Mr. Keith Nowell
Alameda County Environmental Health
Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502-6577

Re: Former Exxon Station
5175 Broadway
Oakland, California
ACEH File No. 139
SFRWQCB Site No. 01-0958
UST Fund Claim No. 3406

Dear Mr. Nowell:

I, Mr. Ernie Nadel, 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 are true and correct to the best of my knowledge.

Sincerely,

Ernie Nadel
Rockridge Heights, LLC

September 20, 2012

VIA ALAMEDA COUNTY FTP SITE

Mr. Keith Nowell
Alameda County Environmental Health
1331 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Re: **Groundwater Monitoring and Remediation Report – September 2012**
5175 Broadway Street, Oakland, California
ACEH Fuel Leak Case No. RO#0000139

Dear Mr. Nowell:

On behalf of Rockridge Heights LLC, Pangea Environmental Services, Inc., has prepared this *Groundwater Monitoring and Remediation Report — September 2012*. This report documents the *third* post-remediation groundwater monitoring event (conducted September 13, 2012) after shutdown of the site remediation system on January 31, 2012. Limited concentration rebounding was observed this monitoring event compared to prior post-remediation monitoring. Importantly, no benzene was detected in groundwater above 100 µg/L this event.

Post-remediation soil gas sampling, also conducted in early September 2012, did not detect *any* constituents of concern above applicable Environmental Screening Levels or above criteria established by the recently adopted Low Threat Closure Policy. The soil gas sampling also detected oxygen in shallow soil gas at >4% in all samples, indicating that a significant bio-attenuation zone is present at this site, which has a vadose zone approximately 9 ft thick with very limited TPH impact (<100 mg/Kg). Results of the soil gas sampling will be reported separately.

Based on post-remediation data for soil gas and groundwater, Pangea recommends that the ACEH evaluate this case for No Further Action (NFA). Pangea has separately requested a meeting with the ACEH for the week of September 24 to 28, 2012 to discuss requirements for case closure and prospective site development. With the property transaction contingent upon case closure issues, Pangea respectfully requests discontinuance of post-remediation groundwater monitoring and issuance of an NFA letter. If you have any questions, 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 – September 2012*

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

GROUNDWATER MONITORING AND REMEDIATION REPORT – SEPTEMBER 2012

5175 Broadway
Oakland, California

September 20, 2012

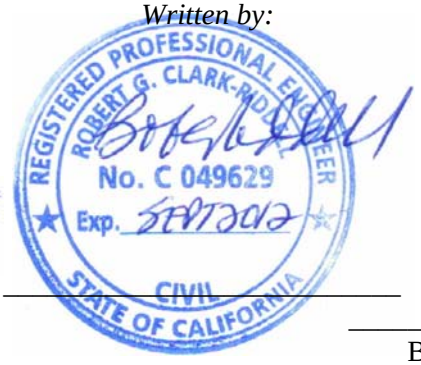
Prepared for:

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:



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 during September 2012 at the subject site (Figure 1). The purpose of the monitoring and sampling is to evaluate dissolved contaminant concentrations and determine the groundwater flow direction. This report documents the *third* post-remediation groundwater monitoring event after shutdown of the site remediation system on January 31, 2012.

Based on post-remediation data for soil gas and groundwater, Pangea recommends that the ACEH evaluate this case for No Further Action (NFA). Pangea has separately requested a meeting with the ACEH for the week of September 24 to 28, 2012 to discuss requirements for case closure and prospective site development. With the property transaction contingent upon case closure issues, Pangea respectfully requests discontinuance of post-remediation groundwater monitoring and issuance of an NFA letter.

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 subject 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 onsite remediation. 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 a June 2009 letter, ACEH approved insitu site remediation using dual-phase extraction (DPE) and air sparging (AS) techniques. Operation of the DPE system began on December 8, 2010 and operation of the AS system began on March 16, 2011. The DPE/AS system has been very effective for site remediation. The DPE/AS system was shutdown for rebound testing and post-remediation monitoring on January 31, 2012.

Post-remediation soil gas sampling was proposed in Pangea's *Revised Soil Gas Sampling Workplan* dated July 16, 2012 and *Addendum* dated August 6, 2012. As required, the Revised Workplan included an evaluation of potential vapor migration pathways between 5175 Broadway and the adjacent residential building at 5230 Coronado Avenue. Results of the soil gas sampling are summarized below and will be reported separately.

GROUNDWATER MONITORING AND SAMPLING

On September 12 and 13, 2012, Pangea conducted groundwater monitoring and sampling at the site. The monitoring was performed approximately 194 days (about 7.5 months) after the DPE/AS system was shutdown due to low removal rates and to allow evaluation of contaminant concentration rebound. To evaluate remedial effectiveness, Pangea sampled thirteen site wells in accordance with the groundwater monitoring program presented in July 2012. All program 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.

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° 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. After sampling, 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. 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. Dissolved oxygen (DO) concentrations in site wells ranged from 0.61 mg/L (MW-8A) to 3.6 mg/L (DPE-4). Several site wells (MW-3A, MW-4A, MW-8A, MW-1, MW-7B, MW-7C, DPE-1 and DPE-3 through DPE-6) contained historic high DO concentrations, although historic DO concentrations were measured pre-purge, while current DO concentrations were measured post-purge. The higher DO concentrations could help encourage natural attenuation of site contaminants. Future monitoring will help confirm if these DO readings are anomalous.

Groundwater Flow Direction

Based on depth-to-water data collected on September 12, 2012, shallow groundwater (A-zone) generally flows *southwestwards* to *southwards* beneath the site, as shown on Figure 2. The current inferred flow direction in shallow groundwater is generally consistent with previous monitoring results.

Groundwater flow in deep groundwater (C-zone) is generally *southwestwards* beneath the site, as shown on Figure 3. 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: Key current analytical data for shallow and deep groundwater is summarized on Figures 2 and 3, respectively. The dramatic contaminant reduction in site wells achieved by site remediation and partial rebound is illustrated on Figures 5 and 6. This monitoring was performed 194 days (about 7.5 months) following temporary remediation system shutdown to allow subsurface equilibration and contaminant rebound.

This quarter the maximum TPHg concentration detected was 1,600 µg/L (well MW-1), which represents a decrease from the maximum last monitoring event. This quarter the maximum benzene concentration detected was 100 µg/L (well DPE-2), which also represents a decrease from the last monitoring event. The maximum TPHd concentration detected this quarter was 1,900 µg/L, in well MW-8A. No measurable thickness of separate-phase hydrocarbons (SPH) was observed in any monitoring wells this quarter. As shown on Figures 5 and 6, hydrocarbon concentrations were generally within historic ranges and trends in most site wells, while select wells remain 'non detect' or near *historic low* concentrations. Significant concentration reduction and lack of SPH is attributed to DPE and AS remediation at the site.

While hydrocarbon concentrations have partially *rebounded* in select wells since system shutdown in January 2012, the maximum TPHg and benzene concentrations detected at the site appear to be declining again. The only wells where *TPHg* concentrations exceeded 1,000 µg/L this event include shallow well MW-3A (1,500

µg/L) and deeper wells MW-1 (1,600 µg/L) and DPE-6 (1,200 µg/L). No *benzene* concentrations exceeded 100 µg/L this event.

Historic Distribution: Shallow (A-zone) groundwater contained 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 extended to the southern site boundary in the vicinity of wells MW-7B and MW-7C. The non-detect concentrations of hydrocarbons in wells MW-9A and MW-10A indicate that any offsite migration of petroleum hydrocarbons in shallow groundwater is minimal. The historic distribution of hydrocarbons in A-zone groundwater was 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 differed from the distribution of hydrocarbons in shallow groundwater. Elevated contaminant concentrations within deeper groundwater (B-zone and C-zone) were present in the vicinity of wells MW-3C, MW-7B and MW-7C in the central and southern portions of the site. Site remediation has improved 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 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. Pangea periodically optimizes hydrocarbon removal by checking influent vapor concentrations within individual wells. The DPE system was shutdown on January 31, 2012 and remains off pending agency and client direction.

As of January 31, 2012, the DPE system operated for a total of about 6,856 hours (approximately 286 days). As of January 31, 2012, the vapor-phase portion of the DPE system removed a total of approximately 1,350 lbs TPHg and 9.2 lbs benzene. The groundwater portion of the DPE system has removed a total of approximately 0.27 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 *Permit to Operate* 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, reported concentration reduction in groundwater, and soil gas sampling results suggest that the DPE/AS system has effectively remediated the site subsurface. Hydrocarbon mass removal and concentration reduction are illustrated on Figures 5 and 6. Soil gas sampling results will be reported separately.

OTHER SITE ACTIVITY

The following site activity is based on recent correspondence with your agency (ACEH).

Recent Post-Remediation Soil Gas Sampling

On March 6, 2012, Pangea initially proposed soil gas sampling to confirm cleanup effectiveness and evaluate risk associated with residual compounds to help justify case closure. Per your request during our discussion on July 6, 2012, a revised soil gas sampling plan was presented in our *Revised Soil Gas Sampling Workplan* dated July 16, 2012. The revised plan included an evaluation of potential vapor migration pathways between 5175 Broadway and the adjacent residential building at 5230 Coronado Avenue. An Addendum was submitted on August 6, 2012 to include sampling of soil gas on 5175 Broadway to evaluate conditions on the site proper. Soil gas sampling conducted in September 2012 is summarized below and will be reported separately.

Post-remediation soil gas sampling conducted in September 2012 did not detect *any* constituents of concern above applicable Environmental Screening Levels or above criteria established by the recently adopted Low Threat Closure Policy. The sampling involved evaluation of soil gas from seven subslab probes (two at 5175 Broadway, two at 5151 Broadway, and three at 5230 Coronado) and four onsite shallow soil gas probes. The maximum detected soil gas concentrations were 7,200 $\mu g/m^3$ TPHg and 18 $\mu g/m^3$ benzene, in shallow onsite soil gas probe SG-8 (adjacent well MW-8A). Trace hydrocarbons were detected in two other onsite soil gas probes as follows: 4,000 $\mu g/m^3$ TPHg and 8.9 $\mu g/m^3$ benzene in SG-11 (adjacent well MW-4A), and 8.9 $\mu g/m^3$ benzene in SG-10. These detected concentrations are below residential ESLs established by the RWQCB of 10,000 $\mu g/m^3$ TPHg and 84 $\mu g/m^3$ benzene. No hydrocarbons (including TPHg, benzene, ethylbenzene, and naphthalene) were detected in any of the seven subslab soil gas samples (SS-1 through SS-7) or in onsite shallow soil gas probe SG-9.

The percentage of oxygen in soil gas ranged from 17 to 20% for all probes, except for 4.5% oxygen in probe SG-9 and 5.1% oxygen in probe SG-8. The presence of oxygen in shallow soil gas exceeding >4% in all samples suggests a significant bio-attenuation zone is present at this site, especially since the vadose zone is approximately 9 ft thick with very limited TPH impact (<100 mg/Kg). (Site TPH impact had slightly exceeded 100 mg/Kg at 9 ft depth or deeper, but site remediation likely remediated this historic deep impact.)

