

GW - 004

2013 AGWMR

VOL 2 OF 5

03 / 11 / 2014

**ANALYTICAL RESULTS GROUNDWATER O SUMMARY
FORMER EUNICE NORTH GAS PLANT**

Well ID											
	Collection Date	pH	Alkalinity (as CaCO ₃ pH=8.3)	Alkalinity (as CaCO ₃ pH=4.5)	TDS	TOC	Sulfide	Sulfate	Nitrite/Nitrate	Alkalinity bicarbonate	Alkalinity carbonate
	Standard Units	s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	NM WQCC Standard	6-9	--	--	1000	--	--	600	10	--	--
	7/26/2006	5.7	<2	9180	26800	-	-	239	-	-	-
	4/1/2008	5.8	<2.0	7270	26300	-	-	149	-	7270	<2.0
	3/19/2009	-	-	-	5550	-	-	-	-	-	-
	3/4/2010	-	-	-	4500	-	-	-	-	-	-
IW008	2/26/2004	-	-	-	880	4	<0.05	170	1	-	-
	6/9/2004	-	-	-	-	8000	<1	500	<2	-	-
	7/20/2004	-	-	-	-	26800	<1	1000	<2	-	-
	8/19/2004	-	-	-	-	15000	1	600	<2	-	-
	10/13/2004	-	-	-	-	26000	2	700	<2	-	-
	12/2/2004	-	-	-	14400	13000	<1	500	<2	-	-
	1/11/2005	-	-	-	-	16000	<1	300	<2	-	-
	2/2/2005	-	-	-	-	15000	<1	2	<2	-	-
	2/23/2005	-	-	-	-	38000	<1	400	<2	-	-
	3/22/2005	-	-	-	-	21000	<1	200	<2	-	-
	4/25/2005	-	-	-	-	21000	<1	200	<2	-	-
	5/31/2005	-	-	-	-	16000	<1	300	-	-	-
	6/22/2005	-	-	-	-	17000	<1	200	-	-	-
	2/7/2006	4.5	<2	<2	12300	10900	<0.2	349	-	-	-
	7/26/2006	7.1	<2	3020	4590	-	-	<25	-	-	-
	7/26/2006 Dup	7.1	<2	3070	4660	-	-	<25	-	-	-
	4/1/2008	7.1	<2.0	2130	3480	-	-	<5.0	-	2130	<2.0
	3/19/2009	-	-	-	3030	-	-	-	-	-	-
	3/4/2010	-	-	-	2780	-	-	-	-	-	-
IW009	6/9/2004	-	-	-	-	20000	1	1300	<2	-	-
	7/20/2004	-	-	-	-	38400	<1	2800	<2	-	-
	8/19/2004	-	-	-	-	27000	1	1100	<2	-	-
	10/14/2004	-	-	-	-	38000	1	1300	4	-	-
	12/6/2004	-	-	-	35800	31000	<1	1200	<2	-	-
	1/11/2005	-	-	-	-	39000	<1	600	<2	-	-
	2/2/2005	-	-	-	-	26000	<1	500	<2	-	-
	2/23/2005	-	-	-	-	28000	<1	500	<2	-	-
	3/23/2005	-	-	-	-	39000	<1	400	<2	-	-
	4/25/2005	-	-	-	-	49000	<1	300	<2	-	-
	5/31/2005	-	-	-	-	29000	<1	400	-	-	-
	6/23/2005	-	-	-	-	49000	<1	400	-	-	-
	7/13/2005	-	-	-	-	55000	1	400	-	-	-
	2/7/2006	4.8	<2	2060	59500	33700	<0.2	705	-	-	-
	7/27/2006	5	<2	2970	18100	-	-	257	-	-	-
	3/31/2008	5.6	<2.0	5430	20000	-	-	149	-	5430	<2.0
	3/4/2010	-	-	-	17500	-	-	-	-	-	-
IW010	12/18/2003	-	-	-	2780	-	-	220	-	-	-
	2/26/2004	-	-	-	-	4	<0.05	-	<1	-	-
	6/9/2004	-	-	-	-	13000	<1	1000	<2	-	-
	7/21/2004	-	-	-	-	33500	1	1200	<2	-	-
	8/19/2004	-	-	-	-	29000	1	1200	<2	-	-
	10/14/2004	-	-	-	-	35000	2	1300	<2	-	-
	12/7/2004	-	-	-	-	23000	<1	1100	<2	-	-
	1/11/2005	-	-	-	-	22000	<1	900	<2	-	-
	2/2/2005	-	-	-	-	20000	<1	700	<2	-	-
	2/24/2005	-	-	-	-	12000	1	700	<2	-	-
	3/23/2005	-	-	-	-	26000	<1	500	<2	-	-
	4/25/2005	-	-	-	-	23000	<1	500	<2	-	-
	5/31/2005	-	-	-	-	20000	<1	500	-	-	-

**ANALYTICAL RESULTS GROUNDWATER O SUMMARY
FORMER EUNICE NORTH GAS PLANT**

Well ID	Collection Date	pH	Alkalinity (as CaCO ₃ pH=8.3)	Alkalinity (as CaCO ₃ pH=4.5)	TDS	TOC	Sulfide	Sulfate	Nitrite/Nitrate	Alkalinity bicarbonate	Alkalinity carbonate
	Standard Units	s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	NM WQCC Standard	6-9	--	--	1000	--	--	600	10	--	--
	6/23/2005	-	-	-	-	22000	5	600	-	-	-
	7/13/2005	-	-	-	-	29000	1	600	-	-	-
	2/7/2006	5.8	<2	3130	12500	5800	<0.2	<200	-	-	-
	7/27/2006	6.9	<2	1770	3990	-	-	51.8	-	-	-
	3/31/2008	7.2	<2.0	682	2860	-	-	523	-	682	<2.0
	3/19/2009	-	-	-	3290	-	-	-	-	-	-
	3/4/2010	-	-	-	3180	-	-	-	-	-	-
IW011	12/18/2003	-	-	-	2960	3	<0.05	410	<0.4	-	-
	6/8/2004	-	-	-	-	11000	<1	840	<2	-	-
	7/21/2004	-	-	-	-	32200	2	1100	<2	-	-
	8/19/2004	-	-	-	-	37000	1	1200	<2	-	-
	10/14/2004	-	-	-	-	32000	2	500	<2	-	-
	12/7/2004	-	-	-	-	31000	<1	700	2	-	-
	1/12/2005	-	-	-	-	22000	<1	300	4	-	-
	2/2/2005	-	-	-	-	12000	<1	300	<2	-	-
	2/24/2005	-	-	-	-	54000	1	500	<2	-	-
	3/23/2005	-	-	-	-	28000	<1	200	<2	-	-
	4/26/2005	-	-	-	-	39000	<1	200	<2	-	-
	5/26/2005	-	-	-	-	45000	<1	300	-	-	-
	6/23/2005	-	-	-	-	21000	<1	300	-	-	-
	7/14/2005	-	-	-	-	60000	1	400	-	-	-
	2/8/2006	4.9	<2	2810	25000	14700	<0.2	247	-	-	-
	7/26/2006	5.6	<2	3570	13600	-	-	55.1	-	-	-
	3/31/2008	7.1	<2.0	2520	5340	-	-	<5.0	-	2520	<2.0
	3/18/2009	-	-	-	4320	-	-	-	-	-	-
	3/4/2010	-	-	-	3800	-	-	-	-	-	-
IW012	6/8/2004	-	-	-	-	10000	1	1250	<2	-	-
	8/19/2004	-	-	-	-	27000	1	900	<2	-	-
	10/14/2004	-	-	-	-	34000	1	600	<2	-	-
	2/3/2005	-	-	-	-	30000	<1	4	<2	-	-
	3/30/2005	-	-	-	-	-	-	-	2	-	-
	6/23/2005	-	-	-	-	32000	-	-	-	-	-
	7/14/2005	-	-	-	-	50000	1	300	-	-	-
IW013	2/10/2004	-	-	-	2710	3	0.09	550	2	-	-
	6/8/2004	-	-	-	-	11000	1	1450	<2	-	-
	7/21/2004	-	-	-	-	24200	2	1100	<2	-	-
	8/19/2004	-	-	-	-	21000	1	700	<2	-	-
	10/19/2004	-	-	-	-	33000	<1	1000	<2	-	-
	12/7/2004	-	-	-	-	31000	<1	1000	3	-	-
	1/12/2005	-	-	-	-	26000	<1	700	2	-	-
	2/3/2005	-	-	-	-	9000	<1	500	<2	-	-
	2/24/2005	-	-	-	-	63000	<1	600	<2	-	-
	3/24/2005	-	-	-	-	39000	<1	260	<2	-	-
	4/26/2005	-	-	-	-	48000	<1	300	<2	-	-
	5/25/2005	-	-	-	-	30000	<1	410	-	-	-
	6/23/2005	-	-	-	-	36000	1	400	-	-	-
	7/14/2005	-	-	-	-	50000	1	400	-	-	-
	2/8/2006	4.1	<2	<2	26400	15300	<0.2	444	-	-	-
	2/8/2006 Dup	4.2	<2	<2	22100	-	-	419	-	-	-
	7/27/2006	5.3	<2	789	4730	-	-	<25	-	-	-
	7/27/2006 Dup	5.3	<2	767	4710	-	-	<20	-	-	-
	3/26/2008	6.6	<2.0	531	2810	-	-	426	-	531	<2.0
	3/18/2009	-	-	-	2960	-	-	-	-	-	-

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FORMER EUNICE NORTH GAS PLANT**

Well ID	Collection Date	pH	Alkalinity (as CaCO ₃ pH=8.3)	Alkalinity (as CaCO ₃ pH=4.5)	TDS	TOC	Sulfide	Sulfate	Nitrite/Nitrate	Alkalinity bicarbonate	Alkalinity carbonate
	Standard Units	s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	NM WQCC Standard	6-9	--	--	1000	--	--	600	10	--	--
IW014	3/5/2010	-	-	-	3180	-	-	-	-	-	-
	2/11/2004	-	-	-	3810	9	<0.05	670	7	-	-
	6/10/2004	-	-	-	-	9000	<1	1000	<2	-	-
	7/21/2004	-	-	-	-	26600	1	1100	<2	-	-
	8/19/2004	-	-	-	-	13000	1	500	<2	-	-
	10/19/2004	-	-	-	-	25000	<1	800	<2	-	-
	12/7/2004	-	-	-	-	35000	<1	1000	<2	-	-
	1/13/2005	-	-	-	-	27000	<1	500	<2	-	-
	2/3/2005	-	-	-	-	17000	<1	36	<2	-	-
	2/24/2005	-	-	-	-	27000	1	500	<2	-	-
	3/24/2005	-	-	-	-	27000	<1	140	<2	-	-
	4/26/2005	-	-	-	-	32000	<1	200	<2	-	-
	5/25/2005	-	-	-	-	18000	<1	320	-	-	-
	6/28/2005	-	-	-	-	19000	<1	300	-	-	-
	7/14/2005	-	-	-	-	58000	1	400	-	-	-
	2/13/2006	4.4	<2	<2	34100	21900	<0.2	514	-	-	-
	2/13/2006 Dup	4.4	<2	<2	33000	-	-	366	-	-	-
	7/25/2006	5.4	<2	5020	18600	-	-	105	-	-	-
	7/25/2006 Dup	5.4	<2	5080	19000	-	-	<100	-	-	-
	3/26/2008	7.2	<2.0	3600	6360	-	-	<5.0	-	3600	<2.0
	3/18/2009	-	-	-	5750	-	-	-	-	-	-
	3/3/2010	-	-	-	4140	-	-	-	-	-	-
IW015	2/25/2004	-	-	-	-	4	<0.05	720	5	-	-
	6/3/2004	-	-	-	-	12000	1	900	<2	-	-
	7/8/2004	-	-	-	-	46900	1	1560	<2	-	-
	8/18/2004	-	-	-	-	33000	1	900	<2	-	-
	10/11/2004	-	-	-	-	41000	1	1400	4	-	-
	1/5/2005	-	-	-	-	32000	<1	900	<2	-	-
	2/21/2005	-	-	-	-	32000	1	600	<2	-	-
	3/17/2005	-	-	-	-	31000	<1	290	<2	-	-
	4/19/2005	-	-	-	-	28000	<0.05	200	<2	-	-
	6/1/2005	-	-	-	-	29000	1	400	-	-	-
	6/21/2005	-	-	-	-	38000	<1	400	-	-	-
	7/21/2005	-	-	-	-	43000	1	500	-	-	-
	2/9/2006	5.5	<2	8570	46700	22600	<0.5	330	-	-	-
	7/25/2006	6.7	<2	5370	15100	-	-	<25	-	-	-
	4/3/2008	7.1	<2.0	1820	4410	-	-	<5.0	-	1820	<2.0
	3/23/2009	-	-	-	4040	-	-	-	-	-	-
	3/3/2010	-	-	-	2960	-	-	-	-	-	-
IW016	2/11/2004	-	-	-	2710	5	0.06	590	3	-	-
	6/3/2004	-	-	-	-	30000	1	1190	<2	-	-
	7/7/2004	-	-	-	-	28300	1	1000	<2	-	-
	8/17/2004	-	-	-	-	64000	1	1500	<2	-	-
	10/10/2004	-	-	-	-	41000	2	1300	3	-	-
	11/22/2004	-	-	-	47400	26000	<1	1100	<2	-	-
	1/4/2005	-	-	-	-	30000	<1	700	<2	-	-
	1/27/2005	-	-	-	-	42000	19	400	<0.4	-	-
	2/16/2005	-	-	-	-	56000	1	18	<0.4	-	-
	3/15/2005	-	-	-	-	28000	<1	200	<2	-	-
	4/19/2005	-	-	-	-	41000	<0.05	200	<2	-	-
	6/1/2005	-	-	-	-	37000	<1	400	-	-	-
	6/21/2005	-	-	-	-	43000	1	400	-	-	-
	7/20/2005	-	-	-	-	54000	1	400	-	-	-

**ANALYTICAL RESULTS GROUNDWATER O SUMMARY
FORMER EUNICE NORTH GAS PLANT**

Well ID	Collection Date	pH	Alkalinity (as CaCO3 pH=8.3)	Alkalinity (as CaCO3 pH=4.5)	TDS	TOC	Sulfide	Sulfate	Nitrite/Nitrate	Alkalinity bicarbonate	Alkalinity carbonate
	Standard Units	s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	NM WQCC Standard	6-9	--	--	1000	--	--	600	10	--	--
	2/8/2006	4.8	<2	2550	71600	37300	<0.2	440	-	-	-
	7/25/2006	6.8	<2	6510	18100	-	-	<50	-	-	-
	4/2/2008	7	<2.0	2370	4150	-	-	<5.0	-	2370	<2.0
	3/24/2009	-	-	-	3240	-	-	-	-	-	-
	3/3/2010	-	-	-	2980	-	-	-	-	-	-
IW018	2/6/2006	7	<2	595	4040	-	-	569	-	-	-
	7/21/2006	7.1	<2	660	1700	-	-	139	-	-	-
	4/9/2008	7.1	<2.0	603	3260	-	-	537	-	603	<2.0
	3/24/2009	-	-	-	3080	-	-	-	-	-	-
	3/25/2010	-	-	-	1870	-	-	-	-	-	-
IW019	2/7/2006	7	<2	350	4960	-	-	893	-	-	-
	7/24/2006	7	<2	363	5030	-	-	1030	-	-	-
	4/8/2008	7	<2.0	340	4470	-	-	1400	-	340	<2.0
	3/25/2009	-	-	-	4680	-	-	-	-	-	-
	3/25/2010	-	-	-	2390	-	-	-	-	-	-
IW020	2/7/2006	7.4	<2	355	2990	-	-	901	-	-	-
	7/24/2006	7.1	<2	357	2660	-	-	817	-	-	-
	4/8/2008	7.1	<2.0	260	4170	-	-	1460	-	260	<2.0
	3/25/2009	-	-	-	4980	-	-	-	-	-	-
	3/5/2010	-	-	-	2260	-	-	-	-	-	-
IW021	2/7/2006	7.1	<2	284	2530	-	-	926	-	-	-
	7/24/2006	7	<2	305	2660	-	-	921	-	-	-
	4/8/2008	7.3	<2.0	285	3370	-	-	1100	-	285	<2.0
	3/25/2009	-	-	-	3880	-	-	-	-	-	-
	3/5/2010	-	-	-	3730	-	-	-	-	-	-
IW022	2/7/2006	7.1	<2	268	2240	-	-	605	-	-	-
	7/25/2006	7	<2	256	2080	-	-	619	-	-	-
	4/7/2008	7	<2.0	235	2700	-	-	977	-	235	<2.0
	3/25/2009	-	-	-	2750	-	-	-	-	-	-
	3/5/2010	-	-	-	2460	-	-	-	-	-	-
IW023	2/7/2006	7.2	<2	256	2400	-	-	769	-	-	-
	7/25/2006	7.1	<2	256	1950	-	-	660	-	-	-
	4/7/2008	7.1	<2.0	250	2350	-	-	847	-	250	<2.0
	3/16/2009	7	<2.0	246	2560	3.9	<0.16	-	-	-	-
	8/11/2009	7.1	<2.0	240	2700	4.4	<0.16	774	-	-	-
	3/2/2010	-	-	-	3130	5.7	<5.00	-	-	-	-
IW024	2/8/2006	7	<2	226	3490	-	-	1300	-	-	-
	7/21/2006	7.1	<2	226	3710	-	-	1370	-	-	-
	4/15/2008	7.2	<2.0	262	3440	-	-	1370	-	262	<2.0
	3/16/2009	7	<2.0	212	4080	-	<0.16	-	-	-	-
	8/11/2009	7.2	<2.0	210	4840	6.3	<0.16	1670	-	-	-
	3/2/2010	-	-	-	4360	5.7	<5.00	-	-	-	-
IW025	2/8/2006	7.3	<2	258	2380	-	-	821	-	-	-
	7/21/2006	7.1	<2	253	2670	-	-	984	-	-	-
	4/14/2008	7.2	<2.0	233	3220	-	-	1160	-	233	<2.0
	3/16/2009	6.6	<2.0	998	3290	238	49.8	-	-	-	-
	8/13/2009	6.6	<2.0	799	3220	60.8	254	866	-	-	-
	3/2/2010	-	-	-	3710	6.92	<5.00	-	-	-	-
IW026	2/8/2006	7.2	<2	228	2930	-	-	1060	-	-	-
	7/21/2006	7.2	<2	236	2990	-	-	1160	-	-	-
	4/14/2008	7.3	<2.0	257	1630	-	-	264	-	257	<2.0
	3/16/2009	7.3	<2.0	234	1790	2.7	<0.16	-	-	-	-

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FORMER EUNICE NORTH GAS PLANT**

Well ID	Collection Date	pH	Alkalinity (as CaCO ₃ pH=8.3)	Alkalinity (as CaCO ₃ pH=4.5)	TDS	TOC	Sulfide	Sulfate	Nitrite/Nitrate	Alkalinity bicarbonate	Alkalinity carbonate
	Standard Units	s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	NM WQCC Standard	6-9	--	--	1000	--	--	600	10	--	--
	8/13/2009	7.2	<2.0	256	1640	-	-	390	-	-	-
	3/2/2010	-	-	-	-	5.23	-	-	-	-	-
	3/17/2010	-	-	-	760	-	<5.00	-	-	-	-
IW027	2/8/2006	7.2	<2	219	3430	-	-	1440	-	-	-
	7/21/2006	7.2	<2	230	3570	-	-	1380	-	-	-
	4/14/2008	7.2	<2.0	239	3090	-	-	1140	-	239	<2.0
	3/25/2009	-	-	-	2880	-	-	-	-	-	-
	3/8/2010	-	-	-	2760	-	-	-	-	-	-
IW028	6/16/2005	-	-	-	-	17	<0.05	1100	-	-	-
	2/8/2006	7.3	<2	243	3100	-	-	1100	-	-	-
	7/21/2006	7.3	<2	254	2700	-	-	1000	-	-	-
	4/15/2008	7.3	<2.0	250	2670	-	-	1010	-	250	<2.0
	4/7/2009	-	-	-	2640	-	-	-	-	-	-
	3/8/2010	-	-	-	2920	-	-	-	-	-	-
RW004A	10/1/2001	-	-	-	2000	8	-	1400	-	-	-
	2/4/2002	-	-	-	4250	5	0.06	1900	-	-	-
	6/9/2003	-	-	-	-	4	0.05	1490	5.7	-	-
	6/9/2003 Dup	-	-	-	-	-	-	1400	-	-	-
	7/1/2003	-	-	-	-	21000	<1	910	7	-	-
	7/9/2003	-	-	-	-	23000	4	1310	9	-	-
	7/15/2003	-	-	-	-	14000	<1	750	4	-	-
	7/28/2003	-	-	-	-	13000	1	610	<2	-	-
	8/21/2003	-	-	-	-	21000	<1	660	<2	-	-
	10/1/2003	-	-	-	-	51000	<1	1600	4	-	-
	10/29/2003	-	-	-	-	37000	<1	1200	2	-	-
	12/9/2003	-	-	-	-	21000	1	1160	<2	-	-
	1/8/2004	-	-	-	32600	23000	<1	670	<2	-	-
	3/2/2004	-	-	-	-	23000	1	1620	<2	-	-
	4/1/2004	-	-	-	22400	20000	<1	700	<2	-	-
	5/4/2004	-	-	-	-	41000	<1	1280	2	-	-
	6/8/2004	-	-	-	-	25000	<1	1500	<2	-	-
	7/8/2004	-	-	-	-	40900	1	1030	<2	-	-
	8/11/2004	-	-	-	-	22000	1	1140	<2	-	-
	9/16/2004	-	-	-	-	24000	<1	800	<2	-	-
	10/5/2004	-	-	-	-	39000	3	1100	<2	-	-
	11/9/2004	-	-	-	34000	37000	<1	800	19	-	-
	11/15/2004	-	-	-	-	68	-	-	-	-	-
	12/20/2004	-	-	-	-	23000	1	730	<0.4	-	-
	1/18/2005	-	-	-	-	33000	1	300	4	-	-
	2/14/2005	-	-	-	-	21000	<1	200	<2	-	-
	3/8/2005	-	-	-	-	27000	<1	220	<2	-	-
	4/11/2005	-	-	-	-	32000	<1	300	5	-	-
	5/12/2005	-	-	-	-	47000	<1	300	3	-	-
	6/8/2005	-	-	-	-	30000	<1	400	-	-	-
	7/7/2005	-	-	-	-	23000	<1	300	-	-	-
	2/10/2006	4.2	<2	<2	3420	-	-	237	-	-	-
	7/19/2006	4.5	<2	<2	4890	-	-	83.4	-	-	-
	4/16/2008	4.9	<2.0	3110	13900	-	-	154	-	3110	<2.0
	3/31/2009	-	-	-	14900	-	-	-	-	-	-
	3/10/2010	-	-	-	14600	-	-	-	-	-	-
EPWW1	1/26/2006	7.6	<2	166	449	-	-	63.9	-	-	-
	7/6/2006	7.5	<2	203	385	-	-	<250	-	-	-

**ANALYTICAL RESULTS GROUNDWATER O SUMMARY
FORMER EUNICE NORTH GAS PLANT**

Well ID	Collection Date	pH	Alkalinity (as CaCO ₃ pH=8.3)	Alkalinity (as CaCO ₃ pH=4.5)	TDS	TOC	Sulfide	Sulfate	Nitrite/Nitrate	Alkalinity bicarbonate	Alkalinity carbonate
	Standard Units	s.u.	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	NM WQCC Standard	6-9	--	--	1000	--	--	600	10	--	--
	4/6/2009	-	-	-	914	-	-	-	-	-	-
	3/3/2010	-	-	-	408	-	-	-	-	-	-
GOPWW2	1/19/2006	7.9	<2	380	1930	-	-	<5	-	-	-
	6/28/2006	7.8	<2	292	1970	-	-	38.4	-	-	-
	3/24/2008	7.4	<2.0	32.6	3680	-	-	118	-	32.6	<2.0
	8/5/2008	8.1	<2.0	23.8	2910	-	-	13.8	-	-	-
	3/17/2009	-	-	-	2260	-	-	-	-	-	-
	8/18/2009	-	-	-	3060	-	-	-	-	-	-
	3/2/2010	-	-	-	3190	-	-	-	-	-	-
	8/3/2010	-	-	-	3460	-	-	-	-	-	-
LordWW	1/23/2006	7.1	<2	168	3690	-	-	1260	-	-	-
	6/27/2006	8.1	<2	176	422	-	-	57.2	-	-	-
	6/27/2006 Dup	8	<2	177	430	-	-	59.1	-	-	-
	3/26/2008	7	<2.0	141	3600	-	-	1240	-	141	<2.0
	8/13/2008	7.2	<2.0	29.7	3400	-	-	968	-	-	-
	3/19/2009	-	-	-	4270	-	-	-	-	-	-
	3/12/2010	-	-	-	4060	-	-	-	-	-	-
	8/18/2010	-	-	-	4110	-	-	-	-	-	-
WoodellWW	1/24/2006	7	<2	285	2390	-	-	666	-	-	-
	6/27/2006	7.3	<2	263	1900	-	-	548	-	-	-
	4/15/2008	7.4	<2.0	193	1060	-	-	274	-	193	<2.0
	8/21/2008	7.1	<2.0	243	1820	-	-	477	-	-	-
	3/24/2009	-	-	-	1780	-	-	-	-	-	-
	8/24/2009	-	-	-	1480	-	-	-	-	-	-
	3/2/2010	-	-	-	2620	-	-	-	-	-	-
	8/18/2010	-	-	-	2120	-	-	-	-	-	-

APPENDIX C

CERTIFIED LABORATORY ANALYTICAL RESULTS



MEMORANDUM

To: Mike Wisniowiecki REF. NO.: 073018

FROM: Claudia Ramos DATE: February 25, 2014

RE: **Analytical Results and Reduced Validation
Groundwater Sampling Event
North Eunice / Chevron Environmental Management Company (CEMC)
Eunice, New Mexico
May 2013**

1.0 Introduction

The following document details a reduced validation of analytical results for groundwater samples collected at the North Eunice, New Mexico site during May 2013. Samples were submitted to Xenco Laboratories, located in Odessa, Texas. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Standard Conestoga-Rovers & Associates (CRA) report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody forms, finished report forms, method blank data, duplicate data, recovery data from surrogate spikes, laboratory control samples (LCS), matrix spikes (MS), and field QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 3 and applicable guidance from the documents entitled:

- i) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", United States Environmental Protection Agency (USEPA) 540/R-99-008, October 1999
- ii) "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", USEPA 540/R-94-013, February 1994

Items i) and ii) will subsequently be referred to as the "Guidelines" in this Memorandum.

2.0 Sample Holding Time and Preservation

The sample holding time criteria for the analyses are summarized in Table 3. Sample chain of custody documents and analytical reports were used to determine sample holding times. All samples were prepared and analyzed within the required holding times.

All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

3.0 Laboratory Method Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

Most method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation. Several method blanks yielded detected results for several dissolved metals. The associated sample results with concentrations similar to the blank concentrations were qualified non-detect. (See Table 4)

4.0 Surrogate Spike Recoveries - Organic Analyses

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample or analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for total petroleum hydrocarbons (TPH) and benzene, toluene, ethylbenzene, and xylenes (BTEX) determinations were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries met the above criteria.

5.0 Blank Spike (BS) Sample Analyses

BS and/or blank spike sample duplicates (BSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the BS/BSD recoveries is used to evaluate analytical precision.

For this study, BS/BSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

Organic Analyses

The BS/BSD contained all compounds of interest. All BS recoveries and RPDs were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision.

Inorganic Analyses

The BS/BSD contained all analytes of interest. BS/BSD recoveries were assessed per the "Guidelines". All BS recoveries and RPDs were within the control limits, demonstrating acceptable analytical accuracy and precision.

6.0 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the extraction or digestion process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision. If the original sample concentration is significantly greater than the spike concentration, the recovery is not assessed.

The laboratory performed additional site-specific MS/MSD analyses internally.

Organic Analyses

The MS/MSD samples were spiked with all compounds of interest. All percent recoveries and RPD values were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision.

Inorganic Analyses

The MS/MSD samples were spiked with the analytes of interest, and the results were evaluated using the "Guidelines". All percent recoveries and RPD values were within the control limits, demonstrating acceptable analytical accuracy and precision.

7.0 Duplicate Sample Analyses – Inorganic Analyses

Analytical precision is evaluated based on the analysis of laboratory duplicate samples. For this study, duplicate samples were prepared and analyzed by the laboratory as specified in Table 1. The laboratory performed additional site-specific duplicate analyses internally. The duplicate results were evaluated per the "Guidelines". All duplicate analyses performed were acceptable, demonstrating acceptable analytical precision.

8.0 Field QA/QC Samples

The field QA/QC consisted of twelve trip blank samples and six field duplicate sample sets.

Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, twelve trip blanks were submitted to the laboratory for BTEX analysis. All results were non-detect for the compounds of interest.

Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, six field duplicate samples were collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with these duplicate samples must be less than 50 percent for water sample. If the reported concentration in either the investigative sample or its duplicate is less than five times the practical quantitation limit (PQL), the evaluation criterion is one time the PQL value for water and soil samples, respectively.

All field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision.

9.0 Analyte Reporting

Non-detect data were reported down to the laboratory's method detection limit (MDL) for each analyte. Positive analyte detections less than the PQL but greater than the MDL were qualified as estimated (J) in Table 3.

10.0 Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable with the qualifications noted herein.

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
GROUNDWATER SAMPLING EVENT
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE
EUNICE, NEW MEXICO
MAY 2013

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters							Comments
					Chloride	Metals, Dissolved (Arsenic, Chromium, Iron, Manganese)	TDS	Chromium VI (hexavalent)	TPH	BTEX		
MW82SA	MW082SA	water	5/6/2013	1:45:00 PM	X	X	X	X	X	X		
MW83SA	MW083SA	water	5/6/2013	12:15:00 PM	X	X	X	X	X	X		
IW14	IW014	water	5/6/2013	3:15:00 PM	X	X	X	X	X	X		
MW75SA	MW075SA	water	5/6/2013	5:15:00 PM	X	X	X	X	X	X		
MW77SA	MW077SA	water	5/6/2013	6:15:00 PM	X	X	X	X	X	X		
MW64SA	MW064SA	water	5/6/2013	2:10:00 PM	X	X	X	X	X	X		
MW85SA	MW085SA	water	5/6/2013	4:05:00 PM	X	X	X	X	X	X		
MW84SA	MW084SA	water	5/6/2013	5:30:00 PM	X	X	X	X	X	X		
MW76 SA 050713	MW076SA	water	5/7/2013	10:10:00 AM	X	X	X	X	X	X		
IW-11 050713	IW011	water	5/7/2013	10:20:00 AM	X	X	X	X	X	X		
IW-8 050713	IW008	water	5/7/2013	1:40:00 PM	X	X	X	X	X	X		
IW-10 050713	IW010	water	5/7/2013	11:45:00 AM	X	X	X	X	X	X		
IW-6 050713	IW006	water	5/7/2013	3:30:00 PM	X	X	X	X	X	X		
IW-7 050713	IW007	water	5/7/2013	2:20:00 PM	X	X	X	X	X	X		
IW-5 050713	IW005	water	5/7/2013	4:20:00 PM	X	X	X	X	X	X		
MW66 SA 050713	MW066SA	water	5/7/2013	5:30:00 PM	X	X	X	X	X	X		
MW86 SA 050713	MW086SA	water	5/7/2013	11:40:00 AM	X	X	X	X	X	X		
MW71 SA 050713	MW071SA	water	5/7/2013	1:50:00 PM	X	X	X	X	X	X		
DUP 1 050713	MW066SA	water	5/7/2013	5/7/2013	X	X	X	X	X	X	Field Duplicate of MW66 SA	

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
GROUNDWATER SAMPLING EVENT
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE
EUNICE, NEW MEXICO
MAY 2013

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters						Comments
					Chloride	Metals, Dissolved (Arsenic, Chromium, Iron, Manganese)	TDS	Chromium VI (hexavalent)	TPH	BTEX	
MW65 SA 050713	MW065SA	water	5/7/2013	3:45:00 PM	X	X	X	X	X	X	Trip Blank
MW55 SA 050713	MW055SA	water	5/7/2013	4:50:00 PM	X	X	X	X	X	X	
MW74 SA 050713	MW074SA	water	5/7/2013	6:05:00 PM	X	X	X	X	X	X	
TRIP BLANK	Trip Blank	water	5/7/2013	5/7/2013					X	X	
MW81 SA 050813	MW081SA	water	5/8/2013	5:15:00 PM	X	X	X	X	X	X	
MW67 SA 050813	MW067SA	water	5/8/2013	4:25:00 PM	X	X	X	X	X	X	Field Duplicate of MW51 SA
MW78 SA 050813	MW078SA	water	5/8/2013	2:50:00 PM	X	X	X	X	X	X	
MW72 SA 050813	MW072SA	water	5/8/2013	10:00:00 AM	X	X	X	X	X	X	
MW73 SA 050813	MW073SA	water	5/8/2013	10:40:00 AM	X	X	X	X	X	X	
MW57 SA 050813	MW057SA	water	5/8/2013	11:40:00 AM	X	X	X	X	X	X	
MW56 SA 050813	MW056SA	water	5/8/2013	1:15:00 PM	X	X	X	X	X	X	
MW53 SA 050813	MW053SA	water	5/8/2013	2:10:00 PM	X	X	X	X	X	X	
MW49 SA 050813	MW049SA	water	5/8/2013	4:40:00 PM	X	X	X	X	X	X	
DUP 2 050813	MW051SA	water	5/8/2013	5/8/2013	X	X	X	X	X	X	
MW 54 SA 050813	MW054SA	water	5/8/2013	10:40:00 AM	X	X	X	X	X	X	
MW52 SA 050813	MW052SA	water	5/8/2013	12:15:00 PM	X	X	X	X	X	X	
MW51 SA 050813	MW051SA	water	5/8/2013	1:35:00 PM	X	X	X	X	X	X	
MW48 SA 050813	MW048SA	water	5/8/2013	3:15:00 PM	X	X	X	X	X	X	
MW50 SA 050813	MW050SA	water	5/8/2013	6:05:00 PM	X	X	X	X	X	X	

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
GROUNDWATER SAMPLING EVENT
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE
EUNICE, NEW MEXICO
MAY 2013

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters						Comments
					Chloride	Metals, Dissolved (Arsenic, Chromium, Iron, Manganese)	TDS	Chromium VI (hexavalent)	TPH	BTEX	
TRIP BLANK	Trip Blank	water	5/7/2013	4:00:00 PM					X	X	Trip Blank
MW93 SA 051013	MW093SA	water	5/10/2013	9:55:00 AM	X	X	X	X	X	X	
Trip Blank	Trip Blank	water	5/10/2013	5/10/2013					X	X	Trip Blank
IW18 051013	IW018	water	5/10/2013	10:50:00 AM	X	X	X	X	X	X	
DUP3 051013	MW093SA	water	5/10/2013	5/10/2013	X	X	X	X	X	X	Field Duplicate of MW93 SA
IW19 051013	IW019	water	5/10/2013	11:40:00 AM	X	X	X	X	X	X	
IW20 051013	IW020	water	5/10/2013	1:40:00 PM	X	X	X	X	X	X	
MW3 051613	MW003	water	5/16/2013	10:10:00 AM	X	X	X	X	X	X	
MW7A 051613	MW007A	water	5/16/2013	10:45:00 AM	X	X	X	X	X	X	
MW7 051613	MW007	water	5/16/2013	12:00:00 PM	X	X	X	X	X	X	
MW8 051613	MW008	water	5/16/2013	3:05:00 PM	X	X	X	X	X	X	
MW8A 051613	MW008A	water	5/16/2013	4:10:00 PM	X	X	X	X	X	X	
MW87A 051613	MW087A	water	5/16/2013	5:00:00 PM	X	X	X	X	X	X	
MW25 051613	MW025	water	5/16/2013	9:50:00 AM	X	X	X	X	X	X	
MW14A 051613	MW014A	water	5/16/2013	10:45:00 AM	X	X	X	X	X	X	
MW14 051613	MW014	water	5/16/2013	12:15:00 PM	X	X	X	X	X	X	
MW15 051613	MW015	water	5/16/2013	2:55:00 PM	X	X	X	X	X	X	
MW15A 051613	MW015A	water	5/16/2013	4:10:00 PM	X	X	X	X	X	X	
MW16 051613	MW016A	water	5/16/2013	5:25:00 PM	X	X	X	X	X	X	

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
GROUNDWATER SAMPLING EVENT
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE
EUNICE, NEW MEXICO
MAY 2013

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters						Comments
					Chloride	Metals, Dissolved (Arsenic, Chromium, Iron, Manganese)	TDS	Chromium VI (hexavalent)	TPH	BTEX	
TRIP BLANK	Trip Blank	water	5/16/2013	5/16/2013					X	X	Trip Blank
MW10 051713	MW010	water	5/17/2013	9:40:00 AM	X	X	X	X	X	X	
MW40A 051713	MW040A	water	5/17/2013	10:35:00 AM	X	X	X	X	X	X	
MW13 051713	MW013	water	5/17/2013	11:15:00 AM	X	X	X	X	X	X	
MW13A 051713	MW013A	water	5/17/2013	12:10:00 PM	X	X	X	X	X	X	
TRIP BLANK	Trip Blank	water	5/17/2013	5/17/2013					X	X	Trip Blank
MW8M 052013	MW008M	water	5/20/2013	9:55:00 AM	X	X	X	X	X	X	
RW004A 052013	RW004A	water	5/20/2013	10:45:00 AM	X	X	X	X	X	X	
MW47 052013	MW047	water	5/20/2013	12:15:00 PM	X	X	X	X	X	X	
MW11A 052013	MW011A	water	5/20/2013	2:50:00 PM	X	X	X	X	X	X	
MW11 052013	MW011	water	5/20/2013	3:40:00 PM	X	X	X	X	X	X	
MW11M 052013	MW011M	water	5/20/2013	4:15:00 PM	X	X	X	X	X	X	
RW002 0520B	RW002	water	5/20/2013	5:15:00 PM	X	X	X	X	X	X	
MW26 052013	MW026	water	5/20/2013	4:00:00 PM	X	X	X	X	X	X	
MW28 052013	MW028	water	5/20/2013	9:40:00 AM	X	X	X	X	X	X	
MW32 052013	MW032	water	5/20/2013	11:00:00 AM	X	X	X	X	X	X	
MW33 052013	MW033	water	5/20/2013	12:10:00 PM	X	X	X	X	X	X	
MW27 052013	MW027	water	5/20/2013	2:05:00 PM	X	X	X	X	X	X	
MW23A 052013	MW023A	water	5/20/2013	5:25:00 PM	X	X	X	X	X	X	
Trip Blank	Trip Blank	water	5/20/2013	5/20/2013					X	X	Trip Blank

TABLE 1

**SAMPLE COLLECTION AND ANALYSIS SUMMARY
GROUNDWATER SAMPLING EVENT
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE
EUNICE, NEW MEXICO
MAY 2013**

					Analysis/Parameters						Comments
Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Chloride	Metals, Dissolved (Arsenic, Chromium, Iron, Manganese)	TDS	Chromium VI (hexavalent)			
								TPH	BTEX		
DUP5 052013	MW023A	water	5/20/2013	5/20/2013	X	X	X	X	X	X	Field Duplicate of MW23A
IW001 052113	IW001	water	5/21/2013	9:30:00 AM	X	X	X	X	X	X	

TABLE 2

ANALYTICAL RESULTS SUMMARY

GROUNDWATER SAMPLING EVENT

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE

EUNICE, NEW MEXICO

MAY 2013

Location Name:	<i>MW001</i>	<i>MW002</i>	<i>MW003</i>	<i>MW004</i>	<i>MW005</i>	<i>MW007</i>	<i>MW008</i>	<i>MW008M</i>	<i>MW009</i>
Sample Name:	<i>MW1 052113</i>	<i>MW2 052113</i>	<i>MW3 051613</i>	<i>MW4 051513</i>	<i>MW5 052213</i>	<i>MW7 051613</i>	<i>MW8 051613</i>	<i>MW8M 052013</i>	<i>MW9 051513</i>
Sample Date:	<i>5/21/2013</i>	<i>5/21/2013</i>	<i>5/16/2013</i>	<i>5/15/2013</i>	<i>5/22/2013</i>	<i>5/16/2013</i>	<i>5/16/2013</i>	<i>5/20/2013</i>	<i>5/15/2013</i>
Sample Type:									

Units

Metals

Arsenic (dissolved)	mg/L	<0.00756	0.0120 J	0.0213	<0.00756	<0.00756	0.0255	<0.00756	<0.00756	<0.00756
Chromium (dissolved)	mg/L	<0.00355	0.0452	0.0174	0.123	<0.00355	0.0210	<0.00355	0.00812 J	0.0196
Chromium VI (hexavalent)	mg/L	<0.00500	0.0475	0.0160	0.0998	<0.0500	0.0187	<0.00500	<0.0500	0.0136
Iron (dissolved)	mg/L	<0.0188	<0.0643 J	<0.0188	<0.0188	0.692	<0.0188	0.0712 J	14.6	<0.0188
Manganese (dissolved)	mg/L	2.60	0.00403 J	<0.00291	0.0134 J	0.0547	<0.00291	0.871	3.01	<0.00291

Petroleum Products

Total Petroleum Hydrocarbons (>C10-C28)	mg/L	<0.988	<0.988	<0.988	<0.988	4.59	<0.988	<0.988	<0.988	<0.988
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988
Total Petroleum Hydrocarbons (C6-C12)	mg/L	<0.988	<0.988	<0.988	<0.988	4.01	<0.988	<0.988	<0.988	<0.988
Total Petroleum Hydrocarbons (C6-C35)	mg/L	<0.988	<0.988	<0.988	<0.988	8.60	<0.988	<0.988	<0.988	<0.988

Volatile Organic Compounds

Benzene	mg/L	<0.000500	<0.000500	<0.000500	<0.000500	0.396	<0.000500	<0.000500	<0.000500	<0.000500
Ethylbenzene	mg/L	0.00661	<0.000700	<0.000700	<0.000700	0.222	<0.000700	<0.000700	<0.000700	<0.000700
m&p-Xylenes	mg/L	<0.00140	<0.00140	<0.00140	<0.00140	0.00313	<0.00140	<0.00140	<0.00140	<0.00140
o-Xylene	mg/L	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700
Toluene	mg/L	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
Total BTEX	mg/L	0.00661	<0.000500	<0.000500	<0.000500	0.621	<0.000500	<0.000500	<0.000500	<0.000500
Xylenes (total)	mg/L	<0.000700	<0.000700	<0.000700	<0.000700	0.00313	<0.000700	<0.000700	<0.000700	<0.000700

TABLE 2

**ANALYTICAL RESULTS SUMMARY
GROUNDWATER SAMPLING EVENT
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE
EUNICE, NEW MEXICO
MAY 2013**

Location Name:	<i>MW001</i>	<i>MW002</i>	<i>MW003</i>	<i>MW004</i>	<i>MW005</i>	<i>MW007</i>	<i>MW008</i>	<i>MW008M</i>	<i>MW009</i>
Sample Name:	<i>MW1 052113</i>	<i>MW2 052113</i>	<i>MW3 051613</i>	<i>MW4 051513</i>	<i>MW5 052213</i>	<i>MW7 051613</i>	<i>MW8 051613</i>	<i>MW8M 052013</i>	<i>MW9 051513</i>
Sample Date:	<i>5/21/2013</i>	<i>5/21/2013</i>	<i>5/16/2013</i>	<i>5/15/2013</i>	<i>5/22/2013</i>	<i>5/16/2013</i>	<i>5/16/2013</i>	<i>5/20/2013</i>	<i>5/15/2013</i>
Sample Type:									

Units

TABLE 2

ANALYTICAL RESULTS SUMMARY

GROUNDWATER SAMPLING EVENT

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE

EUNICE, NEW MEXICO

MAY 2013

Location Name:	<i>MW001</i>	<i>MW002</i>	<i>MW003</i>	<i>MW004</i>	<i>MW005</i>	<i>MW007</i>	<i>MW008</i>	<i>MW008M</i>	<i>MW009</i>
Sample Name:	<i>MW1 052113</i>	<i>MW2 052113</i>	<i>MW3 051613</i>	<i>MW4 051513</i>	<i>MW5 052213</i>	<i>MW7 051613</i>	<i>MW8 051613</i>	<i>MW8M 052013</i>	<i>MW9 051513</i>
Sample Date:	<i>5/21/2013</i>	<i>5/21/2013</i>	<i>5/16/2013</i>	<i>5/15/2013</i>	<i>5/22/2013</i>	<i>5/16/2013</i>	<i>5/16/2013</i>	<i>5/20/2013</i>	<i>5/15/2013</i>
Sample Type:									

Units

General Chemistry

Chloride	mg/L	127	1130	45.7	298	210	173	839	1370	132
Total dissolved solids (TDS)	mg/L	2780	4130	1040	1810	1300	1220	3760	5100	1180

TABLE 2

ANALYTICAL RESULTS SUMMARY

GROUNDWATER SAMPLING EVENT

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE

EUNICE, NEW MEXICO

MAY 2013

Location Name:	<i>MW010</i>	<i>MW011</i>	<i>MW011M</i>	<i>MW012</i>	<i>MW012M</i>	<i>MW013</i>	<i>MW014</i>	<i>MW015</i>
Sample Name:	<i>MW10 051713</i>	<i>MW11 052013</i>	<i>MW11M 052013</i>	<i>MW12 052113</i>	<i>MW12M 052113</i>	<i>MW13 051713</i>	<i>MW14 051613</i>	<i>MW15 051613</i>
Sample Date:	<i>5/17/2013</i>	<i>5/20/2013</i>	<i>5/20/2013</i>	<i>5/21/2013</i>	<i>5/21/2013</i>	<i>5/17/2013</i>	<i>5/16/2013</i>	<i>5/16/2013</i>
Sample Type:								

Units

Metals

Arsenic (dissolved)	mg/L	0.0107 J	0.0108 J	<0.00756	<0.0517	0.0870	0.00930 J	0.0247	0.0173 J
Chromium (dissolved)	mg/L	0.0235	0.0143	0.0189	<0.0690	0.0444	0.275	0.0245	<0.00355
Chromium VI (hexavalent)	mg/L	0.0220	<0.0500	<0.0500	<0.0500	<0.0500	0.274	0.0172	<0.00500
Iron (dissolved)	mg/L	<0.0188	0.598	0.173 J	<0.0536 J	10.1	<0.0188	<0.0188	<0.0188
Manganese (dissolved)	mg/L	<0.00291	1.90	0.00474 J	5.81	0.142	<0.00291	0.128	<0.00291

Petroleum Products

Total Petroleum Hydrocarbons (>C10-C28)	mg/L	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988
Total Petroleum Hydrocarbons (C6-C12)	mg/L	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988
Total Petroleum Hydrocarbons (C6-C35)	mg/L	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988

Volatile Organic Compounds

Benzene	mg/L	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Ethylbenzene	mg/L	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700
m&p-Xylenes	mg/L	<0.00140	<0.00140	<0.00140	<0.00140	<0.00140	<0.00140	<0.00140	<0.00140
o-Xylene	mg/L	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700
Toluene	mg/L	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
Total BTEX	mg/L	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Xylenes (total)	mg/L	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700

TABLE 2

**ANALYTICAL RESULTS SUMMARY
GROUNDWATER SAMPLING EVENT
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE
EUNICE, NEW MEXICO
MAY 2013**

Location Name:	<i>MW010</i>	<i>MW011</i>	<i>MW011M</i>	<i>MW012</i>	<i>MW012M</i>	<i>MW013</i>	<i>MW014</i>	<i>MW015</i>
Sample Name:	<i>MW10 051713</i>	<i>MW11 052013</i>	<i>MW11M 052013</i>	<i>MW12 052113</i>	<i>MW12M 052113</i>	<i>MW13 051713</i>	<i>MW14 051613</i>	<i>MW15 051613</i>
Sample Date:	<i>5/17/2013</i>	<i>5/20/2013</i>	<i>5/20/2013</i>	<i>5/21/2013</i>	<i>5/21/2013</i>	<i>5/17/2013</i>	<i>5/16/2013</i>	<i>5/16/2013</i>
Sample Type:								

Units

TABLE 2

**ANALYTICAL RESULTS SUMMARY
GROUNDWATER SAMPLING EVENT
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE
EUNICE, NEW MEXICO
MAY 2013**

Location Name:	<i>MW010</i>	<i>MW011</i>	<i>MW011M</i>	<i>MW012</i>	<i>MW012M</i>	<i>MW013</i>	<i>MW014</i>	<i>MW015</i>
Sample Name:	<i>MW10 051713</i>	<i>MW11 052013</i>	<i>MW11M 052013</i>	<i>MW12 052113</i>	<i>MW12M 052113</i>	<i>MW13 051713</i>	<i>MW14 051613</i>	<i>MW15 051613</i>
Sample Date:	<i>5/17/2013</i>	<i>5/20/2013</i>	<i>5/20/2013</i>	<i>5/21/2013</i>	<i>5/21/2013</i>	<i>5/17/2013</i>	<i>5/16/2013</i>	<i>5/16/2013</i>
Sample Type:								

*Units**General Chemistry*

Chloride	mg/L	2440	1130	1290	399	744	301	1540	532
Total dissolved solids (TDS)	mg/L	6280	3430	4400	2050	4900	1730	3820	2050

TABLE 2

ANALYTICAL RESULTS SUMMARY

GROUNDWATER SAMPLING EVENT

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE

EUNICE, NEW MEXICO

MAY 2013

Location Name:	<i>MW018</i>	<i>MW020</i>	<i>MW023</i>	<i>MW024</i>	<i>MW025</i>	<i>MW026</i>	<i>MW027</i>	<i>MW028</i>
Sample Name:	<i>MW18 051313</i>	<i>MW20 051313</i>	<i>MW23 052113</i>	<i>MW24 051413</i>	<i>MW25 051613</i>	<i>MW26 052013</i>	<i>MW27 052013</i>	<i>MW28 052013</i>
Sample Date:	<i>5/13/2013</i>	<i>5/13/2013</i>	<i>5/21/2013</i>	<i>5/14/2013</i>	<i>5/16/2013</i>	<i>5/20/2013</i>	<i>5/20/2013</i>	<i>5/20/2013</i>
Sample Type:								

Units

Metals

Arsenic (dissolved)	mg/L	0.0127 J	0.0192 J	<0.00756	<0.00756	0.0105 J	<0.00756	<0.00756	0.0199 J
Chromium (dissolved)	mg/L	<0.00355	<0.00355	1.11	0.0633	0.00547 J	<0.00355	<0.00355	<0.00355
Chromium VI (hexavalent)	mg/L	<0.00500	<0.00500	0.958	0.0517	<0.00500	<0.00500	<0.00500	<0.00500
Iron (dissolved)	mg/L	<0.0188	<0.0188	<0.0517 J	<0.0188	<0.0188	<0.0188	<0.0188	<0.0300 J
Manganese (dissolved)	mg/L	<0.00291	<0.00291	<0.00291	0.00329 J	<0.00291	<0.00291	<0.00291	<0.00291

Petroleum Products

Total Petroleum Hydrocarbons (>C10-C28)	mg/L	1.07 J	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988
Total Petroleum Hydrocarbons (C6-C12)	mg/L	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988
Total Petroleum Hydrocarbons (C6-C35)	mg/L	1.07 J	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988

Volatile Organic Compounds

Benzene	mg/L	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Ethylbenzene	mg/L	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700
m&p-Xylenes	mg/L	<0.00140	<0.00140	<0.00140	<0.00140	<0.00140	<0.00140	<0.00140	<0.00140
o-Xylene	mg/L	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700
Toluene	mg/L	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
Total BTEX	mg/L	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Xylenes (total)	mg/L	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700

TABLE 2

**ANALYTICAL RESULTS SUMMARY
GROUNDWATER SAMPLING EVENT
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE
EUNICE, NEW MEXICO
MAY 2013**

Location Name:	<i>MW018</i>	<i>MW020</i>	<i>MW023</i>	<i>MW024</i>	<i>MW025</i>	<i>MW026</i>	<i>MW027</i>	<i>MW028</i>
Sample Name:	<i>MW18 051313</i>	<i>MW20 051313</i>	<i>MW23 052113</i>	<i>MW24 051413</i>	<i>MW25 051613</i>	<i>MW26 052013</i>	<i>MW27 052013</i>	<i>MW28 052013</i>
Sample Date:	<i>5/13/2013</i>	<i>5/13/2013</i>	<i>5/21/2013</i>	<i>5/14/2013</i>	<i>5/16/2013</i>	<i>5/20/2013</i>	<i>5/20/2013</i>	<i>5/20/2013</i>
Sample Type:								

Units

TABLE 2

**ANALYTICAL RESULTS SUMMARY
GROUNDWATER SAMPLING EVENT
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE
EUNICE, NEW MEXICO
MAY 2013**

Location Name:	<i>MW018</i>	<i>MW020</i>	<i>MW023</i>	<i>MW024</i>	<i>MW025</i>	<i>MW026</i>	<i>MW027</i>	<i>MW028</i>
Sample Name:	<i>MW18 051313</i>	<i>MW20 051313</i>	<i>MW23 052113</i>	<i>MW24 051413</i>	<i>MW25 051613</i>	<i>MW26 052013</i>	<i>MW27 052013</i>	<i>MW28 052013</i>
Sample Date:	<i>5/13/2013</i>	<i>5/13/2013</i>	<i>5/21/2013</i>	<i>5/14/2013</i>	<i>5/16/2013</i>	<i>5/20/2013</i>	<i>5/20/2013</i>	<i>5/20/2013</i>
Sample Type:								

*Units**General Chemistry*

Chloride	mg/L	268	865	767	674	265	485	92.4	224
Total dissolved solids (TDS)	mg/L	1310	2420	3500	1940	1400	2110	1170	1240

TABLE 2

ANALYTICAL RESULTS SUMMARY

GROUNDWATER SAMPLING EVENT

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE

EUNICE, NEW MEXICO

MAY 2013

Location Name:	<i>MW029</i>	<i>MW030</i>	<i>MW031</i>	<i>MW032</i>	<i>MW033</i>	<i>MW035</i>	<i>MW035</i>	<i>MW036</i>
Sample Name:	<i>MW29 051413</i>	<i>MW30 051413</i>	<i>MW31 051413</i>	<i>MW32 052013</i>	<i>MW33 052013</i>	<i>DUP6 052213</i>	<i>MW35 052213</i>	<i>MW36 052213</i>
Sample Date:	<i>5/14/2013</i>	<i>5/14/2013</i>	<i>5/14/2013</i>	<i>5/20/2013</i>	<i>5/20/2013</i>	<i>5/22/2013</i>	<i>5/22/2013</i>	<i>5/22/2013</i>
Sample Type:						<i>(Duplicate)</i>		

Units

Metals

Arsenic (dissolved)	mg/L	0.0189 J	0.0209	0.0122 J	<0.00756	<0.00756	<0.00756	<0.00756	0.00792 J
Chromium (dissolved)	mg/L	0.0148	0.00363 J	<0.00355	0.00705 J	<0.00355	<0.00355	<0.00355	<0.00355
Chromium VI (hexavalent)	mg/L	<0.00500	<0.00500	<0.00500	<0.00500	0.0165	<0.00500	<0.00500	<0.0500
Iron (dissolved)	mg/L	<0.0188	<0.0188	<0.0188	<0.0188	<0.0188	<0.0188	<0.0188	<0.0188
Manganese (dissolved)	mg/L	<0.00291	<0.00291	0.438	<0.00291	0.683	0.0549	0.0538	0.454

Petroleum Products

Total Petroleum Hydrocarbons (>C10-C28)	mg/L	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988
Total Petroleum Hydrocarbons (C6-C12)	mg/L	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	3.03
Total Petroleum Hydrocarbons (C6-C35)	mg/L	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	3.03

Volatile Organic Compounds

Benzene	mg/L	<0.000500	<0.000500	<0.000500	<0.000500	0.0335	<0.000500	<0.000500	0.0676
Ethylbenzene	mg/L	<0.000700	<0.000700	<0.000700	<0.000700	0.0133	<0.000700	<0.000700	0.120
m&p-Xylenes	mg/L	<0.00140	<0.00140	<0.00140	<0.00140	<0.00140	<0.00140	<0.00140	0.184
o-Xylene	mg/L	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	0.0210
Toluene	mg/L	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
Total BTEX	mg/L	<0.000500	<0.000500	<0.000500	<0.000500	0.0468	<0.000500	<0.000500	0.393
Xylenes (total)	mg/L	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	0.205

TABLE 2

**ANALYTICAL RESULTS SUMMARY
GROUNDWATER SAMPLING EVENT
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE
EUNICE, NEW MEXICO
MAY 2013**

Location Name:	<i>MW029</i>	<i>MW030</i>	<i>MW031</i>	<i>MW032</i>	<i>MW033</i>	<i>MW035</i>	<i>MW035</i>	<i>MW036</i>
Sample Name:	<i>MW29 051413</i>	<i>MW30 051413</i>	<i>MW31 051413</i>	<i>MW32 052013</i>	<i>MW33 052013</i>	<i>DUP6 052213</i>	<i>MW35 052213</i>	<i>MW36 052213</i>
Sample Date:	<i>5/14/2013</i>	<i>5/14/2013</i>	<i>5/14/2013</i>	<i>5/20/2013</i>	<i>5/20/2013</i>	<i>5/22/2013</i>	<i>5/22/2013</i>	<i>5/22/2013</i>
Sample Type:						<i>(Duplicate)</i>		

Units

TABLE 2

**ANALYTICAL RESULTS SUMMARY
GROUNDWATER SAMPLING EVENT
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE
EUNICE, NEW MEXICO
MAY 2013**

