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Complete	ed by:	Robert F	OSS [Please Print]		Signed:		0	ben Joss

With respect to:

Groundwater Monitoring Report - FIRST 2011 SEMI-ANNUAL Dated May Z, 2011
Fuel Leak Case No. R00000266

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

Estate of A. Bacharach/Barbara Jean Borsuk

Date



# FIRST 2011 SEMI-ANNUAL GROUNDWATER MONITORING REPORT

ALLRIGHT PARKING 1432 HARRISON STREET OAKLAND, CALIFORNIA

FUEL LEAK CASE NO. RO0000266

Prepared by: Conestoga-Rovers & Associates

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MAY 2, 2011 REF. NO. 540188 (11)

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### 1.0 INTRODUCTION

On behalf of the Estate of A. Bacharach/Barbara Jean Borsuk, Conestoga-Rovers & Associates (CRA) has prepared this *First 2011 Semi-Annual Groundwater Monitoring Report* for the site located at 1432 Harrison Street in Oakland, California (Figure 1). Presented in this report are the first 2011 semi-annual groundwater monitoring activities/results and activities anticipated for the second 2011 semi-annual event. Work is performed under the regulatory oversight of Alameda County Environmental Health (ACEH).

Figure 2 presents groundwater elevation contours calculated from depth to water measurements, and reported hydrocarbon concentrations from the February 18, 2011 field activities. Table 1 provides well construction details. Table 2 presents recent and historical depth to water measurements, analytical data and light non-aqueous phase liquid (LNAPL, previously referred to as SPH) observations and measurements. Appendix A contains field data sheets of this sampling event. Appendix B contains CRA's *Standard Field Procedures for Groundwater Monitoring and Sampling*. Appendix C contains the laboratory analytical report of sample results and Appendix D contains benzene concentrations and depth to water time-series graphs.

# 1.1 SITE INFORMATION

Site Address 1432 Harrison Street, Oakland

Site Use Parking Facility

Client and Contact The Estate of A. Bacharach/

Barbara Jean Borsuk

Contact: Mark Borsuk, Esq.

Consultant and Contact Person CRA, Robert Foss, P.G.

**Lead Agency and Contact Person** ACEH, Jerry Wickham, P.G.

# 2.0 SITE ACTIVITIES AND RESULTS

### 2.1 <u>CURRENT MONITORING/SAMPLING EVENT ACTIVITIES</u>

### 2.1.1 FIELD ACTIVITIES

CRA coordinated with Muskan Environmental Sampling (MES) to conduct monitoring and sampling activities on February 18, 2011. MES measured depth to water and inspected each well for the presence of LNAPL. LNAPL was observed in the well casing of MW-2 at a measured thickness of 0.38 feet. Groundwater samples were collected from wells MW-1 and MW-3 through MW-6. Well MW-1 was redeveloped on September 24, 2010. Well redevelopment removed a large volume of silt from the well casing. On February 18, a sufficient amount of groundwater was present, allowing gauging and collection of a groundwater sample. The measured groundwater elevation in well MW-1 was anomalously low, relative to nearby wells. Consequently, this well was not used in groundwater elevation contouring. Groundwater monitoring field data sheets are included in Appendix A. Field activities were conducted in accordance with CRA's *Standard Field Procedures for Groundwater Monitoring and Sampling*, included as Appendix B.

Micropurge sampling protocols were implemented during the third quarter of 2010. These procedures are documented, as referenced above, in Appendix B. Prior to sampling, groundwater levels were measured and each well was purged by placing the intake tube of a clean peristaltic pump approximately 1 foot below the initial water level. Depth of groundwater was again measured prior to low-flow purging, during purging, at termination of purging, and immediately prior to sample collection. Temperature, pH, specific conductance, oxygen reduction potential (ORP) and dissolved oxygen (DO) were measured initially and at regular volume intervals. Well purging continued until consecutive pH, specific conductance and temperature measurements were relatively stable. Field measurements, purge volumes and sample collection data were recorded on field sampling data forms, presented in Appendix A.

Groundwater samples were collected from each well using a clean peristaltic pump. The samples were collected in 40-milliliter (mL) glass volatile organic analysis (VOA) vials and 1-liter amber glass containers supplied by McCampbell Analytical, Inc. (McCampbell) of Pittsburg, California. Sample containers were labeled, sealed in a plastic bag, placed on ice in a chilled cooler and delivered to McCampbell, a State-certified laboratory. Field water quality measurements, purge volumes, and sample collection data were recorded on field sampling data sheets. The chain-of-custody (COC) used for this monitoring event is provided in Appendix C.

To minimize the potential for cross-contamination, the groundwater monitoring equipment was decontaminated prior to being deployed in the first monitoring well and between successive wells. The probe of the well sounder used for water level measurements was rinsed thoroughly with distilled water prior to its first use and between subsequent water level measurements. The tubing for the peristaltic pump was discarded after use at each well.

# 2.1.2 <u>SAMPLE ANALYSIS</u>

Groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) and benzene, toluene, ethylbenzene and xylenes (BTEX) by modified EPA Method 8015/8021, and methyl tertiary butyl ether (MTBE) by EPA Method 8260. All analyses were performed by McCampbell. The laboratory analytical report is included as Appendix C. Hydrocarbon concentrations are summarized on Figure 2 and presented in Table 2. The analytical data have been uploaded to the GeoTracker database.

# 2.2 <u>CURRENT MONITORING/SAMPLING EVENT RESULTS</u>

**Groundwater Flow Direction** North

Hydraulic Gradient 0.002

Range of Depth to Water

**Measurements From Top of Casing** 18.79 to 20.74 feet

Presence of Measureable Light

Non-Aqueous Phase Liquid (LNAPL)? Yes

# 2.2.1 GROUNDWATER FLOW DIRECTION

Based on depth-to-water measurements from the February 18, 2011 site visit, the calculated flow direction of groundwater beneath the site is toward the north at an approximate gradient of 0.002. This flow direction and gradient are generally consistent with conditions observed during previous monitoring events. Groundwater elevation data is summarized on Figure 2 and presented in Table 2.

# 2.2.2 HYDROCARBON DISTRIBUTION IN GROUNDWATER

Hydrocarbon concentrations were detected in wells MW-1, MW-4 and MW-5, and are assumed to be at saturation levels in well MW-2 based on the presence of LNAPL. The highest TPHg and benzene concentration were detected at 15,000 micrograms per liter  $(\mu g/L)$  and 1,600  $\mu g/L$ , respectively, in well MW-1. Benzene, toluene, ethylbenzene and xylenes were also detected in wells MW-4 and MW-5 at varying concentrations. MTBE was not reported above laboratory detection limits in any of the wells. The detections of TPHg and BTEX compounds were consistent with historical concentrations in all wells except for well MW-5. TPHg and BTEX concentrations in well MW-5 had been consistently increasing since 2004 to maximum concentrations of 57,000 µg/L TPHg and 16,000 μg/L benzene, in March 2010. Reported concentrations from the first 2011 semiannual event exhibited a two order of magnitude decrease from the previous highs of March 2010. This concentration decrease does not appear to be related to groundwater elevation in the well, as samples collected at previous similar elevation levels have shown no decreased dissolved concentrations. Well MW-5 will continue to be monitored and samples analyzed to determine if the greatly reduced concentrations are anomalous. Table 2 documents dissolved hydrocarbon concentrations in the wells and Appendix D contains benzene concentration trend graphs for wells MW-1 through MW-6.

## 2.3 PROPOSED ACTIVITIES FOR THE SECOND HALF OF 2011

# 2.3.1 <u>ADDITIONAL SITE CHARACTERIZATION ACTIVITIES</u>

CRA has submitted the required encroachment and excavation permit applications to the Engineering Department of the City of Oakland Office of Community and Economic Development for approval. Based on conversations with this office, CRA estimates that the permits will be granted by late May 2011. Upon acquisition of the necessary permits, CRA will implement the approved scope of work, including the installation of one monitoring well, up to five soil borings along Harrison Street and four soil vapor probes within the basement of 1445 Harrison Street. After the completion of fieldwork, CRA will summarize investigation activities and results in an Additional Offsite Characterization Report.

# 2.3.2 MONITORING ACTIVITIES

The second 2011 semi-annual groundwater monitoring and sampling event will be scheduled for September 2011. All wells will be gauged and sampled during this event. MES will gauge depth to water and check each well for the presence of LNAPL. Groundwater samples will be collected from wells not containing LNAPL for analysis by EPA Method 8015/8021. Groundwater monitoring and sampling results will be uploaded to the State's GeoTracker database. CRA will summarize groundwater monitoring activities and results in the Second 2011 Semi-Annual Groundwater Monitoring Report.

# 2.3.3 RECOMMENDED REDUCTION OF SAMPLE ANALYSES

Groundwater samples have previously been analyzed for MTBE by EPA Method 8260B. Reported results of MTBE analysis have consistently been below detection limits. CRA recommends that analysis of MTBE be eliminated in future sampling events.

