

**RECEIVED**

**4:09 pm, Feb 15, 2012**

**Alameda County  
Environmental Health**

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

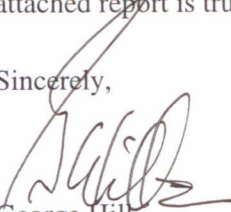
Re: **Connell Automobile Dealership**  
3093 Broadway  
Oakland, California  
ACEH Case No. 199

Dear Mr. Kharti:

The Hill Family Trust & Linden Broadway Property Trust (Trusts) have retained Pangea Environmental Services, Inc. (Pangea) as the environmental consultant for the project referenced above. Pangea is submitting the attached report on behalf of the Trusts.

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

Sincerely,



George Hill  
Hill Family Trust



February 9, 2012

**VIA ALAMEDA COUNTY FTP SITE**

Mr. Donna Drogos  
Alameda County Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502

Re: **Groundwater Monitoring and Remediation Report – Second Half 2011**  
Connell Automobile Dealership  
3093 Broadway  
Oakland, California  
ACEH Case No. 199

Dear Ms. Drogos:

On behalf of the Hill Family Trust and Linden Broadway Trust, Pangea Environmental Services, Inc., (Pangea) has prepared this *Groundwater Monitoring and Remediation Progress Report – Second Half 2011* for the subject site. This report describes groundwater monitoring, site remediation, and other site activities.

Active remediation commenced at the site in April 2011. Pangea delayed groundwater monitoring to help control cost and focus remaining cleanup funds on remediation. This report presents the first groundwater monitoring results since remediation commencement. Monitoring results suggests that site remediation has remediated all or most free product and that hydrocarbon concentrations decreased by approximately 90% in many key wells in the upper plume area primarily targeted by remediation to date. In this report, Pangea also proposes a modified groundwater monitoring program to better evaluate remedial progress at the site. To help accelerate site cleanup and reduce overall cleanup costs, Pangea submitted a workplan for enhanced site remediation in email correspondence to ACEH on January 18, 2012. Pangea plans to augment site remediation by using a bio-organic catalyst or non-toxic surfactant. The workplan is referenced in this report. If you have any questions or comments, please call me at (510) 435-8664.

Sincerely,

**Pangea Environmental Services, Inc.**

A handwritten signature in blue ink, appearing to read "Bob Clark-Riddell".

Bob Clark-Riddell, P.E.  
Principal Engineer

Attachments: *Groundwater Monitoring and Remediation Report – Second Half 2011*

cc: SWRCB/RWQCB Geotracker (electronic copy)  
Mr. George Hill, Geotracker  
Mr. Gordon Linden, Geotracker

**PANGEA Environmental Services, Inc.**

1710 Franklin Street, Suite 200, Oakland, CA 94612 Telephone 510.836.3700 Facsimile 510.836.3709 [www.pangeaenv.com](http://www.pangeaenv.com)



**GROUNDWATER MONITORING AND REMEDIATION REPORT  
SECOND HALF 2011**

**Connell Automobile Dealership  
3093 Broadway  
Oakland, California  
ACEH Case No. 469**

**February 9, 2012**

*Prepared for:*

Hill Family Trust  
C/O Mr. George Hill  
305 Sheridan Avenue  
Piedmont, California 94611

and

Linden Broadway Trust  
C/O Mr. Gordon Linden  
150 La Salle Avenue  
Piedmont, 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

**PANGEA Environmental Services, Inc.**

## **INTRODUCTION**

As required by Alameda County Environmental Health (ACEH), Pangea has prepared this *Groundwater Monitoring and Remediation Report – Second Half 2011* for the subject site. On behalf of the Hill Family Trust and Linden Broadway Trust, Pangea conducted groundwater monitoring and sampling, inspected wells for separate-phase hydrocarbons (SPH) and performed remediation system operation and sampling during this half year at the site (Figure 1). The purpose of the monitoring and sampling is to evaluate groundwater flow direction, concentrations of dissolved hydrocarbons in groundwater, and thickness of SPH. The purpose of the remediation system is to clean up petroleum hydrocarbons from a historic fuel release. Current analytical data and groundwater elevations are shown on Figure 2. The contaminant distribution and trends are illustrated on Figures 3 through 9. Current and historical data are summarized on Tables 1 and 2. SPH thickness and removal volumes are summarized on Table 3. Site remediation data are summarized on Tables 4 and 5.

## **SITE DESCRIPTION AND BACKGROUND**

The site is located on the east side of “Pill Hill” south of Hawthorne Avenue, between Broadway and Webster Street. The northern portion of the site is occupied by the auto repair shop, offices and showrooms of the Connell automobile dealership, while the southern portion of the site is occupied by parking lots. The ground surface elevation ranges from approximately 80 to 100 feet above mean sea level (msl) and slopes southeastwards towards the base of “Pill Hill” at Broadway. Three underground storage tanks (USTs) that previously contained gasoline, diesel, and waste oil were removed from the upper (northwest) portion of the site in December 1989. Soil and groundwater assessment have been ongoing since 1990.

Between October 1996 and March 1998, operation of a soil vapor extraction (SVE) remediation system removed approximately 1,421 pounds of hydrocarbons. Manual removal of separate-phase hydrocarbons (SPH) from monitoring wells has removed a total of approximately 950 pounds (156 gallons) of SPH since 1991. Chemicals of concern at the site are petroleum hydrocarbons (i.e. diesel and gasoline), the lead scavenger 1, 2-dichloroethane, and fuel-related semi-volatile organic compounds (e.g., naphthalene). In some prior analytical results from the site, extractable hydrocarbons have been quantified as total petroleum hydrocarbons as motor oil (TPHmo), although these hydrocarbons may represent the heavier fraction of diesel contamination. Methyl tertiary butyl ether (MTBE) is not a constituent of concern at this site.

On February 27 through April 4, 2007, Pangea installed two groundwater monitoring wells (MW-16A and MW-16B) to monitor groundwater during remediation and installed fifteen remediation wells (AS-1A, AS-1B, AS-2A, AS-3A, AS-3B, AS-4A, RW-1, RW-2, RW-3A, RW-3B, RW-4, RW-5, MW-17A,

MW-17B and VE-1) to implement air sparging (AS) and dual phase extraction (DPE). New wells installed at the site were labeled according to the depths of their screen intervals: shallow (A-zone) wells have screen intervals above approximately 30 feet below grade surface (bgs), which generally straddle the top of the water table, while deeper (B-zone) wells are screened below approximately 30 feet bgs to target deeper contamination. After delays associated with the UST Cleanup Fund and prospective property sale, operation of the DPE system began on April 26, 2011 and operation of the AS system began on May 29, 2011.

In August 2008, Pangea conducted additional downgradient soil and groundwater assessment per ACEH direction. No petroleum hydrocarbons were detected above reporting limits in analyzed soil or groundwater from boring SB-1. Based on these and historical results, the lateral extent of hydrocarbon contamination appears to be adequately characterized.

## **GROUNDWATER MONITORING AND SAMPLING**

On December 19, 2011, Pangea gauged depth-to-water and inspected for SPH in select site monitoring wells. During this monitoring event, Pangea performed a modified monitoring program to help evaluate remedial progress at the site. The proposed semi-annual groundwater monitoring program is summarized on Table A in Appendix A. Samples are not collected from wells with SPH or insufficient water. Therefore, during this monitoring event Pangea gauged 18 wells and sampled 11 wells.

Prior to sampling the wells, groundwater levels and SPH thickness were measured to evaluate groundwater elevation, flow direction, and the presence of free product in groundwater at the site. Before well purging, the dissolved oxygen (DO) concentration was measured in each well by lowering a down-well sensor to the approximate middle of the water column, and allowing the reading to stabilize during gentle height adjustment. Prior to sample collection, approximately three well-casing volumes of groundwater were purged using a disposable bailer, PVC bailer, an electric submersible pump or new polyethylene tubing with check valve. During well purging, field technicians measured and recorded groundwater pH, conductivity, and temperature. Groundwater samples were collected from each well with a disposable bailer and decanted into the appropriate containers supplied by the analytical laboratory. Samples were labeled, placed in protective plastic bags, stored on crushed ice at or below 4 degrees Celsius, and transported under chain-of-custody to the laboratory. Groundwater monitoring field data sheets are presented as Appendix B.

## MONITORING RESULTS

Current groundwater elevation and analytical data are summarized on Figure 2. Current and historical data are described below and summarized on Tables 1 and 2. In accordance with the approved sampling protocol, groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) by modified EPA Method 8015C; total petroleum hydrocarbons as diesel (TPHd) and motor oil (TPHmo) by EPA Method 8015C with silica gel cleanup; and benzene, toluene, ethylbenzene, xylenes (BTEX) and MTBE by EPA Method 8021B. During the first quarter of each year, groundwater samples are also analyzed for halogenated volatile organic compounds (HVOCs) by EPA Method 8010. Table 1 summarizes current and historical analytical results for TPHg, BTEX and HVOCs and presents dissolved oxygen field measurement data. This quarter, DO concentrations ranged from 0.32 milligrams per liter (mg/L) in well MW-17A to 0.83 mg/L in well MW-1. Table 2 summarizes extractable hydrocarbons (TPHd and TPHmo) and semi-volatile organic compounds (SVOCs). Laboratory analyses were performed by McCampbell Analytical of Pittsburg, California, a State-certified laboratory. The laboratory analytical report and chain of custody are included in Appendix C.

### Groundwater Flow Direction

Based on depth-to-water measurements from December 19, 2011, the inferred groundwater flow direction beneath the site is primarily *northeastwards*. The inferred flow direction this event is consistent with previous monitoring events. Depth-to-water and groundwater elevation data are presented in Table 1 and on Figure 2.

### Hydrocarbon and Fuel Oxygenate Distribution in Groundwater

Current hydrocarbon analytical results are summarized on Figure 2. The lateral distribution of TPHg and benzene in groundwater is illustrated on Figures 4 and 5, respectively. TPHg concentration trends in groundwater for the upper and lower plume areas are graphed on Figures 6 and 7, respectively. Benzene concentration trends in groundwater for the upper and lower plume areas are graphed on Figures 8 and 9, respectively. These graphs demonstrate concentration reduction of approximately 90% in key wells in the upper plume area (beneath the repair shop), where remediation efforts have primarily targeted to date. The lack of measurable SPH (discussed below) also reflects the effectiveness of DPE/AS remediation. Future remediation efforts will increase targeting of the lower plume area. A cross section illustrating pre-remediation conditions and conceptual DPE/AS activity is shown on Figure 10.

The maximum TPHg and benzene concentrations detected this quarter were 150,000 µg/L (MW-4) and 11,000 µg/L (RW-2), respectively. The maximum TPHd concentration (410,000 µg/L) this quarter was detected in well VE-1. *Historic low* or near historic low hydrocarbon concentrations were detected in wells MW-1, MW-15, MW-16B, MW-17A, RW-3A, RW-5 and VE-1. *This reduction in hydrocarbon*

*concentrations is likely due to operation of the remediation system at the site.* Concentrations of detected hydrocarbons are generally consistent with prior monitoring results.

MTBE was not detected in any of the sampled wells this quarter. Historically, MTBE has not been considered a compound of concern at the site, and has only been detected during three prior monitoring events, and only in well MW-4.

### **Separate-Phase Hydrocarbon Removal**

During this monitoring event SPH was not measured in any wells with historic free product (MW-1, MW-6, MW-14, MW-15 and RW-2). The lack of measurable SPH reflects the effectiveness of DPE/AS remediation. Anomalously, SPH was measured for the first time in well MW-16A (at thicknesses of 0.11 ft) which has historically had relatively low contaminant concentrations. On February 8, 2012 Pangea used a bailer to inspect for measurable SPH and only found SPH sheen. Therefore, Pangea suspects an instrument malfunction during the December monitoring event. Approximately 962.54 pounds (157.82 gallons) of SPH have been removed since manual SPH removal activities began in December 1991. Table 3 presents the SPH thickness measurements, amount of SPH removed from the wells, and cumulative volume of SPH removal.

## **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 3. Extraction and treatment is performed using a 25 hp liquid ring vacuum pump with a 400 cubic foot per minute (cfm) thermal 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 15 remediation wells (MW-1, MW-6, MW-10, MW-14, MW-15, MW-16B, MW-17A/B, RW-1 through RW-5 and VE-1). Well construction details are summarized on Table A in Appendix A. 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 1,000-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 7.5 hp Ingersoll-Rand rotary-screw air compressor capable of injecting 28 cfm of air and reaching pressures of 125 psig. Injection into the six air sparge wells (AS-1A/B, AS-2A, AS-3A/B and AS-4A) is controlled by timer-activated solenoid valves and individual well needle valves on the well flow meters. The remediation system layout is shown on Figure 3.

### **Operation and Performance**

DPE and AS system operation commenced on April 26, 2011 and May 29, 2011, respectively. The DPE system was initially operated to target elevated impact within the southeastern portion of the site (wells MW-6, MW-10 and RW-2). After initial contaminant mass removal rates decreased, DPE remediation was focused on the northwestern portion of the site. AS was initiated on wells AS-3A, AS-3B and AS-4A near the southeastern portion of the site, and later expanded to include wells AS-1A, AS-1B, and AS-2A. System operation and performance data is summarized on Tables 4 and 5.

As of December 22, 2011, the DPE system operated for a total of about 4,744 hours (approximately 198 days). Laboratory analytical and performance data indicates that soil vapor removal rates observed during this reporting period ranged from 7.5 to 67.5 lbs/day TPHg and 0.43 to 2.77 lbs/day benzene. As of December 22, 2011, the vapor-phase portion of the DPE system removed a total of approximately 5,744 lbs TPHg and 374 lbs benzene. As of December 22, 2011, the groundwater portion of the DPE system removed approximately 22.3 lbs TPHg and 3.6 lbs benzene.

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.

## **FUTURE SITE ACTIVITIES**

### **Workplan for Enhanced Site Remediation**

Based on the effectiveness of the DPE/AS remediation, Pangea plans to continue operation and optimization of the DPE/AS system to target residual elevated impact. The DPE/AS system will focus on residual impact in the upper and lower plume areas.

To help accelerate site cleanup and reduce overall cleanup costs, Pangea submitted a workplan for enhanced site remediation in email correspondence to ACEH on January 18, 2012. Pangea plans to augment site remediation by using a bio-organic catalyst (NonTox) or non-toxic surfactant (Ivey-Sol 103 “SER”). These products are safe and inexpensive, and the Water Board has approved their use at other sites. These products will help desorb the contamination from site soil and accelerate contaminant extraction and biodegradation. The products will be injected into site wells and the DPE system will then pull the products across the residual impact area toward the extraction wells. Air sparging in deeper wells



to further distribute the products and simultaneously provide dissolved oxygen to further stimulate biodegradation. Air sparging will also agitate the products to create bubbles and help ‘activate’ the surfactant qualities of the products, bringing together the product’s enzymes, oxygen and contaminants for enhanced biodegradation.

### **Groundwater Monitoring**

Pangea will conduct groundwater monitoring in accordance with the proposed semi-annual monitoring program presented in Appendix A. The monitoring program includes gauging of depth-to-water, inspection for SPH and water sample collection. Since remediation system startup, Pangea has discontinued manual bailing of separate phase hydrocarbons (SPH) during semi-annual groundwater monitoring. For wells designated for sampling that do not contain SPH, Pangea will collect groundwater samples and measure dissolved oxygen. All groundwater samples will be analyzed for TPHg/BTEX/MTBE by EPA Method 8015C/8021B and for TPHd/TPHmo by EPA Method 8015 with silica gel cleanup. During the first quarter of each year, groundwater samples will also be analyzed for HVOCs by EPA Method 8010. Pangea will summarize groundwater monitoring activities and results in a Groundwater Monitoring and Remediation Report.

### **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 SWRCB’s Geotracker database. As requested, report hard copies will no longer be provided to ACEH or the RWQCB.

## **ATTACHMENTS**

Figure 1 – Vicinity Map

Figure 2 – Groundwater Elevation and Hydrocarbon Concentration Map

Figure 3 – Remediation System Layout

Figure 4 – TPHg Distribution in Groundwater

Figure 5 – Benzene Distribution in Groundwater

Figure 6 - TPHg Concentration Trends in Groundwater for Upper Plume Area

Figure 7 – TPHg Concentration Trends in Groundwater for Lower Plume Area

Figure 8 – Benzene Concentration Trends in Groundwater for Upper Plume Area

Figure 9 – Benzene Concentration Trends in Groundwater for Lower Plume Area

Figure 10 – Cross Section with Remediation Illustration (Pre-Remediation)

Table 1 – Groundwater Elevation and Analytical Data: Volatile Hydrocarbons, HVOCs and Dissolved Oxygen

Table 2 – Groundwater Elevation and Analytical Data: Extractable Hydrocarbons and SVOCs

Table 3 – Separate-Phase Hydrocarbon Removal

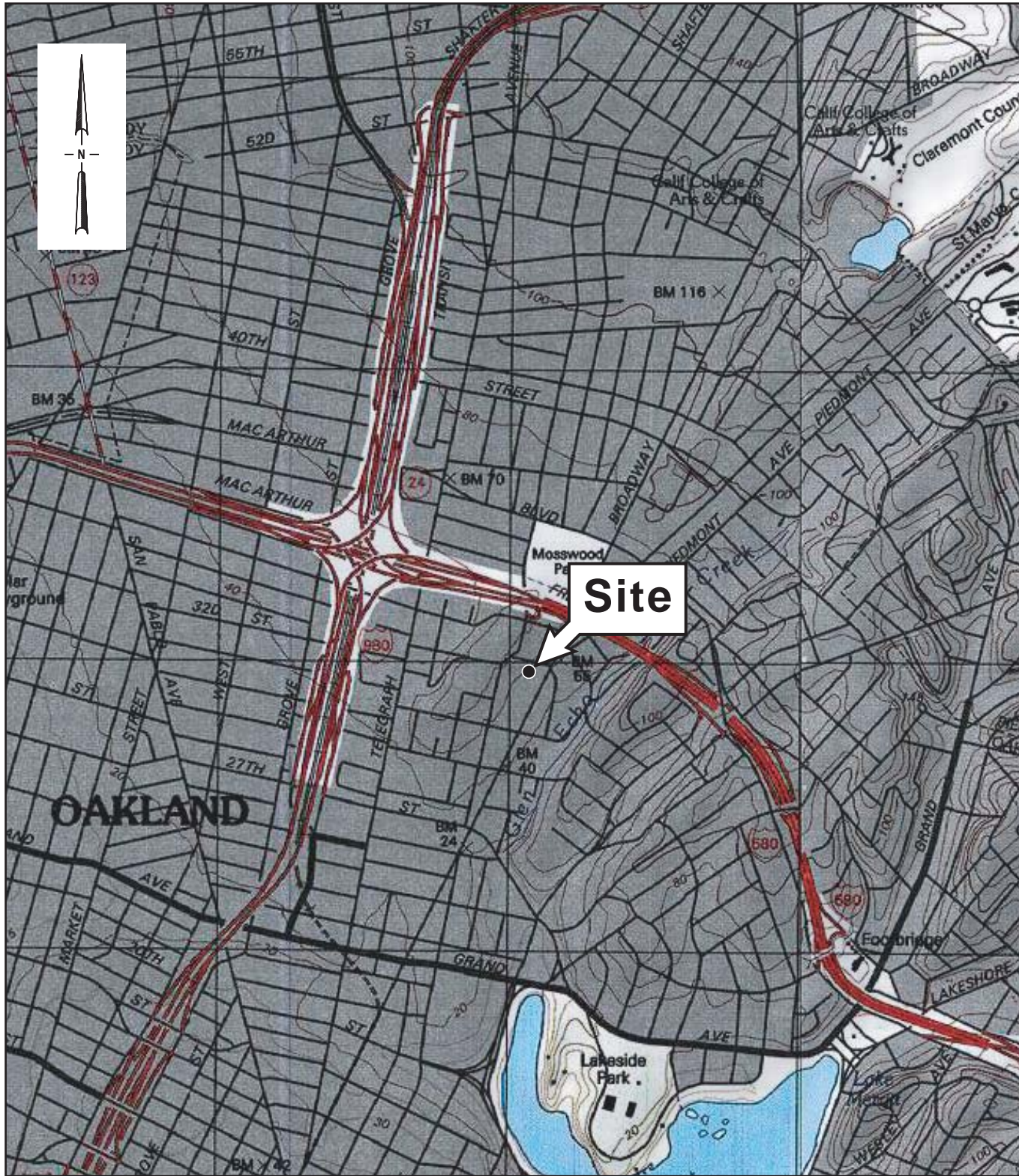
Table 4 – SVE (DPE) Performance Data

Table 5 – GWE (DPE) Performance Data

Appendix A – Well Monitoring Protocol

Appendix B – Groundwater Monitoring Field Data Sheets

Appendix C – Laboratory Analytical Report



SOURCE: TOPOI MAPS



SCALE : 1" = 1/4 MILE

Figure

1

Vicinity Map

**Connell Automobile Dealership**  
 3093 Broadway  
 Oakland, California



WEBSTER STREET

HAWTHORNE STREET

BROOK STREET

BROADWAY

LF2 LF3

LF4

Connell Automobile Dealership  
3093 Broadway  
Office Building

VE-1  
NM  
90,000  
9,700  
<1,000

MW-16A  
NM  
SPH(Sheen)

MW-16B  
NM  
15,000  
3,900  
<170

RW-2  
NM  
77,000  
11,000  
<2,100

MW-6  
60.63  
NS

MW-8  
57.98  
NS

MW-1  
66.90  
63,000  
5,000  
<1,000

RW-5  
NM  
6,700  
350  
<120

RW-4  
NM  
75,000  
1,200  
<1,000

MW-14  
68.99  
14,000  
1,400  
<300

MW-17A  
NM  
36,000  
4,000  
<1,000

MW-17B  
NM  
NS

MW-9  
67.74  
NS

MW-4  
67.38  
150,000  
8,000  
<2,000

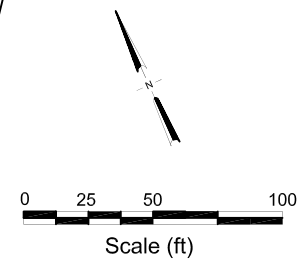
RW-3A  
NM  
41,000  
3,000  
<750

MW-5  
66.53  
NS

MW-13  
59.41  
NS

EXPLANATION

- MW-2 ● Monitoring well location
- RW-1 ▨ Remediation/monitoring well location
- Well ID
- ELEV Groundwater Elevation
- TPH<sub>9</sub> Hydrocarbon concentrations in groundwater in micrograms per liter (ug/L)
- Benzene
- MTBE
- SPH (0.01) Separate phase hydrocarbons (thickness in feet)
- NS Not sampled
- CPT-16 ⊕ Penetration test boring
- SB-1 ● Soil Boring
- LF2 ⊗ Abandoned monitoring well location (installed by Levine-Fricke)
- Approximate groundwater flow direction
- Groundwater elevation contour, in feet (relative to an arbitrary datum)
- NM Not measured



Basemap from Subsurface Consultants, Inc. and Cambria Environmental Technology, Inc.

Connell Automobile Dealership  
3093 Broadway  
Oakland, California

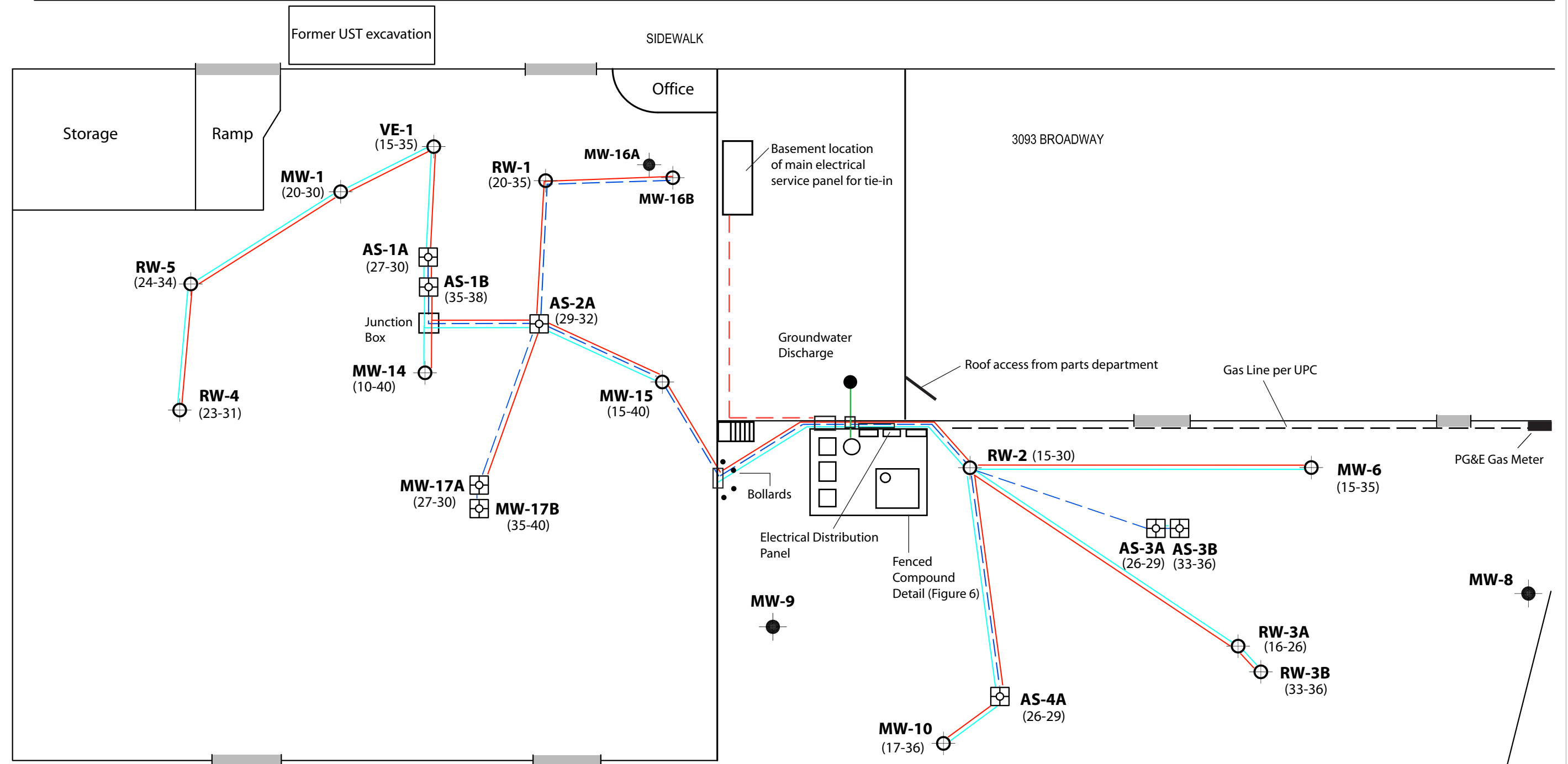


Groundwater Elevation and  
Hydrocarbon Concentration Map

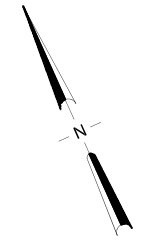
December 19-20, 2011

Figure  
2





EXPLANATION	
MW-1 ●	Monitoring well location
RW-4 ⊕	Extraction well location
AS-1A ⊠	Air sparge well location (A = Shallow, B = Deeper)
(27-30)	Well screen depth, feet below grade surface
— (red line)	Dual Phase Extraction piping
- - - (blue line)	Air Sparge piping
— (cyan line)	Contingency GWE Piping



