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Environmental Health



April 22, 2008

#### VIA ALAMEDA COUNTY FTP SITE

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

beholdell

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)



# 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.

Groundwater Monitoring and Remediation Summary Report – First Quarter 2008 1721 Webster Street Oakland, California

April 22, 2008

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 17<sup>th</sup> Street and Harrison Street.

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

Several investigations have been completed at the site. On July 8 and September 8, 1994, Gen Tech/Piers Environmental, Inc. (Gen Tech) of San Jose, California drilled six exploratory borings and installed three groundwater monitoring wells (MW-1 through MW-3). In February and May 1996, Cambria Environmental Technology (Cambria) of Emeryville, California advanced seven geoprobe soil borings and installed two groundwater monitoring wells (MW-4 and MW-5). On 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

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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).

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### **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  $\mu$ g/L) and benzene (2,900  $\mu$ g/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  $\mu$ g/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  $\mu$ g/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  $\mu$ g/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 oilless compressor capable of injecting approximately 8 cfm of air. Wells SVE-1 and AS-1 are constructed as

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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.

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### **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

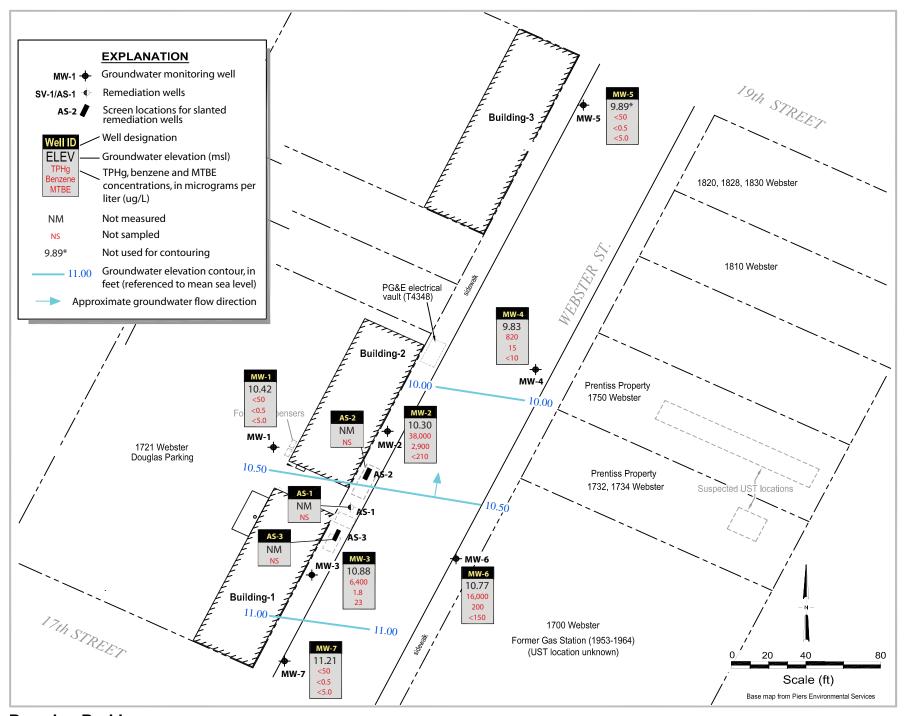
Table 2 – SVE System Performance Summary

Appendix A – Groundwater Monitoring Field Data Sheets

Appendix B – Laboratory Analytical Reports





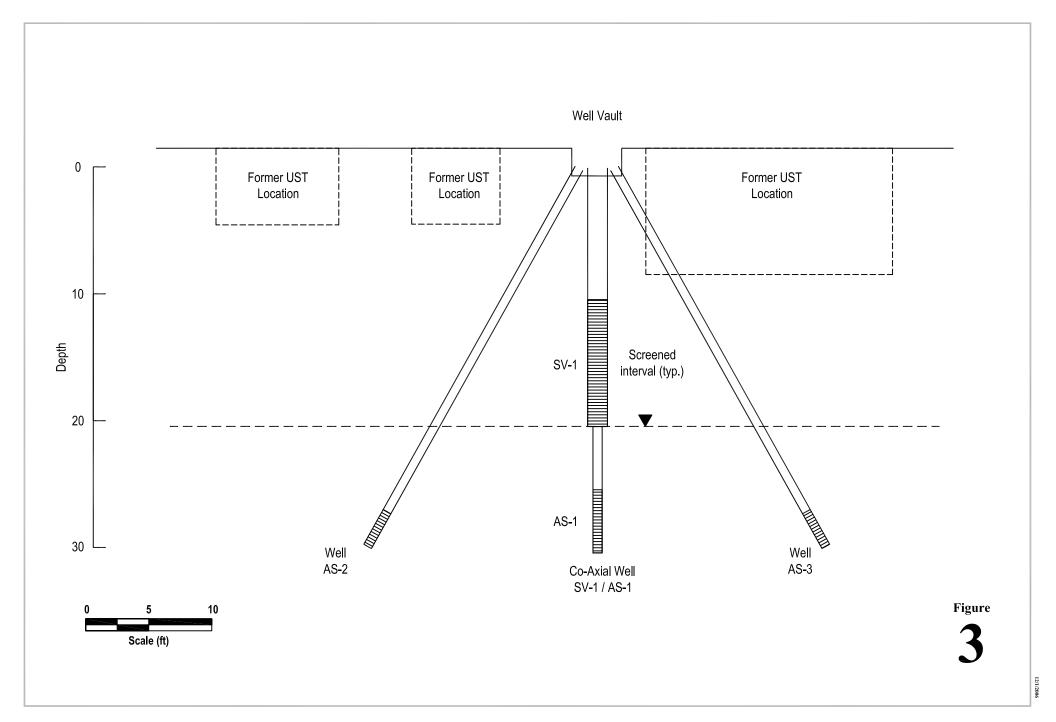


**Douglas Parking** 1721 Webster Street Oakland, California

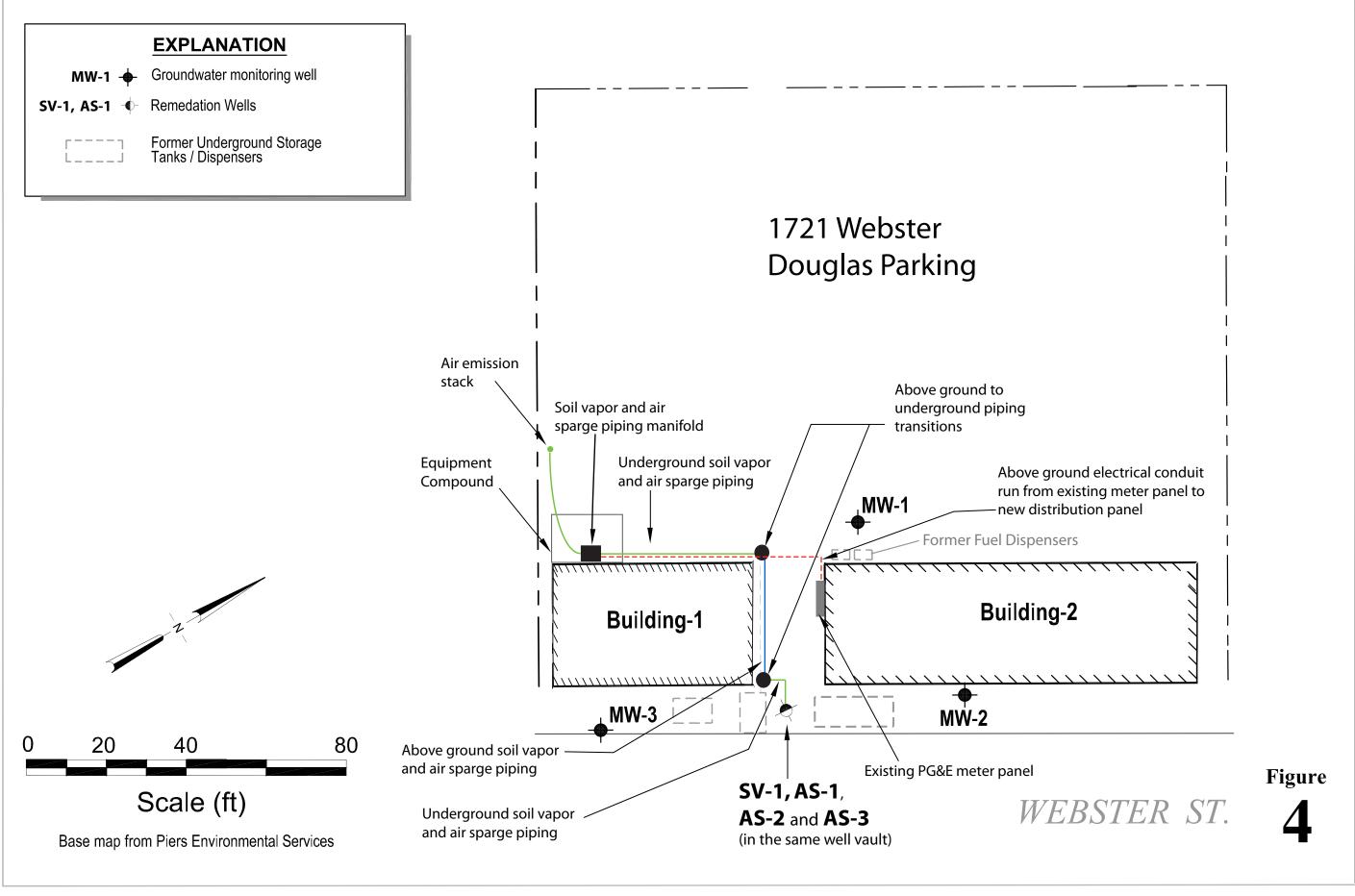


**Groundwater Elevations and Hydrocarbon Concentration Map** 

**FIGURE** 







**Douglas Parking** 

1721 Webster Street Oakland, California



Table 1 - Groundwater Elevation and Analytical Data.

Boring / Well ID	Date	Depth to Water	Groundwater Elevation	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
TOC		(ft)	(ft amsl)			(	μg/L) ————		<u> </u>
MW 1	12/2/1004	10.42	0.02	ND	ND	ND	ND	ND	
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	_	_	_	_	_	_
02.70	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	<b>\30</b>	-				-
	7/6/2005	20.66	12.19	-	-	-	<del>-</del>	-	_
	10/10/2005	21.16	11.59	-	-	-	<u>-</u>	-	_
	1/26/2006	20.73	12.02	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	4/10/2006 7/6/2006	20.05 20.90	12.70 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

Table 1 - Groundwater Elevation and Analytical Data.

Boring / Well ID	Date	Depth to Water	Groundwater Elevation	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	
TOC		(ft)	(ft amsl)				(μg/L) —		<b>—</b>	
MW-2	12/2/1994	19.50	7.60	61,300	3,000	3,900	160	4,500	_	
27.10	3/6/1995	18.49	8.61	98,000	8,400	16,000	2,000	2,600	_	
27.40	7/11/1995	18.45	8.95	38,000	3,100	7,500	940	3,700	_	
270	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	-	-	1,200	-	-	-	
	2/24/1999	20.76	6.64	-	-	-	-	-	_	
	3/3/1999	18.55	8.85	-	-	_	_	_	_	
	3/10/1999	20.74	6.66	-	-	-	-	-	-	
	3/10/1999	18.57	8.83	-	-	-	-	-	-	
	5/4/1999	18.55	8.85	90,000	9,200	21,000	1,600	10,000	560	
							900		<860	
	7/20/1999	18.98	8.42	28,000	2,100	3,700		4,200		
	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	<1,00	
	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 (<	
	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	<1,00	
	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	

Table 1 - Groundwater Elevation and Analytical Data.

Boring / Well ID	Date	Depth to Water	Groundwater Elevation	ТРНд	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
TOC		(ft)	(ft amsl)			(	μg/L) ————		<u> </u>
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	ND 150	24	4,000 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	_
27.50	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	20.12	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	0,100	-	-	-	-	-
	2/24/1999	22.53	7.03	-	-	_	-	_	-
	3/3/1999	20.28	9.28	-	_	_	_	_	
	3/10/1999	22.45	7.11	-	_	_	_	_	-
	3/10/1999	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	20.48	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	21.13	8.11	11,000	4.3	6.7	11	73	<70
	4/11/2001	21.49	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	5.6	<90
	10/4/2002	22.05	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)
32.30	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	21.49	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

Table 1 - Groundwater Elevation and Analytical Data.