# All of Which is Respectfully Submitted, CONESTOGA-ROVERS & ASSOCIATES

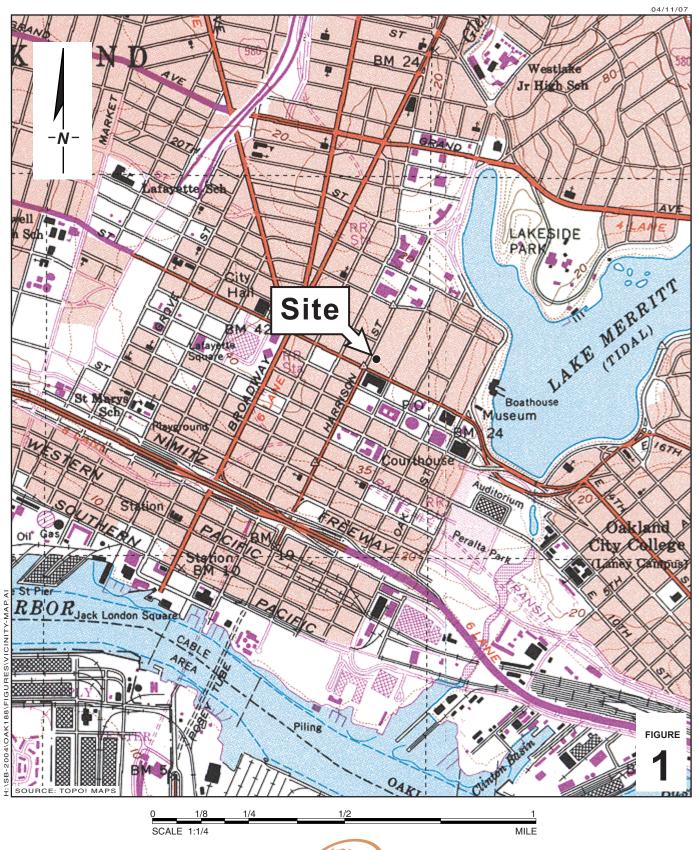
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Robert Foss, P.G. #7445

No. 7445

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# **FIGURES**

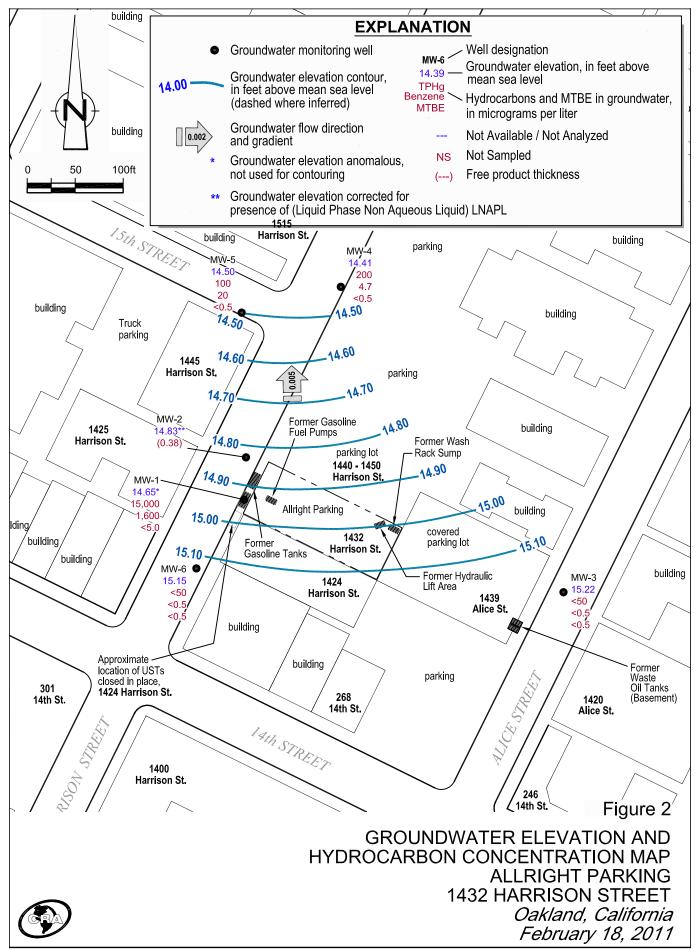


**Allright Parking** 

1432 Harrison Street Oakland, California



**Vicinity Map** 



**TABLES** 

TABLE 1 Page 1 of 1

# WELL CONSTRUCTION DETAILS ALLRIGHT PARKING 1432 HARRISON STREET OAKLAND, CALIFORNIA

Well No.	<b>Installation</b> Date	Total Depth (ft-bgs)	Boring Diameter (inch)	Well Diameter (inch)	Screen Size (inch)	Screened Interval (ft-bgs)	Sand Pack Interval (ft-bgs)	Surface Seal (ft-bgs)	TOC Elevation (ft-msl)
MW-1	1/12/1994	27	12	4	0.020	16-26.5	14.5-27	0-14.5	35.37
MW-2	7/30/1994	26		2	0.010	11-26	9-26	0-9	35.21
MW-3	7/30/1994	25		2	0.010	15-25	13-25	0-13	34.01
MW-4	10/2/1996	25	8	2	0.010	15-25	13-25	0-13	33.75
MW-5	10/2/1996	30	8	2	0.010	14-29	12-30	0-12	34.63
MW-6	10/2/1996	30.5	8	2	0.010	14-29	12-30	0-12	35.89
VES-1 (VE) VES-1 (AS)	7/23/1999	30	8	3 1	0.020 0.020	5-20 28-30	4.5-20 27.5-30	0-5 0-27.5	 
VES-2 (VE) VES-2 (AS)	7/22/1999	29.5	8	3 1	0.020 0.020	5-20 27.5-29.5	4-20 27-29.5	0-4 0-27	 
VES-3 (VE) VES-3 (AS)	7/23/1999	30	8	3 1	0.020 0.020	5-20 28-30	4-20 25-30	0-4 0-25	 
VES-4 (VE) VES-4 (AS)	7/23/1999	29	8	3 1	0.020 0.020	5-20 27-29	4-20 26.5-28.5	0-4 0-26.5	 
SV-3	8/31/2009	5.5	3	1/4	probe	4.8-5.3	4.5-5.5	0.5-4.5	
SV-4	8/31/2009	5.75	3	1/4	probe	4.8-5.3	4.5-5.75	0.5-4.5	
SV-5	8/31/2009	5.5	3	1/4	probe	4.8-5.3	4.5-5.5	0.5-4.5	
SV-6	8/31/2009	5.5	3	1/4	probe	4.8-5.3	4.5-5.5	0.5-4.5	
SV-7	8/31/2009	5.75	3	1/4	probe	4.8-5.3	4.5-5.75	0.5-4.5	
SV-8	8/31/2009	5.5	3	1/4	probe	4.8-5.3	4.5-5.5	0.5-4.5	

Notes:

ft-bgs Feet below ground surface ft-msl Feet above mean sea level

-- Not surveyed
VE Vapor extraction
AS Air sparge
SV Soil Vapor Well

TABLE 2

Well ID Sample ID TOC (ft amsl)	Date	Depth to Groundwater (ft below TOC)	LNAPL Thickness (feet)	Groundwater Elevation (ft amsl)	TPHg ←	Benzene	Toluene ——— (μg	Ethylbenzene /L) —	Xylenes	MTBE →>	Notes
Monitoring We	all Sample Res	ulter	•	•							
MW-1	8/1/1994				170,000	35,000	51,000	2,400	13,000		
34.95	12/21/1994	19.53		15.42	180,000	41,000	64,000	3,100	100,000		
54.55	3/13/1995	18.66		16.29	150,000	31,000	45,000	2,500	17,000		
	6/27/1995	18.20		16.75	71,000	17,000	18,000	1,600	7,700		
	7/7/1995	18.35		16.60	71,000	17,000	18,000	1,600	7,700		
	9/28/1995	18.20		16.75	110,000	27,000	34,000	1,700	14,000		
	12/20/1995	19.96		14.99	120,000	33,000	43,000	2,300	15,000		
	3/26/1996	19.27		15.68	140,000	29,000	36,000	1,900	13,000	<200*	d
	6/20/1996	18.64		16.31	110,000	30,000	38,000	2,200	13,000	<200*	
	9/26/1996	19.35		15.60	170,000	28,000	40,000	2,200	15,000	ND**	
	10/28/1996	19.58		15.37							
	12/12/1996	19.68		15.27	110,000	36,000	47,000	2,500	16,000	ND*	
	3/31/1997	18.80		16.15	160,000	24,000	39,000	1,900	13,000	ND*	
	6/27/1997	19.26		15.69	130,000	25,000	36,000	2,000	14,000	ND*	
	9/9/1997	19.70		15.25	99,000	22,000	27,000	1,600	13,000	270*	
	12/18/1997	19.25		15.70	160,000	30,000	44,000	2,200	15,000	ND***	
	3/12/1998	17.52		17.43	190,000	20,000	49,000	2,500	18,000	ND***	
	6/22/1998	18.63		16.32	90,000	19,000	40,000	2,100	16,000		
	9/18/1998	18.60		16.35	190,000	29,000	48,000	2,400	17,000		
	12/23/1998	19.18		15.77	140,000	24,000	44,000	2,000	8,200		
	3/29/1999	18.52		16.43	181,000	22,200	40,100	1,844	12,200		
	6/23/1999	18.60		16.35	80,000	20,000	33,000	1,600	11,000		
	9/24/1999	19.05		15.90	117,000	15,100	20,700	1,550	11,800		
	12/23/1999	19.95		15.00	186,000	25,900	39,000	1,990	12,400		
	3/21/2000	18.48		16.47	210,000	35,000	42,000	2,200	13,000	<3,000	a
	7/3/2000	18.95		16.00	200,000	33,000	46,000	2,200	15,000	<200*	a
	9/7/2000	19.45	Sheen Field	15.50							
	12/5/2000	19.90		15.05	220,000	42,000	57,000	2,700	17,000	<200	a
	3/6/2001	18.20		16.75	180,000	27,000	39,000	2,000	13,000	<1200* /<20***	a,l
	6/8/2001	20.14		14.81	170,000	28,000	40,000	1,900	13,000	<200	a
	8/27/2001	21.19		13.76	130,000	24,000	33,000	1,600	11,000	<350	a
	10/25/2001	21.74		13.21	160,000	22,000	28,000	1,500	10,000	<350	a
	3/1/2002	21.39	0.41	13.84 <sup>x</sup>							
	6/10/2002	22.30		12.65	210,000	30,000	51,000	3,100	22,000	<1,000*	a
34.96	9/3/2002	21.40		13.56	2,500,000	31,000	170,000	29,000	170,000	2,500,000*	a
	12/22/2002	20.50	Lab	14.46	89,000	2,600	9,300	530	28,000	<1,700	a,m
	1/23/2003	18.57	Sheen Lab	16.39	130,000	600	1,600	<100	41,000	<50***	a,b,l
	6/12/2003	19.10	0.07	15.91 <sup>x</sup>							
25 274	7/23/2003	19.42	0.07	15.59 <sup>x</sup> 18.29 <sup>x</sup>							
35.37#	12/22/2003	17.09	0.01		 22.000	100	250	 <10	 E 100	 <100	
	3/10/2004	13.82		21.55	22,000	190	250	<10	5,100	<100	a,c
	6/16/2004	14.75	Sheen Field	20.62	2,700	23	160	13	520	<25 <10***	a
	9/27/2004	18.02		17.35	27,000	580 2.5	2,000	56	6,800		a,m
	12/22/2004	11.25		24.12	250	3.5	18	<0.5	47	<0.5***	a,m
34.96##	3/3/2005 6/9/2005	14.42 17.80		20.95 17.16	320	5.2 	13	3.2	46	<5.0 	a +
34.30ππ	9/9/2005	18.26		16.70							+
	12/20/2005	18.68		16.28							+
	3/26/2006	16.96		18.00	23,000	270	400		4,400	<b>&lt;</b> 50	
	6/23/2006	17.55		17.41	30,000	340	680	65 170	6,900	<500	a a,m
	9/7/2006	18.53		16.43	34,000	540	630	190	7,000	<500	a,III
	12/29/2006	19.43	Sheen Field	15.53	20,000	550	55	130	4,700	<100*/<0.5***	a,m
	3/21/2007	18.92	Sheen Field	16.04	23,000	910	210	140	5,900	<250*	a
	6/7/2007	19.22	Sheen Field	15.74	24,000	680	61	190	4,300	<100*	a,b
	9/28/2007	20.19	Jucen	14.77							+
	12/9/2007	20.40		14.56		 				 	+
	3/3/2008	19.16	Sheen Lab	15.80	10,000	510	28	<10	1,700	<2.5***	a,b,m,l
	, ,								,		

TABLE 2

Well ID Sample ID TOC (ft amsl)	Date	Depth to Groundwater (ft below TOC)	LNAPL Thickness (feet)	Groundwater Elevation (ft amsl)	TPHg <b>←</b> —	Benzene	<b>Toluene</b> ——— (μ <sub>8</sub> ,	Ethylbenzene (L) —	Xylenes	MTBE →>	Notes
	6/4/2008	20.05		14.91							
MW-1 cont.	9/9/2008	20.40		14.56							
	12/5/2008	20.42		14.54							
	3/2/2009	20.39		14.57							
	9/15/2009	Well Dry									
	3/1/2010	Well Dry									
	9/7/2010	Well Dry									
	2/18/2011	20.31		14.65	15,000	1,600	25	<10	1,400	<5.0***	a,l
MW-2	8/1/1994				130,000	28,000	35,000	3,000	12,000		
35.18	12/21/1994	19.91		15.27	200	140,000	200,000	3,500	22,000		
	3/13/1995	19.15		16.03	500	9,200	23,000	7,000	36,000		
	6/27/1995	18.74		16.44	120,000	23,000	30,000	2,700	13,000		
	7/7/1995	18.80		16.38	120,000	23,000	30,000	2,700	13,000		
	9/28/1995	19.30		15.88	110,000	23,000	29,000	2,500	11,000		
	12/20/1995	20.24		14.94	83,000	980	1,800	2,200	10,000		
	3/26/1996	19.69		15.49	150,000	23,000	32,000	2,800	12,000	<200*	d
	6/20/1996	19.20		15.98	94,000	15,000	23,000	2,400	12,000	<200*	
	9/26/1996	19.80		15.38	150,000	20,000	29,000	2,800	12,000	ND**	
	10/28/1996	20.18		15.00							
	12/12/1996	20.17		15.01	58,000	3,100	11,000	1,700	8,100	220*	
	3/31/1997	19.67		15.51	38,000	6,000	7,900	690	3,300	ND*	
	6/27/1997	19.68		15.50	62,000	13,000	16,000	1,300	6,000	ND*	
	9/9/1997	20.20		14.98	81,000	16,000	18,000	1,800	8,600	ND***	
	12/18/1997	19.80		15.38	110,000	18,000	26,000	2,200	9,500	ND***	
	3/12/1998	18.07		17.11	120,000	16,000	26,000	2,200	9,400	ND***	
	6/22/1998	18.29		16.89	38,000	9,800	9,500	1,500	6,000		
	9/18/1998	19.09		16.09	68,000	12,000	16,000	1,400	5,900		
	12/23/1998	19.67		15.51	180,000	16,000	22,000	2,200	8,300		
	3/29/1999	18.97		16.21	16,600	1,380	1,920	373	1,840		
	6/23/1999	18.25		16.93	41,000	10,000	9,400	1,100	5,000		
	9/24/1999	19.60		15.58	40,600	4,880	3,490	1,090	4,560		
	12/23/1999	20.21		14.97	61,900	6,710	9,320	1,150	5,360		
	3/21/2000	18.93		16.25	98,000	14,000	21,000	1,600	6,900	<1600	a
	7/3/2000	19.38		15.80	140,000	18,000	33,000	2,600	11,000	<200*	a
	9/7/2000	19.83		15.35	110,000	17,000	21,000	2,200	9,700	<100***	a,l
	12/5/2000	20.30		14.88	130,000	19,000	28,000	2,500	11,000	<200	a
	3/6/2001	19.57		15.61	32,000	3,400	3,400	580	2,500	<200	a
	6/8/2001	20.59		14.59	72,000	9,400	9,200	1,300	5,800	<200	a
	8/27/2001	21.79		13.39	110,000	17,000	28,000	2,600	11,000	<950	a
	10/25/2001	22.05		13.13	110,000	15,000	18,000	2,000	8,700	<350	a
	3/1/2002	21.80		13.38	3,100	370	180	62	330	<5.0*	a
	6/10/2002	22.83		12.35	7,800	2,000	1,100	76	570	<100*	a
35.21	9/3/2002	22.03		13.18	21,000	2,400	2,900	320	1,400	< 500	a
	12/22/2002	22.70		12.51	630	48	56	19	82	< 5.0	a
	1/23/2003	20.49		14.72	1,100	27	32	19	150	<25	a
	6/12/2003	21.03		14.18	10,000	2,100	1,600	150	660	<250	a
	7/23/2003	21.40		13.81	28,000	4,800	4,800	380	1,700	< 500	a
	12/22/2003	19.33		15.88	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	
	3/10/2004	19.33		15.88	3,100	460	290	38	240	< 50	a
	6/16/2004	19.90		15.31	9,100	1,600	1,200	220	830	<400	a
	9/27/2004	22.08		13.13	14,000	2,800	490	340	1,600	<350	a
	12/22/2004	21.74		13.47	1,100	300	28	22	71	<15	a
	3/3/2005	19.60		15.61	340	12	4.4	9.1	28	<10	a
	6/9/2005	18.65		16.56	240	22	2.7	6.4	27	<10	a
	9/9/2005	19.27		15.94	7,800	1,100	170	380	690	<160	a
	12/20/2005	19.70		15.51	150	10	1.9	2.8	10	< 5.0	a
	3/26/2006	18.51		16.70	2,200	93	19	66	130	<50	a

TABLE 2

Well ID Sample ID TOC (ft amsl)	Date	Depth to Groundwater (ft below TOC)	LNAPL Thickness (feet)	Groundwater Elevation (ft amsl)	TPHg ←	Benzene	<b>Toluene</b> (μg/	Ethylbenzene L) ————	Xylenes	<i>МТВЕ</i> >	Notes
	6/23/2006	18.47		16.74	8,800	1,600	110	500	480	<500	a,m
	9/7/2006	18.97		16.24	29,000	4,800	280	940	1,000	<500	a
MW-2 cont.	12/29/2006	19.76		15.45	4,500	720	54	250	480	75* <sup>1</sup> /<0.5***	a
WWV-2 COIII.	3/21/2007	19.59		15.62	34,000	9,100	500	890	2,500	<1,100*	a
	6/7/2007	19.74	Sheen Lab	15.47	46,000	7,100	410	870	2,400	<800*	a,b
	9/28/2007	20.23		14.98	44,000	9,400	630	1,400	3,600	<0.5***	a,b
	12/9/2007	20.68		14.53	37,000	8,400	550	1,400	4,500	<17***	a,l
	3/3/2008	20.11		15.10	40,000	7,700	490	1,400	4,400	<17***	a,ı a,l
	6/4/2008	20.40		14.81	56,000	7,400	600	1,500	4,100	<25***	a,i a,j
	9/9/2008	20.40		14.36	65,000	7,400	510	1,700	4,700	<25***	a,j a,l
	12/5/2008	20.83		14.30		accessible —	510	1,700	4,700	~25	a,ı
	3/2/2009	-				accessible —					
	9/15/2009	21.22		13.99	48,000	6,400	600	1,900	2,800	<2.5***	a,l
	3/1/2010	21.00	0.22	14.39	40,000			Ouring Purging		<b>~</b> 2.5	a,ı 
	9/7/2010	20.71	0.29	14.73	•			Ouring Purging			
	2/18/2011	20.68	0.38	14.83				Ouring Purging			
	, , ,								,	·	
MW-3	8/1/1994				<50	< 0.5	< 0.5	< 0.5	<2.0		
33.97	12/21/1994	18.82		15.15	<50	< 0.5	< 0.5	< 0.5	< 0.5		
	3/13/1995	17.86		16.11	<50	< 0.5	< 0.5	< 0.5	< 0.5		e
	7/7/1995	18.25		15.72							f,g
	9/28/1995	18.00		15.97							h
	12/20/1995	18.74		15.23							
	3/26/1996	18.25		15.72							
	6/20/1996	18.35		15.62							
	9/26/1996	19.12		14.85							
	10/28/1996	19.11		14.86							
	12/12/1996	18.61		15.36							
	3/31/1997	18.35		15.62							
	6/27/1997	18.81		15.16							
	9/9/1997	19.18		14.79							
	12/18/1997	18.64		15.33							
	3/12/1998	17.56		16.41							
	6/22/1998	18.64		15.33							
	9/18/1998	18.33		15.64							
	12/23/1998	18.60		15.37							
	3/29/1999	17.85		16.12							
	6/23/1999	18.67		15.30							
	9/24/1999	18.64		15.33							
	12/23/1999	19.32		14.65							
	3/21/2000	17.89		16.08							
	7/3/2000	18.40		15.57							
	9/7/2000	18.75		15.22							
34.01	12/5/2000	19.03		14.94	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	3/6/2001	18.12		15.85	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	6/8/2001	20.02		13.95	<50	<0.5	<0.5	<0.5	< 0.5	<5.0	
	8/27/2001	21.09		12.88	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	10/25/2001	21.29		12.68	<50	<0.5	< 0.5	<0.5	<0.5	<5.0	
	3/1/2002	21.14		12.83	<50	<0.5	<0.5	<0.5	< 0.5	<5.0*	
	6/10/2002	21.99		11.98	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	
	9/3/2002	21.17		12.84							
	12/22/2002	21.94		12.07	 -E0		 -0.5			 -E 0	
	1/23/2003	20.08		13.93	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	6/12/2003	20.95		13.06							
	7/23/2003	21.28		12.73							
	12/22/2003	19.05		14.96	 -E0						
	3/10/2004	18.22		15.79	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	6/16/2004	18.82		15.19							

TABLE 2

Well ID Sample ID TOC (ft amsl)	Date	Depth to Groundwater (ft below TOC)	LNAPL Thickness (feet)	Groundwater Elevation (ft amsl)	TPHg ←—	Benzene	Toluene ——— (μg/L	Ethylbenzene	2 Xylenes	MTBE →	Notes
	0./27./2004	21.02		12.00							
	9/27/2004	21.03 20.69		12.98 13.32							
	12/22/2004			16.07	 -E0				 -0 E	 <5.0	
MW-3 cont.	3/3/2005 6/9/2005	17.94 18.00		16.07	<50 	<0.5 	<0.5 	<0.5	<0.5 	<5.0 	
ww-5 cont.	9/9/2005	18.43		15.58						 	
	12/20/2005	18.18		15.83						 	
	3/26/2006	17.42		16.59	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	6/23/2006	17.77		16.24							
	9/7/2006	18.20		15.81							
	12/29/2006	18.49		15.52							
	3/21/2007	18.44		15.57	< 50	< 0.5	< 0.5	< 0.5	< 0.5	<5.0*	
	6/7/2007	18.68		15.33							
	9/28/2007	19.19		14.82							
	12/9/2007	19.31		14.70							
	3/3/2008	18.68		15.33	<50	<0.5	<0.5	<0.5	< 0.5	<0.5***	
	6/4/2008	19.11		14.90							
	9/9/2008	19.65		14.36							
	12/5/2008	19.96		14.05							
	3/2/2009	19.19		14.82	<50	<0.5	<0.5	< 0.5	< 0.5	<0.5***	
	9/15/2009 3/1/2010	19.90 19.20		14.11 14.81	 <50	<0.5	 <0.5	 <0.5	<0.5	<0.5***	
	9/7/2010	19.43		14.51	<b></b>		~0.5 	~0.5 	~0.5 		
	2/18/2011	18.79		15.22	<50	<0.5	<0.5	<0.5	<0.5	<0.5***	
	410/2011	10.75		10.22	450	40.0	10.5	40.0	40.5	10.0	
MW-4	10/28/1996	19.32		14.43	10,000	3,900	420	400	360	<200*	n
33.75	12/12/1996	19.42		14.33	11,000	4,200	410	420	260	32*	
	3/31/1997	18.67		15.08	ND	ND	ND	ND	ND	ND*	
	6/27/1997	19.08		14.67	160	49	1.2	ND	5.9	ND*	
	9/9/1997	19.33		14.42	7,400	5,000	410	230	470	33*	
	12/18/1997	19.17		14.58	710	170	8.0	ND	39	ND***	
	3/12/1998	17.68		16.07	1,300	410	21	ND	57	ND***	
	6/22/1998	17.63		16.12	ND	ND	ND	ND	ND		
	9/18/1998	18.58		15.17	ND	42	1.6	ND	4.8		
	12/23/1998	19.01		14.74	1,900	1,000	76	50	120		
	3/29/1999	18.35		15.40	ND	ND	ND	ND	ND		
	6/23/1999	17.58 19.05		16.17 14.70	ND 0.150	ND 2.270	ND	ND 34	ND 537		
	9/24/1999 12/23/1999	19.05 19.41		14.34	9,150	3,270	131 275	34 424	537 592		
	3/21/2000	18.42		15.33	12,200 45,000	5,360 16,000	1,100	1,400	1,900	 1400* /<35***	 a,l
	7/3/2000	18.82		14.93	33,000	10,000	720	840	1,800	<200*	a,ı a
	9/7/2000	19.21		14.54	26,000	8,800	800	740	1,500	<50***	a,c,l
	12/5/2000	19.60		14.15	41,000	11,000	840	930	1,900	<200	a
	3/6/2001	18.24		15.51	1,100	400	5.7	<0.5	20	<5.0	a
	6/8/2001	20.91		12.84	92	19	<0.5	< 0.5	1	<5.0	a
	8/27/2001	21.63		12.12	49,000	17,000	1700	1,700	3,200	<260	a
	10/25/2001	21.70		12.05	57,000	16,000	1,500	1,600	2,600	<300	a
	3/1/2002	21.53		12.22	400	140	2.3	< 0.5	12	<5.0*	a
	6/10/2002	22.23		11.52	<50	2.5	< 0.5	< 0.5	< 0.5	<5.0*	
	9/3/2002	21.85		11.90	31,000	9,700	300	650	1,100	<1,000	a
	12/22/2002	22.39		11.36	35,000	13,000	310	1,100	1,800	<1,500	a
	1/23/2003	20.61		13.14	51,000	18,000	430	1,500	2,200	<5.0***	a,l
	6/12/2003	21.20		12.55	80	12	< 0.5	< 0.5	1.0	<10	a
	7/23/2003	21.51		12.24	20,000	7,600	100	65	660	<250	a
	12/22/2003	19.60		14.15	26,000	9,500	200	380	1,100	<150	a
	3/10/2004	18.81		14.94	14,000	4,800	150	320	530	<400	a
	6/16/2004	19.32		14.43	2,800	1,100	24	17	100	<50	a
	9/27/2004	21.45		12.30	45,000	16,000	260	1,700	2,000	<25***	a 
	12/22/2004	21.15		12.60	29,000	10,000	160	890	1,200	<5.0***	a,j

TABLE 2

Well ID Sample ID TOC (ft amsl)	Date	Depth to Groundwater (ft below TOC)	LNAPL Thickness (feet)	Groundwater Elevation (ft amsl)	TPHg ←—	Benzene	Toluene ——— (μg/L	Ethylbenzene ) ————	Xylenes	MTBE >	Notes
	2 /2 /2005	19.70		15 15	10 000	6.400	00	E00	(10	<b>~</b> (00	_
	3/3/2005	18.60 18.11		15.15 15.64	18,000	6,400	98	500	610 580	<600 <500	a
	6/9/2005				20,000	6,100	110	460			a
	9/9/2005	18.65		15.10	17,000	6,400	100	470	730	<250	a
N 4747 41	12/20/2005	19.01		14.74	26,000	8,500	160	640	800	<120	a
MW-4 cont.	3/26/2006	17.84		15.91	1,900	700	22	49	85 510	<50	a
	6/23/2006	17.96		15.79	12,000	3,400	130	370	510	260	a 
	9/7/2006	18.29		15.46	8,600	1,800	100	170	220	<210 <150*/<0.5***	a,i
	12/29/2006	18.93		14.82	4,200	1,100	120	150	280	<30*	a
	3/21/2007	18.76 18.92		14.99	550 85	30	2.0 <0.5	4.5 0.77	5.1 0.82	<5.0*	a
	6/7/2007	19.41		14.83 14.34		4.4 7.0	<0.5		< 0.5	<0.5***	a
	9/28/2007	19.41		13.89	140	7.0 4.5	<0.5	1.2 0.62	<0.5	<0.5	a
	12/9/2007	19.86			120		<0.5	<0.5	<0.5	<0.5***	a :
	3/3/2008 6/4/2008	19.58		14.53 14.17	63 86	0.78 2.2	<0.5	<0.5	0.58	<0.5***	i
	9/9/2008	20.01		13.74	460	9.4	0.95	3.1	19	<0.5***	a
	12/5/2008	20.01		13.46	290	4.3	1.4	3.0	14	<0.5***	a
	3/2/2009	19.86		13.46	520 520	4.3 6.0	2.2	5.0 6.5	9.2	<0.5***	a
	9/15/2009	20.23		13.52	370	2.2	1.1	2.8	3.3	<0.5***	a
	3/1/2010	19.70		14.05	220	1.8	<0.5	1.2	1.5	<0.5***	a a
	9/7/2010	19.55		14.20	320	1.6	0.83	2.4	2	<0.5***	a
	2/18/2011	19.34		14.41	200	4.7	0.52	2.4	2.0	<0.5***	a a
	2/16/2011	19.54		14.41	200	4.7	0.32	2,2	2.0	<b>~0.</b> 3	а
MW-5	10/28/1996	19.88		14.75	90	4.0	0.6	< 0.50	< 0.50	16*	
34.63	12/12/1996	20.09		14.54	230	5.6	0.9	ND	0.9	3.6*	n
	3/31/1997	19.24		15.39	90	3.1	ND	ND	ND	ND*	
	6/27/1997	19.16		15.47	ND	ND	ND	ND	ND	ND*	
	9/9/1997	19.93		14.70	ND	ND	ND	ND	ND	ND*	
	12/18/1997	19.77		14.86	ND	ND	ND	ND	ND	ND***	
	3/12/1998	19.77		14.86	79	2.3	ND	0.8	ND	ND*	
	6/22/1998	18.08		16.55	ND	ND	ND	ND	ND		
	9/18/1998	19.12		15.51	ND	ND	ND	ND	ND		
	12/23/1998	19.60		15.03	ND	0.8	0.9	ND	ND		
	3/29/1999	18.88		15.75	ND	ND	ND	ND	ND		
	6/23/1999	18.05		16.58	ND	ND	ND	ND	ND		
	9/24/1999	19.61		15.02	ND	ND	ND	ND	ND		
	12/23/1999	20.01		14.62	ND	ND	ND	ND	ND		
	3/21/2000	19.05		15.58	140	<0.5	<0.5	<0.5	<0.5	<5.0	
	7/3/2000	19.40		15.23	85	8.1	3.1	1.6	7.8	<5.0*	k
	9/7/2000	19.62		15.01	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	a
	12/5/2000	20.25		14.38	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	3/6/2001	19.07		15.56	91	5.5	<0.5	<0.5	<0.5	<5.0	
	6/8/2001	20.77		13.86	290	22.0	0.8	<0.5	<0.5	<5.0	
	8/27/2001	21.33		13.30	660	24.0	2.2	1.3	4.0	<25	a
	10/25/2001	21.62		13.01	55	3.5	<0.5	<0.5	<0.5	<5.0	a
	3/1/2002	21.49		13.14	200	1.9	0.69	<0.5	<0.5	<5.0*	a
	6/10/2002	22.15		12.48	<b>&lt;</b> 50	<0.5	<0.5	<0.5	<0.5	<5.0*	a
	9/3/2002	21.50		13.13	60	1.9	<0.5	<0.5	0.77	<5.0	
	12/22/2002	22.19		12.44	82	0.57	<0.5	0.68	<0.5	<5.0	a
	1/23/2003	20.27		14.36	<50	2.1	<0.5	<0.5	<0.5	<5.0	a
	6/12/2003	21.10		13.53	<50	0.88	<0.5	<0.5	<0.5	<5.0	
	7/23/2003	21.47		13.16	<50	4.0	<0.5	<0.5	<0.5	<5.0	
	12/22/2003	19.57		15.06	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	3/10/2004	19.61		15.02	990	200	2.9	4.0	20	<70	
	6/16/2004	20.15		14.48	250	42	<0.5	0.88	< 0.5	<35	a
	9/27/2004	22.14		12.49	1,600	140	4.8	45	18	<110	a
	12/22/2004	21.81		12.82	<50	5.3	<0.5	<0.5	0.66	<5.0	
	3/3/2005	19.35		15.28	2,000	330	4.4	63	39	<150	a
	6/9/2005	18.73		15.90	250	42	1.4	14	3.2	<5.0	a
	-, -,					<del>-</del>		=			

TABLE 2

Well ID Sample ID TOC (ft amsl)	Date	Depth to Groundwater (ft below TOC)	LNAPL Thickness (feet)	Groundwater Elevation (ft amsl)	TPHg ←—	Benzene	<b>Toluene</b> ——— (μg/l	Ethylbenzene	Xylenes	MTBE →>	Notes
	0/0/2005	10.20		1E 22	2 000	200	E 0	71	20	<100	_
	9/9/2005 12/20/2005	19.30 19.65		15.33 14.98	2,000	390 760	5.0 18	71 170	38	<400 <35	a
		18.58		16.05	4,300	460	3.3	35	150 32	<50	a
	3/26/2006				1,600						a
	6/23/2006	18.57		16.06	1,900	500	3.9	81	56	<17	a
N 4747 E	9/7/2006	18.98		15.65	8,800	1,900	12	350	220	<260	a,i
MW-5 cont.	12/29/2006	19.70		14.93	15,000	3,400	69	610	700	<450*/<0.5***	a
	3/21/2007	19.57		15.06	9,900	2,300	24	360	410	<240*	a
	6/7/2007	19.70		14.93	14,000	3,800	40	790	720	<550* <25***	a
	9/28/2007	20.16 20.56		14.47 14.07	26,000	7,200	84 59	1,100	1,600	<17	a,l
	12/9/2007			14.66	25,000	7,000		1,100 900	2,000	<10***	a,l
	3/3/2008 6/4/2008	19.97 20.32		14.31	30,000 7,500	6,200 1,600	31 4.6	900 25	1,400 91	<10***	a,l
	9/9/2008	20.32		13.88					1,700	<25***	a,j
	12/5/2008	21.08		13.55	54,000 33,000	8,900 9,200	76 43	1,300 1,500	1,800	<5.0***	a,l a,l
	3/2/2009	20.74		13.89	34,000	9,700	43	1,100	1,300	<5.0***	a,1 a,1
	9/15/2009	21.02		13.61	40,000	10,000	280	1,400	2,600	<2.5***	a,1 a,1
	3/1/2010	20.55		14.08	57,000	16,000	240	1,800	5,000	<10***	a,1 a,1
	9/7/2010	20.25		14.38	35,000	12,000	160	970	2,900	<25***	a,1 a,1
	2/18/2011	20.13		14.50	100	20	<0.5	0.74	10	<0.5***	a
	2/10/2011	20.13		14.50	100	20	<b>10.</b> 5	0.7 1	10	<b>~0.</b> 5	а
MW-6	10/28/1996	20.02		15.87	<50	< 0.50	<0.50	< 0.50	< 0.50	<2.0*	
35.89	12/12/1996	20.18		15.71	ND	ND	ND	ND	ND	ND*	n
	3/31/1997	19.81		16.08							
	6/27/1997	19.76		16.13							
	9/9/1997	20.06		15.83	ND	ND	ND	ND	ND	ND*	
	12/18/1997	19.90		15.99	ND	ND	ND	ND	ND		
	3/12/1998	18.00		17.89	ND	ND	ND	ND	ND	ND*	
	6/22/1998	18.43		17.46	ND	ND	ND	ND	ND		
	9/18/1998	19.10		16.79	ND	ND	ND	ND	ND		
	12/23/1998	19.61		16.28	ND	ND	ND	ND	ND		
	3/29/1999	18.92		16.97	ND	ND	ND	ND	ND		
	6/23/1999	18.41		17.48	ND	ND	ND	ND	ND		
	9/24/1999	19.61		16.28	ND	ND	ND	ND	ND		
	12/23/1999	20.30		15.59	ND	ND	ND	ND	ND		
	3/21/2000	18.97		16.92	<b>&lt;</b> 50	<0.5	<0.5	< 0.5	<0.5	<5.0	
	7/3/2000	19.46		16.43	59	5.1	2.3	1.1	5.3	<5.0*	
	9/7/2000	19.95		15.94	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	a
	12/5/2000	20.50		15.39	<50	<0.5	<0.5	< 0.5	< 0.5	<5.0	
	3/6/2001	19.54		16.35	<50	<0.5	<0.5	< 0.5	<0.5	<5.0	
	6/8/2001	20.92		14.97	<50	< 0.5	<0.5	<0.5	<0.5	<5.1	
	8/27/2001	21.37		14.52	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	10/25/2001	21.59		14.30	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	3/1/2002	21.33		14.56	<50	<0.5	<0.5	<0.5	<0.5	<5.0*	
	6/10/2002	21.97		13.92	<50	<0.5	<0.5	< 0.5	<0.5	<5.0*	
	9/3/2002	21.55		14.34	 -E0	 -0.5	 -0.5	 -0.5	 -0.5	 -E 0	
	12/22/2002	22.25		13.64	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	1/23/2003	20.47		15.42	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	6/12/2003	21.09		14.80							
	7/23/2003	21.42		14.47							
	12/22/2003	19.49		16.40	 -E0	 -0 F	 -0.5	 -0 F	 -0 F	 <= 0	
	3/10/2004	20.20		15.69	<50	<0.5	<0.5	<0.5	< 0.5	<5.0	
	6/16/2004	20.73		15.16							
	9/27/2004	22.88		13.01							
	12/22/2004	22.53		13.36	 -E0	 -0 F	 -0.5	 -0 F	 -0 F	 <= 0	
	3/3/2005	19.87 18.05		16.02	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	6/9/2005	18.95		16.94							
	9/9/2005	19.45		16.44							
	12/20/2005	19.90		15.99							

#### TABLE 2

#### GROUNDWATER ELEVATION AND ANALYTICAL DATA ALLRIGHT PARKING 1432 HARRISON STREET, OAKLAND, CALIFORNIA

W 11 ID		D. d.	13/4DI	100							
Well ID Sample ID	Date	Depth to Groundwater	LNAPL Thickness	Groundwater Elevation	ТРНд	Benzene	Toluene	Ethylbenzen	o Yulonos	MTBE	Notes
TOC (ft amsl)	Dute	(ft below TOC)	(feet)	(ft amsl)	11 11g ←—	Denzene	——— (μg/I	Lingivenzen L) ———	Aytenes	$\longrightarrow$	Notes
		•	·	•							
	3/26/2006	18.85		17.04	<50	<0.5	< 0.5	< 0.5	< 0.5	< 5.0	
	6/23/2006	18.57		17.32							
	9/7/2006	19.13		16.76							
	12/29/2006	19.96		15.93							
	3/21/2007	19.87		16.02	<50	<0.5	<0.5	< 0.5	<0.5	<5.0*	m
	6/7/2007	20.05		15.84							
MW-6 cont.	9/28/2007	20.51		15.38							
	12/9/2007	20.90		14.99							
	3/3/2008	20.47		15.42	<50	<0.5	<0.5	<0.5	<0.5	<0.5***	
	6/4/2008	20.70		15.19							
	9/9/2008	21.09		14.80							
	12/5/2008	21.50		14.39							
	3/2/2009	21.30		14.59	<50	<0.5	<0.5	< 0.5	< 0.5	<0.5***	
	9/15/2009	21.55		14.34							
	3/1/2010	21.20		14.69	<50	<0.5	< 0.5	< 0.5	<0.5	<0.5***	m
	9/7/2010	20.78		15.11							
	2/18/2011	20.74		15.15	<50	<0.5	<0.5	<0.5	<0.5	<0.5***	
Trip Blank	3/21/2000				<50	<0.5	<0.5	<0.5	<0.5	<5.0	
•	9/7/2000				<50	<0.5	< 0.5	< 0.5	<0.5	<5.0	
C1- C1-	1 C 1 - D	11									
Grab Groundy	-				220	16	2.6	1.0	4.0		
SB-A	7/6/1995	~20			330	16	3.6	1.3	4.9		i,j
SB-B	7/7/1995	~20			450	55	3.1	5.1	5.0		a
SB-C	7/6/1995	~20			44,000	6,600	5,900	980	4,400		a
SB-D	7/6/1995	~20			70,000	7,400	10,000	1,600	7,200		a
SB-E	7/6/1995	~20			25,000	1,000	3,000	610	2,700		a
SB-G	7/7/1995	~20			84,000	9,400	16,000	2,200	9,900		a,b
SB-I	7/7/1995	~20			24,000	6,100	1,400	680	1,600		a
SB-J	7/7/1995	~20			960	110	66	8.7	71		a
SB-K	7/7/1995	~20			72,000	9,600	9,600	1,800	7,000		a
CB-1-W	7/22/1999				110,000	1,300	16,000	2,700	12,000	<3000*	a,b,c
CB-2-W	7/22/1999				4,700	21	13	170	76	<50*	a,c
GW-1	7/30/1994				<50	<0.5	<0.5	<0.5	<2.0		
GW-2 ^	7/29/1994				<50	<0.5	<0.5	<0.5	<2.0		
GW-3 ^	7/29/1994	<del></del>			<50	<0.5	<0.5	<0.5	<2.0		

#### Abbreviations, Methods, & Notes

TOC = Top of casing elevation

ft amsl = feet above mean sea level

LNAPL = light non-aquesous phase liquid (previously referred to as SPH)

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method SW8015C

Benzene, toluene, ethylbenzene, and xylenes by EPA Method SW8021B

MTBE = Methyl tert-butyl eth\* = MTBE by EPA Method SW8021B

\*\* = MTBE by EPA Method SW8240

\*\*\* = MTBE by EPA Method SW8260

- 1 = Not confirmed with EPA Method 8260B.
- $\mu g/L$  = micrograms per liter, equivalent to parts per billion
- = Not sampled, not analyzed, not applicable, or no SPH was measured or observed <n = Not detected in sample above n mg/L
- ND = Not detected above laboratory detection limit
- x = Groundwater elevation adjusted for SPH by the relation:
  - Groundwater Elevation = TOC Elevation Depth to Groundwater + (0.7 x SPH thickness) k = No recognizable pattern.
- # = The wellhead elevation was raised by 0.41 feet when well MW-1 was connected to the SVE system on October 31, 2003.

