14/11 3:20 PM	09/15/11	09/18/11 6:03 PM	1109389-002B	09/13/11 3:20 PM	09/15/11	09/18/11 7:21 PM
1109389-003B	09/14/11 1:30 PM	09/15/11	09/23/11 3:09 PM	1109389-004B	09/14/11 2:05 PM	09/15/11	09/20/11 6:11 AM
1109389-005B	09/14/11 10:40 AM	09/15/11	09/20/11 5:02 AM	1109389-006B	09/13/11 12:41 PM	09/15/11	09/22/11 3:04 AM
1109389-007B	09/13/11 2:10 PM	09/15/11	09/20/11 7:20 AM	1109389-008B	09/13/11 1:25 PM	09/15/11	09/23/11 12:26 AM
1109389-009B	09/14/11 11:11 AM	09/15/11	09/20/11 1:35 AM	1109389-010B	09/13/11 2:55 PM	09/15/11	09/17/11 2:38 AM
1109389-011B	09/13/11 3:35 PM	09/15/11	09/23/11 12:05 PM	1109389-012B	09/14/11 9:30 AM	09/15/11	09/21/11 10:12 PM
1109389-013B	09/14/11 10:15 AM	09/15/11	09/21/11 8:56 PM	1109389-014B	09/14/11 8:40 AM	09/15/11	09/23/11 9:06 AM
1109389-015B	09/14/11 1:05 PM	09/15/11	09/23/11 1:21 PM	1109389-016B	09/14/11 12:10 PM	09/15/11	09/23/11 10:50 AM
1109389-017B	09/14/11 2:40 PM	09/15/11	09/21/11 11:27 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS ELAP Certification 1644

QA/QC Officer

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Analytical Report

Pangea Environmental Svcs., Inc.	Client Project ID: Rockridge Heights	Date Sampled: 07/26/11
		Date Received: 07/28/11
1710 Franklin Street, Ste. 200	Client Contact: Morgan Gillies	Date Reported: 08/02/11
Oakland, CA 94612	Client P.O.:	Date Completed: 08/01/11

WorkOrder: 1107832

August 02, 2011

Dear Morgan:

Enclosed within are:

1) The results of the **3** analyzed samples from your project: **Rockridge Heights,**
2) A QC report for the above samples,
3) A copy of the chain of custody, and
4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

The analytical results relate only to the items tested.

McCAMPBELL ANALYTICAL, INC.

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CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAY

EDF Required? Coelt (Normal) No Write On (DW) No

Report To: Morgan Gillies	Bill To: Pangea
Company: Pangea Environmental Services, Inc.	
1710 Franklin Street, Suite 200, Oakland, CA 94612	
	E-Mail: mgillies@pangeaenv.com
Tele: (510) 836-3702	Fax: (510) 836-3709
Project #: 5175 Broadway	Project Name: Rockridge Heights
Project Location: 5175 Broadway, Oakland, CA	
Sampler Signature:	

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED ICE	METHOD PRESERVED HCL	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	BTEX & TPH as Gas (602/8020 + 8015)/MTBE	TPH as Diesel (8015) with Silica Gel Cleanup	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010 / 8021	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8081	EPA 608 / 8082 PCB's ONLY	EPA 8140 / 8141	EPA 8150 / 8151	EPA 524.2 / 624 / 8260	EPA 525 / 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals (6010 / 6020)	LUFT 5 Metals (6010 / 6020)	Lead (200.8 / 200.9 / 6010)	Other: 5 Oxygenates(TAME, TBA, DIPE, ETBE, MTBE) by 8260.	Comments
EFF-W	EFF	7-26-11	1240	3	Vox	X					X	X			X																	Filter Samples for Metals analysis: Yes / No
MID-W	MID	↓	1300	↓	↓	X					X	X			X																	
INF-W	INF	↓	1310	↓	↓	X					X	X			X																	

Relinquished By:	Date:	Time:	Received By:
	7-28-11	1700	Envirotech T. L.
Relinquished By: Envirotech SR	7/28/11	1700	
Relinquished By:	7/28/11	1728	

ICE/t° 7.8
GOOD CONDITION
HEAD SPACE ABSENT
DECHLORINATED IN LAB
APPROPRIATE CONTAINERS
PRESERVED IN LAB

COMMENTS:

	VOAS	O&G	METALS	OTHER
PRESERVATION			pH<2	

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1107832 **ClientCode: PEO**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Morgan Gillies
Pangea Environmental Svcs., Inc.
1710 Franklin Street, Ste. 200
Oakland, CA 94612
(510) 836-3700 FAX: (510) 836-3709

Email: mgillies@pangeaenv.com
cc:
PO:
ProjectNo: Rockridge Heights

Bill to:
Bob Clark-Riddell
Pangea Environmental Svcs., Inc.
1710 Franklin Street, Ste. 200
Oakland, CA 94612