MW-7 ●

Figure  
**3**



WEBSTER STREET

HAWTHORNE STREET

BROOK STREET

BROADWAY

LF2

LF3

CPT-3

CPT-16  
NA

SB-1  
<0.5

SB-12/CPT-17  
<0.5

MW-13  
<0.5

MW-7  
<0.5

MW-5  
<0.5

MW-11  
<0.5

MW-2  
<0.5

MW-3  
<0.5

MW-9  
21

MW-10  
8,000

MW-17A  
4,100

MW-14  
1,400

MW-15  
4,000

MW-16A  
SPH (sheen)  
3,900

MW-16B

MW-1  
5,000

VE-1  
9,700

AS-1A

AS-1B

AS-2A

RW-2  
11,000

AS-3A

AS-3B

MW-6  
NS

RW-3A

RW-3B\*

AS-4A

RW-5  
350

RW-4  
200

MW-17B\*

AS-4A

AS-3A

AS-3B

RW-3A

RW-3B\*

AS-4A

AS-3A

AS-3B

RW-3A

RW-3B\*

AS-4A

AS-3A

AS-3B

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AS-4A

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AS-3B

RW-3A

RW-3B\*

AS-4A

RW-3A

AS-3A

AS-3B

RW-3A

RW-3B\*

AS-4A

RW-3A

AS-3A

AS-3B

RW-3A

## TPHg Concentrations in Groundwater for Upper Plume Area 3093 Broadway, Oakland

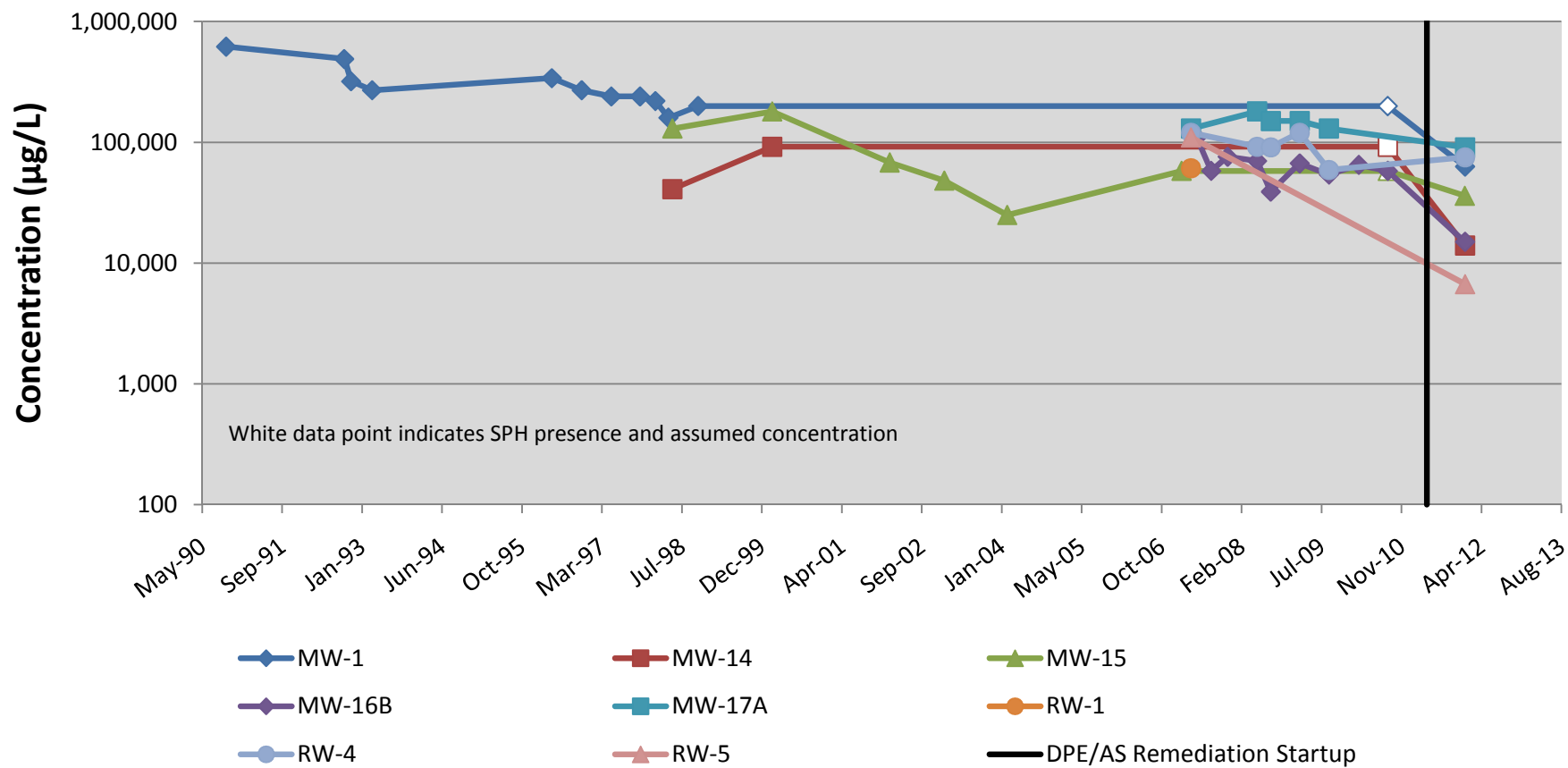


Figure 6 - TPHg Concentration Trends in Groundwater for Upper Plume Area



## Benzene Concentrations in Groundwater for Upper Plume Area 3093 Broadway, Oakland

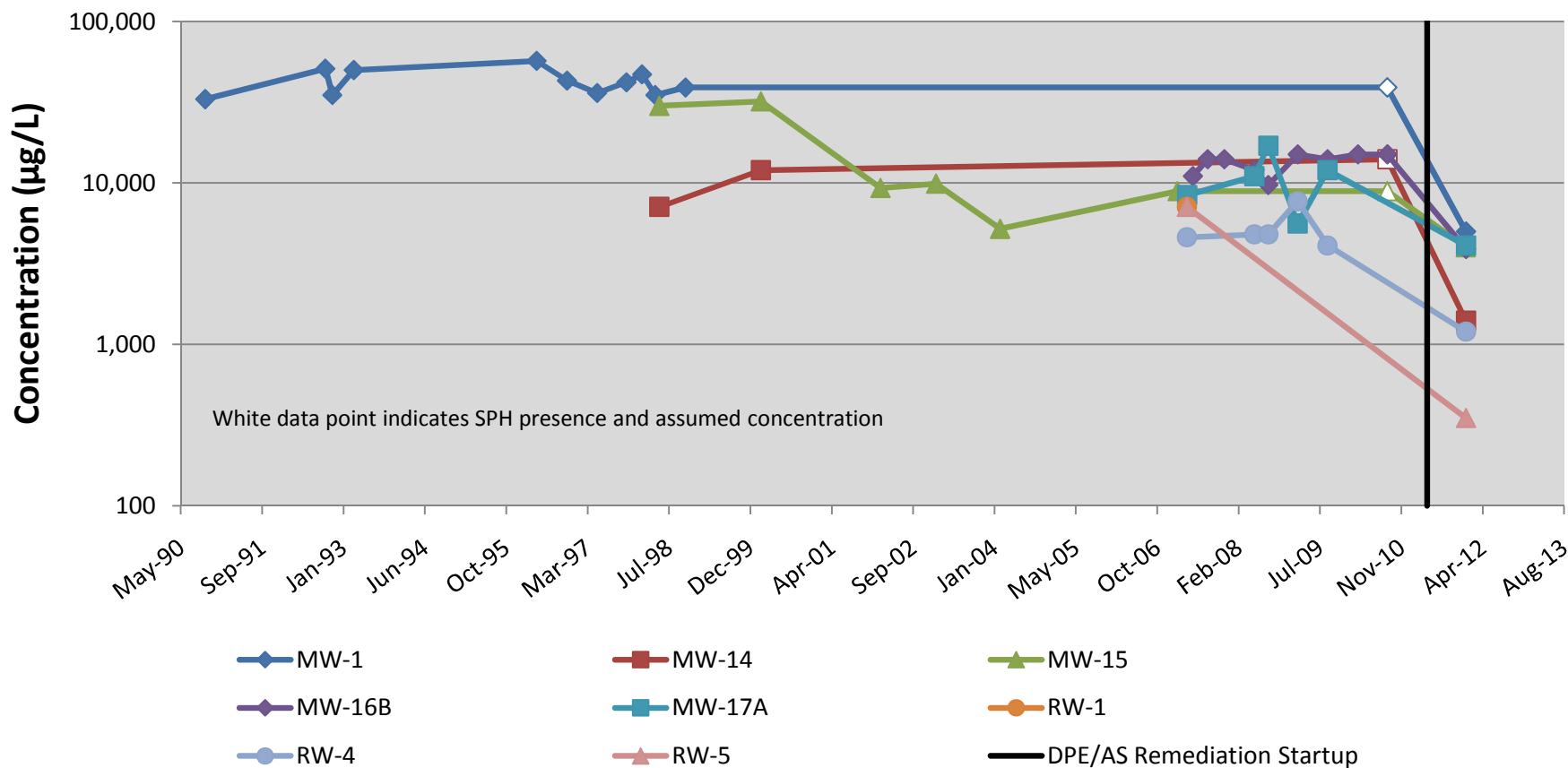


Figure 7 - Benzene Concentration Trends in Groundwater for Upper Plume Area

## TPHg Concentrations in Groundwater for Lower Plume Area 3093 Broadway, Oakland

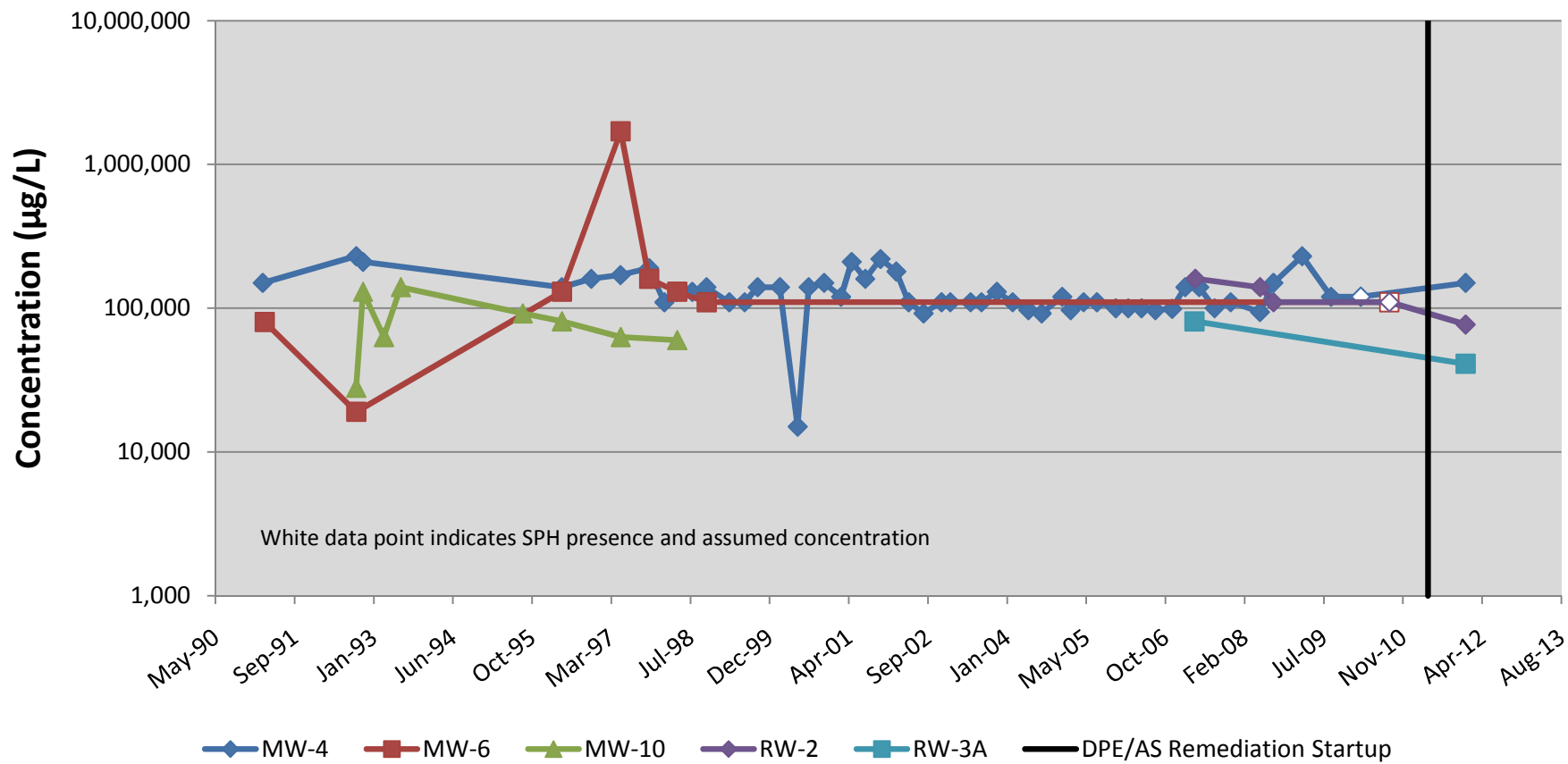


Figure 8 - TPHg Concentration Trends in Groundwater for Lower Plume Area

## Benzene Concentrations in Groundwater for Lower Plume Area 3093 Broadway, Oakland

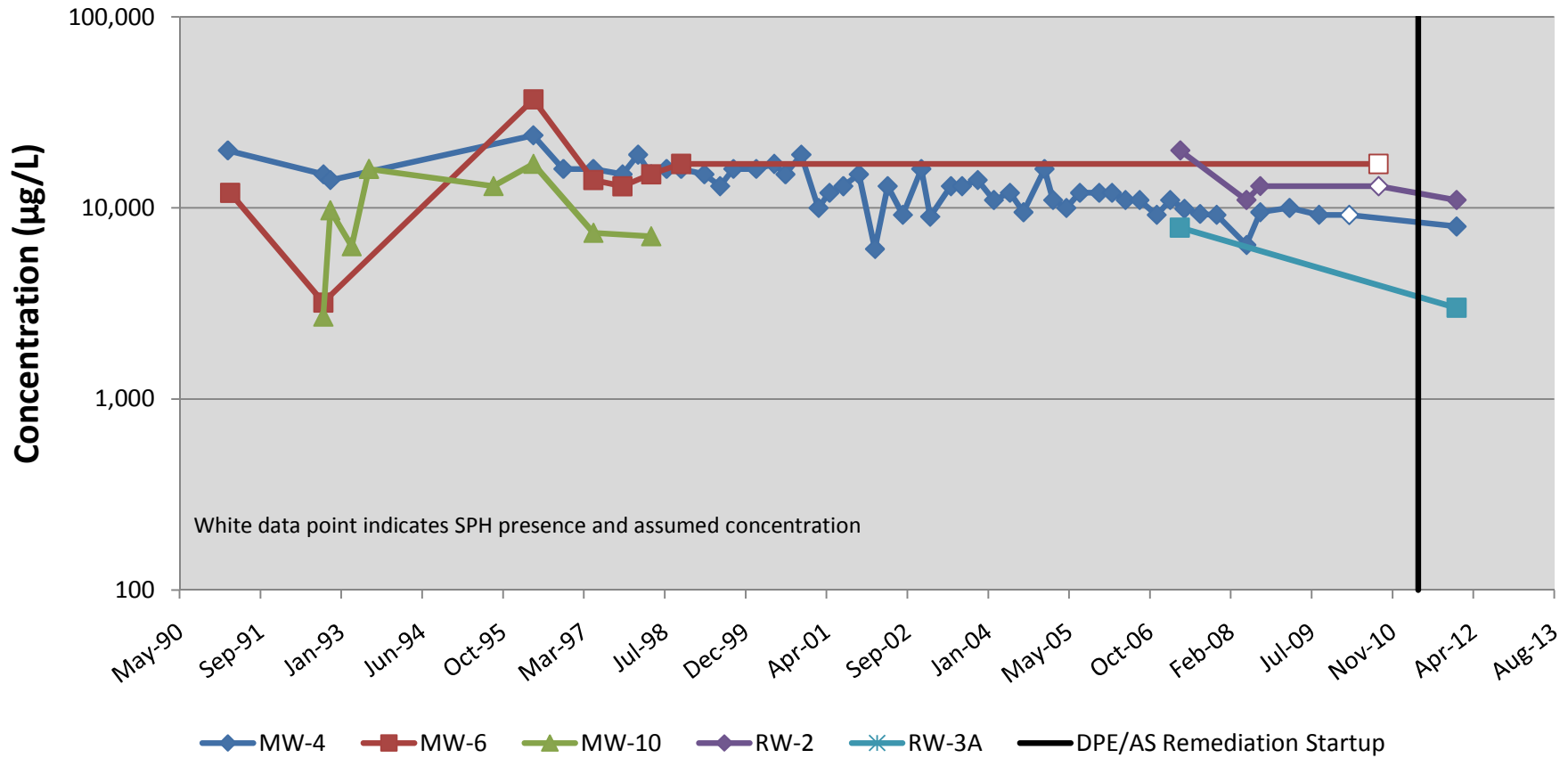


Figure 9 - Benzene Concentration Trends in Groundwater for Lower Plume Area

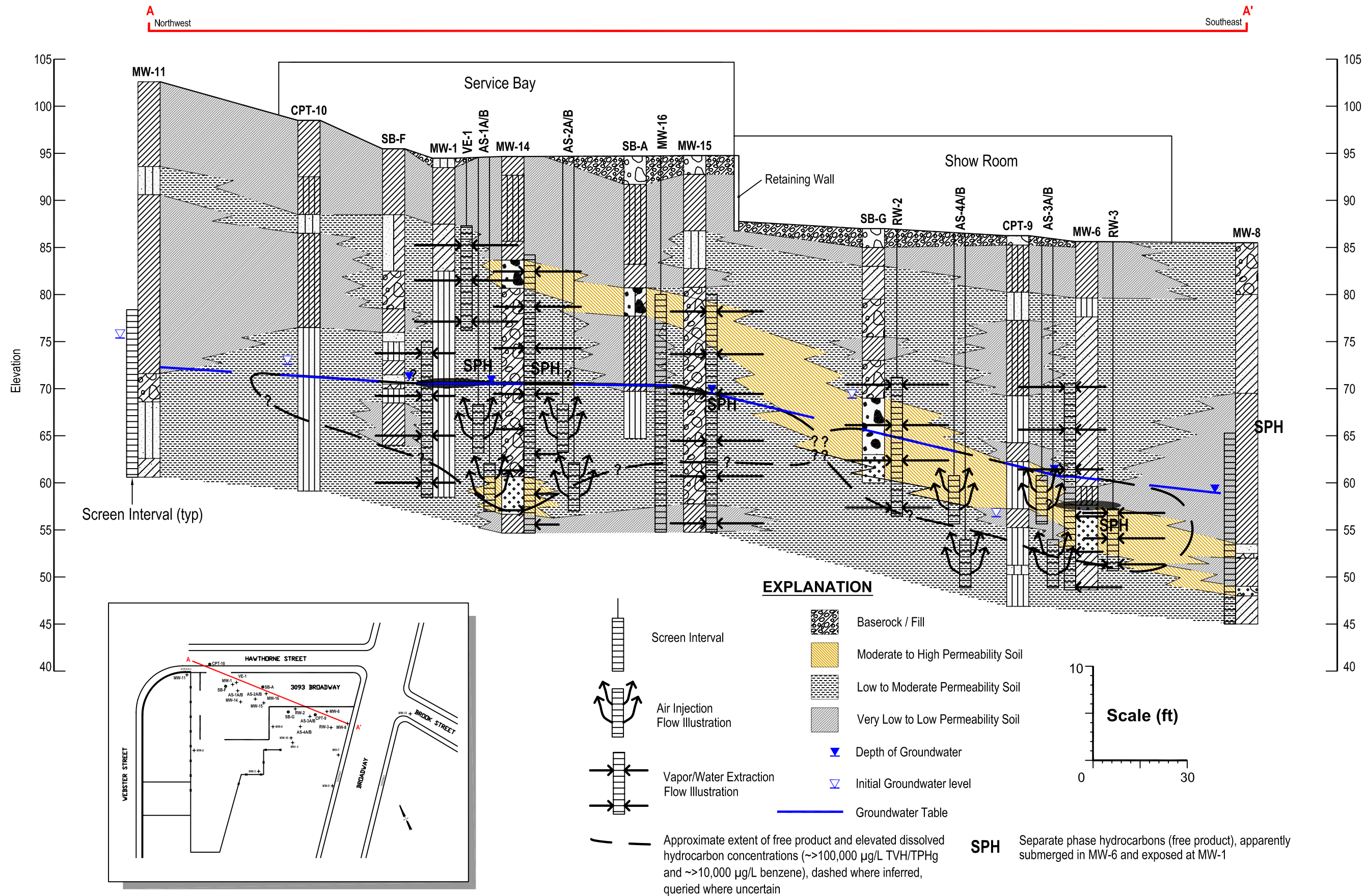


Figure 10

Cross Section with Remediation Illustration (Pre-Remediation)



# Pangea

**Table 1. Groundwater Elevation and Analytical Data: Volatile Hydrocarbons, HVOCs, and Dissolved Oxygen**  
Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TVH/TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	1,2-DCA (µg/L)	Other HVOCs (µg/L)	DO (mg/L)
<b>Monitoring Well Data</b>												
MW-1 94.48	10/5/1990	26.40	68.08	620,000	33,000	50,000	7,900	41,000	--	--	ND	--
	3/1/1991	27.46	67.02	SPH	--	--	--	--	--	--	--	--
	10/12/1992	26.44	68.04	490,000	51,000	59,000	5,000	27,000	--	--	--	--
	11/24/1992	26.63	67.85	320,000	35,000	43,000	4,200	22,000	--	--	ND	--
	4/5/1993	23.77	70.71	270,000	50,000	58,000	4,600	25,000	--	--	ND	--
	7/21/1993	24.51	69.97	SPH	--	--	--	--	--	--	--	--
	11/9/1993	26.06	68.42	SPH	--	--	--	--	--	--	--	--
	8/30/1995	21.73	72.75	SPH	--	--	--	--	--	--	--	--
	12/4/1995	21.94	72.54	SPH	--	--	--	--	<200	--	--	--
	5/2/1996	20.65	73.83	340,000	57,000	73,000	7,200	38,000	--	--	--	--
	11/5/1996	24.29	70.19	270,000	43,000	56,000	4,500	34,000	--	--	--	--
	5/9/1997	22.79	71.69	240,000	36,000	45,000	3,300	17,900	--	--	--	--
	11/5/1997	25.06	69.42	240,000	42,000	48,000	3,600	18,800	<1,000	--	--	--
	2/9/1998	22.64	71.84	220,000	47,000	60,000	5,200	29,800	<1,000	--	ND	--
	5/1/1998	19.95	74.53	160,000	35,000	42,000	2,800	16,000	<1,000	--	ND	--
	11/3/1998	23.29	71.19	200,000	39,000	49,000	4,400	26,000	<500	--	ND	--
	3/24/1999	22.30	72.18	SPH	--	--	--	--	--	--	--	--
	7/1/1999	22.70	71.78	SPH	--	--	--	--	--	--	--	--
	9/21/1999	23.81	70.67	SPH	--	--	--	--	--	--	--	--
	2/9/2000	23.95	70.59	SPH	--	--	--	--	--	--	--	--
	5/31/2000	22.05	72.43	SPH	--	--	--	--	--	--	--	--
	8/8/2000	22.49	71.99	SPH	--	--	--	--	--	--	--	--
	11/14/2000	24.65	69.83	SPH	--	--	--	--	--	--	--	--
	3/1/2001	24.22	70.28	SPH	--	--	--	--	--	--	--	--
	5/7/2001	23.85	70.67	SPH (0.05)	--	--	--	--	--	--	--	--
	8/1/2001	23.91	70.64	SPH (0.09)	--	--	--	--	--	--	--	--
	11/5/2001	23.95	70.67	SPH (0.18)	--	--	--	--	--	--	--	--
	2/13/2002	23.15	71.39	SPH(0.07)	--	--	--	--	--	--	--	--
	5/2/2002	23.91	70.60	SPH (0.04)	--	--	--	--	--	--	--	--
	8/4/2002	24.02	70.48	SPH (0.03)	--	--	--	--	--	--	--	--
	11/26/2002	24.47	70.05	SPH (0.05)	--	--	--	--	--	--	--	--
	1/20/2003	22.37	72.14	SPH (0.04)	--	--	--	--	--	--	--	--
	5/28/2003	21.77	72.73	SPH (0.02)	--	--	--	--	--	--	--	--
	8/5/2003	23.07	71.44	SPH (0.04)	--	--	--	--	--	--	--	--
	11/10/2003	22.53	71.97	SPH (0.03)	--	--	--	--	--	--	--	--
	2/18/2004	22.61	71.91	SPH (0.05)	--	--	--	--	--	--	--	--
	5/27/2004	22.08	72.44	SPH (0.05)	--	--	--	--	--	--	--	--
	8/19/2004	24.35	70.43	SPH (0.38)	--	--	--	--	--	--	--	--
	12/27/2004	24.62	70.21	SPH (0.44)	--	--	--	--	--	--	--	--
	2/18/2005	23.14	71.37	SPH (0.04)	--	--	--	--	--	--	--	--
	5/11/2005	22.71	71.79	SPH (0.02)	--	--	--	--	--	--	--	--
	8/3/2005	23.03	71.50	SPH (0.06)	--	--	--	--	--	--	--	--
	11/30/2005	23.98	70.52	SPH (0.03)	--	--	--	--	--	--	--	--
	2/17/2006	23.81	70.68	SPH (0.01)	--	--	--	--	--	--	--	--
	5/12/2006	21.75	72.75	SPH (0.02)	--	--	--	--	--	--	--	--
	8/7/2006	21.35	73.14	SPH (0.01)	--	--	--	--	--	--	--	--
	11/21/2006	23.38	71.13	SPH (0.04)	--	--	--	--	--	--	--	--
	2/12/2007	23.18	71.32	SPH (0.03)	--	--	--	--	--	--	--	--
	5/11/2007	22.68	71.80	--	--	--	--	--	--	--	--	0.20
	8/16/2007	23.74	70.74	--	--	--	--	--	--	--	--	0.08
	11/26/2007	24.98	69.50	--	--	--	--	--	--	--	--	0.13
	5/29/2008	23.83	70.65	--	--	--	--	--	--	--	--	0.14
	8/22/2008	25.50	69.54	SPH (0.70)	--	--	--	--	--	--	--	--
	2/19/2009	25.92	69.22	SPH (0.82)	--	--	--	--	--	--	--	--
	8/21/2009	25.98	69.12	SPH (0.77)	--	--	--	--	--	--	--	--
	2/24/2010	29.24	65.34	SPH (0.13)	--	--	--	--	--	--	--	--
	8/24/2010	26.84	68.14	SPH (0.63)	--	--	--	--	--	--	--	--
	<b>12/20/2011</b>	<b>27.58</b>	<b>66.90</b>	<b>63,000</b>	<b>5,000</b>	<b>9,700</b>	<b>1,300</b>	<b>11,000</b>	<b>&lt;1,000</b>	<b>--</b>	<b>--</b>	<b>0.83</b>
MW-2 94.85	3/1/1991	27.90	66.95	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	11/24/1992	27.95	66.90	<50	<0.5	1.1	<0.5	1.5	--	--	ND	--
	4/5/1993	25.99	68.86	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	7/21/1993	25.63	69.22	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	11/10/1993	26.76	68.09	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	8/30/1995	25.79	69.06	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--
	5/3/1996	23.32	71.53	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	5/8/1997	24.62	70.23	<50	<0.5	0.7	<0.5	<0.5	--	--	--	--
	4/29/1998	22.22	72.63	<50	<0.5	<0.5	<0.5	<0.5	<2	--	ND	--



# Pangea

**Table 1. Groundwater Elevation and Analytical Data: Volatile Hydrocarbons, HVOCs, and Dissolved Oxygen**  
Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TVH/TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	1,2-DCA (µg/L)	Other HVOCs (µg/L)	DO (mg/L)
MW-5 84.84	3/15/1991	26.31	58.53	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	11/10/1992	26.83	58.01	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	4/2/1993	26.62	58.22	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	7/21/1993	26.60	58.24	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	11/9/1993	27.24	57.60	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	8/30/1995	27.46	57.38	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--
	5/3/1996	26.02	58.82	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	5/8/1997	26.76	58.08	<50	<0.5	0.5	<0.5	<0.5	--	--	--	--
	4/29/1998	26.55	58.29	<50	<0.5	0.5	<0.5	<0.5	<2	--	ND	--
MW-6 85.62	3/15/1991	25.82	59.80	80,000	12,000	13,000	1,100	5,400	--	--	DBCM: 160	--
	10/12/1992	25.02	60.60	19,000	3,200	1,400	200	560	--	--	--	--
	12/1/1992	28.87	56.75	SPH	--	--	--	--	--	--	--	--
	4/2/1993	26.96	58.66	SPH	--	--	--	--	--	--	--	--
	7/21/1993	26.17	59.45	SPH	--	--	--	--	--	--	--	--
	11/9/1993	27.51	58.11	SPH	--	--	--	--	--	--	--	--
	8/30/1995	28.00	57.62	SPH	--	--	--	--	--	--	--	--
	12/1/1995	27.58	58.04	SPH	--	--	--	--	<8,000,000	--	--	--
86.94	5/3/1996	28.15	58.79	130,000	37,000	50,000	3,200	14,200	--	--	ND	--
	5/9/1997	26.54	60.40	1,700,000	14,000	27,000	4,000	28,200	--	--	--	--
	11/5/1997	26.16	60.78	160,000	13,000	19,000	1,900	14,300	<200	--	--	--
	5/1/1998	22.96	62.86	130,000	15,000	23,000	1,700	13,200	<500	--	ND	--
85.82	11/3/1998	24.35	61.47	110,000	17,000	21,000	1,800	10,700	<200	--	ND	--
	3/26/1999	23.82	62.00	SPH	--	--	--	--	--	--	--	--
	7/1/1999	24.45	61.37	SPH	--	--	--	--	--	--	--	--
	9/21/1999	24.58	61.24	SPH	--	--	--	--	--	--	--	--
	2/9/2000	24.93	61.24	SPH	--	--	--	--	--	--	--	--
	5/31/2000	23.47	62.41	SPH	--	--	--	--	--	--	--	--
	8/8/2000	23.85	61.97	SPH	--	--	--	--	--	--	--	--
	11/14/2000	24.61	61.21	SPH	--	--	--	--	--	--	--	--
	3/1/2001	23.97	61.85	SPH	--	--	--	--	--	--	--	--
	5/7/2001	23.17	62.71	SPH	--	--	--	--	--	--	--	--
	8/1/2001	obstruction in well		--	--	--	--	--	--	--	--	--
	11/5/2001	obstruction in well		--	--	--	--	--	--	--	--	--
	2/13/2002	obstruction in well		--	--	--	--	--	--	--	--	--
	5/2/2002	23.25	62.41	SPH (0.05)	--	--	--	--	--	--	--	--
	8/4/2002	23.55	62.29	SPH (0.03)	--	--	--	--	--	--	--	--
	11/26/2002	24.22	61.62	SPH (0.03)	--	--	--	--	--	--	--	--
	1/20/2003	22.49	63.36	SPH (0.04)	--	--	--	--	--	--	--	--
	5/28/2003	21.92	63.93	SPH (0.04)	--	--	--	--	--	--	--	--
	8/5/2003	23.98	61.87	SPH (0.04)	--	--	--	--	--	--	--	--
	11/10/2003	23.50	62.40	SPH (0.10)	--	--	--	--	--	--	--	--
	2/18/2004	22.21	63.64	SPH (0.04)	--	--	--	--	--	--	--	--
	5/27/2004	22.01	63.85	SPH (0.05)	--	--	--	--	--	--	--	--
	8/19/2004	24.16	61.68	SPH (0.03)	--	--	--	--	--	--	--	--
	12/27/2004	24.69	61.13	SPH (sheen)	--	--	--	--	--	--	--	--
	2/18/2005	23.55	62.33	SPH (0.08)	--	--	--	--	--	--	--	--
	5/11/2005	22.90	62.97	SPH (0.06)	--	--	--	--	--	--	--	--
	8/3/2005	23.68	62.19	SPH (0.06)	--	--	--	--	--	--	--	--
	11/30/2005	24.17	61.67	SPH (0.02)	--	--	--	--	--	--	--	--
	2/17/2006	23.89	61.95	SPH (0.03)	--	--	--	--	--	--	--	--
	5/12/2006	22.66	63.18	SPH (0.03)	--	--	--	--	--	--	--	--
	8/7/2006	22.83	63.01	SPH (0.02)	--	--	--	--	--	--	--	--
	11/21/2006	23.92	61.92	SPH (0.02)	--	--	--	--	--	--	--	--
	2/12/2007	23.97	61.87	SPH (0.02)	--	--	--	--	--	--	--	--
	5/11/2007	23.54	62.28	--	--	--	--	--	--	--	--	0.70
	8/16/2007	24.18	61.64	--	--	--	--	--	--	--	--	0.63
	11/26/2007	Unable to gauge or sample-Vehicle parked over well										
	5/29/2008	24.29	61.53	--	--	--	--	--	--	--	--	0.48
	8/22/2008	24.80	61.02	--	--	--	--	--	--	--	--	2.55
	2/19/2009	24.96	60.86	SPH (0.07)†	--	--	--	--	--	--	--	1.88
	8/21/2009	25.10	60.74	SPH (0.03)	--	--	--	--	--	--	--	--
	2/24/2010	26.71	59.13	SPH (0.03)	--	--	--	--	--	--	--	--
	8/24/2010	26.13	59.73	SPH (0.05)	--	--	--	--	--	--	--	--
	<b>12/19/2011</b>	<b>25.19</b>	<b>60.63</b>	<b>Insufficient water to sample</b>								
MW-7 85.41	3/15/1991	21.63	63.78	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	11/24/1992	21.52	63.89	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	4/2/1993	20.08	65.33	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	7/21/1993	19.59	65.82	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--

# Pangea

**Table 1. Groundwater Elevation and Analytical Data: Volatile Hydrocarbons, HVOCs, and Dissolved Oxygen**

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TVH/TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	1,2-DCA (µg/L)	Other HVOCs (µg/L)	DO (mg/L)
>>MW-7 (continued)	11/9/1993	20.65	64.76	<50	<0.5	1	<0.5	1.7	--	--	ND	--
	8/30/1995	18.78	66.63	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--
	12/1/1995	19.47	65.94	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	5/2/1996	17.15	68.26	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	8/8/1996	18.48	66.93	<50	<0.5	<0.5	<0.5	<0.5	<2	--	ND	--
	11/4/1996	18.69	66.72	<50	<1	<1	<1	<1	--	--	ND	--
	2/6/1997	17.44	67.97	<50	<0.5	<0.5	<0.5	<0.5	<2	--	ND	--
	5/8/1997	17.72	67.69	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--
	8/7/1997	18.49	66.92	<50	<0.5	<0.5	<0.5	<0.5	<2	--	ND	--
	11/5/1997	18.86	66.55	<50	<0.5	<0.5	<0.5	<0.5	<2	--	--	--
	2/9/1998	17.56	67.85	<50	<0.5	<0.5	<0.5	<0.5	<2	--	--	--
	4/29/1998	16.23	69.18	<50	<0.5	<0.5	<0.5	<0.5	<2	--	ND	--
	8/4/1998	17.24	68.17	<50	<0.5	<0.5	<0.5	<0.5	<2	--	ND	--
	11/2/1998	17.91	67.50	<50	<0.5	<0.5	<0.5	<0.5	<2	--	ND	--
	3/26/1999	16.42	68.99	<50	<0.5	<0.5	<0.5	<0.5	<2	--	ND	--
	7/1/1999	17.90	67.51	85	<0.5	1.1	0.55	2.5	<0.5	--	5	--
	9/21/1999	18.91	66.50	<50	0.7	1.8	<0.5	1.5	<5.0	--	ND	4.32
	2/9/2000	16.74	68.67	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	<0.5	--
	5/31/2000	16.21	69.20	<50	3	6	1	9	<0.5	--	ND	--
	8/8/2000	16.92	68.49	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	ND	0.43
	11/14/2000	17.00	68.41	<50	<0.5	0.63	<0.5	<0.5	<5.0	--	ND	0.44
	3/1/2001	17.09	68.32	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	ND	--
	5/7/2001	17.19	68.22	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	ND	0.51
	8/1/2001	17.25	68.16	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	ND	--
	11/5/2001	17.35	68.06	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	ND	--
	2/13/2002	17.50	67.91	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	ND	0.80
	5/2/2002	17.30	68.11	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	ND	0.31
	8/4/2002	17.58	67.83	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	ND	0.37
	11/26/2002	18.35	67.06	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	ND	0.28
	1/20/2003	15.84	69.57	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	ND	0.61
	5/28/2003	15.19	70.22	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	ND	0.74
	8/5/2003	17.00	68.41	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	<0.5	0.61
	11/10/2003	16.54	68.87	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.65
	2/18/2004	16.47	68.94	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.74
	5/27/2004	15.93	69.48	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.65
	8/19/2004	18.05	67.36	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.71
	12/27/2004	17.35	68.06	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	2.0
	2/18/2005	16.23	69.18	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	0.93
	5/11/2005	15.79	69.62	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	1.18
	8/3/2005	17.52	67.89	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.89
	11/30/2005	19.57	65.84	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	1.70
2/17/2006	16.82	68.59	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<1.0	0.99	
5/12/2006	15.86	69.55	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.11	
8/7/2006	17.52	67.89	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.33	
11/21/2006	18.67	66.74	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.39	
2/12/2007	18.20	67.21	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5 <sup>7</sup>	0.75	
5/11/2007	17.73	67.68	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.93	
8/16/2007	18.86	66.55	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.66	
11/26/2007	19.51	65.90	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.59	
5/29/2008	18.58	66.83	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.71	
8/22/2008	19.35	66.06	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	3.45	
2/19/2009	18.30	67.11	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	ND	1.90	
8/21/2009	18.50	66.91	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	1.42	
2/24/2010	19.27	66.14	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	1.19	
8/24/2010	20.68	64.73	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	1.06	
<b>12/19/2011</b>	<b>18.88</b>	<b>66.53</b>	--	--	--	--	--	--	--	--	--	--
MW-8 85.50	10/12/1992	27.70	57.80	70	20	1	1	3	--	--	--	--
	11/25/1992	27.62	57.88	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	4/8/1993	26.64	58.86	490	15	45	5.1	73	--	--	ND	--
	7/21/1993	26.60	58.90	180	2.5	3	<0.5	1.9	--	--	ND	--
	11/11/1993	27.18	58.32	310	23	<0.5	<0.5	<0.5	--	--	ND	--
	8/30/1995	26.35	59.15	660	360	6.8	13	2.8	--	--	--	--
	12/4/1995	26.72	58.78	250	46	0.9	4.9	<0.5	--	--	ND	--
	5/3/1996	25.47	60.03	69	110	<0.5	<0.5	1.5	--	--	ND	--
	8/8/1996	26.41	59.09	120	11	<0.5	<0.5	<0.5	<2	--	ND	--
	11/5/1996	26.77	58.73	110	20	<1	1	<1	--	--	ND	--
	2/6/1997	25.84	59.66	67	51	<0.5	0.56	<0.5	<2	--	ND	--
5/9/1997	26.39	59.11	110	59	<0.5	<0.5	<0.5	--	--	--	--	