- a = Unmodified or weakly modified gasoline is significant.
- b = Lighter than water immiscible sheen is present.
- c = Liquid sample that contains greater than ~2 vol. % sediment.
- d = MTBE result confirmed by secondary column or GC/MS analysis.
- e = Sample analyzed for purgeable hydrocarbons by EPA Method SW8010, no purgeable hydrocarbons were detected.
- f = Sample analyzed for VOCs by EPA Method SW8240, no non-BTEX compo were detected.
- g = Sample analyzed for Total Petroleum Hydrocarbons as motor oil (TPHmo Modified EPA Method SW8015, no TPHmo was detected.
- Analytic sampling discontinued. Approved by Alameda County Departn Environmental Health.
- i = Lighter gasoline range compounds are significant.
- j = Gasoline range compounds having broad chromatographic peaks are signi
- 1 = Sample diluted due to high organic content.
- m = Liquid sample that contains greater than ~1 vol. % sediment.
- ## = The wellhead elevation was lowered by 0.41 feet when well MW-1 was disconnected fror n = TOC well elevation was increased by 3 ft based on a benchmark discrepar

#### TABLE 2

#### GROUNDWATER ELEVATION AND ANALYTICAL DATA ALLRIGHT PARKING 1432 HARRISON STREET, OAKLAND, CALIFORNIA

				100						
Well ID		Depth to	LNAPL	Groundwater						
Sample ID	Date	Groundwater	Thickness	Elevation	ТРНд	Benzene	Toluene	Ethylbenzene Xylenes	MTBE	Notes
TOC (ft amsl)		(ft below TOC)	(feet)	(ft amsl)	←		(μg	/L) —	$\rightarrow$	

system on April 30. 2005.

discovered during a well survey performed on September 11, 2002.

+ = Well de-watered during purging, no measurable water to sample.

Sheen = A sheen was observed on the water's surface

Field = Observed in the field

Lab = Observed in analytical laboratory

 $^{\wedge}$  = Samples associated with 1439 Alice St. Property

# CAMBRIA

 Table 1. Historical Groundwater Gradient - Allright Parking, 1432 Harrison Street, Oakland, California

Quarter	Groundwater Flow Direction 1	Groundwater Gradient 1 (ft/ft)	Groundwater Flow Direction 2	Groundwater Gradient 2 (ft/ft)	
1Q97	NE				
2Q97	NE				
3Q97	NE		SW		
4Q97	NE		SW		
1Q98	NE		S		
2Q98	NE		S		
3Q98	NE		S		
4Q98	NE		S		
1Q99	NE		SW		
2Q99	NE		S		
3Q99	N		SW		
4Q99	NE		SW		
1Q00	NE		SW		
2Q00	NE		S		
3Q00	NNE	0.067	SW	0.044	
4Q00	NNE	0.016	SSW	0.025	
1Q01	N	0.016	SSW	0.034	
2Q01	NNE	0.019	SSW	0.021	
3Q01	NNE	0.019	SSW	0.022	
4Q01	NNE	0.015	SSW	0.020	
1Q02	NNE	0.018	S	0.026	
2Q02	NNE	0.017	SSW	0.018	
3Q02	NE	0.008			Wells resurveyed, MW-4 thru 6 surveyed off a diff benchmark, hence off by 3 ft, correc
4Q02	NE	0.004			
1Q03	NE	0.01			
2Q03	NE	0.025			
3Q03	NE	0.017			
4Q03	NE	0.018			
1Q04	NE	0.006			
2Q04	NE	0.036			
3Q04 4Q04	NNE NNE	0.004 0.004			
4Q04 1Q05	NNE N	0.004			
2Q05	NE NE	0.005			
3Q05	NE	0.004			
4Q05	NNE	0.004			
1Q06	NNE	0.004			

# APPENDIX A

FIELD DATA SHEETS



# WELL GAUGING SHEET

				AUTORIO DE CONTROL DE				
Client:	Conestoga-R	Rovers and A	ssociates				P5 108	
Site	1432 Harriso	on Street, Oa	ıkland, CA					
Date:	2/18/2011		na natara pangangan at pangangan dan karangan dan karangan dan karangan dan karangan dan karangan dan dan dan	Signature:	<u></u>	Z		
					70			
Well ID	Time	Depth to SPH	Depth to Water	SPH Thickness	Depth to Bottom		Comments	
MU-1			20.31		25.61			
Mu.2	8:10	20.30	20.68	0.38	_	*		
WN-3	7:45		18:79		23.95			
MW-4	7:55		19.34		24.50			
MU-5	8:00		20.13		27.90			
MN-6	7:50		20.74		28.24			
								a



Date:		2/18/2011										
Client:		Conestoga-R	overs and As	ssociates								
Site Addre	ss:	1432 Harriso	on Street, Oa	kland, CA								
		TOTAL	uponi di sentence	W		at the star	Vell Depth rt of purge	Purging Sampling from top	of casing: 20.30			
Approximate depth of water intake on pump from top of casing: $23.0$												
TIME:	Purged Rate (ml/min)	TEMP (Celsius)	рН	COND. (μS/cm)	ORP (mV)	DO (mg/L)	Drawdow n Water Level (ft)	Turbidity (NTU)	Comments			
11:20 11:23 11:26 11:32 11:35 11:38	100 100 100 100	18.7 18.3 18.2 18.2 18.1	6.80 6.78 6.77 6.77 6.77	391 397 397 399 399	64 40 40 3b 33 33	1.92 0.76 0.49 0.44 0.41	20.30 20.33 20.33 20.33 20.34 20.34	56.3	Brown flakes  total purge volume = /3/1/mi			
Sample ID:	Date:	: Time			Container Type		Preservative		Method			
ML-)	2/18,	/1)	11:39	40 ml	VOA	HCI		see COC	8015, 8021, 8260			
		Signature:										



Date:		2/18/2011	•								
Client:		Conestoga-R	overs and A	ssociates							
Site Addro	ess:	1432 Harriso	on Street, Oa	ıkland, CA							
	Well ID: Well Diameter:										
	Well Diameter:										
								Purgir	ng Device:	Peristaltic Pum	р
	Sampling Method: I										
Total Well Depth from top of casing:											
Water level at the start of purge from top of casing:											
	Approximate depth of water intake on pump from top of casing:										
				T	i e e e e e e e e e e e e e e e e e e e						in second second
TIME:	Purged Rate (ml/min)	TEMP (Celsius)	pН	COND. (µS/cm)	ORP (mV)	DO (mg/L)	Drawdow n Water Level (ft)	Turbidity (NTU)	Comments	<u> </u>	
									DTW	- 20.68 - 20.30	
									SPAthil	kness=0.3	8
			/								
						1					
						)					
	/										
	0										
Sample									total purge	volume =	ml
ID:	Date:		Time	Container	Туре	Preservat	ive	Analytes	Method		
	40 ml VOA HC1 see COC 8015, 8021									8260	
Signature:											



	Conestoga-Ro					acc Booksed with order APP 600	Well D	Well ID: MU-3  Piameter: 2"  g Device: Peristaltic Pump
322423454444444444444444444444444444444	1432 Harriso	n Street, Oa	kland, CA	000000000000000000000000000000000000000	22,000,000,000,000,000,000,000,000		Well D	Diameter: 2"
							1 digili	g Device. It clistatile I dillp
		Арр			at the sta	Vell Depth rt of purge e on pump	from top of	of casing: 18,80
Purged Rate ml/min)  OO O	TEMP (Celsius) 18.4 18-1 17-9 17-9 17-9	7.28 7.33 7.37 7.38 7.39 7.39	COND. (μS/cm) []97 []99 []90 []90 []88 []87	ORP (mV) 36 38 41 42 42	DO (mg/L) 1.78 1.40 1.12 0.94 0.91 0.90		39.4 31.8 33.8 34.1	Comments
Date: Time 2/18/11 8:5		Time 8:50			Preserva HCl	tive	Analytes see COC	total purge volume = /800 r  Method  8015, 8021, 8260
	Rate nl/min)	Rate TEMP (Celsius)  00 00 18.4  00 17.9  00 17.9  00 17.9  17.9  17.9  17.9	Rate   TEMP   pH	Rate nl/min) (Celsius) pH (μS/cm)  00	Rate nl/min) (Celsius) pH (μS/cm) ORP (mV)  00	Rate nl/min) (Celsius) pH (μS/cm) ORP (mV) DO (mg/L)  10	Rate nl/min) (Celsius) pH (µS/cm) ORP (mV) DO (mg/L) Level (ft) (µS/cm) ORP (mV) O	Rate nl/min) (Celsius) pH (µS/cm) ORP (mV) DO n Water Level (ft) (NTU) ORD (µS/cm) ORP (mV) (mg/L) (mg/L) Level (ft) (NTU) ORD (µS/cm) ORP (mV) (mg/L) (number Level (ft) ORP (mV) (mg/L) (number Level (ft) ORP (mV) (number Level (ft) ORP (numbe



Date: 2/18/2011										
Client: Conestoga-Rovers and Associates										
Site Address: 1432 Harrison Street, Oakland, CA										
								Wall	Well ID: MW-LJ Diameter: 2''	
Well Diameter: 2''  Purging Device: Peristaltic Pump										
									Method: Peristaltic Pump	
			AND THE RESIDENCE OF THE PROPERTY OF THE PROPE			Total V	Vell Depth	from top	of casing: 24-50	
				W	ater level	at the star	t of purge	from top	of casing: 19.36	
Water level at the start of purge from top of casing: $19.36$ Approximate depth of water intake on pump from top of casing: $22.0$										
	Purged						Drawdow			
TIME:	Rate (ml/min)	TEMP (Celsius)	рН	COND. (μS/cm)	ORP (mV)	DO (mg/L)	n Water Level (ft)	Turbidity (NTU)	Comments	
9:47	100	443 MW				per Au	A36	~		
9:50	100	18.6	7.01	408	-80	1.76	19.36	23.8		
9:53	100	18.3	6.98	396	-97	0.81	19.38	27.2		
9:56	100	18.0	6.97	392 391	-100	0.62	19.41	30.1		
10:02	100	18.0	6.97	390	-102	0.62	19.43	0 0		
10.00	100	100		2 , -						
									1500	
Sample									total purge volume = /500ml	
ID:	Date:		Time	Containe	т Туре	Preserva	tive	Analytes	Method	
MII-U	2/18/	<i>(</i> , )	10:03	40 m	1 VOA	HC1		see COC	8015, 8021, 8260	
1 12	21101	, ,	0	10 111				1	11	
							Signature	. <i>N</i>	8	
							Signature	. /		



Date:		2/18/2011				SALAMAN AND AND AND AND AND AND AND AND AND A				
Client:		Conestoga-Re	overs and As	ssociates						
Site Addres	SS:	1432 Harriso	n Street, Oa	kland, CA			Section (Section (Se	Wall	Well ID:	MW-5
										Peristaltic Pump
-										Peristaltic Pump
						Total V	Vell Depth	from top	of casing:	27.90
				N	ater level	at the star	rt of purge	from top	of casing:	20.15
			Арр	roximate	depth of w	ater intak	e on pump	from top	of casing:	220
							i		ı	
гіме:	Purged Rate (ml/min)	TEMP (Celsius)	pН	COND. (μS/cm)	ORP (mV)	DO (mg/L)	Drawdow n Water Level (ft)	Turbidity (NTU)	Comment	s
10:35	100						20.15			
10:38	/00_	18.4	6.84	478	112	1.79	20.19	22.9		
10.41	100	18.1	6.81	471	99	1.36	20.20	26.1	2	
10:47	100	18.0	6.75	460	94	0.94	20.20	24.2		
10:50	100	17.6	6.75	459	92	0.91	20.20	26.7		
10:53	100	17.5	6.75	459	92	0.90	20.20	26.8		
									4-4-1	and and an analysis of the same
Sample									total purg	ge volume = /800 n
D:	Date:		Time	Containe	r Type	Preserva	tive	Analytes	Method	
MW-5	2/18	//1	10:54	40 m	1 VOA	HC1		see COC	8015, 802	1, 8260
		Canada an ann an Anna	decine and the second	January		· ·	Signature		11	



Date:		2/18/2011	·							
Client:	(	Conestoga-Re	overs and As	sociates						
Site Addres		1432 Harrisc								
	Well ID:									
								Well I	liameter:	2"
										Peristaltic Pump
								Sampling	Method:	Peristaltic Pump
			and the second s			Total V	Well Depth	from top	of casing:	28.24
	20.75									
	24.0									
TIME:	Purged Rate (ml/min)	TEMP (Celsius)	рН	COND. (μS/cm)	ORP (mV)	DO (mg/L)	Drawdow n Water Level (ft)	Turbidity (NTU)	Comments	6
9:05	100						20.75	20. /		
9:08	100	18.1	6.72	1233	84	1.63	2076	29.6		
9:11	100	18.1	6.78	1210	88 89	1.20	20.79	W	-	
9.14	100	18.1	-0	1190	89	1.12	20.79	22.1		
9:20	100	18.1	6.79	1190	89	1.11	20.81	22.3		
-1.00	. 00	10								
									total purg	e volume = /500 ml
Sample ID:	Date:	ate: Time		Containe	Container Type		Preservative		Method	
MH-6	6 2/18/11 9:21			21 40 ml VOA HCI				see COC	8015, 802	1, 8260
			1		and the second s		Signature	e: ,	10	?

# APPENDIX B

# STANDARD FIELD PROCEDURES FOR GROUNDWATER MONITORING AND SAMPLING

# Conestoga-Rovers & Associates

# STANDARD FIELD PROCEDURES FOR GROUNDWATER MONITORING AND SAMPLING

This document presents standard field methods for groundwater monitoring, purging and sampling, and well development. These procedures are designed to comply with Federal, State and local regulatory guidelines. Conestoga-Rovers and Associate's field procedures are summarized below.

# **Groundwater Elevation Monitoring**

Prior to performing monitoring activities, the historical monitoring and analytical data of each monitoring well shall be reviewed to determine if any of the wells are likely to contain non-aqueous phase liquid (NAPL) and to determine the order in which the wells will be monitored (i.e. cleanest to dirtiest). Groundwater monitoring should not be performed when the potential exists for surface water to enter the well (i.e. flooding during a rainstorm).

Prior to monitoring, each well shall be opened and the well cap removed to allow water levels to stabilize and equilibrate. The condition of the well box and well cap shall be observed and recommended repairs noted. Any surface water that may have entered and flooded the well box should be evacuated prior to removing the well cap. In wells with no history of NAPL, the static water level and total well depth shall be measured to the nearest 0.01 foot with an electronic water level meter. Wells with the highest contaminant concentrations shall be measured last. In wells with a history of NAPL, the NAPL level/thickness and static water level shall be measured to the nearest 0.01 foot using an electronic interface probe. The water level meter and/or interface probe shall be thoroughly cleaned and decontaminated at the beginning of the monitoring event and between each well. Monitoring equipment shall be washed using soapy water consisting of Liqui-nox<sup>TM</sup> or Alconox<sup>TM</sup> followed by one rinse of clean tap water and then two rinses of distilled water.

### **Groundwater Purging and Sampling**

Prior to groundwater purging and sampling, the historical analytical data of each monitoring well shall be reviewed to determine the order in which the wells should be purged and sampled (i.e. cleanest to dirtiest). No purging or groundwater sampling shall be performed on wells with a measurable thickness of NAPL or floating NAPL globules. If a sheen is observed, the well should be purged and a groundwater sample collected only if no NAPL is present.

Wells shall be purged according to low flow protocol using an aboveground peristaltic pump. Groundwater wells shall be purged at a low flow rate not to exceed 500 milliliters per minute (mL/min) until groundwater parameters of conductivity and/or dissolved oxygen have stabilized to within 10% for three consecutive readings. Temperature, pH, and conductivity shall also be measured and recorded approximately every 3 to 5 minutes. The total volume of groundwater removed shall be recorded along with any other notable physical characteristic such as color and odor. If required, field parameters such as turbidity shall also be measured prior to collection of each groundwater sample.

# Conestoga-Rovers & Associates

Groundwater samples shall be collected after well parameters have stabilized at a low flow rate not to exceed 500 mL/min. Groundwater samples shall be decanted into clean containers supplied by the analytical laboratory. New latex gloves and Teflon lined tubing shall be used for sampling each well.

### Sample Handling

Except for samples that will be tested in the field, or that require special handling or preservation, samples shall be stored in coolers chilled to 4° C for shipment to the analytical laboratory. Samples shall be labeled, placed in protective foam sleeves or bubble wrap as needed, stored on crushed ice at or below 4° C, and submitted under chain-of-custody (COC) to the laboratory. The laboratory shall be notified of the sample shipment schedule and arrival time. Samples shall be shipped to the laboratory within a time frame to allow for extraction and analysis to be performed within the standard sample holding times.

Sample labels shall be filled out using indelible ink and must contain the site name; field identification number; the date, time, and location of sample collection; notation of the type of sample; identification of preservatives used; remarks; and the signature of the sampler. Field identification must be sufficient to allow easy cross-reference with the field datasheet.

All samples submitted to the laboratory shall be accompanied by a COC record to ensure adequate documentation. A copy of the COC shall be retained in the project file. Information on the COC shall consist of the project name and number; project location; sample numbers; sampler/recorder's signature; date and time of collection of each sample; sample type; analyses requested; name of person receiving the sample; and date of receipt of sample.

Laboratory-supplied trip blanks shall accompany the samples and be analyzed to check for cross-contamination, if requested by the project manager.

#### Waste Handling and Disposal

Groundwater extracted during sampling shall be stored onsite in sealed U.S. DOT H17 55-gallon drums and shall be labeled with the contents, date of generation, generator identification, and consultant contact. Extracted groundwater may be disposed offsite by a licensed waste handler or may be treated and discharged via an operating onsite groundwater extraction/treatment system.

### APPENDIX C

CERTIFIED ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION

McCampbell A		Web: www.mccampbe	s Road, Pittsburg, CA 9 ll.com E-mail: main@ '-252-9262 Fax: 925-2	mccampbell.com
Conestoga-Rovers & Associates	Client Project ID: #540188;	Borsuk-Oakland	Date Sampled:	02/18/11
5900 Hollis St, Suite A			Date Received:	02/18/11
3700 Homs St, Suite 11	Client Contact: Bob Foss		Date Reported:	02/26/11
Emeryville, CA 94608	Client P.O.:		Date Completed:	02/25/11

WorkOrder: 1102589

February 26, 2011

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### Enclosed within are:

- 1) The results of the 5 analyzed samples from your project: #540188; Borsuk-Oakland,
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

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

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

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius Laboratory Manager

McCampbell Analytical, Inc.

### McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD 10258
PITTSBURG, CA 94565-1701 10258
Website: www.mccampbell.com Email: main@mccampbell.com

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

# CHAIN OF CUSTODY RECORD

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RUSH 24 HR 48 HR 72 HR 5 DAY GeoTracker EDF 🖾 PDF 🖵 Excel 🖵 Write On (DW) 🖵

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Report To: Bob	Foss		I	Bill To	o: Gov	nes	tocc	Re	h/ev	5	As	secio	ate						A	nal	ysis	Red	ques	t						0	the	r	Comments
Report To: Bob Company: Company: Company: Company: Company: Company: Solution: Solution: Sampler Signature Sampler Signature Sampler ID	LOCATION/ Field Point Name	ant	SON PLING	Containers Containers	Type Containers	اعا	-	TRI	X	PI	VIET RESI	THO	D ED	as Gas (602 / 80	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)	MITBE / BTEX ONLY (EPA 602 / 8021)	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Filter sample for DISSOLVED metals analysis	3F 558260		**Indicate here if these samples are potentially dangerous to handle:
				# C01	Type	Water	Soil	Air	Other	ICE	HCL	HNO3	Other	BTEX & TPH	TPH as	Total P	Total P	EPA 50	MTBE	EPA 50	EPA 60	EPA 50	EPA 51	EPA 52	EPA 52	EPA 8	CAM I	LUFT	Lead (2	Filter sa	MTBF		
MU-1, MN-3, MN-4, MN-5, MN-6,		2/18/11	11:39 08:50 10:03	3	VOA	7				1	X			*																	*		
MW-6-		*	09:21	4	Ł.,	*				×	X			*																	k		
**MAI clients MUST gloved, open air, samp allowing us to work sa	le handling by	ngerous ch	emicals kn Non-discle	own to	be proncurs a	esent un im	in the	neir siate S	ubm 6250	itted	sam	ples e an	in c	once	entra ent is	tions subj	that ject to	may o ful	caus I lega	e imi	medi	ate h	arm harn	or se	riou	s fut	ure h	iealti you i	n enc	lange our t	erme	nt as	s a result of brief, nding and for
Relinquished By:	7	Date:	Time: 1247 Time:	Recei	ived B	y:	n	a	1	21		6		DE AP	E/t°_DOD EAD S ECHL	ORI PRI	CE A NAT ATE	ED CON	NT_ IN L. NTAI		s_v		0					COM	MMI	ENTS	S:		is
Relinquished By:		Date:	Time:	Recei	ived By	y:									ESE			vo		08	kG.	ME pH<		S	оті	HER							

