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DATE: October 31, 2012 REFERENCE NO.: 581000

PROJECT NAME: 800 Franklin Street, Oakland

TO: Mr. Jerry Wickham
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California
94502-6577

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QUANTITY	DESCRIPTION
1	GROUNDWATER MONITORING REPORT - SECOND HALF 2012

As Requested For Review and Comment
 For Your Use Review, Sign, and Return

COMMENTS:

Should you have any questions regarding the contents of the document, please contact Bryan Fong at (510) 420-3369. Thank you.

Copy to: Ms. Anny Chiu

Completed by: Bryan A. Fong
[Please Print]

Signed: 

Filing: **Correspondence File**

With respect to:

Groundwater Monitoring Report-Second Half 2012

Dated 10/31/12

Fuel Leak Case No. RO0000196

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.

Tommy Chiu
Mr. Tommy Chiu

10/11/2012
Date



GROUNDWATER MONITORING REPORT - SECOND HALF 2012

**CHIU PROPERTY
800 FRANKLIN STREET
OAKLAND, CALIFORNIA**

AGENCY CASE NO. RO0000196

**OCTOBER 31, 2012
REF. NO. 581000 (14)**

This report is printed on recycled paper.

**Prepared by:
Conestoga-Rovers
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1.0 INTRODUCTION

On behalf of Mr. Tommy Chiu, Conestoga-Rovers & Associates (CRA) is submitting this *Groundwater Monitoring Report – Second Half 2012*. This report presents a summary of groundwater monitoring and sampling event activities, and analytical results conducted during the third quarter 2012, and activities anticipated to occur during the upcoming fourth quarter 2012 and first quarter 2013 at the subject site, located at 800 Franklin Street, Oakland, California (Figure 1). This groundwater monitoring event was conducted in accordance with guidelines issued by Alameda County Department of Environmental Health (ACEH).

1.1 SITE INFORMATION

Site Address	800 Franklin Street, Oakland
Site Use	Commercial Building
Client and Contact	Tommy Chiu
Consultant and Contact Person	CRA, Bryan A. Fong
Lead Agency and Contact	Alameda County Environmental Health, Jerry Wickham, P.G.
Agency Case No.	RO0000196

2.0 SITE ACTIVITIES AND RESULTS

2.1 CURRENT SAMPLING EVENT ACTIVITIES

On September 27, 2012, Muskan Environmental Sampling (MES) conducted groundwater monitoring and sampling activities at the subject site. MES measured water levels and collected groundwater samples from monitoring wells MW-1, MW-2, MW-3A, MW-4, MW-5, MW-6, and MW-7 (Figure 2). Well construction details are provided in Table 1. CRA's standard field procedures are presented as Appendix A. The laboratory analytical report and sample chain-of-custody (COC) documents are presented as Appendix B, and copies of the field data sheets are included as Appendix C.

2.1.1 WATER LEVEL MEASUREMENTS

Depth-to-water measurements were recorded to the nearest 0.01-foot from the surveyed reference elevation on the top of the well casing (TOC). Measurements were collected using a conductance-actuated well sounder. Groundwater elevation and depth data are presented in Table 2.

2.1.2 GROUNDWATER SAMPLING

MES collected groundwater samples from wells MW-1, MW-2, MW-3A, MW-4, MW-5, MW-6, and MW-7. Field activities associated with groundwater sampling included low flow well purging, measuring groundwater parameters and sample collection. Field equipment was decontaminated before use and between each well.

Each well was purged prior to sampling by placing a clean intake tube of a peristaltic pump approximately 1 foot below the initial water level. Depth to water was measured prior to, during, and at the termination of low-flow purging, and also immediately prior to sample collection. Temperature, pH, specific conductivity, oxygen reduction potential (ORP) and dissolved oxygen (DO) were measured initially and at regular volume intervals. Well purging continued until consecutive pH, specific conductivity and temperature measurements were relatively stable. Field measurements, purge volumes and sample collection data were recorded on field sampling data sheets, presented as Appendix C.

Groundwater samples were collected from each well using the peristaltic pump. The samples were decanted into 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 transported under COC to a State-certified laboratory for analysis. The COC used for this monitoring event is included in Appendix B.

2.1.3 EQUIPMENT DECONTAMINATION

To minimize the potential of cross-contamination, the groundwater monitoring equipment was decontaminated prior to being deployed in the first well, and again between each successive well. The tubing for the peristaltic pump was discarded after use at each well.

2.1.4 SAMPLE ANALYSIS

Groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) by modified Environmental Protection Agency (EPA) Method SW8015Bm. Samples were also analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX), and methyl tertiary-butyl ether (MTBE) by EPA Method SW8021B. In addition, groundwater samples were analyzed for TPH as diesel (TPHd) by EPA Method SW8015B. Based on the lack of historical detections, chloroform and 1,2-dichloroethane (1,2-DCA) analyses have been eliminated from the monitoring program. The analyses were performed by McCampbell and the laboratory analytical report is included as Appendix B. Groundwater analytical results are summarized on Figure 2 and presented in Table 2.

2.2 CURRENT SAMPLING EVENT RESULTS

Groundwater Flow Direction	West-Northwest
Hydraulic Gradient	0.007
Groundwater Depth from Top of Casing in Monitoring Wells	22.16 to 23.22 feet
Were Measureable Separate Phase Hydrocarbons Observed	No

2.2.1 GROUNDWATER FLOW DIRECTION AND GRADIENT

Depth-to-water measurements collected on September 27, 2012 ranged from 22.16 to 23.22 feet below TOC. Groundwater elevations were calculated by subtracting the depth-to-water measurements from the surveyed TOC elevations. Groundwater elevations were plotted on a site plan and contoured. Based on depth-to-water data collected during the site visit, groundwater flow direction was calculated toward the west-northwest at a low gradient of 0.007. Depth-to-water and groundwater elevation data for the site are summarized in Table 2 and presented on Figure 2.

2.2.2 GROUNDWATER ANALYTICAL RESULTS

Hydrocarbon concentrations were detected in three of the six wells sampled during the Second Half 2012.

- TPHg was detected in wells MW-2, MW-3A, and MW-6 at concentrations ranging from 79 micrograms per liter ($\mu\text{g/L}$) in MW-6 to 51,000 $\mu\text{g/L}$ in MW-3A. Benzene concentrations were also detected in wells MW-2, MW-3A and MW-6 at concentrations ranging from 11 $\mu\text{g/L}$ in MW-6 to 5,100 $\mu\text{g/L}$ in MW-3A. Toluene, ethylbenzene and xylenes were detected in wells MW-2, MW-3A, and MW-6 at varying concentrations. Laboratory analysis noted that the chromatographic pattern seen in these three wells suggests unmodified or weakly modified gasoline is significant in the samples.
- No MTBE was detected above laboratory reporting limits in any of the wells.
- Diesel-range hydrocarbons (TPHd) were detected in samples from wells MW-2 and MW-3A at concentrations of 690 and 3,200 $\mu\text{g/L}$, respectively. Laboratory analysis noted that the TPH chromatogram suggested gasoline range compounds were significant in these samples.

The analytical results are provided in Table 2. The laboratory analytical report and sample chain-of-custody (COC) documents are presented as Appendix B

2.2.3 GEOTRACKER SUBMITTAL

CRA uploaded relevant data from the Second Half 2012 monitoring event to the GeoTracker database.

2.4 PROPOSED ACTIVITIES FOR THE FOURTH QUARTER 2012 AND FIRST QUARTER 2013

In the Fourth Quarter 2012, CRA will monitor and sample the most recently installed monitoring well, MW-7, to verify concentration trends over a full hydrologic cycle, as approved by ACEH. Groundwater samples from MW-7 will be analyzed for TPHd with silica gel cleanup and TPHg by modified EPA Method SW8015Bm. Samples will also be analyzed for MTBE and BTEX by modified EPA Method SW8021B. CRA proposes the elimination of sampling and analysis of wells MW-1, MW-4 and MW-5. These wells have contained no hydrocarbons since May 1997, with very few exceptions as follows.

MW-1 benzene concentrations ranging from 0.60 to 1.2 µg/L between June 2005 and March 2006, as well as ethylbenzene at 0.72 and 2.3 µg/L during the two 2007 samplings. MW-5 reported 1.5 xylenes in September 2004. Disregarding these exceptions, these three wells have been clean for the past 8 years. Minor chloroform concentrations had been reported in these wells, but as referenced above in Section 2.1.4, this analysis was recently eliminated.