Location Name:	<i>MW029</i>	<i>MW030</i>	<i>MW031</i>	<i>MW032</i>	<i>MW033</i>	<i>MW035</i>	<i>MW035</i>	<i>MW036</i>
Sample Name:	<i>MW29 051413</i>	<i>MW30 051413</i>	<i>MW31 051413</i>	<i>MW32 052013</i>	<i>MW33 052013</i>	<i>DUP6 052213</i>	<i>MW35 052213</i>	<i>MW36 052213</i>
Sample Date:	<i>5/14/2013</i>	<i>5/14/2013</i>	<i>5/14/2013</i>	<i>5/20/2013</i>	<i>5/20/2013</i>	<i>5/22/2013</i>	<i>5/22/2013</i>	<i>5/22/2013</i>
Sample Type:						<i>(Duplicate)</i>		

*Units**General Chemistry*

Chloride	mg/L	141	127	106	226	447	162	157	51.7
Total dissolved solids (TDS)	mg/L	546	696	802	959	1450	1140	1100	795

TABLE 2

ANALYTICAL RESULTS SUMMARY

GROUNDWATER SAMPLING EVENT

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE

EUNICE, NEW MEXICO

MAY 2013

Location Name:	<i>MW037</i>	<i>MW038</i>	<i>MW043</i>	<i>MW044</i>	<i>MW045</i>	<i>MW046</i>	<i>MW047</i>	<i>MW058</i>
Sample Name:	<i>MW37 051513</i>	<i>MW038 052313</i>	<i>MW 43 051313</i>	<i>MW44 051313</i>	<i>MW45 052213</i>	<i>MW46 052113</i>	<i>MW47 052013</i>	<i>MW58 051413</i>
Sample Date:	<i>5/15/2013</i>	<i>5/23/2013</i>	<i>5/13/2013</i>	<i>5/13/2013</i>	<i>5/22/2013</i>	<i>5/21/2013</i>	<i>5/20/2013</i>	<i>5/14/2013</i>
Sample Type:								

Units

Metals

Arsenic (dissolved)	mg/L	0.0228	0.00898 J	<0.00756	0.00818 J	<0.00756	0.0234	<0.00756	0.0111 J
Chromium (dissolved)	mg/L	<0.00355	<0.00355	<0.00355	<0.00355	0.0115	<0.00355	0.0487	2.58
Chromium VI (hexavalent)	mg/L	0.0110	<0.00500	<0.00500	<0.00500	<0.00500	<0.0500	0.0433	2.52
Iron (dissolved)	mg/L	0.650	5.25	<0.0188	0.0456 J	<0.0188	<0.0690 J	<0.0188	0.0612 J
Manganese (dissolved)	mg/L	0.0291	0.171	0.637	0.0173 J	0.248	0.741	<0.00291	<0.00291

Petroleum Products

Total Petroleum Hydrocarbons (>C10-C28)	mg/L	4.10	<0.988	<0.988	<0.988	<0.988	1.08 J	<0.988	<0.988
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988
Total Petroleum Hydrocarbons (C6-C12)	mg/L	7.09	<0.988	<0.988	<0.988	<0.988	1.84	<0.988	<0.988
Total Petroleum Hydrocarbons (C6-C35)	mg/L	11.2	<0.988	<0.988	<0.988	<0.988	2.92	<0.988	<0.988

Volatile Organic Compounds

Benzene	mg/L	6.62	0.000609 J	<0.000500	<0.000500	<0.000500	0.0520	<0.000500	<0.000500
Ethylbenzene	mg/L	0.534	<0.000700	<0.000700	<0.000700	<0.000700	0.140	<0.000700	<0.000700
m&p-Xylenes	mg/L	0.134	<0.00140	<0.00140	<0.00140	<0.00140	0.0300	<0.00140	<0.00140
o-Xylene	mg/L	<0.0350	<0.000700	<0.000700	<0.000700	<0.000700	0.0393	<0.000700	<0.000700
Toluene	mg/L	<0.0500	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
Total BTEX	mg/L	7.29	0.000609 J	<0.000500	<0.000500	<0.000500	0.261	<0.000500	<0.000500
Xylenes (total)	mg/L	0.134	<0.000700	<0.000700	<0.000700	<0.000700	0.0693	<0.000700	<0.000700

TABLE 2

**ANALYTICAL RESULTS SUMMARY
GROUNDWATER SAMPLING EVENT
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE
EUNICE, NEW MEXICO
MAY 2013**

Location Name:	<i>MW037</i>	<i>MW038</i>	<i>MW043</i>	<i>MW044</i>	<i>MW045</i>	<i>MW046</i>	<i>MW047</i>	<i>MW058</i>
Sample Name:	<i>MW37 051513</i>	<i>MW038 052313</i>	<i>MW 43 051313</i>	<i>MW44 051313</i>	<i>MW45 052213</i>	<i>MW46 052113</i>	<i>MW47 052013</i>	<i>MW58 051413</i>
Sample Date:	<i>5/15/2013</i>	<i>5/23/2013</i>	<i>5/13/2013</i>	<i>5/13/2013</i>	<i>5/22/2013</i>	<i>5/21/2013</i>	<i>5/20/2013</i>	<i>5/14/2013</i>
Sample Type:								

Units

TABLE 2

**ANALYTICAL RESULTS SUMMARY
GROUNDWATER SAMPLING EVENT
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE
EUNICE, NEW MEXICO
MAY 2013**

Location Name:	<i>MW037</i>	<i>MW038</i>	<i>MW043</i>	<i>MW044</i>	<i>MW045</i>	<i>MW046</i>	<i>MW047</i>	<i>MW058</i>
Sample Name:	<i>MW37 051513</i>	<i>MW038 052313</i>	<i>MW 43 051313</i>	<i>MW44 051313</i>	<i>MW45 052213</i>	<i>MW46 052113</i>	<i>MW47 052013</i>	<i>MW58 051413</i>
Sample Date:	<i>5/15/2013</i>	<i>5/23/2013</i>	<i>5/13/2013</i>	<i>5/13/2013</i>	<i>5/22/2013</i>	<i>5/21/2013</i>	<i>5/20/2013</i>	<i>5/14/2013</i>
Sample Type:								

*Units**General Chemistry*

Chloride	mg/L	343	147	158	420	134	307	248	967
Total dissolved solids (TDS)	mg/L	1540	1020	1150	1560	1190	1440	1770	3790

TABLE 2

ANALYTICAL RESULTS SUMMARY

GROUNDWATER SAMPLING EVENT

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE

EUNICE, NEW MEXICO

MAY 2013

Location Name:	<i>MW059</i>	<i>MW060</i>	<i>MW061</i>	<i>MW068</i>	<i>MW069</i>	<i>MW070</i>	<i>MW088M</i>	<i>MW094</i>
Sample Name:	<i>MW59 052113</i>	<i>MW60 051513</i>	<i>MW61 051513</i>	<i>MW68 051513</i>	<i>MW69 051413</i>	<i>MW70 051413</i>	<i>MW88M 052113</i>	<i>DUP-4-051513</i>
Sample Date:	<i>5/21/2013</i>	<i>5/15/2013</i>	<i>5/15/2013</i>	<i>5/15/2013</i>	<i>5/14/2013</i>	<i>5/14/2013</i>	<i>5/21/2013</i>	<i>5/15/2013</i>
Sample Type:								<i>(Duplicate)</i>

Units

Metals

Arsenic (dissolved)	mg/L	0.0153 J	0.00865 J	0.0232	0.0113 J	<0.00756	0.0208	0.0825	<0.00756
Chromium (dissolved)	mg/L	0.107	<0.00355	3.84	<0.00355	<0.00355	<0.00355	0.143	0.399
Chromium VI (hexavalent)	mg/L	0.104	<0.00500	3.82	<0.00500	<0.00500	<0.00500	<0.100	0.395
Iron (dissolved)	mg/L	<0.0188	0.275	<0.0188	<0.0188	<0.0188	<0.0188	32.3	<0.0188
Manganese (dissolved)	mg/L	<0.00291	2.10	0.00544 J	<0.00291	0.539	<0.00291	13.2	0.0125 J

Petroleum Products

Total Petroleum Hydrocarbons (>C10-C28)	mg/L	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	0.999 J	<0.988
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988
Total Petroleum Hydrocarbons (C6-C12)	mg/L	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	11.6	<0.988
Total Petroleum Hydrocarbons (C6-C35)	mg/L	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	12.6	<0.988

Volatile Organic Compounds

Benzene	mg/L	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Ethylbenzene	mg/L	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700
m&p-Xylenes	mg/L	<0.00140	<0.00140	<0.00140	<0.00140	<0.00140	<0.00140	<0.00140	<0.00140
o-Xylene	mg/L	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700
Toluene	mg/L	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
Total BTEX	mg/L	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Xylenes (total)	mg/L	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700

TABLE 2

ANALYTICAL RESULTS SUMMARY

GROUNDWATER SAMPLING EVENT

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE

EUNICE, NEW MEXICO

MAY 2013

Location Name:	MW059	MW060	MW061	MW068	MW069	MW070	MW088M	MW094
Sample Name:	MW59 052113	MW60 051513	MW61 051513	MW68 051513	MW69 051413	MW70 051413	MW88M 052113	DUP-4-051513
Sample Date:	5/21/2013	5/15/2013	5/15/2013	5/15/2013	5/14/2013	5/14/2013	5/21/2013	5/15/2013
Sample Type:								(Duplicate)

Units

TABLE 2

**ANALYTICAL RESULTS SUMMARY
GROUNDWATER SAMPLING EVENT
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE
EUNICE, NEW MEXICO
MAY 2013**

Location Name:	<i>MW059</i>	<i>MW060</i>	<i>MW061</i>	<i>MW068</i>	<i>MW069</i>	<i>MW070</i>	<i>MW088M</i>	<i>MW094</i>
Sample Name:	<i>MW59 052113</i>	<i>MW60 051513</i>	<i>MW61 051513</i>	<i>MW68 051513</i>	<i>MW69 051413</i>	<i>MW70 051413</i>	<i>MW88M 052113</i>	<i>DUP-4-051513</i>
Sample Date:	<i>5/21/2013</i>	<i>5/15/2013</i>	<i>5/15/2013</i>	<i>5/15/2013</i>	<i>5/14/2013</i>	<i>5/14/2013</i>	<i>5/21/2013</i>	<i>5/15/2013</i>
Sample Type:								<i>(Duplicate)</i>

*Units**General Chemistry*

Chloride	mg/L	428	1140	554	120	877	192	809	299
Total dissolved solids (TDS)	mg/L	2120	4310	2550	820	2190	821	7040	2280

TABLE 2

ANALYTICAL RESULTS SUMMARY

GROUNDWATER SAMPLING EVENT

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE

EUNICE, NEW MEXICO

MAY 2013

Location Name:	<i>MW094</i>	<i>MW095</i>	<i>IW001</i>	<i>IW002</i>	<i>RW002</i>	<i>RW003</i>	<i>MW002A</i>	<i>MW004A</i>
Sample Name:	<i>MW94 051513</i>	<i>MW95 051513</i>	<i>IW001 052113</i>	<i>IW002 052213</i>	<i>RW002 0520B</i>	<i>RW003 052213</i>	<i>MW2A 052113</i>	<i>MW4A 051513</i>
Sample Date:	<i>5/15/2013</i>	<i>5/15/2013</i>	<i>5/21/2013</i>	<i>5/22/2013</i>	<i>5/20/2013</i>	<i>5/22/2013</i>	<i>5/21/2013</i>	<i>5/15/2013</i>
Sample Type:								

Units

Metals

Arsenic (dissolved)	mg/L	0.00923 J	0.0130 J	0.0582	<0.0378	<0.00756	0.0362	0.00953 J	0.0124 J
Chromium (dissolved)	mg/L	0.402	4.81	0.0241	<0.0177	0.0145	0.0190	0.0205	0.00738 J
Chromium VI (hexavalent)	mg/L	0.385	4.83	<0.100	<0.100	<0.0500	<0.00500	0.0168	<0.00500
Iron (dissolved)	mg/L	<0.0188	<0.0188	3.59	4.97	5.78	4.97	<0.0188	<0.0188
Manganese (dissolved)	mg/L	0.0143 J	0.0761	1.78	0.863	0.854	1.02	<0.00291	<0.00291

Petroleum Products

Total Petroleum Hydrocarbons (>C10-C28)	mg/L	<0.988	<0.988	<0.988	1.11 J	<0.988	<0.988	<0.988	<0.988
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988
Total Petroleum Hydrocarbons (C6-C12)	mg/L	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988
Total Petroleum Hydrocarbons (C6-C35)	mg/L	<0.988	<0.988	<0.988	1.11 J	<0.988	<0.988	<0.988	<0.988

Volatile Organic Compounds

Benzene	mg/L	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Ethylbenzene	mg/L	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700
m&p-Xylenes	mg/L	<0.00140	<0.00140	<0.00140	<0.00140	<0.00140	<0.00140	<0.00140	<0.00140
o-Xylene	mg/L	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700
Toluene	mg/L	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
Total BTEX	mg/L	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Xylenes (total)	mg/L	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700

TABLE 2
ANALYTICAL RESULTS SUMMARY
GROUNDWATER SAMPLING EVENT
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE
EUNICE, NEW MEXICO
MAY 2013

Location Name:	MW094	MW095	IW001	IW002	RW002	RW003	MW002A	MW004A
Sample Name:	MW94 051513	MW95 051513	IW001 052113	IW002 052213	RW002 0520B	RW003 052213	MW2A 052113	MW4A 051513
Sample Date:	5/15/2013	5/15/2013	5/21/2013	5/22/2013	5/20/2013	5/22/2013	5/21/2013	5/15/2013
Sample Type:								

Units

TABLE 2

**ANALYTICAL RESULTS SUMMARY
GROUNDWATER SAMPLING EVENT
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE
EUNICE, NEW MEXICO
MAY 2013**

Location Name:	<i>MW094</i>	<i>MW095</i>	<i>IW001</i>	<i>IW002</i>	<i>RW002</i>	<i>RW003</i>	<i>MW002A</i>	<i>MW004A</i>
Sample Name:	<i>MW94 051513</i>	<i>MW95 051513</i>	<i>IW001 052113</i>	<i>IW002 052213</i>	<i>RW002 0520B</i>	<i>RW003 052213</i>	<i>MW2A 052113</i>	<i>MW4A 051513</i>
Sample Date:	<i>5/15/2013</i>	<i>5/15/2013</i>	<i>5/21/2013</i>	<i>5/22/2013</i>	<i>5/20/2013</i>	<i>5/22/2013</i>	<i>5/21/2013</i>	<i>5/15/2013</i>
Sample Type:								

*Units**General Chemistry*

Chloride	mg/L	297	1510	963	534	994	550	346	326
Total dissolved solids (TDS)	mg/L	2400	4630	5700	3880	3320	2270	1180	1300

TABLE 2

ANALYTICAL RESULTS SUMMARY

GROUNDWATER SAMPLING EVENT

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE

EUNICE, NEW MEXICO

MAY 2013

Location Name:	<i>MW007A</i>	<i>MW008A</i>	<i>MW009A</i>	<i>MW011A</i>	<i>MW012A</i>	<i>MW013A</i>	<i>MW014A</i>	<i>MW015A</i>
Sample Name:	<i>MW7A 051613</i>	<i>MW8A 051613</i>	<i>MW9A 051513</i>	<i>MW11A 052013</i>	<i>MW12A 052113</i>	<i>MW13A 051713</i>	<i>MW14A 051613</i>	<i>MW15A 051613</i>
Sample Date:	<i>5/16/2013</i>	<i>5/16/2013</i>	<i>5/15/2013</i>	<i>5/20/2013</i>	<i>5/21/2013</i>	<i>5/17/2013</i>	<i>5/16/2013</i>	<i>5/16/2013</i>
Sample Type:								

Units

Metals

Arsenic (dissolved)	mg/L	0.0231	0.0802	0.00949 J	<0.00756	0.0117 J	0.0303	0.0198 J	0.00913 J
Chromium (dissolved)	mg/L	0.275	0.0863	0.633	2.27	<0.00355	<0.00355	<0.00355	0.00502 J
Chromium VI (hexavalent)	mg/L	0.265	0.0141	0.638	1.94	<0.00500	<0.00500	<0.00500	<0.00500
Iron (dissolved)	mg/L	<0.0188	4.62	<0.0188	<0.0506 J	<0.0188	<0.0188	<0.0188	<0.0188
Manganese (dissolved)	mg/L	0.00660 J	0.156	<0.00291	0.0424	0.00514 J	<0.00291	<0.00291	0.00770 J

Petroleum Products

Total Petroleum Hydrocarbons (>C10-C28)	mg/L	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988
Total Petroleum Hydrocarbons (C6-C12)	mg/L	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988
Total Petroleum Hydrocarbons (C6-C35)	mg/L	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988	<0.988

Volatile Organic Compounds

Benzene	mg/L	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Ethylbenzene	mg/L	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700
m&p-Xylenes	mg/L	<0.00140	<0.00140	<0.00140	<0.00140	<0.00140	<0.00140	<0.00140	<0.00140
o-Xylene	mg/L	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700
Toluene	mg/L	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
Total BTEX	mg/L	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500	<0.000500
Xylenes (total)	mg/L	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700	<0.000700

TABLE 2
ANALYTICAL RESULTS SUMMARY
GROUNDWATER SAMPLING EVENT
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE
EUNICE, NEW MEXICO
MAY 2013

Location Name:	MW007A	MW008A	MW009A	MW011A	MW012A	MW013A	MW014A	MW015A
Sample Name:	MW7A 051613	MW8A 051613	MW9A 051513	MW11A 052013	MW12A 052113	MW13A 051713	MW14A 051613	MW15A 051613
Sample Date:	5/16/2013	5/16/2013	5/15/2013	5/20/2013	5/21/2013	5/17/2013	5/16/2013	5/16/2013
Sample Type:								

Units

TABLE 2

**ANALYTICAL RESULTS SUMMARY
GROUNDWATER SAMPLING EVENT
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE
EUNICE, NEW MEXICO
MAY 2013**

Location Name:	<i>MW007A</i>	<i>MW008A</i>	<i>MW009A</i>	<i>MW011A</i>	<i>MW012A</i>	<i>MW013A</i>	<i>MW014A</i>	<i>MW015A</i>
Sample Name:	<i>MW7A 051613</i>	<i>MW8A 051613</i>	<i>MW9A 051513</i>	<i>MW11A 052013</i>	<i>MW12A 052113</i>	<i>MW13A 051713</i>	<i>MW14A 051613</i>	<i>MW15A 051613</i>
Sample Date:	<i>5/16/2013</i>	<i>5/16/2013</i>	<i>5/15/2013</i>	<i>5/20/2013</i>	<i>5/21/2013</i>	<i>5/17/2013</i>	<i>5/16/2013</i>	<i>5/16/2013</i>
Sample Type:								

*Units**General Chemistry*

Chloride	mg/L	344	793	524	1250	88.5	67.6	46.0	1410
Total dissolved solids (TDS)	mg/L	1600	4850	2080	4540	503	460	440	3400

TABLE 3

ANALYTICAL METHODS AND HOLDING TIME CRITERIA

GROUNDWATER SAMPLING EVENT

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE

EUNICE, NEW MEXICO

MAY 2013

<i>Parameter</i>	<i>Method¹</i>	<i>Matrix</i>	<i>Holding Time Collection to Analysis (Days)</i>
Chloride	300/300.1	Water	28
TDS	SM 2540C	Water	7
Metals	SW-846 6010B	Water	180
Chromium VI (hexavalent)	SW-846 7196A	Water	1
TPH	SW-846 8015	Water	14
BTEX	SW-846 8021	Water	14

Notes:

SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions

SM - "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992, with subsequent revisions

¹ - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions

TDS - Total dissolved solids

TPH - Total petroleum hydrocarbons

BTEX - Benzene, toluene, ethylbenzene, and xylenes

TABLE 4

QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN THE METHOD BLANKS
GROUNDWATER SAMPLING EVENT
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY (CEMC) - NORTH EUNICE
EUNICE, NEW MEXICO
MAY 2013

<i>Parameter</i>	<i>Analyte</i>	<i>Analysis Date</i>	<i>Blank Result *</i>	<i>Sample ID</i>	<i>Original Result</i>
Metals	Chromium (dissolved)	5/10/2013	0.00518 J	MW75SA	0.00466 J
	Chromium (dissolved)			MW82SA	0.00430 J
	Chromium (dissolved)			MW83SA	0.00459 J
	Chromium (dissolved)			MW85SA	0.00784 J
	Arsenic (dissolved)	5/16/2013	0.00832 J	DUP 2 050813	0.0118 J
	Arsenic (dissolved)			MW51 SA 050813	0.0160 J
	Arsenic (dissolved)			MW 54 SA 050813	0.0116 J
	Arsenic (dissolved)			MW48 SA 050813	0.0115 J
	Arsenic (dissolved)			MW49 SA 050813	0.0128 J
	Arsenic (dissolved)			MW50 SA 050813	0.0112 J
	Arsenic (dissolved)			MW52 SA 050813	0.0232
	Arsenic (dissolved)			MW53 SA 050813	0.0193 J
	Arsenic (dissolved)			MW56 SA 050813	0.0183 J
	Arsenic (dissolved)			MW57 SA 050813	0.0146 J
	Arsenic (dissolved)			MW67 SA 050813	0.0266
	Arsenic (dissolved)			MW72 SA 050813	0.0128 J
	Arsenic (dissolved)			MW73 SA 050813	0.0135 J
	Arsenic (dissolved)			MW78 SA 050813	0.0106 J
	Arsenic (dissolved)			MW81 SA 050813	0.0118 J
	Iron (dissolved)	5/29/2013	0.0226 J	MW11A 052013	0.0506 J
	Iron (dissolved)			MW28 052013	0.0300 J
	Iron (dissolved)	5/30/2013	0.0248 J	MW12 052113	0.0536 J
	Iron (dissolved)			MW2 052113	0.0643 J
	Iron (dissolved)			MW23 052113	0.0517 J
	Iron (dissolved)			MW46 052113	0.0690 J

Notes:

* - Blank result adjusted for sample factors where applicable

U - Not detected at the associated reporting limit

J - Estimated concentration

UJ - Estimated non-detect

<i>Qualified Result</i>	<i>Units</i>
>0.004(UJ	mg/L
>0.004(UJ	mg/L
>0.004(UJ	mg/L
>0.007(UJ	mg/L
>0.011(UJ	mg/L
>0.016(UJ	mg/L
>0.011(UJ	mg/L
>0.011(UJ	mg/L
>0.012(UJ	mg/L
>0.011(UJ	mg/L
>0.023(U	mg/L
>0.019(UJ	mg/L
>0.018(UJ	mg/L
>0.014(UJ	mg/L
>0.026(U	mg/L
>0.012(UJ	mg/L
>0.013(UJ	mg/L
>0.010(UJ	mg/L
>0.011(UJ	mg/L
>0.050(UJ	mg/L
>0.030(UJ	mg/L
>0.053(UJ	mg/L
>0.064(UJ	mg/L
>0.051(UJ	mg/L
>0.069(UJ	mg/L

Analytical Report 462596

for

Conestoga Rovers & Associates

Project Manager: Mike Wisniowiecki

North Eunice

073018

20-MAY-13

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



20-MAY-13

Project Manager: **Mike Wisniowiecki**

Conestoga Rovers & Associates

2135 S Loop 250 W

Midland, TX 79703

Reference: XENCO Report No(s): **462596**

North Eunice

Project Address: New Mexico

Mike Wisniowiecki:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 462596. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 462596 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW82SA	W	05-06-13 13:45		462596-001
MW83SA	W	05-06-13 12:15		462596-002
IW14	W	05-06-13 15:15		462596-003
MW75SA	W	05-06-13 17:15		462596-004
MW77SA	W	05-06-13 18:15		462596-005
MW64SA	W	05-06-13 14:10		462596-006
MW85SA	W	05-06-13 16:05		462596-007
MW84SA	W	05-06-13 17:30		462596-008

Client Name: Conestoga Rovers & Associates**Project Name: North Eunice**

Project ID: 073018

Work Order Number(s): 462596

Report Date: 20-MAY-13

Date Received: 05/07/2013

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-913217 Chromium, Hexavalent by SW 7196A
SW7196A

Batch 913217, Hexavalent Chromium recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 462596-006, -008, -003, -002, -001, -005, -004, -007.

The Laboratory Control Sample for Hexavalent Chromium is within laboratory Control Limits

Batch: LBA-913426 Dissolved Metals per ICP by SW846 6010B
SW6010B

Batch 913426, Chromium detected in the blank below the MQL but above the SQL; possible laboratory contamination.

Samples affected are: 462596-006, -008, -002, -001, -005, -004, -007.

Batch: LBA-913597 Inorganic Anions by EPA 300/300.1
E300

Batch 913597, Chloride detected in the blank below the MQL but above the SQL; possible laboratory contamination.

Samples affected are: 462596-006, -008, -003, -002, -001, -005, -004, -007.



CASE NARRATIVE



Client Name: Conestoga Rovers & Associates

Project Name: North Eunice

Project ID: 073018
Work Order Number(s): 462596

Report Date: 20-MAY-13
Date Received: 05/07/2013



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW82SA

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-001

Date Collected: 05.06.13 13.45

Date Received: 05.07.13 09.30

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.09.13 01.37

Tech: AMB

Seq Number: 913597

Prep seq: 637993

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1370	50.0	1.40	mg/L	05.09.13 01:37		50

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913416

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3940	5.00	5.00	mg/L	05.08.13 11:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.10.13 11.00

Tech: KUG

Seq Number: 913426

Prep seq: 637867

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.10.13 19:08	U	1
Chromium	7440-47-3	0.00430	0.0100	0.00355	mg/L	05.10.13 19:08	BJ	1
Iron	7439-89-6	0.0499	0.200	0.0188	mg/L	05.10.13 19:08	J	1
Manganese	7439-96-5	0.404	0.0200	0.00291	mg/L	05.10.13 19:08		1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913217

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.07.13 11:40	U	1



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW82SA

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-001

Date Collected: 05.06.13 13.45

Date Received: 05.07.13 09.30

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.14.13 14.00

Tech: DYV

Seq Number: 913726

Prep seq: 638088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.14.13 17:31	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.14.13 17:31	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.14.13 17:31	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.14.13 17:31	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	122	70 - 135	%		
o-Terphenyl	109	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.10.13 16.30

Tech: DYV

Seq Number: 913511

Prep seq: 637952

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.10.13 20:39	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.10.13 20:39	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.10.13 20:39	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.10.13 20:39	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.10.13 20:39	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.10.13 20:39	U	
Total BTEX		ND		0.000500	mg/L	05.10.13 20:39	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	93	80 - 120	%		
4-Bromofluorobenzene	100	80 - 120	%		



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW83SA

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-002

Date Collected: 05.06.13 12.15

Date Received: 05.07.13 09.30

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.09.13 02.21

Tech: AMB

Seq Number: 913597

Prep seq: 637993

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1550	50.0	1.40	mg/L	05.09.13 02:21		50

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913416

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3700	5.00	5.00	mg/L	05.08.13 11:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.10.13 11.00

Tech: KUG

Seq Number: 913426

Prep seq: 637867

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.10.13 19:26	U	1
Chromium	7440-47-3	0.00459	0.0100	0.00355	mg/L	05.10.13 19:26	BJ	1
Iron	7439-89-6	0.0433	0.200	0.0188	mg/L	05.10.13 19:26	J	1
Manganese	7439-96-5	2.46	0.0200	0.00291	mg/L	05.10.13 19:26		1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913217

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.00700	0.0100	0.00500	mg/L	05.07.13 11:40	J	1



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW83SA

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-002

Date Collected: 05.06.13 12.15

Date Received: 05.07.13 09.30

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.14.13 14.00

Tech: DYV

Seq Number: 913726

Prep seq: 638088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.14.13 18:01	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.14.13 18:01	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.14.13 18:01	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.14.13 18:01	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	124	70 - 135	%		
o-Terphenyl	110	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.10.13 16.30

Tech: DYV

Seq Number: 913511

Prep seq: 637952

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.10.13 21:28	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.10.13 21:28	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.10.13 21:28	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.10.13 21:28	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.10.13 21:28	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.10.13 21:28	U	
Total BTEX		ND		0.000500	mg/L	05.10.13 21:28	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	108	80 - 120	%		
4-Bromofluorobenzene	93	80 - 120	%		



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW14 Matrix: Water Sample Depth:
Lab Sample Id: 462596-003 Date Collected: 05.06.13 15.15 Date Received: 05.07.13 09.30

Analytical Method: **Inorganic Anions by EPA 300/300.1** % Moist: Prep Method: E300P
Analyst: AMB Date Prep: 05.09.13 02.42 Tech: AMB
Seq Number: 913597 Prep seq: 637993

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1080	20.0	0.560	mg/L	05.09.13 02:42		20

Analytical Method: **TDS by SM2540C** % Moist: Prep Method:
Analyst: AMB Date Prep: Tech: AMB
Seq Number: 913416 Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3190	5.00	5.00	mg/L	05.08.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B** % Moist: Prep Method: 3010A
Analyst: KUG Date Prep: 05.14.13 09.30 Tech: KUG
Seq Number: 913745 Prep seq: 638008
Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.144	0.100	0.0378	mg/L	05.14.13 17:02		5
Chromium	7440-47-3	0.0731	0.0500	0.0177	mg/L	05.14.13 17:02		5
Iron	7439-89-6	2.19	1.00	0.0939	mg/L	05.14.13 17:02		5
Manganese	7439-96-5	0.785	0.100	0.0145	mg/L	05.14.13 17:02		5

Analytical Method: **Chromium, Hexavalent by SW 7196A** % Moist: Prep Method:
Analyst: WRU Date Prep: Tech: WRU
Seq Number: 913217 Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.100	0.0500	mg/L	05.07.13 11:40	U	10



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW14

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-003

Date Collected: 05.06.13 15.15

Date Received: 05.07.13 09.30

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.15.13 15.00

Tech: DYV

Seq Number: 913896

Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 05:28	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 05:28	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 05:28	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 05:28	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	117	70 - 135	%		
o-Terphenyl	108	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.13.13 17.00

Tech: DYV

Seq Number: 913641

Prep seq: 638024

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 11:58	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 11:58	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 11:58	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 11:58	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 11:58	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 11:58	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 11:58	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	96	80 - 120	%		
4-Bromofluorobenzene	100	80 - 120	%		



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW75SA

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-004

Date Collected: 05.06.13 17.15

Date Received: 05.07.13 09.30

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.09.13 03.04

Tech: AMB

Seq Number: 913597

Prep seq: 637993

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	529	20.0	0.560	mg/L	05.09.13 03:04		20

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913416

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2120	5.00	5.00	mg/L	05.08.13 11:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.10.13 11.00

Tech: KUG

Seq Number: 913426

Prep seq: 637867

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0103	0.0200	0.00756	mg/L	05.10.13 19:32	J	1
Chromium	7440-47-3	0.00466	0.0100	0.00355	mg/L	05.10.13 19:32	BJ	1
Iron	7439-89-6	0.0227	0.200	0.0188	mg/L	05.10.13 19:32	J	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.10.13 19:32	U	1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913217

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.07.13 11:40	UX	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW75SA Matrix: Water Sample Depth:
Lab Sample Id: 462596-004 Date Collected: 05.06.13 17.15 Date Received: 05.07.13 09.30

Analytical Method: TPH By SW8015 Mod % Moist: Prep Method: 1005
Analyst: DYV Date Prep: 05.15.13 15.00 Tech: DYV
Seq Number: 913896 Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 05:59	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 05:59	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 05:59	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 05:59	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	102	70 - 135	%		
o-Terphenyl	93	70 - 135	%		

Analytical Method: BTEX by EPA 8021B % Moist: Prep Method: 5030B
Analyst: DYV Date Prep: 05.10.13 16.30 Tech: DYV
Seq Number: 913511 Prep seq: 637952

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	0.000590	0.00100	0.000500	mg/L	05.10.13 21:44	J	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.10.13 21:44	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.10.13 21:44	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.10.13 21:44	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.10.13 21:44	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.10.13 21:44	U	
Total BTEX		0.000590		0.000500	mg/L	05.10.13 21:44	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	85	80 - 120	%		
4-Bromofluorobenzene	87	80 - 120	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW77SA	Matrix: Water	Sample Depth:
Lab Sample Id: 462596-005	Date Collected: 05.06.13 18.15	Date Received: 05.07.13 09.30

Analytical Method: Inorganic Anions by EPA 300/300.1	% Moist:	Prep Method: E300P
Analyst: AMB	Date Prep: 05.09.13 03.26	Tech: AMB
Seq Number: 913597	Prep seq: 637993	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	416	10.0	0.280	mg/L	05.09.13 03:26		10

Analytical Method: TDS by SM2540C	% Moist:	Prep Method:
Analyst: AMB	Date Prep:	Tech: AMB
Seq Number: 913416	Prep seq:	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1380	5.00	5.00	mg/L	05.08.13 11:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B	% Moist:	Prep Method: 3010A
Analyst: KUG	Date Prep: 05.10.13 11.00	Tech: KUG
Seq Number: 913426	Prep seq: 637867	
Subcontractor: SUB: E871002		

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.10.13 19:38	U	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.10.13 19:38	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.10.13 19:38	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.10.13 19:38	U	1

Analytical Method: Chromium, Hexavalent by SW 7196A	% Moist:	Prep Method:
Analyst: WRU	Date Prep:	Tech: WRU
Seq Number: 913217	Prep seq:	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.07.13 11:40	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW77SA Matrix: Water Sample Depth:
Lab Sample Id: 462596-005 Date Collected: 05.06.13 18.15 Date Received: 05.07.13 09.30

Analytical Method: TPH By SW8015 Mod % Moist: Prep Method: 1005
Analyst: DYV Date Prep: 05.14.13 14.00 Tech: DYV
Seq Number: 913726 Prep seq: 638088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.14.13 19:31	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.14.13 19:31	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.14.13 19:31	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.14.13 19:31	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	121	70 - 135	%		
o-Terphenyl	106	70 - 135	%		

Analytical Method: BTEX by EPA 8021B % Moist: Prep Method: 5030B
Analyst: DYV Date Prep: 05.10.13 16.30 Tech: DYV
Seq Number: 913511 Prep seq: 637952

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.10.13 22:01	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.10.13 22:01	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.10.13 22:01	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.10.13 22:01	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.10.13 22:01	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.10.13 22:01	U	
Total BTEX		ND		0.000500	mg/L	05.10.13 22:01	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	86	80 - 120	%		
4-Bromofluorobenzene	88	80 - 120	%		



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW64SA

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-006

Date Collected: 05.06.13 14.10

Date Received: 05.07.13 09.30

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.09.13 03.48

Tech: AMB

Seq Number: 913597

Prep seq: 637993

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	730	20.0	0.560	mg/L	05.09.13 03:48		20

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913717

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2610	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.10.13 11.00

Tech: KUG

Seq Number: 913426

Prep seq: 637867

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.00818	0.0200	0.00756	mg/L	05.10.13 19:44	J	1
Chromium	7440-47-3	0.0817	0.0100	0.00355	mg/L	05.10.13 19:44		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.10.13 19:44	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.10.13 19:44	U	1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913217

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.0813	0.0100	0.00500	mg/L	05.07.13 11:40		1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW64SA

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-006

Date Collected: 05.06.13 14.10

Date Received: 05.07.13 09.30

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.15.13 15.00

Tech: DYV

Seq Number: 913896

Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 06:31	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 06:31	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 06:31	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 06:31	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	117	70 - 135	%		
o-Terphenyl	107	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.10.13 16.30

Tech: DYV

Seq Number: 913511

Prep seq: 637952

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.10.13 22:17	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.10.13 22:17	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.10.13 22:17	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.10.13 22:17	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.10.13 22:17	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.10.13 22:17	U	
Total BTEX		ND		0.000500	mg/L	05.10.13 22:17	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	87	80 - 120	%		
4-Bromofluorobenzene	102	80 - 120	%		



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW85SA

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-007

Date Collected: 05.06.13 16.05

Date Received: 05.07.13 09.30

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.09.13 04.53

Tech: AMB

Seq Number: 913597

Prep seq: 637993

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	594	20.0	0.560	mg/L	05.09.13 04:53		20

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913717

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2560	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.10.13 11.00

Tech: KUG

Seq Number: 913426

Prep seq: 637867

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.10.13 19:50	U	1
Chromium	7440-47-3	0.00784	0.0100	0.00355	mg/L	05.10.13 19:50	BJ	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.10.13 19:50	U	1
Manganese	7439-96-5	0.476	0.0200	0.00291	mg/L	05.10.13 19:50		1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913217

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.07.13 11:40	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW85SA

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-007

Date Collected: 05.06.13 16.05

Date Received: 05.07.13 09.30

Analytical Method: **TPH By SW8015 Mod**

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.15.13 15.00

Tech: DYV

Seq Number: 913896

Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 07:01	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 07:01	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 07:01	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 07:01	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	102	70 - 135	%		
o-Terphenyl	93	70 - 135	%		

Analytical Method: **BTEX by EPA 8021B**

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.10.13 16.30

Tech: DYV

Seq Number: 913511

Prep seq: 637952

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.10.13 22:33	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.10.13 22:33	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.10.13 22:33	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.10.13 22:33	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.10.13 22:33	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.10.13 22:33	U	
Total BTEX		ND		0.000500	mg/L	05.10.13 22:33	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	101	80 - 120	%		
4-Bromofluorobenzene	86	80 - 120	%		



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW84SA

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-008

Date Collected: 05.06.13 17.30

Date Received: 05.07.13 09.30

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.09.13 05.14

Tech: AMB

Seq Number: 913597

Prep seq: 637993

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1010	20.0	0.560	mg/L	05.09.13 05:14		20

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913717

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3150	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.10.13 11.00

Tech: KUG

Seq Number: 913426

Prep seq: 637867

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0101	0.0200	0.00756	mg/L	05.10.13 19:56	J	1
Chromium	7440-47-3	0.0360	0.0100	0.00355	mg/L	05.10.13 19:56		1
Iron	7439-89-6	0.0294	0.200	0.0188	mg/L	05.10.13 19:56	J	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.10.13 19:56	U	1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913217

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.0294	0.0100	0.00500	mg/L	05.07.13 11:40		1



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW84SA

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-008

Date Collected: 05.06.13 17.30

Date Received: 05.07.13 09.30

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.14.13 14.00

Tech: DYV

Seq Number: 913726

Prep seq: 638088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.14.13 21:03	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.14.13 21:03	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.14.13 21:03	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.14.13 21:03	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	120	70 - 135	%		
o-Terphenyl	111	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.10.13 16.30

Tech: DYV

Seq Number: 913511

Prep seq: 637952

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.10.13 22:50	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.10.13 22:50	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.10.13 22:50	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.10.13 22:50	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.10.13 22:50	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.10.13 22:50	U	
Total BTEX		ND		0.000500	mg/L	05.10.13 22:50	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	111	80 - 120	%		
4-Bromofluorobenzene	112	80 - 120	%		



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 637867-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 637867-1-BLK

Date Collected:

Date Received:

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.10.13 11.00

Tech: KUG

Seq Number: 913426

Prep seq: 637867

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.10.13 15:21	U	1
Chromium	7440-47-3	0.00518	0.0100	0.00355	mg/L	05.10.13 15:21	J	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.10.13 15:21	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.10.13 15:21	U	1

Sample Id: 637952-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 637952-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.10.13 16.30

Tech: DYV

Seq Number: 913511

Prep seq: 637952

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.10.13 20:23	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.10.13 20:23	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.10.13 20:23	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.10.13 20:23	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.10.13 20:23	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	116	80 - 120	%		
4-Bromofluorobenzene	106	80 - 120	%		

Sample Id: 637993-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 637993-1-BLK

Date Collected:

Date Received:

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.09.13 00.32

Tech: AMB

Seq Number: 913597

Prep seq: 637993

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	0.707	1.00	0.0280	mg/L	05.09.13 00:32	J	1



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 638008-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638008-1-BLK

Date Collected:

Date Received:

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.14.13 09.30

Tech: KUG

Seq Number: 913745

Prep seq: 638008

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.14.13 15:11	U	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.14.13 15:11	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.14.13 15:11	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.14.13 15:11	U	1

Sample Id: 638024-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638024-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.13.13 17.00

Tech: DYV

Seq Number: 913641

Prep seq: 638024

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.13.13 18:44	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.13.13 18:44	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.13.13 18:44	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.13.13 18:44	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.13.13 18:44	U	1

Surrogate

% Recovery

Limits

Units

Analysis Date

Flag

1,4-Difluorobenzene

85

80 - 120

%

4-Bromofluorobenzene

100

80 - 120

%



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 638088-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638088-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.14.13 14:00

Tech: DYV

Seq Number: 913726

Prep seq: 638088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.14.13 17:02	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.14.13 17:02	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.14.13 17:02	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.14.13 17:02	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	127	70 - 135	%		
o-Terphenyl	114	70 - 135	%		

Sample Id: 638218-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638218-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.15.13 15:00

Tech: DYV

Seq Number: 913896

Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 04:57	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 04:57	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 04:57	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 04:57	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	113	70 - 135	%		
o-Terphenyl	104	70 - 135	%		



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 913217-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913217-1-BLK

Date Collected:

Date Received:

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913217

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.07.13 11:40	U	1

Sample Id: 913416-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913416-1-BLK

Date Collected:

Date Received:

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913416

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	ND	5.00	5.00	mg/L	05.08.13 11:00	U	1

Sample Id: 913717-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913717-1-BLK

Date Collected:

Date Received:

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913717

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	ND	5.00	5.00	mg/L	05.10.13 11:00	U	1

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(770) 449-8800	(770) 449-5477
(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462596,

Project ID: 073018

Lab Batch #: 913511

Sample: 637952-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/10/13 19:50

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0295	0.0300	98	80-120	
4-Bromofluorobenzene	0.0299	0.0300	100	80-120	

Lab Batch #: 913511

Sample: 637952-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/10/13 20:06

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0266	0.0300	89	80-120	

Lab Batch #: 913511

Sample: 637952-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/10/13 20:23

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0348	0.0300	116	80-120	
4-Bromofluorobenzene	0.0319	0.0300	106	80-120	

Lab Batch #: 913511

Sample: 462596-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/10/13 20:55

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0285	0.0300	95	80-120	

Lab Batch #: 913511

Sample: 462596-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/10/13 21:12

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0318	0.0300	106	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462596,

Project ID: 073018

Lab Batch #: 913641

Sample: 638024-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/13/13 18:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0308	0.0300	103	80-120	
4-Bromofluorobenzene	0.0281	0.0300	94	80-120	

Lab Batch #: 913641

Sample: 638024-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/13/13 18:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene	0.0279	0.0300	93	80-120	

Lab Batch #: 913641

Sample: 638024-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/13/13 18:44

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0255	0.0300	85	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 913641

Sample: 462809-002 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/14/13 12:14

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0336	0.0300	112	80-120	
4-Bromofluorobenzene	0.0259	0.0300	86	80-120	

Lab Batch #: 913641

Sample: 462809-002 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/14/13 12:30

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	80-120	
4-Bromofluorobenzene	0.0322	0.0300	107	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462596,

Project ID: 073018

Lab Batch #: 913726

Sample: 638088-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 16:01	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1-Chlorooctane		11.7	10.0	117	70-135
o-Terphenyl		4.40	5.00	88	70-135

Lab Batch #: 913726

Sample: 638088-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 16:32	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1-Chlorooctane		12.0	10.0	120	70-135
o-Terphenyl		4.52	5.00	90	70-135

Lab Batch #: 913726

Sample: 638088-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 17:02	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1-Chlorooctane		12.7	10.0	127	70-135
o-Terphenyl		5.70	5.00	114	70-135

Lab Batch #: 913726

Sample: 462596-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/15/13 04:15	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1-Chlorooctane		12.9	10.0	129	70-135
o-Terphenyl		5.11	5.00	102	70-135

Lab Batch #: 913896

Sample: 638218-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/16/13 04:26	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1-Chlorooctane		13.0	10.0	130	70-135
o-Terphenyl		5.51	5.00	110	70-135

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462596,

Project ID: 073018

Lab Batch #: 913896

Sample: 638218-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 04:57

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	11.3	10.0	113	70-135	
o-Terphenyl	5.20	5.00	104	70-135	

Lab Batch #: 913896

Sample: 462675-012 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 16:09

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	11.9	10.0	119	70-135	
o-Terphenyl	4.70	5.00	94	70-135	

Lab Batch #: 913896

Sample: 638218-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 17:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	12.4	10.0	124	70-135	
o-Terphenyl	4.53	5.00	91	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Project Name: North Eunice

Work Order #: 462596

Project ID:

073018

Lab Batch #: 913217

Sample: 913217-1-BKS

Matrix: Water

Date Analyzed: 05/07/2013

Date Prepared: 05/07/2013

Analyst: WRU

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Hexavalent Chromium	<0.00500	0.0250	0.0216	86	80-120	

Lab Batch #: 913416

Sample: 913416-1-BKS

Matrix: Water

Date Analyzed: 05/08/2013

Date Prepared: 05/08/2013

Analyst: AMB

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

TDS by SM2540C	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Total dissolved solids	<5.00	1000	1010	101	80-120	

Lab Batch #: 913717

Sample: 913717-1-BKS

Matrix: Water

Date Analyzed: 05/10/2013

Date Prepared: 05/10/2013

Analyst: AMB

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

TDS by SM2540C	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Total dissolved solids	<5.00	1000	975	98	80-120	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: North Eunice

Work Order #: 462596

Analyst: DYV

Date Prepared: 05/10/2013

Project ID: 073018

Date Analyzed: 05/10/2013

Lab Batch ID: 913511

Sample: 637952-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000500	0.100	0.103	103	0.100	0.0984	98	5	70-125	25	
Toluene	<0.00100	0.100	0.108	108	0.100	0.0957	96	12	70-125	25	
Ethylbenzene	<0.000700	0.100	0.116	116	0.100	0.105	105	10	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.212	106	0.200	0.193	97	9	70-131	25	
o-Xylene	<0.000700	0.100	0.106	106	0.100	0.0971	97	9	71-133	25	

Analyst: DYV

Date Prepared: 05/13/2013

Date Analyzed: 05/13/2013

Lab Batch ID: 913641

Sample: 638024-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000500	0.100	0.102	102	0.100	0.108	108	6	70-125	25	
Toluene	<0.00100	0.100	0.109	109	0.100	0.112	112	3	70-125	25	
Ethylbenzene	<0.000700	0.100	0.115	115	0.100	0.114	114	1	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.211	106	0.200	0.218	109	3	70-131	25	
o-Xylene	<0.000700	0.100	0.103	103	0.100	0.110	110	7	71-133	25	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: North Eunice

Work Order #: 462596

Analyst: KUG

Date Prepared: 05/10/2013

Project ID: 073018

Date Analyzed: 05/10/2013

Lab Batch ID: 913426

Sample: 637867-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Arsenic	<0.00756	1.00	0.931	93	1.00	0.908	91	3	80-120	20	
Chromium	0.00518	1.00	0.943	94	1.00	0.923	92	2	80-120	20	
Iron	<0.0188	5.00	4.59	92	5.00	4.57	91	0	80-120	20	
Manganese	<0.00291	1.00	0.905	91	1.00	0.896	90	1	80-120	20	

Analyst: KUG

Date Prepared: 05/14/2013

Date Analyzed: 05/14/2013

Lab Batch ID: 913745

Sample: 638008-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Arsenic	<0.00756	1.00	1.01	101	1.00	1.02	102	1	80-120	20	
Chromium	<0.00355	1.00	1.03	103	1.00	1.03	103	0	80-120	20	
Iron	<0.0188	5.00	5.03	101	5.00	5.02	100	0	80-120	20	
Manganese	<0.00291	1.00	0.989	99	1.00	0.982	98	1	80-120	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: North Eunice

Work Order #: 462596

Analyst: AMB

Date Prepared: 05/09/2013

Project ID: 073018

Date Analyzed: 05/09/2013

Lab Batch ID: 913597

Sample: 637993-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	0.707	25.0	23.1	92	25.0	24.1	96	4	80-120	20	

Analyst: DYV

Date Prepared: 05/14/2013

Date Analyzed: 05/14/2013

Lab Batch ID: 913726

Sample: 638088-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	90.0	90	100	92.8	93	3	70-135	25	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	99.6	100	100	102	102	2	70-135	25	

Analyst: DYV

Date Prepared: 05/15/2013

Date Analyzed: 05/16/2013

Lab Batch ID: 913896

Sample: 638218-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	116	116	100	110	110	5	70-135	25	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	123	123	100	120	120	2	70-135	25	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: North Eunice

Work Order #: 462596

Lab Batch #: 913597

Date Analyzed: 05/09/2013

QC- Sample ID: 462596-001 S

Reporting Units: mg/L

Date Prepared: 05/09/2013

Batch #: 1

Project ID: 073018

Analyst: AMB

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	1370	1250	2740	110	80-120	

Lab Batch #: 913597

Date Analyzed: 05/09/2013

QC- Sample ID: 462629-001 S

Reporting Units: mg/L

Date Prepared: 05/09/2013

Batch #: 1

Analyst: AMB

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	1580	1250	2790	97	80-120	

Lab Batch #: 913726

Date Analyzed: 05/15/2013

QC- Sample ID: 462596-001 S

Reporting Units: mg/L

Date Prepared: 05/14/2013

Batch #: 1

Analyst: DYV

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
TPH by SW8015 Mod	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	92.6	93	70-135	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	102	102	70-135	

Lab Batch #: 913896

Date Analyzed: 05/16/2013

QC- Sample ID: 462675-012 S

Reporting Units: mg/L

Date Prepared: 05/15/2013

Batch #: 1

Analyst: DYV

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
TPH by SW8015 Mod	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	93.8	94	70-135	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	101	101	70-135	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$
 Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$
 All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS / MSD Recoveries



Project Name: North Eunice

Work Order # : 462596

Project ID: 073018

Lab Batch ID: 913511

QC- Sample ID: 462596-001 S

Batch #: 1 **Matrix:** Water

Date Analyzed: 05/10/2013

Date Prepared: 05/10/2013

Analyst: DYV

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000500	0.100	0.102	102	0.100	0.106	106	4	70-125	25	
Toluene	<0.00100	0.100	0.102	102	0.100	0.108	108	6	70-125	25	
Ethylbenzene	<0.000700	0.100	0.102	102	0.100	0.116	116	13	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.185	93	0.200	0.214	107	15	70-131	25	
o-Xylene	<0.000700	0.100	0.0940	94	0.100	0.106	106	12	71-133	25	

Lab Batch ID: 913641

QC- Sample ID: 462809-002 S

Batch #: 1 **Matrix:** Water

Date Analyzed: 05/14/2013

Date Prepared: 05/13/2013

Analyst: DYV

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000500	0.100	0.0917	92	0.100	0.107	107	15	70-125	25	
Toluene	<0.00100	0.100	0.0937	94	0.100	0.110	110	16	70-125	25	
Ethylbenzene	<0.000700	0.100	0.0986	99	0.100	0.117	117	17	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.182	91	0.200	0.220	110	19	70-131	25	
o-Xylene	<0.000700	0.100	0.0882	88	0.100	0.111	111	23	71-133	25	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: North Eunice

Work Order # : 462596

Project ID: 073018

Lab Batch ID: 913217

QC- Sample ID: 462596-004 S

Batch #: 1 **Matrix:** Water

Date Analyzed: 05/07/2013

Date Prepared: 05/07/2013

Analyst: WRU

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Hexavalent Chromium	<0.00500	0.200	0.244	122	0.200	0.245	123	0	80-120	20	X

Lab Batch ID: 913426

QC- Sample ID: 462746-001 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 05/10/2013

Date Prepared: 05/10/2013

Analyst: KUG

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Arsenic	<0.0378	5.00	4.73	95	5.00	4.64	93	2	75-125	20	
Chromium	0.0206	5.00	4.60	92	5.00	4.52	90	2	75-125	20	
Iron	0.642	25.0	22.4	87	25.0	22.2	86	1	75-125	20	
Manganese	1.83	5.00	6.16	87	5.00	6.08	85	1	75-125	20	

Lab Batch ID: 913745

QC- Sample ID: 462621-001 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 05/14/2013

Date Prepared: 05/14/2013

Analyst: KUG

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Arsenic	<0.0378	5.00	4.84	97	5.00	4.69	94	3	75-125	20	
Chromium	<0.0177	5.00	4.71	94	5.00	4.54	91	4	75-125	20	
Iron	2.98	25.0	25.9	92	25.0	25.5	90	2	75-125	20	
Manganese	2.61	5.00	6.95	87	5.00	7.02	88	1	75-125	20	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Project Name: North Eunice

Work Order #: 462596

Lab Batch #: 913217

Project ID: 073018

Date Analyzed: 05/07/2013 11:40

Date Prepared: 05/07/2013

Analyst: WRU

QC- Sample ID: 462596-004 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

Chromium, Hexavalent by SW 7196A	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Hexavalent Chromium	<0.00500	<0.00500	0	20	U

Lab Batch #: 913416

Date Analyzed: 05/08/2013 11:00

Date Prepared: 05/08/2013

Analyst: AMB

QC- Sample ID: 462493-001 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	1940	2020	4	30	

Lab Batch #: 913416

Date Analyzed: 05/08/2013 11:00

Date Prepared: 05/08/2013

Analyst: AMB

QC- Sample ID: 462627-002 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	3090	3260	5	30	

Lab Batch #: 913717

Date Analyzed: 05/10/2013 11:00

Date Prepared: 05/10/2013

Analyst: AMB

QC- Sample ID: 462596-006 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	2610	2710	4	30	

Spike Relative Difference $RPD = 200 * |(B-A)/(B+A)|$
 All Results are based on MDL and validated for QC purposes.
 BRL - Below Reporting Limit

Project Name: North Eunice

Work Order #: 462596

Lab Batch #: 913717

Project ID: 073018

Date Analyzed: 05/10/2013 11:00

Date Prepared: 05/10/2013

Analyst: AMB

QC- Sample ID: 462675-008 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	3230	3640	12	30	

Spike Relative Difference RPD $200 * |(B-A)/(B+A)|$
 All Results are based on MDL and validated for QC purposes.
 BRL - Below Reporting Limit

Company/City: CRD - Midland		Phone: (432) 686-0086								
Project Name/Location: Previously done at XENCO		Project ID: 673018								
Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other		Proj. Manager (PM): Mike Wisniewski								
E-mail Results to: ☒ PM and (432) 686-0186		Fax No:								
Invoice to: ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.		Bill to:								
Quote/Pricing: P.O. No: ☐ Call for P.O.		Reg Program: UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP								
QAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:		Special DLS (GW DW QAPP MDLs RLS See Lab PM Included Call PM)								
Sampler Name: Justin/1/1/1/1	Signature: [Signature]									
Sample ID	Sampling Date	Time	Depth ft' in" m	Matrix	Composite	Grab	# Containers	Container Size	Container Type	Preservatives
1 mw 825A	5-6-13	1345	10	W	X	8				
2 mw 835A		1215								
3 Iw 14		1515								
4 mw 755A		1715								
5 mw 715A		1815								
6 mw 645A		1910								
7 mw 855A		1605								
8 mw 845A		1730								
9										
10										
Relinquished by (Initials and Sign)		Date & Time		Relinquished to (Initials and Sign)		Date & Time		Total Containers per COC:		Cooler Temp: 15 °C
1) [Signature]		5-6-13 1845		2) [Signature]		5-6-13 18:50		64		
3) [Signature]		5-6-13 20:10		4) [Signature]		5-7-13 9:30				
Preservatives: Various (V), HCl pH<2 (H), H2SO4 pH<2 (S), HNO3 pH<2 (N), Asbc Acid&NaOH (A), ZnAc&NaOH (Z), (Cool, <4C) (C), None (NA), See Label (L), Other (O) Cont. Size: 4oz (4), 8oz (8), 32oz (32), 40ml VOA (40), 1L (1), 500ml (5), Tedlar Bag (B), Various (V), Other _____ Cont. Type: Glass Amb (A), Glass Clear (C), Plastic (P), Various (V) Matrix: Air (A), Product (P), Solid (S), Water (W), Liquid (L) Notice: Signature of this document and relinquishment of these samples constitutes a valid purchase order from client company to Xenco Laboratories and its affiliates, subcontractors and assigns under Xenco's standard terms and conditions of service unless previously negotiated under a fully executed client contract.										
VOA: Full-List BTEX-MTBE EtOH Oxyg VOHS VOAS VOA: PP TCL DW Appdx-1 Appdx-2 CALL Other: PAHs SIM 8310 8270 TX-1005 DRO GRO MA EPH MA VPH SVOCs: Full-List DW BN&AE TCLP PP Appdx-2 CALL OC Pesticides PCBs Herbicides OP Pesticides Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx2 SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs) EDB / DBCP Method 8021B BTEX Diss Metals Method 6010B AS, Cr, Fe, Mn TDS sm 2540C Chlorides E300 TPH GRO + DRO 8015 Modified Hex Chrom 7196A TATASAP 5h 12h 24h 48h 3d (5d) 7d 10d 21d Addn: PAH above mg/L W, mg/Kg S Highest Hit Hold Samples (Surcharges will apply and are pre-approved) Sample Clean-ups are pre-approved as needed Addn: Date Rcv. by: From:										
Remarks										



Prelogin/Nonconformance Report- Sample Log-In

Client: Conestoga Rovers & Associates

Date/ Time Received: 05/07/2013 09:30:00 AM

Work Order #: 462596

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	Yes

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:	PH Device/Lot#:
----------	-----------------

Checklist completed by:	<u>Kelsey Brooks</u> Kelsey Brooks	Date: 05/07/2013
Checklist reviewed by:	<u>Kelsey Brooks</u> Kelsey Brooks	Date: 05/07/2013

Analytical Report 462596

for

Conestoga Rovers & Associates

Project Manager: Mike Wisniowiecki

North Eunice

073018

31-MAY-13

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

31-MAY-13

Project Manager: **Mike Wisniowiecki**

Conestoga Rovers & Associates

2135 S Loop 250 W

Midland, TX 79703

Reference: XENCO Report No(s): **462596**

North Eunice

Project Address: New Mexico

Mike Wisniowiecki:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 462596. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 462596 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,



Kelsey Brooks

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW82SA	W	05-06-13 13:45		462596-001
MW83SA	W	05-06-13 12:15		462596-002
IW14	W	05-06-13 15:15		462596-003
MW75SA	W	05-06-13 17:15		462596-004
MW77SA	W	05-06-13 18:15		462596-005
MW64SA	W	05-06-13 14:10		462596-006
MW85SA	W	05-06-13 16:05		462596-007
MW84SA	W	05-06-13 17:30		462596-008

Client Name: Conestoga Rovers & Associates**Project Name: North Eunice**Project ID: 073018
Work Order Number(s): 462596Report Date: 31-MAY-13
Date Received: 05/07/2013

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:Batch: LBA-913426 Dissolved Metals per ICP by SW846 6010B
SW6010B

Batch 913426, Chromium detected in the blank below the MQL but above the SQL; possible laboratory contamination.