### McCampbell Analytical, Inc.

1534 Willow Pass Rd

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

(925) 25	52-9262	☐ WaterTrax	WriteOn	<b>✓</b> EDF		Excel		: 1102 ☐ Fax		<b>✓</b> Email		Code: ( ☐ Har		∏Thi	irdParty	<b>□</b> 1	J-flag
Report to:							Bill to:						Req	uested	I TAT:	5	days
Bob Foss		Email: bi	foss@crawo	rld.com, chee@c	rawor	ld.co	Ac	counts	Payab	le							_
Conestoga-l	Rovers & Associates	cc:					Co	onestog	a-Rove	ers & As	ssocia	tes	_	_			
5900 Hollis S	St, Suite A	PO:					59	00 Holl	is St, S	te. A			Dat	e Rece	eived:	02/18	/2011
Emeryville, C	CA 94608	ProjectNo: #	540188; Bor	suk-Oakland			Er	neryville	e, CA 9	4608			Dat	e Prin	ited:	02/18	/2011
(510) 420-332	PAX (510) 420-9170	)															
									Rec	uested	Tests	(See le	gend b	elow)			
Lab ID	Client ID		Matrix	<b>Collection Date</b>	Hold	1	2	3	4	5	6	7	8	9	10	11	12
1102589-001	MW-1		Water	2/18/2011 11:39		Α	В	Α								T	T
1102589-002	MW-3		Water	2/18/2011 8:50		Α	В								1		
1102589-003	MW-4		Water	2/18/2011 10:03		Α	В								1		
1102589-004	MW-5		Water	2/18/2011 10:54		Α	В								1		
1102589-005	MW-6		Water	2/18/2011 9:21		Α	В										

### Test Legend:

1 G-MBTEX_W	2 MTBE_W	3 PREDF REPORT	4	5
6	7	8	9	10
11	12			
				Prepared by: Maria Venegas

### **Comments:**

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

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### Sample Receipt Checklist

Client Name:	Conestoga-F	lovers & Associ	ates		Date a	and Time Received:	2/18/2011	2:37:26 PM
Project Name:	#540188; Bo	suk-Oakland			Check	klist completed and r	eviewed by:	Maria Venegas
WorkOrder N°:	1102589	Matrix Wate	<u>r</u>		Carrie	r: <u>Client Drop-In</u>		
			Chain of Cu	ıstody (C	COC) Informa	ntion		
Chain of custody	/ present?		Yes	<b>V</b>	No 🗆			
Chain of custody	signed when re	inquished and rece	ived? Yes	<b>V</b>	No 🗆			
Chain of custody	agrees with san	nple labels?	Yes	<b>✓</b>	No 🗌			
Sample IDs noted	d by Client on CO	C?	Yes	<b>V</b>	No 🗆			
Date and Time of	f collection noted	by Client on COC?	Yes	<b>~</b>	No 🗆			
Sampler's name	noted on COC?		Yes	<b>✓</b>	No 🗆			
			Sample	Receipt	t Information	<u>!</u>		
Custody seals in	tact on shipping	container/cooler?	Yes		No 🗆		NA 🔽	
Shipping contain	er/cooler in good	condition?	Yes	<b>V</b>	No 🗆			
Samples in prop	er containers/bot	tles?	Yes	<b>~</b>	No 🗆			
Sample containe	ers intact?		Yes	✓	No 🗆			
Sufficient sample	e volume for indic	ated test?	Yes	✓	No 🗌			
		<u>Sample</u>	Preservatio	n and Ho	old Time (HT	) Information		
All samples rece	ived within holdin	g time?	Yes	<b>✓</b>	No 🗌			
Container/Temp	Blank temperatur	Э	Coole	er Temp:	2.2°C		NA $\square$	
Water - VOA via	ls have zero hea	dspace / no bubble:	s? Yes	<b>~</b>	No 🗆	No VOA vials subm	itted $\square$	
Sample labels ch	hecked for correc	t preservation?	Yes	<b>✓</b>	No 🗌			
Metal - pH accep	otable upon receip	ot (pH<2)?	Yes		No 🗆		NA 🔽	
Samples Receive	ed on Ice?		Yes	<b>✓</b>	No 🗆			
		(1	ce Type: WE	ET ICE	)			
* NOTE: If the "I	No" box is check	ed, see comments b	pelow.					
		=====		===		======	====	======
Client contacted:		Date	contacted:			Contacted	by:	
Comments:								

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Conestoga-Rovers & Associates	Client Project ID: #540188; Borsuk- Oakland	Date Sampled:	02/18/11
5900 Hollis St, Suite A	Oakialiu	Date Received:	02/18/11
	Client Contact: Bob Foss	Date Extracted:	02/22/11-02/25/11
Emeryville, CA 94608	Client P.O.:	Date Analyzed:	02/22/11-02/25/11

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

Analytical methods: SW8021B/8015Bm Extraction method: SW5030B Work Order: 1102589 Lab ID Client ID Matrix TPH(g) MTBE Benzene Toluene Ethylbenzene Xylenes DF % SS Comments 001A MW-1 W 15,000 1600 25 ND<10 1400 20 100 002A MW-3 W ND 98 ND ND ND ND 1 003A MW-4 W 200 0.52 2.2 104 4.7 2.0 1 d1 004A W MW-5 100 20 ND 0.74 10 1 105 d1 005A W ND ND ND ND ND MW-6 1 97 Reporting Limit for DF = 1; W 5.0 0.5 50 0.5 0.5 0.5 μg/L ND means not detected at or 0.05 0.005 0.005 0.005 0.005 mg/Kg above the reporting limit

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

- +The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
- d1) weakly modified or unmodified gasoline is significant



<sup>#</sup> cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference. %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

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Conestoga-Rovers & Associates	Client Project ID: #540188; Borsuk- Oakland	Date Sampled: 02/18/11
5900 Hollis St, Suite A	Oakiailu	Date Received: 02/18/11
,	Client Contact: Bob Foss	Date Extracted: 02/24/11
Emeryville, CA 94608	Client P.O.:	Date Analyzed 02/24/11

## Mother tout Dutyl Ethoux

		Methyl tert	-Butyl Ether*			
Extraction method SW503	30B	Analytical	methods SW8260B	Wo	ork Order:	1102589
Lab ID	Client ID	Matrix	Methyl-t-butyl ether (MTBE)	DF	% SS	Comment
001B	MW-1	W	ND<5.0	10	85	a3
002B	MW-3	W	ND	1	100	
003B	MW-4	W	ND	1	87	
004B	MW-5	W	ND	1	105	
005B	MW-6	W	ND	1	103	
	g Limit for DF =1;	W	0.5		μg/L	•
ND mean	s not detected at or	C	NI A		NT A	

ND 114 114	• • •	0.5	μg·L
ND means not detected at or	2	NΛ	NΛ
above the reporting limit	3	IVA	NA
*t1	4/1:4	.1:	1 - 11 TCI D % CDI D

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

ND means not detected above the reporting limit/method detection limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or surrogate coelutes with another peak.

%SS = Percent Recovery of Surrogate Standard

DF = Dilution Factor

a3) sample diluted due to high organic content.

Angela Rydelius, Lab Manager

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### QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 56360 WorkOrder 1102589

EPA Method SW8260B				Spiked Sample ID: 1102535-001A								
Analyte .	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Methyl-t-butyl ether (MTBE)	ND	10	115	109	5.50	110	111	0.998	70 - 130	30	70 - 130	30
%SS1:	85	25	96	96	0	98	98	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 56360 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1102589-001B	02/18/11 11:39 AM	02/24/11	02/24/11 2:12 PM	1102589-002B	02/18/11 8:50 AM	02/24/11	02/24/11 2:46 AM
1102589-003B	02/18/11 10:03 AM	02/24/11	02/24/11 2:51 PM	1102589-004B	02/18/11 10:54 AM	02/24/11	02/24/11 3:25 AM
1102589-005B	02/18/11 9:21 AM	02/24/11	02/24/11 4:05 AM				

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

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

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

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

QA/QC Officer

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### QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 56387 WorkOrder 1102589

EPA Method SW8021B/8015Bm Extraction SW5030B Spike								Spiked San	piked Sample ID: 1102576-022A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
7 tildiyto	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)	ND	60	98.5	92.8	5.99	94.5	93.6	0.954	70 - 130	20	70 - 130	20
MTBE	ND	10	119	111	6.93	109	112	3.18	70 - 130	20	70 - 130	20
Benzene	ND	10	120	122	1.59	116	118	2.00	70 - 130	20	70 - 130	20
Toluene	ND	10	107	107	0	102	105	2.74	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	108	107	0.959	101	106	4.20	70 - 130	20	70 - 130	20
Xylenes	ND	30	121	116	4.54	114	120	4.36	70 - 130	20	70 - 130	20
%SS:	124	10	106	109	3.23	106	107	0.816	70 - 130	20	70 - 130	20

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

#### BATCH 56387 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1102589-001A	02/18/11 11:39 AM	02/25/11	02/25/11 2:09 AM	1102589-002A	02/18/11 8:50 AM	02/22/11	02/22/11 8:15 PM
1102589-003A	02/18/11 10:03 AM	02/25/11	02/25/11 3:45 AM	1102589-004A	02/18/11 10:54 AM	02/22/11	02/22/11 8:45 PM
1102589-005A	02/18/11 9:21 AM	02/22/11	02/22/11 9:46 PM				

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

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

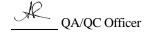
MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the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

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

# cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.



### APPENDIX D

BENZENE CONCENTRATION AND DEPTH TO WATER vs. TIME-SERIES GRAPHS