The subject site will be monitored again during the First Quarter 2013. CRA will measure water levels in wells MW-1 through MW-7 and collect groundwater samples from MW-2, MW-3, MW-6 and MW-7. These four groundwater samples will be analyzed for TPHd with silica gel cleanup and TPHg by modified EPA Method SW8015Bm, and MTBE and BTEX by modified EPA Method SW8021B. Fourth quarter 2012 and first quarter 2013 monitoring and sampling activities, and analytical results will be reported in the upcoming *Groundwater Monitoring Report – First Half 2013*.

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



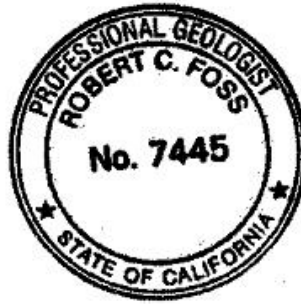
Tarah J. Kirnan



Bryan A. Fong



Robert Foss, P.G.



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FIGURES

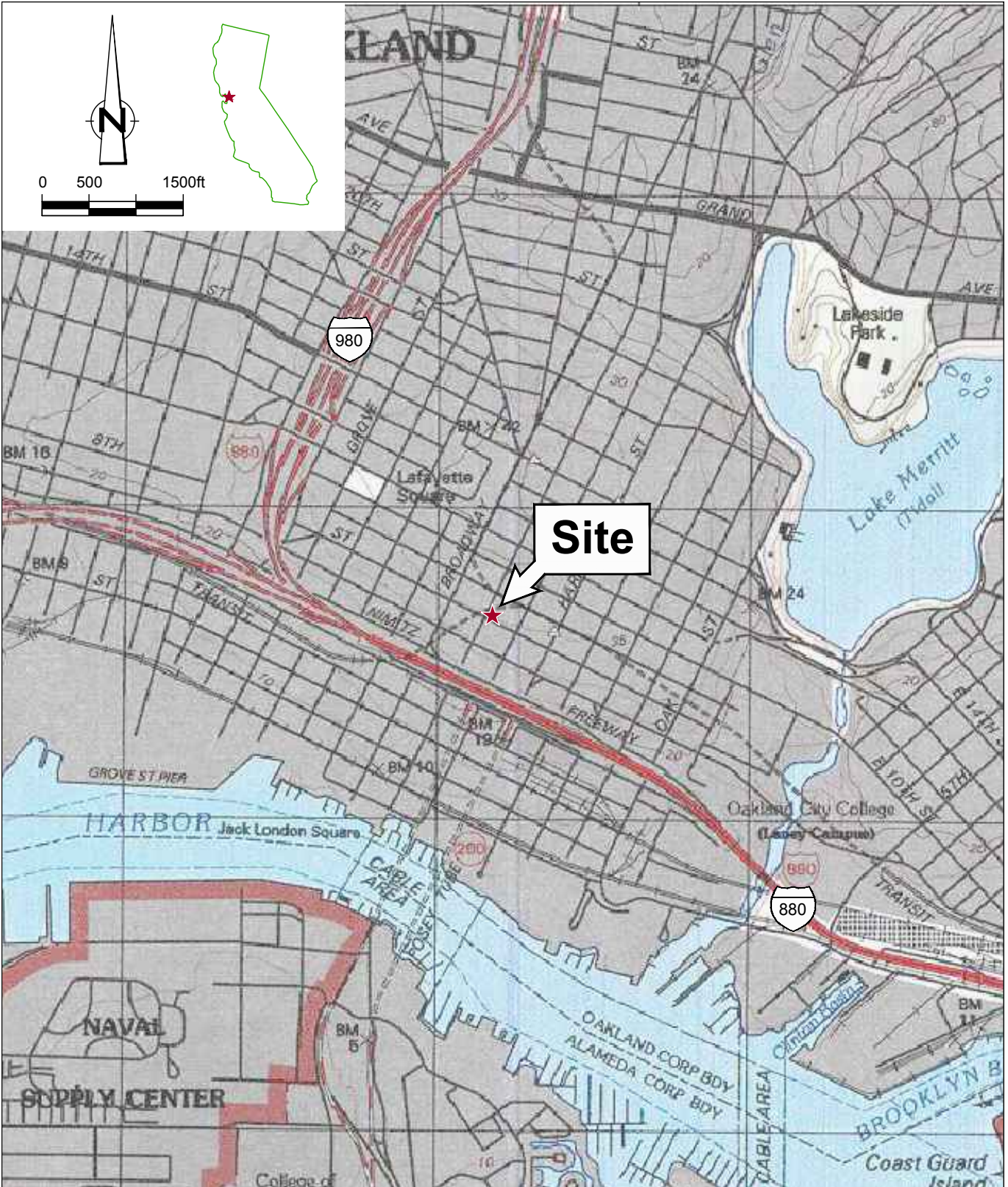


Figure 1
 VICINITY MAP
 CHIU PROPERTY
 800 FRANKLIN STREET
 Oakland, California



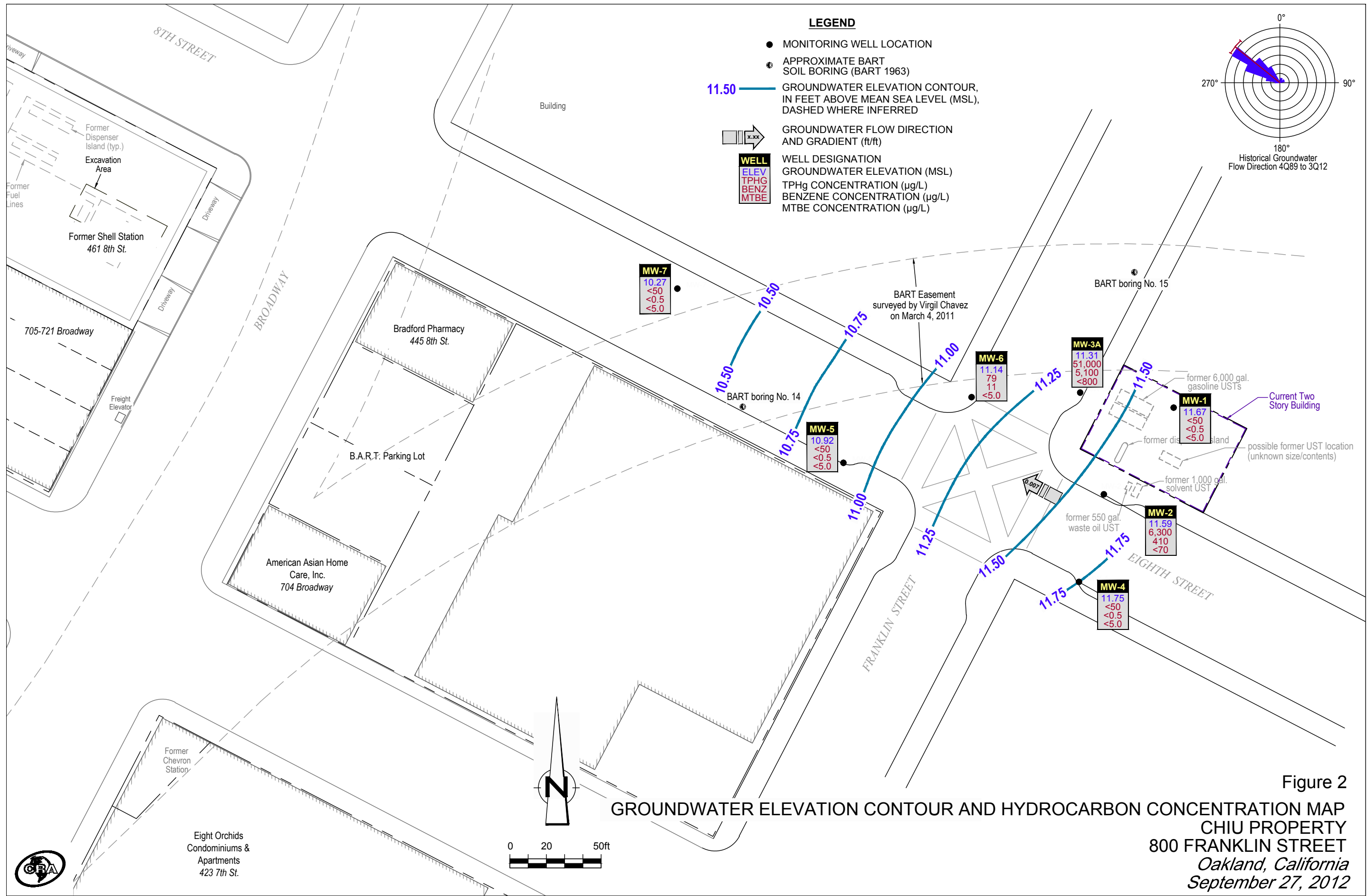


Figure 2
 GROUNDWATER ELEVATION CONTOUR AND HYDROCARBON CONCENTRATION MAP
 CHIU PROPERTY
 800 FRANKLIN STREET
 Oakland, California
 September 27, 2012