Appendix 4, Scenario 4 of the SWRCB's Low Threat Closure Policy establishes criteria for soil gas based on direct measurement of gas data. For sites *without* a bio-attenuation zone, the benzene soil gas criterion is 85 $\mu g/m^3$. For sites with *with* a bio-attenuation zone, the benzene soil gas criterion is 85,000 $\mu g/m^3$. The maximum benzene concentration of 18 $\mu g/m^3$ detected in site soil gas is below both of these criteria.

Post-Remediation Groundwater Monitoring

As described below, Pangea is requesting case closure and recommends discontinuance of post-remediation groundwater monitoring. Soil gas sampling data and three consecutive quarters of post-remediation groundwater monitoring data suggests that the site has been sufficiently remediated and characterized.

Request for Case Closure and Agency Meeting

Based on post-remediation data for soil gas and groundwater, Pangea recommends that the ACEH evaluate this case for No Further Action (NFA). Pangea has separately requested a meeting with the ACEH for the week of September 24 to 28, 2012 to discuss requirements for case closure and prospective site development. With the property transaction contingent upon case closure issues, Pangea respectfully requests discontinuance of post-remediation groundwater monitoring and issuance of an NFA letter. Case closure at this time will help facilitate the pending property transaction and planned site redevelopment.

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

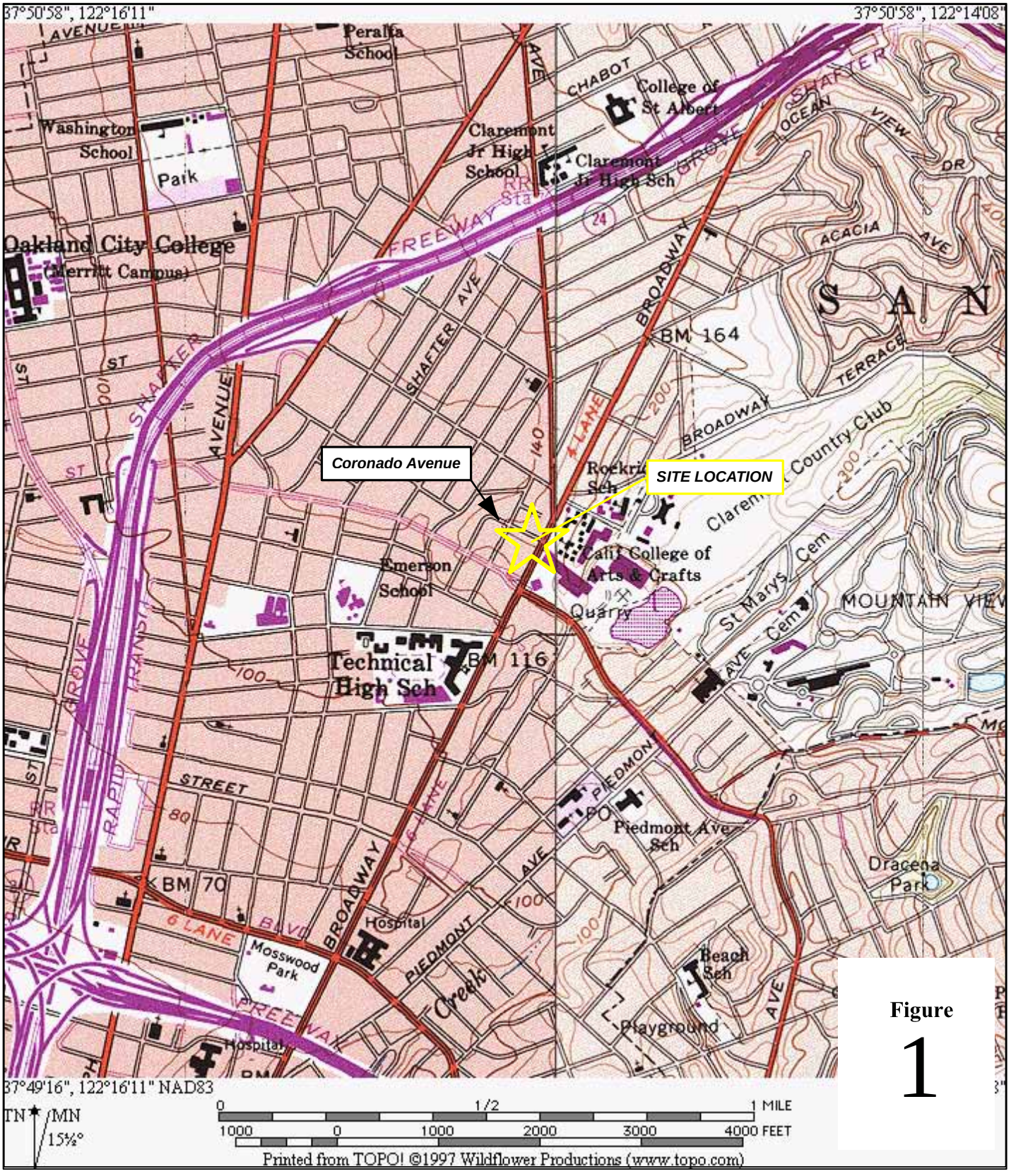


Figure 1

FeinerBroadway site loc.ai 8/30/06

Former Exxon Station
5175 Broadway
Oakland, California

PANGEA

Site Location Map

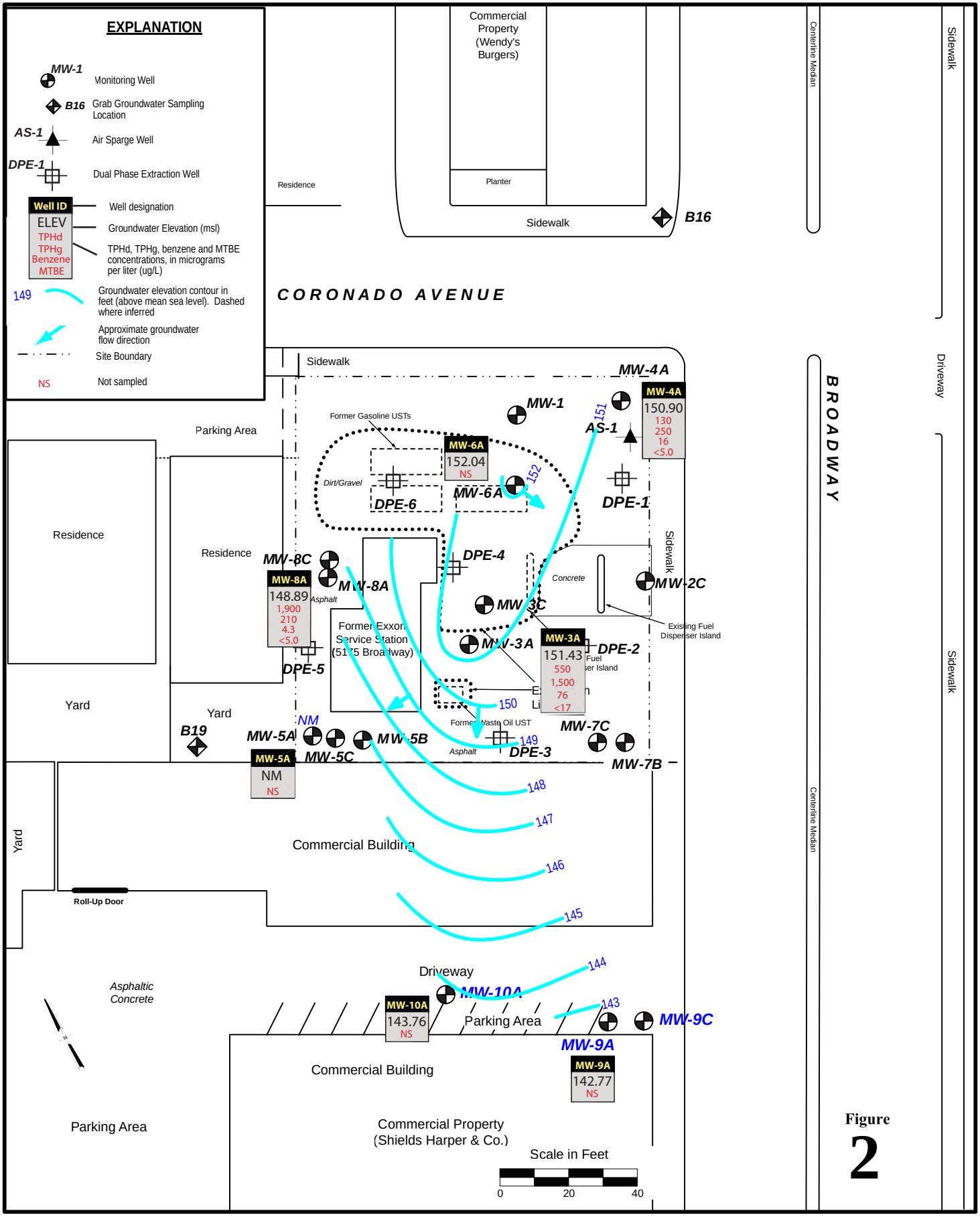


Figure 2

Former Exxon Station
5175 Broadway
Oakland, California

Groundwater Elevation Contour and Hydrocarbon Concentration Map (Shallow)
September 12-13,2012