Samples affected are: 462596-006, -008, -002, -001, -005, -004, -007.

Batch: LBA-913597 Inorganic Anions by EPA 300/300.1
E300

Batch 913597, Chloride detected in the blank below the MQL but above the SQL; possible laboratory contamination.

Samples affected are: 462596-006, -008, -003, -002, -001, -005, -004, -007.

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW82SA

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-001

Date Collected: 05.06.13 13.45

Date Received: 05.07.13 09.30

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913597

Date Prep: 05.09.13 01.37

Prep seq: 637993

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1370	50.0	1.40	mg/L	05.09.13 01:37		50

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913416

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3940	5.00	5.00	mg/L	05.08.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913426

Date Prep: 05.10.13 11.00

Subcontractor: SUB: E871002

Prep seq: 637867

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.10.13 19:08	U	1
Chromium	7440-47-3	0.00430	0.0100	0.00355	mg/L	05.10.13 19:08	BJ	1
Iron	7439-89-6	0.0499	0.200	0.0188	mg/L	05.10.13 19:08	J	1
Manganese	7439-96-5	0.404	0.0200	0.00291	mg/L	05.10.13 19:08		1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913217

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.07.13 11:40	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW82SA

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-001

Date Collected: 05.06.13 13.45

Date Received: 05.07.13 09.30

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913726

Date Prep: 05.14.13 14.00

Prep seq: 638088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.14.13 17:31	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.14.13 17:31	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.14.13 17:31	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.14.13 17:31	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	122	70 - 135	%		
o-Terphenyl	109	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913511

Date Prep: 05.10.13 16.30

Prep seq: 637952

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.10.13 20:39	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.10.13 20:39	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.10.13 20:39	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.10.13 20:39	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.10.13 20:39	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.10.13 20:39	U	
Total BTEX		ND		0.000500	mg/L	05.10.13 20:39	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	93	80 - 120	%		
4-Bromofluorobenzene	100	80 - 120	%		



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW83SA

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-002

Date Collected: 05.06.13 12.15

Date Received: 05.07.13 09.30

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913597

Date Prep: 05.09.13 02.21

Prep seq: 637993

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1550	50.0	1.40	mg/L	05.09.13 02:21		50

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913416

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3700	5.00	5.00	mg/L	05.08.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913426

Date Prep: 05.10.13 11.00

Subcontractor: SUB: E871002

Prep seq: 637867

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.10.13 19:26	U	1
Chromium	7440-47-3	0.00459	0.0100	0.00355	mg/L	05.10.13 19:26	BJ	1
Iron	7439-89-6	0.0433	0.200	0.0188	mg/L	05.10.13 19:26	J	1
Manganese	7439-96-5	2.46	0.0200	0.00291	mg/L	05.10.13 19:26		1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913217

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.00700	0.0100	0.00500	mg/L	05.07.13 11:40	J	1



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW83SA

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-002

Date Collected: 05.06.13 12.15

Date Received: 05.07.13 09.30

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913726

Date Prep: 05.14.13 14.00

Prep seq: 638088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.14.13 18:01	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.14.13 18:01	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.14.13 18:01	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.14.13 18:01	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	124	70 - 135	%		
o-Terphenyl	110	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913511

Date Prep: 05.10.13 16.30

Prep seq: 637952

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.10.13 21:28	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.10.13 21:28	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.10.13 21:28	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.10.13 21:28	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.10.13 21:28	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.10.13 21:28	U	
Total BTEX		ND		0.000500	mg/L	05.10.13 21:28	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	108	80 - 120	%		
4-Bromofluorobenzene	93	80 - 120	%		



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW14

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-003

Date Collected: 05.06.13 15.15

Date Received: 05.07.13 09.30

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913597

Date Prep: 05.09.13 02.42

Prep seq: 637993

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1080	20.0	0.560	mg/L	05.09.13 02:42		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913416

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3190	5.00	5.00	mg/L	05.08.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913745

Date Prep: 05.14.13 09.30

Subcontractor: SUB: E871002

Prep seq: 638008

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.144	0.100	0.0378	mg/L	05.14.13 17:02		5
Chromium	7440-47-3	0.0731	0.0500	0.0177	mg/L	05.14.13 17:02		5
Iron	7439-89-6	2.19	1.00	0.0939	mg/L	05.14.13 17:02		5
Manganese	7439-96-5	0.785	0.100	0.0145	mg/L	05.14.13 17:02		5

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913217

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.100	0.0500	mg/L	05.07.13 11:40	U	10



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW14

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-003

Date Collected: 05.06.13 15.15

Date Received: 05.07.13 09.30

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913896

Date Prep: 05.15.13 15.00

Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 05:28	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 05:28	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 05:28	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 05:28	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	117	70 - 135	%		
o-Terphenyl	108	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913641

Date Prep: 05.13.13 17.00

Prep seq: 638024

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 11:58	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 11:58	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 11:58	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 11:58	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 11:58	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 11:58	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 11:58	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	96	80 - 120	%		
4-Bromofluorobenzene	100	80 - 120	%		



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW75SA

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-004

Date Collected: 05.06.13 17.15

Date Received: 05.07.13 09.30

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913597

Date Prep: 05.09.13 03.04

Prep seq: 637993

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	529	20.0	0.560	mg/L	05.09.13 03:04		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913416

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2120	5.00	5.00	mg/L	05.08.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913426

Date Prep: 05.10.13 11.00

Subcontractor: SUB: E871002

Prep seq: 637867

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0103	0.0200	0.00756	mg/L	05.10.13 19:32	J	1
Chromium	7440-47-3	0.00466	0.0100	0.00355	mg/L	05.10.13 19:32	BJ	1
Iron	7439-89-6	0.0227	0.200	0.0188	mg/L	05.10.13 19:32	J	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.10.13 19:32	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913217

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.07.13 11:40	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW75SA

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-004

Date Collected: 05.06.13 17.15

Date Received: 05.07.13 09.30

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913896

Date Prep: 05.15.13 15.00

Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 05:59	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 05:59	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 05:59	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 05:59	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	102	70 - 135	%		
o-Terphenyl	93	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913511

Date Prep: 05.10.13 16.30

Prep seq: 637952

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	0.000590	0.00100	0.000500	mg/L	05.10.13 21:44	J	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.10.13 21:44	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.10.13 21:44	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.10.13 21:44	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.10.13 21:44	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.10.13 21:44	U	
Total BTEX		0.000590		0.000500	mg/L	05.10.13 21:44	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	85	80 - 120	%		
4-Bromofluorobenzene	87	80 - 120	%		



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW77SA

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-005

Date Collected: 05.06.13 18.15

Date Received: 05.07.13 09.30

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913597

Date Prep: 05.09.13 03.26

Prep seq: 637993

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	416	10.0	0.280	mg/L	05.09.13 03:26		10

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913416

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1380	5.00	5.00	mg/L	05.08.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913426

Date Prep: 05.10.13 11.00

Subcontractor: SUB: E871002

Prep seq: 637867

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.10.13 19:38	U	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.10.13 19:38	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.10.13 19:38	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.10.13 19:38	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913217

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.07.13 11:40	U	1



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW77SA

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-005

Date Collected: 05.06.13 18.15

Date Received: 05.07.13 09.30

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913726

Date Prep: 05.14.13 14.00

Prep seq: 638088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.14.13 19:31	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.14.13 19:31	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.14.13 19:31	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.14.13 19:31	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	121	70 - 135	%		
o-Terphenyl	106	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913511

Date Prep: 05.10.13 16.30

Prep seq: 637952

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.10.13 22:01	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.10.13 22:01	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.10.13 22:01	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.10.13 22:01	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.10.13 22:01	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.10.13 22:01	U	
Total BTEX		ND		0.000500	mg/L	05.10.13 22:01	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	86	80 - 120	%		
4-Bromofluorobenzene	88	80 - 120	%		



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW64SA

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-006

Date Collected: 05.06.13 14.10

Date Received: 05.07.13 09.30

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913597

Date Prep: 05.09.13 03.48

Prep seq: 637993

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	730	20.0	0.560	mg/L	05.09.13 03:48		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913717

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2610	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913426

Date Prep: 05.10.13 11.00

Subcontractor: SUB: E871002

Prep seq: 637867

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.00818	0.0200	0.00756	mg/L	05.10.13 19:44	J	1
Chromium	7440-47-3	0.0817	0.0100	0.00355	mg/L	05.10.13 19:44		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.10.13 19:44	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.10.13 19:44	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913217

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.0813	0.0100	0.00500	mg/L	05.07.13 11:40		1



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW64SA

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-006

Date Collected: 05.06.13 14.10

Date Received: 05.07.13 09.30

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913896

Date Prep: 05.15.13 15.00

Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 06:31	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 06:31	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 06:31	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 06:31	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	117	70 - 135	%		
o-Terphenyl	107	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913511

Date Prep: 05.10.13 16.30

Prep seq: 637952

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.10.13 22:17	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.10.13 22:17	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.10.13 22:17	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.10.13 22:17	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.10.13 22:17	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.10.13 22:17	U	
Total BTEX		ND		0.000500	mg/L	05.10.13 22:17	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	87	80 - 120	%		
4-Bromofluorobenzene	102	80 - 120	%		



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW85SA

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-007

Date Collected: 05.06.13 16.05

Date Received: 05.07.13 09.30

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913597

Date Prep: 05.09.13 04.53

Prep seq: 637993

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	594	20.0	0.560	mg/L	05.09.13 04:53		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913717

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2560	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913426

Date Prep: 05.10.13 11.00

Subcontractor: SUB: E871002

Prep seq: 637867

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.10.13 19:50	U	1
Chromium	7440-47-3	0.00784	0.0100	0.00355	mg/L	05.10.13 19:50	BJ	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.10.13 19:50	U	1
Manganese	7439-96-5	0.476	0.0200	0.00291	mg/L	05.10.13 19:50		1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913217

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.07.13 11:40	U	1



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW85SA

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-007

Date Collected: 05.06.13 16.05

Date Received: 05.07.13 09.30

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913896

Date Prep: 05.15.13 15.00

Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 07:01	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 07:01	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 07:01	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 07:01	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	102	70 - 135	%		
o-Terphenyl	93	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913511

Date Prep: 05.10.13 16.30

Prep seq: 637952

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.10.13 22:33	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.10.13 22:33	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.10.13 22:33	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.10.13 22:33	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.10.13 22:33	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.10.13 22:33	U	
Total BTEX		ND		0.000500	mg/L	05.10.13 22:33	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	101	80 - 120	%		
4-Bromofluorobenzene	86	80 - 120	%		



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW84SA

Matrix: Water

Sample Depth:

Lab Sample Id: 462596-008

Date Collected: 05.06.13 17.30

Date Received: 05.07.13 09.30

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913597

Date Prep: 05.09.13 05.14

Prep seq: 637993

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1010	20.0	0.560	mg/L	05.09.13 05:14		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913717

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3150	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913426

Date Prep: 05.10.13 11.00

Subcontractor: SUB: E871002

Prep seq: 637867

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0101	0.0200	0.00756	mg/L	05.10.13 19:56	J	1
Chromium	7440-47-3	0.0360	0.0100	0.00355	mg/L	05.10.13 19:56		1
Iron	7439-89-6	0.0294	0.200	0.0188	mg/L	05.10.13 19:56	J	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.10.13 19:56	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913217

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.0294	0.0100	0.00500	mg/L	05.07.13 11:40		1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW84SA

Matrix: Water

Sample Depth:

Lab Sample Id: **462596-008**

Date Collected: 05.06.13 17.30

Date Received: 05.07.13 09.30

Analytical Method: **TPH By SW8015 Mod**

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913726

Date Prep: 05.14.13 14.00

Prep seq: 638088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.14.13 21:03	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.14.13 21:03	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.14.13 21:03	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.14.13 21:03	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	120	70 - 135	%		
o-Terphenyl	111	70 - 135	%		

Analytical Method: **BTEX by EPA 8021B**

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913511

Date Prep: 05.10.13 16.30

Prep seq: 637952

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.10.13 22:50	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.10.13 22:50	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.10.13 22:50	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.10.13 22:50	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.10.13 22:50	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.10.13 22:50	U	
Total BTEX		ND		0.000500	mg/L	05.10.13 22:50	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	111	80 - 120	%		
4-Bromofluorobenzene	112	80 - 120	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 637867-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: **637867-1-BLK**

Date Collected:

Date Received:

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913426

Date Prep: 05.10.13 11.00

Subcontractor: SUB: E871002

Prep seq: 637867

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.10.13 15:21	U	1
Chromium	7440-47-3	0.00518	0.0100	0.00355	mg/L	05.10.13 15:21	J	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.10.13 15:21	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.10.13 15:21	U	1

Sample Id: 637952-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: **637952-1-BLK**

Date Collected:

Date Received:

Analytical Method: **BTEX by EPA 8021B**

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913511

Date Prep: 05.10.13 16.30

Prep seq: 637952

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.10.13 20:23	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.10.13 20:23	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.10.13 20:23	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.10.13 20:23	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.10.13 20:23	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	116	80 - 120	%		
4-Bromofluorobenzene	106	80 - 120	%		

Sample Id: 637993-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: **637993-1-BLK**

Date Collected:

Date Received:

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913597

Date Prep: 05.09.13 00.32

Prep seq: 637993

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	0.707	1.00	0.0280	mg/L	05.09.13 00:32	J	1



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 638008-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638008-1-BLK

Date Collected:

Date Received:

Analytical Method: Dissolved Metals per ICP by SW846 6010B

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913745

Date Prep: 05.14.13 09.30

Subcontractor: SUB: E871002

Prep seq: 638008

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.14.13 15:11	U	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.14.13 15:11	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.14.13 15:11	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.14.13 15:11	U	1

Sample Id: 638024-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638024-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913641

Date Prep: 05.13.13 17.00

Prep seq: 638024

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.13.13 18:44	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.13.13 18:44	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.13.13 18:44	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.13.13 18:44	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.13.13 18:44	U	1

Surrogate

% Recovery

Limits

Units

Analysis Date

Flag

1,4-Difluorobenzene

85

80 - 120

%

4-Bromofluorobenzene

100

80 - 120

%



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 638088-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638088-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913726

Date Prep: 05.14.13 14.00

Prep seq: 638088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.14.13 17:02	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.14.13 17:02	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.14.13 17:02	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.14.13 17:02	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	127	70 - 135	%		
o-Terphenyl	114	70 - 135	%		

Sample Id: 638218-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638218-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913896

Date Prep: 05.15.13 15.00

Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 04:57	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 04:57	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 04:57	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 04:57	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	113	70 - 135	%		
o-Terphenyl	104	70 - 135	%		



Certificate of Analytical Results 462596



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 913217-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913217-1-BLK

Date Collected:

Date Received:

Analytical Method: Chromium, Hexavalent by SW 7196A

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913217

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.07.13 11:40	U	1

Sample Id: 913416-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913416-1-BLK

Date Collected:

Date Received:

Analytical Method: TDS by SM2540C

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913416

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	ND	5.00	5.00	mg/L	05.08.13 11:00	U	1

Sample Id: 913717-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913717-1-BLK

Date Collected:

Date Received:

Analytical Method: TDS by SM2540C

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913717

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	ND	5.00	5.00	mg/L	05.10.13 11:00	U	1

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462596,

Project ID: 073018

Lab Batch #: 913511

Sample: 637952-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/10/13 19:50

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0295	0.0300	98	80-120	
4-Bromofluorobenzene	0.0299	0.0300	100	80-120	

Lab Batch #: 913511

Sample: 637952-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/10/13 20:06

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0266	0.0300	89	80-120	

Lab Batch #: 913511

Sample: 637952-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/10/13 20:23

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0348	0.0300	116	80-120	
4-Bromofluorobenzene	0.0319	0.0300	106	80-120	

Lab Batch #: 913511

Sample: 462596-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/10/13 20:55

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0285	0.0300	95	80-120	

Lab Batch #: 913511

Sample: 462596-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/10/13 21:12

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0318	0.0300	106	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462596,

Project ID: 073018

Lab Batch #: 913641

Sample: 638024-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/13/13 18:11	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0308	0.0300	103	80-120
4-Bromofluorobenzene		0.0281	0.0300	94	80-120

Lab Batch #: 913641

Sample: 638024-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/13/13 18:28	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0302	0.0300	101	80-120
4-Bromofluorobenzene		0.0279	0.0300	93	80-120

Lab Batch #: 913641

Sample: 638024-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/13/13 18:44	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0255	0.0300	85	80-120
4-Bromofluorobenzene		0.0301	0.0300	100	80-120

Lab Batch #: 913641

Sample: 462809-002 S / MS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 12:14	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0336	0.0300	112	80-120
4-Bromofluorobenzene		0.0259	0.0300	86	80-120

Lab Batch #: 913641

Sample: 462809-002 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 12:30	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0312	0.0300	104	80-120
4-Bromofluorobenzene		0.0322	0.0300	107	80-120

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462596,

Project ID: 073018

Lab Batch #: 913726

Sample: 638088-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 16:01	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1-Chlorooctane		11.7	10.0	117	70-135
o-Terphenyl		4.40	5.00	88	70-135

Lab Batch #: 913726

Sample: 638088-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 16:32	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1-Chlorooctane		12.0	10.0	120	70-135
o-Terphenyl		4.52	5.00	90	70-135

Lab Batch #: 913726

Sample: 638088-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 17:02	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1-Chlorooctane		12.7	10.0	127	70-135
o-Terphenyl		5.70	5.00	114	70-135

Lab Batch #: 913726

Sample: 462596-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/15/13 04:15	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1-Chlorooctane		12.9	10.0	129	70-135
o-Terphenyl		5.11	5.00	102	70-135

Lab Batch #: 913896

Sample: 638218-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/16/13 04:26	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1-Chlorooctane		13.0	10.0	130	70-135
o-Terphenyl		5.51	5.00	110	70-135

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462596,

Project ID: 073018

Lab Batch #: 913896

Sample: 638218-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 04:57

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	11.3	10.0	113	70-135	
o-Terphenyl	5.20	5.00	104	70-135	

Lab Batch #: 913896

Sample: 462675-012 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 16:09

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	11.9	10.0	119	70-135	
o-Terphenyl	4.70	5.00	94	70-135	

Lab Batch #: 913896

Sample: 638218-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 17:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	12.4	10.0	124	70-135	
o-Terphenyl	4.53	5.00	91	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Project Name: North Eunice

Work Order #: 462596

Project ID:

073018

Lab Batch #: 913217

Sample: 913217-1-BKS

Matrix: Water

Date Analyzed: 05/07/2013

Date Prepared: 05/07/2013

Analyst: WRU

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Hexavalent Chromium	<0.00500	0.0250	0.0216	86	80-120	

Lab Batch #: 913416

Sample: 913416-1-BKS

Matrix: Water

Date Analyzed: 05/08/2013

Date Prepared: 05/08/2013

Analyst: AMB

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

TDS by SM2540C	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Total dissolved solids	<5.00	1000	1010	101	80-120	

Lab Batch #: 913717

Sample: 913717-1-BKS

Matrix: Water

Date Analyzed: 05/10/2013

Date Prepared: 05/10/2013

Analyst: AMB

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

TDS by SM2540C	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Total dissolved solids	<5.00	1000	975	98	80-120	

Blank Spike Recovery [D] = $100 \times [C] / [B]$

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: North Eunice

Work Order #: 462596

Analyst: DYV

Date Prepared: 05/10/2013

Project ID: 073018

Date Analyzed: 05/10/2013

Lab Batch ID: 913511

Sample: 637952-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000500	0.100	0.103	103	0.100	0.0984	98	5	70-125	25	
Toluene	<0.00100	0.100	0.108	108	0.100	0.0957	96	12	70-125	25	
Ethylbenzene	<0.000700	0.100	0.116	116	0.100	0.105	105	10	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.212	106	0.200	0.193	97	9	70-131	25	
o-Xylene	<0.000700	0.100	0.106	106	0.100	0.0971	97	9	71-133	25	

Analyst: DYV

Date Prepared: 05/13/2013

Date Analyzed: 05/13/2013

Lab Batch ID: 913641

Sample: 638024-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000500	0.100	0.102	102	0.100	0.108	108	6	70-125	25	
Toluene	<0.00100	0.100	0.109	109	0.100	0.112	112	3	70-125	25	
Ethylbenzene	<0.000700	0.100	0.115	115	0.100	0.114	114	1	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.211	106	0.200	0.218	109	3	70-131	25	
o-Xylene	<0.000700	0.100	0.103	103	0.100	0.110	110	7	71-133	25	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: North Eunice

Work Order #: 462596

Analyst: KUG

Date Prepared: 05/10/2013

Project ID: 073018

Date Analyzed: 05/10/2013

Lab Batch ID: 913426

Sample: 637867-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Arsenic	<0.00756	1.00	0.931	93	1.00	0.908	91	3	80-120	20	
Chromium	0.00518	1.00	0.943	94	1.00	0.923	92	2	80-120	20	
Iron	<0.0188	5.00	4.59	92	5.00	4.57	91	0	80-120	20	
Manganese	<0.00291	1.00	0.905	91	1.00	0.896	90	1	80-120	20	

Analyst: KUG

Date Prepared: 05/14/2013

Date Analyzed: 05/14/2013

Lab Batch ID: 913745

Sample: 638008-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Arsenic	<0.00756	1.00	1.01	101	1.00	1.02	102	1	80-120	20	
Chromium	<0.00355	1.00	1.03	103	1.00	1.03	103	0	80-120	20	
Iron	<0.0188	5.00	5.03	101	5.00	5.02	100	0	80-120	20	
Manganese	<0.00291	1.00	0.989	99	1.00	0.982	98	1	80-120	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: North Eunice

Work Order #: 462596

Analyst: AMB

Date Prepared: 05/09/2013

Project ID: 073018

Date Analyzed: 05/09/2013

Lab Batch ID: 913597

Sample: 637993-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	0.707	25.0	23.1	92	25.0	24.1	96	4	80-120	20	

Analyst: DYV

Date Prepared: 05/14/2013

Date Analyzed: 05/14/2013

Lab Batch ID: 913726

Sample: 638088-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	90.0	90	100	92.8	93	3	70-135	25	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	99.6	100	100	102	102	2	70-135	25	

Analyst: DYV

Date Prepared: 05/15/2013

Date Analyzed: 05/16/2013

Lab Batch ID: 913896

Sample: 638218-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	116	116	100	110	110	5	70-135	25	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	123	123	100	120	120	2	70-135	25	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: North Eunice

Work Order #: 462596

Lab Batch #: 913597

Date Analyzed: 05/09/2013

QC- Sample ID: 462596-001 S

Reporting Units: mg/L

Date Prepared: 05/09/2013

Batch #: 1

Project ID: 073018

Analyst: AMB

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	1370	1250	2740	110	80-120	

Lab Batch #: 913597

Date Analyzed: 05/09/2013

QC- Sample ID: 462629-001 S

Reporting Units: mg/L

Date Prepared: 05/09/2013

Batch #: 1

Analyst: AMB

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	1580	1250	2790	97	80-120	

Lab Batch #: 913726

Date Analyzed: 05/15/2013

QC- Sample ID: 462596-001 S

Reporting Units: mg/L

Date Prepared: 05/14/2013

Batch #: 1

Analyst: DYV

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
TPH by SW8015 Mod	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	92.6	93	70-135	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	102	102	70-135	

Lab Batch #: 913896

Date Analyzed: 05/16/2013

QC- Sample ID: 462675-012 S

Reporting Units: mg/L

Date Prepared: 05/15/2013

Batch #: 1

Analyst: DYV

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
TPH by SW8015 Mod	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	93.8	94	70-135	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	101	101	70-135	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$
 Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$
 All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS / MSD Recoveries



Project Name: North Eunice

Work Order # : 462596

Project ID: 073018

Lab Batch ID: 913511

QC- Sample ID: 462596-001 S

Batch #: 1 **Matrix:** Water

Date Analyzed: 05/10/2013

Date Prepared: 05/10/2013

Analyst: DYV

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000500	0.100	0.102	102	0.100	0.106	106	4	70-125	25	
Toluene	<0.00100	0.100	0.102	102	0.100	0.108	108	6	70-125	25	
Ethylbenzene	<0.000700	0.100	0.102	102	0.100	0.116	116	13	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.185	93	0.200	0.214	107	15	70-131	25	
o-Xylene	<0.000700	0.100	0.0940	94	0.100	0.106	106	12	71-133	25	

Lab Batch ID: 913641

QC- Sample ID: 462809-002 S

Batch #: 1 **Matrix:** Water

Date Analyzed: 05/14/2013

Date Prepared: 05/13/2013

Analyst: DYV

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000500	0.100	0.0917	92	0.100	0.107	107	15	70-125	25	
Toluene	<0.00100	0.100	0.0937	94	0.100	0.110	110	16	70-125	25	
Ethylbenzene	<0.000700	0.100	0.0986	99	0.100	0.117	117	17	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.182	91	0.200	0.220	110	19	70-131	25	
o-Xylene	<0.000700	0.100	0.0882	88	0.100	0.111	111	23	71-133	25	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: North Eunice

Work Order # : 462596

Project ID: 073018

Lab Batch ID: 913217

QC- Sample ID: 462596-004 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/07/2013

Date Prepared: 05/07/2013

Analyst: WRU

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Hexavalent Chromium	<0.00500	0.250	0.244	98	0.250	0.245	98	0	80-120	20	

Lab Batch ID: 913426

QC- Sample ID: 462746-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 05/10/2013

Date Prepared: 05/10/2013

Analyst: KUG

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Arsenic	<0.0378	5.00	4.73	95	5.00	4.64	93	2	75-125	20	
Chromium	0.0206	5.00	4.60	92	5.00	4.52	90	2	75-125	20	
Iron	0.642	25.0	22.4	87	25.0	22.2	86	1	75-125	20	
Manganese	1.83	5.00	6.16	87	5.00	6.08	85	1	75-125	20	

Lab Batch ID: 913745

QC- Sample ID: 462621-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 05/14/2013

Date Prepared: 05/14/2013

Analyst: KUG

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Arsenic	<0.0378	5.00	4.84	97	5.00	4.69	94	3	75-125	20	
Chromium	<0.0177	5.00	4.71	94	5.00	4.54	91	4	75-125	20	
Iron	2.98	25.0	25.9	92	25.0	25.5	90	2	75-125	20	
Manganese	2.61	5.00	6.95	87	5.00	7.02	88	1	75-125	20	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Project Name: North Eunice

Work Order #: 462596

Lab Batch #: 913217

Project ID: 073018

Date Analyzed: 05/07/2013 11:40

Date Prepared: 05/07/2013

Analyst: WRU

QC- Sample ID: 462596-004 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

Chromium, Hexavalent by SW 7196A	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Hexavalent Chromium	<0.00500	<0.00500	0	20	U

Lab Batch #: 913416

Date Analyzed: 05/08/2013 11:00

Date Prepared: 05/08/2013

Analyst: AMB

QC- Sample ID: 462493-001 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	1940	2020	4	30	

Lab Batch #: 913416

Date Analyzed: 05/08/2013 11:00

Date Prepared: 05/08/2013

Analyst: AMB

QC- Sample ID: 462627-002 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	3090	3260	5	30	

Lab Batch #: 913717

Date Analyzed: 05/10/2013 11:00

Date Prepared: 05/10/2013

Analyst: AMB

QC- Sample ID: 462596-006 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	2610	2710	4	30	

Spike Relative Difference $RPD = 200 * |(B-A)/(B+A)|$
 All Results are based on MDL and validated for QC purposes.
 BRL - Below Reporting Limit

Project Name: North Eunice

Work Order #: 462596

Lab Batch #: 913717

Project ID: 073018

Date Analyzed: 05/10/2013 11:00

Date Prepared: 05/10/2013

Analyst: AMB

QC- Sample ID: 462675-008 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	3230	3640	12	30	

Spike Relative Difference RPD $200 * |(B-A)/(B+A)|$
 All Results are based on MDL and validated for QC purposes.
 BRL - Below Reporting Limit

Company/City: CRD - Midland		Phone: (432) 686-0086								
Project Name/Location: Previously done at XENCO		Project ID: 673018								
Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other		Proj. Manager (PM): Mike Wisniewski								
E-mail Results to: ☒ PM and (432) 686-0186		Fax No:								
Invoice to: ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.		Bill to:								
Quote/Pricing: P.O. No: ☐ Call for P.O.		Reg Program: UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP								
QAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:		Special DLS (GW DW QAPP MDLs RLS See Lab PM Included Call PM)								
Sampler Name: Justin/1/1/1	Signature: [Signature]									
Sample ID	Sampling Date	Time	Depth ft' in" m	Matrix	Composite	Grab	# Containers	Container Size	Container Type	Preservatives
1 mw 825A	5-6-13	1345	10				8			
2 mw 835A		1215								
3 Tw 14		1515								
4 mw 755A		1715								
5 mw 775A		1815								
6 mw 855A		1910								
7 mw 855A		1605								
8 mw 845A		1730								
9										
10										
Relinquished by (Initials and Sign)		Date & Time		Relinquished to (Initials and Sign)		Date & Time		Total Containers per COC:		Cooler Temp: 15 °C
1) [Signature]		5-6-13 1845		2) [Signature]		5-6-13 18:50		64		
3) [Signature]		5-6-13 20:10		6) [Signature]		5-7-13 9:30				
Preservatives: Various (V), HCl pH<2 (H), H2SO4 pH<2 (S), HNO3 pH<2 (N), Asbc Acid&NaOH (A), ZnAc&NaOH (Z), (Cool, <4C) (C), None (NA), See Label (L), Other (O) Cont. Size: 4oz (4), 8oz (8), 32oz (32), 40ml VOA (40), 1L (1), 500ml (5), Tedlar Bag (B), Various (V), Other _____ Cont. Type: Glass Amb (A), Glass Clear (C), Plastic (P), Various (V) Matrix: Air (A), Product (P), Solid (S), Water (W), Liquid (L) Notice: Signature of this document and relinquishment of these samples constitutes a valid purchase order from client company to Xenco Laboratories and its affiliates, subcontractors and assigns under Xenco's standard terms and conditions of service unless previously negotiated under a fully executed client contract.										
VOA: Full-List BTEX-MTBE EtOH Oxyg VOHS VOAs VOA: PP TCL DW Appdx-1 Appdx-2 CALL Other: PAHs SIM 8310 8270 TX-1005 DRO GRO MA EPH MA VPH SVOCs: Full-List DW BN&AE TCLP PP Appdx-2 CALL OC Pesticides PCBs Herbicides OP Pesticides Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx2 SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs) EDB / DBCP Method 8021B BTEX Diss Metals Method 6010B AS, Cr, Fe, Mn TDS sm 2540C Chlorides E300 TPH GRO + DRO 8015 Modified Hex Chrom 7196A TATASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d Addn: PAH above mg/L W, mg/Kg S Highest Hit Hold Samples (Surcharges will apply and are pre-approved) Sample Clean-ups are pre-approved as needed Addn: Date Rcv. by: From:										
Remarks										



Prelogin/Nonconformance Report- Sample Log-In

Client: Conestoga Rovers & Associates

Date/ Time Received: 05/07/2013 09:30:00 AM

Work Order #: 462596

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	1.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	Yes

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:	PH Device/Lot#:
----------	-----------------

Checklist completed by:


Kelsey Brooks

Date: 05/07/2013

Checklist reviewed by:


Kelsey Brooks

Date: 05/07/2013

Analytical Report 462675

for

Conestoga Rovers & Associates

Project Manager: Mike Wisniowiecki

North Eunice

073018

21-MAY-13

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



21-MAY-13

Project Manager: **Mike Wisniowiecki**

Conestoga Rovers & Associates

2135 S Loop 250 W

Midland, TX 79703

Reference: XENCO Report No(s): **462675**

North Eunice

Project Address: New Mexico

Mike Wisniowiecki:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 462675. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 462675 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW76 SA 050713	W	05-07-13 10:10		462675-001
IW-11 050713	W	05-07-13 10:20		462675-002
IW-8 050713	W	05-07-13 13:40		462675-003
IW-10 050713	W	05-07-13 11:45		462675-004
IW-6 050713	W	05-07-13 15:30		462675-005
IW-7 050713	W	05-07-13 14:20		462675-006
IW-5 050713	W	05-07-13 16:20		462675-007
MW66 SA 050713	W	05-07-13 17:30		462675-008
MW86 SA 050713	W	05-07-13 11:40		462675-009
MW71 SA 050713	W	05-07-13 13:50		462675-010
DUP 1 050713	W	05-07-13 00:00		462675-011
MW65 SA 050713	W	05-07-13 15:45		462675-012
MW55 SA 050713	W	05-07-13 16:50		462675-013
MW74 SA 050713	W	05-07-13 18:05		462675-014
TRIP BLANK	W	05-07-13 00:00		462675-015

Client Name: Conestoga Rovers & Associates**Project Name: North Eunice**Project ID: 073018
Work Order Number(s): 462675Report Date: 21-MAY-13
Date Received: 05/07/2013

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:Batch: LBA-913697 Inorganic Anions by EPA 300/300.1
E300

Batch 913697, Chloride detected in the blank below the MQL but above the SQL; possible laboratory contamination.

Samples affected are: 462675-006, -008, -009, -011, -013, -014, -002, -005, -007, -012, -001, -003, -010, -004.

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW76 SA 050713 Matrix: Water Sample Depth:
Lab Sample Id: 462675-001 Date Collected: 05.07.13 10.10 Date Received: 05.07.13 18.58

Analytical Method: **Inorganic Anions by EPA 300/300.1** % Moist: Prep Method: E300P
 Analyst: AMB Date Prep: 05.13.13 17.20 Tech: AMB
 Seq Number: 913697 Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	394	20.0	0.560	mg/L	05.13.13 17:20		20

Analytical Method: **TDS by SM2540C** % Moist: Prep Method:
 Analyst: AMB Date Prep: Tech: AMB
 Seq Number: 913717 Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1930	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B** % Moist: Prep Method: 3010A
 Analyst: KUG Date Prep: 05.14.13 10.00 Tech: KUG
 Seq Number: 913764 Prep seq: 638009
 Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.00936	0.0200	0.00756	mg/L	05.14.13 17:43	J	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.14.13 17:43	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.14.13 17:43	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.14.13 17:43	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A** % Moist: Prep Method:
 Analyst: WRU Date Prep: Tech: WRU
 Seq Number: 913902 Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW76 SA 050713	Matrix: Water	Sample Depth:
Lab Sample Id: 462675-001	Date Collected: 05.07.13 10.10	Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod	% Moist:	Prep Method: 1005
Analyst: DYV	Date Prep: 05.14.13 14.00	Tech: DYV
Seq Number: 913726	Prep seq: 638088	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.14.13 21:34	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.14.13 21:34	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.14.13 21:34	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.14.13 21:34	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	121	70 - 135	%		
o-Terphenyl	110	70 - 135	%		

Analytical Method: BTEX by EPA 8021B	% Moist:	Prep Method: 5030B
Analyst: DYV	Date Prep: 05.13.13 17.00	Tech: DYV
Seq Number: 913641	Prep seq: 638024	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 11:09	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 11:09	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 11:09	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 11:09	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 11:09	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 11:09	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 11:09	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	101	80 - 120	%		
4-Bromofluorobenzene	105	80 - 120	%		



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW-11 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-002

Date Collected: 05.07.13 10.20

Date Received: 05.07.13 18.58

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.13.13 18.03

Tech: AMB

Seq Number: 913697

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1000	20.0	0.560	mg/L	05.13.13 18:03		20

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913717

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3390	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.14.13 10.00

Tech: KUG

Seq Number: 913764

Prep seq: 638009

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0457	0.0200	0.00756	mg/L	05.14.13 18:06		1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.14.13 18:06	U	1
Iron	7439-89-6	0.765	0.200	0.0188	mg/L	05.14.13 18:06		1
Manganese	7439-96-5	0.990	0.0200	0.00291	mg/L	05.14.13 18:06		1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913902

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW-11 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-002

Date Collected: 05.07.13 10.20

Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.14.13 14.00

Tech: DYV

Seq Number: 913726

Prep seq: 638088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.14.13 22:03	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.14.13 22:03	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.14.13 22:03	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.14.13 22:03	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	127	70 - 135	%		
o-Terphenyl	115	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.13.13 17.00

Tech: DYV

Seq Number: 913641

Prep seq: 638024

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 11:25	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 11:25	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 11:25	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 11:25	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 11:25	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 11:25	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 11:25	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	100	80 - 120	%		
4-Bromofluorobenzene	87	80 - 120	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW-8 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-003

Date Collected: 05.07.13 13.40

Date Received: 05.07.13 18.58

Analytical Method: **Inorganic Anions by EPA 300/300.1**

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.13.13 18.25

Tech: AMB

Seq Number: 913697

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	529	20.0	0.560	mg/L	05.13.13 18:25		20

Analytical Method: **TDS by SM2540C**

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913717

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2340	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.14.13 10.00

Tech: KUG

Seq Number: 913764

Prep seq: 638009

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0192	0.0200	0.00756	mg/L	05.14.13 18:12	J	1
Chromium	7440-47-3	0.00472	0.0100	0.00355	mg/L	05.14.13 18:12	J	1
Iron	7439-89-6	0.679	0.200	0.0188	mg/L	05.14.13 18:12		1
Manganese	7439-96-5	2.60	0.0200	0.00291	mg/L	05.14.13 18:12		1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913902

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW-8 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-003

Date Collected: 05.07.13 13.40

Date Received: 05.07.13 18.58

Analytical Method: **TPH By SW8015 Mod**

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.15.13 15.00

Tech: DYV

Seq Number: 913896

Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 07:33	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 07:33	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 07:33	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 07:33	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	101	70 - 135	%		
o-Terphenyl	90	70 - 135	%		

Analytical Method: **BTEX by EPA 8021B**

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.13.13 17.00

Tech: DYV

Seq Number: 913641

Prep seq: 638024

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 11:42	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 11:42	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 11:42	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 11:42	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 11:42	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 11:42	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 11:42	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	98	80 - 120	%		
4-Bromofluorobenzene	84	80 - 120	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW-10 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-004

Date Collected: 05.07.13 11.45

Date Received: 05.07.13 18.58

Analytical Method: **Inorganic Anions by EPA 300/300.1**

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.13.13 18.47

Tech: AMB

Seq Number: 913697

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1040	20.0	0.560	mg/L	05.13.13 18:47		20

Analytical Method: **TDS by SM2540C**

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913717

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3350	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.14.13 10.00

Tech: KUG

Seq Number: 913764

Prep seq: 638009

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.14.13 18:30	U	1
Chromium	7440-47-3	0.00403	0.0100	0.00355	mg/L	05.14.13 18:30	J	1
Iron	7439-89-6	0.0813	0.200	0.0188	mg/L	05.14.13 18:30	J	1
Manganese	7439-96-5	9.17	0.0200	0.00291	mg/L	05.14.13 18:30		1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913902

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW-10 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-004

Date Collected: 05.07.13 11.45

Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.14.13 14.00

Tech: DYV

Seq Number: 913726

Prep seq: 638088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.14.13 23:36	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.14.13 23:36	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.14.13 23:36	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.14.13 23:36	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	130	70 - 135	%		
o-Terphenyl	120	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.14.13 13.00

Tech: DYV

Seq Number: 913710

Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.15.13 10:28	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.15.13 10:28	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.15.13 10:28	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.15.13 10:28	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.15.13 10:28	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.15.13 10:28	U	
Total BTEX		ND		0.000500	mg/L	05.15.13 10:28	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	94	80 - 120	%		
4-Bromofluorobenzene	120	80 - 120	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW-6 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-005

Date Collected: 05.07.13 15.30

Date Received: 05.07.13 18.58

Analytical Method: **Inorganic Anions by EPA 300/300.1**

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.13.13 19.08

Tech: AMB

Seq Number: 913697

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	798	20.0	0.560	mg/L	05.13.13 19:08		20

Analytical Method: **TDS by SM2540C**

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913717

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2920	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.14.13 10.00

Tech: KUG

Seq Number: 913764

Prep seq: 638009

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.14.13 18:36	U	1
Chromium	7440-47-3	0.00531	0.0100	0.00355	mg/L	05.14.13 18:36	J	1
Iron	7439-89-6	0.513	0.200	0.0188	mg/L	05.14.13 18:36		1
Manganese	7439-96-5	1.32	0.0200	0.00291	mg/L	05.14.13 18:36		1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913902

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW-6 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-005

Date Collected: 05.07.13 15.30

Date Received: 05.07.13 18.58

Analytical Method: **TPH By SW8015 Mod**

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.14.13 14.00

Tech: DYV

Seq Number: 913726

Prep seq: 638088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	1.28	1.50	0.988	mg/L	05.15.13 00:06	J	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.15.13 00:06	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.15.13 00:06	U	1
Total TPH	PHC635	1.28		0.988	mg/L	05.15.13 00:06	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	129	70 - 135	%		
o-Terphenyl	128	70 - 135	%		

Analytical Method: **BTEX by EPA 8021B**

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.14.13 13.00

Tech: DYV

Seq Number: 913710

Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 19:06	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 19:06	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 19:06	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 19:06	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 19:06	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 19:06	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 19:06	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	97	80 - 120	%		
4-Bromofluorobenzene	110	80 - 120	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW-7 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-006

Date Collected: 05.07.13 14.20

Date Received: 05.07.13 18.58

Analytical Method: **Inorganic Anions by EPA 300/300.1**

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.13.13 19.30

Tech: AMB

Seq Number: 913697

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	861	20.0	0.560	mg/L	05.13.13 19:30		20

Analytical Method: **TDS by SM2540C**

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913717

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	4050	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.14.13 10.00

Tech: KUG

Seq Number: 913764

Prep seq: 638009

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.107	0.100	0.0378	mg/L	05.14.13 18:42		5
Chromium	7440-47-3	0.0444	0.0500	0.0177	mg/L	05.14.13 18:42	J	5
Iron	7439-89-6	10.2	1.00	0.0939	mg/L	05.14.13 18:42		5
Manganese	7439-96-5	3.98	0.100	0.0145	mg/L	05.14.13 18:42		5

Analytical Method: **Chromium, Hexavalent by SW 7196A**

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913902

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW-7 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-006

Date Collected: 05.07.13 14.20

Date Received: 05.07.13 18.58

Analytical Method: **TPH By SW8015 Mod**

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.14.13 14.00

Tech: DYV

Seq Number: 913726

Prep seq: 638088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	1.50	1.50	0.988	mg/L	05.15.13 00:36	J	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.15.13 00:36	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.15.13 00:36	U	1
Total TPH	PHC635	1.50		0.988	mg/L	05.15.13 00:36	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	125	70 - 135	%		
o-Terphenyl	122	70 - 135	%		

Analytical Method: **BTEX by EPA 8021B**

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.14.13 13.00

Tech: DYV

Seq Number: 913710

Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 19:39	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 19:39	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 19:39	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 19:39	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 19:39	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 19:39	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 19:39	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	88	80 - 120	%		
4-Bromofluorobenzene	90	80 - 120	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW-5 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-007

Date Collected: 05.07.13 16.20

Date Received: 05.07.13 18.58

Analytical Method: **Inorganic Anions by EPA 300/300.1**

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.13.13 20.35

Tech: AMB

Seq Number: 913697

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	860	20.0	0.560	mg/L	05.13.13 20:35		20

Analytical Method: **TDS by SM2540C**

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913717

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2990	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.14.13 10.00

Tech: KUG

Seq Number: 913764

Prep seq: 638009

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0165	0.0200	0.00756	mg/L	05.14.13 18:47	J	1
Chromium	7440-47-3	0.0129	0.0100	0.00355	mg/L	05.14.13 18:47		1
Iron	7439-89-6	1.61	0.200	0.0188	mg/L	05.14.13 18:47		1
Manganese	7439-96-5	1.07	0.0200	0.00291	mg/L	05.14.13 18:47		1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913902

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW-5 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-007

Date Collected: 05.07.13 16.20

Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.15.13 15.00

Tech: DYV

Seq Number: 913896

Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 17:53	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 17:53	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 17:53	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 17:53	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	116	70 - 135	%		
o-Terphenyl	105	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.14.13 13.00

Tech: DYV

Seq Number: 913710

Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 19:22	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 19:22	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 19:22	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 19:22	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 19:22	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 19:22	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 19:22	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	119	80 - 120	%		
4-Bromofluorobenzene	115	80 - 120	%		



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW66 SA 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-008

Date Collected: 05.07.13 17.30

Date Received: 05.07.13 18.58

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.13.13 20.57

Tech: AMB

Seq Number: 913697

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1300	20.0	0.560	mg/L	05.13.13 20:57		20

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913717

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3230	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.14.13 10.00

Tech: KUG

Seq Number: 913764

Prep seq: 638009

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.00811	0.0200	0.00756	mg/L	05.14.13 18:53	J	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.14.13 18:53	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.14.13 18:53	U	1
Manganese	7439-96-5	1.19	0.0200	0.00291	mg/L	05.14.13 18:53		1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913902

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW66 SA 050713	Matrix: Water	Sample Depth:
Lab Sample Id: 462675-008	Date Collected: 05.07.13 17.30	Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod	% Moist:	Prep Method: 1005
Analyst: DYV	Date Prep: 05.14.13 14.00	Tech: DYV
Seq Number: 913726	Prep seq: 638088	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.15.13 01:39	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.15.13 01:39	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.15.13 01:39	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.15.13 01:39	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	122	70 - 135	%		
o-Terphenyl	111	70 - 135	%		

Analytical Method: BTEX by EPA 8021B	% Moist:	Prep Method: 5030B
Analyst: DYV	Date Prep: 05.14.13 13.00	Tech: DYV
Seq Number: 913710	Prep seq: 638075	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 18:17	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 18:17	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 18:17	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 18:17	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 18:17	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 18:17	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 18:17	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	84	80 - 120	%		
4-Bromofluorobenzene	87	80 - 120	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW86 SA 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-009

Date Collected: 05.07.13 11.40

Date Received: 05.07.13 18.58

Analytical Method: **Inorganic Anions by EPA 300/300.1**

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.13.13 21.18

Tech: AMB

Seq Number: 913697

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	851	20.0	0.560	mg/L	05.13.13 21:18		20

Analytical Method: **TDS by SM2540C**

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913717

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1970	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.14.13 10.00

Tech: KUG

Seq Number: 913764

Prep seq: 638009

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.00795	0.0200	0.00756	mg/L	05.14.13 18:59	J	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.14.13 18:59	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.14.13 18:59	U	1
Manganese	7439-96-5	0.00506	0.0200	0.00291	mg/L	05.14.13 18:59	J	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913902

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW86 SA 050713 Matrix: Water Sample Depth:
Lab Sample Id: 462675-009 Date Collected: 05.07.13 11.40 Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod % Moist: Prep Method: 1005
Analyst: DYV Date Prep: 05.14.13 14.00 Tech: DYV
Seq Number: 913726 Prep seq: 638088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.15.13 02:10	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.15.13 02:10	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.15.13 02:10	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.15.13 02:10	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	125	70 - 135	%		
o-Terphenyl	114	70 - 135	%		

Analytical Method: BTEX by EPA 8021B % Moist: Prep Method: 5030B
Analyst: DYV Date Prep: 05.14.13 13.00 Tech: DYV
Seq Number: 913710 Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 18:33	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 18:33	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 18:33	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 18:33	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 18:33	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 18:33	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 18:33	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	96	80 - 120	%		
4-Bromofluorobenzene	109	80 - 120	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW71 SA 050713 Matrix: Water Sample Depth:
Lab Sample Id: 462675-010 Date Collected: 05.07.13 13.50 Date Received: 05.07.13 18.58

Analytical Method: **Inorganic Anions by EPA 300/300.1** % Moist: Prep Method: E300P
 Analyst: AMB Date Prep: 05.13.13 21.40 Tech: AMB
 Seq Number: 913697 Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	119	5.00	0.140	mg/L	05.13.13 21:40		5

Analytical Method: **TDS by SM2540C** % Moist: Prep Method:
 Analyst: AMB Date Prep: Tech: AMB
 Seq Number: 913717 Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	718	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B** % Moist: Prep Method: 3010A
 Analyst: KUG Date Prep: 05.14.13 10.00 Tech: KUG
 Seq Number: 913764 Prep seq: 638009
 Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0194	0.0200	0.00756	mg/L	05.14.13 19:05	J	1
Chromium	7440-47-3	0.00425	0.0100	0.00355	mg/L	05.14.13 19:05	J	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.14.13 19:05	U	1
Manganese	7439-96-5	0.203	0.0200	0.00291	mg/L	05.14.13 19:05		1

Analytical Method: **Chromium, Hexavalent by SW 7196A** % Moist: Prep Method:
 Analyst: WRU Date Prep: Tech: WRU
 Seq Number: 913902 Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW71 SA 050713	Matrix: Water	Sample Depth:
Lab Sample Id: 462675-010	Date Collected: 05.07.13 13.50	Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod	% Moist:	Prep Method: 1005
Analyst: DYV	Date Prep: 05.14.13 14.00	Tech: DYV
Seq Number: 913726	Prep seq: 638088	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.15.13 02:41	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.15.13 02:41	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.15.13 02:41	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.15.13 02:41	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	123	70 - 135	%		
o-Terphenyl	112	70 - 135	%		

Analytical Method: BTEX by EPA 8021B	% Moist:	Prep Method: 5030B
Analyst: DYV	Date Prep: 05.14.13 13.00	Tech: DYV
Seq Number: 913710	Prep seq: 638075	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 16:53	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 16:53	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 16:53	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 16:53	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 16:53	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 16:53	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 16:53	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	113	80 - 120	%		
4-Bromofluorobenzene	97	80 - 120	%		



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: DUP 1 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-011

Date Collected: 05.07.13 00.00

Date Received: 05.07.13 18.58

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.13.13 22.02

Tech: AMB

Seq Number: 913697

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1290	20.0	0.560	mg/L	05.13.13 22:02		20

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913717

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3470	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.14.13 10.00

Tech: KUG

Seq Number: 913764

Prep seq: 638009

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.00808	0.0200	0.00756	mg/L	05.14.13 19:11	J	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.14.13 19:11	U	1
Iron	7439-89-6	0.0276	0.200	0.0188	mg/L	05.14.13 19:11	J	1
Manganese	7439-96-5	1.09	0.0200	0.00291	mg/L	05.14.13 19:11		1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913917

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: DUP 1 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-011

Date Collected: 05.07.13 00.00

Date Received: 05.07.13 18.58

Analytical Method: **TPH By SW8015 Mod**

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.14.13 14.00

Tech: DYV

Seq Number: 913726

Prep seq: 638088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.15.13 03:12	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.15.13 03:12	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.15.13 03:12	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.15.13 03:12	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	124	70 - 135	%		
o-Terphenyl	112	70 - 135	%		

Analytical Method: **BTEX by EPA 8021B**

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.14.13 13.00

Tech: DYV

Seq Number: 913710

Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 17:09	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 17:09	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 17:09	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 17:09	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 17:09	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 17:09	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 17:09	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	88	80 - 120	%		
4-Bromofluorobenzene	94	80 - 120	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW65 SA 050713 Matrix: Water Sample Depth:
Lab Sample Id: 462675-012 Date Collected: 05.07.13 15.45 Date Received: 05.07.13 18.58

Analytical Method: **Inorganic Anions by EPA 300/300.1** % Moist: Prep Method: E300P
 Analyst: AMB Date Prep: 05.13.13 22.45 Tech: AMB
 Seq Number: 913697 Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1020	20.0	0.560	mg/L	05.13.13 22:45		20

Analytical Method: **TDS by SM2540C** % Moist: Prep Method:
 Analyst: AMB Date Prep: Tech: AMB
 Seq Number: 913717 Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2750	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B** % Moist: Prep Method: 3010A
 Analyst: KUG Date Prep: 05.14.13 10.00 Tech: KUG
 Seq Number: 913764 Prep seq: 638009
 Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0105	0.0200	0.00756	mg/L	05.14.13 19:17	J	1
Chromium	7440-47-3	0.314	0.0100	0.00355	mg/L	05.14.13 19:17		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.14.13 19:17	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.14.13 19:17	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A** % Moist: Prep Method:
 Analyst: AMB Date Prep: Tech: AMB
 Seq Number: 913917 Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.317	0.0100	0.00500	mg/L	05.08.13 09:45		1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW65 SA 050713	Matrix: Water	Sample Depth:
Lab Sample Id: 462675-012	Date Collected: 05.07.13 15.45	Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod	% Moist:	Prep Method: 1005
Analyst: DYV	Date Prep: 05.15.13 15.00	Tech: DYV
Seq Number: 913896	Prep seq: 638218	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 08:35	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 08:35	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 08:35	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 08:35	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	99	70 - 135	%		
o-Terphenyl	88	70 - 135	%		

Analytical Method: BTEX by EPA 8021B	% Moist:	Prep Method: 5030B
Analyst: DYV	Date Prep: 05.14.13 13.00	Tech: DYV
Seq Number: 913710	Prep seq: 638075	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 17:44	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 17:44	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 17:44	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 17:44	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 17:44	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 17:44	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 17:44	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	102	80 - 120	%		
4-Bromofluorobenzene	101	80 - 120	%		



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW55 SA 050713 Matrix: Water Sample Depth:
Lab Sample Id: 462675-013 Date Collected: 05.07.13 16.50 Date Received: 05.07.13 18.58

Analytical Method: Inorganic Anions by EPA 300/300.1 % Moist: Prep Method: E300P
Analyst: AMB Date Prep: 05.13.13 23.07 Tech: AMB
Seq Number: 913697 Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	595	20.0	0.560	mg/L	05.13.13 23:07		20

Analytical Method: TDS by SM2540C % Moist: Prep Method:
Analyst: AMB Date Prep: Tech: AMB
Seq Number: 913720 Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2100	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B % Moist: Prep Method: 3010A
Analyst: KUG Date Prep: 05.14.13 10.00 Tech: KUG
Seq Number: 913764 Prep seq: 638009
Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.14.13 19:23	U	1
Chromium	7440-47-3	0.235	0.0100	0.00355	mg/L	05.14.13 19:23		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.14.13 19:23	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.14.13 19:23	U	1

Analytical Method: Chromium, Hexavalent by SW 7196A % Moist: Prep Method:
Analyst: AMB Date Prep: Tech: AMB
Seq Number: 913917 Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.176	0.0100	0.00500	mg/L	05.08.13 09:45		1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW55 SA 050713 Matrix: Water Sample Depth:
Lab Sample Id: 462675-013 Date Collected: 05.07.13 16.50 Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod % Moist: Prep Method: 1005
Analyst: DYV Date Prep: 05.15.13 15.00 Tech: DYV
Seq Number: 913896 Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 09:06	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 09:06	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 09:06	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 09:06	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	103	70 - 135	%		
o-Terphenyl	94	70 - 135	%		

Analytical Method: BTEX by EPA 8021B % Moist: Prep Method: 5030B
Analyst: DYV Date Prep: 05.14.13 13.00 Tech: DYV
Seq Number: 913710 Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 16:03	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 16:03	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 16:03	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 16:03	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 16:03	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 16:03	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 16:03	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	82	80 - 120	%		
4-Bromofluorobenzene	107	80 - 120	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW74 SA 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-014

Date Collected: 05.07.13 18.05

Date Received: 05.07.13 18.58

Analytical Method: **Inorganic Anions by EPA 300/300.1**

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.13.13 23.29

Tech: AMB

Seq Number: 913697

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	542	20.0	0.560	mg/L	05.13.13 23:29		20

Analytical Method: **TDS by SM2540C**

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913720

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2100	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.14.13 10.00

Tech: KUG

Seq Number: 913764

Prep seq: 638009

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0116	0.0200	0.00756	mg/L	05.14.13 19:29	J	1
Chromium	7440-47-3	0.0149	0.0100	0.00355	mg/L	05.14.13 19:29		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.14.13 19:29	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.14.13 19:29	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913917

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.00610	0.0100	0.00500	mg/L	05.08.13 09:45	J	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW74 SA 050713	Matrix: Water	Sample Depth:
Lab Sample Id: 462675-014	Date Collected: 05.07.13 18.05	Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod	% Moist:	Prep Method: 1005
Analyst: DYV	Date Prep: 05.15.13 15.00	Tech: DYV
Seq Number: 913896	Prep seq: 638218	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 09:37	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 09:37	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 09:37	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 09:37	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	112	70 - 135	%		
o-Terphenyl	104	70 - 135	%		

Analytical Method: BTEX by EPA 8021B	% Moist:	Prep Method: 5030B
Analyst: DYV	Date Prep: 05.14.13 13.00	Tech: DYV
Seq Number: 913710	Prep seq: 638075	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 16:20	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 16:20	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 16:20	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 16:20	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 16:20	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 16:20	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 16:20	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	102	80 - 120	%		
4-Bromofluorobenzene	108	80 - 120	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: TRIP BLANK Matrix: Water Sample Depth:
Lab Sample Id: 462675-015 Date Collected: 05.07.13 00.00 Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod % Moist: Prep Method: 1005
Analyst: DYV Date Prep: 05.15.13 15.00 Tech: DYV
Seq Number: 913896 Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 10:08	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 10:08	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 10:08	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 10:08	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	108	70 - 135	%		
o-Terphenyl	97	70 - 135	%		