Boring / Well ID	Date	Depth to Water	Groundwater Elevation	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
TOC		(ft)	(ft amsl)	<b>←</b>			μg/L) ———		<b>→</b>
MW-4	5/10/1996	16.98	8.31	14,000	ND	1,200	720	3,100	-
25.29	10/2/1996	17.65	7.64	12,000	ND	650	580	2,200	-
	2/28/1997	16.80	8.49	13,000	ND	1,100	750	2,700	110
	9/17/1997	17.93	7.36	13,000	<2.5	820	750	2,900	<190
	2/5/1998	16.78	8.51	13,000	<1.0	690	690	2,900	<170
	8/11/1998	16.59	8.70	15,000	<5	360	520	1,900	280
	2/8/1999	17.10	8.19	9,800	<5	680	770	2,200	300
	2/24/1999	18.95	6.34	-	-	-	-	-	-
	3/3/1999	16.80	8.49	-	-	-	-	-	-
	3/10/1999	16.86	8.43	-	-	-	-	-	-
	3/17/1999	16.82	8.47	-	-	-	-	-	-
	5/4/1999	16.86	8.43	11,000	46	600	620	1,900	<100
	7/20/1999	17.30	7.99	13,000	< 0.5	470	7.0	2,000	<150
	10/5/1999	17.43	7.86	18,000	4.4	720	800	2,100	<120
	1/7/2000	17.78	7.51	18,000	<2	930	990	2,700	< 30
	4/6/2000	17.17	8.12	8,000	31	390	530	1,300	<10
	7/31/2000	17.21	8.08	6,200	13	170	460	850	<10
	10/3/2000	18.00	7.29	14,000	42	820	730	2,000	< 50
	1/12/2001	18.20	7.09	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
	4/11/2001	18.31	6.98	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
	7/6/2001	18.35	6.94	470	2.3	1.6	0.81	43	< 5.0
	10/25/2001	18.47	6.82	110	0.70	< 0.5	< 0.5	3.3	< 5.0
	3/4/2002	18.43	6.86	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
	4/18/2002	18.61	6.68	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
	7/9/2002	19.50	5.79	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
	10/4/2002	19.83	5.46	310	2.0	2.9	13	16	< 0.5
	1/12/2003	19.07	6.22	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
	4/21/2003	18.71	6.58	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
28.29	7/21/2003	18.81	9.48	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
	10/2/2003	19.02	9.27	59	0.78	< 0.5	1.1	0.91	< 5.0
	1/15/2004	18.68	9.61	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
	4/5/2004	17.41	10.88	6,200	29	250	450	730	<100
	8/9/2004	19.07	9.22	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
	10/7/2004	19.65	8.64	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0
	2/7/2005	17.21	11.08	8,700	48	340	550	720	<100
	4/5/2005	16.78	11.51	6,900	27	290	520	660	<170 (<0
	7/6/2005	16.98	11.31	5,600	< 5.0	130	470	480	<50
	10/10/2005	17.59	10.70	6,300	23	78	530	430	< 50
	1/26/2006	17.08	11.21	5,600	41	68	400	290	<120
	4/10/2006	16.27	12.02	2,900	39	32	200	140	<60
	7/6/2006	17.20	11.09	5,400	65	59	340	150	<120
	10/26/2006	18.06	10.23	7,200	72	46	460	200	<150
	1/19/2007	18.29	10.00	7,200	140	35	520	150	<200
	4/17/2007	18.30	9.99	4,900	90	32	290	89	<110
	7/6/2007	18.00	10.29	4,600	91	30	210	55	<90
	10/15/2007	18.52	9.77	8,600	200	62	480	110	<210
	1/17/2008	18.46	9.77 <b>9.83</b>	820	15	3.7	25	9.3	<10

**Table 1 - Groundwater Elevation and Analytical Data.**Douglas Parking Company, 1721 Webster Street, Oakland, California

Boring / Depth to Groundwater Well ID Date Water Elevation TPHg Benzene Ethylbenzene Xylenes MTBE Toluene TOC(ft) (ft amsl)  $(\mu g/L)$  -4 MW-5 5/10/1996 14.60 7.37 ND ND ND ND ND 21.97 10/2/1996 15.25 6.72 ND ND ND ND ND ND 2/28/1997 14.31 7.66 ND ND ND ND ND 9/17/1997 < 0.5 < 0.5 < 0.5 < 0.5 15.18 6.79 < 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 < 50 < 0.5 < 0.5 2/8/1999 14.19 7.78 < 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 15.23 1/7/2000\* 6.74 14.74 < 50 < 0.5 < 0.5 < 0.5 < 0.5 < 5.0 4/6/2000 7.23 7/31/2000 14.52 7.45 < 50 < 0.5 < 0.5 < 0.5 < 0.5 < 5.0 < 50 < 0.5 < 0.5 10/3/2000 15.37 6.60 < 0.5 < 0.5 < 5.0 15.70 6.27 6,400 13 290 450 1,100 <40 1/12/2001 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 4.83 < 50 < 0.5 < 0.5 < 0.5 < 0.5 < 5.0 17.14 5.39 < 0.5 < 0.5 < 0.5 1/12/2003 16.58 < 50 < 0.5 < 5.0 4/21/2003 15 90 6.07 < 50 < 0.5 < 0.5 < 0.5 < 0.5 < 5.0 7/21/2003 16.03 8.96 < 50 < 0.5 < 0.5 < 0.5 < 0.5 < 5.0 24.99 10/2/2003 16.33 8.66 < 50 < 0.5 < 0.5 < 0.5 < 0.5 < 5.0 16.21 8.78 < 50 < 0.5 < 0.5 < 0.5 < 5.0 1/15/2004 < 0.5 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 16.52 < 50 < 0.5 2/7/2005 8.47 < 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 < 0.5 < 0.5 10/10/2005 15.44 9.55 < 50 < 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 15.94 9.05 < 50 < 0.5 < 0.5 < 0.5 < 5.0 10/26/2006 < 0.5 1/19/2007 16.05 8.94 < 50 < 0.5 < 0.5 < 0.5 < 0.5 < 5.0 4/17/2007 15.99 9.00 < 50 < 0.5 < 0.5 < 0.5 < 0.5 < 5.0 7/6/2007 15.50 9.49 < 50 < 0.5 < 0.5 < 0.5 < 0.5 < 5.0 10/15/2007 16.27 8.72 < 50 < 0.5 < 0.5 < 0.5 < 0.5 < 5.0 1/17/2008 15.10 9.89 < 50 < 0.5 < 0.5 < 0.5 < 0.5 <5.0

Table 1 - Groundwater Elevation and Analytical Data.

Boring / Well ID	Date	Depth to Water	Groundwater Elevation	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
TOC		(ft)	(ft amsl)	-		(	μg/L) ————		<u> </u>
MW-6	6/30/2003	19.60	11.39	68,000	950	6,000	2,400	10,000	<1,000
30.99	7/21/2003	19.67	11.32	120,000	170	1,400	1,100	10,000	<1,000
30.99	10/2/2003	19.97	11.02	16,000	7.6	200	38	1,800	<100
	1/15/2004	19.55	11.44	14,000	48	51	94	1,100	<50
	4/5/2004	19.17	11.82	24,000	180	900	430	1,800	<500
	8/9/2004	20.98	10.01	5,300	6.4	25	5.3	69	<17 (<0.5)
	10/7/2004	21.52	9.47	5,600	11	58	18	210	<50 (<0.5)
	2/7/2005	19.00	11.99	31,000	120	620	310	1,200	<500
	4/5/2005	18.60	12.39	21,000	170	1,100	350	1,300	<500 (<5.0)
	7/6/2005	18.56	12.43	26,000	130	920	320	1,200	<500
	10/10/2005	19.99	11.00	19,000	140	840	250	980	<500
	1/26/2006	18.70	12.29	10,000	140	1,100	270	1,200	<170
	4/10/2006	18.04	12.95	13,000	140	1,000	280	1,000	<250
	7/6/2006	18.80	12.19	17,000	150	1,000	290	1,000	<250
	10/26/2006	19.62	11.37	23,000	230	660	470	1,500	<500
	1/19/2007	19.02	11.07	18,000	190	620	350	1,100	<150
	4/17/2007	19.92	11.07	23,000	380	1,400	590	2,000	<450
	7/6/2007	19.97	11.18	28,000	600	3,000	900	2,700	<500
	10/15/2007	20.15	10.84	25,000	290	680	410	1,100	<250
	10/15/2007	20.15	10.84	25,000	290	680	410	1,100	<250
	1/17/2007	20.13	10.84 10.77	25,000 <b>16,000</b>	200	130	130	460	<150
	1/1//2007	20.22	10.77	10,000	200	130	130	400	<150
MW-7	6/30/2003	21.40	11.71	170	< 0.5	2.1	2.0	8.7	< 5.0
33.11	7/21/2003	21.44	11.67	<50	<0.5	<0.5	< 0.5	< 0.5	<5.0
55.11	10/2/2003	21.73	11.38	<50	<0.5	<0.5	<0.5	< 0.5	<5.0
	1/15/2004	21.57	11.54	<50	<0.5	<0.5	<0.5	< 0.5	<5.0
	4/5/2004	20.84	12.27	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	8/9/2004	22.68	10.43	<50	<0.5	<0.5	<0.5	< 0.5	<5.0
	10/7/2004	23.27	9.84	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	2/7/2005	20.60	12.51	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	4/5/2005	20.22	12.89	<50	<0.5	0.75	<0.5	<0.5	<5.0 (<0.5)
	7/6/2005	20.25	12.86	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	10/10/2005	20.23	12.41	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	1/26/2006	20.32	12.79	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	4/10/2006	19.62	13.49	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	7/6/2006	20.47	12.64	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	10/26/2006	21.30	11.81	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	1/19/2007	21.62	11.49	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	4/17/2007	21.67	11.44	<50	<0.5	<0.5	<0.5	< 0.5	<5.0
	7/6/2007	21.59	11.52	<50	<0.5	<0.5	<0.5	< 0.5	<5.0
	10/15/2007	21.85	11.26	<50	<0.5	<0.5	<0.5	< 0.5	<5.0
	1/17/2007	21.90	11.21	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	1/1//2007	21.50	11.21	250	٧٠.٤	7010	10.0	νο.ε	ν
AS-1	7/6/2006	19.53		18,000	2,700	570	700	1,900	< 500
	10/26/2006	20.33		15,000	1,900	340	360	1,400	<250
	1/19/2007	20.64		5,700	1,100	110	88	630	<50
	1/19/2007	20.64		5,700	1,100	110	88	630	<50
	4/17/2007	20.71							
	7/16/2007								
	10/15/2007								

Table 1 - Groundwater Elevation and Analytical Data.

Douglas Parking Company, 1721 Webster Street, Oakland, California

Boring / Well ID	Date	Depth to Water	Groundwater Elevation	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	
TOC		(ft)	(ft amsl)	-		(	(μg/L) ————		<u> </u>	
AS-2	7/6/2006	22.26		2,100	6.1	< 0.5	33	200	<20	
	10/26/2006	23.25		280	1.1	< 0.5	< 0.5	6.0	<15	
	1/19/2007	23.61		2,100	2.3	< 0.5	96	310	<35	
	4/17/2007	23.70								
	7/16/2007									
	10/15/2007									
	1/17/2008									
AS-3	7/6/2006	21.77		<50	<0.5	< 0.5	<0.5	< 0.5	< 5.0	
	10/26/2006	22.66		< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	
	1/19/2007	22.97		< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	
	4/17/2007	23.06								
	7/16/2007									
	10/15/2007									
	1/17/2008									
rip Blank	01/12/01	-	-	<50	< 0.5	< 0.5	<0.5	< 0.5	<5.0	
	4/11/2001	-	-	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	
	7/6/2001	-	-	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	
	3/4/2002	-	-	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	
	10/2/2003	-	-	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	
	10/15/2007									

### Notes and Abbreviations:

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

ft amsl = Measured in feet above mean sea level

 $\mu g/L = Micrograms$  per liter.

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

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

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

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

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

ND = Not detected.

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

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

Table 2. SV	E/AS Systen	n Performa	nce Summar	<b>y</b> - 1721	Webster S	treet, Oakla	and, Californi	a					
			FIELD MEASU	REMENT	S	ANALYTIC	CAL RESULTS		REI	MOVAL			
Date	Sample ID	Hour Meter Reading (hours)	System Vapor Flow Rate (cfm)		FID Reading (ppm)	TPHg Lab Data (ppmv)	Benzene Lab Data (ppmv)		Cumulative SVE e TPHg Removal (lbs)		Cumulative SVE Benzene Removal (lbs)	Air Sparge Unit on? (yes/no)	Comments
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 FIELD MEASUREMENTS ANALYTICAL RESULTS REMOVAL TPHg SVE TPHg Cumulative SVE SVE Benzene Cumulative SVE Sample Hour Meter System Vapor Applied Benzene Air Sparge Comments Date Flow Rate Lab Data Removal Rate TPHg Removal Removal Rate Benzene Removal ID Reading Vacuum FID Reading Lab Data Unit on? (ppmv) (lbs) (hours) (cfm) ("H20) (ppm) (ppmv) (lbs/day) (lbs/day) (lbs) (yes/no) 11/09/07 SYS-INF 200.3 45 31 163 Shut system down at 200.3 hours for SYS-MID 0 weekend SYS-EFF 0 11/12/07 SYS-INF 206.3 42 28 211 Restart system at 200.3 hours yes SYS-MID 0 --on 11/12/07; start air sparge system SYS-EFF 2 11/13/07 SYS-INF 2,937 225.6 46 28 yes SYS-MID 0 ---SYS-EFF 11/14/07 SYS-INF 45 4,113 253.0 28 yes SYS-MID 0 SYS-EFF 0 11/15/07 SYS-INF 278.4 45 28 2,810 yes SYS-MID 0 SYS-EFF 0 11/16/07 SYS-INF 301.4 43 28 2,570 yes SYS-MID 0 ---SYS-EFF 0 11/17/07 SYS-INF 42 41 11 327.1 yes SYS-MID 0 ---SYS-EFF 0 11/18/07 SYS-INF 352.1 44 41 530 yes SYS-MID 0 ---SYS-EFF 0 11/19/07 SYS-INF 375.2 42 41 24 22 < 0.077 0.3 159.8 0.00 1.27 yes SYS-MID 0 SYS-EFF 0 11/20/07 SYS-INF 49 660 Increased system vacuum by closing 398.8 68 yes off recirculation valve on blower. SYS-MID 0 ---SYS-EFF 0 11/26/07 SYS-INF 49 1,800 NM 68 yes Received verbal approval from SYS-MID 0 ---BAAQMD to decrease monitoring from daily to weekly. SYS-EFF 0 ---12/03/07 SYS-INF 593.5 48 61 1,300 yes SYS-MID 0 SYS-EFF 0

			FIELD MEASU	REMENT	S	ANALYTIC	AL RESULTS		REN	MOVAL			
Date	Sample ID	Hour Meter Reading (hours)	System Vapor Flow Rate (cfm)		FID Reading (ppm)	TPHg Lab Data (ppmv)	Benzene Lab Data (ppmv)		(lbs)	Removal Rate (lbs/day)	Cumulative SVE Benzene Removal (lbs)	Air Sparge Unit on? (yes/no)	Comments
12/14/07	SYS-INF SYS-MID SYS-EFF	853.0	52	54	280 0 0	280 <7.0 <7.0	0.17 <0.077 <0.077	4.7	252.8	0.00	1.32	yes	
12/21/07	SYS-INF SYS-MID SYS-EFF	1,021.5	58	54	0 0 0	170 <7.0 <7.0	0 <0.077 <0.077	3.2	275.0	0.00	1.34	yes	SVE shutdown after reading, restarted
12/27/07	SYS-INF SYS-MID SYS-EFF	1,163.5					 					yes	SVE shutdown on arrival, restart and monitor
12/28/07	SYS-INF SYS-MID SYS-EFF	1,188.5	50	54	14 0 0	14 <7.0 <7.0	<0.077 <0.077 <0.077	0.2	276.5	0.00	1.34	yes	
01/03/08	SYS-INF SYS-MID SYS-EFF	1,329.5	51	54	50 0 0	50 15 <7.0	<0.077 <0.077 <0.077	0.8	281.4	0.00	1.34	yes	
01/10/08	SYS-INF SYS-MID SYS-EFF	1,430.2	50	54	0 0 0	16 13 <7.0	<0.077 <0.077 <0.077	0.3	282.4	0.00	1.34	no	AS system off while sampling
01/15/08	SYS-INF SYS-MID SYS-EFF	1,546.0	50 <sup>1</sup>	81		1,200 7.7 <7.0	2.1 <0.077 <0.077	19.2	375.1	0.03	1.48	yes	
01/23/08	SYS-INF SYS-MID SYS-EFF	1,694.5	50 <sup>1</sup>	95		1,300 11 <7.0	1.6 <0.077 <0.077					yes	
01/30/08	SYS-INF SYS-MID SYS-EFF	1,864.6	49	81		2,300 24 <7.0	2.6 <0.077 <0.077	36.2	855.1	0.04	1.97	yes	
02/06/08	SYS-INF SYS-MID SYS-EFF	2,027.5	50	81		1,700 43 <7.0	2.9 <0.077 <0.077	27.3	1,040.2	0.04	2.26	yes	
02/12/08	SYS-INF SYS-MID SYS-EFF	2,173.3	60	95		1,500 520 28	1.7 1.1 <0.077	28.9	1,215.6	0.03	2.44	yes	

			FIELD MEASU	REMENT	S	ANALYTIC	CAL RESULTS		REN	MOVAL			
Date	Sample ID	Hour Meter Reading	System Vapor Flow Rate	Vacuum	FID Reading	TPHg Lab Data	Benzene Lab Data	Removal Rate	Cumulative SVE TPHg Removal	Removal Rate	Cumulative SVE Benzene Removal	Air Sparge Unit on?	Comments
		(hours)	(cfm)	("H20)	(ppm)	(ppmv)	(ppmv)	(lbs/day)	(lbs)	(lbs/day)	(lbs)	(yes/no)	
02/21/08	SYS-INF SYS-MID	2,394.1	65	95									Samples not picked up by the laboratory courier before hold time expired.
	SYS-EFF												courier before nota 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	System shut down for future changeout of carbon in first vessel.

#### 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 f²) 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

<sup>=</sup> 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 Ta	ask #: 1135	5 001 (214		Project Name		Parking)		
	VIETA EL CANTON DANS		, Oakland, C		. (Douglas	Date: 1/18/	08	
	tewart Dali		, Caldana, C	Signature: <	1	Date. In the	<del>\</del>	
Well ID	Well Size (in.)	Time	Depth to Immiscible Liquid (ft)	Thickness of Immiscible Liquid (ft)	Depth to Water (ft)	Total Depth (ft)		suring
MW-1	211	650	NA		21.33	28.65	NTO	T
MW-2	211	700	MA		20,10	25.95		
MW-3	24	705	MA		21.68	26.90		
MW-4	2"	710	MA		18.46	29,42		
MW-5	2"	715	NIA		15110	24,50		
MW-6	2"	8	NIA		20.22	25,79		
MW-7	2"	810	NIA		21,90	28,46		/

comments: System shutdown night before and well caps removed to allow equillibrations



MONITORING FIELD DATA	SHEET	Well ID: MW-				
Project.Task #: 1135.001 (214)	Project Name: Do	ouglas Parking				
Address: 1721 Webster Street, Oakland,		<u> </u>				
Date: 1/16/08	Weather: Cle					
Well Diameter: 21/		3" = 0.37   6" = 1.47 4" = 0.65   radius <sup>2</sup> * 0.163				
Total Depth (TD): 22,33 gal	Depth to Product:	4				
Depth to Water (DTW): 26,65	Product Thickness					
Water Column Height: 4132	1 Casing Volume:	gallons				
Reference Point: NTOC	3_ Casing Volu	umes: 2,67 gallons				
Purging Device:						
Sampling Device:  Time (Temp®) (pH) (Cond (µs))  705 (6.7 7.41 6350)  707 (7.7 102 6453)  709 (8.0 6.76 05013)  711 (813 6.70 63915)	NTU DO(mg/L)	ORP (mV) Vol(gal) DTW				
The half						
, Dow - Sily - No od	ar					
Sample ID: MW-	Sample Time:	715				
Laboratory: McCampbell Analytical	Sample Date: 1/1	8/08				
Containers/Preservative: 3 VOA w/ HCL	-					
Analyzed for: TPHg, BTEX, MTBE - 8015	Cm / 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, 0	CA									
Date: 1/16/08	Weather: Clark									
0	Volume/ft. 2" = 0.04   3" = 0.37   6" = 1.47   2" = 0.16   4" = 0.65   radius <sup>2</sup> * 0.163									
000	Depth to Product: NA									
0	Product Thickness: NA									
6-1/	1 Casing Volume: 93 gallons									
Reference Point: NTOC	3_ Casing Volumes: 2, %O gallons									
Purging Device: DB	CW									
Sampling Device: DB										
Time Temp © pH Cond (µs)	NTU DO(mg/L) ORP/(mV) Vol(gal) DTW									
941 179 7,08 800,1	Ogel -113 W									
943 1811 6,95 791,6	1 -116									
645 1913 6.93 78812	2 - 111									
999 1914 653 187,7	3 - 04 0									
17										
54										
Comments: Do one rugs, (2)	1,15 mg L									
grey- Lurbid - a	der									
Sample ID: MW- 2	10 00									
Laboratory: McCampbell Analytical	Sample Date: 1/18/08									
Containers/Preservative: 3 VOA w/ HCL	Sample Date: 1/16/08									
Analyzed for: TPHg, BTEX, MTBE - 80150	Cm / 8021B									
Sampler Name: Stewart Dalie	Signature:									



MONITORING FIELD DAT	A 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: Cleur (co)								
Well Diameter: 2	Volume/ft 1" = 0.04   3" = 0.37   6" = 1.47 2" = 0.16   4" = 0.65   radius <sup>2</sup> * 0.163								
Total Depth (TD): 26 190	Depth to Product:								
Depth to Water (DTW): 2168	Product Thickness: NA								
Water Column Height: 5.72	1 Casing Volume: (83 gallons								
Reference Point: NTOC	3_ Casing Volumes: 250 gallons								
Purging Device: $\mathcal{D}\mathcal{B}$									
Sampling Device: DB									
Time Temp © pH Cond (µs)	NTU DO(mg/L) ORP (mV) Vol(gal) DTW								
1123 17.7 7.4) 414.5	-2 6								
125 19.0 7.76 405.2	20								
1127 1913 7,21 4011	-16 7								
1129 1912 7114 40018	13 3								
	5% × 11.								
100	, which is a second of the sec								
	The same of the sa								
Comments: 10 (2) my	ple pre pura								
	11.015								
Sample ID: MW- 3	Sample Time: // 95								
Laboratory: McCampbell Analytical	Sample Date: 1/16/08								
Containers/Preservative: 3 VOA w/ HCL									
Analyzed for: TPHg, BTEX, MTBE - 801	5Cm / 8021B								
Sampler Name: Stewart Dalie	Signature:								



MONITORING FIELD DATA	A SHEET Well ID: MW-	-									
Project.Task #: 1135.001 (214)	Project Name: Douglas Parking										
Address: 1721 Webster Street, Oakland,	CA										
Date: 1/16/08	Weather: (luv (co)										
Well Diameter:	Volume/ft. 2" = 0.04   3" = 0.37   6" = 1.47   2" = 0.16   4" = 0.65   radius <sup>2</sup> * 0.163										
Total Depth (TD): 29,42	Depth to Product: NA										
Depth to Water (DTW): \8.46	Product Thickness: NA										
Water Column Height: \0 Q6	1 Casing Volume: 175	gallons									
Reference Point: NTOC	3_ Casing Volumes: 5176	gallons									
Purging Device: $\mathcal{D}\mathcal{B}$											
Sampling Device: DB Time Temp © pH Cond (µs)	NTU DO(mg/L) ORP (mV) Vol(gal)	DTW									
X39 17.0 7.41 583,3	107 0	DIVV									
841 187 702 505	61-1										
843 1913 7,11 546,5	183										
845 1915 7.04 54511	-45										
T T											
- A2" YAX											
Comments: $DD = .92 \text{ Mg}$	pre purge										
Cleur - Slight odor											
Sample ID: MW- 4	Sample Time: 900										
Laboratory: McCampbell Analytical	Sample Date: 1/16/08										
Containers/Preservative: 3 VOA w/ HCL											
Analyzed for: TPHg, BTEX, MTBE - 8015	5Cm / 8021B										
Sampler Name: Stewart Dalie	Signature:										
4											



MONITORING FIELD DATA	A 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: day (ool										
Well Diameter: 2 4	Volume/ft. 2" = 0.04   3" = 0.37   6" = 1.47   2" = 0.16   4" = 0.65   radius <sup>2</sup> * 0.163										
Total Depth (TD): 24.50	Depth to Product:										
Depth to Water (DTW): 15 , 10	Product Thickness:										
Water Column Height:	1 Casing Volume: \( 50 \) gallons										
Reference Point: NTOC	3_ Casing Volumes: 415 gallons										
Purging Device:											
Sampling Device:											
Time Temp® pH Cond (µs)	NTU DO(mg/L) ORP (mV) Vol(gal) DTW										
403 18.6 7.17 586.5	1000										
780	* 75										
809 1818 7107 58217	10t 3										
8	2 Sed										
813 AII 6,97 580.1	107 5										
	Se Control of the Con										
Comments: DO = 1,01 mg L prov	rege										
	)										
Clar No oder	106										
Sample ID: MW-5	Sample Time:										
Laboratory: McCampbell Analytical	Sample Date: 1/16/08										
Containers/Preservative: 3 VOA w/ HCL											
Analyzed for: TPHg, BTEX, MTBE - 801	5Cm / 8021B										
Sampler Name: Stewart Dalie	Signature:										



MONITORING FIELD DATA	SHEET	Well ID: MW- 6								
Project.Task #: 1135.001 (214)	Project Name: Do	uglas Parl	king							
Address: 1721 Webster Street, Oakland,	CA									
Date: 1/16/08	Weather: Cur (oc)									
Well Diameter: 24	Volume/ft. 2" = 0.16   4" = 0.65   radius <sup>2</sup> * 0.163									
Total Depth (TD): 75,79	Depth to Product:	ALA	radius 0.1							
Depth to Water (DTW): 20 122	Product Thickness	. MA								
Water Column Height: 5.57	1 Casing Volume:	. (40	7	gallons						
Reference Point: NTOC	3_ Casing Volume:	ımes:	2.67	gallons						
Purging Device:			h	ganorio						
Sampling Device: $\mathcal{T}\mathcal{B}$		15	)/							
Time Temp © pH Cond (µs)	NTU DO(mg/L)	ORP (mV)	Vol(gal)	DTW						
1033 1615 7135 79619		O gal	414							
1036 1817 6,99 789,1			-16							
1039 19,3 6,83 785,4		2	-36							
1091 1914 6180 796,5		3	-48							
a contra			14							
1 1 1			*							
	-									
Comments: DO @ GF My L	O May 0	_		Ε.						
Comments: DO @ G+ Mg/L	one purge	*								
grey turbial od	el .	14.00								
Sample ID: MW-16	Sample Time: 105									
Laboratory: McCampbell Analytical	Sample Date: 1/16/08									
Containers/Preservative: 3 VOA w/ HCL										
Analyzed for: TPHg, BTEX, MTBE - 8015	Cm / 8021B									
Sampler Name: Stewart Dalie	Signature:	12	2	0						



MONITORING FIELD DATA	A 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: Plur (ov)									
Well Diameter:	Volume/ft. 2" = 0.04   3* = 0.37   6" = 1.47 2" = 0.16   4" = 0.65   radius <sup>2</sup> * 0.163									
Total Depth (TD): 28,06	Depth to Product:									
Depth to Water (DTW): 21,90	Product Thickness: NA									
Water Column Height: 6.56	1 Casing Volume: (O) gallons									
Reference Point: NTOC	3_ Casing Volumes: 3, 4 gallons									
Purging Device: DB	,									
Sampling Device: DR  Time										
	0 1									
light brown, Sten	y terbial - No adur.									
Sample ID: MW- 7	Sample Time: 1245									
Laboratory: McCampbell Analytical	Sample Date: 1/18/08									
Containers/Preservative: 3 VOA w/ HCL										
Analyzed for: TPHg, BTEX, MTBE - 8018	5Cm / 8021B									
Sampler Name: Stewart Dalie	Signature:									

### **APPENDIX B**

Laboratory Analytical Report

# McCampbell Analytical, Inc.

"When Ouality Counts"

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

Pangea Environmental Svcs., Inc.	Client Project ID: #1135.001 (214);	Date Sampled: 01/17/08
1710 Franklin Street, Ste. 200	Douglas Parking	Date Received: 01/18/08
Oakland, CA 94612	Client Contact: Stewart Dalie	Date Reported: 01/25/08
Summing, 277 7 1012	Client P.O.:	Date Completed: 01/25/08

WorkOrder: 0801487

January 25, 2008

1	Dear	St	ew	ar	t٠

#### Enclosed within are:

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

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

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

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius Laboratory Manager

McCampbell Analytical, Inc.

Pangea Environmental Services, Inc.  1710 Franklin Street Oakland, CA 94612 Website: www.pangeaenv.com Telephone: (510) 836-3700 Fax: (510) 836-3709				(	1	2		7	OU	ND	T	IMI	E	ı	RUS	н	24	HR		48 H W)	IR	<b>RD</b> 72 H  0	R 5 DAY									
Report To: Stewa				Bill To:	Pan	igea													A	nal	ysis	Rec	lues	t						(	Other	Comments
Company: Pange	a Environm	ental Tec	hnology	y, Inc.																												Filter
	Franklin Str				CA	946	12							3E		(E)										0						Samples
				E-Mail:	sdal	ie@	par	gea	env.	con	1			MT		F/B&	£									8310						for Metals
Tele: (510) 735-1	751			Fax: (51										8015)/MTBE		E&	(418									70/						analysis:
Project #: 1135.00	1 (214)			Project	Nam	ie: l	Doug	glas	Par	kin	g			+		5520	ons		8020)		>					625 / 8270 /	6	0				Yes / No
Project Location:	1721 Webst	er (Doug	las Par	cing) Oa	klaı	ıd,	CA						_	8020		ase (	carb		/ 80		NE					625	602	9070	(0)			
Sampler Signatur	e: 2	-			_					_				602/8	_	Gre	dro	=	602/		3,8			09	_	PA	10	0	109			
(		SAMP	LING	200	ers	I	MA	FRE	X			HO!		Gas (	8015	Oil &	m Hy	/ 802	EPA	2230	PCE.	=	-	4/82	827	by E	ls (60	s (601	200.9 / 6010)			
SAMPLE ID (Field Point Name)	LOCATION (1721 Webster / Douglas Parking)	Date	Tim e	# Containers	Type Containers	Water	Soil	Air	Other	ICE	HCL	HNO3	Other	BTEX & TPH as	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	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	CAM-17 Metals (6010 / 6020)	LUFT 5 Metals (6010 / 6020)	Lead (200.8 / 20	T03/T015		
MW-1		1-16-8	115	3 voa	П	X				X	X			Х																		
MW-2		1-16-8	100	3 voa	Н	Х				X	X			Х																		
MW-3		1-16-8	1145	3 voa	Н	X	1	+	+	X	X			Х																		
MW-4		1-16-8	000	3 voa	Н	X	+	+	+		X			X																		
		1-16-8	35	3 voa	Н	X	+	+	+		X	-	$\vdash$	X	-													-			++	
MW-5			000		Н		+	+	+		X		Н	X													-	-	Н	-		
MW-6	/	1-16-8	1105	3 voa	Н	X	_	+	+				Н														-	-		-		-
MW-7	V	1-16-8	1245	3 voa	Ц	X				X	X			X																		
		1																														
	/	cott/																														
		41	/		П																											Julia Julia
		1			П																											
					Н		+						П																			
			-		Н		+	+	+				$\vdash$																			
			-		Н		+	+	+					-																		
			,		Ш				_	L		_	_	16	F (40)	70	-											CO	1245	ENTS		
Relinquished By:	( 00	Date:	Time:	Receive	d By:	-		-		_				GC	OOD	CON	NDIT	ION	V	/										ENTS		
Rolinquished By:	19/	trate:	Time:		30	(1)	U O		A SECTION ASSESSMENT					DE AP	PRO	OR	ATE	CO	IN L	AB		1	BTE	X/M	TBE	by 8	0150	Cm/8	021E	3 – al	l sample	O
Relinquished By:	/	Date:	Time:	Receive	d By:								VOAS O&G METALS OTHER PRESERVATION pH<2																			

### McCampbell Analytical, Inc.

1534 Willow Pass Rd

### CHAIN-OF-CUSTODY RECORD

Page 1 of 1

5 days

Pittsburg, CA 94565-1701 (925) 252-9262		WorkOr	der: 0801487	Clie	ntID: PEO	
	✓ EDF	Excel	Fax	✓ Email	HardCopy	ThirdParty

Bill to: Report to: Stewart Dalie Email: sdalie@pangeaenv.com FAX: (510) 836-3709 Pangea Environmental Svcs., Inc. TEL: (510) 409-8980

1710 Franklin Street, Ste. 200 ProjectNo: #1135.001 (214); Douglas Parking

PO:

Oakland, CA 94612

Bob Clark-Riddell

Pangea Environmental Svcs., Inc.

Date Received: 01/18/2008 1710 Franklin Street, Ste. 200

Oakland, CA 94612 Date Printed: 01/18/2008

Requested TAT:

					Requested Tests (See legend below)											
Sample ID	ClientSampID	Matrix	<b>Collection Date</b>	Hold	1	2	3	4	5	6	7	8	9	10	11	12
			1./.=/=================================				1	1	1		T	T	1		т——	
0801487-001	MW-1	Water	1/17/2008 7:15:00	Ш	Α	Α										
0801487-002	MW-2	Water	1/17/2008		Α											
0801487-003	MW-3	Water	1/17/2008		Α											
0801487-004	MW-4	Water	1/17/2008 9:00:00		Α											
0801487-005	MW-5	Water	1/17/2008 8:25:00		Α											
0801487-006	MW-6	Water	1/17/2008		Α											
0801487-007	MW-7	Water	1/17/2008		Α											

#### Test Legend:

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

Prepared b	y: Kin	nberly	Burks
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#### **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.

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

### **Sample Receipt Checklist**

Client Name:	Pangea Environmental Svcs., Inc.			Date a	Date and Time Received: 1/18/2008 6:27:57 PM						
Project Name:	roject Name: # 1135.001 (214); Douglas Parking			Check	dist completed and r	st completed and reviewed by: Kimberly Burks					
WorkOrder N°:	0801487	Matrix Water			Carrie	r: Rob Pringle (M	Al Courier)				
Chain of Custody (COC) Information											
Chain of custody	present?		Yes	V	No 🗆						
Chain of custody	signed when relinqui	shed and received?	Yes	<b>V</b>	No 🗆						
Chain of custody	agrees with sample	abels?	Yes	<b>✓</b>	No 🗌						
Sample IDs noted	by Client on COC?		Yes	<b>V</b>	No 🗆						
Date and Time of	collection noted by Cl	ient on COC?	Yes	<b>~</b>	No 🗆						
Sampler's name r	noted on COC?		Yes	✓	No 🗆						
Sample Receipt Information											
Custody seals int	tact on shipping conta	iner/cooler?	Yes		No 🗆		NA 🔽				
Shipping containe	er/cooler in good cond	lition?	Yes	<b>V</b>	No 🗆						
Samples in prope	er containers/bottles?		Yes	<b>~</b>	No 🗆						
Sample containe	rs intact?		Yes	✓	No 🗆						
Sufficient sample	volume for indicated	test?	Yes	<b>✓</b>	No 🗌						
		Sample Prese	vation	n and Ho	old Time (HT	) Information					
All samples recei	ived within holding tim	e?	Yes	<b>✓</b>	No 🗌						
Container/Temp E	Blank temperature		Coole	er Temp:	12.5°C		NA $\square$				
Water - VOA vial	ls have zero headspa	ce / no bubbles?	Yes	<b>✓</b>	No 🗆	No VOA vials subm	itted				
Sample labels ch	necked for correct pre	servation?	Yes	<b>~</b>	No 🗌						
TTLC Metal - pH	acceptable upon rece	ipt (pH<2)?	Yes		No 🗆		NA 🗹				
=====	======	======		===	====		====	======			
Client contacted:		Date contact	ed:			Contacted	by:				
Comments:											

Pangea Environmental Svcs., Inc.

Client Project ID: #1135.001 (214); Douglas
Parking

Date Sampled: 01/17/08

Date Received: 01/18/08

Client Contact: Stewart Dalie

Date Extracted: 01/22/08-01/23/08

Client P.O.:

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:										487
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
Rep	oorting Limit for DF =1;	W	50	5.0	0.5	0.5	0.5	0.5	1	μg/L
1	means not detected at or ove the reporting limit	S	NA	NA	NA	NA	NA	NA		mg/Kg

<sup>\*</sup> 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.

<sup>+</sup>The following descriptions of the TPH chromatogram are cursory in nature and McCampbell 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.



<sup>#</sup> cluttered chromatogram; sample peak coelutes with surrogate peak.

## QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder 0801487

EPA Method SW8021B/8015Cm		BatchID: 33287 Spiked Sample ID: 0801487										
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	Criteria (%)	
Analyto	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex <sup>f</sup> )	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				

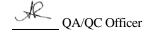
MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% 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.



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

Pangea Environmental Svcs., Inc.	Client Project ID: #11351001 (520); Douglas	Date Sampled: 02/06/08
1710 Franklin Street, Ste. 200		Date Received: 02/06/08
Oakland, CA 94612	Client Contact: Stewart Dalie	Date Reported: 02/12/08
Outline, OFF 71012	Client P.O.:	Date Completed: 02/12/08

WorkOrder: 0802108

February 12, 2008

Dear S	tew	ar	t:
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#### Enclosed within are:

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

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

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

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius Laboratory Manager

McCampbell Analytical, Inc.

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Report to:

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

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

5 days

Requested TAT:

Date Received: 02/06/2008

Prepared by: Samantha Arbuckle

WorkOrder: 0802108 ClientID: PEO

☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty

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.

1710 Franklin Street, Ste. 200 ProjectNo: #11351001 (520); Douglas 1710 Franklin Street, Ste. 200

Bill to:

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

#### 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.

#### **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.

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Telephone: 877-252-9262 Fax: 925-252-9269

2/6/08 2:49:18 PM

# **Sample Receipt Checklist**

Client Name:	Pangea Environi	nental Svcs., Inc.			Date an	d Time Received:	2/6/08 2:4	9:18 PM
Project Name:	#11351001 (520)	Douglas			Checkli	st completed and r	eviewed by:	Samantha Arbuckle
WorkOrder N°:	0802108	Matrix Air			Carrier:	Rob Pringle (M	Al Courier)	
		<u>Chain</u>	of Cu	stody (CC	OC) Informat	<u>ion</u>		
Chain of custody	y present?		Yes	V	No 🗆			
Chain of custody	y signed when relinqu	ished and received?	Yes	V	No 🗆			
Chain of custody	y agrees with sample	labels?	Yes	<b>✓</b>	No 🗌			
Sample IDs noted	d by Client on COC?		Yes	<b>V</b>	No 🗆			
Date and Time o	f collection noted by C	ient on COC?	Yes	✓	No 🗆			
Sampler's name	noted on COC?		Yes	✓	No 🗆			
		<u>s</u>	ample	Receipt I	nformation			
Custody seals in	ntact on shipping conta	niner/cooler?	Yes	<b>V</b>	No 🗆		NA 🗆	
Shipping contain	ner/cooler in good cond	dition?	Yes	V	No 🗆			
Samples in prop	er containers/bottles?		Yes	<b>✓</b>	No 🗆			
Sample containe	ers intact?		Yes	<b>✓</b>	No 🗆			
Sufficient sample	e volume for indicated	test?	Yes	<b>✓</b>	No 🗌			
		Sample Prese	rvatio	n and Hol	d Time (HT)	<u>Information</u>		
All samples rece	eived within holding tim	e?	Yes	<b>✓</b>	No 🗌			
Container/Temp	Blank temperature		Coole	er Temp:			NA 🗹	
Water - VOA via	als have zero headspa	ce / no bubbles?	Yes		No □ I	No VOA vials subm	itted 🗹	
Sample labels c	hecked for correct pre	servation?	Yes	✓	No 🗌			
TTLC Metal - pH	acceptable upon rece	ipt (pH<2)?	Yes		No 🗆		NA 🗹	
=====		======			====	=====		======
Client contacted:	:	Date contact	ted:			Contacted	by:	
Comments:								

Pangea Environmental Svcs., Inc.	Client Project ID: 4	#11351001 (520); Douglas	Date Sampled:	02/06/08
1710 Franklin Street, Ste. 200			Date Received:	02/06/08
Oakland, CA 94612	Client Contact: Ste	ewart Dalie	Date Extracted:	02/06/08
	Client P.O.:		Date Analyzed	02/06/08

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

Extraction method SW5030B Analytical methods SW8021B/8015Cm Work Order:										108
Lab ID	Client ID	Matrix	TPH(g)	МТВЕ	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	IN	A	6200,b,m	ND<50	9.3	41	80	770	20	103
002A	MID	A	150,b,m	ND<10	ND	ND	ND	2.6	1	94
003A	EFF	A	ND	ND	ND	ND	ND	1.2	1	84
	orting Limit for DF =1;	A	25	2.5	0.25	0.25	0.25	0.25	1	μg/L
	means not detected at or ove the reporting limit	S	NA	NA	NA	NA	NA	NA	1	mg/Kg

<sup>\*</sup> water and vapor samples are reported in  $\mu g/L$ , soil/sludge/solid samples in mg/kg, wipe samples in  $\mu g/wipe$ , product/oil/non-aqueous liquid samples in mg/L.

<sup>+</sup>The following descriptions of the TPH chromatogram are cursory in nature and McCampbell 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.



<sup>#</sup> cluttered chromatogram; sample peak coelutes with surrogate peak.

"When Ouality Counts"

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

Pangea Environmental Svcs., Inc.	Client Project ID: #11351001 (520);	Date Sampled: 02/06/08
1710 Franklin Street, Ste. 200	Douglas	Date Received: 02/06/08
Oakland, CA 94612	Client Contact: Stewart Dalie	Date Extracted: 02/06/08
0.17 1012	Client P.O.:	Date Analyzed 02/06/08

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

Extraction method SW5030B Analytical methods SW8021B/8015Cm Work Order: 0802108

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	IN	A	1700,b,m	ND<14	2.9	11	18	170	20	103
002A	MID	A	43,b,m	ND<2.0	ND	ND	ND	0.58	1	94
003A	EFF	A	ND	ND	ND	ND	ND	0.27	1	84

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

<sup>\*</sup> vapor samples are reported in  $\mu$ L/L, soil/sludge/solid samples in mg/kg, wipe samples in  $\mu$ g/wipe, product/oil/non-aqueous liquid samples in mg/L, water samples and all TCLP & SPLP extracts are reported in  $\mu$ g/L.

<sup>#</sup> cluttered chromatogram; sample peak coelutes with surrogate peak.

<sup>+</sup>The following descriptions of the TPH chromatogram are cursory in nature and McCampbell 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 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	Acce	Acceptance Criteria (%)					
7 tildiyte	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

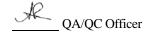
MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% 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.



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

Pangea Environmental Svcs., Inc.	Client Project ID: Air	Date Sampled: 01/30/08
1710 Franklin Street, Ste. 200		Date Received: 01/31/08
Oakland, CA 94612	Client Contact: Greg Bentley	Date Reported: 02/06/08
Summing, CT > 1012	Client P.O.:	Date Completed: 02/06/08

WorkOrder: 0801793

February 06, 2008

Dear Greg:

#### Enclosed within are:

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

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

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

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius Laboratory Manager

McCampbell Analytical, Inc.

Web	McCAMPBELL ANALYTICAL, INC.  1534 WILLOW PASS ROAD PITTSBURG, CA 94565-1701 Website: www.mccampbell.com Telephone: (925) 798-1620 Fax: (925) 798-1622 POORT TO: Greg Bentley  Bill To: Pangea									UR DF I			ου	INI	T	IM	E		RUS	н	24			48 F	IR			5 DAY					
	the same of the sa		1	Bill To		_	_	,					┪						I	Anal	ysis	Rec	ques	t						(	ther	Т	Comments
Company: Pange		ental Tec											$\neg$																			$\neg$	
	Franklin Stre				_	946	12							3		E																- 1	Filter Samples
	E-Mail: gbentley@pangeaenv.com									MTB		/B&	=									310						- 1	for Metals				
Tele: (510) 409-89	980		1	ax: (	510)	836-	370	)						8015)/MTBE		E&F	418									8/0						- 1	analysis:
Project #:			1	rojec	t Nar	ne:								+ 80		520	ons		50		>					/8270/8310		_				- 1	Yes / No
<b>Project Location:</b>								_	020		se (5	arbe		/ 80		Z					525	9020	020	6			- 1						
Sampler Signatur	ampler Signature:								┙	(602/8	_	Grea	lroc	-	602		0 8,0			95		PA 6	0/6	9/0	109			- 1					
SAMPLING & MATRIX PRESE									sas (6	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	TotakPetroleum Hydrocarbons (418.1)	EPA 601 / 8010 / 8021	BTEX ONLY (EPA 602 / 8020)		EPA 608 / 8082 PCB's ONLY			EPA 524.2 / 624 / 8260	EPA 525 / 625 / 8270	PAH's / PNA's by EPA 625	CAM-17 Metals (6010 / 6020)	LUFT 5 Metals (6010 / 6020)	Lead (200.8 / 200.9 / 6010)			- 1						
						157			as C	el (8	0 11	mna	010	Y (E	181	182	141	1151	624	12	1,8 h	tals	als	/ 200			- 1						
SAMPLE ID	LOCATION			ain	ont			953	П					TPH	Dies	rolen	trol	/ 8(	NE	1 80	/ 80	8/01	8/06	17	9/9	PN	Me	Met	8.0			- 1	
(Field Point Name)		Date	Time	ont	e C	ter		dge	ler	53 1	_	o	ler	X &	38	Pet	₩.	9	X	909	909	814	815	524	525	/s.	1-17	TS	100			- 1	
				#C	Ş	Water	Soil	Sludge	Other	ICE	НСГ	HNO3	Other	BTEX & TPH	LPH	Fotal	Fota	EPA	BTE	EPA 608 / 8081	EPA	EPA 8140 / 8141	EPA 8150 / 8151	EPA	EPA	PAH	CAN	E	Leac			- 1	
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														PRI	ESEF	RVA	LION	V				pH<	2										



Report to:

1534 Willow Pass Rd Pittsburg, CA 94565-1 (925) 252-9262

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

5 days

Requested TAT:

Date Received: 01/31/2008

Prepared by: Kimberly Burks

701	WorkOrder: 0801793	ClientID: PEO
	WorkOrder: 0801793	Chentid: PEO

✓ EDF Excel Fax ✓ Email HardCopy ThirdParty

Bob Clark-Riddell **Greg Bentley** Email: gbentley@pangeaenv.com

Pangea Environmental Svcs., Inc. TEL: (510) 409-8980 FAX: (510) 836-3709

Pangea Environmental Svcs., Inc. ProjectNo: Air 1710 Franklin Street, Ste. 200 1710 Franklin Street, Ste. 200

Date Printed: Oakland, CA 94612 PO: Oakland, CA 94612 01/31/2008

Bill to:

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

#### 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.

#### **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 a	nd Time Received:	1/31/2008	6:10:07 PM
Project Name:	Air			Check	list completed and re	eviewed by:	Kimberly Burks
WorkOrder N°:	<b>0801793</b> Matrix	<u>Air</u>		Carrier	r: <u>Derik Cartan (N</u>	MAI Courier)	
		Chain of Cu	stody (	COC) Informa	<u>tion</u>		
Chain of custody	present?	Yes	<b>V</b>	No 🗆			
Chain of custody	signed when relinquished ar	nd received? Yes	<b>V</b>	No 🗆			
Chain of custody	agrees with sample labels?	Yes	<b>✓</b>	No 🗌			
Sample IDs noted	by Client on COC?	Yes	<b>V</b>	No 🗆			
Date and Time of	collection noted by Client on C	COC? Yes	<b>~</b>	No 🗆			
Sampler's name r	noted on COC?	Yes	<b>V</b>	No 🗆			
		Sample	Receip	t Information			
Custody seals in	tact on shipping container/coo	oler? Yes		No 🗆		NA 🔽	
Shipping contain	er/cooler in good condition?	Yes	<b>V</b>	No 🗆			
Samples in prope	er containers/bottles?	Yes	<b>V</b>	No 🗆			
Sample containe	ers intact?	Yes	<b>✓</b>	No 🗆			
Sufficient sample	e volume for indicated test?	Yes	<b>✓</b>	No 🗌			
	<u>S</u>	ample Preservatio	n and H	old Time (HT)	Information		
All samples recei	ived within holding time?	Yes	✓	No 🗆			
Container/Temp I	Blank temperature	Coole	er Temp:			NA 🗹	
Water - VOA via	ls have zero headspace / no	bubbles? Yes		No 🗆	No VOA vials subm	itted 🗹	
Sample labels ch	necked for correct preservatio	n? Yes	<b>~</b>	No 🗌			
TTLC Metal - pH	acceptable upon receipt (pH<	2)? Yes		No 🗆		NA 🗹	
=====	=======	=====		=====		====	======
Client contacted:		Date contacted:			Contacted	by:	
Comments:							

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

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

	Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with B1EX and M1BE*													
Extraction	on method SW5030B		Analy	ytical methods SV	V8021B/8015Cm			Work Order	: 0801	793				
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS				
001A	IN	A	8400,b,m	ND<50	8.4	52	100	600	20	101				
002A	MID	A	87,b	ND	ND	ND	0.42	4.2	1	97				
003A	EFF	A	ND	ND	ND	ND	ND	1.3	1	94				
Rep	orting Limit for DF =1;	A	25	2.5	0.25	0.25	0.25	0.25	1	μg/L				
	neans not detected at or ove the reporting limit	S	NA	NA	NA	NA	NA	NA	1	mg/Kg				

<sup>\*</sup> water and vapor samples are reported in  $\mu g/L$ , soil/sludge/solid samples in mg/kg, wipe samples in  $\mu g/wipe$ , product/oil/non-aqueous liquid samples in mg/L.

<sup>+</sup>The following descriptions of the TPH chromatogram are cursory in nature and McCampbell 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.



<sup>#</sup> cluttered chromatogram; sample peak coelutes with surrogate peak.

Pangea Environmental Svcs., Inc.	Client Project ID: Air	Date Sampled: 01/30/08
1710 Franklin Street, Ste. 200		Date Received: 01/31/08
Oakland, CA 94612	Client Contact: Greg Bentley	Date Extracted: 02/01/08-02/02/08
0.17 1012	Client P.O.:	Date Analyzed 02/01/08-02/02/08

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

Extraction method SW5030B Analytical methods SW8021B/8015Cm Work Order: 0801793

Bittituetic	traction method Sw3030B		Anaryticar	illetillous 3 w 8021	B/8013CIII	WOIK Oluci. 0801793				
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	IN	A	2300,b,m	ND<14	2.6	14	23	140	20	101
002A	MID	A	24,b	ND	ND	ND	0.096	0.94	1	97
003A	EFF	A	ND	ND	ND	ND	ND	0.29	1	94

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

<sup>\*</sup> vapor samples are reported in  $\mu$ L/L, soil/sludge/solid samples in mg/kg, wipe samples in  $\mu$ g/wipe, product/oil/non-aqueous liquid samples in mg/L, water samples and all TCLP & SPLP extracts are reported in  $\mu$ g/L.

<sup>#</sup> cluttered chromatogram; sample peak coelutes with surrogate peak.

<sup>+</sup>The following descriptions of the TPH chromatogram are cursory in nature and McCampbell 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 0801793

EPA Method SW8021B/8015Cm	d SW8021B/8015Cm Extraction SW5030B BatchID: 33541 Spiked Sample ID: 0801783-004A										4A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	Acceptance Criteria (%)					
7 that yes	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				

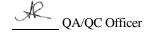
MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% 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.



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

Pangea Environmental Svcs., Inc.	Client Project ID: #1135.001; Douglas Party	Date Sampled: 01/15/08
1710 Franklin Street, Ste. 200		Date Received: 01/18/08
Oakland, CA 94612	Client Contact: Greg Bentley	Date Reported: 01/25/08
Outline, C1 7 1012	Client P.O.:	Date Completed: 01/25/08

WorkOrder: 0801481

January 25, 2008

Dear Greg:

#### Enclosed within are:

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

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

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

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius Laboratory Manager

McCampbell Analytical, Inc.

280 148 1

Wel	McCAMPBELL ANALYTICAL, INC.  1534 WILLOW PASS ROAD PITTSBURG, CA 94565-1701 Website: www.mccampbell.com Telephone: (925) 798-1620  Report To: Greg Bentley Bill To: Pangea Company: Pangea Environmental Technology, Inc.										K-	VL	OU	HA ND	TI	MI	Ε	E	US RUSI	Н	OL 24 rite	HR		□ 48 H		72 I		5 DAY				
			I	Bill To			_					1		/				Aı	alv	vsis	Red	ues	t					П	0	ther	Т	Comments
Company: Pange	a Environmo	ental Te											$\Box$																		$\neg$	
1710	Franklin Stre	et, Suite	e 200, Oa	kland	i, CA	946	12						ш		(H										l.							Filter
			F	E-Mai	l: gbe	ntle	y@p	ange	aen	v.coi	m		Ę		B&	=									310							Samples for Metals
Tele: (510) 409-8			F	ax: (	510)	836-	3709						8015)/MTBE		E&F	418									0 / 8						- 1	analysis:
Project #: 135			F	rojec	t Nan	ne:	De	ugl	05	Pa	M	4	+ 80		520 1	ous (		6		_					827	_	00000					Yes / No
<b>Project Location:</b>	Ook, C	t						9				5			se (5	arbe		80		ONLY					25/	020	)20)	۵			1	
Sampler Signatur	e:	a	6										(602/8020		Grea	lroc	_	905		0,5			9		PA 6	9/0	9/6	109			1	
SAMPLING g MATRIX MET PRESE							Gas (6	(\$110)	. S II	Hyd	802	PA (		PCB			/826	8270	oy El	(601	0109)	76.0			1							
SAMPLE ID (Field Point Name)  Soli ICE HCL  HCL  HCL  HCL  HCL  HCL  HCL  HC							BTEX & TPH as 0	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	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)										
TUE		1/15/8	1205	1	bud		×		+		1		V					+	+									$\dashv$	$\dashv$	+	$^{+}$	
MID		JOIG	1200	1	0		8		+		+		$\bigcirc$					+	+		$\dashv$		-	-			-	$\dashv$		+	+	
	,	41517	1205	1	gag	$\vdash$	-1		+	+	+	-				-	-		+	-			-			-	-	$\dashv$	-	+	+	
LIF		115/8	1205	1	Deg		X	-	+	-	-	-	X		_	-	_	-	-	-	-		-				-	-	-	-	+	2276
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									Т																						T	
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			-	Н					1										+	$\neg$	1						$\dashv$	$^{+}$	+	+	+	
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	e	1											PR	ESEF	RVA'			AS	80		MET H<		s c	TH	ER							

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

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

5 days

Requested TAT:

Date Received: 01/18/2008

Prepared by: Ana Venegas

WorkOrder: 0801481 ClientID: PEO

**✓** EDF Excel Fax ✓ Email HardCopy ThirdParty

Report to: Bob Clark-Riddell **Greg Bentley** Email: gbentley@pangeaenv.com

Pangea Environmental Svcs., Inc. Pangea Environmental Svcs., Inc. TEL: (510) 409-8980 FAX: (510) 836-3709

ProjectNo: #1135.001; Douglas Party 1710 Franklin Street, Ste. 200 1710 Franklin Street, Ste. 200

Date Printed: Oakland, CA 94612 PO: Oakland, CA 94612 01/18/2008

Bill to:

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

#### 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.

#### **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 a	and Time Received:	1/18/2008	5:35:18 PM
Project Name:	#1135.001; Douglas Par	rty		Check	klist completed and r	eviewed by:	Ana Venegas
WorkOrder N°:	<b>0801481</b> Matrix	<u>Air</u>		Carrie	r: Rob Pringle (M	Al Courier)	
		Chain of Cu	ıstody	(COC) Informa	ation		
Chain of custody	present?	Yes	V	No 🗆			
Chain of custody	signed when relinquished an	d received? Yes	<b>V</b>	No 🗆			
Chain of custody	agrees with sample labels?	Yes	<b>✓</b>	No 🗌			
Sample IDs noted	by Client on COC?	Yes	V	No 🗆			
Date and Time of	collection noted by Client on C	COC? Yes	<b>✓</b>	No 🗆			
Sampler's name r	noted on COC?	Yes	<b>V</b>	No 🗆			
		Sample	Rece	ipt Information	<u>1</u>		
Custody seals in	tact on shipping container/coc	ler? Yes		No 🗆		NA 🔽	
Shipping containe	er/cooler in good condition?	Yes	V	No 🗆			
Samples in prope	er containers/bottles?	Yes	<b>✓</b>	No 🗆			
Sample containe	ers intact?	Yes	✓	No 🗆			
Sufficient sample	e volume for indicated test?	Yes	✓	No 🗌			
	<u>Sa</u>	ample Preservatio	n and	Hold Time (HT	) Information		
All samples recei	ived within holding time?	Yes	<b>✓</b>	No 🗌			
Container/Temp I	Blank temperature	Cool	er Tem	o:		NA 🗹	
Water - VOA vial	Is have zero headspace / no I	oubbles? Yes		No 🗆	No VOA vials subm	itted 🗹	
Sample labels ch	necked for correct preservatio	n? Yes	<b>~</b>	No 🗌			
TTLC Metal - pH	acceptable upon receipt (pH<	2)? Yes		No 🗆		NA 🗹	
=====	=======	=====		=====	=====		======
Client contacted:		Date contacted:			Contacted	by:	
Comments:							

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

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

		ie Kalige (		-		mic with DIT	LA and WITDE			
	on method SW5030B			ytical methods SV		<u> </u>		Work Order		
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	INF	A	4200,b,m	ND<50	6.7	49	64	440	20	102
002A	MID	A	27,m	ND	ND	ND	ND	0.85	1	108
003A	EFF	A	ND	ND	ND	ND	ND	ND	1	91
Ren	orting Limit for DF =1;	A	25	2.5	0.25	0.25	0.25	0.25	1	ша/І
ND	means not detected at or ove the reporting limit	S	NA	NA	NA	NA	NA	NA	1	μg/L mg/Kg

<sup>\*</sup> water and vapor samples are reported in  $\mu g/L$ , soil/sludge/solid samples in mg/kg, wipe samples in  $\mu g/wipe$ , product/oil/non-aqueous liquid samples in mg/L.

<sup>#</sup> cluttered chromatogram; sample peak coelutes with surrogate peak.

<sup>+</sup>The following descriptions of the TPH chromatogram are cursory in nature and McCampbell 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.

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

	on method B W 2020B				memous B 11 0021			morn order	. 000.	
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;	A	7.0	0.68	0.077	0.065	0.057	0.057	1	uL/L					
ND means not detected at or above the reporting limit	S	NA	NA	NA	NA	NA	NA	1	mg/Kg					

<sup>\*</sup> vapor samples are reported in  $\mu$ L/L, soil/sludge/solid samples in mg/kg, wipe samples in  $\mu$ g/wipe, product/oil/non-aqueous liquid samples in mg/L, water samples and all TCLP & SPLP extracts are reported in  $\mu$ g/L.

<sup>#</sup> cluttered chromatogram; sample peak coelutes with surrogate peak.

<sup>+</sup>The following descriptions of the TPH chromatogram are cursory in nature and McCampbell 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

EPA Method SW8021B/8015Cm	Extra	ction SW	5030B		Bat	chID: 33	276	Sp	Spiked Sample ID: 0801476-004A						
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	SD Acceptance Criteria (%)						
7 tildiyte	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				

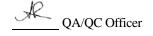
MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% 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.



"When Ouality Counts"

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

Pangea Environmental Svcs., Inc.	Client Project ID: Air Samples INF, MID,	Date Sampled: 01/10/08
1710 Franklin Street, Ste. 200	and EFF	Date Received: 01/11/08
Oakland, CA 94612	Client Contact: Greg Bentley	Date Reported: 01/16/08
outland, Cri 71012	Client P.O.:	Date Completed: 01/16/08

WorkOrder: 0801293

January 16, 2008

Dear (	Greg:
--------	-------

#### Enclosed within are:

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

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

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

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius Laboratory Manager

McCampbell Analytical, Inc.

N	McCAMPBELL ANALYTICAL, INC. 1534 WILLOW PASS ROAD																		C		ST	OI		R	EC	COR	D	168				
		PITTSBU	JRG, CAS	4565-1	701									1	UR	CIN .	AK	υt	INL	1	IIVI	E		RUS	н		HR		48 H	ID.	72 HE	X 5 DAY
	ne: (925) 798		.com En	iail: m				ell.co ) 798		22				EI	DF F	Requ	uire	d?((	Coel	t (	Vori	nal)		No				n (D		No	/4 111	SDAI
Report To: Greg			I	Bill To															A	nal	ysis	Rec	ques	t						Otl	ier	Comments
Company: Pange		ental Tec	chnology	, Inc.																												Filter
1710 Franklin Street, Suite 200, Oakland, CA 94612 E-Mail: gbentlev@pangeaenv.com									4	BE		(F)	2									0						Samples				
m > (#40) 400 0	200								aen	iv.c	om		$\dashv$	MAL		F/B8	8.1)									831						for Metals
Tele: (510) 409-89	980			ax: ( Projec			3709						$\dashv$	8015)/MTBE		0 E&	s (41		_							270						analysis:
Project #: Project Location:			1	rojec	LINAL	ne:							$\dashv$	+		(552	rbon		3020		LY					5/8	20)	00				Yes / No
Sampler Signatur	e:												$\neg$	(602/8020		rease	ocar		02 / 8		ONLY			_		A 62	09/	/ 602	010			
MET									Gas (60	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 / 8082 PCB's	_	_	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)								
SAMPLE ID				iers	tain	П					Т			H as	sel (	um C	leur	010	.Y (I	1808	082	814	815	624	125	A's	etals	stals	/ 20			
(Field Point Name)	LOCATION	Data	Time	# Containers	Type Containers			e,				m		BTEX & TPH	s Die	etrole	etro	8/10	NO	EPA 608 / 8081	8/80	EPA 8140 / 8141	EPA 8150 / 8151	24.2	25/6	/ PN	17 M	5 Me	200.8			
	b.	Date	Time	S	ype	Water	Soil	Sludge	Other	ICE	HCL	HNO3	Other	EX	ь На	tal Po	Ial	9 V	ſEX	9 V	9 V	8 V	8 V	S V	A S	NH's	W-	FT	ad (			
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INF		1/10/08	1615		SA6		X						X	X																		Please
MID		1.6	1	1									I																			reportin
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	V	1/00	22	)		ph		1ac	<u> </u>	_					PRO ESEF					NER	es	V										
Relinquished By: Date: Time: Received By:									PRESERVED IN LAB																							
													PRI	VOAS O&G METALS OTHER RESERVATION pH<2																		

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

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

5 days

Requested TAT:

Date Received: 01/11/2008

Prepared by: Melissa Valles

WorkOrder: 0801293 ClientID: PEO

> **✓** EDF Excel Fax ✓ Email HardCopy ThirdParty

Bill to: Report to: Bob Clark-Riddell **Greg Bentley** Email: gbentley@pangeaenv.com

Pangea Environmental Svcs., Inc. TEL: (510) 409-8980 FAX: (510) 836-3709

Pangea Environmental Svcs., Inc. ProjectNo: Air Samples INF, MID, and EFF 1710 Franklin Street, Ste. 200 1710 Franklin Street, Ste. 200

Date Printed: Oakland, CA 94612 PO: Oakland, CA 94612 01/11/2008

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

#### 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.

#### **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 Environme	ental Svcs., Inc.			Date ar	nd Time Received:	1/11/08 1:0	08:00 PM
Project Name:	Air Samples INF, M	ID, and EFF			Checkli	ist completed and re	eviewed by:	Melissa Valles
WorkOrder N°:	0801293	Matrix <u>Air</u>			Carrier:	Rob Pringle (M	Al Courier)	
		<u>Chain</u>	of Cu	stody (CO	C) Informat	ion		
Chain of custody	y present?		Yes	V	No 🗆			
Chain of custody	y signed when relinquish	ed and received?	Yes	<b>V</b>	No 🗆			
Chain of custody	y agrees with sample lat	els?	Yes	<b>✓</b>	No 🗌			
Sample IDs noted	d by Client on COC?		Yes	<b>V</b>	No 🗆			
Date and Time o	of collection noted by Clier	nt on COC?	Yes	<b>✓</b>	No 🗆			
Sampler's name	noted on COC?		Yes	✓	No $\square$			
		<u>S</u> :	ample	Receipt I	nformation			
Custody seals in	ntact on shipping contain	er/cooler?	Yes		No 🗆		NA 🔽	
Shipping contain	ner/cooler in good conditi	on?	Yes	V	No 🗆			
Samples in prop	er containers/bottles?		Yes	<b>✓</b>	No 🗆			
Sample containe	ers intact?		Yes	<b>✓</b>	No 🗆			
Sufficient sample	e volume for indicated te	st?	Yes	<b>✓</b>	No 🗌			
		Sample Prese	rvatio	n and Holo	d Time (HT)	Information		
All samples rece	eived within holding time?	)	Yes	<b>✓</b>	No 🗌			
Container/Temp	Blank temperature		Coole	er Temp:			NA 🗹	
Water - VOA via	als have zero headspace	/ no bubbles?	Yes		No 🗆	No VOA vials subm	itted 🗹	
Sample labels c	hecked for correct prese	rvation?	Yes	<b>✓</b>	No 🗌			
TTLC Metal - pH	l acceptable upon receipt	(pH<2)?	Yes		No 🗆		NA 🗹	
=====		======				======		
Client contacted:	:	Date contact	ted:			Contacted	by:	
Comments:								

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

-	"When Ou	ualitv Counts"	1			Teleph	2 Fax: 925-252-9269						
Pange	a Environmental Svcs., Ir	ıc.	Client Proje	ect ID:	Air S	amples INF, M	IID, and	Date Sample	ed: 01/10/08				
1710 I	Franklin Street, Ste. 200		EFF					Date Receive	ed: 01/11/08				
Oaklaı	nd, CA 94612		Client Con	tact: Gr	eg Be	entley		Date Extracted: 01/11/08					
			Client P.O.	:				Date Analyz	ted 01/11/08				
Evrtus ati	Gasolin on method SW5030B	e Range (		-		bons as Gasol /8021B/8015Cm	ine with BTE	X and MTBE	* Work Order:	rder: 0801293			
Lab ID	Client ID	Matrix	TPH(g)	MTB		Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS		
001A	INF	A	56,b	ND		ND	0.29	0.39	2.6	1	103		
002A	MID	A	46,m	ND		ND	ND	ND	ND	1	107		
003A	EFF	A	ND	ND		ND	ND	ND	ND	1	107		
			<del> </del>										
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				<u> </u>									
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* water and vapor samples are reported in µg/L,	soil/sludge/solid samples in mg/k	kg, wipe samples in μg/wipe, product/oil/nor	n-aqueous liquid samples in
mg/L			

2.5

NA

0.25

NA

0.25

NA

0.25

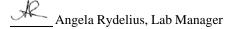
NA

25

NA

# cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell 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.



0.25

NA

μg/L

mg/Kg

Reporting Limit for DF = 1;

ND means not detected at or

above the reporting limit

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

	minemod BireosoB				memous by out bear out of the state.									
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;	A	7.0	0.68	0.077	0.065	0.057	0.057	1	uL/L	
ND means not detected at or above the reporting limit	S	NA	NA	NA	NA	NA	NA	1	mg/Kg	

<sup>\*</sup> vapor samples are reported in  $\mu$ L/L, soil/sludge/solid samples in mg/kg, wipe samples in  $\mu$ g/wipe, product/oil/non-aqueous liquid samples in mg/L, water samples and all TCLP & SPLP extracts are reported in  $\mu$ g/L.

<sup>+</sup>The following descriptions of the TPH chromatogram are cursory in nature and McCampbell 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.



<sup>#</sup> cluttered chromatogram; sample peak coelutes with surrogate peak.

## QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Air/Air QC Matrix: Water WorkOrder 0801293

EPA Method SW8021B/8015Cm Extraction SW5030B					BatchID: 33137 Sp				piked Sample ID: 0801284-003A			
Analyte	Sample	ample Spiked MS		MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
7 that yes	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

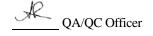
MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% 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.



"When Ouality Counts"

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

Pangea Environmental Svcs., Inc.	Client Project ID: Air Samples (INF, MID,	Date Sampled: 01/03/08
1710 Franklin Street, Ste. 200	EFF)	Date Received: 01/04/08
Oakland, CA 94612	Client Contact: Greg Bentley	Date Reported: 01/10/08
Sundana, 277 7 1012	Client P.O.:	Date Completed: 01/10/08

WorkOrder: 0801084

January 10, 2008

Dear	Greg:

#### Enclosed within are:

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

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

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

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius Laboratory Manager

McCampbell Analytical, Inc.

0801084

#### McCAMPBELL ANALYTICAL, INC. CHAIN OF CUSTODY RECORD 1534 WILLOW PASS ROAD TURN AROUND TIME PITTSBURG, CA 94565-1701 RUSH 24 HR 48 HR 72 HR 5 DAY Website: www.mccampbell.com Email: main@mccampbell.com EDF Required? Coelt (Normal) No Write On (DW) No Telephone: (925) 798-1620 Fax: (925) 798-1622 Report To: Greg Bentley Bill To: Pangea Analysis Request Other Comments Company: Pangea Environmental Technology, Inc. Filter 1710 Franklin Street, Suite 200, Oakland, CA 94612 Total Petroleum Oil & Grease (5520 E&F/B&F) 8015)/MTBE Samples PAH's / PNA's by EPA 625 / 8270 / 8310 E-Mail: gbentley@pangeaenv.com Total Petroleum Hydrocarbons (418.1) for Metals Tele: (510) 409-8980 Fax: (510) 836-3709 analysis: **Project Name:** Project #: BTEX ONLY (EPA 602 / 8020) Yes / No EPA 608 / 8082 PCB's ONLY CAM-17 Metals (6010 / 6020) LUFT 5 Metals (6010 / 6020) **Project Location:** 200.9 / 6010) Sampler Signature: EPA 524.2 / 624 / 8260 EPA 601 / 8010 / 8021 TPH as Diesel (8015) EPA 525 / 625 / 8270 METHOD SAMPLING MATRIX Type Containers PRESERVED EPA 8140 / 8141 EPA 8150 / 8151 Containers EPA 608 / 8081 BTEX & TPH SAMPLE ID LOCATION (Field Point Name) Sludge HNO3 Date Time Other Other HCL Soil ICE Air INF 1400 Racy MID **EFF** Relinquished By: Received By: ICE/t° COMMENTS: Time: GOOD CONDITION HEAD SPACE ABSENT Relinquished By Date: Received By: Time: DECHLORINATED IN LAB APPROPRIATE CONTAINERS PRESERVED IN LAB Relinquished By: Date: Received By: Time: VOAS O&G METALS OTHER PRESERVATION pH<2

1534 Willow Pass Rd (925) 252-9262

Oakland, CA 94612

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

01/04/2008

☐ ThirdParty

Prepared by: Ana Venegas

Date Received:

Pittsburg, CA 94565-1701 WorkOrder: 0801084 ClientID: PEO □ EDF Excel Fax ✓ Email HardCopy

Report to: Bill to: Requested TAT: 5 days

**Greg Bentley** Pangea Environmental Svcs., Inc. 1710 Franklin Street, Ste. 200

gbentley@pangeaenv.com Email: TEL: (510) 836-3700

FAX: (510) 836-3709

ProjectNo: Air Samples (INF, MID, EFF)

PO:

Bob Clark-Riddell

Pangea Environmental Svcs., Inc.

1710 Franklin Street, Ste. 200

Oakland, CA 94612 Date Printed: 01/07/2008

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

#### 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.

## **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 Enviror	nmental Svcs., Inc			Date a	and Time Received:	1/4/2008 4	:10:13 PM
Project Name:					Check	klist completed and r	eviewed by:	Ana Venegas
WorkOrder N°:	0801084	Matrix <u>Air</u>			Carrie	er: Rob Pringle (M	IAI Courier)	
		<u>Chai</u>	n of Cu	stody (CO	C) Informa	ation_		
Chain of custody	present?		Yes	<b>V</b>	No $\square$			
Chain of custody	signed when relinq	uished and received?	Yes	V	No $\square$			
Chain of custody	agrees with sample	e labels?	Yes	✓	No 🗌			
Sample IDs noted	by Client on COC?		Yes	$\checkmark$	No 🗆			
Date and Time of	collection noted by	Client on COC?	Yes	$\checkmark$	No 🗆			
Sampler's name r	noted on COC?		Yes		No 🔽			
		<u> </u>	Sample	Receipt In	formation	<u>1</u>		
Custody seals int	tact on shipping con	tainer/cooler?	Yes		No 🗆		NA 🗹	
Shipping containe	er/cooler in good cor	ndition?	Yes	<b>V</b>	No 🗆			
Samples in prope	er containers/bottles	?	Yes	✓	No 🗆			
Sample containe	rs intact?		Yes	$\checkmark$	No $\square$			
Sufficient sample	volume for indicate	ed test?	Yes	<b>✓</b>	No 🗌			
		Sample Prese	rvatio	n and Hold	Time (HT	) Information		
All samples recei	ved within holding ti	me?	Yes	<b>✓</b>	No 🗌			
Container/Temp E	Blank temperature		Coole	er Temp:			NA 🗹	
Water - VOA vial	s have zero headsp	pace / no bubbles?	Yes		No $\square$	No VOA vials subm	itted 🗹	
Sample labels ch	necked for correct pr	reservation?	Yes	$\checkmark$	No 🗌			
TTLC Metal - pH	acceptable upon rec	ceipt (pH<2)?	Yes		No 🗆		NA 🗹	
					===			======
Client contacted:		Date contact	cted:			Contacted	by:	
Comments:								

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Web: www.mccampbell.com E-mail: main@mccampbell.com

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

Pangea Environmental Svcs., Inc.	Client Project ID: Air Samples (INF, MID, EFF)	Date Sampled: 01/03/08
1710 Franklin Street, Ste. 200		Date Received: 01/04/08
Oakland, CA 94612	Client Contact: Greg Bentley	Date Extracted: 01/04/08-01/05/08
Summin, 6.17 / 10.2	Client P.O.:	Date Analyzed 01/04/08-01/05/08

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

Gasomie Range (Co-C12) Volatile Hydrocarbons as Gasomie with DTEA and WITDE.										
Extraction method SW5030B Analytical methods SW8021B/8015Cm Work Order: 0801084										
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	INF	A	180,b	ND	ND	0.57	1.9	12	1	92
002A	MID	A	53,m	ND	ND	ND	ND	ND	1	96
003A	EFF	A	ND	ND	ND	ND	ND	ND	1	90
Rep	orting Limit for DF =1;	A	25	2.5	0.25	0.25	0.25	0.25	1	μg/L
ND means not detected at or above the reporting limit		S	NA	NA	NA	NA	NA	NA	1	mg/Kg

<sup>\*</sup> 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.

<sup>#</sup> cluttered chromatogram; sample peak coelutes with surrogate peak.

<sup>+</sup>The following descriptions of the TPH chromatogram are cursory in nature and McCampbell 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.

Pangea Environmental Svcs., Inc.	Client Project ID: Air Samples (INF, MID, EFF)	Date Sampled:	01/03/08
1710 Franklin Street, Ste. 200	WIID, EFF)	Date Received:	01/04/08
Oakland, CA 94612	Client Contact: Greg Bentley	Date Extracted:	01/04/08-01/05/08
Sunume, 5.17.1612	Client P.O.:	Date Analyzed	01/04/08-01/05/08

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

Extraction method SW5030B Analytical methods SW8021B/8015Cm Work Order: 0801084

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	INF	A	50,b	ND	ND	0.15	0.42	2.8	1	92
002A	MID	A	15,m	ND	ND	ND	ND	ND	1	96
003A	EFF	A	ND	ND	ND	ND	ND	ND	1	90

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

<sup>\*</sup> vapor samples are reported in  $\mu$ L/L, soil/sludge/solid samples in mg/kg, wipe samples in  $\mu$ g/wipe, product/oil/non-aqueous liquid samples in mg/L, water samples and all TCLP & SPLP extracts are reported in  $\mu$ g/L.

<sup>#</sup> cluttered chromatogram; sample peak coelutes with surrogate peak.

<sup>+</sup>The following descriptions of the TPH chromatogram are cursory in nature and McCampbell 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: 0801084

EPA Method SW8021B/8015Cm	Extrac	tion SW	5030B		Ba	tchID: 32	998	Sp	piked Sample ID: 0801071-001D				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	Criteria (%)		
7 that yes	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

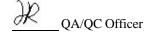
Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0801084-001A	01/03/08 2:00 PM	1 01/05/08	01/05/08 12:55 AM	0801084-002A	01/03/08 2:00 PM	01/04/08	01/04/08 4:58 PM
0801084-003A	01/03/08 2:00 PM	I 01/04/08	01/04/08 11:47 PM				

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.



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

Pangea Environmental Svcs., Inc.	Client Project ID: Douglas Parking	Date Sampled: 12/28/07
1710 Franklin Street, Ste. 200		Date Received: 12/28/07
Oakland, CA 94612	Client Contact: Greg Bentley	Date Reported: 01/07/08
Summing, CT > 1012	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

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius Laboratory Manager

McCampbell Analytical, Inc.

0712900

## McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD PITTSBURG, CA 94565-1701

Website: www.mccampbell.com Email: main@mccampbell.com Telephone: (877) 252-9262 Fax: (925) 252-9269

## CHAIN OF CUSTODY RECORD

	CHAIRMINGA	CCUL	COLD I
TURN	AROUND TIME		

RUSH 24 HR 48 HR 72 HR 5 DAY

DA
100

PDF Excel Write On (DW) Check if sample is effluent and "J" flag is required GeoTracker EDF

Report To: ghentlen apanga en Bill To: fangle a Company: Pangle a 17/0 Franklin , Oakland E-Mail: ghentles apangla and						+						A	nal	_		ues							Other	1	mments								
Company: Pau	Segi !	OOK	land	/ Z-Mai	1: de	en	H		6)	a	ho	rla	-	A COLON	MIDE		E/B&F)															Sa	lter mples
Tele: (5/0) & - Project #: Project Location:	36-37	50	F	ax: (	30	) •	73	6		37	20	59	-	910	(cu		5520	_	9	8		rs/C						6020	6020)				r Metals alysis:
Project #:			P	rojec	t Nar	ne:	1	Du	role.	51	al	rK	inc	200	0		19	18.1	000	802	~	oclo		ides			(AAs)	/01	10/0				s / No
Project Location:	1721 V	Neba	ter	5%.	. 11	201	Ela	in	12				1	7 3	170		e (16	ns (4	E	602	cide	. A.	3	erbi	8	8	/ P?	8 / 60	09/	(070			
Sampler Signatur	e: 1	-	,		10							-		1000/1007	0770		reas	arbo	8021	EPA	Pesti	NE	ticid	CH	00/	0.00	\AH8	200.3	200.8	0 / 60			
		SAMP	LING		LS	Г	MA	TR	IX			SER		- 1 - 3		(5)	1 & G	ydroc	/010	LY (I	1(0	B's 0	P Pes	cidic	260 (1	270 (\$	310 (P	17.00	0.772	109/			
SAMPLE ID	LOCATION/ Field Point Name	Date	Time	# Containers	Type Containers	Water	Soil	Air	Sludge	_		HCL		-	BIEA & IFH 25 C	TPH as Diesel (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	MTBE / BTEX ONLY (EPA 602 / 8021)	EPA 505/ 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic CI Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)			
TNF		17/28	1630	01	BA6			K		T			1	< 0	X																		
MID		77		1	1			1						1	1																	P	ease.
FFF		W	V	V	V			V					-	V	V																		
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					1	+				+	+		+	+							-						+	-	+	+		+	
						+				+	+	+	+	+		8					+			+	-		+	-	+	+		+	
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Relinquished By:		Date:/	Time:	Dec	eived,	Pyr	_			Ť	_	_	_	+	ICE	7.149	_									_	_	_	C	23.13	MENTS:		
Kennquisite By.		12h	1715	Rec	, (	1/4	0		\	1a	U	4	7		GO	OD (													C	JIVEN	IENTS:		
Relinquished By:		Date:	Time:	Rec	eived	By:			4						DE AP	AD S CHL PROI	ORI	INAT ATE	CO	IN I	LAB	RS_	_										
Relinquished By:		Date:	Time:	Rec	eived l	By:								$\dashv$	PR	ESEF	(VE	D IN	LA	В													
															PR	ESEF	RVA	TIO		OAS	0	&G		ETA I<2	LS	OT	THE	R					
							_				_	_	_		4 14				-	_	_		Pra.		_	_		_	_				



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

## CHAIN-OF-CUSTODY RECORD

Email

HardCopy

Page 1 of 1

ThirdParty

Date Received: 12/28/2007

Date Printed: 12/28/2007

Prepared by: Ana Venegas

WorkOrder: 0712900 ClientID: PEO

Fax

Report to:	Bill to:	Requested TAT:	5 day

Excel

**✓** EDF

Greg Bentley Email: gbentley@pangeaenv.com Bob Clark-Riddell

Pangea Environmental Svcs., Inc. TEL: (510) 409-8980 FAX: (510) 836-3709 Pangea Environmental Svcs., Inc.

1710 Franklin Street, Ste. 200 ProjectNo: Douglas Parking 1710 Franklin Street, Ste. 200 Oakland, CA 94612 PO: Oakland, CA 94612

				ſ	Requested Tests (See legend below)											
Sample ID	ClientSampID	Matrix	<b>Collection Date</b>	Hold	1	2	3	4	5	6	7	8	9	10	11	12
0712900-001	INF	Air	12/28/07 4:30:00		Α	Α										
0712900-002	MID	Air	12/28/07 4:30:00		Α											
0712900-003	FFF	Δir	12/28/07 4:30:00		Δ											

#### 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.

#### **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 Environm	nental Svcs., Inc.			Date and	d Time Received:	12/28/07 5	:43:42 PM
Project Name:	Douglas Parking				Checklis	st completed and re	viewed by:	Ana Venegas
WorkOrder N°:	0712900	Matrix <u>Air</u>			Carrier:	Client Drop-In		
		Chain	of Cu	stody (COC	C) Informati	<u>on</u>		
Chain of custody	present?		Yes	V	No 🗆			
Chain of custody	signed when relinquis	shed and received?	Yes	<b>V</b>	No 🗆			
Chain of custody	agrees with sample la	abels?	Yes	<b>✓</b>	No 🗌			
Sample IDs noted	by Client on COC?		Yes	V	No 🗆			
Date and Time of	collection noted by Cli	ent on COC?	Yes	<b>V</b>	No $\square$			
Sampler's name r	noted on COC?		Yes	✓	No 🗆			
		<u>S</u> :	ample	Receipt In	<u>formation</u>			
Custody seals in	tact on shipping contai	iner/cooler?	Yes		No 🗆		NA 🔽	
Shipping contain	er/cooler in good cond	ition?	Yes	V	No 🗆			
Samples in prope	er containers/bottles?		Yes	<b>✓</b>	No 🗆			
Sample containe	ers intact?		Yes	<b>✓</b>	No 🗆			
Sufficient sample	e volume for indicated	test?	Yes	<b>✓</b>	No 🗌			
		Sample Prese	vatio	n and Hold	Time (HT) I	<u>nformation</u>		
All samples recei	ived within holding time	e?	Yes	<b>✓</b>	No 🗌			
Container/Temp I	Blank temperature		Coole	er Temp:			NA 🗹	
Water - VOA via	ls have zero headspa	ce / no bubbles?	Yes		No 🗆 N	lo VOA vials submi	tted 🗹	
Sample labels ch	necked for correct pres	servation?	Yes	<b>✓</b>	No 🗌			
TTLC Metal - pH	acceptable upon recei	pt (pH<2)?	Yes		No 🗆		NA 🗹	
			=		====	======		
Client contacted:		Date contact	ed:			Contacted	by:	
Comments:								

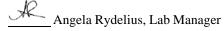
Pangea Environmental Svcs., Inc.	Client Project ID: Douglas Parking	Date Sampled: 12/28/07
1710 Franklin Street, Ste. 200		Date Received: 12/28/07
Oakland, CA 94612	Client Contact: Greg Bentley	Date Extracted: 12/29/07
	Client P.O.:	Date Analyzed 12/29/07

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

Extraction	on method SW5030B		Analy	ytical methods SV	V8021B/8015Cm			Work Order:	0712	900
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
	orting Limit for DF =1;	A	25	2.5	0.25	0.25	0.25	0.25	1	μg/L
	neans not detected at or ove the reporting limit	S	NA	NA	NA	NA	NA	NA	1	mg/Kg

<sup>\*</sup> water and vapor samples are reported in  $\mu g/L$ , soil/sludge/solid samples in mg/kg, wipe samples in  $\mu g/wipe$ , product/oil/non-aqueous liquid samples in mg/L.

<sup>+</sup>The following descriptions of the TPH chromatogram are cursory in nature and McCampbell 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.



<sup>#</sup> cluttered chromatogram; sample peak coelutes with surrogate peak.

Pangea Environmental Svcs., Inc.	Client Project ID: Douglas Parking	Date Sampled: 12/28/07
1710 Franklin Street, Ste. 200		Date Received: 12/28/07
Oakland, CA 94612	Client Contact: Greg Bentley	Date Extracted: 12/29/07
- Calabata, 6717 1672	Client P.O.:	Date Analyzed 12/29/07

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

Extraction method SW5030B Analytical methods SW8021B/8015Cm Work Order: 0712900

Ditti detio	i inethod B W 5 0 5 0 B			1 mary trear	memous Swoozi	Breeteem		morn order	. 0,11	., 00
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	INF	A	14,b	ND	ND	0.087	0.12	0.98	1	92
002A	MID	A	ND	ND	ND	ND	ND	ND	1	87
003A	EFF	A	ND	ND	ND	ND	ND	ND	1	89

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

<sup>\*</sup> vapor samples are reported in  $\mu$ L/L, soil/sludge/solid samples in mg/kg, wipe samples in  $\mu$ g/wipe, product/oil/non-aqueous liquid samples in mg/L, water samples and all TCLP & SPLP extracts are reported in  $\mu$ g/L.

<sup>#</sup> cluttered chromatogram; sample peak coelutes with surrogate peak.

<sup>+</sup>The following descriptions of the TPH chromatogram are cursory in nature and McCampbell 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

EPA Method SW8021B/8015Cm		BatchID: 32892 Spiked Sample ID: 0712893										
Analyte	Sample Spiked MS MSD MS-MSD LCS LCSD LCS-LCSD Acceptance									Criteria (%)		
Analyto	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex <sup>f</sup> )	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

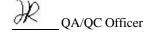
Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0712900-001A	12/28/07 4:30 PM	1 12/29/07	12/29/07 9:00 AM				

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.



### QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Air QC Matrix: Water WorkOrder: 0712900

EPA Method SW8021B/8015Cm	Extrac	tion SW	5030B		BatchID: 32899 Spiked Sample ID: 0712906-0								
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	Criteria (%)			
7 that yes	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

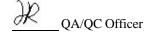
Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0712900-002A	12/28/07 4:30 PM	M 12/29/07	12/29/07 9:33 AM	0712900-003A	12/28/07 4:30 PM	12/29/07	12/29/07 10:06 AM

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.



"When Ouality Counts"

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

Pangea Environmental Svcs., Inc.	Client Project ID: #1135.01; Douglas	Date Sampled:	12/14/07
1710 Franklin Street, Ste. 200	Parking	Date Received:	12/14/07
Oakland, CA 94612	Client Contact: Greg Bentley	Date Reported:	12/21/07
Outstand, C11 7 1012	Client P.O.:	Date Completed:	12/21/07

WorkOrder: 0712494

December 21, 2007

Dear Greg:

#### Enclosed within are:

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

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

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

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius Laboratory Manager

McCampbell Analytical, Inc.

Peo 0712494

McCAMPBELL ANALYTICAL, INC.  1534 WILLOW PASS ROAD PITTSBURG, CA 94565-1701 Website: www.mccampbell.com Telephone: (925) 798-1620  Report To: Greg Bentley  McCAMPBELL ANALYTICAL, INC.  1534 WILLOW PASS ROAD Email: main@mccampbell.com Fax: (925) 798-1622  Bill To: Pangea										UR DF F			OU	ND	T	[M]	E	F	RUS	Н	OI 24 rite	HR		48 I	HR	72	) HR	X 5 DAY					
					: Pa	ngea											- 1		A	nal	ysis	Rec	ues	t						(	Other	-	Comments
Company: Pangea Environmental Technology, Inc.									_																				Filter				
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Tele: (510) 409-89					510)		7	_		0		1.	_	8015)/MTBE		E&	4									-							analysis:
Project #: //35		. / 1 - 4		rojec	t Nan	ne:	Do	919	5	19	VE	VA	2	+		5520	ons		(07)		X					/8270	6						Yes / No
Project Location:	100	Velste	ev				0						$\mathcal{A}$	(602/8020		ase (	carb		08/		NC					625	602	8020	6				
Sampler Signatur	e						65.00.00		_	N.	UPTI	HOD	$\vdash$	(602)	9	Gre	dro	21	602		8,8			093	0	Y-V	10/	701	109				
		SAMI	PLING	8	ers	N	AAT	RIX				RVE		Gas	801	S) II &	H H	/ 80	EPA		PC	_	_	/ 82	827	by F	9 (60	(09)	6.0				
SAMPLE ID (Field Point Name)	LOCATION	Date	Time	# Containers	Type Containers	Water	Soil	Sludge	Other			HNO3	Other	BTEX & TPH as	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 /	CAM-17 Metals (6010 / 6020)	LUFT 5 Metals (6010 / 6020)	Lead (200.8 / 200.9 / 6010)				
TIL		12/14	1100	i	BAG		D	1					K'	N																$\vdash$	$\vdash$	$\dashv$	
MIL		10417	proc	1	Crov		1				+		7	1																$\vdash$		$\dashv$	
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1534 Willow Pass Rd (925) 252-9262

## CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Pittsburg, CA 94565-1701 ClientID: PEO WorkOrder: 0712494 EDF Excel Fax ✓ Email HardCopy ThirdParty Bill to: Report to: Requested TAT: 5 days gbentley@pangeaenv.com Bob Clark-Riddell **Greg Bentley** Email: Pangea Environmental Svcs., Inc. TEL: (510) 409-8980 FAX: (510) 836-3709 Pangea Environmental Svcs., Inc. Date Received: 12/14/2007 1710 Franklin Street, Ste. 200 ProjectNo: #1135.01; Douglas Parking 1710 Franklin Street, Ste. 200 Oakland, CA 94612 PO: Oakland, CA 94612 Date Printed: 12/17/2007 Requested Tests (See legend below) Sample ID ClientSampID Matrix Collection Date Hold 2 10 11 12 0712494-001 INF Air 12/14/07 11:00:00 MID 12/14/07 11:00:00 0712494-002 Α Air 0712494-003 **EFF** Air 12/14/07 11:00:00 Test Legend: 5 1 G-MBTEX\_AIR 2 3 6 7 9 10 8 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 a	and Time Received:	12/14/07 6	:32:08 PM
Project Name:	#1135.01; Douglas Pari	king			Check	klist completed and r	eviewed by:	Rosa Venegas
WorkOrder N°:	<b>0712494</b> Matrix	<u>Air</u>			Carrie	er: Rob Pringle (M	IAI Courier)	
		Chain of C	ust	ody (COC	) Informa	<u>ation</u>		
Chain of custody	present?	Yes	s [	<b>V</b>	No $\square$			
Chain of custody	signed when relinquished ar	nd received? Yes	s	<b>v</b>	No 🗆			
Chain of custody	agrees with sample labels?	Yes	s E	✓	No 🗌			
Sample IDs noted	by Client on COC?	Yes	s E	<b>V</b>	No 🗆			
Date and Time of	collection noted by Client on C	COC? Yes	s E	✓	No 🗆			
Sampler's name r	noted on COC?	Yes	s E	✓	No 🗆			
		Samp	le R	eceipt Inf	ormation	<u>1</u>		
Custody seals in	tact on shipping container/coo	oler? Yes	s [		No 🗆		NA 🔽	
Shipping contain	er/cooler in good condition?	Yes	s [	<b>V</b>	No 🗆			
Samples in prope	er containers/bottles?	Yes	s E	<b>✓</b>	No $\square$			
Sample containe	ers intact?	Yes	s E	✓	No 🗆			
Sufficient sample	e volume for indicated test?	Yes	s E	✓	No 🗌			
	<u>s</u>	ample Preservati	on a	and Hold	Time (HT	) Information		
All samples recei	ived within holding time?	Yes	s E	<b>✓</b>	No 🗌			
Container/Temp I	Blank temperature	Cod	oler 7	Temp:			NA 🗹	
Water - VOA via	ls have zero headspace / no	bubbles? Yes	s [		No 🗆	No VOA vials subm	itted 🗹	
Sample labels ch	necked for correct preservation	n? Yes	s [	<b>✓</b>	No 🗌			
TTLC Metal - pH	acceptable upon receipt (pH<	2)? Yes	s [		No 🗆		NA 🗹	
=====	=======	=====	_	===	===:	======		======
Client contacted:		Date contacted:				Contacted	by:	
0								

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Telephone: 877-252-9262 Fax: 925-252-9269

Pangea Environmental Svcs., Inc.	Client Project ID: #1135.01; Douglas Parking	Date Sampled: 12/14/07
1710 Franklin Street, Ste. 200		Date Received: 12/14/07
Oakland, CA 94612	Client Contact: Greg Bentley	Date Extracted: 12/14/07-12/15/07
Salamo, 5117 1012	Client P.O.:	Date Analyzed: 12/14/07-12/15/07

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

Analytical methods: SW8021B/8015Cm Extraction method: SW5030B Work Order: 0712494

Extracti	on method: SW5030B		Analy	tical methods: SV	/8021B/8015Cm			Work Order	: 0712	494
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
						1				
	porting Limit for DF =1; means not detected at or	A	25	2.5	0.25	0.25	0.25	0.25	1	μg/L
	ove the reporting limit	S	NA	NA	NA	NA	NA	NA	1	mg/Kg

	ND means not detected at or		23	2.3	0.23	0.23	0.23	0.23	1	μg/L
	above the reporting limit	S	NA	NA	NA	NA	NA	NA	1	mg/Kg
*	water and vapor samples are reported	d in μg/L,	soil/sludge/solid	samples in mg/l	kg, wipe sample	es in µg/wipe, pı	roduct/oil/non-ac	queous liquid sar	nples ir	1

<sup>#</sup> cluttered chromatogram; sample peak coelutes with surrogate peak.

<sup>+</sup>The following descriptions of the TPH chromatogram are cursory in nature and McCampbell 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.



mg/L.

"When Ouality Counts"

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

Pangea Environmental Svcs., Inc.	Client Project ID: #1135.01; Douglas	Date Sampled: 1	12/14/07
1710 Franklin Street, Ste. 200	Parking	Date Received: 1	12/14/07
Oakland, CA 94612	Client Contact: Greg Bentley	Date Extracted: 1	12/14/07-12/15/07
	Client P.O.:	Date Analyzed: 1	12/14/07-12/15/07

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

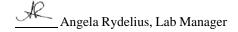
Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0712494

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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
						1			1	1

ppm (mg/L) to p	pmv (ul/	L) conversion f	or TPH(g) assur	nes the molecula	ar weight of gas	oline to be equa	l to that of hexa	ne.	
Reporting Limit for DF =1;	A	7.0	0.68	0.077	0.065	0.057	0.057	1	uL/L
ND means not detected at or above the reporting limit	S	NA	NA	NA	NA	NA	NA	1	mg/Kg

<sup>\*</sup> vapor samples are reported in  $\mu$ L/L, soil/sludge/solid samples in mg/kg, wipe samples in  $\mu$ g/wipe, product/oil/non-aqueous liquid samples in mg/L, water samples and all TCLP & SPLP extracts are reported in  $\mu$ g/L.

<sup>+</sup>The following descriptions of the TPH chromatogram are cursory in nature and McCampbell 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.



<sup>#</sup> cluttered chromatogram; sample peak coelutes with surrogate peak.

QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Air QC Matrix: Water WorkOrder: 0712494

EPA Method SW8021B/8015Cm	BatchID: 32583 Spiked Sample ID: 0712491-001A							1A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	Criteria (%)	
Analyte	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	I 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	I 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.

