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Alameda County
Environmental Health



April 22, 2008

VIA ALAMEDA COUNTY FTP SITE

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

Re: **Groundwater Monitoring and Remediation Summary Report – First Quarter 2008**
Douglas Parking Company
1721 Webster Street
Oakland, California
ACEH File No. 129

Dear Ms. Drogos:

On behalf of the Douglas Parking Company, Pangea Environmental Services, Inc. has prepared this *Groundwater Monitoring and Remediation Summary Report – First Quarter 2008* for the above-referenced site. The report describes groundwater monitoring and sampling, site remediation, 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 that reads "Bob Clark-Riddell".

Bob Clark-Riddell, P.E.
Principal Engineer

Attachment: *Groundwater Monitoring and Remediation Summary Report – First Quarter 2008*

cc: Mr. Lee Douglas, Douglas Parking Company, 1721 Webster Street, Oakland, California 94612 (2 copies)
SWRCB Geotracker Database (electronic copy)

PANGEA Environmental Services, Inc.



**GROUNDWATER MONITORING AND REMEDIATION SUMMARY REPORT
– FIRST QUARTER 2008**

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

April 22, 2008

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 the Douglas Parking Company, Pangea Environmental Services, Inc. (Pangea), performed groundwater monitoring and sampling, and remediation system sampling and maintenance during this quarter 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.

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 five miles east of San Francisco Bay and half 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 17th 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 June 27, 2003 Cambria installed two additional offsite monitoring wells (MW-6 and MW-7).

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.

GROUNDWATER MONITORING AND SAMPLING

On January 17, 2008, Pangea conducted groundwater monitoring and sampling at the site. Site monitoring wells were gauged for depth to water. Groundwater samples were collected from monitoring wells MW-2 through MW-7 and monitoring well MW-1, which is sampled annually during the first quarter of each year.

Before well purging, the dissolved oxygen (DO) concentration was 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 A.

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 Environmental Protection Agency (EPA) Method SW8015C; benzene, toluene, ethylbenzene, xylenes (BTEX) and methyl tertiary-butyl ether (MTBE) using EPA Method SW8021B by McCampbell Analytical, Inc. of Pittsburg, California, a State-certified laboratory. The laboratory analytical report is included as Appendix B. Dissolved oxygen concentrations in groundwater monitoring wells ranged from 0.92 mg/L (MW-4) to 1.21 mg/L (MW-3).

Groundwater Flow Direction

Based on depth-to-water measurements collected on October 15, 2007, groundwater beneath the site flowed towards the north-northeast (Figure 2). The groundwater depth measurements and inferred flow direction this quarter are consistent with historical site conditions. Groundwater depths at the site have historically ranged from approximately 14 to 23 ft bgs, equivalent to a groundwater elevation range from 5 to 13 feet above msl over nine years of monitoring (Table 1).

Hydrocarbon and MTBE Distribution in Groundwater

TPHg, benzene and MTBE concentrations in groundwater at the site are shown on Figure 2. The maximum TPHg (38,000 µg/L) and benzene (2,900 µg/L) concentrations this quarter were detected in well MW-2. No hydrocarbons were detected in perimeter wells MW-1, MW-5 or MW-7. Detected hydrocarbon concentrations in site wells this quarter were within historical ranges, except for TPHg (820 µg/L) in well MW-4, which was the lowest since October 2004 and an order of magnitude lower than the concentration detected the previous quarter. In general, TPHg and BTEX concentrations in site monitoring wells exhibit a stable long-term trend. MTBE was not detected above reporting limits in any of the sampled wells this quarter, except for 23 µg/L by EPA Method 8021B. Note that prior confirmation testing on July 21, 2003 by EPA Method 8260 indicated that an MTBE detection of 48 µg/L by Method 8020 was a false positive. Due to tank removal in 1992 and very limited historical MTBE detection, MTBE is not a compound of concern at this site.

REMEDIATION SYSTEM SUMMARY

Soil Vapor Extraction/Air Sparge System

The soil vapor extraction (SVE) remediation system consists of a blower that extracts soil vapor from well SVE-1. The SVE equipment is a Solleco 100 cubic foot per minute (cfm) vapor extraction unit with a 7.5-hp positive-displacement blower (Roots Universal Model No. 56 URAI). Extracted vapors are routed through a moisture separator to remove entrained water. Extracted vapor is treated by two 2,000-lb canisters of granular activated carbon plumbed in series prior to discharge to the atmosphere in accordance with the Bay Area Air Quality Management District (BAAQMD) requirements. The air sparging (AS) system consists of a compressor for injecting air into wells AS-1, AS-2 and/or AS-3. Injection into AS wells is controlled by timer-activated solenoid valves. The air compressor is a 0.6-hp Reitschle-Thomas DLT 10 rotary vane oil-less compressor capable of injecting approximately 8 cfm of air. 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 3. The remediation system layout is shown on Figure 4.

Operation and Performance

SVE system operation commenced on October 29, 2007, and AS system operation started on November 12, 2007. During initial SVE system operation, the system was monitored *daily* in accordance with air permit requirements of the *Authority to Construct* issued by the Bay Area Air Quality Management District (BAAQMD). On November 27, 2007, the BAAQMD approved Pangea's request to reduce the monitoring frequency from *daily* to *weekly* to help control costs. System operation and performance data are summarized on Table 2.

As of February 29, 2008, the SVE/AS system had been in operation for a total of 2,580.5 hours (approximately 107.5 days). The SVE/AS system was shut down on February 29, 2008, because analytical results indicated that vapor-phase hydrocarbons in the effluent of the first carbon vessel were present at concentrations that necessitated carbon changeout for permit compliance. Based on laboratory analytical data, the TPHg removal rates observed during the first quarter 2008 ranged from a low of 0.3 pounds per day (lbs/day)(January 10, 2008) to a high of 36.2 lbs/day (January 30, 2008). Benzene removal rates ranged from a low of 0.00 lbs/day (January 3, 2008) to a high of 0.04 lbs/day (February 6, 2008). Pangea technicians adjusted the system to optimize hydrocarbon removal. As of February 29, 2008, the system has removed a total of approximately 1,377.3 lbs TPHg and 2.63 lbs benzene. The laboratory analytical reports for soil vapor are included in Appendix B.

OTHER SITE ACTIVITIES

Groundwater Monitoring

Pangea will continue quarterly groundwater monitoring and sampling at the site in accordance with the approved sampling frequency. Well MW-1 will be sampled annually during the first quarter of each year to help control costs. All other site monitoring wells will be gauged for depth to water and groundwater samples will be analyzed for TPHg, BTEX and MTBE by EPA Method 8015Cm/8021B.

Remediation System Operation

Pangea will continue weekly monitoring of the remediation system in accordance with air permit requirements. System operation and performance will be summarized within quarterly monitoring reports.

ELECTRONIC REPORTING

This report will be submitted to the 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.

ATTACHMENTS

Figure 1 – Vicinity Map

Figure 2 – Groundwater Elevations and Hydrocarbon Concentration Map

Figure 3 – Cross Section of Remediation Wells

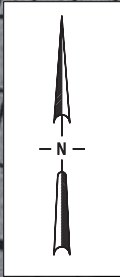
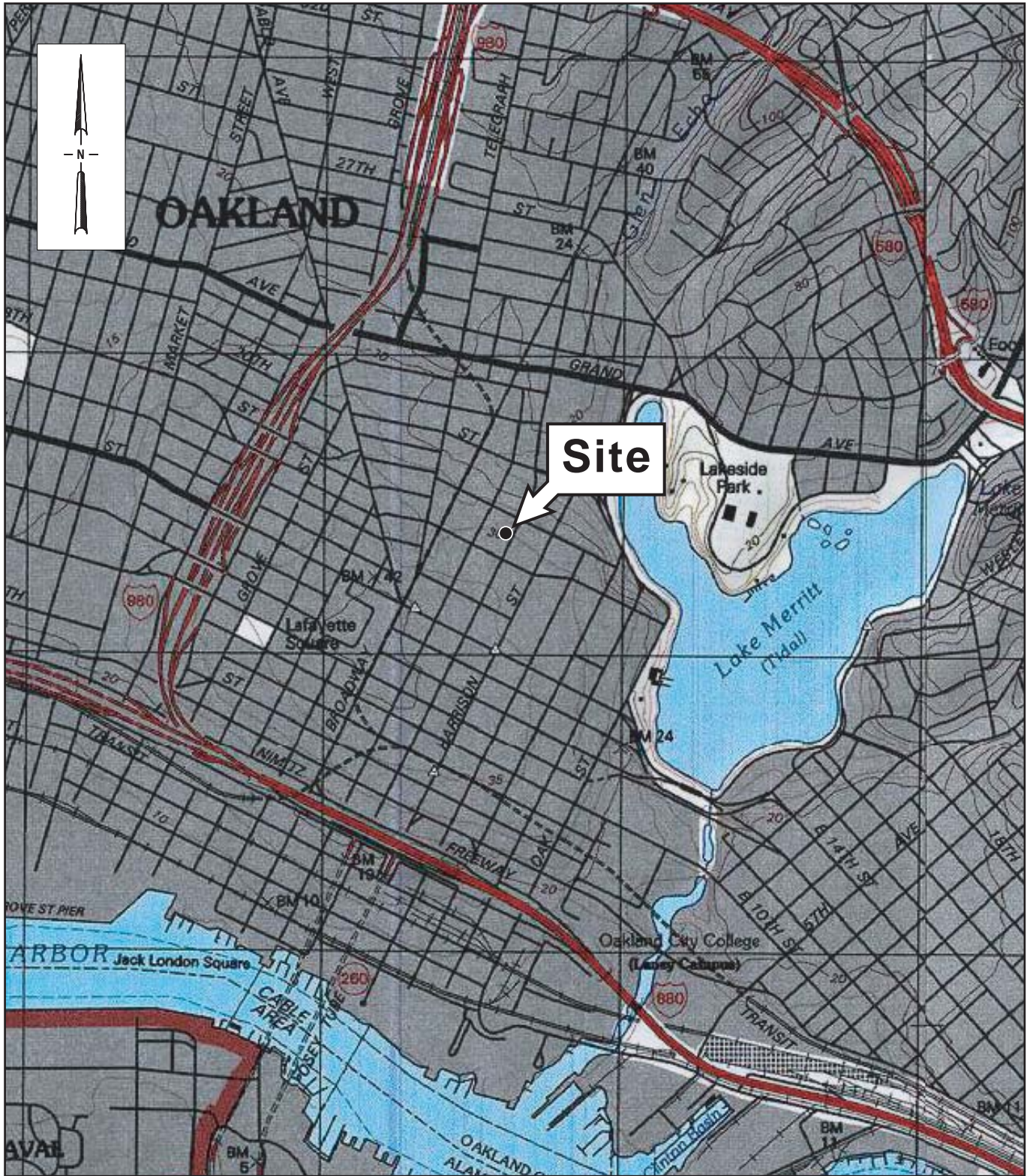
Figure 4 – Remediation System Layout