Analytical Method: BTEX by EPA 8021B % Moist: Prep Method: 5030B
Analyst: DYV Date Prep: 05.14.13 13.00 Tech: DYV
Seq Number: 913710 Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 16:36	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 16:36	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 16:36	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 16:36	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 16:36	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 16:36	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 16:36	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	85	80 - 120	%		
4-Bromofluorobenzene	103	80 - 120	%		



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 638009-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638009-1-BLK

Date Collected:

Date Received:

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.14.13 10.00

Tech: KUG

Seq Number: 913764

Prep seq: 638009

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.14.13 17:26	U	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.14.13 17:26	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.14.13 17:26	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.14.13 17:26	U	1

Sample Id: 638024-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638024-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.13.13 17.00

Tech: DYV

Seq Number: 913641

Prep seq: 638024

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.13.13 18:44	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.13.13 18:44	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.13.13 18:44	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.13.13 18:44	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.13.13 18:44	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	85	80 - 120	%		
4-Bromofluorobenzene	100	80 - 120	%		

Sample Id: 638065-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638065-1-BLK

Date Collected:

Date Received:

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.13.13 16.15

Tech: AMB

Seq Number: 913697

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	0.548	1.00	0.0280	mg/L	05.13.13 16:15	J	1



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 638075-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638075-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.14.13 13.00

Tech: DYV

Seq Number: 913710

Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 14:42	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 14:42	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 14:42	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 14:42	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 14:42	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	81	80 - 120	%		
4-Bromofluorobenzene	94	80 - 120	%		

Sample Id: 638088-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638088-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.14.13 14.00

Tech: DYV

Seq Number: 913726

Prep seq: 638088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.14.13 17:02	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.14.13 17:02	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.14.13 17:02	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.14.13 17:02	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	127	70 - 135	%		
o-Terphenyl	114	70 - 135	%		



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 638218-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638218-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.15.13 15.00

Tech: DYV

Seq Number: 913896

Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 04:57	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 04:57	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 04:57	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 04:57	U	

Surrogate

% Recovery

Limits

Units

Analysis Date

Flag

1-Chlorooctane

113

70 - 135

%

o-Terphenyl

104

70 - 135

%

Sample Id: 913717-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913717-1-BLK

Date Collected:

Date Received:

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913717

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	ND	5.00	5.00	mg/L	05.10.13 11:00	U	1

Sample Id: 913720-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913720-1-BLK

Date Collected:

Date Received:

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913720

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	ND	5.00	5.00	mg/L	05.14.13 12:00	U	1



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 913902-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913902-1-BLK

Date Collected:

Date Received:

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913902

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1

Sample Id: 913917-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913917-1-BLK

Date Collected:

Date Received:

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913917

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462675,

Project ID: 073018

Lab Batch #: 913641

Sample: 638024-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/13/13 18:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0308	0.0300	103	80-120	
4-Bromofluorobenzene	0.0281	0.0300	94	80-120	

Lab Batch #: 913641

Sample: 638024-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/13/13 18:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene	0.0279	0.0300	93	80-120	

Lab Batch #: 913641

Sample: 638024-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/13/13 18:44

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0255	0.0300	85	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 913641

Sample: 462809-002 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/14/13 12:14

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0336	0.0300	112	80-120	
4-Bromofluorobenzene	0.0259	0.0300	86	80-120	

Lab Batch #: 913641

Sample: 462809-002 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/14/13 12:30

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	80-120	
4-Bromofluorobenzene	0.0322	0.0300	107	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462675,

Project ID: 073018

Lab Batch #: 913710

Sample: 638075-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 05/14/13 14:09		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0291	0.0300	97	80-120
4-Bromofluorobenzene		0.0255	0.0300	85	80-120

Lab Batch #: 913710

Sample: 638075-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 05/14/13 14:26		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0264	0.0300	88	80-120
4-Bromofluorobenzene		0.0284	0.0300	95	80-120

Lab Batch #: 913710

Sample: 638075-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 05/14/13 14:42		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0242	0.0300	81	80-120
4-Bromofluorobenzene		0.0283	0.0300	94	80-120

Lab Batch #: 913710

Sample: 462771-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 05/14/13 20:11		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0290	0.0300	97	80-120
4-Bromofluorobenzene		0.0290	0.0300	97	80-120

Lab Batch #: 913710

Sample: 462771-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 05/15/13 10:45		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0275	0.0300	92	80-120
4-Bromofluorobenzene		0.0283	0.0300	94	80-120

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462675,

Project ID: 073018

Lab Batch #: 913726

Sample: 638088-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 16:01	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1-Chlorooctane		11.7	10.0	117	70-135
o-Terphenyl		4.40	5.00	88	70-135

Lab Batch #: 913726

Sample: 638088-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 16:32	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1-Chlorooctane		12.0	10.0	120	70-135
o-Terphenyl		4.52	5.00	90	70-135

Lab Batch #: 913726

Sample: 638088-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 17:02	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1-Chlorooctane		12.7	10.0	127	70-135
o-Terphenyl		5.70	5.00	114	70-135

Lab Batch #: 913726

Sample: 462596-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/15/13 04:15	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1-Chlorooctane		12.9	10.0	129	70-135
o-Terphenyl		5.11	5.00	102	70-135

Lab Batch #: 913896

Sample: 638218-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/16/13 04:26	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1-Chlorooctane		13.0	10.0	130	70-135
o-Terphenyl		5.51	5.00	110	70-135

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462675,

Project ID: 073018

Lab Batch #: 913896

Sample: 638218-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 04:57

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	11.3	10.0	113	70-135	
o-Terphenyl	5.20	5.00	104	70-135	

Lab Batch #: 913896

Sample: 462675-012 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 16:09

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	11.9	10.0	119	70-135	
o-Terphenyl	4.70	5.00	94	70-135	

Lab Batch #: 913896

Sample: 638218-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 17:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	12.4	10.0	124	70-135	
o-Terphenyl	4.53	5.00	91	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Project Name: North Eunice

Work Order #: 462675

Project ID:

073018

Lab Batch #: 913902

Sample: 913902-1-BKS

Matrix: Water

Date Analyzed: 05/08/2013

Date Prepared: 05/08/2013

Analyst: WRU

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Hexavalent Chromium	<0.00500	0.0250	0.0223	89	80-120	

Lab Batch #: 913917

Sample: 913917-1-BKS

Matrix: Water

Date Analyzed: 05/08/2013

Date Prepared: 05/08/2013

Analyst: AMB

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Hexavalent Chromium	<0.00500	0.0250	0.0202	81	80-120	

Lab Batch #: 913764

Sample: 638009-1-BKS

Matrix: Water

Date Analyzed: 05/14/2013

Date Prepared: 05/14/2013

Analyst: KUG

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Arsenic	<0.00756	1.00	1.04	104	80-120	
Chromium	<0.00355	1.00	1.02	102	80-120	
Iron	<0.0188	5.00	4.84	97	80-120	
Manganese	<0.00291	1.00	0.981	98	80-120	

Lab Batch #: 913717

Sample: 913717-1-BKS

Matrix: Water

Date Analyzed: 05/10/2013

Date Prepared: 05/10/2013

Analyst: AMB

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

TDS by SM2540C	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Total dissolved solids	<5.00	1000	975	98	80-120	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: North Eunice

Work Order #: 462675

Project ID:

073018

Lab Batch #: 913720

Sample: 913720-1-BKS

Matrix: Water

Date Analyzed: 05/14/2013

Date Prepared: 05/14/2013

Analyst: AMB

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

TDS by SM2540C	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Total dissolved solids	<5.00	1000	1010	101	80-120	

Blank Spike Recovery [D] = $100 \times [C] / [B]$

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: North Eunice

Work Order #: 462675

Analyst: DYV

Date Prepared: 05/13/2013

Project ID: 073018

Date Analyzed: 05/13/2013

Lab Batch ID: 913641

Sample: 638024-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000500	0.100	0.102	102	0.100	0.108	108	6	70-125	25	
Toluene	<0.00100	0.100	0.109	109	0.100	0.112	112	3	70-125	25	
Ethylbenzene	<0.000700	0.100	0.115	115	0.100	0.114	114	1	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.211	106	0.200	0.218	109	3	70-131	25	
o-Xylene	<0.000700	0.100	0.103	103	0.100	0.110	110	7	71-133	25	

Analyst: DYV

Date Prepared: 05/14/2013

Date Analyzed: 05/14/2013

Lab Batch ID: 913710

Sample: 638075-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000500	0.100	0.106	106	0.100	0.109	109	3	70-125	25	
Toluene	<0.00100	0.100	0.103	103	0.100	0.116	116	12	70-125	25	
Ethylbenzene	<0.000700	0.100	0.111	111	0.100	0.115	115	4	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.207	104	0.200	0.229	115	10	70-131	25	
o-Xylene	<0.000700	0.100	0.102	102	0.100	0.115	115	12	71-133	25	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: North Eunice

Work Order #: 462675

Analyst: AMB

Date Prepared: 05/13/2013

Project ID: 073018

Date Analyzed: 05/13/2013

Lab Batch ID: 913697

Sample: 638065-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	0.548	25.0	26.0	104	25.0	25.9	104	0	80-120	20	

Analyst: DYV

Date Prepared: 05/14/2013

Date Analyzed: 05/14/2013

Lab Batch ID: 913726

Sample: 638088-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	90.0	90	100	92.8	93	3	70-135	25	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	99.6	100	100	102	102	2	70-135	25	

Analyst: DYV

Date Prepared: 05/15/2013

Date Analyzed: 05/16/2013

Lab Batch ID: 913896

Sample: 638218-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	116	116	100	110	110	5	70-135	25	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	123	123	100	120	120	2	70-135	25	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: North Eunice

Work Order #: 462675

Lab Batch #: 913697

Date Analyzed: 05/13/2013

Date Prepared: 05/13/2013

Project ID: 073018

Analyst: AMB

QC- Sample ID: 462675-001 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	394	500	959	113	80-120	

Lab Batch #: 913697

Date Analyzed: 05/13/2013

Date Prepared: 05/13/2013

Analyst: AMB

QC- Sample ID: 462675-011 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	1290	500	1800	102	80-120	

Lab Batch #: 913726

Date Analyzed: 05/15/2013

Date Prepared: 05/14/2013

Analyst: DYV

QC- Sample ID: 462596-001 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY

TPH by SW8015 Mod	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	92.6	93	70-135	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	102	102	70-135	

Lab Batch #: 913896

Date Analyzed: 05/16/2013

Date Prepared: 05/15/2013

Analyst: DYV

QC- Sample ID: 462675-012 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY

TPH by SW8015 Mod	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	93.8	94	70-135	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	101	101	70-135	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$
 Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$
 All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS / MSD Recoveries



Project Name: North Eunice

Work Order # : 462675

Project ID: 073018

Lab Batch ID: 913641

QC- Sample ID: 462809-002 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/14/2013

Date Prepared: 05/13/2013

Analyst: DYV

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000500	0.100	0.0917	92	0.100	0.107	107	15	70-125	25	
Toluene	<0.00100	0.100	0.0937	94	0.100	0.110	110	16	70-125	25	
Ethylbenzene	<0.000700	0.100	0.0986	99	0.100	0.117	117	17	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.182	91	0.200	0.220	110	19	70-131	25	
o-Xylene	<0.000700	0.100	0.0882	88	0.100	0.111	111	23	71-133	25	

Lab Batch ID: 913710

QC- Sample ID: 462771-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/14/2013

Date Prepared: 05/14/2013

Analyst: DYV

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000500	0.100	0.100	100	0.100	0.102	102	2	70-125	25	
Toluene	<0.00100	0.100	0.106	106	0.100	0.109	109	3	70-125	25	
Ethylbenzene	<0.000700	0.100	0.113	113	0.100	0.119	119	5	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.211	106	0.200	0.229	115	8	70-131	25	
o-Xylene	<0.000700	0.100	0.0996	100	0.100	0.112	112	12	71-133	25	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: North Eunice

Work Order #: 462675

Project ID: 073018

Lab Batch ID: 913902

QC- Sample ID: 462675-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/08/2013

Date Prepared: 05/08/2013

Analyst: WRU

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Hexavalent Chromium	<0.00500	0.250	0.245	98	0.250	0.239	96	2	80-120	20	

Lab Batch ID: 913917

QC- Sample ID: 462675-011 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/08/2013

Date Prepared: 05/08/2013

Analyst: AMB

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Hexavalent Chromium	<0.00500	0.250	0.243	97	0.250	0.240	96	1	80-120	20	

Lab Batch ID: 913764

QC- Sample ID: 462675-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/14/2013

Date Prepared: 05/14/2013

Analyst: KUG

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Arsenic	0.00936	1.00	1.07	106	1.00	1.10	109	3	75-125	20	
Chromium	<0.00355	1.00	0.954	95	1.00	0.977	98	2	75-125	20	
Iron	<0.0188	5.00	4.45	89	5.00	4.86	97	9	75-125	20	
Manganese	<0.00291	1.00	0.914	91	1.00	0.960	96	5	75-125	20	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Project Name: North Eunice

Work Order #: 462675

Lab Batch #: 913902

Project ID: 073018

Date Analyzed: 05/08/2013 09:45

Date Prepared: 05/08/2013

Analyst: WRU

QC- Sample ID: 462675-001 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

Chromium, Hexavalent by SW 7196A	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Hexavalent Chromium	<0.00500	<0.00500	0	20	U

Lab Batch #: 913917

Date Analyzed: 05/08/2013 09:45

Date Prepared: 05/08/2013

Analyst: AMB

QC- Sample ID: 462675-011 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

Chromium, Hexavalent by SW 7196A	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Hexavalent Chromium	<0.00500	<0.00500	0	20	U

Lab Batch #: 913717

Date Analyzed: 05/10/2013 11:00

Date Prepared: 05/10/2013

Analyst: AMB

QC- Sample ID: 462596-006 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	2610	2710	4	30	

Lab Batch #: 913717

Date Analyzed: 05/10/2013 11:00

Date Prepared: 05/10/2013

Analyst: AMB

QC- Sample ID: 462675-008 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	3230	3640	12	30	

Spike Relative Difference $RPD = 200 * |(B-A)/(B+A)|$
 All Results are based on MDL and validated for QC purposes.
 BRL - Below Reporting Limit

Project Name: North Eunice

Work Order #: 462675

Lab Batch #: 913720

Project ID: 073018

Date Analyzed: 05/14/2013 12:00

Date Prepared: 05/14/2013

Analyst: AMB

QC- Sample ID: 462675-013 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	2100	2070	1	30	

Lab Batch #: 913720

Date Analyzed: 05/14/2013 12:00

Date Prepared: 05/14/2013

Analyst: AMB

QC- Sample ID: 462771-009 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	3620	3780	4	30	

Spike Relative Difference RPD $200 * |(B-A)/(B+A)|$
 All Results are based on MDL and validated for QC purposes.
 BRL - Below Reporting Limit

Company City: <u>CEA-Midland</u>		Phone: <u>432-686-0086</u>		Lab Only: <u>4021075</u>	
Project Name/Location: <u>NEUENICE</u>		Previously done at XENCO: ☐		Project ID: <u>073018</u>	
Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other		Proj. Manager (PM): <u>Mike Wisniewski</u>		Fax No: <u>432-686-0186</u>	
E-mail Results to: ☒ PM and		Invoice to: ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.			
Quote/Pricing:		P.O. No.: ☐ Call for P.O.			
Reg Program: <u>UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP</u>					
QAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:					
Special DLs (GW DW QAPP MDLs RLS See Lab PM Included Call PM)					
Sampler Name: <u>Justin Nixon</u>		Signature: <u>[Signature]</u>			
Sample ID	Sampling Date	Time	Depth ft' In" m	Matrix	Composite
Grab	# Containers	Container Size	Container Type	Preservatives	
1 MW-76 SA 050713	10/10	1020	1	W	X 8
2 IW-11 050713	10/20	1346	1		
3 IW-8 050713	1145	1530	1		
4 IW-10 050713	1420	1620	1		
5 IW-6 050713	1730	1140	1		
6 IW-7 050713	1350		1		
7 IW-5 050713			1		
8 MW-6 SA 050713			1		
9 MW-8 SA 050713			1		
10 MW-71 SA 050713			1		
Relinquished by (Initials and Sign): <u>[Signature]</u>		Date & Time: <u>5-7-13 1845</u>		Relinquished to (Initials and Sign): <u>[Signature]</u>	
Date & Time: <u>05-07-13 18:58</u>		Total Containers per COC: <u>80</u>		Cooler Temp: <u>15 °C</u>	
Preservatives: Various (V), HCl pH<2 (H), H2SO4 pH<2 (S), HNO3 pH<2 (N), Asbc Acid&NaOH (A), ZnAc&NaOH (Z), (Cool, <4C) (C), None (NA), See Label (L), Other (O) Cont. Size: 4oz (4), 8oz (8), 32oz (32), 40ml VOA (40), 1L (1), 500ml (5), Tedlar Bag (B), Various (V), Other _____ Cont. Type: Glass Amb (A), Glass Clear (C), Plastic (P), Various (V) Matrix: Air (A), Product (P), Solid (S), Water (W), Liquid (L) Committed to Excellence in Service and Quality Notice: Signature of this document and relinquishment of these samples constitutes a valid purchase order from client company to Xenco Laboratories and its affiliates. Subcontractors and assigns under Xenco's standard terms and conditions of service unless previously negotiated under a fully executed client contract. www.xenco.com					
VOA: Full-List BTEX-MTBE EtOH Oxyg VOHS VOAs		TAT: ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d Standard TAT is project specific. It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data.			
VOA: PP TCL DW Appdx-1 Appdx-2 CALL Other:					
PAHs SIM 8310 8270					
TX-1005 DRO GRO MA EPH MA VPH					
SVOCs: Full-List DW BN&AE TCLP PP Appdx-2 CALL					
OC Pesticides PCBs Herbicides OP Pesticides					
Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx2					
SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs)					
EDB / DBCP					
X method 8021 BTEX					
X Diss Metals 6010B					
X TDS SM 2540 c					
X Chlorides E 300					
X TPH GRO+DRO 8015 Modified					
X Hex Chrom 7196A					
TATASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d					
Addn: PAH above mg/L W, mg/Kg S Highest Hit					
Hold Samples (Surcharges will apply and are pre-approved)					
Sample Clean-ups are pre-approved as needed					
Remarks					
Addn:	Date	Rcv. by:	From:		

Company-City: <u>CEA-Midland</u>		Phone: <u>432-686-0886</u>								
Project Name-Location: <u>NE voice</u>		Previously done at XENCO: ☐ Project ID: <u>073018</u>								
Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other		Proj. Manager (PM): <u>Mike Winski Owecki</u>								
E-mail Results to: ☒ PM and <u>432-686-0186</u>		Fax No: <u>432-686-0186</u>								
Invoice to: ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O. Bill to:		P.O. No: ☐ Call for P.O.								
Quote/Pricing:		Reg Program: <u>UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP</u>								
CAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:		Special DLS (GW DW CAPP MDLs RLS See Lab PM Included Call PM)								
Sampler Name: <u>Justin Nixon</u>		Signature: <u>[Signature]</u>								
Sample ID	Sampling Date	Time	Depth ft' In' m	Matrix	Composite	Grab	# Containers	Container Size	Container Type	Preservatives
1 Dup 1050713	5-7-13	1545	1	X	8					
2 mu 655A050713		1650								
3 mu 555A050713		1805								
4 mu 745A050713										
5 Trip Blank										
6										
7										
8										
9										
10										
Relinquished by (Initials and Sign)		Date & Time		Relinquished to (Initials and Sign)		Date & Time		Total Containers per COC: <u>34</u>		Cooler Temp: <u>5</u> °C
1) <u>[Signature]</u>		5-7-13 1845		2) <u>[Signature]</u>		05-07-13 1845		Total Containers per COC: <u>34</u>		Cooler Temp: <u>5</u> °C
2) <u>[Signature]</u>				3) <u>[Signature]</u>				Total Containers per COC: <u>34</u>		Cooler Temp: <u>5</u> °C
3) <u>[Signature]</u>				4) <u>[Signature]</u>				Total Containers per COC: <u>34</u>		Cooler Temp: <u>5</u> °C
5) <u>[Signature]</u>				6) <u>[Signature]</u>				Total Containers per COC: <u>34</u>		Cooler Temp: <u>5</u> °C
Preservatives: Various (N), HCl pH<2 (H), H2SO4 pH<2 (S), HNO3 pH<2 (N), Asbc Acid&NaOH (A), ZnAc&NaOH (Z), (Cool, <4C) (C), None (NA), See Label (L), Other (O) Cont. Size: 4oz (4), 8oz (8), 32oz (32), 40ml VOA (40), 1L (1), 500ml (5), Tedlar Bag (B), Various (V), Other _____ Cont. Type: Glass Amb (A), Glass Clear (C), Plastic (P), Various (V) Matrix: Air (A), Product (P), Solid (S), Water (W), Liquid (L) Committed to Excellence in Service and Quality Notice: Signature of this document and relinquishment of these samples constitutes a valid purchase order from client company to Xenco Laboratories and its affiliates, subcontractors and assigns under Xenco's standard terms and conditions of service unless previously negotiated under a fully executed client contract.										
Lab Only: TAT: ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d Standard TAT is project specific. It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data. VOA: Full-List BTEX-MTBE EtOH Oxyg VOHS VOAs VOA: PP TCL DW Appdx-1 Appdx-2 CALL Other: PAHs SIM 8310 8270 TX-1005 DRO GRO MAEPH MA VPH SVOCs: Full-List DW BN&AE TCLP PP Appdx-2 CALL OC Pesticides PCBs Herbicides OP Pesticides Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx2 SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs) EDB / DBCP Method 8021 B BTEX Diss metals method 6010 B TDS SM 2540C Chlorides E 300 TPH GRO+ DRO 8015 modified Hex Chrom 7196 A TATASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d Addn: PAH above mg/L W, mg/Kg S Highest Hit Hold Samples (Surcharges will apply and are pre-approved) Sample Clean-ups are pre-approved as needed Addn: Date Rcv. by: From:										



Prelogin/Nonconformance Report- Sample Log-In

Client: Conestoga Rovers & Associates

Date/ Time Received: 05/07/2013 06:58:00 PM

Work Order #: 462675

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	Yes

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:	PH Device/Lot#:
----------	-----------------

Checklist completed by:


Kelsey Brooks

Date: 05/08/2013

Checklist reviewed by:


Kelsey Brooks

Date: 05/08/2013

Analytical Report 462675

for

Conestoga Rovers & Associates

Project Manager: Mike Wisniowiecki

North Eunice

073018

31-MAY-13

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

31-MAY-13

Project Manager: **Mike Wisniowiecki**

Conestoga Rovers & Associates

2135 S Loop 250 W

Midland, TX 79703

Reference: XENCO Report No(s): **462675**

North Eunice

Project Address: New Mexico

Mike Wisniowiecki:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 462675. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 462675 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,



Kelsey Brooks

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW76 SA 050713	W	05-07-13 10:10		462675-001
IW-11 050713	W	05-07-13 10:20		462675-002
IW-8 050713	W	05-07-13 13:40		462675-003
IW-10 050713	W	05-07-13 11:45		462675-004
IW-6 050713	W	05-07-13 15:30		462675-005
IW-7 050713	W	05-07-13 14:20		462675-006
IW-5 050713	W	05-07-13 16:20		462675-007
MW66 SA 050713	W	05-07-13 17:30		462675-008
MW86 SA 050713	W	05-07-13 11:40		462675-009
MW71 SA 050713	W	05-07-13 13:50		462675-010
DUP 1 050713	W	05-07-13 00:00		462675-011
MW65 SA 050713	W	05-07-13 15:45		462675-012
MW55 SA 050713	W	05-07-13 16:50		462675-013
MW74 SA 050713	W	05-07-13 18:05		462675-014
TRIP BLANK	W	05-07-13 00:00		462675-015

Client Name: Conestoga Rovers & Associates**Project Name: North Eunice**Project ID: 073018
Work Order Number(s): 462675Report Date: 31-MAY-13
Date Received: 05/07/2013

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:Batch: LBA-913697 Inorganic Anions by EPA 300/300.1
E300

Batch 913697, Chloride detected in the blank below the MQL but above the SQL; possible laboratory contamination.

Samples affected are: 462675-006, -008, -009, -011, -013, -014, -002, -005, -007, -012, -001, -003, -010, -004.



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW76 SA 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-001

Date Collected: 05.07.13 10.10

Date Received: 05.07.13 18.58

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913697

Date Prep: 05.13.13 17.20

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	394	20.0	0.560	mg/L	05.13.13 17:20		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913717

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1930	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913764

Date Prep: 05.14.13 10.00

Subcontractor: SUB: E871002

Prep seq: 638009

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.00936	0.0200	0.00756	mg/L	05.14.13 17:43	J	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.14.13 17:43	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.14.13 17:43	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.14.13 17:43	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913902

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW76 SA 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-001

Date Collected: 05.07.13 10.10

Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913726

Date Prep: 05.14.13 14.00

Prep seq: 638088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.14.13 21:34	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.14.13 21:34	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.14.13 21:34	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.14.13 21:34	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	121	70 - 135	%		
o-Terphenyl	110	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913641

Date Prep: 05.13.13 17.00

Prep seq: 638024

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 11:09	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 11:09	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 11:09	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 11:09	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 11:09	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 11:09	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 11:09	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	101	80 - 120	%		
4-Bromofluorobenzene	105	80 - 120	%		



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW-11 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-002

Date Collected: 05.07.13 10.20

Date Received: 05.07.13 18.58

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913697

Date Prep: 05.13.13 18.03

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1000	20.0	0.560	mg/L	05.13.13 18:03		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913717

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3390	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913764

Date Prep: 05.14.13 10.00

Subcontractor: SUB: E871002

Prep seq: 638009

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0457	0.0200	0.00756	mg/L	05.14.13 18:06		1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.14.13 18:06	U	1
Iron	7439-89-6	0.765	0.200	0.0188	mg/L	05.14.13 18:06		1
Manganese	7439-96-5	0.990	0.0200	0.00291	mg/L	05.14.13 18:06		1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913902

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW-11 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-002

Date Collected: 05.07.13 10.20

Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913726

Date Prep: 05.14.13 14.00

Prep seq: 638088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.14.13 22:03	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.14.13 22:03	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.14.13 22:03	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.14.13 22:03	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	127	70 - 135	%		
o-Terphenyl	115	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913641

Date Prep: 05.13.13 17.00

Prep seq: 638024

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 11:25	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 11:25	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 11:25	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 11:25	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 11:25	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 11:25	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 11:25	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	100	80 - 120	%		
4-Bromofluorobenzene	87	80 - 120	%		



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW-8 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-003

Date Collected: 05.07.13 13.40

Date Received: 05.07.13 18.58

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913697

Date Prep: 05.13.13 18.25

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	529	20.0	0.560	mg/L	05.13.13 18:25		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913717

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2340	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913764

Date Prep: 05.14.13 10.00

Subcontractor: SUB: E871002

Prep seq: 638009

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0192	0.0200	0.00756	mg/L	05.14.13 18:12	J	1
Chromium	7440-47-3	0.00472	0.0100	0.00355	mg/L	05.14.13 18:12	J	1
Iron	7439-89-6	0.679	0.200	0.0188	mg/L	05.14.13 18:12		1
Manganese	7439-96-5	2.60	0.0200	0.00291	mg/L	05.14.13 18:12		1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913902

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW-8 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-003

Date Collected: 05.07.13 13.40

Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913896

Date Prep: 05.15.13 15.00

Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 07:33	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 07:33	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 07:33	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 07:33	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	101	70 - 135	%		
o-Terphenyl	90	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913641

Date Prep: 05.13.13 17.00

Prep seq: 638024

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 11:42	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 11:42	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 11:42	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 11:42	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 11:42	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 11:42	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 11:42	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	98	80 - 120	%		
4-Bromofluorobenzene	84	80 - 120	%		



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW-10 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-004

Date Collected: 05.07.13 11.45

Date Received: 05.07.13 18.58

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913697

Date Prep: 05.13.13 18.47

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1040	20.0	0.560	mg/L	05.13.13 18:47		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913717

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3350	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913764

Date Prep: 05.14.13 10.00

Subcontractor: SUB: E871002

Prep seq: 638009

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.14.13 18:30	U	1
Chromium	7440-47-3	0.00403	0.0100	0.00355	mg/L	05.14.13 18:30	J	1
Iron	7439-89-6	0.0813	0.200	0.0188	mg/L	05.14.13 18:30	J	1
Manganese	7439-96-5	9.17	0.0200	0.00291	mg/L	05.14.13 18:30		1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913902

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW-10 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-004

Date Collected: 05.07.13 11.45

Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913726

Date Prep: 05.14.13 14.00

Prep seq: 638088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.14.13 23:36	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.14.13 23:36	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.14.13 23:36	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.14.13 23:36	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	130	70 - 135	%		
o-Terphenyl	120	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913710

Date Prep: 05.14.13 13.00

Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.15.13 10:28	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.15.13 10:28	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.15.13 10:28	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.15.13 10:28	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.15.13 10:28	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.15.13 10:28	U	
Total BTEX		ND		0.000500	mg/L	05.15.13 10:28	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	94	80 - 120	%		
4-Bromofluorobenzene	120	80 - 120	%		



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW-6 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-005

Date Collected: 05.07.13 15.30

Date Received: 05.07.13 18.58

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913697

Date Prep: 05.13.13 19.08

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	798	20.0	0.560	mg/L	05.13.13 19:08		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913717

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2920	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913764

Date Prep: 05.14.13 10.00

Subcontractor: SUB: E871002

Prep seq: 638009

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.14.13 18:36	U	1
Chromium	7440-47-3	0.00531	0.0100	0.00355	mg/L	05.14.13 18:36	J	1
Iron	7439-89-6	0.513	0.200	0.0188	mg/L	05.14.13 18:36		1
Manganese	7439-96-5	1.32	0.0200	0.00291	mg/L	05.14.13 18:36		1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913902

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW-6 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-005

Date Collected: 05.07.13 15.30

Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913726

Date Prep: 05.14.13 14.00

Prep seq: 638088

Parameter	CAS Number	Result	ML	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	1.28	1.50	0.988	mg/L	05.15.13 00:06	J	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.15.13 00:06	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.15.13 00:06	U	1
Total TPH	PHC635	1.28		0.988	mg/L	05.15.13 00:06	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	129	70 - 135	%		
o-Terphenyl	128	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913710

Date Prep: 05.14.13 13.00

Prep seq: 638075

Parameter	CAS Number	Result	ML	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 19:06	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 19:06	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 19:06	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 19:06	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 19:06	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 19:06	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 19:06	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	97	80 - 120	%		
4-Bromofluorobenzene	110	80 - 120	%		



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW-7 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-006

Date Collected: 05.07.13 14.20

Date Received: 05.07.13 18.58

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913697

Date Prep: 05.13.13 19.30

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	861	20.0	0.560	mg/L	05.13.13 19:30		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913717

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	4050	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913764

Date Prep: 05.14.13 10.00

Subcontractor: SUB: E871002

Prep seq: 638009

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.107	0.100	0.0378	mg/L	05.14.13 18:42		5
Chromium	7440-47-3	0.0444	0.0500	0.0177	mg/L	05.14.13 18:42	J	5
Iron	7439-89-6	10.2	1.00	0.0939	mg/L	05.14.13 18:42		5
Manganese	7439-96-5	3.98	0.100	0.0145	mg/L	05.14.13 18:42		5

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913902

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW-7 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-006

Date Collected: 05.07.13 14.20

Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913726

Date Prep: 05.14.13 14.00

Prep seq: 638088

Parameter	CAS Number	Result	ML	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	1.50	1.50	0.988	mg/L	05.15.13 00:36	J	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.15.13 00:36	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.15.13 00:36	U	1
Total TPH	PHC635	1.50		0.988	mg/L	05.15.13 00:36	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	125	70 - 135	%		
o-Terphenyl	122	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913710

Date Prep: 05.14.13 13.00

Prep seq: 638075

Parameter	CAS Number	Result	ML	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 19:39	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 19:39	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 19:39	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 19:39	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 19:39	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 19:39	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 19:39	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	88	80 - 120	%		
4-Bromofluorobenzene	90	80 - 120	%		



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW-5 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-007

Date Collected: 05.07.13 16.20

Date Received: 05.07.13 18.58

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913697

Date Prep: 05.13.13 20.35

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	860	20.0	0.560	mg/L	05.13.13 20:35		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913717

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2990	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913764

Date Prep: 05.14.13 10.00

Subcontractor: SUB: E871002

Prep seq: 638009

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0165	0.0200	0.00756	mg/L	05.14.13 18:47	J	1
Chromium	7440-47-3	0.0129	0.0100	0.00355	mg/L	05.14.13 18:47		1
Iron	7439-89-6	1.61	0.200	0.0188	mg/L	05.14.13 18:47		1
Manganese	7439-96-5	1.07	0.0200	0.00291	mg/L	05.14.13 18:47		1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913902

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW-5 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-007

Date Collected: 05.07.13 16.20

Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913896

Date Prep: 05.15.13 15.00

Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 17:53	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 17:53	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 17:53	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 17:53	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	116	70 - 135	%		
o-Terphenyl	105	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913710

Date Prep: 05.14.13 13.00

Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 19:22	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 19:22	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 19:22	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 19:22	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 19:22	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 19:22	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 19:22	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	119	80 - 120	%		
4-Bromofluorobenzene	115	80 - 120	%		



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW66 SA 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-008

Date Collected: 05.07.13 17.30

Date Received: 05.07.13 18.58

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913697

Date Prep: 05.13.13 20.57

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1300	20.0	0.560	mg/L	05.13.13 20:57		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913717

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3230	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913764

Date Prep: 05.14.13 10.00

Subcontractor: SUB: E871002

Prep seq: 638009

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.00811	0.0200	0.00756	mg/L	05.14.13 18:53	J	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.14.13 18:53	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.14.13 18:53	U	1
Manganese	7439-96-5	1.19	0.0200	0.00291	mg/L	05.14.13 18:53		1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913902

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW66 SA 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-008

Date Collected: 05.07.13 17.30

Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913726

Date Prep: 05.14.13 14.00

Prep seq: 638088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.15.13 01:39	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.15.13 01:39	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.15.13 01:39	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.15.13 01:39	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	122	70 - 135	%		
o-Terphenyl	111	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913710

Date Prep: 05.14.13 13.00

Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 18:17	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 18:17	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 18:17	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 18:17	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 18:17	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 18:17	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 18:17	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	84	80 - 120	%		
4-Bromofluorobenzene	87	80 - 120	%		



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW86 SA 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-009

Date Collected: 05.07.13 11.40

Date Received: 05.07.13 18.58

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913697

Date Prep: 05.13.13 21.18

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	851	20.0	0.560	mg/L	05.13.13 21:18		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913717

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1970	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913764

Date Prep: 05.14.13 10.00

Subcontractor: SUB: E871002

Prep seq: 638009

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.00795	0.0200	0.00756	mg/L	05.14.13 18:59	J	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.14.13 18:59	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.14.13 18:59	U	1
Manganese	7439-96-5	0.00506	0.0200	0.00291	mg/L	05.14.13 18:59	J	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913902

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW86 SA 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-009

Date Collected: 05.07.13 11.40

Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913726

Date Prep: 05.14.13 14.00

Prep seq: 638088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.15.13 02:10	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.15.13 02:10	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.15.13 02:10	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.15.13 02:10	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	125	70 - 135	%		
o-Terphenyl	114	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913710

Date Prep: 05.14.13 13.00

Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 18:33	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 18:33	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 18:33	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 18:33	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 18:33	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 18:33	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 18:33	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	96	80 - 120	%		
4-Bromofluorobenzene	109	80 - 120	%		



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW71 SA 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-010

Date Collected: 05.07.13 13.50

Date Received: 05.07.13 18.58

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913697

Date Prep: 05.13.13 21.40

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	119	5.00	0.140	mg/L	05.13.13 21:40		5

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913717

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	718	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913764

Date Prep: 05.14.13 10.00

Subcontractor: SUB: E871002

Prep seq: 638009

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0194	0.0200	0.00756	mg/L	05.14.13 19:05	J	1
Chromium	7440-47-3	0.00425	0.0100	0.00355	mg/L	05.14.13 19:05	J	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.14.13 19:05	U	1
Manganese	7439-96-5	0.203	0.0200	0.00291	mg/L	05.14.13 19:05		1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913902

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW71 SA 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-010

Date Collected: 05.07.13 13.50

Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913726

Date Prep: 05.14.13 14.00

Prep seq: 638088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.15.13 02:41	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.15.13 02:41	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.15.13 02:41	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.15.13 02:41	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	123	70 - 135	%		
o-Terphenyl	112	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913710

Date Prep: 05.14.13 13.00

Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 16:53	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 16:53	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 16:53	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 16:53	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 16:53	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 16:53	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 16:53	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	113	80 - 120	%		
4-Bromofluorobenzene	97	80 - 120	%		



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: DUP 1 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-011

Date Collected: 05.07.13 00.00

Date Received: 05.07.13 18.58

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913697

Date Prep: 05.13.13 22.02

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1290	20.0	0.560	mg/L	05.13.13 22:02		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913717

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3470	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913764

Date Prep: 05.14.13 10.00

Subcontractor: SUB: E871002

Prep seq: 638009

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.00808	0.0200	0.00756	mg/L	05.14.13 19:11	J	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.14.13 19:11	U	1
Iron	7439-89-6	0.0276	0.200	0.0188	mg/L	05.14.13 19:11	J	1
Manganese	7439-96-5	1.09	0.0200	0.00291	mg/L	05.14.13 19:11		1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913917

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: DUP 1 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-011

Date Collected: 05.07.13 00.00

Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913726

Date Prep: 05.14.13 14.00

Prep seq: 638088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.15.13 03:12	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.15.13 03:12	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.15.13 03:12	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.15.13 03:12	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	124	70 - 135	%		
o-Terphenyl	112	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913710

Date Prep: 05.14.13 13.00

Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 17:09	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 17:09	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 17:09	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 17:09	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 17:09	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 17:09	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 17:09	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	88	80 - 120	%		
4-Bromofluorobenzene	94	80 - 120	%		



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW65 SA 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-012

Date Collected: 05.07.13 15.45

Date Received: 05.07.13 18.58

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913697

Date Prep: 05.13.13 22.45

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1020	20.0	0.560	mg/L	05.13.13 22:45		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913717

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2750	5.00	5.00	mg/L	05.10.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913764

Date Prep: 05.14.13 10.00

Subcontractor: SUB: E871002

Prep seq: 638009

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0105	0.0200	0.00756	mg/L	05.14.13 19:17	J	1
Chromium	7440-47-3	0.314	0.0100	0.00355	mg/L	05.14.13 19:17		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.14.13 19:17	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.14.13 19:17	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913917

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.317	0.0100	0.00500	mg/L	05.08.13 09:45		1



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW65 SA 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-012

Date Collected: 05.07.13 15.45

Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913896

Date Prep: 05.15.13 15.00

Prep seq: 638218

Parameter	CAS Number	Result	ML	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 08:35	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 08:35	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 08:35	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 08:35	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	99	70 - 135	%		
o-Terphenyl	88	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913710

Date Prep: 05.14.13 13.00

Prep seq: 638075

Parameter	CAS Number	Result	ML	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 17:44	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 17:44	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 17:44	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 17:44	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 17:44	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 17:44	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 17:44	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	102	80 - 120	%		
4-Bromofluorobenzene	101	80 - 120	%		



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW55 SA 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-013

Date Collected: 05.07.13 16.50

Date Received: 05.07.13 18.58

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913697

Date Prep: 05.13.13 23.07

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	595	20.0	0.560	mg/L	05.13.13 23:07		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913720

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2100	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913764

Date Prep: 05.14.13 10.00

Subcontractor: SUB: E871002

Prep seq: 638009

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.14.13 19:23	U	1
Chromium	7440-47-3	0.235	0.0100	0.00355	mg/L	05.14.13 19:23		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.14.13 19:23	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.14.13 19:23	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913917

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.176	0.0100	0.00500	mg/L	05.08.13 09:45		1



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW55 SA 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-013

Date Collected: 05.07.13 16.50

Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913896

Date Prep: 05.15.13 15.00

Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 09:06	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 09:06	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 09:06	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 09:06	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	103	70 - 135	%		
o-Terphenyl	94	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913710

Date Prep: 05.14.13 13.00

Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 16:03	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 16:03	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 16:03	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 16:03	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 16:03	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 16:03	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 16:03	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	82	80 - 120	%		
4-Bromofluorobenzene	107	80 - 120	%		



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW74 SA 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-014

Date Collected: 05.07.13 18.05

Date Received: 05.07.13 18.58

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913697

Date Prep: 05.13.13 23.29

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	542	20.0	0.560	mg/L	05.13.13 23:29		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913720

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2100	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913764

Date Prep: 05.14.13 10.00

Subcontractor: SUB: E871002

Prep seq: 638009

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0116	0.0200	0.00756	mg/L	05.14.13 19:29	J	1
Chromium	7440-47-3	0.0149	0.0100	0.00355	mg/L	05.14.13 19:29		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.14.13 19:29	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.14.13 19:29	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913917

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.00610	0.0100	0.00500	mg/L	05.08.13 09:45	J	1



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW74 SA 050713

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-014

Date Collected: 05.07.13 18.05

Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913896

Date Prep: 05.15.13 15.00

Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 09:37	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 09:37	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 09:37	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 09:37	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	112	70 - 135	%		
o-Terphenyl	104	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913710

Date Prep: 05.14.13 13.00

Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 16:20	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 16:20	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 16:20	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 16:20	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 16:20	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 16:20	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 16:20	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	102	80 - 120	%		
4-Bromofluorobenzene	108	80 - 120	%		



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: TRIP BLANK

Matrix: Water

Sample Depth:

Lab Sample Id: 462675-015

Date Collected: 05.07.13 00.00

Date Received: 05.07.13 18.58

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913896

Date Prep: 05.15.13 15.00

Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 10:08	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 10:08	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 10:08	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 10:08	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	108	70 - 135	%		
o-Terphenyl	97	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913710

Date Prep: 05.14.13 13.00

Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 16:36	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 16:36	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 16:36	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 16:36	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 16:36	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 16:36	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 16:36	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	85	80 - 120	%		
4-Bromofluorobenzene	103	80 - 120	%		



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 638009-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638009-1-BLK

Date Collected:

Date Received:

Analytical Method: Dissolved Metals per ICP by SW846 6010B

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913764

Date Prep: 05.14.13 10.00

Subcontractor: SUB: E871002

Prep seq: 638009

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.14.13 17:26	U	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.14.13 17:26	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.14.13 17:26	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.14.13 17:26	U	1

Sample Id: 638024-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638024-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913641

Date Prep: 05.13.13 17.00

Prep seq: 638024

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.13.13 18:44	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.13.13 18:44	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.13.13 18:44	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.13.13 18:44	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.13.13 18:44	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	85	80 - 120	%		
4-Bromofluorobenzene	100	80 - 120	%		

Sample Id: 638065-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638065-1-BLK

Date Collected:

Date Received:

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913697

Date Prep: 05.13.13 16.15

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	0.548	1.00	0.0280	mg/L	05.13.13 16:15	J	1



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 638075-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638075-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913710

Date Prep: 05.14.13 13.00

Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 14:42	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 14:42	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 14:42	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 14:42	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 14:42	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	81	80 - 120	%		
4-Bromofluorobenzene	94	80 - 120	%		

Sample Id: 638088-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638088-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913726

Date Prep: 05.14.13 14.00

Prep seq: 638088

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.14.13 17:02	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.14.13 17:02	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.14.13 17:02	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.14.13 17:02	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	127	70 - 135	%		
o-Terphenyl	114	70 - 135	%		



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 638218-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638218-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913896

Date Prep: 05.15.13 15.00

Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 04:57	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 04:57	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 04:57	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 04:57	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	113	70 - 135	%		
o-Terphenyl	104	70 - 135	%		

Sample Id: 913717-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913717-1-BLK

Date Collected:

Date Received:

Analytical Method: TDS by SM2540C

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913717

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	ND	5.00	5.00	mg/L	05.10.13 11:00	U	1

Sample Id: 913720-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913720-1-BLK

Date Collected:

Date Received:

Analytical Method: TDS by SM2540C

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913720

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	ND	5.00	5.00	mg/L	05.14.13 12:00	U	1



Certificate of Analytical Results 462675



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 913902-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913902-1-BLK

Date Collected:

Date Received:

Analytical Method: Chromium, Hexavalent by SW 7196A

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913902

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1

Sample Id: 913917-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913917-1-BLK

Date Collected:

Date Received:

Analytical Method: Chromium, Hexavalent by SW 7196A

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913917

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.08.13 09:45	U	1

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462675,

Project ID: 073018

Lab Batch #: 913641

Sample: 638024-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/13/13 18:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0308	0.0300	103	80-120	
4-Bromofluorobenzene	0.0281	0.0300	94	80-120	

Lab Batch #: 913641

Sample: 638024-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/13/13 18:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene	0.0279	0.0300	93	80-120	

Lab Batch #: 913641

Sample: 638024-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/13/13 18:44

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0255	0.0300	85	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 913641

Sample: 462809-002 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/14/13 12:14

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0336	0.0300	112	80-120	
4-Bromofluorobenzene	0.0259	0.0300	86	80-120	

Lab Batch #: 913641

Sample: 462809-002 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/14/13 12:30

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	80-120	
4-Bromofluorobenzene	0.0322	0.0300	107	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462675,

Project ID: 073018

Lab Batch #: 913710

Sample: 638075-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 14:09	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0291	0.0300	97	80-120
4-Bromofluorobenzene		0.0255	0.0300	85	80-120

Lab Batch #: 913710

Sample: 638075-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 14:26	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0264	0.0300	88	80-120
4-Bromofluorobenzene		0.0284	0.0300	95	80-120

Lab Batch #: 913710

Sample: 638075-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 14:42	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0242	0.0300	81	80-120
4-Bromofluorobenzene		0.0283	0.0300	94	80-120

Lab Batch #: 913710

Sample: 462771-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 20:11	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0290	0.0300	97	80-120
4-Bromofluorobenzene		0.0290	0.0300	97	80-120

Lab Batch #: 913710

Sample: 462771-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/15/13 10:45	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0275	0.0300	92	80-120
4-Bromofluorobenzene		0.0283	0.0300	94	80-120

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462675,

Project ID: 073018

Lab Batch #: 913726

Sample: 638088-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 16:01	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1-Chlorooctane		11.7	10.0	117	70-135
o-Terphenyl		4.40	5.00	88	70-135

Lab Batch #: 913726

Sample: 638088-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 16:32	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1-Chlorooctane		12.0	10.0	120	70-135
o-Terphenyl		4.52	5.00	90	70-135

Lab Batch #: 913726

Sample: 638088-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 17:02	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1-Chlorooctane		12.7	10.0	127	70-135
o-Terphenyl		5.70	5.00	114	70-135

Lab Batch #: 913726

Sample: 462596-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/15/13 04:15	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1-Chlorooctane		12.9	10.0	129	70-135
o-Terphenyl		5.11	5.00	102	70-135

Lab Batch #: 913896

Sample: 638218-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/16/13 04:26	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1-Chlorooctane		13.0	10.0	130	70-135
o-Terphenyl		5.51	5.00	110	70-135

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462675,

Project ID: 073018

Lab Batch #: 913896

Sample: 638218-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 04:57

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	11.3	10.0	113	70-135	
o-Terphenyl	5.20	5.00	104	70-135	

Lab Batch #: 913896

Sample: 462675-012 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 16:09

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	11.9	10.0	119	70-135	
o-Terphenyl	4.70	5.00	94	70-135	

Lab Batch #: 913896

Sample: 638218-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 17:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	12.4	10.0	124	70-135	
o-Terphenyl	4.53	5.00	91	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Project Name: North Eunice

Work Order #: 462675

Project ID:

073018

Lab Batch #: 913902

Sample: 913902-1-BKS

Matrix: Water

Date Analyzed: 05/08/2013

Date Prepared: 05/08/2013

Analyst: WRU

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Hexavalent Chromium	<0.00500	0.0250	0.0223	89	80-120	

Lab Batch #: 913917

Sample: 913917-1-BKS

Matrix: Water

Date Analyzed: 05/08/2013

Date Prepared: 05/08/2013

Analyst: AMB

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Hexavalent Chromium	<0.00500	0.0250	0.0202	81	80-120	

Lab Batch #: 913764

Sample: 638009-1-BKS

Matrix: Water

Date Analyzed: 05/14/2013

Date Prepared: 05/14/2013

Analyst: KUG

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Arsenic	<0.00756	1.00	1.04	104	80-120	
Chromium	<0.00355	1.00	1.02	102	80-120	
Iron	<0.0188	5.00	4.84	97	80-120	
Manganese	<0.00291	1.00	0.981	98	80-120	

Lab Batch #: 913717

Sample: 913717-1-BKS

Matrix: Water

Date Analyzed: 05/10/2013

Date Prepared: 05/10/2013

Analyst: AMB

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

TDS by SM2540C	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Total dissolved solids	<5.00	1000	975	98	80-120	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: North Eunice

Work Order #: 462675

Project ID: 073018

Lab Batch #: 913720

Sample: 913720-1-BKS

Matrix: Water

Date Analyzed: 05/14/2013

Date Prepared: 05/14/2013

Analyst: AMB

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

TDS by SM2540C	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Total dissolved solids	<5.00	1000	1010	101	80-120	

Blank Spike Recovery [D] = $100 \times [C] / [B]$

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: North Eunice

Work Order #: 462675

Analyst: DYV

Date Prepared: 05/13/2013

Project ID: 073018

Date Analyzed: 05/13/2013

Lab Batch ID: 913641

Sample: 638024-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000500	0.100	0.102	102	0.100	0.108	108	6	70-125	25	
Toluene	<0.00100	0.100	0.109	109	0.100	0.112	112	3	70-125	25	
Ethylbenzene	<0.000700	0.100	0.115	115	0.100	0.114	114	1	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.211	106	0.200	0.218	109	3	70-131	25	
o-Xylene	<0.000700	0.100	0.103	103	0.100	0.110	110	7	71-133	25	

Analyst: DYV

Date Prepared: 05/14/2013

Date Analyzed: 05/14/2013

Lab Batch ID: 913710

Sample: 638075-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000500	0.100	0.106	106	0.100	0.109	109	3	70-125	25	
Toluene	<0.00100	0.100	0.103	103	0.100	0.116	116	12	70-125	25	
Ethylbenzene	<0.000700	0.100	0.111	111	0.100	0.115	115	4	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.207	104	0.200	0.229	115	10	70-131	25	
o-Xylene	<0.000700	0.100	0.102	102	0.100	0.115	115	12	71-133	25	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: North Eunice

Work Order #: 462675

Analyst: AMB

Date Prepared: 05/13/2013

Project ID: 073018

Date Analyzed: 05/13/2013

Lab Batch ID: 913697

Sample: 638065-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	0.548	25.0	26.0	104	25.0	25.9	104	0	80-120	20	

Analyst: DYV

Date Prepared: 05/14/2013

Date Analyzed: 05/14/2013

Lab Batch ID: 913726

Sample: 638088-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	90.0	90	100	92.8	93	3	70-135	25	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	99.6	100	100	102	102	2	70-135	25	

Analyst: DYV

Date Prepared: 05/15/2013

Date Analyzed: 05/16/2013

Lab Batch ID: 913896

Sample: 638218-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	116	116	100	110	110	5	70-135	25	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	123	123	100	120	120	2	70-135	25	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: North Eunice

Work Order #: 462675

Lab Batch #: 913697

Date Analyzed: 05/13/2013

QC- Sample ID: 462675-001 S

Reporting Units: mg/L

Date Prepared: 05/13/2013

Batch #: 1

Project ID: 073018

Analyst: AMB

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	394	500	959	113	80-120	

Lab Batch #: 913697

Date Analyzed: 05/13/2013

QC- Sample ID: 462675-011 S

Reporting Units: mg/L

Date Prepared: 05/13/2013

Batch #: 1

Analyst: AMB

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	1290	500	1800	102	80-120	

Lab Batch #: 913726

Date Analyzed: 05/15/2013

QC- Sample ID: 462596-001 S

Reporting Units: mg/L

Date Prepared: 05/14/2013

Batch #: 1

Analyst: DYV

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
TPH by SW8015 Mod	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	92.6	93	70-135	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	102	102	70-135	

Lab Batch #: 913896

Date Analyzed: 05/16/2013

QC- Sample ID: 462675-012 S

Reporting Units: mg/L

Date Prepared: 05/15/2013

Batch #: 1

Analyst: DYV

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
TPH by SW8015 Mod	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	93.8	94	70-135	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	101	101	70-135	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$
 Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$
 All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS / MSD Recoveries



Project Name: North Eunice

Work Order # : 462675

Project ID: 073018

Lab Batch ID: 913641

QC- Sample ID: 462809-002 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/14/2013

Date Prepared: 05/13/2013

Analyst: DYV

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000500	0.100	0.0917	92	0.100	0.107	107	15	70-125	25	
Toluene	<0.00100	0.100	0.0937	94	0.100	0.110	110	16	70-125	25	
Ethylbenzene	<0.000700	0.100	0.0986	99	0.100	0.117	117	17	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.182	91	0.200	0.220	110	19	70-131	25	
o-Xylene	<0.000700	0.100	0.0882	88	0.100	0.111	111	23	71-133	25	

Lab Batch ID: 913710

QC- Sample ID: 462771-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/14/2013

Date Prepared: 05/14/2013

Analyst: DYV

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000500	0.100	0.100	100	0.100	0.102	102	2	70-125	25	
Toluene	<0.00100	0.100	0.106	106	0.100	0.109	109	3	70-125	25	
Ethylbenzene	<0.000700	0.100	0.113	113	0.100	0.119	119	5	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.211	106	0.200	0.229	115	8	70-131	25	
o-Xylene	<0.000700	0.100	0.0996	100	0.100	0.112	112	12	71-133	25	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries

Project Name: North Eunice



Work Order # : 462675

Project ID: 073018

Lab Batch ID: 913902

QC- Sample ID: 462675-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/08/2013

Date Prepared: 05/08/2013

Analyst: WRU

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Hexavalent Chromium	<0.00500	0.250	0.245	98	0.250	0.239	96	2	80-120	20	

Lab Batch ID: 913917

QC- Sample ID: 462675-011 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/08/2013

Date Prepared: 05/08/2013

Analyst: AMB

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Hexavalent Chromium	<0.00500	0.250	0.243	97	0.250	0.240	96	1	80-120	20	

Lab Batch ID: 913764

QC- Sample ID: 462675-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/14/2013

Date Prepared: 05/14/2013

Analyst: KUG

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Arsenic	0.00936	1.00	1.07	106	1.00	1.10	109	3	75-125	20	
Chromium	<0.00355	1.00	0.954	95	1.00	0.977	98	2	75-125	20	
Iron	<0.0188	5.00	4.45	89	5.00	4.86	97	9	75-125	20	
Manganese	<0.00291	1.00	0.914	91	1.00	0.960	96	5	75-125	20	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Project Name: North Eunice

Work Order #: 462675

Lab Batch #: 913902

Project ID: 073018

Date Analyzed: 05/08/2013 09:45

Date Prepared: 05/08/2013

Analyst: WRU

QC- Sample ID: 462675-001 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

Chromium, Hexavalent by SW 7196A	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Hexavalent Chromium	<0.00500	<0.00500	0	20	U

Lab Batch #: 913917

Date Analyzed: 05/08/2013 09:45

Date Prepared: 05/08/2013

Analyst: AMB

QC- Sample ID: 462675-011 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

Chromium, Hexavalent by SW 7196A	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Hexavalent Chromium	<0.00500	<0.00500	0	20	U

Lab Batch #: 913717

Date Analyzed: 05/10/2013 11:00

Date Prepared: 05/10/2013

Analyst: AMB

QC- Sample ID: 462596-006 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	2610	2710	4	30	

Lab Batch #: 913717

Date Analyzed: 05/10/2013 11:00

Date Prepared: 05/10/2013

Analyst: AMB

QC- Sample ID: 462675-008 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	3230	3640	12	30	

Spike Relative Difference $RPD = 200 * |(B-A)/(B+A)|$
 All Results are based on MDL and validated for QC purposes.
 BRL - Below Reporting Limit

Project Name: North Eunice

Work Order #: 462675

Lab Batch #: 913720

Project ID: 073018

Date Analyzed: 05/14/2013 12:00

Date Prepared: 05/14/2013

Analyst: AMB

QC- Sample ID: 462675-013 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	2100	2070	1	30	

Lab Batch #: 913720

Date Analyzed: 05/14/2013 12:00

Date Prepared: 05/14/2013

Analyst: AMB

QC- Sample ID: 462771-009 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	3620	3780	4	30	

Spike Relative Difference RPD $200 * |(B-A)/(B+A)|$
 All Results are based on MDL and validated for QC purposes.
 BRL - Below Reporting Limit

Company City: <u>CEA-Midland</u>		Phone: <u>432-686-0086</u>		Lab Only: <u>4021075</u>	
Project Name/Location: <u>NEUENICE</u>		Previously done at XENCO: ☐		Project ID: <u>073018</u>	
Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other		Proj. Manager (PM): <u>Mike Wisniewski</u>		Fax No: <u>432-686-0186</u>	
E-mail Results to: ☒ PM and ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.		Invoice to: ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.		Bill to:	
Quote/Pricing:		P.O. No:		☐ Call for P.O.	
Reg Program: <u>UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP</u>					
QAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:					
Special DLs (GW DW QAPP MDLs RLS See Lab PM Included Call PM)					
Sampler Name: <u>Justin Nixon</u>		Signature: <u>[Signature]</u>			
Sample ID	Sampling Date	Time	Depth ft' In" m	Matrix	Composite
Grab	# Containers	Container Size	Container Type	Preservatives	
1 MW-76 SA 050713	10/10	1020	1	W	X 8
2 IW-11 050713	10/20	1346	1	W	X 8
3 IW-8 050713	11/45	1530	1	W	X 8
4 IW-10 050713	11/45	1420	1	W	X 8
5 IW-6 050713	11/45	1620	1	W	X 8
6 IW-7 050713	11/45	1730	1	W	X 8
7 IW-5 050713	11/45	1140	1	W	X 8
8 MW-6 SA 050713	11/45	1350	1	W	X 8
9 MW-8 SA 050713	11/45		1	W	X 8
10 MW-71 SA 050713	11/45		1	W	X 8
Relinquished by (Initials and Sign): <u>[Signature]</u>		Date & Time: <u>5-7-13 1845</u>		Relinquished to (Initials and Sign): <u>[Signature]</u>	
Date & Time: <u>05-07-13 18:58</u>		Total Containers per COC: <u>80</u>		Cooler Temp: <u>15 °C</u>	
Preservatives: Various (V), HCl pH<2 (H), H2SO4 pH<2 (S), HNO3 pH<2 (N), Asbc Acid&NaOH (A), ZnAc&NaOH (Z), (Cool, <4C) (C), None (NA), See Label (L), Other (O) Cont. Size: 4oz (4), 8oz (8), 32oz (32), 40ml VOA (40), 1L (1), 500ml (5), Tedlar Bag (B), Various (V), Other _____ Cont. Type: Glass Amb (A), Glass Clear (C), Plastic (P), Various (V) Matrix: Air (A), Product (P), Solid (S), Water (W), Liquid (L) Committed to Excellence in Service and Quality Notice: Signature of this document and relinquishment of these samples constitutes a valid purchase order from client company to Xenco Laboratories and its affiliates. Subcontractors and assigns under Xenco's standard terms and conditions of service previously negotiated under a fully executed client contract.					
VOA: Full-List BTEX-MTBE EtOH Oxyg VOHS VOAs		VOA: PP TCL DW Appdx-1 Appdx-2 CALL Other:			
PAHs SIM 8310 8270		TX-1005 DRO GRO MA EPH MA VPH			
SVOCs: Full-List DW BN&AE TCLP PP Appdx-2 CALL		OC Pesticides PCBs Herbicides OP Pesticides			
Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx2		SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs)			
EDB / DBCP		method 8021 BTEX			
		Diss Metals 6010B			
		TDS SM 2540 C			
		Chlorides E 300			
		TPH GRO + DRO 8015 Modified			
		Hex Chrom 7196A			
TATASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d		Addn: PAH above mg/L W, mg/Kg S Highest Hit			
Hold Samples (Surcharges will apply and are pre-approved)		Sample Clean-ups are pre-approved as needed			
Addn:		Date		Rcv. by: From:	

Company-City		CEA-Midland		Phone		432-686-0086	
Project Name-Location		Previously done at XENCO		Project ID		073018	
Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other		Proj. Manager (PM)		Mike Wisniowski		Fax No: 432-686-0186	
E-mail Results to		☒ PM and		Invoice to		☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.	
Bill to:		P.O. No:		☐ Call for P.O.			
Quote/Pricing:		Reg Program: UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP		CAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:			
Special DLS (GW DW CAPP MDLs RLS See Lab PM Included Call PM)		Sampler Name		Signature			
Sample ID		Sampling Date		Time		Depth ft' in" m	
Matrix		Composite		Grab		# Containers	
Container Size		Container Type		Preservatives			
VOA: Full-List BTEX-MTBE EtOH Oxyg VOHS VOAs		VOA: PP TCL DW Appdx-1 Appdx-2 CALL Other:		PAHs SIM 8310 8270		TX-1005 DRO GRO MAEPH MA VPH	
SVOCs: Full-List DW BN&AE TCLP PP Appdx-2 CALL		OC Pesticides PCBs Herbicides OP Pesticides		Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx2		SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs)	
EDB / DBCP		Method 8021 B BTEX		Diss metals method 6010 B		TDS SM 2540C	
Chlorides E 300		TPH GRO + DRO 8015 modified		Hex Chrom 7196 A			
TATASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d		Addn: PAH above mg/L W, mg/Kg S Highest Hit		Hold Samples (Surcharges will apply and are pre-approved)		Sample Clean-ups are pre-approved as needed	
Addn:		Date		Rcv. by:		From:	
Relinquished by (Initials and Sign)		Date & Time		Relinquished to (Initials and Sign)		Date & Time	
Total Containers per COC: 34		Cooler Temp: 5 °C		Total Containers per COC: 34		Cooler Temp: 5 °C	
Preservatives: Various (N), HCl pH<2 (H), H2SO4 pH<2 (S), HNO3 pH<2 (N), Asbc Acid&NaOH (A), ZnAc&NaOH (Z), (Cool, <4C) (C), None (NA), See Label (L), Other (O)		Cont. Size: 4oz (4), 8oz (8), 32oz (32), 40ml VOA (40), 1L (1), 500ml (5), Tedlar Bag (B), Various (V), Other		Cont. Type: Glass Amb (A), Glass Clear (C), Plastic (P), Various (V)			
Matrix: Air (A), Product (P), Solid (S), Water (W), Liquid (L)		Committed to Excellence in Service and Quality		Notice: Signature of this document and relinquishment of these samples constitutes a valid purchase order from client company to Xenco Laboratories and its affiliates.		subcontractors and assigns under Xenco's standard terms and conditions of service unless previously negotiated under a fully executed client contract.	



Prelogin/Nonconformance Report- Sample Log-In

Client: Conestoga Rovers & Associates

Date/ Time Received: 05/07/2013 06:58:00 PM

Work Order #: 462675

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	1.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	Yes

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:	PH Device/Lot#:
----------	-----------------

Checklist completed by:


Kelsey Brooks

Date: 05/08/2013

Checklist reviewed by:


Kelsey Brooks

Date: 05/08/2013

Analytical Report 462771

for

Conestoga Rovers & Associates

Project Manager: Mike Wisniowiecki

North Eunice

073018

20-MAY-13

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



20-MAY-13

Project Manager: **Mike Wisniowiecki**

Conestoga Rovers & Associates

2135 S Loop 250 W

Midland, TX 79703

Reference: XENCO Report No(s): **462771**

North Eunice

Project Address: New Mexico

Mike Wisniowiecki:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 462771. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 462771 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW81 SA 050813	W	05-08-13 17:15		462771-001
MW67 SA 050813	W	05-08-13 16:25		462771-002
MW78 SA 050813	W	05-08-13 14:50		462771-003
MW72 SA 050813	W	05-08-13 10:00		462771-004
MW73 SA 050813	W	05-08-13 10:40		462771-005
MW57 SA 050813	W	05-08-13 11:40		462771-006
MW56 SA 050813	W	05-08-13 13:15		462771-007
MW53 SA 050813	W	05-08-13 14:10		462771-008
MW49 SA 050813	W	05-08-13 16:40		462771-009
DUP 2 050813	W	05-08-13 00:00		462771-010
MW 54 SA 050813	W	05-08-13 10:40		462771-011
MW52 SA 050813	W	05-08-13 12:15		462771-012
MW51 SA 050813	W	05-08-13 13:35		462771-013
MW48 SA 050813	W	05-08-13 15:15		462771-014
MW50 SA 050813	W	05-08-13 18:05		462771-015
TRIP BLANK	W	05-07-13 16:00		462771-016

Client Name: Conestoga Rovers & Associates**Project Name: North Eunice**Project ID: 073018
Work Order Number(s): 462771Report Date: 20-MAY-13
Date Received: 05/08/2013

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:Batch: LBA-913697 Inorganic Anions by EPA 300/300.1
E300

Batch 913697, Chloride detected in the blank below the MQL but above the SQL; possible laboratory contamination.

Samples affected are: 462771-002, -001, -004, -003, -005.

Batch: LBA-913911 Dissolved Metals per ICP by SW846 6010B
SW6010B

Batch 913911, Arsenic detected in the blank below the MQL but above the SQL; possible laboratory contamination.

Samples affected are: 462771-002, -009, -010, -013, -006, -001, -012, -014, -004, -008, -003, -005, -011, -015, -007.



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW81 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-001

Date Collected: 05.08.13 17.15

Date Received: 05.08.13 18.42

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.14.13 00.55

Tech: AMB

Seq Number: 913697

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	567	10.0	0.280	mg/L	05.14.13 00:55		10

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913720

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2000	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 08.30

Tech: KUG

Seq Number: 913911

Prep seq: 638054

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0118	0.0200	0.00756	mg/L	05.16.13 13:52	BJ	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.16.13 13:52	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 13:52	U	1
Manganese	7439-96-5	0.233	0.0200	0.00291	mg/L	05.16.13 13:52		1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913919

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.09.13 10:05	U	1



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW81 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-001

Date Collected: 05.08.13 17.15

Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.15.13 15.00

Tech: DYV

Seq Number: 913896

Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 11:10	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 11:10	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 11:10	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 11:10	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	101	70 - 135	%		
o-Terphenyl	90	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.14.13 13.00

Tech: DYV

Seq Number: 913710

Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 14:58	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 14:58	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 14:58	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 14:58	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 14:58	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 14:58	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 14:58	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	109	80 - 120	%		
4-Bromofluorobenzene	111	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW67 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-002

Date Collected: 05.08.13 16.25

Date Received: 05.08.13 18.42

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.14.13 01.17

Tech: AMB

Seq Number: 913697

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	164	10.0	0.280	mg/L	05.14.13 01:17		10

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913720

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	988	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 08.30

Tech: KUG

Seq Number: 913911

Prep seq: 638054

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0266	0.0200	0.00756	mg/L	05.16.13 14:21	B	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.16.13 14:21	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 14:21	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 14:21	U	1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913919

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.09.13 10:05	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW67 SA 050813	Matrix: Water	Sample Depth:
Lab Sample Id: 462771-002	Date Collected: 05.08.13 16.25	Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod	% Moist:	Prep Method: 1005
Analyst: DYV	Date Prep: 05.15.13 15.00	Tech: DYV
Seq Number: 913896	Prep seq: 638218	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 11:41	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 11:41	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 11:41	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 11:41	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	101	70 - 135	%		
o-Terphenyl	88	70 - 135	%		

Analytical Method: BTEX by EPA 8021B	% Moist:	Prep Method: 5030B
Analyst: DYV	Date Prep: 05.14.13 13.00	Tech: DYV
Seq Number: 913710	Prep seq: 638075	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 15:15	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 15:15	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 15:15	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 15:15	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 15:15	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 15:15	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 15:15	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	101	80 - 120	%		
4-Bromofluorobenzene	96	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW78 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-003

Date Collected: 05.08.13 14.50

Date Received: 05.08.13 18.42

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.14.13 01.39

Tech: AMB

Seq Number: 913697

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	161	5.00	0.140	mg/L	05.14.13 01:39		5

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913720

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	839	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 08.30

Tech: KUG

Seq Number: 913911

Prep seq: 638054

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0106	0.0200	0.00756	mg/L	05.16.13 14:27	BJ	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.16.13 14:27	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 14:27	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 14:27	U	1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913919

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.09.13 10:05	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW78 SA 050813	Matrix: Water	Sample Depth:
Lab Sample Id: 462771-003	Date Collected: 05.08.13 14.50	Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod	% Moist:	Prep Method: 1005
Analyst: DYV	Date Prep: 05.15.13 15.00	Tech: DYV
Seq Number: 913896	Prep seq: 638218	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 18:25	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 18:25	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 18:25	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 18:25	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	102	70 - 135	%		
o-Terphenyl	92	70 - 135	%		

Analytical Method: BTEX by EPA 8021B	% Moist:	Prep Method: 5030B
Analyst: DYV	Date Prep: 05.14.13 13.00	Tech: DYV
Seq Number: 913710	Prep seq: 638075	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 15:31	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 15:31	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 15:31	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 15:31	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 15:31	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 15:31	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 15:31	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	113	80 - 120	%		
4-Bromofluorobenzene	117	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW72 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-004

Date Collected: 05.08.13 10.00

Date Received: 05.08.13 18.42

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.14.13 02.01

Tech: AMB

Seq Number: 913697

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	302	10.0	0.280	mg/L	05.14.13 02:01		10

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913720

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1380	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 08.30

Tech: KUG

Seq Number: 913911

Prep seq: 638054

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0128	0.0200	0.00756	mg/L	05.16.13 14:44	BJ	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.16.13 14:44	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 14:44	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 14:44	U	1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913919

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.09.13 10:05	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW72 SA 050813 Matrix: Water Sample Depth:
Lab Sample Id: 462771-004 Date Collected: 05.08.13 10.00 Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod % Moist: Prep Method: 1005
Analyst: DYV Date Prep: 05.17.13 12.00 Tech: DYV
Seq Number: 914077 Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.19.13 03:49	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.19.13 03:49	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.19.13 03:49	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.19.13 03:49	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	102	70 - 135	%		
o-Terphenyl	111	70 - 135	%		

Analytical Method: BTEX by EPA 8021B % Moist: Prep Method: 5030B
Analyst: DYV Date Prep: 05.14.13 13.00 Tech: DYV
Seq Number: 913710 Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 15:47	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 15:47	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 15:47	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 15:47	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 15:47	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 15:47	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 15:47	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	100	80 - 120	%		
4-Bromofluorobenzene	104	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW73 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-005

Date Collected: 05.08.13 10.40

Date Received: 05.08.13 18.42

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.14.13 02.22

Tech: AMB

Seq Number: 913697

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	225	10.0	0.280	mg/L	05.14.13 02:22		10

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913720

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1070	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 08.30

Tech: KUG

Seq Number: 913911

Prep seq: 638054

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0135	0.0200	0.00756	mg/L	05.16.13 14:50	BJ	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.16.13 14:50	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 14:50	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 14:50	U	1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913919

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.09.13 10:05	U	1



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW73 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-005

Date Collected: 05.08.13 10.40

Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.17.13 12.00

Tech: DYV

Seq Number: 914077

Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.19.13 04:18	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.19.13 04:18	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.19.13 04:18	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.19.13 04:18	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	100	70 - 135	%		
o-Terphenyl	111	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.14.13 14.00

Tech: DYV

Seq Number: 913754

Prep seq: 638096

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.15.13 11:34	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.15.13 11:34	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.15.13 11:34	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.15.13 11:34	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.15.13 11:34	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.15.13 11:34	U	
Total BTEX		ND		0.000500	mg/L	05.15.13 11:34	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	100	80 - 120	%		
4-Bromofluorobenzene	108	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW57 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-006

Date Collected: 05.08.13 11.40

Date Received: 05.08.13 18.42

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.13.13 10.00

Tech: AMB

Seq Number: 913865

Prep seq: 638069

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	260	10.0	0.280	mg/L	05.14.13 04:32		10

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913720

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1330	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 08.30

Tech: KUG

Seq Number: 913911

Prep seq: 638054

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0146	0.0200	0.00756	mg/L	05.16.13 14:56	BJ	1
Chromium	7440-47-3	0.0215	0.0100	0.00355	mg/L	05.16.13 14:56		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 14:56	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 14:56	U	1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913919

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.0215	0.0100	0.00500	mg/L	05.09.13 10:05		1



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW57 SA 050813 Matrix: Water Sample Depth:
Lab Sample Id: 462771-006 Date Collected: 05.08.13 11.40 Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod % Moist: Prep Method: 1005
Analyst: DYV Date Prep: 05.17.13 12.00 Tech: DYV
Seq Number: 914077 Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.19.13 04:49	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.19.13 04:49	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.19.13 04:49	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.19.13 04:49	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	90	70 - 135	%		
o-Terphenyl	97	70 - 135	%		

Analytical Method: BTEX by EPA 8021B % Moist: Prep Method: 5030B
Analyst: DYV Date Prep: 05.14.13 14.00 Tech: DYV
Seq Number: 913754 Prep seq: 638096

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.15.13 12:07	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.15.13 12:07	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.15.13 12:07	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.15.13 12:07	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.15.13 12:07	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.15.13 12:07	U	
Total BTEX		ND		0.000500	mg/L	05.15.13 12:07	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	108	80 - 120	%		
4-Bromofluorobenzene	85	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW56 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-007

Date Collected: 05.08.13 13.15

Date Received: 05.08.13 18.42

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.13.13 10.00

Tech: AMB

Seq Number: 913865

Prep seq: 638069

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1300	20.0	0.560	mg/L	05.14.13 05:16		20

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913720

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3570	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 08.30

Tech: KUG

Seq Number: 913911

Prep seq: 638054

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0183	0.0200	0.00756	mg/L	05.16.13 15:02	BJ	1
Chromium	7440-47-3	0.401	0.0100	0.00355	mg/L	05.16.13 15:02		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 15:02	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 15:02	U	1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913919

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.435	0.0100	0.00500	mg/L	05.09.13 10:05		1



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW56 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-007

Date Collected: 05.08.13 13.15

Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.17.13 12.00

Tech: DYV

Seq Number: 914077

Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.19.13 05:17	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.19.13 05:17	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.19.13 05:17	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.19.13 05:17	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	106	70 - 135	%		
o-Terphenyl	116	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.14.13 14.00

Tech: DYV

Seq Number: 913754

Prep seq: 638096

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 22:24	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 22:24	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 22:24	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 22:24	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 22:24	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 22:24	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 22:24	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	86	80 - 120	%		
4-Bromofluorobenzene	108	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW53 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-008

Date Collected: 05.08.13 14.10

Date Received: 05.08.13 18.42

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.13.13 10.00

Tech: AMB

Seq Number: 913865

Prep seq: 638069

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	308	10.0	0.280	mg/L	05.14.13 05:38		10

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913720

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1240	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 08.30

Tech: KUG

Seq Number: 913911

Prep seq: 638054

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0193	0.0200	0.00756	mg/L	05.16.13 15:08	BJ	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.16.13 15:08	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 15:08	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 15:08	U	1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913919

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.09.13 10:05	U	1



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW53 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-008

Date Collected: 05.08.13 14.10

Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.17.13 12.00

Tech: DYV

Seq Number: 914077

Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.19.13 05:44	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.19.13 05:44	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.19.13 05:44	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.19.13 05:44	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	93	70 - 135	%		
o-Terphenyl	101	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.14.13 14.00

Tech: DYV

Seq Number: 913754

Prep seq: 638096

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 22:40	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 22:40	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 22:40	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 22:40	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 22:40	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 22:40	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 22:40	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	93	80 - 120	%		
4-Bromofluorobenzene	105	80 - 120	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW49 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-009

Date Collected: 05.08.13 16.40

Date Received: 05.08.13 18.42

Analytical Method: **Inorganic Anions by EPA 300/300.1**

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.13.13 10.00

Tech: AMB

Seq Number: 913865

Prep seq: 638069

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1410	20.0	0.560	mg/L	05.14.13 05:59		20

Analytical Method: **TDS by SM2540C**

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913720

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3620	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 08.30

Tech: KUG

Seq Number: 913911

Prep seq: 638054

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0128	0.0200	0.00756	mg/L	05.16.13 15:14	BJ	1
Chromium	7440-47-3	0.127	0.0100	0.00355	mg/L	05.16.13 15:14		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 15:14	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 15:14	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913919

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.133	0.0100	0.00500	mg/L	05.09.13 10:05		1



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW49 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-009

Date Collected: 05.08.13 16.40

Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.17.13 12.00

Tech: DYV

Seq Number: 914077

Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.19.13 06:42	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.19.13 06:42	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.19.13 06:42	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.19.13 06:42	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	94	70 - 135	%		
o-Terphenyl	102	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.14.13 14.00

Tech: DYV

Seq Number: 913754

Prep seq: 638096

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 22:57	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 22:57	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 22:57	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 22:57	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 22:57	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 22:57	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 22:57	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	102	80 - 120	%		
4-Bromofluorobenzene	107	80 - 120	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: DUP 2 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-010

Date Collected: 05.08.13 00.00

Date Received: 05.08.13 18.42

Analytical Method: **Inorganic Anions by EPA 300/300.1**

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.13.13 10.00

Tech: AMB

Seq Number: 913865

Prep seq: 638069

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	966	20.0	0.560	mg/L	05.14.13 06:21		20

Analytical Method: **TDS by SM2540C**

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913720

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3530	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 08.30

Tech: KUG

Seq Number: 913911

Prep seq: 638054

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0118	0.0200	0.00756	mg/L	05.16.13 15:20	BJ	1
Chromium	7440-47-3	0.750	0.0100	0.00355	mg/L	05.16.13 15:20		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 15:20	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 15:20	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913921

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.772	0.100	0.0500	mg/L	05.09.13 10:05		10



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: DUP 2 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-010

Date Collected: 05.08.13 00.00

Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.17.13 12.00

Tech: DYV

Seq Number: 914077

Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.19.13 07:10	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.19.13 07:10	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.19.13 07:10	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.19.13 07:10	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	97	70 - 135	%		
o-Terphenyl	104	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.14.13 14.00

Tech: DYV

Seq Number: 913754

Prep seq: 638096

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 23:13	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 23:13	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 23:13	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 23:13	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 23:13	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 23:13	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 23:13	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	94	80 - 120	%		
4-Bromofluorobenzene	91	80 - 120	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW 54 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-011

Date Collected: 05.08.13 10.40

Date Received: 05.08.13 18.42

Analytical Method: **Inorganic Anions by EPA 300/300.1**

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.13.13 10.00

Tech: AMB

Seq Number: 913865

Prep seq: 638069

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	752	20.0	0.560	mg/L	05.14.13 06:43		20

Analytical Method: **TDS by SM2540C**

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913720

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2360	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 08.30

Tech: KUG

Seq Number: 913911

Prep seq: 638054

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0116	0.0200	0.00756	mg/L	05.16.13 15:26	BJ	1
Chromium	7440-47-3	0.143	0.0100	0.00355	mg/L	05.16.13 15:26		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 15:26	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 15:26	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913921

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.145	0.0100	0.00500	mg/L	05.09.13 10:05		1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW 54 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-011

Date Collected: 05.08.13 10.40

Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.17.13 12.00

Tech: DYV

Seq Number: 914077

Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.19.13 07:37	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.19.13 07:37	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.19.13 07:37	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.19.13 07:37	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	99	70 - 135	%		
o-Terphenyl	108	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.14.13 14.00

Tech: DYV

Seq Number: 913754

Prep seq: 638096

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 23:30	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 23:30	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 23:30	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 23:30	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 23:30	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 23:30	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 23:30	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	81	80 - 120	%		
4-Bromofluorobenzene	83	80 - 120	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW52 SA 050813 Matrix: Water Sample Depth:
Lab Sample Id: 462771-012 Date Collected: 05.08.13 12.15 Date Received: 05.08.13 18.42

Analytical Method: **Inorganic Anions by EPA 300/300.1** % Moist: Prep Method: E300P
 Analyst: AMB Date Prep: 05.13.13 10.00 Tech: AMB
 Seq Number: 913865 Prep seq: 638069

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1410	20.0	0.560	mg/L	05.14.13 07:48		20

Analytical Method: **TDS by SM2540C** % Moist: Prep Method:
 Analyst: AMB Date Prep: Tech: AMB
 Seq Number: 913720 Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3650	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B** % Moist: Prep Method: 3010A
 Analyst: KUG Date Prep: 05.15.13 08.30 Tech: KUG
 Seq Number: 913911 Prep seq: 638054
 Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0232	0.0200	0.00756	mg/L	05.16.13 15:32	B	1
Chromium	7440-47-3	0.254	0.0100	0.00355	mg/L	05.16.13 15:32		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 15:32	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 15:32	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A** % Moist: Prep Method:
 Analyst: WRU Date Prep: Tech: WRU
 Seq Number: 913921 Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.255	0.0100	0.00500	mg/L	05.09.13 10:05		1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW52 SA 050813 Matrix: Water Sample Depth:
Lab Sample Id: 462771-012 Date Collected: 05.08.13 12.15 Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod % Moist: Prep Method: 1005
Analyst: DYV Date Prep: 05.17.13 12.00 Tech: DYV
Seq Number: 914077 Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.19.13 08:04	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.19.13 08:04	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.19.13 08:04	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.19.13 08:04	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	98	70 - 135	%		
o-Terphenyl	107	70 - 135	%		

Analytical Method: BTEX by EPA 8021B % Moist: Prep Method: 5030B
Analyst: DYV Date Prep: 05.14.13 14.00 Tech: DYV
Seq Number: 913754 Prep seq: 638096

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 23:46	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 23:46	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 23:46	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 23:46	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 23:46	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 23:46	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 23:46	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	104	80 - 120	%		
4-Bromofluorobenzene	85	80 - 120	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW51 SA 050813 Matrix: Water Sample Depth:
Lab Sample Id: 462771-013 Date Collected: 05.08.13 13.35 Date Received: 05.08.13 18.42

Analytical Method: **Inorganic Anions by EPA 300/300.1** % Moist: Prep Method: E300P
 Analyst: AMB Date Prep: 05.13.13 10.00 Tech: AMB
 Seq Number: 913865 Prep seq: 638069

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1060	20.0	0.560	mg/L	05.14.13 08:09		20

Analytical Method: **TDS by SM2540C** % Moist: Prep Method:
 Analyst: AMB Date Prep: Tech: AMB
 Seq Number: 913720 Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3540	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B** % Moist: Prep Method: 3010A
 Analyst: KUG Date Prep: 05.15.13 08.30 Tech: KUG
 Seq Number: 913911 Prep seq: 638054
 Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0160	0.0200	0.00756	mg/L	05.16.13 15:38	BJ	1
Chromium	7440-47-3	0.759	0.0100	0.00355	mg/L	05.16.13 15:38		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 15:38	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 15:38	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A** % Moist: Prep Method:
 Analyst: WRU Date Prep: Tech: WRU
 Seq Number: 913921 Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.743	0.100	0.0500	mg/L	05.09.13 10:05		10

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW51 SA 050813	Matrix: Water	Sample Depth:
Lab Sample Id: 462771-013	Date Collected: 05.08.13 13.35	Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod	% Moist:	Prep Method: 1005
Analyst: DYV	Date Prep: 05.17.13 12.00	Tech: DYV
Seq Number: 914077	Prep seq: 638325	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.19.13 08:34	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.19.13 08:34	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.19.13 08:34	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.19.13 08:34	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	99	70 - 135	%		
o-Terphenyl	108	70 - 135	%		

Analytical Method: BTEX by EPA 8021B	% Moist:	Prep Method: 5030B
Analyst: DYV	Date Prep: 05.14.13 14.00	Tech: DYV
Seq Number: 913754	Prep seq: 638096	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.15.13 00:02	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.15.13 00:02	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.15.13 00:02	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.15.13 00:02	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.15.13 00:02	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.15.13 00:02	U	
Total BTEX		ND		0.000500	mg/L	05.15.13 00:02	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	85	80 - 120	%		
4-Bromofluorobenzene	92	80 - 120	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW48 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-014

Date Collected: 05.08.13 15.15

Date Received: 05.08.13 18.42

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.13.13 10.00

Tech: AMB

Seq Number: 913865

Prep seq: 638069

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	613	20.0	0.560	mg/L	05.14.13 08:31		20

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913961

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2370	5.00	5.00	mg/L	05.15.13 11:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 08.30

Tech: KUG

Seq Number: 913911

Prep seq: 638054

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0115	0.0200	0.00756	mg/L	05.16.13 15:56	BJ	1
Chromium	7440-47-3	0.458	0.0100	0.00355	mg/L	05.16.13 15:56		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 15:56	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 15:56	U	1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913921

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.464	0.0100	0.00500	mg/L	05.09.13 10:05		1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW48 SA 050813	Matrix: Water	Sample Depth:
Lab Sample Id: 462771-014	Date Collected: 05.08.13 15.15	Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod	% Moist:	Prep Method: 1005
Analyst: DYV	Date Prep: 05.17.13 12.00	Tech: DYV
Seq Number: 914077	Prep seq: 638325	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.19.13 09:06	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.19.13 09:06	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.19.13 09:06	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.19.13 09:06	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	103	70 - 135	%		
o-Terphenyl	113	70 - 135	%		

Analytical Method: BTEX by EPA 8021B	% Moist:	Prep Method: 5030B
Analyst: DYV	Date Prep: 05.14.13 14.00	Tech: DYV
Seq Number: 913754	Prep seq: 638096	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.15.13 00:18	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.15.13 00:18	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.15.13 00:18	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.15.13 00:18	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.15.13 00:18	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.15.13 00:18	U	
Total BTEX		ND		0.000500	mg/L	05.15.13 00:18	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	99	80 - 120	%		
4-Bromofluorobenzene	117	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW50 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-015

Date Collected: 05.08.13 18.05

Date Received: 05.08.13 18.42

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.13.13 10.00

Tech: AMB

Seq Number: 913865

Prep seq: 638069

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1300	20.0	0.560	mg/L	05.14.13 08:53		20

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913961

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3640	5.00	5.00	mg/L	05.15.13 11:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 08.30

Tech: KUG

Seq Number: 913911

Prep seq: 638054

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0112	0.0200	0.00756	mg/L	05.16.13 16:01	BJ	1
Chromium	7440-47-3	0.197	0.0100	0.00355	mg/L	05.16.13 16:01		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 16:01	U	1
Manganese	7439-96-5	0.0153	0.0200	0.00291	mg/L	05.16.13 16:01	J	1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913921

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.198	0.0100	0.00500	mg/L	05.09.13 10:05		1



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW50 SA 050813 Matrix: Water Sample Depth:
Lab Sample Id: 462771-015 Date Collected: 05.08.13 18.05 Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod % Moist: Prep Method: 1005
Analyst: DYV Date Prep: 05.17.13 12.00 Tech: DYV
Seq Number: 914077 Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 14:37	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 14:37	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 14:37	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 14:37	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	108	70 - 135	%		
o-Terphenyl	119	70 - 135	%		

Analytical Method: BTEX by EPA 8021B % Moist: Prep Method: 5030B
Analyst: DYV Date Prep: 05.14.13 14.00 Tech: DYV
Seq Number: 913754 Prep seq: 638096

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	0.00200	0.00100	0.000500	mg/L	05.15.13 13:13		1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.15.13 13:13	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.15.13 13:13	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.15.13 13:13	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.15.13 13:13	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.15.13 13:13	U	
Total BTEX		0.00200		0.000500	mg/L	05.15.13 13:13		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	108	80 - 120	%		
4-Bromofluorobenzene	101	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: TRIP BLANK

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-016

Date Collected: 05.07.13 16.00

Date Received: 05.08.13 18.42

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.14.13 14.00

Tech: DYV

Seq Number: 913754

Prep seq: 638096

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.15.13 01:07	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.15.13 01:07	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.15.13 01:07	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.15.13 01:07	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.15.13 01:07	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.15.13 01:07	U	
Total BTEX		ND		0.000500	mg/L	05.15.13 01:07	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	87	80 - 120	%		
4-Bromofluorobenzene	96	80 - 120	%		

Sample Id: 638054-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638054-1-BLK

Date Collected:

Date Received:

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 08.30

Tech: KUG

Seq Number: 913911

Prep seq: 638054

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.00832	0.0200	0.00756	mg/L	05.16.13 13:35	J	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.16.13 13:35	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 13:35	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 13:35	U	1

Sample Id: 638065-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638065-1-BLK

Date Collected:

Date Received:

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.13.13 16.15

Tech: AMB

Seq Number: 913697

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	0.548	1.00	0.0280	mg/L	05.13.13 16:15	J	1



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 638069-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638069-1-BLK

Date Collected:

Date Received:

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.13.13 10.00

Tech: AMB

Seq Number: 913865

Prep seq: 638069

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	ND	1.00	0.0280	mg/L	05.14.13 03:27	U	1

Sample Id: 638075-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638075-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.14.13 13.00

Tech: DYV

Seq Number: 913710

Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 14:42	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 14:42	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 14:42	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 14:42	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 14:42	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	81	80 - 120	%		
4-Bromofluorobenzene	94	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 638096-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638096-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.14.13 14.00

Tech: DYV

Seq Number: 913754

Prep seq: 638096

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 21:33	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 21:33	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 21:33	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 21:33	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 21:33	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	87	80 - 120	%		
4-Bromofluorobenzene	118	80 - 120	%		

Sample Id: 638218-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638218-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.15.13 15.00

Tech: DYV

Seq Number: 913896

Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 04:57	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 04:57	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 04:57	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 04:57	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	113	70 - 135	%		
o-Terphenyl	104	70 - 135	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 638325-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638325-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.17.13 12:00

Tech: DYV

Seq Number: 914077

Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.19.13 02:29	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.19.13 02:29	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.19.13 02:29	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	103	70 - 135	%		
o-Terphenyl	112	70 - 135	%		

Sample Id: 913720-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913720-1-BLK

Date Collected:

Date Received:

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913720

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	ND	5.00	5.00	mg/L	05.14.13 12:00	U	1

Sample Id: 913919-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913919-1-BLK

Date Collected:

Date Received:

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913919

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.09.13 10:05	U	1



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 913921-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913921-1-BLK

Date Collected:

Date Received:

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913921

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.09.13 10:05	U	1

Sample Id: 913961-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913961-1-BLK

Date Collected:

Date Received:

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913961

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	ND	5.00	5.00	mg/L	05.15.13 11:00	U	1

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462771,

Project ID: 073018

Lab Batch #: 913710

Sample: 638075-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 14:09	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0291	0.0300	97	80-120
4-Bromofluorobenzene		0.0255	0.0300	85	80-120

Lab Batch #: 913710

Sample: 638075-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 14:26	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0264	0.0300	88	80-120
4-Bromofluorobenzene		0.0284	0.0300	95	80-120

Lab Batch #: 913710

Sample: 638075-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 14:42	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0242	0.0300	81	80-120
4-Bromofluorobenzene		0.0283	0.0300	94	80-120

Lab Batch #: 913710

Sample: 462771-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 20:11	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0290	0.0300	97	80-120
4-Bromofluorobenzene		0.0290	0.0300	97	80-120

Lab Batch #: 913710

Sample: 462771-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/15/13 10:45	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0275	0.0300	92	80-120
4-Bromofluorobenzene		0.0283	0.0300	94	80-120

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462771,

Project ID: 073018

Lab Batch #: 913754

Sample: 638096-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 21:17	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0279	0.0300	93	80-120
4-Bromofluorobenzene		0.0250	0.0300	83	80-120

Lab Batch #: 913754

Sample: 638096-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 21:33	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0260	0.0300	87	80-120
4-Bromofluorobenzene		0.0355	0.0300	118	80-120

Lab Batch #: 913754

Sample: 462771-005 S / MS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/15/13 01:24	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0281	0.0300	94	80-120
4-Bromofluorobenzene		0.0304	0.0300	101	80-120

Lab Batch #: 913754

Sample: 638096-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/15/13 11:18	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0295	0.0300	98	80-120
4-Bromofluorobenzene		0.0312	0.0300	104	80-120

Lab Batch #: 913754

Sample: 462771-005 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/15/13 11:51	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0302	0.0300	101	80-120
4-Bromofluorobenzene		0.0283	0.0300	94	80-120

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462771,

Project ID: 073018

Lab Batch #: 913896

Sample: 638218-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 04:26

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	13.0	10.0	130	70-135	
o-Terphenyl	5.51	5.00	110	70-135	

Lab Batch #: 913896

Sample: 638218-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 04:57

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	11.3	10.0	113	70-135	
o-Terphenyl	5.20	5.00	104	70-135	

Lab Batch #: 913896

Sample: 462675-012 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 16:09

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	11.9	10.0	119	70-135	
o-Terphenyl	4.70	5.00	94	70-135	

Lab Batch #: 913896

Sample: 638218-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 17:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	12.4	10.0	124	70-135	
o-Terphenyl	4.53	5.00	91	70-135	

Lab Batch #: 914077

Sample: 638325-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/19/13 01:35

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	12.2	10.0	122	70-135	
o-Terphenyl	4.68	5.00	94	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462771,

Project ID: 073018

Lab Batch #: 914077

Sample: 638325-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/19/13 02:02

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	11.6	10.0	116	70-135	
o-Terphenyl	4.60	5.00	92	70-135	

Lab Batch #: 914077

Sample: 638325-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/19/13 02:29

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	10.3	10.0	103	70-135	
o-Terphenyl	5.60	5.00	112	70-135	

Lab Batch #: 914077

Sample: 462932-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/19/13 03:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	9.57	10.0	96	70-135	
o-Terphenyl	4.91	5.00	98	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Project Name: North Eunice

Work Order #: 462771

Project ID:

073018

Lab Batch #: 913919

Sample: 913919-1-BKS

Matrix: Water

Date Analyzed: 05/09/2013

Date Prepared: 05/09/2013

Analyst: WRU

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Hexavalent Chromium	<0.00500	0.0250	0.0233	93	80-120	

Lab Batch #: 913921

Sample: 913921-1-BKS

Matrix: Water

Date Analyzed: 05/09/2013

Date Prepared: 05/09/2013

Analyst: WRU

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Hexavalent Chromium	<0.00500	0.0250	0.0209	84	80-120	

Lab Batch #: 913720

Sample: 913720-1-BKS

Matrix: Water

Date Analyzed: 05/14/2013

Date Prepared: 05/14/2013

Analyst: AMB

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

TDS by SM2540C	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Total dissolved solids	<5.00	1000	1010	101	80-120	

Lab Batch #: 913961

Sample: 913961-1-BKS

Matrix: Water

Date Analyzed: 05/15/2013

Date Prepared: 05/15/2013

Analyst: AMB

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

TDS by SM2540C	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Total dissolved solids	<5.00	1000	1020	102	80-120	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: North Eunice

Work Order #: 462771

Analyst: DYV

Date Prepared: 05/14/2013

Project ID: 073018

Date Analyzed: 05/14/2013

Lab Batch ID: 913710

Sample: 638075-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000500	0.100	0.106	106	0.100	0.109	109	3	70-125	25	
Toluene	<0.00100	0.100	0.103	103	0.100	0.116	116	12	70-125	25	
Ethylbenzene	<0.000700	0.100	0.111	111	0.100	0.115	115	4	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.207	104	0.200	0.229	115	10	70-131	25	
o-Xylene	<0.000700	0.100	0.102	102	0.100	0.115	115	12	71-133	25	

Analyst: DYV

Date Prepared: 05/14/2013

Date Analyzed: 05/15/2013

Lab Batch ID: 913754

Sample: 638096-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000500	0.100	0.112	112	0.100	0.0903	90	21	70-125	25	
Toluene	<0.00100	0.100	0.117	117	0.100	0.0933	93	23	70-125	25	
Ethylbenzene	<0.000700	0.100	0.115	115	0.100	0.106	106	8	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.235	118	0.200	0.200	100	16	70-131	25	
o-Xylene	<0.000700	0.100	0.114	114	0.100	0.102	102	11	71-133	25	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: North Eunice

Work Order #: 462771

Analyst: KUG

Date Prepared: 05/15/2013

Project ID: 073018

Date Analyzed: 05/16/2013

Lab Batch ID: 913911

Sample: 638054-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Arsenic	0.00832	1.00	1.01	101	1.00	0.959	96	5	80-120	20	
Chromium	<0.00355	1.00	1.02	102	1.00	0.965	97	6	80-120	20	
Iron	<0.0188	5.00	4.84	97	5.00	4.75	95	2	80-120	20	
Manganese	<0.00291	1.00	0.983	98	1.00	0.967	97	2	80-120	20	

Analyst: AMB

Date Prepared: 05/13/2013

Date Analyzed: 05/13/2013

Lab Batch ID: 913697

Sample: 638065-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	0.548	25.0	26.0	104	25.0	25.9	104	0	80-120	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: North Eunice

Work Order #: 462771

Analyst: AMB

Date Prepared: 05/13/2013

Project ID: 073018

Date Analyzed: 05/14/2013

Lab Batch ID: 913865

Sample: 638069-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.0280	25.0	26.1	104	25.0	26.0	104	0	80-120	20	

Analyst: DYV

Date Prepared: 05/15/2013

Date Analyzed: 05/16/2013

Lab Batch ID: 913896

Sample: 638218-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	116	116	100	110	110	5	70-135	25	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	123	123	100	120	120	2	70-135	25	

Analyst: DYV

Date Prepared: 05/17/2013

Date Analyzed: 05/19/2013

Lab Batch ID: 914077

Sample: 638325-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	103	103	100	117	117	13	70-135	25	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	111	111	100	124	124	11	70-135	25	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: North Eunice

Work Order #: 462771

Lab Batch #: 913697

Date Analyzed: 05/13/2013

QC- Sample ID: 462675-001 S

Reporting Units: mg/L

Date Prepared: 05/13/2013

Batch #: 1

Project ID: 073018

Analyst: AMB

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	394	500	959	113	80-120	

Lab Batch #: 913697

Date Analyzed: 05/13/2013

QC- Sample ID: 462675-011 S

Reporting Units: mg/L

Date Prepared: 05/13/2013

Batch #: 1

Analyst: AMB

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	1290	500	1800	102	80-120	

Lab Batch #: 913865

Date Analyzed: 05/14/2013

QC- Sample ID: 462771-006 S

Reporting Units: mg/L

Date Prepared: 05/13/2013

Batch #: 1

Analyst: AMB

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	260	250	536	110	80-120	

Lab Batch #: 913896

Date Analyzed: 05/16/2013

QC- Sample ID: 462675-012 S

Reporting Units: mg/L

Date Prepared: 05/15/2013

Batch #: 1

Analyst: DYV

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
TPH by SW8015 Mod	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	93.8	94	70-135	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	101	101	70-135	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$
 Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$
 All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS Recoveries



Project Name: North Eunice

Work Order #: 462771

Lab Batch #: 914077

Date Analyzed: 05/19/2013

Date Prepared: 05/17/2013

Project ID: 073018

Analyst: DYV

QC- Sample ID: 462932-001 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
C6-C12 Gasoline Range Hydrocarbons	5.48	100	104	99	70-135	
C12-C28 Diesel Range Hydrocarbons	40.1	100	137	97	70-135	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$

Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS / MSD Recoveries



Project Name: North Eunice

Work Order # : 462771

Project ID: 073018

Lab Batch ID: 913710

QC- Sample ID: 462771-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/14/2013

Date Prepared: 05/14/2013

Analyst: DYV

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000500	0.100	0.100	100	0.100	0.102	102	2	70-125	25	
Toluene	<0.00100	0.100	0.106	106	0.100	0.109	109	3	70-125	25	
Ethylbenzene	<0.000700	0.100	0.113	113	0.100	0.119	119	5	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.211	106	0.200	0.229	115	8	70-131	25	
o-Xylene	<0.000700	0.100	0.0996	100	0.100	0.112	112	12	71-133	25	

Lab Batch ID: 913754

QC- Sample ID: 462771-005 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/15/2013

Date Prepared: 05/14/2013

Analyst: DYV

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000500	0.100	0.0997	100	0.100	0.0942	94	6	70-125	25	
Toluene	<0.00100	0.100	0.102	102	0.100	0.0981	98	4	70-125	25	
Ethylbenzene	<0.000700	0.100	0.108	108	0.100	0.105	105	3	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.201	101	0.200	0.202	101	0	70-131	25	
o-Xylene	<0.000700	0.100	0.0959	96	0.100	0.0989	99	3	71-133	25	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: North Eunice

Work Order #: 462771

Project ID: 073018

Lab Batch ID: 913919

QC- Sample ID: 462735-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/09/2013

Date Prepared: 05/09/2013

Analyst: WRU

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Hexavalent Chromium	<0.00500	0.250	0.242	97	0.250	0.237	95	2	80-120	20	

Lab Batch ID: 913912

QC- Sample ID: 462771-011 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/09/2013

Date Prepared: 05/09/2013

Analyst: WRU

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Hexavalent Chromium	0.145	0.250	0.369	90	0.250	0.378	93	2	80-120	20	

Lab Batch ID: 913911

QC- Sample ID: 462771-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/16/2013

Date Prepared: 05/15/2013

Analyst: KUG

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Arsenic	0.0118	1.00	1.04	103	1.00	0.986	97	5	75-125	20	
Chromium	<0.00355	1.00	0.972	97	1.00	0.922	92	5	75-125	20	
Iron	<0.0188	5.00	4.68	94	5.00	4.34	87	8	75-125	20	
Manganese	0.233	1.00	1.19	96	1.00	1.15	92	3	75-125	20	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Project Name: North Eunice

Work Order #: 462771

Lab Batch #: 913919

Project ID: 073018

Date Analyzed: 05/09/2013 10:05

Date Prepared: 05/09/2013

Analyst: WRU

QC- Sample ID: 462735-001 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

Chromium, Hexavalent by SW 7196A	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Hexavalent Chromium	<0.00500	<0.00500	0	20	U

Lab Batch #: 913921

Date Analyzed: 05/09/2013 10:05

Date Prepared: 05/09/2013

Analyst: WRU

QC- Sample ID: 462771-011 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

Chromium, Hexavalent by SW 7196A	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Hexavalent Chromium	0.145	0.145	0	20	

Lab Batch #: 913720

Date Analyzed: 05/14/2013 12:00

Date Prepared: 05/14/2013

Analyst: AMB

QC- Sample ID: 462675-013 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	2100	2070	1	30	

Lab Batch #: 913720

Date Analyzed: 05/14/2013 12:00

Date Prepared: 05/14/2013

Analyst: AMB

QC- Sample ID: 462771-009 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	3620	3780	4	30	

Spike Relative Difference $RPD = 200 * |(B-A)/(B+A)|$
 All Results are based on MDL and validated for QC purposes.
 BRL - Below Reporting Limit

Project Name: North Eunice

Work Order #: 462771

Lab Batch #: 913961

Project ID: 073018

Date Analyzed: 05/15/2013 11:00

Date Prepared: 05/15/2013

Analyst: AMB

QC- Sample ID: 462771-014 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	2370	2460	4	30	

Lab Batch #: 913961

Date Analyzed: 05/15/2013 11:00

Date Prepared: 05/15/2013

Analyst: AMB

QC- Sample ID: 462852-009 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	3420	3590	5	30	

Spike Relative Difference RPD $200 * |(B-A)/(B+A)|$
 All Results are based on MDL and validated for QC purposes.
 BRL - Below Reporting Limit

Company City: <u>CEA-Midland</u>		Phone: <u>432-686-0086</u>																															
Project Name/Location: <u>N. Eureka</u>		Previously done at XENCO: ☐																															
Project State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other		Project ID: <u>073018</u>																															
E-mail Results to: <u>Mike Wisniewski</u>		Fax No: <u>432-686-0186</u>																															
Invoice to: ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.		Lab Only: <u>402771</u>																															
Bill to:		TAT: ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d Standard TAT is project specific. It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data.																															
Quote/Pricing: P.O. No: ☐ Call for P.O.		Reg Program: UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP																															
GAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:		Special DLs (GW DW GAPP MDLs RLs See Lab PM Included Call PM)																															
Sampler Name: <u>Justin Nixon</u> Signature: <u>[Signature]</u>																																	
Sample ID	Sampling Date	Time	Depth ft' in" m	Matrix	Composite	Grab	# Containers	Container Size	Container Type	Preservatives	VOA: Full-List BTEX-MTBE EtOH Oxyg VOHS VOAs	VOA: PP TCL DW Appdx-1 Appdx-2 CALL Other:	PAHs SIM 8310 8270	TX-1005 DRO GRO MA EPH MA VPH	SVOCs: Full-List DW BN&AE TCLP PP Appdx-2 CALL	OC Pesticides PCBs Herbicides OP Pesticides	Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx2	SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs)	EDB / DBCP	Method 8021B BTEX	Diss Metals Method 6010B	TDS Sm 2540 C	Chlorides E300	TPH GRO + DRO 8015 modified	Hex Chrome 7196A	TATASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d	Addn: PAH above mg/L W, mg/Kg S Highest Hit	Hold Samples (Surcharges will apply and are pre-approved)	Sample Clean-ups are pre-approved as needed	Remarks			
1	MW815A 050813	5-8-13	1715	W			8																										
2	MW675A 050813		1625				8																										
3	MW785A 050813		1450				8																										
4	MW725A 050813		1600				7																										
5	MW735A 050813		1040																														
6	MW575A 050813		1140																														
7	MW565A 050813		135																														
8	MW535A 050813		1410																														
9	MW495A 050813		1640																														
10	DUG 050813																																
Relinquished by (Initials and Sign)		Date & Time		Relinquished to (Initials and Sign)		Date & Time		Total Containers per COC: <u>73</u>		Cooler Temp: <u>1.5°C</u>																							
1) <u>[Signature]</u>		5-8-13 1850		2) <u>[Signature]</u>		5-8-13 1842		Total Containers per COC: <u>73</u>		Cooler Temp: <u>1.5°C</u>																							
2) <u>[Signature]</u>				3) <u>[Signature]</u>																													
3) <u>[Signature]</u>				4) <u>[Signature]</u>																													

Preservatives: Various (V), HCl pH<2 (H), H2SO4 pH<2 (S), HNO3 pH<2 (N), Asbc Acid&NaOH (A), ZnAc&NaOH (Z), (Cool, <4C) (C), None (NA), See Label (L), Other (O)
Cont. Size: 4oz (4), 8oz (8), 32oz (32), 40ml VOA (40), 1L (1), 500ml (5), Tedlar Bag (B), Various (V), Other _____
Cont. Type: Glass Amb (A), Glass Clear (C), Plastic (P), Various (V)
Matrix: Air (A), Product (P), Solid (S), Water (W), Liquid (L)
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Notice: Signature of this document and relinquishment of these samples constitutes a valid purchase order from client company to Xenco Laboratories and its affiliates.
Subcontractors and assigns under Xenco's standard terms and conditions of service previously negotiated under a fully executed client contract.
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4143 Greenbriar Drive, Stafford, TX 77477 281-240-4200
 5332, Blackberry Drive, San Antonio, TX 78238 210-509-3334

9701 Harry Hines Blvd., Dallas, TX 75220 214-902-0300
 12600 West I-20 East, Odessa, TX 79765 432-563-1800

Serial #: 330671 Page 2 of 2

Company City: <u>CKA - Midland</u>		Phone: <u>432-686-0086</u>		Lab Only: <u>40271</u>																															
Project Name-Location: <u>NB Unit</u>		Previously done at XENCO: ☐		Project ID: <u>073018</u>																															
Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other		Proj. Manager (PM): <u>Mike Wisniewski</u>		TAT: ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d Standard TAT is project specific. It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data.																															
E-mail Results to: ☒ PM and <u>432-686-0186</u>		Fax No: <u>432-686-0186</u>																																	
Invoice to: ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.		Bill to:																																	
Quote/Pricing: P.O. No: ☐ Call for P.O.		Reg Program: <u>UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP</u>																																	
QAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:		Special DLS (GW DW QAPP MDLs RLS See Lab PM Included Call PM)																																	
Sampler Name: <u>Justin Nixon</u>		Signature: <u>[Signature]</u>																																	
Sample ID	Sampling Date	Time	Depth ft' In" m	Matrix	Composite	Grab	# Containers	Container Size	Container Type	Preservatives	VOA: Full-List BTEX-MTBE EtOH Oxyg VOHs VOAs	VOA: PP TCL DW Appdx-1 Appdx-2 CALL Other:	PAHs SIM 8310 8270	TX-1005 DRO GRO MA EPH MA VPH	SVOCs: Full-List DW BN&AE TCLP PP Appdx-2 CALL	OC Pesticides PCBs Herbicides OP Pesticides	Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx2	SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs)	EDB / DBCP	Method 8021B BTEX	Diss Metals Method 6010B	TDS Sm 2540c	Chlorides E300	TPH GRO+DRO 8015 modified	Hex chrom 7196 A	TATASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d	Addn: PAH above mg/L W, mg/Kg S Highest Hit	Hold Samples (Surcharges will apply and are pre-approved)	Sample Clean-ups are pre-approved as needed	Remarks					
1	MSHSA050813	5-8-13	1040	W	X	7																													
2	MSHSA050813																																		
3	MSHSA050813																																		
4	MSHSA050813																																		
5	MSHSA050813																																		
6	MSHSA050813																																		
7	MSHSA050813																																		
8	MSHSA050813																																		
9	MSHSA050813																																		
10	MSHSA050813																																		
Relinquished by (Initials and Sign): <u>[Signature]</u>		Date & Time: <u>5-8-13 18:50</u>		Relinquished to (Initials and Sign): <u>[Signature]</u>		Date & Time: <u>5-8-13 18:42</u>		Total Containers per COC: <u>41</u>		Cooler Temp: <u>1.5</u> °C		Otherwise agreed on writing. Reports are the Intellectual Property of XENCO until paid. Samples will be held 30 days after final report is e-mailed unless hereby requested. Rush Charges and Collection Fees are pre-approved if needed.																							

Preservatives: Various (V), HCl pH<2 (H), H2SO4 pH<2 (S), HNO3 pH<2 (N), Asbc Acid&NaOH (A), ZnAc&NaOH (Z), (Cool, <4C) (C), None (NA), See Label (L), Other (O)
 Cont. Size: 4oz (4), 8oz (8), 32oz (32), 40ml VOA (40), 1L (1), 500ml (5), Tedlar Bag (B), Various (V), Other _____
 Cont. Type: Glass Amber (A), Glass Clear (C), Plastic (P), Various (V)
 Matrix: Air (A), Product (P), Solid (S), Water (W), Liquid (L)
 Notice: Signature of this document and relinquishment of these samples constitutes a valid purchase order from client company to Xenco Laboratories and its affiliates.
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Prelogin/Nonconformance Report- Sample Log-In

Client: Conestoga Rovers & Associates

Date/ Time Received: 05/08/2013 06:42:00 PM

Work Order #: 462771

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	1.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO3, HCL, H2SO4?	Yes
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	Yes

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:	PH Device/Lot#:
----------	-----------------

Checklist completed by:

Kelsey Brooks
Kelsey Brooks

Date: 05/09/2013

Checklist reviewed by:

Kelsey Brooks
Kelsey Brooks

Date: 05/09/2013

Analytical Report 462771

for

Conestoga Rovers & Associates

Project Manager: Mike Wisniowiecki

North Eunice

073018

31-MAY-13

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

31-MAY-13

Project Manager: **Mike Wisniowiecki**

Conestoga Rovers & Associates

2135 S Loop 250 W

Midland, TX 79703

Reference: XENCO Report No(s): **462771**

North Eunice

Project Address: New Mexico

Mike Wisniowiecki:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 462771. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 462771 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,



Kelsey Brooks

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

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Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW81 SA 050813	W	05-08-13 17:15		462771-001
MW67 SA 050813	W	05-08-13 16:25		462771-002
MW78 SA 050813	W	05-08-13 14:50		462771-003
MW72 SA 050813	W	05-08-13 10:00		462771-004
MW73 SA 050813	W	05-08-13 10:40		462771-005
MW57 SA 050813	W	05-08-13 11:40		462771-006
MW56 SA 050813	W	05-08-13 13:15		462771-007
MW53 SA 050813	W	05-08-13 14:10		462771-008
MW49 SA 050813	W	05-08-13 16:40		462771-009
DUP 2 050813	W	05-08-13 00:00		462771-010
MW 54 SA 050813	W	05-08-13 10:40		462771-011
MW52 SA 050813	W	05-08-13 12:15		462771-012
MW51 SA 050813	W	05-08-13 13:35		462771-013
MW48 SA 050813	W	05-08-13 15:15		462771-014
MW50 SA 050813	W	05-08-13 18:05		462771-015
TRIP BLANK	W	05-07-13 16:00		462771-016

Client Name: Conestoga Rovers & Associates**Project Name: North Eunice**

Project ID: 073018

Work Order Number(s): 462771

Report Date: 31-MAY-13

Date Received: 05/08/2013

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:Batch: LBA-913697 Inorganic Anions by EPA 300/300.1
E300

Batch 913697, Chloride detected in the blank below the MQL but above the SQL; possible laboratory contamination.

Samples affected are: 462771-002, -001, -004, -003, -005.

Batch: LBA-913911 Dissolved Metals per ICP by SW846 6010B
SW6010B

Batch 913911, Arsenic detected in the blank below the MQL but above the SQL; possible laboratory contamination.

Samples affected are: 462771-002, -009, -010, -013, -006, -001, -012, -014, -004, -008, -003, -005, -011, -015, -007.



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW81 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-001

Date Collected: 05.08.13 17.15

Date Received: 05.08.13 18.42

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913697

Date Prep: 05.14.13 00.55

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	567	10.0	0.280	mg/L	05.14.13 00:55		10

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913720

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2000	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913911

Date Prep: 05.15.13 08.30

Subcontractor: SUB: E871002

Prep seq: 638054

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0118	0.0200	0.00756	mg/L	05.16.13 13:52	BJ	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.16.13 13:52	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 13:52	U	1
Manganese	7439-96-5	0.233	0.0200	0.00291	mg/L	05.16.13 13:52		1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913919

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.09.13 10:05	U	1



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW81 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-001

Date Collected: 05.08.13 17.15

Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913896

Date Prep: 05.15.13 15.00

Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 11:10	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 11:10	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 11:10	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 11:10	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	101	70 - 135	%		
o-Terphenyl	90	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913710

Date Prep: 05.14.13 13.00

Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 14:58	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 14:58	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 14:58	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 14:58	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 14:58	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 14:58	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 14:58	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	109	80 - 120	%		
4-Bromofluorobenzene	111	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW67 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-002

Date Collected: 05.08.13 16.25

Date Received: 05.08.13 18.42

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913697

Date Prep: 05.14.13 01.17

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	164	10.0	0.280	mg/L	05.14.13 01:17		10

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913720

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	988	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913911

Date Prep: 05.15.13 08.30

Subcontractor: SUB: E871002

Prep seq: 638054

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0266	0.0200	0.00756	mg/L	05.16.13 14:21	B	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.16.13 14:21	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 14:21	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 14:21	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913919

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.09.13 10:05	U	1



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW67 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-002

Date Collected: 05.08.13 16.25

Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913896

Date Prep: 05.15.13 15.00

Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 11:41	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 11:41	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 11:41	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 11:41	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	101	70 - 135	%		
o-Terphenyl	88	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913710

Date Prep: 05.14.13 13.00

Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 15:15	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 15:15	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 15:15	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 15:15	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 15:15	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 15:15	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 15:15	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	101	80 - 120	%		
4-Bromofluorobenzene	96	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW78 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-003

Date Collected: 05.08.13 14.50

Date Received: 05.08.13 18.42

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913697

Date Prep: 05.14.13 01.39

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	161	5.00	0.140	mg/L	05.14.13 01:39		5

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913720

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	839	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913911

Date Prep: 05.15.13 08.30

Subcontractor: SUB: E871002

Prep seq: 638054

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0106	0.0200	0.00756	mg/L	05.16.13 14:27	BJ	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.16.13 14:27	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 14:27	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 14:27	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913919

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.09.13 10:05	U	1



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW78 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-003

Date Collected: 05.08.13 14.50

Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913896

Date Prep: 05.15.13 15.00

Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 18:25	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 18:25	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 18:25	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 18:25	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	102	70 - 135	%		
o-Terphenyl	92	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913710

Date Prep: 05.14.13 13.00

Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 15:31	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 15:31	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 15:31	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 15:31	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 15:31	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 15:31	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 15:31	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	113	80 - 120	%		
4-Bromofluorobenzene	117	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW72 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-004

Date Collected: 05.08.13 10.00

Date Received: 05.08.13 18.42

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913697

Date Prep: 05.14.13 02.01

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	302	10.0	0.280	mg/L	05.14.13 02:01		10

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913720

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1380	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913911

Date Prep: 05.15.13 08.30

Subcontractor: SUB: E871002

Prep seq: 638054

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0128	0.0200	0.00756	mg/L	05.16.13 14:44	BJ	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.16.13 14:44	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 14:44	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 14:44	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913919

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.09.13 10:05	U	1



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW72 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-004

Date Collected: 05.08.13 10.00

Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914077

Date Prep: 05.17.13 12.00

Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.19.13 03:49	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.19.13 03:49	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.19.13 03:49	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.19.13 03:49	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	102	70 - 135	%		
o-Terphenyl	111	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913710

Date Prep: 05.14.13 13.00

Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 15:47	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 15:47	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 15:47	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 15:47	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 15:47	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 15:47	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 15:47	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	100	80 - 120	%		
4-Bromofluorobenzene	104	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW73 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-005

Date Collected: 05.08.13 10.40

Date Received: 05.08.13 18.42

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913697

Date Prep: 05.14.13 02.22

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	225	10.0	0.280	mg/L	05.14.13 02:22		10

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913720

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1070	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913911

Date Prep: 05.15.13 08.30

Subcontractor: SUB: E871002

Prep seq: 638054

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0135	0.0200	0.00756	mg/L	05.16.13 14:50	BJ	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.16.13 14:50	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 14:50	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 14:50	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913919

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.09.13 10:05	U	1



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW73 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-005

Date Collected: 05.08.13 10.40

Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914077

Date Prep: 05.17.13 12.00

Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.19.13 04:18	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.19.13 04:18	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.19.13 04:18	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.19.13 04:18	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	100	70 - 135	%		
o-Terphenyl	111	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913754

Date Prep: 05.14.13 14.00

Prep seq: 638096

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.15.13 11:34	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.15.13 11:34	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.15.13 11:34	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.15.13 11:34	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.15.13 11:34	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.15.13 11:34	U	
Total BTEX		ND		0.000500	mg/L	05.15.13 11:34	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	100	80 - 120	%		
4-Bromofluorobenzene	108	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW57 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-006

Date Collected: 05.08.13 11.40

Date Received: 05.08.13 18.42

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913865

Date Prep: 05.13.13 10.00

Prep seq: 638069

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	260	10.0	0.280	mg/L	05.14.13 04:32		10

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913720

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1330	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913911

Date Prep: 05.15.13 08.30

Subcontractor: SUB: E871002

Prep seq: 638054

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0146	0.0200	0.00756	mg/L	05.16.13 14:56	BJ	1
Chromium	7440-47-3	0.0215	0.0100	0.00355	mg/L	05.16.13 14:56		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 14:56	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 14:56	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913919

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.0215	0.0100	0.00500	mg/L	05.09.13 10:05		1



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW57 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-006

Date Collected: 05.08.13 11.40

Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914077

Date Prep: 05.17.13 12.00

Prep seq: 638325

Parameter	CAS Number	Result	ML	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.19.13 04:49	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.19.13 04:49	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.19.13 04:49	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.19.13 04:49	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	90	70 - 135	%		
o-Terphenyl	97	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913754

Date Prep: 05.14.13 14.00

Prep seq: 638096

Parameter	CAS Number	Result	ML	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.15.13 12:07	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.15.13 12:07	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.15.13 12:07	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.15.13 12:07	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.15.13 12:07	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.15.13 12:07	U	
Total BTEX		ND		0.000500	mg/L	05.15.13 12:07	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	108	80 - 120	%		
4-Bromofluorobenzene	85	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW56 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-007

Date Collected: 05.08.13 13.15

Date Received: 05.08.13 18.42

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913865

Date Prep: 05.13.13 10.00

Prep seq: 638069

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1300	20.0	0.560	mg/L	05.14.13 05:16		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913720

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3570	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913911

Date Prep: 05.15.13 08.30

Subcontractor: SUB: E871002

Prep seq: 638054

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0183	0.0200	0.00756	mg/L	05.16.13 15:02	BJ	1
Chromium	7440-47-3	0.401	0.0100	0.00355	mg/L	05.16.13 15:02		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 15:02	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 15:02	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913919

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.435	0.0100	0.00500	mg/L	05.09.13 10:05		1



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW56 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-007

Date Collected: 05.08.13 13.15

Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914077

Date Prep: 05.17.13 12.00

Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.19.13 05:17	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.19.13 05:17	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.19.13 05:17	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.19.13 05:17	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	106	70 - 135	%		
o-Terphenyl	116	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913754

Date Prep: 05.14.13 14.00

Prep seq: 638096

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 22:24	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 22:24	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 22:24	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 22:24	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 22:24	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 22:24	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 22:24	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	86	80 - 120	%		
4-Bromofluorobenzene	108	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW53 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-008

Date Collected: 05.08.13 14.10

Date Received: 05.08.13 18.42

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913865

Date Prep: 05.13.13 10.00

Prep seq: 638069

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	308	10.0	0.280	mg/L	05.14.13 05:38		10

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913720

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1240	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913911

Date Prep: 05.15.13 08.30

Subcontractor: SUB: E871002

Prep seq: 638054

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0193	0.0200	0.00756	mg/L	05.16.13 15:08	BJ	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.16.13 15:08	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 15:08	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 15:08	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913919

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.09.13 10:05	U	1



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW53 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-008

Date Collected: 05.08.13 14.10

Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914077

Date Prep: 05.17.13 12.00

Prep seq: 638325

Parameter	CAS Number	Result	ML	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.19.13 05:44	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.19.13 05:44	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.19.13 05:44	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.19.13 05:44	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	93	70 - 135	%		
o-Terphenyl	101	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913754

Date Prep: 05.14.13 14.00

Prep seq: 638096

Parameter	CAS Number	Result	ML	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 22:40	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 22:40	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 22:40	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 22:40	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 22:40	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 22:40	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 22:40	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	93	80 - 120	%		
4-Bromofluorobenzene	105	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW49 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-009

Date Collected: 05.08.13 16.40

Date Received: 05.08.13 18.42

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913865

Date Prep: 05.13.13 10.00

Prep seq: 638069

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1410	20.0	0.560	mg/L	05.14.13 05:59		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913720

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3620	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913911

Date Prep: 05.15.13 08.30

Subcontractor: SUB: E871002

Prep seq: 638054

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0128	0.0200	0.00756	mg/L	05.16.13 15:14	BJ	1
Chromium	7440-47-3	0.127	0.0100	0.00355	mg/L	05.16.13 15:14		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 15:14	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 15:14	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913919

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.133	0.0100	0.00500	mg/L	05.09.13 10:05		1



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW49 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-009

Date Collected: 05.08.13 16.40

Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914077

Date Prep: 05.17.13 12.00

Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.19.13 06:42	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.19.13 06:42	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.19.13 06:42	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.19.13 06:42	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	94	70 - 135	%		
o-Terphenyl	102	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913754

Date Prep: 05.14.13 14.00

Prep seq: 638096

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 22:57	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 22:57	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 22:57	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 22:57	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 22:57	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 22:57	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 22:57	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	102	80 - 120	%		
4-Bromofluorobenzene	107	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: DUP 2 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-010

Date Collected: 05.08.13 00.00

Date Received: 05.08.13 18.42

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913865

Date Prep: 05.13.13 10.00

Prep seq: 638069

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	966	20.0	0.560	mg/L	05.14.13 06:21		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913720

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3530	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913911

Date Prep: 05.15.13 08.30

Subcontractor: SUB: E871002

Prep seq: 638054

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0118	0.0200	0.00756	mg/L	05.16.13 15:20	BJ	1
Chromium	7440-47-3	0.750	0.0100	0.00355	mg/L	05.16.13 15:20		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 15:20	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 15:20	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913921

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.772	0.100	0.0500	mg/L	05.09.13 10:05		10



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: DUP 2 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-010

Date Collected: 05.08.13 00.00

Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914077

Date Prep: 05.17.13 12.00

Prep seq: 638325

Parameter	CAS Number	Result	ML	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.19.13 07:10	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.19.13 07:10	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.19.13 07:10	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.19.13 07:10	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	97	70 - 135	%		
o-Terphenyl	104	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913754

Date Prep: 05.14.13 14.00

Prep seq: 638096

Parameter	CAS Number	Result	ML	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 23:13	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 23:13	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 23:13	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 23:13	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 23:13	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 23:13	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 23:13	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	94	80 - 120	%		
4-Bromofluorobenzene	91	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW 54 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-011

Date Collected: 05.08.13 10.40

Date Received: 05.08.13 18.42

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913865

Date Prep: 05.13.13 10.00

Prep seq: 638069

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	752	20.0	0.560	mg/L	05.14.13 06:43		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913720

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2360	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913911

Date Prep: 05.15.13 08.30

Subcontractor: SUB: E871002

Prep seq: 638054

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0116	0.0200	0.00756	mg/L	05.16.13 15:26	BJ	1
Chromium	7440-47-3	0.143	0.0100	0.00355	mg/L	05.16.13 15:26		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 15:26	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 15:26	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913921

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.145	0.0100	0.00500	mg/L	05.09.13 10:05		1



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW 54 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-011

Date Collected: 05.08.13 10.40

Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914077

Date Prep: 05.17.13 12.00

Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.19.13 07:37	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.19.13 07:37	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.19.13 07:37	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.19.13 07:37	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	99	70 - 135	%		
o-Terphenyl	108	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913754

Date Prep: 05.14.13 14.00

Prep seq: 638096

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 23:30	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 23:30	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 23:30	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 23:30	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 23:30	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 23:30	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 23:30	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	81	80 - 120	%		
4-Bromofluorobenzene	83	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW52 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-012

Date Collected: 05.08.13 12.15

Date Received: 05.08.13 18.42

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913865

Date Prep: 05.13.13 10.00

Prep seq: 638069

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1410	20.0	0.560	mg/L	05.14.13 07:48		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913720

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3650	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913911

Date Prep: 05.15.13 08.30

Subcontractor: SUB: E871002

Prep seq: 638054

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0232	0.0200	0.00756	mg/L	05.16.13 15:32	B	1
Chromium	7440-47-3	0.254	0.0100	0.00355	mg/L	05.16.13 15:32		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 15:32	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 15:32	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913921

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.255	0.0100	0.00500	mg/L	05.09.13 10:05		1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW52 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-012

Date Collected: 05.08.13 12.15

Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914077

Date Prep: 05.17.13 12.00

Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.19.13 08:04	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.19.13 08:04	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.19.13 08:04	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.19.13 08:04	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	98	70 - 135	%		
o-Terphenyl	107	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913754

Date Prep: 05.14.13 14.00

Prep seq: 638096

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 23:46	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 23:46	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 23:46	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 23:46	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 23:46	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.14.13 23:46	U	
Total BTEX		ND		0.000500	mg/L	05.14.13 23:46	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	104	80 - 120	%		
4-Bromofluorobenzene	85	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW51 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-013

Date Collected: 05.08.13 13.35

Date Received: 05.08.13 18.42

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913865

Date Prep: 05.13.13 10.00

Prep seq: 638069

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1060	20.0	0.560	mg/L	05.14.13 08:09		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913720

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3540	5.00	5.00	mg/L	05.14.13 12:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913911

Date Prep: 05.15.13 08.30

Subcontractor: SUB: E871002

Prep seq: 638054

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0160	0.0200	0.00756	mg/L	05.16.13 15:38	BJ	1
Chromium	7440-47-3	0.759	0.0100	0.00355	mg/L	05.16.13 15:38		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 15:38	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 15:38	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913921

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.743	0.100	0.0500	mg/L	05.09.13 10:05		10



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW51 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-013

Date Collected: 05.08.13 13.35

Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914077

Date Prep: 05.17.13 12.00

Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.19.13 08:34	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.19.13 08:34	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.19.13 08:34	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.19.13 08:34	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	99	70 - 135	%		
o-Terphenyl	108	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913754

Date Prep: 05.14.13 14.00

Prep seq: 638096

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.15.13 00:02	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.15.13 00:02	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.15.13 00:02	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.15.13 00:02	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.15.13 00:02	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.15.13 00:02	U	
Total BTEX		ND		0.000500	mg/L	05.15.13 00:02	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	85	80 - 120	%		
4-Bromofluorobenzene	92	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW48 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-014

Date Collected: 05.08.13 15.15

Date Received: 05.08.13 18.42

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913865

Date Prep: 05.13.13 10.00

Prep seq: 638069

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	613	20.0	0.560	mg/L	05.14.13 08:31		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913961

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2370	5.00	5.00	mg/L	05.15.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913911

Date Prep: 05.15.13 08.30

Subcontractor: SUB: E871002

Prep seq: 638054

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0115	0.0200	0.00756	mg/L	05.16.13 15:56	BJ	1
Chromium	7440-47-3	0.458	0.0100	0.00355	mg/L	05.16.13 15:56		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 15:56	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 15:56	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913921

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.464	0.0100	0.00500	mg/L	05.09.13 10:05		1



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW48 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-014

Date Collected: 05.08.13 15.15

Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914077

Date Prep: 05.17.13 12.00

Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.19.13 09:06	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.19.13 09:06	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.19.13 09:06	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.19.13 09:06	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	103	70 - 135	%		
o-Terphenyl	113	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913754

Date Prep: 05.14.13 14.00

Prep seq: 638096

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.15.13 00:18	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.15.13 00:18	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.15.13 00:18	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.15.13 00:18	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.15.13 00:18	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.15.13 00:18	U	
Total BTEX		ND		0.000500	mg/L	05.15.13 00:18	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	99	80 - 120	%		
4-Bromofluorobenzene	117	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW50 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-015

Date Collected: 05.08.13 18.05

Date Received: 05.08.13 18.42

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913865

Date Prep: 05.13.13 10.00

Prep seq: 638069

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1300	20.0	0.560	mg/L	05.14.13 08:53		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913961

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3640	5.00	5.00	mg/L	05.15.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913911

Date Prep: 05.15.13 08.30

Subcontractor: SUB: E871002

Prep seq: 638054

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0112	0.0200	0.00756	mg/L	05.16.13 16:01	BJ	1
Chromium	7440-47-3	0.197	0.0100	0.00355	mg/L	05.16.13 16:01		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 16:01	U	1
Manganese	7439-96-5	0.0153	0.0200	0.00291	mg/L	05.16.13 16:01	J	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913921

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.198	0.0100	0.00500	mg/L	05.09.13 10:05		1



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW50 SA 050813

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-015

Date Collected: 05.08.13 18.05

Date Received: 05.08.13 18.42

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914077

Date Prep: 05.17.13 12.00

Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 14:37	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 14:37	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 14:37	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 14:37	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	108	70 - 135	%		
o-Terphenyl	119	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913754

Date Prep: 05.14.13 14.00

Prep seq: 638096

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	0.00200	0.00100	0.000500	mg/L	05.15.13 13:13		1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.15.13 13:13	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.15.13 13:13	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.15.13 13:13	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.15.13 13:13	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.15.13 13:13	U	
Total BTEX		0.00200		0.000500	mg/L	05.15.13 13:13		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	108	80 - 120	%		
4-Bromofluorobenzene	101	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: TRIP BLANK

Matrix: Water

Sample Depth:

Lab Sample Id: 462771-016

Date Collected: 05.07.13 16.00

Date Received: 05.08.13 18.42

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913754

Date Prep: 05.14.13 14.00

Prep seq: 638096

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.15.13 01:07	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.15.13 01:07	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.15.13 01:07	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.15.13 01:07	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.15.13 01:07	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.15.13 01:07	U	
Total BTEX		ND		0.000500	mg/L	05.15.13 01:07	U	

Surrogate

% Recovery

Limits

Units

Analysis Date

Flag

1,4-Difluorobenzene
4-Bromofluorobenzene

87
96

80 - 120
80 - 120

%
%

Sample Id: 638054-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638054-1-BLK

Date Collected:

Date Received:

Analytical Method: Dissolved Metals per ICP by SW846 6010B

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 913911

Date Prep: 05.15.13 08.30

Subcontractor: SUB: E871002

Prep seq: 638054

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.00832	0.0200	0.00756	mg/L	05.16.13 13:35	J	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.16.13 13:35	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 13:35	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 13:35	U	1

Sample Id: 638065-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638065-1-BLK

Date Collected:

Date Received:

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913697

Date Prep: 05.13.13 16.15

Prep seq: 638065

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	0.548	1.00	0.0280	mg/L	05.13.13 16:15	J	1



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 638069-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638069-1-BLK

Date Collected:

Date Received:

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913865

Date Prep: 05.13.13 10.00

Prep seq: 638069

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	ND	1.00	0.0280	mg/L	05.14.13 03:27	U	1

Sample Id: 638075-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638075-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913710

Date Prep: 05.14.13 13.00

Prep seq: 638075

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 14:42	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 14:42	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 14:42	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 14:42	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 14:42	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	81	80 - 120	%		
4-Bromofluorobenzene	94	80 - 120	%		



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 638096-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638096-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913754

Date Prep: 05.14.13 14.00

Prep seq: 638096

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.14.13 21:33	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.14.13 21:33	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.14.13 21:33	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.14.13 21:33	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.14.13 21:33	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	87	80 - 120	%		
4-Bromofluorobenzene	118	80 - 120	%		

Sample Id: 638218-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638218-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913896

Date Prep: 05.15.13 15.00

Prep seq: 638218

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.16.13 04:57	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.16.13 04:57	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.16.13 04:57	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.16.13 04:57	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	113	70 - 135	%		
o-Terphenyl	104	70 - 135	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 638325-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: **638325-1-BLK**

Date Collected:

Date Received:

Analytical Method: **TPH By SW8015 Mod**

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914077

Date Prep: 05.17.13 12.00

Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.19.13 02:29	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.19.13 02:29	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.19.13 02:29	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	103	70 - 135	%		
o-Terphenyl	112	70 - 135	%		

Sample Id: 913720-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: **913720-1-BLK**

Date Collected:

Date Received:

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913720

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	ND	5.00	5.00	mg/L	05.14.13 12:00	U	1

Sample Id: 913919-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: **913919-1-BLK**

Date Collected:

Date Received:

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913919

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.09.13 10:05	U	1



Certificate of Analytical Results 462771



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 913921-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913921-1-BLK

Date Collected:

Date Received:

Analytical Method: Chromium, Hexavalent by SW 7196A

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913921

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.09.13 10:05	U	1

Sample Id: 913961-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913961-1-BLK

Date Collected:

Date Received:

Analytical Method: TDS by SM2540C

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913961

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	ND	5.00	5.00	mg/L	05.15.13 11:00	U	1

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **SQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462771,

Project ID: 073018

Lab Batch #: 913710

Sample: 638075-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 14:09	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0291	0.0300	97	80-120
4-Bromofluorobenzene		0.0255	0.0300	85	80-120

Lab Batch #: 913710

Sample: 638075-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 14:26	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0264	0.0300	88	80-120
4-Bromofluorobenzene		0.0284	0.0300	95	80-120

Lab Batch #: 913710

Sample: 638075-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 14:42	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0242	0.0300	81	80-120
4-Bromofluorobenzene		0.0283	0.0300	94	80-120

Lab Batch #: 913710

Sample: 462771-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 20:11	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0290	0.0300	97	80-120
4-Bromofluorobenzene		0.0290	0.0300	97	80-120

Lab Batch #: 913710

Sample: 462771-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/15/13 10:45	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0275	0.0300	92	80-120
4-Bromofluorobenzene		0.0283	0.0300	94	80-120

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462771,

Project ID: 073018

Lab Batch #: 913754

Sample: 638096-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 21:17	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0279	0.0300	93	80-120
4-Bromofluorobenzene		0.0250	0.0300	83	80-120

Lab Batch #: 913754

Sample: 638096-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/14/13 21:33	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0260	0.0300	87	80-120
4-Bromofluorobenzene		0.0355	0.0300	118	80-120

Lab Batch #: 913754

Sample: 462771-005 S / MS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/15/13 01:24	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0281	0.0300	94	80-120
4-Bromofluorobenzene		0.0304	0.0300	101	80-120

Lab Batch #: 913754

Sample: 638096-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/15/13 11:18	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0295	0.0300	98	80-120
4-Bromofluorobenzene		0.0312	0.0300	104	80-120

Lab Batch #: 913754

Sample: 462771-005 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/15/13 11:51	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0302	0.0300	101	80-120
4-Bromofluorobenzene		0.0283	0.0300	94	80-120

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462771,

Project ID: 073018

Lab Batch #: 913896

Sample: 638218-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 04:26

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	13.0	10.0	130	70-135	
o-Terphenyl	5.51	5.00	110	70-135	

Lab Batch #: 913896

Sample: 638218-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 04:57

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	11.3	10.0	113	70-135	
o-Terphenyl	5.20	5.00	104	70-135	

Lab Batch #: 913896

Sample: 462675-012 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 16:09

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	11.9	10.0	119	70-135	
o-Terphenyl	4.70	5.00	94	70-135	

Lab Batch #: 913896

Sample: 638218-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 17:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	12.4	10.0	124	70-135	
o-Terphenyl	4.53	5.00	91	70-135	

Lab Batch #: 914077

Sample: 638325-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/19/13 01:35

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	12.2	10.0	122	70-135	
o-Terphenyl	4.68	5.00	94	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462771,

Project ID: 073018

Lab Batch #: 914077

Sample: 638325-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/19/13 02:02

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	11.6	10.0	116	70-135	
o-Terphenyl	4.60	5.00	92	70-135	

Lab Batch #: 914077

Sample: 638325-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/19/13 02:29

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	10.3	10.0	103	70-135	
o-Terphenyl	5.60	5.00	112	70-135	

Lab Batch #: 914077

Sample: 462932-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/19/13 03:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	9.57	10.0	96	70-135	
o-Terphenyl	4.91	5.00	98	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Project Name: North Eunice

Work Order #: 462771

Project ID:

073018

Lab Batch #: 913919

Sample: 913919-1-BKS

Matrix: Water

Date Analyzed: 05/09/2013

Date Prepared: 05/09/2013

Analyst: WRU

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Hexavalent Chromium	<0.00500	0.0250	0.0233	93	80-120	

Lab Batch #: 913921

Sample: 913921-1-BKS

Matrix: Water

Date Analyzed: 05/09/2013

Date Prepared: 05/09/2013

Analyst: WRU

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Hexavalent Chromium	<0.00500	0.0250	0.0209	84	80-120	

Lab Batch #: 913720

Sample: 913720-1-BKS

Matrix: Water

Date Analyzed: 05/14/2013

Date Prepared: 05/14/2013

Analyst: AMB

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

TDS by SM2540C	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Total dissolved solids	<5.00	1000	1010	101	80-120	

Lab Batch #: 913961

Sample: 913961-1-BKS

Matrix: Water

Date Analyzed: 05/15/2013

Date Prepared: 05/15/2013

Analyst: AMB

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

TDS by SM2540C	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Total dissolved solids	<5.00	1000	1020	102	80-120	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: North Eunice

Work Order #: 462771

Analyst: DYV

Date Prepared: 05/14/2013

Project ID: 073018

Date Analyzed: 05/14/2013

Lab Batch ID: 913710

Sample: 638075-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000500	0.100	0.106	106	0.100	0.109	109	3	70-125	25	
Toluene	<0.00100	0.100	0.103	103	0.100	0.116	116	12	70-125	25	
Ethylbenzene	<0.000700	0.100	0.111	111	0.100	0.115	115	4	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.207	104	0.200	0.229	115	10	70-131	25	
o-Xylene	<0.000700	0.100	0.102	102	0.100	0.115	115	12	71-133	25	

Analyst: DYV

Date Prepared: 05/14/2013

Date Analyzed: 05/15/2013

Lab Batch ID: 913754

Sample: 638096-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000500	0.100	0.112	112	0.100	0.0903	90	21	70-125	25	
Toluene	<0.00100	0.100	0.117	117	0.100	0.0933	93	23	70-125	25	
Ethylbenzene	<0.000700	0.100	0.115	115	0.100	0.106	106	8	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.235	118	0.200	0.200	100	16	70-131	25	
o-Xylene	<0.000700	0.100	0.114	114	0.100	0.102	102	11	71-133	25	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: North Eunice

Work Order #: 462771

Analyst: KUG

Date Prepared: 05/15/2013

Project ID: 073018

Date Analyzed: 05/16/2013

Lab Batch ID: 913911

Sample: 638054-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Arsenic	0.00832	1.00	1.01	101	1.00	0.959	96	5	80-120	20	
Chromium	<0.00355	1.00	1.02	102	1.00	0.965	97	6	80-120	20	
Iron	<0.0188	5.00	4.84	97	5.00	4.75	95	2	80-120	20	
Manganese	<0.00291	1.00	0.983	98	1.00	0.967	97	2	80-120	20	

Analyst: AMB

Date Prepared: 05/13/2013

Date Analyzed: 05/13/2013

Lab Batch ID: 913697

Sample: 638065-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	0.548	25.0	26.0	104	25.0	25.9	104	0	80-120	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: North Eunice

Work Order #: 462771

Analyst: AMB

Date Prepared: 05/13/2013

Project ID: 073018

Date Analyzed: 05/14/2013

Lab Batch ID: 913865

Sample: 638069-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.0280	25.0	26.1	104	25.0	26.0	104	0	80-120	20	

Analyst: DYV

Date Prepared: 05/15/2013

Date Analyzed: 05/16/2013

Lab Batch ID: 913896

Sample: 638218-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	116	116	100	110	110	5	70-135	25	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	123	123	100	120	120	2	70-135	25	

Analyst: DYV

Date Prepared: 05/17/2013

Date Analyzed: 05/19/2013

Lab Batch ID: 914077

Sample: 638325-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	103	103	100	117	117	13	70-135	25	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	111	111	100	124	124	11	70-135	25	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: North Eunice

Work Order #: 462771

Lab Batch #: 913697

Date Analyzed: 05/13/2013

Date Prepared: 05/13/2013

Project ID: 073018

Analyst: AMB

QC- Sample ID: 462675-001 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	394	500	959	113	80-120	

Lab Batch #: 913697

Date Analyzed: 05/13/2013

Date Prepared: 05/13/2013

Analyst: AMB

QC- Sample ID: 462675-011 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	1290	500	1800	102	80-120	

Lab Batch #: 913865

Date Analyzed: 05/14/2013

Date Prepared: 05/13/2013

Analyst: AMB

QC- Sample ID: 462771-006 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	260	250	536	110	80-120	

Lab Batch #: 913896

Date Analyzed: 05/16/2013

Date Prepared: 05/15/2013

Analyst: DYV

QC- Sample ID: 462675-012 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY						
TPH by SW8015 Mod	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	93.8	94	70-135	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	101	101	70-135	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$
 Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$
 All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS Recoveries



Project Name: North Eunice

Work Order #: 462771

Lab Batch #: 914077

Date Analyzed: 05/19/2013

Date Prepared: 05/17/2013

Project ID: 073018

Analyst: DYV

QC- Sample ID: 462932-001 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
C6-C12 Gasoline Range Hydrocarbons	5.48	100	104	99	70-135	
C12-C28 Diesel Range Hydrocarbons	40.1	100	137	97	70-135	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$

Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS / MSD Recoveries



Project Name: North Eunice

Work Order # : 462771

Project ID: 073018

Lab Batch ID: 913710

QC- Sample ID: 462771-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/14/2013

Date Prepared: 05/14/2013

Analyst: DYV

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000500	0.100	0.100	100	0.100	0.102	102	2	70-125	25	
Toluene	<0.00100	0.100	0.106	106	0.100	0.109	109	3	70-125	25	
Ethylbenzene	<0.000700	0.100	0.113	113	0.100	0.119	119	5	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.211	106	0.200	0.229	115	8	70-131	25	
o-Xylene	<0.000700	0.100	0.0996	100	0.100	0.112	112	12	71-133	25	

Lab Batch ID: 913754

QC- Sample ID: 462771-005 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/15/2013

Date Prepared: 05/14/2013

Analyst: DYV

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000500	0.100	0.0997	100	0.100	0.0942	94	6	70-125	25	
Toluene	<0.00100	0.100	0.102	102	0.100	0.0981	98	4	70-125	25	
Ethylbenzene	<0.000700	0.100	0.108	108	0.100	0.105	105	3	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.201	101	0.200	0.202	101	0	70-131	25	
o-Xylene	<0.000700	0.100	0.0959	96	0.100	0.0989	99	3	71-133	25	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: North Eunice

Work Order # : 462771

Project ID: 073018

Lab Batch ID: 913919

QC- Sample ID: 462735-001 S

Batch #: 1 **Matrix:** Water

Date Analyzed: 05/09/2013

Date Prepared: 05/09/2013

Analyst: WRU

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Hexavalent Chromium	<0.00500	0.250	0.242	97	0.250	0.237	95	2	80-120	20	

Lab Batch ID: 913911

QC- Sample ID: 462771-011 S

Batch #: 1 **Matrix:** Water

Date Analyzed: 05/09/2013

Date Prepared: 05/09/2013

Analyst: WRU

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Hexavalent Chromium	0.145	0.250	0.369	90	0.250	0.378	93	2	80-120	20	

Lab Batch ID: 913911

QC- Sample ID: 462771-001 S

Batch #: 1 **Matrix:** Water

Date Analyzed: 05/16/2013

Date Prepared: 05/15/2013

Analyst: KUG

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Arsenic	0.0118	1.00	1.04	103	1.00	0.986	97	5	75-125	20	
Chromium	<0.00355	1.00	0.972	97	1.00	0.922	92	5	75-125	20	
Iron	<0.0188	5.00	4.68	94	5.00	4.34	87	8	75-125	20	
Manganese	0.233	1.00	1.19	96	1.00	1.15	92	3	75-125	20	

Matrix Spike Percent Recovery $[D] = 100 * (C - A) / B$
Relative Percent Difference $RPD = 200 * |(C - F) / (C + F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 * (F - A) / E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Project Name: North Eunice

Work Order #: 462771

Lab Batch #: 913919

Project ID: 073018

Date Analyzed: 05/09/2013 10:05

Date Prepared: 05/09/2013

Analyst: WRU

QC- Sample ID: 462735-001 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

Chromium, Hexavalent by SW 7196A	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Hexavalent Chromium	<0.00500	<0.00500	0	20	U

Lab Batch #: 913921

Date Analyzed: 05/09/2013 10:05

Date Prepared: 05/09/2013

Analyst: WRU

QC- Sample ID: 462771-011 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

Chromium, Hexavalent by SW 7196A	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Hexavalent Chromium	0.145	0.145	0	20	

Lab Batch #: 913720

Date Analyzed: 05/14/2013 12:00

Date Prepared: 05/14/2013

Analyst: AMB

QC- Sample ID: 462675-013 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	2100	2070	1	30	

Lab Batch #: 913720

Date Analyzed: 05/14/2013 12:00

Date Prepared: 05/14/2013

Analyst: AMB

QC- Sample ID: 462771-009 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	3620	3780	4	30	

Spike Relative Difference $RPD = 200 * |(B-A)/(B+A)|$
 All Results are based on MDL and validated for QC purposes.
 BRL - Below Reporting Limit

Project Name: North Eunice

Work Order #: 462771

Lab Batch #: 913961

Project ID: 073018

Date Analyzed: 05/15/2013 11:00

Date Prepared: 05/15/2013

Analyst: AMB

QC- Sample ID: 462771-014 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	2370	2460	4	30	

Lab Batch #: 913961

Date Analyzed: 05/15/2013 11:00

Date Prepared: 05/15/2013

Analyst: AMB

QC- Sample ID: 462852-009 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	3420	3590	5	30	

Spike Relative Difference RPD $200 * |(B-A)/(B+A)|$
 All Results are based on MDL and validated for QC purposes.
 BRL - Below Reporting Limit

Company City: <u>CEA-Midland</u>		Phone: <u>432-686-0086</u>																																
Project Name/Location: <u>N. Eureka</u>		Previously done at XENCO ☐																																
Project State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other		Project ID: <u>073018</u>																																
E-mail Results to: <u>Mike Wisniewski</u>		Fax No: <u>432-686-0186</u>																																
Invoice to ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.		Lab Only: <u>402771</u>																																
Bill to:		TAT: ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d Standard TAT is project specific. It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data.																																
Quote/Pricing: P.O. No: ☐ Call for P.O.		Reg Program: UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP																																
GAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:		Special DLs (GW DW GAPP MDLs RLs See Lab PM Included Call PM)																																
Sampler Name: <u>Justin Nixon</u> Signature: <u>[Signature]</u>																																		
Sample ID	Sampling Date	Time	Depth ft' in" m	Matrix	Composite	Grab	# Containers	Container Size	Container Type	Preservatives	VOA: Full-List BTEX-MTBE EtOH Oxyg VOHs VOAs	VOA: PP TCL DW Appdx-1 Appdx-2 CALL Other:	PAHs SIM 8310 8270	TX-1005 DRO GRO MA EPH MA VPH	SVOCs: Full-List DW BN&AE TCLP PP Appdx-2 CALL	OC Pesticides PCBs Herbicides OP Pesticides	Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx2	SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs)	EDB / DBCP	Method 8021B BTEX	Diss Metals Method 6010B	TDS Sm 2540 C	Chlorides E300	TPH GRO + DRO 8015 modified	Hex Chrome 7196A	TATASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d	Addn: PAH above mg/L W, mg/Kg S Highest Hit	Hold Samples (Surcharges will apply and are pre-approved)	Sample Clean-ups are pre-approved as needed	Remarks				
1	MW815A 050813	5-8-13	1715	W			8																											
2	MW675A 050813		1625				8																											
3	MW785A 050813		1450				8																											
4	MW725A 050813		1600				7																											
5	MW735A 050813		1040																															
6	MW575A 050813		1140																															
7	MW565A 050813		135																															
8	MW535A 050813		1410																															
9	MW495A 050813		1640																															
10	DUG 050813																																	
Relinquished by (Initials and Sign)		Date & Time		Relinquished to (Initials and Sign)		Date & Time		Total Containers per COC: <u>73</u>		Cooler Temp: <u>1.5°C</u>																								
1) <u>[Signature]</u>		5-8-13 1850		2) <u>[Signature]</u>		5-8-13 1842		Total Containers per COC: <u>73</u>		Cooler Temp: <u>1.5°C</u>																								
2) <u>[Signature]</u>				3) <u>[Signature]</u>																														
3) <u>[Signature]</u>				4) <u>[Signature]</u>																														

Preservatives: Various (V), HCl pH<2 (H), H2SO4 pH<2 (S), HNO3 pH<2 (N), Asbc Acid&NaOH (A), ZnAc&NaOH (Z), (Cool, <4C) (C), None (NA), See Label (L), Other (O)
Cont. Size: 4oz (4), 8oz (8), 32oz (32), 40ml VOA (40), 1L (1), 500ml (5), Tediad Bag (B), Various (V), Other _____
Cont. Type: Glass Amb (A), Glass Clear (C), Plastic (P), Various (V)
Matrix: Air (A), Product (P), Solid (S), Water (W), Liquid (L)
Committed to Excellence in Service and Quality
Notice: Signature of this document and relinquishment of these samples constitutes a valid purchase order from client company to Xenco Laboratories and its affiliates.
Subcontractors and assigns under Xenco's standard terms and conditions of service previously negotiated under a fully executed client contract.
www.xenco.com

Company City: <u>CKA - Midland</u>		Phone: <u>432-686-0086</u>	
Project Name-Location: <u>NB Unit</u>		Previously done at XENCO: ☐ Project ID: <u>073018</u>	
Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other		Proj. Manager (PM): <u>Mike Wisniewski</u>	
E-mail Results to: ☒ PM and <u>432-686-0186</u>		Fax No: <u>432-686-0186</u>	
Invoice to: ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.		Bill to:	
Quote/Pricing: <u>P.O. No:</u>		☐ Call for P.O.	
Reg Program: <u>UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP</u>			
QAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:			
Special DLS (GW DW QAPP MDLs RLS See Lab PM Included Call PM)			
Sampler Name: <u>Justin Nixon</u>		Signature: <u>[Signature]</u>	
Sample ID	Sampling Date	Time	Depth ft' In" m
1 <u>MUS4050813</u>	<u>5-8-13</u>	<u>1040</u>	<u>W</u>
2 <u>MUS4050813</u>	<u>1215</u>	<u>W</u>	<u>X</u>
3 <u>MUS4050813</u>	<u>1335</u>	<u>W</u>	<u>7</u>
4 <u>MUS4050813</u>	<u>1515</u>	<u>W</u>	<u>7</u>
5 <u>MUS4050813</u>	<u>1805</u>	<u>W</u>	<u>7</u>
6 <u>MUS4050813</u>	<u>1805</u>	<u>W</u>	<u>7</u>
7 <u>Trce Blank</u>	<u>05-04-13</u>	<u>16:00</u>	<u>W</u>
8			
9			
10			
Relinquished by (Initials and Sign): <u>[Signature]</u>		Date & Time: <u>5-8-13 18:50</u>	
Relinquished to (Initials and Sign): <u>[Signature]</u>		Date & Time: <u>5-8-13 18:42</u>	
Total Containers per COC: <u>41</u>		Cooler Temp: <u>1.5</u> °C	
Preservatives: Various (V), HCl pH<2 (H), H2SO4 pH<2 (S), HNO3 pH<2 (N), Asbc Acid&NaOH (A), ZnAc&NaOH (Z), (Cool, <4C) (C), None (NA), See Label (L), Other (O)			
Cont. Size: 4oz (4), 8oz (8), 32oz (32), 40ml VOA (40), 1L (1), 500ml (5), Tedlar Bag (B), Various (V), Other			
Cont. Type: Glass Amber (A), Glass Clear (C), Plastic (P), Various (V)			
Matrix: Air (A), Product (P), Solid (S), Water (W), Liquid (L)			
TAT: ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d Standard TAT is project specific. It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data.			
VOA: Full-List BTEX-MTBE EtOH Oxyg VOHS VOAS VOA: PP TCL DW Appdx-1 Appdx-2 CALL Other: PAHs SIM 8310 8270 TX-1005 DRO GRO MAEPH MA VPH SVOCs: Full-List DW BN&AE TCLP PP Appdx-2 CALL OC Pesticides PCBs Herbicides OP Pesticides Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx2 SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs) EDB / DBCP			
Method 8021B BTEX Diss Metals Method 6010B TDS Sm 2540C Chlorides E300 TPH GRO+DRO 8015 modified Hex chrom 7196 A			
TATASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d Addn: PAH above mg/L W, mg/Kg S Highest Hit Hold Samples (Surcharges will apply and are pre-approved) Sample Clean-ups are pre-approved as needed			
Remarks			
Addn:	Date	Rcv. by:	From:



Prelogin/Nonconformance Report- Sample Log-In

Client: Conestoga Rovers & Associates

Date/ Time Received: 05/08/2013 06:42:00 PM

Work Order #: 462771

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	Yes

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:	PH Device/Lot#:
----------	-----------------

Checklist completed by:	 Kelsey Brooks	Date: 05/09/2013
Checklist reviewed by:	 Kelsey Brooks	Date: 05/09/2013

Analytical Report 462852

for

Conestoga Rovers & Associates

Project Manager: Mike Wisniowiecki

North Eunice

073018

22-MAY-13

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

22-MAY-13

Project Manager: **Mike Wisniowiecki**

Conestoga Rovers & Associates

2135 S Loop 250 W

Midland, TX 79703

Reference: XENCO Report No(s): **462852**

North Eunice

Project Address: New Mexico

Mike Wisniowiecki:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 462852. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 462852 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,



Kelsey Brooks

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 462852



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW79 SA 050913	W	05-09-13 10:05		462852-001
MW80 SA 050913	W	05-09-13 11:00		462852-002
IW16 050913	W	05-09-13 12:40		462852-003
IW15 050913	W	05-09-13 13:25		462852-004
IW3 050913	W	05-09-13 14:00		462852-005
MW21 050913	W	05-09-13 11:15		462852-006
MW21A 050913	W	05-09-13 10:15		462852-007
MW34 050913	W	05-09-13 13:50		462852-008
IW40 50913	W	05-09-13 15:15		462852-009
MW41A 050913	W	05-09-13 12:55		462852-010
MW91 SA 050913	W	05-09-13 16:20		462852-011
MW92 SA 050913	W	05-09-13 17:50		462852-012
TRIP BLANK	W	05-09-13 00:00		462852-013

Client Name: Conestoga Rovers & Associates**Project Name: North Eunice**Project ID: 073018
Work Order Number(s): 462852Report Date: 22-MAY-13
Date Received: 05/09/2013

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:Batch: LBA-913925 Dissolved Metals per ICP by SW846 6010B
SW6010B

Batch 913925, Iron detected in the blank below the MQL but above the SQL; possible laboratory contamination.

Samples affected are: 462852-004, -003, -006, -008, -009, -012, -011, -007, -010, -001, -002, -005.



Certificate of Analytical Results 462852



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW79 SA 050913

Matrix: Water

Sample Depth:

Lab Sample Id: 462852-001

Date Collected: 05.09.13 10.05

Date Received: 05.09.13 18.23

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.14.13 14.00

Tech: AMB

Seq Number: 913909

Prep seq: 638230

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	349	10.0	0.280	mg/L	05.14.13 14:00		10

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913961

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1380	5.00	5.00	mg/L	05.15.13 11:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 09.00

Tech: KUG

Seq Number: 913925

Prep seq: 638055

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.16.13 16:36	U	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.16.13 16:36	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 16:36	U	1
Manganese	7439-96-5	0.0961	0.0200	0.00291	mg/L	05.16.13 16:36		1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913922

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.10.13 09:50	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW79 SA 050913	Matrix: Water	Sample Depth:
Lab Sample Id: 462852-001	Date Collected: 05.09.13 10.05	Date Received: 05.09.13 18.23

Analytical Method: TPH By SW8015 Mod	% Moist:	Prep Method: 1005
Analyst: DYV	Date Prep: 05.17.13 12.00	Tech: DYV
Seq Number: 914077	Prep seq: 638325	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 08:24	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 08:24	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 08:24	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 08:24	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	102	70 - 135	%		
o-Terphenyl	111	70 - 135	%		

Analytical Method: BTEX by EPA 8021B	% Moist:	Prep Method: 5030B
Analyst: KEB	Date Prep: 05.21.13 08.30	Tech: KEB
Seq Number: 914275	Prep seq: 638417	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.21.13 14:08	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.21.13 14:08	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.21.13 14:08	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.21.13 14:08	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.21.13 14:08	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.21.13 14:08	U	
Total BTEX		ND		0.000500	mg/L	05.21.13 14:08	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	105	80 - 120	%		
4-Bromofluorobenzene	86	80 - 120	%		



Certificate of Analytical Results 462852



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW80 SA 050913

Matrix: Water

Sample Depth:

Lab Sample Id: 462852-002

Date Collected: 05.09.13 11.00

Date Received: 05.09.13 18.23

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.14.13 14.43

Tech: AMB

Seq Number: 913909

Prep seq: 638230

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	313	10.0	0.280	mg/L	05.14.13 14:43		10

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913961

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1250	5.00	5.00	mg/L	05.15.13 11:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 09.00

Tech: KUG

Seq Number: 913925

Prep seq: 638055

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0152	0.0200	0.00756	mg/L	05.16.13 17:06	J	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.16.13 17:06	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 17:06	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 17:06	U	1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913922

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.10.13 09:50	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW80 SA 050913	Matrix: Water	Sample Depth:
Lab Sample Id: 462852-002	Date Collected: 05.09.13 11.00	Date Received: 05.09.13 18.23

Analytical Method: TPH By SW8015 Mod	% Moist:	Prep Method: 1005
Analyst: DYV	Date Prep: 05.17.13 12.00	Tech: DYV
Seq Number: 914077	Prep seq: 638325	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 08:52	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 08:52	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 08:52	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 08:52	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	103	70 - 135	%		
o-Terphenyl	114	70 - 135	%		

Analytical Method: BTEX by EPA 8021B	% Moist:	Prep Method: 5030B
Analyst: DYV	Date Prep: 05.16.13 11.00	Tech: DYV
Seq Number: 913904	Prep seq: 638220	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.16.13 17:56	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.16.13 17:56	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.16.13 17:56	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.16.13 17:56	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.16.13 17:56	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.16.13 17:56	U	
Total BTEX		ND		0.000500	mg/L	05.16.13 17:56	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	89	80 - 120	%		
4-Bromofluorobenzene	109	80 - 120	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW16 050913

Matrix: Water

Sample Depth:

Lab Sample Id: 462852-003

Date Collected: 05.09.13 12.40

Date Received: 05.09.13 18.23

Analytical Method: **Inorganic Anions by EPA 300/300.1**

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.14.13 15.05

Tech: AMB

Seq Number: 913909

Prep seq: 638230

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	448	20.0	0.560	mg/L	05.14.13 15:05		20

Analytical Method: **TDS by SM2540C**

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913961

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1560	5.00	5.00	mg/L	05.15.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 09.00

Tech: KUG

Seq Number: 913925

Prep seq: 638055

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0222	0.0200	0.00756	mg/L	05.16.13 17:11		1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.16.13 17:11	U	1
Iron	7439-89-6	0.667	0.200	0.0188	mg/L	05.16.13 17:11		1
Manganese	7439-96-5	0.286	0.0200	0.00291	mg/L	05.16.13 17:11		1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913922

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.10.13 09:50	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW16 050913

Matrix: Water

Sample Depth:

Lab Sample Id: 462852-003

Date Collected: 05.09.13 12.40

Date Received: 05.09.13 18.23

Analytical Method: **TPH By SW8015 Mod**

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.17.13 12.00

Tech: DYV

Seq Number: 914077

Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	1.27	1.50	0.988	mg/L	05.20.13 09:19	J	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 09:19	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 09:19	U	1
Total TPH	PHC635	1.27		0.988	mg/L	05.20.13 09:19	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	118	70 - 135	%		
o-Terphenyl	128	70 - 135	%		

Analytical Method: **BTEX by EPA 8021B**

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.16.13 11.00

Tech: DYV

Seq Number: 913904

Prep seq: 638220

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.16.13 18:29	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.16.13 18:29	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.16.13 18:29	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.16.13 18:29	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.16.13 18:29	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.16.13 18:29	U	
Total BTEX		ND		0.000500	mg/L	05.16.13 18:29	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	103	80 - 120	%		
4-Bromofluorobenzene	82	80 - 120	%		



Certificate of Analytical Results 462852



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW15 050913

Matrix: Water

Sample Depth:

Lab Sample Id: 462852-004

Date Collected: 05.09.13 13.25

Date Received: 05.09.13 18.23

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.14.13 15.26

Tech: AMB

Seq Number: 913909

Prep seq: 638230

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1010	20.0	0.560	mg/L	05.14.13 15:26	E	20

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913961

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3120	5.00	5.00	mg/L	05.15.13 11:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 09.00

Tech: KUG

Seq Number: 913925

Prep seq: 638055

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0496	0.0200	0.00756	mg/L	05.16.13 17:29		1
Chromium	7440-47-3	0.0138	0.0100	0.00355	mg/L	05.16.13 17:29		1
Iron	7439-89-6	1.77	0.200	0.0188	mg/L	05.16.13 17:29		1
Manganese	7439-96-5	0.0876	0.0200	0.00291	mg/L	05.16.13 17:29		1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913922

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.10.13 09:50	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW15 050913

Matrix: Water

Sample Depth:

Lab Sample Id: 462852-004

Date Collected: 05.09.13 13.25

Date Received: 05.09.13 18.23

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.17.13 12.00

Tech: DYV

Seq Number: 914077

Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 10:17	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 10:17	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 10:17	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 10:17	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	117	70 - 135	%		
o-Terphenyl	125	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: KEB

Date Prep: 05.21.13 08.30

Tech: KEB

Seq Number: 914275

Prep seq: 638417

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.21.13 14:23	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.21.13 14:23	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.21.13 14:23	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.21.13 14:23	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.21.13 14:23	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.21.13 14:23	U	
Total BTEX		ND		0.000500	mg/L	05.21.13 14:23	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	106	80 - 120	%		
4-Bromofluorobenzene	87	80 - 120	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW3 050913

Matrix: Water

Sample Depth:

Lab Sample Id: 462852-005

Date Collected: 05.09.13 14.00

Date Received: 05.09.13 18.23

Analytical Method: **Inorganic Anions by EPA 300/300.1**

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.14.13 15.48

Tech: AMB

Seq Number: 913909

Prep seq: 638230

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1020	20.0	0.560	mg/L	05.14.13 15:48	E	20

Analytical Method: **TDS by SM2540C**

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913961

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3620	5.00	5.00	mg/L	05.15.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 09.00

Tech: KUG

Seq Number: 913925

Prep seq: 638055

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0317	0.0200	0.00756	mg/L	05.16.13 17:35		1
Chromium	7440-47-3	0.00714	0.0100	0.00355	mg/L	05.16.13 17:35	J	1
Iron	7439-89-6	5.41	0.200	0.0188	mg/L	05.16.13 17:35		1
Manganese	7439-96-5	9.80	0.0200	0.00291	mg/L	05.16.13 17:35		1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913922

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.10.13 09:50	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW3 050913

Matrix: Water

Sample Depth:

Lab Sample Id: 462852-005

Date Collected: 05.09.13 14.00

Date Received: 05.09.13 18.23

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.20.13 08.30

Tech: DYV

Seq Number: 914132

Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 12:20	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 12:20	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 12:20	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 12:20	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	126	70 - 135	%		
o-Terphenyl	128	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.16.13 11.00

Tech: DYV

Seq Number: 913904

Prep seq: 638220

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.16.13 19:34	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.16.13 19:34	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.16.13 19:34	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.16.13 19:34	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.16.13 19:34	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.16.13 19:34	U	
Total BTEX		ND		0.000500	mg/L	05.16.13 19:34	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	106	80 - 120	%		
4-Bromofluorobenzene	95	80 - 120	%		



Certificate of Analytical Results 462852



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW21 050913

Matrix: Water

Sample Depth:

Lab Sample Id: 462852-006

Date Collected: 05.09.13 11.15

Date Received: 05.09.13 18.23

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.14.13 16.10

Tech: AMB

Seq Number: 913909

Prep seq: 638230

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	73.1	10.0	0.280	mg/L	05.14.13 16:10		10

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913961

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	873	5.00	5.00	mg/L	05.15.13 11:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 09.00

Tech: KUG

Seq Number: 913925

Prep seq: 638055

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0100	0.0200	0.00756	mg/L	05.16.13 17:41	J	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.16.13 17:41	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 17:41	U	1
Manganese	7439-96-5	1.24	0.0200	0.00291	mg/L	05.16.13 17:41		1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913922

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.10.13 09:50	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW21 050913

Matrix: Water

Sample Depth:

Lab Sample Id: 462852-006

Date Collected: 05.09.13 11.15

Date Received: 05.09.13 18.23

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.17.13 12.00

Tech: DYV

Seq Number: 914077

Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 10:44	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 10:44	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 10:44	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 10:44	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	105	70 - 135	%		
o-Terphenyl	116	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.16.13 11.00

Tech: DYV

Seq Number: 913904

Prep seq: 638220

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.16.13 18:12	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.16.13 18:12	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.16.13 18:12	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.16.13 18:12	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.16.13 18:12	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.16.13 18:12	U	
Total BTEX		ND		0.000500	mg/L	05.16.13 18:12	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	113	80 - 120	%		
4-Bromofluorobenzene	86	80 - 120	%		



Certificate of Analytical Results 462852



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW21A 050913

Matrix: Water

Sample Depth:

Lab Sample Id: 462852-007

Date Collected: 05.09.13 10.15

Date Received: 05.09.13 18.23

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.14.13 17.15

Tech: AMB

Seq Number: 913909

Prep seq: 638230

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	2450	50.0	1.40	mg/L	05.14.13 17:15		50

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913961

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	5470	5.00	5.00	mg/L	05.15.13 11:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 09.00

Tech: KUG

Seq Number: 913925

Prep seq: 638055

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0115	0.0200	0.00756	mg/L	05.16.13 17:47	J	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.16.13 17:47	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 17:47	U	1
Manganese	7439-96-5	0.0217	0.0200	0.00291	mg/L	05.16.13 17:47		1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913922

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.10.13 09:50	U	1



Certificate of Analytical Results 462852



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW21A 050913

Matrix: Water

Sample Depth:

Lab Sample Id: 462852-007

Date Collected: 05.09.13 10.15

Date Received: 05.09.13 18.23

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.17.13 12.00

Tech: DYV

Seq Number: 914077

Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 11:12	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 11:12	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 11:12	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 11:12	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	105	70 - 135	%		
o-Terphenyl	116	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: KEB

Date Prep: 05.15.13 10.00

Tech: KEB

Seq Number: 913862

Prep seq: 638189

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.15.13 18:25	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.15.13 18:25	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.15.13 18:25	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.15.13 18:25	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.15.13 18:25	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.15.13 18:25	U	
Total BTEX		ND		0.000500	mg/L	05.15.13 18:25	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	98	80 - 120	%		
4-Bromofluorobenzene	83	80 - 120	%		



Certificate of Analytical Results 462852



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW34 050913

Matrix: Water

Sample Depth:

Lab Sample Id: 462852-008

Date Collected: 05.09.13 13.50

Date Received: 05.09.13 18.23

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.14.13 17.37

Tech: AMB

Seq Number: 913909

Prep seq: 638230

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	533	20.0	0.560	mg/L	05.14.13 17:37		20

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913961

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1820	5.00	5.00	mg/L	05.15.13 11:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 09.00

Tech: KUG

Seq Number: 913925

Prep seq: 638055

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.16.13 17:53	U	1
Chromium	7440-47-3	0.0852	0.0100	0.00355	mg/L	05.16.13 17:53		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 17:53	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 17:53	U	1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913922

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.0892	0.0100	0.00500	mg/L	05.10.13 09:50		1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW34 050913

Matrix: Water

Sample Depth:

Lab Sample Id: 462852-008

Date Collected: 05.09.13 13.50

Date Received: 05.09.13 18.23

Analytical Method: **TPH By SW8015 Mod**

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.17.13 12.00

Tech: DYV

Seq Number: 914077

Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 11:40	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 11:40	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 11:40	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 11:40	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	101	70 - 135	%		
o-Terphenyl	112	70 - 135	%		

Analytical Method: **BTEX by EPA 8021B**

% Moist:

Prep Method: 5030B

Analyst: KEB

Date Prep: 05.15.13 10.00

Tech: KEB

Seq Number: 913862

Prep seq: 638189

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.15.13 13:55	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.15.13 13:55	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.15.13 13:55	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.15.13 13:55	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.15.13 13:55	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.15.13 13:55	U	
Total BTEX		ND		0.000500	mg/L	05.15.13 13:55	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	113	80 - 120	%		
4-Bromofluorobenzene	82	80 - 120	%		



Certificate of Analytical Results 462852



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW40 50913

Matrix: Water

Sample Depth:

Lab Sample Id: 462852-009

Date Collected: 05.09.13 15.15

Date Received: 05.09.13 18.23

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.14.13 17.58

Tech: AMB

Seq Number: 913909

Prep seq: 638230

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1100	20.0	0.560	mg/L	05.14.13 17:58	E	20

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913961

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3420	5.00	5.00	mg/L	05.15.13 11:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 09.00

Tech: KUG

Seq Number: 913925

Prep seq: 638055

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.16.13 17:59	U	1
Chromium	7440-47-3	0.0107	0.0100	0.00355	mg/L	05.16.13 17:59		1
Iron	7439-89-6	0.290	0.200	0.0188	mg/L	05.16.13 17:59		1
Manganese	7439-96-5	4.17	0.0200	0.00291	mg/L	05.16.13 17:59		1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913922

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.00960	0.0100	0.00500	mg/L	05.10.13 09:50	J	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW40 50913

Matrix: Water

Sample Depth:

Lab Sample Id: 462852-009

Date Collected: 05.09.13 15.15

Date Received: 05.09.13 18.23

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.20.13 08.30

Tech: DYV

Seq Number: 914132

Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 12:47	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 12:47	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 12:47	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 12:47	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	113	70 - 135	%		
o-Terphenyl	114	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: KEB

Date Prep: 05.15.13 10.00

Tech: KEB

Seq Number: 913862

Prep seq: 638189

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.16.13 09:47	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.16.13 09:47	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.16.13 09:47	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.16.13 09:47	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.16.13 09:47	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.16.13 09:47	U	
Total BTEX		ND		0.000500	mg/L	05.16.13 09:47	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	94	80 - 120	%		
4-Bromofluorobenzene	89	80 - 120	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW41A 050913

Matrix: Water

Sample Depth:

Lab Sample Id: 462852-010

Date Collected: 05.09.13 12.55

Date Received: 05.09.13 18.23

Analytical Method: **Inorganic Anions by EPA 300/300.1**

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.14.13 18.20

Tech: AMB

Seq Number: 913909

Prep seq: 638230

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	392	10.0	0.280	mg/L	05.14.13 18:20		10

Analytical Method: **TDS by SM2540C**

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913961

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1660	5.00	5.00	mg/L	05.15.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 09.00

Tech: KUG

Seq Number: 913925

Prep seq: 638055

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0109	0.0200	0.00756	mg/L	05.16.13 18:05	J	1
Chromium	7440-47-3	0.285	0.0100	0.00355	mg/L	05.16.13 18:05		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 18:05	U	1
Manganese	7439-96-5	0.00859	0.0200	0.00291	mg/L	05.16.13 18:05	J	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913922

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.257	0.0100	0.00500	mg/L	05.10.13 09:50		1



Certificate of Analytical Results 462852



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW41A 050913

Matrix: Water

Sample Depth:

Lab Sample Id: 462852-010

Date Collected: 05.09.13 12.55

Date Received: 05.09.13 18.23

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.20.13 08.30

Tech: DYV

Seq Number: 914132

Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 13:14	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 13:14	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 13:14	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 13:14	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	108	70 - 135	%		
o-Terphenyl	112	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: KEB

Date Prep: 05.15.13 10.00

Tech: KEB

Seq Number: 913862

Prep seq: 638189

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.15.13 14:10	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.15.13 14:10	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.15.13 14:10	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.15.13 14:10	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.15.13 14:10	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.15.13 14:10	U	
Total BTEX		ND		0.000500	mg/L	05.15.13 14:10	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	106	80 - 120	%		
4-Bromofluorobenzene	83	80 - 120	%		



Certificate of Analytical Results 462852



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW91 SA 050913

Matrix: Water

Sample Depth:

Lab Sample Id: 462852-011

Date Collected: 05.09.13 16.20

Date Received: 05.09.13 18.23

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.14.13 18.42

Tech: AMB

Seq Number: 913909

Prep seq: 638230

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	269	10.0	0.280	mg/L	05.14.13 18:42		10

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913961

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1440	5.00	5.00	mg/L	05.15.13 11:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 09.00

Tech: KUG

Seq Number: 913925

Prep seq: 638055

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0135	0.0200	0.00756	mg/L	05.16.13 18:11	J	1
Chromium	7440-47-3	0.0915	0.0100	0.00355	mg/L	05.16.13 18:11		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 18:11	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 18:11	U	1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913923

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.0944	0.0100	0.00500	mg/L	05.10.13 09:50		1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW91 SA 050913 Matrix: Water Sample Depth:
Lab Sample Id: 462852-011 Date Collected: 05.09.13 16.20 Date Received: 05.09.13 18.23

Analytical Method: TPH By SW8015 Mod % Moist: Prep Method: 1005
Analyst: DYV Date Prep: 05.20.13 08.30 Tech: DYV
Seq Number: 914132 Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 13:42	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 13:42	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 13:42	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 13:42	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	112	70 - 135	%		
o-Terphenyl	116	70 - 135	%		

Analytical Method: BTEX by EPA 8021B % Moist: Prep Method: 5030B
Analyst: KEB Date Prep: 05.15.13 10.00 Tech: KEB
Seq Number: 913862 Prep seq: 638189

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.15.13 13:23	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.15.13 13:23	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.15.13 13:23	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.15.13 13:23	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.15.13 13:23	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.15.13 13:23	U	
Total BTEX		ND		0.000500	mg/L	05.15.13 13:23	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	105	80 - 120	%		
4-Bromofluorobenzene	83	80 - 120	%		



Certificate of Analytical Results 462852



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW92 SA 050913

Matrix: Water

Sample Depth:

Lab Sample Id: 462852-012

Date Collected: 05.09.13 17.50

Date Received: 05.09.13 18.23

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.14.13 19.25

Tech: AMB

Seq Number: 913909

Prep seq: 638230

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	732	20.0	0.560	mg/L	05.14.13 19:25		20

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913961

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3330	5.00	5.00	mg/L	05.15.13 11:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 09.00

Tech: KUG

Seq Number: 913925

Prep seq: 638055

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.16.13 18:16	U	1
Chromium	7440-47-3	0.912	0.0100	0.00355	mg/L	05.16.13 18:16		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.16.13 18:16	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 18:16	U	1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913923

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.997	0.100	0.0500	mg/L	05.10.13 09:50		10

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW92 SA 050913 Matrix: Water Sample Depth:
Lab Sample Id: 462852-012 Date Collected: 05.09.13 17.50 Date Received: 05.09.13 18.23

Analytical Method: TPH By SW8015 Mod % Moist: Prep Method: 1005
Analyst: DYV Date Prep: 05.20.13 08.30 Tech: DYV
Seq Number: 914132 Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 14:09	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 14:09	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 14:09	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 14:09	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	110	70 - 135	%		
o-Terphenyl	113	70 - 135	%		

Analytical Method: BTEX by EPA 8021B % Moist: Prep Method: 5030B
Analyst: KEB Date Prep: 05.15.13 10.00 Tech: KEB
Seq Number: 913862 Prep seq: 638189

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.15.13 13:39	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.15.13 13:39	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.15.13 13:39	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.15.13 13:39	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.15.13 13:39	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.15.13 13:39	U	
Total BTEX		ND		0.000500	mg/L	05.15.13 13:39	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	102	80 - 120	%		
4-Bromofluorobenzene	83	80 - 120	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: TRIP BLANK

Matrix: Water

Sample Depth:

Lab Sample Id: 462852-013

Date Collected: 05.09.13 00.00

Date Received: 05.09.13 18.23

Analytical Method: **BTEX by EPA 8021B**

% Moist:

Prep Method: 5030B

Analyst: KEB

Date Prep: 05.15.13 10.00

Tech: KEB

Seq Number: 913862

Prep seq: 638189

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.15.13 12:03	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.15.13 12:03	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.15.13 12:03	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.15.13 12:03	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.15.13 12:03	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.15.13 12:03	U	
Total BTEX		ND		0.000500	mg/L	05.15.13 12:03	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	103	80 - 120	%		
4-Bromofluorobenzene	84	80 - 120	%		

Sample Id: 638055-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638055-1-BLK

Date Collected:

Date Received:

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.15.13 09.00

Tech: KUG

Seq Number: 913925

Prep seq: 638055

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.16.13 16:19	U	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.16.13 16:19	U	1
Iron	7439-89-6	0.0198	0.200	0.0188	mg/L	05.16.13 16:19	J	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.16.13 16:19	U	1



Certificate of Analytical Results 462852



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 638189-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638189-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: KEB

Date Prep: 05.15.13 10.00

Tech: KEB

Seq Number: 913862

Prep seq: 638189

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.15.13 11:48	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.15.13 11:48	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.15.13 11:48	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.15.13 11:48	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.15.13 11:48	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	111	80 - 120	%		
4-Bromofluorobenzene	85	80 - 120	%		

Sample Id: 638220-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638220-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.16.13 11.00

Tech: DYV

Seq Number: 913904

Prep seq: 638220

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.16.13 12:22	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.16.13 12:22	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.16.13 12:22	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.16.13 12:22	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.16.13 12:22	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	92	80 - 120	%		
4-Bromofluorobenzene	93	80 - 120	%		



Certificate of Analytical Results 462852



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 638230-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638230-1-BLK

Date Collected:

Date Received:

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.14.13 12.54

Tech: AMB

Seq Number: 913909

Prep seq: 638230

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	ND	1.00	0.0280	mg/L	05.14.13 12:54	U	1

Sample Id: 638325-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638325-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.17.13 12.00

Tech: DYV

Seq Number: 914077

Prep seq: 638325

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.19.13 02:29	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.19.13 02:29	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.19.13 02:29	U	1

Surrogate

% Recovery

Limits

Units

Analysis Date

Flag

1-Chlorooctane

103

70 - 135

%

o-Terphenyl

112

70 - 135

%



Certificate of Analytical Results 462852



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 638355-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638355-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.20.13 08.30

Tech: DYV

Seq Number: 914132

Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 11:53	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 11:53	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 11:53	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 11:53	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	111	70 - 135	%		
o-Terphenyl	117	70 - 135	%		

Sample Id: 638417-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638417-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: KEB

Date Prep: 05.21.13 08.30

Tech: KEB

Seq Number: 914275

Prep seq: 638417

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.21.13 10:08	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.21.13 10:08	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.21.13 10:08	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.21.13 10:08	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.21.13 10:08	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	106	80 - 120	%		
4-Bromofluorobenzene	84	80 - 120	%		



Certificate of Analytical Results 462852



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 913922-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913922-1-BLK

Date Collected:

Date Received:

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913922

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.10.13 09:50	U	1

Sample Id: 913923-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913923-1-BLK

Date Collected:

Date Received:

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913923

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.10.13 09:50	U	1

Sample Id: 913961-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913961-1-BLK

Date Collected:

Date Received:

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 913961

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	ND	5.00	5.00	mg/L	05.15.13 11:00	U	1

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462852,

Project ID: 073018

Lab Batch #: 913862

Sample: 638189-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/15/13 10:59

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0317	0.0300	106	80-120	
4-Bromofluorobenzene	0.0309	0.0300	103	80-120	

Lab Batch #: 913862

Sample: 638189-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/15/13 11:15

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0323	0.0300	108	80-120	
4-Bromofluorobenzene	0.0320	0.0300	107	80-120	

Lab Batch #: 913862

Sample: 638189-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/15/13 11:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0334	0.0300	111	80-120	
4-Bromofluorobenzene	0.0254	0.0300	85	80-120	

Lab Batch #: 913862

Sample: 462852-012 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/15/13 14:58

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene	0.0299	0.0300	100	80-120	

Lab Batch #: 913862

Sample: 462852-012 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/15/13 15:14

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0283	0.0300	94	80-120	
4-Bromofluorobenzene	0.0352	0.0300	117	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462852,

Project ID: 073018

Lab Batch #: 913904

Sample: 638220-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 11:49

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0351	0.0300	117	80-120	
4-Bromofluorobenzene	0.0309	0.0300	103	80-120	

Lab Batch #: 913904

Sample: 638220-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 12:05

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0291	0.0300	97	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

Lab Batch #: 913904

Sample: 638220-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 12:22

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0275	0.0300	92	80-120	
4-Bromofluorobenzene	0.0278	0.0300	93	80-120	

Lab Batch #: 913904

Sample: 463108-002 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 15:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0327	0.0300	109	80-120	
4-Bromofluorobenzene	0.0276	0.0300	92	80-120	

Lab Batch #: 913904

Sample: 463108-002 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 15:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0344	0.0300	115	80-120	
4-Bromofluorobenzene	0.0354	0.0300	118	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462852,

Project ID: 073018

Lab Batch #: 914275

Sample: 638417-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 05/21/13 09:20		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0305	0.0300	102	80-120
4-Bromofluorobenzene		0.0284	0.0300	95	80-120

Lab Batch #: 914275

Sample: 638417-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 05/21/13 09:36		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0316	0.0300	105	80-120
4-Bromofluorobenzene		0.0278	0.0300	93	80-120

Lab Batch #: 914275

Sample: 638417-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 05/21/13 10:08		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0318	0.0300	106	80-120
4-Bromofluorobenzene		0.0251	0.0300	84	80-120

Lab Batch #: 914275

Sample: 463335-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 05/21/13 13:04		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0310	0.0300	103	80-120
4-Bromofluorobenzene		0.0292	0.0300	97	80-120

Lab Batch #: 914275

Sample: 463335-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 05/21/13 13:20		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0317	0.0300	106	80-120
4-Bromofluorobenzene		0.0285	0.0300	95	80-120

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462852,

Project ID: 073018

Lab Batch #: 914077

Sample: 638325-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/19/13 01:35	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1-Chlorooctane		12.2	10.0	122	70-135
o-Terphenyl		4.68	5.00	94	70-135

Lab Batch #: 914077

Sample: 638325-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/19/13 02:02	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1-Chlorooctane		11.6	10.0	116	70-135
o-Terphenyl		4.60	5.00	92	70-135

Lab Batch #: 914077

Sample: 638325-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/19/13 02:29	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1-Chlorooctane		10.3	10.0	103	70-135
o-Terphenyl		5.60	5.00	112	70-135

Lab Batch #: 914077

Sample: 462932-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/19/13 03:22	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1-Chlorooctane		9.57	10.0	96	70-135
o-Terphenyl		4.91	5.00	98	70-135

Lab Batch #: 914132

Sample: 638355-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/20/13 10:45	SURROGATE RECOVERY STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1-Chlorooctane		12.8	10.0	128	70-135
o-Terphenyl		5.19	5.00	104	70-135

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462852,

Project ID: 073018

Lab Batch #: 914132

Sample: 638355-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/20/13 11:12

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	12.7	10.0	127	70-135	
o-Terphenyl	4.02	5.00	80	70-135	

Lab Batch #: 914132

Sample: 638355-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/20/13 11:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	11.1	10.0	111	70-135	
o-Terphenyl	5.87	5.00	117	70-135	

Lab Batch #: 914132

Sample: 462852-010 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/20/13 14:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	11.5	10.0	115	70-135	
o-Terphenyl	4.44	5.00	89	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Project Name: North Eunice

Work Order #: 462852

Project ID:

073018

Lab Batch #: 913922

Sample: 913922-1-BKS

Matrix: Water

Date Analyzed: 05/10/2013

Date Prepared: 05/10/2013

Analyst: WRU

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Hexavalent Chromium	<0.00500	0.0250	0.0221	88	80-120	

Lab Batch #: 913923

Sample: 913923-1-BKS

Matrix: Water

Date Analyzed: 05/10/2013

Date Prepared: 05/10/2013

Analyst: WRU

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Hexavalent Chromium	<0.00500	0.0250	0.0216	86	80-120	

Lab Batch #: 913961

Sample: 913961-1-BKS

Matrix: Water

Date Analyzed: 05/15/2013

Date Prepared: 05/15/2013

Analyst: AMB

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

TDS by SM2540C	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Total dissolved solids	<5.00	1000	1020	102	80-120	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: North Eunice

Work Order #: 462852

Analyst: KEB

Date Prepared: 05/15/2013

Project ID: 073018

Date Analyzed: 05/15/2013

Lab Batch ID: 913862

Sample: 638189-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000500	0.100	0.0992	99	0.100	0.0988	99	0	70-125	25	
Toluene	<0.00100	0.100	0.0902	90	0.100	0.0886	89	2	70-125	25	
Ethylbenzene	<0.000700	0.100	0.0941	94	0.100	0.0921	92	2	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.192	96	0.200	0.188	94	2	70-131	25	
o-Xylene	<0.000700	0.100	0.0973	97	0.100	0.0949	95	2	71-133	25	

Analyst: DYV

Date Prepared: 05/16/2013

Date Analyzed: 05/16/2013

Lab Batch ID: 913904

Sample: 638220-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000500	0.100	0.0960	96	0.100	0.0897	90	7	70-125	25	
Toluene	<0.00100	0.100	0.0995	100	0.100	0.0928	93	7	70-125	25	
Ethylbenzene	<0.000700	0.100	0.115	115	0.100	0.106	106	8	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.216	108	0.200	0.197	99	9	70-131	25	
o-Xylene	<0.000700	0.100	0.103	103	0.100	0.101	101	2	71-133	25	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: North Eunice

Work Order #: 462852

Analyst: KEB

Date Prepared: 05/21/2013

Project ID: 073018

Date Analyzed: 05/21/2013

Lab Batch ID: 914275

Sample: 638417-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000500	0.100	0.0959	96	0.100	0.0986	99	3	70-125	25	
Toluene	<0.00100	0.100	0.0838	84	0.100	0.0850	85	1	70-125	25	
Ethylbenzene	<0.000700	0.100	0.0792	79	0.100	0.0796	80	1	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.155	78	0.200	0.156	78	1	70-131	25	
o-Xylene	<0.000700	0.100	0.0812	81	0.100	0.0813	81	0	71-133	25	

Analyst: KUG

Date Prepared: 05/15/2013

Date Analyzed: 05/16/2013

Lab Batch ID: 913925

Sample: 638055-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Arsenic	<0.00756	1.00	0.954	95	1.00	0.923	92	3	80-120	20	
Chromium	<0.00355	1.00	0.964	96	1.00	0.932	93	3	80-120	20	
Iron	0.0198	5.00	4.77	95	5.00	4.69	94	2	80-120	20	
Manganese	<0.00291	1.00	0.972	97	1.00	0.954	95	2	80-120	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: North Eunice

Work Order #: 462852

Analyst: AMB

Date Prepared: 05/14/2013

Project ID: 073018

Date Analyzed: 05/14/2013

Lab Batch ID: 913909

Sample: 638230-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.0280	25.0	25.8	103	25.0	25.8	103	0	80-120	20	

Analyst: DYV

Date Prepared: 05/17/2013

Date Analyzed: 05/19/2013

Lab Batch ID: 914077

Sample: 638325-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	103	103	100	117	117	13	70-135	25	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	111	111	100	124	124	11	70-135	25	

Analyst: DYV

Date Prepared: 05/20/2013

Date Analyzed: 05/20/2013

Lab Batch ID: 914132

Sample: 638355-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	130	130	100	122	122	6	70-135	25	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	129	129	100	122	122	6	70-135	25	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: North Eunice

Work Order #: 462852

Lab Batch #: 913909

Date Analyzed: 05/14/2013

QC- Sample ID: 462852-001 S

Reporting Units: mg/L

Project ID: 073018

Analyst: AMB

Date Prepared: 05/14/2013

Batch #: 1

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	349	250	642	117	80-120	

Lab Batch #: 913909

Date Analyzed: 05/14/2013

QC- Sample ID: 462852-011 S

Reporting Units: mg/L

Date Prepared: 05/14/2013

Analyst: AMB

Batch #: 1

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	269	250	513	98	80-120	

Lab Batch #: 914077

Date Analyzed: 05/19/2013

QC- Sample ID: 462932-001 S

Reporting Units: mg/L

Date Prepared: 05/17/2013

Analyst: DYV

Batch #: 1

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
TPH by SW8015 Mod	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
C6-C12 Gasoline Range Hydrocarbons	5.48	100	104	99	70-135	
C12-C28 Diesel Range Hydrocarbons	40.1	100	137	97	70-135	

Lab Batch #: 914132

Date Analyzed: 05/20/2013

QC- Sample ID: 462852-010 S

Reporting Units: mg/L

Date Prepared: 05/20/2013

Analyst: DYV

Batch #: 1

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
TPH by SW8015 Mod	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	109	109	70-135	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	104	104	70-135	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$
 Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$
 All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS / MSD Recoveries



Project Name: North Eunice

Work Order # : 462852

Project ID: 073018

Lab Batch ID: 913862

QC- Sample ID: 462852-012 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/15/2013

Date Prepared: 05/15/2013

Analyst: KEB

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000500	0.100	0.106	106	0.100	0.115	115	8	70-125	25	
Toluene	<0.00100	0.100	0.0928	93	0.100	0.104	104	11	70-125	25	
Ethylbenzene	<0.000700	0.100	0.0876	88	0.100	0.111	111	24	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.172	86	0.200	0.195	98	13	70-131	25	
o-Xylene	<0.000700	0.100	0.0895	90	0.100	0.103	103	14	71-133	25	

Lab Batch ID: 913904

QC- Sample ID: 463108-002 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/16/2013

Date Prepared: 05/16/2013

Analyst: DYV

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000500	0.100	0.0830	83	0.100	0.0893	89	7	70-125	25	
Toluene	<0.00100	0.100	0.0845	85	0.100	0.101	101	18	70-125	25	
Ethylbenzene	<0.000700	0.100	0.0925	93	0.100	0.110	110	17	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.172	86	0.200	0.205	103	18	70-131	25	
o-Xylene	<0.000700	0.100	0.0863	86	0.100	0.110	110	24	71-133	25	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: North Eunice

Work Order # : 462852

Project ID: 073018

Lab Batch ID: 914275

QC- Sample ID: 463335-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/21/2013

Date Prepared: 05/21/2013

Analyst: KEB

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000500	0.100	0.102	102	0.100	0.103	103	1	70-125	25	
Toluene	<0.00100	0.100	0.0891	89	0.100	0.0889	89	0	70-125	25	
Ethylbenzene	<0.000700	0.100	0.0844	84	0.100	0.0841	84	0	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.165	83	0.200	0.165	83	0	70-131	25	
o-Xylene	<0.000700	0.100	0.0864	86	0.100	0.0857	86	1	71-133	25	

Lab Batch ID: 913922

QC- Sample ID: 462852-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/10/2013

Date Prepared: 05/10/2013

Analyst: WRU

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Hexavalent Chromium	<0.00500	0.250	0.245	98	0.250	0.245	98	0	80-120	20	

Lab Batch ID: 913923

QC- Sample ID: 462852-011 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/10/2013

Date Prepared: 05/10/2013

Analyst: WRU

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Hexavalent Chromium	0.0944	0.250	0.346	101	0.250	0.345	100	0	80-120	20	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: North Eunice

Work Order # : 462852

Project ID: 073018

Lab Batch ID: 913925

QC- Sample ID: 462852-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/16/2013

Date Prepared: 05/15/2013

Analyst: KUG

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Arsenic	<0.00756	1.00	0.962	96	1.00	1.01	101	5	75-125	20	
Chromium	<0.00355	1.00	0.925	93	1.00	0.974	97	5	75-125	20	
Iron	<0.0188	5.00	4.33	87	5.00	4.56	91	5	75-125	20	
Manganese	0.0961	1.00	1.00	90	1.00	1.05	95	5	75-125	20	

Matrix Spike Percent Recovery $[D] = 100 * (C - A) / B$
Relative Percent Difference $RPD = 200 * |(C - F) / (C + F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 * (F - A) / E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Project Name: North Eunice

Work Order #: 462852

Lab Batch #: 913922

Project ID: 073018

Date Analyzed: 05/10/2013 09:50

Date Prepared: 05/10/2013

Analyst: WRU

QC- Sample ID: 462852-001 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

Chromium, Hexavalent by SW 7196A	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Hexavalent Chromium	<0.00500	<0.00500	0	20	U

Lab Batch #: 913923

Date Analyzed: 05/10/2013 09:50

Date Prepared: 05/10/2013

Analyst: WRU

QC- Sample ID: 462852-011 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

Chromium, Hexavalent by SW 7196A	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Hexavalent Chromium	0.0944	0.0944	0	20	

Lab Batch #: 913961

Date Analyzed: 05/15/2013 11:00

Date Prepared: 05/15/2013

Analyst: AMB

QC- Sample ID: 462771-014 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	2370	2460	4	30	

Lab Batch #: 913961

Date Analyzed: 05/15/2013 11:00

Date Prepared: 05/15/2013

Analyst: AMB

QC- Sample ID: 462852-009 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	3420	3590	5	30	

Spike Relative Difference $RPD = 200 * |(B-A)/(B+A)|$
 All Results are based on MDL and validated for QC purposes.
 BRL - Below Reporting Limit

Company-City		CPA - Austin		Phone		432-686-0086	
Project Name-Location		Previously done at XENCO		Project ID		073018	
Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other		Proj. Manager (PM)		Mike Wisniewski		Fax No: 432-686-0786	
E-mail Results to		P.M. and		Invoice to		Accounting Inc. Invoice with Final Report Invoice must have a P.O.	
Quote/Pricing:		P.O. No:		Call for P.O.			
Reg Program: UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP		GAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:		Special DLs (GW DW GAPP MDLs RLS See Lab PM Included Call PM)			
Sampler Name		Justin Nixon		Signature		[Signature]	
Sample ID	Sampling Date	Time	Depth ft' in" m	Matrix	Composite	Grab	# Containers
1 MW79SA 050913	5-9-13	1005	1	W	X		8
2 MW80SA050913		1100	1				7
3 IWL6050913		1240	1				8
4 IWL5050913		1325	1				7
5 IWL3050913		1400	1				7
6 MW21A 050913		1115	1				7
7 MW21A 050913		1015	1				7
8 MW34050913		1350	1				7
9 IWL4050913		1515	1				7
10 Relinquished by (Initials and Sign)	Date & Time	Relinquished to (Initials and Sign)		Date & Time	Total Containers per COC: 65		
1) [Signature]	5-9-13 1830	2) [Signature]		5/9/13 1823	Cooler Temp: 15 °C		
2) [Signature]		3) [Signature]			Otherwise agreed on writing. Reports are the Intellectual Property of XENCO until paid. Samples will be held 30 days after final report is e-mailed unless hereby requested. Rush Charges and Collection Fees are pre-approved if needed.		
3) [Signature]		4) [Signature]					
4) [Signature]		5) [Signature]					
5) [Signature]		6) [Signature]					

Preservatives: Various (V), HCl pH<2 (H), H2SO4 pH<2 (S), HNO3 pH<2 (N), Asbc Acid&NaOH (A), ZnAc&NaOH (Z), (Cool, <4C) (C), None (NA), See Label (L), Other (O)
Cont. Size: 4oz (4), 8oz (8), 32oz (32), 40ml VOA (40), 1L (1), 500ml (5), Tedlar Bag (B), Various (V), Other _____
Cont. Type: Glass Amb (A), Glass Clear (C), Plastic (P), Various (V)
Matrix: Air (A), Product (P), Solid (S), Water (W), Liquid (L)
Committed to Excellence in Service and Quality
www.xenco.com

4143 Greenbriar Drive, Stafford, TX 77477 281-240-4200
5332, Blackberry Drive, San Antonio, TX 78238 210-509-3334

9701 Harry Hines Blvd., Dallas, TX 75220 214-902-0300
12600 West I-20 East, Odessa, TX 79765 432-563-1800

Serial #: 330786 Page 2 of 2

Company-City <i>El Paso, Midland</i>		Phone <i>432-686-0086</i>	
Project Name-Location <i>N. El Paso</i>		Project ID <i>673618</i>	
Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other		Proj. Manager (PM) <i>Mike Wisniewski</i>	
E-mail Results to ☒ PM and ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.		Fax No: <i>432-686-0180</i>	
Invoice to ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.			
Bill to:			
Quote/Pricing:		P.O. No: ☐ Call for P.O.	
Reg Program: UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP			
QAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:			
Special DLs (GW DW QAPP MDLs RLS See Lab PM Included Call PM)			
Sampler Name <i>Justin Arizon</i>	Signature <i>Justin Arizon</i>		
Sample ID	Sampling Date	Time	Depth ft' in" m
1 <i>MW11A050913</i>	<i>5-9-13</i>	<i>1855</i>	
2 <i>MW91SA050913</i>	<i>1620</i>		
3 <i>MW91SA050913</i>	<i>1750</i>		
4 <i>Trip Blank</i>	<i>↓</i>		
5			
6			
7			
8			
9			
10			
Relinquished by (Initials and Sign)	Date & Time	Relinquished to (Initials and Sign)	Date & Time
1 <i>JS</i>	<i>5-9-13 1830</i>	2 <i>SH</i>	<i>5-9-13 1830</i>
3		4	
5		6	
Preservatives:		VOA: Full-List BTEX-MTBE EtOH Oxyg VOHs VOAs	
		VOA: PP TCL DW Appdx-1 Appdx-2 CALL Other:	
		PAHs SIM 8310 8270	
		TX-1005 DRO GRO MA EPH MA VPH	
		SVOCs: Full-List DW BN&AE TCLP PP Appdx-2 CALL	
		OC Pesticides PCBs Herbicides OP Pesticides	
		Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx2	
		SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs)	
		EDB / DBCP	
		<i>Method 8021 B BTEX</i>	
		<i>Piss Metals 6010 B</i>	
		<i>TDS Sm 2540C</i>	
		<i>Chlorides E300</i>	
		<i>TPH GRO+DRO 8015 Mod</i>	
		<i>Hex chrome 7196A</i>	
		TATASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d	
		Addn: PAH above mg/L W, mg/Kg S Highest Hit	
		Hold Samples (Surcharges will apply and are pre-approved)	
		Sample Clean-ups are pre-approved as needed	
		Remarks	
		Addn: Date Rcv. by: From:	



Prelogin/Nonconformance Report- Sample Log-In

Client: Conestoga Rovers & Associates

Date/ Time Received: 05/09/2013 06:23:00 PM

Work Order #: 462852

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	1.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	Yes

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:	PH Device/Lot#:
----------	-----------------

Checklist completed by:


Kelsey Brooks

Date: 05/10/2013

Checklist reviewed by:


Kelsey Brooks

Date: 05/10/2013

Analytical Report 462925

for

Conestoga Rovers & Associates

Project Manager: Mike Wisniowiecki

North Eunice

073018

29-MAY-13

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

29-MAY-13

Project Manager: **Mike Wisniowiecki**

Conestoga Rovers & Associates

2135 S Loop 250 W

Midland, TX 79703

Reference: XENCO Report No(s): **462925**

North Eunice

Project Address: New Mexico

Mike Wisniowiecki:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 462925. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 462925 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,



Kelsey Brooks

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

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Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 462925



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW93 SA 051013	W	05-10-13 09:55		462925-001
Trip Blank	W	05-10-13 00:00		462925-002
IW18 051013	W	05-10-13 10:50		462925-003
DUP3 051013	W	05-10-13 00:00		462925-004
IW19 051013	W	05-10-13 11:40		462925-005
IW20 051013	W	05-10-13 13:40		462925-006



CASE NARRATIVE



Client Name: *Conestoga Rovers & Associates*

Project Name: *North Eunice*

Project ID: 073018

Work Order Number(s): 462925

Report Date: 29-MAY-13

Date Received: 05/10/2013

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 462925



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW93 SA 051013

Matrix: Water

Sample Depth:

Lab Sample Id: 462925-001

Date Collected: 05.10.13 09.55

Date Received: 05.10.13 15.53

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.15.13 18.40

Tech: AMB

Seq Number: 913909

Prep seq: 638230

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	656	20.0	0.560	mg/L	05.15.13 18:40		20

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 914097

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2800	5.00	5.00	mg/L	05.17.13 11:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.16.13 14.40

Tech: KUG

Seq Number: 914042

Prep seq: 638194

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.17.13 04:28	U	1
Chromium	7440-47-3	0.210	0.0100	0.00355	mg/L	05.23.13 05:07		1
Iron	7439-89-6	0.0278	0.200	0.0188	mg/L	05.17.13 04:28	J	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.17.13 04:28	U	1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913923

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.251	0.0100	0.00500	mg/L	05.10.13 17:00		1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW93 SA 051013 Matrix: Water Sample Depth:
Lab Sample Id: 462925-001 Date Collected: 05.10.13 09.55 Date Received: 05.10.13 15.53

Analytical Method: TPH By SW8015 Mod % Moist: Prep Method: 1005
Analyst: DYV Date Prep: 05.20.13 08.30 Tech: DYV
Seq Number: 914132 Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 15:05	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 15:05	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 15:05	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 15:05	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	113	70 - 135	%		
o-Terphenyl	118	70 - 135	%		

Analytical Method: BTEX by EPA 8021B % Moist: Prep Method: 5030B
Analyst: DYV Date Prep: 05.15.13 14.00 Tech: DYV
Seq Number: 913832 Prep seq: 638135

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.16.13 00:49	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.16.13 00:49	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.16.13 00:49	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.16.13 00:49	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.16.13 00:49	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.16.13 00:49	U	
Total BTEX		ND		0.000500	mg/L	05.16.13 00:49	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	100	80 - 120	%		
4-Bromofluorobenzene	119	80 - 120	%		



Certificate of Analytical Results 462925



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: Trip Blank

Matrix: Water

Sample Depth:

Lab Sample Id: 462925-002

Date Collected: 05.10.13 00.00

Date Received: 05.10.13 15.53

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.15.13 14.00

Tech: DYV

Seq Number: 913832

Prep seq: 638135

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.16.13 01:05	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.16.13 01:05	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.16.13 01:05	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.16.13 01:05	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.16.13 01:05	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.16.13 01:05	U	
Total BTEX		ND		0.000500	mg/L	05.16.13 01:05	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	119	80 - 120	%		
4-Bromofluorobenzene	111	80 - 120	%		



Certificate of Analytical Results 462925



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW18 051013

Matrix: Water

Sample Depth:

Lab Sample Id: 462925-003

Date Collected: 05.10.13 10.50

Date Received: 05.10.13 15.53

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.15.13 19.02

Tech: AMB

Seq Number: 913909

Prep seq: 638230

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	932	20.0	0.560	mg/L	05.15.13 19:02		20

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 914097

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3520	5.00	5.00	mg/L	05.17.13 11:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.16.13 14.40

Tech: KUG

Seq Number: 914042

Prep seq: 638194

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0309	0.0200	0.00756	mg/L	05.17.13 04:34		1
Chromium	7440-47-3	1.17	0.0100	0.00355	mg/L	05.17.13 04:34		1
Iron	7439-89-6	1.94	0.200	0.0188	mg/L	05.17.13 04:34		1
Manganese	7439-96-5	1.43	0.0200	0.00291	mg/L	05.17.13 04:34		1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913923

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.856	0.100	0.0500	mg/L	05.10.13 17:00		10

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW18 051013

Matrix: Water

Sample Depth:

Lab Sample Id: 462925-003

Date Collected: 05.10.13 10.50

Date Received: 05.10.13 15.53

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.20.13 08.30

Tech: DYV

Seq Number: 914132

Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 16:01	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 16:01	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 16:01	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 16:01	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	112	70 - 135	%		
o-Terphenyl	117	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.15.13 14.00

Tech: DYV

Seq Number: 913832

Prep seq: 638135

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.16.13 01:21	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.16.13 01:21	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.16.13 01:21	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.16.13 01:21	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.16.13 01:21	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.16.13 01:21	U	
Total BTEX		ND		0.000500	mg/L	05.16.13 01:21	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	107	80 - 120	%		
4-Bromofluorobenzene	85	80 - 120	%		



Certificate of Analytical Results 462925



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: DUP3 051013

Matrix: Water

Sample Depth:

Lab Sample Id: 462925-004

Date Collected: 05.10.13 00.00

Date Received: 05.10.13 15.53

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.15.13 19.24

Tech: AMB

Seq Number: 913909

Prep seq: 638230

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	696	20.0	0.560	mg/L	05.15.13 19:24		20

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 914097

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2900	5.00	5.00	mg/L	05.17.13 11:00		1

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.16.13 14.40

Tech: KUG

Seq Number: 914042

Prep seq: 638194

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.17.13 04:41	U	1
Chromium	7440-47-3	0.286	0.0100	0.00355	mg/L	05.23.13 05:13		1
Iron	7439-89-6	0.0204	0.200	0.0188	mg/L	05.17.13 04:41	J	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.17.13 04:41	U	1

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913923

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.306	0.0100	0.00500	mg/L	05.10.13 17:00		1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: DUP3 051013

Matrix: Water

Sample Depth:

Lab Sample Id: 462925-004

Date Collected: 05.10.13 00.00

Date Received: 05.10.13 15.53

Analytical Method: **TPH By SW8015 Mod**

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.20.13 08.30

Tech: DYV

Seq Number: 914132

Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 16:28	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 16:28	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 16:28	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 16:28	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	107	70 - 135	%		
o-Terphenyl	111	70 - 135	%		

Analytical Method: **BTEX by EPA 8021B**

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.15.13 14.00

Tech: DYV

Seq Number: 913832

Prep seq: 638135

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.16.13 01:38	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.16.13 01:38	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.16.13 01:38	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.16.13 01:38	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.16.13 01:38	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.16.13 01:38	U	
Total BTEX		ND		0.000500	mg/L	05.16.13 01:38	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	118	80 - 120	%		
4-Bromofluorobenzene	115	80 - 120	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW19 051013

Matrix: Water

Sample Depth:

Lab Sample Id: 462925-005

Date Collected: 05.10.13 11.40

Date Received: 05.10.13 15.53

Analytical Method: **Inorganic Anions by EPA 300/300.1**

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.15.13 19.45

Tech: AMB

Seq Number: 913909

Prep seq: 638230

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	386	10.0	0.280	mg/L	05.15.13 19:45		10

Analytical Method: **TDS by SM2540C**

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 914097

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1390	5.00	5.00	mg/L	05.17.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.16.13 14.40

Tech: KUG

Seq Number: 914042

Prep seq: 638194

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.17.13 04:47	U	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.17.13 04:47	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.17.13 04:47	U	1
Manganese	7439-96-5	0.0196	0.0200	0.00291	mg/L	05.17.13 04:47	J	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913923

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.10.13 17:00	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW19 051013

Matrix: Water

Sample Depth:

Lab Sample Id: 462925-005

Date Collected: 05.10.13 11.40

Date Received: 05.10.13 15.53

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.20.13 08.30

Tech: DYV

Seq Number: 914132

Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 16:56	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 16:56	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 16:56	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 16:56	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	110	70 - 135	%		
o-Terphenyl	113	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.15.13 14.00

Tech: DYV

Seq Number: 913832

Prep seq: 638135

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.16.13 01:54	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.16.13 01:54	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.16.13 01:54	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.16.13 01:54	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.16.13 01:54	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.16.13 01:54	U	
Total BTEX		ND		0.000500	mg/L	05.16.13 01:54	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	92	80 - 120	%		
4-Bromofluorobenzene	86	80 - 120	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW20 051013

Matrix: Water

Sample Depth:

Lab Sample Id: 462925-006

Date Collected: 05.10.13 13.40

Date Received: 05.10.13 15.53

Analytical Method: **Inorganic Anions by EPA 300/300.1**

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.15.13 20.07

Tech: AMB

Seq Number: 913909

Prep seq: 638230

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	408	20.0	0.560	mg/L	05.15.13 20:07		20

Analytical Method: **TDS by SM2540C**

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 914097

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2000	5.00	5.00	mg/L	05.17.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.16.13 14.40

Tech: KUG

Seq Number: 914042

Prep seq: 638194

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.17.13 04:53	U	1
Chromium	7440-47-3	0.111	0.0100	0.00355	mg/L	05.17.13 04:53		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.17.13 04:53	U	1
Manganese	7439-96-5	0.0407	0.0200	0.00291	mg/L	05.17.13 04:53		1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913923

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.0931	0.0100	0.00500	mg/L	05.10.13 17:00		1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW20 051013

Matrix: Water

Sample Depth:

Lab Sample Id: 462925-006

Date Collected: 05.10.13 13.40

Date Received: 05.10.13 15.53

Analytical Method: **TPH By SW8015 Mod**

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.20.13 08.30

Tech: DYV

Seq Number: 914132

Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 17:53	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 17:53	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 17:53	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 17:53	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	104	70 - 135	%		
o-Terphenyl	107	70 - 135	%		

Analytical Method: **BTEX by EPA 8021B**

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.15.13 14.00

Tech: DYV

Seq Number: 913832

Prep seq: 638135

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.16.13 10:01	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.16.13 10:01	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.16.13 10:01	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.16.13 10:01	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.16.13 10:01	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.16.13 10:01	U	
Total BTEX		ND		0.000500	mg/L	05.16.13 10:01	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	114	80 - 120	%		
4-Bromofluorobenzene	112	80 - 120	%		



Certificate of Analytical Results 462925



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 638135-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638135-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021B

% Moist:

Prep Method: 5030B

Analyst: DYV

Date Prep: 05.15.13 14.00

Tech: DYV

Seq Number: 913832

Prep seq: 638135

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.15.13 23:44	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.15.13 23:44	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.15.13 23:44	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.15.13 23:44	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.15.13 23:44	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	88	80 - 120	%		
4-Bromofluorobenzene	96	80 - 120	%		

Sample Id: 638194-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638194-1-BLK

Date Collected:

Date Received:

Analytical Method: Dissolved Metals per ICP by SW846 6010B

% Moist:

Prep Method: 3010A

Analyst: KUG

Date Prep: 05.16.13 14.40

Tech: KUG

Seq Number: 914042

Prep seq: 638194

Subcontractor: SUB: E871002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.17.13 02:55	U	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.17.13 02:55	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.17.13 02:55	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.17.13 02:55	U	1

Sample Id: 638230-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638230-1-BLK

Date Collected:

Date Received:

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moist:

Prep Method: E300P

Analyst: AMB

Date Prep: 05.14.13 12.54

Tech: AMB

Seq Number: 913909

Prep seq: 638230

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	ND	1.00	0.0280	mg/L	05.14.13 12:54	U	1



Certificate of Analytical Results 462925



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 638355-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638355-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH By SW8015 Mod

% Moist:

Prep Method: 1005

Analyst: DYV

Date Prep: 05.20.13 08.30

Tech: DYV

Seq Number: 914132

Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 11:53	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 11:53	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 11:53	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 11:53	U	

Surrogate

% Recovery

Limits

Units

Analysis Date

Flag

1-Chlorooctane

111

70 - 135

%

o-Terphenyl

117

70 - 135

%

Sample Id: 913923-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913923-1-BLK

Date Collected:

Date Received:

Analytical Method: Chromium, Hexavalent by SW 7196A

% Moist:

Prep Method:

Analyst: WRU

Date Prep:

Tech: WRU

Seq Number: 913923

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.10.13 09:50	U	1

Sample Id: 914097-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 914097-1-BLK

Date Collected:

Date Received:

Analytical Method: TDS by SM2540C

% Moist:

Prep Method:

Analyst: AMB

Date Prep:

Tech: AMB

Seq Number: 914097

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	ND	5.00	5.00	mg/L	05.17.13 11:00	U	1

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **SQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462925,

Project ID: 073018

Lab Batch #: 913832

Sample: 638135-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/15/13 23:11	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0335	0.0300	112	80-120
4-Bromofluorobenzene		0.0311	0.0300	104	80-120

Lab Batch #: 913832

Sample: 638135-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/15/13 23:44	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0263	0.0300	88	80-120
4-Bromofluorobenzene		0.0289	0.0300	96	80-120

Lab Batch #: 913832

Sample: 462995-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/16/13 00:00	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0250	0.0300	83	80-120
4-Bromofluorobenzene		0.0336	0.0300	112	80-120

Lab Batch #: 913832

Sample: 462995-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/16/13 00:16	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0282	0.0300	94	80-120
4-Bromofluorobenzene		0.0254	0.0300	85	80-120

Lab Batch #: 913832

Sample: 638135-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/16/13 09:45	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0260	0.0300	87	80-120
4-Bromofluorobenzene		0.0266	0.0300	89	80-120

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462925,

Project ID: 073018

Lab Batch #: 914132

Sample: 638355-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/20/13 10:45

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	12.8	10.0	128	70-135	
o-Terphenyl	5.19	5.00	104	70-135	

Lab Batch #: 914132

Sample: 638355-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/20/13 11:12

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	12.7	10.0	127	70-135	
o-Terphenyl	4.02	5.00	80	70-135	

Lab Batch #: 914132

Sample: 638355-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/20/13 11:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	11.1	10.0	111	70-135	
o-Terphenyl	5.87	5.00	117	70-135	

Lab Batch #: 914132

Sample: 462852-010 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/20/13 14:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	11.5	10.0	115	70-135	
o-Terphenyl	4.44	5.00	89	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Project Name: North Eunice

Work Order #: 462925

Project ID: 073018

Lab Batch #: 913923

Sample: 913923-1-BKS

Matrix: Water

Date Analyzed: 05/10/2013

Date Prepared: 05/10/2013

Analyst: WRU

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Hexavalent Chromium	<0.00500	0.0250	0.0216	86	80-120	

Lab Batch #: 914097

Sample: 914097-1-BKS

Matrix: Water

Date Analyzed: 05/17/2013

Date Prepared: 05/17/2013

Analyst: AMB

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

TDS by SM2540C	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Total dissolved solids	<5.00	1000	1070	107	80-120	

Blank Spike Recovery [D] = $100 \times [C] / [B]$

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: North Eunice

Work Order #: 462925

Analyst: DYV

Date Prepared: 05/15/2013

Project ID: 073018

Date Analyzed: 05/15/2013

Lab Batch ID: 913832

Sample: 638135-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000500	0.100	0.102	102	0.100	0.0860	86	17	70-125	25	
Toluene	<0.00100	0.100	0.106	106	0.100	0.0962	96	10	70-125	25	
Ethylbenzene	<0.000700	0.100	0.106	106	0.100	0.110	110	4	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.195	98	0.200	0.204	102	5	70-131	25	
o-Xylene	<0.000700	0.100	0.102	102	0.100	0.0981	98	4	71-133	25	

Analyst: KUG

Date Prepared: 05/16/2013

Date Analyzed: 05/17/2013

Lab Batch ID: 914042

Sample: 638194-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Arsenic	<0.00756	1.00	1.03	103	1.00	0.998	100	3	80-120	20	
Chromium	<0.00355	1.00	1.02	102	1.00	0.992	99	3	80-120	20	
Iron	<0.0188	5.00	5.03	101	5.00	4.84	97	4	80-120	20	
Manganese	<0.00291	1.00	0.998	100	1.00	0.976	98	2	80-120	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: North Eunice

Work Order #: 462925

Analyst: AMB

Date Prepared: 05/14/2013

Project ID: 073018

Date Analyzed: 05/14/2013

Lab Batch ID: 913909

Sample: 638230-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.0280	25.0	25.8	103	25.0	25.8	103	0	80-120	20	

Analyst: DYV

Date Prepared: 05/20/2013

Date Analyzed: 05/20/2013

Lab Batch ID: 914132

Sample: 638355-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	130	130	100	122	122	6	70-135	25	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	129	129	100	122	122	6	70-135	25	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries



Project Name: North Eunice

Work Order #: 462925

Lab Batch #: 913909

Date Analyzed: 05/14/2013

QC- Sample ID: 462852-001 S

Reporting Units: mg/L

Project ID: 073018

Analyst: AMB

Date Prepared: 05/14/2013

Batch #: 1

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	349	250	642	117	80-120	

Lab Batch #: 913909

Date Analyzed: 05/14/2013

QC- Sample ID: 462852-011 S

Reporting Units: mg/L

Date Prepared: 05/14/2013

Analyst: AMB

Batch #: 1

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	269	250	513	98	80-120	

Lab Batch #: 914132

Date Analyzed: 05/20/2013

QC- Sample ID: 462852-010 S

Reporting Units: mg/L

Date Prepared: 05/20/2013

Analyst: DYV

Batch #: 1

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
TPH by SW8015 Mod	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	109	109	70-135	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	104	104	70-135	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$
Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS / MSD Recoveries



Project Name: North Eunice

Work Order # : 462925

Project ID: 073018

Lab Batch ID: 913832

QC- Sample ID: 462995-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/16/2013

Date Prepared: 05/15/2013

Analyst: DYV

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000500	0.100	0.0899	90	0.100	0.0882	88	2	70-125	25	
Toluene	<0.00100	0.100	0.0897	90	0.100	0.0817	82	9	70-125	25	
Ethylbenzene	<0.000700	0.100	0.0992	99	0.100	0.0924	92	7	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.185	93	0.200	0.168	84	10	70-131	25	
o-Xylene	<0.000700	0.100	0.0930	93	0.100	0.0893	89	4	71-133	25	

Lab Batch ID: 913923

QC- Sample ID: 462852-011 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/10/2013

Date Prepared: 05/10/2013

Analyst: WRU

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Hexavalent Chromium	0.0944	0.250	0.346	101	0.250	0.345	100	0	80-120	20	

Lab Batch ID: 914042

QC- Sample ID: 462141-001 S

Batch #: 1 Matrix: Sludge

Date Analyzed: 05/17/2013

Date Prepared: 05/16/2013

Analyst: KUG

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Arsenic	<0.0378	5.00	5.04	101	5.00	5.22	104	4	75-125	20	
Chromium	<0.0177	5.00	4.72	94	5.00	4.83	97	2	75-125	20	
Iron	27.6	25.0	53.8	105	25.0	53.9	105	0	75-125	20	
Manganese	2.36	5.00	7.30	99	5.00	7.11	95	3	75-125	20	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Project Name: North Eunice

Work Order #: 462925

Lab Batch #: 913923

Project ID: 073018

Date Analyzed: 05/10/2013 09:50

Date Prepared: 05/10/2013

Analyst: WRU

QC- Sample ID: 462852-011 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

Chromium, Hexavalent by SW 7196A	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Hexavalent Chromium	0.0944	0.0944	0	20	

Lab Batch #: 914097

Date Analyzed: 05/17/2013 11:00

Date Prepared: 05/17/2013

Analyst: AMB

QC- Sample ID: 462925-001 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	2800	2980	6	30	

Lab Batch #: 914097

Date Analyzed: 05/17/2013 11:00

Date Prepared: 05/17/2013

Analyst: AMB

QC- Sample ID: 463245-010 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	1540	1550	1	30	

Spike Relative Difference RPD $200 * |(B-A)/(B+A)|$
 All Results are based on MDL and validated for QC purposes.
 BRL - Below Reporting Limit

Company-City <i>CHA - midland</i>		Phone <i>432-686-0086</i>	
Project Name-Location <i>N Euvie</i>		Previously done at XENCO <i>073018</i>	
Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other		Proj. Manager (PM) <i>Mike W. Smith</i>	
E-mail Results to ☒ PM and ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.		Fax No: <i>432-686-086</i>	
Invoice to ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.		Bill to:	
Quote/Pricing:		P.O. No: ☐ Call for P.O.	
Reg Program: UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP			
QAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:			
Special DLS (GW DW QAPP MDLs RLS See Lab PM Included Call PM)			
Sampler Name <i>Justin N. Van</i>	Signature <i>[Signature]</i>		
Sample ID	Sampling Date	Time	Depth ft' in" m
1 <i>mw934051013</i>	<i>5-10-13</i>	<i>955</i>	<i>3</i>
2 <i>Trip Blank</i>			
3 <i>Iw18051013</i>		<i>1050</i>	
4 <i>Dy3051013</i>			
5 <i>Iw19051013</i>		<i>1140</i>	
6 <i>Iw20051013</i>		<i>1340</i>	
7			
8			
9			
10			
Relinquished by (Initials and Sign) <i>[Signature]</i>		Date & Time <i>5-10-13 15:53</i>	
Relinquished to (Initials and Sign) <i>[Signature]</i>		Date & Time <i>5-10-13 15:53</i>	
Total Containers per COC: <i>37</i>		Cooler Temp: <i>55°C</i>	
Preservatives: Various (V), HCl pH<2 (H), H2SO4 pH<2 (S), HNO3 pH<2 (N), Asbc Acid&NaOH (A), ZnAc&NaOH (Z), (Cool, <4°C) (C), None (NA), See Label (L), Other (O)			
Cont. Size: 4oz (4), 8oz (8), 32oz (32), 40ml VOA (40), 1L (1), 500ml (5), Tedlar Bag (B), Various (V), Other _____			
Cont. Type: Glass Amb (A), Glass Clear (C), Plastic (P), Various (V)			
Matrix: Air (A), Product (P), Solid (S), Water (W), Liquid (L)			
VOA: Full-List BTEX-MTBE EtOH Oxyg VOHS VOAs VOA: PP TCL DW Appdx-1 Appdx-2 CALL Other: PAHs SIM 8310 8270 TX-1005 DRO GRO MA EPH MA VPH SVOCs: Full-List DW BN&AE TCLP PP Appdx-2 CALL OC Pesticides PCBs Herbicides OP Pesticides Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx2 SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs) EDB / DBCP method 8021B BTEX Diss metals 6010B TDS Sm 2540 C chlorides E300 TPH Gro+ Dro 8015 Mod Hex chrome 7196A TATASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d Addn: PAH above mg/L W, mg/Kg S Highest Hit Hold Samples (Surcharges will apply and are pre-approved) Sample Clean-ups are pre-approved as needed Addn: Date Rcv. by: From:			

Preservatives: Various (V), HCl pH<2 (H), H2SO4 pH<2 (S), HNO3 pH<2 (N), Asbc Acid&NaOH (A), ZnAc&NaOH (Z), (Cool, <4°C) (C), None (NA), See Label (L), Other (O)
Cont. Size: 4oz (4), 8oz (8), 32oz (32), 40ml VOA (40), 1L (1), 500ml (5), Tedlar Bag (B), Various (V), Other _____
Cont. Type: Glass Amb (A), Glass Clear (C), Plastic (P), Various (V)
Matrix: Air (A), Product (P), Solid (S), Water (W), Liquid (L)

Notice: Signature of this document and relinquishment of these samples constitutes a valid purchase order from client company to Xenco Laboratories and its affiliates, subcontractors and assigns under Xenco's standard terms and conditions of service unless previously negotiated under a fully executed client contract.

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Prelogin/Nonconformance Report- Sample Log-In

Client: Conestoga Rovers & Associates

Date/ Time Received: 05/10/2013 03:53:00 PM

Work Order #: 462925

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	Yes

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:	PH Device/Lot#:
----------	-----------------

Checklist completed by:	<u>Kelsey Brooks</u> Kelsey Brooks	Date: 05/13/2013
Checklist reviewed by:	<u>Kelsey Brooks</u> Kelsey Brooks	Date: 05/13/2013

Analytical Report 462925

for

Conestoga Rovers & Associates

Project Manager: Mike Wisniowiecki

North Eunice

073018

31-MAY-13

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

31-MAY-13

Project Manager: **Mike Wisniowiecki**

Conestoga Rovers & Associates

2135 S Loop 250 W

Midland, TX 79703

Reference: XENCO Report No(s): **462925**

North Eunice

Project Address: New Mexico

Mike Wisniowiecki:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 462925. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 462925 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,



Kelsey Brooks

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 462925



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW93 SA 051013	W	05-10-13 09:55		462925-001
Trip Blank	W	05-10-13 00:00		462925-002
IW18 051013	W	05-10-13 10:50		462925-003
DUP3 051013	W	05-10-13 00:00		462925-004
IW19 051013	W	05-10-13 11:40		462925-005
IW20 051013	W	05-10-13 13:40		462925-006



CASE NARRATIVE



Client Name: *Conestoga Rovers & Associates*

Project Name: *North Eunice*

Project ID: 073018

Work Order Number(s): 462925

Report Date: 31-MAY-13

Date Received: 05/10/2013

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 462925



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW93 SA 051013

Matrix: Water

Sample Depth:

Lab Sample Id: 462925-001

Date Collected: 05.10.13 09.55

Date Received: 05.10.13 15.53

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913909

Date Prep: 05.15.13 18.40

Prep seq: 638230

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	656	20.0	0.560	mg/L	05.15.13 18:40		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 914097

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2800	5.00	5.00	mg/L	05.17.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 914042

Date Prep: 05.16.13 14.40

Subcontractor: SUB: E871002

Prep seq: 638194

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.17.13 04:28	U	1
Chromium	7440-47-3	0.210	0.0100	0.00355	mg/L	05.23.13 05:07		1
Iron	7439-89-6	0.0278	0.200	0.0188	mg/L	05.17.13 04:28	J	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.17.13 04:28	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913923

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.251	0.0100	0.00500	mg/L	05.10.13 17:00		1



Certificate of Analytical Results 462925



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW93 SA 051013

Matrix: Water

Sample Depth:

Lab Sample Id: 462925-001

Date Collected: 05.10.13 09.55

Date Received: 05.10.13 15.53

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914132

Date Prep: 05.20.13 08.30

Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 15:05	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 15:05	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 15:05	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 15:05	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	113	70 - 135	%		
o-Terphenyl	118	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913832

Date Prep: 05.15.13 14.00

Prep seq: 638135

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.16.13 00:49	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.16.13 00:49	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.16.13 00:49	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.16.13 00:49	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.16.13 00:49	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.16.13 00:49	U	
Total BTEX		ND		0.000500	mg/L	05.16.13 00:49	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	100	80 - 120	%		
4-Bromofluorobenzene	119	80 - 120	%		



Certificate of Analytical Results 462925



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: Trip Blank

Matrix: Water

Sample Depth:

Lab Sample Id: 462925-002

Date Collected: 05.10.13 00.00

Date Received: 05.10.13 15.53

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913832

Date Prep: 05.15.13 14.00

Prep seq: 638135

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.16.13 01:05	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.16.13 01:05	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.16.13 01:05	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.16.13 01:05	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.16.13 01:05	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.16.13 01:05	U	
Total BTEX		ND		0.000500	mg/L	05.16.13 01:05	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	119	80 - 120	%		
4-Bromofluorobenzene	111	80 - 120	%		



Certificate of Analytical Results 462925



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW18 051013

Matrix: Water

Sample Depth:

Lab Sample Id: 462925-003

Date Collected: 05.10.13 10.50

Date Received: 05.10.13 15.53

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913909

Date Prep: 05.15.13 19.02

Prep seq: 638230

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	932	20.0	0.560	mg/L	05.15.13 19:02		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 914097

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3520	5.00	5.00	mg/L	05.17.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 914042

Date Prep: 05.16.13 14.40

Subcontractor: SUB: E871002

Prep seq: 638194

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0309	0.0200	0.00756	mg/L	05.17.13 04:34		1
Chromium	7440-47-3	1.17	0.0100	0.00355	mg/L	05.17.13 04:34		1
Iron	7439-89-6	1.94	0.200	0.0188	mg/L	05.17.13 04:34		1
Manganese	7439-96-5	1.43	0.0200	0.00291	mg/L	05.17.13 04:34		1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913923

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.856	0.100	0.0500	mg/L	05.10.13 17:00		10



Certificate of Analytical Results 462925



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW18 051013

Matrix: Water

Sample Depth:

Lab Sample Id: 462925-003

Date Collected: 05.10.13 10.50

Date Received: 05.10.13 15.53

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914132

Date Prep: 05.20.13 08.30

Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 16:01	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 16:01	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 16:01	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 16:01	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	112	70 - 135	%		
o-Terphenyl	117	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913832

Date Prep: 05.15.13 14.00

Prep seq: 638135

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.16.13 01:21	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.16.13 01:21	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.16.13 01:21	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.16.13 01:21	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.16.13 01:21	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.16.13 01:21	U	
Total BTEX		ND		0.000500	mg/L	05.16.13 01:21	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	107	80 - 120	%		
4-Bromofluorobenzene	85	80 - 120	%		



Certificate of Analytical Results 462925



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: DUP3 051013

Matrix: Water

Sample Depth:

Lab Sample Id: 462925-004

Date Collected: 05.10.13 00.00

Date Received: 05.10.13 15.53

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913909

Date Prep: 05.15.13 19.24

Prep seq: 638230

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	696	20.0	0.560	mg/L	05.15.13 19:24		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 914097

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2900	5.00	5.00	mg/L	05.17.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 914042

Date Prep: 05.16.13 14.40

Subcontractor: SUB: E871002

Prep seq: 638194

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.17.13 04:41	U	1
Chromium	7440-47-3	0.286	0.0100	0.00355	mg/L	05.23.13 05:13		1
Iron	7439-89-6	0.0204	0.200	0.0188	mg/L	05.17.13 04:41	J	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.17.13 04:41	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913923

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.306	0.0100	0.00500	mg/L	05.10.13 17:00		1



Certificate of Analytical Results 462925



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: DUP3 051013

Matrix: Water

Sample Depth:

Lab Sample Id: 462925-004

Date Collected: 05.10.13 00.00

Date Received: 05.10.13 15.53

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914132

Date Prep: 05.20.13 08.30

Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 16:28	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 16:28	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 16:28	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 16:28	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	107	70 - 135	%		
o-Terphenyl	111	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913832

Date Prep: 05.15.13 14.00

Prep seq: 638135

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.16.13 01:38	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.16.13 01:38	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.16.13 01:38	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.16.13 01:38	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.16.13 01:38	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.16.13 01:38	U	
Total BTEX		ND		0.000500	mg/L	05.16.13 01:38	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	118	80 - 120	%		
4-Bromofluorobenzene	115	80 - 120	%		



Certificate of Analytical Results 462925



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW19 051013

Matrix: Water

Sample Depth:

Lab Sample Id: 462925-005

Date Collected: 05.10.13 11.40

Date Received: 05.10.13 15.53

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913909

Date Prep: 05.15.13 19.45

Prep seq: 638230

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	386	10.0	0.280	mg/L	05.15.13 19:45		10

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 914097

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1390	5.00	5.00	mg/L	05.17.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 914042

Date Prep: 05.16.13 14.40

Subcontractor: SUB: E871002

Prep seq: 638194

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.17.13 04:47	U	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.17.13 04:47	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.17.13 04:47	U	1
Manganese	7439-96-5	0.0196	0.0200	0.00291	mg/L	05.17.13 04:47	J	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913923

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.10.13 17:00	U	1



Certificate of Analytical Results 462925



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW19 051013

Matrix: Water

Sample Depth:

Lab Sample Id: 462925-005

Date Collected: 05.10.13 11.40

Date Received: 05.10.13 15.53

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914132

Date Prep: 05.20.13 08.30

Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 16:56	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 16:56	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 16:56	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 16:56	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	110	70 - 135	%		
o-Terphenyl	113	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913832

Date Prep: 05.15.13 14.00

Prep seq: 638135

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.16.13 01:54	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.16.13 01:54	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.16.13 01:54	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.16.13 01:54	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.16.13 01:54	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.16.13 01:54	U	
Total BTEX		ND		0.000500	mg/L	05.16.13 01:54	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	92	80 - 120	%		
4-Bromofluorobenzene	86	80 - 120	%		



Certificate of Analytical Results 462925



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW20 051013

Matrix: Water

Sample Depth:

Lab Sample Id: 462925-006

Date Collected: 05.10.13 13.40

Date Received: 05.10.13 15.53

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913909

Date Prep: 05.15.13 20.07

Prep seq: 638230

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	408	20.0	0.560	mg/L	05.15.13 20:07		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 914097

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2000	5.00	5.00	mg/L	05.17.13 11:00		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 914042

Date Prep: 05.16.13 14.40

Subcontractor: SUB: E871002

Prep seq: 638194

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.17.13 04:53	U	1
Chromium	7440-47-3	0.111	0.0100	0.00355	mg/L	05.17.13 04:53		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.17.13 04:53	U	1
Manganese	7439-96-5	0.0407	0.0200	0.00291	mg/L	05.17.13 04:53		1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913923

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.0931	0.0100	0.00500	mg/L	05.10.13 17:00		1



Certificate of Analytical Results 462925



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW20 051013

Matrix: Water

Sample Depth:

Lab Sample Id: 462925-006

Date Collected: 05.10.13 13.40

Date Received: 05.10.13 15.53

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914132

Date Prep: 05.20.13 08.30

Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 17:53	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 17:53	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 17:53	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 17:53	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	104	70 - 135	%		
o-Terphenyl	107	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913832

Date Prep: 05.15.13 14.00

Prep seq: 638135

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.16.13 10:01	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.16.13 10:01	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.16.13 10:01	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.16.13 10:01	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.16.13 10:01	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.16.13 10:01	U	
Total BTEX		ND		0.000500	mg/L	05.16.13 10:01	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	114	80 - 120	%		
4-Bromofluorobenzene	112	80 - 120	%		



Certificate of Analytical Results 462925



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 638135-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638135-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 913832

Date Prep: 05.15.13 14.00

Prep seq: 638135

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.15.13 23:44	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.15.13 23:44	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.15.13 23:44	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.15.13 23:44	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.15.13 23:44	U	1

Surrogate

% Recovery

Limits

Units

Analysis Date

Flag

1,4-Difluorobenzene

88

80 - 120

%

4-Bromofluorobenzene

96

80 - 120

%

Sample Id: 638194-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638194-1-BLK

Date Collected:

Date Received:

Analytical Method: Dissolved Metals per ICP by SW846 6010B

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 914042

Date Prep: 05.16.13 14.40

Prep seq: 638194

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.17.13 02:55	U	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.17.13 02:55	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.17.13 02:55	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.17.13 02:55	U	1

Sample Id: 638230-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638230-1-BLK

Date Collected:

Date Received:

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 913909

Date Prep: 05.14.13 12.54

Prep seq: 638230

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	ND	1.00	0.0280	mg/L	05.14.13 12:54	U	1



Certificate of Analytical Results 462925



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 638355-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638355-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914132

Date Prep: 05.20.13 08.30

Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 11:53	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 11:53	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 11:53	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 11:53	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	111	70 - 135	%		
o-Terphenyl	117	70 - 135	%		

Sample Id: 913923-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913923-1-BLK

Date Collected:

Date Received:

Analytical Method: Chromium, Hexavalent by SW 7196A

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913923

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.10.13 09:50	U	1

Sample Id: 914097-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 914097-1-BLK

Date Collected:

Date Received:

Analytical Method: TDS by SM2540C

Prep Method:

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 914097

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	ND	5.00	5.00	mg/L	05.17.13 11:00	U	1

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462925,

Project ID: 073018

Lab Batch #: 913832

Sample: 638135-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/15/13 23:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0335	0.0300	112	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

Lab Batch #: 913832

Sample: 638135-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/15/13 23:44

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0263	0.0300	88	80-120	
4-Bromofluorobenzene	0.0289	0.0300	96	80-120	

Lab Batch #: 913832

Sample: 462995-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 00:00

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0250	0.0300	83	80-120	
4-Bromofluorobenzene	0.0336	0.0300	112	80-120	

Lab Batch #: 913832

Sample: 462995-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 00:16

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0282	0.0300	94	80-120	
4-Bromofluorobenzene	0.0254	0.0300	85	80-120	

Lab Batch #: 913832

Sample: 638135-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/16/13 09:45

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0260	0.0300	87	80-120	
4-Bromofluorobenzene	0.0266	0.0300	89	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 462925,

Project ID: 073018

Lab Batch #: 914132

Sample: 638355-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/20/13 10:45

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	12.8	10.0	128	70-135	
o-Terphenyl	5.19	5.00	104	70-135	

Lab Batch #: 914132

Sample: 638355-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/20/13 11:12

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	12.7	10.0	127	70-135	
o-Terphenyl	4.02	5.00	80	70-135	

Lab Batch #: 914132

Sample: 638355-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/20/13 11:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	11.1	10.0	111	70-135	
o-Terphenyl	5.87	5.00	117	70-135	

Lab Batch #: 914132

Sample: 462852-010 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/20/13 14:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	11.5	10.0	115	70-135	
o-Terphenyl	4.44	5.00	89	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Project Name: North Eunice

Work Order #: 462925

Project ID:

073018

Lab Batch #: 913923

Sample: 913923-1-BKS

Matrix: Water

Date Analyzed: 05/10/2013

Date Prepared: 05/10/2013

Analyst: WRU

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Hexavalent Chromium	<0.00500	0.0250	0.0216	86	80-120	

Lab Batch #: 914097

Sample: 914097-1-BKS

Matrix: Water

Date Analyzed: 05/17/2013

Date Prepared: 05/17/2013

Analyst: AMB

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

TDS by SM2540C	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Total dissolved solids	<5.00	1000	1070	107	80-120	

Blank Spike Recovery [D] = $100 \times [C] / [B]$

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: North Eunice

Work Order #: 462925

Analyst: DYV

Date Prepared: 05/15/2013

Project ID: 073018

Date Analyzed: 05/15/2013

Lab Batch ID: 913832

Sample: 638135-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000500	0.100	0.102	102	0.100	0.0860	86	17	70-125	25	
Toluene	<0.00100	0.100	0.106	106	0.100	0.0962	96	10	70-125	25	
Ethylbenzene	<0.000700	0.100	0.106	106	0.100	0.110	110	4	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.195	98	0.200	0.204	102	5	70-131	25	
o-Xylene	<0.000700	0.100	0.102	102	0.100	0.0981	98	4	71-133	25	

Analyst: KUG

Date Prepared: 05/16/2013

Date Analyzed: 05/17/2013

Lab Batch ID: 914042

Sample: 638194-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Arsenic	<0.00756	1.00	1.03	103	1.00	0.998	100	3	80-120	20	
Chromium	<0.00355	1.00	1.02	102	1.00	0.992	99	3	80-120	20	
Iron	<0.0188	5.00	5.03	101	5.00	4.84	97	4	80-120	20	
Manganese	<0.00291	1.00	0.998	100	1.00	0.976	98	2	80-120	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: North Eunice

Work Order #: 462925

Analyst: AMB

Date Prepared: 05/14/2013

Project ID: 073018

Date Analyzed: 05/14/2013

Lab Batch ID: 913909

Sample: 638230-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.0280	25.0	25.8	103	25.0	25.8	103	0	80-120	20	

Analyst: DYV

Date Prepared: 05/20/2013

Date Analyzed: 05/20/2013

Lab Batch ID: 914132

Sample: 638355-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	130	130	100	122	122	6	70-135	25	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	129	129	100	122	122	6	70-135	25	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: North Eunice

Work Order #: 462925

Lab Batch #: 913909

Date Analyzed: 05/14/2013

QC- Sample ID: 462852-001 S

Reporting Units: mg/L

Project ID: 073018

Analyst: AMB

Date Prepared: 05/14/2013

Batch #: 1

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	349	250	642	117	80-120	

Lab Batch #: 913909

Date Analyzed: 05/14/2013

QC- Sample ID: 462852-011 S

Reporting Units: mg/L

Date Prepared: 05/14/2013

Analyst: AMB

Batch #: 1

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	269	250	513	98	80-120	

Lab Batch #: 914132

Date Analyzed: 05/20/2013

QC- Sample ID: 462852-010 S

Reporting Units: mg/L

Date Prepared: 05/20/2013

Analyst: DYV

Batch #: 1

Matrix: Water

MATRIX / MATRIX SPIKE RECOVERY STUDY						
TPH by SW8015 Mod	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	109	109	70-135	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	104	104	70-135	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$
 Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$
 All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS / MSD Recoveries



Project Name: North Eunice

Work Order # : 462925

Project ID: 073018

Lab Batch ID: 913832

QC- Sample ID: 462995-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/16/2013

Date Prepared: 05/15/2013

Analyst: DYV

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000500	0.100	0.0899	90	0.100	0.0882	88	2	70-125	25	
Toluene	<0.00100	0.100	0.0897	90	0.100	0.0817	82	9	70-125	25	
Ethylbenzene	<0.000700	0.100	0.0992	99	0.100	0.0924	92	7	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.185	93	0.200	0.168	84	10	70-131	25	
o-Xylene	<0.000700	0.100	0.0930	93	0.100	0.0893	89	4	71-133	25	

Lab Batch ID: 913923

QC- Sample ID: 462852-011 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/10/2013

Date Prepared: 05/10/2013

Analyst: WRU

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Hexavalent Chromium	0.0944	0.250	0.346	101	0.250	0.345	100	0	80-120	20	

Lab Batch ID: 914042

QC- Sample ID: 462141-001 S

Batch #: 1 Matrix: Sludge

Date Analyzed: 05/17/2013

Date Prepared: 05/16/2013

Analyst: KUG

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Arsenic	<0.0378	5.00	5.04	101	5.00	5.22	104	4	75-125	20	
Chromium	<0.0177	5.00	4.72	94	5.00	4.83	97	2	75-125	20	
Iron	27.6	25.0	53.8	105	25.0	53.9	105	0	75-125	20	
Manganese	2.36	5.00	7.30	99	5.00	7.11	95	3	75-125	20	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Project Name: North Eunice

Work Order #: 462925

Lab Batch #: 913923

Project ID: 073018

Date Analyzed: 05/10/2013 09:50

Date Prepared: 05/10/2013

Analyst: WRU

QC- Sample ID: 462852-011 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

Chromium, Hexavalent by SW 7196A	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Hexavalent Chromium	0.0944	0.0944	0	20	

Lab Batch #: 914097

Date Analyzed: 05/17/2013 11:00

Date Prepared: 05/17/2013

Analyst: AMB

QC- Sample ID: 462925-001 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	2800	2980	6	30	

Lab Batch #: 914097

Date Analyzed: 05/17/2013 11:00

Date Prepared: 05/17/2013

Analyst: AMB

QC- Sample ID: 463245-010 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	1540	1550	1	30	

Spike Relative Difference $RPD = 200 * |(B-A)/(B+A)|$
 All Results are based on MDL and validated for QC purposes.
 BRL - Below Reporting Limit

Company-City <i>CHA - midland</i>		Phone <i>432-686-0086</i>	
Project Name-Location <i>N Enrize</i>		Previously done at XENCO <i>073018</i>	
Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other		Proj. Manager (PM) <i>Mike W. Smith</i>	
E-mail Results to ☒ PM and ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.		Fax No: <i>432-686-086</i>	
Invoice to ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.		Bill to:	
Quote/Pricing:		P.O. No: ☐ Call for P.O.	
Reg Program: UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP			
QAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:			
Special DLS (GW DW QAPP MDLs RLS See Lab PM Included Call PM)			
Sampler Name <i>Justin N. Xan</i>	Signature <i>[Signature]</i>		
Sample ID	Sampling Date	Time	Depth ft' in" m
1 <i>mwq34 051013</i>	<i>5-10-13</i>	<i>955</i>	<i>3</i>
2 <i>Trip Blank</i>			
3 <i>Iw18 051013</i>		<i>1050</i>	
4 <i>Dy3 051013</i>			
5 <i>Iw19 051013</i>		<i>1140</i>	
6 <i>Iw20 051013</i>		<i>1340</i>	
7			
8			
9			
10			
Relinquished by (Initials and Sign) <i>[Signature]</i>		Date & Time <i>5-10-13 15:53</i>	
Relinquished to (Initials and Sign) <i>[Signature]</i>		Date & Time <i>5-10-13 15:53</i>	
Total Containers per COC: <i>37</i>		Cooler Temp: <i>55°C</i>	
Preservatives: Various (V), HCl pH<2 (H), H2SO4 pH<2 (S), HNO3 pH<2 (N), Asbc Acid&NaOH (A), ZnAc&NaOH (Z), (Cool, <4°C) (C), None (NA), See Label (L), Other (O)			
Cont. Size: 4oz (4), 8oz (8), 32oz (32), 40ml VOA (40), 1L (1), 500ml (5), Tedlar Bag (B), Various (V), Other _____			
Cont. Type: Glass Amb (A), Glass Clear (C), Plastic (P), Various (V)			
Matrix: Air (A), Product (P), Solid (S), Water (W), Liquid (L)			
VOA: Full-List BTEX-MTBE EtOH Oxyg VOHS VOAs VOA: PP TCL DW Appdx-1 Appdx-2 CALL Other: PAHs SIM 8310 8270 TX-1005 DRO GRO MA EPH MA VPH SVOCs: Full-List DW BN&AE TCLP PP Appdx-2 CALL OC Pesticides PCBs Herbicides OP Pesticides Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx2 SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs) EDB / DBCP method 8021B BTEX Diss metals 6010B TDS Sm 2540 C chlorides E300 TPH Gro+ PRO 8015 Mod Hex chrome 7196A TATASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d Addn: PAH above mg/L W, mg/Kg S Highest Hit Hold Samples (Surcharges will apply and are pre-approved) Sample Clean-ups are pre-approved as needed Addn: Date Rcv. by: From:			
Remarks			

Notice: Signature of this document and relinquishment of these samples constitutes a valid purchase order from client company to Xenco Laboratories and its affiliates, subcontractors and assigns under Xenco's standard terms and conditions of service unless previously negotiated under a fully executed client contract.

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Prelogin/Nonconformance Report- Sample Log-In

Client: Conestoga Rovers & Associates

Date/ Time Received: 05/10/2013 03:53:00 PM

Work Order #: 462925

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	1.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	Yes

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:	PH Device/Lot#:
----------	-----------------

Checklist completed by:


Kelsey Brooks

Date: 05/13/2013

Checklist reviewed by:


Kelsey Brooks

Date: 05/13/2013

Analytical Report 463050

for

Conestoga Rovers & Associates

Project Manager: Mike Wisniowiecki

North Eunice

073018

31-MAY-13

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

31-MAY-13

Project Manager: **Mike Wisniowiecki**

Conestoga Rovers & Associates

2135 S Loop 250 W

Midland, TX 79703

Reference: XENCO Report No(s): **463050**

North Eunice

Project Address: New Mexico

Mike Wisniowiecki:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 463050. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 463050 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,



Kelsey Brooks

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 463050



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
IW23 051313	W	05-13-13 09:55		463050-001
IW22 051313	W	05-13-13 10:40		463050-002
IW21 051313	W	05-13-13 11:40		463050-003
MW44 051313	W	05-13-13 13:45		463050-004
MW 43 051313	W	05-13-13 15:00		463050-005
IW13 051313	W	05-13-13 16:40		463050-006
MW63A 051313	W	05-13-13 17:30		463050-007
MW20A 051313	W	05-13-13 10:10		463050-008
MW20 051313	W	05-13-13 11:10		463050-009
MW19A 051313	W	05-13-13 13:50		463050-010
MW18 051313	W	05-13-13 15:10		463050-011
MW18A 051313	W	05-13-13 16:10		463050-012
MW24A 051313	W	05-13-13 17:40		463050-013
TRIP BLANK	W	05-13-13 00:00		463050-014

Client Name: Conestoga Rovers & Associates**Project Name: North Eunice**Project ID: 073018
Work Order Number(s): 463050Report Date: 31-MAY-13
Date Received: 05/14/2013

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:Batch: LBA-913685 Chromium, Hexavalent by SW 7196A
SW7196A

Batch 913685, Hexavalent Chromium recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 463050-013, -012, -011.

The Laboratory Control Sample for Hexavalent Chromium is within laboratory Control Limits



Certificate of Analytical Results 463050



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW23 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-001

Date Collected: 05.13.13 09.55

Date Received: 05.14.13 10.00

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 914035

Date Prep: 05.20.13 09.54

Prep seq: 638294

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	537	20.0	0.560	mg/L	05.16.13 03:00		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: ANS

% Moist:

Tech: ANS

Seq Number: 913998

Date Prep:

Subcontractor: SUB: E871002

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1680	5.00	5.00	mg/L	05.17.13 15:59		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 914314

Date Prep: 05.21.13 08.00

Subcontractor: SUB: E871002

Prep seq: 638392

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.00985	0.0200	0.00756	mg/L	05.21.13 19:06	J	1
Chromium	7440-47-3	0.0108	0.0100	0.00355	mg/L	05.21.13 19:06		1
Iron	7439-89-6	0.0262	0.200	0.0188	mg/L	05.21.13 19:06	J	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.21.13 19:06	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 914349

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.00760	0.0100	0.00500	mg/L	05.14.13 09:50	J	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW23 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-001

Date Collected: 05.13.13 09.55

Date Received: 05.14.13 10.00

Analytical Method: **TPH By SW8015 Mod**

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914132

Date Prep: 05.20.13 08.30

Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 18:21	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 18:21	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 18:21	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 18:21	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	112	70 - 135	%		
o-Terphenyl	115	70 - 135	%		

Analytical Method: **BTEX by EPA 8021B**

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914153

Date Prep: 05.20.13 11.00

Prep seq: 638381

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.20.13 13:51	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.20.13 13:51	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.20.13 13:51	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.20.13 13:51	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.20.13 13:51	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.20.13 13:51	U	
Total BTEX		ND		0.000500	mg/L	05.20.13 13:51	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	85	80 - 120	%		
4-Bromofluorobenzene	83	80 - 120	%		



Certificate of Analytical Results 463050



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW22 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-002

Date Collected: 05.13.13 10.40

Date Received: 05.14.13 10.00

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 914035

Date Prep: 05.20.13 09.54

Prep seq: 638294

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	375	20.0	0.560	mg/L	05.16.13 03:43		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: ANS

% Moist:

Tech: ANS

Seq Number: 913998

Date Prep:

Subcontractor: SUB: E871002

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1500	5.00	5.00	mg/L	05.17.13 15:59		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 914314

Date Prep: 05.21.13 08.00

Subcontractor: SUB: E871002

Prep seq: 638392

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.21.13 19:36	U	1
Chromium	7440-47-3	0.139	0.0100	0.00355	mg/L	05.21.13 19:36		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.21.13 19:36	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.21.13 19:36	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 914349

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.133	0.0100	0.00500	mg/L	05.14.13 09:50		1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW22 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-002

Date Collected: 05.13.13 10.40

Date Received: 05.14.13 10.00

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914132

Date Prep: 05.20.13 08.30

Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 18:48	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 18:48	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 18:48	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 18:48	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	111	70 - 135	%		
o-Terphenyl	116	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914153

Date Prep: 05.20.13 11.00

Prep seq: 638381

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.20.13 14:07	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.20.13 14:07	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.20.13 14:07	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.20.13 14:07	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.20.13 14:07	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.20.13 14:07	U	
Total BTEX		ND		0.000500	mg/L	05.20.13 14:07	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	99	80 - 120	%		
4-Bromofluorobenzene	97	80 - 120	%		



Certificate of Analytical Results 463050



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW21 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-003

Date Collected: 05.13.13 11.40

Date Received: 05.14.13 10.00

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 914035

Date Prep: 05.20.13 09.54

Prep seq: 638294

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	266	10.0	0.280	mg/L	05.16.13 04:05		10

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: ANS

% Moist:

Tech: ANS

Seq Number: 913998

Date Prep:

Subcontractor: SUB: E871002

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1550	5.00	5.00	mg/L	05.17.13 15:59		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 914314

Date Prep: 05.21.13 08.00

Subcontractor: SUB: E871002

Prep seq: 638392

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0120	0.0200	0.00756	mg/L	05.21.13 19:42	J	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.21.13 19:42	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.21.13 19:42	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.21.13 19:42	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 914349

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.14.13 09:50	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW21 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-003

Date Collected: 05.13.13 11.40

Date Received: 05.14.13 10.00

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914132

Date Prep: 05.20.13 08.30

Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 19:15	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 19:15	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 19:15	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 19:15	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	115	70 - 135	%		
o-Terphenyl	120	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914153

Date Prep: 05.20.13 11.00

Prep seq: 638381

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.20.13 14:24	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.20.13 14:24	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.20.13 14:24	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.20.13 14:24	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.20.13 14:24	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.20.13 14:24	U	
Total BTEX		ND		0.000500	mg/L	05.20.13 14:24	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	80	80 - 120	%		
4-Bromofluorobenzene	89	80 - 120	%		



Certificate of Analytical Results 463050



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW44 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-004

Date Collected: 05.13.13 13.45

Date Received: 05.14.13 10.00

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 914035

Date Prep: 05.20.13 09.54

Prep seq: 638294

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	420	20.0	0.560	mg/L	05.16.13 04:27		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: ANS

% Moist:

Tech: ANS

Seq Number: 913998

Date Prep:

Subcontractor: SUB: E871002

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1560	5.00	5.00	mg/L	05.17.13 15:59		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 914314

Date Prep: 05.21.13 08.00

Subcontractor: SUB: E871002

Prep seq: 638392

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.00818	0.0200	0.00756	mg/L	05.21.13 20:00	J	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.21.13 20:00	U	1
Iron	7439-89-6	0.0456	0.200	0.0188	mg/L	05.21.13 20:00	J	1
Manganese	7439-96-5	0.0173	0.0200	0.00291	mg/L	05.21.13 20:00	J	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 914349

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.14.13 09:50	U	1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW44 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-004

Date Collected: 05.13.13 13.45

Date Received: 05.14.13 10.00

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914132

Date Prep: 05.20.13 08.30

Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 19:42	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 19:42	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 19:42	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 19:42	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	113	70 - 135	%		
o-Terphenyl	118	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914153

Date Prep: 05.20.13 11.00

Prep seq: 638381

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.20.13 14:40	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.20.13 14:40	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.20.13 14:40	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.20.13 14:40	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.20.13 14:40	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.20.13 14:40	U	
Total BTEX		ND		0.000500	mg/L	05.20.13 14:40	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	89	80 - 120	%		
4-Bromofluorobenzene	112	80 - 120	%		



Certificate of Analytical Results 463050



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW 43 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-005

Date Collected: 05.13.13 15.00

Date Received: 05.14.13 10.00

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 914035

Date Prep: 05.20.13 09.54

Prep seq: 638294

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	158	10.0	0.280	mg/L	05.16.13 04:48		10

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: ANS

% Moist:

Tech: ANS

Seq Number: 913998

Date Prep:

Subcontractor: SUB: E871002

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1150	5.00	5.00	mg/L	05.17.13 15:59		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 914314

Date Prep: 05.21.13 08.00

Subcontractor: SUB: E871002

Prep seq: 638392

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.21.13 20:06	U	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.21.13 20:06	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.21.13 20:06	U	1
Manganese	7439-96-5	0.637	0.0200	0.00291	mg/L	05.21.13 20:06		1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 914349

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.14.13 09:50	U	1



Certificate of Analytical Results 463050



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW 43 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-005

Date Collected: 05.13.13 15.00

Date Received: 05.14.13 10.00

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914132

Date Prep: 05.20.13 08.30

Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 20:10	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 20:10	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 20:10	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 20:10	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	109	70 - 135	%		
o-Terphenyl	114	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914153

Date Prep: 05.20.13 11.00

Prep seq: 638381

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.20.13 14:56	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.20.13 14:56	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.20.13 14:56	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.20.13 14:56	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.20.13 14:56	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.20.13 14:56	U	
Total BTEX		ND		0.000500	mg/L	05.20.13 14:56	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	84	80 - 120	%		
4-Bromofluorobenzene	84	80 - 120	%		



Certificate of Analytical Results 463050



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW13 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-006

Date Collected: 05.13.13 16.40

Date Received: 05.14.13 10.00

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 914035

Date Prep: 05.20.13 09.54

Prep seq: 638294

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	1030	20.0	0.560	mg/L	05.16.13 05:10		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: ANS

% Moist:

Tech: ANS

Seq Number: 913998

Date Prep:

Subcontractor: SUB: E871002

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	3120	5.00	5.00	mg/L	05.17.13 15:59		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 914314

Date Prep: 05.21.13 08.00

Subcontractor: SUB: E871002

Prep seq: 638392

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.21.13 20:12	U	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.21.13 20:12	U	1
Iron	7439-89-6	0.398	0.200	0.0188	mg/L	05.21.13 20:12		1
Manganese	7439-96-5	0.226	0.0200	0.00291	mg/L	05.21.13 20:12		1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 914349

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.14.13 09:50	U	1



Certificate of Analytical Results 463050



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: IW13 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-006

Date Collected: 05.13.13 16.40

Date Received: 05.14.13 10.00

Analytical Method: **TPH By SW8015 Mod**

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914132

Date Prep: 05.20.13 08.30

Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 20:36	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	1.26	1.50	0.988	mg/L	05.20.13 20:36	J	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 20:36	U	1
Total TPH	PHC635	1.26		0.988	mg/L	05.20.13 20:36	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	125	70 - 135	%		
o-Terphenyl	122	70 - 135	%		

Analytical Method: **BTEX by EPA 8021B**

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914153

Date Prep: 05.20.13 11.00

Prep seq: 638381

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.20.13 15:13	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.20.13 15:13	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.20.13 15:13	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.20.13 15:13	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.20.13 15:13	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.20.13 15:13	U	
Total BTEX		ND		0.000500	mg/L	05.20.13 15:13	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	105	80 - 120	%		
4-Bromofluorobenzene	114	80 - 120	%		



Certificate of Analytical Results 463050



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW63A 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-007

Date Collected: 05.13.13 17.30

Date Received: 05.14.13 10.00

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 914035

Date Prep: 05.20.13 09.54

Prep seq: 638294

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	52.6	10.0	0.280	mg/L	05.16.13 19:35		10

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: ANS

% Moist:

Tech: ANS

Seq Number: 913998

Date Prep:

Subcontractor: SUB: E871002

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	456	5.00	5.00	mg/L	05.17.13 15:59		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 914314

Date Prep: 05.21.13 08.00

Subcontractor: SUB: E871002

Prep seq: 638392

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0241	0.0200	0.00756	mg/L	05.21.13 20:18		1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.21.13 20:18	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.21.13 20:18	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.21.13 20:18	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 914349

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.14.13 09:50	U	1



Certificate of Analytical Results 463050



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW63A 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-007

Date Collected: 05.13.13 17.30

Date Received: 05.14.13 10.00

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914132

Date Prep: 05.20.13 08.30

Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 21:02	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 21:02	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 21:02	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 21:02	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	114	70 - 135	%		
o-Terphenyl	118	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914153

Date Prep: 05.20.13 11.00

Prep seq: 638381

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.20.13 15:29	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.20.13 15:29	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.20.13 15:29	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.20.13 15:29	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.20.13 15:29	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.20.13 15:29	U	
Total BTEX		ND		0.000500	mg/L	05.20.13 15:29	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	88	80 - 120	%		
4-Bromofluorobenzene	90	80 - 120	%		



Certificate of Analytical Results 463050



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW20A 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-008

Date Collected: 05.13.13 10.10

Date Received: 05.14.13 10.00

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 914035

Date Prep: 05.20.13 09.54

Prep seq: 638294

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	958	20.0	0.560	mg/L	05.16.13 20:19		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: ANS

% Moist:

Tech: ANS

Seq Number: 913998

Date Prep:

Subcontractor: SUB: E871002

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2320	5.00	5.00	mg/L	05.17.13 15:59		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 914314

Date Prep: 05.21.13 08.00

Subcontractor: SUB: E871002

Prep seq: 638392

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0109	0.0200	0.00756	mg/L	05.21.13 20:24	J	1
Chromium	7440-47-3	0.00787	0.0100	0.00355	mg/L	05.21.13 20:24	J	1
Iron	7439-89-6	0.0337	0.200	0.0188	mg/L	05.21.13 20:24	J	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.21.13 20:24	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 914349

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.14.13 09:50	U	1



Certificate of Analytical Results 463050



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW20A 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-008

Date Collected: 05.13.13 10.10

Date Received: 05.14.13 10.00

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914132

Date Prep: 05.20.13 08.30

Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 21:28	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 21:28	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 21:28	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 21:28	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	111	70 - 135	%		
o-Terphenyl	115	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914153

Date Prep: 05.20.13 11.00

Prep seq: 638381

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.20.13 15:46	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.20.13 15:46	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.20.13 15:46	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.20.13 15:46	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.20.13 15:46	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.20.13 15:46	U	
Total BTEX		ND		0.000500	mg/L	05.20.13 15:46	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	84	80 - 120	%		
4-Bromofluorobenzene	99	80 - 120	%		



Certificate of Analytical Results 463050



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW20 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-009

Date Collected: 05.13.13 11.10

Date Received: 05.14.13 10.00

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 914035

Date Prep: 05.20.13 09.54

Prep seq: 638294

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	865	20.0	0.560	mg/L	05.16.13 20:40		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: ANS

% Moist:

Tech: ANS

Seq Number: 913998

Date Prep:

Subcontractor: SUB: E871002

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	2420	5.00	5.00	mg/L	05.17.13 15:59		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 914659

Date Prep: 05.24.13 16.35

Subcontractor: SUB: E871002

Prep seq: 638658

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0192	0.0200	0.00756	mg/L	05.25.13 13:22	J	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.25.13 13:22	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.25.13 13:22	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.25.13 13:22	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 914349

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.14.13 09:50	U	1



Certificate of Analytical Results 463050



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW20 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-009

Date Collected: 05.13.13 11.10

Date Received: 05.14.13 10.00

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914132

Date Prep: 05.20.13 08.30

Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 21:55	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 21:55	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 21:55	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 21:55	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	113	70 - 135	%		
o-Terphenyl	117	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914153

Date Prep: 05.20.13 11.00

Prep seq: 638381

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.20.13 16:02	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.20.13 16:02	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.20.13 16:02	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.20.13 16:02	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.20.13 16:02	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.20.13 16:02	U	
Total BTEX		ND		0.000500	mg/L	05.20.13 16:02	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	103	80 - 120	%		
4-Bromofluorobenzene	108	80 - 120	%		



Certificate of Analytical Results 463050



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW19A 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-010

Date Collected: 05.13.13 13.50

Date Received: 05.14.13 10.00

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 914035

Date Prep: 05.20.13 09.54

Prep seq: 638294

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	266	10.0	0.280	mg/L	05.16.13 21:02		10

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: ANS

% Moist:

Tech: ANS

Seq Number: 913998

Date Prep:

Subcontractor: SUB: E871002

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1070	5.00	5.00	mg/L	05.17.13 15:59		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 914314

Date Prep: 05.21.13 08.00

Subcontractor: SUB: E871002

Prep seq: 638392

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0137	0.0200	0.00756	mg/L	05.21.13 20:30	J	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.21.13 20:30	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.21.13 20:30	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.21.13 20:30	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 914349

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.14.13 09:50	U	1



Certificate of Analytical Results 463050



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW19A 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-010

Date Collected: 05.13.13 13.50

Date Received: 05.14.13 10.00

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914402

Date Prep: 05.20.13 14.00

Prep seq: 638442

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.21.13 01:01	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.21.13 01:01	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.21.13 01:01	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.21.13 01:01	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	116	70 - 135	%		
o-Terphenyl	122	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914153

Date Prep: 05.20.13 11.00

Prep seq: 638381

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.20.13 16:19	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.20.13 16:19	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.20.13 16:19	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.20.13 16:19	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.20.13 16:19	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.20.13 16:19	U	
Total BTEX		ND		0.000500	mg/L	05.20.13 16:19	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	113	80 - 120	%		
4-Bromofluorobenzene	98	80 - 120	%		



Certificate of Analytical Results 463050



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW18 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-011

Date Collected: 05.13.13 15.10

Date Received: 05.14.13 10.00

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 914035

Date Prep: 05.20.13 09.54

Prep seq: 638294

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	268	10.0	0.280	mg/L	05.16.13 21:24		10

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: ANS

% Moist:

Tech: ANS

Seq Number: 913998

Date Prep:

Subcontractor: SUB: E871002

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1310	5.00	5.00	mg/L	05.17.13 15:59		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 914314

Date Prep: 05.21.13 08.00

Subcontractor: SUB: E871002

Prep seq: 638392

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0127	0.0200	0.00756	mg/L	05.21.13 20:36	J	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.21.13 20:36	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.21.13 20:36	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.21.13 20:36	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913685

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.14.13 09:50	U	1



Certificate of Analytical Results 463050



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW18 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-011

Date Collected: 05.13.13 15.10

Date Received: 05.14.13 10.00

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914402

Date Prep: 05.20.13 14.00

Prep seq: 638442

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.22.13 09:15	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	1.07	1.50	0.988	mg/L	05.22.13 09:15	J	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.22.13 09:15	U	1
Total TPH	PHC635	1.07		0.988	mg/L	05.22.13 09:15	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	127	70 - 135	%		
o-Terphenyl	129	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914153

Date Prep: 05.20.13 11.00

Prep seq: 638381

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.20.13 17:25	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.20.13 17:25	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.20.13 17:25	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.20.13 17:25	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.20.13 17:25	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.20.13 17:25	U	
Total BTEX		ND		0.000500	mg/L	05.20.13 17:25	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	98	80 - 120	%		
4-Bromofluorobenzene	119	80 - 120	%		



Certificate of Analytical Results 463050



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW18A 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-012

Date Collected: 05.13.13 16.10

Date Received: 05.14.13 10.00

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 914035

Date Prep: 05.20.13 09.54

Prep seq: 638294

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	22.9	2.00	0.0560	mg/L	05.16.13 21:45		2

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: ANS

% Moist:

Tech: ANS

Seq Number: 913998

Date Prep:

Subcontractor: SUB: E871002

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	219	5.00	5.00	mg/L	05.17.13 15:59		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 914314

Date Prep: 05.21.13 08.00

Subcontractor: SUB: E871002

Prep seq: 638392

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.21.13 20:42	U	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.21.13 20:42	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.21.13 20:42	U	1
Manganese	7439-96-5	0.0218	0.0200	0.00291	mg/L	05.21.13 20:42		1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913685

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.14.13 09:50	U	1



Certificate of Analytical Results 463050



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW18A 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-012

Date Collected: 05.13.13 16.10

Date Received: 05.14.13 10.00

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914402

Date Prep: 05.20.13 14.00

Prep seq: 638442

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.21.13 01:53	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.21.13 01:53	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.21.13 01:53	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.21.13 01:53	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	116	70 - 135	%		
o-Terphenyl	122	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914153

Date Prep: 05.20.13 11.00

Prep seq: 638381

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.20.13 17:41	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.20.13 17:41	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.20.13 17:41	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.20.13 17:41	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.20.13 17:41	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.20.13 17:41	U	
Total BTEX		ND		0.000500	mg/L	05.20.13 17:41	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	100	80 - 120	%		
4-Bromofluorobenzene	101	80 - 120	%		



Certificate of Analytical Results 463050



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW24A 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-013

Date Collected: 05.13.13 17.40

Date Received: 05.14.13 10.00

Analytical Method: **Inorganic Anions by EPA 300/300.1**

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 914035

Date Prep: 05.20.13 09.54

Prep seq: 638294

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	483	20.0	0.560	mg/L	05.16.13 22:50		20

Analytical Method: **TDS by SM2540C**

Prep Method:

Analyst: ANS

% Moist:

Tech: ANS

Seq Number: 913998

Date Prep:

Subcontractor: SUB: E871002

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	1270	5.00	5.00	mg/L	05.17.13 15:59		1

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 914314

Date Prep: 05.21.13 08.00

Subcontractor: SUB: E871002

Prep seq: 638392

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	0.0144	0.0200	0.00756	mg/L	05.21.13 20:47	J	1
Chromium	7440-47-3	0.147	0.0100	0.00355	mg/L	05.21.13 20:47		1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.21.13 20:47	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.21.13 20:47	U	1

Analytical Method: **Chromium, Hexavalent by SW 7196A**

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913685

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	0.127	0.0100	0.00500	mg/L	05.14.13 09:50		1

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: MW24A 051313

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-013

Date Collected: 05.13.13 17.40

Date Received: 05.14.13 10.00

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914402

Date Prep: 05.20.13 14.00

Prep seq: 638442

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHCG12	ND	1.50	0.988	mg/L	05.22.13 09:40	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	1.89	1.50	0.988	mg/L	05.22.13 09:40		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.22.13 09:40	U	1
Total TPH	PHCG635	1.89		0.988	mg/L	05.22.13 09:40		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	112	70 - 135	%		
o-Terphenyl	122	70 - 135	%		

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914153

Date Prep: 05.20.13 11.00

Prep seq: 638381

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.20.13 17:57	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.20.13 17:57	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.20.13 17:57	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.20.13 17:57	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.20.13 17:57	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.20.13 17:57	U	
Total BTEX		ND		0.000500	mg/L	05.20.13 17:57	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	107	80 - 120	%		
4-Bromofluorobenzene	111	80 - 120	%		



Certificate of Analytical Results 463050



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: TRIP BLANK

Matrix: Water

Sample Depth:

Lab Sample Id: 463050-014

Date Collected: 05.13.13 00.00

Date Received: 05.14.13 10.00

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914153

Date Prep: 05.20.13 11.00

Prep seq: 638381

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.20.13 18:14	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.20.13 18:14	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.20.13 18:14	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.20.13 18:14	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.20.13 18:14	U	1
Total Xylenes	1330-20-7	ND		0.000700	mg/L	05.20.13 18:14	U	
Total BTEX		ND		0.000500	mg/L	05.20.13 18:14	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	91	80 - 120	%		
4-Bromofluorobenzene	117	80 - 120	%		

Sample Id: 638294-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638294-1-BLK

Date Collected:

Date Received:

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Analyst: AMB

% Moist:

Tech: AMB

Seq Number: 914035

Date Prep: 05.20.13 09.54

Prep seq: 638294

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	ND	1.00	0.0280	mg/L	05.16.13 01:55	U	1



Certificate of Analytical Results 463050



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 638355-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638355-1-BLK

Date Collected:

Date Received:

Analytical Method: TPH By SW8015 Mod

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914132

Date Prep: 05.20.13 08.30

Prep seq: 638355

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	ND	1.50	0.988	mg/L	05.20.13 11:53	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.20.13 11:53	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.20.13 11:53	U	1
Total TPH	PHC635	ND		0.988	mg/L	05.20.13 11:53	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	111	70 - 135	%		
o-Terphenyl	117	70 - 135	%		

Sample Id: 638381-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 638381-1-BLK

Date Collected:

Date Received:

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914153

Date Prep: 05.20.13 11.00

Prep seq: 638381

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000500	mg/L	05.20.13 13:34	U	1
Toluene	108-88-3	ND	0.00200	0.00100	mg/L	05.20.13 13:34	U	1
Ethylbenzene	100-41-4	ND	0.00100	0.000700	mg/L	05.20.13 13:34	U	1
m,p-Xylenes	179601-23-1	ND	0.00200	0.00140	mg/L	05.20.13 13:34	U	1
o-Xylene	95-47-6	ND	0.00100	0.000700	mg/L	05.20.13 13:34	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	109	80 - 120	%		
4-Bromofluorobenzene	107	80 - 120	%		

Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 638392-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: **638392-1-BLK**

Date Collected:

Date Received:

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 914314

Date Prep: 05.21.13 08.00

Subcontractor: SUB: E871002

Prep seq: 638392

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.21.13 18:49	U	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.21.13 18:49	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.21.13 18:49	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.21.13 18:49	U	1

Sample Id: 638442-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: **638442-1-BLK**

Date Collected:

Date Received:

Analytical Method: **TPH By SW8015 Mod**

Prep Method: 1005

Analyst: DYV

% Moist:

Tech: DYV

Seq Number: 914402

Date Prep: 05.20.13 14.00

Prep seq: 638442

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHCG12	ND	1.50	0.988	mg/L	05.23.13 05:04	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	1.50	0.988	mg/L	05.23.13 05:04	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	1.50	0.988	mg/L	05.23.13 05:04	U	1
Total TPH	PHCG635	ND		0.988	mg/L	05.23.13 05:04	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	101	70 - 135	%		
o-Terphenyl	109	70 - 135	%		

Sample Id: 638658-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: **638658-1-BLK**

Date Collected:

Date Received:

Analytical Method: **Dissolved Metals per ICP by SW846 6010B**

Prep Method: 3010A

Analyst: KUG

% Moist:

Tech: KUG

Seq Number: 914659

Date Prep: 05.24.13 16.35

Subcontractor: SUB: E871002

Prep seq: 638658

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Arsenic	7440-38-2	ND	0.0200	0.00756	mg/L	05.25.13 12:30	U	1
Chromium	7440-47-3	ND	0.0100	0.00355	mg/L	05.25.13 12:30	U	1
Iron	7439-89-6	ND	0.200	0.0188	mg/L	05.25.13 12:30	U	1
Manganese	7439-96-5	ND	0.0200	0.00291	mg/L	05.25.13 12:30	U	1



Certificate of Analytical Results 463050



Conestoga Rovers & Associates, Midland, TX

North Eunice

Sample Id: 913685-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913685-1-BLK

Date Collected:

Date Received:

Analytical Method: Chromium, Hexavalent by SW 7196A

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 913685

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.14.13 09:50	U	1

Sample Id: 913998-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 913998-1-BLK

Date Collected:

Date Received:

Analytical Method: TDS by SM2540C

Prep Method:

Analyst: ANS

% Moist:

Tech: ANS

Seq Number: 913998

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Total dissolved solids	TDS	ND	5.00	5.00	mg/L	05.17.13 15:59	U	1

Sample Id: 914349-1-BLK

Matrix: Water

Sample Depth:

Lab Sample Id: 914349-1-BLK

Date Collected:

Date Received:

Analytical Method: Chromium, Hexavalent by SW 7196A

Prep Method:

Analyst: WRU

% Moist:

Tech: WRU

Seq Number: 914349

Date Prep:

Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Hexavalent Chromium	18540-29-9	ND	0.0100	0.00500	mg/L	05.14.13 09:50	U	1

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 463050,

Project ID: 073018

Lab Batch #: 914153

Sample: 638381-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/20/13 13:01	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0261	0.0300	87	80-120
4-Bromofluorobenzene		0.0290	0.0300	97	80-120

Lab Batch #: 914153

Sample: 638381-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/20/13 13:17	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0272	0.0300	91	80-120
4-Bromofluorobenzene		0.0279	0.0300	93	80-120

Lab Batch #: 914153

Sample: 638381-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/20/13 13:34	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0327	0.0300	109	80-120
4-Bromofluorobenzene		0.0322	0.0300	107	80-120

Lab Batch #: 914153

Sample: 463050-005 S / MS

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/20/13 16:35	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0276	0.0300	92	80-120
4-Bromofluorobenzene		0.0293	0.0300	98	80-120

Lab Batch #: 914153

Sample: 463050-005 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L	Date Analyzed: 05/20/13 16:52	SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
1,4-Difluorobenzene		0.0341	0.0300	114	80-120
4-Bromofluorobenzene		0.0288	0.0300	96	80-120

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 463050,

Project ID: 073018

Lab Batch #: 914132

Sample: 638355-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/20/13 10:45

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	12.8	10.0	128	70-135	
o-Terphenyl	5.19	5.00	104	70-135	

Lab Batch #: 914132

Sample: 638355-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/20/13 11:12

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	12.7	10.0	127	70-135	
o-Terphenyl	4.02	5.00	80	70-135	

Lab Batch #: 914132

Sample: 638355-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/20/13 11:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	11.1	10.0	111	70-135	
o-Terphenyl	5.87	5.00	117	70-135	

Lab Batch #: 914132

Sample: 462852-010 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/20/13 14:37

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	11.5	10.0	115	70-135	
o-Terphenyl	4.44	5.00	89	70-135	

Lab Batch #: 914402

Sample: 463050-012 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/22/13 14:34

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	9.69	10.0	97	70-135	
o-Terphenyl	3.99	5.00	80	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: North Eunice

Work Orders : 463050,

Project ID: 073018

Lab Batch #: 914402

Sample: 638442-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/23/13 04:14

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	10.4	10.0	104	70-135	
o-Terphenyl	4.19	5.00	84	70-135	

Lab Batch #: 914402

Sample: 638442-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/23/13 04:39

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	10.1	10.0	101	70-135	
o-Terphenyl	4.09	5.00	82	70-135	

Lab Batch #: 914402

Sample: 638442-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 05/23/13 05:04

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	10.1	10.0	101	70-135	
o-Terphenyl	5.44	5.00	109	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Project Name: North Eunice

Work Order #: 463050

Project ID:

073018

Lab Batch #: 913685

Sample: 913685-1-BKS

Matrix: Water

Date Analyzed: 05/14/2013

Date Prepared: 05/14/2013

Analyst: WRU

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Hexavalent Chromium	<0.00500	0.0250	0.0250	100	80-120	

Lab Batch #: 914349

Sample: 914349-1-BKS

Matrix: Water

Date Analyzed: 05/14/2013

Date Prepared: 05/14/2013

Analyst: WRU

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Hexavalent Chromium	<0.00500	0.0250	0.0236	94	80-120	

Blank Spike Recovery [D] = $100 \times [C] / [B]$

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: North Eunice

Work Order #: 463050

Analyst: DYV

Date Prepared: 05/20/2013

Project ID: 073018

Date Analyzed: 05/20/2013

Lab Batch ID: 914153

Sample: 638381-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000500	0.100	0.0952	95	0.100	0.0948	95	0	70-125	25	
Toluene	<0.00100	0.100	0.102	102	0.100	0.0965	97	6	70-125	25	
Ethylbenzene	<0.000700	0.100	0.0998	100	0.100	0.105	105	5	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.200	100	0.200	0.199	100	1	70-131	25	
o-Xylene	<0.000700	0.100	0.0993	99	0.100	0.0974	97	2	71-133	25	

Analyst: KUG

Date Prepared: 05/21/2013

Date Analyzed: 05/21/2013

Lab Batch ID: 914314

Sample: 638392-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Arsenic	<0.00756	1.00	1.02	102	1.00	1.00	100	2	80-120	20	
Chromium	<0.00355	1.00	1.03	103	1.00	1.01	101	2	80-120	20	
Iron	<0.0188	5.00	4.97	99	5.00	4.86	97	2	80-120	20	
Manganese	<0.00291	1.00	0.986	99	1.00	0.971	97	2	80-120	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: North Eunice

Work Order #: 463050

Analyst: KUG

Date Prepared: 05/24/2013

Project ID: 073018

Date Analyzed: 05/25/2013

Lab Batch ID: 914659

Sample: 638658-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Arsenic	<0.00756	1.00	0.966	97	1.00	0.940	94	3	80-120	20	
Chromium	<0.00355	1.00	0.984	98	1.00	0.950	95	4	80-120	20	
Iron	<0.0188	5.00	4.85	97	5.00	4.66	93	4	80-120	20	
Manganese	<0.00291	1.00	0.893	89	1.00	0.863	86	3	80-120	20	

Analyst: AMB

Date Prepared: 05/20/2013

Date Analyzed: 05/16/2013

Lab Batch ID: 914035

Sample: 638294-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<0.0280	25.0	25.8	103	25.0	25.8	103	0	80-120	20	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: North Eunice

Work Order #: 463050

Analyst: ANS

Date Prepared: 05/17/2013

Project ID: 073018

Date Analyzed: 05/17/2013

Lab Batch ID: 913998

Sample: 913998-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TDS by SM2540C	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Total dissolved solids	<5.00	1000	986	99	1000	999	100	1	80-120	30	

Analyst: DYV

Date Prepared: 05/20/2013

Date Analyzed: 05/20/2013

Lab Batch ID: 914132

Sample: 638355-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	130	130	100	122	122	6	70-135	25	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	129	129	100	122	122	6	70-135	25	

Analyst: DYV

Date Prepared: 05/20/2013

Date Analyzed: 05/23/2013

Lab Batch ID: 914402

Sample: 638442-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	107	107	100	104	104	3	70-135	25	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	112	112	100	109	109	3	70-135	25	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: North Eunice

Work Order #: 463050

Lab Batch #: 914035

Date Analyzed: 05/16/2013

Date Prepared: 05/20/2013

Project ID: 073018

Analyst: AMB

QC- Sample ID: 463050-001 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	537	500	1130	119	80-120	

Lab Batch #: 914132

Date Analyzed: 05/20/2013

Date Prepared: 05/20/2013

Analyst: DYV

QC- Sample ID: 462852-010 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY						
TPH by SW8015 Mod	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	109	109	70-135	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	104	104	70-135	

Lab Batch #: 914402

Date Analyzed: 05/22/2013

Date Prepared: 05/20/2013

Analyst: DYV

QC- Sample ID: 463050-012 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY						
TPH by SW8015 Mod	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
C6-C12 Gasoline Range Hydrocarbons	<0.988	100	99.3	99	70-135	
C12-C28 Diesel Range Hydrocarbons	<0.988	100	108	108	70-135	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$
 Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$
 All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS / MSD Recoveries



Project Name: North Eunice

Work Order # : 463050

Project ID: 073018

Lab Batch ID: 914153

QC- Sample ID: 463050-005 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/20/2013

Date Prepared: 05/20/2013

Analyst: DYV

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000500	0.100	0.109	109	0.100	0.0968	97	12	70-125	25	
Toluene	<0.00100	0.100	0.118	118	0.100	0.0989	99	18	70-125	25	
Ethylbenzene	<0.000700	0.100	0.114	114	0.100	0.103	103	10	71-129	25	
m,p-Xylenes	<0.00140	0.200	0.230	115	0.200	0.194	97	17	70-131	25	
o-Xylene	<0.000700	0.100	0.112	112	0.100	0.0975	98	14	71-133	25	

Lab Batch ID: 913685

QC- Sample ID: 463050-011 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/14/2013

Date Prepared: 05/14/2013

Analyst: WRU

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Hexavalent Chromium	<0.00500	0.250	0.245	98	0.250	0.252	101	3	80-120	20	

Lab Batch ID: 914349

QC- Sample ID: 463050-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/14/2013

Date Prepared: 05/14/2013

Analyst: WRU

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chromium, Hexavalent by SW 7196A Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Hexavalent Chromium	0.00760	0.250	0.237	92	0.250	0.239	93	1	80-120	20	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: North Eunice

Work Order # : 463050

Project ID: 073018

Lab Batch ID: 914314

QC- Sample ID: 463050-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/21/2013

Date Prepared: 05/21/2013

Analyst: KUG

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Arsenic	0.00985	1.00	1.01	100	1.00	1.01	100	0	75-125	20	
Chromium	0.0108	1.00	0.937	93	1.00	0.938	93	0	75-125	20	
Iron	0.0262	5.00	4.60	91	5.00	4.63	92	1	75-125	20	
Manganese	<0.00291	1.00	0.883	88	1.00	0.893	89	1	75-125	20	

Lab Batch ID: 914659

QC- Sample ID: 463326-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 05/25/2013

Date Prepared: 05/24/2013

Analyst: KUG

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Dissolved Metals per ICP by SW846 6010B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Arsenic	0.00855	1.00	1.02	101	1.00	1.02	101	0	75-125	20	
Chromium	<0.00355	1.00	0.966	97	1.00	0.960	96	1	75-125	20	
Iron	0.214	5.00	4.96	95	5.00	4.93	94	1	75-125	20	
Manganese	0.0468	1.00	0.917	87	1.00	0.911	86	1	75-125	20	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Project Name: North Eunice

Work Order #: 463050

Lab Batch #: 913685

Project ID: 073018

Date Analyzed: 05/14/2013 09:50

Date Prepared: 05/14/2013

Analyst: WRU

QC- Sample ID: 463050-011 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

Chromium, Hexavalent by SW 7196A	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Hexavalent Chromium	<0.00500	<0.00500	0	20	U

Lab Batch #: 914349

Date Analyzed: 05/14/2013 09:50

Date Prepared: 05/14/2013

Analyst: WRU

QC- Sample ID: 463050-001 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

Chromium, Hexavalent by SW 7196A	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Hexavalent Chromium	0.00760	0.00760	0	20	J

Lab Batch #: 913998

Date Analyzed: 05/17/2013 15:59

Date Prepared: 05/17/2013

Analyst: ANS

QC- Sample ID: 462995-001 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	506	514	2	30	

Lab Batch #: 913998

Date Analyzed: 05/17/2013 15:59

Date Prepared: 05/17/2013

Analyst: ANS

QC- Sample ID: 463050-009 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY

TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	2420	2420	0	30	

Spike Relative Difference $RPD = 200 * |(B-A)/(B+A)|$
 All Results are based on MDL and validated for QC purposes.
 BRL - Below Reporting Limit



4143 Greenbriar Drive, Stafford, TX 77477 281-240-4200
5332, Blackberry Drive, San Antonio, TX 78238 210-509-3334

9701 Harry Hines Blvd., Dallas, TX 75220 214-902-0300
12600 West I-20 East, Odessa, TX 79765 432-563-1800

Serial #: 330773

Page 1 of 2

ANALYSIS REQUEST & OBTAIN OF RESULTS

Company-City	CRS, Midland	Phone	432-686-0088	Lab Only:	463050
Project Name-Location	Previously done at XENCO	Project ID	D73018	TAT: ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d Standard TAT is project specific. It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data.	Remarks
Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other	Proj. Manager (PM)	Mike Wisniewski			
E-mail Results to	PM and	Fax No:	432-686-0188		
Invoice to ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.					
Bill to:					
Quote/Pricing:	P.O. No:	☐ Call for P.O.			
Reg Program: UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP					
QAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:					
Special DLS (GW DW QAPP MDLS RLS See Lab PM Included Call PM)					
Sampler Name	Justin N. Khan	Signature	Justin N. Khan		
Sample ID	Sampling Date	Time	Depth ft' In" m	Matrix	Composite
1 Iw23051313	5-13-13	955	W	X	7
2 Iw23051313	1040				
3 Iw21051313	1140				
4 Mw44051313	1345				
5 Mw43051313	1500				
6 Iw13051313	1640				
7 Mw63A051313	1730				
8 Mw20A051313	1010				
9 Mw20051313	1110				
10 Mw19A051313	1350				
Relinquished by (Initials and Sign)	Date & Time	Relinquished to (Initials and Sign)	Date & Time	Total Containers per COC:	Cooler Temp: 1.5 °C
1 J. N. Khan	5-13-13/840	5. H. Khan	5/13/13	7	
2 J. N. Khan			5/13/13		
3 J. N. Khan			5-13-13 10:00		

Preservatives: Various (V), HCl pH<2 (H), H2SO4 pH<2 (S), HNO3 pH<2 (N), Asbc Acid&NaOH (A), ZnAc&NaOH (Z), (Cool, <4C) (C), None (NA), See Label (L), Other (O)
Cont. Size: 4oz (4), 8oz (8), 32oz (32), 40ml VOA (40), 1L (1), 500ml (5), Tedlar Bag (B), Various (V), Other _____ Cont. Type: Glass Amb (A), Glass Clear (C), Plastic (P), Various (V)
Matrix: Air (A), Product (P), Solid (S), Water (W), Liquid (L)

Committed to Excellence in Service and Quality

Notice: Signature of this document and relinquishment of these samples constitutes a valid purchase order from client company to Xenco Laboratories and its affiliates, subcontractors and assigns under Xenco's standard terms and conditions of service unless previously negotiated under a fully executed client contract.

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