PANGEA

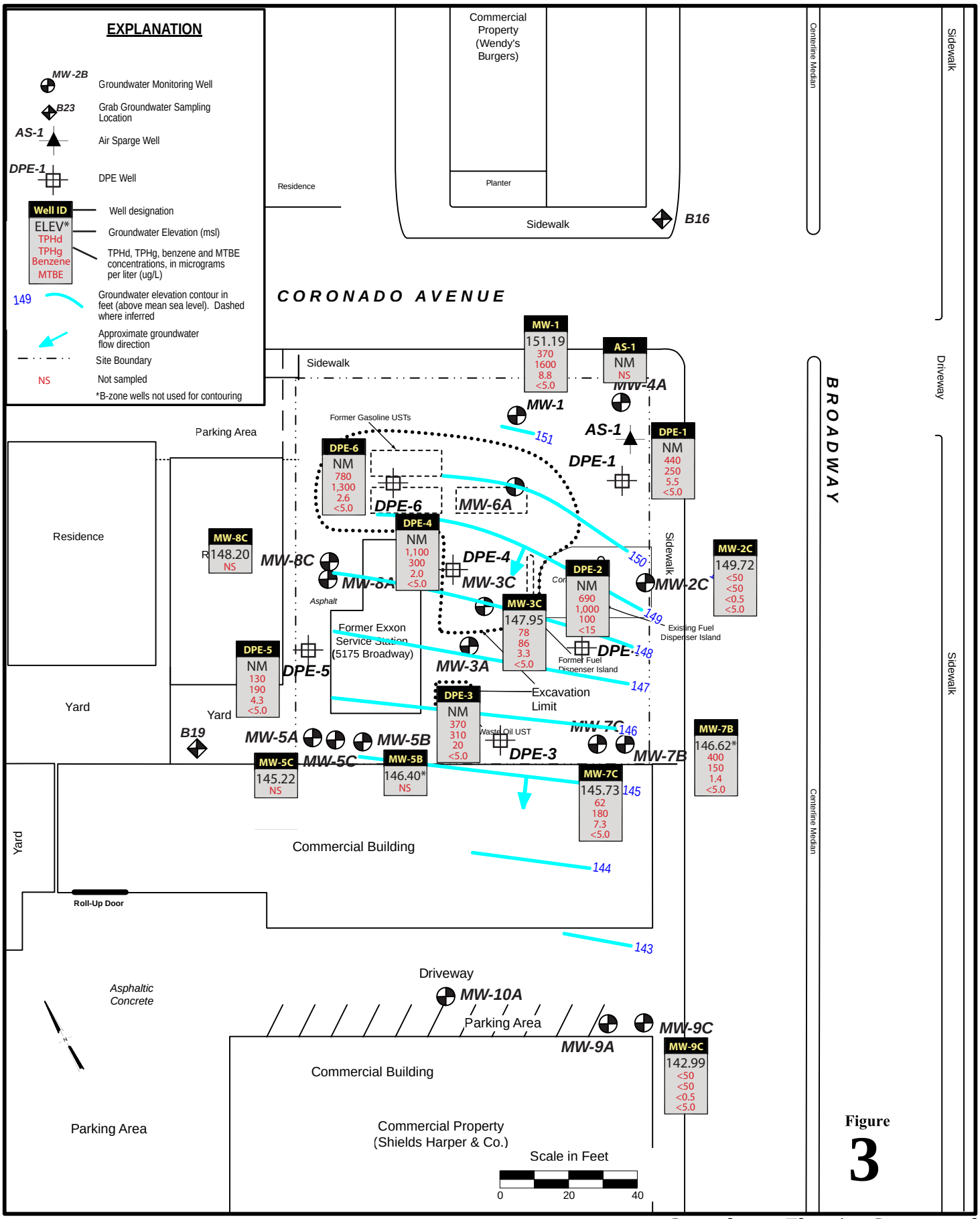


Figure 3

Former Exxon Station
5175 Broadway
Oakland, California

Groundwater Elevation Contour and Hydrocarbon Concentration Map (Deep)

September 12-13, 2012

PANGEA

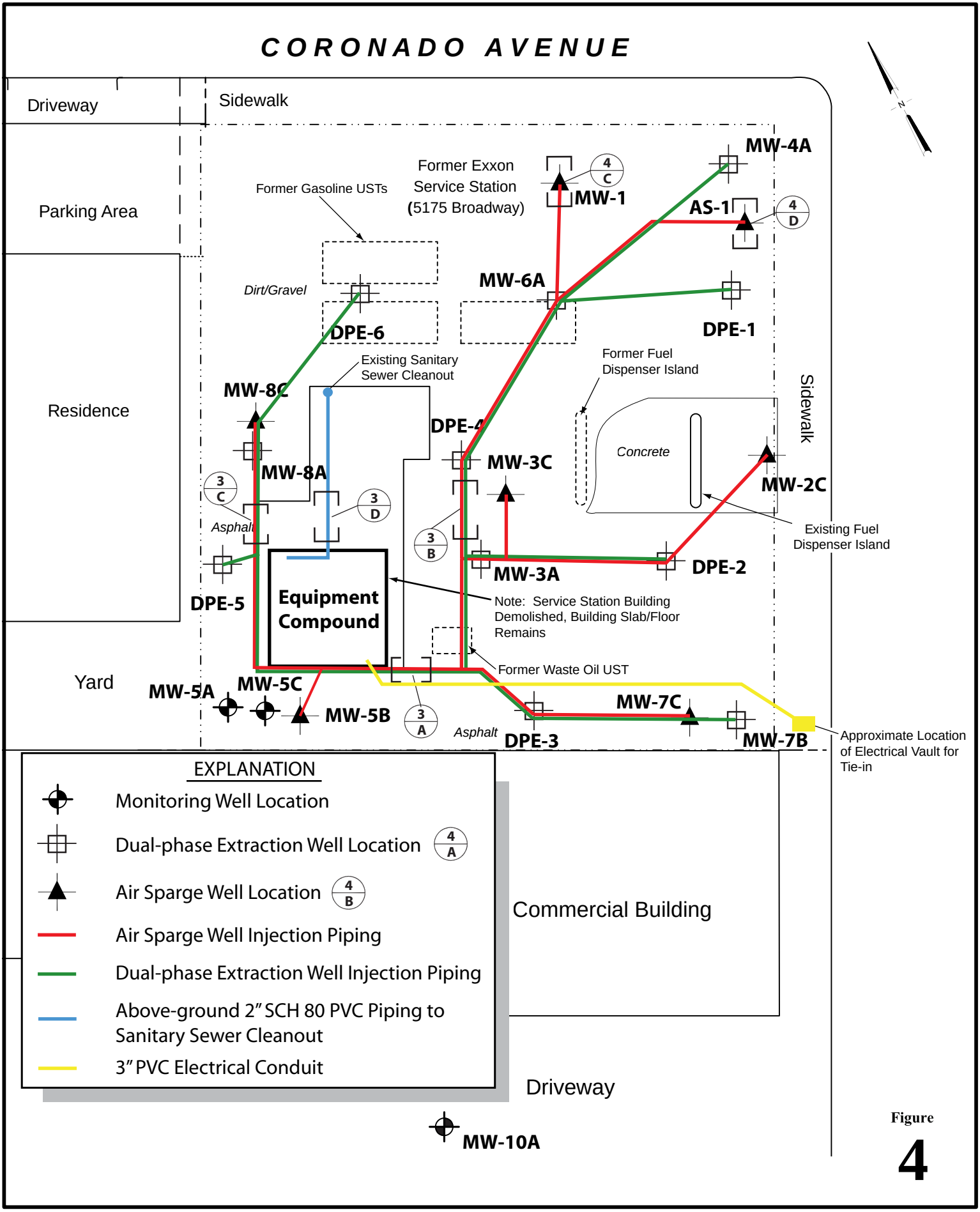
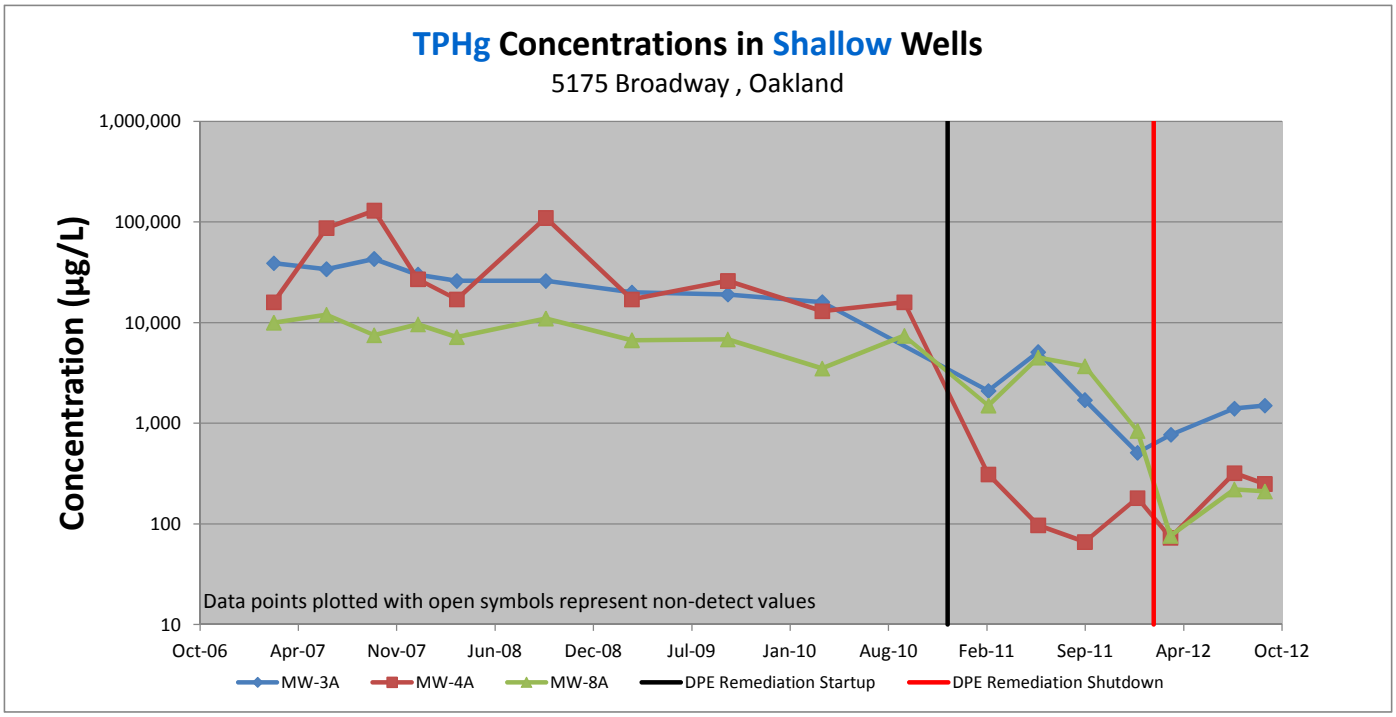


Figure
4

Former Exxon Station
5175 Broadway
Oakland, California

PANGEA

Remediation System Layout



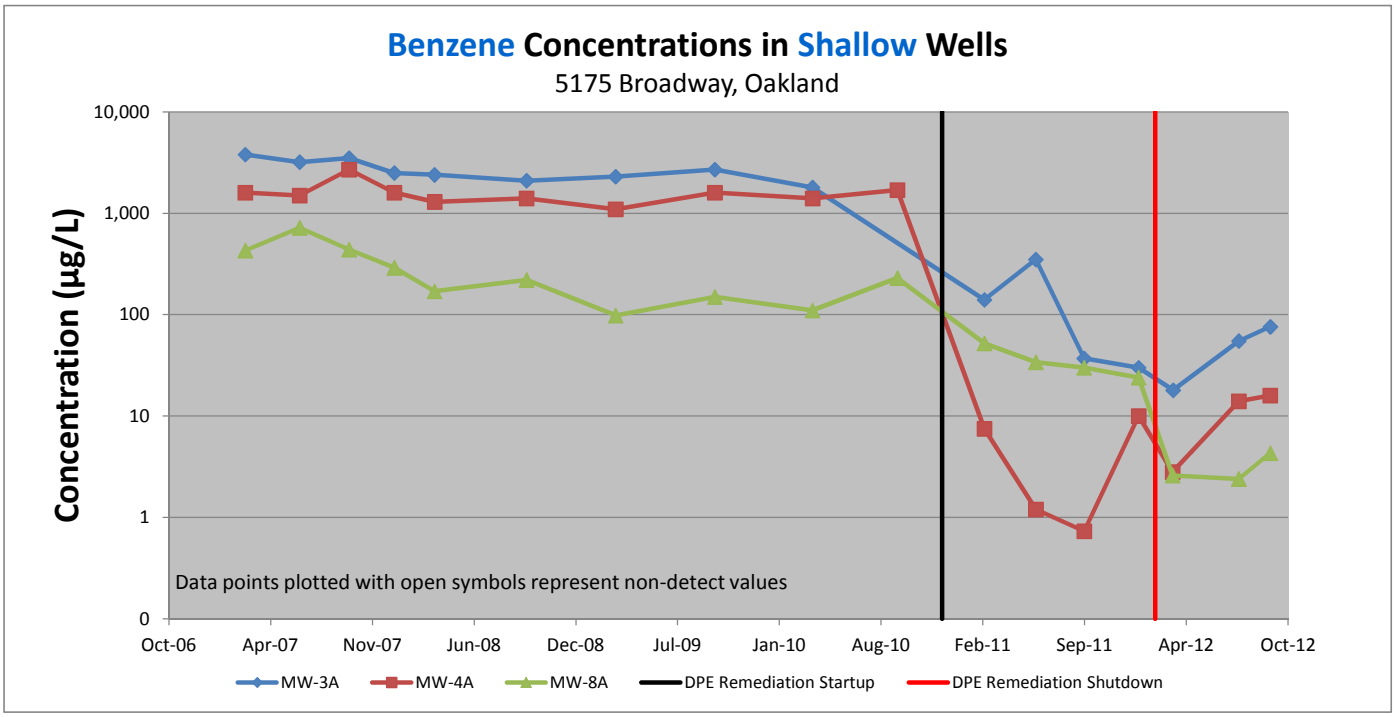
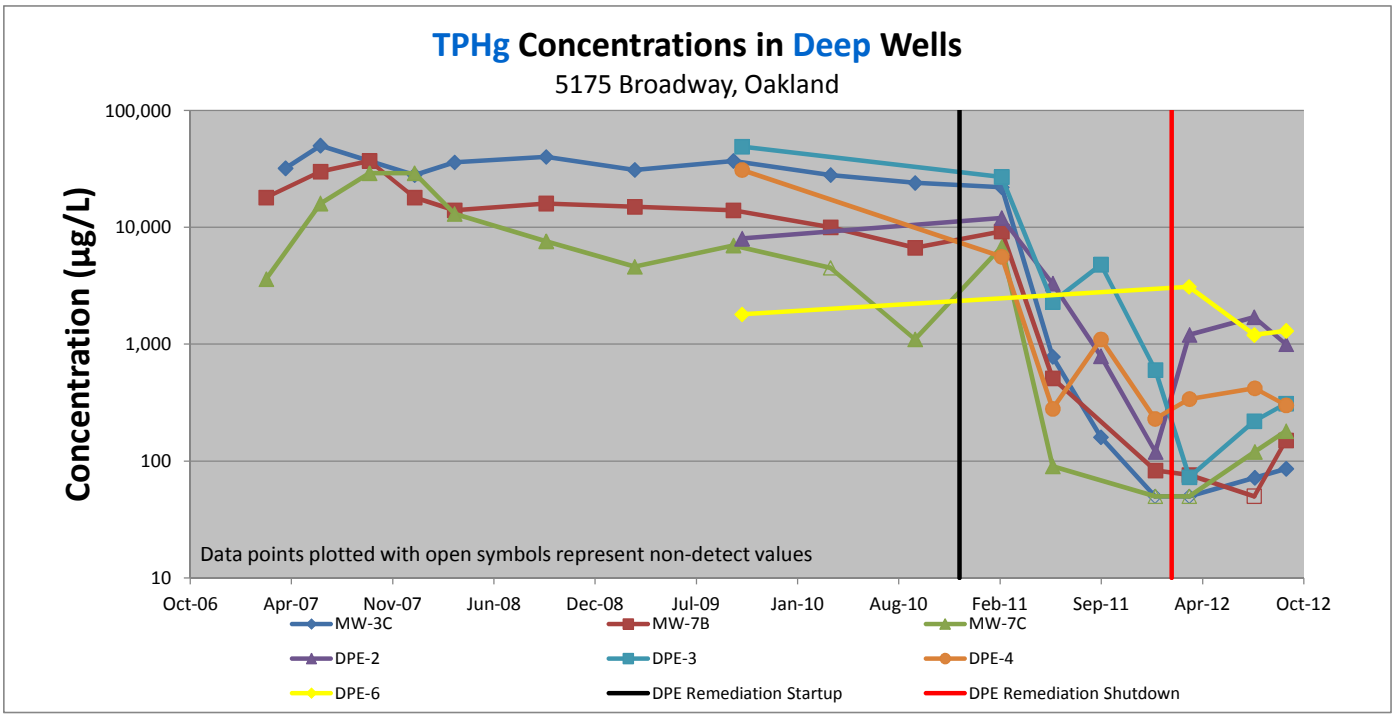


Figure 5. TPHg and Benzene Concentration Trends in Shallow Groundwater



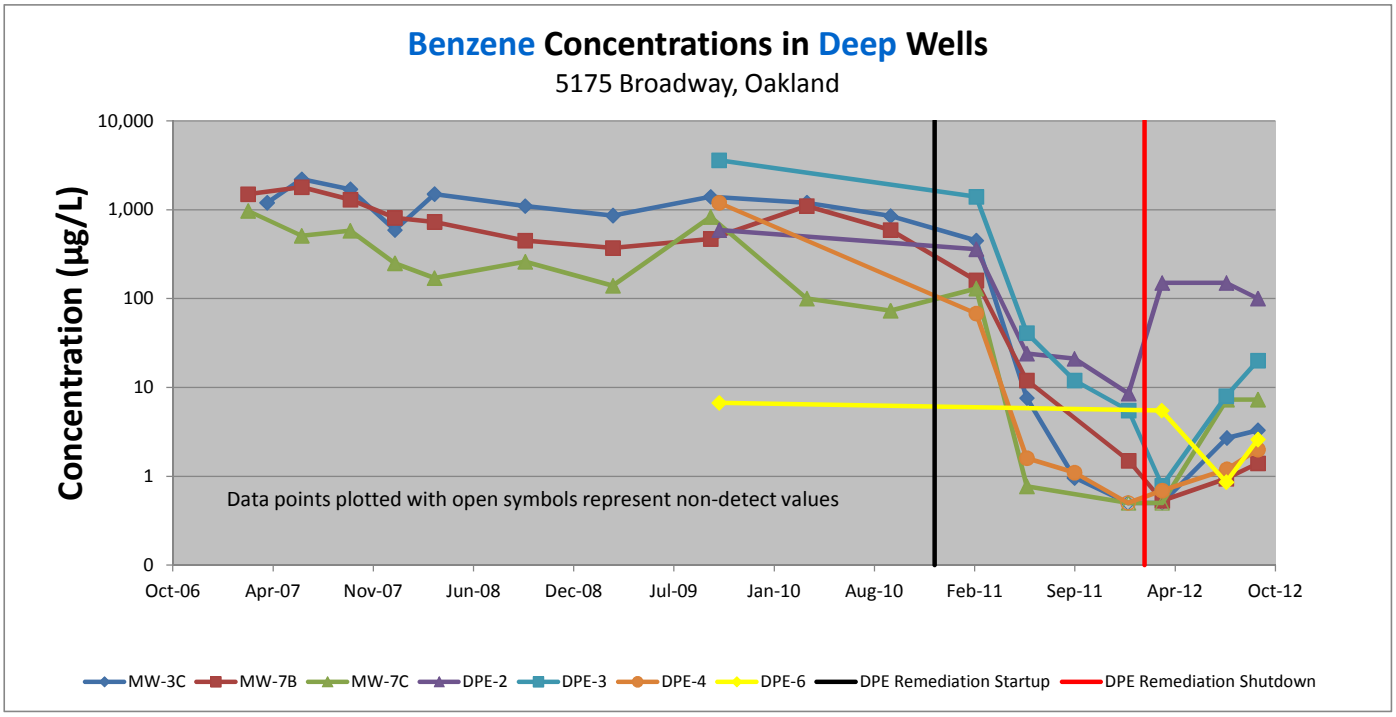


Figure 6. TPHg and Benzene Concentration Trends in Deep Groundwater

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
	12/29/11	--	149.34	12.23	410	510	30	1.0	2.1	24	<5.0	--	--	0.83
	03/06/12	--	151.30	10.27	360	770	18	1.5	5.7	23	<5.0	--	--	0.23
	07/13/12	--	152.55	9.02	620	1,400	55	2.3	23	10	<10	--	--	0.15
	09/13/12	**--**	**151.43**	**10.14**	**550**	**1,500**	**76**	**2.2**	**18**	**5.7**	**<17**	**--**	**--**	**3.16**
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
	12/29/11	--	151.29	11.15	200	180	10	<0.5	<0.5	<0.5	<5.0	--	--	0.83
	03/05/12	--	152.64	9.80	<50	73	2.8	<0.5	<0.5	<0.5	<5.0	--	--	0.25
	07/13/12	--	151.59	10.85	170	320	14	0.85	2.0	1.9	<5.0	--	--	0.30
	09/13/12	**--**	**150.90**	**11.54**	**130**	**250**	**16**	**<0.5**	**1.3**	**1.6**	**<5.0**	**--**	**--**	**1.29**
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									

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-5A	03/06/09	--	151.33	9.49	230	460	2.0	3.0	0.68	1.9	<5.0	--	--	--
(cont.)	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
	12/29/11				Well Dry									
	07/13/12	--	149.70	11.12	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.27
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	--	--	--
	09/12/08	--	152.92	8.66	510	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	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
	12/29/11	--	151.96	9.62	--	--	--	--	--	--	--	--	--	--
	07/13/12	--	153.35	8.23	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.13
	09/12/12	**--**	**152.04**	**9.54**	--	--	--	--	--	--	--	--	--	--
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
	12/29/11	--	148.06	13.53	3,400	840	24	2.5	2.6	16	<5.0	--	--	0.51
	03/05/12	--	152.39	9.20	<50	76	2.6	<0.5	<0.5	<0.5	<5.0	--	--	0.48
	07/13/12	--	151.54	10.05	440	220	2.4	<0.5	<0.5	<0.5	<5.0	--	--	0.19
	09/13/12	**--**	**148.89**	**12.70**	**1,900**	**210**	**4.3**	**0.65**	**1.4**	**2.7**	**<5.0**	**--**	**--**	**0.61**

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-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
	12/29/11							Well Inaccessible						
	07/12/12	--	143.06	12.31	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	1.71
	09/12/12	**--**	**142.77**	**12.60**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
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
	12/29/11							Well Inaccessible						
	07/12/12	--	144.80	10.08	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	3.34
	09/12/12	**--**	**143.76**	**11.12**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
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	--	--	--

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

Well ID	Date		Groundwater	Depth										Dissolved
TOC Elev	Sampled	SPH	Elevation	to Water	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DIPE	1,2-DCA	Oxygen
(ft)		(ft)	(ft)	(ft)	←				µg/L				→	mg/L
(97.50)	01/27/98	--	89.54	7.96	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--
MW-1	04/24/98	--	89.52	7.98	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--
(cont.)	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
	12/29/11	--	151.76	9.34	3,100	950	2.1	<0.5	<0.5	2.9	<5.0	--	--	0.53
	03/05/12	--	153.05	8.05	340	660	21	2.4	1.7	2.1	<5.0	--	--	0.27
	07/13/12	--	151.80	9.30	220	260	14	0.85	<0.5	1.1	<5.0	--	--	0.15
	09/13/12	**--**	**151.19**	**9.91**	**370**	**1,600**	**8.8**	**0.82**	**3.1**	**1.6**	**<5.0**	**--**	**--**	**1.42**
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	--	--	--
	09/29/07	--	150.45	10.20	120	200	13	<0.5	<0.5	2.0	<5.0	--	--	--
	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	--	--	--

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-2C	09/11/10	--	150.31	10.34	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
(cont.)	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
	12/29/11	--	149.21	11.44	--	--	--	--	--	--	--	--	--	--
	07/13/12	--	150.39	10.26	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.27
	09/12/12	**--**	**149.72**	**10.93**	--	--	--	--	--	--	--	--	--	--
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
	12/29/11	--	146.25	15.54	<50	<50	<0.5	<0.5	<0.5	0.90	<5.0	--	--	0.62
	03/06/12	--	149.82	11.97	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	4.78
	07/13/12	--	149.18	12.61	<50	72	2.7	0.50	0.87	1.2	<5.0	--	--	0.17
	09/13/12	**--**	**147.95**	**13.84**	**78**	**86**	**3.3**	**<0.5**	**<0.5**	**0.80**	**<5.0**	**--**	**--**	**2.90**
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
	12/29/11	--	146.36	15.14	--	--	--	--	--	--	--	--	--	--
	07/13/12	--	147.80	13.70	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	1.16
	09/12/12	**--**	**146.40**	**15.10**	--	--	--	--	--	--	--	--	--	--

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	03/09/07	--	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	--	--	--
	03/01/11	--	148.95	12.08	66	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
	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
	12/29/11	--	146.13	14.90	--	--	--	--	--	--	--	--	--	--
	07/13/12	--	147.13	13.90	<50	<50	2.3	<0.5	<0.5	<0.5	<5.0	--	--	0.54
	09/12/12	**--**	**145.22**	**15.81**	--	--	--	--	--	--	--	--	--	--
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						
	12/30/11	--	145.49	13.53	95	83	1.5	0.67	<0.5	2.3	<5.0	--	--	0.61
	03/06/12	--	147.76	11.26	400	76	0.53	1.2	<0.5	1.8	<5.0	--	--	0.52
	07/12/12	--	147.80	11.22	<50	<50	0.94	<0.5	<0.5	0.78	<5.0	--	--	0.62
	09/13/12	**--**	**146.62**	**12.4**	**400**	**150**	**1.4**	**1.3**	**<0.5**	**3.2**	**<5.0**	**--**	**--**	**1.90**
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	--	--	--

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

Well ID	Date		Groundwater	Depth										Dissolved
TOC Elev	Sampled	SPH	Elevation	to Water	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DIPE	1,2-DCA	Oxygen
(ft)		(ft)	(ft)	(ft)	←			µg/L					→	mg/L
MW-7C	09/11/10	--	145.77	12.76	350	1,100	73	3.6	2.0	5.2	<15	--	--	--
(cont.)	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						
	12/30/11	--	143.02	15.51	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.59
	03/06/12	--	146.65	11.88	100	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.47
	07/13/12	--	146.58	11.95	<50	120	7.3	<0.5	<0.5	<0.5	<5.0	--	--	0.61
	09/13/12	**--**	**145.73**	**12.80**	**62**	**180**	**7.3**	**<0.5**	**<0.5**	**<0.5**	**<5.0**	**--**	**--**	**2.17**
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
	12/29/11	--	149.12	12.21	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	3.97
	07/13/12	--	149.28	12.05	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.51
	09/12/12	**--**	**148.20**	**13.13**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
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	--	--	--
	12/29/11							Well Inaccessible						
	07/12/12	--	142.99	11.95	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.63
	09/12/12	**--**	**142.13**	**12.81**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
REMEDIATION WELLS														
AS-1	10/04/09	--	--	11.38	--	<50	3.6	<0.5	<0.5	<0.5	<5.0	--	--	--
	07/13/12	--	--	10.25	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	1.87

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 →									
DPE-1	10/04/09	--	--	10.38	--	1,600	210	4.4	5.1	34	<35	--	--	--
	03/05/12	--	--	9.12	230	360	9.2	<0.5	<0.5	2.1	<5.0	--	--	0.23
	07/12/12	--	--	10.08	290	300	11	<0.5	1.0	1.4	<5.0	--	--	0.95
	09/13/12	**--**	**--**	**10.78**	**440**	**250**	**5.5**	**<0.5**	**<0.5**	**<0.5**	**<5.0**	**--**	**--**	**1.86**
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
	12/30/11	--	--	13.38	94	120	8.5	0.65	<0.5	4.6	<5.0	--	--	0.59
	03/06/12	--	--	9.22	160	1,200	150	10	12	80	<35	--	--	0.13
	07/12/12	--	--	10.50	480	1,700	150	8.2	25	43	<20	--	--	0.99
	09/13/12	**--**	**--**	**11.70**	**690**	**1,000**	**100**	**6.4**	**16**	**28**	**<15**	**--**	**--**	**0.94**
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
	12/30/11	--	--	14.76	450	600	5.5	2.0	0.90	15	<5.0	--	--	0.51
	03/06/12	--	--	10.57	<50	73	0.78	<0.5	<0.5	3.7	<5.0	--	--	0.45
	07/12/12	--	--	11.00	350	220	8.0	0.71	1.9	2.9	<5.0	--	--	0.48
	09/13/12	**--**	**--**	**12.60**	**370**	**310**	**20**	**1.20**	**3.8**	**4.1**	**<5.0**	**--**	**--**	**1.12**
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
	12/30/11	--	--	12.22	240	230	<0.5	1.9	0.84	17	<5.0	--	--	--
	03/06/12	--	--	10.55	190	340	0.69	1.9	1.1	23	<5.0	--	--	0.19
	07/13/12	--	--	12.26	520	420	1.2	1.1	1.0	12	<5.0	--	--	0.15
	09/13/12	**--**	**--**	**11.92**	**1,100**	**300**	**2.0**	**1.2**	**1.2**	**11**	**<5.0**	**--**	**--**	**3.60**
DPE-5	10/04/09	--	--	14.46	--	2,900	78	71	29	260	<50	--	--	--
	03/05/12	--	--	10.87	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.43
	07/12/12	--	--	13.35	<50	69	1.7	<0.5	<0.5	<0.5	<5.0	--	--	0.56
	09/13/12	**--**	**--**	**14.70**	**130**	**190**	**4.3**	**<0.5**	**0.78**	**<0.5**	**<5.0**	**--**	**--**	**2.82**
DPE-6	10/04/09	--	--	11.05	--	1,800	6.7	5.2	2.6	34	<5.0	--	--	--
	03/05/12	--	--	9.43	970	3,100	5.5	3.4	5.7	5.8	<30	--	--	0.18
	07/12/12	--	--	10.45	920	1,200	0.86	2.4	2.2	2.2	<5.0	--	--	0.46
	09/13/12	**--**	**--**	**11.40**	**780**	**1,300**	**2.6**	**1.5**	**2.9**	**2.5**	**<5.0**	**--**	**--**	**1.59**
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	--	--	--	--

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-2 (cont.)	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	--	--	--
	09/30/97	--	89.60	7.89	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--
	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	--	--	--

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-3	09/30/97	--	88.54	9.40	1,600	6,000	43	36	12	11	<0.5	--	--	--
(cont.)	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	--	--	--
	05/17/00	--	87.69	10.25	--	22,000	300	260	410	940	<5.0	--	--	--
	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	--	--	--
	07/28/06	--		Not Sampled - Unable to locate well										
	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	--	--	--

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

Well ID	Date		Groundwater	Depth										Dissolved
TOC Elev	Sampled	SPH	Elevation	to Water	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DIPE	1,2-DCA	Oxygen
(ft)		(ft)	(ft)	(ft)	←				µg/L				→	mg/L
STMW-4	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	--	--	--
(cont.)	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	--	--	--
	04/24/98	--	85.30	11.84	<50	3,300	12	9.4	8.5	37	<0.5	--	--	--
	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	--	--	--

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					→	
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)	SVE TPHg Removal Rate (lbs/day)	SVE Benzene Removal Rate (lbs/day)	Cumulative SVE TPHg Removal (lbs)	Cumulative SVE Benzene Removal (lbs)	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
		Removal												Emission Reporting						
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.
10/05/11	DPE- 3, MW-7B, 8A	10063.0	8.3	98	18	---	100	0.50	72	3.1	0.01	1202.9	8.30	---	---	---	---	---	23,215,842	On.
10/11/11	DPE- 3, MW-7B, 8A	10065.2	0.1	91	19	---	70	0.50	58	2.0	0.01	1203.1	8.30	---	---	---	---	---	23,227,882	Off on arrival, restart.
10/18/11	DPE- 3, MW-7B, 8A	10115.6	2.1	93	22	---	100	0.50	79	3.0	0.01	1209.4	8.33	---	---	---	---	---	23,509,749	Off on arrival, restart.
11/02/11	DPE- 3, MW-7B, 8A	10473.7	14.9	89	21	---	150	1.0	117	4.3	0.03	1273.5	8.72	---	---	---	---	---	25,428,878	On.
11/15/11	DPE- 3, MW-7B, 8A	10525.4	2.2	86	18	---	100	0.50	106	2.8	0.01	1279.5	8.74	---	---	---	---	---	25,696,364	Off on arrival, restart.
11/22/11	DPE- 3, MW-7B, 8A	10690.3	6.9	76	18	---	100	0.50	---	2.4	0.01	1296.2	8.82	---	---	---	---	---	26,448,308	On.
11/23/11	DPE- 3, 4, 5, MW-8A	10717.5	1.1	83	18	---	30	0.50	39	0.8	0.01	1297.1	8.83	---	---	---	---	---	26,583,764	On.
11/29/11	DPE- 3, 4, 5, MW-8A	10855.9	5.8	83	16	---	60	0.50	63	1.6	0.01	1306.4	8.90	---	---	---	---	---	27,272,996	On.
12/08/11	DPE- 3, 4, 5, MW-8A	11075.6	9.2	76	18	---	40	0.50	49	1.0	0.01	1315.3	9.00	---	---	---	---	---	28,277,464	On.
12/16/11	DPE- 3, 4, 5, MW-8A	11263.7	7.8	77	18	---	60	0.50	61	1.5	0.01	1326.9	9.09	---	---	---	---	---	29,145,358	On.
12/22/11	DPE- 3, 4, 5, MW-8A	11383.5	5.0	77	18	---	60	0.50	---	1.5	0.01	1334.3	9.15	---	---	---	---	---	29,698,834	Off. Leave off for QM event on 12/29.
01/03/12	DPE- 3, 4, 5, MW-8A	11384.7	0.1	71	17	---	100	0.50	163	2.3	0.01	1334.4	9.15	---	---	---	---	---	29,703,962	Off. Restart.
01/04/12	DPE- 3, 4, 5, MW-8A	11410.4	1.1	68	18	INF-V	**32**	**<0.077**	43	0.7	0.00	1335.2	9.15	---	---	---	---	---	29,809,173	On.
01/16/12	DPE- 4, 5, MW-3A	11699.5	12.0	78	17	---	30	<0.077	38	0.8	0.00	1344.2	9.15	---	---	---	---	---	31,165,803	On.
01/31/12	DPE- 4, 5, MW-3A	11896.6	8.2	78	17	---	30	<0.077	31	0.8	0.00	1350.4	9.15	---	---	---	---	---	32,090,715	On. System Shutdown.

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

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Table 3. SVE (DPE) Performance Data - 5175 Broadway, Oakland, CA										Removal				Emission Reporting						
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)	SVE TPHg Removal Rate (lbs/day)	SVE Benzene Removal Rate (lbs/day)	Cumulative SVE TPHg Removal (lbs)	Cumulative SVE Benzene Removal (lbs)	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

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.
	10/05/11	65,650	261	9	0.02	---	---	---	0.000	0.000	0.000	On.
	10/11/11	65,743	93	6	0.01	---	---	---	0.000	0.000	0.000	Off. Restart.
	10/18/11	65,881	138	7	0.01	---	---	---	0.000	0.000	0.000	Off. Restart.
	11/02/11	66,589	708	15	0.03	---	---	---	0.000	0.000	0.000	On.
	11/15/11	66,684	95	13	0.01	---	---	---	0.000	0.000	0.000	Off on arrival, restart.
	11/22/11	67,082	398	7	0.04	---	---	---	0.000	0.000	0.000	On.
	11/23/11	67,161	79	1	0.05	---	---	---	0.000	0.000	0.000	On.
	11/29/11	67,810	649	6	0.08	---	---	---	0.000	0.000	0.000	On.
	12/08/11	68,695	885	9	0.07	---	---	---	0.001	0.000	0.000	On.
	12/16/11	69,431	736	8	0.06	---	---	---	0.000	0.000	0.000	On.
	12/22/11	69,481	50	6	0.01	**ND (<50)**	**ND (<0.5)**	**ND (<5.0)**	0.000	0.000	0.000	Off. Leave off for QM event 12/29.
	01/03/12	69,841	360	12	0.02	---	---	---	0.000	0.000	0.000	Off. Restart.
	01/04/12	70,027	186	1	0.13	---	---	---	0.000	0.000	0.000	On.
	01/16/12	71,127	1,100	12	0.06	---	---	---	0.000	0.000	0.000	On.
	01/31/12	72,634	1,507	15	0.07	---	---	---	0.000	0.000	0.000	On. System shutdown.
									0.266	**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)**	---	---	---	
	12/22/11	---	---	---	---	**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)**	---	---	---	
	12/22/11	---	---	---	---	**ND (<50)**	**ND (<0.5)**	**ND (<5.0)**	---	---	---	

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

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 for Post-Remediation Verification

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	--	--
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)	4	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	A
MW-9C	Mon	17-21	Downgradient (Offsite)	2	Q	A
AS-1	AS	16-20	NE Corner, Upgradient (Onsite)	1	---	---
DPE-1	DPE	9-19	NE Corner, Upgradient (Onsite)	4	Q	**Q**
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	Q	**Q**
DPE-6	DPE	14-19	Source Area (Onsite)	4	Q	**Q**

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 (Historically September but performed in July for 2012)

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 #:1145.001 224				Project Name:Feiner - 5175 Broadway			
Address: 5175 Broadway, Oakland, CA						Date. 9/12/12	
Name: Sanjiv Gill				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	4"	10:33			9.91	22.78	TOC
MW-2C	2"	10:29			10.93	23.38	
MW-3A	2"	11:15			10.14	13.82	
MW-3C	2"	11:12			13.84	26.54	
MW-4A	2"	10:37			11.54	14.65	
MW-5B	2"	10:25			15.10	19.20	
MW-5C	2"	10:20			15.81	26.70	
MW-6A	2"	10:41			9.54	14.69	
MW-7B	2"	11:00			12.40	18.17	
MW-7C	2"	10:57			12.80	24.01	
MW-8A	2"	10:47			12.70	14.55	

Comments:

Pangea
ENVIRONMENTAL SERVICES, INC.

Well Gauging Data Sheet

Project.Task #:1145.001 224				Project Name:Feiner - 5175 Broadway			
Address: 5175 Broadway, Oakland, CA						Date. 9/12/12	
Name: Sanjiv Gill				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-8C	2"	10:45			13.13	22.79	TOC
MW-9A	2"	9:40			12.60	15.19	
MW-9C	2"	9:45			12.81	20.43	
MW-10A	2"	9:50			11.12	17.96	
DPE-1	4"	11:06 ~~11:06~~			10.78	19.29	
DPE-2	4"	11:04			11.70	19.18	
DPE-3	4"	10:55			12.60	19.34	
DPE-4	4"	11:13			11.92	16.72	
DPE-5	4"	10:51			14.70	19.20	
DPE-6	4"	11:10			11.40	19.73	

Comments:

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MONITORING FIELD DATA SHEET

Well ID: MW-1

Project.Task #: 1145.001 224	Project Name: Rockridge Heights - 5175 Broadway
Address: 5175 Broadway, Oakland, CA	
Date: 9/12/12	Weather: Sunny
Well Diameter: 4"	Volume/ft. 1" = 0.04 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 6" = 1.47 | radius² * 0.163
Total Depth (TD): 22.78	Depth to Product:
Depth to Water (DTW): 9.91	Product Thickness:
Water Column Height: 12.87	1 Casing Volume: 8.36 gallons
Reference Point: TOC	3 Casing Volumes: 25.08 gallons
Purging Device: Disposable Bailer, 3" PVC Bailer, Parastaltic Pump, Whal Pump	
Sampling Device: Disposable Bailer	

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
9/13/13 06:00	18.9	7.24	950				8.5	
06:10	18.9	7.27	972				17.0	
06:20	19.0	7.31	979				25	

Comments: ~~YSI 550~~ Hanna DO meter — pre purge DO = mg/l

post purge DO = 1.42 mg/l

very turbid

Sample ID: MW-1	Sample Time: 06:25
Laboratory: McCampbell Analytical, INC.	Sample Date: 9/13/12
Containers/Preservative: Voa/HCl	
Analyzed for: 8015, 8021	
Sampler Name: Sanjiv Gill	Signature:

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MONITORING FIELD DATA SHEET

Well ID: MW-3A

Project.Task #: 1145.001 224	Project Name: Feiner - 5175 Broadway
Address: 5175 Broadway, Oakland, CA	
Date: 9/12/12	Weather: Sunny
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): 13.82	Depth to Product:
Depth to Water (DTW): 10.14	Product Thickness:
Water Column Height: 3.68	1 Casing Volume: 0.58 gallons
Reference Point: TOC	3 Casing Volumes: 1.74 gallons

Purging Device: Disposable Bailer, 3" PVC Bailer, Parastaltic Pump, Whal Pump

Sampling Device: Disposable Bailer

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
9/12/12								
12:55	21.5	7.46	1440				0.5	
12:57		Dewatered					0.7	

Comments: Hanna DO meter

pre purge DO = mg/l

post purge DO = 3.16 mg/l

very turbid, silty

Sample ID: MW-3A	Sample Time: 07:20
Laboratory: McCampbell Analytical, INC.	Sample Date: 9/13/12
Containers/Preservative: Voa/HCl	
Analyzed for: 8015, 8021	
Sampler Name: Sanjiv Gill	Signature:

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MONITORING FIELD DATA SHEET

Well ID: MW-3C

Project.Task #: 1145.001 224	Project Name: Feiner - 5175 Broadway
Address: 5175 Broadway, Oakland, CA	
Date: 9/12/12	Weather: Sunny
Well Diameter: 2"	Volume/ft. 1" = 0.04 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 6" = 1.47 | radius² * 0.163
Total Depth (TD): 26.54	Depth to Product:
Depth to Water (DTW): 13.84	Product Thickness:
Water Column Height: 12.70	1 Casing Volume: 2.03 gallons
Reference Point: TOC	3 Casing Volumes: 6.09 gallons

Purging Device: Disposable Bailer, 3" PVC Bailer, Parastaltic Pump, Whal Pump

Sampling Device: Disposable Bailer

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
9/12/12 12:35	19.6	7.58	1010				2	
12:38	19.5	7.60	990				4	
12:42	19.6	7.66	990				6	

Comments: ~~YSI~~ Hanna DO meter — pre purge DO = mg/l

; post purge DO = 2.90 mg/l

very turbid silty

Sample ID: MW-3C	Sample Time: 07:10
Laboratory: McCampbell Analytical, INC.	Sample Date: 9/13/12
Containers/Preservative: Voa/HCl	
Analyzed for: 8015, 8021	
Sampler Name: Sanjiv Gill	Signature:

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MONITORING FIELD DATA SHEET

Well ID: MW-4A

Project.Task #: 1145.001 224	Project Name: Feiner - 5175 Broadway
Address: 5175 Broadway, Oakland, CA	
Date: 9/12/12	Weather: Sunny
Well Diameter: 2"	Volume/ft. 1" = 0.04 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 6" = 1.47 | radius² * 0.163
Total Depth (TD): 14.65	Depth to Product:
Depth to Water (DTW): 11.54	Product Thickness:
Water Column Height: 3.11	1 Casing Volume: 0.49 gallons
Reference Point: TOC	3 Casing Volumes: 1.47 gallons

Purging Device: (Disposable Bailer, 3" PVC Bailer, Parastaltic Pump, Whal Pump)

Sampling Device: (Disposable Bailer)

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
12:00	21.7	7.54	1040				.5	
12:03		Dewatered					1.0	

9/12/12

Comments: Hanna DO meter — pre purge DO = mg/l

post purge DO = 1.29 mg/l

very turbid, silty

Sample ID: MW-4A	Sample Time: 06:40
Laboratory: McCampbell Analytical, INC.	Sample Date: 9/13/12
Containers/Preservative: Voa/HCl	
Analyzed for: 8015, 8021	
Sampler Name: Sanjiv Gill	Signature:

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MONITORING FIELD DATA SHEET

Well ID: MW-7B

Project.Task #: 1145.001 224	Project Name: Feiner - 5175 Broadway
Address: 5175 Broadway, Oakland, CA	
Date: 9/12/12	Weather: Sunny
Well Diameter: 2"	Volume/ft. 1" = 0.04, 2" = 0.16, 3" = 0.37, 4" = 0.65, 6" = 1.47, radius² * 0.163
Total Depth (TD): 18.17	Depth to Product:
Depth to Water (DTW): 12.40	Product Thickness:
Water Column Height: 5.77	1 Casing Volume: 0.92 gallons
Reference Point: TOC	3 Casing Volumes: 2.76 gallons

Purging Device: Disposable Bailer, 3" PVC Bailer, Parastaltic Pump, Whal Pump

Sampling Device: Disposable Bailer

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
9/12/12 12:25	19.7	7.44	740				1.0	
12:26	De-Watered						1.3	

Comments: Hanna DO meter — pre purge DO = mg/l

post purge DO = 1.90 mg/l

very turbid, silty

Sample ID: MW-7B	Sample Time: 07:00
Laboratory: McCampbell Analytical, INC.	Sample Date: 9/13/12
Containers/Preservative: Voa/HCl	
Analyzed for: 8015, 8021	
Sampler Name: Sanjiv Gill	Signature:

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MONITORING FIELD DATA SHEET

Well ID: MW-7C

Project.Task #: 1145.001 224	Project Name: Feiner - 5175 Broadway
Address: 5175 Broadway, Oakland, CA	
Date: 9/12/12	Weather: Sunny
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): 24.01	Depth to Product:
Depth to Water (DTW): 12.80	Product Thickness:
Water Column Height: 11.21	1 Casing Volume: 1.79 gallons
Reference Point: TOC	3 Casing Volumes: 5.37 gallons

Purging Device: (Disposable Bailer), 3" PVC Bailer, Parastaltic Pump, Whal Pump

Sampling Device: Disposable Bailer

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
12:14	19.2	7.63	1180				1.5	
12:16		Dewatered					2.5	

9/12/12

Comments: Hanna DO meter — pre purge DO = mg/l

post purge DO = 2.17 mg/l

very turbid

Sample ID: MW-7C	Sample Time: 06:50
Laboratory: McCampbell Analytical, INC.	Sample Date: 9/13/12
Containers/Preservative: Voa/HCl	
Analyzed for: 8015, 8021	
Sampler Name: Sanjiv Gill	Signature:

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MONITORING FIELD DATA SHEET

Well ID: MW-8A

Project.Task #: 1145.001 224	Project Name: Feiner - 5175 Broadway
Address: 5175 Broadway, Oakland, CA	
Date: 9/12/12	Weather: Sunny
Well Diameter: 2"	Volume/ft. 1" = 0.04 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 6" = 1.47 | radius² * 0.163
Total Depth (TD): 14.55	Depth to Product:
Depth to Water (DTW): 12.70	Product Thickness:
Water Column Height: 1.85	1 Casing Volume: 0.29 gallons
Reference Point: TOC	3 Casing Volumes: 0.87 gallons
Purging Device: Disposable Bailer, 3" PVC Bailer, Parastaltic Pump, Whal Pump	
Sampling Device: Disposable Bailer	

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
9/12/12 11:45	20.4	7.07	1720				.3	
11:47	Dewatered						.5	

Comments: Having DO meter

pre purge DO = mg/l

post purge DO = 0.61 mg/l

very turbid silty

Sample ID: MW-8A	Sample Time: 06:35
Laboratory: McCampbell Analytical, INC.	Sample Date: 9/13/12
Containers/Preservative: Voa/HCl	
Analyzed for: 8015, 8021	
Sampler Name: Sanjiv Gill	Signature:

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MONITORING FIELD DATA SHEET

Well ID: DPE-1

Project.Task #: 1145.001 224	Project Name: Feiner - 5175 Broadway
Address: 5175 Broadway, Oakland, CA	
Date: 9/12/12	Weather: Sunny
Well Diameter: 4"	Volume/ft. 1" = 0.04, 2" = 0.16, 3" = 0.37, 4" = 0.65, 6" = 1.47, radius² * 0.163
Total Depth (TD): 19.29	Depth to Product:
Depth to Water (DTW): 10.78	Product Thickness:
Water Column Height: 8.51	1 Casing Volume: 5.53 gallons
Reference Point: TOC	3 Casing Volumes: 16.59 gallons

Purging Device: Disposable Bailer, 3" PVC Bailer, Parastaltic Pump, Whal Pump

Sampling Device: Disposable Bailer

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
13:30	21.5	7.44	980				5.5	
13:35	Dewatered						10.0	

9/12/12

Comments: Hanna DO meter pre purge DO = mg/l

post purge DO = 1.86 mg/l

very turbid, silty

Sample ID: DPE-1	Sample Time: 07:40
Laboratory: McCampbell Analytical, INC.	Sample Date: 9/13/12
Containers/Preservative: Voa/HCl	
Analyzed for: 8015, 8021	
Sampler Name: Sanjiv Gill	Signature:

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MONITORING FIELD DATA SHEET

Well ID: DPE-2

Project.Task #: 1145.001 224	Project Name: Feiner - 5175 Broadway
Address: 5175 Broadway, Oakland, CA	
Date: 9/12/12	Weather: Sunny
Well Diameter: 4"	Volume/ft. 1" = 0.04, 2" = 0.16, 3" = 0.37, 4" = 0.65, 6" = 1.47, radius² * 0.163
Total Depth (TD): 19.18	Depth to Product:
Depth to Water (DTW): 11.70	Product Thickness:
Water Column Height: 7.48	1 Casing Volume: 4.86 gallons
Reference Point: TOC	3 Casing Volumes: 14.58 gallons
Purging Device: Disposable Bailer, 3" PVC Bailer, Parastaltic Pump, Whal Pump	
Sampling Device: Disposable Bailer	

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
9/12/12 13:10	21.0	7.13	920				5	
13:12	Dewatered						7	

Comments: Hanna DO meter

pre purge DO = mg/l

post purge DO = 0.94 mg/l

very turbid

Sample ID: DPE-2	Sample Time: 07:30
Laboratory: McCampbell Analytical, INC.	Sample Date: 9/13/12
Containers/Preservative: Voa/HCl	
Analyzed for: 8015, 8021	
Sampler Name: Sanjiv Gill	Signature:

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MONITORING FIELD DATA SHEET

Well ID: DPE-3

Project.Task #: 1145.001 224	Project Name: Feiner - 5175 Broadway
Address: 5175 Broadway, Oakland, CA	
Date: 9/12/12	Weather: Sunny
Well Diameter: 4"	Volume/ft. 1" = 0.04; 2" = 0.16; 3" = 0.37; 4" = 0.65; 6" = 1.47; radius² * 0.163
Total Depth (TD): 19.34	Depth to Product:
Depth to Water (DTW): 12.60	Product Thickness:
Water Column Height: 6.74	1 Casing Volume: 4.38 gallons
Reference Point: TOC	3 Casing Volumes: 13.14 gallons
Purging Device: Disposable Bailer, 3" PVC Bailer, Parastaltic Pump, Whal Pump	
Sampling Device: Disposable Bailer	

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
9/12/12 14:38	18.9	7.56	1223				4	
14:40	Dewatered						6	

Comments: Hanna DO meter

pre purge DO = mg/l

post purge DO = 1.12 mg/l

very turbid

Sample ID: DPE-3	Sample Time: 08:00
Laboratory: McCampbell Analytical, INC.	Sample Date: 9/13/12
Containers/Preservative: Voa/HCl	
Analyzed for: 8015, 8021	
Sampler Name: Sanjiv Gill	Signature:

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MONITORING FIELD DATA SHEET

Well ID: DPE-4

Project.Task #: 1145.001 224	Project Name: ~~Fr~~ Rockridge Heights - 5175 Broadway
Address: 5175 Broadway, Oakland, CA	
Date: 9/12/12	Weather: Sunny
Well Diameter: ~~16.72~~ 4"	Volume/ft. 1" = 0.04 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 6" = 1.47 | radius² * 0.163
Total Depth (TD): ~~[illegible]~~ 16.72	Depth to Product:
Depth to Water (DTW): ~~[illegible]~~ 11.92	Product Thickness:
Water Column Height: 4.80	1 Casing Volume: 3.12 gallons
Reference Point: TOC	3 Casing Volumes: 9.36 gallons

Purging Device: Disposable Bailer, 3" PVC Bailer, Parastaltic Pump, Whal Pump

Sampling Device: Disposable Bailer

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
15:40	21.0	7.54	1112				3	
9/12/12 15:45	Dewatered						4	

Comments: ~~Hanna~~ DO meter

pre purge DO = mg/l

post purge DO = 3.60 mg/l

very turbid

Sample ID: DPE-4	Sample Time: 08:30
Laboratory: McCampbell Analytical, INC.	Sample Date: 9/13/12
Containers/Preservative: Voa/HCl	
Analyzed for: 8015, 8021	
Sampler Name: Sanjiv Gill	Signature:

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MONITORING FIELD DATA SHEET

Well ID: DPE-5

Project.Task #: 1145.001 224	Project Name: Feiner - 5175 Broadway
Address: 5175 Broadway, Oakland, CA	
Date: 9/12/12	Weather: Sunny
Well Diameter: 4"	Volume/ft. 1" = 0.04 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 6" = 1.47 | radius² * 0.163
Total Depth (TD): 19.20	Depth to Product:
Depth to Water (DTW): 14.70	Product Thickness:
Water Column Height: 4.50	1 Casing Volume: 2.92 gallons
Reference Point: TOC	3 Casing Volumes: 8.76 gallons
Purging Device: Disposable Bailer, 3" PVC Bailer, Parastaltic Pump, Whal Pump	
Sampling Device: Disposable Bailer	

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
15:25	18.8	6.97	1680				3	
15:30	Dewatered						4	

9/12/12

Comments: ~~Hanna~~ DO meter

pre purge DO = mg/l

post purge DO = 2.82 mg/l

very turbid, silty

Sample ID: DPE-5	Sample Time: 08:20
Laboratory: McCampbell Analytical, INC.	Sample Date: 9/13/12
Containers/Preservative: Voa/HCl	
Analyzed for: 8015, 8021	
Sampler Name: Sanjiv Gill	Signature:

Pangea
ENVIRONMENTAL SERVICES, INC.

MONITORING FIELD DATA SHEET

Well ID: DPE-6

Project.Task #: 1145.001 224	Project Name: Feiner - 5175 Broadway
Address: 5175 Broadway, Oakland, CA	
Date: 9/12/12	Weather: Sunny
Well Diameter: 4"	Volume/ft. 1" = 0.04 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 6" = 1.47 | radius² * 0.163
Total Depth (TD): 19.73	Depth to Product:
Depth to Water (DTW): 11.40	Product Thickness:
Water Column Height: 8.33	1 Casing Volume: 5.41 gallons
Reference Point: TOC	3 Casing Volumes: 16.23 gallons

Purging Device: (Disposable Bailer), 3" PVC Bailer, Parastaltic Pump, Whal Pump

Sampling Device: Disposable Bailer

Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
9/12/12 15:00	20.8	7.28	1480				5.5	
15:12	Dewatered						8.0	

Comments: Hanna DO meter — pre purge DO = mg/l

post purge DO = 1.59 mg/l

very turbid, silty

Sample ID: DPE-6	Sample Time: 08:10
Laboratory: McCampbell Analytical, INC.	Sample Date: 9/13/12
Containers/Preservative: Voa/HCl	
Analyzed for: 8015, 8021	
Sampler Name: Sanjiv Gill	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: #1145.001 232; Rockridge Heights-5175 Broadway	Date Sampled: 09/13/12
		Date Received: 09/13/12
	Client Contact: Tina De La Fuente	Date Reported: 09/18/12
	Client P.O.:	Date Completed: 09/18/12

WorkOrder: 1209301

September 18, 2012

Dear Tina:

Enclosed within are:

1) The results of the **13** analyzed samples from your project: **#1145.001 232; Rockridge Heights-5175 Broadway,**
2) QC data for the above samples, and
3) A copy of the chain of custody.