# Pangea

**Table 1. Groundwater Elevation and Analytical Data: Volatile Hydrocarbons, HVOCs, and Dissolved Oxygen**  
Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TVH/TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	1,2-DCA (µg/L)	Other HVOCs (µg/L)	DO (mg/L)
>>MW-8 (continued)	8/7/1997	26.72	58.78	<50	12	<0.5	<0.5	<0.5	<2	--	ND	--
	11/5/1997	26.82	58.68	<50	9.4	<0.5	<0.5	<0.5	<2	--	--	--
	2/9/1998	25.57	59.93	<50	6	<0.5	<0.5	<0.5	<2	--	--	--
	5/1/1998	25.64	59.86	430	490	7.1	27	26	<10	--	ND	--
	8/5/1998	25.96	59.54	140	19	<0.5	5.2	5.3	<2	--	ND	--
	11/3/1998	26.27	59.23	150	110	1.1	4.3	4.5	<2	--	ND	--
	3/31/1999	20.93	64.57	54	170	1.5	4.1	1.9	4.4	--	1,1 DCA: 0.7 5	--
	7/1/1999	26.59	58.91	140	58	0.9	3	2.3	<0.5	--	--	--
	9/21/1999	26.89	58.61	670	170	2.6	11	7.9	<5	--	ND	2.61
	2/9/2000	26.60	58.90	300	60	1.2	4.8	1.2	<5.0	--	<0.5	--
	8/8/2000	26.43	59.07	270	56	1.2	4.1	1.0	<5.0	--	ND	0.25
	11/14/2000	26.60	58.90	330	64	1.3	3.5	0.60	<5.0	--	ND	0.51
	3/1/2001	26.41	59.09	400	140	<0.5	<0.5	0.55	<5.0	--	ND	--
	5/7/2001	26.55	58.95	240	37	0.71	2.5	0.77	<5.0	--	ND	0.49
	8/1/2001	26.71	58.79	130	5.2	<0.5	<0.5	<0.5	<5.0	--	ND	--
	11/5/2001	26.67	58.83	140	3.3	<0.5	<0.5	<0.5	<5.0	--	ND	--
	2/13/2002	26.15	59.35	1,100	440	0.087	0.66	2.0	<5.0	--	ND	0.71
	5/2/2002	26.63	58.87	90	3.9	<0.5	<0.5	<0.5	<5.0	--	ND	0.37
	8/4/2002	26.80	58.70	120	2.4	0.77	<0.5	<0.5	<5.0	--	ND	0.44
	11/26/2002	27.50	58.00	85	3.7	<0.5	<0.5	<0.5	<5.0	--	ND	0.48
	1/20/2003	24.93	60.57	90	3.9	0.67	<0.5	<0.5	<5.0	--	ND	0.65
	5/28/2003	24.28	61.22	120	1.4	<0.5	<0.5	<0.5	<5.0	--	ND	0.71
	8/5/2003	26.51	58.99	150 <sup>f</sup>	<0.5	<0.5	<0.5	<0.5	<5.0	--	<1.0	0.67
	11/10/2003	26.04	59.46	50	0.84	<0.5	<0.5	<0.5	<5.0	--	--	0.70
	2/18/2004	25.97	59.53	52	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.69
	5/27/2004	25.31	60.19	75	0.76	<0.5	<0.5	<0.5	<5.0	--	--	0.98
	8/19/2004	27.55	57.95	72	1.7	<0.5	<0.5	<0.5	<5.0	--	--	1.41
	12/27/2004	26.50	59.00	160	22	0.74	2.2	0.55	<5.0	--	--	0.2
	2/18/2005	26.00	59.50	130	27	0.70	2.3	0.69	<5.0	47	<1.0	0.91
	5/11/2005	25.47	60.03	550	190	2.5	2.9	9.3	<5.0	--	--	1.22
	8/3/2005	26.31	59.19	240	36	0.86	3.1	1.2	<5.0	--	--	1.05
	11/30/2005	26.51	58.99	160	28	1.7	2.0	1.3	<5.0	--	--	0.71
	2/17/2006	26.11	59.39	200	39	0.67	2.7	1.6	<5.0	37	<1.0	0.64
	5/12/2006	25.38	60.12	770	260	7.40	5.1	5.8	<5.0	--	--	0.19
	8/7/2006	26.10	59.40	320	52	1.0	2.7	1.2	<5.0	--	--	0.17
	11/21/2006	26.43	59.07	54	9.2	<0.5	0.56	0.64	<5.0	--	--	0.22
2/12/2007	26.29	59.21	1,000	310	5.1	25	27	<5.0	25	<0.5 <sup>7</sup>	0.37	
5/11/2007	26.23	59.27	300	48	0.74	2.9	1.2	<5.0	--	--	0.55	
8/16/2007	26.81	58.69	700	190	2.3	10	1.9	<10	--	--	0.59	
11/26/2007	26.99	58.51	130	33	0.74	0.93	<0.5	<5.0	--	--	0.51	
5/29/2008	26.70	58.80	510	100	0.93	1.2	<0.5	<10	--	--	0.97	
8/22/2008	27.03	58.47	100	19	<0.5	<0.5	<0.5	<5.0	--	--	2.88	
2/19/2009	26.74	58.76	120	29	0.56	<0.5	<0.5	<5.0	19	ND	2.12	
8/21/2009	26.72	58.78	81	11	<0.5	<0.5	<0.5	<5.0	--	--	2.20	
2/24/2010	29.09	56.41	88	14	0.70	<0.5	<0.5	<5.0	17	<0.5	1.73	
8/24/2010	28.35	57.15	120	11	0.95	<0.5	<0.5	<5.0	---	---	1.29	
	<b>12/19/2011</b>	<b>27.52</b>	<b>57.98</b>	--	--	--	--	--	--	--	--	--
MW-9 90.37	11/24/1992	23.51	66.86	19,000	180	590	23	2,000	--	--	TCM: 15	--
	4/5/1993	21.14	69.23	2,300	48	4	0.6	13	--	--	TCM: 2	--
	7/21/1993	21.54	68.83	2,300	170	8.1	15	<0.5	--	--	ND	--
	11/10/1993	27.53	62.84	4,400	69	7.3	21	9.7	--	--	ND	--
	8/30/1995	19.59	70.78	3,200	3,900	49	80	22.8	--	--	--	--
	12/4/1995	20.65	69.72	--	--	--	--	--	<2	--	--	--
	5/2/1996	18.63	71.74	<1300	2,600	<13	200	<13	--	--	ND	--
	11/5/1996	20.69	69.68	1,800	280	<5	65	<5	--	--	ND	--
	5/9/1997	19.96	70.41	1,100	160	<0.5	42	<0.5	--	--	--	--
	8/8/1997	20.84	69.53	570 <sup>1,2</sup>	<0.5	<0.5	<0.5	0.78 <sup>3</sup>	<2	--	ND	--
	11/5/1997	21.55	68.82	490 <sup>1</sup>	<0.5	<0.5	6	<0.5	<2	--	--	--
	2/9/1998	20.21	70.16	270 <sup>1</sup>	48	17	5.8	<0.5	<2	--	--	--
	5/1/1998	19.27	71.10	550	70	<0.5	22	2.2	<2	--	ND	--
	8/5/1998	19.35	71.02	550 <sup>1</sup>	88	<0.5	13	1.9 <sup>3</sup>	<2	--	ND	--
	11/2/1998	20.43	69.94	580	<0.5	<0.5	7.5 <sup>3</sup>	1.6 <sup>3</sup>	<2	--	ND	--
	3/25/1999	18.46	71.91	1,100	160	<0.5	21	2.1 <sup>3</sup>	5.7 <sup>4</sup>	--	ND	--
	7/1/1999	19.95	70.42	540	100	7.4	26	16.9	<1.3	--	5	--
	9/21/1999	21.15	69.22	2,700	320	98	88	47	<20	--	ND	5.86
	2/9/2000	21.08	69.29	1,600	81	3.6	19	18	<5.0	--	<0.5	--
	5/31/2000	19.11	71.26	1,500	170	13	25	<1.0	<0.5	--	ND	--
8/8/2000	19.86	70.51	1,300	140	2.1	19	<0.5	<5.0	--	ND	2.4	
11/14/2000	20.90	69.47	1,700	250	2.6	44	2.1	<5.0	--	ND	0.29	
3/1/2001	20.45	69.92	1,800	170	5.6	30	2.5	<20	--	ND	0.31	

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**Table 1. Groundwater Elevation and Analytical Data: Volatile Hydrocarbons, HVOCs, and Dissolved Oxygen**  
Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TVH/TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	1,2-DCA (µg/L)	Other HVOCs (µg/L)	DO (mg/L)
>>MW-9 (continued)	5/7/2001	19.83	70.54	1,500	120	2.6	24	<0.5	<5.0	--	ND	0.18
	8/1/2001	20.02	70.35	2,600	280	4.8	50	<0.5	<5.0	--	ND	--
	11/5/2001	19.85	70.52	2,200	170	4.5	100	0.54	<5.0	--	ND	--
	2/13/2002	19.80	70.57	1,800	98	3	58	1.5	<5.0	--	ND	0.53
	5/2/2002	19.93	70.44	1,100	82	1.4	20	<0.5	<10	--	ND	0.28
	8/4/2002	20.20	70.17	1,200	130	2.5	50	0.58	<10	--	ND	0.51
	11/26/2002	20.37	70.00	1,200	150	3.3	48	<2.5	<25	--	ND	0.53
	1/20/2003	17.93	72.44	840	110	1.2	31	0.76	<5.0	--	ND	0.31
	5/28/2003	17.25	73.12	1,100	40	1.9	3.0	<0.5	<20	--	ND	0.60
	8/5/2003	19.03	71.34	1,100 <sup>a</sup>	62	0.99	25	<0.5	<5.0	--	<10	0.54
	11/10/2003	18.65	71.72	1,500	120	7.6	41	<1.0	<10	--	--	0.62
	2/18/2004	18.41	71.96	820	50	1.2	19	<0.5	<5.0	--	--	0.58
	5/27/2004	17.89	72.48	730	36	2.0	11	1.6	<5.0	--	--	0.90
	8/19/2004	20.14	70.23	1,200	95	2.5	24	<0.5	<25	--	--	0.98
	12/27/2004	21.65	68.72	720	25	14	2.0	3.5	<15	--	--	2.5
	2/18/2005	19.97	70.40	600	24	<0.5	3.8	<0.5	<5.0	220	<5.0	0.88
	5/11/2005	19.41	70.96	510	11	<0.5	1.6	<0.5	<5.0	--	--	0.95
	8/3/2005	19.35	71.02	620	26	5.7	4.0	<0.5	<5.0	--	--	0.65
	11/30/2005	20.96	69.41	1,300	120	2.9	22	<0.5	<10	--	--	0.49
	2/17/2006	19.13	71.24	540	11	<0.5	1.1	<0.5	<5.0	160	<10	0.70
	5/12/2006	17.70	72.67	600	12	0.54	1.7	<0.5	<5.0	--	--	0.30
	8/7/2006	18.82	71.55	600	31	1.8	4.2	<0.5	<5.0	--	--	0.24
	11/21/2006	20.10	70.27	670	32	2.6	3.4	<0.5	<5.0	--	--	0.25
	2/12/2007	20.48	69.89	520	14	0.74	1.2	<0.5	<5.0	210	<5 <sup>7</sup>	0.51
	5/11/2007	19.55	70.82	710	4.8	1.8	<0.5	<0.5	<10	--	--	0.60
	8/16/2007	20.83	69.54	740	6.8	1.3	0.86	<0.5	<5.0	--	--	0.40
	11/26/2007	21.79	68.58	550	5.8	1.0	0.66	<0.5	<5.0	--	--	0.54
	5/29/2008	20.70	69.67	1,200	4.9	2.9	1.2	<0.5	<5.0	--	--	0.68
	8/22/2008	21.61	68.76	780	11	4.5	1.7	<0.5	<25	--	--	2.17
	2/19/2009	21.91	68.46	420	3.4	<0.5	<0.5	<0.5	<5.0	120	ND	1.94
	8/21/2009	21.97	68.40	610	17	0.89	<0.5	<0.5	<5.0	--	--	2.14
	2/24/2010	25.65	64.72	270	6.6	0.95	<0.5	<0.5	<5.0	75	<1.7	1.60
	8/24/2010	22.92	67.45	740	21	1.5	<0.5	<0.5	<5.0	---	---	1.10
	<b>12/19/2011</b>	<b>22.63</b>	<b>67.74</b>	--	--	--	--	--	--	--	--	--
MW-10 88.60	10/12/1992	21.55	67.05	28,000	2,700	3,800	210	1,300	--	--	--	--
	11/24/1992	21.86	66.74	130,000	9,700	19,000	1,400	8,400	--	--	ND	--
	4/5/1993	19.14	69.46	63,000	6,300	14,000	1,100	7,500	--	--	ND	--
	7/21/1993	19.79	68.81	140,000	16,000	31,000	2,200	13,000	--	--	ND	--
	8/30/1995	17.99	70.61	92,000	13,000	24,000	1,800	9,100	--	--	--	--
	5/3/1996	17.04	71.56	81,000	17,000	29,000	2,100	8,500	--	--	ND	--
	5/9/1997	18.36	70.24	63,000	7,400	13,000	940	4,100	--	--	--	--
	5/1/1998	15.84	72.76	60,000	7,100	14,000	1,100	5,300	<250	--	ND	--
MW-11 102.06	11/24/1992	33.65	68.41	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	12/8/92***	33.37	68.69	<50	<0.1	<0.1	<0.1	<0.1	--	--	--	--
	12/8/1992	33.37	68.69	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--
	4/5/1993	31.03	71.03	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	7/21/1993	31.90	70.16	160	<0.5	1.8	<0.5	<0.5	--	--	ND	--
	11/9/1993	32.60	69.46	80	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	8/30/1995	28.92	73.14	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--
	5/3/1996	28.00	74.06	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	5/8/1997	29.93	72.13	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--
	4/29/1998	27.22	74.84	<50	<0.5	<0.5	<0.5	<0.5	<2	--	ND	--
MW-13 84.06	11/24/1992	26.05	58.01	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	12/8/92***	25.08	58.98	<50	<0.1	<0.1	<0.1	<0.1	--	--	--	--
	12/8/1992	25.08	58.98	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--
	4/5/1993	24.64	59.42	<50	<0.5	0.9	<0.5	<0.5	--	--	ND	--
	7/21/1993	24.29	59.77	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	11/9/1993	24.23	59.83	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	8/30/1995	23.30	60.76	<50	49	<0.5	<0.5	<0.5	--	--	--	--
	12/1/1995	23.80	60.26	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	5/3/1996	23.19	60.87	<50	<0.5	<0.5	<0.5	<0.5	--	--	ND	--
	8/8/1996	23.44	60.62	<50	32	<0.5	<0.5	<0.5	<2	--	ND	--
	11/5/1996	24.04	60.02	<50	<1	<1	<1	<1	--	--	ND	--
	2/6/1997	23.24	60.82	<50	<0.5	<0.5	<0.5	<0.5	<2	--	ND	--
	5/8/1997	23.46	60.60	<50	81	<0.5	<0.5	<0.5	--	--	--	--
	8/8/1997	23.92	60.14	<50	<0.5	<0.5	<0.5	<0.5	<2	--	ND	--
	11/5/1997	24.27	59.79	<50	<0.5	<0.5	<0.5	<0.5	<2	--	--	--
	2/9/1998	22.89	61.17	<50	<0.5	<0.5	<0.5	<0.5	<2	--	--	--

# Pangea

**Table 1. Groundwater Elevation and Analytical Data: Volatile Hydrocarbons, HVOCs, and Dissolved Oxygen**  
Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TVH/TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	1,2-DCA (µg/L)	Other HVOCs (µg/L)	DO (mg/L)
>>MW-13 (continued)	4/29/1998	22.27	61.79	<50	24	<0.5	<0.5	<0.5	<2	--	ND	--
	8/4/1998	22.75	61.31	120	200	<1	<1	<1	<4	--	ND	--
	11/3/1998	23.90	60.16	59 <sup>1</sup>	33	<0.5	<0.5	<0.5	<2	--	ND	--
	3/31/1999	23.11	60.95	130	0.56	<0.5	<0.5	<0.5	<2	--	ND	--
	7/1/1999	23.40	60.66	160	370	19	1.2	3.5	<1	--	5	--
	9/21/1999	21.91	62.15	370	150	1.0	0.8	0.8	<5.0	--	ND	3.76
	2/9/2000	23.84	60.22	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	<0.5	--
	8/8/2000	23.31	60.75	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	ND	1.76
	11/14/2000	24.00	60.06	< 50	< 0.5	0.52	< 0.5	< 0.5	< 5.0	--	ND	0.49
	3/1/2001	23.93	60.13	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	--	ND	--
	5/7/2001	23.93	60.13	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	ND	0.59
	8/1/2001	24.10	59.96	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	ND	--
	11/5/2001	24.02	60.04	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	ND	--
	2/13/2002	23.70	60.36	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	ND	0.55
	5/2/2002	23.97	60.09	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	ND	0.63
	8/4/2002	24.19	59.87	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	ND	0.31
	11/26/2002	24.78	59.28	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	ND	0.47
	1/20/2003	22.10	61.96	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	ND	0.53
	5/28/2003	21.72	62.34	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	ND	0.75
	8/5/2003	23.99	60.07	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	<0.5	0.59
	11/10/2003	23.47	60.59	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.70
	2/18/2004	22.58	61.48	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.52
	5/27/2004	21.95	62.11	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.84
	8/19/2004	24.29	59.77	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.98
	12/27/2004	23.70	60.36	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	5.5
	2/18/2005	23.15	60.91	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5	0.97
	5/11/2005	22.68	61.38	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	1.05
	8/3/2005	23.04	61.02	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	1.12
	11/30/2005	23.65	60.41	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	2.28
	2/17/2006	23.07	60.99	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<1.0	1.35
	5/12/2006	22.02	62.04	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.39
	8/7/2006	22.61	61.45	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.24
	11/21/2006	23.11	60.95	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.94
	2/12/2007	23.27	60.79	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5 <sup>7</sup>	0.52
	5/11/2007	23.07	60.99	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.79
	8/16/2007	23.67	60.39	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.84
	11/26/2007	24.13	59.93	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	0.65
	5/29/2008	23.81	60.25	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	1.07
	8/22/2008	24.13	59.93	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	3.32
	2/19/2009	23.97	60.09	<50	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	ND	2.61
	8/21/2009	23.75	60.31	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	1.97
	2/24/2010	26.64	57.42	930	330	1.3	<0.5	0.99	<45	<0.5	<0.5	1.88
8/24/2010	25.43	58.63	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	1.41	
	<b>12/19/2011</b>	<b>24.65</b>	<b>59.41</b>	--	--	--	--	--	--	--	--	--
MW-14 94.66	5/26/1998	21.67	72.99	41,000	7,100	11,000	720	3,900	<1000	--	ND	--
	7/1/1999	22.95	71.71	SPH	--	--	--	--	--	--	--	--
	9/21/1999	24.26	70.40	SPH	--	--	--	--	--	--	--	--
	2/9/2000	24.13	70.53	92,000	12,000	17,000	1,300	8,700	<140	--	<0.5	--
	5/31/2000	22.09	72.57	SPH	--	--	--	--	--	--	--	--
	8/8/2000	22.88	71.78	SPH	--	--	--	--	--	--	--	--
	11/14/2000	23.90	70.76	SPH	--	--	--	--	--	--	--	--
	3/1/2001	23.97	70.69	SPH	--	--	--	--	--	--	--	--
	5/7/2001	23.45	71.23	SPH (sheen)	--	--	--	--	--	--	--	--
	8/1/2001	23.57	71.12	SPH (0.06)	--	--	--	--	--	--	--	--
	11/5/2001	23.50	71.18	SPH (0.03)	--	--	--	--	--	--	--	--
	2/13/2002	22.99	71.70	SPH (0.04)	--	--	--	--	--	--	--	--
	5/2/2002	23.51	71.17	SPH (0.02)	--	--	--	--	--	--	--	--
	8/4/2002	23.61	71.06	SPH (0.01)	--	--	--	--	--	--	--	--
	1/20/2003	22.35	72.31	SPH (sheen)	--	--	--	--	--	--	--	--
	5/28/2003	21.95	72.74	SPH (0.04)	--	--	--	--	--	--	--	--
	8/5/2003	23.03	71.66	SPH (0.04)	--	--	--	--	--	--	--	--
	11/10/2003	22.70	72.02	SPH (0.07)	--	--	--	--	--	--	--	--
	2/18/2004	22.37	72.32	SPH (0.04)	--	--	--	--	--	--	--	--
	5/27/2004	21.78	72.92	SPH (0.05)	--	--	--	--	--	--	--	--
8/19/2004	24.13	70.57	SPH (0.05)	--	--	--	--	--	--	--	--	
12/27/2004	24.19	70.47	SPH (sheen)	--	--	--	--	--	--	--	--	
2/18/2005	23.24	71.46	SPH (0.05)	--	--	--	--	--	--	--	--	
5/11/2005	22.77	71.92	SPH (0.04)	--	--	--	--	--	--	--	--	
8/3/2005	23.17	71.51	SPH (0.02)	--	--	--	--	--	--	--	--	
11/30/2005	24.02	70.66	SPH (0.02)	--	--	--	--	--	--	--	--	

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Well ID TOC Elev. (ft)	Sampling Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TVH/TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	1,2-DCA (µg/L)	Other HVOCs (µg/L)	DO (mg/L)
>>MW-14 (continued)	2/17/2006	23.87	70.81	SPH (0.02)	--	--	--	--	--	--	--	--
	5/12/2006	21.74	72.93	SPH (0.01)	--	--	--	--	--	--	--	--
	8/7/2006	21.66	73.01	SPH (0.01)	--	--	--	--	--	--	--	--
	11/21/2006	23.41	71.27	SPH (0.03)	--	--	--	--	--	--	--	--
	2/12/2007	23.45	71.23	SPH (0.03)	--	--	--	--	--	--	--	--
	5/11/2007	22.95	71.71	--	--	--	--	--	--	--	--	0.41
	8/16/2007	24.14	70.52	--	--	--	--	--	--	--	--	0.29
	11/26/2007	24.94	69.72	--	--	--	--	--	--	--	--	0.11
	5/29/2008	24.02	70.64	--	--	--	--	--	--	--	--	0.33
	8/22/2008	24.97	69.69	--	--	--	--	--	--	--	--	0.37
	2/19/2009	25.20	69.46	SPH (0.05)†	--	--	--	--	--	--	--	0.29
	8/21/2009	25.23	69.43	--	--	--	--	--	--	--	--	0.15
	2/24/2010	28.39	68.67	SPH (0.03)	--	--	--	--	--	--	--	---
	8/24/2010	26.31	68.38	SPH (0.04)	--	--	--	--	--	--	--	---
	<b>12/20/2011</b>	<b>25.67</b>	<b>68.99</b>	<b>14,000</b>	<b>1,400</b>	<b>2,600</b>	<b>220</b>	<b>2,100</b>	<b>&lt;300</b>	--	--	<b>0.73</b>
MW-15 94.76	5/26/1998	21.87	72.89	130,000	30,000	38,000	2,500	12,600	<1000	--	ND	--
	7/1/1999	22.25	72.51	SPH	--	--	--	--	--	--	--	--
	9/21/1999	24.12	70.64	SPH	--	--	--	--	--	--	--	--
	2/9/2000	24.42	70.34	180,000	32,000	37,000	2,800	14,000	<200	--	<0.5	--
	5/31/2000	22.40	72.36	SPH	--	--	--	--	--	--	--	--
	8/8/2000	23.17	71.59	SPH	--	--	--	--	--	--	--	--
	11/14/2000	24.15	70.61	SPH	--	--	--	--	--	--	--	--
	3/1/2001	23.99	70.77	SPH	--	--	--	--	--	--	--	--
	5/7/2001	23.50	71.26	SPH (sheen)	--	--	--	--	--	--	--	--
	8/1/2001	23.62	71.14	SPH (sheen)	--	--	--	--	--	--	--	--
	11/5/2001	23.65	71.11	SPH (sheen)	--	--	--	--	--	--	--	--
	2/13/2002	23.09	71.67	68,000	9,300	8,500	760	2,600	<200	--	ND	0.59
	5/2/2002	23.59	71.17	SPH (sheen)	--	--	--	--	--	--	--	--
	8/4/2002	23.65	71.11	SPH (sheen)	--	--	--	--	--	--	--	--
	11/26/2002	24.59	70.17	SPH (sheen)	--	--	--	--	--	--	--	--
	1/20/2003	22.08	72.68	48,000	9,900	10,000	1,000	3,600	<1,200	--	ND	0.24
	5/28/2003	21.68	73.08	SPH (sheen)	--	--	--	--	--	--	--	--
	8/5/2003	24.05	70.71	SPH (sheen)	--	--	--	--	--	--	--	--
	11/10/2003	23.68	71.08	SPH (sheen)	--	--	--	--	--	--	--	--
	2/18/2004	23.51	71.25	25,000	5,200	3,600	390	1,100	<1,000	--	--	0.63
	5/27/2004	22.98	71.78	SPH (sheen)	--	--	--	--	--	--	--	--
	8/19/2004	25.31	69.45	SPH (sheen)	--	--	--	--	--	--	--	--
	12/27/2004	24.46	70.30	SPH (sheen)	--	--	--	--	--	--	--	--
	2/18/2005	23.27	71.57	SPH (0.10)	--	--	--	--	--	--	--	--
	5/11/2005	22.80	72.03	SPH (0.09)	--	--	--	--	--	--	--	--
	8/3/2005	23.29	71.48	SPH (0.01)	--	--	--	--	--	--	--	--
	11/30/2005	24.11	70.69	SPH (0.05)	--	--	--	--	--	--	--	--
	2/17/2006	23.91	70.87	SPH (0.03)	--	--	--	--	--	--	--	--
	5/12/2006	21.88	72.90	SPH (0.03)	--	--	--	--	--	--	--	--
	8/7/2006	22.05	72.72	SPH (0.01)	--	--	--	--	--	--	--	--
11/21/2006	23.70	71.06	--	--	--	--	--	--	--	--	0.15	
2/12/2007	23.80	70.96	58,000	8,900	8,000	800	2,500	<1,000	99	<5'	0.22	
5/11/2007	23.28	71.48	--	--	--	--	--	--	--	--	0.49	
8/16/2007	24.38	70.38	--	--	--	--	--	--	--	--	0.41	
11/26/2007	25.30	69.46	--	--	--	--	--	--	--	--	0.27	
5/29/2008	24.32	70.44	--	--	--	--	--	--	--	--	0.47	
8/22/2008	25.24	69.52	--	--	--	--	--	--	--	--	2.49	
2/19/2009	25.59	69.17	SPH (0.08)†	--	--	--	--	--	--	--	--	0.53
8/21/2009	25.61	69.15	--	--	--	--	--	--	--	--	--	0.47
2/24/2010	28.51	66.28	SPH (0.04)	--	--	--	--	--	--	--	--	---
8/24/2010	26.53	68.26	SPH (0.04)	--	--	--	--	--	--	--	--	---
	<b>12/19/2011</b>	<b>26.18</b>	<b>68.58</b>	<b>36,000</b>	<b>4,000</b>	<b>4,100</b>	<b>770</b>	<b>4,600</b>	<b>&lt;1,000</b>	--	--	<b>0.67</b>
MW-16A	5/17/2007	25.12	--	1,700	3.1	4.1	21	25	<30	--	--	0.94
	8/16/2007	26.02	--	920	3.4	22	13	13	<5.0	--	--	0.62
	11/26/2007	26.16	--	870	2.0	16	6.9	10	<5.0	--	--	0.55
	5/29/2008	25.73	--	600	2.9	14	8.2	14	<5.0	--	--	0.48
	8/22/2008	26.11	--	1,300	9.2	45	29	100	<17	--	--	0.94
	2/19/2009	26.32	--	1,300	12	17	7.0	33	<10	<0.5	Chloroform: 1.0	0.88
	8/21/2009	26.28	--	1,500	20	73	50	230	<30	--	--	1.02
	2/24/2010	29.08	--	Insufficient water to sample			---	---	---	--	--	3.19
	8/24/2010	27.40	--	3,400	210	48	11	27	<10	--	--	2.78
		<b>12/19/2011</b>	<b>29.20</b>	--	<b>SPH (Sheen)</b>	--	--	--	--	--	--	--
MW-16B	5/17/2007	28.98	--	110,000	11,000	3,300	1,300	7,700	<500	--	--	0.65
	8/16/2007	31.02	--	58,000	14,000	1,500	1,100	4,100	<1,000	--	--	0.66

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>>MW-16B (continued)	11/26/2007	30.00	--	76,000	14,000	1,900	1,200	2,700	<1,000	--	--	0.61	
	5/29/2008	29.95	--	70,000	12,000	1,600	1,300	1,900	<500	--	--	0.51	
	8/22/2008	32.02	--	39,000	9,700	480	870	1,600	<500	--	--	0.93	
	2/19/2009	31.70	--	67,000	15,000	1,300	1,400	2,500	<500	1,100	ND	0.97	
	8/21/2009	31.62	--	54,000	14,000	2,300	1,500	2,800	<1,000	--	--	1.05	
	2/24/2010	35.05	--	65,000	15,000	3,500	1,500	3,900	<500	1,200	EDB: 33	1.08	
	8/24/2010	33.36	--	58,000	15,000	3,800	1,500	3,700	<1,000	---	---	0.65	
	<b>12/20/2011</b>	<b>36.68</b>	--	<b>15,000</b>	<b>3,900</b>	<b>1,000</b>	<b>140</b>	<b>740</b>	<b>&lt;170</b>	---	---	<b>0.73</b>	
MW-17A	4/12/2007	23.87	--	130,000	8,400	31,000	3,100	17,000	<4,000	--	--	--	
	5/29/2008	24.05	--	180,000	11,000	24,000	1,600	9,600	<3,500	--	--	2.12	
	8/22/2008	24.96	--	150,000	17,000	30,000	1,700	16,000	<2,700	--	--	0.94	
	2/19/2009	25.29	--	150,000	5,600	26,000	1,900	12,000	<3,000	800	EDB: 410	0.97	
	8/21/2009	25.37	--	130,000	12,000	21,000	1,600	12,000	<2,500	--	--	0.81	
	2/24/2010	28.39	--	Insufficient water to sample			---	---	---	---	--	--	---
	8/24/2010	26.30	--	Insufficient water to sample			---	---	---	---	--	--	1.20
	<b>12/20/2011</b>	<b>25.52</b>	--	<b>91,000</b>	<b>4,100</b>	<b>16,000</b>	<b>2,000</b>	<b>15,000</b>	<b>&lt;1,500</b>	--	--	<b>0.32</b>	
MW-17B	4/12/2007	23.14	--	3,200	130	470	70	470	<200	--	--	--	
	5/29/2008	24.30	--	53	<0.5	2.1	<0.5	3.3	<5.0	--	--	2.78	
	8/22/2008	25.19	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	1.41	
	2/19/2009	25.51	--	150	3.6	14	0.82	11	<15	0.81	TCM: 0.51	1.12	
	8/21/2009	25.44	--	350	4.0	13	3.3	26	<5.0	--	--	1.15	
	2/24/2010	28.53	--	54	1.5	4.8	0.51	4.0	<5.0	4.9	EDB: 0.89	1.02	
	8/24/2010	26.48	--	<50	<0.5	1.5	<0.5	<0.5	<5.0	---	---	0.96	
	<b>12/19/2011</b>	<b>26.58</b>	--	--	--	--	--	--	--	--	--	--	
<b>REMEDIATION WELLS</b>													
AS-1A	4/11/2007	22.61	--	230,000	40,000	51,000	2,900	18,000	<2,400	--	--	--	
AS-1B	4/11/2007	23.69	--	230,000	28,000	27,000	3,500	15,000	<2,400	--	--	--	
AS-2A	4/16/2007	22.71	--	300,000	34,000	57,000	5,700	35,000	<5,000	--	--	--	
AS-3A	4/12/2007	15.79	--	7,900	470	1,100	210	1,200	<350	--	--	--	
AS-3B	4/12/2007	20.31	--	50,000	2,000	4,800	1,400	8,200	<900	--	--	--	
AS-4A	4/16/2007	15.18	--	20,000	4,300	1,200	460	890	<500	--	--	--	
RW-1	4/11/2007	23.37	--	61,000	7,100	12,000	970	4,300	<1,000	--	--	--	
RW-2	4/16/2007	16.66	--	160,000	20,000	30,000	3,700	19,000	<2,400	--	--	--	
	5/29/2008	17.66	--	140,000	11,000	16,000	2,100	8,700	<2,000	--	--	1.46	
	8/22/2008	18.51	--	110,000	13,000	19,000	2,700	13,000	<1,800	--	--	0.95	
	2/19/2009	18.87	--	SPH (0.08)†			--	--	--	--	--	--	0.79
	8/21/2009	18.89	--	SPH (0.31)†			--	--	--	--	--	--	0.71
	2/24/2010	25.05	--	SPH (0.04)			--	--	--	--	--	--	---
	8/24/2010	19.79	--	SPH (0.04)			--	--	--	--	--	--	---
	<b>12/19/2011</b>	<b>19.71</b>	--	<b>77,000</b>	<b>11,000</b>	<b>11,000</b>	<b>1,400</b>	<b>12,000</b>	<b>&lt;2,100</b>	--	--	<b>0.42</b>	
RW-3A	4/12/2007	15.40	--	81,000	7,900	16,000	1,800	8,400	<1,500	--	--	--	
	<b>12/19/2011</b>	<b>18.37</b>	--	<b>41,000</b>	<b>3,000</b>	<b>2,700</b>	<b>89</b>	<b>6,500</b>	<b>&lt;750</b>	--	--	<b>0.43</b>	
RW-3B	4/12/2007	24.06	--	5,100	340	330	37	400	<150	--	--	--	
RW-4	4/11/2007	22.50	--	120,000	4,600	23,000	2,400	16,000	<2,500	--	--	--	
	5/29/2008	23.72	--	92,000	4,800	15,000	1,900	14,000	<1,800	--	--	1.09	
	8/22/2008	24.69	--	91,000	4,800	13,000	1,800	13,000	<1,600	--	--	0.94	
	2/19/2009	24.98	--	120,000	7,700	19,000	2,300	13,000	<2,700	110	EDB: 240	0.76	
	8/21/2009	25.15	--	59,000	4,100	9,300	370	7,300	<1,500	--	--	0.80	
	2/24/2010	28.65	--	Insufficient water to sample			---	---	---	---	--	--	---
	8/24/2010	26.02	--	Insufficient water to sample			---	---	---	---	--	--	0.72
	<b>12/20/2011</b>	<b>25.80</b>	--	<b>75,000</b>	<b>1,200</b>	<b>8,800</b>	<b>1,400</b>	<b>13,000</b>	<b>&lt;1,000</b>	--	--	<b>0.62</b>	
RW-5	4/11/2007	22.37	--	110,000	7,100	13,000	2,000	9,800	<2,000	--	--	--	
	<b>12/20/2011</b>	<b>26.32</b>	--	<b>6,700</b>	<b>350</b>	<b>880</b>	<b>93</b>	<b>980</b>	<b>&lt;120</b>	--	--	<b>0.63</b>	
VE-1	4/11/2007	33.02	--	260,000	35,000	42,000	3,600	17,000	<4,000	--	--	--	
	<b>12/20/2011</b>	<b>33.38</b>	--	<b>90,000</b>	<b>9,700</b>	<b>18,000</b>	<b>1,400</b>	<b>14,000</b>	<b>&lt;1,000</b>	--	--	<b>0.62</b>	

# Pangea

**Table 1. Groundwater Elevation and Analytical Data: Volatile Hydrocarbons, HVOCs, and Dissolved Oxygen**  
Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TVH/TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	1,2-DCA (µg/L)	Other HVOCs (µg/L)	DO (mg/L)
<b>Grab Groundwater Sampling Data</b>												
SB-1-40-GW	8/5/2008	--	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--
CPT-1****	10/6/1992	--	--	490	20	60	10	60	--	1	--	--
CPT-3	10/6/1992	--	--	50	<0.4	<0.4	3	3	--	<4	--	--
CPT-4	10/6/1992	--	--	1,100	60	50	80	15	--	110	--	--
CPT-5	10/6/1992	--	--	600,000	2,300	53,000	8,000	43,000	--	730	--	--
CPT-7	10/6/1992	--	--	1,700,000	40,000	120,000	25,000	120,000	--	2,900	--	--
CPT-9	10/7/1992	--	--	2,100,000	49,000	140,000	28,000	145,000	--	620	--	--
CPT-10	10/7/1992	--	--	190,000	13,000	16,000	3,900	18,000	--	1,400	--	--
CPT-11	10/7/1992	--	--	2,000	200	50	30	70	--	11	--	--
CPT-12	10/7/1992	--	--	130,000	4,100	10,000	2,600	10,000	--	9	--	--
CPT-13(MW-10)	10/7/1992	--	--	28,000	2,700	3,800	210	1,300	--	150	--	--
CPT-17 (B-12)	10/6/1992	--	--	<50	<0.5	<0.5	<0.5	<0.5	--	<1	ND	--
B (boring)	5/16/1998	--	--	140	37	0.64	6.6	1.7	<2	17	--	--
C (boring)	5/16/1998	--	--	<50	0.72	<0.5	<0.5	<0.5	<2	210	--	--
G (boring)	5/16/1998	--	--	590,000	15,000	25,000	2,100	10,800	<500	880	--	--
AS-4B-50	3/1/2007	50.0	--	88	7.2	7.1	1.2	3.5	<5.0	--	--	--
RW-4	3/25/2007	--	--	5,700	94	590	120	950	<50	--	--	--

**Abbreviations and Notes:**

TOC Elev. (ft) = Top of casing elevation, surveyed to an arbitrary datum (measured in feet)

µg/L = micrograms per liter = parts per billion = ppb

-- = Not measured or not analyzed

ND = Not detected above laboratory reporting limit; see laboratory reports for individual reporting limits.