Table 1 – Groundwater Elevation and Analytical Data

Table 2 – SVE System Performance Summary

Appendix A – Groundwater Monitoring Field Data Sheets

Appendix B – Laboratory Analytical Reports



Site

SOURCE: TOPOI MAPS



SCALE : 1" = 1/4 MILE

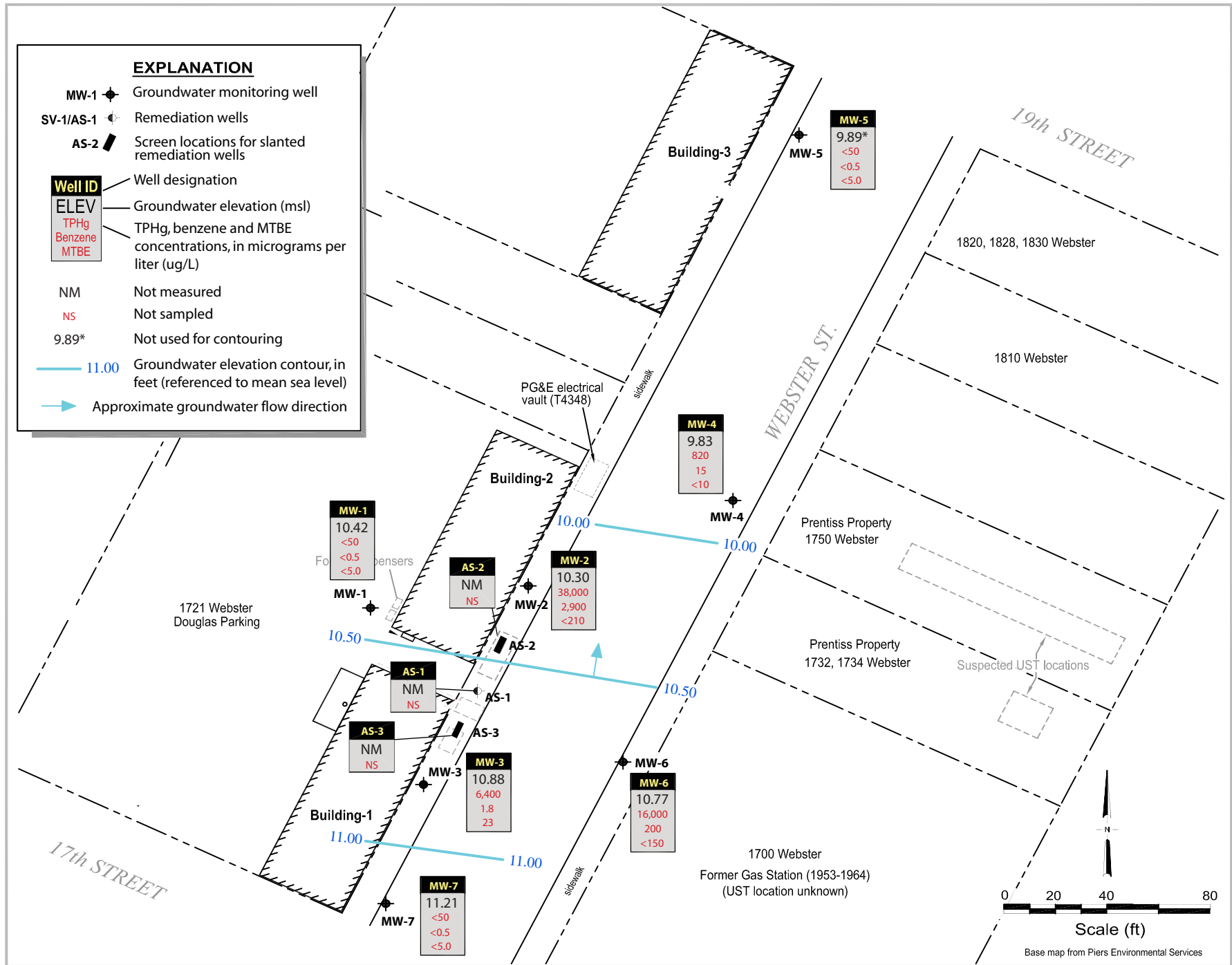
Figure

1

Vicinity Map

Douglas Parking Facility
 1721 Webster Street
 Oakland, California





Douglas Parking
 1721 Webster Street
 Oakland, California



**Groundwater Elevations and
 Hydrocarbon Concentration Map**
 January 17, 2008

FIGURE
2

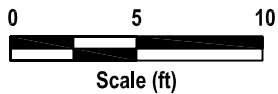
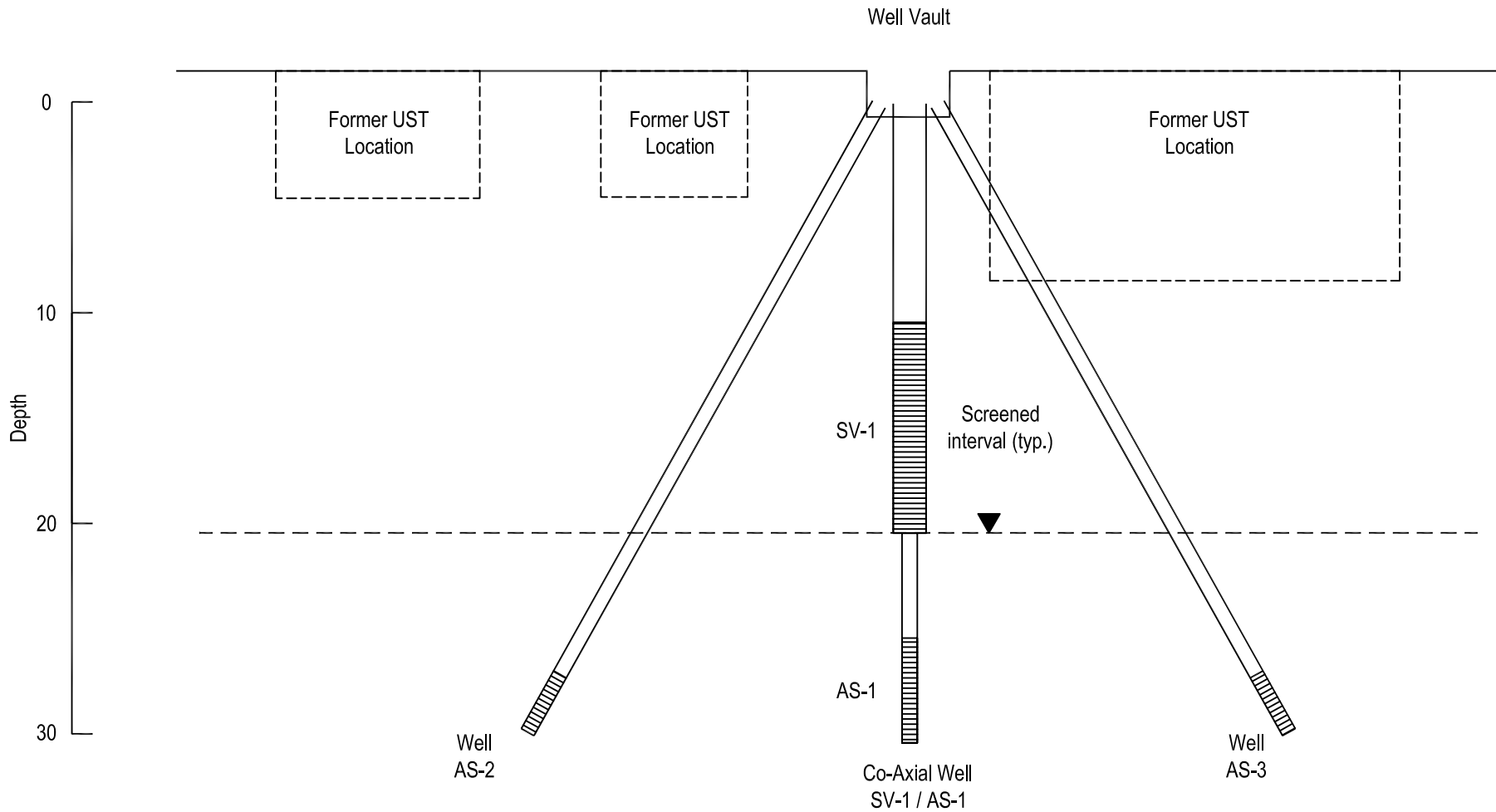

