5900 Hollis Street, Suite A Emeryville, California 94608 Telephone: (510) 420-0700 Fax: (57 www.CRAworld.com

Fax: (510) 420-9170

				ANG	N/1	<b>N</b> I		
				ANS	MITT.	AL .		
DATE:	October 23	3 <i>,</i> 200	9	Refe	RENCE NO	D.:	62910	00
				Proj	ECT NAM	E:	1436	Grant Avenue, San Lorenzo
То:	Mr. Stever Alameda Departme	Coun	nkett ty Environmental I	Health				RECEIVED
			y Parkway, Suite 2	.50				1:13 pm, Nov 09, 2009
			ornia 94502					Alameda County Environmental Health
Please fin	d enclosed:		Draft Originals Prints		Final Other			
Sent via:	\$		Mail Overnight Courier		Same Da Other	-		and ACEHD FTP site
QUAN				· · · · · · · · · · · · · · · · · · ·		RIPTIC		
1	G	froun	dwater Monitoring	g Report	– Third Ç	Quarter	2009	1
	Requested Your Use		⊠ Fc □	r Review	and Com	ment		
COMMI Should y (510) 420	ou have any	7 ques	stions regarding th	e conten	ts of this	docum	ent, p	lease contact Eric Syrstad at
Copy to: Complet	ed by:	c Syrs	stad		- Signed	1: 4	u	i Jugotoo
Compice	<u></u>		[Please Print]		00			

**CONESTOGA-ROVERS** & ASSOCIATES

Filing: Correspondence File



# GROUNDWATER MONITORING REPORT – THIRD QUARTER 2009

# FORMER OLYMPIC SERVICE STATION 1436 GRANT AVENUE SAN LORENZO, CALIFORNIA

AGENCY CASE NO. RO0373

Prepared by: Conestoga-Rovers & Associates

5900 Hollis Street, Suite A Emeryville, California U.S.A. 94608

Office: 510-420-0700 Fax: 510-420-9170

web: http://www.CRAworld.com

OCTOBER 23, 2009 REF. NO. 629100 (3) This report is printed on recycled paper.

## TABLE OF CONTENTS

# <u>Page</u>

1.0	INTROI	DUCTION	1
	1.1	SITE BACKGROUND	1
	1.2	SITE INFORMATION	1
2.0	SITE AC	CTIVITIES AND RESULTS	2
	2.1	CURRENT QUARTER'S ACTIVITIES	2
	2.2	CURRENT QUARTER'S RESULTS	2
	2.2.1	GROUNDWATER FLOW DIRECTION	2
	2.2.2	HYDROCARBON DISTRIBUTION IN GROUNDWATER	3
	2.3	PROPOSED ACTIVITIES FOR NEXT QUARTER	3
		~	

## LIST OF FIGURES (Following Text)

## FIGURE 1 VICINITY MAP

FIGURE 2 GROUNDWATER ELEVATION CONTOUR AND HYDROCARBON CONCENTRATION MAP

## LIST OF TABLES

- TABLE 1MONITORING WELL CONSTRUCTION DETAILS
- TABLE 2
   CUMULATIVE GROUNDWATER ELEVATION AND ANALYTICAL DATA

## LIST OF APPENDICES

- APPENDIX A STANDARD FIELD PROCEDURES FOR GROUNDWATER MONITORING AND SAMPLING
- APPENDIX B CERTIFIED ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION
- APPENDIX C FIELD DATA SHEETS

### 1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA), on behalf of Encinal Properties, has prepared the *Groundwater Monitoring Report - Third Quarter 2009* documenting groundwater monitoring and sampling activities and analytic results for the former Olympic Service Station site located at 1436 Grant Avenue in San Lorenzo, California.

## 1.1 <u>SITE BACKGROUND</u>

The site is located at the southwest corner of the intersection of Channel Street and 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 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 (4) steel, single-walled underground storage tanks (USTs) were removed from the site. These USTs consisted of one (1) 10,000-gallon gasoline, one (1) 8,000-gallon gasoline, one (1) 5,000-gallon diesel and one (1) 250-gallon used-oil tank (Figure 2). Six (6) dispensers, located on two islands north of the auto repair building, were also removed. Third Quarter 2009 activities are summarized below.

## 1.2 <u>SITE INFORMATION</u>

Site Address	1436 Grant Avenue, San Lorenzo
Site Use	San Lorenzo Auto Repair
Client and Contact	Encinal Properties, Phil Jaber
Consultant and Contact Person	CRA, Eric A. Syrstad
Lead Agency and Contact	ACEH, Steven Plunkett
Agency Case No.	RO#0373

## 2.0 <u>SITE ACTIVITIES AND RESULTS</u>

# 2.1 <u>CURRENT QUARTER'S ACTIVITIES</u>

On August 11, 2009, 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 Appendix C. CRA's standard field procedures for groundwater monitoring and sampling are presented as Appendix A.

Groundwater samples were collected in laboratory-prepared containers, sealed, labeled and placed in an ice-cooled chest for subsequent delivery under chain-of-custody procedures to a state-certified analytical laboratory for chemical analysis. McCampbell Analytical, a state-certified laboratory, analyzed the groundwater samples for Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX), Methyl tert-butyl ether (MTBE), 1,2-Dichloroethane (1,2-DCA), and other oxygenates, by EPA Method 8260B, and total petroleum hydrocarbons as gasoline (TPHg) and total petroleum hydrocarbons as diesel (TPHd) with silica gel clean-up, by EPA Method 8015M. The analytical laboratory reports are presented as Appendix B.

# 2.2 <u>CURRENT QUARTER'S RESULTS</u>

Groundwater Flow Direction	Southwest
Hydraulic Gradient	0.004
Average Depth to Water	7.82 ft
Is Free Product Present on Site	No
Current Remediation Techniques	Monitored Natural Attenuation

## 2.2.1 <u>GROUNDWATER FLOW DIRECTION</u>

Based on the August 11, 2009 depth-to-water measurements, the overall groundwater flow direction and gradient beneath the site was calculated to the west-southwest at a gradient of 0.004 ft/ft (Figure 2). The calculated groundwater flow direction and

gradient are generally consistent with previous results, which indicate groundwater flow ranging west to southwest. Depth-to-water and groundwater elevation data are presented in Table 1.