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

TVH = Total Volatile Hydrocarbons

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015C

Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8021B

MTBE = Methyl tertiary butyl ether by EPA Method 8021B

HVOCs = Halogenated volatile organic compounds by EPA Method 8010

1,2-DCA = 1,2 Dichloroethane by EPA Method 8010

DCB = 1, 3 Dichlorobenzene

DBCM = Dibromochloromethane

MCB = Chlorobenzene

TCM = Trichlorofluoromethane

EDB = 1,2-Dibromoethane

DO = Dissolved oxygen, measured in the field.

<n = Chemical not present at a concentration in excess of detection limit shown.

\* = Suspect laboratory contamination contributing to test result.

\*\* = Fuel fingerprint analysis indicates MTBE is not present in the free product sample collected from this well.

\*\*\* = Duplicate sample sent to a different chemical laboratory.

\*\*\*\* = CPT-2, 6, 8, 14, 15 and 16 were not sampled.

1 = Sample exhibits fuel pattern which does not resemble standard

2 = Lighter hydrocarbons than indicated standard

3 = Presence of this compound confirmed by second column, however, the confirmation concentration differed from the reported result by more than a factor of two.

4 = Detection may potentially be a false positive, to be checked during the next event.

5 = One or more of the following substances found: Acetone, 1,2-Dibromoethane, 1,3,5-Trimethylbenzene, 2-Chlorotoluene, 1,2,4-Trimethylbenzene, n-Butylbenzene, and Naphthalene.

See laboratory results for details.

6 = Confirmed by GC/MS.

7 = Detection levels for 2-chloroethyl vinyl ether are twice the indicated detection level which is applicable to all other target HVOCs.

† = SPH thickness not used to calculate groundwater elevation because SPH not present in well until after beginning purge.

# Pangea

**Table 2. Groundwater Elevation and Analytical Data: Extractable Hydrocarbons and SVOCs**  
Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to water (ft)	Groundwater Elevation (ft)	TEH (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	2-Methyl naphthalene (µg/L)	Naphthalene (µg/L)	Other SVOCs (µg/L)
MW-1	10/5/1990	26.40	68.08	<500	--	--	--	--	--
94.48	3/1/1991	27.46	67.02	SPH	--	--	--	--	--
	10/12/1992	26.44	68.04	--	--	--	--	--	--
	11/24/1992	26.63	67.85	4,600	--	--	--	--	--
	4/5/1993	23.77	70.71	25,000	--	--	--	--	--
	7/21/1993	24.51	69.97	SPH	--	--	--	--	--
	11/9/1993	26.06	68.42	SPH	--	--	--	--	--
	8/30/1995	21.73	72.75	SPH	--	--	630	1,200	1
	12/4/1995	21.94	72.54	SPH	--	--	--	--	--
	5/2/1996	20.65	73.83	32,000	--	--	250	640	ND
	11/5/1996	24.29	70.19	--	--	--	--	--	--
	5/9/1997	22.79	71.69	28,000	--	--	280	650	2
	11/5/1997	25.06	69.42	28,000	--	--	720	1,500	ND
	2/9/1998	22.64	71.84	27,000	--	--	160	570	3
	5/1/1998	19.95	74.53	29,000	--	--	--	--	--
	5/27/1998	--	--	--	--	--	120	630	4
	11/3/1998	23.29	71.19	37,000	--	--	500	1,100	ND?
	3/24/1999	22.30	72.18	SPH	--	--	--	--	--
	7/1/1999	22.70	71.78	SPH	--	--	--	--	--
	9/21/1999	23.81	70.67	SPH	--	--	--	--	--
	2/9/2000	23.95	70.59	--	SPH	--	--	--	--
	5/31/2000	22.05	72.43	--	SPH	--	--	--	--
	11/14/2000	24.65	69.83	--	SPH	--	--	--	--
	3/1/2001	24.22	70.28	--	SPH	--	--	--	--
	5/7/2001	23.85	70.67	--	SPH	--	--	--	--
	8/1/2001	23.91	70.64	--	SPH	--	--	--	--
	11/5/2001	23.95	70.67	--	SPH	--	--	--	--
	2/13/2002	23.15	71.39	--	SPH (0.07)	--	--	--	--
	5/2/2002	23.91	70.60	--	SPH (0.04)	--	--	--	--
	8/4/2002	24.02	70.48	--	SPH (0.03)	--	--	--	--
	11/26/2002	24.47	70.05	--	SPH (0.05)	--	--	--	--
	1/20/2003	22.37	72.14	--	SPH (0.04)	--	--	--	--
	5/28/2003	21.77	72.73	--	SPH (0.02)	--	--	--	--
	8/5/2003	23.07	71.44	--	SPH (0.04)	--	--	--	--
	11/10/2003	22.53	71.97	--	SPH (0.03)	--	--	--	--
	2/18/2004	22.61	71.91	--	SPH (0.05)	--	--	--	--
	5/27/2004	22.08	72.44	--	SPH (0.05)	--	--	--	--
	8/19/2004	24.35	70.43	--	SPH (0.38)	--	--	--	--
	12/27/2004	24.62	70.21	--	SPH (0.44)	--	--	--	--
	2/18/2005	23.14	71.37	--	SPH (0.04)	--	--	--	--
	5/11/2005	22.71	71.79	--	SPH (0.02)	--	--	--	--
	8/3/2005	23.03	71.50	--	SPH (0.06)	--	--	--	--
	11/30/2005	23.98	70.52	--	SPH (0.03)	--	--	--	--
	2/17/2006	23.81	70.68	--	SPH (0.01)	--	--	--	--
	5/12/2006	21.75	72.75	--	SPH (0.02)	--	--	--	--
	8/7/2006	21.35	73.14	--	SPH (0.01)	--	--	--	--
	11/21/2006	23.38	71.13	--	SPH (0.04)	--	--	--	--
	2/12/2007	23.18	71.32	--	SPH (0.03)	--	--	--	--
	5/11/2007	22.68	71.80	--	--	--	--	--	--
	8/16/2007	23.74	70.74	--	--	--	--	--	--
	11/26/2007	24.98	69.50	--	--	--	--	--	--
	5/29/2008	23.83	70.65	--	--	--	--	--	--
	8/22/2008	25.50	69.54	--	SPH (0.70)	--	--	--	--
	2/19/2009	25.92	69.22	--	SPH (0.82)	--	--	--	--
	8/21/2009	25.98	69.12	--	SPH (0.77)	--	--	--	--
	2/24/2010	29.24	65.34	--	SPH (0.13)	--	--	--	--
	8/24/2010	26.84	68.14	--	SPH (0.63)	--	--	--	--
	<b>12/20/2011</b>	<b>27.58</b>	<b>66.90</b>	--	<b>240,000</b>	<b>95,000</b>	--	--	--

# Pangea

**Table 2. Groundwater Elevation and Analytical Data: Extractable Hydrocarbons and SVOCs**  
Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to water (ft)	Groundwater Elevation (ft)	TEH (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	2-Methyl naphthalene (µg/L)	Naphthalene (µg/L)	Other SVOCs (µg/L)
MW-2 94.81	3/1/1991	27.86	66.95	<50	--	--	--	--	--
	11/24/1992	27.91	66.90	<50	--	--	--	--	--
	4/5/1993	25.95	68.86	870	--	--	--	--	--
	7/21/1993	25.59	69.22	<50	--	--	--	--	--
	11/10/1993	26.72	68.09	240	--	--	--	--	--
	8/30/1995	25.75	69.06	150	--	--	--	--	--
	5/3/1996	23.28	71.53	<50	--	--	--	--	--
	5/8/1997	24.58	70.23	<50	--	--	--	--	--
	4/29/1998	22.18	72.63	<47	--	--	--	--	--
MW-3 90.08	3/1/1991	23.17	66.91	<50	--	--	--	--	--
	11/25/1992	23.01	67.07	160	--	--	--	--	--
	4/5/1993	22.11	67.97	<50	--	--	--	--	--
	7/21/1993	23.93	66.15	<50	--	--	--	--	--
	11/10/1993	23.14	66.94	<50	--	--	--	--	--
	8/30/1995	20.61	69.47	<50	--	--	--	--	--
	5/3/1996	18.43	71.65	<50	--	--	--	--	--
	5/8/1997	19.77	70.31	<50	--	--	--	--	--
	4/29/1998	17.92	72.16	<47	--	--	--	--	--
MW-4 88.84	3/1/1991	23.79	65.05	<500	--	--	--	--	--
	10/12/1992	22.48	66.36	--	--	--	--	--	--
	11/24/1992	22.60	66.24	1,600	--	--	--	--	--
	4/2/1993	20.11	68.73	SPH	--	--	--	--	--
	7/21/1993	20.48	68.36	SPH	--	--	--	--	--
	11/9/1993	21.71	67.13	SPH	--	--	--	--	--
	8/30/1995	19.90	68.94	SPH	--	--	--	--	--
	12/1/1995	19.40	69.44	SPH	--	--	--	--	--
	5/2/1996	17.50	71.34	9,200	--	--	--	--	--
	11/4/1996	20.13	68.71	4,700	--	--	--	--	--
	5/8/1997	18.63	70.21	5,100	--	--	--	--	--
	11/5/1997	20.19	68.65	3,700	--	--	--	--	--
	2/9/1998	18.28	70.56	4,800	--	--	--	--	--
	5/1/1998	16.11	72.73	5,000	--	--	--	--	--
	8/4/1998	17.54	71.30	3,500	--	--	--	--	--
	11/2/1998	19.21	69.63	7,200	--	--	--	--	--
	3/26/1999	17.51	71.33	14,000	--	--	--	--	--
	7/1/1999	18.80	70.04	17,000	--	--	370	860	ND
	9/21/1999	19.85	68.99	14,000	--	--	360	820	ND
	2/9/2000	19.76	69.08	--	12,000	1,000	290	700	ND
	5/31/2000	17.90	70.94	--	14,000 **	<500	--	--	--
	11/14/2000	19.63	69.21	--	8,000	290	--	--	--
	3/1/2001	19.68	69.16	--	57,000	2,800	210	510	ND
	5/7/2001	18.60	70.24	--	56,000	3,600	--	--	--
	8/1/2001	18.73	70.11	--	42,000	6,700	--	--	--
	11/5/2001	18.97	69.87	--	49,000	14,000	--	--	--
	2/13/2002	18.59	70.25	--	140,000	11,000	620	1000	--
5/2/2002	18.77	70.07	--	68,000	<25,000	--	--	--	
8/4/2002	18.95	69.89	--	58,000	<25,000	--	--	--	
11/26/2002	20.83	68.01	--	7,100	<250	--	--	--	
1/20/2003	16.90	71.94	--	29,000	<2500	--	--	--	
5/28/2003	15.25	73.59	--	12,000	300	--	--	--	
8/5/2003	17.05	71.79	--	6,600	<250	--	--	--	
11/10/2003	16.60	72.24	--	15,000	--	--	--	--	
2/18/2004	16.59	72.25	--	16,000	--	--	--	--	
5/27/2004	15.97	72.87	--	23,000	<2,500	--	--	--	
8/19/2004	18.11	70.73	--	19,000	--	--	--	--	
12/27/2004	19.53	69.31	--	8,700	<2,500	--	--	--	



# Pangea

**Table 2. Groundwater Elevation and Analytical Data: Extractable Hydrocarbons and SVOCs**  
Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to water (ft)	Groundwater Elevation (ft)	TEH (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	2-Methyl naphthalene (µg/L)	Naphthalene (µg/L)	Other SVOCs (µg/L)
>>MW-4 (continued)	2/18/2005	18.40	70.44	--	13,000	<250	--	--	--
	5/11/2005	17.93	70.91	--	16,000	<1,200	--	--	--
	8/3/2005	18.14	70.70	--	20,000	<5,000	--	--	--
	11/30/2005	19.70	69.14	--	19,000	<2,500	--	--	--
	2/17/2006	17.63	71.21	--	10,000	340	--	--	--
	5/12/2006	15.53	73.31	--	7,500	<1200	--	--	--
	8/7/2006	17.75	71.09	--	17,000	440	--	--	--
	11/21/2006	19.14	69.70	--	21,000	540	--	--	--
	2/12/2007	18.98	69.86	--	16,000	460	--	--	--
	5/11/2007	18.27	70.57	--	23,000	--	--	--	--
	8/16/2007	19.54	69.30	--	30,000	<2,500	--	--	--
	11/26/2007	20.47	68.37	--	14,000	270	--	--	--
	5/29/2008	19.60	69.24	--	19,000	<2,500	--	--	--
	8/22/2008	20.30	68.54	--	13,000	<1,200	--	--	--
	2/19/2009	20.58	68.26	--	73,000	<2,500	--	--	--
	8/21/2009	20.63	68.21	--	45,000	<5,000	--	--	--
	2/24/2010	Dry	--	--	--	--	--	--	--
8/24/2010	21.60	67.24	No sample, SPH encountered during purging			--	--	--	
	<b>12/19/2011</b>	<b>21.46</b>	<b>67.38</b>	--	<b>220,000</b>	<b>&lt;5,000</b>	--	--	
MW-5 84.84	3/15/1991	26.31	58.53	<50	--	--	--	--	
	11/10/1992	26.83	58.01	50	--	--	--	--	
	4/2/1993	26.62	58.22	<50	--	--	--	--	
	7/21/1993	26.60	58.24	190	--	--	--	--	
	11/9/1993	27.24	57.60	170	--	--	--	--	
	8/30/1995	27.46	57.38	180	--	--	--	--	
	5/3/1996	26.02	58.82	<50	--	--	--	--	
	5/8/1997	26.76	58.08	<50	--	--	--	--	
	4/29/1998	26.55	58.29	<47	--	--	--	--	
MW-6 85.62  86.94  85.82	3/15/1991	25.82	59.80	<50	--	--	--	--	
	10/12/1992	25.02	60.60	--	--	--	--	--	
	12/1/1992	28.87	56.75	SPH	--	--	--	--	
	4/2/1993	26.96	58.66	SPH	--	--	--	--	
	7/21/1993	26.17	59.45	SPH	--	--	--	--	
	11/9/1993	27.51	58.11	SPH	--	--	--	--	
	8/30/1995	28.00	57.62	SPH	--	--	--	--	
	12/1/1995	27.58	58.04	SPH	--	--	--	--	
	5/3/1996	26.83	58.79	9,000	--	--	--	--	
	5/9/1997	26.54	60.40	53,000	--	--	--	--	
	11/5/1997	26.16	60.78	65,000	--	--	--	--	
	5/1/1998	22.96	62.86	25,000	--	--	--	--	
	11/3/1998	24.35	61.47	30,000	--	--	--	--	
	3/26/1999	23.82	62.00	SPH	--	--	--	--	
	7/1/1999	24.45	61.37	SPH	--	--	--	--	
	9/21/1999	24.58	61.24	SPH	--	--	--	--	
	2/9/2000	24.93	61.24	--	SPH	--	--	--	
	5/31/2000	23.47	62.41	--	SPH	--	--	--	
	11/14/2000	24.61	61.21	--	SPH	--	--	--	
	3/1/2001	23.97	61.85	--	SPH	--	--	--	
	5/7/2001	23.17	62.71	--	SPH	--	--	--	
8/1/2001	obstruction in well		--	--	--	--	--		
11/5/2001	obstruction in well		--	--	--	--	--		
2/13/2002	obstruction in well		--	--	--	--	--		
5/2/2002	23.25	62.41	--	SPH (0.05)	--	--	--		
8/4/2002	23.55	62.29	--	SPH (0.03)	--	--	--		
11/26/2002	24.22	61.62	--	SPH (0.03)	--	--	--		
1/20/2003	22.49	63.36	--	SPH (0.04)	--	--	--		
5/28/2003	21.92	63.93	--	SPH (0.04)	--	--	--		

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**Table 2. Groundwater Elevation and Analytical Data: Extractable Hydrocarbons and SVOCs**  
Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to water (ft)	Groundwater Elevation (ft)	TEH (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	2-Methyl naphthalene (µg/L)	Naphthalene (µg/L)	Other SVOCs (µg/L)	
>>MW-6 (continued)	8/5/2003	23.98	61.87	--	SPH (0.04)	--	--	--	--	
	11/10/2003	23.50	62.40	--	SPH (0.10)	--	--	--	--	
	2/18/2004	22.21	63.64	--	SPH (0.04)	--	--	--	--	
	5/27/2004	22.01	63.85	--	SPH (0.05)	--	--	--	--	
	8/19/2004	24.16	61.68	--	SPH (0.03)	--	--	--	--	
	12/27/2004	24.69	61.13	--	SPH (sheen)	--	--	--	--	
	2/18/2005	23.55	62.33	--	SPH (0.08)	--	--	--	--	
	5/11/2005	22.90	62.97	--	SPH (0.06)	--	--	--	--	
	8/3/2005	23.68	62.19	--	SPH (0.06)	--	--	--	--	
	11/30/2005	24.17	61.67	--	SPH (0.02)	--	--	--	--	
	2/17/2006	23.89	61.95	--	SPH (0.03)	--	--	--	--	
	5/12/2006	22.66	63.18	--	SPH (0.03)	--	--	--	--	
	8/7/2006	22.83	63.01	--	SPH (0.02)	--	--	--	--	
	11/21/2006	23.92	61.92	--	SPH (0.02)	--	--	--	--	
	2/12/2007	23.97	61.87	--	SPH (0.02)	--	--	--	--	
	5/11/2007	23.54	62.28	--	--	--	--	--	--	
	8/16/2007	24.18	61.64	--	--	--	--	--	--	
	11/26/2007				Unable to gauge or sample - vehicle parked over well					
	5/29/2008	24.29	61.53	--	--	--	--	--	--	
	8/22/2008	24.80	61.02	--	--	--	--	--	--	
	2/19/2009	24.96	60.86	--	SPH (0.07)†	--	--	--	--	
	8/21/2009	25.10	60.74	--	SPH (0.03)	--	--	--	--	
	2/24/2010	26.71	59.13	--	SPH (0.03)	--	--	--	--	
	8/24/2010	26.13	59.73	--	SPH (0.05)	--	--	--	--	
		<b>12/19/2011</b>	<b>25.19</b>	<b>60.63</b>			<b>Insufficient water to sample</b>			
	MW-7	3/15/1991	21.63	63.78	<50	--	--	--	--	--
	85.41	11/24/1992	21.52	63.89	<50	--	--	--	--	--
	4/2/1993	20.08	65.33	<50	--	--	--	--	--	
	7/21/1993	19.59	65.82	150	--	--	--	--	--	
	11/9/1993	20.65	64.76	200	--	--	--	--	--	
	8/30/1995	18.78	66.63	170	--	--	--	--	--	
	12/1/1995	19.47	65.94	<50	--	--	--	--	--	
	5/2/1996	17.15	68.26	<50	--	--	--	--	--	
	8/8/1996	18.48	66.93	<50	--	--	--	--	--	
	11/4/1996	18.69	66.72	<50	--	--	--	--	--	
	2/6/1997	17.44	67.97	<50	--	--	--	--	--	
	5/8/1997	17.72	67.69	<50	--	--	--	--	--	
	8/7/1997	18.49	66.92	<50	--	--	--	--	--	
	11/5/1997	18.86	66.55	<50	--	--	--	--	--	
	2/9/1998	17.56	67.85	<50	--	--	--	--	--	
	4/29/1998	16.23	69.18	<47	--	--	--	--	--	
	8/4/1998	17.24	68.17	<50	--	--	--	--	--	
	11/2/1998	17.91	67.50	<50	--	--	--	--	--	
	3/26/1999	16.42	68.99	<50	--	--	--	--	--	
	7/1/1999	17.90	67.51	<50	--	--	<10	<10	ND	
	9/21/1999	18.91	66.50	<48	--	--	<9.5	<9.5	ND	
	2/9/2000	16.74	68.67	--	<50	<250	<10	<10	ND	
	5/31/2000	16.21	69.20	--	<50	<500	--	--	--	
	11/14/2000	17.00	68.41	--	< 50	< 250	--	--	--	
	3/1/2001	17.09	68.32	--	<50	<250	<10	<10	ND	
	5/7/2001	17.19	68.22	--	<50	<250	--	--	--	
	8/1/2001	17.25	68.16	--	<50	<250	--	--	--	
	11/5/2001	17.35	68.06	--	<50	<250	--	--	--	
	2/13/2002	17.50	67.91	--	<50	<250	--	--	--	
	5/2/2002	17.30	68.11	--	<50	<250	--	--	--	
	8/4/2002	17.58	67.83	--	<50	<250	--	--	--	
	11/26/2002	18.35	67.06	--	<50	<250	--	--	--	
	1/20/2003	15.84	69.57	--	83	<250	--	--	--	

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**Table 2. Groundwater Elevation and Analytical Data: Extractable Hydrocarbons and SVOCs**  
Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to water (ft)	Groundwater Elevation (ft)	TEH (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	2-Methyl naphthalene (µg/L)	Naphthalene (µg/L)	Other SVOCs (µg/L)
>>MW-7 (continued)	5/28/2003	15.19	70.22	--	<50	<250	--	--	--
	8/5/2003	17.00	68.41	--	<50	<250	--	--	--
	11/10/2003	16.54	68.87	--	<50	--	--	--	--
	2/18/2004	16.47	68.94	--	<50	--	--	--	--
	5/27/2004	15.93	69.48	--	<50	<250	--	--	--
	8/19/2004	18.05	67.36	--	<50	--	--	--	--
	12/27/2004	17.35	68.06	--	<50	<250	--	--	--
	2/18/2005	16.23	69.18	--	<50	<250	--	--	--
	5/11/2005	15.79	69.62	--	<50	<250	--	--	--
	8/3/2005	17.52	67.89	--	<50	<250	--	--	--
	11/30/2005	19.57	65.84	--	<50	<250	--	--	--
	2/17/2006	16.82	68.59	--	<50	<250	--	--	--
	5/12/2006	15.86	69.55	--	<50	<250	--	--	--
	8/7/2006	17.52	67.89	--	<50	<250	--	--	--
	11/21/2006	18.67	66.74	--	<50	<250	--	--	--
	2/12/2007	18.20	67.21	--	<50	<250	--	--	--
	5/11/2007	17.73	67.68	--	<50	--	--	--	--
	8/16/2007	18.86	66.55	--	<50	<250	--	--	--
	5/29/2008	18.58	66.83	--	<50	<250	--	--	--
	8/22/2008	19.35	66.06	--	<50	<250	--	--	--
	2/19/2009	18.30	67.11	--	<50	<250	--	--	--
	8/21/2009	18.50	66.91	--	<50	<250	--	--	--
	2/24/2010	19.27	66.14	--	<50	<250	--	--	--
8/24/2010	20.68	64.73	--	<50	<250	--	--	--	
	<b>12/19/2011</b>	<b>18.88</b>	<b>66.53</b>	--	--	--	--	--	--
MW-8	10/12/1992	27.70	57.80	--	--	--	--	--	--
85.50	11/25/1992	27.62	57.88	170	--	--	--	--	--
	4/8/1993	26.64	58.86	100	--	--	--	--	--
	7/21/1993	26.60	58.90	90	--	--	--	--	--
	11/11/1993	27.18	58.32	170	--	--	--	--	--
	8/30/1995	26.35	59.15	240	--	--	--	--	--
	12/4/1995	26.72	58.78	<50	--	--	--	--	--
	5/3/1996	25.47	60.03	94	--	--	--	--	--
	8/8/1996	26.41	59.09	250	--	--	--	--	--
	11/5/1996	26.77	58.73	<50	--	--	--	--	--
	2/6/1997	25.84	59.66	130	--	--	--	--	--
	5/9/1997	26.39	59.11	120	--	--	--	--	--
	8/7/1997	26.72	58.78	150	--	--	--	--	--
	11/5/1997	26.82	58.68	110	--	--	--	--	--
	2/9/1998	25.57	59.93	75	--	--	--	--	--
	5/1/1998	25.64	59.86	210	--	--	--	--	--
	8/5/1998	25.96	59.54	260	--	--	--	--	--
	11/3/1998	26.27	59.23	190	--	--	--	--	--
	3/31/1999	20.93	64.57	200	--	--	--	--	--
	7/1/1999	26.59	58.91	170	--	--	<9.6	<9.6	ND
	9/21/1999	26.89	58.61	420	--	--	<9.4	<9.4	ND
	2/9/2000	26.60	58.90	--	120	280	<10	<10	ND
	5/31/2000	26.16	59.34	--	160 **	<500	--	--	--
	11/14/2000	26.60	58.90	--	150	<250	--	--	--
	3/1/2001	26.41	59.09	--	54	<250	<10	<10	Phenol: 25
	5/7/2001	26.55	58.95	--	<50	<250	--	--	--
	8/1/2001	26.71	58.79	--	58	<250	--	--	--
	11/5/2001	26.67	58.83	--	84	<250	--	--	--
	2/13/2002	26.15	59.35	--	83	<250	--	--	--
	5/2/2002	26.63	58.87	--	<50	<250	--	--	--
	8/4/2002	26.80	58.70	--	260	<250	--	--	--
	11/26/2002	27.50	58.00	--	<50	<250	--	--	--
	1/20/2003	24.93	60.57	--	63	<250	--	--	--

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**Table 2. Groundwater Elevation and Analytical Data: Extractable Hydrocarbons and SVOCs**  
Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to water (ft)	Groundwater Elevation (ft)	TEH (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	2-Methyl naphthalene (µg/L)	Naphthalene (µg/L)	Other SVOCs (µg/L)
>>MW-8 (continued)	5/28/2003	24.28	61.22	--	<50	<250	--	--	--
	8/5/2003	26.51	58.99	--	2,700	380	--	--	--
	11/10/2003	26.04	59.46	--	<50	--	--	--	--
	2/18/2004	25.97	59.53	--	<50	--	--	--	--
	5/27/2004	25.31	60.19	--	<50	<250	--	--	--
	8/19/2004	27.55	57.95	--	<50	--	--	--	--
	12/27/2004	26.50	59.00	--	<50	<250	--	--	--
	2/18/2005	26.00	59.50	--	<50	<250	--	--	--
	5/11/2005	25.47	60.03	--	<50	<250	--	--	--
	8/3/2005	26.31	59.19	--	53	<250	--	--	--
	11/30/2005	26.51	58.99	--	<50	<250	--	--	--
	2/17/2006	26.11	59.39	--	<50	<250	--	--	--
	5/12/2006	25.38	60.12	--	<50	<250	--	--	--
	8/7/2006	26.10	59.40	--	<50	<250	--	--	--
	11/21/2006	26.43	59.07	--	<50	<250	--	--	--
	2/12/2007	26.29	59.21	--	120	<250	--	--	--
	5/11/2007	26.23	59.27	--	<50	--	--	--	--
	8/16/2007	26.81	58.69	--	56	<250	--	--	--
	11/26/2007	26.99	58.51	--	<50	<250	--	--	--
	5/29/2008	26.70	58.80	--	<50	<250	--	--	--
	8/22/2008	27.03	58.47	--	<50	<250	--	--	--
	2/19/2009	26.74	58.76	--	<50	<250	--	--	--
	8/21/2009	26.72	58.78	--	<50	<250	--	--	--
2/24/2010	29.09	56.41	--	<50	<250	--	--	--	
8/24/2010	28.35	57.15	--	<50	<250	--	--	--	
	<b>12/19/2011</b>	<b>27.52</b>	<b>57.98</b>	--	--	--	--	--	--
MW-9 90.37	11/24/1992	23.51	66.86	320	--	--	--	--	--
	4/5/1993	21.14	69.23	920	--	--	--	--	--
	7/21/1993	21.54	68.83	450	--	--	--	--	--
	11/10/1993	27.53	62.84	450	--	--	--	--	--
	8/30/1995	19.59	70.78	680	--	--	--	--	--
	12/4/1995	20.65	69.72	--	--	--	--	--	--
	5/2/1996	18.63	71.74	710	--	--	--	--	--
	11/5/1996	20.69	69.68	420	--	--	--	--	--
	5/9/1997	19.96	70.41	490	--	--	--	--	--
	8/8/1997	20.84	69.53	480	--	--	--	--	--
	11/5/1997	21.55	68.82	370	--	--	--	--	--
	2/9/1998	20.21	70.16	410	--	--	--	--	--
	5/1/1998	19.27	71.10	450	--	--	--	--	--
	8/5/1998	19.35	71.02	630	--	--	--	--	--
	11/2/1998	20.43	69.94	500	--	--	--	--	--
	3/25/1999	18.46	71.91	630	--	--	--	--	--
	7/1/1999	19.95	70.42	570	--	--	<9.5	<9.5	ND
	9/21/1999	21.15	69.22	770	--	--	<9.4	<9.4	ND
	2/9/2000	21.08	69.29	--	320	<250	<10	<10	ND
	5/31/2000	19.11	71.26	--	390 **	<500	--	--	--
	11/14/2000	20.90	69.47	--	160	<250	--	--	--
	3/1/2001	20.45	69.92	--	220	<250	<10	<10	ND
	5/7/2001	19.83	70.54	--	290	<250	--	--	--
8/1/2001	20.02	70.35	--	460	<250	--	--	--	
11/5/2001	19.85	70.52	--	230	<250	--	--	--	
2/13/2002	19.80	70.57	--	210	<250	--	--	--	
5/2/2002	19.93	70.44	--	250	<250	--	--	--	
8/4/2002	20.20	70.17	--	300	<250	--	--	--	
11/26/2002	20.37	70.00	--	270	<250	--	--	--	
1/20/2003	17.93	72.44	--	350	<250	--	--	--	
5/28/2003	17.25	73.12	--	91	<250	--	--	--	
8/5/2003	19.03	71.34	--	210	<250	--	--	--	