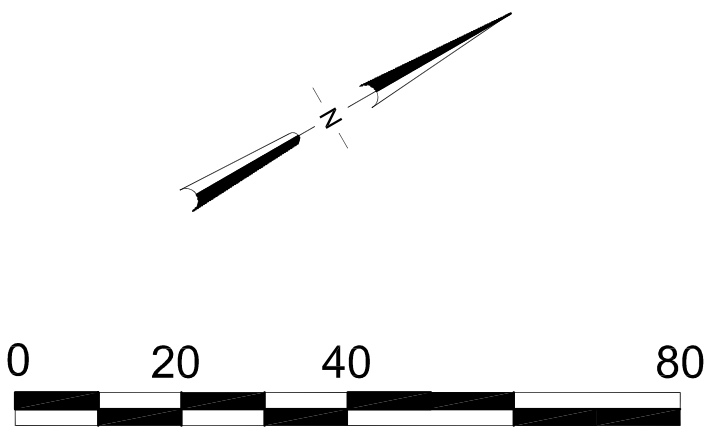
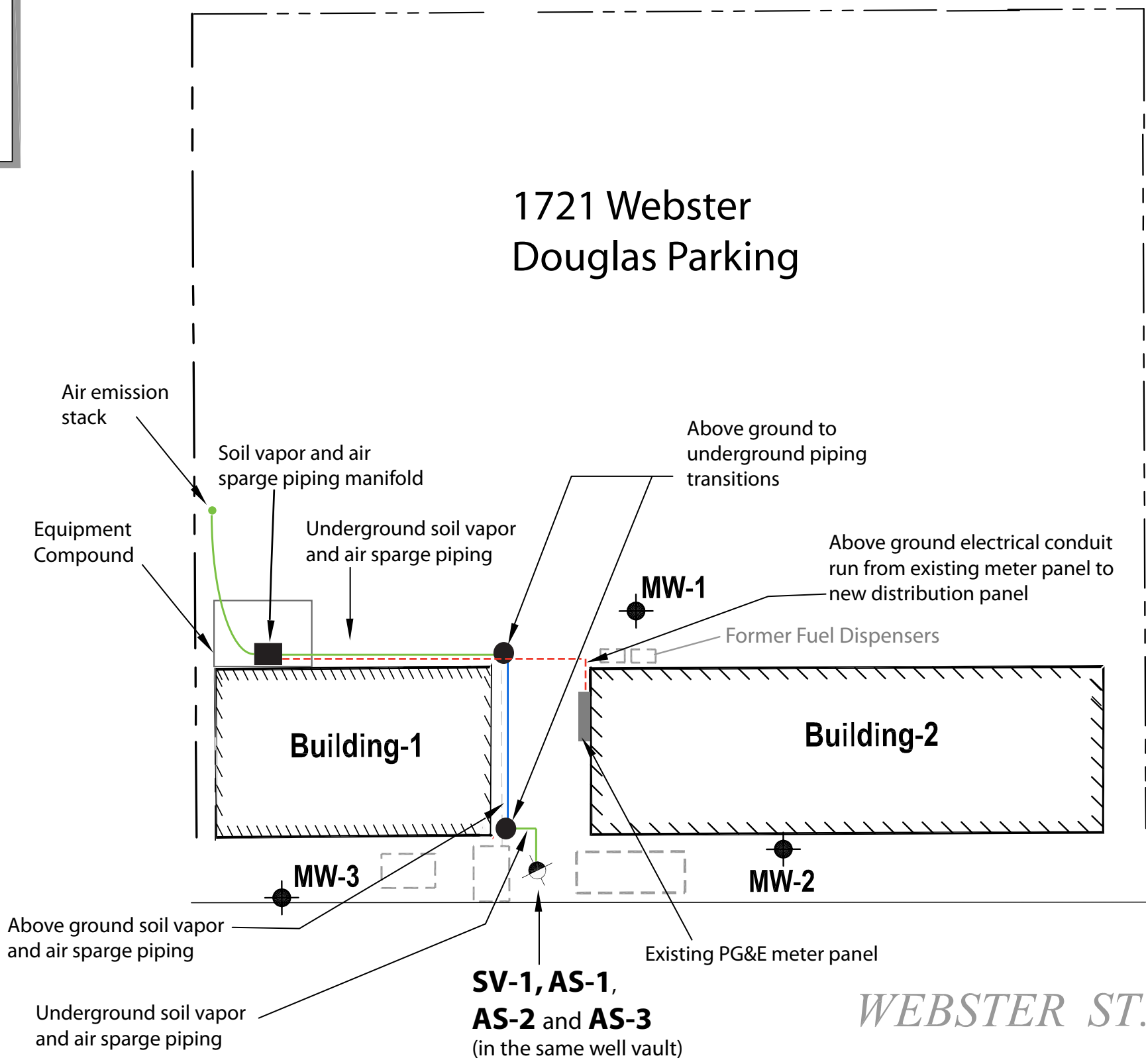


Figure
3

EXPLANATION	
MW-1	Groundwater monitoring well
SV-1, AS-1	Remediation Wells
	Former Underground Storage Tanks / Dispensers



Scale (ft)

Base map from Piers Environmental Services

Figure 4

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 TOC	Date	Depth to Water (ft)	Groundwater Elevation (ft amsl)	TPHg ← Benzene Toluene Ethylbenzene Xylenes → MTBE					
				(µg/L)					
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

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			MTBE
							(µg/L)			
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	
	4/5/2005	18.40	12.00	34,000	3,700	3,600	1,200	5,300	<500 (<5.0)	
	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	

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-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
	7/6/2001	21.60	7.96	13,000	5.3	1.6	11	58	<5.0
	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

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-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	
	24.99	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	
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	<0.5	<5.0	

Table 2. 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)		
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 8 0	9,600 23 27	76 ND<0.077 0.15	320.3	6.7	2.30	0.14	no	
10/30/07	SYS-INF SYS-MID SYS-EFF	24.3	50	27	37,000 635 700	9,000 ND<7.0 60	74 ND<0.077 0.29	144.4	143.8	1.08	1.17	no	Readings upon arrival
10/30/07	SYS-INF SYS-MID SYS-EFF	25.2	45	27	3,200 620 530	1,500 ND<7.0 ND<7.0	11 ND<0.077 ND<0.077	21.7	144.6	0.14	1.17	no	Readings after dilution air introduced to reduce noise and limit hydrocarocarbon loading on carbon (prevent thermal
10/31/07	SYS-INF SYS-MID SYS-EFF	48.8	40	27	922* 0* 0*	880 ND<7.0 ND<7.0	8.6 ND<0.077 ND<0.077	11.3	155.7	0.10	1.27	no	flow
11/01/07	SYS-INF SYS-MID SYS-EFF	78.8	39	27	1,475 14 9	--- --- ---	--- --- ---	--	--	--	--	no	
11/02/07	SYS-INF SYS-MID SYS-EFF	100.2	40	27	736 19 10	--- --- ---	--- --- ---	--	--	--	--	no	Shut system down at 100.5 hours for weekend
11/05/07	SYS-INF SYS-MID SYS-EFF	100.9	38	27	1,546 30 4	--- --- ---	--- --- ---	--	--	--	--	no	Restart system at 100.5 hours on 11/5/07
11/06/07	SYS-INF SYS-MID SYS-EFF	126.7	38	27	213 0 0	--- --- ---	--- --- ---	--	--	--	--	no	
11/07/07	SYS-INF SYS-MID SYS-EFF	154.7	45	27	170 0 0	--- --- ---	--- --- ---	--	--	--	--	no	
11/08/07	SYS-INF SYS-MID SYS-EFF	178.2	47	27	160 0 0	--- --- ---	--- --- ---	--	--	--	--	no	Lab analysis performed for methane; 2.4 ul/L detected in SYS EFF

Table 2. 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)		
11/09/07	SYS-INF SYS-MID SYS-EFF	200.3	45	31	163 0 0	---	---	--	--	--	--	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	---	---	--	--	--	--	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	---	---	--	--	--	--	yes	
11/14/07	SYS-INF SYS-MID SYS-EFF	253.0	45	28	4,113 0 0	---	---	--	--	--	--	yes	
11/15/07	SYS-INF SYS-MID SYS-EFF	278.4	45	28	2,810 0 0	---	---	--	--	--	--	yes	
11/16/07	SYS-INF SYS-MID SYS-EFF	301.4	43	28	2,570 0 0	---	---	--	--	--	--	yes	
11/17/07	SYS-INF SYS-MID SYS-EFF	327.1	42	41	11 0 0	---	---	--	--	--	--	yes	
11/18/07	SYS-INF SYS-MID SYS-EFF	352.1	44	41	530 0 0	---	---	--	--	--	--	yes	
11/19/07	SYS-INF SYS-MID SYS-EFF	375.2	42	41	24 0 0	22	<0.077	0.3	159.8	0.00	1.27	yes	
11/20/07	SYS-INF SYS-MID SYS-EFF	398.8	49	68	660 0 0	---	---	--	--	--	--	yes	Increased system vacuum by closing off recirculation valve on blower.
11/26/07	SYS-INF SYS-MID SYS-EFF	NM	49	68	1,800 0 0	---	---	--	--	--	--	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	---	---	--	--	--	--	yes	

Table 2. 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)		
12/14/07	SYS-INF	853.0	52	54	280	280	0.17	4.7	252.8	0.00	1.32	yes	
	SYS-MID				0	<7.0	<0.077						
	SYS-EFF				0	<7.0	<0.077						
12/21/07	SYS-INF	1,021.5	58	54	0	170	0	3.2	275.0	0.00	1.34	yes	SVE shutdown after reading, restarted
	SYS-MID				0	<7.0	<0.077						
	SYS-EFF				0	<7.0	<0.077						
12/27/07	SYS-INF	1,163.5	--	--	--	--	--	--	--	--	--	yes	SVE shutdown on arrival, restart and monitor
	SYS-MID				--	--	--						
	SYS-EFF				--	--	--						
12/28/07	SYS-INF	1,188.5	50	54	14	14	<0.077	0.2	276.5	0.00	1.34	yes	
	SYS-MID				0	<7.0	<0.077						
	SYS-EFF				0	<7.0	<0.077						
01/03/08	SYS-INF	1,329.5	51	54	50	50	<0.077	0.8	281.4	0.00	1.34	yes	
	SYS-MID				0	15	<0.077						
	SYS-EFF				0	<7.0	<0.077						
01/10/08	SYS-INF	1,430.2	50	54	0	16	<0.077	0.3	282.4	0.00	1.34	no	AS system off while sampling
	SYS-MID				0	13	<0.077						
	SYS-EFF				0	<7.0	<0.077						
01/15/08	SYS-INF	1,546.0	50 ¹	81	--	1,200	2.1	19.2	375.1	0.03	1.48	yes	
	SYS-MID				--	7.7	<0.077						
	SYS-EFF				--	<7.0	<0.077						
01/23/08	SYS-INF	1,694.5	50 ¹	95	--	1,300	1.6	--	--	--	--	yes	
	SYS-MID				--	11	<0.077						
	SYS-EFF				--	<7.0	<0.077						
01/30/08	SYS-INF	1,864.6	49	81	--	2,300	2.6	36.2	855.1	0.04	1.97	yes	
	SYS-MID				--	24	<0.077						
	SYS-EFF				--	<7.0	<0.077						
02/06/08	SYS-INF	2,027.5	50	81	--	1,700	2.9	27.3	1,040.2	0.04	2.26	yes	
	SYS-MID				--	43	<0.077						
	SYS-EFF				--	<7.0	<0.077						
02/12/08	SYS-INF	2,173.3	60	95	--	1,500	1.7	28.9	1,215.6	0.03	2.44	yes	
	SYS-MID				--	520	1.1						
	SYS-EFF				--	28	<0.077						

Table 2. 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)		
02/21/08	SYS-INF SYS-MID SYS-EFF	2,394.1	65	95	--	---	---	--	--	--	--	yes	Samples not picked up by the laboratory 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	1,377.3	0.01	2.63	yes	


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, 199
 Rate = vapor analytical concentration (ppmv) x system flowrate (scfm) x (1lb-mole/386 P) 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 methar
 (-) = 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.

APPENDIX A

Groundwater Monitoring Field Data Sheets

Well Gauging Data Sheet

Project.Task #: 1135.001 (214)			Project Name: (Douglas Parking)					
Address 1721 Webster Street, Oakland, CA						Date: 1/16/08		
Name: Stewart Dalie			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"	6 ⁵⁰	N/A	—	22.33	28.65	NTOC	
MW-2	2"	7 ⁰⁰	N/A	—	20.10	25.95		
MW-3	2"	7 ⁰⁵	N/A	—	21.68	26.90		
MW-4	2"	7 ¹⁰	N/A	—	18.46	29.42		
MW-5	2"	7 ¹⁵	N/A	—	15.10	24.50		
MW-6	2"	8	N/A	—	20.22	25.79		
MW-7	2"	8 ¹⁰	N/A	—	21.90	28.46		✓

Comments: System shutdown night before and well caps removed to allow equilibration.

MONITORING FIELD DATA SHEET

Well ID: MW- 1


Project.Task #: 1135.001 (214)		Project Name: Douglas Parking	
Address: 1721 Webster Street, Oakland, CA			
Date: 1/16/08		Weather: clear	
Well Diameter: 2"		Volume/ft: 1" = 0.04, 3" = 0.37, 6" = 1.47 2" = 0.16, 4" = 0.65, radius ² * 0.163	
Total Depth (TD): 22.33 feet		Depth to Product:	
Depth to Water (DTW): 26.65		Product Thickness:	
Water Column Height: 4.32		1 Casing Volume: 0.69 gallons	
Reference Point: NTOC		3 Casing Volumes: 2.07 gallons	

Purging Device:

Sampling Device:

Time	Temp (°C)	pH	Cond (µs)	NTU	DO (mg/L)	ORP (mV)	Vol (gal)	DTW
705	16.7	7.41	6350			47	0	
707	17.7	7.02	6453			70	1	
709	18.0	6.76	650.3			80	2	
711	18.3	6.70	639.5			85	3	

Comments: DO pre-purge @ 1.11 mg/L
; Brown - Silty - no odor

Sample ID: MW- 1	Sample Time: 7:15
Laboratory: McCampbell Analytical	Sample Date: 1/16/08
Containers/Preservative: 3 VOA w/ HCL	
Analyzed for: TPHg, BTEX, MTBE - 8015Cm / 8021B	
Sampler Name: Stewart Dalie	Signature: 


MONITORING FIELD DATA SHEET

Well ID: MW-2

Project.Task #: 1135.001 (214)		Project Name: Douglas Parking						
Address: 1721 Webster Street, Oakland, CA								
Date: 1/16/08		Weather: clear / dew						
Well Diameter: 2"		Volume/ft. 1" = 0.04 2" = 0.16 3" = 0.37 4" = 0.65 radius ² * 0.163						
Total Depth (TD): 25.95		Depth to Product: N/A						
Depth to Water (DTW): 20.10		Product Thickness: N/A						
Water Column Height: 5.85		1 Casing Volume: .93 gallons						
Reference Point: NTOC		3 Casing Volumes: 2.80 gallons						
Purging Device: DB								
Sampling Device: DB								
Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
941	17.9	7.08	800.1			0.1	-113	mV
943	18.1	6.95	791.6			1	-116	
945	19.3	6.93	788.2			2	-111	
949	19.4	6.93	787.7			3	-104	

Comments: DO pre purge @ 1.15 mg/L

grey - turbid - odor


Sample ID: MW-2	Sample Time: 10:00
Laboratory: McCampbell Analytical	Sample Date: 1/16/08
Containers/Preservative: 3 VOA w/ HCL	
Analyzed for: TPHg, BTEX, MTBE - 8015Cm / 8021B	
Sampler Name: Stewart Dalie	Signature: 

MONITORING FIELD DATA SHEET

Well ID: MW-3

Project.Task #: 1135.001 (214)		Project Name: Douglas Parking						
Address: 1721 Webster Street, Oakland, CA								
Date: 1/16/08		Weather: Clear / Cool						
Well Diameter: 2"		Volume/ft: 1" = 0.04, 2" = 0.16, 3" = 0.37, 4" = 0.65, 6" = 1.47, radius ² * 0.163						
Total Depth (TD): 26.90		Depth to Product: NA						
Depth to Water (DTW): 21.68		Product Thickness: NA						
Water Column Height: 5.22		1 Casing Volume: 83 gallons						
Reference Point: NTOC		3 Casing Volumes: 2.50 gallons						
Purging Device: DB								
Sampling Device: DB								
Time	Temp (°C)	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
1123	17.7	7.41	414.5			-21	0	
1125	19.0	7.26	405.2			-20	1	
1127	19.3	7.21	401.1			-16	2	
1129	19.2	7.14	400.8			-13	3	

Comments: DO @ 1.21 mg/L pre-purge

Sample ID: MW-3	Sample Time: 1145
Laboratory: McCampbell Analytical	Sample Date: 1/16/08
Containers/Preservative: 3 VOA w/ HCL	
Analyzed for: TPHg, BTEX, MTBE - 8015Cm / 8021B	
Sampler Name: Stewart Dalie	Signature: 


MONITORING FIELD DATA SHEET

Well ID: MW-4

Project.Task #: 1135.001 (214)		Project Name: Douglas Parking						
Address: 1721 Webster Street, Oakland, CA								
Date: 1/16/08		Weather: clear/cool						
Well Diameter:		Volume/ft. 1" = 0.04 3" = 0.37 6" = 1.47 2" = 0.16 4" = 0.65 radius ² * 0.163						
Total Depth (TD): 29.42		Depth to Product: N/A						
Depth to Water (DTW): 18.46		Product Thickness: N/A						
Water Column Height: 10.96		1 Casing Volume: 1.75 gallons						
Reference Point: NTOC		3 Casing Volumes: 5.26 gallons						
Purging Device: DB								
Sampling Device: DB								
Time	Temp (°C)	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
839	17.0	7.41	583.3			107	0	
841	18.7	7.22	552.5			61	1	
843	19.3	7.11	546.5			18	3	
845	19.5	7.04	545.1			-4	5	

Comments: DO = .92 mg/L pre purge

Clear - Slight odor.

Sample ID: MW-4	Sample Time: 9:00
Laboratory: McCampbell Analytical	Sample Date: 1/16/08
Containers/Preservative: 3 VOA w/ HCL	
Analyzed for: TPHg, BTEX, MTBE - 8015Cm / 8021B	
Sampler Name: Stewart Dalie	Signature: 


MONITORING FIELD DATA SHEET

Well ID: MW-5

Project.Task #: 1135.001 (214)				Project Name: Douglas Parking				
Address: 1721 Webster Street, Oakland, CA								
Date: 1/16/08				Weather: clear / cool				
Well Diameter: 24				Volume/ft.:	1" = 0.04	3" = 0.37	6" = 1.47	
					2" = 0.16	4" = 0.65	radius ² * 0.163	
Total Depth (TD): 24.50				Depth to Product:				
Depth to Water (DTW): 15.10				Product Thickness:				
Water Column Height: 9.4				1 Casing Volume: 1.50		gallons		
Reference Point: NTOC				3 Casing Volumes: 4.51		gallons		
Purging Device: db								
Sampling Device: db								
Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
801	17.4	7.49	600.3			108	0	
803	18.6	7.17	586.5			106	1	
805							2 sud	
809	18.8	7.07	582.7			106	3	
811							4 sud	
813	19.1	6.97	580.1			107	5	

Comments: DO = 1.01 mg/L pre-purge

Clear No odor

Sample ID: MW-5		Sample Time: 8:25	
Laboratory: McCampbell Analytical		Sample Date: 1/16/08	
Containers/Preservative: 3 VOA w/ HCL			
Analyzed for: TPHg, BTEX, MTBE - 8015Cm / 8021B			
Sampler Name: Stewart Dalie		Signature: 	


MONITORING FIELD DATA SHEET

Well ID: MW-6

Project.Task #: 1135.001 (214)		Project Name: Douglas Parking						
Address: 1721 Webster Street, Oakland, CA								
Date: 1/16/08		Weather: clear/cool						
Well Diameter: 24		Volume/ft. 2" = 0.04 3" = 0.37 6" = 1.47 12" = 0.16 4" = 0.65 radius ² * 0.163						
Total Depth (TD): 25.79		Depth to Product: N/A						
Depth to Water (DTW): 20.22		Product Thickness: N/A						
Water Column Height: 5.57		1 Casing Volume: 1.89 gallons						
Reference Point: NTOC		3 Casing Volumes: 2.67 gallons						
Purging Device: DB								
Sampling Device: DB								
Time	Temp (°C)	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
1033	16.5	7.35	796.9			0 gal	4 mV	
1036	18.7	6.99	789.1			1	-16	
1039	19.3	6.83	785.4			2	-36	
1041	19.4	6.80	796.5			3	-48	

Comments: DO @ 1.97 mg/L pre purge

grey turbid odor

Sample ID: MW-6	Sample Time: 11:05
Laboratory: McCampbell Analytical	Sample Date: 1/16/08
Containers/Preservative: 3 VOA w/ HCL	
Analyzed for: TPHg, BTEX, MTBE - 8015Cm / 8021B	
Sampler Name: Stewart Dalie	Signature: 

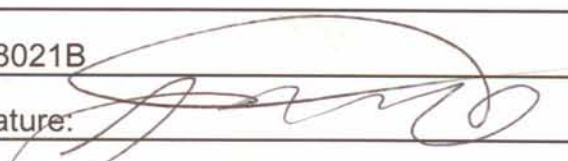
MONITORING FIELD DATA SHEET

Well ID: MW- 7

Project.Task #: 1135.001 (214)		Project Name: Douglas Parking						
Address: 1721 Webster Street, Oakland, CA								
Date: 1/16/08		Weather: clear/cool						
Well Diameter:		Volume/ft. $1'' = 0.04$ $3'' = 0.37$ $6'' = 1.47$ $2'' = 0.16$ $4'' = 0.65$ radius ² * 0.163						
Total Depth (TD): 28.46		Depth to Product: N/A						
Depth to Water (DTW): 21.90		Product Thickness: N/A						
Water Column Height: 6.56		1 Casing Volume: 1.04 gallons						
Reference Point: NTOC		3 Casing Volumes: 3.14 gallons						
Purging Device: DB								
Sampling Device: DB								
Time	Temp ©	pH	Cond (µs)	NTU	DO(mg/L)	ORP (mV)	Vol(gal)	DTW
1233	17.3	7.46	421.2			42	0	
1236	18.7	7.14	404.8			46	1	
1239	19.4	6.98	392.1			49	2	
1241	19.4	6.97	392.7			49	3	

Comments: DO @ 1.10 mg/L pre-purge

light brown; slightly turbid - no odor.

Sample ID: MW- 7	Sample Time: 1245
Laboratory: McCampbell Analytical	Sample Date: 1/16/08
Containers/Preservative: 3 VOA w/ HCL	
Analyzed for: TPHg, BTEX, MTBE - 8015Cm / 8021B	
Sampler Name: Stewart Dalie	Signature: 

APPENDIX B

Laboratory Analytical Report



McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mcccampbell.com E-mail: main@mcccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Pangea Environmental Svcs., Inc. 1710 Franklin Street, Ste. 200 Oakland, CA 94612	Client Project ID: # 1135.001 (214); Douglas Parking	Date Sampled: 01/17/08
	Client Contact: Stewart Dalie	Date Received: 01/18/08
	Client P.O.:	Date Reported: 01/25/08
		Date Completed: 01/25/08

WorkOrder: 0801487

January 25, 2008

Dear Stewart:

Enclosed within are:

- 1) The results of the **7** analyzed samples from your project: **# 1135.001 (214); Douglas Parking,**
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

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

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

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McC Campbell Analytical, Inc.

McC Campbell Analytical, Inc.



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0801487

ClientID: PEO

EDF Excel Fax Email HardCopy ThirdParty

Report to: Stewart Dalie Pangea Environmental Svcs., Inc. 1710 Franklin Street, Ste. 200 Oakland, CA 94612	Email: sdalie@pangeaenv.com TEL: (510) 409-8980 FAX: (510) 836-3709 ProjectNo: # 1135.001 (214); Douglas Parking PO:	Bill to: Bob Clark-Riddell Pangea Environmental Svcs., Inc. 1710 Franklin Street, Ste. 200 Oakland, CA 94612	Requested TAT: 5 days Date Received: 01/18/2008 Date Printed: 01/18/2008
---	--	---	---

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0801487-001	MW-1	Water	1/17/2008 7:15:00	<input type="checkbox"/>	A	A											
0801487-002	MW-2	Water	1/17/2008	<input type="checkbox"/>	A												
0801487-003	MW-3	Water	1/17/2008	<input type="checkbox"/>	A												
0801487-004	MW-4	Water	1/17/2008 9:00:00	<input type="checkbox"/>	A												
0801487-005	MW-5	Water	1/17/2008 8:25:00	<input type="checkbox"/>	A												
0801487-006	MW-6	Water	1/17/2008	<input type="checkbox"/>	A												
0801487-007	MW-7	Water	1/17/2008	<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: Kimberly Burks

Comments:

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



Sample Receipt Checklist

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

Date and Time Received: **1/18/2008 6:27:57 PM**

Project Name: **# 1135.001 (214); Douglas Parking**

Checklist completed and reviewed by: **Kimberly Burks**

WorkOrder N°: **0801487** Matrix Water

Carrier: Rob Pringle (MAI Courier)

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

- All samples received within holding time? Yes No
- Container/Temp Blank temperature Cooler Temp: 12.5°C NA
- Water - VOA vials have zero headspace / no bubbles? Yes No No VOA vials submitted
- Sample labels checked for correct preservation? Yes No
- TTLC Metal - pH acceptable upon receipt (pH<2)? Yes No NA

Client contacted:

Date contacted:

Contacted by:

Comments:



McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mcccampbell.com E-mail: main@mcccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Pangea Environmental Svcs., Inc. 1710 Franklin Street, Ste. 200 Oakland, CA 94612	Client Project ID: # 1135.001 (214); Douglas Parking	Date Sampled: 01/17/08
	Client Contact: Stewart Dalie	Date Received: 01/18/08
	Client P.O.:	Date Extracted: 01/22/08-01/23/08
		Date Analyzed: 01/22/08-01/23/08

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

Extraction method SW5030B

Analytical methods SW8021B/8015Cm

Work Order: 0801487

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1	W	ND	ND	ND	ND	ND	ND	1	93
002A	MW-2	W	38,000,a	ND<210	2900	5100	1200	5000	20	95
003A	MW-3	W	6400,a,m	23	1.8	ND	1.0	8.4	1	94
004A	MW-4	W	820,a	ND<10	15	3.7	25	9.3	1	96
005A	MW-5	W	ND	ND	ND	ND	ND	ND	1	90
006A	MW-6	W	16,000,a,h	ND<150	200	130	130	460	10	99
007A	MW-7	W	ND	ND	ND	ND	ND	ND	1	108

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) range non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request; p) see attached narrative.



QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0801487

Analyte	EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 33287			Spiked Sample ID: 0801487-007A			
	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) [£]	ND	60	91.8	97.9	6.37	90.8	93.3	2.81	70 - 130	30	70 - 130	30
MTBE	ND	10	85.6	99.6	15.1	102	114	10.6	70 - 130	30	70 - 130	30
Benzene	ND	10	90.7	91.9	1.34	90.7	103	12.6	70 - 130	30	70 - 130	30
Toluene	ND	10	83.9	87.8	4.63	85.3	93.9	9.59	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	92.2	106	13.6	95.3	103	7.42	70 - 130	30	70 - 130	30
Xylenes	ND	30	90.7	100	9.79	92.7	96.7	4.23	70 - 130	30	70 - 130	30
%SS:	108	10	98	107	8.57	94	96	1.35	70 - 130	30	70 - 130	30

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

BATCH 33287 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0801487-001A	01/17/08 7:15 AM	01/22/08	01/22/08 3:58 PM	0801487-002A	01/17/08 10:00 AM	01/22/08	01/22/08 4:32 PM
0801487-003A	01/17/08 11:45 AM	01/22/08	01/22/08 5:05 PM	0801487-004A	01/17/08 9:00 AM	01/23/08	01/23/08 11:45 PM
0801487-005A	01/17/08 8:25 AM	01/22/08	01/22/08 5:40 PM	0801487-006A	01/17/08 11:05 AM	01/23/08	01/23/08 10:44 PM
0801487-007A	01/17/08 12:45 PM	01/22/08	01/22/08 9:39 PM				

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

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

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.



McC Campbell Analytical, Inc.

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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mcccampbell.com E-mail: main@mcccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Pangea Environmental Svcs., Inc. 1710 Franklin Street, Ste. 200 Oakland, CA 94612	Client Project ID: #11351001 (520); Douglas	Date Sampled: 02/06/08
		Date Received: 02/06/08
	Client Contact: Stewart Dalie	Date Reported: 02/12/08
	Client P.O.:	Date Completed: 02/12/08

WorkOrder: 0802108

February 12, 2008

Dear Stewart:

Enclosed within are:

- 1) The results of the **3** analyzed samples from your project: **#11351001 (520); Douglas,**
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

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

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

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McC Campbell Analytical, Inc.

0802108

McCAMPBELL ANALYTICAL, INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560

Website: www.mccampbell.com Email: main@mccampbell.com

Telephone: (925) 798-1620

Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HR 48 HR 72 HR 5 DAY

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

Report To: Stewart Dalie Bill To: Pangea

Company: Pangea Environmental Technology, Inc.

1710 Franklin Street, Suite 200, Oakland, CA 94612

E-Mail: sdalie@pangeaenv.com

Tele: (510) 735-1751 Fax: (510) 836-3709

Project #: 1135,001 (520) Project Name: Douglas

Project Location: 1721 Webster, Douglas Park

Sampler Signature: *[Signature]*

Analysis Request

Other Comments

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED				BTEX & TPH as Gas (602/8020 + 8015)/MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010 / 8021	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8081	EPA 608 / 8082 PCB's ONLY	EPA 8140 / 8141	EPA 8150 / 8151	EPA 524.2 / 624 / 8260	EPA 525 / 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals (6010 / 6020)	LUFT 5 Metals (6010 / 6020)	Lead (200.8 / 200.9 / 6010)	Filter Samples for Metals analysis: Yes / No				
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO ₃	Other																					
IN MID EFF	↓	2/11/8	10 ⁰⁰	1	TB			X																											
		2/6/8	10 ⁰⁰	1	TB			X																											
		2/6/8	10 ⁰⁰	1	TB			X																											

Relinquished By: *[Signature]* Date: 2/11/8 Time: 12:00 Received By: *[Signature]*

Relinquished By: *[Signature]* Date: 2/6/8 Time: 2:00 Received By: *[Signature]* 2/6/08 2:00pm

Relinquished By: _____ Date: _____ Time: _____ Received By: _____

ICE/r' _____ COMMENTS: _____

GOOD CONDITION

HEAD SPACE ABSENT

DECHLORINATED IN LAB N/A

APPROPRIATE CONTAINERS

PRESERVED IN LAB NO

VOAS O&G METALS OTHER
PRESERVATION pH<2

TPH/BTEX/metal

McC Campbell Analytical, Inc.



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0802108

ClientID: PEO

EDF Excel Fax Email HardCopy ThirdParty

Report to:		Bill to:	Requested TAT: 5 days
Stewart Dalie	Email: sdalie@pangeaenv.com	Bob Clark-Riddell	
Pangea Environmental Svcs., Inc.	TEL: (510) 409-8980 FAX: (510) 836-3709	Pangea Environmental Svcs., Inc.	Date Received: 02/06/2008
1710 Franklin Street, Ste. 200	ProjectNo: #11351001 (520); Douglas	1710 Franklin Street, Ste. 200	Date Printed: 02/06/2008
Oakland, CA 94612	PO:	Oakland, CA 94612	

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0802108-001	IN	Air	2/6/08 10:00:00	<input type="checkbox"/>	A	A											
0802108-002	MID	Air	2/6/08 10:00:00	<input type="checkbox"/>	A												
0802108-003	EFF	Air	2/6/08 10:00:00	<input type="checkbox"/>	A												

Test Legend:

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

The following SampIDs: 001A, 002A, 003A contain testgroup.

Prepared by: Samantha Arbuckle

Comments:

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



Sample Receipt Checklist

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

Date and Time Received: **2/6/08 2:49:18 PM**

Project Name: **#11351001 (520); Douglas**

Checklist completed and reviewed by: **Samantha Arbuckle**

WorkOrder N°: **0802108** Matrix Air

Carrier: Rob Pringle (MAI Courier)

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

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

Client contacted:

Date contacted:

Contacted by:

Comments:



QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Air/Air

QC Matrix: Water

WorkOrder 0802108

EPA Method SW8021B/8015Cm	Extraction SW5030B			BatchID: 33657			Spiked Sample ID: 0802103-007A					
	Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)		
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) [£]	ND	60	86.4	78.6	9.45	108	111	2.82	70 - 130	30	70 - 130	30
MTBE	ND	10	96.2	95.4	0.788	99.4	103	3.18	70 - 130	30	70 - 130	30
Benzene	ND	10	93.4	96.5	3.18	96.5	97.4	0.914	70 - 130	30	70 - 130	30
Toluene	ND	10	94.1	98	4.08	96.7	97.7	1.08	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	92.2	93.9	1.76	101	102	0.788	70 - 130	30	70 - 130	30
Xylenes	ND	30	89.3	85.3	4.53	110	113	2.99	70 - 130	30	70 - 130	30
%SS:	92	10	103	110	5.88	90	91	0.862	70 - 130	30	70 - 130	30

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

BATCH 33657 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0802108-001A	02/06/08 10:00 AM	02/06/08	02/06/08 5:10 PM	0802108-001A	02/06/08 10:00 AM	02/06/08	02/06/08 5:10 PM
0802108-002A	02/06/08 10:00 AM	02/06/08	02/06/08 5:43 PM	0802108-002A	02/06/08 10:00 AM	02/06/08	02/06/08 5:43 PM
0802108-003A	02/06/08 10:00 AM	02/06/08	02/06/08 6:16 PM	0802108-003A	02/06/08 10:00 AM	02/06/08	02/06/08 6:16 PM

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

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

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.



McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mcccampbell.com E-mail: main@mcccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Pangea Environmental Svcs., Inc. 1710 Franklin Street, Ste. 200 Oakland, CA 94612	Client Project ID: Air	Date Sampled: 01/30/08
		Date Received: 01/31/08
	Client Contact: Greg Bentley	Date Reported: 02/06/08
	Client P.O.:	Date Completed: 02/06/08

WorkOrder: 0801793

February 06, 2008

Dear Greg:

Enclosed within are:

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

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

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

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McC Campbell Analytical, Inc.

McC Campbell Analytical, Inc.



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0801793

ClientID: PEO

EDF Excel Fax Email HardCopy ThirdParty

Report to:

Greg Bentley
 Pangea Environmental Svcs., Inc.
 1710 Franklin Street, Ste. 200
 Oakland, CA 94612

Email: gbentley@pangeaenv.com
 TEL: (510) 409-8980 FAX: (510) 836-3709
 ProjectNo: Air
 PO:

Bill to:

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

Requested TAT: 5 days

Date Received: 01/31/2008

Date Printed: 01/31/2008

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0801793-001	IN	Air	1/30/2008 2:30:00	<input type="checkbox"/>	A	A											
0801793-002	MID	Air	1/30/2008 2:30:00	<input type="checkbox"/>	A												
0801793-003	EFF	Air	1/30/2008 2:30:00	<input type="checkbox"/>	A												

Test Legend:

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

The following SampIDs: 001A, 002A, 003A contain testgroup.

Prepared by: Kimberly Burks

Comments:

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



Sample Receipt Checklist

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

Date and Time Received: **1/31/2008 6:10:07 PM**

Project Name: **Air**

Checklist completed and reviewed by: **Kimberly Burks**

WorkOrder N°: **0801793** Matrix Air

Carrier: Derik Cartan (MAI Courier)

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

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

Client contacted:

Date contacted:

Contacted by:

Comments:



QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Air

QC Matrix: Water

WorkOrder 0801793

Analyte	EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 33541			Spiked Sample ID: 0801783-004A			
	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) [£]	ND	60	112	104	7.62	108	106	1.84	70 - 130	30	70 - 130	30
MTBE	ND	10	101	98.2	2.35	117	110	5.67	70 - 130	30	70 - 130	30
Benzene	ND	10	97.7	94.2	3.67	99	94.8	4.27	70 - 130	30	70 - 130	30
Toluene	ND	10	98.5	94	4.56	110	105	5.05	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	103	99.7	3.76	108	102	5.74	70 - 130	30	70 - 130	30
Xylenes	ND	30	117	110	5.88	120	110	8.70	70 - 130	30	70 - 130	30
%SS:	104	10	89	92	3.00	94	95	0.395	70 - 130	30	70 - 130	30

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

BATCH 33541 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0801793-001A	01/30/08 2:30 AM	02/01/08	02/01/08 6:26 AM	0801793-002A	01/30/08 2:30 AM	02/01/08	02/01/08 6:56 AM
0801793-003A	01/30/08 2:30 AM	02/02/08	02/02/08 2:13 AM				

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

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

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.



McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mcccampbell.com E-mail: main@mcccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Pangea Environmental Svcs., Inc. 1710 Franklin Street, Ste. 200 Oakland, CA 94612	Client Project ID: #1135.001; Douglas Party	Date Sampled: 01/15/08
		Date Received: 01/18/08
	Client Contact: Greg Bentley	Date Reported: 01/25/08
	Client P.O.:	Date Completed: 01/25/08

WorkOrder: 0801481

January 25, 2008

Dear Greg:

Enclosed within are:

- 1) The results of the **3** analyzed samples from your project: **#1135.001; Douglas Party,**
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

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

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

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McC Campbell Analytical, Inc.

McC Campbell Analytical, Inc.



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0801481

ClientID: PEO

EDF Excel Fax Email HardCopy ThirdParty

Report to:	Bill to:	Requested TAT: 5 days
Greg Bentley	Bob Clark-Riddell	
Pangea Environmental Svcs., Inc.	Pangea Environmental Svcs., Inc.	<i>Date Received: 01/18/2008</i>
1710 Franklin Street, Ste. 200	1710 Franklin Street, Ste. 200	<i>Date Printed: 01/18/2008</i>
Oakland, CA 94612	Oakland, CA 94612	

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0801481-001	INF	Air	1/15/2008	<input type="checkbox"/>	A	A											
0801481-002	MID	Air	1/15/2008	<input type="checkbox"/>	A												
0801481-003	EFF	Air	1/15/2008	<input type="checkbox"/>	A												

Test Legend:

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

The following SampIDs: 001A, 002A, 003A contain testgroup.

Prepared by: Ana Venegas

Comments:

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



Sample Receipt Checklist

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

Date and Time Received: **1/18/2008 5:35:18 PM**

Project Name: **#1135.001; Douglas Party**

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

WorkOrder N°: **0801481** Matrix Air

Carrier: Rob Pringle (MAI Courier)

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

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

Client contacted:

Date contacted:

Contacted by:

Comments:



McC Campbell Analytical, Inc.

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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mcccampbell.com E-mail: main@mcccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Pangea Environmental Svcs., Inc.
1710 Franklin Street, Ste. 200
Oakland, CA 94612

Client Project ID: #1135.001; Douglas Party

Client Contact: Greg Bentley

Client P.O.:

Date Sampled: 01/15/08

Date Received: 01/18/08

Date Extracted: 01/18/08

Date Analyzed 01/18/08

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

Extraction method SW5030B

Analytical methods SW8021B/8015Cm

Work Order: 0801481

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	INF	A	1200,b,m	ND<14	2.1	13	14	100	20	102
002A	MID	A	7.7,m	ND	ND	ND	ND	0.19	1	108
003A	EFF	A	ND	ND	ND	ND	ND	ND	1	91

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

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high organic / MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.



QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Air

QC Matrix: Water

WorkOrder 0801481

Analyte	EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 33276			Spiked Sample ID: 0801476-004A			
	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) [£]	ND	60	108	99.7	8.13	122	118	3.17	70 - 130	30	70 - 130	30
MTBE	ND	10	107	111	3.64	94.4	96.7	2.41	70 - 130	30	70 - 130	30
Benzene	ND	10	97.8	101	3.48	95.2	96.8	1.63	70 - 130	30	70 - 130	30
Toluene	ND	10	98.2	100	2.25	94.5	96.3	1.84	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	102	103	1.63	97.4	101	3.72	70 - 130	30	70 - 130	30
Xylenes	ND	30	110	110	0	110	110	0	70 - 130	30	70 - 130	30
%SS:	92	10	92	95	2.73	90	92	1.94	70 - 130	30	70 - 130	30

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

BATCH 33276 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0801481-001A	01/15/08 12:05 PM	01/18/08	01/18/08 7:10 PM	0801481-002A	01/15/08 12:05 PM	01/18/08	01/18/08 9:36 PM
0801481-003A	01/15/08 12:05 PM	01/18/08	01/18/08 8:17 PM				

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

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

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.



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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mcccampbell.com E-mail: main@mcccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Pangea Environmental Svcs., Inc. 1710 Franklin Street, Ste. 200 Oakland, CA 94612	Client Project ID: Air Samples INF, MID, and EFF	Date Sampled: 01/10/08
	Client Contact: Greg Bentley	Date Received: 01/11/08
	Client P.O.:	Date Reported: 01/16/08
		Date Completed: 01/16/08

WorkOrder: 0801293

January 16, 2008

Dear Greg:

Enclosed within are:

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

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

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

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McC Campbell Analytical, Inc.

peo 0801293

McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701

Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HR 48 HR 72 HR 5 DAY

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

Report To: Greg Bentley Bill To: Pangea
Company: Pangea Environmental Technology, Inc.
1710 Franklin Street, Suite 200, Oakland, CA 94612
E-Mail: gbentlev@pangeaenv.com
Tele: (510) 409-8980 Fax: (510) 836-3709
Project #: Project Name:
Project Location:
Sampler Signature:

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

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED						
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO ₃	Other			
INF		1/10/08	1615	1	BAG		X					X	X				
MID		↓	↓	↓	↓		↓					↓	↓				
EFF																	

Please report in PPMV.

Relinquished By: *[Signature]* Date: 1/10/08 Time: 11:45
 Relinquished By: *[Signature]* Date: 1/10/08 Time: 2:25 Received By: *me rae*
 Relinquished By: _____ Date: _____ Time: _____ Received By: _____

ICE/A° NA
 GOOD CONDITION
 HEAD SPACE ABSENT _____
 DECHLORINATED IN LAB _____
 APPROPRIATE CONTAINERS
 PRESERVED IN LAB _____
 VOAS O&G METALS OTHER
 PRESERVATION pH<2

COMMENTS:

McC Campbell Analytical, Inc.



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0801293

ClientID: PEO

EDF Excel Fax Email HardCopy ThirdParty

Report to:

Greg Bentley
 Pangea Environmental Svcs., Inc.
 1710 Franklin Street, Ste. 200
 Oakland, CA 94612

Email: gbentley@pangeaenv.com
 TEL: (510) 409-8980 FAX: (510) 836-3709
 ProjectNo: Air Samples INF, MID, and EFF
 PO:

Bill to:

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

Requested TAT: 5 days

Date Received: 01/11/2008

Date Printed: 01/11/2008

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0801293-001	INF	Air	1/10/08 4:15:00	<input type="checkbox"/>	A	A											
0801293-002	MID	Air	1/10/08 4:15:00	<input type="checkbox"/>	A												
0801293-003	EFF	Air	1/10/08 4:15:00	<input type="checkbox"/>	A												

Test Legend:

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

The following SampIDs: 001A, 002A, 003A contain testgroup.

Prepared by: Melissa Valles

Comments:

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



Sample Receipt Checklist

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

Date and Time Received: **1/11/08 1:08:00 PM**

Project Name: **Air Samples INF, MID, and EFF**

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

WorkOrder N°: **0801293** Matrix Air

Carrier: Rob Pringle (MAI Courier)

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

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

Client contacted:

Date contacted:

Contacted by:

Comments:



McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mcccampbell.com E-mail: main@mcccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Pangea Environmental Svcs., Inc. 1710 Franklin Street, Ste. 200 Oakland, CA 94612	Client Project ID: Air Samples INF, MID, and EFF	Date Sampled: 01/10/08
	Client Contact: Greg Bentley	Date Received: 01/11/08
	Client P.O.:	Date Analyzed: 01/11/08
		Date Extracted: 01/11/08

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

Extraction method SW5030B

Analytical methods SW8021B/8015Cm

Work Order: 0801293

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	INF	A	16,b	ND	ND	0.076	0.088	0.58	1	103
002A	MID	A	13,m	ND	ND	ND	ND	ND	1	107
003A	EFF	A	ND	ND	ND	ND	ND	ND	1	107

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

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high organic / MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.



QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Air/Air

QC Matrix: Water

WorkOrder 0801293

Analyte	EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 33137			Spiked Sample ID: 0801284-003A			
	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) [£]	ND	60	108	105	3.46	97.7	98.9	1.16	70 - 130	30	70 - 130	30
MTBE	ND	10	83.8	82.2	1.89	99	99.7	0.763	70 - 130	30	70 - 130	30
Benzene	ND	10	85	82.5	2.97	89.9	87.2	3.09	70 - 130	30	70 - 130	30
Toluene	ND	10	91.4	88.8	2.87	88.1	86	2.38	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	101	97	3.94	101	98.9	2.45	70 - 130	30	70 - 130	30
Xylenes	ND	30	110	107	3.08	96.7	96.3	0.345	70 - 130	30	70 - 130	30
%SS:	88	10	87	87	0	96	94	2.75	70 - 130	30	70 - 130	30

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

BATCH 33137 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0801293-001A	01/10/08 4:15 PM	01/11/08	01/11/08 6:19 PM	0801293-001A	01/10/08 4:15 PM	01/11/08	01/11/08 6:19 PM
0801293-002A	01/10/08 4:15 PM	01/11/08	01/11/08 2:18 PM	0801293-002A	01/10/08 4:15 PM	01/11/08	01/11/08 2:18 PM
0801293-003A	01/10/08 4:15 PM	01/11/08	01/11/08 2:48 PM	0801293-003A	01/10/08 4:15 PM	01/11/08	01/11/08 2:48 PM

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

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

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.



McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mcccampbell.com E-mail: main@mcccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Pangea Environmental Svcs., Inc. 1710 Franklin Street, Ste. 200 Oakland, CA 94612	Client Project ID: Air Samples (INF, MID, EFF)	Date Sampled: 01/03/08
	Client Contact: Greg Bentley	Date Received: 01/04/08
	Client P.O.:	Date Reported: 01/10/08
		Date Completed: 01/10/08

WorkOrder: 0801084

January 10, 2008

Dear Greg:

Enclosed within are:

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

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

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

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McC Campbell Analytical, Inc.

McC Campbell Analytical, Inc.



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0801084

ClientID: PEO

EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty

Report to:	Bill to:	Requested TAT:	5 days
Greg Bentley	Bob Clark-Riddell		
Pangea Environmental Svcs., Inc.	Pangea Environmental Svcs., Inc.	Date Received:	01/04/2008
1710 Franklin Street, Ste. 200	1710 Franklin Street, Ste. 200	Date Printed:	01/07/2008
Oakland, CA 94612	Oakland, CA 94612		

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0801084-001	INF	Air	01/03/2008	<input type="checkbox"/>	A												
0801084-002	MID	Air	01/03/2008	<input type="checkbox"/>	A												
0801084-003	EFF	Air	01/03/2008	<input type="checkbox"/>	A												

Test Legend:

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

The following SampIDs: 001A, 002A, 003A contain testgroup.

Prepared by: Ana Venegas

Comments:

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



Sample Receipt Checklist

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

Date and Time Received: **1/4/2008 4:10:13 PM**

Project Name:

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

WorkOrder N°: **0801084** Matrix Air

Carrier: Rob Pringle (MAI Courier)

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

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

Client contacted:

Date contacted:

Contacted by:

Comments:



QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Air

QC Matrix: Water

WorkOrder: 0801084

EPA Method SW8021B/8015Cm	Extraction SW5030B			BatchID: 32998			Spiked Sample ID: 0801071-001D						
	Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
		µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) [£]	ND	60	106	107	0.782	106	109	2.36	70 - 130	30	70 - 130	30	
MTBE	ND	10	92.8	96.1	3.44	104	100	3.54	70 - 130	30	70 - 130	30	
Benzene	ND	10	89.2	93.7	4.92	99.7	97.6	2.22	70 - 130	30	70 - 130	30	
Toluene	ND	10	89.4	94.1	5.13	100	98.1	2.25	70 - 130	30	70 - 130	30	
Ethylbenzene	ND	10	95.1	100	5.42	106	97.6	8.63	70 - 130	30	70 - 130	30	
Xylenes	ND	30	107	110	3.08	117	117	0	70 - 130	30	70 - 130	30	
%SS:	102	10	89	90	1.84	89	89	0	70 - 130	30	70 - 130	30	

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

BATCH 32998 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0801084-001A	01/03/08 2:00 PM	01/05/08	01/05/08 12:55 AM	0801084-002A	01/03/08 2:00 PM	01/04/08	01/04/08 4:58 PM
0801084-003A	01/03/08 2:00 PM	01/04/08	01/04/08 11:47 PM				

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

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

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.



McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mcccampbell.com E-mail: main@mcccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Pangea Environmental Svcs., Inc. 1710 Franklin Street, Ste. 200 Oakland, CA 94612	Client Project ID: Douglas Parking	Date Sampled: 12/28/07
		Date Received: 12/28/07
	Client Contact: Greg Bentley	Date Reported: 01/07/08
	Client P.O.:	Date Completed: 01/07/08

WorkOrder: 0712900

January 07, 2008

Dear Greg:

Enclosed within are:

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

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

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

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McC Campbell Analytical, Inc.

McC Campbell Analytical, Inc.



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0712900

ClientID: PEO

EDF Excel Fax Email HardCopy ThirdParty

Report to:	Bill to:	Requested TAT: 5 days
Greg Bentley	Bob Clark-Riddell	
Pangea Environmental Svcs., Inc.	Pangea Environmental Svcs., Inc.	<i>Date Received: 12/28/2007</i>
1710 Franklin Street, Ste. 200	1710 Franklin Street, Ste. 200	<i>Date Printed: 12/28/2007</i>
Oakland, CA 94612	Oakland, CA 94612	

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0712900-001	INF	Air	12/28/07 4:30:00	<input type="checkbox"/>	A	A											
0712900-002	MID	Air	12/28/07 4:30:00	<input type="checkbox"/>	A												
0712900-003	EFF	Air	12/28/07 4:30:00	<input type="checkbox"/>	A												

Test Legend:

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

The following SampIDs: 001A, 002A, 003A contain testgroup.

Prepared by: Ana Venegas

Comments:

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



Sample Receipt Checklist

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

Date and Time Received: **12/28/07 5:43:42 PM**

Project Name: **Douglas Parking**

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

WorkOrder N°: **0712900** Matrix Air

Carrier: Client Drop-In

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

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

Client contacted:

Date contacted:

Contacted by:

Comments:



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Web: www.mcccampbell.com E-mail: main@mcccampbell.com

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

Pangea Environmental Svcs., Inc. 1710 Franklin Street, Ste. 200 Oakland, CA 94612	Client Project ID: Douglas Parking	Date Sampled: 12/28/07
		Date Received: 12/28/07
	Client Contact: Greg Bentley	Date Extracted: 12/29/07
	Client P.O.:	Date Analyzed 12/29/07

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

Extraction method SW5030B

Analytical methods SW8021B/8015Cm

Work Order: 0712900

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	INF	A	50,b	ND	ND	0.33	0.54	4.3	1	92
002A	MID	A	ND	ND	ND	ND	ND	ND	1	87
003A	EFF	A	ND	ND	ND	ND	ND	ND	1	89

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high organic / MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.



QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Air

QC Matrix: Water

WorkOrder: 0712900

Analyte	EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 32892			Spiked Sample ID: 0712893-012A			
	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) [£]	ND	60	86.5	100	14.7	80.5	84.6	5.02	70 - 130	30	70 - 130	30
MTBE	ND	10	96.9	90.4	6.94	93.1	94.6	1.65	70 - 130	30	70 - 130	30
Benzene	ND	10	101	102	0.901	94	96.2	2.30	70 - 130	30	70 - 130	30
Toluene	ND	10	99.3	102	2.44	93.4	95.8	2.55	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	96.2	100	3.91	97.7	101	3.07	70 - 130	30	70 - 130	30
Xylenes	ND	30	91	91.3	0.366	110	110	0	70 - 130	30	70 - 130	30
%SS:	93	10	110	110	0	93	93	0	70 - 130	30	70 - 130	30

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

BATCH 32892 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0712900-001A	12/28/07 4:30 PM	12/29/07	12/29/07 9:00 AM				

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

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

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.



QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Air

QC Matrix: Water

WorkOrder: 0712900

Analyte	EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 32899			Spiked Sample ID: 0712906-005B			
	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) [£]	ND	60	104	104	0	105	104	0.891	70 - 130	30	70 - 130	30
MTBE	ND	10	96.9	102	4.99	102	98.9	3.20	70 - 130	30	70 - 130	30
Benzene	ND	10	95.5	98.2	2.75	98.5	98.7	0.222	70 - 130	30	70 - 130	30
Toluene	ND	10	106	109	2.36	110	109	0.346	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	104	103	0.228	107	107	0	70 - 130	30	70 - 130	30
Xylenes	ND	30	113	113	0	117	120	2.82	70 - 130	30	70 - 130	30
%SS:	95	10	94	96	2.13	98	99	0.672	70 - 130	30	70 - 130	30

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

BATCH 32899 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0712900-002A	12/28/07 4:30 PM	12/29/07	12/29/07 9:33 AM	0712900-003A	12/28/07 4:30 PM	12/29/07	12/29/07 10:06 AM

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

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

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.



McC Campbell Analytical, Inc.

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

Pangea Environmental Svcs., Inc. 1710 Franklin Street, Ste. 200 Oakland, CA 94612	Client Project ID: #1135.01; Douglas Parking	Date Sampled: 12/14/07
	Client Contact: Greg Bentley	Date Received: 12/14/07
	Client P.O.:	Date Reported: 12/21/07
		Date Completed: 12/21/07

WorkOrder: 0712494

December 21, 2007

Dear Greg:

Enclosed within are:

- 1) The results of the **3** analyzed samples from your project: **#1135.01; Douglas Parking,**
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

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

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

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McC Campbell Analytical, Inc.

PEO 0712494

McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701

Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HR 48 HR 72 HR 5 DAY

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

Report To: Greg Bentley Bill To: Pangea
Company: Pangea Environmental Technology, Inc.
1710 Franklin Street, Suite 200, Oakland, CA 94612
E-Mail: gbentley@pangeaenv.com
Tele: (510) 409-8980 Fax: (510) 836-3709
Project #: 1135.001 Project Name: Douglas Parking
Project Location: 1721 Webster
Sampler Signature: *[Signature]*

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

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED							
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO ₃	Other				
INF		12/14	1100	1	BAG			X										
MID		↓	↓	↓	↓			↓										
EFF																		

Relinquished By: *[Signature]* Date: 12/14/07 Time: 2:50 PM Received By: *[Signature]*
Relinquished By: *[Signature]* Date: 12/14/07 Time: 4:30 PM Received By: *[Signature]*
Relinquished By: _____ Date: _____ Time: _____ Received By: _____

ICE/r Na COMMENTS: yes na Please report in PPMV.
GOOD CONDITION yes
HEAD SPACE ABSENT na
DECHLORINATED IN LAB _____
APPROPRIATE CONTAINERS yes
PRESERVED IN LAB _____
VOAS O&G METALS OTHER
PRESERVATION pH<2

Thanks

McC Campbell Analytical, Inc.



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0712494

ClientID: PEO

EDF Excel Fax Email HardCopy ThirdParty

Report to:	Bill to:	Requested TAT: 5 days
Greg Bentley	Bob Clark-Riddell	
Pangea Environmental Svcs., Inc.	Pangea Environmental Svcs., Inc.	<i>Date Received: 12/14/2007</i>
1710 Franklin Street, Ste. 200	1710 Franklin Street, Ste. 200	<i>Date Printed: 12/17/2007</i>
Oakland, CA 94612	Oakland, CA 94612	

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0712494-001	INF	Air	12/14/07 11:00:00	<input type="checkbox"/>	A												
0712494-002	MID	Air	12/14/07 11:00:00	<input type="checkbox"/>	A												
0712494-003	EFF	Air	12/14/07 11:00:00	<input type="checkbox"/>	A												

Test Legend:

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

The following SampIDs: 001A, 002A, 003A contain testgroup.

Prepared by: Rosa Venegas

Comments:

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



Sample Receipt Checklist

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

Date and Time Received: **12/14/07 6:32:08 PM**

Project Name: **#1135.01; Douglas Parking**

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

WorkOrder N°: **0712494** Matrix Air

Carrier: Rob Pringle (MAI Courier)

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

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

Client contacted:

Date contacted:

Contacted by:

Comments:



McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701

Web: www.mcccampbell.com E-mail: main@mcccampbell.com

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

Pangea Environmental Svcs., Inc. 1710 Franklin Street, Ste. 200 Oakland, CA 94612	Client Project ID: #1135.01; Douglas Parking	Date Sampled: 12/14/07
		Date Received: 12/14/07
	Client Contact: Greg Bentley	Date Extracted: 12/14/07-12/15/07
	Client P.O.:	Date Analyzed: 12/14/07-12/15/07

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

Extraction method: SW5030B

Analytical methods: SW8021B/8015Cm

Work Order: 0712494

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	INF	A	1000,b,m	ND<5.0	0.55	13	10	52	2	75
002A	MID	A	ND	ND	ND	ND	ND	ND	1	103
003A	EFF	A	ND	ND	ND	ND	ND	ND	1	103

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high organic / MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.



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	Client P.O.:	Date Extracted: 12/14/07-12/15/07
		Date Analyzed: 12/14/07-12/15/07

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

Extraction method: SW5030B

Analytical methods: SW8021B/8015Cm

Work Order: 0712494

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	INF	A	280,b,m	ND<1.4	0.17	3.3	2.3	12	2	75
002A	MID	A	ND	ND	ND	ND	ND	ND	1	103
003A	EFF	A	ND	ND	ND	ND	ND	ND	1	103

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

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high organic / MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.



QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Air

QC Matrix: Water

WorkOrder: 0712494

Analyte	EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 32583			Spiked Sample ID: 0712491-001A			
	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) [£]	ND	60	128	110	15.0	103	99.2	4.14	70 - 130	30	70 - 130	30
MTBE	ND	10	86.6	92	5.97	91.2	109	17.9	70 - 130	30	70 - 130	30
Benzene	ND	10	90.5	93.4	3.15	84.3	87.6	3.87	70 - 130	30	70 - 130	30
Toluene	ND	10	96	98.5	2.64	84.3	85.6	1.50	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	101	104	2.43	99.1	84.9	15.4	70 - 130	30	70 - 130	30
Xylenes	ND	30	115	119	2.82	96.7	96.7	0	70 - 130	30	70 - 130	30
%SS:	96	10	89	91	2.70	93	89	4.17	70 - 130	30	70 - 130	30

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

BATCH 32583 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0712494-001A	12/14/07 11:00 AM	12/15/07	12/15/07 1:59 PM	0712494-002A	12/14/07 11:00 AM	12/14/07	12/14/07 8:53 PM
0712494-003A	12/14/07 11:00 AM	12/14/07	12/14/07 8:23 PM				

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

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

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.