Requested TAT: 5 days

Date Received: **07/28/2011**
Date Printed: **07/28/2011**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below) 1	2	3	4	5	6	7	8	9	10	11	12
1107832-001	EFF-W	Water	7/26/2011 12:40	☐	A											
1107832-002	MID-W	Water	7/26/2011 13:00	☐	A											
1107832-003	INF-W	Water	7/26/2011 13:10	☐	A											

Test Legend:

1	G-MBTEX_W	2		3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Ana Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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Sample Receipt Checklist

Client Name: **Pangea Environmental Svcs., Inc.**
Date and Time Received: **7/28/2011 8:02:17 PM**

Project Name: **Rockridge Heights**
Checklist completed and reviewed by: Ana Venegas

WorkOrder N°: **1107832** Matrix: Water
Carrier: Benjamin Yslas (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp: 7.8°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	No VOA vials submitted ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☑	No ☐	

(Ice Type: WET ICE)

** NOTE: If the "No" box is checked, see comments below.*

Client contacted: Date contacted: Contacted by:

Comments:

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Telephone: 877-252-9262 Fax: 925-252-9269

Pangea Environmental Svcs., Inc.	Client Project ID: Rockridge Heights	Date Sampled: 07/26/11
		Date Received: 07/28/11
1710 Franklin Street, Ste. 200	Client Contact: Morgan Gillies	Date Extracted: 07/29/11-07/30/11
Oakland, CA 94612	Client P.O.:	Date Analyzed: 07/29/11-07/30/11

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 1107832

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	EFF-W	W	ND	ND	ND	ND	ND	ND	1	98	
002A	MID-W	W	ND	ND	ND	ND	ND	ND	1	98	
003A	INF-W	W	68	ND	0.51	ND	ND	1.2	1	104	d1

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	µg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

* water and vapor samples are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts in mg/L.

cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference. %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
d1) weakly modified or unmodified gasoline is significant

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 60046 WorkOrder: 1107832

EPA Method: SW8021B/8015Bm **Extraction: SW5030B** **Spiked Sample ID: 1107771-098A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	60	105	102	2.69	104	102	2.32	70 - 130	20	70 - 130	20
MTBE	ND	10	114	110	3.06	107	111	2.83	70 - 130	20	70 - 130	20
Benzene	ND	10	102	99.1	2.76	99.5	99.3	0.170	70 - 130	20	70 - 130	20
Toluene	ND	10	102	99.2	3.27	98.2	99.4	1.17	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	101	98.5	2.84	98.4	98.1	0.278	70 - 130	20	70 - 130	20
Xylenes	ND	30	104	102	2.67	101	101	0	70 - 130	20	70 - 130	20
%SS:	104	10	99	99	0	98	98	0	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 60046 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1107832-001A	07/26/11 12:40 PM	07/29/11	07/29/11 9:49 PM	1107832-002A	07/26/11 1:00 PM	07/29/11	07/29/11 10:20 PM
1107832-003A	07/26/11 1:10 PM	07/30/11	07/30/11 12:20 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.

DHS ELAP Certification 1644 QA/QC Officer

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Analytical Report

Pangea Environmental Svcs., Inc. 1710 Franklin Street, Ste. 200 Oakland, CA 94612	Client Project ID: 5175 Broadway; Rockridge Heights	Date Sampled: 09/26/11
		Date Received: 09/27/11
	Client Contact: Morgan Gillies	Date Reported: 09/30/11
	Client P.O.:	Date Completed: 09/28/11

WorkOrder: 1109768

September 30, 2011

Dear Morgan:

Enclosed within are:

1) The results of the **1** analyzed sample from your project: **5175 Broadway; Rockridge Heights,**
2) A QC report for the above sample,
3) A copy of the chain of custody, and
4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

The analytical results relate only to the items tested.

1109768

McCAMPBELL ANALYTICAL, INC.

1534 Willow Pass Rd.
Pittsburg, CA 94565
Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (925) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAY

EDF Required? Coelt (Normal) No **Write On (DW)** No

Report To: Morgan Gillies	**Bill To:** Pangea
Company: Pangea Environmental Services, Inc.	
1710 Franklin Street, Suite 200, Oakland, CA 94612	
	E-Mail: mgillies@pangeaenv.com
Tele: (510) 836-3702	**Fax:** (510) 836-3709
Project #: 5175 Broadway	**Project Name:** Rockridge Heights
Project Location: 5175 Broadway, Oakland, CA	
Sampler Signature:	

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED ICE	METHOD PRESERVED HCL	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	BTEX & TPH as Gas (602/8020 + 8015)/MTBE	TPH as Diesel (8015) with Silica Gel Cleanup	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010 / 8021	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8081	EPA 608 / 8082 PCB's ONLY	EPA 8140 / 8141	EPA 8150 / 8151	EPA 524.2 / 624 / 8260	EPA 525 / 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals (6010 / 6020)	LUFT 5 Metals (6010 / 6020)	Lead (200.8 / 200.9 / 6010)	5 Oxygenates(TAME, TBA, DIPE, ETBE, MTBE) by 8260.			Comments
															Analysis Request																	Other			
INF-V	INF	9-26-11	1500	1	Tedlar			X						X	X																			Filter Samples for Metals analysis: Yes / No