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**Table 2. Groundwater Elevation and Analytical Data: Extractable Hydrocarbons and SVOCs**  
Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to water (ft)	Groundwater Elevation (ft)	TEH (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	2-Methyl naphthalene (µg/L)	Naphthalene (µg/L)	Other SVOCs (µg/L)
>>MW-9 (continued)	11/10/2003	18.65	71.72	--	250	--	--	--	--
	2/18/2004	18.41	71.96	--	250	--	--	--	--
	5/27/2004	17.89	72.48	--	160	<250	--	--	--
	8/19/2004	20.14	70.23	--	160	--	--	--	--
	12/27/2004	21.65	68.72	--	91	<250	--	--	--
	2/18/2005	19.97	70.40	--	120	<250	--	--	--
	5/11/2005	19.41	70.96	--	76	<250	--	--	--
	8/3/2005	19.35	71.02	--	110	<250	--	--	--
	11/30/2005	20.96	69.41	--	210	<250	--	--	--
	2/17/2006	19.13	71.24	--	120	<250	--	--	--
	5/12/2006	17.70	72.67	--	88	<250	--	--	--
	8/7/2006	18.82	71.55	--	130	<250	--	--	--
	11/21/2006	20.10	70.27	--	110	<250	--	--	--
	2/12/2007	20.48	69.89	--	74	<250	--	--	--
	5/11/2007	19.55	70.82	--	57	--	--	--	--
	8/16/2007	20.83	69.54	--	82	<250	--	--	--
	11/26/2007	21.79	68.58	--	81	<250	--	--	--
	5/29/2008	20.70	69.67	--	170	<250	--	--	--
	8/22/2008	21.61	68.76	--	190	<250	--	--	--
	2/19/2009	21.91	68.46	--	58	<250	--	--	--
	8/21/2009	21.97	68.40	--	<50	<250	--	--	--
	2/24/2010	25.65	64.72	--	<50	<250	--	--	--
	8/24/2010	22.92	67.45	--	91	<250	--	--	--
	<b>12/19/2011</b>	<b>22.63</b>	<b>67.74</b>	--	--	--	--	--	--
MW-10	10/12/1992	21.55	67.05	--	--	--	--	--	--
88.60	11/24/1992	21.86	66.74	1,300	--	--	--	--	--
	4/5/1993	19.14	69.46	5,000	--	--	--	--	--
	7/21/1993	19.79	68.81	20,000	--	--	--	--	--
	8/30/1995	17.99	70.61	5,900	--	--	--	--	--
	5/3/1996	17.04	71.56	5,600	--	--	--	--	--
	5/9/1997	18.36	70.24	2,500	--	--	--	--	--
	5/1/1998	15.84	72.76	2,000	--	--	--	--	--
MW-11	11/24/1992	33.65	68.41	220	--	--	--	--	--
102.06	12/8/92*	33.37	68.69	140	--	--	--	--	--
	12/8/1992	33.37	68.69	120	--	--	--	--	--
	4/5/1993	31.03	71.03	<50	--	--	--	--	--
	7/21/1993	31.90	70.16	150	--	--	--	--	--
	11/9/1993	32.60	69.46	60	--	--	--	--	--
	8/30/1995	28.92	73.14	240	--	--	--	--	--
	5/3/1996	28.00	74.06	<50	--	--	--	--	--
	5/8/1997	29.93	72.13	<50	--	--	--	--	--
	4/29/1998	27.22	74.84	<47	--	--	--	--	--
MW-13	11/24/1992	26.05	58.01	3,600	--	--	--	--	--
84.06	12/8/92*	25.08	58.98	210	--	--	--	--	--
	12/8/1992	25.08	58.98	100	--	--	--	--	--
	4/5/1993	24.64	59.42	<50	--	--	--	--	--
	7/21/1993	24.29	59.77	<50	--	--	--	--	--
	11/9/1993	24.23	59.83	160	--	--	--	--	--
	8/30/1995	23.30	60.76	<50	--	--	--	--	--
	12/1/1995	23.80	60.26	<50	--	--	--	--	--
	5/3/1996	23.19	60.87	<50	--	--	--	--	--
	8/8/1996	23.44	60.62	<50	--	--	--	--	--
	11/5/1996	24.04	60.02	<50	--	--	--	--	--
	2/6/1997	23.24	60.82	<50	--	--	--	--	--
	5/8/1997	23.46	60.60	<50	--	--	--	--	--
	8/8/1997	23.92	60.14	<50	--	--	--	--	--

# Pangea

**Table 2. Groundwater Elevation and Analytical Data: Extractable Hydrocarbons and SVOCs**  
Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to water (ft)	Groundwater Elevation (ft)	TEH (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	2-Methyl naphthalene (µg/L)	Naphthalene (µg/L)	Other SVOCs (µg/L)
>>MW-13 (continued)	11/5/1997	24.27	59.79	<50	--	--	--	--	--
	2/9/1998	22.89	61.17	<50	--	--	--	--	--
	4/29/1998	22.27	61.79	<47	--	--	--	--	--
	8/4/1998	22.75	61.31	78	--	--	--	--	--
	11/3/1998	23.90	60.16	<50	--	--	--	--	--
	3/31/1999	23.11	60.95	<48	--	--	--	--	--
	7/1/1999	23.40	60.66	100	--	--	<9.6	<9.6	ND
	9/21/1999	21.91	62.15	<48	--	--	<9.4	<9.4	ND
	2/9/2000	23.84	60.22	--	<50	<250	<10	<10	ND
	5/31/2000	22.97	61.09	--	<50	<500	--	--	--
	11/14/2000	24.00	60.06	--	65	<250	--	--	--
	3/1/2001	23.93	60.13	--	<50	<250	<10	<10	ND
	5/7/2001	23.93	60.13	--	<50	<250	--	--	--
	8/1/2001	24.10	59.96	--	<50	<250	--	--	--
	11/5/2001	24.02	60.04	--	350	610	--	--	--
	2/13/2002	23.70	60.36	--	<50	<250	--	--	--
	5/2/2002	23.97	60.09	--	<50	<250	--	--	--
	8/4/2002	24.19	59.87	--	810	310	--	--	--
	11/26/2002	24.78	59.28	--	66	<250	--	--	--
	1/20/2003	22.10	61.96	--	<50	<250	--	--	--
	5/28/2003	17.25	66.81	--	<50	<250	--	--	--
	8/5/2003	23.99	60.07	--	<50	<250	--	--	--
	11/10/2003	23.47	60.59	--	<50	--	--	--	--
	2/18/2004	22.58	61.48	--	<50	--	--	--	--
	5/27/2004	21.95	62.11	--	<50	<250	--	--	--
	8/19/2004	24.29	59.77	--	<50	--	--	--	--
	12/27/2004	23.70	60.36	--	<50	<250	--	--	--
	2/18/2005	23.15	60.91	--	<50	<250	--	--	--
	5/11/2005	22.68	61.38	--	<50	<250	--	--	--
	8/3/2005	23.04	61.02	--	56	<250	--	--	--
	11/30/2005	23.65	60.41	--	<50	<250	--	--	--
	2/17/2006	23.07	60.99	--	<50	<250	--	--	--
	5/12/2006	22.02	62.04	--	<50	<250	--	--	--
8/7/2006	22.61	61.45	--	<50	<250	--	--	--	
11/21/2006	23.11	60.95	--	<50	<250	--	--	--	
2/12/2007	23.27	60.79	--	<50	<250	--	--	--	
5/11/2007	23.07	60.99	--	<50	--	--	--	--	
8/16/2007	23.67	60.39	--	<50	<250	--	--	--	
11/26/2007	24.13	59.93	--	<50	<250	--	--	--	
5/29/2008	23.81	60.25	--	<50	<250	--	--	--	
8/22/2008	24.13	59.93	--	<50	<250	--	--	--	
2/19/2009	23.97	60.09	--	<50	<250	--	--	--	
8/21/2009	23.75	60.31	--	<50	<250	--	--	--	
2/24/2010	26.64	57.42	--	<50	<250	--	--	--	
8/24/2010	25.43	58.63	--	<50	<250	--	--	--	
	<b>12/19/2011</b>	<b>24.67</b>	<b>59.41</b>	--	--	--	--	--	--
MW-14 94.66	5/26/1998	21.67	72.99	7,700	--	--	--	--	--
	7/1/1999	22.95	71.71	SPH	--	--	--	--	--
	9/21/1999	24.26	70.40	SPH	--	--	--	--	--
	2/9/2000	24.13	70.53	--	14,000	1,500	290	600	ND
	5/31/2000	22.09	72.57	--	SPH	--	--	--	--
	11/14/2000	23.90	70.76	--	SPH	--	--	--	--
	3/1/2001	23.97	70.69	--	SPH	--	--	--	--
	5/7/2001	23.45	71.23	--	SPH	--	--	--	--
	8/1/2001	23.57	71.12	--	SPH	--	--	--	--
	11/5/2001	23.50	71.18	--	SPH	--	--	--	--
	2/13/2002	22.99	71.70	--	SPH (0.04)	--	--	--	--
	5/2/2002	23.51	71.17	--	SPH (0.02)	--	--	--	--

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**Table 2. Groundwater Elevation and Analytical Data: Extractable Hydrocarbons and SVOCs**  
Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to water (ft)	Groundwater Elevation (ft)	TEH (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	2-Methyl naphthalene (µg/L)	Naphthalene (µg/L)	Other SVOCs (µg/L)
>>MW-14 (continued)	8/4/2002	23.61	71.06	--	SPH (0.01)	--	--	--	--
	11/26/2002	24.35	70.31	--	SPH (sheen)	--	--	--	--
	1/20/2003	22.35	72.31	--	SPH (sheen)	--	--	--	--
	5/28/2003	21.95	72.74	--	SPH (0.04)	--	--	--	--
	8/5/2003	23.03	71.66	--	SPH (0.04)	--	--	--	--
	11/10/2003	22.70	72.02	--	SPH (0.07)	--	--	--	--
	2/18/2004	22.37	72.32	--	SPH (0.04)	--	--	--	--
	5/27/2004	21.78	72.92	--	SPH (0.05)	--	--	--	--
	8/19/2004	24.13	70.57	--	SPH (0.05)	--	--	--	--
	12/27/2004	24.19	70.47	--	SPH (sheen)	--	--	--	--
	2/18/2005	23.24	71.46	--	SPH (0.05)	--	--	--	--
	5/11/2005	22.77	71.92	--	SPH (0.04)	--	--	--	--
	8/3/2005	23.17	71.51	--	SPH (0.02)	--	--	--	--
	11/30/2005	24.02	70.66	--	SPH (0.02)	--	--	--	--
	2/17/2006	23.87	70.81	--	SPH (0.02)	--	--	--	--
	5/12/2006	21.74	72.93	--	SPH (0.01)	--	--	--	--
	8/7/2006	21.66	73.01	--	SPH (0.01)	--	--	--	--
	11/21/2006	23.41	71.27	--	SPH (0.03)	--	--	--	--
	2/12/2007	23.45	71.23	--	SPH (0.03)	--	--	--	--
	5/11/2007	22.95	71.71	--	--	--	--	--	--
	8/16/2007	24.14	70.52	--	--	--	--	--	--
	11/26/2007	24.94	69.72	--	--	--	--	--	--
	5/29/2008	24.02	70.64	--	--	--	--	--	--
	8/22/2008	24.97	69.69	--	--	--	--	--	--
	2/19/2009	25.20	69.46	--	SPH (0.05)†	--	--	--	--
	2/19/2009	25.20	69.46	--	SPH (0.05)†	--	--	--	--
	8/21/2009	25.23	69.43	--	--	--	--	--	--
	2/24/2010	28.39	66.29	--	SPH (0.03)	--	--	--	--
	8/24/2010	26.31	68.38	--	SPH (0.04)	--	--	--	--
	<b>12/20/2011</b>	<b>25.67</b>	<b>68.99</b>	--	<b>2,800</b>	<b>1,800</b>	--	--	--
MW-15 94.76	5/26/1998	21.87	72.89	1,700	--	--	--	--	--
	7/1/1999	22.25	72.51	SPH	--	--	--	--	--
	9/21/1999	24.12	70.64	SPH	--	--	--	--	--
	2/9/2000	24.42	70.34	--	4,000	1,200	50	270	ND
	5/31/2000	22.40	72.36	--	SPH	--	--	--	--
	11/14/2000	24.15	70.61	--	SPH	--	--	--	--
	3/1/2001	23.99	70.77	--	SPH	--	--	--	--
	5/7/2001	23.50	71.26	--	SPH	--	--	--	--
	8/1/2001	23.62	71.14	--	SPH	--	--	--	--
	11/5/2001	23.65	71.11	--	SPH (sheen)	--	--	--	--
	2/13/2002	23.09	71.67	--	3,100	<250	17	68	5
	5/2/2002	23.59	71.17	--	SPH (sheen)	--	--	--	--
	8/4/2002	23.65	71.11	--	SPH (sheen)	--	--	--	--
	11/26/2002	24.59	70.17	--	SPH (sheen)	--	--	--	--
	1/20/2003	22.08	72.68	--	3,700	340	--	--	--
	5/28/2003	21.68	73.08	--	SPH (sheen)	--	--	--	--
	8/5/2003	24.05	70.71	--	SPH (sheen)	--	--	--	--
	11/10/2003	23.68	71.08	--	SPH (sheen)	--	--	--	--
	2/18/2004	23.51	71.25	--	1,100	--	--	--	--
	5/27/2004	22.98	71.78	--	SPH (sheen)	--	--	--	--
	8/19/2004	25.31	69.45	--	SPH (sheen)	--	--	--	--
	12/27/2004	24.46	70.30	--	SPH (sheen)	--	--	--	--
	2/18/2005	23.27	71.57	--	SPH (0.10)	--	--	--	--
	5/11/2005	22.80	72.03	--	SPH (0.09)	--	--	--	--
	8/3/2005	23.29	71.48	--	SPH (0.01)	--	--	--	--
	11/30/2005	24.11	70.69	--	SPH (0.05)	--	--	--	--
	2/17/2006	23.91	70.89	--	SPH (0.05)	--	--	--	--
	5/12/2006	21.88	72.92	--	SPH (0.03)	--	--	--	--

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**Table 2. Groundwater Elevation and Analytical Data: Extractable Hydrocarbons and SVOCs**  
Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to water (ft)	Groundwater Elevation (ft)	TEH (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	2-Methyl naphthalene (µg/L)	Naphthalene (µg/L)	Other SVOCs (µg/L)
>>MW-15 (continued)	8/7/2006	22.05	72.75	--	SPH (0.01)	--	--	--	--
	11/21/2006	23.70	71.10	--	--	--	--	--	--
	2/12/2007	23.80	71.00	--	1,100	<250	--	--	--
	5/11/2007	23.28	71.48	--	--	--	--	--	--
	8/16/2007	24.38	70.38	--	--	--	--	--	--
	11/26/2007	25.30	69.46	--	--	--	--	--	--
	5/29/2008	24.32	70.44	--	--	--	--	--	--
	8/22/2008	25.24	69.52	--	--	--	--	--	--
	2/19/2009	25.59	69.17	--	SPH (0.08)†	--	--	--	--
	8/21/2009	25.61	69.15	--	--	--	--	--	--
	2/24/2010	28.51	66.25	--	SPH (0.04)	--	--	--	--
	8/24/2010	26.53	68.23	--	SPH (0.04)	--	--	--	--
	<b>12/19/2011</b>	<b>26.18</b>	<b>68.58</b>	--	--	<b>14,000</b>	<b>1,600</b>	--	--
MW-16A	5/11/2007	25.12	--	--	760	--	--	--	--
	8/16/2007	26.02	--	--	620	250	--	--	--
	11/26/2007	26.16	--	--	160	<250	--	--	--
	5/29/2008	25.73	--	--	81	<250	--	--	--
	8/22/2008	26.11	--	--	310	<250	--	--	--
	2/19/2009	26.32	--	--	<50	<250	--	--	--
	8/21/2009	26.28	--	--	82	<250	--	--	--
	2/24/2010	29.08	--	--	--	--	--	--	--
	8/24/2010	27.40	--	--	80	<250	--	--	--
	<b>12/19/2011</b>	<b>29.20</b>	--	--	--	<b>SPH (Sheen)</b>	--	--	--
MW-16B	5/11/2007	28.98	--	--	15,000	--	--	--	--
	8/16/2007	31.02	--	--	7,700	<250	--	--	--
	11/26/2007	30.00	--	--	6,400	<250	--	--	--
	5/29/2008	29.95	--	--	5,400	<500	--	--	--
	8/22/2008	32.02	--	--	4,600	<250	--	--	--
	2/19/2009	31.70	--	--	7,400	<250	--	--	--
	8/21/2009	31.62	--	--	6,400	<250	--	--	--
	2/24/2010	35.05	--	--	2,000	<250	--	--	--
	8/24/2010	33.36	--	--	5,300	<5,000	--	--	--
	<b>12/20/2011</b>	<b>36.68</b>	--	--	<b>720</b>	<b>590</b>	--	--	--
MW-17A	5/29/2008	24.05	--	--	22,000	1,800	--	--	--
	8/22/2008	24.96	--	--	11,000	<1,200	--	--	--
	2/19/2009	25.29	--	--	20,000	440	--	--	--
	8/21/2009	25.37	--	--	16,000	700	--	--	--
	2/24/2010	28.39	--	--	Insufficient water to sample		--	--	--
	8/24/2010	26.30	--	--	Insufficient water to sample		--	--	--
	<b>12/20/2011</b>	<b>25.52</b>	--	--	<b>66,000</b>	<b>&lt;1,300</b>	--	--	--
MW-17B	5/29/2008	24.30	--	--	<50	<250	--	--	--
	8/22/2008	25.19	--	--	<50	<250	--	--	--
	2/19/2009	25.51	--	--	<50	<250	--	--	--
	8/21/2009	25.44	--	--	150	<250	--	--	--
	2/24/2010	28.53	--	--	<50	<250	--	--	--
	8/24/2010	26.48	--	--	<50	<250	--	--	--
	<b>12/19/2011</b>	<b>26.58</b>	--	--	--	--	--	--	--
RW-2	5/29/2008	17.66	--	--	6,100	<250	--	--	--
	8/22/2008	18.51	--	--	10,000	<1,200	--	--	--
	2/19/2009	18.87	--	--	SPH (0.08)†	--	--	--	--
	8/21/2009	18.89	--	--	SPH (0.31)†	--	--	--	--
	2/24/2010	25.05	--	--	SPH (0.04)	--	--	--	--
	8/24/2010	19.79	--	--	SPH (0.04)	--	--	--	--
	<b>12/19/2011</b>	<b>19.71</b>	--	--	<b>8,200</b>	<b>420</b>	--	--	--



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**Table 2. Groundwater Elevation and Analytical Data: Extractable Hydrocarbons and SVOCs**  
Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID TOC Elev. (ft)	Sampling Date	Depth to water (ft)	Groundwater Elevation (ft)	TEH (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	2-Methyl naphthalene (µg/L)	Naphthalene (µg/L)	Other SVOCs (µg/L)
RW-3A	12/19/2011	18.37	--	--	71,000	35,000	--	--	--
RW-4	5/29/2008	23.72	--	--	19,000	<2,500	--	--	--
	8/22/2008	24.69	--	--	18,000	<1,200	--	--	--
	2/19/2009	24.98	--	--	25,000	<2,500	--	--	--
	8/21/2009	25.15	--	--	9,600	<250	--	--	--
	2/24/2010	28.65			Insufficient water to sample				
	8/24/2010	26.02			Insufficient water to sample				
	12/20/2011	25.80	--	--	38,000	<2,500	--	--	--
RW-5	12/20/2011	26.32	--	--	3,100	270	--	--	--
VE-1	12/20/2011	33.38	--	--	410,000	420,000	--	--	--

## Grab Sampling Data

B (boring)	5/16/1998	--	--	77**	--	--	--	--	--
C (boring)	5/16/1998	--	--	48**	--	--	--	--	--
G (boring)	5/16/1998	--	--	35,000**	--	--	--	--	--

## Abbreviations and Notes:

TOC Elev. (ft) = Top of casing elevation, surveyed to an arbitrary datum

TEH = Total extractable hydrocarbons

TPHd = Total petroleum hydrocarbons as diesel

TPHmo = Total petroleum hydrocarbons as motor oil

SVOCs = Semi-volatile organic compounds

Other SVOC's = All other compounds analyzed by EPA Method 8270

µg/l = micrograms per liter = parts per billion = ppb

ND = None detected above laboratory reporting limit, see laboratory report for individual reporting limits

1 = ND except for 1,700 ug/l 2,4 dichlorophenol, 240 ug/l bis (2-ethyl hexyl) phthalate. Also 10 mg/l oil and grease.

2 = ND except for 570 ug/l benzoic acid and 93 ug/l phenol. Also 20 mg/l oil and grease.

3 = ND except for 700 ug/l benzoic acid, 92 ug/l phenol, and 52 ug/l 3,4 methyl phenol.

4 = ND except for 74 ug/l benzoic acid and 68 ug/l creosol.

5 = ND except for 480 ug/l phenol, 110 ug/l 2,4 dimethylphenol, 210 ug/l 2-methylphenol, 200 ug/l 3,4-methylphenol, and 5.7 mg/l oil and grease.

< n = Not detected above n ug/l

-- = Not analyzed/not available

\* = Duplicate sample sent to a different chemical laboratory

\*\* = Does not match diesel pattern

† = SPH thickness not used to calculate groundwater elevation because SPH not present in wells until after beginning purge.

# Pangea

**Table 3. Separate-Phase Hydrocarbon Removal**

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID	Date	Depth to	SPH	SPH	SPH	SPH	Cumulative SPH	Notes
<i>TOC Elev.</i>	<i>Sampled</i>	<i>Groundwater</i>	<i>Thickness</i>	<i>Removed</i>	<i>Removed</i>	<i>Removed</i>	<i>Removed</i>	
<i>(ft)</i>		<i>(feet)</i>	<i>(feet)</i>	<i>(mL)</i>	<i>(gallons)</i>	<i>(lbs)</i>	<i>(gallons)</i>	
MW-1	12/23/1991	26.86	1.15		2.00	12.20	2.00	1
94.48	12/26/1991	26.08	0.22		0.50	3.05	2.50	1
	1/13/1992	26.53	0.66		1.00	6.10	3.50	1
	2/28/1992	27.75	0.42		2.00	12.20	5.50	1
	11/9/1993	26.06	1.17		0.50	3.05	6.00	1
	11/3/1995	23.10	0.76		0.75	4.58	6.75	1
	11/30/1995	23.38	0.70		0.25	1.53	7.00	1
	1/3/1996	23.30	0.78		0.53	3.23	7.53	1
	2/2/1996	22.96	0.84		0.75	4.58	8.28	1
	3/1/1996	21.69	0.14		0.10	0.61	8.38	1
	4/4/1996	21.11	0.00		0.00	0.00	8.38	1
	5/2/1996	20.96	0.00		0.00	0.00	8.38	1
	6/5/1996	20.98	0.04		0.10	0.61	8.48	1
	7/9/1996	21.64	0.20		0.10	0.61	8.58	1
	8/8/1996	22.43	0.33		0.05	0.31	8.63	1
	9/10/1996	23.25	0.60		0.10	0.61	8.73	1
	10/1/1996	23.58	0.60		0.25	1.53	8.98	1
	11/4/1996	24.29	0.78		0.13	0.79	9.11	1
	12/2/1996	24.63	0.88		0.26	1.59	9.37	1
	1/3/1997	24.08	0.81		0.39	2.38	9.76	1
	2/6/1997	22.46	0.30		0.01	0.06	9.77	1
	3/5/1997	23.00	0.00		0.00	0.00	9.77	1
	4/1/1997	22.29	0.20		0.01	0.06	9.78	1
	5/8/1997	22.79	0.33		0.02	0.12	9.80	1
	6/6/1997	24.33	1.69		0.26	1.59	10.06	1
	7/8/1997	24.00	0.96		0.20	1.22	10.26	1
	8/7/1997	24.58	1.29		1.00	6.10	11.26	1
	9/10/1997	24.93	1.21		1.50	9.15	12.76	1
	10/1/1997	24.89	0.86		0.26	1.59	13.02	1
	11/4/1997	25.06	0.77		0.26	1.59	13.28	1
	12/4/1997	24.76	0.54		0.19	1.16	13.47	1
	1/8/1998	23.66	0.00		0.00	0.00	13.47	1
	2/5/1998	22.64	0.00		0.00	0.00	13.47	1
	3/6/1998	20.80	0.00		0.00	0.00	13.47	1
	4/2/1998	20.31	0.00		0.00	0.00	13.47	1
	4/29/1998	19.95	0.00		0.00	0.00	13.47	1
	6/3/1998	20.41	0.00		0.00	0.00	13.47	1
	7/9/1998	20.97	0.07		0.00	0.00	13.47	1
	8/4/1998	21.40	trace		0.00	0.00	13.47	1
	8/26/1998	21.85	0.10		0.00	0.00	13.47	1
	11/2/1998	22.92	0.39		0.00	0.00	13.47	1
	12/4/1998	23.29	0.29		0.01	0.06	13.48	1
	1/5/1999	23.51	0.42		0.03	0.18	13.51	1
	2/8/1999	23.08	0.05		0.25	1.53	13.76	1
	3/24/1999	21.90	0.01		0.01	0.06	13.77	1
	4/30/1999	21.52	0.00		0.00	0.00	13.77	1
	7/1/1999	22.70	0.03		0.01	0.06	13.78	1

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**Table 3. Separate-Phase Hydrocarbon Removal**

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID	Date	Depth to	SPH	SPH	SPH	SPH	Cumulative SPH	Notes
<i>TOC Elev.</i>	<i>Sampled</i>	<i>Groundwater</i>	<i>Thickness</i>	<i>Removed</i>	<i>Removed</i>	<i>Removed</i>	<i>Removed</i>	
<i>(ft)</i>		<i>(feet)</i>	<i>(feet)</i>	<i>(mL)</i>	<i>(gallons)</i>	<i>(lbs)</i>	<i>(gallons)</i>	
MW-1	9/21/1999	23.81	0.08		0.20	1.22	13.98	1
<i>(cont'd)</i>	10/20/1999	23.90	0.10		0.01	0.06	13.99	1
	12/13/1999	24.24	trace		0.00	0.00	13.99	1
	2/9/2000	23.95	0.07		0.05	0.31	14.04	1
	2/15/2000	--	0.00		0.00	0.00	14.04	2
	2/25/2000	23.69	0.00		0.06	0.38	14.10	2
	3/3/2000	23.27	0.00		0.05	0.31	14.15	2
	3/28/2000	22.39	0.00		0.13	0.76	14.28	2
	5/2/2000	22.29	0.00		0.05	0.29	14.32	2
	5/31/2000	22.05	0.00		0.00	0.00	14.32	2
	7/3/2000	22.10	trace		0.02	0.12	14.34	2
	8/4/2000	22.40	0.00		0.01	0.06	14.35	2
	10/6/2000	23.47	0.46		0.01	0.06	14.36	1
	11/3/2000	24.14	0.78		0.00	0.00	14.36	
	12/1/2000	25.40	0.83		1.75	10.68	16.11	1,2
	1/4/2001	25.13	0.09		0.25	1.53	16.36	2
	2/2/2001	25.12	0.03		0.13	0.76	16.49	2
	4/3/2001	23.19	0.24		0.10	0.61	16.59	
	5/4/2001	23.31	0.47		0.00	0.00	16.59	
	5/7/2001	23.85	0.05		0.03	0.16	16.62	2
	6/11/2001	23.77	0.67		0.00	0.00	16.62	2
	5/2/2002	23.41	0.46		0.01	0.04	16.62	
	6/14/2002	23.95	0.03		0.01	0.04	16.63	2
	8/4/2002	24.02	0.03		0.01	0.06	16.64	2
	9/24/2002	24.59	0.01		0.003	0.02	16.64	2
	10/16/2002	25.08	0.03		0.003	0.02	16.64	2
	11/6/2002	25.71	0.08		0.005	0.03	16.65	2
	11/26/2002	24.47	0.05		0.003	0.02	16.65	2
	12/9/2002	24.08	0.07		0.009	0.06	16.66	2
	1/17/2003	22.14	0.07		0.005	0.03	16.67	1, 2
	1/27/2003	22.55	0.02		0.003	0.02	16.67	2
	3/5/2003	23.53	0.02		0.25	1.53	16.92	1, 2
	4/11/2003	23.11	0.03		0.007	0.04	16.93	1, 2
	5/13/2003	22.95	0.02		0.007	0.04	16.93	1, 2
	5/28/2003	21.77	0.02		0.008	0.05	16.94	1, 2
	6/13/2003	21.84	0.03		0.013	0.08	16.95	1, 2
	7/24/2003	23.19	0.05		0.003	0.02	16.96	1, 2
	8/5/2003	23.07	0.04		0.013	0.08	16.97	1, 2
	9/12/2003	23.74	0.05		0.021	0.13	16.99	1, 2
	10/10/2003	23.90	0.06		0.026	0.16	17.02	1, 2
	11/10/2003	22.53	0.03		0.016	0.10	17.03	1, 2
	11/21/2003	23.12	0.02		0.026	0.16	17.06	1, 2
	12/4/2003	22.95	0.03		0.026	0.16	17.09	1, 2
	1/23/2004	22.40	0.04	70	0.018	0.11	17.10	1, 2
	2/6/2004	22.74	0.05	65	0.017	0.10	17.12	1, 2
	2/18/2004	22.61	0.05	70	0.018	0.11	17.14	1, 2
	3/28/2004	22.81	0.01	5	0.001	0.01	17.14	1, 2

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**Table 3. Separate-Phase Hydrocarbon Removal**

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID	Date	Depth to	SPH	SPH	SPH	SPH	Cumulative SPH	Notes
<i>TOC Elev.</i>	<i>Sampled</i>	<i>Groundwater</i>	<i>Thickness</i>	<i>Removed</i>	<i>Removed</i>	<i>Removed</i>	<i>Removed</i>	
<i>(ft)</i>		<i>(feet)</i>	<i>(feet)</i>	<i>(mL)</i>	<i>(gallons)</i>	<i>(lbs)</i>	<i>(gallons)</i>	
MW-1	4/9/2004	22.61	0.00	0	0.000	0.00	17.14	1, 2
<i>(cont'd)</i>	5/27/2004	22.08	0.05	35	0.009	0.06	17.15	1, 2
	7/29/2004	24.52	0.92	2500	0.660	4.03	17.81	1, 2
	8/6/2004	23.98	0.25	1000	0.264	1.61	18.08	1, 2
	8/19/2004	24.35	0.38	1000	0.264	1.61	18.34	1, 2
	9/3/2004	24.47	0.29	1000	0.264	1.61	18.60	1, 2
	12/27/2004	24.18	0.44	450	0.119	0.73	18.72	1,2
	2/18/2005	23.14	0.04	250	0.066	0.40	18.79	1,2
	5/11/2005	22.71	0.02	0	0.000	0.00	18.79	
	8/3/2005	23.03	0.06	0	0.000	0.00	18.79	
	11/30/2005	23.98	0.03	0	0.000	0.00	18.79	
	2/17/2006	23.81	0.01	10	0.003	0.02	18.79	1
	5/12/2006	21.75	0.03	0	0.000	0.00	18.79	
	8/7/2006	21.35	0.01	0	0.000	0.00	18.79	
	11/21/2006	23.34	0.04	100	0.026	0.00	18.82	1
	2/12/2007	23.18	0.03	0	0.000	0.00	18.82	
	8/22/2008	25.50	0.70	2000	0.528	3.22	19.35	1
	2/19/2009	25.92	0.82	1500	0.396	2.42	19.74	1
	8/21/2009	25.98	0.77	1800	0.476	2.90	20.22	1
	2/24/2010	29.24	0.13	350	0.092	0.56	20.31	1
	8/24/2010	26.84	0.63	1500	0.396	2.42	20.71	1
MW-4	12/23/1991	22.63	0.98		2.50	15.25	2.50	1
88.84	12/26/1991	22.52	0.96		6.00	36.60	8.50	1
	1/10/1992	22.74	0.99		5.00	30.50	13.50	1
	2/28/1992	22.00	0.67		4.00	24.40	17.50	1
	3/11/1992	21.71	0.55		3.50	21.35	21.00	1
	3/13/1992	21.56	0.49		3.50	21.35	24.50	1
	3/17/1992	25.46	0.44		2.25	13.73	26.75	1
	3/18/1992	21.38	0.44		2.50	15.25	29.25	1
	3/19/1992	21.33	0.48		1.50	9.15	30.75	1
	3/23/1992	21.29	0.42		4.00	24.40	34.75	1
	3/24/1992	21.31	0.38		1.50	9.15	36.25	1
	3/25/1992	21.17	0.36		1.00	6.10	37.25	1
	3/26/1992	21.08	0.35		1.00	6.10	38.25	1
	3/27/1992	20.92	0.26		0.50	3.05	38.75	1
	3/31/1992	21.15	0.44		0.50	3.05	39.25	1
	4/1/1992	20.90	0.24		0.25	1.53	39.50	1
	4/2/1992	20.90	0.17		0.13	0.79	39.63	1
	4/6/1992	--	--		0.13	0.79	39.76	1
	4/10/1992	20.91	0.33		0.25	1.53	40.01	1
	4/13/1992	21.04	0.42		0.25	1.53	40.26	1
	4/20/1992	20.74	0.19		0.13	0.79	40.39	1
	5/4/1992	20.83	0.33		0.13	0.79	40.52	1
	5/18/1992	21.33	0.23		0.13	0.79	40.65	1
	5/26/1992	20.83	0.17		0.13	0.79	40.78	1
	6/1/1992	20.85	0.19		0.06	0.37	40.84	1

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**Table 3. Separate-Phase Hydrocarbon Removal**

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID	Date	Depth to	SPH	SPH	SPH	SPH	Cumulative SPH	Notes
<i>TOC Elev.</i>	<i>Sampled</i>	<i>Groundwater</i>	<i>Thickness</i>	<i>Removed</i>	<i>Removed</i>	<i>Removed</i>	<i>Removed</i>	
<i>(ft)</i>		<i>(feet)</i>	<i>(feet)</i>	<i>(mL)</i>	<i>(gallons)</i>	<i>(lbs)</i>	<i>(gallons)</i>	
MW-4	6/29/1992	21.38	0.53		0.25	1.53	41.09	1
<i>(cont'd)</i>	7/29/1992	21.69	0.56		1.11	6.77	42.20	1
	8/28/1992	21.35	0.63		1.68	10.25	43.88	1
	4/3/1993	20.11	0.51		0.13	0.79	44.01	1
	11/9/1993	20.48	0.52		0.03	0.18	44.04	1
	8/30/1995	21.71	0.63		1.75	10.68	45.79	1
	10/2/1995	19.90	2.20		0.50	3.05	46.29	1
	11/3/1995	18.76	0.57		0.25	1.53	46.54	1
	11/30/1995	19.17	0.65		0.25	1.53	46.79	1
	1/3/1996	19.45	0.44		0.05	0.31	46.84	1
	2/2/1996	19.50	0.32		0.10	0.61	46.94	1
	3/1/1996	19.31	0.20		0.20	1.22	47.14	1
	4/4/1996	17.53	0.18		0.20	1.22	47.34	1
	5/2/1996	17.50	0.25		0.20	1.22	47.54	1
	6/5/1996	17.67	0.39		0.15	0.92	47.69	1
	7/9/1996	18.29	0.50		0.16	0.98	47.85	1
	8/8/1996	18.84	0.00		0.00	0.00	47.85	1
	9/10/1996	19.31	0.34		0.05	0.31	47.90	1
	10/1/1996	19.51	0.29		0.05	0.31	47.95	1
	11/4/1996	20.13	0.35		0.02	0.12	47.97	1
	12/2/1996	20.23	0.33		0.02	0.12	47.99	1
	1/3/1997	19.33	0.10		0.02	0.12	48.01	1
	2/6/1997	18.13	0.01		0.01	0.06	48.02	1
	4/30/1999	17.28	trace		0.00	0.00	48.02	1
	2/9/2000	19.76	0.00		0.00	0.00	48.02	1
	2/15/2000	--	0.00		0.00	0.00	48.02	2
	2/25/2000	19.30	0.00		0.00	0.00	48.02	2
	8/25/2010	22.72*	---	30	0.01	0.05	48.03	1
MW-6	12/23/1991	28.40	3.21		7.50	45.75	7.50	1
85.62	12/26/1991	27.25	1.67		2.00	12.20	9.50	1
	1/10/1992	27.23	0.90		1.00	6.10	10.50	1
	2/4/1992	27.71	2.04		2.00	12.20	12.50	1
	2/28/1992	27.92	3.00		3.00	18.30	15.50	1
	3/10/1992	27.16	2.06		2.75	16.78	18.25	1
	3/12/1992	25.96	0.52		2.00	12.20	20.25	1
	3/23/1992	26.34	1.09		1.00	6.10	21.25	1
	3/30/1992	25.73	0.35		0.50	3.05	21.75	1
	4/10/1992	25.29	0.05		0.25	1.53	22.00	1
	4/13/1992	25.52	0.21		0.13	0.79	22.13	1
	4/20/1992	25.38	0.10		0.13	0.79	22.26	1
	5/4/1992	25.40	--		0.13	0.79	22.39	1
	5/8/1992	25.50	0.17		0.06	0.37	22.45	1
	5/26/1992	25.46	0.13		0.13	0.79	22.58	1
	6/1/1992	25.46	0.09		0.06	0.37	22.64	1
	6/29/1992	25.59	0.14		0.19	1.16	22.83	1
	7/29/1992	26.90	1.71		0.60	3.66	23.43	1

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**Table 3. Separate-Phase Hydrocarbon Removal**

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID	Date	Depth to	SPH	SPH	SPH	SPH	Cumulative SPH	Notes
<i>TOC Elev.</i>	<i>Sampled</i>	<i>Groundwater</i>	<i>Thickness</i>	<i>Removed</i>	<i>Removed</i>	<i>Removed</i>	<i>Removed</i>	
<i>(ft)</i>		<i>(feet)</i>	<i>(feet)</i>	<i>(mL)</i>	<i>(gallons)</i>	<i>(lbs)</i>	<i>(gallons)</i>	
MW-6	8/28/1992	25.09	2.62		2.40	14.64	25.83	1
<i>(cont'd)</i>	12/2/1992	--	--		0.00	0.00	25.83	1
	4/3/1993	26.96	2.86		1.75	10.68	27.58	1
	11/9/1993	27.51	3.06		0.83	5.06	28.41	1
	8/30/1995	28.00	7.96		4.50	27.45	32.91	1
	10/2/1995	28.24	6.14		4.00	24.40	36.91	1
	11/3/1995	28.39	6.13		3.00	18.30	39.91	1
	11/30/1995	26.91	3.44		2.50	15.25	42.41	1
	1/3/1996	27.58	4.41		2.50	15.25	44.91	1
	2/2/1995	27.58	4.37		5.00	30.50	49.91	1
	3/1/1996	27.96	5.15		4.00	24.40	53.91	1
	4/4/1996	27.96	5.41		5.00	30.50	58.91	1
	5/2/1996	26.83	4.66		4.50	27.45	63.41	1
	6/5/1996	27.15	5.17		4.00	24.40	67.41	1
	7/9/1996	27.08	4.86		4.50	27.45	71.91	1
	8/8/1996	26.71	4.05		4.00	24.40	75.91	1
	9/10/1996	26.83	3.82		3.50	21.35	79.41	1
	10/1/1996	26.96	3.77		4.00	24.40	83.41	1
86.94	11/4/1996	--	NM		0.00	0.00	83.41	4
	12/2/1996	--	NM		0.00	0.00	83.41	4
	1/3/1997	--	NM		0.00	0.00	83.41	4
	2/6/1997	25.08	0.20		0.00	0.00	83.41	4
	3/5/1997	24.20	0.00		0.00	0.00	83.41	4
	4/1/1997	24.04	0.00		0.00	0.00	83.41	4
	5/8/1997	26.54	1.88		0.40	2.44	83.81	1
	6/6/1997	25.33	0.21		0.03	0.18	83.84	1
85.82	7/8/1997	25.30	0.07		0.00	0.00	83.84	1
	8/7/1997	25.52	0.00		0.00	0.00	83.84	1
	9/10/1997	25.76	0.00		0.00	0.00	83.84	1
	10/1/1997	25.12	0.00		0.00	0.00	83.84	1
	11/4/1997	26.16	0.18		0.02	0.12	83.86	1
	12/4/1997	26.08	0.16		0.05	0.31	83.91	1
	1/8/1998	25.79	0.10		0.66	4.03	84.57	1
	2/5/1998	25.31	0.89		0.00	0.00	84.57	4
	3/6/1998	24.63	0.46		0.04	0.24	84.61	1
	4/2/1998	24.45	0.59		0.10	0.61	84.71	1
	4/29/1998	22.96	0.55		0.09	0.55	84.80	1
	6/3/1998	22.81	0.41		0.03	0.18	84.83	1
	7/9/1998	23.04	0.35		0.05	0.31	84.88	1
	8/4/1998	23.29	0.35		0.04	0.24	84.92	1
	8/26/1998	23.50	0.31		0.01	0.06	84.93	1
	11/2/1998	24.24	0.43		0.02	0.12	84.95	1
	12/4/1998	24.35	0.32		0.01	0.06	84.96	1
	1/5/1999	24.51	0.40		0.03	0.18	84.99	1
	2/8/1999	24.00	0.03		0.13	0.76	85.12	1
	3/24/1999	23.82	0.19		0.03	0.18	85.15	1
	4/30/1999	23.60	1.13		0.10	0.61	85.25	1

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**Table 3. Separate-Phase Hydrocarbon Removal**

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID	Date	Depth to	SPH	SPH	SPH	SPH	Cumulative SPH	Notes
<i>TOC Elev.</i>	<i>Sampled</i>	<i>Groundwater</i>	<i>Thickness</i>	<i>Removed</i>	<i>Removed</i>	<i>Removed</i>	<i>Removed</i>	
<i>(ft)</i>		<i>(feet)</i>	<i>(feet)</i>	<i>(mL)</i>	<i>(gallons)</i>	<i>(lbs)</i>	<i>(gallons)</i>	
MW-6	7/1/1999	24.45	0.42		0.06	0.38	85.31	1
<i>(cont'd)</i>	7/27/1999	25.35	0.24		0.06	0.38	85.37	1
	8/19/1999	24.87	0.24		0.06	0.37	85.43	1
	9/21/1999	24.58	0.10		0.20	1.22	85.63	1
	10/20/1999	25.05	0.17		0.20	1.22	85.83	1
	12/13/1999	25.08	0.10		0.06	0.37	85.89	1
	2/9/2000	24.93	0.44		0.25	1.53	86.14	1
	2/15/2000	--	0.00		0.07	0.43	86.21	3
	2/25/2000	24.23	0.00		0.01	0.06	86.22	3
	3/3/2000	24.00	0.00		0.00	0.01	86.22	3
	3/28/2000	23.54	0.00		0.05	0.31	86.27	3
	5/2/2000	23.52	0.06		0.03	0.15	86.30	3
	5/31/2000	23.39	0.08		0.00	0.00	86.30	3
	7/3/2000	23.61	trace		0.02	0.12	86.32	3
	8/4/2000	23.80	0.10		0.01	0.06	86.33	3
	10/6/2000	24.22	0.04		0.01	0.06	86.34	
	11/3/2000	24.30	0.09		0.00	0.00	86.34	
	12/1/2000	24.38	0.07		0.03	0.18	86.37	2, 3
	1/4/2001	24.65	0.17		0.00	0.00	86.37	5
	2/2/2001	24.72	0.22		0.25	1.53	86.62	3
	4/3/2001	23.90	0.06		0.05	0.31	86.67	
	5/4/2001	23.95	0.07		0.05	0.31	86.72	
	5/7/2001	--	--		0.08	0.48	86.80	
	6/11/2001	24.25	0.10		0.00	0.00	86.80	
	5/2/2002	23.25	0.01		0.00	0.02	86.80	2
	6/14/2002	23.17	0.07		0.01	0.04	86.81	1
	8/4/2002	23.55	0.03		0.01	0.06	86.82	1
	9/24/2002	23.98	0.02		0.007	0.04	86.82	1
	10/16/2002	24.20	0.09		0.005	0.03	86.83	1
	11/6/2002	25.78	0.07		0.005	0.03	86.83	1
	11/26/2002	24.22	0.03		0.009	0.06	86.84	1, 3
	12/9/2002	23.97	0.05		0.021	0.13	86.86	1, 3
	1/17/2003	21.30	0.06		0.013	0.08	86.88	1, 3
	1/27/2003	22.49	0.02		0.016	0.10	86.89	1, 3
	3/5/2003	24.35	0.06		0.013	0.08	86.91	1, 3
	4/11/2003	24.05	0.07		0.029	0.18	86.93	3
	5/13/2003	23.98	0.03		0.016	0.10	86.95	3
	5/28/2003	21.92	0.04		0.021	0.13	86.97	1, 3
	6/13/2003	21.98	0.06		0.020	0.12	86.99	1, 3
	7/24/2003	24.11	0.07		0.040	0.24	87.03	1, 3
	8/5/2003	23.98	0.04		0.021	0.13	87.05	1, 3
	9/12/2003	24.53	0.06		0.026	0.16	87.08	1, 3
	10/10/2003	24.88	0.10		0.026	0.16	87.11	1, 3
	11/10/2003	23.50	0.10		0.032	0.19	87.14	1, 3
	11/21/2003	23.81	0.06		0.026	0.16	87.16	1, 3
	12/4/2003	23.61	0.08		0.029	0.18	87.19	1, 3
	1/23/2004	23.09	0.10	100	0.026	0.16	87.22	1, 3

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**Table 3. Separate-Phase Hydrocarbon Removal**

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID	Date	Depth to	SPH	SPH	SPH	SPH	Cumulative SPH	Notes
<i>TOC Elev.</i>	<i>Sampled</i>	<i>Groundwater</i>	<i>Thickness</i>	<i>Removed</i>	<i>Removed</i>	<i>Removed</i>	<i>Removed</i>	
<i>(ft)</i>		<i>(feet)</i>	<i>(feet)</i>	<i>(mL)</i>	<i>(gallons)</i>	<i>(lbs)</i>	<i>(gallons)</i>	
MW-6	2/6/2004	22.39	0.05	80	0.021	0.13	87.24	1, 3
<i>(cont'd)</i>	2/18/2004	22.21	0.04	70	0.018	0.11	87.26	1, 3
	3/28/2004	23.91	0.06	50	0.013	0.08	87.27	1, 3
	4/9/2004	23.89	0.03	100	0.026	0.16	87.30	1, 3
	5/27/2004	22.01	0.05	140	0.037	0.23	87.34	1, 3
	5/27/2004	22.01	0.05	140	0.037	0.23	87.37	1, 3
	7/29/2004	24.35	0.00	0	0.000	0.00	87.37	1, 3
	8/6/2004	24.05	0.03	20	0.005	0.03	87.38	1, 3
	8/19/2004	24.16	0.03	10	0.003	0.02	87.38	1, 3
	9/3/2004	24.29	0.02	10	0.003	0.02	87.38	1, 3
	12/27/2004	24.69	sheen	80	0.021	0.13	87.40	3
	2/18/2005	23.55	0.08	130	0.034	0.21	87.44	1,3
	5/11/2005	22.90	0.06	120	0.032	0.19	87.47	1,3
	8/3/2005	23.68	0.06	0	0.000	0.00	87.47	
	11/30/2005	24.17	0.02	0	0.000	0.00	87.47	
	2/17/2006	23.89	0.03	10	0.003	0.02	87.47	1,3
	5/12/2006	22.66	0.03	0	0.000	0.00	87.47	
	8/7/2006	22.83	0.02	0	0.000	0.00	87.47	
	11/21/2006	23.92	0.02	0	0.000	0.00	87.47	
	2/12/2007	23.97	0.02	0	0.000	0.00	87.47	
	2/19/2009	25.19*	0.07**	100	0.026	0.16	87.50	
	8/21/2009	25.10	0.03	20	0.005	0.03	87.50	1
	2/24/2010	26.71	0.03	10	0.003	0.02	87.51	1
	8/24/2010	26.13	0.05	30	0.008	0.05	87.51	1
MW-9 90.37	8/8/1996	19.89	0.35		0.10	0.61	0.61	1
MW-14 94.66	12/4/1998	23.42	0.23		0.01	0.06	0.01	1
	1/5/1999	23.36	0.12		0.01	0.06	0.02	1
	2/8/1999	23.17	trace		0.01	0.06	0.03	1
	3/24/1999	22.08	trace		0.00	0.00	0.03	1
	4/30/1999	21.17	0.01		0.00	0.00	0.03	1
	7/1/1999	22.95	0.04		0.00	0.00	0.03	1
	9/21/1999	24.26	trace		0.00	0.00	0.03	1
	10/20/1999	24.10	0.00		0.00	0.00	0.03	1
	2/9/2000	24.13	0.00		0.00	0.00	0.03	1
	2/15/2000	--	0.00		0.00	0.00	0.03	1
	2/25/2000	--	0.00		0.00	0.00	0.03	2
	3/3/2000	23.27	0.00		0.05	0.31	0.08	2
	3/28/2000	22.40	0.00		0.13	0.76	0.21	2
	5/2/2000	22.22	0.00		0.04	0.24	0.25	2
	5/31/2000	22.09	0.00		0.00	0.00	0.25	2
	7/3/2000	22.35	trace		0.01	0.06	0.26	2
	8/4/2000	22.78	0.00		0.03	0.18	0.29	2
	10/6/2000	23.48	0.00		0.00	0.00	0.29	
	11/3/2000	23.60	0.00		0.00	0.00	0.29	



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**Table 3. Separate-Phase Hydrocarbon Removal**

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID	Date	Depth to	SPH	SPH	SPH	SPH	Cumulative SPH	Notes
<i>TOC Elev.</i>	<i>Sampled</i>	<i>Groundwater</i>	<i>Thickness</i>	<i>Removed</i>	<i>Removed</i>	<i>Removed</i>	<i>Removed</i>	
<i>(ft)</i>		<i>(feet)</i>	<i>(feet)</i>	<i>(mL)</i>	<i>(gallons)</i>	<i>(lbs)</i>	<i>(gallons)</i>	
MW-14	12/1/2000	23.90	0.04		0.04	0.24	0.33	1, 2
<i>(cont'd)</i>	1/4/2001	24.10	0.00		0.00	0.00	0.33	
	2/2/2001	24.27	0.00		0.10	0.61	0.43	2
	4/3/2001	23.06	0.00		0.05	0.31	0.48	
	5/4/2001	23.05	0.00		0.00	0.00	0.48	
	5/7/2001	23.45	0.02		0.01	0.05	0.48	2
	6/11/2001	23.40	0.00		0.00	0.00	0.48	
	5/2/2002	23.51	0.02		0.003	0.02	0.49	2
	6/14/2002	23.88	0.01		0.003	0.02	0.49	2
	8/4/2002	23.61	0.01		0.004	0.02	0.49	2
	9/24/2002	24.07	0.01		0.007	0.04	0.50	2
	10/16/2002	24.29	trace		0.007	0.04	0.51	2
	11/6/2002	25.85	0.00		0.00	0.00	0.51	2
	11/26/2002	24.35	trace		0.00	0.00	0.51	2
	12/9/2002	24.05	trace		0.00	0.00	0.51	2
	1/17/2003	22.09	0.00		0.00	0.00	0.51	2
	1/27/2003	22.60	0.00		0.00	0.00	0.51	2
	3/5/2003	23.63	0.00		0.13	0.79	0.64	1,2
	4/11/2003	23.63	0.02		0.003	0.02	0.64	1,2
	5/13/2003	23.11	0.03		0.003	0.02	0.64	1,2
	5/28/2003	21.95	0.04		0.007	0.04	0.65	1,2
	6/13/2003	22.05	0.03		0.004	0.02	0.65	1,2
	7/24/2003	23.10	0.02		0.003	0.02	0.65	1,2
	8/5/2003	23.03	0.04		0.011	0.06	0.66	1,2
	9/12/2003	23.81	0.06		0.013	0.08	0.68	1,2
	10/10/2003	24.03	0.05		0.021	0.13	0.70	1,2
	11/10/2003	22.70	0.07		0.013	0.08	0.71	1,2
	11/21/2003	22.85	0.05		0.013	0.08	0.73	1,2
	12/4/2003	22.69	0.02		0.008	0.05	0.73	1,2
	1/23/2004	22.05	0.04	40	0.011	0.06	0.74	1,2
	2/6/2004	22.49	0.04	50	0.013	0.08	0.76	1,2
	2/18/2004	22.37	0.04	50	0.013	0.08	0.77	1,2
	3/28/2004	22.79	0.00	5	0.001	0.01	0.77	1,2
	4/9/2004	22.81	0.00	0	0.000	0.00	0.77	1,2
	5/27/2004	21.78	0.05	40	0.011	0.06	0.78	1,2
	7/29/2004	23.80	0.02	10	0.003	0.02	0.78	1,2
	8/6/2004	23.99	0.02	100	0.026	0.16	0.81	1,2
	8/19/2004	24.13	0.05	100	0.026	0.16	0.84	1,2
	9/3/2004	24.22	0.02	50	0.013	0.08	0.85	1,2
	12/27/2004	24.19	sheen	5	0.001	0.01	0.85	2
	2/18/2005	23.24	0.05	120	0.032	0.19	0.88	1,2
	5/11/2005	22.77	0.04	500	0.132	0.81	1.02	1,2
	8/3/2005	23.17	0.02	0	0.000	0.00	1.02	
	11/30/2005	24.02	0.02	0	0.000	0.00	1.02	
	2/17/2006	23.87	0.02	10	0.003	0.02	1.02	1,2
	5/12/2006	21.74	0.01	0	0.000	0.00	1.02	
	8/7/2006	21.66	0.01	0	0.000	0.00	1.02	

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**Table 3. Separate-Phase Hydrocarbon Removal**

Connell Automobile Dealership, 3093 Broadway, Oakland, California

Well ID	Date	Depth to	SPH	SPH	SPH	SPH	Cumulative SPH	Notes
<i>TOC Elev.</i>	<i>Sampled</i>	<i>Groundwater</i>	<i>Thickness</i>	<i>Removed</i>	<i>Removed</i>	<i>Removed</i>	<i>Removed</i>	
<i>(ft)</i>		<i>(feet)</i>	<i>(feet)</i>	<i>(mL)</i>	<i>(gallons)</i>	<i>(lbs)</i>	<i>(gallons)</i>	
MW-14	11/21/2006	23.41	0.03	50	0.013	0.08	1.03	1
<i>(cont'd)</i>	2/12/2007	23.45	0.03	0	0.000	0.00	1.03	
	2/19/2009	25.92*	0.05**	50	0.013	0.08	1.04	1
	2/24/2010	28.39	0.03	50	0.013	0.08	1.06	1
	8/24/2010	26.31	0.04	50	0.013	0.08	1.07	1
MW-15	2/18/2005	23.27	0.10	20	0.005	0.03	0.01	1
	5/11/2005	22.80	0.09	450	0.119	0.73	0.12	1
	8/3/2005	23.29	0.01	0	0.000	0.00	0.12	
	11/30/2005	24.11	0.05	0	0.000	0.00	0.12	
	2/17/2006	23.91	0.05	10	0.003	0.02	0.13	1
	5/12/2006	21.88	0.03	0	0.000	0.00	0.13	
	8/7/2006	22.05	0.01	0	0.000	0.00	0.13	
	11/21/2006	23.70	0.00	0	0.000	0.00	0.13	
	2/12/2007	23.80	0.00	0	0.000	0.00	0.13	
	2/19/2009	27.09*	0.08**	400	0.106	0.64	0.23	1
	2/24/2010	28.51	0.04	50	0.013	0.08	0.25	1
	8/24/2010	26.53	0.04	50	0.013	0.08	0.26	1
RW-2	4/16/2007	16.66	0.00	0	0.000	0.00	0.00	
	5/29/2008	17.66	0.00	0	0.000	0.00	0.00	
	8/22/2008	18.51	0.00	0	0.000	0.00	0.00	
	2/19/2009	19.03*	0.08**	200	0.053	0.32	0.05	1
	8/21/2009	20.09*	0.31**	230	0.061	0.37	0.11	1
	2/24/2010	25.05	0.04	50	0.013	0.08	0.13	1
	8/24/2010	19.79	0.04	50	0.013	0.08	0.14	1
<b>Total SPH Removed (gallons):</b>							<b>157.82</b>	
<b>Total SPH Removed (pounds):</b>						<b>962.54</b>		

**Abbreviations and Notes:**

*TOC Elev. (ft)* = Top of casing elevation, surveyed to an arbitrary datum (measured in feet)

SPH = Separate-phase hydrocarbons

SPH converted from volume to weight using the estimated relation 1 gallon SPH = 6.1 pounds.

-- = Not measured or not applicable

NM = Not Measured. Product was being removed by vapor extraction at time of measurement.

1 = SPH removed by manual bailing

2 = SPH removed from well by absorbent sock

3 = SPH removed from well by passive skimmer

4 = Vapor extraction system operating in well

5 = No product removed; skimmer adjusted incorrectly.

\* = Depth to water re-measured after beginning purge due to the appearance of SPH after beginning purge.

\*\* = SPH not present in well until beginning purge; SPH thickness measured after beginning purge.

# Pangea

Table 4. SVE (DPE) Performance Data - 3093 Broadway, Oakland, CA									Removal				Emission Reporting						
Date	Wells	Oxidizer Hr Meter Reading (hours)	System Vapor Flow Rate (scfm)	LR Pump Vacuum ("Hg)	Lab Sample ID	Influent TPHg Lab (ppmv)	Influent Benzene Lab 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 (%)	Benzene Abatement Efficiency (%)	Benzene Emission Rate (lbs/day)	Cumulative Vapor Flow (cf)	Notes
04/26/11	MW-10, MW-6, RW-2	15277	15	19	---	---	---	1,850	0.0	0.00	0.0	0	---	---	---	---	---	0	Startup Test
04/27/11	RW-2, RW-3A, RW-3B, MW-6	15282	15	19	INF-V	<b>650</b>	<b>27.0</b>	1,850	3.2	0.33	0.8	0.08	< 7.0	< 0.077	> 98.9	> 99.7	> 0.001	14,868	Off at arrival. Restart.
05/05/11	RW-2, RW-3A, RW-3B, MW-6	15304	15	19	---	1,000	36.0	2,890	4.9	0.44	5.2	0.48	---	---	---	---	---	69,300	On. Air Sparge Testing.
05/11/11	RW-2, RW-3A, RW-3B, MW-6	15448	15	19	---	1,000	36.0	---	4.9	0.44	35	3.1	---	---	---	---	---	432,180	On. K/O tank slow to drain.
05/24/11	RW-2, RW-3A, RW-3B, MW-6	15579	15	19	---	1,000	36.0	---	4.9	0.44	62	5.5	---	---	---	---	---	762,300	Off. Restart 5/25.
05/27/11	RW-2, RW-3A, RW-3B, MW-6	15627	13	21	---	1,000	36.0	---	4.0	0.44	70	6.4	---	---	---	---	---	883,260	On.
05/29/11	RW-2, MW-1, MW-6, MW-10, VE-1	15673	13	21	INF-V	<b>4,300</b>	<b>150</b>	---	17.4	1.83	103	9.9	---	---	---	---	---	999,180	On. Start AS
06/01/11	RW-2, MW-1, MW-6, MW-10, VE-1	15716	13	21	---	4,300	150	---	17.4	1.83	134	13.2	---	---	---	---	---	1,107,540	On. Transfer pump very slow.
06/02/11	VE-1, RW-3B	15742	13	21	---	4,300	150	---	17.4	1.83	153	15.2	---	---	---	---	---	1,173,060	Off. Transfer pump very slow.
06/03/11	RW-2, RW-3A, VE-1, MW-1	15768	65	17	INF-V	<b>4,700</b>	<b>130</b>	8980	97.4	5.64	259	21.3	---	---	---	---	---	1,406,394	Off. Air Sparge turned off.
07/06/11	RW-2, RW-3A, VE-1, MW-1	16557	59	17	---	550	20	574	10.4	0.79	601	47.3	---	---	---	---	---	7,840,554	On. Air Sparge Off.
07/11/11	RW-2, RW-3A, VE-1, MW-1	16676	54	18	---	715	30	748	12.5	1.19	663	53.2	---	---	---	---	---	8,810,778	On. Air Sparge Off.
07/14/11	RW-2, RW-3A, RW-4, RW-5, VE-1, MW-1	16747	50	19	INF-V	<b>370</b>	<b>14</b>	10250	5.9	0.55	680	54.8	---	---	---	---	---	9,394,218	Off. Restart
07/19/11	RW-2, RW-3A, RW-4, RW-5, VE-1, MW-1	16867	50	19	---	370	14	---	5.9	0.55	710	57.6	---	---	---	---	---	10,372,602	Off. Did not restart.
07/21/11	RW-2, RW-3A, RW-4, RW-5, VE-1, MW-1	16867	45	20	---	370	14	---	5.4	0.55	710	57.6	---	---	---	---	---	10,373,418	Off. Restart.
07/28/11	RW-2, RW-3A, RW-4, RW-5, VE-1, MW-1	17037	50	19	---	7,600	200	11,520	121.6	7.91	1569	113.5	---	---	---	---	---	11,756,538	On.
08/01/11	RW-2, RW-3A, RW-4, RW-5, VE-1, MW-1	17132	46	19	INF-V	<b>7,800</b>	<b>210</b>	11,650	115.6	7.70	2029	144.2	---	---	---	---	---	12,478,518	On.
08/08/11	RW-2, RW-3A, RW-4, RW-5, VE-1, MW-1	17299	44	19	---	4,000	105	4,940	56.0	3.64	2418	169.4	---	---	---	---	---	13,670,184	On.
08/18/11	RW-2, RW-3A, RW-4, RW-5, VE-1, MW-1	17541	44	19	---	4,000	105	5,060	56.0	3.64	2983	206.1	---	---	---	---	---	15,399,492	On.
09/01/11	VE-1, MW-1, MW-14, MW-15, MW-17A	17708	40	20	---	7,000	150	9,362	89.8	5.24	3609	242.6	---	---	---	---	---	16,602,612	Off. Restart. Target upper plume.
09/21/11	VE-1, MW-1, MW-14, MW-15, MW-17A	17889	45	17	---	4,500	105	5,370	64.4	3.15	4094	266.3	---	---	---	---	---	17,719,338	On.
09/22/11	VE-1, MW-1, MW-14, MW-15, MW-17A	17915	43	17	INF-V	<b>3,000</b>	<b>87</b>	3,810	41.7	2.53	4140	269.1	---	---	---	---	---	17,878,338	On.
09/26/11	VE-1, MW-1, MW-14, MW-15, MW-17A	18008	42	18	---	3,000	87	3,762	40.8	2.68	4297	279.4	---	---	---	---	---	18,465,366	On.
10/05/11	VE-1, MW-1, MW-14, MW-15, MW-17A	18223	40	18	---	1,000	35	1,883	12.8	1.01	4411	288.5	---	---	---	---	---	19,749,495	On.
10/10/11	VE-1, MW-1, MW-14, MW-15, MW-17A	18292	40	18	---	3,700	95	4,250	47.6	2.77	4547	296.4	---	---	---	---	---	20,162,972	Off. Restart.
10/18/11	VE-1, MW-1, MW-14, MW-15, MW-17A	18486	42	17	---	1,800	70	2,067	24.5	2.00	4746	312.6	---	---	---	---	---	21,305,690	On.
11/02/11	VE-1, MW-1, MW-14, MW-15, MW-17A	18844	39	18	---	1,100	60	1,903	13.7	1.70	4951	337.9	---	---	---	---	---	23,394,927	On.
11/15/11	VE-1, MW-1, MW-14, MW-15, MW-17A	19161	39	18	---	600	20	614	7.6	0.57	5051	345.5	---	---	---	---	---	25,260,524	On.
11/22/11	MW-16B, RW-4, RW-5, VE-1	19325	39	18	---	700	30	756	8.9	0.86	5111	351.3	---	---	---	---	---	26,229,268	On. Revise target wells.
11/29/11	MW-16B, RW-4, RW-5, VE-1	19494	41	18	---	800	40	811	10.6	1.21	5186	359.8	---	---	---	---	---	27,281,015	On.
12/08/11	MW-16B, RW-4, RW-5, VE-1	19711	37	18	---	700	30	693	8.4	0.81	5262	367.2	---	---	---	---	---	28,497,965	On.
12/14/11	MW-16B, RW-4, RW-5, VE-1	19853	25	23	---	500	20	591	4.0	0.62	5285	370.9	---	---	---	---	---	29,402,874	On.
12/19/11	MW-16B, RW-4, RW-5, VE-1	19973	42	18	---	500	20	---	6.8	0.62	5319	373.9	---	---	---	---	---	30,164,802	On. Turn off for QM event. Restart 12/20.
12/22/11	MW-16B, RW-4, RW-5, VE-1	20020	37	19	INF-V	<b>620</b>	<b>15</b>	499	7.3	0.43	5334	374.8	---	---	---	---	---	30,444,535	On. Off at departure.

**Notes:**

ALL = Wells MW-1, MW-6, MW-10, MW-14, MW-15, RW-1, RW-2, RW-3A, RW-3B, RW-4, RW-5 and VE-1.

NA = not analyzed; NM = not measured; --- = not available

System data estimated when specific data not available.

scfm = Anemometer readings provide actual cubic feet per minute (acfm) flow rate. ACFM flow rate from vacuum side of pump converted to SCFM. SCFM = ACFM x (30" Hg - Vacuum Hg)/30 "Hg.

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

LR = Liquid Ring

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.

# Pangea

**Table 5. GWE (DPE) System Performance Summary - 3093 Broadway, Oakland, California**

Well ID	Date	Totalizer Reading (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
<b>System</b>	04/15/11	40	40	0	--	---	---	---	0.000	0.000	0.000	Startup testing, water not discharged to sewer.
<b>Influent</b>	04/27/11	1,267	1,227	12	0.07	<b>8,300</b>	<b>1,500</b>	<b>ND (&lt;100)</b>	0.085	0.015	0.000	Startup water sampling of influent
	05/05/11	7,858	6,591	8	0.57	---	---	---	0.455	0.082	0.000	System on
	05/29/11	36,261	28,403	24	0.82	---	---	---	1.960	0.354	0.000	On. Broken transfer pump
	06/03/11	39,361	3,100	5	0.43	---	---	---	0.214	0.039	0.000	System off. Restart
	07/06/11	94,837	55,476	33	1.17	---	---	---	3.829	0.692	0.000	System on
	07/11/11	94,837	0	5	0.00	---	---	---	0.000	0.000	0.000	On.
	07/14/11	97,337	2,500	3	0.58	---	---	---	0.173	0.031	0.000	Off. Restart.
	07/19/11	112,225	14,888	5	2.07	---	---	---	1.028	0.186	0.000	Off on arrival & departure. Blower malfunction.
	07/21/11	112,225	0	2	0.00	---	---	---	0.000	0.000	0.000	Off. Reset high temp control. Restart.
	07/28/11	142,936	30,711	7	3.05	---	---	---	2.120	0.383	0.000	On.
	08/01/11	155,689	12,753	4	2.21	---	---	---	0.880	0.159	0.000	On.
	08/08/11	175,705	20,016	7	1.99	---	---	---	1.382	0.250	0.000	On.
	08/18/11	204,566	28,861	10	2.00	---	---	---	1.992	0.360	0.000	On.
	09/01/11	220,420	15,854	14	0.79	---	---	---	1.094	0.198	0.000	Off. Restart system
	09/22/11	251,290	30,870	21	1.02	---	---	---	2.131	0.385	0.000	On.
	09/26/11	261,174	9,884	4	1.72	---	---	---	0.682	0.123	0.000	On.
	10/05/11	266,388	5,214	9	0.40	<b>5,700</b>	<b>400</b>	<b>ND (&lt;50)</b>	0.247	0.017	0.000	On.
	10/10/11	276,750	10,362	5	1.44	---	---	---	0.491	0.034	0.000	Off. Restart.
	10/18/11	296,101	19,351	8	1.68	---	---	---	0.917	0.064	0.000	On.
	11/15/11	315,133	19,032	28	0.47	---	---	---	0.902	0.063	0.000	On.
	11/22/11	315,907	774	7	0.08	---	---	---	0.037	0.003	0.000	On.
	11/29/11	326,151	10,244	7	1.02	---	---	---	0.486	0.034	0.000	On.
	12/08/11	337,285	11,134	9	0.86	---	---	---	0.528	0.037	0.000	On.
	12/14/11	344,270	6,985	6	0.81	---	---	---	0.331	0.023	0.000	On.
	12/19/11	349,720	5,450	5	0.76	---	---	---	0.258	0.018	0.000	On. Turn off for QM event. Restart 12/20.
	12/22/11	351,767	2,047	3	0.47	---	---	---	0.097	0.007	0.000	On. Off at departure.
									<b>22.318</b>	<b>3.559</b>	<b>0.000</b>	<b>Total Cumulative Removal (Lbs)*</b>
<b>System</b>	07/06/11	---	---	---	---	<b>ND (&lt;50)</b>	<b>ND (&lt;0.5)</b>	<b>ND (&lt;5.0)</b>	--	--	--	
<b>Midpoint</b>	10/05/11	---	---	---	---	<b>ND (&lt;50)</b>	<b>1.9</b>	<b>ND (&lt;5.0)</b>	--	--	--	
<b>System</b>	04/27/11	---	---	---	---	<b>ND (&lt;50)</b>	<b>ND (&lt;0.5)</b>	<b>ND (&lt;5.0)</b>	---	---	---	Startup water sampling of effluent
<b>Effluent**</b>	07/06/11	---	---	---	---	<b>ND (&lt;50)</b>	<b>ND (&lt;0.5)</b>	<b>ND (&lt;5.0)</b>	---	---	---	
	10/05/11	---	---	---	---	<b>ND (&lt;50)</b>	<b>ND (&lt;0.5)</b>	<b>ND (&lt;5.0)</b>	---	---	---	

<b>Discharge Limits (ug/L):</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>
	<i>Benzene</i>	<i>Toluene</i>	<i>Ethylbenzene</i>	<i>Total Xylenes</i>

**ABBREVIATIONS AND NOTES:**

gpm = Gallons per minute

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 ug/L)

## **APPENDIX A**

### Well Monitoring Protocol

**Table A. Groundwater Monitoring Program - Connell Auto, 3093 Broadway, Oakland, CA**

Well ID	Well Type	Screened Interval (ft bgs)	Well Location for Monitoring	Casing Diam. (in)	Gauge Frequency	Sample Frequency <sup>1</sup>	TPHmo, TPHd, TPHg, BTEX, MTBE <sup>2</sup>	HVOCs <sup>3</sup>
<b>Upper Plume Wells</b>								
AS-1A	AS	27-30	Source Area	2	---	---	---	---
AS-1B	AS	35-38	Source Area	2	---	---	---	---
AS-2A	AS	29-32	Source Area	2	---	---	---	---
MW-1	DPE + Mon	19-35	Source Area	2	1st, 3rd	1st	1st	1st
MW-2	Mon	25-40	W, Perimeter	2	---	---	---	---
MW-3	Mon	20-35	S, Perimeter	2	---	---	---	---
MW-11	Mon	25-40	W, Perimeter	2	---	---	---	---
MW-14	DPE + Mon	10-40	Source Area	2	1st, 3rd	1st	1st	1st
MW-15	DPE + Mon	15-40	Intermediate Downgradient	2	1st, 3rd	1st	1st	1st
MW-16A	Mon	20-30	Source Area	2	1st, 3rd	1st, 3rd	1st, 3rd	1st
MW-16B	Mon	35-40	Source Area	2	1st, 3rd	1st, 3rd	1st, 3rd	1st
MW-17A	AS + Mon	27-30	Intermediate Downgradient	2	1st, 3rd	1st, 3rd	1st, 3rd	1st
MW-17B	AS + Mon	35-40	Intermediate Downgradient	2	1st, 3rd	1st, 3rd	1st, 3rd	1st
RW-1	DPE	20-35	Source Area	4	---	---	---	---
RW-4	DPE + Mon	23-31	Intermediate Downgradient	4	1st, 3rd	1st, 3rd	1st, 3rd	1st
RW-5	DPE	24-34	Source Area	4	---	---	---	---
VE-1	DPE	15-35	Source Area	4	---	---	---	---
<b>Lower Plume Wells</b>								
AS-3A	AS	26-29	Intermediate Downgradient	2	---	---	---	---
AS-3B	AS	33-36	Intermediate Downgradient	2	---	---	---	---
AS-4A	AS	26-29	Intermediate Downgradient	2	---	---	---	---
MW-4	Mon	15-30	Intermediate Downgradient	2	1st, 3rd	1st, 3rd	1st, 3rd	1st
MW-5	Mon	15-35	S, Perimeter	2	---	---	---	---
MW-6	DPE + Mon	15-35	Intermediate Downgradient	2	1st, 3rd	1st	1st	1st
MW-7	Mon	13-33	SE, Perimeter	2	1st, 3rd	1st, 3rd	1st, 3rd	1st
MW-8	Mon	20-40	E, Perimeter	6	1st, 3rd	1st, 3rd	1st, 3rd	1st
MW-9	Mon	18-32	Intermediate Downgradient	2	1st, 3rd	1st, 3rd	1st, 3rd	1st
MW-10	DPE + Mon	17-35	Intermediate Downgradient	6	---	---	---	---
MW-13	Mon	25-40	E, Perimeter, Offsite	2	1st, 3rd	1st, 3rd	1st, 3rd	1st
RW-2	DPE + Mon	15-30	Intermediate Downgradient	2	1st, 3rd	1st, 3rd	1st, 3rd	1st
RW-3A	DPE	16-26	Intermediate Downgradient	4	---	---	---	---
RW-3B	DPE	32-37	Intermediate Downgradient	4	---	---	---	---

**Notes and Abbreviations:**

**1 = Summary: 11 wells sampled semi-annually during 1st and 3rd quarters, 15 wells sampled 1st quarter.**

**2 = Sample Analytes: Total Petroleum Hydrocarbons as Motor Oil, Diesel and Gasoline (TPHmo, TPHd and TPHg, respectively), benzene, toluene, ethylbenzene, xylenes (BTEX) and methyl tertiary butyl ether (MTBE) by EPA Method 8015C/8021B.**

**3 = Additional Sample Analytes: Halogenated Volatile Organic Compounds (HVOCs) by EPA Method 8010.**

1st, 3rd = 1st and 3rd quarters (Typically February and August)

1st = 1st quarter (Typically February)

Mon = Groundwater Monitoring Only

AS= Air Sparging

DPE = Dual Phase Extraction

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

--- = Not gauged or sampled.

## **APPENDIX B**

Groundwater Monitoring Field Data Sheets

Well Gauging Data Sheet

Project Task #1005.001, 228				Project Name: Connell			
Address: 3093 Broadway, Oakland, CA						Date: 12-19-11	
Name: Steve Hunter				Signature: <i>Steve Hunter</i>			
Well ID	Well Size (in.)	Time	Depth to Immiscible Liquid (ft)	Thickness of Immiscible Liquid (ft)	Depth to Water (ft)	Total Depth (ft)	Measuring Point
MW-1	2"	1220			27.58	34.01	TOC
MW-14	2"	1224			25.67	36.68	
MW-15	2"	1228			26.18	35.45	
MW-16A	2"	1151	29.09	0.11*	29.20		
MW-16B	2"	1154			36.68	39.70	
MW-17A	2"	1203			25.52	28.58	
MW-17B	2"	1208			26.58	39.93	
RW-4	4"	1212			25.80	28.12	
RW-5	4"	1240			26.32	32.91	
VE-1	4"	1236			23.38	34.42	
MW-4	2"	1143			21.46	24.33	✓

Comments: System shut down at 10am. Wells opened 1 hour before monitoring.

\* = Instrument error suspected so Pangea tested well with bailer on February 7, 2012 and found only a Shear but no measurable product.



Well Gauging Data Sheet

Project.Task: 1005.001				Project Name: Rockridge Heights			
Address: 3093 Broadway, Oakland, CA						Date: 12/19/11	
Name: Steve Hunter				Signature: <i>[Signature]</i>			
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-6	2"	1218			25.19	25.22	TOC (I.W.)
MW-7	2"	1121			18.88		↓
MW-8	2"	1125			27.52		
MW-9	2"	1132			22.63		
MW-13	2"	1115			24.65		
RW-2	4"	1217			19.71	29.48	
RW-3A	4"	1219			18.37	25.58	

Comments:

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## MONITORING FIELD DATA SHEET

Well ID: *MW-1*

Project.Task #: 1005.001 <i>228</i>				Project Name: Connell				
Address: 3093 Broadway, Oakland, CA								
Date: <i>12-20-11</i>				Weather: <i>Clear</i>				
Well Diameter: <i>2"</i>				Volume/ft.	1" = 0.04	3" = 0.37	6" = 1.47	
				2" = 0.16	4" = 0.65	radius <sup>2</sup> * 0.163		
Total Depth (TD): <i>3401</i>				Depth to Product: <i>—</i>				
Depth to Water (DTW): <i>27.58</i>				Product Thickness: <i>—</i>				
Water Column Height: <i>6.43</i>				1 Casing Volume: <i>1</i>		gallons		
Reference Point: TOC				3 Casing Volumes: <i>3</i>		gallons		
Purging Device: <i>Disposable bailer</i>								
Sampling Device: Disposable Bailer								
Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
<i>1043</i>					<i>0.23</i>		<i>0</i>	
<i>1052</i>	<i>19.8</i>	<i>6.83</i>	<i>742</i>			<i>-67</i>	<i>1</i>	
<i>1056</i>	<i>18.6</i>	<i>6.72</i>	<i>751</i>			<i>-71</i>	<i>2</i>	
<i>1102</i>	<i>19.2</i>	<i>6.91</i>	<i>758</i>			<i>-69</i>	<i>3</i>	

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Sample ID: <i>MW-1</i>		Sample Time: <i>1115</i>	
Laboratory: McCampbell		Sample Date: <i>12-20-11</i>	
Containers/Preservative: 3Voa's (HCL), 2 Liters Amber (HCL)			
Analyzed for: TPHg/BTEX/MTBE, TPHg, TPHmo			
Sampler Name: Steve Hunter		Signature: <i>[Signature]</i>	

## MONITORING FIELD DATA SHEET

Well ID: *MW-4*

Project.Task #: 1005.001, <i>228</i>		Project Name: Connell						
Address: 3093 Broadway, Oakland, CA								
Date: <i>12-19-11</i>		Weather: <i>Clear</i>						
Well Diameter: <i>2'</i>		Volume/ft.	1" = 0.04	3" = 0.37	6" = 1.47			
			2" = 0.16	4" = 0.65	radius <sup>2</sup> * 0.163			
Total Depth (TD): <i>24-33</i>		Depth to Product:						
Depth to Water (DTW): <i>21-46</i>		Product Thickness:						
Water Column Height: <i>2-37</i>		1 Casing Volume:	<i>0.45</i>					gallons
Reference Point: TOC		3 Casing Volumes:	<i>1-5</i>					gallons
Purging Device: <i>Disposable Bailer</i>								
Sampling Device: Disposable Bailer								
Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
<i>1306</i>					<i>0.60</i>		<i>0</i>	
<i>1315</i>	<i>20.2</i>	<i>6.68</i>	<i>634</i>			<i>-80</i>	<i>0.5</i>	
<i>1319</i>	<i>20.1</i>	<i>6.73</i>	<i>649</i>			<i>-75</i>	<i>1.0</i>	
<i>Dewatered at 1 gallon</i>								

Comments:

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Sample ID: <i>MW-4</i>	Sample Time: <i>1340</i>
Laboratory: McCampbell	Sample Date: <i>12-19-11</i>
Containers/Preservative: 3Voa's (HCL), 2 Liters Amber (HCL)	
Analyzed for: TPHg/BTEX/MTBE, TPHg, TPHmo	
Sampler Name: Steve Hunter	Signature: <i>[Signature]</i>

## MONITORING FIELD DATA SHEET

Well ID: *MW-6*

Project.Task #: 1005.001, <i>228</i>		Project Name: Connell						
Address: 3093 Broadway, Oakland, CA								
Date: <i>12-19-11</i>		Weather: <i>Clear</i>						
Well Diameter: <i>2"</i>		Volume/ft. 1" = 0.04    3" = 0.37    6" = 1.47 2" = 0.16    4" = 0.65    radius <sup>2</sup> * 0.163						
Total Depth (TD): <i>25.22</i>		Depth to Product: <i>—</i>						
Depth to Water (DTW): <i>25.19</i>		Product Thickness: <i>—</i>						
Water Column Height: <i>0.03</i>		1 Casing Volume: _____ gallons						
Reference Point: TOC		3 Casing Volumes: _____ gallons						
Purging Device:								
Sampling Device: <del>Disposable Bailer</del>								
Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW

Comments: *Fill To Sample*

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Sample ID: <i>MW-6</i>	Sample Time:
Laboratory: <u>McC Campbell</u>	Sample Date:
Containers/Preservative: <del>3Voa's (HCL), 2 Liters Amber (HCL)</del>	
Analyzed for: <del>TPHg/BTEX/MTBE, TPHg, TPHmo</del>	
Sampler Name: Steve Hunter	Signature: <i>[Signature]</i>



## MONITORING FIELD DATA SHEET

Well ID: *MW-14*

Project.Task #: 1005.001 <i>228</i>				Project Name: Connell				
Address: 3093 Broadway, Oakland, CA								
Date: <i>12-20-11</i>				Weather: <i>Clear</i>				
Well Diameter: <i>2"</i>				Volume/ft.	1" = 0.04	3" = 0.37	6" = 1.47	
				2" = 0.16	4" = 0.65	radius <sup>2</sup> * 0.163		
Total Depth (TD): <i>36.68</i>				Depth to Product: <i>—</i>				
Depth to Water (DTW): <i>25.67</i>				Product Thickness: <i>—</i>				
Water Column Height: <i>11.01</i>				1 Casing Volume: <i>1.76</i>		gallons		
Reference Point: TOC				3 Casing Volumes: <i>5.5</i>		gallons		
Purging Device: <i>Disposable bailer</i>								
Sampling Device: Disposable Bailer								
Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
<i>0931</i>					<i>0.73</i>		<i>2</i>	
<i>0937</i>	<i>16.1</i>	<i>6.86</i>	<i>966</i>			<i>-99</i>	<i>4</i>	
<i>0944</i>	<i>18.0</i>	<i>6.78</i>	<i>959</i>			<i>-105</i>	<i>5.5</i>	
<i>0949</i>	<i>18.3</i>	<i>6.79</i>	<i>948</i>			<i>-111</i>		

Comments:

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Sample ID: <i>MW-14</i>		Sample Time: <i>1000</i>	
Laboratory: McCampbell		Sample Date: <i>12-20-11</i>	
Containers/Preservative: 3Voa's (HCL), 2 Liters Amber (HCL)			
Analyzed for: TPHg/BTEX/MTBE, TPHg, TPHmo			
Sampler Name: Steve Hunter		Signature: <i>[Signature]</i>	

## MONITORING FIELD DATA SHEET

Well ID: *MW-15*

Project.Task #: 1005.001		Project Name: Connell						
Address: 3093 Broadway, Oakland, CA								
Date: <i>12-19-11</i>		Weather: <i>Clear</i>						
Well Diameter: <i>2"</i>		Volume/ft. 1" = 0.04    3" = 0.37    6" = 1.47 2" = 0.16    4" = 0.65    radius <sup>2</sup> * 0.163						
Total Depth (TD): <i>35.45</i>		Depth to Product: <i>—</i>						
Depth to Water (DTW): <i>26.18</i>		Product Thickness: <i>—</i>						
Water Column Height: <i>9.27</i>		1 Casing Volume: <i>1.5</i> gallons						
Reference Point: TOC		3 Casing Volumes: <i>4.5</i> gallons						
Purging Device: <i>Disposable Bailer</i>								
Sampling Device: Disposable Bailer								
Time	Temp (°C)	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
<i>1532</i>					<i>0.67</i>		<i>Ø</i>	
<i>1541</i>	<i>17.2</i>	<i>7.02</i>	<i>783</i>			<i>-36</i>		
<i>1547</i>	<i>19.1</i>	<i>6.98</i>	<i>791</i>			<i>-91</i>		
<i>1553</i>	<i>19.3</i>	<i>6.97</i>	<i>799</i>			<i>-79</i>		

Comments:

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Sample ID: <i>MW-15</i>	Sample Time: <i>1605</i>
Laboratory: McCampbell	Sample Date: <i>12-19-11</i>
Containers/Preservative: 3Voa's (HCL), 2 Liters Amber (HCL)	
Analyzed for: TPHg/BTEX/MTBE, TPHg, TPHmo	
Sampler Name: Steve Hunter	Signature: <i>[Signature]</i>

*M*





## MONITORING FIELD DATA SHEET

Well ID: *MW-16B*

Project.Task #: 1005.001				Project Name: Connell				
Address: 3093 Broadway, Oakland, CA								
Date: <i>12-20-11</i>				Weather: <i>Clear</i>				
Well Diameter: <i>2"</i>				Volume/ft.	1" = 0.04	3" = 0.37	6" = 1.47	
					2" = 0.16	4" = 0.65	radius <sup>2</sup> * 0.163	
Total Depth (TD): <i>39.70</i>				Depth to Product:				
Depth to Water (DTW): <i>36.68</i>				Product Thickness:				
Water Column Height: <i>3.02</i>				1 Casing Volume: <i>0.5</i>		gallons		
Reference Point: TOC				3 Casing Volumes: <i>1.5</i>		gallons		
Purging Device: <i>Disposable Bailer</i>								
Sampling Device: Disposable Bailer								
Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
<i>0811</i>					<i>0.73</i>			
<i>0819</i>	<i>19.3</i>	<i>6.66</i>	<i>1019</i>			<i>33</i>	<i>0.5</i>	
<i>0824</i>	<i>19.1</i>	<i>6.07</i>	<i>967</i>			<i>21</i>		
<i>0829</i>	<i>19.0</i>	<i>6.91</i>	<i>993</i>			<i>17</i>		

Comments:

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Sample ID: <i>MW-16B</i>		Sample Time: <i>0840</i>	
Laboratory: McCampbell		Sample Date: <i>12-20-11</i>	
Containers/Preservative: 3Voa's (HCL), 2 Liters Amber (HCL)			
Analyzed for: TPHg/BTEX/MTBE, TPHg, TPHmo			
Sampler Name: Steve Hunter		Signature: <i>[Signature]</i>	



## MONITORING FIELD DATA SHEET

Well ID: *MW-17A*

Project.Task #: 1005.001				Project Name: Connell				
Address: 3093 Broadway, Oakland, CA								
Date: <i>12-20-11</i>				Weather: <i>Clear</i>				
Well Diameter: <i>2"</i>		Volume/ft.		1" = 0.04	3" = 0.37	6" = 1.47		
				2" = 0.16	4" = 0.65	radius <sup>2</sup> * 0.163		
Total Depth (TD): <i>28.58</i>				Depth to Product:				
Depth to Water (DTW): <i>25.52</i>				Product Thickness:				
Water Column Height: <i>3.06</i>				1 Casing Volume: <i>0.5</i>		gallons		
Reference Point: TOC				3 Casing Volumes: <i>1.5</i>		gallons		
Purging Device: <i>disposable bailer</i>								
Sampling Device: Disposable Bailer								
Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
<i>0847</i>					<i>0.32</i>			
<i>0853</i>	<i>15.9</i>	<i>6.91</i>	<i>1125</i>			<i>-61</i>	<i>0.5</i>	
<i>0858</i>	<i>18.1</i>	<i>6.81</i>	<i>1064</i>			<i>-85</i>	<i>1</i>	
<i>0903</i>	<i>18.5</i>	<i>6.79</i>	<i>1032</i>			<i>-91</i>	<i>1.5</i>	

Comments:

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Sample ID: <i>MW-17A</i>		Sample Time: <i>0915</i>	
Laboratory: McCampbell		Sample Date: <i>12-20-11</i>	
Containers/Preservative: 3Voa's (HCL), 2 Liters Amber (HCL)			
Analyzed for: TPHg/BTEX/MTBE, TPHg, TPHmo			
Sampler Name: Steve Hunter		Signature: <i>[Signature]</i>	

**MONITORING FIELD DATA SHEET**

Well ID: *RW-2*

Project.Task #: 1005.001, <i>228</i>		Project Name: Connell						
Address: 3093 Broadway, Oakland, CA								
Date: <i>12-19-11</i>				Weather: <i>Clear</i>				
Well Diameter: <i>2"</i>				Volume/ft.	1" = 0.04	3" = 0.37	6" = 1.47	
				2" = 0.16	4" = 0.65	radius <sup>2</sup> * 0.163		
Total Depth (TD): <i>29.48</i>				Depth to Product: <i>—</i>				
Depth to Water (DTW): <i>19.71</i>				Product Thickness: <i>—</i>				
Water Column Height: <i>9.79</i>				1 Casing Volume: <i>1.5</i>		gallons		
Reference Point: TOC				3 Casing Volumes: <i>4.5</i>		gallons		
Purging Device: <i>Disposable Bailer</i>								
Sampling Device: Disposable Bailer								
Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
<i>1358</i>					<i>0.42</i>		<i>9</i>	
<i>1406</i>	<i>21.2</i>	<i>6.60</i>	<i>897</i>			<i>-84</i>	<i>1.5</i>	
<i>1413</i>	<i>21.3</i>	<i>6.54</i>	<i>903</i>			<i>-92</i>	<i>3</i>	
<i>1422</i>	<i>21.1</i>	<i>6.49</i>	<i>911</i>			<i>-97</i>	<i>4.5</i>	

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Sample ID: <i>RW-2</i>	Sample Time: <i>1430</i>
Laboratory: McCampbell	Sample Date: <i>12-19-11</i>
Containers/Preservative: 3Voa's (HCL), 2 Liters Amber (HCL)	
Analyzed for: TPHg/BTEX/MTBE, TPHg, TPHmo	
Sampler Name: Steve Hunter	Signature: <i>[Signature]</i>

## MONITORING FIELD DATA SHEET

Well ID: *RW-3A*

Project.Task #: 1005.001 <i>228</i>		Project Name: Connell						
Address: 3093 Broadway, Oakland, CA								
Date: <i>12-19-11</i>		Weather: <i>Clear</i>						
Well Diameter: <i>4"</i>		Volume/ft. 1" = 0.04    3" = 0.37    6" = 1.47 2" = 0.16    4" = 0.65    radius <sup>2</sup> * 0.163						
Total Depth (TD): <i>25.58</i>		Depth to Product:						
Depth to Water (DTW): <i>18.37</i>		Product Thickness:						
Water Column Height: <i>7.21</i>		1 Casing Volume: <i>5</i> gallons						
Reference Point: TOC		3 Casing Volumes: <i>15</i> gallons						
Purging Device: <i>Submersible pump</i>								
Sampling Device: Disposable Bailer								
Time	Temp (°C)	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
<i>1446</i>					<i>0.43</i>		<i>0</i>	
<i>1455</i>	<i>19.9</i>	<i>6.95</i>	<i>1230</i>			<i>-94</i>	<i>5</i>	
<i>1458</i>	<i>19.6</i>	<i>6.93</i>	<i>1196</i>			<i>-87</i>	<i>10</i>	
<i>1501</i>	<i>19.5</i>	<i>6.91</i>	<i>1213</i>			<i>-86</i>	<i>15</i>	

Comments:

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Sample ID: <i>RW-3A</i>	Sample Time: <i>1515</i>
Laboratory: McCampbell	Sample Date: <i>12-19-11</i>
Containers/Preservative: 3Voa's (HCL), 2 Liters Amber (HCL)	
Analyzed for: TPHg/BTEX/MTBE, TPHg, TPHmo	
Sampler Name: Steve Hunter	Signature: <i>[Signature]</i>



## MONITORING FIELD DATA SHEET

Well ID: *RW-4*

Project.Task #: 1005.001, <i>228</i>				Project Name: Connell				
Address: 3093 Broadway, Oakland, CA								
Date: <i>12-20-11</i>				Weather: <i>Clear</i>				
Well Diameter: <i>4"</i>		Volume/ft.		1" = 0.04		3" = 0.37		
				2" = 0.16		4" = 0.65		
				radius <sup>2</sup> * 0.163				
Total Depth (TD): <i>28.12</i>				Depth to Product:				
Depth to Water (DTW): <i>25.80</i>				Product Thickness:				
Water Column Height: <i>2.32</i>				1 Casing Volume: <i>1.5</i>		gallons		
Reference Point: TOC				3 Casing Volumes: <i>4.5</i>		gallons		
Purging Device: <i>Disposable Bailer</i>								
Sampling Device: Disposable Bailer								
Time	Temp (°C)	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
<i>1210</i>					<i>0.62</i>		<i>0</i>	
<i>1216</i>	<i>21.9</i>	<i>6.93</i>	<i>962</i>			<i>-81</i>	<i>1.5</i>	
<i>1220</i>	<i>20.7</i>	<i>6.87</i>	<i>953</i>			<i>-90</i>	<i>3</i>	
<i>1225</i>	<i>20.3</i>	<i>6.83</i>	<i>947</i>			<i>-95</i>	<i>4.5</i>	

Comments:

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Sample ID: <i>RW-4</i>		Sample Time: <i>1235</i>	
Laboratory: McCampbell		Sample Date: <i>12-20-11</i>	
Containers/Preservative: 3Voa's (HCL), 2 Liters Amber (HCL)			
Analyzed for: TPHg/BTEX/MTBE, TPHg, TPHmo			
Sampler Name: Steve Hunter		Signature: <i>[Signature]</i>	

## MONITORING FIELD DATA SHEET

Well ID: *RW-5*

Project.Task #: 1005.001. <i>228</i>				Project Name: Connell				
Address: 3093 Broadway, Oakland, CA								
Date: <i>12-20-11</i>				Weather: <i>Clear</i>				
Well Diameter: <i>4"</i>				Volume/ft.	1" = 0.04	3" = 0.37	6" = 1.47	
				2" = 0.16	4" = 0.65	radius <sup>2</sup> * 0.163		
Total Depth (TD): <i>32.91</i>				Depth to Product:				
Depth to Water (DTW): <i>26.32</i>				Product Thickness:				
Water Column Height: <i>6.59</i>				1 Casing Volume: <i>4.28</i>		gallons		
Reference Point: TOC				3 Casing Volumes: <i>13</i>		gallons		
Purging Device: <i>Submersible pump</i>								
Sampling Device: Disposable Bailer								
Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
<i>1131</i>					<i>0.63</i>		<i>0</i>	
<i>1142</i>	<i>17.6</i>	<i>7.21</i>	<i>1131</i>			<i>-63</i>	<i>4</i>	
<i>1144</i>	<i>18.1</i>	<i>6.95</i>	<i>1076</i>			<i>-67</i>	<i>8</i>	
<i>1147</i>	<i>18.3</i>	<i>6.91</i>	<i>1059</i>			<i>-62</i>	<i>12</i>	

Comments:

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Sample ID: <i>RW-5</i>		Sample Time: <i>1158</i>	
Laboratory: McCampbell		Sample Date: <i>12-20-11</i>	
Containers/Preservative: 3Voa's (HCL), 2 Liters Amber (HCL)			
Analyzed for: TPHg/BTEX/MTBE, TPHg, TPHmo			
Sampler Name: Steve Hunter		Signature: <i>[Signature]</i>	

## MONITORING FIELD DATA SHEET

Well ID: VE-1

Project.Task #: 1005.001 <i>.278</i>				Project Name: Connell				
Address: 3093 Broadway, Oakland, CA								
Date: <i>12-20-11</i>				Weather: <i>Clear</i>				
Well Diameter: <i>4"</i>				Volume/ft.	1" = 0.04	3" = 0.37	6" = 1.47	
					2" = 0.16	4" = 0.65	radius <sup>2</sup> * 0.163	
Total Depth (TD): <i>34.42</i>				Depth to Product:				
Depth to Water (DTW): <i>33.38</i>				Product Thickness:				
Water Column Height: <i>1.04</i>				1 Casing Volume: <i>0.67</i>		gallons		
Reference Point: TOC				3 Casing Volumes: <i>2</i>		gallons		
Purging Device: <i>Disposable Bailer</i>								
Sampling Device: Disposable Bailer								
Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
<i>1011</i>					<i>0.62</i>			
<i>1018</i>	<i>16.9</i>	<i>6.57</i>	<i>949</i>			<i>-25</i>	<i>1</i>	
<i>1021</i>	<i>17.3</i>	<i>6.61</i>	<i>949</i>			<i>-30</i>	<i>1.5</i>	
<i>1026</i>	<i>17.5</i>	<i>6.63</i>	<i>953</i>			<i>-33</i>	<i>2</i>	

Comments:

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Sample ID: <i>VE-1</i>	Sample Time: <i>1025</i>
Laboratory: McCampbell	Sample Date: <i>12-20-11</i>
Containers/Preservative: 3Voa's (HCL), 2 Liters Amber (HCL)	
Analyzed for: TPHg/BTEX/MTBE, TPHg, TPHmo	
Sampler Name: Steve Hunter	Signature: <i>Steve Hunter</i>



## MONITORING FIELD DATA SHEET

Well ID: *MW-6*

Project.Task #: 1005.001				Project Name: Connell				
Address: 3093 Broadway, Oakland, CA								
Date: <i>2-7-12</i>				Weather: <i>Clear</i>				
Well Diameter:				Volume/ft.	1" = 0.04	3" = 0.37	6" = 1.47	
				2" = 0.16	4" = 0.65	radius <sup>2</sup> * 0.163		
Total Depth (TD): <i>25.04</i>				Depth to Product:				
Depth to Water (DTW):				Product Thickness:				
Water Column Height:				1 Casing Volume: _____ gallons				
Reference Point: TOC				3 Casing Volumes: _____ gallons				
Purging Device: _____								
Sampling Device: <del>Disposable Bailer</del>								
Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW

Comments: *Check TWD.*

Sample ID: <i>MW-6</i>		Sample Time:	
Laboratory: McCampbell		<del>Sample</del> Date: <i>2-7-12</i>	
Containers/Preservative: <del>3</del> <i>3</i> Vials (HCL), <del>2</del> <i>2</i> Liters Amber (HCL)			
Analyzed for: <del>TPHg/BTEX/MTBE, TPHg, TPHmo</del>			
Sampler Name: Steve Hunter		Signature: <i>[Signature]</i>	

## MONITORING FIELD DATA SHEET

Well ID: *MW-16A*

Project.Task #: 1005.001				Project Name: Connell				
Address: 3093 Broadway, Oakland, CA								
Date: <i>2-7-12</i>				Weather: <i>Clear</i>				
Well Diameter: <i>2"</i>				Volume/ft.	1" = 0.04	3" = 0.37	6" = 1.47	
				2" = 0.16	4" = 0.65	radius <sup>2</sup> * 0.163		
Total Depth (TD):				Depth to Product:				
Depth to Water (DTW):				Product Thickness:				
Water Column Height:				1 Casing Volume:			gallons	
Reference Point: TOC				3 Casing Volumes:			gallons	
Purging Device: <i>Disposable bawler</i>								
Sampling Device: <del>Disposable Bailer</del>								
Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW

Comments: *Bawler in well to visually inspect well. Odor present and slight sheen in purge water. No measurable product.*

Sample ID: <i>MW-16A</i>	<del>Sample Time:</del> <i>0900</i>
Laboratory: McCampbell	<del>Sample Date:</del> <i>2-7-12</i>
Containers/Preservative: <del>3Vols (HCL), 2 Liters Amber (HCL)</del>	
Analyzed for: <del>TPHg/BTEX/MTBE, TPHg, TPHmo</del>	
Sampler Name: Steve Hunter	Signature: <i>[Signature]</i>



## **APPENDIX C**

Laboratory Analytical Report



## Analytical Report

Pangea Environmental Svcs., Inc.  1710 Franklin Street, Ste. 200  Oakland, CA 94612	Client Project ID: Connell Auto	Date Sampled: 12/19/11-12/20/11
		Date Received: 12/21/11
	Client Contact: Tina De La Fuente	Date Reported: 12/28/11
	Client P.O.: 3093 Broadway, Oakland, CA	Date Completed: 12/28/11

**WorkOrder: 1112637**

December 28, 2011

Dear Tina:

Enclosed within are:

- 1) The results of the **11** analyzed samples from your project: **Connell Auto**,
- 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 McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius  
Laboratory Manager  
McC Campbell Analytical, Inc.

*The analytical results relate only to the items tested.*



# McC Campbell Analytical, Inc.



1534 Willow Pass Rd  
 Pittsburg, CA 94565-1701  
 (925) 252-9262

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1112637

ClientCode: PEO

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  Fax   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

**Report to:**

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

Email: tdelafuente@pangeaenv.com  
 cc:  
 PO: 3093 Broadway, Oakland, CA  
 ProjectNo: Connell Auto

**Bill to:**

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

**Requested TAT:**

**5 days**

**Date Received: 12/21/2011**

**Date Printed: 12/21/2011**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1112637-001	MW-1	Water	12/20/2011 11:15	<input type="checkbox"/>	A	A	B										
1112637-002	MW-4	Water	12/19/2011 13:40	<input type="checkbox"/>	A		B										
1112637-003	MW-14	Water	12/20/2011 10:00	<input type="checkbox"/>	A		B										
1112637-004	MW-15	Water	12/19/2011 16:05	<input type="checkbox"/>	A		B										
1112637-005	MW-16B	Water	12/20/2011 8:40	<input type="checkbox"/>	A		B										
1112637-006	MW-17A	Water	12/20/2011 9:15	<input type="checkbox"/>	A		B										
1112637-007	RW-4	Water	12/20/2011 12:35	<input type="checkbox"/>	A		B										
1112637-008	RW-2	Water	12/19/2011 14:30	<input type="checkbox"/>	A		B										
1112637-009	RW-3A	Water	12/19/2011 15:15	<input type="checkbox"/>	A		B										
1112637-010	RW-5	Water	12/20/2011 11:58	<input type="checkbox"/>	A		B										
1112637-011	VE-1	Water	12/20/2011 10:25	<input type="checkbox"/>	A		B										

**Test Legend:**

1	G-MBTX_W	2	PREFD REPORT	3	TPH(DMO)WSG_W	4		5	
6		7		8		9		10	
11		12							

**Prepared by: Melissa Valles**

**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.



### Sample Receipt Checklist

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

Date and Time Received: **12/21/2011 5:02:35 PM**

Project Name: **Connell Auto**

Checklist completed and reviewed by: **Melissa Valles**

WorkOrder N°: **1112637** Matrix: Water

Carrier: Rob Pringle (MAI Courier)

#### Chain of Custody (COC) Information

Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Sample IDs noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Date and Time of collection noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Sampler's name noted on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

#### Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper containers/bottles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

#### Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature	Cooler Temp: 2.2°C		NA <input type="checkbox"/>
Water - VOA vials have zero headspace / no bubbles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Sample labels checked for correct preservation?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Metal - pH acceptable upon receipt (pH<2)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Samples Received on Ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

(Ice Type: WET ICE )

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

-----  
 Comments:



Pangea Environmental Svcs., Inc.  1710 Franklin Street, Ste. 200  Oakland, CA 94612	Client Project ID: Connell Auto	Date Sampled: 12/19/11-12/20/11
		Date Received: 12/21/11
	Client Contact: Tina De La Fuente	Date Extracted: 12/22/11-12/24/11
	Client P.O.: 3093 Broadway, Oakland,	Date Analyzed: 12/22/11-12/24/11

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

Extraction method: SW5030B

Analytical methods: SW8021B/8015Bm

Work Order: 1112637

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	MW-1	W	63,000	ND<1000	5000	9700	1300	11,000	200	105	d1,b6,b1
002A	MW-4	W	150,000	ND<2,000	8000	27,000	3200	22,000	200	105	d1,b6
003A	MW-14	W	14,000	ND<300	1400	2600	220	2100	20	113	d1,b6,b1
004A	MW-15	W	36,000	ND<1000	4000	4100	770	4600	200	110	d1,b1
005A	MW-16B	W	15,000	ND<170	3900	1000	140	740	33	112	d1
006A	MW-17A	W	91,000	ND<1,500	4100	16,000	2000	15,000	100	114	d1,b6,b1
007A	RW-4	W	75,000	ND<1000	1200	8800	1400	13,000	200	109	d1,b6
008A	RW-2	W	77,000	ND<2100	11,000	11,000	1400	12,000	200	107	d1,b1
009A	RW-3A	W	41,000	ND<750	3000	2700	89	6500	50	117	d1,b6
010A	RW-5	W	6700	ND<120	350	880	93	980	10	107	d1
011A	VE-1	W	90,000	ND<1000	9700	18,000	1400	14,000	200	110	d1,b6,b1

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

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples 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 McC Campbell Analytical is not responsible for their interpretation:

- b1) aqueous sample that contains greater than ~1 vol. % sediment
- b6) lighter than water immiscible sheen/product is present
- d1) weakly modified or unmodified gasoline is significant





**McC Campbell 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.mcccampbell.com / E-mail: main@mcccampbell.com

Pangea Environmental Svcs., Inc.  1710 Franklin Street, Ste. 200  Oakland, CA 94612	Client Project ID: Connell Auto	Date Sampled: 12/19/11-12/20/11
		Date Received: 12/21/11
	Client Contact: Tina De La Fuente	Date Extracted: 12/21/11
	Client P.O.: 3093 Broadway, Oakland, C	Date Analyzed: 12/22/11-12/28/11

**Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up\***

Extraction method: SW3510C/3630C

Analytical methods: SW8015B

Work Order: 1112637

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	TPH-Motor Oil (C18-C36)	DF	% SS	Comments
1112637-001B	MW-1	W	240,000	95,000	20	128	e4,e1,b6,b1
1112637-002B	MW-4	W	220,000	ND<5000	20	---#	e4,e2,b6
1112637-003B	MW-14	W	2800	1800	2	94	e4,e7,e2,b6,b1
1112637-004B	MW-15	W	14,000	1600	2	106	e4,e7,e2,b1
1112637-005B	MW-16B	W	720	590	1	87	e4,e7,e2
1112637-006B	MW-17A	W	66,000	ND<1,300	5	107	e4,e2,b6,b1
1112637-007B	RW-4	W	38,000	ND<2500	10	118	e4,e2,b6
1112637-008B	RW-2	W	8200	420	1	88	e4,e2,b1
1112637-009B	RW-3A	W	71,000	35,000	20	119	e4,e7,e2,b6
1112637-010B	RW-5	W	3100	270	1	123	e4,e7,e2
1112637-011B	VE-1	W	410,000	420,000	500	---#	e7,e4,e2,b6,b1

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	250	µg/L
	S	NA	NA	mg/Kg

\* 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; &) low or no surrogate 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 McC Campbell Analytical is not responsible for their interpretation:

- b1) aqueous sample that contains greater than ~1 vol. % sediment
- b6) lighter than water immiscible sheen/product is present
- e1) unmodified or weakly modified diesel is significant
- e2) diesel range compounds are significant; no recognizable pattern
- e4) gasoline range compounds are significant.
- e7) oil range compounds are significant



**QC SUMMARY REPORT FOR SW8021B/8015Bm**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 63553

WorkOrder: 1112637

EPA Method: SW8021B/8015Bm		Extraction: SW5030B					Spiked Sample ID: 1112615-007A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS	
TPH(btex) <sup>£</sup>	ND	60	119	114	3.84	126	70 - 130	20	70 - 130	
MTBE	ND	10	85.4	83	2.78	82.4	70 - 130	20	70 - 130	
Benzene	ND	10	107	100	6.38	106	70 - 130	20	70 - 130	
Toluene	ND	10	108	100	7.75	106	70 - 130	20	70 - 130	
Ethylbenzene	ND	10	108	101	6.35	107	70 - 130	20	70 - 130	
Xylenes	ND	30	111	104	6.95	111	70 - 130	20	70 - 130	
%SS:	104	10	97	98	0.303	97	70 - 130	20	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 63553 SUMMARY**

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1112637-001A	12/20/11 11:15 AM	12/22/11	12/22/11 4:08 PM	1112637-002A	12/19/11 1:40 PM	12/22/11	12/22/11 4:38 PM
1112637-003A	12/20/11 10:00 AM	12/23/11	12/23/11 10:43 PM	1112637-004A	12/19/11 4:05 PM	12/22/11	12/22/11 5:38 PM
1112637-005A	12/20/11 8:40 AM	12/23/11	12/23/11 11:13 PM	1112637-006A	12/20/11 9:15 AM	12/23/11	12/23/11 11:43 PM
1112637-007A	12/20/11 12:35 PM	12/23/11	12/23/11 12:07 AM	1112637-008A	12/19/11 2:30 PM	12/23/11	12/23/11 12:36 AM
1112637-009A	12/19/11 3:15 PM	12/24/11	12/24/11 2:11 AM	1112637-010A	12/20/11 11:58 AM	12/24/11	12/24/11 2:41 AM
1112637-011A	12/20/11 10:25 AM	12/23/11	12/23/11 4:04 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 $\% \text{ Recovery} = 100 * (\text{MS-Sample}) / (\text{Amount Spiked}); \text{RPD} = 100 * (\text{MS} - \text{MSD}) / ((\text{MS} + \text{MSD}) / 2).$   
 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.





**QC SUMMARY REPORT FOR SW8015B**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 63586

WorkOrder: 1112637

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	117	N/A	N/A	70 - 130	
%SS:	N/A	625	N/A	N/A	N/A	93	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 63586 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1112637-001B	12/20/11 11:15 AM	12/21/11	12/22/11 9:55 AM	1112637-002B	12/19/11 1:40 PM	12/21/11	12/28/11 12:04 PM
1112637-003B	12/20/11 10:00 AM	12/21/11	12/22/11 3:59 AM	1112637-004B	12/19/11 4:05 PM	12/21/11	12/22/11 2:48 AM
1112637-005B	12/20/11 8:40 AM	12/21/11	12/22/11 2:37 PM	1112637-006B	12/20/11 9:15 AM	12/21/11	12/23/11 2:13 AM
1112637-007B	12/20/11 12:35 PM	12/21/11	12/27/11 3:20 PM	1112637-008B	12/19/11 2:30 PM	12/21/11	12/22/11 8:01 AM
1112637-009B	12/19/11 3:15 PM	12/21/11	12/22/11 2:48 AM	1112637-010B	12/20/11 11:58 AM	12/21/11	12/22/11 3:59 AM
1112637-011B	12/20/11 10:25 AM	12/21/11	12/23/11 3:20 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 % Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).  
 MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.  
 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.



## Analytical Report

Pangea Environmental Svcs., Inc.  1710 Franklin Street, Ste. 200  Oakland, CA 94612	Client Project ID: #1005.001; Connell Auto	Date Sampled: 12/22/11
		Date Received: 12/23/11
	Client Contact: Tina De La Fuente	Date Reported: 12/29/11
	Client P.O.: #3093 Broadway, Oakland, CA	Date Completed: 12/27/11

**WorkOrder: 1112711**

December 29, 2011

Dear Tina:

Enclosed within are:

- 1) The results of the **1** analyzed sample from your project: **#1005.001; Connell Auto,**
- 2) QC data for the above sample, 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

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius  
 Laboratory Manager  
 McC Campbell Analytical, Inc.

*The analytical results relate only to the items tested.*



**McC Campbell Analytical, Inc.**



1534 Willow Pass Rd  
 Pittsburg, CA 94565-1701  
 (925) 252-9262

**CHAIN-OF-CUSTODY RECORD**

**WorkOrder: 1112711**

**ClientCode: PEO**

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

**Report to:**

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

Email: tdelafuente@pangeaenv.com  
 cc:  
 PO: #3093 Broadway, Oakland, CA  
 ProjectNo: #1005.001; Connell Auto

**Bill to:**

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

**Requested TAT:**

**5 days**

*Date Received: 12/23/2011*

*Date Printed: 12/23/2011*

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)													
					1	2	3	4	5	6	7	8	9	10	11	12		
1112711-001	INF-V	Air	12/22/2011 11:10	<input type="checkbox"/>	A													

**Test Legend:**

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

The following SampID: 001A contains testgroup.

**Prepared by: Ana Venegas**

**Comments:**

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



### Sample Receipt Checklist

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

Date and Time Received: **12/23/2011 3:06:09 PM**

Project Name: **#1005.001; Connell Auto**

Checklist completed and reviewed by: **Ana Venegas**

WorkOrder N°: **1112711** Matrix: Air

Carrier: Derik Cartan (MAI Courier)

#### Chain of Custody (COC) Information

Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Sample IDs noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Date and Time of collection noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Sampler's name noted on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

#### Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper containers/bottles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

#### Sample Preservation and Hold Time (HT) Information

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

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

-----  
 Comments:









**QC SUMMARY REPORT FOR SW8021B/8015Bm**

W.O. Sample Matrix: Air

QC Matrix: Water

BatchID: 63655

WorkOrder: 1112711

EPA Method: SW8021B/8015Bm		Extraction: SW5030B					Spiked Sample ID: 1112710-003A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS	
TPH(btex) <sup>£</sup>	ND	60	107	110	3.45	112	70 - 130	20	70 - 130	
MTBE	ND	10	94.3	96	1.87	96.9	70 - 130	20	70 - 130	
Benzene	ND	10	91.4	89.8	1.82	100	70 - 130	20	70 - 130	
Toluene	ND	10	88.9	87.1	2.09	101	70 - 130	20	70 - 130	
Ethylbenzene	ND	10	89.3	88	1.46	97.8	70 - 130	20	70 - 130	
Xylenes	ND	30	92.2	91.6	0.677	101	70 - 130	20	70 - 130	
%SS:	101	10	98	95	3.16	104	70 - 130	20	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 63655 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1112711-001A	12/22/11 11:10 AM	12/23/11	12/23/11 6:43 PM	1112711-001A	12/22/11 11:10 AM	12/23/11	12/23/11 6:43 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 % Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).  
 MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.  
 £ TPH(btex) = sum of BTEX areas from the FID.  
 # cluttered chromatogram; sample peak coelutes with surrogate peak.  
 N/A = not enough sample to perform matrix spike and matrix spike duplicate.  
 NR = 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.





## Analytical Report

Pangea Environmental Svcs., Inc.  1710 Franklin Street, Ste. 200  Oakland, CA 94612	Client Project ID: Connell Auto	Date Sampled: 10/05/11
		Date Received: 10/07/11
	Client Contact: Morgan Gillies	Date Reported: 10/12/11
	Client P.O.: 3093 Broadway, Oakland, CA;	Date Completed: 10/12/11

**WorkOrder: 1110266**

October 12, 2011

Dear Morgan:

Enclosed within are:

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

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

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

Best regards,

Angela Rydelius  
 Laboratory Manager  
 McC Campbell Analytical, Inc.

*The analytical results relate only to the items tested.*



**McC Campbell Analytical, Inc.**

1534 Willow Pass Rd  
 Pittsburg, CA 94565-1701  
 (925) 252-9262

**CHAIN-OF-CUSTODY RECORD**

**WorkOrder: 1110266**

**ClientCode: PEO**

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

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

**Email:** mgillies@pangeaenv.com  
**cc:**  
 PO: 3093 Broadway, Oakland, CA;  
 ProjectNo: Connell Auto

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

**Requested TAT:** 5 days  
**Date Received:** 10/07/2011  
**Date Printed:** 10/07/2011

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1110266-001	EFF-W	Water	10/5/2011 11:10	<input type="checkbox"/>	A	A											
1110266-002	MID-W	Water	10/5/2011 11:20	<input type="checkbox"/>	A												
1110266-003	INF-W	Water	10/5/2011 11:30	<input type="checkbox"/>	A												

**Test Legend:**

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

**Prepared by: Melissa Valles**

**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.



### Sample Receipt Checklist

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

Date and Time Received: **10/7/2011 6:24:22 PM**

Project Name: **Connell Auto**

Checklist completed and reviewed by: **Melissa Valles**

WorkOrder N°: **1110266** Matrix: Water

Carrier: Rob Pringle (MAI Courier)

#### Chain of Custody (COC) Information

Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Sample IDs noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Date and Time of collection noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Sampler's name noted on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

#### Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper containers/bottles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

#### Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature	Cooler Temp: 4.4°C		NA <input type="checkbox"/>
Water - VOA vials have zero headspace / no bubbles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Sample labels checked for correct preservation?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Metal - pH acceptable upon receipt (pH<2)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Samples Received on Ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

(Ice Type: WET ICE )

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

-----

Client contacted:

Date contacted:

Contacted by:

Comments:





**QC SUMMARY REPORT FOR SW8021B/8015Bm**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 61772

WorkOrder: 1110266

EPA Method: SW8021B/8015Bm		Extraction: SW5030B							Spiked Sample ID: 1110211-045A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) <sup>£</sup>	ND	60	122	119	1.69	121	114	6.14	70 - 130	20	70 - 130	20
MTBE	ND	10	113	101	11.8	98.7	95.6	3.13	70 - 130	20	70 - 130	20
Benzene	ND	10	103	105	2.33	107	95.7	11.3	70 - 130	20	70 - 130	20
Toluene	ND	10	103	104	1.60	106	95.1	10.8	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	104	107	2.38	108	97	10.4	70 - 130	20	70 - 130	20
Xylenes	ND	30	108	110	2.07	112	101	9.90	70 - 130	20	70 - 130	20
%SS:	102	10	96	97	1.02	97	95	2.44	70 - 130	20	70 - 130	20

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

BATCH 61772 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1110266-001A	10/05/11 11:10 AM	10/11/11	10/11/11 5:32 AM	1110266-002A	10/05/11 11:20 AM	10/11/11	10/11/11 6:03 AM
1110266-003A	10/05/11 11:30 AM	10/12/11	10/12/11 1:37 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.





## Analytical Report

Pangea Environmental Svcs., Inc.  1710 Franklin Street, Ste. 200  Oakland, CA 94612	Client Project ID: #1005.001; Connell Auto	Date Sampled: 09/22/11
		Date Received: 09/23/11
	Client Contact: Morgan Gillies	Date Reported: 09/29/11
	Client P.O.:	Date Completed: 09/26/11

**WorkOrder: 1109668**

September 29, 2011

Dear Morgan:

Enclosed within are:

- 1) The results of the **1** analyzed sample from your project: **#1005.001; Connell Auto**,
- 2) A QC report for the above sample,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

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

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

Best regards,

Angela Rydelius  
Laboratory Manager  
McC Campbell Analytical, Inc.

*The analytical results relate only to the items tested.*





**McC Campbell Analytical, Inc.**

1534 Willow Pass Rd  
 Pittsburg, CA 94565-1701  
 (925) 252-9262

**CHAIN-OF-CUSTODY RECORD**

**WorkOrder: 1109668**

**ClientCode: PEO**

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

**Report to:**

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

Email: mgillies@pangeaenv.com  
 cc:  
 PO:  
 ProjectNo: #1005.001; Connell Auto

**Bill to:**

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

**Requested TAT: 5 days**

**Date Received: 09/23/2011**

**Date Printed: 09/23/2011**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1109668-001	INF-V	Air	9/22/2011 14:15	<input type="checkbox"/>	A	A											

**Test Legend:**

1	G-MBTX_AIR	2	PREFD REPORT	3		4		5	
6		7		8		9		10	
11		12							

The following SampID: 001A contains testgroup.

**Prepared by: Ana Venegas**

**Comments:**

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



### Sample Receipt Checklist

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

Date and Time Received: **9/23/2011 5:40:47 PM**

Project Name: **#1005.001; Connell Auto**

Checklist completed and reviewed by: **Ana Venegas**

WorkOrder N°: **1109668** Matrix: Air

Carrier: Rob Pringle (MAI Courier)

#### Chain of Custody (COC) Information

Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Sample IDs noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Date and Time of collection noted by Client on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Sampler's name noted on COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

#### Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper containers/bottles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

#### Sample Preservation and Hold Time (HT) Information

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

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

-----

Client contacted:

Date contacted:

Contacted by:

Comments:







**QC SUMMARY REPORT FOR SW8021B/8015Bm**

W.O. Sample Matrix: Air

QC Matrix: Water

BatchID: 61407

WorkOrder: 1109668

EPA Method: SW8021B/8015Bm		Extraction: SW5030B							Spiked Sample ID: 1109677-007B			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) <sup>£</sup>	ND	60	117	99.5	16.0	99.3	102	2.48	70 - 130	20	70 - 130	20
MTBE	ND	10	100	101	0.182	104	103	0.936	70 - 130	20	70 - 130	20
Benzene	0.59	10	83.7	84.7	1.07	104	107	2.63	70 - 130	20	70 - 130	20
Toluene	ND	10	87	87.6	0.746	95.1	90.7	4.74	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	91.2	90.1	1.16	95.8	91.7	4.47	70 - 130	20	70 - 130	20
Xylenes	ND	30	94.1	93.2	1.01	98	95	3.15	70 - 130	20	70 - 130	20
%SS:	103	10	97	98	1.23	102	97	5.02	70 - 130	20	70 - 130	20

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

BATCH 61407 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1109668-001A	09/22/11 2:15 PM	09/24/11	09/24/11 4:25 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 % Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).  
 MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.  
 £ TPH(btex) = sum of BTEX areas from the FID.  
 # cluttered chromatogram; sample peak coelutes with surrogate peak.  
 N/A = not enough sample to perform matrix spike and matrix spike duplicate.  
 NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



## Analytical Report

Pangea Environmental Svcs., Inc.  1710 Franklin Street, Ste. 200  Oakland, CA 94612	Client Project ID: #1005.001; Connell Auto	Date Sampled: 08/01/11
		Date Received: 08/02/11
	Client Contact: Morgan Gillies	Date Reported: 08/05/11
	Client P.O.:	Date Completed: 08/04/11

**WorkOrder: 1108067**

August 05, 2011

Dear Morgan:

Enclosed within are:

- 1) The results of the **1** analyzed sample from your project: **#1005.001; Connell Auto,**
- 2) A QC report for the above sample,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

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

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

Best regards,

Angela Rydelius  
Laboratory Manager  
McC Campbell Analytical, Inc.

*The analytical results relate only to the items tested.*





**McC Campbell Analytical, Inc.**



1534 Willow Pass Rd  
 Pittsburg, CA 94565-1701  
 (925) 252-9262

**CHAIN-OF-CUSTODY RECORD**

**WorkOrder: 1108067**

**ClientCode: PEO**

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  Fax   
 Email   
 HardCopy   
 ThirdParty   
 J-flag

**Report to:**

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

Email: mgillies@pangeaenv.com  
 cc:  
 PO:  
 ProjectNo: #1005.001; Connell Auto

**Bill to:**

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

**Requested TAT:**

**5 days**

*Date Received:* **08/02/2011**

*Date Printed:* **08/02/2011**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)													
					1	2	3	4	5	6	7	8	9	10	11	12		
1108067-001	INF-V	Air	8/1/2011 10:30	<input type="checkbox"/>	A													

**Test Legend:**

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

The following SampID: 001A contains testgroup.

**Prepared by: Ana Venegas**

**Comments:**

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



### Sample Receipt Checklist

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

Date and Time Received: **8/2/2011 8:02:07 PM**

Project Name: **#1005.001; Connell Auto**

Checklist completed and reviewed by: **Ana Venegas**

WorkOrder N°: **1108067** Matrix: Air

Carrier: Rob Pringle (MAI Courier)

#### Chain of Custody (COC) Information

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

#### Sample Receipt Information

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

#### Sample Preservation and Hold Time (HT) Information

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

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

-----

Client contacted:

Date contacted:

Contacted by:

Comments:







**QC SUMMARY REPORT FOR SW8021B/8015Bm**

W.O. Sample Matrix: Air

QC Matrix: Water

BatchID: 60133

WorkOrder: 1108067

EPA Method: SW8021B/8015Bm		Extraction: SW5030B							Spiked Sample ID: 1108045-001A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) £	ND	60	105	107	1.69	106	105	1.50	70 - 130	20	70 - 130	20
MTBE	ND	10	99	102	2.68	95.9	98.5	2.63	70 - 130	20	70 - 130	20
Benzene	ND	10	98.5	99.9	1.40	98.9	98.8	0.0751	70 - 130	20	70 - 130	20
Toluene	ND	10	98.9	100	1.15	99.4	98.9	0.482	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	97.8	99.2	1.46	98	98	0	70 - 130	20	70 - 130	20
Xylenes	ND	30	101	101	0	100	101	0.574	70 - 130	20	70 - 130	20
%SS:	100	10	98	99	0.489	99	98	0.672	70 - 130	20	70 - 130	20

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

BATCH 60133 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1108067-001A	08/01/11 10:30 AM	08/03/11	08/03/11 12:26 PM	1108067-001A	08/01/11 10:30 AM	08/03/11	08/03/11 12:26 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 % Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).  
 MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.  
 £ TPH(btex) = sum of BTEX areas from the FID.  
 # cluttered chromatogram; sample peak coelutes with surrogate peak.  
 N/A = not enough sample to perform matrix spike and matrix spike duplicate.  
 NR = 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.



# Analytical Report

Pangea Environmental Svcs., Inc.  1710 Franklin Street, Ste. 200  Oakland, CA 94612	Client Project ID: #1005.001; Connell Auto	Date Sampled: 07/14/11
		Date Received: 07/15/11
	Client Contact: Morgan Gillies	Date Reported: 07/21/11
	Client P.O.:	Date Completed: 07/18/11

**WorkOrder: 1107402**

July 21, 2011

Dear Morgan:

Enclosed within are:

- 1) The results of the **1** analyzed sample from your project: **#1005.001; Connell Auto,**
- 2) A QC report for the above sample,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

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

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

Best regards,

Angela Rydelius  
Laboratory Manager  
McC Campbell Analytical, Inc.

*The analytical results relate only to the items tested.*





**McC Campbell Analytical, Inc.**



1534 Willow Pass Rd  
 Pittsburg, CA 94565-1701  
 (925) 252-9262

**CHAIN-OF-CUSTODY RECORD**

**WorkOrder: 1107402**

**ClientCode: PEO**

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

**Report to:**

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

Email: mgillies@pangeaenv.com  
 cc:  
 PO:  
 ProjectNo: #1005.001; Connell Auto

**Bill to:**

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

**Requested TAT:**

**5 days**

*Date Received:* **07/15/2011**

*Date Printed:* **07/15/2011**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)													
					1	2	3	4	5	6	7	8	9	10	11	12		
1107402-001	INF-V	Air	7/14/2011 16:00	<input type="checkbox"/>	A													

**Test Legend:**

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

The following SampID: 001A contains testgroup.

**Prepared by: Rosa 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.



### Sample Receipt Checklist

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

Date and Time Received: **7/15/2011 5:15:59 PM**

Project Name: **#1005.001; Connell Auto**

Checklist completed and reviewed by: **Rosa Venegas**

WorkOrder N°: **1107402** Matrix: Air

Carrier: Rob Pringle (MAI Courier)

#### Chain of Custody (COC) Information

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

#### Sample Receipt Information

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

#### Sample Preservation and Hold Time (HT) Information

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

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

-----

Client contacted:

Date contacted:

Contacted by:

Comments:







**QC SUMMARY REPORT FOR SW8021B/8015Bm**

W.O. Sample Matrix: Air

QC Matrix: Water

BatchID: 59769

WorkOrder: 1107402

EPA Method: SW8021B/8015Bm		Extraction: SW5030B							Spiked Sample ID: 1107407-001A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) £	ND	60	120	123	2.01	119	118	0.612	70 - 130	20	70 - 130	20
MTBE	ND	10	123	115	6.74	100	107	6.95	70 - 130	20	70 - 130	20
Benzene	ND	10	90.7	93.2	2.76	92.9	88.7	4.59	70 - 130	20	70 - 130	20
Toluene	ND	10	88.6	90.6	2.22	91.2	87.4	4.27	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	90	91.4	1.56	92.4	88.5	4.34	70 - 130	20	70 - 130	20
Xylenes	ND	30	89.7	91.3	1.75	92.9	89.9	3.30	70 - 130	20	70 - 130	20
%SS:	104	10	88	92	4.41	93	87	5.86	70 - 130	20	70 - 130	20

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

BATCH 59769 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1107402-001A	07/14/11 4:00 PM	07/15/11	07/15/11 6:50 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 % Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).  
 MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.  
 £ TPH(btex) = sum of BTEX areas from the FID.  
 # cluttered chromatogram; sample peak coelutes with surrogate peak.  
 N/A = not enough sample to perform matrix spike and matrix spike duplicate.  
 NR = 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.



# Analytical Report

Pangea Environmental Svcs., Inc.  1710 Franklin Street, Ste. 200  Oakland, CA 94612	Client Project ID: #1005.001; 3093 Broadway, Oakland	Date Sampled: 07/06/11-07/07/11
		Date Received: 07/07/11
	Client Contact: Morgan Gillies	Date Reported: 07/12/11
	Client P.O.:	Date Completed: 07/11/11

**WorkOrder: 1107138**

July 12, 2011

Dear Morgan:

Enclosed within are:

- 1) The results of the **2** analyzed samples from your project: **#1005.001; 3093 Broadway, Oakland,**
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

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

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

Best regards,

Angela Rydelius  
Laboratory Manager  
McC Campbell Analytical, Inc.

*The analytical results relate only to the items tested.*



**McCAMPBELL ANALYTICAL, INC.**

1534 Willow Pass Road  
Pittsburg, CA 94565

1107138

Website: [www.mccampbell.com](http://www.mccampbell.com) Email: [main@mccampbell.com](mailto:main@mccampbell.com)

Telephone: (925) 252-9262

Fax: (925) 252-9269

**CHAIN OF CUSTODY RECORD**

TURN AROUND TIME

RUSH 24 HR 48 HR 72 HR 5 DAY

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

Report To: Morgan Gillies Bill To: Pangea  
Company: Pangea Environmental Services, Inc.  
1710 Franklin Street, Suite 200, Oakland, CA 94612  
E-Mail: [mgillies@pangeaenv.com](mailto:mgillies@pangeaenv.com)  
Tele: (510) 836-3702 Fax: (510) 836-3709  
Project #: ~~1003-001~~ 1005-001 Project Name: 11687 San Pablo Ave  
Project Location: ~~11687 San Pablo Ave., El Cerrito~~ 3083 Broadway, Oakland  
Sampler Signature:

Analysis Request										Other	Comments							
BTEX & TPH as Gas (602/8020 + 8015)/MTBE	TPH as Diesel (8015) w/ Silica Gel Cleanup	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010 / 8021	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8081	EPA 608 / 8082 PCB's ONLY	EPA 8140 / 8141	EPA 8150 / 8151	EPA 524.2 / 624 / 8260	EPA 525 / 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals (6010 / 6020)	LUFT 5 Metals (6010 / 6020)	Lead (200.8 / 200.9 / 6010)	Five fuel oxygenates by EPA Method 8260	Filter Samples for Metals analysis: Yes / No	

SAMPLE ID	LOCATION (Field Point Name)	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED							
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO <sub>3</sub>	Other				
✓ EFF-W	EFF	7-6-11	1135	3	1/2oz	X					X	X						
✓ MID-W	MID	7-6-11	1150	3	1/2oz	X					X	X						

Relinquished By: *[Signature]* Date: 7/7/11 Time: 1500 Received By: *[Signature]*  
Relinquished By: *[Signature]* Date: 7/2/11 Time: 1616 Received By: *[Signature]*  
Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received By: \_\_\_\_\_

ICER 8.2  
GOOD CONDITION \_\_\_\_\_  
HEAD SPACE ABSENT \_\_\_\_\_  
DECHLORINATED IN LAB \_\_\_\_\_  
APPROPRIATE CONTAINERS \_\_\_\_\_  
PRESERVED IN LAB \_\_\_\_\_  
VOAS O&G METALS OTHER  
PRESERVATION pH<2

**McC Campbell Analytical, Inc.**



1534 Willow Pass Rd  
 Pittsburg, CA 94565-1701  
 (925) 252-9262

**CHAIN-OF-CUSTODY RECORD**

**WorkOrder: 1107138**

**ClientCode: PEO**

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

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

**Email:** mgillies@pangeaenv.com

**ProjectNo:** #1005.001; 3093 Broadway, Oakland

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

**Requested TAT:** 5 days

**Date Received:** 07/07/2011  
**Date Printed:** 07/08/2011

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1107138-001	EFF-W	Water	7/6/2011 11:35	<input type="checkbox"/>	A	A											
1107138-002	MID-W	Water	7/7/2011 11:50	<input type="checkbox"/>	A												

**Test Legend:**

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

**Prepared by: Zoraida Cortez**

**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.



**Sample Receipt Checklist**

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

Date and Time Received: **7/7/2011 4:45:07 PM**

Project Name: **#1005.001; 3093 Broadway, Oakland**

Checklist completed and reviewed by: **Zoraida Cortez**

WorkOrder N°: **1107138** Matrix: Water

Carrier: Rob Pringle (MAI Courier)

**Chain of Custody (COC) Information**

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

**Sample Receipt Information**

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

**Sample Preservation and Hold Time (HT) Information**

- All samples received within holding time? Yes  No
- Container/Temp Blank temperature Cooler Temp: 8.2°C NA
- Water - VOA vials have zero headspace / no bubbles? Yes  No  No VOA vials submitted
- Sample labels checked for correct preservation? Yes  No
- Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA
- Samples Received on Ice? Yes  No

(Ice Type: WET ICE )

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

-----

Client contacted:

Date contacted:

Contacted by:

Comments:





**QC SUMMARY REPORT FOR SW8021B/8015Bm**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 59458

WorkOrder: 1107138

EPA Method: SW8021B/8015Bm		Extraction: SW5030B							Spiked Sample ID: 1107030-005A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) £	ND	60	84.3	87.9	4.18	90.2	90.9	0.747	70 - 130	20	70 - 130	20
MTBE	ND	10	94.4	105	10.1	112	97.8	13.3	70 - 130	20	70 - 130	20
Benzene	ND	10	98.8	102	3.33	98.4	98.3	0.0661	70 - 130	20	70 - 130	20
Toluene	ND	10	88.8	92.2	3.78	90.9	91	0.123	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	90.8	96.2	5.76	93.4	90.8	2.90	70 - 130	20	70 - 130	20
Xylenes	ND	30	103	108	5.19	105	104	0.382	70 - 130	20	70 - 130	20
%SS:	104	10	105	104	1.22	100	104	3.75	70 - 130	20	70 - 130	20

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

BATCH 59458 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1107138-001A	07/06/11 11:35 AM	07/08/11	07/08/11 11:04 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 % Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).  
 MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.  
 £ TPH(btex) = sum of BTEX areas from the FID.  
 # cluttered chromatogram; sample peak coelutes with surrogate peak.  
 N/A = not enough sample to perform matrix spike and matrix spike duplicate.  
 NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.



**QC SUMMARY REPORT FOR SW8021B/8015Bm**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 59502

WorkOrder: 1107138

EPA Method: SW8021B/8015Bm		Extraction: SW5030B							Spiked Sample ID: 1107105-001A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) £	ND	60	89.2	81.1	9.51	88.9	81	9.31	70 - 130	20	70 - 130	20
MTBE	ND	10	99.1	86.9	13.1	101	87.1	14.5	70 - 130	20	70 - 130	20
Benzene	ND	10	108	99.5	7.80	102	101	0.975	70 - 130	20	70 - 130	20
Toluene	ND	10	99	89	10.7	92.8	90.5	2.53	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	100	91.3	9.33	95.8	90.8	5.41	70 - 130	20	70 - 130	20
Xylenes	ND	30	114	103	10.3	110	103	6.17	70 - 130	20	70 - 130	20
%SS:	97	10	107	109	2.12	103	106	2.77	70 - 130	20	70 - 130	20

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

BATCH 59502 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1107138-002A	07/07/11 11:50 AM	07/08/11	07/08/11 11:38 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.  
 % Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).  
 MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.  
 £ TPH(btex) = sum of BTEX areas from the FID.  
 # cluttered chromatogram; sample peak coelutes with surrogate peak.  
 N/A = not enough sample to perform matrix spike and matrix spike duplicate.  
 NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.