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.

1209301

McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701
Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

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

GeoTracker EDF ☒ PDF ☒ Excel ☐ Write On (DW) ☐

☐ Check if sample is effluent and "J" flag is required

Report To: Tina de la Fuente Bill To: ~~Same~~ Pangea

Company: Pangea Environmental Service

1710 Franklin St., Ste. 200

Oakland, CA E-Mail: tdelfuente@pangeaenv.com

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

Project #: 1145.001 232 Project Name: Rockridge Heights - 5175 Broadway

Project Location: 5175 Broadway Oakland, CA

Sampler Signature: Muskan Environmental Sampling

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	#Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED ICE	HCL	HNO_3	Other
(F) MW-1		9-13-12	06:25	3	VOA Amb	X					X	X		
+ MW-3A			07:20											
+ MW-3C			07:10											
+ MW-4A			06:40											
+1 MW-7B			07:00											
+ MW-7C			06:50											
+1 MW-8A			06:35											
+ DPE-1			07:40											
+ DPE-2			07:30											
+ DPE-3			08:00											
+ DPE-4			08:30											
+ DPE-5			08:20											
+ DPE-6			08:10	X	X	X					X	X		
-														

Analysis Request

BTEX & TPH as Gas (602 / 8021 + 8015) / MTBE	TPH as Diesel (8015) w/ silica gel clean up	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 8260 (HVOCs)	MTBE / BTEX ONLY (EPA 602 / 8021)	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ONLY; Arochlors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515.3 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.8 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other	Comments
X	X																Filter Samples for Metals analysis: Yes / No

Relinquished By:	Date:	Time:	Received By:
	9/13/12	1230	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° 5.1

GOOD CONDITION ✓

HEAD SPACE ABSENT ✓

DECHLORINATED IN LAB ____

APPROPRIATE CONTAINERS ✓

PRESERVED IN LAB ____

PRESERVATION	VOAS ✓	O&G	METALS	OTHER
			pH<2	

COMMENTS:

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1209301 **ClientCode: PEO**

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

Report to:
Tina De La Fuente
Pangea Environmental Svcs., Inc.
1710 Franklin Street, Ste. 200
Oakland, CA 94612
(415) 218-7247 FAX: (510) 836-3709

Email: tdelafuente@pangeaenv.com
cc:
PO:
ProjectNo: #1145.001 232; Rockridge Heights-5175 Broadway

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

Requested TAT: 5 days

Date Received: **09/13/2012**
Date Printed: **09/13/2012**

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
1209301-001	MW-1	Water	9/13/2012 6:25	☐	A	A	B									
1209301-002	MW-3A	Water	9/13/2012 7:20	☐	A		B									
1209301-003	MW-3C	Water	9/13/2012 7:10	☐	A		B									
1209301-004	MW-4A	Water	9/13/2012 6:40	☐	A		B									
1209301-005	MW-7B	Water	9/13/2012 7:00	☐	A		B									
1209301-006	MW-7C	Water	9/13/2012 6:50	☐	A		B									
1209301-007	MW-8A	Water	9/13/2012 6:35	☐	A		B									
1209301-008	DPE-1	Water	9/13/2012 7:40	☐	A		B									
1209301-009	DPE-2	Water	9/13/2012 7:30	☐	A		B									
1209301-010	DPE-3	Water	9/13/2012 8:00	☐	A		B									
1209301-011	DPE-4	Water	9/13/2012 8:30	☐	A		B									
1209301-012	DPE-5	Water	9/13/2012 8:20	☐	A		B									
1209301-013	DPE-6	Water	9/13/2012 8:10	☐	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: Maria 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: **9/13/2012 2:33:38 PM**

Project Name: **#1145.001 232; Rockridge Heights-5175 Broadway** LogIn Reviewed by: Maria Venegas

WorkOrder N°: **1209301** Matrix: Water Carrier: Client Drop-In

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: 5.1°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.*

Comments:

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Pangea Environmental Svcs., Inc.	Client Project ID: #1145.001 232; Rockridge Heights-5175 Broadway	Date Sampled: 09/13/12
		Date Received: 09/13/12
1710 Franklin Street, Ste. 200	Client Contact: Tina De La Fuente	Date Extracted: 09/16/12-09/18/12
Oakland, CA 94612	Client P.O.:	Date Analyzed: 09/16/12-09/18/12

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 1209301

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	MW-1	W	1600	ND	8.8	0.82	3.1	1.6	1	109	d1
002A	MW-3A	W	1500	ND<17	76	2.2	18	5.7	3.3	107	d1
003A	MW-3C	W	86	ND	3.3	ND	ND	0.80	1	89	d1
004A	MW-4A	W	250	ND	16	ND	1.3	1.6	1	100	d1,d7
005A	MW-7B	W	150	ND	1.4	1.3	ND	3.2	1	95	d1,b1
006A	MW-7C	W	180	ND	7.3	ND	ND	ND	1	90	d9/d6
007A	MW-8A	W	210	ND	4.3	0.65	1.4	2.7	1	93	d1,d7,b1
008A	DPE-1	W	250	ND	5.5	ND	ND	ND	1	90	d1,d7
009A	DPE-2	W	1000	ND<15	100	6.4	16	28	1	91	d1
010A	DPE-3	W	310	ND	20	1.2	3.8	4.1	1	98	d1
011A	DPE-4	W	300	ND	2.0	1.2	1.2	11	1	86	d7,d1
012A	DPE-5	W	190	ND	4.3	ND	0.78	ND	1	100	d1,d7
013A	DPE-6	W	1300	ND	2.6	1.5	2.9	2.5	1	124	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:
b1) aqueous sample that contains greater than ~1 vol. % sediment
d1) weakly modified or unmodified gasoline is significant
d7) strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram
d9) no recognizable pattern; and/or d6) one to a few isolated non-target peaks present in the TPH(g) chromatogram

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
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Pangea Environmental Svcs., Inc.	Client Project ID: #1145.001 232; Rockridge Heights-5175 Broadway	Date Sampled: 09/13/12
		Date Received: 09/13/12
1710 Franklin Street, Ste. 200	Client Contact: Tina De La Fuente	Date Extracted 09/13/12
Oakland, CA 94612	Client P.O.:	Date Analyzed 09/15/12-09/17/12

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up*

Extraction method: SW3510C/3630C Analytical methods: SW8015B Work Order: 1209301

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS	Comments
1209301-001B	MW-1	W	370	1	96	e4
1209301-002B	MW-3A	W	550	1	98	e4
1209301-003B	MW-3C	W	78	1	93	e4
1209301-004B	MW-4A	W	130	1	94	e4,e2
1209301-005B	MW-7B	W	400	1	96	e7,e4,e2,b1
1209301-006B	MW-7C	W	62	1	89	e2
1209301-007B	MW-8A	W	1900	2	91	e11,e7,e2,b1
1209301-008B	DPE-1	W	440	1	89	e11
1209301-009B	DPE-2	W	690	1	98	e4
1209301-010B	DPE-3	W	370	1	90	e4
1209301-011B	DPE-4	W	1100	1	76	e7,e11,e2
1209301-012B	DPE-5	W	130	1	90	e4
1209301-013B	DPE-6	W	780	1	100	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
e4) gasoline range compounds are significant.
e7) oil range compounds are significant
e11) stoddard solvent/mineral spirit (?)

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 70798 | WorkOrder: 1209301

EPA Method: SW8021B/8015Bm **Extraction: SW5030B** **Spiked Sample ID: 1209301-001A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH(btex)£	320	60	NR	NR	NR	103	N/A	N/A	70 - 130
MTBE	ND	10	NR	NR	NR	106	N/A	N/A	70 - 130
Benzene	8.8	10	NR	NR	NR	111	N/A	N/A	70 - 130
Toluene	0.82	10	NR	NR	NR	113	N/A	N/A	70 - 130
Ethylbenzene	3.1	10	NR	NR	NR	109	N/A	N/A	70 - 130
Xylenes	1.6	30	NR	NR	NR	113	N/A	N/A	70 - 130
%SS:	109	10	NR	NR	NR	92	N/A	N/A	70 - 130

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

BATCH 70798 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1209301-001A	09/13/12 6:25 AM	09/17/12	09/17/12 7:00 PM	1209301-002A	09/13/12 7:20 AM	09/17/12	09/17/12 9:30 PM
1209301-003A	09/13/12 7:10 AM	09/17/12	09/17/12 7:30 PM	1209301-004A	09/13/12 6:40 AM	09/17/12	09/17/12 8:00 PM
1209301-005A	09/13/12 7:00 AM	09/17/12	09/17/12 8:30 PM	1209301-006A	09/13/12 6:50 AM	09/17/12	09/17/12 6:00 PM
1209301-007A	09/13/12 6:35 AM	09/17/12	09/17/12 9:00 PM	1209301-008A	09/13/12 7:40 AM	09/16/12	09/16/12 4:44 AM
1209301-009A	09/13/12 7:30 AM	09/17/12	09/17/12 10:59 PM	1209301-010A	09/13/12 8:00 AM	09/17/12	09/17/12 11:28 PM
1209301-011A	09/13/12 8:30 AM	09/18/12	09/18/12 12:27 AM	1209301-012A	09/13/12 8:20 AM	09/16/12	09/16/12 5:14 AM
1209301-013A	09/13/12 8:10 AM	09/18/12	09/18/12 12:57 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

McCampbell Analytical, Inc.
"When Quality Counts"

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QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 70651 | WorkOrder: 1209301

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

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	116	N/A	N/A	70 - 130
%SS:	N/A	625	N/A	N/A	N/A	94	N/A	N/A	70 - 130

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

BATCH 70651 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1209301-001B	09/13/12 6:25 AM	09/13/12	09/17/12 2:27 PM	1209301-002B	09/13/12 7:20 AM	09/13/12	09/17/12 3:12 PM
1209301-003B	09/13/12 7:10 AM	09/13/12	09/17/12 5:51 AM	1209301-004B	09/13/12 6:40 AM	09/13/12	09/17/12 2:49 PM
1209301-005B	09/13/12 7:00 AM	09/13/12	09/17/12 3:34 AM	1209301-006B	09/13/12 6:50 AM	09/13/12	09/16/12 5:21 PM
1209301-007B	09/13/12 6:35 AM	09/13/12	09/15/12 8:50 PM	1209301-008B	09/13/12 7:40 AM	09/13/12	09/16/12 11:02 PM
1209301-009B	09/13/12 7:30 AM	09/13/12	09/17/12 12:10 AM	1209301-010B	09/13/12 8:00 AM	09/13/12	09/17/12 3:44 PM
1209301-011B	09/13/12 8:30 AM	09/13/12	09/17/12 4:43 AM	1209301-012B	09/13/12 8:20 AM	09/13/12	09/17/12 3:34 AM
1209301-013B	09/13/12 8:10 AM	09/13/12	09/16/12 11:02 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