TABLES

**WELL CONSTRUCTION DETAILS
CHIU PROPERTY
800 FRANKLIN STREET
OAKLAND, CALIFORNIA**

<i>Well ID</i>	<i>Date Installed</i>	<i>Borehole Depth (ft)</i>	<i>Borehole Diameter (in)</i>	<i>Casing Diameter (in)</i>	<i>Screen Interval (ft bgs)</i>	<i>Screen Size (in)</i>	<i>Filter Pack (ft bgs)</i>	<i>Bentonite Seal (ft bgs)</i>	<i>Cement Seal (ft bgs)</i>	<i>TOC Elevation (ft msl)</i>
MW-1	1989	35.0	8.0	2	20.0 - 35.0	0.010	18.0 - 35.0	16.0 - 18.0	0 - 16.0	33.42
MW-2	1989	35.0	8.0	2	20.0 - 35.0	0.010	18.0 - 35.0	16.0 - 18.0	0 - 16.0	33.66
	Installed: 1989									
MW-3*	Destroyed: 1/29/07	35.0	8.0	2	20.0 - 35.0	0.010	18.0 - 35.0	16.0 - 18.0	0 - 16.0	34.23
MW-3A	2/8/2007	35.0	10.0	4	20.0 - 35.0	0.010	19.0 - 35.0	17.0 - 19.0	0 - 17.0	34.16
MW-4	10/2/1991	35.0	8.0	2	20.0 - 35.0	0.010	18.0 - 35.0	-	0 - 18.0	33.64
MW-5	10/3/1991	35.0	8.0	2	20.0 - 35.0	0.010	18.0 - 35.0	-	0 - 18.0	33.56
MW-6	5/15/1997	35.0	8.0	2	14.5 - 36.25	0.010	14.5 - 36.25	12.5 - 14.5	0 - 12.5	33.98
MW-7	5/23/2012	35.0	8.0	2	18.0 - 35.0	0.010	16.0 - 35.0	14.0 - 16.0	0 - 14.0	33.49

Abbreviations/Notes

ft = feet

in = inches

ft bgs = feet below grade surface

ft msl = feet above mean sea level

TOC = top of casing

* = Monitoring well MW-3 properly destroyed on January 29, 2007 by Cambria.

TABLE 2

GROUNDWATER ANALYTICAL AND ELEVATION DATA: PETROLEUM HYDROCARBONS
 CHIU PROPERTY
 800 FRANKLIN STREET
 OAKLAND, CALIFORNIA

Well ID	TOC Elevation (ft msl)	Date Sampled	Depth to Water (ft below TOC)	Groundwater Elevation (feet msl)	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene $\mu\text{g/L}$	Xylenes	MTBE	Chloroform	1,2-DCA
MW-1		10/12/1989	22.87	10.55	ND	--	--	ND	ND	ND	ND	--	0.8	8.6
	33.42	10/31/1991	--	--	630	960	1,700	3.2	ND<0.5	ND<0.5	130	--	--	0.0098
	34.89	10/21/1992	23.48	11.41	520	--	--	78	38	ND<0.5	120	--	--	ND
		2/25/1993	22.51	12.38	1,600	--	--	160	190	34	350	--	--	--
		4/27/1993	22.36	12.53	380	--	--	5.2	ND<0.5	ND<0.5	74	--	--	--
		10/7/1993	--	12.10	1,000	--	--	81	150	47	230	--	--	--
	33.98	3/28/1994	--	11.91	460	--	--	14	25	14	39	--	--	--
		4/29/1994	--	--	--	--	--	--	--	--	--	--	--	--
		6/10/1994	--	11.66	--	--	--	--	--	--	--	--	--	--
		7/8/1994	--	11.62	--	--	--	--	--	--	--	--	--	--
		7/26/1994	--	11.48	--	--	--	--	--	--	--	--	--	--
		8/25/1994	--	11.47	--	--	--	--	--	--	--	--	--	--
		10/27/1994	22.51	11.47	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--
		1/6/1995	--	12.08	--	--	--	--	--	--	--	--	--	--
		2/1/1995	--	12.79	--	--	--	--	--	--	--	--	--	--
		3/29/1995	--	12.75	--	--	--	--	--	--	--	--	--	--
		10/31/1995	--	12.48	1,400	--	--	15	38	49	510	19	--	--
		5/21/1997	--	12.49	150	--	--	2.9	1.5	8.6	26	ND<5.0	--	--
		8/10/2004	23.35	10.63	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
		9/28/2004É	--	--	--	--	--	--	--	--	--	--	--	--
		12/21/2004	22.93	11.05	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
		3/11/2005É	--	--	--	--	--	--	--	--	--	--	--	--
		6/16/2005	20.68	13.30	ND<50	--	--	0.64	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
		9/1/2005	20.74	13.24	ND<50	--	--	1.2	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
		12/16/2005	20.95	13.03	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
		3/10/2006	20.34	13.64	ND<50	--	--	0.60	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
		9/15/2006	21.51	12.47	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	6.4	ND<0.5
		3/8/2007	21.81	12.17	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	0.72	ND<0.5	ND<5.0	6.9	ND<0.5
		9/17/2007	22.08	11.90	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	2.3	ND<0.5	ND<0.5	4.7	ND<0.5
		3/4/2008	21.72	12.26	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.3	ND<0.5
		9/3/2008	22.70	11.28	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.98	ND<0.5
		3/4/2009	22.49	11.49	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.65
		9/8/2009	22.80	11.18	ND<50	ND<50	ND<250	ND<0.5 (ND<0.5)	ND<0.5 (ND<0.5)	ND<0.5 (ND<0.5)	ND<0.5 (ND<0.5)	ND<0.5 (ND<0.5)	ND<0.5	ND<0.5
		3/19/2010	22.25	11.73	ND<50	ND<50	--	(ND<0.5)	(ND<0.5)	(ND<0.5)	(ND<0.5)	(ND<0.5)	ND<0.5	0.58
		9/3/2010	22.51	11.47	ND<50	ND<50	--	(ND<0.5)	(ND<0.5)	(ND<0.5)	(ND<0.5)	(ND<0.5)	1.2	ND<0.5
		3/4/2011	22.10	11.88	ND<50	ND<50	--	(ND<0.5)	(ND<0.5)	(ND<0.5)	(ND<0.5)	(ND<0.5)	ND<0.5	ND<0.5
		8/22/2011	22.23	11.75	ND<50	ND<50	--	(ND<0.5)	(ND<0.5)	(ND<0.5)	(ND<0.5)	(ND<0.5)	ND<0.5	ND<0.5
		3/5/2012	22.61	11.37	ND<50	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
		9/27/2012	22.31	11.67	ND<50	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
MW-2		10/12/1989	23.25	10.40	38,000	--	3,900	1,300	1,200	ND	4,700	--	--	--
	33.66	10/31/1991	--	--	10,000	1,500	--	1,800	1,200	270	960	--	--	0.17
		11/6/1991	24.02	9.64	--	--	--	--	--	--	--	--	--	--
		10/21/1992	22.42	11.24	270,000	--	--	9,700	4,500	9,600	56,000	--	--	15.4
		2/25/1993	21.50	12.16	49,000	--	--	4,300	11,000	1,300	9,100	--	--	--

TABLE 2

GROUNDWATER ANALYTICAL AND ELEVATION DATA: PETROLEUM HYDROCARBONS
 CHIU PROPERTY
 800 FRANKLIN STREET
 OAKLAND, CALIFORNIA

Well ID	TOC Elevation (ft msl)	Date Sampled	Depth to Water (ft below TOC)	Groundwater Elevation (feet msl)	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene µg/L	Xylenes	MTBE	Chloroform	1,2-DCA
MW-2 (cont.)		4/27/1993	21.26	12.40	39,000	--	--	1,400	4,000	220	5,200	--	--	--
		10/7/1993	--	12.04	50,000	--	--	2,700	8,100	940	7,800	--	--	--
		3/28/1994	--	11.88	20,000	--	--	360	1,300	220	1,800	--	--	--
		4/29/1994	--	11.87	--	--	--	--	--	--	--	--	--	--
		6/10/1994	--	11.44	--	--	--	--	--	--	--	--	--	--
		7/8/1994	--	11.42	--	--	--	--	--	--	--	--	--	--
		7/26/1994	--	11.22	--	--	--	--	--	--	--	--	--	--
		8/25/1994	--	11.01	--	--	--	--	--	--	--	--	--	--
		10/27/1994	22.66	11.00	21,000	--	--	1,200	3,700	600	4,300	--	--	--
		1/6/1995	--	11.66	--	--	--	--	--	--	--	--	--	--
		2/1/1995	--	12.21	--	--	--	--	--	--	--	--	--	--
		3/29/1995	--	12.66	--	--	--	--	--	--	--	--	--	--
		10/31/1995	--	11.51	45,000	--	--	3,100	8,800	1,200	8,400	810	--	--
		5/21/1997	--	12.65	18,000	--	--	1,400	4,200	680	3,600	370	--	--
		8/10/2004	21.03	12.63	47,000 (a)	--	--	4,200	4,900	1,400	6,000	ND<500	--	--
		9/28/2004	22.95	10.71	--	--	--	--	--	--	--	--	--	--
		12/21/2004	20.91	12.75	13,000 (a)	--	--	500	310	34	1,600	ND<100	--	--
		3/11/2005	11.35	22.31	32,000 (a)	--	--	970	2,400	890	4,200	ND<1,000	--	--
		6/16/2005	20.50	13.16	43,000 (a,i)	--	--	1,500	3,400	1,200	5,400	ND<1,200	--	--
		9/1/2005	20.60	13.06	20,000 (a)	--	--	640	1,700	460	2,200	ND<200	--	--
		12/16/2005	20.83	12.83	32,000 (a,i)	--	--	1,000	3,100	760	3,800	ND<500	--	--
		3/10/2006	20.05	13.61	20,000 (a)	--	--	460	1,900	440	2,400	ND<400	--	--
		9/15/2006	21.31	12.35	43,000 (a)	3,100 (d)	ND<250	1,600	4,400	1,100	5,100	ND<500	16	ND<10
		3/8/2007	21.62	12.04	30,000 (a,h)	4,600 (d,h)	ND<1,200	1,200	3,400	890	4,500	ND<500	ND<50	ND<50 (j,h)
		9/17/2007	21.92	11.74	31,000 (a)	6,600 (d,b)	340	790	3,000	700	3,100	ND<100	ND<100	ND<100
		3/4/2008	--	--	--	--	--	--	--	--	--	--	--	--
		9/3/2008	22.50	11.16	46,000 (a)	5,100 (d)	370	1,700	8,600	1,400	7,500	ND<250	ND<250	ND<250
	3/4/2009	22.25	11.41	56,000 (a)	13,000 (d)	1,100	1,500	5,300	990	4,500	ND<10	ND<10	ND<10	
	9/8/2009	22.60	11.06	42,000 (a)	11,000 (d)	1,200	1,400 (1,200)	5,200 (4,900)	970 (890)	5,500 (4,900)	ND<100 (ND<100)	ND<0.5	ND<100	
33.75	3/19/2010 **	21.96	11.70	30,000 (a,h)	12,000 (d,h)	--	(1,000)	(3,500)	(980)	(4,500)	(ND<50)	ND<5.0	ND<5.0	
	9/3/2010	22.30	11.45	9,500 (a)	1,500 (d)	--	(320)	(290)	(140)	(970)	(ND<12)	ND<12	ND<12	
	3/4/2011	21.85	11.90	12,000 (a)	2,200 (d)	--	(610)	(430)	(290)	(1,400)	(ND<25)	ND<25	ND<25	
	8/22/2011	22.04	11.71	7,900 (a)	1,300 (d)	--	(320)	(270)	(170)	(1,400)	(ND<12)	ND<0.5	ND<12	
	3/5/2012	22.32	11.43	18,000(a)	1,400 (d)	--	1,200	930	560	2,100	ND<500	--	--	
	9/27/2012	22.16	11.59	6,300 (a)	690 (d)	--	410	290	130	830	ND<70	--	--	
MW-3	10/12/1989	24.02	10.21	87,000	--	4,500	3,200	8,800	ND	6,500	--	--	70.0	
34.23	10/31/1991	--	--	310,000	25,000	--	9,300	25,000	5,600	27,000	--	--	0.058	
	11/6/1991	23.52	10.71	--	--	--	--	--	--	--	--	--	--	
	10/21/1992	23.32	10.91	22,000	--	--	10,000	4,300	790	2,100	--	--	ND	
	2/25/1993	22.51	11.72	29,000	--	--	8,400	5,400	1,300	3,300	--	--	--	
	4/27/1993	22.37	11.86	50,000	--	--	8,200	8,700	1,000	5,400	--	--	--	
	10/7/1993	--	14.19	1,700	--	--	3,100	3,700	400	1,700	--	--	--	
	3/28/1994	--	11.52	53,000	--	--	3,900	4,600	710	2,500	--	--	--	
	4/29/1994	--	11.34	--	--	--	--	--	--	--	--	--	--	

TABLE 2

GROUNDWATER ANALYTICAL AND ELEVATION DATA: PETROLEUM HYDROCARBONS
 CHIU PROPERTY
 800 FRANKLIN STREET
 OAKLAND, CALIFORNIA

Well ID	TOC Elevation (ft msl)	Date Sampled	Depth to Water (ft below TOC)	Groundwater Elevation (feet msl)	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene µg/L	Xylenes	MTBE	Chloroform	1,2-DCA	
MW-3 (cont.)		6/10/1994	--	11.13	--	--	--	--	--	--	--	--	--	--	
		7/8/1994	--	11.09	--	--	--	--	--	--	--	--	--	--	
		7/26/1994	--	10.94	--	--	--	--	--	--	--	--	--	--	
		8/25/1994	--	10.80	--	--	--	--	--	--	--	--	--	--	
		10/27/1994	23.56	10.67	8,500	--	--	2,700	2,700	490	2,000	--	--	--	
		1/6/1995	--	11.33	--	--	--	--	--	--	--	--	--	--	
		2/1/1995	--	11.79	--	--	--	--	--	--	--	--	--	--	
		3/29/1995	--	12.10	--	--	--	--	--	--	--	--	--	--	
		10/31/1995	--	11.23	19,000	--	--	4,400	4,600	720	2,900	410	--	--	
		5/21/1997	--	11.68	4,000	--	--	810	840	190	690	ND<100	--	--	
		9/28/2004						<i>Well is damaged. Unable to measure depth to water or collect sample.</i>							
		12/21/2004						<i>Well is damaged. Unable to measure depth to water or collect sample.</i>							
		3/11/2005						<i>Well is damaged. Unable to measure depth to water or collect sample.</i>							
		6/16/2005						<i>Well is damaged. Unable to measure depth to water or collect sample.</i>							
		9/1/2005						<i>Well is damaged. Unable to measure depth to water or collect sample.</i>							
		12/16/2005						<i>Well is damaged. Unable to measure depth to water or collect sample.</i>							
		3/10/2006						<i>Well is damaged. Unable to measure depth to water or collect sample.</i>							
		9/15/2006						<i>Well is damaged. Unable to measure depth to water or collect sample.</i>							
		1/29/2007						<i>Well properly destroyed by Cambria.</i>							
MW-3A		1/29/2007					<i>MW-3A replaces MW-3</i>								
34.16		3/8/2007	22.42	11.74	30,000 (a,i)	1,700 (d,i)	ND<250	2,600	4,400	710	4,600	ND<1,000	ND<50	ND<50 (j)	
		9/17/2007	22.65	11.51	9,800 (a)	980 (d)	ND<250	1,100	1,800	270	1,100	ND<25	ND<25	ND<25	
		3/4/2008	22.31	11.85	21,000 (a,i)	1,700 (d,i)	ND<250	2,600	5,000	810	3,500	ND<50	ND<50	ND<50	
		9/3/2008	23.11	11.05	13,000 (a)	880 (d)	ND<250	1,400	2,100	370	1,500	ND<50	ND<50	ND<50	
		3/4/2009	22.98	11.18	12,000 (a)	810 (d)	ND<250	1,000	1,700	330	1,200	ND<5.0	7.9	7.2	
		9/8/2009	23.25	10.91	8,900 (a)	780 (d)	ND<250	870 (830)	1300 (1,200)	260 (200)	1100 (880)	ND<25 (ND<25)	6.3	ND<25	
		3/19/2010	22.79	11.37	16,000 (a)	1,700 (d)	--	(1,900)	(3,200)	(620)	(2,800)	(ND<50)	ND<5.0	10	
		9/3/2010	23.02	11.14	35,000 (a)	1,600 (d)	--	(5,300)	(6,500)	(1,100)	(5,100)	(ND<120)	ND<120	ND<120	
		3/4/2011	22.60	11.56	35,000 (a)	3,300 (d)	--	(5,000)	(6,400)	(1,900)	(8,800)	(ND<100)	ND<100	ND<100	
		8/22/2011	22.71	11.45	42,000 (a)	2,700 (d)	--	(5,700)	(6,300)	(1,800)	(7,800)	(ND<120)	ND<0.5	ND<120	
		3/5/2012	22.99	11.17	49,000(a)	1500 (d)	--	4,400	2,800	1,900	8,200	ND<800	--	--	
		9/27/2012	22.85	11.31	51,000 (a)	3,200 (d)	--	5,100	4,000	2,000	8,300	ND<800	--	--	
MW-4		10/31/1991	--	--	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	2.6	ND	
33.64		11/6/1991	23.32	10.32	--	--	--	--	--	--	--	--	--	--	
		10/21/1992	22.10	11.54	410	--	--	3.1	29	6.8	47	--	--	ND	
		2/25/1993	21.13	12.51	170	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	
		4/27/1993	20.74	12.90	100	--	--	ND<0.5	ND<0.5	ND<0.5	0.9	--	--	--	
		10/7/1993	--	12.52	240	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	
		3/28/1994	--	12.34	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	
		4/29/1994	--	11.33	--	--	--	--	--	--	--	--	--	--	
		6/10/1994	--	11.55	--	--	--	--	--	--	--	--	--	--	
		7/8/1994	--	11.54	--	--	--	--	--	--	--	--	--	--	
		7/26/1994	--	11.30	--	--	--	--	--	--	--	--	--	--	
		8/25/1994	--	11.09	--	--	--	--	--	--	--	--	--	--	

TABLE 2

GROUNDWATER ANALYTICAL AND ELEVATION DATA: PETROLEUM HYDROCARBONS
 CHIU PROPERTY
 800 FRANKLIN STREET
 OAKLAND, CALIFORNIA

Well ID	TOC Elevation (ft msl)	Date Sampled	Depth to Water (ft below TOC)	Groundwater Elevation (feet msl)	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene µg/L	Xylenes	MTBE	Chloroform	1,2-DCA
MW-4 (cont.)		10/27/1994	22.69	10.95	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--
		1/6/1995	--	11.70	--	--	--	--	--	--	--	--	--	--
		2/1/1995	--	12.34	--	--	--	--	--	--	--	--	--	--
		3/29/1995	--	12.76	--	--	--	--	--	--	--	--	--	--
		10/31/1995	--	11.61	80	--	--	ND<0.5	0.6	ND<0.5	1.0	ND<0.5	--	--
		5/21/1997	--	12.08	ND<50	--	--	11	120	27	180	ND<5.0	--	--
		9/28/2004	22.72	10.92	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
		12/21/2004	20.65	12.99	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
		3/11/2005	20.20	13.44	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
		6/16/2005	20.38	13.26	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
		9/1/2005	20.48	13.16	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
		12/16/2005	20.78	12.86	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
		3/10/2006	19.81	13.83	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
		9/15/2006	21.16	12.48	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	28	ND<0.5
		3/8/2007	21.52	12.12	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	23	ND<0.5
		9/17/2007	21.84	11.80	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	18	ND<0.5
		3/4/2008	21.41	12.23	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	13	ND<0.5
		9/3/2008	22.50	11.14	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	12	ND<0.5
		3/4/2009	22.15	11.49	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	14	ND<0.5
		9/8/2009	22.56	11.08	ND<50	ND<50	ND<250	ND<0.5 (ND<0.5)	ND<0.5 (ND<0.5)	ND<0.5 (ND<0.5)	ND<0.5 (ND<0.5)	ND<0.5 (ND<0.5)	11	ND<0.5
33.73		3/19/2010 *	21.88	11.76	ND<50	ND<50	--	(ND<0.5)	(ND<0.5)	(ND<0.5)	(ND<0.5)	(ND<0.5)	10	ND<0.5
		9/3/2010	22.21	11.52	ND<50	ND<50	--	(ND<0.5)	(ND<0.5)	(ND<0.5)	(ND<0.5)	(ND<0.5)	ND<0.5	ND<0.5
		3/4/2011	21.78	11.95	ND<50	ND<50	--	(ND<0.5)	(ND<0.5)	(ND<0.5)	(ND<0.5)	(ND<0.5)	1.0	ND<0.5
		8/22/2011	21.92	11.81	ND<50	ND<50	--	(ND<0.5)	(ND<0.5)	(ND<0.5)	(ND<0.5)	(ND<0.5)	ND<0.5	ND<0.5
		3/5/2012	22.34	11.39	ND<50	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
		9/27/2012	21.98	11.75	ND<50	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
MW-5		10/31/1991	--	--	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	1.1	--
33.51		11/6/1991	24.00	9.51	ND	--	--	ND	ND	ND	ND	--	--	--
		10/21/1992	23.24	10.27	840	--	--	17	120	39	180	--	--	--
33.56		2/25/1993	22.40	11.16	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--
		4/27/1993	22.15	11.41	260	--	--	53	19	1.2	2.4	--	--	--
		10/7/1993	--	11.06	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--
		3/28/1994	--	10.95	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--
		4/29/1994	--	10.91	--	--	--	--	--	--	--	--	--	--
		6/10/1994	--	10.68	--	--	--	--	--	--	--	--	--	--
		7/8/1994	--	10.60	--	--	--	--	--	--	--	--	--	--
		7/26/1994	--	10.45	--	--	--	--	--	--	--	--	--	--
		8/25/1994	--	10.28	--	--	--	--	--	--	--	--	--	--
		10/27/1994	23.50	10.06	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--
		1/6/1995	--	10.78	--	--	--	--	--	--	--	--	--	--
		2/1/1995	--	11.25	--	--	--	--	--	--	--	--	--	--
		3/29/1995	--	11.63	--	--	--	--	--	--	--	--	--	--
		10/31/1995	--	10.64	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--
		5/21/1997	--	11.04	260	--	--	2.4	33	7.7	56	ND<5.0	--	--
		9/28/2004	23.70	9.86	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	1.5	ND<5.0	--	--

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 CHIU PROPERTY
 800 FRANKLIN STREET
 OAKLAND, CALIFORNIA

Well ID TOC Elevation (ft msl)	Date Sampled	Depth to Water (ft below TOC)	Groundwater Elevation (feet msl)	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene µg/L	Xylenes	MTBE	Chloroform	1,2-DCA
MW-5 (cont.) 33.67	12/21/2004	21.40	12.16	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
	3/11/2005	21.40	12.16	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
	6/16/2005	21.63	11.93	ND<50 (i)	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
	9/1/2005	21.65	11.91	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
	12/16/2005	21.94	11.62	ND<50 (i)	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
	3/10/2006	21.11	12.45	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
	9/15/2006	22.20	11.36	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	10	ND<0.5
	3/8/2007	22.44	11.12	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	18	ND<0.5
	9/17/2007	22.73	10.83	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	14	ND<0.5
	3/4/2008	22.32	11.24	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	19	ND<0.5
	9/3/2008	23.13	10.43	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	17	ND<0.5
	3/4/2009	22.95	10.61	ND<50	ND<50	ND<250	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	14	ND<0.5
	9/8/2009	23.21	10.35	ND<50	ND<50	ND<250	ND<0.5 (ND<0.5)	ND<0.5 (ND<0.5)	ND<0.5 (ND<0.5)	ND<0.5 (ND<0.5)	ND<0.5 (ND<0.5)	11	ND<0.5
	3/19/2010 *	22.72	10.84	ND<50	ND<50	--	(ND<0.5)	(ND<0.5)	(ND<0.5)	(ND<0.5)	(ND<0.5)	14	ND<0.5
	9/3/2010	23.03	10.64	ND<50	ND<50	--	(ND<0.5)	(ND<0.5)	(ND<0.5)	(ND<0.5)	(ND<0.5)	7.2	ND<0.5
	3/4/2011	22.60	11.07	ND<50	ND<50	--	(ND<0.5)	(ND<0.5)	(ND<0.5)	(ND<0.5)	(ND<0.5)	3.4	ND<0.5
8/22/2011	22.63	11.04	ND<50	ND<50	--	(ND<0.5)	(ND<0.5)	(ND<0.5)	(ND<0.5)	(ND<0.5)	1.9	ND<0.5	
3/5/2012	22.94	10.73	ND<50	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--	
9/27/2012	22.75	10.92	ND<50	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--	
MW-6 33.98	5/21/1997	--	11.26	760	--	--	2.5	1.7	ND<0.50	25	10	--	--
9/28/2004	24.00	9.98	9.98	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
12/21/2004	21.61	12.37	12.37	ND<50	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
3/11/2005	21.60	12.38	12.38	340 (a)	--	--	1.9	2.6	0.68	0.61	ND<5.0	--	--
6/16/2005	21.81	12.17	12.17	1,300 (a)	--	--	58	8.3	6.1	4.0	ND<25	--	--
9/1/2005	21.82	12.16	12.16	1,900 (a)	--	--	150	19	18	76	ND<12	--	--
12/16/2005	22.03	11.95	11.95	3,600 (a,i)	--	--	560	63	33	230	ND<50	--	--
3/10/2006	21.46	12.52	12.52	2,200 (a)	--	--	240	10	20	87	ND<50	--	--
9/15/2006	22.46	11.52	11.52	1,800 (a)	480 (d)	ND<250	10	6.7	9.9	42	ND<17	3.2	ND<0.5
3/8/2007	22.64	11.34	11.34	4,300 (a)	890 (d)	ND<250	260	36	29	140	ND<60	ND<10	ND<10 (j)
9/17/2007	22.88	11.10	11.10	7,000 (a)	970 (d)	ND<250	760	28	46	270	ND<10	ND<10	ND<10
3/4/2008	22.51	11.47	11.47	400 (a)	74 (d)	ND<250	46	ND<1.0	1.0	6.0	ND<1.0	ND<1.0	ND<1.0
9/3/2008	23.24	10.74	10.74	280 (a)	69 (d, b)	ND<250	2.9	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
3/4/2009	23.14	10.84	10.84	670 (a)	150 (d)	ND<250	68	13	ND<2.5	12	ND<2.5	ND<2.5	ND<2.5
9/8/2009	23.38	10.60	10.60	8,000 (a)	1,400 (d)	ND<250	870 (770)	16 (ND<12)	34 (17)	1500 (1,200)	ND<12 (ND<12)	ND<0.5	ND<12
34.05	3/19/2010 *	22.93	11.05	8,900 (a)	1,200 (d)	--	(2,900)	(ND<100)	(ND<100)	(ND<100)	(ND<5.0)	ND<5.0	15
9/3/2010	23.19	10.86	10.86	4,600 (a)	710 (d)	--	(1,500)	(33)	(35)	(79)	(ND<25)	ND<25	ND<25
3/4/2011	22.78	11.27	11.27	3,700 (a)	410 (d)	--	(1,300)	(170)	(70)	(200)	(ND<25)	ND<25	ND<25
8/22/2011	22.85	11.20	11.20	490 (a)	120 (b,d)	--	(190)	(ND<5.0)	(ND<5.0)	(ND<5.0)	(ND<5.0)	0.86	ND<5.0
3/5/2012	23.16	10.89	10.89	190 (a)	65 (b,d)	--	38	2.7	1.4	7.3	ND<15	--	--
9/27/2012	22.91	11.14	11.14	79 (a)	ND<50	--	11	ND<0.5	ND<0.5	0.90	ND<5.0	--	--
MW-7 33.49	6/25/2012	22.98	10.51	ND<50	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--
9/27/2012	23.22	10.27	10.27	ND<50	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	--	--

GROUNDWATER ANALYTICAL AND ELEVATION DATA: PETROLEUM HYDROCARBONS
 CHIU PROPERTY
 800 FRANKLIN STREET
 OAKLAND, CALIFORNIA

Well ID	Date Sampled	Depth to Water	Groundwater Elevation	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Chloroform	1,2-DCA
TOC Elevation (ft msl)		(ft below TOC)	(feet msl)	←-----→									
				μg/L									
<i>Grab Groundwater</i>													
B-7	3/11/2011	--	--	ND<50 (i)	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--
B-8	3/11/2011	--	--	ND<50 (i)	--	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--
B-9	3/12/2011	--	--	ND<50 (i)	--	--	ND<0.5	3.0	ND<0.5	ND<0.5	--	--	--

Abbreviations and Notes:

TOC Elevation = Top of well casing elevation measured in feet above mean sea level

msl = Above mean sea level

μg/L = Micrograms per liter

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

TPHd = Total petroleum hydrocarbons as diesel by EPA Method SW8015C with silica gel cleanup.

TPHmo = Total petroleum hydrocarbons as motor oil by EPA Method SW8015C with silica gel cleanup.

Benzene, toluene, ethylbenzene, and xylenes by EPA Method SW8021B (SW8260B).

MTBE = Methyl tertiary-butyl ether by EPA Method SW8021B by (8260B)

Chloroform by EPA Method SW8260B.

1,2-DCA = 1,2-Dichloroethane by EPA Method SW8260B.

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

Field = Observed in the field.

Lab = Observed in analytical laboratory.

(a) = unmodified or weakly modified gasoline is significant

(b) = diesel range compounds are significant; no recognizable pattern

(d) = gasoline range compounds are significant

(h) = lighter than water immiscible sheen/product is present

(i) = liquid sample that contains ~1 vol. % sediment

(j) = sample diluted due to high organic content/matrix interference

ND<5.0 = Not detected above detection limit.

-- = Not available, not analyzed, or not applicable

* = Surveyed September 7, 2006; updated to table May 24, 2010

** = Surveyed March 8, 2007; updated to table May 24, 2010

É = Unable to access well due to denial by current tenant

APPENDIX A

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™ or Alconox™ 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 B

CERTIFIED ANALYTICAL REPORTS AND
CHAIN-OF-CUSTODY DOCUMENTATION



Analytical Report

Conestoga-Rovers & Associates 5900 Hollis St, Suite A Emeryville, CA 94608	Client Project ID: #581000; Chiu	Date Sampled: 09/27/12
		Date Received: 09/27/12
	Client Contact: Bryan Fong	Date Reported: 10/02/12
	Client P.O.:	Date Completed: 10/02/12

WorkOrder: 1209730

October 03, 2012

Dear Bryan:

Enclosed within are:

- 1) The results of the **7** analyzed samples from your project: **#581000; Chiu,**
- 2) QC data for the above samples, and
- 3) A copy of the chain of custody.

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

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

Best regards,

Angela Rydelius
Laboratory Manager
McC Campbell Analytical, Inc.

The analytical results relate only to the items tested.



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1209730

ClientCode: CETE

WaterTrax
 WriteOn
 EDF
 Excel
 EQuIS
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:
 Bryan Fong
 Conestoga-Rovers & Associates
 5900 Hollis St, Suite A
 Emeryville, CA 94608
 (510) 420-3369 FAX: (510) 420-9170

Email: bfong@croworld.com
 cc: tkirnan@croworld.com
 PO:
 ProjectNo: #581000; Chiu

Bill to:
 Accounts Payable
 Conestoga-Rovers & Associates
 5900 Hollis St, Ste. A
 Emeryville, CA 94608

Requested TAT: 5 days

Date Received: 09/27/2012

Date Printed: 09/27/2012

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1209730-001	MW-1	Water	9/27/2012 11:14	<input type="checkbox"/>	A	A	B									
1209730-002	MW-2	Water	9/27/2012 5:28	<input type="checkbox"/>	A		B									
1209730-003	MW-3A	Water	9/27/2012 6:48	<input type="checkbox"/>	A		B									
1209730-004	MW-4	Water	9/27/2012 1:23	<input type="checkbox"/>	A		B									
1209730-005	MW-5	Water	9/27/2012 2:21	<input type="checkbox"/>	A		B									
1209730-006	MW-6	Water	9/27/2012 4:21	<input type="checkbox"/>	A		B									
1209730-007	MW-7	Water	9/27/2012 3:18	<input type="checkbox"/>	A		B									

Test Legend:

1	G-MBTEX_W	2	PREFDF REPORT	3	TPH(D)WSG_W	4		5	
6		7		8		9		10	
11		12							

Prepared by: Melissa Valles

Comments:

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



Sample Receipt Checklist

Client Name: **Conestoga-Rovers & Associates**

Date and Time Received: **9/27/2012 12:52:20 PM**

Project Name: **#581000; Chiu**

LogIn Reviewed by: **Melissa Valles**

WorkOrder N°: **1209730** Matrix: Water

Carrier: Client Drop-In

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature	Cooler Temp: 9.2°C		NA <input type="checkbox"/>
Water - VOA vials have zero headspace / no bubbles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Sample labels checked for correct preservation?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Metal - pH acceptable upon receipt (pH<2)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Samples Received on Ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

(Ice Type: WET ICE)

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

 Comments:



Conestoga-Rovers & Associates 5900 Hollis St, Suite A Emeryville, CA 94608	Client Project ID: #581000; Chiu	Date Sampled: 09/27/12
		Date Received: 09/27/12
	Client Contact: Bryan Fong	Date Extracted: 09/29/12-10/01/12
	Client P.O.:	Date Analyzed: 09/29/12-10/01/12

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

Extraction method: SW5030B

Analytical methods: SW8021B/8015Bm

Work Order: 1209730

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	MW-1	W	ND	ND	ND	ND	ND	ND	1	110	
002A	MW-2	W	6300	ND<70	410	290	130	830	5	108	d1
003A	MW-3A	W	51,000	ND<800	5100	4000	2000	8300	100	110	d1
004A	MW-4	W	ND	ND	ND	ND	ND	ND	1	103	
005A	MW-5	W	ND	ND	ND	ND	ND	ND	1	105	
006A	MW-6	W	79	ND	11	ND	ND	0.90	1	114	d1
007A	MW-7	W	ND	ND	ND	ND	ND	ND	1	109	

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

* water and vapor samples are reported in 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.

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

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



Conestoga-Rovers & Associates 5900 Hollis St, Suite A Emeryville, CA 94608	Client Project ID: #581000; Chiu	Date Sampled: 09/27/12
		Date Received: 09/27/12
	Client Contact: Bryan Fong	Date Extracted 09/27/12
	Client P.O.:	Date Analyzed 09/30/12

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up*

Extraction method: SW3510C/3630C

Analytical methods: SW8015B

Work Order: 1209730

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS	Comments
1209730-001B	MW-1	W	ND	1	99	
1209730-002B	MW-2	W	690	1	100	e4
1209730-003B	MW-3A	W	3200	1	101	e4
1209730-004B	MW-4	W	ND	1	101	
1209730-005B	MW-5	W	ND	1	93	
1209730-006B	MW-6	W	ND	1	99	
1209730-007B	MW-7	W	ND	1	90	

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

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

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract/matrix interference.

%SS = Percent Recovery of Surrogate Standard. DF = Dilution Factor

The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:
 e4) gasoline range compounds are significant.



QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 71202

WorkOrder: 1209730

EPA Method: SW8021B/8015Bm		Extraction: SW5030B					Spiked Sample ID: 1209658-004A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS	
TPH(btex) [£]	ND	60	120	120	0	112	70 - 130	20	80 - 120	
MTBE	ND	10	87.3	88	0.773	99.1	70 - 130	20	80 - 120	
Benzene	ND	10	103	106	2.24	108	70 - 130	20	80 - 120	
Toluene	ND	10	103	105	2.18	108	70 - 130	20	80 - 120	
Ethylbenzene	ND	10	106	106	0	109	70 - 130	20	80 - 120	
Xylenes	1.0	30	107	108	1.40	112	70 - 130	20	80 - 120	
%SS:	89	10	94	93	0.531	96	70 - 130	20	70 - 130	

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

BATCH 71202 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1209730-002A	09/27/12 5:28 AM	10/01/12	10/01/12 8:58 PM	1209730-003A	09/27/12 6:48 AM	09/29/12	09/29/12 2:08 AM

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



QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 71203

WorkOrder: 1209730

EPA Method: SW8021B/8015Bm		Extraction: SW5030B					Spiked Sample ID: 1209792-001A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS	
TPH(btex) [£]	ND	60	108	105	3.08	116	70 - 130	20	80 - 120	
MTBE	ND	10	93.9	90.4	3.79	93.4	70 - 130	20	80 - 120	
Benzene	ND	10	101	107	5.89	106	70 - 130	20	80 - 120	
Toluene	ND	10	102	108	5.40	103	70 - 130	20	80 - 120	
Ethylbenzene	ND	10	102	107	4.91	103	70 - 130	20	80 - 120	
Xylenes	ND	30	103	107	3.83	103	70 - 130	20	80 - 120	
%SS:	102	10	101	109	8.17	104	70 - 130	20	70 - 130	

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

BATCH 71203 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1209730-001A	09/27/12 11:14 AM	09/29/12	09/29/12 4:45 AM	1209730-004A	09/27/12 1:23 AM	09/29/12	09/29/12 5:15 AM
1209730-005A	09/27/12 2:21 AM	09/29/12	09/29/12 5:44 AM	1209730-006A	09/27/12 4:21 AM	09/29/12	09/29/12 6:14 AM
1209730-007A	09/27/12 3:18 AM	09/29/12	09/29/12 6:43 AM				

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



QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 71017

WorkOrder: 1209730

EPA Method: SW8015B		Extraction: SW3510C/3630C					Spiked Sample ID: N/A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	MS / MSD	RPD	LCS	
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	115	N/A	N/A	70 - 130	
%SS:	N/A	625	N/A	N/A	N/A	90	N/A	N/A	70 - 130	

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

BATCH 71017 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1209730-001B	09/27/12 11:14 AM	09/27/12	09/30/12 9:03 AM	1209730-002B	09/27/12 5:28 AM	09/27/12	09/30/12 12:31 PM
1209730-003B	09/27/12 6:48 AM	09/27/12	09/30/12 1:42 PM	1209730-004B	09/27/12 1:23 AM	09/27/12	09/30/12 2:55 PM
1209730-005B	09/27/12 2:21 AM	09/27/12	09/30/12 8:35 AM	1209730-006B	09/27/12 4:21 AM	09/27/12	09/30/12 7:55 AM
1209730-007B	09/27/12 3:18 AM	09/27/12	09/30/12 2:57 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.

APPENDIX C

FIELD DATA SHEETS



WELL GAUGING SHEET

Client: Conestoga-Rovers and Associates						Pg 1 of 1
Site Address: 800 Franklin Street, Oakland, CA						
Date: 9/27/2012			Signature: 			
Well ID	Time	Depth to SPH	Depth to Water	SPH Thickness	Depth to Bottom	Comments
MW-1	10:57		22.31		33.35	
MW-2	05:11		22.16		34.15	
MW-3A	06:31		22.85		34.25	
MW-4	01:06		21.98		33.60	
MW-5	02:04		22.75		34.60	
MW-6	04:04		22.91		32.90	
MW-7	03:01		23.22		35.50	



MICRO PURGE WELL SAMPLING FORM

Date:	9/27/2012
Client:	Conestoga-Rovers and Associates
Site Address:	800 Franklin Street, Oakland, CA
Well ID:	MW-1
Well Diameter:	2"
Purging Device:	Peristaltic Pump
Sampling Method:	Peristaltic Pump
Total Well Depth from top of casing:	33.35
Water level at the start of purge from top of casing:	22.31
Approximate depth of water intake on pump from top of casing:	27.0

TIME:	Purged Rate (ml/min)	TEMP (Celsius)	pH	COND. ($\mu\text{S}/\text{cm}$)	ORP (mV)	DO (mg/L)	Drawdown Water Level (ft)	Turbidity (NTU)	Comments
10:58	100	--	--	--	--	--	22.31	→	
11:01	100	17.5	7.40	1390	12	1.14	22.34	19	
11:04	100	17.2	7.31	1398	17	1.06	22.35	25	
11:07	100	17.2	7.27	1402	17	0.93	22.36	28	
11:10	100	17.1	7.26	1403	19	0.91	22.36	28	
11:13	100	17.0	7.26	1404	20	0.90	22.36	29	
									total purge volume = 1500ml

