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**9:47 am, May 31, 2012**

Alameda County  
Environmental Health

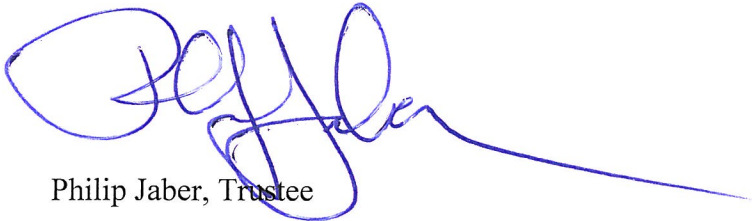
Mr. Mark Detterman  
Alameda County Environmental Health Care Services  
Department of Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502

Re: Former Olympic Service Station  
1436 Grant Avenue  
San Lorenzo, California  
ACEHD Case No. RO0000373, GeoTacker No. T0600102256

Dear Mr. Detterman:

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

Sincerely,  
George and Frida Jaber 1989 Family Trust



Philip Jaber, Trustee



**CONESTOGA-ROVERS  
& ASSOCIATES**

5900 Hollis Street, Suite A, Emeryville, California 94608  
Telephone: 510-420-0700 Facsimile: 510-420-9170  
www.CRAworld.com

July 21, 2008

Mr. Steven Plunkett  
Alameda County Environmental Health Department  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502

Re: **Second Quarter 2008 Monitoring Report**  
Former Olympic Service Station  
1436 Grant Avenue  
San Lorenzo, California  
Alameda County RO #373

Dear Mr. Plunkett:

On behalf of George Jaber of Encinal Properties, Conestoga-Rovers & Associates, Inc. (CRA) has prepared this monitoring report for the site referenced above. The site is a former Olympic Oil service station located at 1436 Grant Avenue in San Lorenzo, California (Figure 1). San Lorenzo Auto Repair currently operates on the site. Soil and groundwater investigations, as well as five quarterly groundwater monitoring and sampling events occurred on the site from 1999 to 2002. No additional work appears to have occurred between 2002 and 2007. Alameda County Environmental Health Department (ACEHD) requested reinstatement of the groundwater monitoring program in a letter dated December 4, 2006, and monitoring/sampling resumed in February 2007. The property is owned by Mr. George Jaber of Encinal Properties and Mr. Tony Malonzo operates the auto repair shop at the site. Commercial properties are located south and southwest of the site. A school is located north of the site and the remaining properties in the vicinity of the site are residential.

On July 10, 1998, four steel, single-walled underground storage tanks (USTs) were removed from the site. These USTs consisted of one 10,000-gallon gasoline, one 8,000-gallon gasoline, one 5,000-gallon diesel and one 250-gallon used-oil tank (Figure 2). Six dispensers, located on two islands north of the auto repair building, were also removed. Second Quarter 2008 activities are summarized below.

## **SECOND QUARTER 2008 ACTIVITIES**

On May 2, 2008, Muskan Environmental Sampling (Muskan) monitored and sampled groundwater in wells MW-1, MW-2 and MW-3 (Figure 2). Monitoring well construction details are presented in Table 1. Groundwater monitoring and analytical data are summarized in Table 2. The associated field data sheets are presented as Attachment A. The laboratory analytical report is presented as Attachment B. CRA's standard field procedures for groundwater monitoring and sampling are presented as Attachment C.

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During the Second Quarter 2008 event, groundwater was measured between 7.12 and 7.52 feet below top of casing and flowed toward the west-southwest at a gradient of approximately 0.004 feet per foot (ft/ft). (Figure 2). As illustrated by the rose diagram on Figure 2, the First Quarter 2007 through Second Quarter 2008 groundwater flow direction has been consistently toward the west-southwest.

Total petroleum hydrocarbons as gasoline (TPHg) were detected only in well MW-3 at a concentration of 68 micrograms per liter ( $\mu\text{g/l}$ ). TPH as diesel (TPHd) was not detected in any of the wells. Benzene was detected only in well MW-3 at 2.3  $\mu\text{g/l}$ . No toluene, ethylbenzene or xylenes were detected. Methyl-tertiary butyl ether (MTBE) was detected in wells MW-1, MW-2 and MW-3 at concentrations of 240, 83 and 86  $\mu\text{g/l}$ , respectively. CRA recommends a continuation of the groundwater monitoring program to track petroleum hydrocarbon concentration trends as site delineation continues.

No TPHd, BTEX, fuel oxygenates other than MTBE, or lead scavengers were detected, with the exception of well MW-3, where benzene and t-Butyl alcohol (TBA) were reported at 2.3 and 7.2  $\mu\text{g/l}$ , respectively in the May 2 sample. Wells MW-1 and MW-2 have reported no detected constituent concentrations for at least the last six sampling events. Well MW-3 has contained no reported concentrations of TPHd, toluene, ethylbenzene, xylenes or fuel oxygenates (except MTBE and TBA, as mentioned above) since sampling was resumed in the First Quarter of 2007. Only TPHg, benzene and MTBE have been detected in MW-3, and all three are exhibiting decreasing concentrations. As a result, CRA recommends a reduction of analyses with the elimination of TPHd and oxygenates, except MTBE. We recommend that samples be analyzed for TPHg by EPA Method 8015, BTEX by EPA Method 8021 and MTBE by EPA Method 8260B. This modification to the analytic protocol will reduce the quarterly monitoring costs and provide lower detection limits for the BTEX compounds. This request for modification to the existing analytic program will be submitted under separate cover for your consideration.

### **ACTIVITIES PLANNED FOR THE THIRD QUARTER OF 2008**

Muskan will monitor depth to water and collect samples from all three wells at the site. CRA will prepare a table summarizing the groundwater elevation and analytical data and a generate a potentiometric map that will be submitted in a monitoring report along with the field data sheets, standard field procedures and the laboratory analytical report.

CRA, under its former name of Cambria Environmental Technology, Inc., submitted the *Site Assessment and Preferential Pathway Study Workplan* to ACEHD on March 2, 2007. On May 31, 2007, CRA submitted the *Site Assessment Workplan Addendum* requested by the ACEHD. CRA submitted the *Site Assessment Workplan, Addendum 2* as requested by ACEHD on September 28,



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Second Quarter 2008 Monitoring Report  
Former Olympic Service Station  
July 21, 2008

2007 and received approval of the scope of work in an ACEHD letter dated January 22, 2008. Results of the investigation are documented in the CRA report titled, *Site Investigation, Preferential Pathway and Workplan Report*, dated April 29, 2008. CRA and Mr. Jaber are awaiting response from ACEHD on the workplan before proceeding with scheduling of additional investigation activities.

## CLOSING

We appreciate this opportunity to work with you on this project. Please contact either Eric Syrstad at (510) 420-3317 or Robert Foss at (510) 420-3348 if you have any questions or comments.

Conestoga-Rovers & Associates, Inc. (CRA) prepared this document for use by our client and appropriate regulatory agencies. It is based partially on information available to CRA from outside sources and/or in the public domain, and partially on information supplied by CRA and its subcontractors. CRA makes no warranty or guarantee, expressed or implied, included or intended in this document, with respect to the accuracy of information obtained from these outside sources or the public domain, or any conclusions or recommendations based on information that was not independently verified by CRA. This document represents the best professional judgment of CRA. None of the work performed hereunder constitutes or shall be represented as a legal opinion of any kind or nature.

Sincerely,  
**Conestoga-Rovers & Associates, Inc.**

John A. Miller  
Staff Geologist

Robert C. Foss, P.G.  
Senior Project Geologist



- Figures:           1 – Vicinity Map  
                      2 – Groundwater Elevation Contour and Hydrocarbon Concentration Map
- Tables:            1 – Monitoring Well Construction Details  
                      2 – Groundwater Analytical Data
- Attachments:    A – Field Data Sheets  
                      B – Laboratory Analytical Report  
                      C – Standard Field Procedures

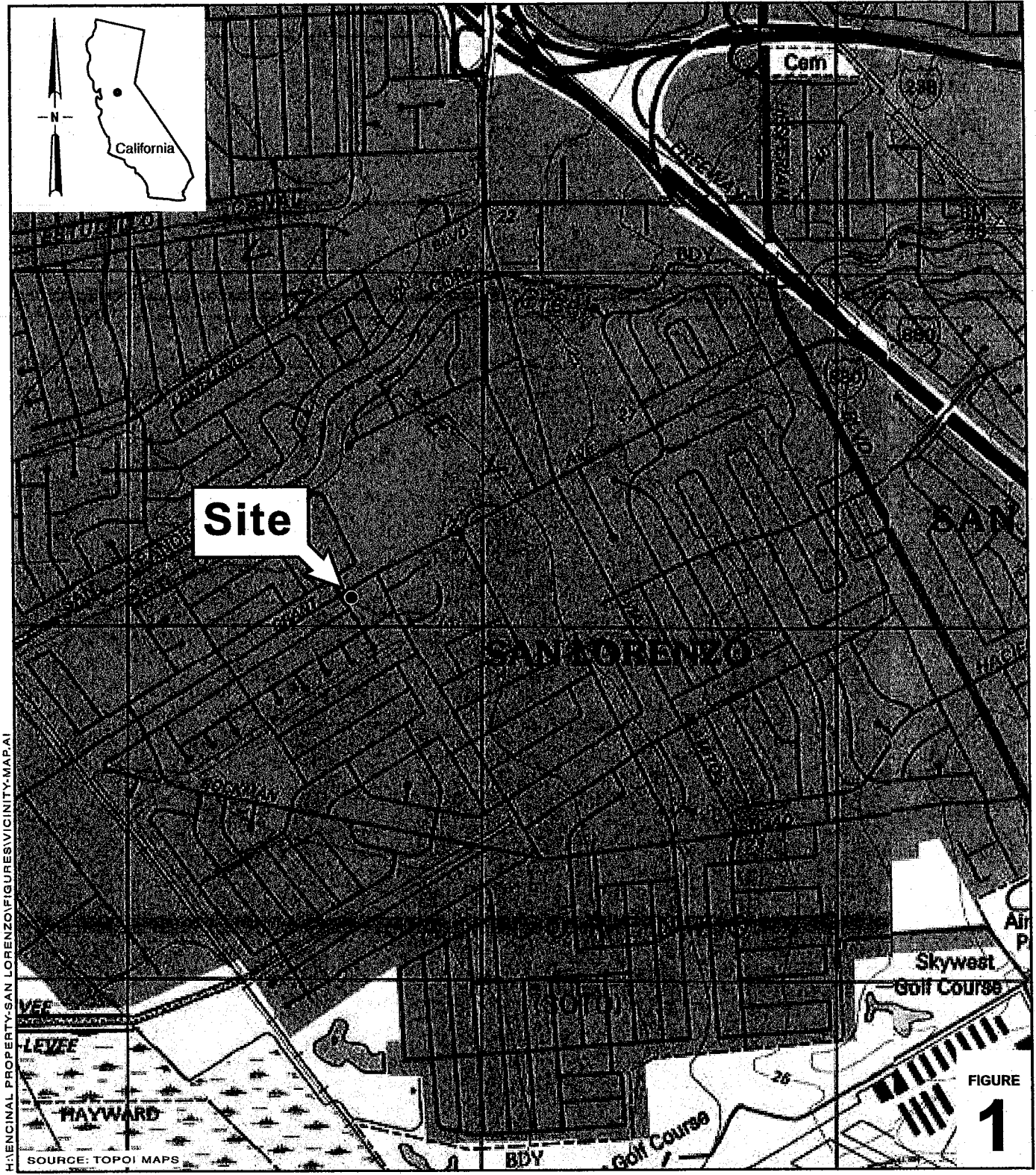


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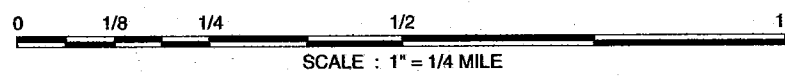
Cc: Mr. George Jaber, Encinal Properties, 2801 Encinal Avenue, Alameda, CA 94501-4726

I:\MR\Encinal Property-San Lorenzo\QM\2008\2Q08\2Q08 QMR.doc



HA:ENCINAL PROPERTY-SAN LORENZO:FIGURES:VICINITY-MAP.A1

SOURCE: TOPOI MAPS



**Olympic Service Station**  
 1436 Grant Avenue  
 San Lorenzo, California



**CONESTOGA-ROVERS  
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**Vicinity Map**

FIGURE  
**1**



**EXPLANATION**

- MW-1 ● Monitoring well location
- BH-A ● Soil boring location
- Confirmation soil sample location (July 1998)
- ▣ Confirmation soil sample location (December 1998)
- 8.00 Groundwater elevation contour line

Well ID	ELEV	TPH	Benzene	MTBE
MW-1	8.19	<50	<50	<5.0
MW-2	8.05	<50	<2.5	83
MW-3	7.98	<50	68	2.3
				86

- Well designation
- Groundwater elevation
- Hydrocarbon concentrations in micrograms per liter (µg/L)
- Groundwater flow direction and gradient

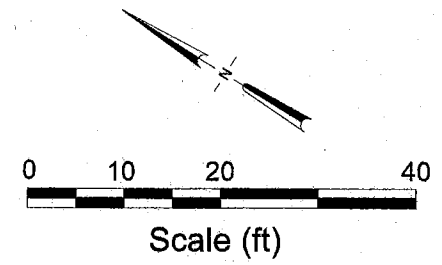
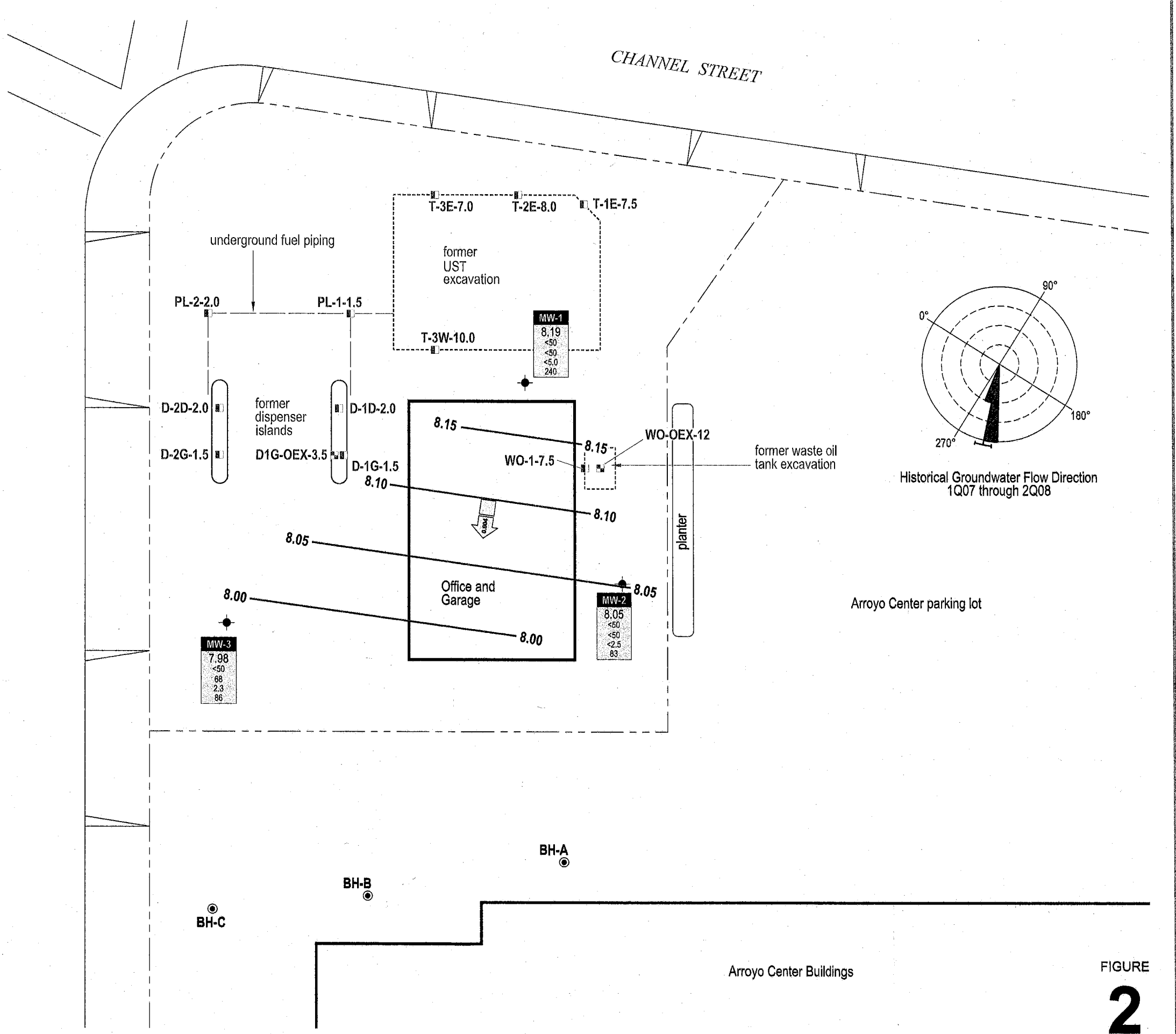


FIGURE  
**2**

# Conestoga-Rovers & Associates

**Table 1. Monitoring Well Construction Details - Encinal Properties, Former Olympic Service Station, 1436 Grant Avenue, San Lorenzo, California**

Well ID	Date Installed	Borehole diameter (in)	Depth of borehole (ft)	Casing diameter (in)	Screened interval (ft bgs)	Slot Size (in)	Filter Pack (ft bgs)	Bentonite seal (ft bgs)	Cement (ft bgs)	TOC elevation (ft above msl)
MW-1	9/24/1999	8	26.5	2	5-26.5	0.020	3.5-26.5	3-3.5	1.5-3	15.71
MW-2	9/24/1999	8	20.0	2	5-20	0.020	3.5-20	3-3.5	1.5-3	15.17
MW-3	9/24/1999	8	21.5	2	5-21	0.020	3.5-21.5	3-3.5	1.5-3	15.13

## **Abbreviations / Notes**

ft = feet

in = inches

ft bgs = feet below grade surface

ft above msl = feet above mean sea level

TOC = top of casing

TOC elevations were surveyed on March 8, 2007 by Virgil Chavez Land Surveying.

Prior to this date, TOC elevation were relative to a project datum determined by Aqua Science Engineers, Inc. in 1998.



Table 2. Groundwater Analytical Data - Encinal Properties, Former Olympic Service Station, 1436 Grant Avenue, San Lorenzo, California

Well ID	Date	DTW	GWE	Oil & Grease	TPHmo	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	SVOCs & HVOCs	DIPE	TAME	ETBE	TBA	Ethanol	EDB	1,2-DCA	Notes		
				Concentrations in micrograms per liter (µg/L)																			
(ft above msl)																							
Final ESL (F-1e) : Groundwater is a current or potential drinking water resource				NE	NE	100	100	1	40	30	20	5	--	NE	NE	NE	NE	NE	NE	NE	NE	0.5	
Final ESL (E-1) Groundwater Screening Levels for Evaluation of Potential Vapor Intrusion				Residential		NE	NE	use soil gas	use soil gas	540	380,000	170,000	160,000	24,000	--	NE	NE	NE	use soil gas	NE	NE	200	
				Commercial		NE	NE	use soil gas	use soil gas	1,800	530,000	170,000	160,000	80,000	--	NE	NE	NE	use soil gas	NE	NE	690	

Grab Groundwater Samples

Pit Water	9/13/1998	--	--	--	--	2,100	3,600	350	130	39	380	17,000	--	--	--	--	--	--	--	--	--	
BH-A	4/30/2002	17/8	--	--	<100	<100	180	<0.50	<0.50	8.8	<0.50	82	--	<0.50	<0.50	<0.50	<5.0	--	--	--	--	
BH-B	4/30/2002	16/8	--	--	<100	<200	2,300	120	11	60	150	2,000	--	<5.0	<5.0	<5.0	<5.0	--	--	--	--	
BH-C	4/30/2002	16/8	--	--	<100	<150	1,200	57	0.72	43	87	240	--	<0.50	1.0	<0.50	<5.0	--	--	--	--	
B-1-gw	2/25/2008	3/3.95	--	--	--	260,000	4,600	330	<5.0	33	<5.0	370	--	<5.0	<5.0	<5.0	<20	<500	<5.0	<5.0	<5.0	*
B-2-gw	2/25/2008	7.5/6.95	--	--	--	1,900	540	12	<2.5	<2.5	<2.5	220	--	<2.5	<2.5	<2.5	<10	<250	<2.5	<2.5	<2.5	*
B-3-gw	2/26/2008	8/NA	--	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	4.0	--	<0.5	<0.5	<0.5	<2.0	<50	<0.5	<0.5	<0.5	*
B-4-gw	2/25/2008	7.5/7.80	--	--	--	6,800	7,300	150	<50	150	<50	2,700	--	<50	<50	<50	1,700	<5,000	<50	<50	<50	*
B-5-gw	2/26/2008	8/6.40	--	--	--	250	320	<10	<10	13	<10	630	--	<10	<10	<10	<40	<1,000	<10	<10	<10	*
B-6-gw	2/26/2008	8/6.95	--	--	--	120	<50	<5.0	<5.0	<5.0	<5.0	240	--	<5.0	<5.0	<5.0	<20	<500	<5.0	<5.0	<5.0	*
B-7-gw	2/26/2008	8/6.55	--	--	--	84	<50	<0.5	<0.5	<0.5	<0.5	27	--	<0.5	<0.5	<0.5	<2.0	<50	<0.5	<0.5	<0.5	*
B-8-gw	2/25/2008	8/6.10	--	--	--	1,000	930	37	<2.5	64	23	160	--	<2.5	<2.5	<2.5	<10	<250	<2.5	<2.5	<2.5	*

Quarterly Groundwater Samples

MW-1	10/6/1999	8.35	6.65	--	--	84	3,900	<25	<25	<25	<25	3,500	--	--	--	--	--	--	--	--	--	--	*
15.00	1/13/2000	7.90	7.10	--	--	<50	<1,300	18	<13	<13	<13	1,700	--	--	--	--	--	--	--	--	--	--	*
	4/12/2000	7.08	7.92	--	--	56	<1,000	66	<10	<10	<10	1,600	--	--	--	--	--	--	--	--	--	--	*
	7/19/2000	7.66	7.34	--	--	52	<1,000	<10	<10	<10	<10	1,200	--	--	--	--	--	--	--	--	--	--	*
	10/25/2000	7.91	7.09	--	--	76	4,100	120	<25	<25	<25	6,100	--	--	--	--	--	--	--	--	--	--	*
	2/16/2007	6.32	8.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/1/2007	5.88	9.12	--	--	<250	<50	<50	<1.2	<1.2	<1.2	<1.2	78	--	<1.2	<1.2	<1.2	<12	<120	<1.2	<1.2	<1.2	*
	5/1/2007	7.24	8.47	--	--	<250	<50	<50	<5.0	<5.0	<5.0	<5.0	250	--	<5.0	<5.0	<5.0	<50	<500	<5.0	<5.0	<5.0	*
15.71	8/1/2007	7.77	7.94	--	--	<50	<50	<25	<25	<25	<25	520	--	<25	<25	<25	<250	<2500	<25	<25	<25	<25	*
	11/1/2007	7.71	8.00	--	--	<50	<50	<12	<12	<12	<12	460	--	<12	<12	<12	<120	<1,200	<12	<12	<12	<12	*
	2/1/2008	5.71	10.00	--	--	<50	<50	<2.5	<2.5	<2.5	<2.5	110	--	<2.5	<2.5	<2.5	<10	<250	<2.5	<2.5	<2.5	<2.5	*
	5/2/2008	7.52	8.19	--	--	<250	<50	<50	<5.0	<5.0	<5.0	<5.0	240	--	<5.0	<5.0	<5.0	<20	<500	<5.0	<5.0	<5.0	*
	10/6/1999	7.87	6.59	<1,000	<500	<50	70	<0.5	<0.5	<0.5	<0.5	11	ND	--	--	--	--	--	--	--	--	--	*
14.46	1/13/2000	7.46	7.00	<1,000	<500	<50	<50	<0.5	<0.5	<0.5	<0.5	6.2	ND	--	--	--	--	--	--	--	--	--	
	4/12/2000	6.67	7.79	1,100	<500	<50	<50	<0.5	<0.5	<0.5	<0.5	39	--	--	--	--	--	--	--	--	--	--	
	7/19/2000	7.23	7.23	1,300	<500	<50	<1,000	<10	<10	<10	<10	990	--	--	--	--	--	--	--	--	--	--	
	10/25/2000	7.52	6.94	--	<500	<50	370	<2.5	<2.5	<2.5	<2.5	690	--	--	--	--	--	--	--	--	--	--	
	2/16/2007	5.89	8.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	3/1/2007	5.45	9.01	--	--	<250	<50	<50	<0.5	<0.5	<0.5	<0.5	9.8	--	<0.5	<0.5	<0.5	<5.0	<50	<0.5	<0.5	<0.5	*
	5/1/2007	6.83	8.34	--	--	<250	<50	<50	<5.0	<5.0	<5.0	<5.0	120	--	<5.0	<5.0	<5.0	<50	<500	<5.0	<5.0	<5.0	*
15.17	8/1/2007	7.35	7.82	--	--	<50	<50	<5.0	<5.0	<5.0	<5.0	130	--	<5.0	<5.0	<5.0	<50	<500	<5.0	<5.0	<5.0	<5.0	*
	11/1/2007	7.27	7.90	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	19	--	<0.5	<0.5	<0.5	<5.0	<50	<0.5	<0.5	<0.5	<0.5	*
	2/1/2008	5.25	9.92	--	--	<50	<50	<0.5	<0.5	<0.5	<0.5	3.3	--	<0.5	<0.5	<0.5	<2.0	<50	<0.5	<0.5	<0.5	<0.5	*
	5/2/2008	7.12	8.05	--	--	<50	<50	<2.5	<2.5	<2.5	<2.5	83.0	--	<2.5	<2.5	<2.5	<10	<250	<2.5	<2.5	<2.5	<2.5	*
	10/6/1999	7.90	6.51	--	--	300	3,900	900	89	160	560	790	--	--	--	--	--	--	--	--	--	--	

Table 2. Groundwater Analytical Data - Encinal Properties, Former Olympic Service Station, 1436 Grant Avenue, San Lorenzo, California

Well ID	Date Sampled	DTW (ft)	GWE (ft above msl)	Oil & Grease	TPHmo	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	SVOCs & HVOCs	DIPE	TAME	ETBE	TBA	Ethanol	EDB	1,2-DCA	Notes
				Concentrations in micrograms per liter (µg/L)																	
14.41	1/13/2000	7.50	6.91	--	--	210	740	110	4.8	35	18	290	--	--	--	--	--	--	--	--	--
	4/12/2000	6.61	7.80	--	--	640	2,200	650	9.7	180	24	140	--	--	--	--	--	--	--	--	--
MW-3 (cont.)	7/19/2000	7.24	7.17	--	--	270	2,700	420	<2.5	160	<2.5	99	--	--	--	--	--	--	--	--	*
	10/25/2000	7.52	6.89	--	--	150	710	180	<2.5	24	<2.5	71	--	--	--	--	--	--	--	--	*
	2/16/2007	5.90	8.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
15.13	3/1/2007	5.44	8.97	--	<250	<50	82	20	<1.7	<1.7	<1.7	100	--	<1.7	<1.7	<1.7	<17	<170	<1.7	<1.7	*
	5/1/2007	6.87	8.26	--	<250	<50	<50	<5.0	<5.0	<5.0	<5.0	88	--	<5.0	<5.0	<5.0	<50	<500	<5.0	<5.0	*
	8/1/2007	7.40	7.73	--	--	<50	130	12	<2.5	<2.5	<2.5	98	--	<2.5	<2.5	<2.5	<25	<250	<2.5	<2.5	*
	11/1/2007	7.35	7.78	--	--	<50	77	<2.5	<2.5	<2.5	<2.5	68	--	<2.5	<2.5	<2.5	<25	<250	<2.5	<2.5	*
	2/1/2008	5.28	9.85	--	--	<50	<50	<2.5	<2.5	<2.5	<2.5	97	--	<2.5	<2.5	<2.5	<10	<250	<2.5	<2.5	*
	5/2/2008	7.15	7.98	--	--	<50	68	2.3	<1.7	<1.7	<1.7	86	--	<1.7	<1.7	<1.7	7.20	<170	<1.7	<1.7	

**Abbreviations / Notes**

TOC = Top of casing  
 DTW = Depth to water  
 GWE = Groundwater elevation in feet above mean sea level  
 ft above msl = feet above mean sea level  
 178 = Depth to first encountered groundwater/depth of static groundwater  
 <n = Not detected above laboratory reporting limit  
 -- = Not sampled, not analyzed, not available  
 Oil and grease by EPA Method 5520 E&F  
 TPHd = Total Petroleum Hydrocarbons as diesel range by EPA Method 8015  
 TPHg = Total Petroleum Hydrocarbons as gasoline range by EPA Method 8015  
 TPHmo = Total Petroleum Hydrocarbons as motor oil by EPA Method 8015  
 Benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8020  
 MTBE = Methyl tertiary butyl ether by EPA Method 8260  
 Di-isopropyl ether (DIPE), tertiary-amyl methyl ether (TAME), ethyl tertiary-butyl ether (ETBE), tertiary-butyl alcohol (TBA) by EPA Method 8260B  
 SVOCs = Semi-volatile organic compounds by EPA Method 8270, refer to corresponding analytical laboratory report for a full list of compounds  
 HVOCs = Halogenated volatile organic compounds by EPA Method 8010, refer to corresponding analytical laboratory report for a full list of compounds  
 \* = See Analytical Laboratory Report for laboratory sample description and TPH chromatogram interpretation.  
 TOC elevations were surveyed on March 8, 2007 by Virgil Chavez Land Surveying. Prior to this date, TOC elevation were relative to a project datum determined by Aqua Science Engineers, Inc. in 1998.


**ATTACHMENT A**

**Field Data Sheets**





## WELL SAMPLING FORM

<b>Date:</b>		5/2/2008				
<b>Client:</b>		Conestoga-Rovers and Associates				
<b>Site Address:</b>		1436 Grant Avenue, San Lorenzo, CA				
<b>Well ID:</b>		MW-1				
<b>Well Diameter:</b>		2"				
<b>Purging Device:</b>		Disposable Bailer				
<b>Sampling Method:</b>		Disposable Bailer				
<b>Total Well Depth:</b>		24.36	<b>Fe=</b> mg/L			
<b>Depth to Water:</b>		7.52	<b>ORP=</b> mV			
<b>Water Column Height:</b>		16.84	<b>DO=</b> mg/L			
<b>Gallons/ft:</b>		0.16				
<b>1 Casing Volume (gal):</b>		2.69	<b>COMMENTS:</b> very turbid, very silty			
<b>3 Casing Volumes (gal):</b>		8.08				
<b>TIME:</b>	<b>CASING VOLUME (gal)</b>	<b>TEMP (Celsius)</b>			<b>pH</b>	<b>COND. (µS)</b>
9:10	2.7	18.7			7.69	1880
9:15	5.4	19.3			7.64	1886
9:20	8.1	19.1	7.71	1896		
<b>Sample ID:</b>	<b>Sample Date:</b>	<b>Sample Time:</b>	<b>Container Type</b>	<b>Preservative</b>	<b>Analytes</b>	<b>Method</b>
MW-1	5/2/2008	9:25	40 ml VOA, 1 L Amber	HCl, ICE	TPHg TPHd 9 Oxy's	8015 with silica gel clean up, 8021, 8260
				<b>Signature:</b>		



## WELL SAMPLING FORM

<b>Date:</b>		5/2/2008				
<b>Client:</b>		Conestoga-Rovers and Associates				
<b>Site Address:</b>		1436 Grant Avenue, San Lorenzo, CA				
<b>Well ID:</b>		MW-2				
<b>Well Diameter:</b>		2"				
<b>Purging Device:</b>		Disposable Bailer				
<b>Sampling Method:</b>		Disposable Bailer				
<b>Total Well Depth:</b>		19.35	<b>Fe=</b> mg/L			
<b>Depth to Water:</b>		7.12	<b>ORP=</b> mV			
<b>Water Column Height:</b>		12.23	<b>DO=</b> mg/L			
<b>Gallons/ft:</b>		0.16				
<b>1 Casing Volume (gal):</b>		1.96	<b>COMMENTS:</b> very turbid, very silty			
<b>3 Casing Volumes (gal):</b>		5.87				
<b>TIME:</b>	<b>CASING VOLUME (gal)</b>	<b>TEMP (Celsius)</b>			<b>pH</b>	<b>COND. (µS)</b>
8:10	2.0	19.6			7.33	1804
8:15	3.9	19.3			7.40	1791
8:20	5.9	19.3	7.41	1789		
<b>Sample ID:</b>	<b>Sample Date:</b>	<b>Sample Time:</b>	<b>Container Type</b>	<b>Preservative</b>	<b>Analytes</b>	<b>Method</b>
MW-2	5/2/2008	8:25	40 ml VOA, 1 L Amber	HCl, ICE	TPHg TPHd 9 Oxy's	8015 with silica gel clean up, 8021, 8260
				<b>Signature:</b>		



## WELL SAMPLING FORM

<b>Date:</b>		5/2/2008				
<b>Client:</b>		Conestoga-Rovers and Associates				
<b>Site Address:</b>		1436 Grant Avenue, San Lorenzo, CA				
<b>Well ID:</b>		MW-3				
<b>Well Diameter:</b>		2"				
<b>Purging Device:</b>		Disposable Bailer				
<b>Sampling Method:</b>		Disposable Bailer				
<b>Total Well Depth:</b>		19.05	<b>Fe=</b> <b>mg/L</b>			
<b>Depth to Water:</b>		7.15	<b>ORP=</b> <b>mV</b>			
<b>Water Column Height:</b>		11.90	<b>DO=</b> <b>mg/L</b>			
<b>Gallons/ft:</b>		0.16				
<b>1 Casing Volume (gal):</b>		1.90	<b>COMMENTS:</b> very turbid, very silty			
<b>3 Casing Volumes (gal):</b>		5.71				
<b>TIME:</b>	<b>CASING VOLUME (gal)</b>	<b>TEMP (Celsius)</b>			<b>pH</b>	<b>COND. (µS)</b>
8:40	1.9	18.7			7.57	1554
8:45	3.8	18.9			7.57	1578
8:50	5.7	18.9	7.56	1588		
<b>Sample ID:</b>	<b>Sample Date:</b>	<b>Sample Time:</b>	<b>Container Type</b>	<b>Preservative</b>	<b>Analytes</b>	<b>Method</b>
MW-3	5/2/2008	8:55	40 ml VOA, 1 L Amber	HCl, ICE	TPHg TPHd 9 Oxy's	8015 with silica gel clean up, 8021, 8260
				<b>Signature:</b>		

**ATTACHMENT B**

**Laboratory Analytical Report**





**McC Campbell Analytical, Inc.**

"When Quality Counts"

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

Conestoga-Rovers & Associates  5900 Hollis St, Suite A  Emeryville, CA 94608	Client Project ID: #629100; Encinal Properties, 1436 Grant Ave,	Date Sampled: 05/02/08
		Date Received: 05/02/08
	Client Contact: Brandon Wilken	Date Reported: 05/14/08
	Client P.O.:	Date Completed: 05/14/08

**WorkOrder: 0805052**

May 14, 2008

Dear Brandon:

Enclosed within are:

- 1) The results of the 3 analyzed samples from your project: **#629100; Encinal Properties, 1436**
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

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

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

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius  
Laboratory Manager  
McC Campbell Analytical, Inc.

0805052

**McCAMPBELL ANALYTICAL, INC.**  
 1534 WILLOW PASS ROAD  
 PITTSBURG, CA 94565-1701  
 Website: [www.mccampbell.com](http://www.mccampbell.com) Email: [main@mccampbell.com](mailto:main@mccampbell.com)  
 Telephone: (877) 252-9262 Fax: (925) 252-9269

**CHAIN OF CUSTODY RECORD**  
 TURN AROUND TIME       
 RUSH 24 HR 48 HR 72 HR 5 DAY  
 GeoTracker EDF  PDF  Excel  Write On (DW)

Report To: Brandon Wilken Bill To: Conestoga-Rovers & Associates  
 Company: Conestoga-Rovers & Associates  
5900 Marlin St. #2-A  
Emeryville, CA  
 Tele: (510) 420-3355 E-Mail: wilken.brandon@cr.com  
 Project #: 029100 Fax: (510) 420-9170  
 Project Location: 1436 Grant Ave, San Francisco, CA  
 Project Name: Facial Properties  
 Sampler Signature: Muskan Environmental Sampling

Analysis Request Other Comments

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED							
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO <sub>3</sub>	Other				
+1 MW-1		5-2-08	9:25	4	100ml Amber	X					X	X	X	X				
+1 MW-2			8:25	1		X					X	X	X	X				
+1 MW-3			8:55	1		X					X	X	X	X				
TB				1	100ml	X					X	X	X	X				Hold

TPH as Gas (602 / 8021 + 8015)	
MTBE / RTEX ONLY (EPA 602 / 8021)	
TPH as Diesel (8015)	
Total Petroleum Oil & Grease (1664 / 5520 E/R & F)	
Total Petroleum Hydrocarbons (418.1)	
EPA 502.3 / 601 / 8010 / 8031 (HVOCs)	
EPA 505 / 608 / 8081 (C) Pesticides	
EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	
EPA 507 / 8141 (NF Pesticides)	
EPA 515 / 8151 (Acidic C) Herbicides	
EPA 524.2 / 624 / 8260 (VOCs)	
EPA 515.2 / 625 / 8270 (SVOCs)	
EPA 8270 SIM / 8310 (PAHs / PNA's)	
CAM 17 Metals (200.7 / 201.8 / 6010 / 6020)	
LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	
Lead (200.7 / 200.8 / 6010 / 6020)	
As, Cd, Cr, Cu, Fe, Ni, Pb, Se, Tl, V, Zn	
Other	
Comments	

Relinquished By: [Signature] Date: 5/2/08 Time: 1040 Received By: [Signature]  
 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received By: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received By: \_\_\_\_\_

ICE/T   
 GOOD CONDITION   
 HEAD SPACE ABSENT   
 DECHLORINATED IN LAB   
 APPROPRIATE CONTAINERS   
 PRESERVED IN LAB   
 COMMENTS:  
 VOAS O&G METALS OTHER  
 PRESERVATION pH<2

**McC Campbell Analytical, Inc.**



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

**CHAIN-OF-CUSTODY RECORD**

WorkOrder: 0805052

ClientCode: CETE

WriteOn  EDF  Excel  Fax  Email  HardCopy  ThirdParty  J-flag

Report to:

Brandon Wilken  
Conestoga-Rovers & Associates  
5900 Hollis St, Suite A  
Emeryville, CA 94608

Email: bwilken@CRAworld.com  
cc:  
PO:  
ProjectNo: #629100; Encinal Properties, 1436  
Grant Ave,

Bill to:

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

Requested TAT: 5 days

Date Received: 05/02/2008

Date Printed: 05/02/2008

(510) 420-0700 FAX (510) 420-9170

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	
0805052-001	MW-1	Water	5/2/2008 9:25	<input type="checkbox"/>	A	B	A										
0805052-002	MW-2	Water	5/2/2008 8:25	<input type="checkbox"/>	A	B											
0805052-003	MW-3	Water	5/2/2008 8:55	<input type="checkbox"/>	A	B											

Test Legend:

1	G-MBTX W	2	MBTEXOXY-8260B W	3	PREF REPORT	4		5	
6		7		8		9		10	
11		12							

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

Prepared by: Ana 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.



**Sample Receipt Checklist**

Client Name: **Conestoga-Rovers & Associates** Date and Time Received: **5/2/2008 11:45:33 AM**  
Project Name: **#629100; Encinal Properties, 1436 Grant Ave,** Checklist completed and reviewed by: **Ana Venegas**  
WorkOrder N°: **0805052** Matrix Water Carrier: Client Drop-In

**Chain of Custody (COC) Information**

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

**Sample Receipt Information**

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

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

All samples received within holding time? Yes  No   
Container/Temp Blank temperature Cooler Temp: 5.1°C NA   
Water - VOA vials have zero headspace / no bubbles? Yes  No  No VOA vials submitted   
Sample labels checked for correct preservation? Yes  No   
TTLC Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA



Client contacted: Date contacted: Contacted by:

Comments:



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

Conestoga-Rovers & Associates  5900 Hollis St, Suite A  Emeryville, CA 94608	Client Project ID: #629100; Encinal Properties, 1436 Grant Ave,	Date Sampled: 05/02/08
	Client Contact: Brandon Wilken	Date Received: 05/02/08
	Client P.O.:	Date Extracted: 05/06/08
		Date Analyzed: 05/06/08

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0805052

Lab ID	0805052-001B	0805052-002B	0805052-003B	Reporting Limit for DF =1	
Client ID	MW-1	MW-2	MW-3		
Matrix	W	W	W		
DF	10	5	3.3	S	W

Compound	Concentration			ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND<5.0	ND<2.5	ND<1.7	NA	0.5
Benzene	ND<5.0	ND<2.5	2.3	NA	0.5
t-Butyl alcohol (TBA)	ND<20	ND<10	7.2	NA	2.0
1,2-Dibromoethane (EDB)	ND<5.0	ND<2.5	ND<1.7	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<5.0	ND<2.5	ND<1.7	NA	0.5
Diisopropyl ether (DIPE)	ND<5.0	ND<2.5	ND<1.7	NA	0.5
Ethanol	ND<500	ND<250	ND<170	NA	50
Ethylbenzene	ND<5.0	ND<2.5	ND<1.7	NA	0.5
Ethyl tert-butyl ether (ETBE)	ND<5.0	ND<2.5	ND<1.7	NA	0.5
Methyl-t-butyl ether (MTBE)	240	83	86	NA	0.5
Toluene	ND<5.0	ND<2.5	ND<1.7	NA	0.5
Xylenes	ND<5.0	ND<2.5	ND<1.7	NA	0.5

### Surrogate Recoveries (%)

%SS1:	98	99	99		
%SS2:	98	97	96		
%SS3:	98	99	98		
Comments	i	i	i		

\* 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 µg/wipe.

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

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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Conestoga-Rovers & Associates  5900 Hollis St, Suite A  Emeryville, CA 94608	Client Project ID: #629100; Encinal Properties, 1436 Grant Ave,	Date Sampled: 05/02/08
	Client Contact: Brandon Wilken	Date Received: 05/02/08
	Client P.O.:	Date Extracted: 05/02/08
		Date Analyzed: 05/08/08-05/14/08

### Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up\*

Extraction method: SW3510C/3630C

Analytical methods: SW8015C

Work Order: 0805052

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	TPH-Motor Oil (C18-C36)	DF	% SS
0805052-001A	MW-1	W	ND,i	ND	1	105
0805052-002A	MW-2	W	ND,i	ND	1	108
0805052-003A	MW-3	W	ND,i	ND	1	96

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	250	µg/L
	S	NA	NA	mg/Kg

\* 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; &) low or no surrogate due to matrix interference.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant; d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel (asphalt); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to matrix interference; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit; p) see attached narrative.



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

Conestoga-Rovers & Associates  5900 Hollis St, Suite A  Emeryville, CA 94608	Client Project ID: #629100; Encinal Properties, 1436 Grant Ave,	Date Sampled: 05/02/08
	Client Contact: Brandon Wilken	Date Received: 05/02/08
	Client P.O.:	Date Extracted: 05/06/08-05/07/08
		Date Analyzed: 05/06/08-05/07/08

## Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline\*

Extraction method SW5030B

Analytical methods SW8015Cm

Work Order: 0805052

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	MW-1	W	ND,i	1	93
002A	MW-2	W	ND,i	1	95
003A	MW-3	W	68,m,i	1	101

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

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

# cluttered chromatogram; sample peak coelutes with surrogate peak.

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



**QC SUMMARY REPORT FOR SW8021B/8015Cm**

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0805052

Analyte	EPA Method SW8021B/8015Cm		Extraction SW5030B			BatchID: 35347			Spiked Sample ID: 0805063-001A			
	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) <sup>f</sup>	ND	60	93.2	84.6	9.64	103	101	2.30	70 - 130	20	70 - 130	20
MTBE	ND	10	90.3	99	9.24	102	108	5.69	70 - 130	20	70 - 130	20
Benzene	ND	10	89.3	87.3	2.33	89.2	96.4	7.81	70 - 130	20	70 - 130	20
Toluene	ND	10	87.2	85.1	2.49	98.8	106	7.12	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	88.7	87.7	1.16	96.9	104	6.86	70 - 130	20	70 - 130	20
Xylenes	ND	30	81.3	79.1	2.64	107	114	6.49	70 - 130	20	70 - 130	20
%SS:	97	10	105	102	3.05	95	98	2.65	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 35347 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0805052-001A	05/02/08 9:25 AM	05/07/08	05/07/08 8:01 AM	0805052-002A	05/02/08 8:25 AM	05/06/08	05/06/08 5:30 AM
0805052-003A	05/02/08 8:55 AM	05/06/08	05/06/08 4:58 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 SW8260B**

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0805052

Analyte	EPA Method SW8260B			Extraction SW5030B			BatchID: 35362			Spiked Sample ID: 0805063-005B			
	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)				
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD	
tert-Amyl methyl ether (TAME)	ND	10	107	102	4.74	107	112	4.75	70 - 130	30	70 - 130	30	
Benzene	ND	10	107	103	4.16	109	114	4.74	70 - 130	30	70 - 130	30	
t-Butyl alcohol (TBA)	ND	50	107	105	1.34	107	113	5.84	70 - 130	30	70 - 130	30	
1,2-Dibromoethane (EDB)	ND	10	103	99.6	3.58	106	111	4.70	70 - 130	30	70 - 130	30	
1,2-Dichloroethane (1,2-DCA)	ND	10	116	111	4.67	116	123	5.56	70 - 130	30	70 - 130	30	
Diisopropyl ether (DIPE)	ND	10	99.6	94.8	4.91	98.7	104	5.15	70 - 130	30	70 - 130	30	
Ethyl tert-butyl ether (ETBE)	ND	10	108	102	5.42	108	113	4.52	70 - 130	30	70 - 130	30	
Methyl-t-butyl ether (MTBE)	ND	10	116	111	4.53	117	123	5.29	70 - 130	30	70 - 130	30	
Toluene	ND	10	90.8	86.9	4.37	92.7	96.4	3.96	70 - 130	30	70 - 130	30	
%SS1:	101	10	103	101	2.00	101	101	0	70 - 130	30	70 - 130	30	
%SS2:	99	10	99	98	0.816	99	100	0.985	70 - 130	30	70 - 130	30	
%SS3:	101	10	95	95	0	94	94	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 35362 SUMMARY**

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0805052-001B	05/02/08 9:25 AM	05/06/08	05/06/08 4:20 PM	0805052-002B	05/02/08 8:25 AM	05/06/08	05/06/08 4:59 PM
0805052-003B	05/02/08 8:55 AM	05/06/08	05/06/08 5:39 PM				

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

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

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

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.



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### QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0805052

EPA Method SW8015C	Extraction SW3510C/3630C					BatchID: 35270			Spiked Sample ID: N/A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	107	107	0	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	118	117	0.732	N/A	N/A	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 35270 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0805052-001A	05/02/08 9:25 AM	05/02/08	05/08/08 10:15 PM	0805052-002A	05/02/08 8:25 AM	05/02/08	05/08/08 11:25 PM
0805052-003A	05/02/08 8:55 AM	05/02/08	05/14/08 4:17 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.

DHS ELAP Certification N° 1644

 QA/QC Officer

**ATTACHMENT C**

**Standard Field Procedures**

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## 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. CRA's specific 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 either by hand using a disposal or PVC bailer or by using an aboveground pump (e.g. peristaltic or Wattera™) or down-hole pump (e.g. Grundfos™ or DC Purger pump).

Groundwater wells shall be purged approximately three to ten well-casing volumes (depending on the regulatory agency requirements) or until groundwater parameters of temperature, pH, and conductivity have stabilized to within 10% for three consecutive readings. Temperature, pH, and conductivity shall be measured and recorded at least once per well casing volume removed. 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, dissolved oxygen (DO), and oxidation-reduction potential (ORP) shall also be measured prior to collection of each groundwater sample.

Groundwater samples shall be collected after the well has been purged. If the well is slow to recharge, a sample shall be collected after the water column is allowed to recharge to 80% of the pre-purging static water level. If the well does not recover to 80% in 2 hours, a sample shall be collected once there is enough groundwater in the well. Groundwater samples shall be collected using clean disposable bailers or pumps (if an operating remediation system exists on site and the project manager approves of its use for sampling) and shall be decanted into clean containers

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supplied by the analytical laboratory. New latex gloves and disposable tubing or bailers shall be used for sampling each well. If a PVC bailer or down-hole pump is used for groundwater purging, it shall be decontaminated before purging each well by using soapy water consisting of Liqui-nox™ or Alconox™ followed by one rinse of clean tap water and then two rinses of distilled water. If a submersible pump with non-dedicated discharge tubing is used for groundwater purging, both the inside and outside of pump and discharge tubing shall be decontaminated as described above.

## 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.