Relinquished By:	**Date:** 9-27-11	**Time:** 1130	**Received By:**
Relinquished By:	**Date:** 9/27/11	**Time:** 1730	**Received By:**
Relinquished By:	**Date:**	**Time:**	**Received By:**

ICE/t°_____ **COMMENTS:**
GOOD CONDITION_____
HEAD SPACE ABSENT_____
DECHLORINATED IN LAB_____
APPROPRIATE CONTAINERS_____
PRESERVED IN LAB_____

VOAS O&G METALS OTHER
PRESERVATION_____ pH<2_____

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1109768 **ClientCode: PEO**

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Morgan Gillies
Pangea Environmental Svcs., Inc.
1710 Franklin Street, Ste. 200
Oakland, CA 94612
(510) 836-3700 FAX: (510) 836-3709

Email: mgillies@pangeaenv.com
cc:
PO:
ProjectNo: 5175 Broadway; Rockridge Heights

Bill to:
Bob Clark-Riddell
Pangea Environmental Svcs., Inc.
1710 Franklin Street, Ste. 200
Oakland, CA 94612

Requested TAT: **5 days**

Date Received: **09/27/2011**
Date Printed: **09/27/2011**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1109768-001	INF-V	Air	9/26/2011 15:00	☐	A	A										

Test Legend:

1	G-MBTEX_AIR	2	PREDF REPORT	3		4		5	
6		7		8		9		10	
11		12							

The following SampID: 001A contains testgroup.

Prepared by: Ana Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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Sample Receipt Checklist

Client Name: **Pangea Environmental Svcs., Inc.**

Date and Time Received: **9/27/2011 6:11:52 PM**

Project Name: **5175 Broadway; Rockridge Heights**

Checklist completed and reviewed by: Ana Venegas

WorkOrder N°: **1109768** Matrix: Air

Carrier: Rob Pringle (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp:		NA ☑
Water - VOA vials have zero headspace / no bubbles?	Yes ☐	No ☐	No VOA vials submitted ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☐	No ☑	

** NOTE: If the "No" box is checked, see comments below.*

Client contacted: Date contacted: Contacted by:

Comments:

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Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Pangea Environmental Svcs., Inc.	Client Project ID: 5175 Broadway; Rockridge Heights	Date Sampled: 09/26/11
		Date Received: 09/27/11
1710 Franklin Street, Ste. 200	Client Contact: Morgan Gillies	Date Extracted: 09/28/11
Oakland, CA 94612	Client P.O.:	Date Analyzed: 09/28/11

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 1109768

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	INF-V	A	1600	ND<20	6.3	4.1	0.50	3.1	1	99	d1

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	A	25	2.5	0.25	0.25	0.25	0.25	µg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram; sample peak coelutes with surrogate peak; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
d1) weakly modified or unmodified gasoline is significant

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
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Pangea Environmental Svcs., Inc.	Client Project ID: 5175 Broadway; Rockridge Heights	Date Sampled: 09/26/11
		Date Received: 09/27/11
1710 Franklin Street, Ste. 200	Client Contact: Morgan Gillies	Date Extracted: 09/28/11
Oakland, CA 94612	Client P.O.:	Date Analyzed: 09/28/11

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with MTBE and BTEX in ppmv*

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 1109768

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	INF-V	A	450	ND<5.0	1.9	1.1	0.11	0.71	1	99	d1

ppm (mg/L) to ppmv (ul/L) conversion for TPH(g) assumes the molecular weight of gasoline to be equal to that of hexane.

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	A	7.0	0.68	0.077	0.065	0.057	0.057	1	uL/L
	S	NA	NA	NA	NA	NA	NA	1	mg/Kg

* vapor samples are reported in µL/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L, water samples and all TCLP & SPLP extracts are reported in µg/L.

cluttered chromatogram; sample peak coelutes with surrogate peak; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
d1) weakly modified or unmodified gasoline is significant

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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http://www.mccampbell.com / E-mail: main@mccampbell.com

QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Air | QC Matrix: Water | BatchID: 61451 | WorkOrder: 1109768

EPA Method: SW8021B/8015Bm **Extraction: SW5030B** **Spiked Sample ID: 1109737-007A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	60	104	104	0	102	101	1.74	70 - 130	20	70 - 130	20
MTBE	ND	10	97.2	92.2	5.23	90.1	91.3	1.26	70 - 130	20	70 - 130	20
Benzene	ND	10	98	96.5	1.54	119	97.2	19.9	70 - 130	20	70 - 130	20
Toluene	ND	10	92.2	94.3	2.29	98.6	94.4	4.29	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	92.9	94.8	1.97	98	93.7	4.44	70 - 130	20	70 - 130	20
Xylenes	ND	30	97	97.9	0.932	101	96.5	4.81	70 - 130	20	70 - 130	20
%SS:	104	10	98	98	0	102	100	1.77	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 61451 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1109768-001A	09/26/11 3:00 PM	09/28/11	09/28/11 2:55 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS ELAP Certification 1644

QA/QC Officer