## 2.2.2 <u>HYDROCARBON DISTRIBUTION IN GROUNDWATER</u>

Total petroleum hydrocarbons as gasoline (TPHg) was only detected in well MW-3 at a concentration of 110 micrograms per Liter ( $\mu$ g/L). TPH as diesel (TPHd) was not detected in any of the wells. Benzene was detected in well MW-3 at a concentration of 33  $\mu$ g/L. No toluene, ethylbenzene, or total xylenes constituents were detected in any of the wells. MTBE was detected in wells MW-1, MW-2, and MW-3 at concentrations of 270  $\mu$ g/L, 9.4  $\mu$ g/L, and 28  $\mu$ g/L, respectively. No other fuel oxygenates were detected in any of the wells. CRA recommends a continuation of the groundwater monitoring program to track petroleum hydrocarbon concentration trends as site delineation continues. However, CRA proposes a reduction to the analytical program based on recent and historical data reported below the laboratory detection limit. The details of this request will be described in the following section. Groundwater elevation and analytical data are presented in Table 2 and the analytical laboratory report is presented as Appendix B.

## 2.3 <u>PROPOSED ACTIVITIES FOR NEXT QUARTER</u>

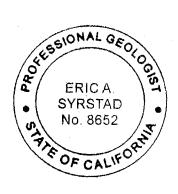
CRA will contract a groundwater sampling company to gauge and sample monitoring wells MW-1 through MW-3 according to a modified monitoring program. Per State Water Resources Control Board Resolution 2009-0042 adopted May 19, 2009, we will implement a semiannual monitoring and reporting schedule at the site, with sampling activities conducted during the first and third quarters. Groundwater samples will be analyzed for TPHg, BTEX, and MTBE by EPA Method 8260B. CRA proposes to remove TPHd, EDB, EDC, TAME, ETBE, DIPE, TBA, Ethanol, and 1,2-DCA from the analytical program due to recent and historical data reported below the laboratory detection limit. Following field activities, CRA will prepare a groundwater monitoring report that includes a groundwater contour map and tabulated analytical data.

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

Bryan A. Fong\_\_\_\_\_ Staff Geologist

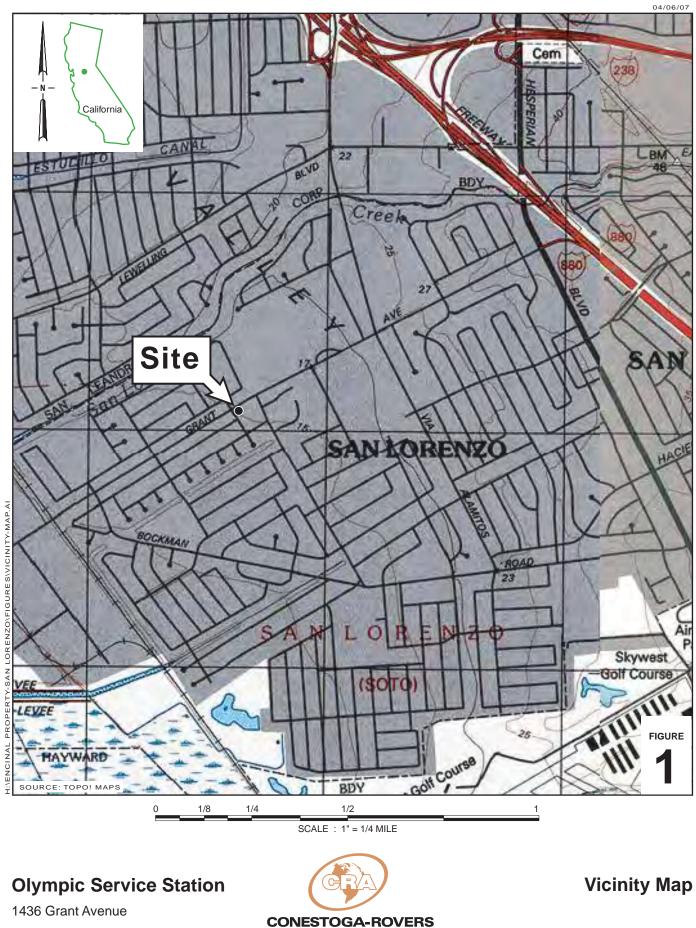
and.

Eric A. Syrstad, P.G. Project Geologist



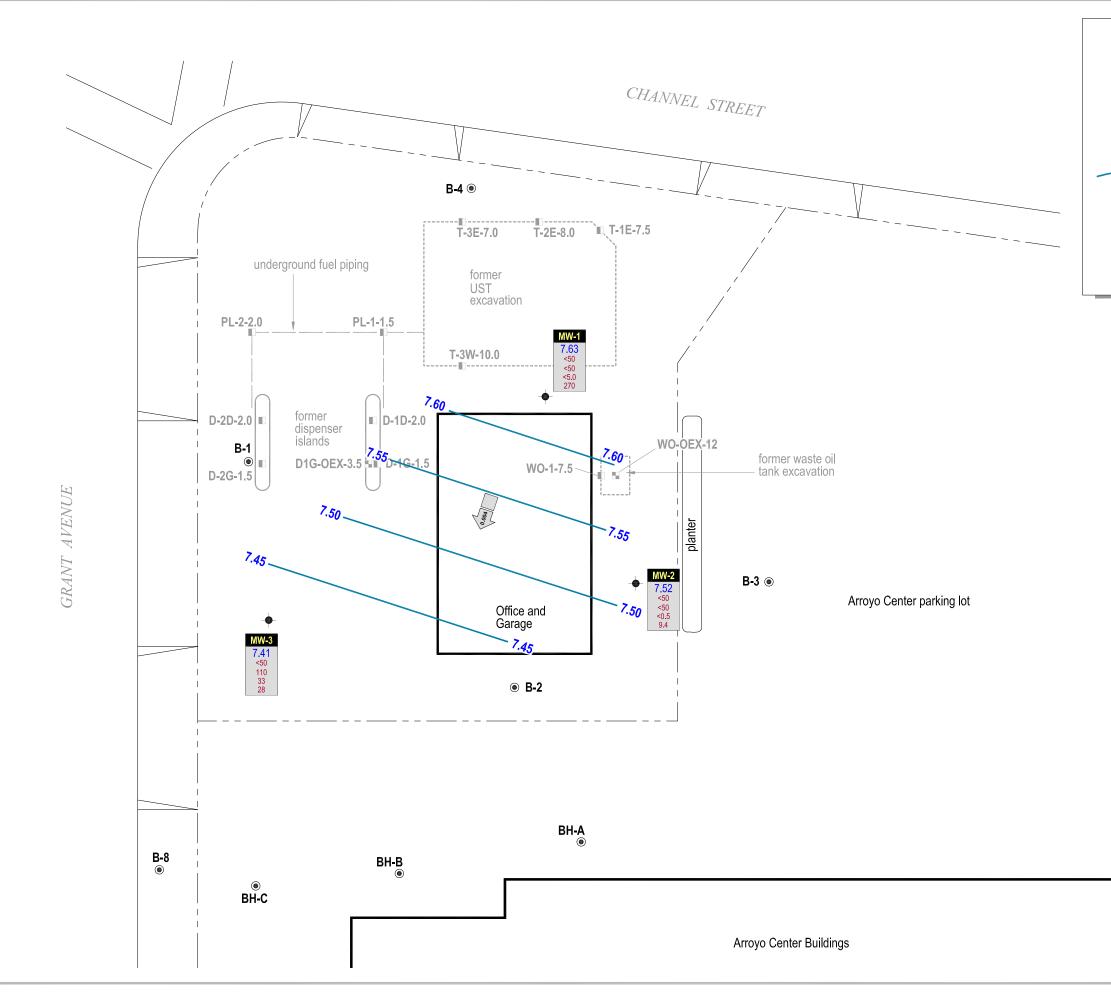
Conestoga-Rovers & Associates, Inc. (CRA) prepared this document for use by our client and appropriate regulatory agencies. It is based partially on information available to CRA from outside sources and/or in the public domain, and partially on information supplied by CRA and its subcontractors. CRA 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.

FIGURES



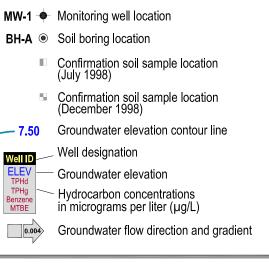
San Lorenzo, California

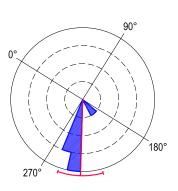
CONESTOGA-ROVERS & ASSOCIATES





# EXPLANATION





Historical Groundwater Flow Direction 1Q07 through 3Q09

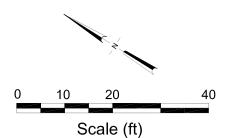


FIGURE 2



TABLES

#### TABLE 1

#### MONITORING WELL CONSTRUCTION DETAILS ENCINAL PROPERTIES FORMER OLYMPIC SERVICE STATON 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 OLYMPIAN SERVICE STATION 1436 GRANT AVENUE SAN LORENZO, CALIFORNIA

interpart         image	Well ID TOC	Date Sampled	DTW (ft) (j	GWE ft above msl)	Oil & Grease	ТРНто	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	SVOCs & HVOCs	DIPE	TAME	ETBE	TBA	Ethanol	EDB	1,2- DCA	Notes
And and and any of the set of th	(ft above n	1sl)								Concentr	rations in microgran	ıs per liter (μ	g/L)								→	
Participant product of streps         Constr         N        N         N         N       <			s a current or pol	tential drinking	NE	NE	100	100	1	40	30	20	5	-	NE	NE	NE	NE	NE	NE	0.5	
withow     yithow           Withow         Yithow			Resi	dential	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	
NYU/W         I        I         I         I			Com	mercial	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	
Bit         Minute         Minute <td>Grab Gro</td> <td>undwater Sampl</td> <td>es</td> <td></td>	Grab Gro	undwater Sampl	es																			
Bits         Control         Control <thcontrol< th=""> <thcontrol< th=""> <thcont< td=""><td>Pit Water</td><td>9/13/1998</td><td></td><td></td><td></td><td></td><td>2,100</td><td>3,600</td><td>350</td><td>130</td><td>39</td><td>380</td><td>17,000</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></thcont<></thcontrol<></thcontrol<>	Pit Water	9/13/1998					2,100	3,600	350	130	39	380	17,000									
III.C         (1)/2020         (i)/i         (1)/i         (1)/i        <	BH-A																					
Bip         J/J/J/J/J/J/J/J/J/J/J/J/J/J/J/J/J/J/J/	BH-B																					
bis-bis         <	BH-C					<100																
B         B         D	B-1-gw						,															*
Here         X75/700         S/80         S/80        <	B-2-gw																					*
B-5.pr         Z/M-200         8/4.0         -         -         -         Z         0         0         0         -         0        0       <																						*
Berge         Z/M/200         8/65         -         -         -         10         -         10         -         0        0       <	B-4-gw																					*
15-ge         2/b/200         8/b.5         -         -         -         8/b         4/0         9/0         0/0         9/0         0/0 </td <td></td> <td>*</td>																						*
b       b       c       n																						*
Number         Number<																						*
MM-1         Ip/s/199         8.3         6.65         -        -         -       -         <	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	*
15.00         1.01/12/00         7.00	Quarterly		amples																			
M1/12/000         7.8         7.9         7.4         -       -        -        - <th< td=""><td>MW-1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>*</td></th<>	MW-1																					*
7/9/200         7/9	15.00																					
Important         Important <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>66</td><td></td><td>&lt;10</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>*</td></t<>									66		<10											*
2/16/207         6.32         8.88         -        -         -        - <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>*</td></t<>																						*
3/1/2007         5.88         9.12         -         420         40         412         412         42         78         -         420 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>76</td> <td>4,100</td> <td>120</td> <td>&lt;25</td> <td>&lt;25</td> <td></td> <td>6,100</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>*</td>							76	4,100	120	<25	<25		6,100									*
15.71       51/2007       7.24       8.47        -250       -50																						
8/1/2007       7.77       7.94       -																						*
11/1/2007         77.1         8.00           -50         -50         -71         -	15.71					<250																*
2/1/2008         571         1000           -        -         -        - <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>*</td></t<>																						*
5/2/2008         752         819         -         250         450<																						
8/1/2008       8/02       7.69         <-0       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00       <00      <																						*
11/4/2008       7.88       8.43         -50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50      <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50       <50      <																						
8/11/200         8/8         7.63         7.63         7.63         7.63         7.63         7.60																						*
MW-2       10/6/1999       7.8       6.00																						
14.4       1/13/200       7.6       7.00       4,000       450       450       405		8/11/2009	8.08	7.63			<50	<50	<5.0	<5.0	<5.0	<5.0	270		<5.0	<5.0	<5.0	<20	<500	<5.0	<5.0	
4/12/2000         6.67         7.79         1,100         <500         <50         <0.5         <0.5         <0.9         <0.5         <0.5         <0.9         <0.5         <0.9         <0.5         <0.9         <0.5         <0.9         <0.5         <0.9         <0.5         <0.9         <0.5         <0.5         <0.5         <0.9         <0.5         <0.5         <0.5         <0.5         <0.9         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5	MW-2																					*
7/19/2000       7.23       7.23       1,300       <500	14.46													ND								
10/25/200       7.52       6.94        <500																						
216/2007       5.89       8.57       -																						
3/1/2007       5.45       9.01        <250       <50       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5																						
$\begin{array}{cccccccccccccccccccccccccccccccccccc$																						
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $																						*
11/2007       7.27       7.90         <50	15.17																					*
2/1/2008       5.25       9.92         <50																						*
5/2/2008       7.12       8.05         <50																						
$\begin{array}{cccccccccccccccccccccccccccccccccccc$																						*
1/4/2008       6.84       8.33         80       <0.5       <0.5       <0.5       5.9        <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5																						~
8/1/2009       7.65       7.52         <50       <50       <0.5       <0.5       <0.5       9.4        <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5																						*
MW-3 10/6/1999 7.90 6.51																						*
		8/11/2009	7.65	7.52			<50	<50	<0.5	<0.5	<0.5	<0.5	9.4		<0.5	<0.5	<0.5	<2.0	<50	<0.5	<0.5	
14.41 1/13/2000 7.50 6.91 210 740 110 4.8 35 18 290	MW-3	10/6/1999	7.90	6.51			300	3,900	900	89	160	560	790									
	14.41	1/13/2000	7.50	6.91			210	740	110	4.8	35	18	290									

#### TABLE 2

#### GROUNDWATER ANALYTICAL DATA ENCINAL PROPERTIES FORMER OLYMPIAN SERVICE STATION 1436 GRANT AVENUE SAN LORENZO, CALIFORNIA

Well ID TOC	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
(ft above n	,		,	•					Concentr	ations in microgram	s per liter (µ	z/L)	-							→	
Final ESL (F water resource	-1a) : Groundwater i ce	s a current or	potential drinking	NE	NE	100	100	1	40	30	20	5	-	NE	NE	NE	NE	NE	NE	0.5	
	1) Groundwater	ŀ	lesidential	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	
	vels for Evaluation /apor Intrusion	c	ommercial	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	
	4/12/2000	6.61	7.80			640	2,200	650	9.7	180	24	140									
	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																		
	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	*
15.13	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	
	8/1/2008	7.66	7.47			<50	85	3.5	<1.0	<1.0	<1.0	66		<1.0	<1.0	<1.0	7.2	<100	<1.0	<1.0	*
	11/4/2008	6.96	8.17			<50	<50	<1.0	<1.0	<1.0	<1.0	40		<1.0	<1.0	<1.0	<4.0	<100	<1.0	<1.0	
	8/11/2009	7.72	7.41			<50	110	33	<0.5	< 0.5	< 0.5	28		< 0.5	<0.5	< 0.5	<2.0	<50	< 0.5	<0.5	*

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

17/8 = 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 compoundy 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.

1,2 dichloroethane (1,2 DCA), and Ethanol

1,2-dibromoethane (EDB)

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. Cambria'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<sup>TM</sup> or Alconox<sup>TM</sup> followed by one rinse of clean tap water and then two rinses of distilled water.

#### Groundwater Purging and Sampling

Prior to groundwater purging and sampling, the historical analytical data of each monitoring well shall be reviewed to determine the order in which the wells should be purged and sampled (i.e. cleanest to dirtiest). No purging or groundwater sampling shall be performed on wells with a measurable thickness of NAPL or floating NAPL globules. If a sheen is observed, the well should be purged and a groundwater sample collected only if no NAPL is present. Wells shall be purged either by hand using a disposal or PVC bailer or by using an aboveground pump (e.g. peristaltic or Wattera<sup>TM</sup>) or down-hole pump (e.g. Grundfos<sup>TM</sup> 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 supplied by the analytical laboratory. New latex gloves and disposable tubing or bailers shall be

# Conestoga-Rovers & Associates

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<sup>TM</sup> or Alconox<sup>TM</sup> 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  $4^{\circ}$  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  $4^{\circ}$  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 crosscontamination, 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.

H:\- MGT IR Group Info\SOPs\Groundwater Monitoring and Sampling SOP 07-2005.doc

APPENDIX B

CERTIFIED ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION

McCampbell An "When Quality		Web: www.mco	ow Pass Road, Pittsburg, campbell.com E-mail: m ne: 877-252-9262 Fax:	ain@mccampbell.com
Conestoga-Rovers & Associates	Client Project ID: #629100		Date Sampled:	08/11/09
5900 Hollis St, Suite A	Properties-Former Olympic	c Station	Date Received:	08/11/09
Emeryville, CA 94608	Client Contact: Eric Syrst	ad	Date Reported:	08/18/09
Lineryvine, CA 94000	Client P.O.:		Date Completed:	08/18/09

#### WorkOrder: 0908239

August 18, 2009

Dear Eric:

Enclosed within are:

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

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

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

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius Laboratory Manager McCampbell Analytical, Inc.

												_	_		_		_									08				
Wei Telepho	IcCAMP bsite: <u>www.mc</u> ne: (877) 252	1534 W Pittsbur campbell. -9262	villow Pass g, CA 945 <u>com</u> Ema	8 Road 65-170 ail: m	ain@n F		npbel	l.con		59				UR GeoT			OU	ND	TI	MI	E PD	F	RUS	H Ex	24 cel	HR	1		te On (D	WID
Report To: Eric	Syrsto	d.	E	T III	o:Con	est	694-1	Rove	cs d	t.As	ssau	iate	5		-	-	-	A	naly	sis .	Reo	ues	t	am	ple i	is ef	flue	nt a	other	g is required
Report To: Eric Company: Cox 59 Ero Tele: (5)0)42 Project #: 62 Project Location Sampler Signatur	ICI VVIIIE .	ant A ant A		ax: 1 rojec	1510 t Nar Lose	Yrs I)4 me: f	tod	Build	COP COP	old. erti pic	COM SA	eite ac	8015) / MTBE	(s) with silicage	Total Petroleum Oit & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocartoons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	MTBE / BTEX ONLY (EPA 602 / 8021)		EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners		EPA \$15 / 8151 (Acidic Cl Herbicides)		270 (SVOCs)	EPA \$270 SIM / \$310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	6010 (6020)	SIN SIN TER TAME	Filter Samples for Metal analysis: Yes / No
SAMPLE ID	LOCATION/ Field Point Name	Date	Time	# Containers	Type Containers		Soil	Sludge		ICE			BTEX & TPH as Gas (602 / 8021 +	TPH as Diesel (8015)	Total Petroleum O	Total Petroleum H	EPA 502.2 / 601 / 8	MTBE / BTEX ON	EPA 505/ 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PC	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (A	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 83	CAM 17 Metals (20	LUFT 5 Metals (20	Lead (200.7 / 200.8 / 6010 / 6020)	TPHA 2015 BTEXT EDS	
MLLI		8-11-00			4mb	A				XX				X					1							-	-		XX	
MH-3			9:45		×				-		-	-		1	-	-				-									X	
TB		*	10:15	t	100	k			_	Xk	-		1	4	-	-	-		-	-									* ×	Hold
Relinquisted By: Reliquisted By: Reliquisted By:		Date:	Time: 12:05 Time:	EN	eived B	ECH	Ser	RAIC	:65	F	+A		GC HE DE	E//* DOD C AD S CHLO	ON PAC	DITI E AI	ON BSE	NT_									co	AMMO	ENTS:	
Relingetticel By:	AT A	Date;	Time:	Reco	cived B	y: C	-	Ja	Q	Q	>	1	AP	PROF ESER	'RIA VEI	D IN	CON LAI	TAI	NER		ME pH<		.5	оті	IER					



1534 Willow Pass Rd Pittsburg CA 94565-1701

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

(925) 252-9262		WorkOrder: 0908239	ClientCode: CETE	
	WaterTrax WriteOn VEDF	Excel Fax	Email HardCopy ThirdParty	J-flag
Report to:		Bill to:		5 days
Eric Syrstad Conestoga-Rovers & Associates 5900 Hollis St, Suite A Emeryville, CA 94608 (510) 420-3327 FAX (510) 420-9170	Email: esyrstad@craworld.com cc: PO: ProjectNo: #629100; Encinal Properties-Form O Olympic Station	5900 Hollis St	vers & Associates , Ste. A Date Received: 08/	/11/2009 /11/2009
		R	equested Tests (See legend below)	
Lab ID Client ID	Matrix Collection Date Ho	old 1 2 3 4	4 5 6 7 8 9 10 1	1 12

0908239-001	MW-1	Water	8/11/2009 10:45	А	В	А					
0908239-002	MW-2	Water	8/11/2009 9:45	А	В						
0908239-003	MW-3	Water	8/11/2009 10:15	А	В						

#### Test Legend:

1	G-MBTEX_W		2	MB
6		]	7	
11		1	12	

2	MBTEXOXY-8260B_W
7	
12	

3	PREDF REPORT
8	

4	
9	

5		-
10		-

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

#### 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.



"When Ouality Counts"

## Sample Receipt Checklist

Client Name:	Name: Conestoga-Rovers & Associates								Date and Time Received: 8/11/2009 3:55:53 PM				
Project Name:	#629100; Encinal	l Prope	rties-Form	ner Oly	mpic S	tatio	Check	dist c	completed and r	eviewed by:	Melissa Valles		
WorkOrder N°:	0908239	Matrix	<u>Water</u>				Carrie	er:	Dropped Off @	Envirotech;	Delivered By: R.P.		
			Chaiı	n of Cu	stody (C	OC) I	nforma	ation	1				
Chain of custody	present?			Yes			10 🗆		-				
-	signed when relinqui	shed an	d received?	Yes		١	No 🗆						
Chain of custody	agrees with sample I	abels?		Yes		١	No 🗌						
Sample IDs noted		Yes		١	vo 🗆								
Date and Time of	collection noted by Cl	ient on C	OC?	Yes	✓	١	No 🗆						
Sampler's name r	noted on COC?			Yes	✓	١	No 🗆						
Sample Receipt Information													
Custody seals int	Yes			<b>1</b> 0 🗆	-		NA 🗹						
	er/cooler in good cond			Yes			vo 🗆						
	er containers/bottles?			Yes	✓	١	<b>vo</b> 🗆						
Sample containe	rs intact?			Yes	✓	١	No 🗆						
Sufficient sample	e volume for indicated	test?		Yes		١	No 🗌						
		<u>Sa</u>	ample Prese	ervation	and Ho	ld Tir	ne (HT	<u>) Inf</u>	ormation				
All samples recei	ived within holding tim	e?		Yes		١	<b>No</b>						
Container/Temp E	Blank temperature			Coole	r Temp:	7.4°(	C			NA 🗆			
Water - VOA vial	ls have zero headspa	ce / no b	oubbles?	Yes	✓	1	No 🗆	No	VOA vials subm	itted 🗆			
Sample labels ch	necked for correct pre	servatior	n?	Yes		١	No 🗌						
TTLC Metal - pH	acceptable upon rece	ipt (pH<2	2)?	Yes		١	No 🗆			NA 🗹			
Samples Receive	ed on Ice?			Yes	✓	١	No 🗆						
			(Ісе Тур	be: WE	TICE	)							
* NOTE: If the "N	No" box is checked, se	ee comn	nents below.										

Client contacted:

Date contacted:

Contacted by:

Comments:

<u> <u> <u> McC</u> </u></u>	Campbell Analyt "When Ouality Counts"	ical, Inc.	Web: www.mccamp	Pass Road, Pittsbur bell.com E-mail 377-252-9262 Fa	: main@m	ccampbell.	com	
Conestoga-Rove		Client Project ID:	#629100; Encinal	Date Sampled: 08/11/09				
5000 Hallia St. St.	vito A	Properties-Former	Olympic Station	Date Receiv	ed: 08	/11/09		
5900 Hollis St, Sı	lile A	Client Contact: E	cric Syrstad	Date Extract	ed: 08	/14/09-0	8/18/09	
Emeryville, CA 94	4608	Client P.O.:		Date Analyz	zed 08	/14/09-0	8/18/09	
Extraction method SW5		-	atile Hydrocarbons as G methods SW8015Bm	asoline*	Wo	rk Order:	0908239	
Lab ID	Client ID	Matrix	TPH(g)		DF	% SS	Comment	
001A	MW-1	W	ND		1	102		
002A	MW-2	W	ND		1	103		
003A	MW-3	W	110		1	119	d1	
	ing Limit for DF =1;	W	50			μg/L	1	
	ans not detected at or e the reporting limit	S	NA			NA		

\* 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.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:

d1) weakly modified or unmodified gasoline is significant

DHS ELAP Certification 1644



when ouality	Counts"		Telephone	: 877-252-9262 Fax: 92	5-252-9269		
Conestoga-Rovers & Associates		Project ID: #6 rties-Former Ol	29100; Encinal lympic Station	Date Sampled: 08/11/09			
5900 Hollis St, Suite A				Date Received:	08/11/09		
	Client	Contact: Eric	e Syrstad	Date Extracted:	08/11/09-0	8/12/09	
Emeryville, CA 94608	Client	P.O.:		Date Analyzed:	08/11/09-0	8/12/09	
	Oxyg	genates and BT	EX by GC/MS*				
Extraction Method: SW5030B	A	Analytical Method:	SW8260B		Work Order:	0908239	
Lab ID	0908239-0011	3 0908239-00	02B 0908239-003E	3			
Client ID	MW-1	MW-2	MW-3			ng Limit for	
Matrix	W	W	W		DF =1		
DF	10	1	1		S	W	
Compound	Compound Concentration						
ert-Amyl methyl ether (TAME)	ND<5.0	ND	ND		NA	0.5	
Benzene	ND<5.0	ND	33		NA	0.5	
-Butyl alcohol (TBA)	ND<20	ND	ND		NA	2.0	
,2-Dibromoethane (EDB)	ND<5.0	ND	ND		NA	0.5	
,2-Dichloroethane (1,2-DCA)	ND<5.0	ND	ND		NA	0.5	
Diisopropyl ether (DIPE)	ND<5.0	ND	ND		NA	0.5	
Ethanol	ND<500	ND	ND		NA	50	
Ethylbenzene	ND<5.0	ND	ND		NA	0.5	
Ethyl tert-butyl ether (ETBE)	ND<5.0	ND	ND		NA	0.5	
Methyl-t-butyl ether (MTBE)	270	9.4	28		NA	0.5	
Foluene	ND<5.0	ND	ND		NA	0.5	
Kylenes	ND<5.0	ND	ND		NA	0.5	
	Su	rrogate Recov	veries (%)				
%SS1:	103	103	103				
%SS2:	101	98	98				
Comments	101	20					

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

Angela Rydelius, Lab Manager

	IcCampbell Analyti	<u>cal, Inc.</u>	Web: www.mccamp	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		#629100; Encinal	Date Sam	pled:	08/11/09				
5900 Hollis	St. Suite A	Properties-Former	Olympic Station	Date Rec	eived:	08/11/09				
0,000 1101115		Client Contact: E	ric Syrstad	Date Extr	acted:	08/11/09				
Emeryville,	CA 94608	Client P.O.:	ient P.O.: Date Analyzed 08/13/09							
			ocarbons with Silica Gel	Clean-Up*						
Extraction meth	od: SW3510C/3630C	Analytical	methods: SW8015B			Work Order:	0908239			
Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)		DF	% SS	Comments			
0908239-001	A MW-1	w	ND		1	113				
0908239-002	A MW-2	W	ND	1	114					
0908239-003	A MW-3	W	ND	1	113					
	porting Limit for DF =1;	W	50			μg/L	r			
	b means not detected at or bove the reporting limit	S	NA			NA				

\* water samples are reported in  $\mu$ g/L, wipe samples in  $\mu$ g/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  $\mu$ g/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.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:

DHS ELAP Certification 1644





"When Ouality Counts"

#### QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water		QC Matrix: Water					Batch		WorkOrder 0908239			
EPA Method SW8015B	Extra	ction SW	3510C/3	630C			Spiked Sample ID: N/A					
Analyte	Sample	Sample Spiked MS MSD MS-MSD			LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)				
Analyte	µg/L µg/L % Rec. % Rec. % RPD % Rec				% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD	
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	86.2	82.7	4.17	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	84	84	0	N/A	N/A	70 - 130	30
%SS: All target compounds in the Method NONE			1			-		0 e following		N/A	70 - 130	

#### BATCH 45096 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0908239-001A	08/11/09 10:45 AM	08/11/09	08/13/09 3:17 AM	0908239-002A	08/11/09 9:45 AM	08/11/09	08/13/09 4:26 AM
0908239-003A	08/11/09 10:15 AM	08/11/09	08/13/09 7:51 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 1644

A QA/QC Officer



"When Ouality Counts"

## QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water			QC Matrix: Water					BatchID: 45097			WorkOrder 0908239		
EPA Method SW8015Bm	Extra	raction SW5030B					Spiked Sample ID: 0908230-008B						
Analyte	Sample	Sample Spiked MS MSD MS					LCSD	LCS-LCSD	Acc	eptance	Criteria (%)		
, analyte	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD	
TPH(btex <sup>f</sup>	ND	60	100	102	2.31	121	121	0	70 - 130	20	70 - 130	20	
MTBE	ND	10	114	111	2.83	111	115	2.95	70 - 130	20	70 - 130	20	
Benzene	ND	10	104	107	2.24	103	106	2.76	70 - 130	20	70 - 130	20	
Toluene	ND	10	93.8	96.2	2.58	93.2	95.1	2.03	70 - 130	20	70 - 130	20	
Ethylbenzene	ND	10	94	95.6	1.75	94.1	96.3	2.39	70 - 130	20	70 - 130	20	
Xylenes	ND	30	107	108	1.24	109	110	1.56	70 - 130	20	70 - 130	20	
%SS:	96	10	98	100	2.21	96	98	2.76	70 - 130	20	70 - 130	20	
All target compounds in the Metho NONE	All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:												

#### BATCH 45097 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0908239-001A	08/11/09 10:45 AM	08/14/09	08/14/09 6:57 PM	0908239-002A	08/11/09 9:45 AM	08/14/09	08/14/09 8:38 PM
0908239-003A	08/11/09 10:15 AM	08/18/09	08/18/09 7:27 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).

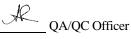
MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the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





"When Ouality Counts"

### **QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Water			QC Matri	x: Water			Batch	ID: 45055		WorkOrder 0908239							
EPA Method SW8260B	Extra	ction SW	5030B				Spiked Sample ID: 0908193-004A										
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	D Acceptance Criteria (%)								
Analyte	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD					
tert-Amyl methyl ether (TAME)	ND	10	82.9	81.9	1.19	89.7	85.9	4.38	70 - 130	30	70 - 130	30					
Benzene	ND	10	95.4	94.9	0.535	104	96.9	7.08	70 - 130	30	70 - 130	30					
t-Butyl alcohol (TBA)	ND	50	78	77	1.29	72.8	82.5	12.4	70 - 130	30	70 - 130	30					
1,2-Dibromoethane (EDB)	ND	10	106	104	2.43	103	98	4.61	70 - 130	30	70 - 130	30					
1,2-Dichloroethane (1,2-DCA)	ND	10	90.2	88.8	1.51	97.6	92.9	4.96	70 - 130	30	70 - 130	30					
Diisopropyl ether (DIPE)	ND	10	86.1	84.8	1.56	102	96	5.74	70 - 130	30	70 - 130	30					
Ethyl tert-butyl ether (ETBE)	ND	10	86.8	85	2.09	96.6	93.3	3.39	70 - 130	30	70 - 130	30					
Methyl-t-butyl ether (MTBE)	ND	10	92.4	91.7	0.700	98.7	93.5	5.35	70 - 130	30	70 - 130	30					
Toluene	ND	10	103	103	0	105	97.2	7.91	70 - 130	30	70 - 130	30					
%SS1:	105	25	94	94	0	92	93	0.882	70 - 130	30	70 - 130	30					
%SS2:	99	25	102	104	2.41	103	103	0	70 - 130	30	70 - 130	30					

#### BATCH 45055 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0908239-001B	08/11/09 10:45 AM	08/12/09	08/12/09 1:37 PM	0908239-002B	08/11/09 9:45 AM	08/11/09	08/11/09 10:41 PM
0908239-003B	08/11/09 10:15 AM	08/11/09	08/11/09 11:25 PM				

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

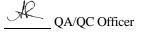
% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

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.



APPENDIX C

FIELD DATA SHEETS



## WELL GAUGING SHEET

Client:	Conestoga-	Rovers and A	Associates					
Site	1426 Count							
Address:	1436 Grant	Avenue, Sai	i Lorenzo, C	A	(A)	,		
Date:	8/11/2009			Signature:		>		
					90			
Well ID	Time	Depth to SPH	Depth to Water	SPH Thickness	Depth to Bottom		Comments	
MU-1	9:10		8.08		24.36			
MU-2	9:00		7.65		19.35			
MW3	9:05		7.72		19.05			
							,	



## WELL SAMPLING FORM

Date:		8/11/2009						
Client:		Conestoga-	Rovers and	Associates	5			
Site Add	ress:	1436 Grant	Avenue, S	an Lorenzo	, CA			
Well ID:		MW-1						
Well Dia	meter:	2"						
Purging D	Device:	Dispose		iler				
Sampling	Method:	Disposable	Bailer					
Total We	ll Depth:			24.36	Fe=	mg/L		
Depth to	Water:			8.08	ORP=	mV		
Water Co	lumn Height	t:		16.28	DO=	mg/L		
Gallons/ft	t:			0.16				
1 Casing	Volume (gal	):		2.60	COMMI	ENTS: turbid, silty		
3 Casing	Volumes (ga	ul):		7.80	very	tu ( bid, 51 17 y		
TIME:	CASING VOLUME (gal)	TEMP (Celsius)	pH	COND. (µS)				
/0:30	3.0	22.7	7.79	1821				
10:35	6.0	22.1	7.80	1818				
10:40	8.0	22.4	7.77	1801				
Sample ID:	Sample Da	ite:	Sample Time:	Container	· Type	Preservative	Analytes	Method
	8/11/		10:45	40 ml VO		HCI, ICE	TPHg, TPHd, 9 Oxys	8015, with silica gel clean up, 8021, 8260
								1 0
								1
						Signature	: A/	$\geq$



# WELL SAMPLING FORM

Date:		8/11/2009						
Client:		Conestoga-	Rovers and	Associates	3			
Site Add	ress:	1436 Grant	Avenue, S	an Lorenzo	, CA			
Well ID:		MN-2	2					
Well Dia	and the second se	2"						
Purging D	Device:	Disposa	ble Bai	er				
Sampling	Method:	Disposable	Bailer					
Total We	ll Depth:			19.35	Fe=	_mg/L		
Depth to	Water:			7.65	ORP=	mV		
Water Co	lumn Height	t:		11.70	DO=	mg/L		
Gallons/ft				0.16				
1 Casing	Volume (gal	):		1.87	сомме	ENTS: turbid, silty		
3 Casing	Volumes (ga	ıl):		5.61	very.	turbidisilty		
TIME:	CASING VOLUME (gal)	TEMP (Celsius)	pН	COND. (µS)				
9:30	2.0	22.4	7.60	1674				
9:35	4.0	21.6	7.62	1619				
9:40	5.5	21.7	7.62	1604				
Sample ID:	Sample Da	ite:	Sample Time:	Container	• Туре	Preservative	Analytes	Method
MU-2	8/11/	69	9:45	40 ml VO Amber	A, 1L	HCl, ICE	TPHg, TPHd, 9 Oxys	8015, with silica gel clean up, 8021, 8260
							A	ll_
						Signatur	e: 🗸	



MUSKAN ENVIRONMENTAL SAMPLING

# WELL SAMPLING FORM

Date:		8/11/2009							
Client:		Conestoga-l	Rovers and	Associates	5				
Site Add	ress:	1436 Grant	Avenue, S	an Lorenzo	, CA		_		
Well ID:		MH-3	,						
Well Dia	meter:	2″							
Purging I		Dispos	jable B	aller					
Sampling	Method:	Disposable	Bailer				-		
Total We	ll Depth:			19.05	Fe=	r	ng/L		
Depth to	Water:			7.72	ORP≈	r	nV		
Water Co	lumn Height	t:		11.33	DO=	r	ng/L		
Gallons/f				0.16			-		
1 Casing	Volume (gal	):		1.81	сомм	ENTS;			
3 Casing	Volumes (ga	ıl):		5.43	veryt	ents: ~·bid,si	144		
	CASING VOLUME	TEMP		COND.					
TIME:	(gal)	(Celsius)	pH	(μS)					
10:00 10:05	<b>2:0</b> <b>4</b> .0	22.3 21.8	7.70 7.71	1568					
10:10	5.5	21.7	7.74	1597					
10.70	5.2		1110	211					
							-		
Sample ID:	Sample Da	ite•	Sample Time:	Container	· Type	Preservativ	ve.	Analytes	Method
10.			Time.			Trescivati		TPHg. TPHd. 9	8015, with silica gel clean up,
MN-3	8/11/	109	10:15	40 ml VO Amber	A, IL	HCI, ICE		Oxys	8021, 8260
			1012					1	
									NP
								A	X
						S	ignature	e: AK	5

Webs Telephone	CAMPB	1534 Wil Pittsburg, ampbell.ct 0262	low Pass R CA 94565- om Email:	oad 1701 : mair	n@mc Fa	camp x: (9	beli. 25) 2	com 252-9					G			AR( cke	DU	DF	TT A		PDI Ch	R F [, eck	USH USH If sa	∃ Exe	24 E 24 E	HR	W		R te C nd "	72 72 )n (J <sup>*</sup> fl	HR DV lag	V) 🖵 is required
eport To: Eric	Syrstan	2	BIL	To:	Cone	sto	g-R	over	۶đ	Hs	saì	ate	i					A	naly	sis I	Red	uest						-	0	ther	-	Comments
iompany: (we 590 iele: (5)0)420 iroject #: 629 iroject Location: isampler Signature	staga-Ro. 0 Hallis (yville, - 3317 100	CA	HSSOCIO Ste E- Fa Pr	Mail: x: ( oject	510 Nam	142	0-0	2 17 17	ow of the	dd.	com es	atil	1+ 8015) / MTBE	المعاادهمو	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	(418.1)	VOCs)	2 / 8021)	cs)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners		icides)			'NAs)	6010 / 6020)	010 / 6020)			C NTEE, THME	12.10.0	Filter Samples for Metals analysis: Yes / No
roject Location:	1436 Gro	Atm	1e., 50	ml	ose	nzo	2,0	A					802	5	rease (16	SUO	H)	A 600	ficid	X	(is)	Herb	3	3	18/	8/8	8/6	5020		2.4		
ampler Signature	e: Muska	mEr	inen	معمم	Jal.	So	m	1	A				205	1.3	J B	Carb	802	(EP)	l Pes	ONL	stici	5	Š	SVC	IVI	200	200.	10		Ag	5	
	1	SAMP	LING	- 1	S	M	AT	RIX		ME PRE			Gas (602 / 8021 +	5	1.6	ydro	010	ILV	0 1	B's	P Pe	cidic	260	270 (	310 (	00.7	11.0	/ 60:	ž	2	5	
SAMPLE ID	LOCATION/ Field Point Name	Date	Time	# Containers	Type Containers		Air	Sludge			- DND	T	TPH as	TPH at Diesel (8015)	Total Petroleum O	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	MTBE / BTEX ONLY (EPA 602 / 8021)	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PC	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Ci Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA \$270 SIM / \$310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	TOWA 2019	GTEXU COR	1-1-1-1-1-2	
MUL		8-11-00	10:45	4	AOV	A		1		XY		T	T	17	<			1	1			1	1	1	1	1	-	-	X	X	T	Contraction of the local division of the loc
MH2		an	9:45	1	1	11	+	+		11		1	1	H	H	+	t	1	-		1	1	1		1	1	+-	1	Ħ	X		
MW-3		++-			×	H	+	+		+	+	+	+	1		+	-	t -	t	-	1-	t -	1		1-	+	+	+	1	X	1	
TB			10:15	F	100	H	+	+-	$\vdash$	t	H	+	+	ť	-			-							1	·		1	14	-	-	11.1.1
<u></u>		*		·	Va	1	+	+	-	1		+	F	T	T		1	+	t	-	-	-	-	-	-				F	-	F	Hold
					_		+	+	-	-	-	+	Ŧ	-	+	-	-		F	-	-	-	-		-	+	-	-	-	-	-	
							1	1				1	1		1			1	+	1	1	t	1		t	t	t	1				
								+	+			+	$\dagger$		+		-		+	+		-	-			-	+	-	-	+	-	
				-	-	-	-	+	-	-	-	-	-	-	-	+	+	-	-	-			-					-	-	-	-	
	-	-						t	+				1	1	1	+	1	1	1	1	t	1	+		1		1	T	1	1		
1-																																
Relinquist d By:	-	Date:	Time:	Rec	ceived NRO	By: TEC	2 #	ERN	ner	S	A	A			OD (	ONI			T								(	COM	ME	NTS:		
Reliquished By:		Date:	Time:	Re	ceived	By:								DE AP	CHL	ORIN	ATI TE (	D IN	LA													
Relinquished By:		Date:	Time:	Re	ceived	By:	_									IVER IVAT		¥Ο,	AS	0&		MET oH<2		6 (	отн	ER						