Sample ID:	Date:	Time	Container Type	Preservative	Analytes	Method
MW-1	9/27/12	11:14	see COC	see COC	see COC	see COC

Signature:



MICRO PURGE WELL SAMPLING FORM

Date: 9/27/2012

Client: Conestoga-Rovers and Associates

Site Address: 800 Franklin Street, Oakland, CA

Well ID: MW-2

Well Diameter: 2"

Purging Device: Peristaltic Pump

Sampling Method: Peristaltic Pump

Total Well Depth from top of casing: 34.15

Water level at the start of purge from top of casing: 22.16

Approximate depth of water intake on pump from top of casing: 27.0

TIME:	Purged Rate (ml/min)	TEMP (Celsius)	pH	COND. (µS/cm)	ORP (mV)	DO (mg/L)	Drawdown Water Level (ft)	Turbidity (NTU)	Comments
05:12	100	--	--	--	--	--	22.16	—	
05:15	100	18.3	7.25	1398	-17	1.15	22.18	11	
05:18	100	18.1	7.22	1398	-10	0.82	22.19	20	
05:21	100	18.0	7.21	1402	-8	0.70	22.19	18	
05:24	100	18.0	7.20	1404	-8	0.68	22.21	17	
05:27	100	18.0	7.20	1405	-7	0.67	22.22	16	
									total purge volume = 1500 ml

Sample ID:	Date:	Time	Container Type	Preservative	Analytes	Method
MW-2	9/27/12	05:28	see COC	see COC	see COC	see COC

Signature:



MICRO PURGE WELL SAMPLING FORM

Date:	9/27/2012
Client:	Conestoga-Rovers and Associates
Site Address:	800 Franklin Street, Oakland, CA
Well ID:	MW-3A
Well Diameter:	2"
Purging Device:	Peristaltic Pump
Sampling Method:	Peristaltic Pump
Total Well Depth from top of casing:	34.25
Water level at the start of purge from top of casing:	22.85
Approximate depth of water intake on pump from top of casing:	27.0

TIME:	Purged Rate (ml/min)	TEMP (Celsius)	pH	COND. (µS/cm)	ORP (mV)	DO (mg/L)	Drawdown Water Level (ft)	Turbidity (NTU)	Comments
06:32	100	--	--	--	--	--	22.85	-	
06:35	100	18.0	7.09	1080	-120	0.89	22.87	50	
06:38	100	17.9	7.12	1086	-102	0.85	22.87	44	
06:41	100	17.8	7.12	1087	-102	0.83	22.87	38	
06:44	100	17.8	7.13	1088	-101	0.83	22.87	37	
06:47	100	17.8	7.13	1088	-101	0.83	22.87	38	
									total purge volume = 1500 ml

Sample ID:	Date:	Time	Container Type	Preservative	Analytes	Method
MW-3A	9/27/12	06:48	see COC	see COC	see COC	see COC

Signature: 

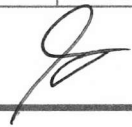


MICRO PURGE WELL SAMPLING FORM

Date:	9/27/2012
Client:	Conestoga-Rovers and Associates
Site Address:	800 Franklin Street, Oakland, CA
Well ID:	MW-4
Well Diameter:	2"
Purging Device:	Peristaltic Pump
Sampling Method:	Peristaltic Pump
Total Well Depth from top of casing:	33.60
Water level at the start of purge from top of casing:	21.98
Approximate depth of water intake on pump from top of casing:	27.0

TIME:	Purged Rate (ml/min)	TEMP (Celsius)	pH	COND. (µS/cm)	ORP (mV)	DO (mg/L)	Drawdown Water Level (ft)	Turbidity (NTU)	Comments
01:07	100	--	--	--	--	--	21.98	--	
01:10	100	18.4	6.93	922	40	0.98	21.99	17	
01:13	100	18.2	6.90	917	49	0.98	21.99	17	
01:16	100	18.0	6.89	905	49	1.03	22.01	15	
01:19	100	18.0	6.87	902	51	1.04	22.01	13	
01:22	100	17.9	6.85	902	51	1.04	22.01	19	
									total purge volume = 1500 ml

Sample ID:	Date:	Time	Container Type	Preservative	Analytes	Method
MW-4	9/27/12	01:23	see COC	see COC	see COC	see COC

Signature: 



MICRO PURGE WELL SAMPLING FORM

Date: 9/27/2012

Client: Conestoga-Rovers and Associates

Site Address: 800 Franklin Street, Oakland, CA

Well ID:	MW-5
Well Diameter:	2"
Purging Device:	Peristaltic Pump
Sampling Method:	Peristaltic Pump
Total Well Depth from top of casing:	34.60
Water level at the start of purge from top of casing:	22.75
Approximate depth of water intake on pump from top of casing:	27.0

TIME:	Purged Rate (ml/min)	TEMP (Celsius)	pH	COND. (µS/cm)	ORP (mV)	DO (mg/L)	Drawdown Water Level (ft)	Turbidity (NTU)	Comments
02:05	100	--	--	--	--	--	22.75	—	
02:08	100	18.9	7.57	520	-14	1.12	22.77	23	
02:11	100	18.6	7.51	496	-16	1.03	22.78	19	
02:14	100	18.4	7.50	492	-16	0.97	22.78	21	
02:17	100	18.4	7.49	492	-17	0.95	22.79	20	
02:20	100	18.4	7.49	490	-17	0.94	22.80	20	
									total purge volume = 1500 ml

Sample ID:	Date:	Time	Container Type	Preservative	Analytes	Method
MW-5	9/27/12	02:21	see COC	see COC	see COC	see COC

Signature: *[Handwritten Signature]*




MICRO PURGE WELL SAMPLING FORM

Date:	9/27/2012
Client:	Conestoga-Rovers and Associates
Site Address:	800 Franklin Street, Oakland, CA
Well ID:	MW-6
Well Diameter:	2"
Purging Device:	Peristaltic Pump
Sampling Method:	Peristaltic Pump
Total Well Depth from top of casing:	32.40
Water level at the start of purge from top of casing:	22.91
Approximate depth of water intake on pump from top of casing:	27.0

TIME:	Purged Rate (ml/min)	TEMP (Celsius)	pH	COND. (µS/cm)	ORP (mV)	DO (mg/L)	Drawdown Water Level (ft)	Turbidity (NTU)	Comments
04:05	100	--	--	--	--	--	22.91	-	
04:08	100	18.0	6.84	1740	-19	0.93	22.93	49	
04:11	100	17.7	6.87	1712	-21	0.89	22.95	46	
04:14	100	17.6	6.87	1710	-22	0.86	22.98	44	
04:17	100	17.6	6.89	1710	-24	0.86	22.98	47	
04:20	100	17.6	6.90	1709	-25	0.86	22.98	47	
									total purge volume = 1500 ml

Sample ID:	Date:	Time	Container Type	Preservative	Analytes	Method
MW-6	9/27/12	04:21	see COC	see COC	see COC	see COC

Signature: 



MICRO PURGE WELL SAMPLING FORM

Date:	9/27/2012
Client:	Conestoga-Rovers and Associates
Site Address:	800 Franklin Street, Oakland, CA
Well ID:	MW-7
Well Diameter:	2"
Purging Device:	Peristaltic Pump
Sampling Method:	Peristaltic Pump
Total Well Depth from top of casing:	35.50
Water level at the start of purge from top of casing:	23.22
Approximate depth of water intake on pump from top of casing:	30.0

TIME:	Purged Rate (ml/min)	TEMP (Celsius)	pH	COND. (µS/cm)	ORP (mV)	DO (mg/L)	Drawdown Water Level (ft)	Turbidity (NTU)	Comments
03:02	100	--	--	--	--	--	23.22	—	
03:05	100	19.8	7.12	695	25	0.81	23.25	31	
03:08	100	20.1	7.07	662	29	0.88	23.27	19	
03:11	100	20.3	7.06	640	30	0.88	23.27	24	
03:14	100	20.3	7.02	638	30	0.89	23.27	21	
03:17	100	20.3	7.02	637	31	0.89	23.28	22	
									total purge volume = 1500 ml

Sample ID:	Date:	Time	Container Type	Preservative	Analytes	Method
MW-7	9/27/12	03:18	see COC	see COC	see COC	see COC

Signature: