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SECOND SEMI-ANNUAL 2009 GROUNDWATER MONITORING REPORT

FORMER GI TRUCKING COMPANY (ESTES EXPRESS LINES) 1750 ADAMS AVENUE SAN LEANDRO, CALIFORNIA

AGENCY CASE NO. RO00000442

Prepared by: Conestoga-Rovers & Associates

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

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OCTOBER 26, 2009 REF. NO. 631000 (3)

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1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) prepared this groundwater monitoring report for the Estes Express Lines site, located at 1750 Davis Avenue, on behalf of Estes Express Lines. Four 12,000-gallon diesel underground storage tanks (USTs) and one 880-gallon used-oil UST were previously operated at the site. The used-oil UST was removed in December 1986 and the diesel USTs were removed in January 1996, with some over-excavation occurring along with the removal of the diesel UST. Investigations and groundwater monitoring began at the site in May 1997. The site is currently owned and operated by Estes Express Lines of Richmond, Virginia as a freight terminal. A vicinity map is presented as Figure 1.

1.1 <u>SITE INFORMATION</u>

Site Address 1750 Davis Avenue, San Leandro, CA

Site Use Freight Storage and Transfer Facility

Client and Contact Estes Express Lines, c/o Matt Bramblett

(Hart & Hickman, PC)

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

Lead Agency and Contact Alameda County Environmental Health

Department (ACEH), Steven Plunkett

Agency Case No. RO00000442

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

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

On September 14, 2009, Muskan Environmental Sampling (Muskan) measured depth to groundwater in all wells and collected groundwater samples in wells MW-2, MW-3, MW-5, RW-1 and RW-2 (Figure 2). In a letter dated January 22, 2009, ACEH requested that groundwater monitoring and sampling of all five site wells occur semi-annually during the First and Third Quarters of 2009. Groundwater samples from these wells are analyzed for total petroleum hydrocarbons as gasoline, as diesel, and as motor oil (TPHg, TPHd and TPHmo) by EPA Method 8015B, benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA Method 8021B and naphthalene by EPA Method 8260B. Groundwater monitoring and analytical data are summarized in Table 1 and associated field data sheets are presented as Appendix A. The laboratory analytical report is

presented as Appendix B. CRA's *Standard Field Procedures for Groundwater Monitoring and Sampling* is presented as Appendix C.

2.2 CURRENT EVENT RESULTS

Groundwater Flow Direction Southeasterly

Hydraulic Gradient0.012Average Depth to Water6.57 ft

Is Free Product Present on Site

Notes on lab report state, "lighter than

water immiscible sheen/product is present". However, no separate-phase hydrocarbons (SPH) were detected by

interface probe in the field.

Current Remediation TechniquesMonitored Natural Attenuation

During this monitoring and sampling event, depth to groundwater varied from 6.14 (MW-5) to 6.85 (MW-2) feet below grade (fbg). Groundwater flow direction was calculated toward the southeast. The lowest groundwater elevation was recorded in well MW-3. The calculated gradient in this area of the site was approximately 0.012 (Figure 2). The rose diagram included on Figure 2 illustrates historically calculated groundwater flow directions.

The highest TPHd concentration observed during this event was detected in well RW-1, constructed in the former used-oil tankpit, at 100,000 micrograms per liter (μ g/l). TPHd was also reported in well RW-2, constructed in the southern section of the former diesel UST tankfield, at 7,200 μ g/l. The considerably higher concentrations reported in the groundwater sample collected from well RW-1 compared to RW-2 are a result of leaks from the former used-oil UST, and its proximity to a former damaged diesel dispenser. Figure 2 indicates the location of the former diesel dispenser island. The used-oil tank was deemed to be "damaged beyond repair" by a Xerxes Tank representative in July 1986. The Blymyer Engineers report, dated July 22, 1996, references the UST removal in December 1986 and documents "approximately 3 inches of waste oil on the groundwater surface." Approximately 45 cubic yards of hydrocarbon impacted soil were removed and upon completion of over-excavation it was noted that "diesel fuel was observed flowing into the excavation from the direction of the diesel USTs." This was pumped out on two occasions, leaving only a sheen remaining on the water table. The diesel USTs tested tight in April 1987, so it is suspected that the diesel fuel pumped

from the used-oil excavation "was likely due to releases from past site operations, including a knocked over diesel dispenser which may have damaged one or more product lines, as reported by site workers." The flowing diesel confirms that the used-oil tank excavation is in hydraulic connection with the former diesel tankfield. Despite excavation in this area, along with overexcavation of the tankfield perimeter, residual oil and diesel impacts apparently remain beneath or around the perimeter of the used-oil excavation. Wells MW-2, MW-3 and MW-5 are all completed outside of the former tankpit excavation area. No TPHd above the reporting limit of 50 µg/l was reported in these three wells. TPH as motor oil (TPHmo) was reported at 52,000 (RW-1) and $4,000 \mu g/1$ (RW-2), respectively. TPHg was reported only in well RW-1 at 310 $\mu g/1$. However, the lab notation associated with well RW-1 states, "strongly aged gasoline or diesel range compounds are significant in the TPHg chromatogram." This suggests that the reported concentration is comprised primarily, if not exclusively, of the lighter compounds of diesel, and not true gasoline compounds. No BTEX compounds were reported in any of the five wells above the reporting limit of 0.5 μg/l. No concentrations of naphthalene above the reporting limit of $0.5 \mu g/1$ were detected.

Table 1 lists established RWQCB-Region 2 environmental screening levels (ESLs) for the analyzed constituents. Despite the site's proximity to San Francisco Bay and the commercial/industrial history of the surrounding area, the East Bay Plain Groundwater Sub-Basin underlying this site has been designated as suitable for municipal and domestic use. Table 1 indentifies the ESLs of detected constituents (TPHg, TPHd and TPHmo) "where groundwater is a current of potential drinking water resource" as $100 \,\mu\text{g/l}$. All three TPH-range constituents exceed the established ESLs. However, the future use of the first shallow water bearing zone beneath this site for domestic or municipal use is extremely unlikely. The low probability of future use of the first water bearing zone, along with the slight gradient and consequent low probability of groundwater migration to any private domestic wells in the area, make a comparison of reported concentrations to beneficial use ESLs overly conservative.

3.0 SUGGESTED REDUCTION OF ANALYTES

In a letter dated January 22, 2009, the ACEH requested semi-annual groundwater monitoring and sampling of the five site wells. In addition to historically analyzed parameters (TPHd, TPHg, TPHmo and BTEX), ACEH requested that these groundwater samples be analyzed for naphthalene due to elevated detection limits of compliance sidewall soil samples collected during tankpit over-excavation in June 1999. No detected naphthalene has been reported in any sample during the two 2009 semi-annual sampling events. As a result, CRA recommends the elimination of naphthalene analysis

in future sampling events. TPHg and BTEX analyses have been intermittently conducted on groundwater samples from onsite wells. Samples have been analyzed for TPHg and BTEX in March 2007 and in both 2009 events. Additionally, samples from wells MW-2 and MW-3 were analyzed for TPHg in the Fourth Quarter 1994 and First Quarter 1995. The only reported concentrations above the laboratory reporting limit of $50\,\mu\text{g/l}$ have been in well RW-1 in the three most recent sampling events. These reported concentrations have been 140, 160 and 310 $\mu\text{g/l}$, respectively, and have all been described with the lab note, "strongly aged gasoline or diesel range compounds are significant in the TPHg chromatogram." This, as stated above, strongly suggests that the reported concentrations represent the presence of diesel, rather than gasoline. CRA recommends the elimination of TPHg analyses based on this reasoning. Finally, CRA suggests the elimination of BTEX analyses also. With the exception of a questionable detection of toluene concentration at 1.2 $\mu\text{g/l}$, reported in well MW-2 in February 1995, no BTEX constituents have ever been detected above laboratory reporting limits.

Based on the known history of fuel storage and usage at the site, and the lack of detected constituents, CRA suggests restricting analysis of any future groundwater samples to TPHd and TPHmo only.

4.0 ACTIVITIES PLANNED FOR THE FIRST SEMI-ANNUAL EVENT OF 2010

If ACEH continues to require groundwater sampling and analysis, CRA will coordinate Muskan to gauge water levels and collect samples for the five site wells. CRA will prepare a table summarizing groundwater elevation data and analytical results, as well as a potentiometric map that will be submitted in a monitoring report along with the field data sheets, standard field procedures, laboratory analytical reports and any additional conclusions and recommendations.

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

Bryan A. Fong

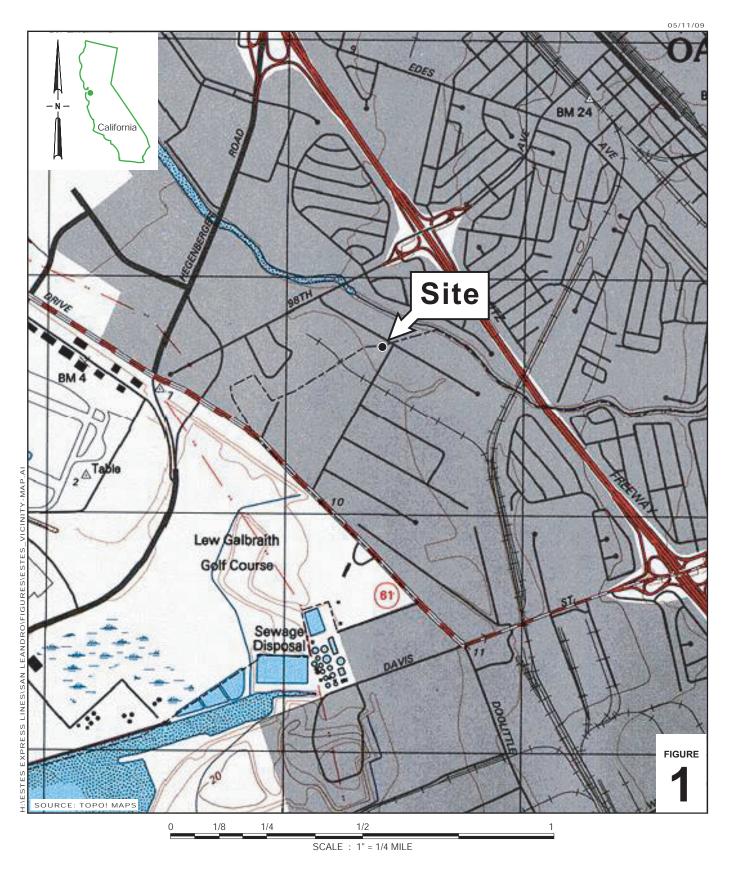
Robert C. Fors



Robert C. Foss, P.G.

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FIGURES

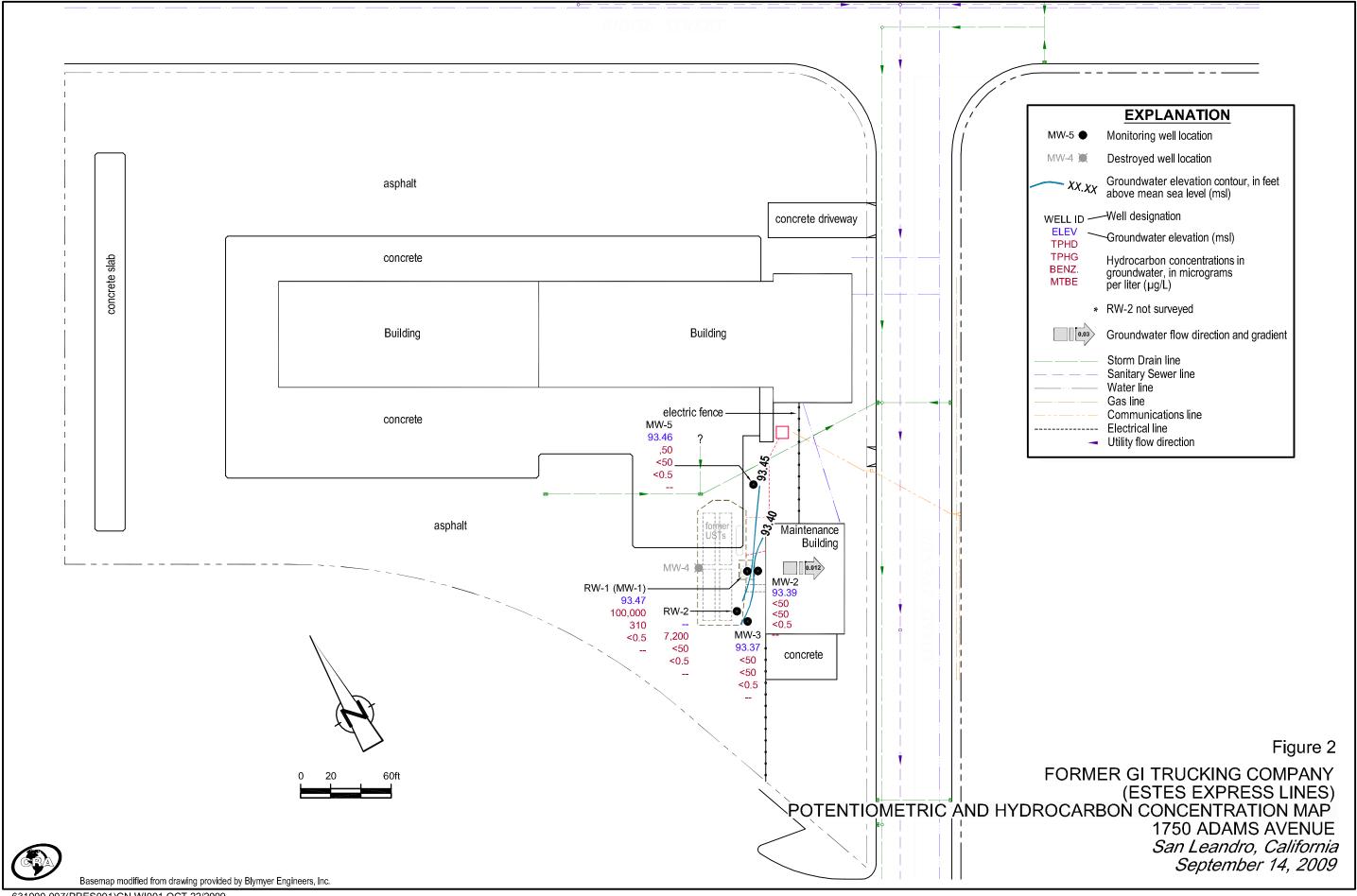


Former GI Trucking Company (Estes Express Lines)

1750 Adams Avenue San Leandro, California



Vicinity Map



TABLE

Sample ID TOC	Date Sampled	Depth to Water (ft btoc)	SPH Thickness (ft)	Groundwater Elevation (arbitrary)	ТРНто	ТРНа	трнд	Benzene	Toluene	Ethylbenzene		MTBE ded in ug/		TAME	DIPE	TBA	1,2-DCA	EDB	Ethanol	Napthalene
Final Groundwat	er ESL (Table E	-1), Potential	l Vapor Intrus	sion Concerns																
Residential					NE		oil gas le E)	540	380,000	170,000	160,000	24,000	NE	NE	NE	use soil gas	200	NE	NE	3,200
Commercial/I	Industrial				NE	use so (Tab	oil gas le E)	1,800	530,000	170,000	160,000	80,000	NE	NE	NE	use soil gas	690	NE	NE	11,000
Final Groundwat	er ESL (Table F	-1), Groundw	ater is a Curr	ent or Potential L	Prinking Wat	er Resource														
					100	100	100	1.0	40	30	20	5.0	NE	NE	NE	12	0.5	0.05	NE	17
MW-1	11/15/1988		0.22																	
100.00	2/16/1989	6.03	0.20	94.13																
	5/19/1989	6.31	0.20	93.85																
	8/22/1989	6.72	0.18	93.42																
	11/21/1989	6.51	Sheen	93.49																
	2/23/1990	5.74	Sheen	94.26																
	5/23/1990	6.34	0.15	93.78																
	8/27/1990	6.27	Sheen	93.73																
	12/3/1990	6.49	Sheen	93.51																
	3/13/1991	4.94	Sheen	95.06																
		9.46	Sheen	90.54																
	5/29/1991																			
	8/28/1991	6.31	0.09	93.76																
	12/9/1991	6.49	0.20	93.67																
	2/18/1992	4.19	0.10	95.89																
	5/15/1992	5.72	0.17	94.42																
	8/13/1992	6.12	0.19	94.03																
	12/3/1992	5.65	0.10	94.43																
	3/25/1993	4.60	Sheen	95.40																
	5/21/1993	5.56	0.09	94.51																
	8/17/1993	6.07	0.13	94.03																
	12/13/1993		Sheen																	
	2/24/1994	4.97	Sheen	95.63																
	5/11/1994	5.20	Sheen	94.80																
	8/23/1994	6.06	0.08	94.00																
	11/29/1994	5.98	Sheen	94.02																
	2/15/1995	4.93	Sheen	95.07																
	5/18/1995	4.99	Sheen	95.01																
	8/16/1995	6.46	Sheen	93.54																
	11/16/1995	5.21	Sheen	94.79																
	2/15/1996	4.68	Sheen	95.32																
	July 1996	←							Well MW-1	Reconstructed as	s well RW-	1 -								
RW-1	8/5/1996	6.05	0.35	94.23																
100.00	2/6/1997	4.40	Sheen	95.60																
130.00	8/22/1997	4.40	Sheen	95.10																
	2/12/1998	3.18	0.00	96.82		89,000														
	8/27/1998	5.16		94.05		69,000														
	0/2//1998	5.95	Sheen	94.03																

Sample ID TOC	Date Sampled	Depth to Water (ft btoc)	SPH Thickness (ft)	Groundwater Elevation (arbitrary)	TPHmo	ТРН	трнд	Benzene	Toluene	Ethylbenzene		MTBE ded in ug/		TAME	DIPE	TBA	1,2-DCA	EDB	Ethanol	Napthalene
Final Groundwa	iter ESL (Table E	-1), Potential	l Vapor Intrus	sion Concerns																
Residential					NE	use soi (Tabl	-	540	380,000	170,000	160,000	24,000	NE	NE	NE	use soil gas	200	NE	NE	3,200
Commercial	/Industrial				NE	use soi (Tabl		1,800	530,000	170,000	160,000	80,000	NE	NE	NE	use soil gas	690	NE	NE	11,000
Final Groundwa	iter ESL (Table F	-1), Groundw	ater is a Curr	ent or Potential l	Drinking Wat	er Resource														
					100	100	100	1.0	40	30	20	5.0	NE	NE	NE	12	0.5	0.05	NE	17
	3/4/1999*	4.98	Sheen	95.02																
	5/30/2001		Sheen																	
	6/18/2002	6.28	0.00	93.72																
RW-1 (cont)	3/13/2003	6.15	0.00	93.85																
	3/17/2004	5.60	0.00	94.40																
	3/17/2005	5.39	0.00	94.61																
	3/2/2007	5.22	Sheen	94.78	9,300	16,000 c	140 g	< 0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5	< 0.5	<50	
	4/21/2009	5.91	Sheen	94.09	23,000	50,000 c, d	160 b, d	<0.5	<0.5	<0.5	<0.5									<0.5 d
	9/14/2009	6.53	0.00	93.47	100,000 a,d	52,000 a,d	310 b,d	<0.5	<0.5	<0.5	<0.5					-				<0.5 d
MW-2	11/15/1988					<200														
100.24	2/16/1989	6.13	0.00	94.11		<90														
	5/19/1989	6.24	0.00	94.00		<80														
	8/22/1989	6.68	0.00	93.56		<30														
	11/21/1989	6.64	0.00	93.60		<30														
	2/23/1990	6.04	0.00	94.20		<50														
	5/23/1990	6.40	0.00	93.84		<50														
	8/27/1990	6.70	0.00	93.54		<50														
	12/3/1990	6.83	0.00	93.41		<50														
	3/13/1991	5.64	0.00	94.60		<50														
	5/29/1991	6.31	0.00	93.93		<50														
	8/28/1991	6.68	0.00	93.56		<50														
	12/9/1991	6.69	0.00	93.55		<50														
	2/18/1992	4.96	0.00	95.28		<50														
	5/15/1992	6.07	0.00	94.17		<50														
	8/13/1992	6.42	0.00	93.82		<50														
	12/3/1992	6.25	0.00	93.99		<50														
	3/25/1993	5.40	0.00	94.84		<50														
	5/21/1993	6.04	0.00	94.20		<50														
	8/17/1993	6.42	0.00	93.82		<50		< 0.5	< 0.5	<0.5	<0.5	< 0.5								
	12/13/1993	6.09	0.00	94.15		<50		<0.5	<0.5	<0.5	<0.5									
	2/24/1994	5.57	0.00	94.67		<50		<0.5	<0.5	<0.5	<0.5									
	5/11/1994	5.94	0.00	94.30		<50		<0.5	<0.5	<0.5	<0.5						-			
	8/23/1994	6.44	0.00	93.80		<50		<0.5	<0.5	<0.5	<0.5									
	11/29/1994	5.82	0.00	94.42		90	<50	<0.5	<0.5	<0.5	<0.5						-			
	2/15/1995	5.68	0.00	94.42	<500	100	<50	<0.5	1.2	<0.5	<0.5									
	2/ 13/ 1993	5.00	0.00	94.00	\ 300	100	\ 30	\0.5	1.∠	~ 0.5	~0.5									

Sample ID TOC	Date Sampled	Depth to Water (ft btoc)	SPH Thickness (ft)	Groundwater Elevation (arbitrary)	TPHmo ←	ТРНА	ТРНд	Benzene	Toluene	Ethylbenzene		MTBE ded in ug/		ТАМЕ	DIPE	TBA	1,2-DCA	EDB	Ethanol	Napthalene
Final Groundwa	iter ESL (Table E	-1), Potentia	l Vapor Intrus	sion Concerns																_
Residential					NE		oil gas le E)	540	380,000	170,000	160,000	24,000	NE	NE	NE	use soil gas	200	NE	NE	3,200
Commercial	/Industrial				NE		oil gas le E)	1,800	530,000	170,000	160,000	80,000	NE	NE	NE	use soil gas	690	NE	NE	11,000
Final Groundwa	iter ESL (Table F	-1), Groundu	ater is a Curi	ent or Potential I	Drinking Wat	ter Resource														
					100	100	100	1.0	40	30	20	5.0	NE	NE	NE	12	0.5	0.05	NE	17
	E /10 /100E																			
	5/18/1995 8/16/1995	6.19	0.00	94.05		63		<0.5	<0.5	<0.5	<0.5									
	11/16/1995							~U.5	~0.5 	<0.5 	~0.5 									
	2/15/1996	5.62	0.00	94.62		 79		<0.5	<0.5	<0.5	<0.5									
	8/5/1996	6.22	0.00	94.02		100		<0.5	<0.5	<0.5	<0.5									
	2/6/1997	5.50	0.00	94.74		140		<0.5	<0.5	<0.5	<0.5									
MW-2 (cont)	8/22/1997	6.57	0.00	93.67		<100		<0.5	<0.5	<0.5	<0.5									
1111 2 (2011)	2/12/1998	4.88	0.00	95.36		<100		<0.5	<0.5	<0.5	<0.5									
	8/27/1998	6.42	0.00	93.82		93		<0.5	<0.5	<0.5	<0.5									
	3/4/1999*	6.39	0.00	93.85		<50		<0.5	<0.5	<0.5	<0.5	<5								
	5/30/2001																			
	6/18/2002	7.14	0.00	93.10		<50		< 0.5	< 0.5	<0.5	< 0.5	<2.5								
	3/13/2003	6.64	0.00	93.60		<48		<0.5	<0.5	<0.5	<0.5	<2.0								
	3/17/2004	6.63	0.00	93.61		<500		<0.5	<0.5	<0.5	<0.5	<2.5								
	3/17/2005	6.76	0.00	93.48		<50		<0.5	<0.5	<0.5	<0.5	<5								
	3/2/2007	5.77	0.00	94.47	<250	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	<5.0	< 0.5	< 0.5	<50	
	4/21/2009	6.38	0.00	93.86	<250	<50	<50	<0.5	<0.5	<0.5	<0.5									< 0.5
	9/14/2009	6.85	0.00	93.39	<50	<250	<50	<0.5	<0.5	<0.5	<0.5									<0.5
MW-3	11/15/1988					<200														
100.22	2/16/1989	6.00	0.00	94.22		<90														
	5/19/1989	6.20	0.00	94.02		<80														
	8/22/1989	6.60	0.00	93.62		<30														
	11/21/1989	6.55	0.00	93.67		<30														
	2/23/1990	5.83	0.00	94.39		340														
	5/23/1990	6.38	0.00	93.84		640														
	8/27/1990	6.67	0.00	93.55		410														
	12/3/1990	6.75	0.00	93.47		< 50														
	3/13/1991	5.42	0.00	94.80		1,300														
	5/29/1991	6.28	0.00	93.94		540														
	8/28/1991	6.62	0.00	93.60		240														
	12/9/1991	6.65	0.00	93.57		200														
	2/18/1992	4.73	0.00	95.49		890														
	5/15/1992	5.99	0.00	94.23		380														
	8/13/1992	6.32	0.00	93.90		200														
	12/3/1992	6.23	0.00	93.99		<50														

Sample ID TOC	Date Sampled	Depth to Water (ft btoc)	SPH Thickness (ft)	Groundwater Elevation (arbitrary)	TPHmo ◆	ТРНа	ТРНд	Benzene	Toluene	Ethylbenzene		MTBE ded in ug/		TAME	DIPE	TBA	1,2-DCA	EDB	Ethanol	Napthalene
Final Groundwa	ter ESL (Table E	-1), Potential	Vapor Intrus	ion Concerns																
Residential					NE	use so (Tab	oil gas le E)	540	380,000	170,000	160,000	24,000	NE	NE	NE	use soil gas	200	NE	NE	3,200
Commercial/	Industrial				NE	use so (Tab		1,800	530,000	170,000	160,000	80,000	NE	NE	NE	use soil gas	690	NE	NE	11,000
Final Groundwa	ter ESL (Table F	-1), Groundw	ater is a Curr	ent or Potential L	Drinking Wate	er Resource														
					100	100	100	1.0	40	30	20	5.0	NE	NE	NE	12	0.5	0.05	NE	17
	3/25/1993	5.27	0.00	94.95		1,600														
	5/21/1993	5.97	0.00	94.25		720														
	8/17/1993	6.59	0.00	93.63		480		< 0.5	< 0.5	<0.5	< 0.5									
	12/13/1993	6.33	0.00	93.89		190		< 0.5	< 0.5	< 0.5	< 0.5									
	2/24/1994	5.76	0.00	94.46		380		< 0.5	< 0.5	< 0.5	< 0.5									
	5/11/1994	5.84	0.00	94.38		580		< 0.5	< 0.5	< 0.5	< 0.5									
	8/23/1994	6.38	0.00	93.84		450		< 0.5	0.6	< 0.5	< 0.5									
MW-3 (cont)	11/29/1994	5.76	0.00	94.46		960	< 50	< 0.5	< 0.5	< 0.5	< 0.5									
	2/15/1995	5.60	0.00	94.62	< 500	1,700	< 50	< 0.5	< 0.5	< 0.5	< 0.5									
	5/18/1995																			
	8/16/1995	6.11	0.00	94.11		1,100		< 0.5	< 0.5	< 0.5	< 0.5									
	11/16/1995																			
	2/15/1996	5.48	0.00	94.74		1,300		< 0.5	< 0.5	<0.5	< 0.5									
	8/5/1996	6.16	0.00	94.06		1,000		< 0.5	< 0.5	<0.5	< 0.5									
	2/6/1997	5.36	0.00	94.86		2,400		< 0.5	< 0.5	<0.5	< 0.5									
	8/22/1997	5.85	0.00	94.37		2,000		< 0.5	< 0.5	<0.5	< 0.5									
	2/12/1998	4.81	0.00	95.41		1,500		< 0.5	< 0.5	<0.5	< 0.5									
	8/27/1998	6.25	0.00	93.97		410		< 0.5	< 0.5	<0.5	< 0.5									
	3/4/1999*	6.14	0.00	94.08		330		< 0.5	< 0.5	<0.5	< 0.5	17								
	5/30/2001																			
	6/18/2002	7.07	0.00	93.15		1,100		< 0.5	< 0.5	<0.5	< 0.5	3.6/3.1								
	3/13/2003	6.45	0.00	93.77		680		< 0.5	< 0.5	<0.5	< 0.5	2.9								
	3/17/2004	5.98	0.00	94.24		450		< 0.5	< 0.5	<0.5	< 0.5	<2.5								
	3/17/2005	5.72	0.00	94.50		160		< 0.5	< 0.5	<0.5	< 0.5	< 5.0								
	3/2/2007	5.68	0.00	94.54	<250	<50	< 50	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	<5.0	< 0.5	< 0.5	<50	
	4/21/2009	6.26	0.00	93.96	<250	<50	<50	< 0.5	< 0.5	<0.5	< 0.5									< 0.5
	9/14/2009	6.81	0.00	93.41	< 50	<250	<50	<0.5	<0.5	<0.5	<0.5									<0.5
MW-4	11/15/1988					<200														
99.48	2/16/1989	5.92	0.00	93.56		<90														
	5/19/1989	5.25	0.00	94.23		<80														
	8/22/1989	6.76	0.00	92.72		<30														
	11/21/1989	5.72	0.00	93.76		<30														
	2/23/1990	4.92	0.00	94.56		<50														
	5/23/1990	5.39	0.00	94.09		<50														
	8/27/1990	5.66	0.00	93.82		<50														

Sample ID TOC	Date Sampled	Depth to Water (ft btoc)	SPH Thickness (ft)	Groundwater Elevation (arbitrary)	ТРНто	ТРНа	ТРНд	Benzene	Toluene	Ethylbenzene		MTBE ded in ug/		TAME	DIPE	TBA	1,2-DCA	EDB	Ethanol	Napthalene
Final Groundwa	ter ESL (Table E	-1), Potentia	l Vapor Intrus	sion Concerns																
Residential					NE		oil gas le E)	540	380,000	170,000	160,000	24,000	NE	NE	NE	use soil gas	200	NE	NE	3,200
Commercial	/Industrial				NE	use so (Tab	oil gas de E)	1,800	530,000	170,000	160,000	80,000	NE	NE	NE	use soil gas	690	NE	NE	11,000
Final Groundwa	ter ESL (Table F	-1), Groundu	ater is a Curr	ent or Potential L	Drinking Wat	er Resource														
					100	100	100	1.0	40	30	20	5.0	NE	NE	NE	12	0.5	0.05	NE	17
	12 /2 /1000	F.0F	0.00	02.52		∠ E0														
	12/3/1990	5.95	0.00	93.53		<50														
	3/13/1991	4.39	0.00	95.09		<50														
	5/29/1991	5.27	0.00	94.21		<50														
	8/28/1991	5.70	0.00	93.78		<50														
	12/9/1991	5.78	0.00	93.70		<50														
	2/18/1992	3.60	0.00	95.88		<50														
	5/15/1992	5.03	0.00	94.45		<50														
	8/13/1992	5.40	0.00	94.08		<50														
	12/3/1992	5.14	0.00	94.34		<50														
MW-4 (cont)	3/25/1993	4.14	0.00	95.34		<50														
	5/21/1993	4.95	0.00	94.53		< 50														
	8/17/1993	5.40	0.00	94.08		<50		< 0.5	< 0.5	< 0.5	< 0.5									
	12/13/1993	5.08	0.00	94.40		<50		< 0.5	< 0.5	<0.5	< 0.5									
	2/24/1994	4.38	0.00	95.10		<50		<0.5	< 0.5	<0.5	<0.5									
	5/11/1994	4.85	0.00	94.63		<50		<0.5	<0.5	<0.5	<0.5									
	8/23/1994	5.47	0.00	94.01		<50		<0.5	<0.5	<0.5	<0.5									
	11/29/1994	4.76	0.00	94.72				٧٥.5												
	2/15/1995	4.70		94.72 																
	5/18/2005																			
	8/16/1995	5.16	0.00	94.32																
	11/16/1995																			
	2/15/1996	4.40	0.00	95.08																
	8/5/1996	5.27	0.00	94.21																
	2/6/1997	4.26	0.00	-4.26																
	8/22/1997	5.09	0.00	-5.09																
	2/12/1998	3.58	0.00	-3.58																
	8/27/1998	5.43	0.00	-5.43																
	3/4/1999*	5.34	0.00	-5.34																
	June 1999	•								Well Destroyed										
MW-5	11/15/1988					<200														
99.60	2/16/1989	 5.42	0.00			<90														
33.0U				94.18																
	5/19/1989	5.53	0.00	94.07		<80														
	8/22/1989	5.94	0.00	93.66		<30														
	11/21/1989	5.91	0.00	93.69		<30														
	2/23/1990	5.69	0.00	93.91		<50														

Sample ID TOC	Date Sampled	Depth to Water (ft btoc)	SPH Thickness (ft)	Groundwater Elevation (arbitrary)	ТРНто	ТРНа	трнд	Benzene	Toluene	Ethylbenzene		MTBE ded in ug/		TAME	DIPE	TBA	1,2-DCA	EDB	Ethanol	Napthalene
Final Groundwa	ter ESL (Table E	-1), Potentia	l Vapor Intrus	sion Concerns																
Residential					NE	use so (Tab	il gas le E)	540	380,000	170,000	160,000	24,000	NE	NE	NE	use soil gas	200	NE	NE	3,200
Commercial/	Industrial				NE	use so (Tab	il gas le E)	1,800	530,000	170,000	160,000	80,000	NE	NE	NE	use soil gas	690	NE	NE	11,000
Final Groundwa	ter ESL (Table F	-1), Groundu	ater is a Curi	ent or Potential L	Prinking Wat	er Resource														
					100	100	100	1.0	40	30	20	5.0	NE	NE	NE	12	0.5	0.05	NE	17
_	_ , ,																			
	5/23/1990	5.92	0.00	93.68		<50														
	8/27/1990	6.17	0.00	93.43		<50														
	12/3/1990	6.05	0.00	93.55		<50														
	3/13/1991	5.01	0.00	94.59		<50														
	5/29/1991	5.57	0.00	94.03		<50														
	8/28/1991	5.90	0.00	93.70		<50														
	12/9/1991	5.99	0.00	93.61		<50														
	2/18/1992	4.45	0.00	95.15		<50														
	5/15/1992	5.33	0.00	94.27		<50														
	8/13/1992	5.62	0.00	93.98		< 50														
	12/3/1992	5.58	0.00	94.02		< 50														
MW-5 (cont)	3/25/1993	4.34	0.00	95.26		<50														
	5/21/1993	5.28	0.00	94.32		<50														
	8/17/1993	5.61	0.00	93.99		<50		< 0.05	< 0.5	< 0.5	< 0.5	< 0.5								
	12/13/1993	5.38	0.00	94.22		<50		< 0.05	<0.5	<0.5	<0.5	<0.5								
	2/24/1994	4.90	0.00	94.70		<50		< 0.05	<0.5	<0.5	<0.5	<0.5								
	5/11/1994	5.23	0.00	94.37		<50		< 0.05	<0.5	<0.5	<0.5	<0.5								
	8/23/1994	5.70	0.00	93.90		<50		< 0.05	<0.5	<0.5	<0.5	<0.5								
	11/29/1994	5.12	0.00	94.48																
	2/15/1995																			
	5/18/2005																			
	8/16/1995	5.47	0.00	94.13																
	11/16/1995																			
	2/15/1996	4.90	0.00	94.70																
	8/5/1996	5.50	0.00	94.10																
	2/6/1997	4.80	0.00	94.80																
	8/22/1997	6.37	0.00	93.23																
	2/12/1998	4.32	0.00	95.28																
	8/27/1998	5.77	0.00	93.83																
	3/4/1999*	5.88	0.00	93.72																
	6/18/2002	5.97	0.00	93.63		61		< 0.5	< 0.5	< 0.5	< 0.5	<2.5								
	3/13/2003	5.77	0.00	93.83		<47		< 0.5	<0.5	< 0.5	< 0.5	< 2.0								
	3/17/2004	5.37	0.00	94.23		<50		< 0.5	< 0.5	< 0.5	< 0.5	<2.5								
	3/17/2005	5.23	0.00	94.37		< 50		< 0.5	< 0.5	< 0.5	< 0.5	< 5.0								
	3/2/2007	5.12	0.00	94.48	<250	<50	<50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5	< 0.5	< 50	
	4/21/2009	5.65	0.00	93.95	<250	<50	< 50	< 0.5	< 0.5	< 0.5	< 0.5									< 0.5

TABLE 1 Page 7 of 8

GROUNDWATER ELEVATION AND ANALYTICAL DATA ESTES-GI TRUCKING COMPANY 1750 ADAMS AVENUE SAN LEANDRO, CALIFORNIA

Sample ID TOC	Date Sampled	Depth to Water (ft btoc)	SPH Thickness (ft)	Groundwater Elevation (arbitrary)	ТРНто	ТРН	ТРНд	Benzene	Toluene	Ethylbenzene		MTBE led in ug		TAME	DIPE	TBA	1,2-DCA	EDB	Ethanol	! Napthalene
Final Groundwa	iter ESL (Table E	E-1), Potential	Vapor Intrus	sion Concerns																
Residential					NE	use soi (Tabl	-	540	380,000	170,000	160,000	24,000	NE	NE	NE	use soil gas	200	NE	NE	3,200
Commercial,	/Industrial				NE	use soi (Tabl		1,800	530,000	170,000	160,000	80,000	NE	NE	NE	use soil gas	690	NE	NE	11,000
Final Groundwa	iter ESL (Table F	-1), Groundw	ater is a Curr	ent or Potential I	Orinking Wat	er Resource														
					100	100	100	1.0	40	30	20	5.0	NE	NE	NE	12	0.5	0.05	NE	17
	9/14/2009	6.14	0.00	93.46	<50	<250	<50	<0.5	<0.5	<0.5	<0.5				-	-				<0.5
RW-2	8/5/1996	6.02	0.31																	
not surveyed	2/6/1997	4.41	0.00																	
•	8/22/1997	4.88	0.00																	
	2/12/1998	3.21	0.00			100,000		< 0.5	< 0.5	< 0.5	< 0.5									
	8/27/1998	5.92	0.00																	
	3/4/1999*	4.95	0.00			74,000		<1.0	<1.0	<1.0	<1.0	<10								
	5/30/2001		0.00			9,000		< 0.5	< 0.5	< 0.5	< 0.5									
	6/18/2002	6.30	0.00			280,000		<10	<10	<10	<10	< 50								
	3/13/2003	6.11	0.00																	
	3/17/2004	5.58	0.00																	
	3/17/2005	5.30	0.00																	
	3/2/2007	5.21	0.00		2,500	5,500 c	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	< 0.5	< 0.5	< 50	
	4/21/2009	5.88	Sheen		3,000	6,000 c, d	<50 d	< 0.5	< 0.5	< 0.5	< 0.5									<0.5 d
	9/14/2009	6.54	0.00		7.200 c.d	4.000 c.d	<50 d	<0.5	<0.5	<0.5	<0.5									<0.5 d

Abbreviations and Notes:

TOC = elevation of the top of casing relative to an abritraty elevation from well RW-1's TOC (100.00 ft)

ft btoc = measured in feet below top of casing

SPH = separate phase hydrocarbons or non-aqueous phase liquid (NAPL)

ug/L = micrograms per liter

Sheen = non-measurable SPH sheen observed

-- = Not measured, not analyzed, not applicable

TPHd = total petroleum hydrocarbons as diesel analyzed by modified EPA Method 8015; beginning 3/2/2007 analyzed by EPA Method 8015C with silica gel cleanup

TPHmo = total petroleum hydrocarbons as motor oil analyzed by EPA Method 8015C with silica gel clenaup

TPHg = total petroleum hydrocarbons as gasoline analyzed by EPA Method 8015C

BTEX = benzene, toluene, ethylbenzene, xylenes analyzed by EPA Method 8020/8021B; beginning 3/2/2007 analyzed by EPA Method 8260B

 $MTBE = methyl\ tertiary-butyl\ ether\ analyzed\ by\ EPA\ Method\ 8020/8021B;\ beginning\ 3/2/2007\ analyzed\ by\ EPA\ Method\ 8260B$

ETBE = ethyl tertiary-butyl ether analyzed by EPA Method 8260B

TAME = tertiary-amyl methyl ether analyzed by EPA Method 8260B

DIPE = di-isopropyl ether analyzed by EPA Method 8260B

TBA = tertiary butyl alcohol analyzed by EPA Method 8260B

1,2-DCA = one, two-dichloroethane analyzed by EPA Method 8260B

EDB = ethylene dibromide analyzed by EPA Method 8260B

Ethanol analyzed by EPA Method 8260B

Sample ID TOC	Date Sampled	Depth to Water (ft btoc)	SPH Thickness (ft)	Groundwater Elevation (arbitrary)	ТРНто	ТРН	ТРНд	Benzene	Toluene	Ethylbenzene	Xylenes - Record	MTBE led in ug/		ТАМЕ	DIPE	TBA	1,2-DCA	EDB	Ethanol	Napthalene •
Final Groundwat	ter ESL (Table E	-1), Potential	Vapor Intrus	ion Concerns																
Residential					NE	use soi (Tabl	-	540	380,000	170,000	160,000	24,000	NE	NE	NE	use soil gas	200	NE	NE	3,200
Commercial/	Industrial				NE	use soi (Tabl		1,800	530,000	170,000	160,000	80,000	NE	NE	NE	use soil gas	690	NE	NE	11,000
Final Groundwat	ter ESL (Table F	-1), Groundw	ater is a Curr	ent or Potential D	rinking Wate	r Resource														
					100	100	100	1.0	40	30	20	5.0	NE	NE	NE	12	0.5	0.05	NE	17

^{* =} data collected on March 4 & 11, 1999

a = unmodified or weakly modified diesel is significant

b = strongly aged gasoline or diesel range compounds are significant in the gasoline chromatogram

c = aged diesel (?) is significant

d = lighter than water immisible sheen/product is present

APPENDIX A

FIELD DATA SHEETS



WELL GAUGING SHEET

			AAL	LL GA	UGIIN	G SIII	
Client:	Conestoga-l	Rovers and A	Associates				
Site Address:	1750 Adam			CA			
Date:	9/14/2009		and the second s	Signature:		By	
					10	g fluinsag fluinsaccineissenscones	
Well ID	Time	Depth to SPH	Depth to Water	SPH Thickness	Depth to Bottom		Comments
Wh-5	10:40		6.85		23.19	RW-1	DTU in u" Casing=6.53 DTW in 12" casing=6.50 DTB in 12" casing=10.23
MH-3	10:45		6.81		20.63		Removed skimmer before
MW-5	10:35		6.14		21.55		
RL-1	10:55		6.53		10.25		
Rn-3	10:50		6.54	MINISTER MANUFACTOR CONTROL SECTION S SAN HER WOOD ANNOUNCE	12.15		
		MAZATIRAA SARCIJASSA KARATIKA					



Date:		9/14/2009						
Client:		Conestoga-I	Rovers and	Associates	3			
Site Addr	ess:	1750 Adam	s Avenue,	San Leandi	ro, CA			
Well ID:		MN-2						
Well Dian	neter:	2"						
Purging D	evice:	Disposab	le Baile.	(
Sampling	Method:	Disposable	Bailer					
Total Wel	l Depth:			23.19	Fe=	mg/L		
Depth to V	Water:			6.85	ORP=	mV		
Water Col	umn Height			16.34	DO=	mg/L		
Gallons/ft	:			0.16				
1 Casing	Volume (gal):		2.61	COMMI	ENTS:		
3 Casing	Volumes (ga	al):		7.83	very	turbid, silt	Y	
TIME:	CASING VOLUME (gal)	TEMP (Celsius)	_{рН} 7.75	COND. (μS)				
11:50	6.0	20.1	7.68	731				
11:55	8,0	19.8	7.75	725				
Sample ID:	Sample Da	ite:	Sample Time:	Container	r Tyne	Preservative	Analytes	Method
	9/14/		12:00	1L Amber 40 ml VO	,	HCI, ICE	TPHd, TPHmo, TPHg, BTEX,	8015, 8021, 8260
1.12.0	111-11	V · I	12.00	10 1111 70.	£ 3.	1101, 101	Napthalene	
							///	/
						Signatu	re:	
					45116 SSATES NACES	J.S.ittitu.	-	



Date:		9/14/2009						
Client:		Conestoga-F	Rovers and	Associates				
Site Address:	1	1750 Adams	s Avenue,	San Leandr	o, CA		8	
Well ID:		MW-3						
Well Diameter:		2"						
Purging Device:	: 7	Disposal	de Bai	le,				
Sampling Metho	od: I	Disposable	Bailer		por orthogonal participation in the			
Total Well Dep	th:			20.63	Fe=	mg/L		
Depth to Water:				6.81	ORP=	mV		
Water Column	Height:			13.82	DO=	mg/L		
Gallons/ft:				0.16				
1 Casing Volun	ne (gal)	:		2.21	COMME	ENTS:		
3 Casing Volun	nes (gal):		6.63	very +	ents: whid, very s	ilty	
CAS	SING	TEMP		COND.				
	(al)	(Celsius)	pН	(μS)				
12:15 2.	5	21.7	704	700				
12:20 5.	_	21.7	7.11	709				
12:25 6.	5	21.7	7.13	720				
Sample			Sample					
ID: Sam	ple Dat	te:	Time:	Container	Type	Preservative	Analytes TPHd,	Method 8015, 8021, 8260
0,12	r			1L Amber			TPHmo, TPHg, BTEX.	0013, 0021, 0200
MN-3 9/	14/0	9	12:30	40 ml VO.	<u>A</u>	HCI, ICE	Napthalene	
							-	
								2
							A	Mes .
	alies Was all meeting del					Signatui	re:	



Date:		9/14/2009						
Client:		Conestoga-	Rovers and	d Associates	S			
Site Add	ress:	1750 Adam	s Avenue,	San Leand	ro, CA			
Well ID:		MH-5						
Well Diar		2"						
Purging D	evice:	Disposa	ble B	Bailer				
Sampling		Disposable					***************************************	
Total Wel	l Depth:			21.55	Fe=	mg/L		
Depth to	Water:			6.14	ORP=	mV		
Water Co.	lumn Height	t:		15.41	DO=	mg/L		
Gallons/ft			8	0.16				
1 Casing	Volume (gal):		2.46	СОММЕ	ENTS:		
3 Casing	Volumes (ga	al):		7.38	very.	tuibid, silty		
TIME:	CASING VOLUME (gal)	TEMP (Celsius)	pН	COND.				
11:15	2.5	21.4	7.19	783				
11:20	5.0	21.7	7.20	777				
11:25	7.0	21.0	7.19	785				
			22.200					
Sample			Sample					
ID:	Sample Da	ite:	Time:	Container	Type	Preservative	Analytes TPHd.	Method 8015, 8021, 8260
MW-5	9/14/	loa	11:30	1L Amber,		HOLIOF	TPHmo, TPHg, BTEX,	0015, 0021, 0200
1.16.2	9/14/	79	11:30	40 ml VO	A	HCI, ICE	Napthalene	
							-	
								10
						Signatur	/	
						Signatur	" Al	



50



STATE OF THE PARTY	The act associated to the advantage of the							
Date:		9/14/2009						
Client:		Conestoga-F	Rovers and	Associates	5			
Site Addı	ess:	1750 Adam	s Avenue,	San Leandi	ro, CA			
Well ID:		RN-2						
Well Diar		4"						
Purging D	evice:	Disposa	ble Bo	uler				
Sampling		Disposable						
Total Wel	l Depth:			12.15	Fe=	mg/L		
Depth to V	Water:			6.54	ORP=	mV		
Water Co	lumn Height	::		5.61	DO=	mg/L		
Gallons/ft	:			0.65			,	
1 Casing	Volume (gal):		3.64	СОММЕ	ENTS:	. 11	
3 Casing	Volumes (ga	nl):		10.92	veryt	ents: -wbid, very	3, 144	
TIME:	CASING VOLUME (gal)	TEMP (Celsius)	рН	COND.	v			
12:45	3.5	21.0	7.14					
12:50	7.0	21.5	7.16	558				
12:55	^	21.7	7.12	505				
12:22	11.0	0-1		505				
Sample	and the state of t	averes and the last because	Sample					
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RH-2	9/14	109	00:1	1L Amber 40 ml VO		HCl, ICE	TPHu, TPHmo, TPHg, BTEX, Napthalene	8015, 8021, 8260
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McCAMPBELL ANALYTICAL, INC. 1534 WILLOW PASS ROAD

PITTSBURG, CA 94565-1701

Website: www.mccampbell.com Email: main@mccampbell.com

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

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

GeoTracker EDF 🞾 PDF 📮 Excel 📮 Write On (DW) 🖵

RUSH 24 HR 48 HR 72 HR 5 DAY

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Report To: Boy	Stora-Rovers & Associates Hollis St. Ste A E-Mail: Chee & Cramorld Com Fax: (510) 420-9170 Project Name 510 077				acc	Analysis Request Other Comn							Comments																				
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Sampler Signatur	e: Mucko	in En	viron	ne i	h. I	\lesssim	VAN	line	3	X				2 / 80	7	ease	rbon	021 (PA 6	octic	.>	cides	H	3		3	Hs	90.8	0.8	/ 602	8709E879		
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	LOCATION/	SAMI	LING	ers	ainer	\vdash	IVIA	IRI	<u> </u>	PI	RESI	ERV	ED	as Gas	(8015)	m Oil	m Hyd	1 / 801	INC	8081	, PCR	NP	1 (Acid	4 / 826	700/3	170 / 0	1/831	ls (200.	s (200.	00.8 / 6	Me		
SAMPLE ID	Field Point Name	Date	Time	# Containers	Type Containers	Water	Soil	Air	Other	ICE	HCL	HNO,	Other	BTEX & TPH	TPH as Diesel	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	MTBE / BTEX ONLY (FPA 602 / 8021)	TPA 505/608 / 8081 (Cl Peeticides)	FPA 608 / 8082 PCR's ONI V. Aroclore / Conconsure	EPA 507 / 8141 (NP Pesticides)	FDA 515 / 8151 (Acidio Cl Herbicidae)	EPA 5247 / 624 / 8260 (VOCs)	(2001) 0226 / 363 / 6 363 v 453	EFA 343.4 / 04	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Maptha lene		
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APPENDIX B

LABORATORY ANALYTICAL REPORT S

McCampbell Analytical, Inc. "When Ouality Counts"

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

Conestoga-Rovers & Associates	Client Project ID: #631000; Estes-GI	Date Sampled: 09/14/09
5900 Hollis St, Suite A	Trucking Company	Date Received: 09/14/09
Emeryville, CA 94608	Client Contact: Bob Foss	Date Reported: 09/21/09
Zanery vine, err 7 1000	Client P.O.:	Date Completed: 09/21/09

WorkOrder: 0909379

September 21, 2009

De	ar	R	പ	h	٠

Enclosed within are:

- 5 analyzed samples from your project: #631000; Estes-GI Trucking Compa 1) The results of the
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

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

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

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius Laboratory Manager

McCampbell Analytical, Inc.

N



McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD PITTSBURG, CA 94565-1701

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

Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME		

48 HR 72 HR 5 DAY RUSH 24 HR

GeoTracker EDF A PDF Excel Write On (DW)

Check if sample is effluent and "J" flag is required Report To: Bob Bill To: Conestago-Rovers & Associates Analysis Request Other Comments Company: Conston-Rovers & Associates EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners Filter Fotal Petroleum Oil & Grease (1664 / 5520 E/B&F) Samples E-Mail: CAM 17 Metals (200.7 / 200.8 / 6010 / 6020) for Metals LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020) Fax: (510) 420-9170 Tele: (510)420-3348 MTBE / BTEX ONLY (EPA 602 / 8021) analysis: Fotal Petroleum Hydrocarbons (418.1) EPA 515 / 8151 (Acidic Cl Herbicides) EPA 8270 SIM / 8310 (PAHs / PNAs) Project #: 631000 Project Name: Estes GI Towking Yes / No Lead (200.7 / 200.8 / 6010 / 6020) Project Location: 1750 Adams Ave. Leandro EPA 525.2 / 625 / 8270 (SVOCs) EPA 507 / 8141 (NP Pesticides) EPA 524.2 / 624 / 8260 (VOCs) Environmental Sampler Signature: Muskam TPH as Diesel (8015)/m(METHOD MATRIX SAMPLING Type Containers PRESERVED # Containers LOCATION/ SAMPLE ID BTEX & TPH Field Point Sludge Water Name Time Date Other HNO3 ICE Soil Air MN-2 9-14-09 12:00 12:31 11:30 1:30 1:00 Relinquished By ICE/to GOC Date: Time: Received Byy COMMENTS: GOOD CONDITION HEAD SPACE ABSENT Relinquished By: Date: Time: Received By: DECHLORINATED IN LAB APPROPRIATE CONTAINERS PRESERVED IN LAB Relinquished By: Date: Time: Received By: VOAS O&G METALS OTHER PRESERVATION

McCampbell Analytical, Inc.

1534 Willow Pass Rd

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Pittsburg, CA 94565-1701 WorkOrder: 0909379 **ClientCode: CETE** (925) 252-9262 WaterTrax WriteOn **✓** EDF Excel Fax ✓ Email HardCopy ThirdParty J-flag Bill to: Report to: Requested TAT: 5 days bfoss@craworld.com, chee@craworld.c **Bob Foss** Email: Accounts Payable Conestoga-Rovers & Associates Conestoga-Rovers & Associates cc: Date Received: 09/14/2009 PO: 5900 Hollis St, Suite A 5900 Hollis St, Ste. A Emeryville, CA 94608 ProjectNo: #631000; Estes-GI Trucking Company Emeryville, CA 94608 Date Printed: 09/14/2009 (510) 420-3309 FAX (510) 420-9170 Requested Tests (See legend below) Lab ID **Client ID** Collection Date Hold 2 3 5 6 9 10 12 Matrix 1 11 0909379-001 MW-2 Water 9/14/2009 12:00 С Α В Α С 0909379-002 MW-3 9/14/2009 12:30 Α В Water 0909379-003 MW-5 Water 9/14/2009 11:30 Α В 0909379-004 RW-1 9/14/2009 13:30 Α В Water 0909379-005 RW-2 Water 9/14/2009 13:00 С Α В

Test Legend:

1	8260VOC_W	2 G-MBTEX_W	3 PREDF REP	ORT 4 TPH(DM	o)wsg_w 5
6		7	8	9	10
11		12			
					Prepared by: Melissa Valles

Comments:

Sample Receipt Checklist

Client Name:	Conestoga-Rovers & A	ssociates			Date a	and Time Received:	9/14/2009	4:55:16 PM
Project Name:	#631000; Estes-GI Truc	king Compa	ny		Check	list completed and r	eviewed by:	Melissa Valles
WorkOrder N°:	0909379 Matrix	Water			Carrie	r: Client Drop-In		
		Chain d	of Cu	stody (C	OC) Informa	ntion		
Chain of custody	present?		Yes	V	No 🗆			
Chain of custody	signed when relinquished an	d received?	Yes	V	No 🗆			
Chain of custody	agrees with sample labels?		Yes	✓	No 🗌			
Sample IDs noted	by Client on COC?		Yes	V	No 🗆			
Date and Time of	collection noted by Client on C	OC?	Yes	✓	No 🗆			
Sampler's name r	noted on COC?		Yes	✓	No 🗆			
		Saı	mple	Receipt	Information	!		
Custody seals in	tact on shipping container/coo	ler?	Yes		No 🗆		NA 🔽	
Shipping containe	er/cooler in good condition?		Yes	V	No 🗆			
Samples in prope	er containers/bottles?		Yes	V	No 🗆			
Sample containe	ers intact?		Yes	✓	No 🗆			
Sufficient sample	e volume for indicated test?		Yes	✓	No 🗌			
	<u>Sa</u>	ımple Preserv	atior/	n and Ho	old Time (HT)) Information		
All samples recei	ived within holding time?		Yes	✓	No 🗌			
Container/Temp B	Blank temperature		Coole	er Temp:	6°C		NA \square	
Water - VOA vial	ls have zero headspace / no b	oubbles?	Yes	V	No 🗆	No VOA vials subm	itted 🗆	
Sample labels ch	necked for correct preservation	า?	Yes	✓	No 🗌			
TTLC Metal - pH	acceptable upon receipt (pH<2	2)?	Yes		No 🗆		NA 🗹	
Samples Receive	ed on Ice?		Yes	✓	No 🗆			
		(Ice Type:	: WE	TICE)			
* NOTE: If the "N	No" box is checked, see comn	nents below.						
=====	=======	=====	==	===			=====	======
Client contacted:		Date contacte	d:			Contacted	by:	
Comments:								

Conestoga-Rovers & Associates	Client Project ID: #631000; Estes-GI Trucking Company	Date Sampled: 09/14/09
5900 Hollis St, Suite A	Trucking Company	Date Received: 09/14/09
	Client Contact: Bob Foss	Date Extracted: 09/15/09
Emeryville, CA 94608	Client P.O.:	Date Analyzed 09/15/09

Napthalene by P&T and GC/MS*

Analytical methods SW8260B Extraction method SW5030B 0909379 Lab ID Client ID Matrix Naphthalene DF % SS Comments 001C MW-2 W ND 002C W 1 80 MW-3 ND 003C MW-5 W ND 1 78 004C RW-1 W ND b6 1 82 005C RW-2 W ND 1 81 b6 Reporting Limit for DF = 1; W 0.5 $\mu g/L$

above the reporting limit	S	NA	NA
* water and vapor samples and all TCLP & SPLP extrac	ts are reported	in μg/L, soil/sludge/solid samples in μg/kg, w	ripe 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 surrogate coelutes with another peak.

b6) lighter than water immiscible sheen/product is present

product/oil/non-aqueous liquid samples in mg/L.

Conestoga-Rovers & Associates	Client Project ID: #631000; Estes-GI Trucking Company	Date Sampled:	09/14/09
5900 Hollis St, Suite A	Trucking Company	Date Received:	09/14/09
	Client Contact: Bob Foss	Date Extracted:	09/15/09-09/17/09
Emeryville, CA 94608	Client P.O.:	Date Analyzed:	09/15/09-09/17/09

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 0909379

Extraction	on method: SW5030B			Analyt	ical methods: S	SW8021B/8015	Bm		Wor	k Order:)909379
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	MW-2	W	ND		ND	ND	ND	ND	1	104	
002A	MW-3	W	ND		ND	ND	ND	ND	1	98	
003A	MW-5	W	ND		ND	ND	ND	ND	1	101	
004A	RW-1	W	310		ND	ND	ND	ND	1	95	d7,b6
005A	RW-2	W	ND		ND	ND	ND	ND	1	96	b6
	rting Limit for DF =1;	W	50	5.0	0.5	0.5	0.5	0.5		μg/I	
	eans not detected at or ve the reporting limit	S	1.0	0.05	0.005	0.005	0.005	0.005		mg/k	Zg

* 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.

- b6) lighter than water immiscible sheen/product is present
- d7) strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram



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

Conestoga-Rovers & Associates	Client Project ID: #631000; Estes-GI	Date Sampled:	09/14/09
5900 Hollis St, Suite A	Trucking Company	Date Received:	09/14/09
	Client Contact: Bob Foss	Date Extracted:	09/14/09
Emeryville, CA 94608	Client P.O.:	Date Analyzed:	09/18/09-09/19/09

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up*

Extraction method: SW3510C/3630C Analytical methods: SW8015B Work Order: 0909379 TPH-Diesel TPH-Motor Oil DF Lab ID Client ID Matrix % SS Comments (C10-C23) (C18-C36) 0909379-001B MW-2 W ND ND 96 0909379-002B MW-3 W ND ND 99 0909379-003B MW-5 W ND ND 102 0909379-004B RW-1 W 100,000 52,000 50 90 e1,b6 0909379-005B W 7200 4000 RW-2 99 e3,b6 Reporting Limit for DF = 1; 50 250 W μg/L ND means not detected at or S NA NA mg/Kg above the reporting limit

- b6) lighter than water immiscible sheen/product is present
- e1) unmodified or weakly modified diesel is significant
- e3) aged diesel is significant



^{*} water samples are reported in μ g/L, wipe samples in μ 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 μ 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; &) low or no surrogate due to matrix interference.

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

QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 45709 WorkOrder: 0909379

EPA Method SW8260B	Extrac	ction SW	5030B					5	Spiked Sar	nple ID	: 0909360-0)05B
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acc	eptance	Criteria (%))
7 may to	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
tert-Amyl methyl ether (TAME)	ND<1.0	10	89.2	85.9	3.83	89.3	91.5	2.36	70 - 130	30	70 - 130	30
Benzene	ND<1.0	10	98.9	94.7	4.30	111	114	2.78	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	230	50	83	86.5	1.12	87.1	92.9	6.39	70 - 130	30	70 - 130	30
Chlorobenzene	ND<1.0	10	88.7	84.7	4.59	102	105	3.29	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND<1.0	10	83.4	80.3	3.90	99.7	103	3.68	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND<1.0	10	94.6	89.5	5.49	101	103	1.25	70 - 130	30	70 - 130	30
1,1-Dichloroethene	ND<1.0	10	108	104	4.49	106	109	3.24	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND<1.0	10	114	109	4.62	114	118	3.53	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND<1.0	10	104	99.5	4.06	102	107	4.29	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND<1.0	10	105	102	3.02	101	105	3.09	70 - 130	30	70 - 130	30
Toluene	ND<1.0	10	86.7	82.5	5.03	104	108	3.91	70 - 130	30	70 - 130	30
Trichloroethene	ND<1.0	10	101	96.1	4.62	109	112	2.49	70 - 130	30	70 - 130	30
%SS1:	99	25	99	99	0	77	77	0	70 - 130	30	70 - 130	30
% SS2:	103	25	101	101	0	101	102	0.998	70 - 130	30	70 - 130	30
%SS3:	84	2.5	82	82	0	97	100	3.26	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 45709 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0909379-001C	09/14/09 12:00 PM	1 09/15/09	09/15/09 3:14 PM	0909379-002C	09/14/09 12:30 PM	09/15/09	09/15/09 3:58 PM
0909379-003C	09/14/09 11:30 AM	09/15/09	09/15/09 4:42 PM	0909379-004C	09/14/09 1:30 PM	09/15/09	09/15/09 5:25 PM

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

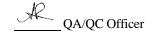
% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with 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.



QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 45823 WorkOrder: 0909379

EPA Method SW8260B	Extrac	ction SW	5030B					S	Spiked Sar	nple ID	: 0909380-0	002B
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acc	eptance	Criteria (%)	1
, and yes	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
tert-Amyl methyl ether (TAME)	ND	10	84	86.8	3.21	90.4	91.1	0.748	70 - 130	30	70 - 130	30
Benzene	ND	10	98.6	103	4.83	113	111	1.23	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	89.4	94.1	5.13	95.3	91.4	4.15	70 - 130	30	70 - 130	30
Chlorobenzene	ND	10	91.1	94.5	3.66	103	102	1.03	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	95.9	98.8	2.97	104	101	2.69	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	91.5	95	3.70	101	101	0	70 - 130	30	70 - 130	30
1,1-Dichloroethene	ND	10	94.6	100	5.55	110	106	4.28	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	103	107	4.57	117	117	0	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	94.6	96.6	2.10	105	104	0.949	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	2.5	10	95.1	96.7	1.35	105	103	2.36	70 - 130	30	70 - 130	30
Toluene	ND	10	95.5	99.5	4.11	108	106	1.37	70 - 130	30	70 - 130	30
Trichloroethene	ND	10	98.3	103	5.14	110	110	0	70 - 130	30	70 - 130	30
%SS1:	77	25	76	77	1.14	76	77	1.83	70 - 130	30	70 - 130	30
% SS2:	98	25	97	97	0	97	97	0	70 - 130	30	70 - 130	30
% SS3:	91.9776	2.5	93	98	5.28	95	95	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 45823 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0909379-005C	09/14/09 1:00 PM	M 09/15/09	09/15/09 6:09 PM				

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

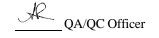
% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with 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.



QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 45822 WorkOrder: 0909379

EPA Method SW8021B/8015Bm Extraction SW5030B Sp											piked Sample ID: 0909379-001A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	Criteria (%)				
Analyto	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD			
TPH(btex ^f)	ND	60	106	103	2.40	126	113	11.1	70 - 130	20	70 - 130	20			
MTBE	ND	10	105	102	2.61	106	98.2	7.45	70 - 130	20	70 - 130	20			
Benzene	ND	10	99.1	104	5.14	91.8	89.2	2.91	70 - 130	20	70 - 130	20			
Toluene	ND	10	97.3	102	5.22	98.2	87.9	11.1	70 - 130	20	70 - 130	20			
Ethylbenzene	ND	10	96.7	101	4.87	89.3	87.1	2.54	70 - 130	20	70 - 130	20			
Xylenes	ND	30	98.1	103	4.72	90.2	87.7	2.82	70 - 130	20	70 - 130	20			
%SS:	104	10	97	99	2.57	106	96	10.5	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 45822 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0909379-001A	09/14/09 12:00 PM	09/17/09	09/17/09 2:28 PM	0909379-002A	09/14/09 12:30 PM	09/16/09	09/16/09 5:47 PM
0909379-003A	09/14/09 11:30 AM	09/16/09	09/16/09 2:06 AM	0909379-004A	09/14/09 1:30 PM	I 09/17/09	09/17/09 2:13 AM
0909379-005A	09/14/09 1:00 PM	09/15/09	09/15/09 5:05 PM				

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

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

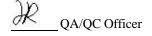
MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

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

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



QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 45772 WorkOrder 0909379

EPA Method SW8015B		8	Spiked San	nple ID:	: N/A	RPD 30						
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	Criteria (%)	١
, analyto	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	84.6	84.8	0.239	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	83	83	0	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 45772 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0909379-001B	09/14/09 12:00 PM	09/14/09	09/18/09 1:09 AM	0909379-002B	09/14/09 12:30 PM	09/14/09	09/18/09 2:17 AM
0909379-003B	09/14/09 11:30 AM	09/14/09	09/18/09 3:25 AM	0909379-004B	09/14/09 1:30 PM	09/14/09	09/19/09 4:11 AM
0909379-005B	09/14/09 1:00 PM	09/14/09	09/18/09 7:59 AM				

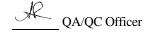
MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

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

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

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

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



APPENDIX C

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. 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-noxTM or AlconoxTM 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 WatteraTM) or down-hole pump (e.g. GrundfosTM 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

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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-noxTM or AlconoxTM 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.

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