

Leland Douglas  
Douglas Parking Company  
1721 Webster Street  
Oakland, CA 94612

**RECEIVED**

By Alameda County Environmental Health 2:15 pm, Oct 16, 2015

Ms. Donna Drogos  
Alameda County Environmental Health  
1131 Harbor Bay Parkway, 2<sup>nd</sup> Floor  
Alameda, California 94502

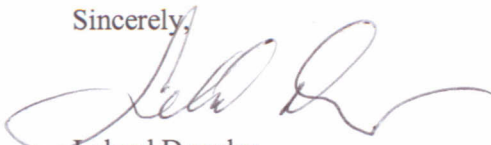
Re: **Douglas Parking Company**  
1721 Webster Street  
Oakland, California  
ACEH File No. 129

Dear Ms. Drogos:

I, Mr. Leland Douglas, have retained Pangea Environmental Services, Inc. (Pangea) as the environmental consultant for the project referenced above. Pangea is submitting the attached report on my behalf.

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

Sincerely,



Leland Douglas



October 16, 2015

***VIA ALAMEDA COUNTY FTP SITE***

Ms. Karel Detterman  
Alameda County Environmental Health  
1131 Harbor Bay Parkway, 2<sup>nd</sup> Floor  
Alameda, California 94502

Re: **Groundwater Monitoring Report – Second Half 2015**  
Douglas Parking Company  
1721 Webster Street  
Oakland, California  
ACEH File No. 129

Dear Ms. Detterman:

On behalf of the Douglas Parking Company, Pangea Environmental Services, Inc. has prepared this *Groundwater Monitoring Report – Second Half 2015* for the above referenced site. The report describes groundwater monitoring and sampling, subslab gas sampling and other site activities.

If you have any questions, 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

Attachment: *Groundwater Monitoring Report – Second Half 2015*

cc: Mr. Lee Douglas, Douglas Parking Company, 1721 Webster Street, Oakland, California 94612  
SWRCB Geotracker Database (electronic copy)

**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 REPORT - SECOND HALF 2015

**Douglas Parking Company  
1721 Webster Street  
Oakland, California  
File No. 4070**

**October 16, 2015**

*Prepared for:*


Mr. Lee Douglas  
1721 Webster Street  
Oakland, California 94612


*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

On behalf of Douglas Parking Company, Pangea Environmental Services, Inc. (Pangea), performed groundwater monitoring and sampling during this half year at the subject site (Figure 1). Current groundwater analytical results and elevation data are shown on Figure 2. Current and historical groundwater data are summarized on Table 1. Site remediation data are summarized on Table 2. During this reporting period, Pangea also collected warm season subsurface gas samples consistent with the ACEH letter dated September 13, 2013.

## SITE BACKGROUND

The site is currently being utilized as a parking garage, and is located between 17th and 19th Streets in downtown Oakland, California, approximately four miles east of San Francisco Bay and one quarter of a mile west of Lake Merritt (Figure 1). The site is relatively flat with an elevation of approximately 30 feet (ft) above mean sea level (msl).

Several former underground storage tank (UST) sites are located close to the site, including Prentiss Properties to the northeast at 1750 Webster Street, a former gas station to the east at 1700 Webster, and a former Chevron service station which is located approximately 400 feet to the southwest on the corner of 17<sup>th</sup> Street and Harrison Street.

On August 3 and 6, 1992, Parker Environmental Services removed one 1,000-gallon and two 500-gallon gasoline underground storage tanks (USTs) from the site. Up to 1,500 milligrams per kilogram (mg/kg) total petroleum hydrocarbons as gasoline (TPHg) and up to 12 mg/kg benzene were detected in the soil samples collected from the UST excavation.

Several investigations have been completed at the site. On July 8 and September 8, 1994, Gen Tech/Piers Environmental, Inc. (Gen Tech) of San Jose, California drilled six exploratory borings and installed three groundwater monitoring wells (MW-1 through MW-3). In February and May 1996, Cambria Environmental Technology (Cambria) of Emeryville, California advanced seven geoprobe soil borings and installed two groundwater monitoring wells (MW-4 and MW-5). On August 8, 2000, *Conduit Study and File Review Report* was submitted by Cambria Environmental Technology. The report provided significant information about offsite hydrocarbon impact and offsite sources, and concluded that there were no identified conduits for contaminant migration in groundwater. On June 27, 2003 Cambria installed two additional offsite monitoring wells (MW-6 and MW-7) to facilitate additional plume delineation.

Limited site remediation has been conducted at the site. In January 1998, Cambria installed ORC socks in well MW-2 to enhance the natural attenuation of dissolved-phase hydrocarbons. Dissolved oxygen (DO)

concentrations temporarily increased in well MW-2 following the ORC sock installation. In February and March 1999, a total of 120 gallons of 7.5% hydrogen peroxide solution was added into monitoring wells MW-2 and MW-3 to oxidize hydrocarbons and also increase DO levels to enhance biodegradation of dissolved-phase hydrocarbons. The hydrogen peroxide *temporarily* increased groundwater DO levels, but hydrocarbon concentrations remained at elevated levels.

On March 4, 2003, Cambria installed a co-axial air sparging/soil vapor extraction well (SV-1/AS-1) and two angled air sparging wells (AS-2 and AS-3) to approximately 30 ft bgs (Figure 3). The wells were installed to facilitate feasibility testing and future site remediation. Site remediation via soil vapor extraction and air sparging began in October 2007. To improve system performance and further evaluate site conditions, Pangea submitted an *Investigation and Remediation Workplan* dated March 5, 2009, which proposed additional investigation, remediation system expansion, and evaluation of groundwater geochemistry.

On November 19, 2010, ACEH issued a letter requesting a cross section, additional information regarding a potential offsite source and a preferential pathway survey. In December 2010, Pangea informed the ACEH that significant information about the offsite hydrocarbon impact was presented in the August 8, 2000 *Conduit Study and File Review Report* prepared by Cambria. In December 2010, the UST Cleanup Fund prepared a 5 Year Review that recommended a site conceptual model (SCM), risk assessment, and sensitive receptor survey to help facilitate selection of a remediation technique. In March 2011, Pangea provided information requested by the ACEH and proposed remediation and assessment tasks to help facilitate regulatory case closure. In a letter dated June 17, 2011, ACEH requested a site conceptual model with a preferential pathway evaluation. The UST Cleanup Fund 5-Year Review of March 12, 2012 also requested an SCM prior to any system modification. Pangea submitted a *Sensitive Receptor Survey, Conduit Study and Site Conceptual Model* dated March 26, 2012. In a letter dated December 21, 2012, ACEH requested a workplan to evaluate vapor intrusion and to investigate secondary source near well MW-2. Pangea submitted a *Workplan for Additional Assessment and Soil Gas Sampling* dated April 4, 2013. Following a meeting with ACEH on May 28, 2013, Pangea submitted a *Revised Data Gap Workplan* dated July 25, 2013.

Following approval of the workplan, Pangea installed two confirmation soil borings (CB-1 and CB-2) near the former UST excavation areas and three soil gas probes (SS-1 through SS-3). Pangea detailed the findings of this data gap investigation in the *Data Gap Site Assessment Report* dated January 22, 2014. Included in the report was an updated SCM in tabular format.

## **GROUNDWATER MONITORING AND SAMPLING**

On July 20, 2015, Pangea coordinated groundwater monitoring and sampling at the site. All program monitoring wells were gauged for depth to water. Following the sampling protocol presented in Appendix A, groundwater samples were collected from select site monitoring wells. Wells MW-4 and MW-7 were

apparently paved over during recent street resurfacing work and were not monitored. Pangea plans to locate and uncover the two monitoring wells.

Before well purging, dissolved oxygen (DO) and oxygen reduction potential (ORP) were measured in each well. DO was measured by lowering a downwell sensor to the approximate middle of the water column, and allowing the reading to stabilize during gentle height adjustment. Prior to sample collection approximately three casing volumes of water were purged using disposable bailers, an electric submersible pump or new polyethylene tubing with a check valve. During well purging field technicians measured pH, temperature and conductivity. A groundwater sample was collected from each well with a disposable bailer and decanted into the appropriate containers supplied by the analytical laboratory. Groundwater samples were labeled, placed in protective plastic bags, and stored on crushed ice at or below 4° C. All samples were transported under chain-of-custody to the State-certified analytical laboratory. Purge water was stored onsite in DOT-approved 55-gallon drums. Field data sheets are presented as Appendix B.

## **Monitoring Results**

Groundwater elevation and analytical data are described below and summarized on Table 1 and Figure 2. Groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) by modified EPA Method 8015C; and benzene, toluene, ethylbenzene and xylenes (BTEX), and methyl tertiary butyl ether (MTBE) by EPA Method 8021B. Samples were analyzed by McCampbell Analytical, Inc. of Pittsburg, California, a State-certified laboratory. The laboratory analytical report is included as Appendix C.

## **Groundwater Flow Direction**

Based on depth-to-water measurements collected on July 20, 2015, groundwater beneath the site flowed *north to north-northeastwards* (Figure 2). The groundwater depth measurements and inferred flow direction during this event are consistent with historical site conditions. Groundwater depths at the site have historically ranged from approximately 14 to 23 ft below ground surface (bgs), equivalent to a groundwater elevation range from 5 to 13 feet above msl (Table 1).

## **Hydrocarbon and MTBE Distribution in Groundwater**

TPHg, benzene and MTBE concentrations detected in site groundwater during this monitoring event are shown on Figure 2. The maximum TPHg and benzene concentrations were detected in well MW-6 at 12,000 µg/L and 160 µg/L, respectively.

TPHg and benzene concentration trends in key source area wells MW-2 and MW-3 are graphed on Figure 3. Benzene concentrations have dramatically decreased in source area well MW-2 since the commencement of SVE/AS in October 2007. TPHg concentrations remain elevated but are declining in wells MW-2 and MW-3. As requested during a May 28, 2013 meeting at the ACEH office, TPHg and benzene concentration trends for key offsite wells (MW-4 and MW-6) and key remediation wells (AS-1 and AS-2) are graphed on Figures 4 and 5, respectively.

MTBE was not detected above reporting limits in any of the sampled wells this monitoring event. The only apparent historical MTBE detection at the site (48 µg/L in well MW-3 by EPA Method 8020) was interpreted to be a false positive, based on the results of confirmation testing using EPA Method 8260 on July 21, 2003. Since the tank was removed in 1992 and because of the lack of confirmed detectable historical MTBE, MTBE is not a compound of concern at this site.

## **SUBSLAB GAS SAMPLING**

Consistent with the RWQCB letter dated September 13, 2013, Pangea coordinated warm season subslab gas sampling from two soil gas probe locations (SS-2 and SS-3) on June 23, 2015. Pangea attempted to sample subslab probe SS-1 this event, but the probe was covered by recently installed new flooring. This sampling was performed to monitor shallow subslab gas conditions in the site building. Subslab probe locations are shown on Figure 6. Sample depth intervals and subslab gas analytical results are summarized on Table 2.

The subslab gas sampling was conducted in general accordance with procedures described in the *Advisory: Active Soil Gas Investigation* dated April 2012 by the Department of Toxic Substances Control (DTSC Advisory). Subslab gas probe SS-1 was located in the southwest portion of the site inside the building at 1715 Webster Street, near the southwest corner of the former UST excavation. Probe SS-2 is located in the driveway of the site near the source area and probe SS-3 is located north of the former USTs in the parking garage structure, near key well MW-2. The soil gas sampling was performed by Project Scientist Erik Lervaag under the supervision of Pangea's Bob Clark-Riddell, a California Registered Professional Civil Engineer.

McC Campbell Analytical provided sampling assemblies and certified Summa canisters for sampling and purging. The Summa canisters were supplied under a vacuum of approximately 30 inches of mercury. Prior to sample collection from the probes, vacuum/leak tests were conducted on the sampling assembly with a purging Summa canister. The vacuum/leak tests confirmed no leakage and maintained the initial vacuum in the sampling manifold system. After vacuum/leak testing, the manifold/probe assembly was purged using a purging Summa canister. Upon completion of purging of approximately three times the ambient volume of air in the assembly/probe, the sampling Summa canister was opened for sample collection. The pre-set valve regulated the vapor flow to approximately 150 to 200 milliliters of air per minute. After approximately 5 or

more minutes, the vacuum within the Summa canisters decreased to below 5 inches of mercury but not below 4 inches of mercury and the canister valve was closed

To evaluate potential leakage within the sampling system, a leak-check enclosure was placed over the sampling point and sampling assembly (summa canisters and manifold) and isopropyl alcohol was introduced to the leak-check enclosure. A photo-ionization detector (PID) was used to monitor the concentration of isopropyl alcohol within the enclosure during sample collection.

### **Subslab Gas Analytical Results**

Subslab gas samples were collected within Summa canisters and submitted for analysis to McCampbell Analytical of Pittsburg, CA, a State-certified laboratory. Subslab gas samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg), isopropyl alcohol and volatile organic compounds (VOCs) by Total Organics Method 15 (TO-15). Subslab gas analytical results and sample depth intervals are summarized on Table 2. The laboratory analytical report is included in Appendix C.

The only TPHg concentration detected in soil gas was 1,100  $\mu\text{g}/\text{m}^3$  in subslab probe SS-3. This detection is well below Environmental Screening Levels (ESLs) established by the San Francisco Regional Water Quality Control Board (RWQCB) for shallow soil gas for residential site use (300,000  $\mu\text{g}/\text{m}^3$  TPH) and for commercial site use (2,500,000  $\mu\text{g}/\text{m}^3$  TPH). The only ethylbenzene concentration detected was 2.3  $\mu\text{g}/\text{m}^3$  in subslab probe SS-2. Xylenes were detected at concentrations of 14  $\mu\text{g}/\text{m}^3$  (SS-2) and 13  $\mu\text{g}/\text{m}^3$  (SS-3). The only other hydrocarbon detected in subslab gas was toluene at concentrations of 3.7  $\mu\text{g}/\text{m}^3$  (SS-2) and 3.3  $\mu\text{g}/\text{m}^3$  (SS-3). Benzene concentrations were below detection limits this sampling event in probes SS-2 and SS-3.

The leak check compound (isopropyl alcohol) concentration was below detection limits in both subslab gas samples. The samples appear to be representative of subsurface conditions based on the lack of leak check compound detected within the samples.

## **REMEDIATION SYSTEM SUMMARY**

### **Soil Vapor Extraction/Air Sparge System**

The soil vapor extraction (SVE) remediation system consisted of a blower that extracted soil vapor from well SVE-1. Extracted vapors were routed through a moisture separator then treated by two 2,000-lb canisters of granular activated carbon plumbed in series. The treated vapor was discharged to the atmosphere in accordance with Bay Area Air Quality Management District (BAAQMD) requirements. The air sparging (AS) system consisted of a compressor for injecting air into wells AS-1, AS-2 and/or AS-3. Injection into AS wells was controlled by timer-activated solenoid valves. Wells SVE-1 and AS-1 are constructed as vertical co-axial wells,



with angled wells AS-2 and AS-3 located in the same vault. A cross section of the remediation wells is included as Figure 7. The remediation system layout is shown on Figure 8.

### **Operation and Performance**

The SVE system operated from October 2007 to October 2010 with periodic cycling for rebound testing. By November 23, 2010, the SVE system operated for a total of about 19,396 hours (approximately 808 days) and the system removed a total of approximately 3,212 lbs TPHg and 6.9 lbs benzene. The AS system operated from November 2007 to April 2010, when the AS compressor broke down. From August 2008 to April 2010, air sparge wells AS-1 and AS-3 were disconnected to focus air sparging on well AS-2 to target hydrocarbons in nearby key monitoring well MW-2. System operation and performance data is summarized on Table 2.

### **OTHER SITE ACTIVITIES**

#### **Semi-Annual Groundwater Monitoring**

Pangea will conduct semi-annual groundwater monitoring and sampling at the site in accordance with the approved monitoring program shown in Appendix A. Paved over monitoring wells MW-4 and MW-7 will be uncovered. All monitoring wells will be gauged for depth to water. Groundwater samples from program wells will be analyzed for TPHg, BTEX and MTBE by EPA Method 8015Cm/8021B.

#### **Remediation System Decommissioning**

At client request, Pangea will remove the SVE/AS equipment and enclosure that occupies valuable space at their facility. Monitoring results suggest that no further active remediation is merited.

### **ELECTRONIC REPORTING**

This report will be submitted to Alameda County Environmental Health via upload to the County's ftp site. Applicable data, maps, and reports for groundwater monitoring and other activities will be uploaded to the State Water Resource Control Board's Geotracker database. As requested, report hard copies will no longer be provided to local agencies.

## REFERENCES

CalEPA/DTSC, 2011, (CalEPA, 2011) *Vapor Intrusion Mitigation Advisory (VIMA)*, October 2011

CalEPA/DTSC, 2012, (CalEPA, 2012) *Advisory – Active Soil Gas Investigations*, April 2012

## ATTACHMENTS

- Figure 1 – Vicinity Map
- Figure 2 – Groundwater Elevations and Hydrocarbon Concentration Map
- Figure 3 – TPHg and Benzene Trends in Groundwater in Key Site Wells
- Figure 4 – TPHg and Benzene Trends in Groundwater in Key Offsite Wells
- Figure 5 – TPHg and Benzene Trends in Groundwater in Key Remediation Wells
- Figure 6 – Boring and Subslab Probe Location Map
- Figure 7 – Cross Section of Remediation Wells
- Figure 8 – Remediation System Layout

Table 1 – Groundwater Elevation and Analytical Data

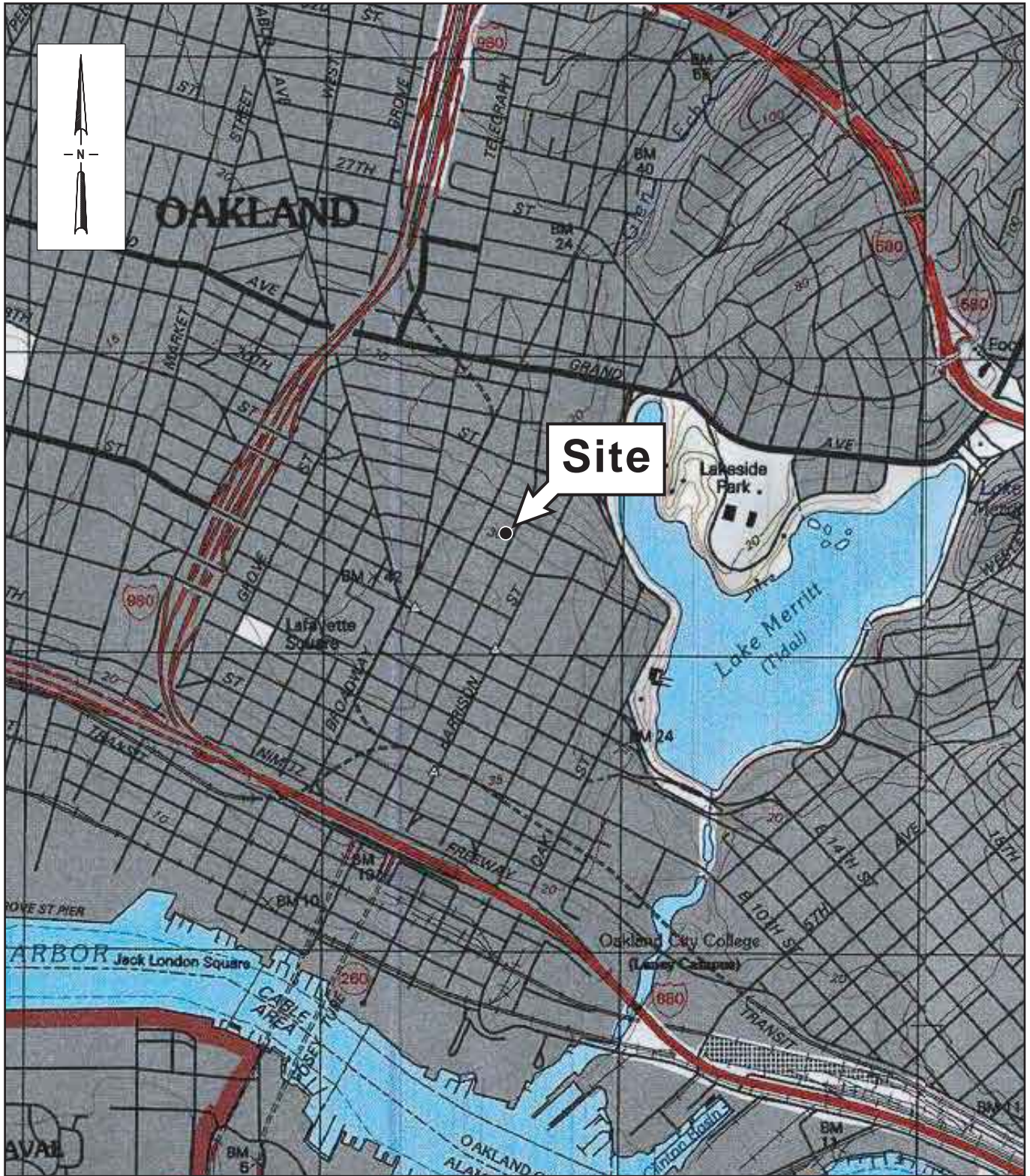
Table 2 – Subslab Gas Analytical Data

Table 3 – SVE System Performance Summary

Appendix A – Groundwater Monitoring Program

Appendix B – Groundwater Monitoring Field Data Sheets

Appendix C – Laboratory Analytical Report



SOURCE: TOPOI MAPS

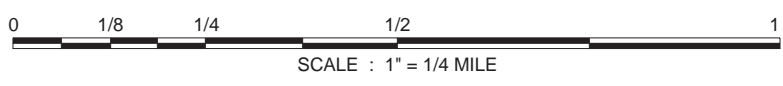
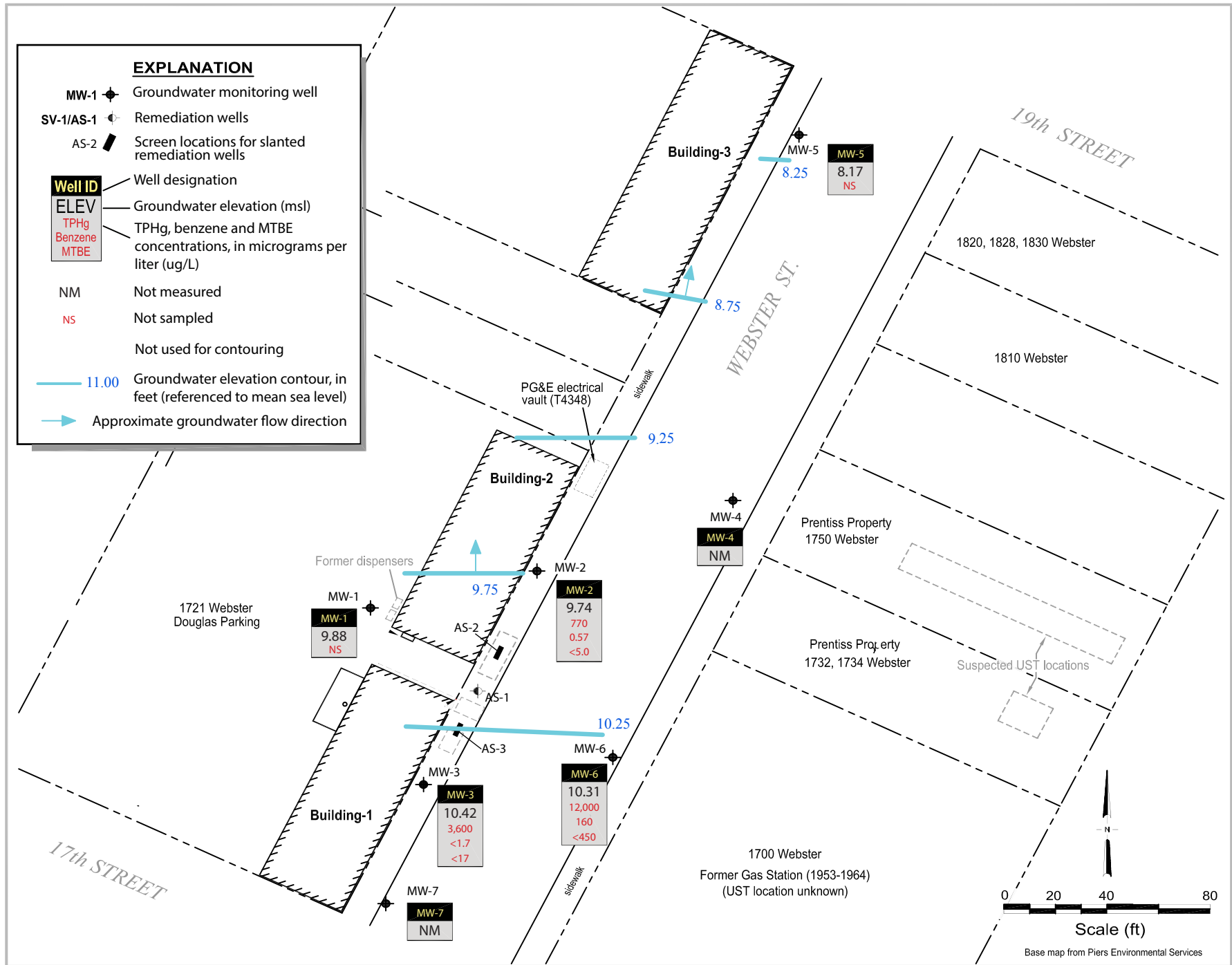


Figure 1

**Douglas Parking Facility**  
1721 Webster Street  
Oakland, California



Vicinity Map



**Douglas Parking**  
 1721 Webster Street  
 Oakland, California



**Groundwater Elevations and  
 Hydrocarbon Concentration Map**

July 20, 2015

FIGURE

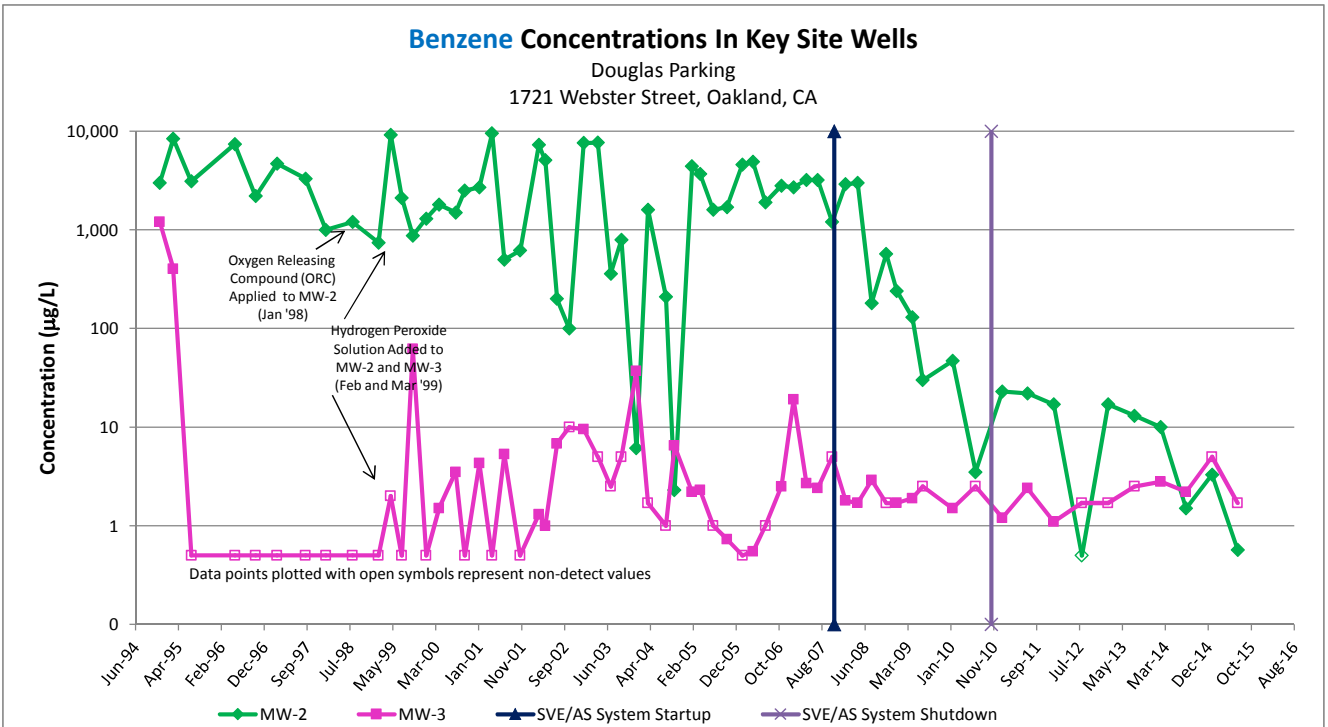
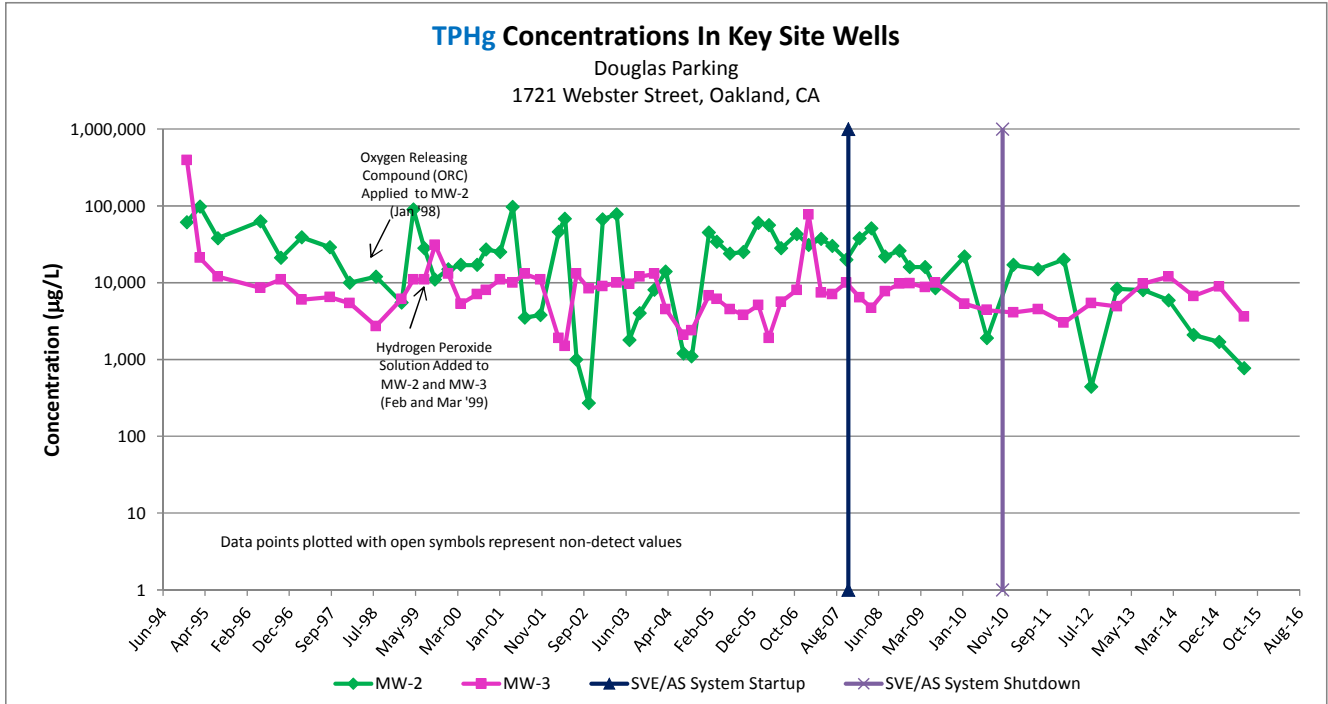


Figure 3 - TPHg and Benzene Trends in Key Onsite Wells

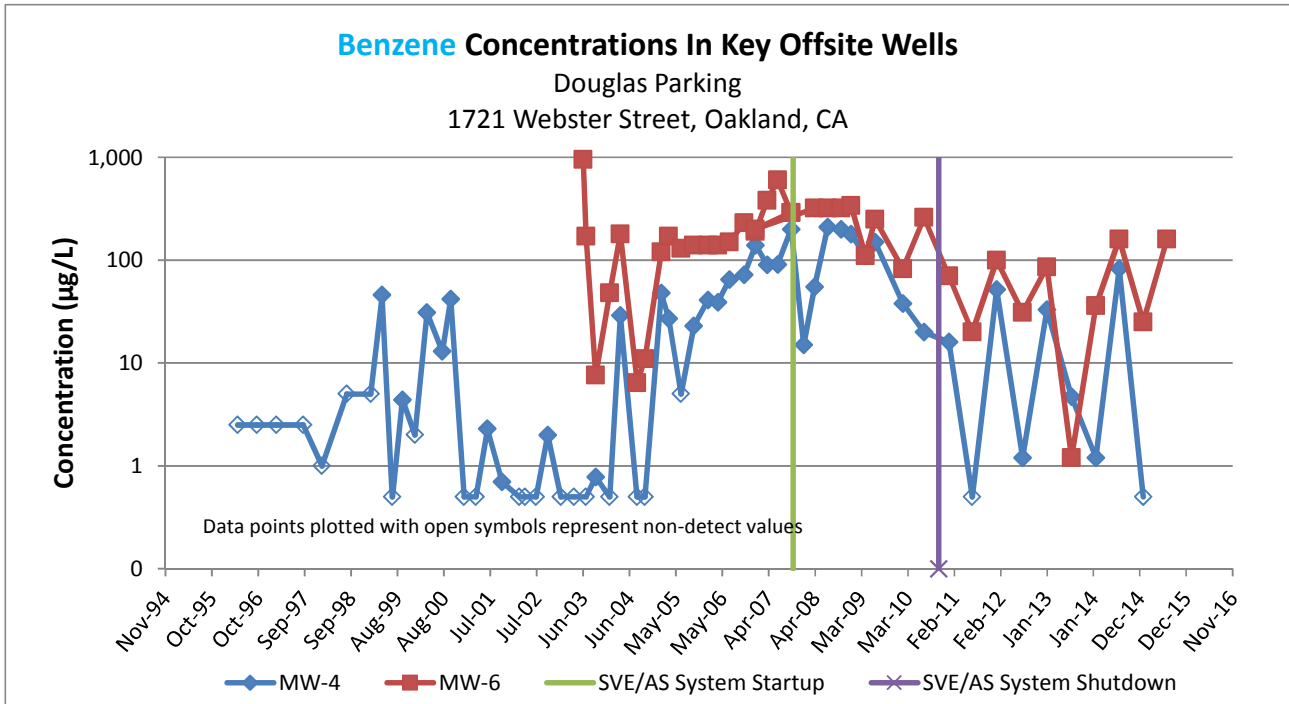
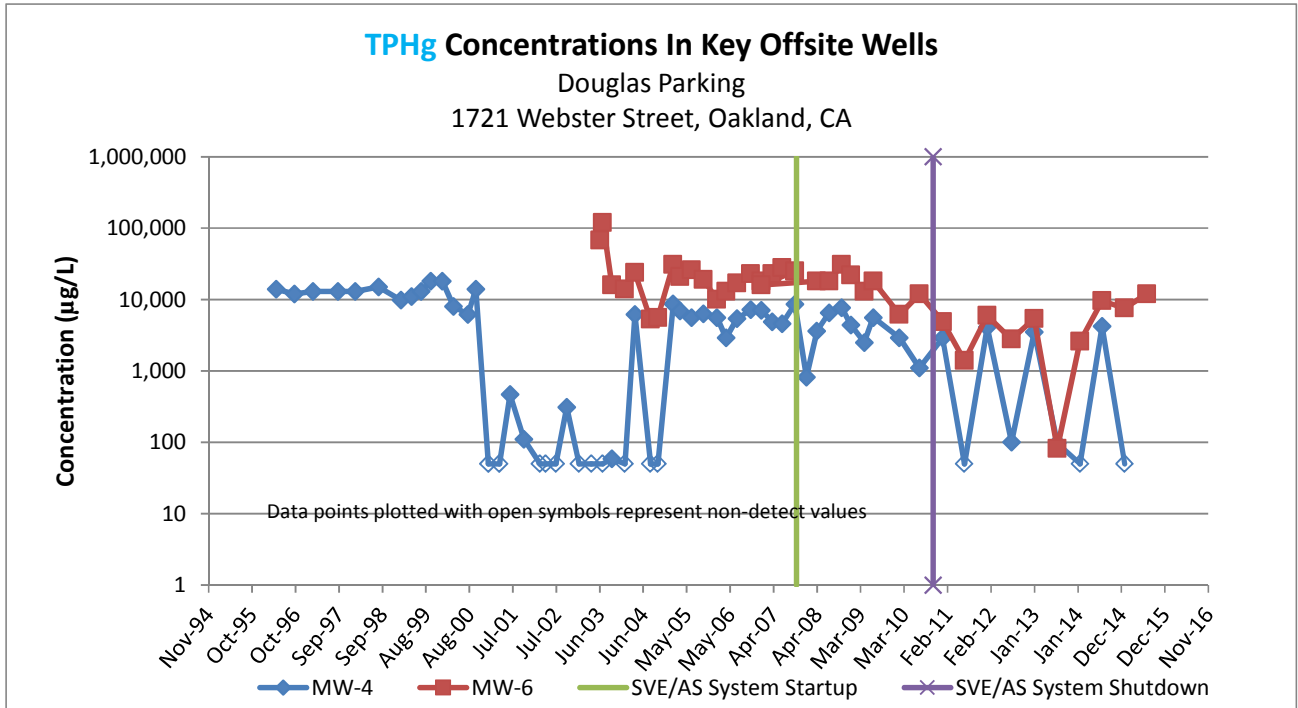


Figure 4 - TPHg and Benzene Trends in Key Offsite Wells

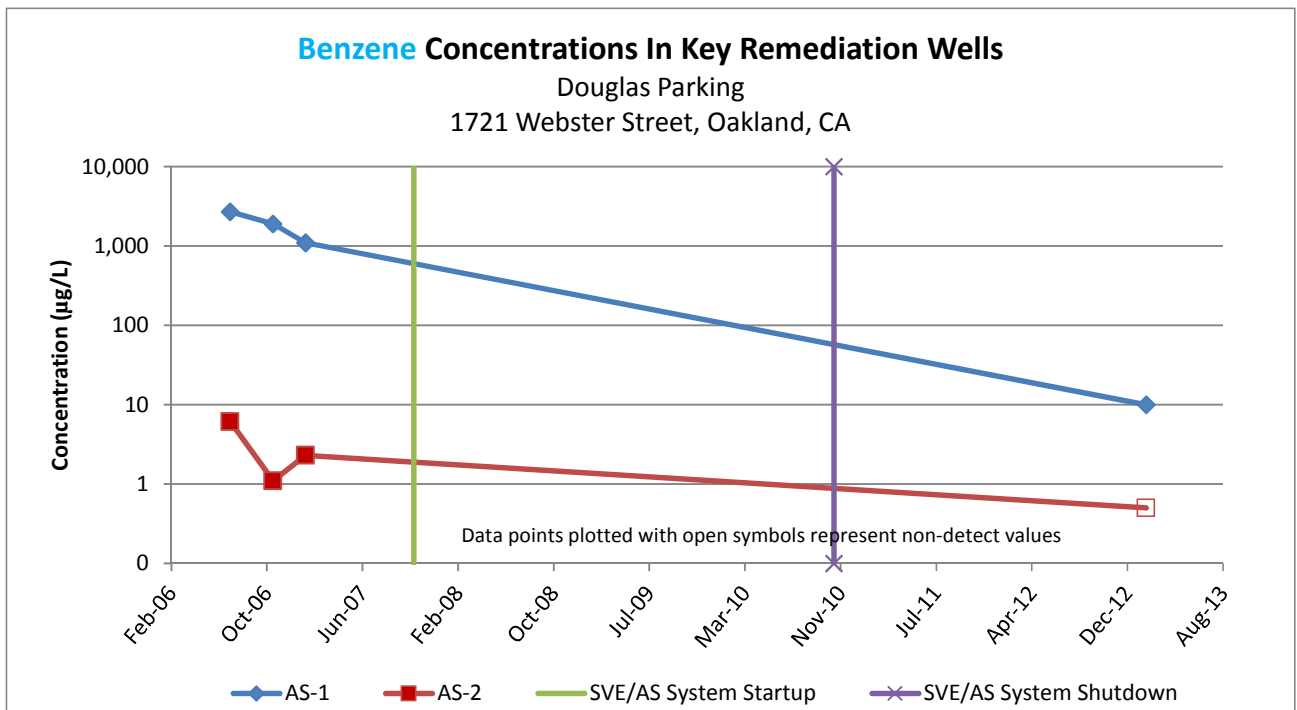
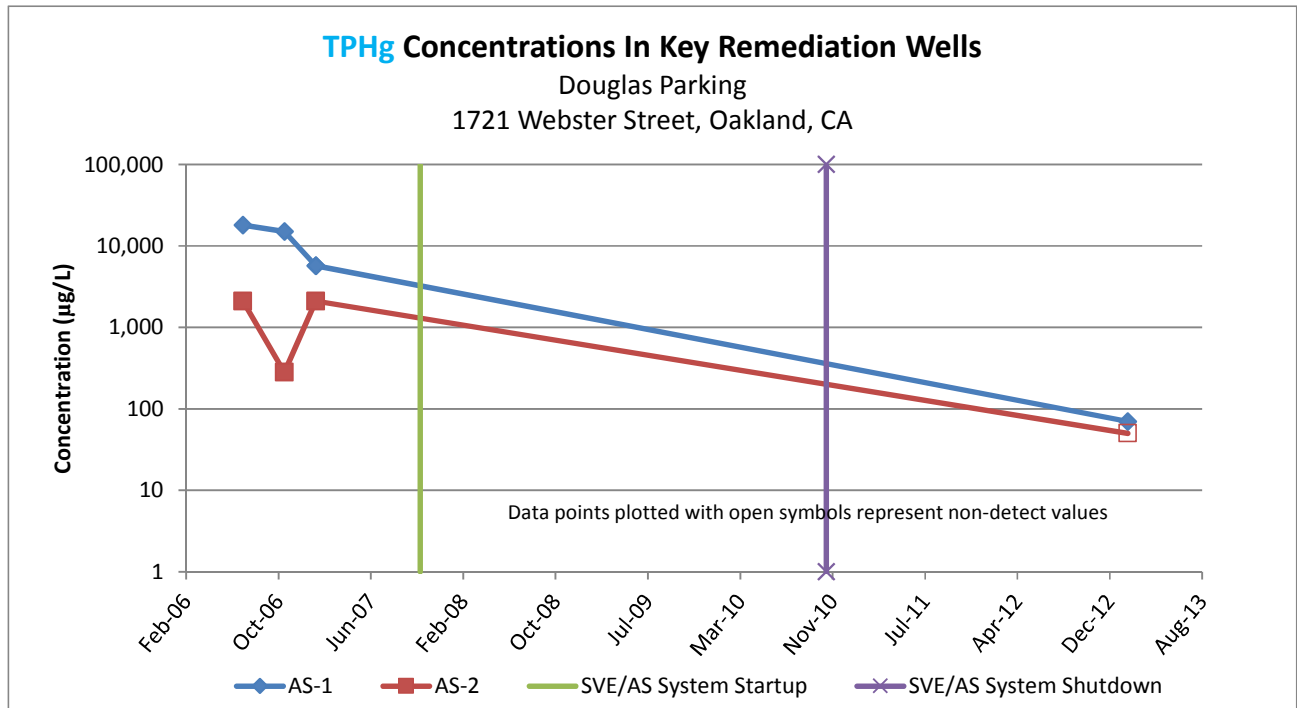
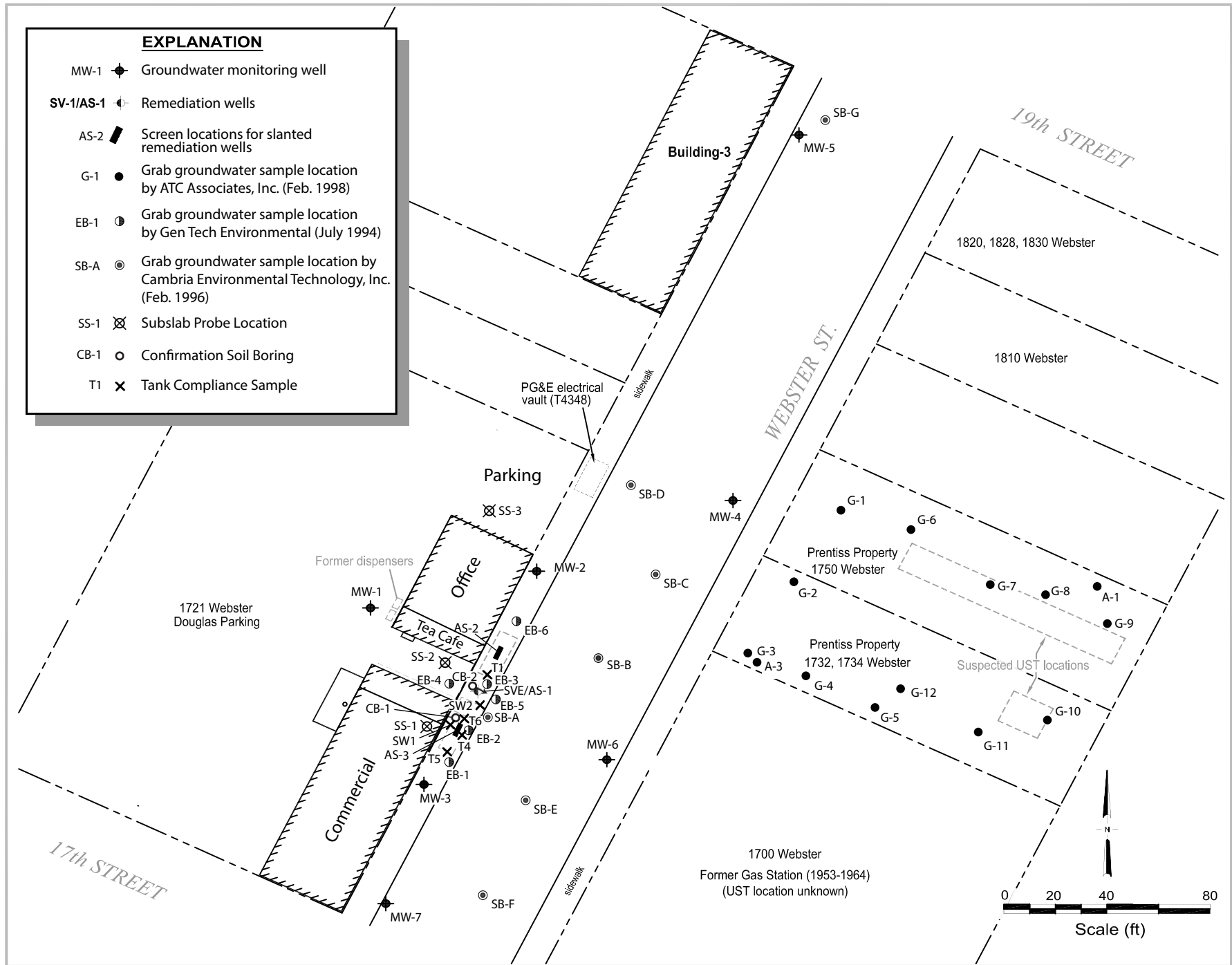


Figure 5 - TPHg and Benzene Trends in Key Remediation Wells



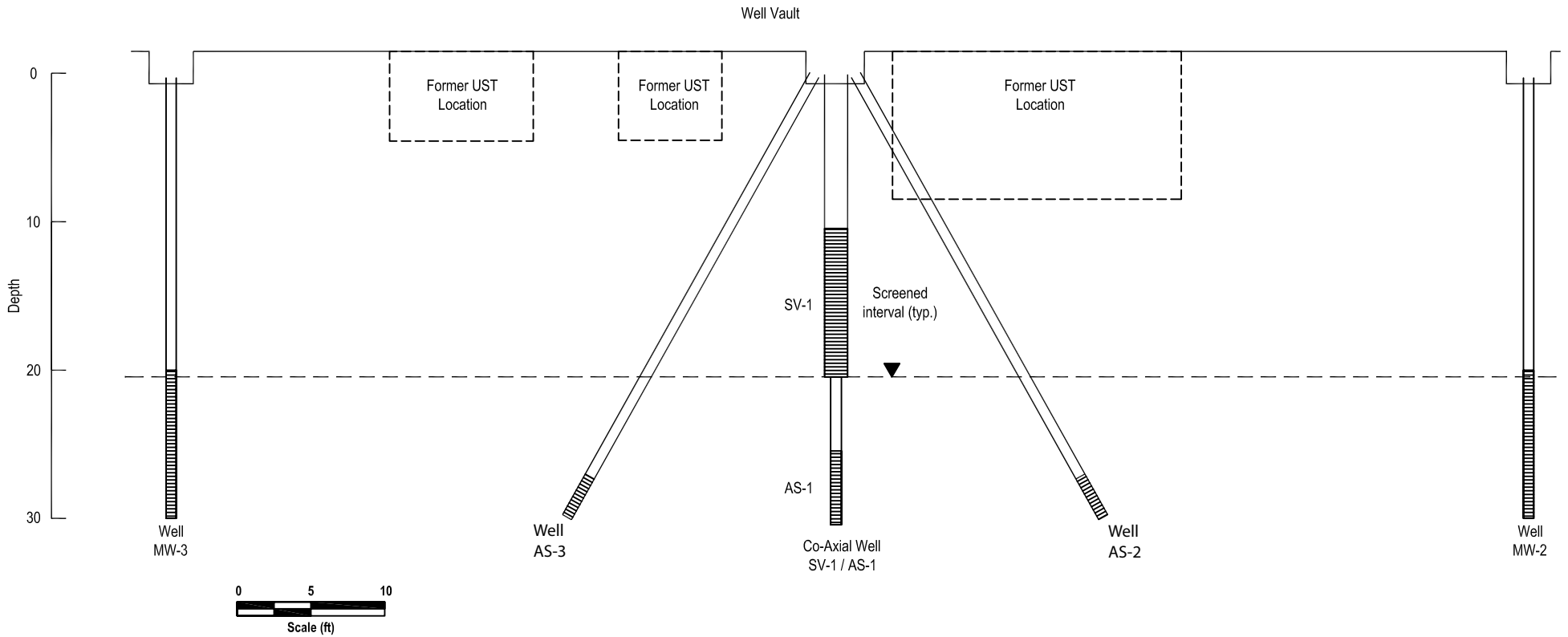
**Douglas Parking**  
 1721 Webster Street  
 Oakland, California



**Boring & Subslab  
 Probe Location Map**


FIGURE





Figure

7

EXPLANATION	
MW-1	Groundwater monitoring well
SV-1, AS-1	Remediation well
	Former Underground Storage Tanks/Dispensers
AS-2	Screen locations for slanted remediation wells

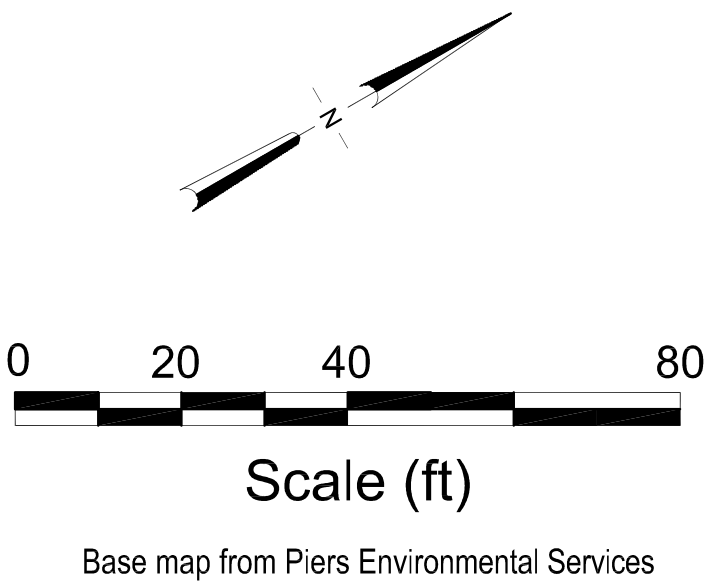
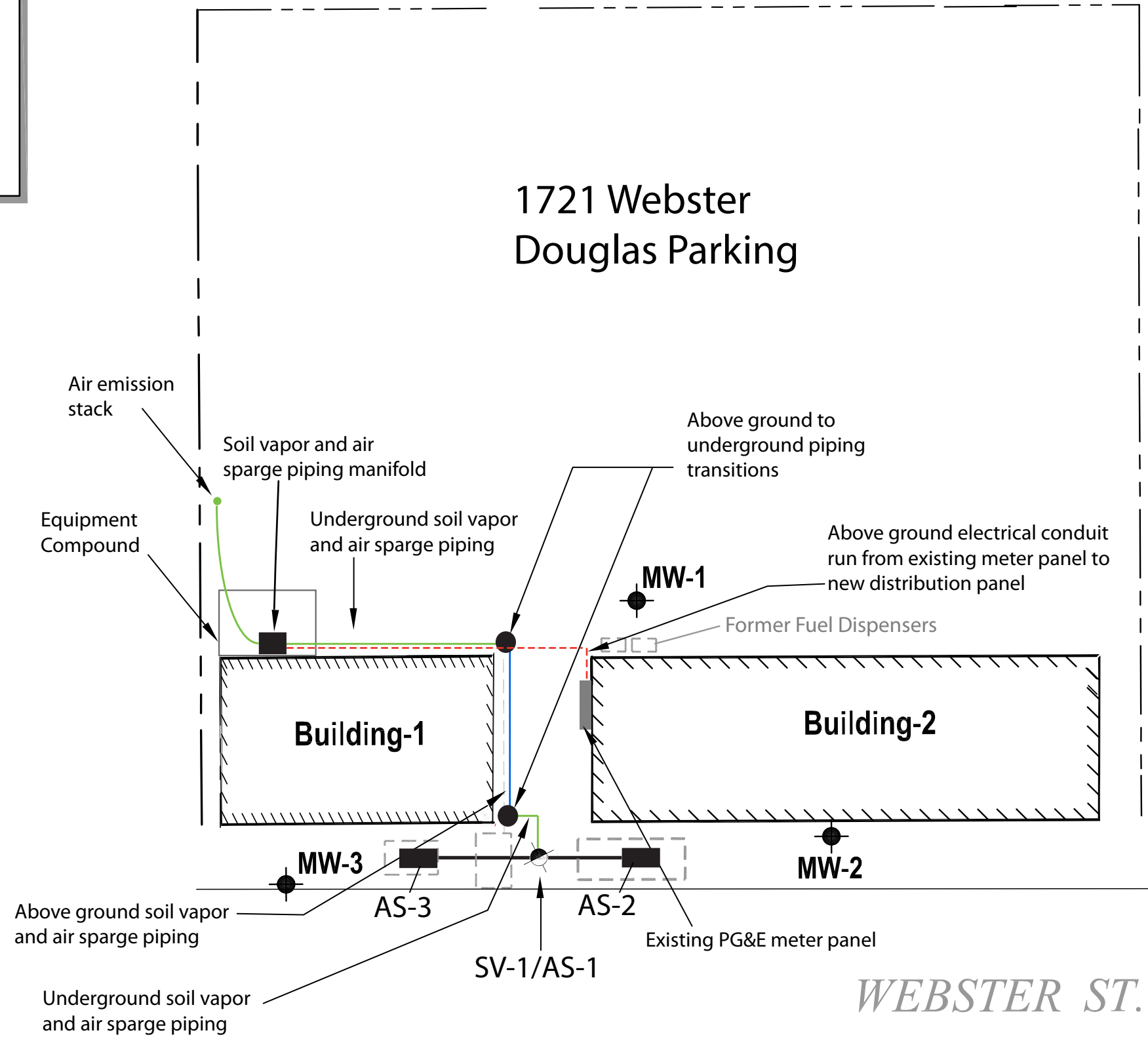


Figure 8

**Douglas Parking**  
 1721 Webster Street  
 Oakland, California



**Remediation System  
 Layout**

# PANGEA

**Table 1 - Groundwater Elevation and Analytical Data.**

Douglas Parking Company, 1721 Webster Street, Oakland, California

Boring / Well ID <i>TOC</i>	Date	Depth to Water (ft)	Groundwater Elevation (ft amsl)	TPHg	Benzene	Toluene	Ethylbenzene (µg/L)	Xylenes	MTBE
<b>Monitoring Wells</b>									
MW-1	12/2/1994	19.42	9.83	ND	ND	ND	ND	ND	-
29.25	3/6/1995	20.69	9.04	ND	ND	ND	ND	ND	-
29.73	7/11/1995	20.65	9.16	ND	ND	ND	ND	ND	-
29.81	5/10/1996	20.80	9.01	ND	ND	ND	ND	ND	-
	10/2/1996	21.35	8.46	-	-	-	-	-	-
	2/28/1997	20.57	9.24	-	-	-	-	-	-
	9/16/1997	21.50	8.31	-	-	-	-	-	-
	2/5/1998	20.91	8.90	-	-	-	-	-	-
	8/11/1998	20.50	9.31	-	-	-	-	-	-
	2/8/1999	21.42	8.39	-	-	-	-	-	-
	2/24/1999	22.99	6.82	-	-	-	-	-	-
	3/3/1999	20.84	8.97	-	-	-	-	-	-
	3/10/1999	20.89	8.92	-	-	-	-	-	-
	3/17/1999	20.84	8.97	-	-	-	-	-	-
	5/4/1999	20.80	9.01	-	-	-	-	-	-
	7/20/1999	21.25	8.56	-	-	-	-	-	-
	10/5/1999	21.37	8.44	-	-	-	-	-	-
	1/7/2000	21.65	8.16	-	-	-	-	-	-
	4/6/2000	21.05	8.76	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	7/31/2000	21.13	8.68	-	-	-	-	-	-
	10/3/2000	21.69	8.12	-	-	-	-	-	-
	1/12/2001	22.00	7.81	-	-	-	-	-	-
	4/11/2001	22.16	7.65	-	-	-	-	-	-
	7/6/2001	22.57	7.24	-	-	-	-	-	-
	10/25/2001	22.71	7.10	-	-	-	-	-	-
	3/4/2002	22.53	7.28	-	-	-	-	-	-
	4/18/2002	22.81	7.00	-	-	-	-	-	-
	7/9/2002	22.95	6.86	-	-	-	-	-	-
	10/4/2002	23.13	6.68	-	-	-	-	-	-
	1/12/2003	22.05	7.76	-	-	-	-	-	-
	4/21/2003	21.17	8.64	-	-	-	-	-	-
32.75	7/21/2003	21.39	11.36	-	-	-	-	-	-
	10/2/2003	21.64	11.11	-	-	-	-	-	-
	1/15/2004	21.10	11.65	-	-	-	-	-	-
	4/5/2004	21.20	11.55	-	-	-	-	-	-
	8/9/2004	22.97	9.78	-	-	-	-	-	-
	10/7/2004	23.55	9.20	-	-	-	-	-	-
	2/7/2005	20.90	11.85	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	4/5/2005	20.60	12.15	-	-	-	-	-	-
	7/6/2005	20.66	12.09	-	-	-	-	-	-
	10/10/2005	21.16	11.59	-	-	-	-	-	-
	1/26/2006	20.73	12.02	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	4/10/2006	20.05	12.70	-	-	-	-	-	-
	7/6/2006	20.90	11.85	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	10/26/2006	21.80	10.95	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	1/19/2007	22.02	10.73	--	--	--	--	--	--
	4/17/2007	22.13	10.62	--	--	--	--	--	--
	7/6/2007	21.83	10.92	--	--	--	--	--	--
	10/15/2007	22.28	10.47	--	--	--	--	--	--
	1/17/2008	22.33	10.42	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	4/9/2008	22.11	10.64	--	--	--	--	--	--
	7/17/2008	22.50	10.25	--	--	--	--	--	--
	10/27/2008	22.75	10.00	--	--	--	--	--	--

# PANGEA

**Table 1 - Groundwater Elevation and Analytical Data.**

Douglas Parking Company, 1721 Webster Street, Oakland, California

Boring / Well ID TOC	Date	Depth to Water (ft)	Groundwater Elevation (ft amsl)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
				<	<	<	(µg/L)	>	>
MW-1	1/9/2009	22.89	9.86	<50	<0.5	<0.5	<0.5	<0.5	<5.0
(cont'd)	4/27/2009	22.40	10.35	--	--	--	--	--	--
	7/9/2009	22.55	10.20	--	--	--	--	--	--
	2/3/2010	22.08	10.67	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	7/13/2010	21.20	11.55	---	---	---	---	---	---
	1/17/2011			Well Inaccessible					
	7/12/2011	20.72	12.03	--	--	--	--	--	--
	1/11/2012	21.33	11.42	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	7/25/2012	20.94	11.81	--	--	--	--	--	--
	1/25/2013	21.41	11.34	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	7/29/2013	22.14	10.61	--	--	--	--	--	--
	1/28/2014	22.75	10.00	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	7/24/2014	22.84	9.91	--	--	--	--	--	--
	1/22/2015	22.45	10.30	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	<b>7/20/2015</b>	<b>22.87</b>	<b>9.88</b>	--	--	--	--	--	--
MW-2	12/2/1994	19.50	7.60	61,300	3,000	3,900	160	4,500	-
27.10	3/6/1995	18.49	8.61	98,000	8,400	16,000	2,000	2,600	-
27.40	7/11/1995	18.45	8.95	38,000	3,100	7,500	940	3,700	-
	5/10/1996	18.56	8.84	63,000	7,400	16,000	1,500	6,000	-
	10/2/1996	19.15	8.25	21,000	2,200	3,400	430	1,600	-
	2/28/1997	18.43	8.97	39,000	4,700	9,600	950	4,200	ND
	9/16/1997	19.26	8.14	29,000	3,300	5,800	690	2,900	<620
	2/5/1998	18.66	8.74	10,000	1,000	2,000	170	860	<330
	8/11/1998	18.41	8.99	12,000	1,200	2,300	260	1,400	300
	2/8/1999	19.84	7.56	5,500	740	1,200	150	780	60
	2/17/1999	18.94	8.46	-	-	-	-	-	-
	2/24/1999	20.76	6.64	-	-	-	-	-	-
	3/3/1999	18.55	8.85	-	-	-	-	-	-
	3/10/1999	20.74	6.66	-	-	-	-	-	-
	3/17/1999	18.57	8.83	-	-	-	-	-	-
	5/4/1999	18.55	8.85	90,000	9,200	21,000	1,600	10,000	560
	7/20/1999	18.98	8.42	28,000	2,100	3,700	900	4,200	<860
	10/5/1999	19.10	8.30	11,000	870	180	30	1,400	<110
	1/7/2000	19.41	7.99	15,000	1,300	2,100	440	1,800	<14
	4/6/2000	18.80	8.60	17,000	1,800	3,100	500	2,200	<50
	7/31/2000	18.87	8.53	17,000	1,500	2,700	430	2,100	<200
	10/3/2000	19.45	7.95	27,000	2,500	4,000	660	2,900	<50
	1/12/2001	19.80	7.60	25,000	2,700	4,100	670	3,000	<200
	4/11/2001	20.03	7.37	97,000	9,500	21,000	2,200	7,900	<200
	7/6/2001	20.19	7.21	3,500	500	150	11	420	<5.0
	10/25/2001	20.35	7.05	3,800	620	230	70	400	<50
	3/4/2002	20.37	7.03	46,000	7,300	12,000	870	3,200	<500
	4/18/2002	20.15	7.25	68,000	5,100	8,900	1,100	4,000	<1,000
	7/9/2002	21.09	6.31	1,000	200	8.9	0.67	82	<10
	10/4/2002	21.28	6.12	270	100	3.4	0.53	10	<5.0
	1/12/2003	20.59	6.81	67,000	7,600	13,000	1,400	5,600	<500
	4/21/2003	19.98	7.42	78,000	7,700	12,000	1,900	6,900	<500
30.40	7/21/2003	20.08	10.32	1,800	360	16	<5.0	190	<50
	10/2/2003	20.41	9.99	4,000	790	110	60	350	<50
	1/15/2004	19.93	10.47	8,100	6.1	23	44	530	<50
	4/5/2004	18.99	11.41	14,000	1,600	2,100	550	2,500	<500
	8/9/2004	19.79	10.61	1,200	210	16	14	100	<20
	10/7/2004	20.26	10.14	1,100	2.3	9.8	2.9	36	<5.0
	2/7/2005	18.80	11.60	45,000	4,400	4,800	1,400	5,800	<200

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**Table 1 - Groundwater Elevation and Analytical Data.**

Douglas Parking Company, 1721 Webster Street, Oakland, California

Boring / Well ID TOC	Date	Depth to Water (ft)	Groundwater Elevation (ft amsl)	TPHg ←	Benzene	Toluene	Ethylbenzene (µg/L)	Xylenes	MTBE →
MW-2	4/5/2005	18.40	12.00	34,000	3,700	3,600	1,200	5,300	<500 (<5.0)
(cont'd)	7/6/2005	18.48	11.92	24,000	1,600	1,700	570	2,800	<500
	10/10/2005	19.00	11.40	25,000	1,700	2,100	710	3,200	<500
	1/26/2006	18.58	11.82	60,000	4,600	7,200	1,600	6,900	<1,000
	4/10/2006	17.84	12.56	56,000	4,900	7,500	1,200	7,400	<500
	7/6/2006	18.76	11.64	28,000	1,900	1,700	720	2,900	<500
	10/26/2006	19.60	10.80	43,000	2,800	2,500	1,700	7,600	<500
	1/19/2007	19.84	10.56	31,000	2,700	2,400	1,400	5,800	<150
	4/17/2007	19.90	10.50	37,000	3,200	2,900	1,600	6,400	<400
	7/6/2007	19.63	10.77	30,000	3,200	2,000	1,500	5,200	<250
	10/15/2007	20.11	10.29	20,000	1,200	990	650	2,300	<500
	1/17/2008	20.10	10.30	38,000	2,900	5,100	1,200	5,000	<210
	4/9/2008	20.12	10.28	51,000	3,000	6,400	1,700	6,500	<250
	7/17/2008	20.01	10.39	22,000	180	500	660	2,100	<250
	10/27/2008	20.61	9.79	26,000	570	2,100	670	3,400	<50
	1/9/2009	20.80	9.60	16,000	240	680	460	3,000	<100
	4/27/2009	20.17	10.23	16,000	130	660	570	3,600	<500
	7/9/2009	20.36	10.04	8,500	30	110	250	1,400	<100
	2/3/2010	19.84	10.56	22,000	47	140	500	3,000	<100
	7/13/2010	19.08	11.32	1,900	3.5	5.8	38	110	<5.0
	1/17/2011	19.02	11.38	17,000	23	100	330	2,200	<100
	7/12/2011	18.52	11.88	15,000	22	30	190	740	<50
	1/12/2011	19.18	11.22	20,000	17	47	250	2,100	<84
	7/25/2012	18.83	11.57	440	<0.5	2.2	1.0	39	<5.0
	1/25/2013	19.21	11.19	8,300	17	11	140	510	<50
	7/29/2013	19.94	10.46	8,000	13	13	200	100	<25
	1/28/2014	20.56	9.84	5,900	10	7.3	100	80	<50
	7/24/2014	20.61	9.79	2,100	1.5	3.1	21	37	<5.0
	1/22/2015	20.24	10.16	1,700	3.3	3.0	8.0	25	<10
	<b>7/20/2015</b>	<b>20.66</b>	<b>9.74</b>	<b>770</b>	<b>0.57</b>	<b>0.69</b>	<b>9.2</b>	<b>10</b>	<b>&lt;5.0</b>
MW-3	12/2/1994	22.15	7.35	394,000	1,200	ND	1,800	4,000	-
29.50	3/6/1995	20.09	9.16	21,000	400	150	24	62	-
29.25	7/11/1995	19.99	9.57	12,000	ND	10	16	99	-
29.56	5/10/1996	20.24	9.32	8,600	ND	7.6	16	84	-
	10/2/1996	20.90	8.66	11,000	ND	7.4	19	92	-
	2/28/1997	20.12	9.44	6,000	ND	4.4	17	88	50
	9/16/1997	20.97	8.59	6,500	<0.5	0.69	1.2	6.7	<5.0
	2/5/1998	20.39	9.17	5,400	<0.5	6.3	15	86	<63
	8/11/1998	19.95	9.61	2,700	<0.5	3.5	3.2	12	<10
	2/8/1999	20.58	8.98	6,100	<0.5	8.1	18	80	<140
	2/17/1999	20.53	9.03	-	-	-	-	-	-
	2/24/1999	22.53	7.03	-	-	-	-	-	-
	3/3/1999	20.28	9.28	-	-	-	-	-	-
	3/10/1999	22.45	7.11	-	-	-	-	-	-
	3/17/1999	20.26	9.30	-	-	-	-	-	-
	5/4/1999	20.24	9.32	11,000	<2	<2	9.8	140	<10
	7/20/1999	20.68	8.88	11,000	<0.5	3.1	13	88	<80
	10/5/1999	20.81	8.75	31,000	62	<0.5	21	170	<90
	1/7/2000	21.09	8.47	13,000	<0.5	<2	21	140	<80
	4/6/2000	20.48	9.08	5,300	1.5	1.4	9.8	60	<30
	7/31/2000	20.62	8.94	7,100	3.5	1.0	12	66	<5.0
	10/3/2000	21.13	8.43	8,000	<0.5	3.3	11	70	<40
	1/12/2001	21.45	8.11	11,000	4.3	6.7	11	73	<70
	4/11/2001	21.69	7.87	10,000	<0.5	<0.5	11	65	<10

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**Table 1 - Groundwater Elevation and Analytical Data.**

Douglas Parking Company, 1721 Webster Street, Oakland, California

Boring / Well ID <i>TOC</i>	Date	Depth to Water (ft)	Groundwater Elevation (ft amsl)	TPHg	Benzene	Toluene	Ethylbenzene (µg/L)	Xylenes	MTBE
MW-3	7/6/2001	21.60	7.96	13,000	5.3	1.6	11	58	<5.0
(cont'd)	10/25/2001	21.70	7.86	11,000	<0.5	3.0	15	70	<10
	3/4/2002	21.65	7.91	1,900	1.3	0.8	<0.5	15	<5.0
	4/18/2002	21.77	7.79	1,500	1.0	0.97	1.3	5.8	<5
	7/9/2002	22.03	7.53	13,000	6.8	5.7	13	59	<90
	10/4/2002	22.15	7.41	8,400	<10	<10	<10	42	<100
	1/12/2003	21.13	8.43	9,000	9.5	5.1	8.5	46	<90
	4/21/2003	20.63	8.93	10,000	<5.0	<5.0	8.5	32	<50
32.56	7/21/2003	20.68	11.88	9,600	<2.5	<2.5	7.4	39	48 (<1.0)
	10/2/2003	20.99	11.57	12,000	<5.0	<5.0	10	40	<90
	1/15/2004	20.74	11.82	13,000	37	41	78	930	<50
	4/5/2004	20.59	11.97	4,500	<1.7	<1.7	<1.7	12	<17
	8/9/2004	22.18	10.38	2,100	<1.0	3.7	<1.0	8.1	<10
	10/7/2004	22.79	9.77	2,400	6.5	26	7.5	89	<15
	2/7/2005	20.35	12.21	6,800	2.2	5.6	2.0	12	<30
	4/5/2005	19.95	12.61	6,100	2.3	2.6	1.3	8.3	<45 (<0.5)
	7/6/2005	19.93	12.63	4,500	<1.0	1.5	1.0	8.3	<10
	10/10/2005	20.45	12.11	3,800	0.73	<0.5	0.98	5.7	<15
	1/26/2006	20.05	12.51	5,100	<0.5	1.1	<0.5	6.6	<15
	4/10/2006	19.39	13.17	1,900	0.55	1.6	0.51	4.1	<10
	7/6/2006	20.25	12.31	5,600	<1.0	2.3	<1.0	6.4	<20
	10/26/2006	21.07	11.49	8,000	2.5	1.0	2.3	12	<35
	1/19/2007	21.38	11.18	77,000	19	40	9.5	130	<300
	4/17/2007	21.45	11.11	7,400	2.7	6.6	1.1	12	<40
	7/6/2007	21.29	11.27	7,100	2.4	5.6	0.85	10	<30
	10/15/2007	21.62	10.94	10,000	<5.0	<5.0	<5.0	14	<50
	1/17/2008	21.68	10.88	6,400	1.8	<0.5	1.0	8.4	23
	4/9/2008	21.42	11.14	4,700	1.7	2.2	<0.5	3.8	<18
	7/17/2008	22.10	10.46	7,700	2.9	3.1	1.4	11	<60
	10/27/2008	22.13	10.43	9,700	<1.7	1.8	2.3	11	<17
	1/9/2009	22.27	10.29	9,800	1.7	2.0	3.0	14	<17
	4/27/2009	21.74	10.82	8,700	1.9	3.3	<1.7	11	<50
	7/9/2009	21.92	10.64	10,000	<2.5	4.1	2.6	11	<60
	2/3/2010	21.55	11.01	5,300	1.5	2.3	<0.5	2.7	<25
	7/13/2010	21.31	11.25	4,400	<2.5	9.0	<2.5	4.6	<25
	1/17/2011	20.75	11.81	4,100	1.2	1.8	<0.5	2.7	<20
	7/12/2011	20.14	12.42	4,500	2.4	2.8	<0.5	5.0	<25
	1/11/2012	20.80	11.76	3,000	1.1	1.6	<0.5	1.9	<15
	7/25/2012	20.44	12.12	5,400	<1.7	<1.7	<1.7	4.1	<17
	1/25/2013	20.84	11.72	4,900	<1.7	2.7	<1.7	3.5	<17
	7/29/2013	21.48	11.08	9,700	<2.5	<2.5	<2.5	<2.5	<25
	1/28/2014	22.08	10.48	12,000	2.8	2.8	<2.5	4.6	<25
	7/24/2014	22.15	10.41	6,700	2.2	<1.7	1.9	5.2	<35
	1/22/2015	21.76	10.80	8,900	<5.0	<5.0	<5.0	<5.0	<50
	<b>7/20/2015</b>	<b>22.14</b>	<b>10.42</b>	<b>3,600</b>	<b>&lt;1.7</b>	<b>&lt;1.7</b>	<b>&lt;1.7</b>	<b>3.5</b>	<b>&lt;17</b>
MW-4	5/10/1996	16.98	8.31	14,000	ND	1,200	720	3,100	-
25.29	10/2/1996	17.65	7.64	12,000	ND	650	580	2,200	-
	2/28/1997	16.80	8.49	13,000	ND	1,100	750	2,700	110
	9/17/1997	17.93	7.36	13,000	<2.5	820	750	2,900	<190
	2/5/1998	16.78	8.51	13,000	<1.0	690	690	2,900	<170
	8/11/1998	16.59	8.70	15,000	<5	360	520	1,900	280
	2/8/1999	17.10	8.19	9,800	<5	680	770	2,200	300
	2/24/1999	18.95	6.34	-	-	-	-	-	-
	3/3/1999	16.80	8.49	-	-	-	-	-	-

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**Table 1 - Groundwater Elevation and Analytical Data.**

Douglas Parking Company, 1721 Webster Street, Oakland, California

Boring / Well ID TOC	Date	Depth to Water (ft)	Groundwater Elevation (ft amsl)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
				(µg/L)					
MW-4	3/10/1999	16.86	8.43	-	-	-	-	-	-
(cont'd)	3/17/1999	16.82	8.47	-	-	-	-	-	-
	5/4/1999	16.86	8.43	11,000	46	600	620	1,900	<100
	7/20/1999	17.30	7.99	13,000	<0.5	470	7.0	2,000	<150
	10/5/1999	17.43	7.86	18,000	4.4	720	800	2,100	<120
	1/7/2000	17.78	7.51	18,000	<2	930	990	2,700	<30
	4/6/2000	17.17	8.12	8,000	31	390	530	1,300	<10
	7/31/2000	17.21	8.08	6,200	13	170	460	850	<10
	10/3/2000	18.00	7.29	14,000	42	820	730	2,000	<50
	1/12/2001	18.20	7.09	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	4/11/2001	18.31	6.98	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	7/6/2001	18.35	6.94	470	2.3	1.6	0.81	43	<5.0
	10/25/2001	18.47	6.82	110	0.70	<0.5	<0.5	3.3	<5.0
	3/4/2002	18.43	6.86	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	4/18/2002	18.61	6.68	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	7/9/2002	19.50	5.79	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	10/4/2002	19.83	5.46	310	2.0	2.9	13	16	<0.5
	1/12/2003	19.07	6.22	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	4/21/2003	18.71	6.58	<50	<0.5	<0.5	<0.5	<0.5	<5.0
28.29	7/21/2003	18.81	9.48	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	10/2/2003	19.02	9.27	59	0.78	<0.5	1.1	0.91	<5.0
	1/15/2004	18.68	9.61	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	4/5/2004	17.41	10.88	6,200	29	250	450	730	<100
	8/9/2004	19.07	9.22	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	10/7/2004	19.65	8.64	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	2/7/2005	17.21	11.08	8,700	48	340	550	720	<100
	4/5/2005	16.78	11.51	6,900	27	290	520	660	<170 (<0.5)
	7/6/2005	16.98	11.31	5,600	<5.0	130	470	480	<50
	10/10/2005	17.59	10.70	6,300	23	78	530	430	<50
	1/26/2006	17.08	11.21	5,600	41	68	400	290	<120
	4/10/2006	16.27	12.02	2,900	39	32	200	140	<60
	7/6/2006	17.20	11.09	5,400	65	59	340	150	<120
	10/26/2006	18.06	10.23	7,200	72	46	460	200	<150
	1/19/2007	18.29	10.00	7,100	140	35	520	150	<200
	4/17/2007	18.30	9.99	4,900	90	32	290	89	<110
	7/6/2007	18.00	10.29	4,600	91	30	210	55	<90
	10/15/2007	18.52	9.77	8,600	200	62	480	110	<210
	1/17/2008	18.46	9.83	820	15	3.7	25	9.3	<10
	4/9/2008	18.23	10.06	3,600	55	20	160	64	<60
	7/17/2008	18.72	9.57	6,500	210	47	510	180	<180
	10/27/2008	19.07	9.22	7,700	200	28	450	87	<150
	1/9/2009	19.12	9.17	4,400	180	34	180	93	<150
	4/27/2009	18.52	9.77	2,500	110	24	190	69	<150
	7/9/2009	18.78	9.51	5,600	150	34	270	83	<250
	2/3/2010	18.24	10.05	2,900	38	20	69	54	<50
	7/13/2010	17.59	10.70	1,100	20	7.6	43	26	<60
	1/17/2011	17.42	10.87	2,900	16	43	60	99	<15
	7/12/2011	17.01	11.28	<50	<0.5	0.56	0.52	0.93	<5.0
	1/11/2012	17.68	10.61	4,100	52	52	49	130	<90
	7/25/2012	17.26	11.03	100	1.2	<0.5	<0.5	<0.5	<5.0
	1/25/2013	17.58	10.71	3,500	33	20	23	65	<35
	7/29/2013	18.34	9.95	97	4.7	<0.5	<0.5	0.70	<10

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**Table 1 - Groundwater Elevation and Analytical Data.**

Douglas Parking Company, 1721 Webster Street, Oakland, California

Boring / Well ID TOC	Date	Depth to Water (ft)	Groundwater Elevation (ft amsl)	TPHg <	Benzene	Toluene	Ethylbenzene (µg/L)	Xylenes	MTBE >	
MW-4 (cont'd)	1/28/2014	18.99	9.30	<50	1.2	<0.5	<0.5	<0.5	<5.0	
	7/24/2014	19.05	9.24	4,200	83	19	40	32	<50	
	1/22/2015	18.57	9.72	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	<b>7/20/2015</b>	--	--			<b>--well paved over--</b>				
MW-5 21.97	5/10/1996	14.60	7.37	ND	ND	ND	ND	ND	-	
	10/2/1996	15.25	6.72	ND	ND	ND	ND	ND	-	
	2/28/1997	14.31	7.66	ND	ND	ND	ND	ND	ND	
	9/17/1997	15.18	6.79	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	
	2/5/1998	13.64	8.33	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	8/11/1998	13.92	8.05	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	2/8/1999	14.19	7.78	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	2/24/1999	16.18	5.79	-	-	-	-	-	-	
	3/3/1999	14.23	7.74	-	-	-	-	-	-	
	3/10/1999	14.32	7.65	-	-	-	-	-	-	
	3/17/1999	14.25	7.72	-	-	-	-	-	-	
	5/4/1999	14.41	7.56	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	7/20/1999	14.44	7.53	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	10/5/1999	14.79	7.18	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	1/7/2000*	15.23	6.74	-	-	-	-	-	-	
	4/6/2000	14.74	7.23	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	7/31/2000	14.52	7.45	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	10/3/2000	15.37	6.60	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	1/12/2001	15.70	6.27	6,400	13	290	450	1,100	<40	
	4/11/2001	15.78	6.19	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	7/6/2001	15.97	6.00	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	10/25/2001	16.05	5.92	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	3/4/2002	16.21	5.76	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	4/18/2002	16.59	5.38	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	7/9/2002	16.94	5.03	170	1.0	0.65	2.1	4.0	<15	
	10/4/2002	17.14	4.83	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	1/12/2003	16.58	5.39	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	4/21/2003	15.90	6.07	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	7/21/2003	16.03	8.96	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	24.99	10/2/2003	16.33	8.66	<50	<0.5	<0.5	<0.5	<0.5	<5.0
		1/15/2004	16.21	8.78	<50	<0.5	<0.5	<0.5	<0.5	<5.0
		4/5/2004	15.01	9.98	<50	<0.5	<0.5	<0.5	<0.5	<5.0
		8/9/2004	16.85	8.14	<50	<0.5	<0.5	<0.5	<0.5	<5.0
		10/7/2004	17.48	7.51	<50	<0.5	<0.5	<0.5	<0.5	<5.0
		2/7/2005	16.52	8.47	<50	<0.5	<0.5	<0.5	<0.5	<5.0
		4/5/2005	14.45	10.54	<50	<0.5	<0.5	<0.5	<0.5	<5.0 (<0.5)
		7/6/2005	14.85	10.14	<50	<0.5	<0.5	<0.5	<0.5	<5.0
		10/10/2005	15.44	9.55	<50	<0.5	<0.5	<0.5	<0.5	<5.0
		1/26/2006	14.96	10.03	<50	<0.5	<0.5	<0.5	<0.5	<5.0
		4/10/2006	14.01	10.98	<50	<0.5	<0.5	<0.5	<0.5	<5.0
		7/6/2006	15.17	9.82	<50	<0.5	<0.5	<0.5	<0.5	<5.0
		10/26/2006	15.94	9.05	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	1/19/2007	16.05	8.94	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	4/17/2007	15.99	9.00	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	7/6/2007	15.50	9.49	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	10/15/2007	16.27	8.72	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	1/17/2008	15.10	9.89	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	4/9/2008	15.96	9.03	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	7/17/2008	16.44	8.55	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	10/27/2008	16.78	8.21	<50	<0.5	<0.5	<0.5	<0.5	<5.0	



# PANGEA

**Table 1 - Groundwater Elevation and Analytical Data.**

Douglas Parking Company, 1721 Webster Street, Oakland, California

Boring / Well ID TOC	Date	Depth to Water (ft)	Groundwater Elevation (ft amsl)	TPHg Benzene Toluene Ethylbenzene Xylenes MTBE (µg/L)						
				<	<	<	<	<	>	
MW-5 (cont'd)	1/9/2009	16.75	8.24	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	4/27/2009	16.21	8.78	--	--	--	--	--	--	--
	7/9/2009	16.48	8.51	--	--	--	--	--	--	--
	2/3/2010	15.77	9.22	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	7/13/2010	15.34	9.65	--	--	--	--	--	--	--
	1/17/2011	14.93	10.06	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	7/12/2011	14.81	10.18	--	--	--	--	--	--	--
	1/11/2012	15.44	9.55	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	7/25/2012	14.79	10.20	--	--	--	--	--	--	--
	1/25/2013	15.21	9.78	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	7/29/2013	16.03	8.96	--	--	--	--	--	--	--
	1/28/2014	16.65	8.34	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	7/24/2014	16.75	8.24	--	--	--	--	--	--	--
	1/22/2015	16.25	8.74	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	<b>7/20/2015</b>	<b>16.82</b>	<b>8.17</b>	--	--	--	--	--	--	--
MW-6 30.99	6/30/2003	19.60	11.39	68,000	950	6,000	2,400	10,000	<1,000	
	7/21/2003	19.67	11.32	120,000	170	1,400	1,100	10,000	<1,000	
	10/2/2003	19.97	11.02	16,000	7.6	200	38	1,800	<100	
	1/15/2004	19.55	11.44	14,000	48	51	94	1,100	<50	
	4/5/2004	19.17	11.82	24,000	180	900	430	1,800	<500	
	8/9/2004	20.98	10.01	5,300	6.4	25	5.3	69	<17 (<0.5)	
	10/7/2004	21.52	9.47	5,600	11	58	18	210	<50 (<0.5)	
	2/7/2005	19.00	11.99	31,000	120	620	310	1,200	<500	
	4/5/2005	18.60	12.39	21,000	170	1,100	350	1,300	<500 (<5.0)	
	7/6/2005	18.56	12.43	26,000	130	920	320	1,200	<500	
	10/10/2005	19.99	11.00	19,000	140	840	250	980	<500	
	1/26/2006	18.70	12.29	10,000	140	1,100	270	1,200	<170	
	4/10/2006	18.04	12.95	13,000	140	1,000	280	1,000	<250	
	7/6/2006	18.80	12.19	17,000	150	1,000	290	1,000	<250	
	10/26/2006	19.62	11.37	23,000	230	660	470	1,500	<500	
	1/19/2007	19.92	11.07	18,000	190	620	350	1,100	<150	
	4/17/2007	19.97	11.02	23,000	380	1,400	590	2,000	<450	
	7/6/2007	19.81	11.18	28,000	600	3,000	900	2,700	<500	
	10/15/2007	20.15	10.84	25,000	290	680	410	1,100	<250	
	10/15/2007	20.15	10.84	25,000	290	680	410	1,100	<250	
	1/17/2007	20.22	10.77	16,000	200	130	130	460	<150	
	4/9/2008	19.86	11.13	18,000	320	870	480	1,500	<250	
	7/17/2008	20.36	10.63	18,000	320	510	420	1,200	<500	
	10/27/2008	20.69	10.30	31,000	320	320	410	990	<350	
	1/9/2009	20.83	10.16	22,000	340	390	560	1,400	<250	
	4/27/2009	20.27	10.72	13,000	110	97	380	1,100	<350	
	7/9/2009	20.43	10.56	18,000	250	520	470	1,300	<450	
	2/3/2010	20.14	10.85	6,200	82	180	190	550	<150	
	7/13/2010	19.29	11.70	12,000	260	420	480	1,600	<450	
	1/17/2011	19.31	11.68	4,900	70	52	210	500	<50	
	7/12/2011	18.73	12.26	1,400	20	8.5	64	130	<30	
	1/11/2012	19.39	11.60	6,000	100	38	310	700	<210	
	7/25/2012	19.02	11.97	2,800	31	13	140	240	<75	
1/25/2013	19.35	11.64	5,400	86	34	310	620	<100		
7/29/2013	19.97	11.02	82	1.2	<0.5	<0.5	<0.5	<5.0		
1/28/2014	20.60	10.39	2,600	36	11	52	53	<50		
7/24/2014	20.70	10.29	9,600	160	53	410	590	<70		
1/22/2015	20.31	10.68	7,600	25	13	53	86	<50		
<b>7/20/2015</b>	<b>20.68</b>	<b>10.31</b>	<b>12,000</b>	<b>160</b>	<b>73</b>	<b>540</b>	<b>650</b>	<b>&lt;450</b>		

# PANGEA

**Table 1 - Groundwater Elevation and Analytical Data.**

Douglas Parking Company, 1721 Webster Street, Oakland, California

Boring / Well ID TOC	Date	Depth to Water (ft)	Groundwater Elevation (ft amsl)	TPHg <	Benzene	Toluene	Ethylbenzene (µg/L)	Xylenes	MTBE >
MW-7 33.11	6/30/2003	21.40	11.71	170	<0.5	2.1	2.0	8.7	<5.0
	7/21/2003	21.44	11.67	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	10/2/2003	21.73	11.38	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	1/15/2004	21.57	11.54	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	4/5/2004	20.84	12.27	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	8/9/2004	22.68	10.43	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	10/7/2004	23.27	9.84	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	2/7/2005	20.60	12.51	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	4/5/2005	20.22	12.89	<50	<0.5	0.75	<0.5	<0.5	<5.0 (<0.5)
	7/6/2005	20.25	12.86	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	10/10/2005	20.70	12.41	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	1/26/2006	20.32	12.79	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	4/10/2006	19.62	13.49	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	7/6/2006	20.47	12.64	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	10/26/2006	21.30	11.81	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	1/19/2007	21.62	11.49	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	4/17/2007		11.49	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	7/6/2007	21.59	11.52	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	10/15/2007	21.85	11.26	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	1/17/2007	21.90	11.21	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	4/9/2008	21.61	11.50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	7/17/2008	22.09	11.02	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	10/27/2008	22.39	10.72	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	1/9/2009	22.52	10.59	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	4/27/2009	21.98	11.13	--	--	--	--	--	--
	7/9/2009	22.18	10.93	--	--	--	--	--	--
	2/3/2010	21.87	11.24	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	7/13/2010	21.01	12.10	---	---	---	---	---	---
	1/17/2011	21.07	12.04	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	7/12/2011	20.72	12.39	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	1/11/2012	21.13	11.98	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	7/25/2012	20.75	12.36	--	--	--	--	--	--
	1/25/2013	21.10	12.01	<50	<0.5	<0.5	<0.5	<0.5	<5.0
7/29/2013	21.70	11.41	--	--	--	--	--	--	
1/28/2014	22.34	10.77	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
7/24/2014	22.41	10.70	--	--	--	--	--	--	
1/22/2015	21.99	11.12	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
<b>7/20/2015</b>	--	--			<b>--well paved over--</b>				
AS-1	7/6/2006	19.53	--	18,000	2,700	570	700	1,900	<500
	10/26/2006	20.33	--	15,000	1,900	340	360	1,400	<250
	1/19/2007	20.64	--	5,700	1,100	110	88	630	<50
	1/19/2007	20.64	--	5,700	1,100	110	88	630	<50
	4/17/2007	20.71	--	--	--	--	--	--	--
	7/16/2007	--	--	--	--	--	--	--	--
	10/15/2007	--	--	--	--	--	--	--	--
	1/17/2008	--	--	--	--	--	--	--	--
	4/9/2008	--	--	--	--	--	--	--	--
	1/25/2013	--	--	70	10	<0.5	<0.5	<0.5	<5.0
AS-2	7/6/2006	22.26	--	2,100	6.1	<0.5	33	200	<20
	10/26/2006	23.25	--	280	1.1	<0.5	<0.5	6.0	<15
	1/19/2007	23.61	--	2,100	2.3	<0.5	96	310	<35
	4/17/2007	23.70	--	--	--	--	--	--	--

# PANGEA

**Table 1 - Groundwater Elevation and Analytical Data.**

Douglas Parking Company, 1721 Webster Street, Oakland, California

Boring / Well ID TOC	Date	Depth to Water (ft)	Groundwater Elevation (ft amsl)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
				(µg/L)					
AS-2 (cont'd)	7/16/2007	--	--	--	--	--	--	--	--
	10/15/2007	--	--	--	--	--	--	--	--
	1/17/2008	--	--	--	--	--	--	--	--
	4/9/2008	--	--	--	--	--	--	--	--
	1/25/2013	22.02	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
AS-3	7/6/2006	21.77	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	10/26/2006	22.66	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	1/19/2007	22.97	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	4/17/2007	23.06	--	--	--	--	--	--	--
	7/16/2007	--	--	--	--	--	--	--	--
	10/15/2007	--	--	--	--	--	--	--	--
	1/17/2008	--	--	--	--	--	--	--	--
	4/9/2008	--	--	--	--	--	--	--	--
	1/25/2013	22.60	--	<50	<0.5	<0.5	0.55	<0.5	<5.0
Trip Blank	01/12/01	-	-	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	4/11/2001	-	-	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	7/6/2001	-	-	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	3/4/2002	-	-	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	10/2/2003	-	-	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	10/15/2007	--	--	--	--	--	--	--	--
<b>Grab Groundwater</b>									
SB-A	2/22/1996	--	--	16,000	38	16	180	620	--
SB-B	2/22/1996	--	--	20,000	100	29	320	590	--
SB-C	2/22/1996	--	--	1,200	130	100	68	230	--
SB-D	2/22/1996	--	--	7,400	550	110	160	89	--
SB-E	2/23/1996	--	--	16,000	31	160	390	1,400	--
SB-F	2/23/1996	--	--	<50	<0.5	1.4	<0.5	2.3	--
SB-G	2/23/1996	--	--	5,200	1.3	<0.5	0.7	<0.5	--
EB-1GWS	7/8/1994	--	--	62,000	<0.5	26	850.0	8,900	--
EB-2GWS	7/8/1994	--	--	160,000	5,300	20,000	2,100	17,000	--
EB-3GWS	7/8/1994	--	--	87,000	1,400	21,000	1,700	19,000	--
EB-4GWS	7/8/1994	--	--	350,000	290	1,300	3,200	31,000	--
EB-5GWS	7/8/1994	--	--	120,000	2,100.0	13,000	1,300.0	16,000	--
EB-6GWS	7/8/1994	--	--	230,000	10,000	34,000	2,300	16,000	--

# PANGEA

**Table 1 - Groundwater Elevation and Analytical Data.**

Douglas Parking Company, 1721 Webster Street, Oakland, California

Boring / Well ID <i>TOC</i>	Date	Depth to Water (ft)	Groundwater Elevation (ft amsl)	TPHg <	Benzene	Toluene	Ethylbenzene (µg/L)	Xylenes	MTBE >
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**Notes and Abbreviations:**

TOC = Top of casing elevations in feet above mean sea level.

ft amsl = Measured in feet above mean sea level

µg/L = Micrograms per liter.

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

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

MTBE = Methyl tertiary butyl ether by EPA Method 8021B, and by EPA Method 8260 in parenthesis.

<0.5 = Concentration not detected above specific laboratory reporting limit.

-- = Not analyzed, not sampled, or not applicable.

ND = Not detected.

Data prior to 7/11/95 from Gen Tech and Piers Environmental Quarterly Groundwater Monitoring Reports dated December 2, 1994 and March 6, 1995, respectively.

On July 31, 2003, Virgil Chavez Land Surveying of Vallejo, California surveyed monitoring wells using a benchmark in the top of the curb near the SW return of the NW corner of 34th and Broadway.

# Pangea

**Table 2. Subslab Gas Analytical Data** - Douglas Parking, 1721 Webster Street, Oakland, California

Boring/ Sample ID	Date Sampled	Sample Depth (ft - ft bgs)	ug/m <sup>3</sup>										Notes
			Benzene	Toluene	Ethylbenzene	Xylenes	TPH Gasoline	MTBE	Naphthalene	Acetylene	Helium	Oxygen	
Residential ESL for shallow soil gas:			42	160,000	490	52,000	300,000	4,700	36	--	--	For SG/SS samples	
Commercial ESL for shallow soil gas:			420	1,300,000	4,900	440,000	2,500,000	47,000	360	--	--	For SG/SS samples	
No Bio-Attenuation Zone, <b>Residential</b> (LTCP)			85	--	1,100	--	--	--	93	--	--		
No Bio-Attenuation Zone, <b>Commercial</b> (LTCP)			280	--	3,600	--	--	--	310	--	--		
With Bio-Attenuation Zone, <b>Residential</b> (LTCP)			85,000	--	1,100,000	--	--	--	93,000	--	--		
With Bio-Attenuation Zone, <b>Commercial</b> (LTCP)			280,000	--	3,600,000	--	--	--	310,000	--	--		

**Subslab Gas Samples**

SS-1	11/14/2013	0.5 - 0.7	<1.6	<1.9	<2.2	<6.6	2,300	<1.8	<5.3	--	0.13	17	For other VOC detections see the lab report.
	6/23/2015	0.5 - 0.7	--floor refinished, probe covered--										
SS-2	11/13/2013	0.5 - 0.7	58	2.7	<2.2	<6.6	2,000	<1.8	<5.3	--	0.48	16	For other VOC detections see the lab report.
	6/23/2015	0.5 - 0.7	<1.6	3.7	2.3	14	<720	<1.8	<5.3	<50	--	--	
SS-3	11/13/2013	0.8 - 1.0	71	2.6	<2.2	<6.6	1,400	<1.8	<5.3	--	0.13	17	For other VOC detections see the lab report.
	6/23/2015	0.8 - 1.0	<1.6	3.3	<2.2	13	1,100	<1.8	<5.3	<50	--	--	

**Abbreviations:**

SG-1 = Soil Gas Sample

SS-1 = Subslab Sample

ug/m<sup>3</sup> = Micrograms per cubic meter of air results calculated by laboratory from parts per billion results using normal temperature and pressure (NPT).

ft - ft bgs = Depth interval below ground surface (bgs) in feet.

% = Percent of total sample volume.

Volatile organic compounds (VOCs) by EPA Method TO-15 (partial list), uses GC/MS scan.

Oxygen by Modified ASTM Method D-1946, uses GC/TCD scan.

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

MRL = Method reporting limit. Laboratory reporting limit based on parts per billion on volume to volume basis (ppbv/v) and converted to ug/m<sup>3</sup>.

ESL = Environmental Screening Level for Shallow Soil Gas with Residential and Commercial/Industrial Land Use, for samples less than five feet below a building foundation or ground surface, established by the SFBRWQCB, Interim Final - November 2007, and amended in December 2013 (Table E-2).

ESL established by the SFBRWQCB, Interim Final - November 2007, and amended in December 2013.

LTCP = Low Threat Closure Policy

**Bold** = Concentrations above Lowest ESLs for Commercial Land Use for shallow soil gas (SG & SS samples).

**Table 3. SVE/AS System Performance Summary - 1721 Webster Street, Oakland, California**

Date	Sample ID	FIELD MEASUREMENTS				ANALYTICAL RESULTS		REMOVAL				Air Sparge Unit on? (yes/no)	Comments
		Hour Meter Reading (hours)	System Vapor Flow Rate (cfm)	Vapor Applied Vacuum ("H2O)	FID Reading (ppm)	TPHg Lab Data (ppmv)	Benzene Lab Data (ppmv)	SVE TPHg Removal Rate (lbs/day)	Cumulative SVE TPHg Removal (lbs)	SVE Benzene Removal Rate (lbs/day)	Cumulative SVE Benzene Removal (lbs)		
10/29/07	N/A	1.0	0	0	0	0	0	0	0	0	0	no	System start up
10/29/07	SYS-INF SYS-MID SYS-EFF	1.5	104	68	3,400	9,600	76	320.3	6.7	2.30	0.05	no	
					8	23	ND<0.077						
					0	27	0.15						
10/30/07	SYS-INF SYS-MID SYS-EFF	24.3	50	27	37,000	9,000	74	144.4	143.8	1.08	1.07	no	Readings upon arrival
					635	ND<7.0	ND<0.077						
					700	60	0.29						
10/30/07	SYS-INF SYS-MID SYS-EFF	25.2	45	27	3,200	1,500	11	21.7	144.6	0.14	1.08	no	readings after dilution air introduced to reduce noise and limit hydrocarocarbon loading on carbon (prevent thermal excursion/fire).
					620	ND<7.0	ND<0.077						
					530	ND<7.0	ND<0.077						
10/31/07	SYS-INF SYS-MID SYS-EFF	48.8	40	27	922*	880	8.6	11.3	155.7	0.10	1.17	no	Dilution airflow set at ~25% of total flow
					0*	ND<7.0	ND<0.077						
					0*	ND<7.0	ND<0.077						
11/01/07	SYS-INF SYS-MID SYS-EFF	78.8	39	27	1,475	---	---	11.0	169.5	0.10	1.30	no	
					14	---	---						
					9	---	---						
11/02/07	SYS-INF SYS-MID SYS-EFF	100.2	40	27	736	---	---	11.3	179.6	0.10	1.39	no	Shut system down at 100.5 hours for weekend
					19	---	---						
					10	---	---						
11/05/07	SYS-INF SYS-MID SYS-EFF	100.9	38	27	1,546	---	---	10.7	179.9	0.10	1.39	no	Restart system at 100.5 hours on 11/5/07
					30	---	---						
					4	---	---						
11/06/07	SYS-INF SYS-MID SYS-EFF	126.7	38	27	213	---	---	10.7	191.4	0.10	1.49	no	
					0	---	---						
					0	---	---						
11/07/07	SYS-INF SYS-MID SYS-EFF	154.7	45	27	170	---	---	12.7	206.2	0.11	1.62	no	
					0	---	---						
					0	---	---						

**Table 3. SVE/AS System Performance Summary - 1721 Webster Street, Oakland, California**

Date	Sample ID	FIELD MEASUREMENTS				ANALYTICAL RESULTS		REMOVAL				Air Sparge Unit on? (yes/no)	Comments
		Hour Meter Reading (hours)	System Vapor Flow Rate (cfm)	Applied Vacuum ("H2O)	FID Reading (ppm)	TPHg Lab Data (ppmv)	Benzene Lab Data (ppmv)	SVE TPHg Removal Rate (lbs/day)	Cumulative SVE TPHg Removal (lbs)	SVE Benzene Removal Rate (lbs/day)	Cumulative SVE Benzene Removal (lbs)		
11/08/07	SYS-INF SYS-MID SYS-EFF	178.2	47	27	160 0 0	--- --- ---	--- --- ---	13.3	219.2	0.12	1.74	no	Lab analysis performed for methane; 2.4 ul/L detected in SYS EFF
11/09/07	SYS-INF SYS-MID SYS-EFF	200.3	45	31	163 0 0	--- --- ---	--- --- ---	12.7	230.9	0.11	1.84	no	Shut system down at 200.3 hours for weekend
11/12/07	SYS-INF SYS-MID SYS-EFF	206.3	42	28	211 0 2	--- --- ---	--- --- ---	11.9	233.9	0.11	1.87	yes	Restart system at 200.3 hours on 11/12/07; start air sparge system
11/13/07	SYS-INF SYS-MID SYS-EFF	225.6	46	28	2,937 0 4	--- --- ---	--- --- ---	13.0	244.3	0.12	1.96	yes	
11/14/07	SYS-INF SYS-MID SYS-EFF	253.0	45	28	4,113 0 0	--- --- ---	--- --- ---	12.7	258.9	0.11	2.09	yes	
11/15/07	SYS-INF SYS-MID SYS-EFF	278.4	45	28	2,810 0 0	--- --- ---	--- --- ---	12.7	272.3	0.11	2.21	yes	
11/16/07	SYS-INF SYS-MID SYS-EFF	301.4	43	28	2,570 0 0	--- --- ---	--- --- ---	12.1	283.9	0.11	2.31	yes	
11/17/07	SYS-INF SYS-MID SYS-EFF	327.1	42	41	11 0 0	--- --- ---	--- --- ---	11.9	296.6	0.11	2.42	yes	
11/18/07	SYS-INF SYS-MID SYS-EFF	352.1	44	41	530 0 0	--- --- ---	--- --- ---	12.4	309.6	0.11	2.54	yes	
11/19/07	SYS-INF SYS-MID SYS-EFF	375.2	42	41	24 0 0	22 --- ---	<0.077 --- ---	0.3	309.9	0.00	2.54	yes	

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Date	Sample ID	FIELD MEASUREMENTS				ANALYTICAL RESULTS		REMOVAL				Air Sparge Unit on? (yes/no)	Comments
		Hour Meter Reading (hours)	System Vapor Flow Rate (cfm)	Vapor Applied Vacuum ("H2O)	FID Reading (ppm)	TPHg Lab Data (ppmv)	Benzene Lab Data (ppmv)	SVE Removal Rate (lbs/day)	Cumulative SVE TPHg Removal (lbs)	SVE Benzene Removal Rate (lbs/day)	Cumulative SVE Benzene Removal (lbs)		
11/20/07	SYS-INF SYS-MID SYS-EFF	398.8	49	68	660 0 0	--- --- ---	---	0.3	310.2	0.00	2.54	yes	Increased system vacuum by closing off recirculation valve on blower.
11/26/07	SYS-INF SYS-MID SYS-EFF	426.3	49	68	1,800 0 0	--- --- ---	---	0.3	310.6	0.00	2.54	yes	Received verbal approval from BAAQMD to decrease monitoring from daily to weekly.
12/03/07	SYS-INF SYS-MID SYS-EFF	593.5	48	61	1,300 0 0	--- --- ---	---	0.3	313.0	0.00	2.54	yes	
12/14/07	SYS-INF SYS-MID SYS-EFF	853.0	52	54	280 0 0	280 <7.0 <7.0	0.17 <0.077 <0.077	4.7	363.5	0.003	2.57	yes	
12/21/07	SYS-INF SYS-MID SYS-EFF	1,021.5	58	54	0 0 0	170 <7.0 <7.0	0.14 <0.077 <0.077	3.2	385.7	0.00	2.58	yes	SVE shutdown after reading, restarted
12/27/07	SYS-INF SYS-MID SYS-EFF	1,163.5	40	54	NM NM NM	--- --- ---	---	2.2	398.6	0.00	2.59	yes	SVE shutdown on arrival, restart and monitor
12/28/07	SYS-INF SYS-MID SYS-EFF	1,188.5	50	54	14 0 0	14 <7.0 <7.0	<0.077 <0.077 <0.077	0.2	398.8	0.00	2.59	yes	
01/03/08	SYS-INF SYS-MID SYS-EFF	1,329.5	51	54	50 0 0	50 15 <7.0	<0.077 <0.077 <0.077	0.8	403.6	0.00	2.59	yes	
01/10/08	SYS-INF SYS-MID SYS-EFF	1,430.2	50	54	0 0 0	16 13 <7.0	<0.077 <0.077 <0.077	0.3	404.7	0.00	2.59	no	AS system off while sampling
1/15/2008*	SYS-INF SYS-MID SYS-EFF	1,546.0	50	81	--	1,200 7.7 <7.0	2.1 <0.077 <0.077	19.2	497.6	0.03	2.74	yes	



**Table 3. SVE/AS System Performance Summary - 1721 Webster Street, Oakland, California**

Date	Sample ID	FIELD MEASUREMENTS				ANALYTICAL RESULTS		REMOVAL				Air Sparge Unit on? (yes/no)	Comments
		Hour Meter Reading (hours)	System Vapor Flow Rate (cfm)	Vapor Applied Vacuum ("H2O)	FID Reading (ppm)	TPHg Lab Data (ppmv)	Benzene Lab Data (ppmv)	SVE Removal Rate (lbs/day)	Cumulative SVE TPHg Removal (lbs)	SVE Benzene Removal Rate (lbs/day)	Cumulative SVE Benzene Removal (lbs)		
1/23/2008*	SYS-INF SYS-MID SYS-EFF	1,694.5	50	95	--	1,300 11 <7.0	1.6 <0.077 <0.077	20.9	626.6	0.02	2.88	yes	
01/30/08	SYS-INF SYS-MID SYS-EFF	1,864.6	49	81	--	2,300 24 <7.0	2.6 <0.077 <0.077	36.2	882.9	0.04	3.15	yes	
02/06/08	SYS-INF SYS-MID SYS-EFF	2,027.5	50	81	--	1,700 43 <7.0	2.9 <0.077 <0.077	27.3	1,068.0	0.04	3.43	yes	
02/12/08	SYS-INF SYS-MID SYS-EFF	2,173.3	60	95	--	1,500 520 28	1.7 1.1 <0.077	28.9	1,243.4	0.03	3.61	yes	
02/21/08	SYS-INF SYS-MID SYS-EFF	2,394.1	65	95	--	---	---	31.3	1,531.2	0.03	3.91	yes	Samples not picked up by the courier before hold time expired.
02/29/08	SYS-INF SYS-MID SYS-EFF	2,580.5	27	95	--	1,100 890 <7.0	1.4 5.3 <0.077	9.5	1,605.2	0.01	3.99	yes	System shut down for future changeout of carbon in first vessel.
04/07/08	SYS-INF SYS-MID SYS-EFF	2,581.4	44	7.5	--	1,100 ---	1.4 ---	15.5	1,605.8	0.02	3.99	yes	Restart system after carbon changeout
04/10/08	SYS-INF SYS-MID SYS-EFF	2,650.3	26	7	--	1,200 <7.0 <7.0	3.6 <0.077 <0.077	10.0	1,634.5	0.03	4.07	yes	
04/17/08	SYS-INF SYS-MID SYS-EFF	2,826.1	28	8	962 3 3	---	---	10.8	1,713.5	0.03	4.29	yes	
04/23/08	SYS-INF SYS-MID SYS-EFF	2,969.4	26	7.5	--	1,100 <7.0 <7.0	1.5 <0.077 <0.077	9.2	1,768.2	0.01	4.36	yes	

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Date	Sample ID	FIELD MEASUREMENTS				ANALYTICAL RESULTS		REMOVAL				Air Sparge Unit on? (yes/no)	Comments
		Hour Meter Reading (hours)	System Vapor Flow Rate (cfm)	Applied Vacuum ("H2O)	FID Reading (ppm)	TPHg Lab Data (ppmv)	Benzene Lab Data (ppmv)	SVE TPHg Removal Rate (lbs/day)	Cumulative SVE TPHg Removal (lbs)	SVE Benzene Removal Rate (lbs/day)	Cumulative SVE Benzene Removal (lbs)		
04/30/08	SYS-INF SYS-MID SYS-EFF	3,136.8	23	7.5	--	780 <7.0 <7.0	1.4 <0.077 <0.077	5.8	1,808.4	0.01	4.42	yes	
05/07/08	SYS-INF SYS-MID SYS-EFF	3,304.6	28	8	378 0 0	--- --- ---	--- --- ---	7.0	1,857.4	0.01	4.50	yes	
05/14/08	SYS-INF SYS-MID SYS-EFF	3,472.2	26	8	523 6 0	--- --- ---	--- --- ---	6.5	1,902.8	0.01	4.57	yes	
05/23/08	SYS-INF SYS-MID SYS-EFF	3,690.2	28	7	264 0 0	--- --- ---	--- --- ---	7.0	1,966.5	0.01	4.68	yes	
05/30/08	SYS-INF SYS-MID SYS-EFF	3,859.2	36	7	317 1 0	--- --- ---	--- --- ---	9.0	2,029.9	0.01	4.78	yes	
06/05/08	SYS-INF SYS-MID SYS-EFF	3,999.6	38	7	350 0 0	--- --- ---	--- --- ---	9.5	2,085.5	0.02	4.87	yes	
06/13/08	SYS-INF SYS-MID SYS-EFF	4,193.1	38	7	--	700 <7.0 <7.0	1.6 <0.077 <0.077	8.5	2,154.3	0.02	5.01	yes	
06/19/08	SYS-INF SYS-MID SYS-EFF	4336.7	25	7	349 -- 0	--- --- ---	--- --- ---	5.6	2,187.9	0.01	5.08	yes	
06/27/08	SYS-INF SYS-MID SYS-EFF	4,529.7	25	7	335 0 0	--- --- ---	--- --- ---	5.6	2,233.1	0.01	5.18	yes	
07/10/08	SYS-INF SYS-MID SYS-EFF	4,839.0	56	8	256 40 0	--- --- ---	--- --- ---	12.6	2,395.2	0.03	5.51	yes	

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Date	Sample ID	FIELD MEASUREMENTS				ANALYTICAL RESULTS		REMOVAL				Air Sparge Unit on? (yes/no)	Comments
		Hour Meter Reading (hours)	System Vapor Flow Rate (cfm)	Vapor Applied Vacuum ("H2O)	FID Reading (ppm)	TPHg Lab Data (ppmv)	Benzene Lab Data (ppmv)	SVE TPHg Removal Rate (lbs/day)	Cumulative SVE TPHg Removal (lbs)	SVE Benzene Removal Rate (lbs/day)	Cumulative SVE Benzene Removal (lbs)		
07/18/08	SYS-INF	5,032.0	33	8	330	---	7.4	2,454.8	0.02	5.64	yes		
	SYS-MID				174	---							
	SYS-EFF				0	---							
7/24/2008**	SYS-INF	5,178.0	33	8	360	---	7.4	2,499.8	0.02	5.73	yes		
	SYS-MID				187	---							
	SYS-EFF				0	---							
8/1/2008**	SYS-INF	5,368.0	33	8	248	---	7.4	2,558.5	0.02	5.85	yes		
	SYS-MID				193	---							
	SYS-EFF				0	---							
8/8/2008**	SYS-INF	5,536.7	17	4.5	146	---	3.8	2,585.3	0.01	5.91	yes		
	SYS-MID				153	---							
	SYS-EFF				0	---							
8/18/2008**	SYS-INF	5,774.1	17	4.5	365	840	4.6	2,630.7	0.01	5.96	yes		
	SYS-MID				170	140							
	SYS-EFF				0	<7.0							
08/22/08	SYS-INF	5,873.9	17	4	325	---	4.6	2,649.7	0.01	5.98	yes		
	SYS-MID				207	---							
	SYS-EFF				0	---							
09/05/08	SYS-INF	6,208.4	14	5	385	---	3.6	2,700.4	0.004	6.05	yes		
	SYS-MID				219	---							
	SYS-EFF				23	---							
10/06/08	SYS-INF	6,211.0	13	5	443	1,000	3.4	2,700.8	0.004	6.05	yes		
	SYS-MID				23	---							
	SYS-EFF				0	<7.0							
10/14/08	SYS-INF	6,405.0	15	5	215	---	4.7	2,738.4	0.00	6.05	yes		
	SYS-MID				0	---							
	SYS-EFF				0	---							
10/23/08	SYS-INF	6,615.7	14	5	205	---	4.5	2,777.8	0.01	6.11	yes		
	SYS-MID				0	---							
	SYS-EFF				0	---							

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Date	Sample ID	FIELD MEASUREMENTS				ANALYTICAL RESULTS		REMOVAL				Air Sparge Unit on? (yes/no)	Comments
		Hour Meter Reading (hours)	System Vapor Flow Rate (cfm)	Vapor Applied ("H2O)	FID Reading (ppm)	TPHg Lab Data (ppmv)	Benzene Lab Data (ppmv)	SVE TPHg Removal Rate (lbs/day)	Cumulative SVE TPHg Removal (lbs)	SVE Benzene Removal Rate (lbs/day)	Cumulative SVE Benzene Removal (lbs)		
10/29/08	SYS-INF	6,760.3	21	5	160	---	---	6.6	2,817.5	0.01	6.17	yes	
	SYS-MID				0	---	---						
	SYS-EFF				0	---	---						
11/17/08	SYS-INF	7,221.4	20	5	98	---	---	6.3	2,937.6	0.01	6.37	yes	
	SYS-MID				0	---	---						
	SYS-EFF				0	---	---						
11/25/08	SYS-INF	7,413.9	19	5	24	---	---	6.1	2,986.5	0.01	6.45	yes	
	SYS-MID				0	---	---						
	SYS-EFF				0	---	---						
12/05/08	SYS-INF	7,652.3	15	5	74	---	---	4.8	3,034.3	0.01	6.53	yes	
	SYS-MID				0	---	---						
	SYS-EFF				0	---	---						
12/16/08	SYS-INF	7,915.0	15	5	21	77	<0.077	0.4	3,038.4	0.00	6.53	yes	
	SYS-MID				0	---	---						
	SYS-EFF				0	<7.0	<0.077						
12/23/08	SYS-INF	8,079.4	20	5	22	---	---	0.5	3,041.7	0.00	6.53	yes	
	SYS-MID				0	---	---						
	SYS-EFF				0	---	---						
12/31/08	SYS-INF	8,277.1	30	5	24	---	---	0.7	3,047.8	0.00	6.53	yes	
	SYS-MID				0	---	---						
	SYS-EFF				0	---	---						
01/06/09	SYS-INF	8,416.9	27	5	28	---	---	0.7	3,051.6	0.00	6.53	yes	
	SYS-MID				0	---	---						
	SYS-EFF				0	---	---						
01/20/09	SYS-INF	8,756.6	27	5	NM	---	---	0.7	3,061.1	0.00	6.53	yes	
	SYS-MID				---	---	---						
	SYS-EFF				---	---	---						
02/06/09	SYS-INF	8,756.6	25	5	50	50	<0.077	0.4	3,061.1	0.00	6.53	yes	
	SYS-MID				0	---	---						
	SYS-EFF				0	---	---						

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Date	Sample ID	FIELD MEASUREMENTS				ANALYTICAL RESULTS		REMOVAL				Air Sparge Unit on? (yes/no)	Comments
		Hour Meter Reading (hours)	System Vapor Flow Rate (cfm)	Vapor Applied Vacuum ("H2O)	FID Reading (ppm)	TPHg Lab Data (ppmv)	Benzene Lab Data (ppmv)	SVE TPHg Removal Rate (lbs/day)	Cumulative SVE TPHg Removal (lbs)	SVE Benzene Removal Rate (lbs/day)	Cumulative SVE Benzene Removal (lbs)		
02/26/09	SYS-INF	9,002.6	22	5	13	---	---	0.3	3,064.6	0.00	6.53	yes	Restart system, off on arrival
	SYS-MID				1	---	---						
	SYS-EFF				0	---	---						
03/06/09	SYS-INF	9,197.4	23	5	5	---	---	0.4	3,067.6	0.00	6.53	yes	
	SYS-MID				0	---	---						
	SYS-EFF				0	---	---						
03/13/09	SYS-INF	9,360.4	22	5	NM	20	<0.077	0.1	3,068.5	0.00	6.53	yes	
	SYS-MID				NM	<7.0	<0.077						
	SYS-EFF				NM	<7.0	<0.077						
03/18/09	SYS-INF	9,480.4	21	5	5	---	---	0.1	3,069.2	0.00	6.53	yes	
	SYS-MID				0	---	---						
	SYS-EFF				0	---	---						
03/26/09	SYS-INF	9,675.1	21	5	5	---	---	0.1	3,070.3	0.00	6.53	yes	
	SYS-MID				0	---	---						
	SYS-EFF				0	---	---						
04/03/09	SYS-INF	9,868.7	21	5	4	---	---	0.1	3,071.4	0.00	6.53	yes	
	SYS-MID				0	---	---						
	SYS-EFF				0	---	---						
04/10/09	SYS-INF	10,035.7	22	5	1	---	---	0.1	3,072.4	0.00	6.53	yes	
	SYS-MID				0	---	---						
	SYS-EFF				0	---	---						
04/17/09	SYS-INF	10,203.7	21	5	4	---	---	0.1	3,073.3	0.00	6.53	yes	
	SYS-MID				0	---	---						
	SYS-EFF				0	---	---						
04/24/09	SYS-INF	10,366.7	19	5	4	---	---	0.1	3,074.2	0.00	6.53	yes	Shut AS/SVE off for upcoming QM
	SYS-MID				0	---	---						
	SYS-EFF				0	---	---						
05/01/09	SYS-INF	10,366.7	20	5	3	---	---	0.1	3,074.2	0.00	6.53	yes	Restart SVE/AS
	SYS-MID				0	---	---						
	SYS-EFF				0	---	---						
05/08/09	SYS-INF	10,543.3	21	5	15	---	---	0.1	3,075.1	0.00	6.53	yes	
	SYS-MID				0	---	---						
	SYS-EFF				0	---	---						
05/15/09	SYS-INF	10,711.8	20	5	32	---	---	0.1	3,076.0	0.00	6.53	yes	
	SYS-MID				0	---	---						
	SYS-EFF				0	---	---						

**Table 3. SVE/AS System Performance Summary - 1721 Webster Street, Oakland, California**

Date	Sample ID	FIELD MEASUREMENTS				ANALYTICAL RESULTS		REMOVAL				Air Sparge Unit on? (yes/no)	Comments	
		Hour Meter Reading (hours)	System Vapor Flow Rate (cfm)	Vapor Applied Vacuum ("H2O)	FID Reading (ppm)	TPHg Lab Data (ppmv)	Benzene Lab Data (ppmv)	SVE TPHg Removal Rate (lbs/day)	Cumulative SVE TPHg Removal (lbs)	SVE Benzene Removal Rate (lbs/day)	Cumulative SVE Benzene Removal (lbs)			
05/22/09	SYS-INF SYS-MID SYS-EFF	10,879.5	0	0	NM NM NM	--- --- ---	---	---	0.0	3,076.0	0.00	6.53	no	AS compressor down; shut SVE off
09/18/09	SYS-INF SYS-MID SYS-EFF	10,879.5	22	5	41 0 0	--- --- ---	---	---	0.1	3,076.0	0.00	6.53	yes	Restart AS and SVE after repairing AS comp
10/30/09	SYS-INF SYS-MID SYS-EFF	11,889.8	20	5	35 0 0	--- --- ---	---	---	0.1	3,081.5	0.00	6.53	no	SVE on, AS comp has blown fuse
11/30/09	SYS-INF SYS-MID SYS-EFF	12,631.8	20	5	31 0 0	--- --- ---	---	---	0.1	3,085.4	0.00	6.53	yes	Replace fuse, restart AS
12/16/09	SYS-INF SYS-MID SYS-EFF	13,017.6	22	5	22 0 0	--- --- ---	---	---	0.1	3,087.7	0.00	6.53	yes	
01/18/10	SYS-INF SYS-MID SYS-EFF	13,808.6	24	5	27 0 0	--- --- ---	---	---	0.2	3,092.8	0.00	6.53	yes	
02/03/10	SYS-INF SYS-MID SYS-EFF	14,193.0	12	4	34 0 0	72 <7.0 <7.0	0.25 <0.077 <0.077	---	0.3	3,097.2	0.00	6.53	yes	Serviced SVE blower, collected lab samples
04/07/10	SYS-INF SYS-MID SYS-EFF	15,701.1	12	5	45 0 0	--- --- ---	---	---	0.3	3,114.6	0.00	6.58	no	AS off, compressor non-op
05/07/10	SYS-INF SYS-MID SYS-EFF	16,425.2	27	0	43 0 0	--- --- ---	---	---	0.6	3,133.4	0.00	6.64	no	AS off, compressor non-op
06/07/10	SYS-INF SYS-MID SYS-EFF	17,168.0	27	0	46 0 0	84 <7.0 <7.0	0.29 <0.077 <0.077	---	0.7	3,155.5	0.00	6.71	no	AS off, compressor non-op
07/15/10	SYS-INF SYS-MID SYS-EFF	18,075.8	23	0	4 2 0	--- --- ---	---	---	0.6	3,179.1	0.00	6.79	no	AS off, compressor non-op
08/18/10	SYS-INF SYS-MID SYS-EFF	18,434.1	30	0	26 2 0	--- --- ---	---	---	0.8	3,191.3	0.00	6.82	no	Restart system, off on arrival

**Table 3. SVE/AS System Performance Summary - 1721 Webster Street, Oakland, California**

Date	Sample ID	FIELD MEASUREMENTS				ANALYTICAL RESULTS		REMOVAL				Air Sparge Unit on? (yes/no)	Comments
		Hour Meter Reading (hours)	System Vapor Flow Rate (cfm)	Applied Vacuum ("H2O)	FID Reading (ppm)	TPHg Lab Data (ppmv)	Benzene Lab Data (ppmv)	SVE TPHg Removal Rate (lbs/day)	Cumulative SVE TPHg Removal (lbs)	SVE Benzene Removal Rate (lbs/day)	Cumulative SVE Benzene Removal (lbs)		
09/22/10	SYS-INF	19,173.6	25	0	17	66	0.21	0.5	3,208.0	0.00	6.87	no	Restart system, off on arrival
	SYS-MID				2	<7.0	<0.077						
	SYS-EFF				0	<7.0	<0.077						
10/22/10	SYS-INF	19,345.1	25	0	14	---	---	0.5	3,211.8	0.00	6.88	no	Restart system, off on arrival
	SYS-MID				1	---	---						
	SYS-EFF				0	---	---						
11/23/10	SYS-INF	19,395.5	0	0	NM	---	---	0.0	3,211.8	0.00	6.88	no	Off on arrival, system shutdown October 26, 2010 for rainy season.
	SYS-MID				NM	---	---						
	SYS-EFF				NM	---	---						

Notes:

NM = not measured

cfm = cubic feet per minute.

ppmv = Parts per million by volume

lbs = Pounds

"H2O = Inches of water

SVE/AS = Soil vapor extraction and air sparge

FID = Flame Ionization Detector.

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 = vapor analytical concentration (ppmv) x system flowrate (scfm) x (1lb-mole/386 ft<sup>3</sup>) x molecular weight (86 lb/lb-mole for TPH-Gas hexane) x 1440 min/day x 1/1,000,000.

\* = Subtracted carbon tip readings of 28, 17, and 10, respectively, from influent, midpoint and effluent readings without carbon tip to account for methane.

(--) = not sampled

\*Soil vapor flow rates were not measured on 1/15/08 and 1/23/08 due to equipment breakage. For hydrocarbon mass removal calculation purposes, the flow rate recorded during the 1/10/08 visit was used.

\*\*Vapor flow meter being serviced from 7-24-2008 through 8-18-2008. Flow rates assumed from previous data, field observations, and adjustments made to system.

## **APPENDIX A**

### Groundwater Monitoring Program



**Table A - Groundwater Monitoring Program**  
Douglas Parking Company, 1721 Webster Street, Oakland, CA.

Well ID	Well Type	Screened Interval (ft bgs)	Well Location for Monitoring	Casing Diam. (in)	Gauge Frequency	Sample Frequency	TPH <sub>g</sub> /BTEX/MTBE	TAME/TBA/DIPE/ETBE/MTBE
<b>Onsite Monitoring and Remediation Wells</b>								
MW-1	Mon	17-30	Source Area	2	1st, 3rd	1st	1st	---
MW-2	Mon	19.5-29.5	Downgradient	2	1st, 3rd	1st, 3rd	1st, 3rd	---
MW-3	Mon	20-30	Upgradient	2	1st, 3rd	1st, 3rd	1st, 3rd	---
AS-1	Rem	27-30	Source Area	1	---	---	---	---
AS-2	Rem	27-30	Source Area	2	---	---	---	---
AS-3	Rem	27-30	Source Area	2	---	---	---	---
<b>Offsite Monitoring Wells</b>								
MW-4	Mon	15-30	Mid-Downgradient	2	1st, 3rd	1st, 3rd	1st, 3rd	---
MW-5	Mon	10-25	Downgradient	2	1st, 3rd	1st	1st	---
MW-6	Mon	15-30	Crossgradient	2	1st, 3rd	1st, 3rd	1st, 3rd	---
MW-7	Mon	15-30	Upgradient	2	1st, 3rd	1st	1st	---

Notes and Abbreviations:

1st = Sampled during the 1st quarter, typically January

1st, 3rd = Sampled during the 1st and 3rd quarters, typically January and July

Mon = Groundwater Monitoring Only

Rem= Remediation Well Only

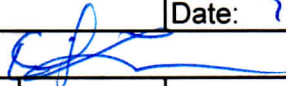
--- = None or not applicable

AS-1 = Air Sparging Well

## **APPENDIX B**

Groundwater Monitoring Field Data Sheets

Well Gauging Data Sheet

Project.Task #: 1135.001.228				Project Name: Douglas Parking			
Address: 1721 Webster St, Oakland						Date: 7-20-15	
Name: Erik Lervaag				Signature: 			
Well ID	Well Size (in.)	Time	Depth to Immiscible Liquid (ft)	Thickness of Immiscible Liquid (ft)	Depth to Water (ft)	Total Depth (ft)	Measuring Point
MW-1	2"	1101	—	—	22.87		NTOC
MW-2	2"	1105	—	—	20.66		NTOC
MW-3	2"	1107	—	—	22.14		NTOC
MW-4	2"	← Paved	over	—	—		NTOC
MW-5	2"	1112	—	—	16.82		NTOC
MW-6	2"	1116	—	—	20.68		NTOC
MW-7	2"	Paved	over	—	—		NTOC

Comments:

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## MONITORING FIELD DATA SHEET

Well ID: MW-2

Project.Task #: 1135.001.228		Project Name: Douglas Parking							
Address: 1721 Webster St, Oakland									
Date: <u>7.20.15</u>		Weather: <u>Sunny, Warm</u>							
Well Diameter: <u>2</u>		Volume/ft. <table border="1" style="font-size: small; border-collapse: collapse;"> <tr> <td>1" = 0.04</td> <td>3" = 0.37</td> <td>6" = 1.47</td> </tr> <tr> <td>2" = 0.16</td> <td>4" = 0.65</td> <td>radius<sup>2</sup>* 0.163</td> </tr> </table>		1" = 0.04	3" = 0.37	6" = 1.47	2" = 0.16	4" = 0.65	radius <sup>2</sup> * 0.163
1" = 0.04	3" = 0.37	6" = 1.47							
2" = 0.16	4" = 0.65	radius <sup>2</sup> * 0.163							
Total Depth (TD): <u>29.5</u>		Depth to Product:							
Depth to Water (DTW): <u>20.66</u>		Product Thickness:							
Water Column Height:		1 Casing Volume: <u>1.4</u> gallons							
Reference Point: NTOC		3 Casing Volumes: <u>4.2</u> gallons							
Purging Device: <u>Peristaltic Pump w/ dedicated tubing</u>									
Sampling Device: <u>" "</u>									
Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW	
	<u>23.89</u>	<u>6.91</u>	<u>0.473</u>		<u>2.18</u>	<u>-36</u>	<u>Φ</u>	<u>20.66</u>	
<u>1146</u>	<u>22.43</u>	<u>6.72</u>	<u>0.411</u>		<u>0.94</u>	<u>-106</u>	<u>1.5</u>	<u>21.06</u>	
<u>1156</u>	<u>22.2</u>	<u>6.73</u>	<u>0.422</u>		<u>0.86</u>	<u>-111</u>	<u>3.0</u>	<u>21.08</u>	
<u>1208</u>	<u>22.09</u>	<u>6.72</u>	<u>0.418</u>		<u>0.81</u>	<u>-109</u>	<u>4.5</u>	<u>21.08</u>	
<u>1209</u>	<u>Sampled</u>								

Comments:

Sample ID: <u>MW-2</u>	Sample Time: <u>1209</u>
Laboratory: McCampbell Analytical	Sample Date: <u>7.20.15</u>
Containers/Preservative: 3 VOA w/ HCL	
Analyzed for: TPHg BY 8015Cm, BTEX by 8020, MTBE by 8020	
Sampler Name: E. Lervaag	Signature: 

## MONITORING FIELD DATA SHEET

Well ID: MW-3


Project.Task #: 1135.001.228		Project Name: Douglas Parking							
Address: 1721 Webster St, Oakland									
Date: <u>7-20-15</u>		Weather:							
Well Diameter: <u>2</u>		Volume/ft. <table border="1" style="font-size: small; border-collapse: collapse;"> <tr> <td>1" = 0.04</td> <td>3" = 0.37</td> <td>6" = 1.47</td> </tr> <tr> <td>2" = 0.16</td> <td>4" = 0.65</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </table>		1" = 0.04	3" = 0.37	6" = 1.47	2" = 0.16	4" = 0.65	radius <sup>2</sup> * 0.163
1" = 0.04	3" = 0.37	6" = 1.47							
2" = 0.16	4" = 0.65	radius <sup>2</sup> * 0.163							
Total Depth (TD): <u>30</u>		Depth to Product:							
Depth to Water (DTW): <u>22.14</u>		Product Thickness:							
Water Column Height: <u>7.86</u>		1 Casing Volume: <u>1.2</u> gallons							
Reference Point: NTOC		3 Casing Volumes: <u>3.6</u> gallons							
Purging Device: <u>Peristaltic Pump w/ dedicated tubing</u>									
Sampling Device:									
Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW	
<u>1335</u>	<u>22.47</u>	<u>6.51</u>	<u>0.442</u>		<u>1.58</u>	<u>-49</u>	<u>2.025</u>	<u>22.31</u>	
<u>1341</u>	<u>22.66</u>	<u>6.60</u>	<u>0.411</u>		<u>2.07</u>	<u>-115</u>	<u>1.5</u>	<u>22.36</u>	
<u>1350</u>	<u>21.79</u>	<u>6.57</u>	<u>0.421</u>		<u>1.95</u>	<u>-111</u>	<u>2.5</u>	<u>22.38</u>	
<u>1358</u>	<u>22.08</u>	<u>6.48</u>	<u>0.419</u>		<u>1.86</u>	<u>-109</u>	<u>3.5</u>	<u>22.38</u>	
<u>1400</u>	<u>Sample time</u>								

Comments:

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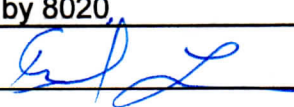
Sample ID: <u>MW-3</u>	Sample Time: <u>1358</u> <sup>ea</sup> <u>1400</u>
Laboratory: McCampbell Analytical	Sample Date: <u>7-20-15</u>
Containers/Preservative: 3 VOA w/ HCL	
Analyzed for: TPHg BY 8015Cm, BTEX by 8020, MTBE by 8020	
Sampler Name: E. Lervaag	Signature: 

## MONITORING FIELD DATA SHEET

Well ID: **MW-6**

Project.Task #: 1135.001.228		Project Name: Douglas Parking						
Address: 1721 Webster St, Oakland								
Date: <b>7-20-15</b>		Weather: <b>Sunny, Warm</b>						
Well Diameter: <b>2</b>		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): <b>30</b>		Depth to Product:						
Depth to Water (DTW): <b>20.68</b>		Product Thickness:						
Water Column Height: <b>9.32</b>		1 Casing Volume: <b>1.5</b>			gallons			
Reference Point: NTOC		3 Casing Volumes: <b>4.5</b>			gallons			
Purging Device: <b>Peristaltic Pump w/ dedicated tubing</b>								
Sampling Device:								
Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
1417							<b>2</b>	20.68
1418	23.71	6.81	0.639		3.77	-58	0.25	20.95
1426	23.05	6.72	0.637		3.08	-84	1.5	21.10
1436	21.00	6.72	0.681		3.41	-96	3.0	21.20
1447	20.99	6.81	0.682		5.75	-94	4.5	21.21
1448	<b>Sampled</b>							

Comments:

Sample ID: <b>MW-6</b>	Sample Time: <b>1448</b>
Laboratory: McCampbell Analytical	Sample Date: <b>7-20-15</b>
Containers/Preservative: 3 VOA w/ HCL	
Analyzed for: TPHg BY 8015Cm, BTEX by 8020, MTBE by 8020	
Sampler Name: E. Lervaag	Signature: 



# DAILY LOG

Date: 8/23/15	Site Address:
Task/Purpose: SS sampling	Project Name: Douglas Parking.
Log Notes By (Name): E. Lervaag	Project Number:

## NOTES

10<sup>30</sup> ARRIVE on-site. Set up for SS sampling.  
- found points SS-2 + SS-3. pockets filled with debris vacuumed out before opening.  
- Set up for shroud w/ IPA sampling  
- See Data sheets for detail.

\* Point SS-3 inside coffee shop is unusable.  
- floor in shop was refinished with epoxy coating and liquid epoxy filled probe pocket in floor. unable to remove without damaging probe.  
- NO sample collected.

2 pm off-site to storage unit.







## **APPENDIX C**

Laboratory Analytical Reports



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1507757

**Report Created for:** Pangea Environmental Svcs., Inc.

1710 Franklin Street, Ste. 200  
Oakland, CA 94612

**Project Contact:** Morgan Gillies

**Project P.O.:**

**Project Name:** #1135.001; Douglas - Webster St.

**Project Received:** 07/20/2015

Analytical Report reviewed & approved for release on 07/24/2015 by:

Angela Rydelius,  
Laboratory Manager

*The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.*





## Glossary of Terms & Qualifier Definitions

**Client:** Pangea Environmental Svcs., Inc.  
**Project:** #1135.001; Douglas - Webster St.  
**WorkOrder:** 1507757

### Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

### Analytical Qualifiers

S	spike recovery outside accepted recovery limits
c4	surrogate recovery outside of the control limits due to coelution with another peak(s) / cluttered chromatogram.
d1	weakly modified or unmodified gasoline is significant
d2	heavier gasoline range compounds are significant (aged gasoline?)
d9	no recognizable pattern
d17	Reporting limit for MTBE raised due to co-elution with non-target peaks.



## Analytical Report

**Client:** Pangea Environmental Svcs., Inc.  
**Project:** #1135.001; Douglas - Webster St.  
**Date Received:** 7/20/15 17:30  
**Date Prepared:** 7/21/15-7/22/15

**WorkOrder:** 1507757  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** µg/L

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	1507757-001A	Water	07/20/2015 11:51	GC7	107970

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	770	50	1	07/22/2015 17:19
MTBE	ND	5.0	1	07/22/2015 17:19
Benzene	0.57	0.50	1	07/22/2015 17:19
Toluene	0.69	0.50	1	07/22/2015 17:19
Ethylbenzene	9.2	0.50	1	07/22/2015 17:19
Xylenes	10	0.50	1	07/22/2015 17:19

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	128	70-130	07/22/2015 17:19

Analyst(s): IA

Analytical Comments: d1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1507757-002A	Water	07/20/2015 14:00	GC19	107970

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	3600	170	3.3	07/22/2015 14:36
MTBE	ND	17	3.3	07/22/2015 14:36
Benzene	ND	1.7	3.3	07/22/2015 14:36
Toluene	ND	1.7	3.3	07/22/2015 14:36
Ethylbenzene	ND	1.7	3.3	07/22/2015 14:36
Xylenes	3.5	1.7	3.3	07/22/2015 14:36

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
aaa-TFT	155	S	70-130	07/22/2015 14:36

Analyst(s): IA

Analytical Comments: d2,d9,c4

(Cont.)



## Analytical Report

**Client:** Pangea Environmental Svcs., Inc.  
**Project:** #1135.001; Douglas - Webster St.  
**Date Received:** 7/20/15 17:30  
**Date Prepared:** 7/21/15-7/22/15

**WorkOrder:** 1507757  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** µg/L

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

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-6	1507757-003A	Water	07/20/2015 14:48	GC7	107970

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	<b>12,000</b>	500	10	07/21/2015 23:04
MTBE	ND	450	10	07/21/2015 23:04
Benzene	<b>160</b>	5.0	10	07/21/2015 23:04
Toluene	<b>73</b>	5.0	10	07/21/2015 23:04
Ethylbenzene	<b>540</b>	5.0	10	07/21/2015 23:04
Xylenes	<b>650</b>	5.0	10	07/21/2015 23:04

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
aaa-TFT	134	S	70-130	07/21/2015 23:04

**Analyst(s):** IA

**Analytical Comments:** d1,d17,c4



## Quality Control Report

**Client:** Pangea Environmental Svcs., Inc.  
**Date Prepared:** 7/21/15  
**Date Analyzed:** 7/21/15  
**Instrument:** GC7  
**Matrix:** Water  
**Project:** #1135.001; Douglas - Webster St.

**WorkOrder:** 1507757  
**BatchID:** 107970  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8021B/8015Bm  
**Unit:** µg/L  
**Sample ID:** MB/LCS-107970  
 1507768-001AMS/MSD

### QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	50.2	40	60	-	83.7	70-130
MTBE	ND	10.4	5.0	10	-	104	70-130
Benzene	ND	10.0	0.50	10	-	100	70-130
Toluene	ND	10.1	0.50	10	-	101	70-130
Ethylbenzene	ND	10.2	0.50	10	-	102	70-130
Xylenes	ND	31.9	0.50	30	-	106	70-130
<b>Surrogate Recovery</b>							
aaa-TFT	10.2	10.1		10	102	101	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	NR	NR		2200	NR	NR	-	NR	
MTBE	NR	NR		ND<50	NR	NR	-	NR	
Benzene	NR	NR		140	NR	NR	-	NR	
Toluene	NR	NR		900	NR	NR	-	NR	
Ethylbenzene	NR	NR		330	NR	NR	-	NR	
Xylenes	NR	NR		1400	NR	NR	-	NR	
<b>Surrogate Recovery</b>									
aaa-TFT	NR	NR			NR	NR	-	NR	



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

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1507757

ClientCode: PEO

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  EQuIS   
  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/3rd Party: eavery@pangeaenv.com;  
PO:  
ProjectNo: #1135.001; Douglas - Webster St.

**Bill to:**

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

**Requested TAT:**

**5 days**

*Date Received:*    **07/20/2015**

*Date Printed:*    **07/20/2015**

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	
1507757-001	MW-2	Water	7/20/2015 11:51	<input type="checkbox"/>	A	A											
1507757-002	MW-3	Water	7/20/2015 14:00	<input type="checkbox"/>	A												
1507757-003	MW-6	Water	7/20/2015 14:48	<input type="checkbox"/>	A												

**Test Legend:**

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

**Prepared by: Elisa 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.





## WORK ORDER SUMMARY

**Client Name:** PANGEA ENVIRONMENTAL SVCS., INC.

**QC Level:** LEVEL 2

**Work Order:** 1507757

**Project:** #1135.001; Douglas - Webster St.

**Client Contact:** Morgan Gillies

**Date Received:** 7/20/2015

**Comments:**

**Contact's Email:** mgillies@pangeaenv.com

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  Fax   
  Email   
  HardCopy   
  ThirdParty   
  J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1507757-001A	MW-2	Water	SW8021B/8015Bm (G/MBTEX)	3	voa w/hcl	<input type="checkbox"/>	7/20/2015 11:51	5 days	Trace	<input type="checkbox"/>	
1507757-002A	MW-3	Water	SW8021B/8015Bm (G/MBTEX)	1	voa w/hcl	<input type="checkbox"/>	7/20/2015 14:00	5 days	None	<input type="checkbox"/>	
1507757-003A	MW-6	Water	SW8021B/8015Bm (G/MBTEX)	1	voa w/hcl	<input type="checkbox"/>	7/20/2015 14:48	5 days	None	<input type="checkbox"/>	

**NOTES:** - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).  
 - MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

POO 1507757

**McCAMPBELL ANALYTICAL, INC.**

1534 Willow Pass Road  
Pittsburg, CA 94565

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? Coel (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 *cc: cavery@pangeaenv.com*  
E-Mail: [mgillies@pangeaenv.com](mailto:mgillies@pangeaenv.com)  
Tele: (510) 836-3702 Fax: (510) 836-3709  
Project #: 1135.001 Project Name: Douglas - Webster St  
Project Location: 1721 Webster St., Oakland, CA  
Sampler Signature: *[Signature]*

SAMPLE ID	LOCATION (Field Point Name)	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED				Analysis Request	Other	Comments
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO <sub>3</sub>	Other			
(x) MW-2		7.20.15	1151	3	VOA	X					X						
✓ MW-3		7.20.15	1400	3	VOA	X					X						
✓ MW-6		7.20.15	1448	3	VOA	X					X						

Relinquished By: *[Signature]* Date: 7/20/15 Time: 17:10 Received By: *[Signature]*  
 Refiniquished By: Date: Time: Received By:  
 Relinquished By: Date: Time: Received By:  
 COMMENTS: ICE/t° 23.1 ✓  
 GOOD CONDITION ✓  
 HEAD SPACE ABSENT ✓  
 DECHLORINATED IN LAB ✓  
 APPROPRIATE CONTAINERS ✓  
 PRESERVED IN LAB ✓  
 VOAS / O&G METALS OTHER  
 PRESERVATION pH<2



### Sample Receipt Checklist

Client Name: **Pangea Environmental Svcs., Inc.** Date and Time Received: **7/20/2015 5:30:18 PM**  
 Project Name: **#1135.001; Douglas - Webster St.** LogIn Reviewed by: **Elisa Venegas**  
 WorkOrder No: **1507757** Matrix: Water Carrier: Client Drop-In

#### Chain of Custody (COC) Information

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

#### Sample Receipt Information

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

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

All samples received within holding time? Yes  No   
 Sample/Temp Blank temperature Temp: 23.1°C NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  NA   
 Sample labels checked for correct preservation? Yes  No   
 pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes  No  NA   
 Samples Received on Ice? Yes  No

#### UCMR3 Samples:

Total Chlorine tested and acceptable upon receipt for EPA 522? Yes  No  NA   
 Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539? Yes  No  NA

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

-----  
Comments:



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1506A04

**Report Created for:** Pangea Environmental Svcs., Inc.

1710 Franklin Street, Ste. 200  
Oakland, CA 94612

**Project Contact:** Morgan Gillies

**Project P.O.:**

**Project Name:** Douglas Parking

**Project Received:** 06/23/2015

Analytical Report reviewed & approved for release on 06/29/2015 by:

Angela Rydelius,  
Laboratory Manager

*The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.*





## Glossary of Terms & Qualifier Definitions

**Client:** Pangea Environmental Svcs., Inc.  
**Project:** Douglas Parking  
**WorkOrder:** 1506A04

### Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

### Quality Control Qualifiers

F2 LCS recovery for this compound is outside of acceptance limits.



## Analytical Report

**Client:** Pangea Environmental Svcs., Inc.  
**Project:** Douglas Parking  
**Date Received:** 6/23/15 18:01  
**Date Prepared:** 6/25/15

**WorkOrder:** 1506A04  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:** µg/m<sup>3</sup>

### TPH gas in µg/m<sup>3</sup>

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-2	1506A04-001A	SoilGas	06/23/2015 12:50	GC24	106870

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.16	24.24	AK

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	720	1	06/25/2015 09:53
Surrogates	REC (%)	Limits		
1,2-DCA-d4	100	70-130		06/25/2015 09:53

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-3	1506A04-002A	SoilGas	06/23/2015 12:06	GC24	106870

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.45	24.80	AK

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	1100	720	1	06/25/2015 10:35
Surrogates	REC (%)	Limits		
1,2-DCA-d4	98	70-130		06/25/2015 10:35



## Analytical Report

<b>Client:</b> Pangea Environmental Svcs., Inc.	<b>WorkOrder:</b> 1506A04
<b>Project:</b> Douglas Parking	<b>Extraction Method:</b> TO15
<b>Date Received:</b> 6/23/15 18:01	<b>Analytical Method:</b> TO15
<b>Date Prepared:</b> 6/25/15	<b>Unit:</b> µg/m <sup>3</sup>

### Leak Check Compound

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-2	1506A04-001A	SoilGas	06/23/2015 12:50	GC24	106870

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.16	24.24	AK

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Isopropyl Alcohol	ND	50	1	06/25/2015 09:53

SS-3	1506A04-002A	SoilGas	06/23/2015 12:06	GC24	106870
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Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.08	26.07	AK

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Isopropyl Alcohol	ND	50	1	06/25/2015 10:35



## Analytical Report

**Client:** Pangea Environmental Svcs., Inc.  
**Project:** Douglas Parking  
**Date Received:** 6/23/15 18:01  
**Date Prepared:** 6/25/15

**WorkOrder:** 1506A04  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:** µg/m<sup>3</sup>

### Volatile Organic Compounds in µg/m<sup>3</sup>

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-2	1506A04-001A	SoilGas	06/23/2015 12:50	GC24	106870

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.16	24.24	AK

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	60	1	06/25/2015 09:53
Acrolein	ND	1.2	1	06/25/2015 09:53
Acrylonitrile	ND	1.1	1	06/25/2015 09:53
tert-Amyl methyl ether (TAME)	ND	2.1	1	06/25/2015 09:53
Benzene	ND	1.6	1	06/25/2015 09:53
Benzyl chloride	ND	2.6	1	06/25/2015 09:53
Bromodichloromethane	ND	3.5	1	06/25/2015 09:53
Bromoform	ND	5.2	1	06/25/2015 09:53
Bromomethane	ND	2.0	1	06/25/2015 09:53
1,3-Butadiene	ND	1.1	1	06/25/2015 09:53
2-Butanone (MEK)	ND	75	1	06/25/2015 09:53
t-Butyl alcohol (TBA)	ND	31	1	06/25/2015 09:53
Carbon Disulfide	ND	1.6	1	06/25/2015 09:53
Carbon Tetrachloride	ND	3.2	1	06/25/2015 09:53
Chlorobenzene	ND	2.4	1	06/25/2015 09:53
Chloroethane	ND	1.3	1	06/25/2015 09:53
Chloroform	5.3	2.4	1	06/25/2015 09:53
Chloromethane	ND	1.0	1	06/25/2015 09:53
Cyclohexane	ND	18	1	06/25/2015 09:53
Dibromochloromethane	ND	4.4	1	06/25/2015 09:53
1,2-Dibromo-3-chloropropane	ND	0.12	1	06/25/2015 09:53
1,2-Dibromoethane (EDB)	ND	3.9	1	06/25/2015 09:53
1,2-Dichlorobenzene	ND	3.0	1	06/25/2015 09:53
1,3-Dichlorobenzene	ND	3.0	1	06/25/2015 09:53
1,4-Dichlorobenzene	4.2	3.0	1	06/25/2015 09:53
Dichlorodifluoromethane	ND	2.5	1	06/25/2015 09:53
1,1-Dichloroethane	ND	2.0	1	06/25/2015 09:53
1,2-Dichloroethane (1,2-DCA)	ND	2.0	1	06/25/2015 09:53
1,1-Dichloroethene	ND	2.0	1	06/25/2015 09:53
cis-1,2-Dichloroethene	ND	2.0	1	06/25/2015 09:53
trans-1,2-Dichloroethene	ND	2.0	1	06/25/2015 09:53
1,2-Dichloropropane	ND	2.4	1	06/25/2015 09:53
cis-1,3-Dichloropropene	ND	2.3	1	06/25/2015 09:53
trans-1,3-Dichloropropene	ND	2.3	1	06/25/2015 09:53

(Cont.)





## Analytical Report

<b>Client:</b> Pangea Environmental Svcs., Inc.	<b>WorkOrder:</b> 1506A04
<b>Project:</b> Douglas Parking	<b>Extraction Method:</b> TO15
<b>Date Received:</b> 6/23/15 18:01	<b>Analytical Method:</b> TO15
<b>Date Prepared:</b> 6/25/15	<b>Unit:</b> µg/m <sup>3</sup>

### Volatile Organic Compounds in µg/m<sup>3</sup>

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-2	1506A04-001A	SoilGas	06/23/2015 12:50	GC24	106870

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.16	24.24	AK

Analytes	Result	RL	DF	Date Analyzed
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	3.6	1	06/25/2015 09:53
Diisopropyl ether (DIPE)	ND	2.1	1	06/25/2015 09:53
1,4-Dioxane	ND	1.8	1	06/25/2015 09:53
Ethanol	ND	96	1	06/25/2015 09:53
Ethyl acetate	ND	1.8	1	06/25/2015 09:53
Ethyl tert-butyl ether (ETBE)	ND	2.1	1	06/25/2015 09:53
Ethylbenzene	2.3	2.2	1	06/25/2015 09:53
4-Ethyltoluene	ND	2.5	1	06/25/2015 09:53
Freon 113	ND	3.9	1	06/25/2015 09:53
Heptane	ND	21	1	06/25/2015 09:53
Hexachlorobutadiene	ND	5.4	1	06/25/2015 09:53
Hexane	ND	18	1	06/25/2015 09:53
2-Hexanone	ND	2.1	1	06/25/2015 09:53
4-Methyl-2-pentanone (MIBK)	ND	2.1	1	06/25/2015 09:53
Methyl-t-butyl ether (MTBE)	ND	1.8	1	06/25/2015 09:53
Methylene chloride	1.9	1.8	1	06/25/2015 09:53
Methyl methacrylate	ND	2.1	1	06/25/2015 09:53
Naphthalene	ND	5.3	1	06/25/2015 09:53
Propene	ND	88	1	06/25/2015 09:53
Styrene	ND	2.2	1	06/25/2015 09:53
1,1,1,2-Tetrachloroethane	ND	3.5	1	06/25/2015 09:53
1,1,2,2-Tetrachloroethane	ND	3.5	1	06/25/2015 09:53
Tetrachloroethene	ND	3.4	1	06/25/2015 09:53
Tetrahydrofuran	13	1.5	1	06/25/2015 09:53
Toluene	3.7	1.9	1	06/25/2015 09:53
1,2,4-Trichlorobenzene	ND	3.8	1	06/25/2015 09:53
1,1,1-Trichloroethane	ND	2.8	1	06/25/2015 09:53
1,1,2-Trichloroethane	ND	2.8	1	06/25/2015 09:53
Trichloroethene	ND	2.8	1	06/25/2015 09:53
Trichlorofluoromethane	ND	2.8	1	06/25/2015 09:53
1,2,4-Trimethylbenzene	5.6	2.5	1	06/25/2015 09:53
1,3,5-Trimethylbenzene	ND	2.5	1	06/25/2015 09:53
Vinyl Acetate	ND	1.8	1	06/25/2015 09:53
Vinyl Chloride	ND	1.3	1	06/25/2015 09:53

(Cont.)



## Analytical Report

**Client:** Pangea Environmental Svcs., Inc.      **WorkOrder:** 1506A04  
**Project:** Douglas Parking      **Extraction Method:** TO15  
**Date Received:** 6/23/15 18:01      **Analytical Method:** TO15  
**Date Prepared:** 6/25/15      **Unit:** µg/m<sup>3</sup>

### Volatile Organic Compounds in µg/m<sup>3</sup>

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-2	1506A04-001A	SoilGas	06/23/2015 12:50	GC24	106870

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.16	24.24	AK

Analytes	Result	RL	DF	Date Analyzed
Xylenes, Total	14	6.6	1	06/25/2015 09:53
Surrogates	REC (%)	Limits		
1,2-DCA-d4	97	70-130		06/25/2015 09:53
Toluene-d8	101	70-130		06/25/2015 09:53
4-BFB	105	70-130		06/25/2015 09:53

(Cont.)



## Analytical Report

**Client:** Pangea Environmental Svcs., Inc.  
**Project:** Douglas Parking  
**Date Received:** 6/23/15 18:01  
**Date Prepared:** 6/25/15

**WorkOrder:** 1506A04  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:** µg/m<sup>3</sup>

### Volatile Organic Compounds in µg/m<sup>3</sup>

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-3	1506A04-002A	SoilGas	06/23/2015 12:06	GC24	106870

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.08	26.07	AK

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	60	1	06/25/2015 10:35
Acrolein	ND	1.2	1	06/25/2015 10:35
Acrylonitrile	ND	1.1	1	06/25/2015 10:35
tert-Amyl methyl ether (TAME)	ND	2.1	1	06/25/2015 10:35
Benzene	ND	1.6	1	06/25/2015 10:35
Benzyl chloride	ND	2.6	1	06/25/2015 10:35
Bromodichloromethane	ND	3.5	1	06/25/2015 10:35
Bromoform	ND	5.2	1	06/25/2015 10:35
Bromomethane	ND	2.0	1	06/25/2015 10:35
1,3-Butadiene	ND	1.1	1	06/25/2015 10:35
2-Butanone (MEK)	ND	75	1	06/25/2015 10:35
t-Butyl alcohol (TBA)	ND	31	1	06/25/2015 10:35
Carbon Disulfide	ND	1.6	1	06/25/2015 10:35
Carbon Tetrachloride	ND	3.2	1	06/25/2015 10:35
Chlorobenzene	ND	2.4	1	06/25/2015 10:35
Chloroethane	ND	1.3	1	06/25/2015 10:35
Chloroform	ND	2.4	1	06/25/2015 10:35
Chloromethane	ND	1.0	1	06/25/2015 10:35
Cyclohexane	ND	18	1	06/25/2015 10:35
Dibromochloromethane	ND	4.4	1	06/25/2015 10:35
1,2-Dibromo-3-chloropropane	ND	0.12	1	06/25/2015 10:35
1,2-Dibromoethane (EDB)	ND	3.9	1	06/25/2015 10:35
1,2-Dichlorobenzene	ND	3.0	1	06/25/2015 10:35
1,3-Dichlorobenzene	ND	3.0	1	06/25/2015 10:35
1,4-Dichlorobenzene	4.3	3.0	1	06/25/2015 10:35
Dichlorodifluoromethane	2.6	2.5	1	06/25/2015 10:35
1,1-Dichloroethane	ND	2.0	1	06/25/2015 10:35
1,2-Dichloroethane (1,2-DCA)	ND	2.0	1	06/25/2015 10:35
1,1-Dichloroethene	ND	2.0	1	06/25/2015 10:35
cis-1,2-Dichloroethene	ND	2.0	1	06/25/2015 10:35
trans-1,2-Dichloroethene	ND	2.0	1	06/25/2015 10:35
1,2-Dichloropropane	ND	2.4	1	06/25/2015 10:35
cis-1,3-Dichloropropene	ND	2.3	1	06/25/2015 10:35
trans-1,3-Dichloropropene	ND	2.3	1	06/25/2015 10:35

(Cont.)



## Analytical Report

**Client:** Pangea Environmental Svcs., Inc.  
**Project:** Douglas Parking  
**Date Received:** 6/23/15 18:01  
**Date Prepared:** 6/25/15

**WorkOrder:** 1506A04  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:** µg/m<sup>3</sup>

### Volatile Organic Compounds in µg/m<sup>3</sup>

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-3	1506A04-002A	SoilGas	06/23/2015 12:06	GC24	106870

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.08	26.07	AK

Analytes	Result	RL	DF	Date Analyzed
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	3.6	1	06/25/2015 10:35
Diisopropyl ether (DIPE)	ND	2.1	1	06/25/2015 10:35
1,4-Dioxane	ND	1.8	1	06/25/2015 10:35
Ethanol	ND	96	1	06/25/2015 10:35
Ethyl acetate	ND	1.8	1	06/25/2015 10:35
Ethyl tert-butyl ether (ETBE)	ND	2.1	1	06/25/2015 10:35
Ethylbenzene	ND	2.2	1	06/25/2015 10:35
4-Ethyltoluene	ND	2.5	1	06/25/2015 10:35
Freon 113	ND	3.9	1	06/25/2015 10:35
Heptane	ND	21	1	06/25/2015 10:35
Hexachlorobutadiene	ND	5.4	1	06/25/2015 10:35
Hexane	ND	18	1	06/25/2015 10:35
2-Hexanone	ND	2.1	1	06/25/2015 10:35
4-Methyl-2-pentanone (MIBK)	ND	2.1	1	06/25/2015 10:35
Methyl-t-butyl ether (MTBE)	ND	1.8	1	06/25/2015 10:35
Methylene chloride	ND	1.8	1	06/25/2015 10:35
Methyl methacrylate	ND	2.1	1	06/25/2015 10:35
Naphthalene	ND	5.3	1	06/25/2015 10:35
Propene	ND	88	1	06/25/2015 10:35
Styrene	ND	2.2	1	06/25/2015 10:35
1,1,1,2-Tetrachloroethane	ND	3.5	1	06/25/2015 10:35
1,1,1,2,2-Tetrachloroethane	ND	3.5	1	06/25/2015 10:35
Tetrachloroethene	5.2	3.4	1	06/25/2015 10:35
Tetrahydrofuran	6.3	1.5	1	06/25/2015 10:35
Toluene	3.3	1.9	1	06/25/2015 10:35
1,2,4-Trichlorobenzene	ND	3.8	1	06/25/2015 10:35
1,1,1-Trichloroethane	ND	2.8	1	06/25/2015 10:35
1,1,2-Trichloroethane	ND	2.8	1	06/25/2015 10:35
Trichloroethene	ND	2.8	1	06/25/2015 10:35
Trichlorofluoromethane	ND	2.8	1	06/25/2015 10:35
1,2,4-Trimethylbenzene	5.7	2.5	1	06/25/2015 10:35
1,3,5-Trimethylbenzene	ND	2.5	1	06/25/2015 10:35
Vinyl Acetate	ND	1.8	1	06/25/2015 10:35
Vinyl Chloride	ND	1.3	1	06/25/2015 10:35

(Cont.)



## Analytical Report

<b>Client:</b> Pangea Environmental Svcs., Inc.	<b>WorkOrder:</b> 1506A04
<b>Project:</b> Douglas Parking	<b>Extraction Method:</b> TO15
<b>Date Received:</b> 6/23/15 18:01	<b>Analytical Method:</b> TO15
<b>Date Prepared:</b> 6/25/15	<b>Unit:</b> µg/m <sup>3</sup>

### Volatile Organic Compounds in µg/m<sup>3</sup>

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-3	1506A04-002A	SoilGas	06/23/2015 12:06	GC24	106870

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
13.08	26.07	AK

Analytes	Result	RL	DF	Date Analyzed
Xylenes, Total	13	6.6	1	06/25/2015 10:35
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
1,2-DCA-d4	95	70-130		06/25/2015 10:35
Toluene-d8	101	70-130		06/25/2015 10:35
4-BFB	105	70-130		06/25/2015 10:35



## Quality Control Report

**Client:** Pangea Environmental Svcs., Inc.  
**Date Prepared:** 6/26/15  
**Date Analyzed:** 6/24/15  
**Instrument:** GC24  
**Matrix:** Soilgas  
**Project:** Douglas Parking

**WorkOrder:** 1506A04  
**BatchID:** 106870  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:** nL/L  
**Sample ID:** MB/LCS-106870

### QC Summary Report for TO15

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	25	-	-	-	-
Acrolein	ND	22.9	0.50	25	-	92	60-140
Acrylonitrile	ND	25.1	0.50	25	-	100	60-140
tert-Amyl methyl ether (TAME)	ND	27.0	0.50	25	-	107	60-140
Benzene	ND	22.7	0.50	25	-	91	60-140
Benzyl chloride	ND	31.7	0.50	25	-	127	60-140
Bromodichloromethane	ND	24.6	0.50	25	-	98	60-140
Bromoform	ND	30.6	0.50	25	-	122	60-140
Bromomethane	ND	20.0	0.50	25	-	80	60-140
1,3-Butadiene	ND	24.2	0.50	25	-	97	60-140
2-Butanone (MEK)	ND	-	25	-	-	-	-
t-Butyl alcohol (TBA)	ND	27.3	10	25	-	109	60-140
Carbon Disulfide	ND	25.3	0.50	25	-	101	60-140
Carbon Tetrachloride	ND	25.4	0.50	25	-	102	60-140
Chlorobenzene	ND	27.0	0.50	25	-	108	60-140
Chloroethane	ND	18.1	0.50	25	-	72	60-140
Chloroform	ND	21.7	0.50	25	-	87	60-140
Chloromethane	ND	26.7	0.50	25	-	107	60-140
Cyclohexane	ND	20.6	5.0	25	-	82	60-140
Dibromochloromethane	ND	30.2	0.50	25	-	121	60-140
1,2-Dibromo-3-chloropropane	ND	29.8	0.012	25	-	119	60-140
1,2-Dibromoethane (EDB)	ND	26.4	0.50	25	-	105	60-140
1,2-Dichlorobenzene	ND	30.3	0.50	25	-	121	60-140
1,3-Dichlorobenzene	ND	30.6	0.50	25	-	122	60-140
1,4-Dichlorobenzene	ND	30.0	0.50	25	-	120	60-140
Dichlorodifluoromethane	ND	26.7	0.50	25	-	107	60-140
1,1-Dichloroethane	ND	26.0	0.50	25	-	104	60-140
1,2-Dichloroethane (1,2-DCA)	ND	22.8	0.50	25	-	91	60-140
1,1-Dichloroethene	ND	25.9	0.50	25	-	104	60-140
cis-1,2-Dichloroethene	ND	26.4	0.50	25	-	106	60-140
trans-1,2-Dichloroethene	ND	26.2	0.50	25	-	105	60-140
1,2-Dichloropropane	ND	22.3	0.50	25	-	89	60-140
cis-1,3-Dichloropropene	ND	27.6	0.50	25	-	110	60-140
trans-1,3-Dichloropropene	ND	26.1	0.50	25	-	104	60-140
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	25.8	0.50	25	-	103	60-140
Diisopropyl ether (DIPE)	ND	23.8	0.50	25	-	95	60-140
1,4-Dioxane	ND	25.0	0.50	25	-	100	60-140
Ethanol	ND	-	50	-	-	-	-
Ethyl acetate	ND	25.5	0.50	25	-	102	60-140
Ethyl tert-butyl ether (ETBE)	ND	24.5	0.50	25	-	98	60-140

(Cont.)



## Quality Control Report

**Client:** Pangea Environmental Svcs., Inc.  
**Date Prepared:** 6/26/15  
**Date Analyzed:** 6/24/15  
**Instrument:** GC24  
**Matrix:** Soilgas  
**Project:** Douglas Parking

**WorkOrder:** 1506A04  
**BatchID:** 106870  
**Extraction Method:** TO15  
**Analytical Method:** TO15  
**Unit:** nL/L  
**Sample ID:** MB/LCS-106870

### QC Summary Report for TO15

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Ethylbenzene	ND	27.2	0.50	25	-	109	60-140
4-Ethyltoluene	ND	29.6	0.50	25	-	119	60-140
Freon 113	ND	26.0	0.50	25	-	104	60-140
Heptane	ND	24.2	5.0	25	-	97	60-140
Hexachlorobutadiene	ND	35.7	0.50	25	-	143, F2	60-140
Hexane	ND	25.0	5.0	25	-	100	60-140
2-Hexanone	ND	26.9	0.50	25	-	108	60-140
4-Methyl-2-pentanone (MIBK)	ND	31.0	0.50	25	-	124	60-140
Methyl-t-butyl ether (MTBE)	ND	26.9	0.50	25	-	107	60-140
Methylene chloride	ND	24.4	0.50	25	-	98	60-140
Methyl methacrylate	ND	25.9	0.50	25	-	104	60-140
Naphthalene	ND	64.9	1.0	50	-	130	60-140
Propene	ND	-	50	-	-	-	-
Styrene	ND	27.9	0.50	25	-	112	60-140
1,1,1,2-Tetrachloroethane	ND	25.3	0.50	25	-	101	60-140
1,1,2,2-Tetrachloroethane	ND	25.7	0.50	25	-	103	60-140
Tetrachloroethene	ND	25.5	0.50	25	-	102	60-140
Tetrahydrofuran	ND	24.0	0.50	25	-	96	60-140
Toluene	ND	26.3	0.50	25	-	105	60-140
1,2,4-Trichlorobenzene	ND	36.0	0.50	25	-	144, F2	60-140
1,1,1-Trichloroethane	ND	31.0	0.50	25	-	124	60-140
1,1,2-Trichloroethane	ND	25.3	0.50	25	-	101	60-140
Trichloroethene	ND	23.3	0.50	25	-	93	60-140
Trichlorofluoromethane	ND	23.7	0.50	25	-	95	60-140
1,2,4-Trimethylbenzene	ND	29.5	0.50	25	-	118	60-140
1,3,5-Trimethylbenzene	ND	27.1	0.50	25	-	108	60-140
Vinyl Acetate	ND	27.2	0.50	25	-	109	60-140
Vinyl Chloride	ND	20.2	0.50	25	-	81	60-140
Xylenes, Total	ND	83.8	1.5	75	-	112	60-140

**Surrogate Recovery**

1,2-DCA-d4	495	491		500	99	98	60-140
Toluene-d8	510	501		500	102	100	60-140
4-BFB	508	503		500	102	101	60-140

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



# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1506A04

ClientCode: PEO

WaterTrax   
  WriteOn   
  EDF   
  Excel   
  EQuIS   
  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/3rd Party:  
 PO:  
 ProjectNo: Douglas Parking

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

**Requested TAT: 5 days**  
  
**Date Received: 06/23/2015**  
**Date Printed: 06/29/2015**

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
1506A04-001	SS-2	SoilGas	6/23/2015 12:50	<input type="checkbox"/>			A	A	A	A	A					
1506A04-002	SS-3	SoilGas	6/23/2015 12:06	<input type="checkbox"/>			A	A	A	A	A					
1506A04-003	Unused Summa	SoilGas	6/23/2015	<input type="checkbox"/>	A	A										

**Test Legend:**

1	PREDF REPORT	2	PRUNUSEDSUMMA	3	O15_Scan-SIM_SOIL(UG/M3)	4	TO15-8260_SOIL(UG/M3)	5	5GAS_Scan-SIM_SOIL(UG/
6	TO15-LC_SOIL(UG/M3)	7	TO15-LC8260_SOIL(UG/M3)	8		9		10	
11		12							

The following SamplIDs: 001A, 002A contain testgroup.

**Prepared by: Jena Alfaro**

**Comments:**    TPH Gas added 6/24/15 to original.

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.





## WORK ORDER SUMMARY

**Client Name:** PANGEA ENVIRONMENTAL SVCS., INC.

**QC Level:** LEVEL 2

**Work Order:** 1506A04

**Project:** Douglas Parking

**Client Contact:** Morgan Gillies

**Date Received:** 6/23/2015

**Comments:** TPH Gas added 6/24/15 to original.

**Contact's Email:** mgillies@pangeaenv.com

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1506A04-001A	SS-2	SoilGas	VOCs and TPHgas by TO15 for Soil Vapor	1	1L Summa	<input type="checkbox"/>	6/23/2015 12:50	5 days		<input type="checkbox"/>	
1506A04-002A	SS-3	SoilGas	VOCs and TPHgas by TO15 for Soil Vapor	1	1L Summa	<input type="checkbox"/>	6/23/2015 12:06	5 days		<input type="checkbox"/>	

**NOTES:** - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.



# McC Campbell Analytical, Inc.

1534 Willow Pass Rd. / Pittsburg, Ca. 94565-1701  
 www.mcccampbell.com / main@mcccampbell.com  
 Telephone: (877) 252-9262 / Fax: (925) 252-9269

1506404

## CHAIN OF CUSTODY RECORD

TURN AROUND TIME: RUSH  1 Day  2 Day  3 Day  5 DAY   
 GeoTracker EDF  PDF  EDD  EQuIS  10 DAY   
 UST Clean Up Fund Project  Claim #

Report To: Morgan Gillies Bill To: Pangea  
 Company: Pangea Env. Svs  
1710 Franklin St, Oakland 2  
 E-Mail:  
 Tele: (510) 836-3700 Fax: ( )  
 Project #: Project Name: Douglas Parking  
 Project Location: 1721 Webster St, Oakland 2  
 Sampler Signature: [Signature]

### Analysis Requested

### Helium Shroud SN#

#### Other:

Notes: Please Specify units if different than defaults VOCs is ug/m3 and fixed gas is uL/L. Leak check default is IPA.

Field Sample ID (Location)	Collection		Canister SN#	Sampler Kit SN#	VOCs by TO-15 (ug/m3)	8010 by TO-15 (ug/m3)	TPH(g) (ug/m3)	LEED (inc. 4PCH, Formaldehyde, CO, Total VOCs)	Fixed Gas: CO2, Methane, Ethane, Ethylene, Acetylene, CO (please circle or indicate in notes) uL/L	Fixed Gas: O2, N2 (please circle) uL/L	Fixed Gas: Propane uL/L	Helium Leak Check (%)	Leak Check (IPA, Norflorane, 1,1-difluoroethane) ug/m3	APH: Aliphatic and/or Aromatic (please circle) ug/m3	Other:	Matrix		Cannister Pressure/ Vacuum	
	Date	Time														Soilgas	Indoor Air	Initial	Final
<u>SS-3</u>	<u>6-23-15</u>	<u>1206</u>	<u>1975-1923</u>	<u>MAN316-1347</u>	<u>X</u>							<u>X</u>						<u>29.5</u>	<u>4.5</u>

Relinquished By: [Signature] Date: 6-23-15 Time: 1705 Received By: [Signature]  
 Relinquished By: Date: Time: Received By:  
 Relinquished By: Date: Time: Received By:

Temp (°C): \_\_\_\_\_ Work Order #: \_\_\_\_\_  
 Condition: \_\_\_\_\_  
 Custody Seals Intact?: Yes \_\_\_\_\_ No \_\_\_\_\_ None \_\_\_\_\_  
 Shipped Via: \_\_\_\_\_



### Sample Receipt Checklist

Client Name: **Pangea Environmental Svcs., Inc.** Date and Time Received: **6/23/2015 6:01:59 PM**  
 Project Name: **Douglas Parking** Login Reviewed by: **Jena Alfaro**  
 WorkOrder No: **1506A04** Matrix: SoilGas Carrier: Client Drop-In

**Chain of Custody (COC) Information**

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

**Sample Receipt Information**

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

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

All samples received within holding time? Yes  No   
 Sample/Temp Blank temperature Temp: NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  NA   
 Sample labels checked for correct preservation? Yes  No   
 pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes  No  NA   
 Samples Received on Ice? Yes  No

**UCMR3 Samples:**

Total Chlorine tested and acceptable upon receipt for EPA 522? Yes  No  NA   
 Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539? Yes  No  NA

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

-----  
 Comments: