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COLDWATER ROAD LANDFILL - MID 005 356 860 POST-CLOSURE GROUNDWATER MONITORING REPORT



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Prepared by **Kevin Schneider**
Checked by **Clifford Yantz**
Approved by **Clifford Yantz**
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Ramboll
2260 E. Saginaw Street
East Lansing, MI 48823
USA

T 414-837-3607
F 414-837-3608
<https://ramboll.com>

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1. INTRODUCTION

On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, O'Brien & Gere Engineers, Inc., a Ramboll company (Ramboll) is pleased to present the results of the semiannual groundwater sampling event conducted in June 2020 for the Coldwater Road Landfill site (**Figure 1**).

2. SAMPLING AND ANALYSIS

During this event groundwater samples were collected from six monitoring wells screened in perched zones (B-7, B-9, B-18A, B-19Ar, B-24r, and B-28) and six monitoring wells screened in the drift aquifer (B-20D, B-21D, B-22D, B-23Dr, B-27D, and OBG MW-16D). Samples were collected during the week of June 15, 2020.

The groundwater samples were analyzed for specific conductivity (Method 120.1), chloride (Method 300.0), cyanide (CN, Method 335.4), sulfate (Method 300.0), phenols (Method 420.1), total organic carbon (TOC, Method 5310C), total organic halides (TOX, Method 9020B), volatile organic compounds (VOCs, Method 8260B), dissolved metals (chromium (Cr), copper (Cu), nickel (Ni), zinc (Zn), iron (Fe), manganese (Mn)), and total sodium ([Na], Method 200.8).

The event also included field measurements for pH, specific conductivity, dissolved oxygen, oxidation reduction potential, temperature, and turbidity. Groundwater samples from the perched unit were collected using a Whale pump (B-18A and B-19Ar) or peristaltic pump. The wells were purged "dry", allowed to recharge, and the samples were collected as soon as sufficient water was present to obtain the necessary sample volume. This was done in accordance with OBG procedures and the site-specific Field Method Guide ([Appendix A](#)) because low-flow sampling techniques resulted in greater than 0.3 ft of drawdown in each of the shallow wells sampled during this event.

Groundwater samples from the drift aquifer were collected using a bladder pump and low-flow sampling techniques. Samples to be analyzed for dissolved metals were field filtered. Groundwater sampling logs are included in [Appendix B](#).

Well gauging was conducted on June 15, 2020 and sampling occurred between June 15, 2020 through June 18, 2020. The results are presented in three separate tables: [Table 1](#) - Depth to Groundwater Levels in Monitoring Wells; [Table 2](#) - Post-Closure Monitoring - Historical Analytical Results (Physical Parameters, TOC, TOX, and Metals); and [Table 3](#) - Post-Closure Monitoring - Analytical Results (Volatile Organics). Laboratory analytical reports are included in [Appendix C](#).

A site location map ([Figure 1](#)) and monitoring well location (*i.e.*, site layout) map ([Figure 2](#)) are also included. A groundwater potentiometric surface map was completed for the shallow wells ([Figure 3](#)) and for the deeper drift aquifer ([Figure 4](#)).

Groundwater in the perched unit flows predominantly toward the northwest as shown on [Figure 3](#). The drift aquifer static water elevations were consistent with historical data. Groundwater in the drift aquifer flows in a southerly direction as shown on [Figure 4](#).

A review of the analytical data presented in the attached tables indicates analytical results similar to previous sampling events, a summary of the data is provided below:

- Chromium concentrations were not detected above the method detection limit of 5 µg/L, which is similar or less than previous sample results.
- Copper concentrations were not detected above the method detection limit of 5 µg/L, which is similar or less than previous sample results.

- Nickel concentrations were not detected above the method detection limit of 5 µg/L; except in monitoring well B-19Ar (6 µg/L). The results were similar or less than previous results, which ranged from below the method detection limit to 370 µg/L at B-22D (6/21/1995).
- Zinc concentrations ranged from below the method detection limit of 5 µg/L in monitoring wells OBG MW-16D, B-7, B-20D, B-21D, B-22D, B-23Dr, B-27D, and B-28 to 13 µg/L in monitoring well B-9. The results were similar or less than previous results, which ranged from below the method detection limit to 150 µg/L at B-18A (6/21/1995).
- Iron concentrations ranged from 50 µg/L in monitoring well B-18A to 1,840 µg/L in monitoring well B-23Dr. The results were similar or less than previous results which ranged from below the method detection limit to 10,600 µg/L at B-24r (6/7/2005).
- Manganese concentrations ranged from 28 µg/L in monitoring well B-27D to 276 µg/L in monitoring well B-19Ar. The results were similar or less than previous results which ranged from below the method detection limit to 1,900 µg/L at B-9 (6/5/2007).
- Sodium concentrations ranged from 11,500 µg/L in monitoring well OBG MW-16D to 62,600 µg/L in monitoring well B-24r. The results were similar or less than previous results which ranged from 7,280 µg/L in monitoring well B-2D (6/25/2014) to 114,000 µg/L at B-19Ar (12/9/2004).
- Chloride concentrations ranged from below the method detection limit of 10 mg/L in monitoring wells OBG MW-16D, B-20D, B-21D, B-22D, and B-27D to 88 mg/L in monitoring well B-19Ar. The results were similar or less than previous results which ranged from below the method detection limit to 149 mg/L at B-9 (12/9/2004).
- Sulfate concentrations ranged from 17 mg/L in monitoring well B-27D to 929 mg/L in monitoring well B-9. The results were similar or less than previous results which ranged from 15 mg/L in monitoring well B-27D to 1,350 mg/L in monitoring well B-9 (12/9/2004). Exceptions include B-28 (142 µg/L), which was elevated compared to previous results that have ranged from 78 µg/L (6/16/2010) to 118 µg/L (5/29/2019), and B-21D (108 µg/L), which was elevated compared to previous results that have ranged from 15 µg/L (12/23/1998) to 90 µg/L (6/14/2018).
- TOC concentrations ranged from 2.7 mg/L in monitoring wells OBG MW-16D and B-23Dr to 5.6 mg/L in monitoring well B-7. The results were similar or less than previous results, which ranged from below the method detection limit to 71 mg/L at B-9 (11/13/1996).
- TOX concentrations were not detected above the method detection limit of 40 µg/L in monitoring wells OBG MW-16D, B-7, B-18A (DUP-1), B-19Ar, B-22D, B-23Dr, B-24r, and B-27D to 67 µg/L in monitoring well B-20D. The results were similar or less than previous results, which ranged from below the method detection limit to 230 µg/L at B-7 (11/30/2016).
- pH concentrations ranged from 7.13 in monitoring well B-9 to 7.70 in monitoring well OBG MW-16D. The results were within the range of previous results, which ranged from 4.84 in monitoring well B-20D (12/8/2005) to 9.01 in monitoring well B-2D (6/21/1995).
- Specific conductivity ranged from 535 µs/cm in monitoring well B-22D to 2,260 µs/cm in monitoring well B-9. The results were comparable to previous results, which ranged from 474 µs/cm in monitoring well B-22D (11/5/1999) to 3,290 µs/cm in monitoring well B-9 (11/20/2008).
- Cyanide, phenols, and VOCs concentrations were not detected above their respective method detection limits in the monitoring wells sampled during the June 2020 sampling event.

3. SUMMARY

A QA/QC review of the field and analytical data indicates that the data is useable for the intended purpose without deviations from quality assurance standards that would require rejection or further qualification of the data. Details of the data verification results for the groundwater monitoring data are included in [Appendix D](#).

The relative percent difference (RPD) for the duplicate sample results for B-18A and Dup-1 (B-18A) were within acceptable limits.

There were no exceedances of the Shewart control limits (SCL) during this sampling event. There was a positive spike for pH in monitoring well B-28 (7.38). The spike was not confirmed by the concentrations of metals, which were either not detected (for the four primary metals [Cr, Cu, Ni, and Zn] in particular) or stable.

There were positive (increasing) trends in monitoring well B-9 for pH and zinc; however, the other three primary metals (Cr, Cu, and Ni) were non-detect. There were negative (decreasing) trends for specific conductivity in monitoring wells B-20D and B-21D. The trends were calculated using regression analysis over the last four sampling events per the Post Closure Care Plan, January 2014.

The positive and negative trends were not confirmed by the concentrations of other metals/parameters. The trends do not suggest there was a release from the landfill and will continue to be evaluated during future sampling events. No other trends or spikes were observed during this monitoring event. The Shewart control charts are included as [Appendix E](#).

The next sampling event (annual event) is currently scheduled for November 2020. If you have any questions, please feel free to contact Clifford Yantz at (313) 333-0211.

TABLES



TABLE 1
RACER Trust - Coldwater Road
Depth to Groundwater Levels in Monitoring Wells

June 15, 2020

Well ID	Top of Casing Elevation (ft)*	Depth to Water (ft)	Static Water Elevation (ft)
<i>Landfill Monitoring Wells</i>			
B-7	813.63	16.72	796.91
B-9	807.45	4.58	802.87
B-18A	810.85	20.52	790.33
B-19A	812.66	7.46	805.20
B-19AR	811.80	37.67	774.13
B-20D	815.14	68.55	746.59
B-21D	821.07	79.26	741.81
B-22D	822.15	83.63	738.52
B-23DR	812.12	80.67	731.45
B-24R	816.04	13.07	802.97
B-27D	812.70	75.01	737.69
B-28	816.46	4.84	811.62
OBG MW-16D	807.43	56.16	751.27

Notes

Casing elevations were provided by Norwy & Hale Surveyors and are in feet relative to National Geodetic Vertical Datum

-- Depth to water not collected.

NA - Not available

NG - No ground water detected

Top of casing elevations were resurveyed in June 2017.

R - Indicates a replacement well location.

TABLE 2
RACER Trust - Coldwater Road
Post-Closure Monitoring - Historical Analytical Results
Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

Vault	Sample Date	Indicator Parameters					Dissolved Metals (µg/L)					Inorganics (mg/L)					
		TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
		EGL&E Residential Drinking Water Criteria & RBSLs					100 (A)	1,000 (F)	100 (A)	2,400							
B-2D	6/21/1995	5.3	<10	9.01	434	15.0	<20	<20	<30	<20	--	--	--	--	--	--	
	6/31/1995	6.3	130	8.27	479	14.4	<20	<20	<40	<20	--	--	--	--	--	--	
	2/9/1996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	6/19/1996	5.2	<100	7.52	580	12.4	<20	<20	<20	<20	--	--	--	--	--	--	
	8/21/1996	7.4	<5	7.69	641	13.9	<20	<20	<20	50	--	--	--	--	--	--	
	11/13/1996	11.0	<5	7.26	769	7.6	<20	<20	<20	30	--	--	--	--	--	--	
	5/6/1997	26.0	<100	6.30	1500	7.0	10	<10	28	30	--	--	--	--	--	--	
	11/6/1997	15.0	<100	6.90	660	9.0	<10	<10	39	<10	280	577	--	12	<0.005	<0.020	79
	5/4/1998	29.0	12	6.68	549	12.4	<10	<10	<5	<10	--	--	--	--	--	--	--
	11/5/1998	52.0	18	4.70	498	8.6	<10	<10	<5	10	<10	17	33,600	--	--	--	--
	12/23/1998	--	--	--	--	--	--	--	--	--	--	--	--	13	<0.005	<0.020	40
	4/26/1999	52.0	<100	8.50	523	14.5	<10	<10	<5	<10	--	--	--	--	--	--	--
	11/5/1999	6.4	<100	7.40	405	12.8	<10	<10	<5	40	70	21	35,100	4	<0.005	<0.020	42
	4/26/2000	5.4	<100	7.96	770	17.4	<10	<10	<5	<10	--	--	--	--	--	--	--
	12/8/2000	5.5	<10	6.68	610	9.7	<10	<10	9	<10	40	--	22,900	7	<0.005	<0.020	81
5/15/2001	5.5	<100	7.79	890	13.2	<10	<10	<5	<10	--	--	--	--	--	--	--	
10/18/2001	4.1	<100	7.43	1830	9.4	<10	<10	<5	<10	230	--	12,900	2	<0.005	<0.020	32	
Duplicate	10/18/2001	3.6	<100	7.39	1780	7.8	<10	<10	<5	<10	210	--	12,700	1	<0.005	<0.020	32
	5/16/2002	4.0	<100	7.19	1000	11.6	<10	<10	<5	<10	--	--	--	--	--	--	
Duplicate	11/7/2002	2.6	<30	7.38	490	9.5	<5	<5	<5	140	8	11,900	2	<0.005	<0.020	32	
	11/7/2002	2.7	<30	--	--	--	<5	<5	<5	140	6	11,200	2	<0.005	<0.020	30	
	6/3/2003	4.4	<30	6.91	530	12.9	<5	<5	<5	--	--	--	--	--	--	--	
	11/13/2003	2.8	<30	7.97	630	7.7	<5	<5	<5	110	7	--	2	<0.005	<0.010	31	
	6/30/2004	4.2	<30	6.28	570	15.8	<5	<5	<5	7	--	--	--	--	--	--	
	12/10/2004	2.0	<30	6.83	550	10.2	<5	<5	<5	10	760	145	10,700	2	<0.005	<0.010	35
	6/8/2005	2.0	<30	7.95	620	11.5	<5	<5	<5	660	199	10,900	<5	<0.005	<0.010	34	
	12/8/2005	3.0	<30	6.89	642	10.2	9	<4	<5	140	120	13,300	--	--	--	--	
Duplicate	6/28/2006	6.3	<30	7.41	671	12.2	<5	<4	<5	8	110	70	15,000	2	<0.005	<0.010	50
	6/28/2006	5.1	<30	7.41	682	12.2	<5	<4	<5	8	120	70	15,200	3	<0.005	<0.010	50
	11/30/2006	5.1	43.3	7.21	677	8.4	<5	<4	<5	18	--	--	--	--	--	--	
	6/8/2007	2.4	69.1	6.78	644	14.1	8	2	1	6	110	104	14,800	4	<0.005	<0.010	44
	11/14/2007	5.2	<30	7.06	783	14.9	1	1	4	9	--	--	--	--	--	--	
	6/25/2008	5.7	<60	6.90	920	18.4	<5	1	5	7	350	32	26,100	10	<0.005	<0.010	98
	11/20/2008	4.5	<30	6.84	806	9.1	<5	<1	<5	--	--	--	--	--	--	--	
	6/25/2009	5.6	<30	6.95	924	23.7	<5	203	<5	113	22	77	29,700	10	<0.005	<0.010	104
	11/16/2009	4	<30	7.17	835	10.2	<5	<4	<5	6	--	--	--	--	--	--	
	6/16/2010	5	<30	7.09	841	13.9	<5	<4	<5	40	83	19,000	7	<0.005	<0.020	75	
	11/10/2010	4	<30	7.17	779	11.3	11	<4	<5	<5	--	--	--	--	--	--	
Replicate	6/21/2011	2.9	<30	6.99	742	19.3	9	<4	<5	<5	250	55	16,900	6	<0.005	<0.010	57
	6/21/2011	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	
	11/15/2011	3	16	7.05	751	11.3	<5	<4	<5	<5	--	--	--	--	--	--	
	6/27/2012	2.2	16	7.00	714	12.7	<5	<4	<5	<5	<20	25	17,300	<5	<0.005	<0.02	43
	12/6/2012	2.6	<40	7.47	714	10.2	<5	<4	<5	<5	--	--	--	--	--	--	
	6/6/2013	1.6	<10	6.78	742	12.5	<5	<4	<5	26	990	31	24,400	<5	<0.005	<0.02	68
	11/6/2013	2.6	<10	7.34	726	11.8	<5	<4	<5	<5	--	--	--	--	--	--	
	6/25/2014	2.6	<30	7.27	717	12.8	<5	<5	11	7	<20	26	7,280	<5	<0.005	<0.02	48
	6/24/2015	2.2	<30	7.12	621	12.4	<5	<5	<5	<5	<20	11	15,100	<5	<0.005	<0.02	41
	6/27/2016	2.6	55	6.42	730	17.2	<5	<5	<5	<5	40	<5	16,100	<5	<0.005	<0.02	50
	6/22/2017	2.3	<30	7.09	691	12.5	<5	<5	<5	20	7	15,500	<5	<0.005	<0.02	44	
	6/13/2018	2.1	<60	6.85	679	14.1	<5	<5	<5	5	2,640	162	13,400	<5	<0.005	<0.02	40
OBG MW-16D	11/7/2018	3.3	<150	7.60	657	9.7	<5	<5	<5	<5	2,870	47	18,400	<5	<0.005	<0.02	32
	6/4/2019	5.0	<150	7.91	501	12.4	<5	<5	<5	6	340	53	15,800	<10	<0.004	<0.02	32
	6/18/2020	2.7	<40	7.70	590	13.2	<5	<5	<5	<5	1,090	62	11,500	<10	<0.004	<0.02	30

See notes on page 13.

TABLE 2
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Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

Vault	Sample Date	Indicator Parameters					Dissolved Metals (µg/L)				Inorganics (mg/L)						
		TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
		<i>EGL&E Residential Drinking Water Criteria & RSLs</i>					<i>100 (A)</i>				<i>1,000 (F-1)</i>						
							<i>100 (A)</i>				<i>2,400</i>						
B-7	6/21/1995	8.7	23	7.48	1509	13.8	<20	<20	<30	<20	--	--	--	--	--	--	
	9/31/1995	--	--	--	--	--	<20	<20	<40	<20	--	--	--	--	--	--	
	2/9/1996	14.0	120	--	--	--	<20	<20	<40	22	--	--	--	--	--	--	
	6/19/1996	20.0	<100	6.91	1,508	13.2	<20	<20	<20	20	--	--	--	--	--	--	
	8/21/1996	55.0	26	7.59	1,567	17.1	<20	<20	<20	60	--	--	--	--	--	--	
	11/13/1996	27.0	<5	7.95	1,960	7.2	<20	<20	<20	50	--	--	--	--	--	--	
	5/6/1997	16.0	<100	7.20	780	11.0	<10	10	14	10	--	--	--	--	--	--	
	11/6/1997	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	5/4/1998	6.0	<5	6.61	1,270	10.7	<10	<10	<5	20	--	--	--	--	--	--	
	11/5/1998	4.0	<10	4.60	1,240	11.2	<10	<10	8	30	10	424	31,000	--	--	--	
Duplicate	12/23/1998	--	--	--	--	--	--	--	--	--	--	--	58	<0.005	<0.020	161	
	4/26/1999	3.9	<100	7.50	1,413	14.2	<10	<10	10	<10	--	--	--	--	--	--	
	11/5/1999	5.1	<100	6.50	1,230	14.2	<10	<10	8	30	260	313	41,800	64	<0.005	<0.020	301
	4/26/2000	4.8	<100	7.58	1,450	10.2	<10	<10	<5	<10	--	--	--	--	--	--	
	4/26/2000	5.9	<100	NS	NS	NS	<10	<10	6	10	--	--	--	--	--	--	
	12/8/2000	4.2	<10	7.05	1,180	9.5	<10	<10	20	10	50	--	58,900	79	<0.005	<0.020	227
	5/16/2001	5.0	<100	7.30	1,330	13.0	<10	<10	7	<10	--	--	--	--	--	--	
	10/18/2001	5.3	<100	7.19	1,210	12.5	<10	<10	5	<10	330	--	60,800	81	<0.005	NA	205
	5/16/2002	3.9	<100	7.19	1,850	11.9	<10	<10	<5	10	--	--	65,500	--	--	--	
	11/7/2002	NR	NR	7.35	1,120	10.3	<5	<5	5	5	250	<5	65,500	NA	NA	NA	NA
	6/4/2003	3.3	<30	6.90	1,460	12.6	<5	<5	<5	<5	--	--	--	--	--	--	
	11/13/2003	3.9	<30	6.90	1,590	9.6	<5	<5	<5	5	190	<5	--	85	<0.005	<0.010	279
	6/30/2004	4.3	43	7.13	1,353	16.0	<5	<5	9	7	--	--	--	--	--	--	
	12/9/2004	4.0	<30	5.32	1,290	10.8	<5	<5	7	14	180	74	71,200	78	<0.005	<0.010	251
	6/8/2005	7.0	86	7.36	1,121	10.9	5	<5	9	13	170	31	81,900	80	<0.005	<0.010	254
	12/7/2005	7.5	<30	8.70	1,430	12.2	10	<4	6	20	150	50	85,300	--	--	--	
	6/29/2006	4.3	<30	7.19	1,470	11.7	5	<4	9	18	190	150	76,900	73	<0.005	<0.010	270
	11/29/2006	4.4	<30	6.88	1,380	15.3	<5	<4	9	11	--	--	--	--	--	--	
	6/7/2007	3.9	23.7	6.87	1,400	13.4	11	27	5	14	130	42	87,300	72	<0.005	<0.010	208
	11/14/2007	3.5	<30	6.85	1,350	13.4	14	6	16	20	--	--	--	--	--	--	
6/25/2008	3.8	72.9	6.90	1,410	20.7	<5	3	6	<5	350	10	94,800	68	<0.005	<0.010	222	
11/17/2008	4.6	20.5	6.80	1,258	5.5	<5	3	5	17	--	--	--	--	--	--		
6/24/2009	4.5	<30	6.90	1,184	20.0	<5	3	<5	14	67	36	84,500	40	<0.005	<0.010	154	
11/17/2009	8	25.3	7.31	1,090	10.3	<5	<4	<5	5	--	--	--	--	--	--		
6/17/2010	5	<30	7.04	1,290	16.3	<5	<4	<5	<5	<20	47	86,000	61	<0.005	<0.020	160	
11/8/2010	8	103	7.16	997	13.9	17	<4	<5	<5	--	--	--	--	--	--		
6/22/2011	4.3	25	7.25	910	13.7	10	<4	5	6	220	6	55,200	26	<0.005	<0.010	88	
6/22/2011	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--		
11/16/2011	5	28	7.04	974	12.8	<5	6	8	11	--	--	--	--	--	--		
6/27/2012	3.7	97	6.77	1,082	15.0	<5	<4	<5	<5	<20	58	64,900	40	<0.005	<0.02	134	
12/6/2012	7.9	<40	7.12	825	8.7	<5	4	<5	9	--	--	--	--	--	--		
6/5/2013	4.5	6	7.24	921	14.0	<5	<4	<5	24	30	13	27,500	32	<0.005	<0.02	106	
11/4/2013	8.7	16	7.10	733	11.6	14	6	<5	<5	--	--	--	--	--	--		
6/25/2014	--	--	7.10	--	13.3	--	--	--	--	--	--	--	--	--	--		
11/18/2014	6.5	28	7.31	896	4.8	<5	6	6	6	--	--	--	--	--	--		
6/24/2015	4.2	<30	6.98	1,019	16.3	<5	<5	<5	<5	<20	69	58,900	36	<0.005	<0.02	122	
11/18/2015	3.7	16	7.06	1,231	14.7	<5	<5	7	7	--	--	--	--	--	--		
6/23/2016	3.9	77	7.14	852	15.1	<5	<5	<5	<5	30	41	41,700	22	<0.005	<0.02	82	
11/30/2016	5.3	230	7.21	880	13.3	<5	<5	<5	<5	--	--	--	--	--	--		
6/21/2017	3.9	12	6.78	1,092	11.0	<5	<5	<5	<5	40	37	51,700	41	<0.005	<0.02	155	
11/7/2017	6.5	39	6.94	841	10.8	<5	5	<5	<5	--	--	--	--	--	--		
6/12/2018	4.2	<60	6.95	932	11.0	<5	<5	<5	10	230	26	39,800	27	<0.005	<0.02	116	
11/7/2018	6.5	170	7.25	952	11.4	<5	<5	<5	<5	--	--	--	--	--	--		
5/30/2019	6.0	<150	7.35	737	10.7	<5	<5	<5	7	40	<5	32,400	20	<0.004	<0.02	110	
11/21/2019	5.4	<40	7.44	910	12.5	<5	<5	<5	5	--	--	--	--	--	--		
6/18/2020	5.6	<40	7.33	728	15.3	<5	<5	<5	<5	130	41	35,400	27	<0.004	<0.02	145	

See notes on page 13.

TABLE 2
RACER Trust - Coldwater Road
Post-Closure Monitoring - Historical Analytical Results
Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

Vault	Sample Date	Indicator Parameters					Dissolved Metals (µg/L)				Inorganics (mg/L)							
		TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate	
		EGL&E Residential Drinking Water Criteria & RBSLs					100 (A)	1,000 (F)	100 (A)	2,400								
B-9	6/21/1995	3.5	34	7.68	2,400	14.6	<20	<20	<30	<20	--	--	--	--	--	--	--	
	6/31/1995	3.9	<10	7.72	1,820	14.8	37	43	<40	<20	--	--	--	--	--	--	--	
	2/9/1996	3.1	<10	7.34	2,860	8.0	<20	<20	<40	<20	--	--	--	--	--	--	--	
	6/19/1996	2.1	<100	6.81	2,550	11.5	<20	<20	<20	<20	--	--	--	--	--	--	--	
	8/21/1996	2.3	<5	8.04	2,310	16.4	<20	<20	<20	70	--	--	--	--	--	--	--	
	11/13/1996	71.0	<5	6.79	3,280	9.2	<20	<20	<20	40	--	--	--	--	--	--	--	
	5/6/1997	3.0	<100	6.80	2,600	10.0	<10	<10	51	20	--	--	--	--	--	--	--	
	11/6/1997	2.0	<100	6.50	2,800	11.0	<10	<10	183	40	650	741	--	141	<0.005	<0.020	1,178	
	5/4/1998	3.0	<5	6.58	2,400	14.5	10	10	18	40	--	--	--	--	--	--	--	
	11/5/1998	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/23/1998	--	--	--	--	--	--	--	--	--	--	--	--	NS	NS	NS	NS	NS
	4/26/1999	4.0	<100	7.69	1,860	12.2	<10	<10	19	20	--	--	--	--	--	--	--	--
	11/5/1999	2.5	<100	6.75	2,340	15.4	<10	<10	20	30	610	1280	47,100	128	<0.005	<0.020	1,222	
	4/26/2000	5.5	<100	7.56	2,780	9.5	<10	<10	12	30	--	--	--	--	--	--	--	--
	12/8/2000	5.0	<10	7.56	2,400	7.8	<10	<10	46	<10	50	--	69,500	142	<0.005	<0.020	1,246	
	5/16/2001	4.8	<100	7.41	1,070	12.6	<10	<10	7	10	--	--	--	--	--	--	--	--
	10/17/2001	4.0	<100	7.54	2,130	10.8	<10	<10	8	20	940	--	66,000	122	<0.005	NA	1,150	
	5/16/2002	1.9	<100	7.19	2,470	11.6	<10	<10	7	10	--	--	--	--	--	--	--	--
	11/7/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/4/2003	2.2	57	6.78	2,690	10.7	<5	<5	15	13	--	--	--	--	--	--	--	--
11/13/2003	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
6/30/2004	3.8	NS	6.91	2,379	12.7	<5	8	19	28	--	--	--	--	--	--	--	--	
12/9/2004	3.0	<30	5.88	2,480	11.4	<5	<5	11	19	570	248	55,900	149	<0.005	<0.010	1,350		
6/8/2005	4.0	<30	7.09	2,116	10.3	6	6	12	17	480	701	58,300	128	<0.005	<0.010	1,160		
12/7/2005	5.0	<30	8.58	2,830	11.9	11	5	12	40	320	410	58,500	--	--	--	--		
6/29/2006	1.9	<30	6.82	2,820	12.4	6	6	13	19	390	330	63,600	125	<0.005	<0.010	1,150		
11/30/2006	2.7	36.7	7.15	2,830	12.5	<5	6	<5	14	--	--	--	--	--	--	--	--	
6/5/2007	2.1	<30	6.70	2,770	11.0	12	6	24	21	320	1,900	67,300	112	<0.005	<0.010	1,120		
11/16/2007	2.0	27.4	6.67	3,000	9.4	2	6	24	18	--	--	--	--	--	--	--	--	
7/2/2008	1.8	36.4	6.44	3,060	19.7	<5	4	13	19	780	812	64,200	133	<0.005	<0.010	1,280		
11/20/2008	2.2	15.9	6.35	3,290	8.1	<5	<1	13	<5	--	--	--	--	--	--	--	--	
11/20/2008	2.0	127	6.35	3,280	8.1	<5	<1	13	<5	--	--	--	--	--	--	--	--	
6/25/2009	1.6	<30	6.67	2,700	19.8	<5	<1	<5	<5	59	173	65,300	107	<0.005	<0.010	1,120		
11/16/2009	3	84.1	6.71	3,030	12.7	<5	<4	16	8	--	--	--	--	--	--	--	--	
6/15/2010	3	27.5	6.69	3,030	13.0	<5	<4	7	6	460	475	70,700	117	<0.005	<0.020	1,230		
11/11/2010	3	37.5	6.37	2,910	12.9	19	4	7	15	--	--	--	--	--	--	--	--	
6/22/2011	1.9	<30	6.70	2,600	14.0	17	6	21	12	780	661	63,300	99	<0.005	<0.010	972		
6/22/2011	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	--	--	
11/16/2011	2	50	7.18	3,060	12.9	<5	<4	7	<5	--	--	--	--	--	--	--	--	
6/26/2012	2	21	6.53	2,770	14.0	<5	<4	8	<5	60	433	73,700	101	<0.005	<0.02	1,110		
12/5/2012	2.3	19	6.80	3,210	12.0	<5	8	17	23	--	--	--	--	--	--	--	--	
6/5/2013	2.1	15	7.07	2,660	12.5	<5	<4	6	25	40	173	66,400	106	<0.005	<0.02	1,150		
11/6/2013	2.2	NS	6.36	2,730	13.0	10	8	47	8	--	--	--	--	--	--	--	--	
6/25/2014	1.9	25	6.82	2,650	11.5	<5	<5	18	8	<20	159	27,100	108	<0.005	<0.02	1,070		
11/19/2014	2.1	29	6.77	2,670	8.12	<5	6	14	12	--	--	--	--	--	--	--	--	
6/24/2015	2.0	17	6.38	2,480	11.8	<5	<5	<5	<5	<20	89	62,400	87	<0.005	<0.02	1,040		
11/18/2015	2.0	<30	6.68	2,670	13.5	<5	<5	7	<5	--	--	--	--	--	--	--	--	
6/24/2016	1.9	150	6.68	2,190	12.9	<5	<5	10	<5	20	95	52,800	71	<0.005	<0.02	776		
11/29/2016	1.9	13	6.77	2,780	13.9	<5	<5	8	9	--	--	--	--	--	--	--	--	
6/20/2017	1.8	12	6.75	2,250	11.5	<5	<5	5	<5	17	172	54,600	74	<0.005	<0.02	770		
11/7/2017	2.1	<30	6.57	2,540	13.1	<5	<5	8	11	--	--	--	--	--	--	--	--	
6/12/2018	1.9	<60	5.78	2,420	11.6	<5	<5	6	8	20	89	55,500	85	<0.005	<0.02	931		
11/6/2018	4.9	<150	6.74	3,010	13.6	<5	<5	7	<5	--	--	--	--	--	--	--	--	
6/3/2019	4.3	<150	6.89	2,200	10.7	<5	<5	<5	7	70	12	52,200	69	<0.004	<0.02	838		
11/21/2019	3.2	77	7.05	2,620	12.8	<5	<5	6	9	--	--	--	--	--	--	--	--	
6/17/2020	4.3	45	7.13	2,260	13.1	<5	<5	<5	13	160	31	52,200	76	<0.004	<0.02	929		

See notes on page 13.

TABLE 2
RACER Trust - Coldwater Road
Post-Closure Monitoring - Historical Analytical Results
Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

Vault	Sample Date	Indicator Parameters					Dissolved Metals (µg/L)				Inorganics (mg/L)						
		TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
		EGLR Residential Drinking Water Criteria & RSLs					100 (A)	1,000 (F-1)	100 (A)	2,400							
B-18A	6/21/1995	2.7	<10	7.54	1,048	13.3	<20	<20	<30	150	--	--	--	--	--	--	
	6/31/1995	3.0	<10	7.91	989	13.2	<20	<20	<40	<20	--	--	--	--	--	--	
	2/9/1996	2.3	<10	7.42	1,021	9.3	<20	<20	<40	<20	--	--	--	--	--	--	
	6/19/1996	1.4	<100	7.04	944	13.2	<20	<20	<20	<20	--	--	--	--	--	--	
	8/21/1996	2.4	<5	7.49	1,041	12.8	<20	<20	<20	60	--	--	--	--	--	--	
	11/13/1996	19.0	<5	7.22	1,331	6.4	<20	<20	<20	70	--	--	--	--	--	--	
	5/6/1997	2.0	<100	6.50	900	10.0	<10	<10	13	10	--	--	--	--	--	--	
	11/6/1997	4.0	<100	6.40	1,100	10.0	<10	<10	62	10	380	62	--	12	<0.005	<0.020	130
	5/4/1998	2.0	<5	6.72	862	11.8	<10	<10	<5	20	--	--	--	--	--	--	--
	11/5/1998	1.0	<100	6.00	1,090	11.8	<10	<10	<5	10	240	128	46,000	--	--	--	--
12/23/1998	--	--	--	--	--	--	--	--	--	--	--	--	10	<0.005	<0.020	133	
4/26/1999	2.1	<100	8.10	921	14.0	<10	<10	<5	20	--	--	--	--	--	--	--	
11/5/1999	4.3	<100	7.10	832	14.0	<10	<10	<5	60	180	155	39,200	8	<0.005	<0.020	130	
4/26/2000	2.4	<100	7.50	980	10.4	<10	<10	<5	30	--	--	--	--	--	--	--	
12/8/2000	2.6	<10	6.96	990	9.9	<10	<10	15	<10	--	--	34,500	7	<0.005	<0.020	126	
12/8/2000	2.6	<10	--	--	--	<10	<10	13	<10	40	--	35,100	7	<0.005	<0.020	112	
5/16/2001	2.4	<100	7.91	1,160	12.9	<10	<10	<5	10	--	--	--	--	--	--	--	
10/17/2001	2.2	<100	7.09	1,020	12.2	<10	<10	<5	<10	350	--	35,400	7	<0.005	<0.020	132	
5/16/2002	1.5	<100	7.19	2,080	12.2	<10	<10	<5	10	--	--	--	--	--	--	--	
11/7/2002	1.9	<30	7.16	820	10.1	<5	<5	<5	<5	190	26	40,800	10	<0.005	<0.020	134	
6/4/2003	1.6	<30	6.92	790	13.1	<5	<5	<5	5	--	--	--	--	--	--	--	
11/13/2003	1	<30	7.68	1,180	7.1	<5	<5	<5	<5	160	<5	--	10	<0.005	<0.010	129	
11/13/2003	--	--	--	--	--	--	--	--	--	--	--	--	11	<0.005	<0.010	130	
6/29/2004	1.2	<30	7.19	863	12.0	<5	<5	7	10	--	--	--	--	--	--	--	
12/9/2004	3	<30	6.19	960	10.5	<5	<5	9	12	900	363	37,900	14	<0.005	<0.010	127	
6/8/2005	2	<30	7.38	819	10.9	<5	<5	6	16	170	80	40,000	11	<0.005	<0.010	120	
12/8/2005	2.6	<30	9.73	1,120	10.1	11	<4	<5	10	390	170	47,000	--	--	--	--	
6/27/2006	1.2	<30	7.09	1,110	13.2	5	4	<5	46	170	50	48,200	13	<0.005	<0.010	125	
11/30/2006	1.4	119	7.18	1,100	11.5	5	<4	<5	9	--	--	--	--	--	--	--	
6/4/2007	1	19.9	7.01	1,070	13.2	9	3	3	14	110	22	51,800	15	<0.005	<0.010	114	
11/14/2007	<1	19	6.91	1,090	13.7	1	2	6	11	--	--	--	--	--	--	--	
6/25/2008	12	34.1	7.10	1,060	20.4	<5	2	<5	11	310	<5	54,800	15	<0.005	<0.010	110	
11/18/2008	<1	<30	6.58	1,088	2.9	<5	<1	<5	<5	--	--	--	--	--	--	--	
6/24/2009	<1	<30	7.25	1,060	26.2	<5	1	<5	15	<20	<5	53,100	16	<0.005	<0.010	111	
11/18/2009	2	<30	6.89	1,070	11.7	<5	<4	<5	45	--	--	--	--	--	--	--	
6/17/2010	1	<30	7.19	1,080	17.5	<5	<4	<5	8	<20	<5	45,500	15	<0.005	<0.020	109	
11/10/2010	2	28	6.91	1,065	9.5	12	<4	<5	<5	--	--	--	--	--	--	--	
6/21/2011	1.2	<30	7.16	1,031	18.8	10	<4	5	12	240	<5	46,100	17	<0.005	<0.010	103	
6/21/2011	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
11/15/2011	1	28	7.01	1,063	12.0	<5	<4	<5	<5	--	--	--	--	--	--	--	
6/27/2012	1.2	<40	6.99	1,057	14.4	<5	<4	<5	<5	30	26	50,000	18	<0.005	<0.02	103	
6/27/2012	1.2	<40	6.99	1,054	14.4	<5	<4	<5	5	40	27	46,500	18	<0.005	<0.02	101	
12/6/2012	1.5	<40	7.03	1,071	9.3	<5	<4	5	9	--	--	--	--	--	--	--	
6/5/2013	1.5	<47	7.17	1,040	14.6	<5	<4	<5	31	20	12	43,900	19	<0.005	<0.02	110	
11/5/2013	1.4	<10	7.15	1,063	12.1	<5	<4	<5	11	--	--	--	--	--	--	--	
6/24/2014	1.5	<30	7.03	1,048	12.8	<5	<5	6	7	<20	20	20,500	18	<0.005	<0.02	107	
11/19/2014	1.4	16	7.10	1,073	6.27	<5	<4	5	7	--	--	--	--	--	--	--	
11/19/2014	1.5	<60	7.10	1,072	6.27	<5	<4	5	7	--	--	--	--	--	--	--	
6/23/2015	1.3	<30	6.95	1,060	15.5	<5	<5	<5	<5	30	10	43,600	18	<0.005	<0.02	110	
11/18/2015	1.4	<30	7.03	1,065	12.2	<5	<5	<5	5	--	--	--	--	--	--	--	
6/23/2016	1.4	55	7.08	1,063	13.8	<5	<5	<5	<5	30	7	42,400	19	<0.005	<0.02	108	
11/30/2016	1.2	<30	7.10	1,059	11.4	<5	<5	<5	7	--	--	--	--	--	--	--	
6/20/2017	1.5	<30	6.97	1,075	12.7	<5	<5	<5	8	<20	27	36,300	18	<0.005	<0.02	118	
11/7/2017	1.2	<30	6.96	1,092	11.6	<5	<5	<5	<5	--	--	--	--	--	--	--	
6/12/2018	1.4	<60	6.90	1,074	12.4	<5	<5	<5	10	160	41	32,900	16	<0.005	<0.02	131	
11/7/2018	3.0	<150	6.85	1,106	11.7	<5	<5	<5	7	--	--	--	--	--	--	--	
6/3/2019	3.6	<150	7.36	1,050	11.2	<5	<5	<5	9	<20	15	34,900	18	<0.004	<0.02	127	
6/3/2019	3.8	<150	7.36	1,056	11.2	<5	<5	<5	34	110	16	35,300	17	<0.004	<0.02	127	
11/20/2019	2.2	65	7.30	1,055	11.2	<5	<5	<5	8	--	--	--	--	--	--	--	
6/18/2020	3.2	44	7.18	725	13.2	<5	<5	<5	7	50	65	39,700	20	<0.004	<0.02	137	
6/18/2020	3.9	<40	7.18	769	13.2	<5	<5	<5	6	50	68	40,800	20	<0.004	<0.02	138	

See notes on page 13.

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Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

Vault	Sample Date	Indicator Parameters					Dissolved Metals (µg/L)					Inorganics (mg/L)						
		TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate	
		EGLF Residential Drinking Water Criteria & RBSLs					100 (A)	1,000 (F)	100 (A)	2,400								
B-19A	6/21/1995	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--
	9/31/1995	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	
	2/9/1996	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	
	6/19/1996	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	
	8/21/1996	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	
	11/13/1996	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	
	5/6/1997	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	
	11/6/1997	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	WD	WD	WD	WD	
	5/4/1998	2.0	<3	6.84	NS	NS	1,480	10.1	<10	<5	30	--	--	--	--	--	--	--
	11/5/1998	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--
12/23/1998	--	--	--	--	--	--	--	--	--	--	--	--	NS	NS	NS	NS	NS	
4/26/1999	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	
11/5/1999	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
4/26/2000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
12/8/2000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
5/16/2001	4.0	<100	7.14	1,050	11.8	<10	<10	<5	<10	--	--	--	--	--	--	--	--	
10/17/2001	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
5/16/2002	6.0	<100	7.19	1,740	10.6	<10	<10	<5	10	--	--	--	--	--	--	--	--	
11/7/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
6/4/2003	5.8	<30	6.92	1,350	12.9	<5	<5	<5	<5	--	--	--	--	--	--	--	--	
11/13/2003	3.4	<30	7.59	1,620	10.2	<5	<5	<5	<5	20	<5	--	148	<0.005	<0.010	--	229	
6/29/2004	3.9	<30	7.17	1,316	14.7	<5	<5	<5	8	--	--	--	--	--	--	--	--	
12/9/2004	5.0	33	6.24	1,340	9.9	<5	<5	<5	9	240	11	111,000	116	<0.005	<0.010	233	233	
12/9/2004	5.0	<30	--	--	--	<5	<5	<5	7	170	<5	114,000	116	<0.005	<0.010	233	233	
6/7/2005	3.0	<30	7.09	829	12.2	<5	<5	7	<5	1,320	228	15,700	52	<0.005	<0.010	130	130	
12/8/2005	5.5	<30	--	1,390	--	10	<4	<5	20	160	<20	81,400	--	--	--	--	--	
12/8/2005	5.3	<30	7.13	1,390	12.3	10	<4	<5	<10	150	<20	74,800	--	--	--	--	--	
2/14/2006	--	--	7.95	840	5.9	<5	--	--	--	--	--	--	--	--	--	--	--	
6/29/2006	2.7	<30	7.58	860	12.0	<5	<4	12	21	240	210	22,400	51	<0.005	<0.010	153	153	
11/30/2006	6.2	33.7	7.18	1,300	11.4	5	<4	<5	<5	--	--	--	--	--	--	--	--	
6/7/2007	2	<30	6.97	899	11.4	6	4	4	9	70	21	19,700	58	<0.005	<0.010	136	136	
11/13/2007	1.5	<30	7.27	1,070	12.1	3	7	26	11	--	--	--	--	--	--	--	--	
6/25/2008	2.4	38.8	7.13	1,060	17.4	<5	3	<5	16	380	9	18,500	58	<0.005	<0.010	148	148	
11/18/2008	1.3	<30	7.00	1,052	8.0	<5	1	<5	14	--	--	--	--	--	--	--	--	
6/24/2009	1.0	<30	7.74	911	17.3	<5	2	<5	<5	36	<5	21,200	60	<0.005	<0.010	147	147	
11/19/2009	2	<30	7.41	994	10.4	<5	<4	<5	7	--	--	--	--	--	--	--	--	
6/15/2010	2	<30	7.57	992	16.1	<5	<4	<5	<5	<20	<5	19,800	59	<0.005	<0.020	154	154	
11/10/2010	2	<30	6.91	1,128	8.7	12	<4	<5	<5	--	--	--	--	--	--	--	--	
6/22/2011	1.5	<30	7.35	902	17.2	5	<4	5	<5	240	<5	22,400	64	<0.005	<0.010	140	140	
6/22/2011	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	--	--	
11/16/2011	2	26	7.06	1,091	8.4	<5	<4	<5	5	--	--	--	--	--	--	--	--	
6/27/2012	1.5	<40	7.78	1,005	13.3	<5	<4	<5	<5	<20	<5	23,200	62	<0.005	<0.02	145	145	
12/6/2012	1.8	<40	7.36	1,129	10.2	<5	<4	5	6	--	--	--	--	--	--	--	--	
6/5/2013	1.5	39	8.16	777	13.0	<5	<4	<5	25	40	<5	27,700	72	<0.005	<0.02	136	136	
11/6/2013	1.6	3.6	7.33	1,104	11.6	<5	<4	10	<5	--	--	--	--	--	--	--	--	
6/23/2014	2.0	23	8.40	817	17.3	<5	<5	5	<5	<20	<5	11,900	74	<0.005	<0.02	136	136	
11/20/2014	2.1	190	7.37	1,038	6.16	<5	6	6	10	--	--	--	--	--	--	--	--	
6/23/2015	1.5	<30	6.77	1,165	20.2	<5	6	<5	26	30	50	28,700	72	<0.005	<0.02	132	132	
11/19/2015	1.4	17	6.90	1,170	10.6	<5	<5	7	7	--	--	--	--	--	--	--	--	
6/27/2016	1.5	71	8.13	712	18.8	<5	<5	<5	5	40	<5	26,700	70	<0.005	<0.02	128	128	
11/30/2016	1.8	12	7.39	1,104	11.2	14	14	20	39	--	--	--	--	--	--	--	--	
11/2/2017	--	--	7.34	--	11.1	<5	<5	6	11	--	--	--	--	--	--	--	--	
6/21/2017	2.0	30	7.29	1,064	12.1	<5	<5	<5	<5	<20	13	28,200	75	<0.005	<0.02	131	131	
11/7/2017	2.6	120	7.05	1,134	12.0	<5	<5	<5	<5	--	--	--	--	--	--	--	--	
6/12/2018	1.8	<60	8.63	688	12.5	<5	<5	<5	<5	30	<5	24,700	81	<0.005	<0.02	135	135	
11/7/2018	5.9	<150	7.35	1,176	11.1	6	5	11	15	--	--	--	--	--	--	--	--	
6/3/2019	6.5	<150	7.26	1,062	11.7	<5	<5	7	10	2,760	203	27,300	82	<0.004	<0.02	148	148	
11/21/2019	2.4	<40	7.36	1,121	11.1	7	6	12	23	--	--	--	--	--	--	--	--	
6/18/2020	3.1	<40	7.26	845	13.4	<5	<5	6	8	1,180	276	22,200	88	<0.004	<0.02	157	157	

See notes on page 13.



TABLE 2
RACER Trust - Coldwater Road
 Post-Closure Monitoring - Historical Analytical Results
 Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

Vault	Sample Date	Indicator Parameters					Dissolved Metals (µg/L)					Inorganics (mg/L)					
		TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
		<i>EGL&E Residential Drinking Water Criteria & RBSLs</i>					<i>100 (A)</i>	<i>1,000 (F)</i>	<i>100 (A)</i>	<i>2,400</i>							
B-20D	6/21/1995	2.8	<10	8.27	771	15.1	<20	<20	<30	<20	--	--	--	--	--	--	
	6/31/1995	4.7	47	8.10	1,204	14.6	<20	20	<40	<20	--	--	--	--	--	--	
	2/9/1996	21.0	38	7.12	801	9.1	32	28	54	120	--	--	--	--	--	--	
	6/19/1996	2.4	<100	7.92	745	11.9	<20	<20	<20	<20	--	--	--	--	--	--	
	8/21/1996	3.0	<5	7.97	750	13.1	<20	<20	<20	40	--	--	--	--	--	--	
	11/13/1996	16.0	<5	7.69	1,075	6.7	<20	<20	<20	40	--	--	--	--	--	--	
	5/6/1997	3.0	<100	6.80	640	10.0	<10	<10	15	10	--	--	--	--	--	--	
	11/6/1997	5.0	<100	6.70	700	10.0	<10	20	41	<10	260	35	--	5	<0.005	<0.020	101
	5/4/1998	4.0	<5	6.77	579	12.2	<10	<10	<5	<10	--	--	--	--	--	--	--
	11/5/1998	3.0	11	6.47	667	13.5	<10	<10	<5	10	<10	18	31,000	--	--	--	--
Duplicate	11/5/1998	5.0	16	6.48	677	13.6	<10	<10	<5	10	170	8	30,300	--	--	--	--
Duplicate	12/23/1998	--	--	--	--	--	--	--	--	--	--	--	--	3	<0.005	<0.020	92
Duplicate	12/23/1998	--	--	--	--	--	--	--	--	--	--	--	--	3	<0.005	<0.020	89
	4/26/1999	3.2	<100	8.40	506	13.0	<10	<10	<5	10	--	--	--	--	--	--	--
	11/5/1999	5.3	<100	7.45	677	12.5	<10	<10	<5	60	130	40	31,400	33	<0.005	<0.020	105
	4/26/2000	3.2	<100	7.40	760	14.9	<10	<10	<5	<10	--	--	--	--	--	--	--
	12/8/2000	3.2	<10	7.45	780	4.7	<10	<10	15	<10	20	--	19,700	2	<0.005	<0.020	113
	5/15/2001	2.7	<100	6.99	590	13.0	<10	<10	<5	<10	--	--	--	--	--	--	--
	10/18/2001	2.5	<100	7.85	930	10.4	<10	<10	<5	<10	300	--	20,600	2	<0.005	<0.020	105
	5/16/2002	3.2	<100	7.21	780	11.9	<10	<10	<5	10	--	--	--	--	--	--	--
	11/7/2002	1.8	<30	7.59	610	8.7	<5	<5	<5	<5	250	74	20,900	3	<0.005	<0.020	115
	6/3/2003	2.5	<30	7.36	620	12.8	<5	<5	<5	<5	--	--	--	--	--	--	--
	11/13/2003	1.3	<30	7.97	630	7.7	<5	<5	5	<5	200	15	--	5	<0.005	<0.010	127
	6/29/2004	9.4	<30	7.48	666	13.1	<5	<5	11	<5	--	--	--	--	--	--	--
	12/10/2004	2.0	<30	6.59	830	10.8	<5	<5	11	10	2,110	92	16,800	3	<0.005	<0.010	148
	6/7/2005	4.0	<30	7.30	707	11.9	7	<5	5	<5	2,140	66	16,500	<5	<0.005	<0.010	155
	12/8/2005	4.1	<30	4.84	957	11.1	11	<4	26	<10	120	--	20,600	--	--	--	--
	6/28/2006	1.7	<30	7.36	979	12.5	7	<4	<5	5	2,120	60	17,600	2	<0.005	<0.010	169
	11/30/2006	3.4	<30	7.49	980	12.5	6	<4	6	<5	--	--	--	--	--	--	--
	6/8/2007	3.4	30.9	6.72	929	13.4	10	22	19	124	610	160	25,500	4	<0.005	0.074	144
	11/13/2007	2.1	<30	7.19	932	13.5	3	1	13	9	--	--	--	--	--	--	--
	6/25/2008	<1	<60	7.01	946	15.5	<5	2	<5	7	2,400	55	19,500	4	<0.005	<0.010	164
	11/18/2008	1	36.1	6.89	1,066	12.6	<5	4	6	22	--	--	--	--	--	--	--
	6/24/2009	1.1	<30	7.17	1,000	19.4	<5	<1	<5	<5	1,720	56	21,000	3	<0.005	<0.010	180
Duplicate	6/24/2009	<1	<30	7.17	1,010	19.4	<5	<1	<5	<5	1,640	56	20,800	3	<0.005	<0.010	183
	11/18/2009	2	<30	7.02	1,030	12.1	<5	<4	<5	5	--	--	--	--	--	--	--
	6/16/2010	2	<30	7.30	1,020	15.1	<5	<4	<5	<5	1,930	49	19,000	2	<0.005	<0.020	177
	11/9/2010	3	<30	7.02	998	11.7	11	<4	<5	<5	--	--	--	--	--	--	--
Replicate	6/22/2011	1.6	<30	7.23	967	15.5	9	<4	<5	13	2,550	54	18,600	<5	<0.005	<0.010	164
	6/22/2011	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	--
Duplicate	11/16/2011	2	50	7.02	1,006	9.8	<5	<4	<5	5	--	--	--	--	--	--	--
Duplicate	11/16/2011	2	26	7.02	1,002	9.8	<5	<4	<5	6	--	--	--	--	--	--	--
	6/25/2012	2	15	6.79	1,003	12.8	<5	<4	<5	<5	1,700	53	21,400	<5	<0.005	<0.02	183
	12/6/2012	1.8	<40	7.54	1,008	9.8	<5	<4	<5	7	--	--	--	--	--	--	--
Duplicate	6/5/2013	1.7	<10	7.00	1,000	11.5	<5	<4	<5	11	1,840	48	19,500	<5	<0.005	<0.02	201
	6/5/2013	1.9	<10	7.00	1,000	11.5	<5	<4	<5	<5	1,780	47	17,100	<5	<0.005	<0.02	200
Duplicate	11/5/2013	1.7	NS	7.22	992	11.8	<5	<4	<5	39	--	--	--	--	--	--	--
	6/23/2014	1.9	<30	7.01	972	13.8	<5	<5	5	<5	1,360	47	8,620	<5	<0.005	<0.02	192
Duplicate	6/24/2015	1.8	<30	7.13	959	13.7	<5	<5	<5	<5	1,960	48	18,500	<10	<0.005	<0.02	178
	6/24/2015	1.7	<30	7.13	958	13.7	<5	<5	<5	<5	1,970	50	18,600	<10	<0.005	<0.02	178
	6/23/2016	1.7	68	7.01	945	17.4	<5	<5	<5	<5	1,880	65	18,500	<5	<0.005	<0.02	161
Duplicate	6/22/2017	1.6	<30	7.11	926	12.4	<5	<5	<5	<5	2,080	48	18,700	<5	<0.005	<0.02	144
	6/22/2017	1.6	<30	7.11	926	12.4	<5	<5	<5	<5	2,140	49	18,300	<5	<0.005	<0.02	146
Duplicate	6/14/2018	1.5	<60	6.96	882	14.3	<5	<5	<5	5	2,440	67	18,100	<5	<0.005	<0.02	132
	6/14/2018	3.0	<60	6.96	892	14.3	<5	<5	<5	7	2,630	72	17,300	<5	<0.005	<0.02	130
Duplicate	5/31/2019	3.0	<150	7.69	797	12.1	<5	<5	<5	<5	910	41	21,400	<10	<0.004	<0.02	119
	6/18/2020	2.9	67	7.47	618	15.5	<5	<5	<5	<5	1,730	47	17,100	<10	<0.004	<0.02	132

See notes on page 13.

TABLE 2
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Post-Closure Monitoring - Historical Analytical Results
Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

Vault	Sample Date	Indicator Parameters					Dissolved Metals (µg/L)				Inorganics (mg/L)						
		TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
		EGLR Residential Drinking Water Criteria & RBSLs					100 (A)	1,000 (F)	100 (A)	2,400							
B-21D	6/21/1995	4.2	<10	8.27	870	14.5	<20	<20	<30	61	--	--	--	--	--	--	--
	9/31/1995	3.3	19	8.09	684	14.2	<20	21	<40	<20	--	--	--	--	--	--	--
	2/9/1996	4.1	<10	7.70	646	8.6	<20	<20	<40	<20	--	--	--	--	--	--	--
	6/19/1996	5.3	<100	7.58	577	14.1	<20	<20	<20	<20	--	--	--	--	--	--	--
	8/21/1996	2.5	<5	7.93	576	13.8	<20	<20	<20	50	--	--	--	--	--	--	--
	11/13/1996	17.0	<5	7.28	810	8.8	<20	<20	<20	40	--	--	--	--	--	--	--
	5/6/1997	2.0	<100	6.82	530	10.2	<10	<10	8	<10	--	--	--	--	--	--	--
	11/6/1997	3.0	<100	6.70	540	10.0	<10	<10	30	<10	240	27	--	2	<0.005	<0.020	33
	5/4/1998	16.0	<5	6.90	480	11.5	<10	<10	<5	20	--	--	--	--	--	--	--
	11/5/1998	5.0	<100	7.24	565	7.8	<10	<10	<5	10	240	43	26,700	--	--	--	--
12/23/1998	--	--	--	--	--	--	--	--	--	--	--	--	2	<0.005	<0.020	15	
4/26/1999	11.0	<100	8.24	506	13.0	<10	<10	<5	10	--	--	--	--	--	--	--	
11/5/1999	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
4/26/2000	2.5	<100	8.20	660	14.1	<10	<10	<5	<10	--	--	--	--	--	--	--	
12/8/2000	4.2	<10	8.44	680	7.1	<10	<10	11	<10	--	--	29,600	2	<0.005	<0.020	36	
Duplicate	5/15/2001	1.9	<100	7.94	570	13.0	<10	<10	<5	10	--	--	--	--	--	--	
	5/15/2001	1.9	<100	8.32	560	13.0	<10	<10	<5	10	--	--	--	--	--	--	
	10/18/2001	3.4	<100	7.61	570	13.7	<10	<10	<5	<10	200	--	22,200	1	<0.005	<0.020	41
	5/16/2002	6.1	<100	7.19	630	11.7	<10	<10	<5	<10	--	--	--	--	--	--	
	11/7/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/3/2003	5.8	<30	7.27	510	13.0	<5	<5	<5	6	--	--	--	--	--	--	
	11/13/2003	1.0	<30	7.81	710	8.7	<5	<5	<5	9	100	<5	--	4	<0.005	<0.010	48
	6/30/2004	4.0	<30	6.77	570	14.8	<5	<5	<5	7	--	--	--	--	--	--	
	12/10/2004	2.0	<30	6.40	600	9.9	<5	<5	<5	7	1,330	44	20,100	2	<0.005	<0.010	50
	6/8/2005	3.0	<30	6.70	560	14.2	<5	<5	12	6	1,350	72	21,000	<5	<0.005	<0.010	44
12/8/2005	4.4	<30	5.49	741	11.4	8	<4	8	<10	1,070	60	21,500	--	--	--		
6/28/2006	1.5	<30	7.44	718	12.8	<5	6	5	13	430	60	23,500	2	<0.005	<0.010	53	
11/30/2006	1.8	49.1	7.59	693	11.5	<5	<4	<5	<5	--	--	--	--	--	--		
6/8/2007	1.2	<30	6.30	709	13.2	10	2	5	7	1,200	49	21,500	4	<0.005	<0.010	60	
11/14/2007	<1	<30	7.26	738	14.5	2	1	5	8	--	--	--	--	--	--		
6/26/2008	1.8	16.8	7.07	738	16.9	<5	1	<5	<5	1,390	40	22,700	3	<0.005	<0.010	60	
11/19/2008	1.1	<30	6.93	739	11.0	<5	<1	5	<5	--	--	--	--	--	--		
6/25/2009	<1	<30	6.69	743	16.1	<5	<1	<5	<5	1,210	34	25,100	3	<0.005	<0.010	64	
11/19/2009	2	41.2	7.17	745	10.2	<5	<4	<5	6	--	--	--	--	--	--		
Duplicate	11/19/2009	2	<30	7.17	739	10.2	<5	<4	<5	<5	--	--	--	--	--	--	
	6/17/2010	2	<30	7.40	736	13.2	<5	<4	<5	<5	980	34	23,700	3	<0.005	<0.020	58
	11/10/2010	1	<30	7.28	739	11.0	11	<4	<5	<5	--	--	--	--	--	--	
	6/22/2011	1.4	<30	7.41	718	19.5	10	<4	<5	<5	1,540	33	23,300	<5	<0.005	<0.010	61
	6/22/2011	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	11/16/2011	1	7.9	7.16	753	10.6	<5	<4	<5	<5	--	--	--	--	--	--	
	6/26/2012	1.3	<40	7.26	745	19.5	<5	<4	<5	<5	640	42	25,800	<5	<0.005	<0.02	66
	12/6/2012	1.6	<40	7.57	754	9.1	<5	<4	<5	8	--	--	--	--	--	--	
	6/5/2013	1.6	<10	7.16	742	13.5	<5	<4	<5	26	990	31	24,400	<5	<0.005	<0.02	68
	11/6/2013	1.5	<10	7.49	760	12.1	<5	<4	<5	14	--	--	--	--	--	--	
6/24/2014	1.5	<30	7.43	734	16.5	<5	<5	<5	<5	850	28	11,200	<5	<0.005	<0.02	77	
6/24/2015	1.4	<30	7.19	683	15.2	<5	<5	<5	<5	710	37	24,700	<10	<0.005	<0.02	81	
6/24/2016	1.4	59	6.94	790	15.2	<5	<5	<5	<5	1,290	35	22,600	<5	<0.005	<0.02	91	
6/21/2017	1.4	<30	7.21	790	13.0	<5	<5	<5	<5	1,210	36	25,000	<5	<0.005	<0.02	90	
6/14/2018	1.4	<60	7.02	786	14.4	<5	<5	5	11	4,310	123	22,700	<5	<0.005	<0.02	90	
5/30/2019	2.7	<150	7.70	658	11.9	<5	<5	<5	<5	270	30	25,600	<10	<0.004	<0.02	79	
6/17/2020	2.9	40	7.57	554	12.5	<5	<5	<5	<5	1,400	33	21,200	<10	<0.004	<0.02	108	

See notes on page 13.

TABLE 2
RACER Trust - Coldwater Road
Post-Closure Monitoring - Historical Analytical Results
Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

Vault	Sample Date	Indicator Parameters					Dissolved Metals (µg/L)				Inorganics (mg/L)							
		TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate	
		EGL/E Residential Drinking Water Criteria & RBSLs					100 (A)	1,000 (E-1)	100 (A)	2,400								
B-22D	6/21/1995	2.6	<10	7.71	573	15.5	<20	<20	370	<20	--	--	--	--	--	--	--	
	6/31/1995	4.5	47	8.25	739	14.3	<20	<20	<40	47	--	--	--	--	--	--	--	
	2/9/1996	<10	NS	NS	NS	NS	<20	<20	<40	80	--	--	--	--	--	--	--	
	6/19/1996	1.8	<100	7.51	600	13.4	<20	<20	<20	20	--	--	--	--	--	--	--	
	8/21/1996	1.7	<5	8.08	608	14.2	<20	<20	<20	50	--	--	--	--	--	--	--	
	11/13/1996	10.0	<5	7.22	817	7.7	<20	<20	<20	50	--	--	--	--	--	--	--	
	5/6/1997	2.0	<100	6.67	550	10.1	<10	<10	<5	<10	--	--	--	--	--	--	--	
	11/6/1997	7.0	<100	6.90	550	10.0	<10	<10	29	10	1,360	55	2	<0.005	<0.020	32	--	
	5/4/1998	5.0	<5	7.07	501	11.7	<10	<10	<5	<10	--	--	--	--	--	--	--	
	11/5/1998	6.0	<10	6.60	559	9.8	<10	<10	<5	10	1,180	47	23,800	--	--	--	--	
	12/23/1998	--	--	--	--	--	--	--	--	--	--	--	--	2	<0.005	<0.020	28	--
	4/26/1999	18.0	<100	8.20	485	13.2	<10	<10	<5	10	--	--	--	--	--	--	--	
	11/5/1999	2.6	<100	7.30	474	13.6	<10	<10	<5	20	90	31	27,900	2	<0.005	<0.020	29	--
	4/26/2000	2.5	<100	8.20	670	14.2	<10	<10	<5	<10	--	--	--	--	--	--	--	
	12/8/2000	2.5	<10	7.49	510	5.4	<10	<10	8	<10	<10	--	26,500	2	<0.005	<0.020	31	--
	5/15/2001	6.7	<100	8.01	690	13.7	<10	<10	6	30	--	--	--	--	--	--	--	
	10/18/2001	1.7	<100	7.59	2,610	10.2	<10	<10	<5	<10	200	--	27,800	1	<0.005	<0.020	33	--
	5/16/2002	3.2	<100	7.06	630	12.1	<10	<10	<5	<10	--	--	--	--	--	--	--	
	11/7/2002	1.5	<30	7.39	480	8.8	<5	<5	<5	<5	120	11	25,200	2	<0.005	<0.020	35	--
	6/3/2003	2.3	<30	6.78	570	13.1	<5	<5	<5	<5	--	--	--	--	--	--	--	
	11/14/2003	1.6	<30	8.05	660	9.8	<5	<5	<5	9	6	<5	3	<0.005	<0.010	37	--	
	6/30/2004	1.7	<30	6.27	610	15.5	<5	<5	<5	6	--	--	--	--	--	--	--	
	12/10/2004	2.0	<30	6.95	600	10.3	<5	<5	<5	6	1,280	37	25,100	2	<0.005	<0.010	42	--
	6/8/2005	2.0	<30	7.67	531	13.2	6	<5	<5	<5	1,370	38	23,700	<5	<0.005	<0.010	40	--
	12/8/2005	2.7	<30	5.75	702	11.7	10	<4	46	<10	2,200	250	25,400	--	--	--	--	
6/28/2006	<1	<30	7.48	682	13.0	<5	<4	<5	<5	1,290	30	25,800	2	<0.005	<0.010	42	--	
11/30/2006	2.2	<30	7.53	694	13.3	<5	<4	<5	7	--	--	--	--	--	--	--		
Duplicate	11/30/2006	5.3	<30	7.53	676	13.3	<5	<4	<5	--	--	--	--	--	--	--		
Duplicate	6/8/2007	3.8	<30	6.59	680	14.3	7	2	1	5	1,180	32	28,100	3	<0.005	<0.010	46	--
Duplicate	6/8/2007	3.1	21.1	6.59	669	14.3	9	2	1	4	1,210	31	28,400	4	<0.005	<0.010	47	--
Duplicate	11/14/2007	1.1	<30	7.30	710	14.2	2	2	3	6	--	--	--	--	--	--		
Duplicate	6/26/2008	1.7	22.6	7.09	694	19.3	<5	<1	<5	5	1,100	33	25,900	3	<0.005	<0.010	46	--
Duplicate	6/26/2008	2.6	<30	7.09	710	19.3	<5	<1	<5	7	1,150	34	26,400	3	<0.005	<0.010	46	--
Duplicate	11/19/2008	8.9	<30	6.93	699	8.2	<5	<1	8	--	--	--	--	--	--	--		
Duplicate	6/25/2009	1.1	<30	6.74	705	16.6	<5	<1	<5	<5	1,340	30	28,500	2	<0.005	<0.010	54	--
Duplicate	11/18/2009	2	<30	7.15	710	11.4	<5	<4	<5	<5	--	--	--	--	--	--		
Duplicate	6/16/2010	2	<30	7.43	715	15.7	<5	<4	<5	<5	1,100	28	26,000	2	<0.005	<0.020	51	--
Duplicate	11/11/2010	2	<30	7.31	704	10.3	11	<4	<5	<5	--	--	--	--	--	--		
Duplicate	6/21/2011	1.3	<30	7.35	705	17.0	9	<4	<5	<5	1,460	30	27,300	<5	<0.005	<0.010	50	--
Duplicate	6/21/2011	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--		
Duplicate	11/14/2011	2	76	7.39	714	10.1	<5	<4	<5	12	--	--	--	--	--	--		
Duplicate	6/25/2012	2	<40	6.45	714	12.7	<5	<4	<5	8	1,830	42	30,000	<5	<0.005	<0.02	51	--
Duplicate	12/6/2012	1.6	<40	7.58	716	10.1	<5	<4	<5	9	--	--	--	--	--	--		
Duplicate	6/3/2013	1.6	46	6.81	701	15.6	<5	<4	<5	<5	1,000	27	28,100	<5	<0.005	<0.02	53	--
Duplicate	11/6/2013	1.5	<10	7.52	713	11.4	<5	<4	<5	12	--	--	--	--	--	--		
Duplicate	6/24/2014	1.5	<30	7.46	707	14.7	<5	<5	<5	<5	850	26	12,700	<5	<0.005	<0.02	53	--
Duplicate	6/23/2015	1.8	<30	7.46	710	--	<5	<5	<5	8	1,030	27	28,300	<10	<0.005	<0.02	55	--
Duplicate	6/22/2016	2.4	100	7.19	716	13.0	<5	<5	<5	920	27	27,100	<5	<0.005	<0.02	54	--	
Duplicate	6/22/2016	2.4	29	7.19	716	13.0	<5	<5	<5	950	28	27,300	<5	<0.005	<0.02	54	--	
Duplicate	6/21/2017	1.5	<30	7.21	718	13.4	<5	<5	<5	970	30	29,000	<5	<0.005	<0.02	54	--	
Duplicate	6/13/2018	1.5	<60	7.02	707	14.6	<5	<5	<5	5	1,320	29	31,000	<5	<0.005	<0.02	54	--
Duplicate	5/30/2019	3.1	<150	7.76	647	11.7	<5	<5	<5	13	320	27	28,500	<10	<0.004	<0.02	55	--
Duplicate	6/17/2020	5.2	<40	7.61	535	15.2	<5	<5	<5	<5	1,560	36	26,700	<10	<0.004	<0.02	58	--

See notes on page 13.

TABLE 2
RACER Trust - Coldwater Road
Post-Closure Monitoring - Historical Analytical Results
Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

Vault	Sample Date	Indicator Parameters					Dissolved Metals (µg/L)				Inorganics (mg/L)						
		TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
		EGL&E Residential Drinking Water Criteria & RBSLs					100 (A)	1,000 (F-1)	100 (A)	2,400							
B-23D	6/21/1995	3.4	<10	7.27	680	15.1	<20	<20	<30	<20	--	--	--	--	--	--	--
	9/31/1995	3.9	96	8.24	845	15.4	<20	<20	<40	<20	--	--	--	--	--	--	--
	2/9/1996	3.8	34	7.54	751	11.3	<20	<20	<40	<20	--	--	--	--	--	--	--
	6/19/1996	2.2	<100	8.25	632	14.2	<20	<20	<20	<20	--	--	--	--	--	--	--
	8/21/1996	1.7	<5	8.94	691	14.6	<20	<20	<20	50	--	--	--	--	--	--	--
	11/13/1996	40.0	<5	7.66	977	7.6	<20	<20	<20	40	--	--	--	--	--	--	--
	5/6/1997	2.0	<100	6.80	610	11.0	<10	<10	9	<10	--	--	--	--	--	--	--
	11/6/1997	3.0	<100	6.00	620	10.0	<10	<10	31	<10	160	15	--	2	<0.005	<0.020	25
	5/4/1998	2.0	<5	6.38	558	12.2	<10	<10	<5	<10	--	--	--	--	--	--	--
	11/5/1998	5.0	<10	6.50	639	9.8	<10	<10	<5	70	<10	<5	29,700	--	--	--	--
12/23/1998	--	--	--	--	--	--	--	--	--	--	--	--	2	<0.005	<0.020	21	
4/26/1999	3.6	<100	8.10	552	13.3	<10	<10	<5	<10	--	--	--	--	--	--	--	
4/26/1999	3.0	<100	NS	NS	NS	<10	<10	<5	<10	--	--	--	--	--	--	--	
11/5/1999	3.4	<100	7.40	546	13.3	<10	<10	<5	<10	80	14	34,700	3	<0.005	<0.020	26	
11/5/1999	3.1	<100	NS	NS	NS	<10	<10	<5	<10	90	15	33,300	3	<0.005	<0.020	25	
4/26/2000	3.2	<100	7.90	800	13.7	<10	<10	<5	<10	--	--	--	--	--	--	--	
12/8/2000	2.0	<10	6.99	570	7.0	<10	<10	7	<10	60	--	35,400	2	<0.005	<0.020	22	
5/15/2001	3.2	<100	7.88	790	13.1	<10	<10	<5	10	--	--	--	--	--	--	--	
10/17/2001	1.8	<100	7.46	600	11.3	<10	<10	<5	<10	170	--	32,800	2	<0.005	<0.020	23	
5/16/2002	5.4	<100	7.19	1200	11.2	<10	<10	<5	10	--	--	--	--	--	--	--	
11/7/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
6/3/2003	3.9	<30	6.86	640	12.9	<5	<5	<5	<5	--	--	--	--	--	--	--	
6/3/2003	3.7	<30	--	--	--	<5	<5	<5	<5	--	--	--	--	--	--	--	
11/13/2003	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
6/30/2004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
12/10/2004	2.0	<30	6.66	640	11.3	<5	<5	11	10	500	65	30,500	2	<0.005	<0.010	25	
6/7/2005	2.0	<30	7.34	594	12.2	<5	<5	<5	<5	2,520	49	20,600	25	<0.005	<0.010	60	
6/7/2005	2.0	<30	--	--	--	<5	<5	<5	<5	2,580	48	20,600	25	<0.005	<0.010	59	
12/8/2005	3.8	<30	6.22	700	6.1	7	<4	<5	<10	370	60	39,200	--	--	--	--	
6/27/2006	1.2	<30	7.12	760	13.4	5	<4	<5	5	2,280	50	20,500	26	<0.005	0.010	67	
11/30/2006	2.2	<30	7.56	568	11.8	<5	<4	<5	6	--	--	--	--	--	--	--	
6/8/2007	1.1	33.7	6.49	736	13.1	7	1	1	5	1,100	43	23,800	28	<0.005	<0.010	62	
11/16/2007	<1	<30	7.28	780	21.4	2	1	3	8	--	--	--	--	--	--	--	
6/26/2008	2.0	27.2	7.00	753	18.2	<5	1	<5	<5	1,850	44	23,700	22	<0.005	<0.010	54	
11/21/2008	<1	<30	6.74	763	6.0	<5	<1	<5	19	--	--	--	--	--	--	--	
6/25/2009	<1	<30	6.73	776	18.9	<5	<1	<5	<5	1,500	43	23,900	29	<0.005	<0.010	63	
11/18/2009	2	<30	7.22	756	11.9	<5	<4	<5	10	--	--	--	--	--	--	--	
6/16/2010	2	<30	7.36	747	18.2	<5	<4	<5	<5	950	35	23,200	20	<0.005	<0.020	45	
11/11/2010	2	21.5	7.28	743	12.8	11	<4	<5	<5	--	--	--	--	--	--	--	
11/11/2010	2	<30	7.28	742	12.8	11	<4	<5	<5	--	--	--	--	--	--	--	
6/21/2011	1.2	<30	7.33	721	18.0	8	<4	<5	<5	1,520	37	22,400	22	<0.005	<0.010	48	
6/21/2011	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	--	
11/15/2011	1	49	7.19	721	13.1	<5	<4	<5	8	--	--	--	--	--	--	--	
6/26/2012	1	<40	6.78	748	12.7	<5	<4	<5	<5	1,810	42	25,100	25	<0.005	<0.02	50	
12/5/2012	1.6	<40	6.63	755	9.6	<5	<4	<5	7	--	--	--	--	--	--	--	
6/3/2013	1.4	14	7.06	720	15.4	<5	<4	<5	<5	980	32	23,500	20	<0.005	<0.02	44	
11/5/2013	1.4	4	7.32	746	12.6	<5	<4	<5	28	--	--	--	--	--	--	--	
6/25/2014	3.0	<30	7.31	746	13.9	<5	<5	6	5	970	36	10,900	26	<0.005	0.025	51	
6/24/2015	1.9	<30	7.16	747	14.9	<5	<5	<5	<5	1,370	39	24,300	22	<0.005	<0.02	47	
6/22/2016	1.5	60	7.10	788	14.6	<5	<5	<5	<5	1,600	38	23,500	30	<0.005	<0.02	54	
6/21/2017	1.5	<30	7.41	844	12.8	<5	<5	<5	<5	400	45	27,300	38	<0.005	<0.02	64	
6/14/2018	1.3	<60	6.92	855	15.9	<5	<5	<5	<5	2,320	53	30,100	43	<0.005	<0.02	65	
6/4/2019	2.6	<150	7.61	803	12.3	<5	<5	<5	<5	830	42	28,300	44	<0.004	<0.02	71	
6/16/2020	2.7	<40	7.51	822	15.0	<5	<5	<5	<5	1,840	42	28,200	40	<0.004	<0.02	68	

See notes on page 13.

TABLE 2
RACER Trust - Coldwater Road
Post-Closure Monitoring - Historical Analytical Results
Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

Vault	Sample Date	Indicator Parameters					Dissolved Metals (µg/L)				Inorganics (mg/L)						
		TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
		EGL&E Residential Drinking Water Criteria & RBSLs					100 (A)	1,000 (F)	100 (A)	2,400							
B-24	6/21/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/31/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/9/1996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/19/1996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/21/1996	5.6	<5	7.80	1,502	12.7	<20	<20	<20	90	--	--	--	--	--	--	--
	11/13/1996	20.0	<5	7.09	2,030	7.8	<20	<20	<20	50	--	--	--	--	--	--	--
	5/6/1997	5.0	<100	6.40	1,700	10.0	<10	<10	31	10	--	--	--	--	--	--	--
	11/6/1997	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/4/1998	4.0	<5	6.52	1,410	11.6	<10	<10	8	20	--	--	--	NS	NS	NS	NS
	11/5/1998	4.0	23	5.50	1,595	10.4	<10	<10	9	20	60	120	27,700	--	--	--	--
	12/23/1998	--	--	--	--	--	--	--	--	--	--	--	--	163	<0.005	<0.020	205
	4/26/1999	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--
11/5/1999	NS	NS	7.20	1,152	13.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
4/26/2000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
12/8/2000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
5/15/2001	NS	NS	6.40	1,450	12.9	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	
10/17/2001	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
5/16/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	
11/7/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
6/3/2003	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	
11/13/2003	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
6/30/2004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	
12/9/2004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
6/7/2005	8.0	<30	7.27	857	10.6	8	<5	<5	<5	10,600	448	27,100	49	<0.005	<0.010	206	
12/8/2005	6.6	<30	5.16	1,120	11.9	11	<4	<5	10	3,180	210	28,700	--	--	--	--	
6/28/2006	4.7	<30	7.31	1,080	11.9	6	<4	<5	<5	3,760	210	27,700	48	<0.005	<0.010	182	
11/30/2006	4.8	30	7.31	1,100	11.7	6	<4	<5	<5	--	--	--	--	--	--	--	
6/4/2007	4.5	110	7.19	1,080	11.0	9	2	2	19	2,400	194	27,900	47	<0.005	<0.010	184	
11/13/2007	4.1	30.1	7.13	1,130	14.0	3	1	5	7	--	--	--	--	--	--	--	
6/26/2008	4.3	<30	6.99	1,130	19.0	<5	1	<5	8	3,490	175	39,600	46	<0.005	<0.010	189	
11/18/2008	3.8	<30	6.76	1,125	5.3	<5	<1	<5	<5	--	--	--	--	--	--	--	
6/24/2009	5.2	<30	6.62	1,120	17.4	<5	<1	<5	<5	4,000	155	38,400	48	<0.005	<0.010	201	
11/18/2009	5	86.4	7.08	1,140	12.9	<5	<4	<5	<5	--	--	--	--	--	--	--	
6/16/2010	4	22.7	7.02	1,150	16.3	<5	<4	<5	<5	1,880	222	39,500	46	<0.005	<0.020	196	
11/9/2010	5	26.8	6.90	1,136	13.5	11	<4	<5	<5	--	--	--	--	--	--	--	
6/21/2011	3.7	<30	7.11	1,136	17.5	10	<4	<5	<5	1,130	255	51,700	45	<0.005	<0.010	206	
Duplicate	6/21/2011	3.7	<30	7.11	1,137	17.5	8	<4	6	<5	1,070	255	52,000	45	<0.005	<0.010	206
Replicate	6/21/2011	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	
Dup. Replicate	6/21/2011	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	
6/21/2011	--	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	
11/16/2011	4	24	7.69	1,141	11.1	<5	<4	<5	<5	--	--	--	--	--	--	--	
6/26/2012	3.5	16	6.80	1,219	13.7	<5	<4	<5	<5	1,200	242	72,000	45	<0.005	<0.02	219	
12/6/2012	4.2	48	6.98	1,204	10.2	<5	<4	<5	6	--	--	--	--	--	--	--	
6/3/2013	4	4.8	7.19	1,127	11.4	<5	<4	<5	<5	110	130	38,600	45	<0.005	<0.02	227	
11/5/2013	4	5.5	7.16	1,203	12.6	<5	<4	<5	<5	--	--	--	--	--	--	--	
Duplicate	11/5/2013	4	<10	7.16	1,203	12.6	<5	<4	<5	--	--	--	--	--	--	--	
6/24/2014	3.7	16	7.10	1,202	13.9	<5	8	8	9	60	238	24,300	45	<0.005	<0.02	243	
Duplicate	6/24/2014	3.7	16	7.10	1,201	13.9	<5	<5	7	8	231	25,000	46	<0.005	<0.02	240	
11/19/2014	3.9	21	6.98	1,290	5.44	<5	<4	11	<5	--	--	--	--	--	--	--	
6/24/2015	3.5	<30	7.03	1,235	15.4	<5	<5	7	<5	<20	240	59,600	44	<0.005	<0.02	261	
11/18/2015	3.6	19	7.03	1,234	12.9	<5	<5	5	<5	--	--	--	--	--	--	--	
Duplicate	11/18/2015	3.5	18	7.03	1,233	12.9	<5	<5	6	7	--	--	--	--	--	--	
6/23/2016	3.2	11.0	6.88	1,275	15.0	<5	<5	<5	<5	320	210	67,800	45	<0.005	<0.02	245	
11/29/2016	3.4	12	7.19	1,220	10.7	<5	<5	<5	<5	--	--	--	--	--	--	--	
6/20/2017	3.1	14	7.10	1,307	11.4	<5	<5	<5	<5	<20	74	74,400	48	<0.005	<0.02	246	
11/7/2017	3.4	<30	7.09	1,231	11.3	<5	<5	<5	<5	--	--	--	--	--	--	--	
6/12/2018	2.9	<60	7.07	1,280	11.4	<5	<5	<5	7	100	64	64,500	47	<0.005	<0.02	240	
11/7/2018	3.7	<150	7.22	1,269	11.0	<5	<5	<5	<5	--	--	--	--	--	--	--	
5/30/2019	4.7	<150	7.17	1,161	11.2	<5	<5	<5	13	540	108	70,100	46	<0.004	<0.02	249	
11/21/2019	4.0	59	7.26	1,216	11.8	<5	<5	<5	7	--	--	--	--	--	--	--	
6/17/2020	5.4	<40	7.38	1,125	14.9	<5	<5	<5	6	70	44	62,600	49	<0.004	<0.02	271	

See notes on page 13.

TABLE 2
RACER Trust - Coldwater Road
Post-Closure Monitoring - Historical Analytical Results
Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

Vault	Sample Date	Indicator Parameters					Dissolved Metals (µg/L)					Inorganics (mg/L)						
		TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate	
		<i>EGLR Residential Drinking Water Criteria & RSLs</i>					<i>100 (A)</i>	<i>1,000 (F)</i>	<i>100 (A)</i>	<i>2,400</i>								
B-27D	12/8/2005	3.7	<30	5.14	714	4.8	9	<4	6	<10	240	140	34,200	--	--	--	--	
	6/27/2006	1.3	<30	7.11	644	13.5	6	<4	7	6	1,050	110	32,300	--	--	--	--	
	11/30/2006	<1	<30	7.49	540	11.7	<5	<4	<5	6	--	--	--	--	--	--	--	
	6/8/2007	4	25.7	6.58	628	14.6	9	2	3	36	1,520	58	36,300	4	<0.005	<0.010	23	
	11/15/2007	1.9	<30	7.33	649	11.6	2	1	5	32	--	--	--	--	--	--	--	
	6/26/2008	1.7	<30	7.05	659	16.3	<5	<1	<5	<5	300	59	33,900	2	<0.005	<0.010	23	
	11/21/2008	1.3	<30	6.81	667	6.6	<5	<1	<5	<5	--	--	--	--	--	--	--	
	6/25/2009	<1	<30	6.79	651	16.5	<5	1	<5	<5	2,030	52	37,200	2	<0.005	<0.010	20	
	11/18/2009	2	<30	7.29	653	11.2	<5	<4	<5	<5	--	--	--	--	--	--	--	
	6/15/2010	2	<30	7.41	646	15.7	<5	<4	<5	<5	1,250	36	32,200	2	<0.005	<0.020	19	
	Duplicate	6/15/2010	2	31.2	7.41	652	15.7	<5	<4	<5	1,220	35	31,700	2	<0.005	<0.020	20	
		11/9/2010	2	<30	7.18	651	13.3	10	<4	<5	<5	--	--	--	--	--	--	
	Replicate	6/21/2011	1.5	<30	7.47	640	15.6	9	<4	<5	<5	1,370	29	34,600	<5	<0.005	<0.010	19
		6/21/2011	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	
		11/15/2011	1	34	7.22	652	12.1	<5	<4	6	8	--	--	--	--	--	--	
		6/26/2012	1.5	<40	7.17	653	13.0	<5	<4	<5	<5	1,450	28	34,200	<5	<0.005	<0.02	20
	12/5/2012	1.7	<40	6.79	654	11.0	<5	<4	<5	10	--	--	--	--	--	--		
	6/3/2013	1.5	4.3	8.34	645	12.1	<5	<4	<5	<5	1,670	29	32,500	<5	<0.005	<0.02	21	
	11/5/2013	1.8	<10	7.37	640	12.0	<5	<4	<5	28	--	--	--	--	--	--		
	6/24/2014	1.9	<30	7.40	637	16.0	<5	<5	<5	<5	680	34	15,800	<5	<0.005	<0.02	18	
	6/22/2015	1.8	<30	7.20	635	14.2	<5	<5	<5	<5	710	27	34,100	<5	<0.005	<0.02	18	
	6/22/2016	1.6	30	7.20	640	14.1	<5	<5	<5	<5	930	20	33,200	<5	<0.005	<0.02	15	
	6/20/2017	1.4	<30	7.40	642	14.7	<5	<5	<5	<5	1,220	43	35,600	<5	<0.005	<0.02	17	
	6/12/2018	1.7	<60	7.16	667	12.6	<5	<5	<5	6	1,380	33	43,700	<5	<0.005	<0.02	16	
	6/4/2019	3.5	<150	7.61	638	12.4	<5	<5	<5	<5	1,040	32	47,500	<5	<0.004	<0.02	15	
	6/17/2020	3.4	<40	7.67	622	12.6	<5	<5	<5	<5	1,180	28	35,700	<10	<0.004	<0.02	17	

See notes on page 13.

TABLE 2
RACER Trust - Coldwater Road
Post-Closure Monitoring - Historical Analytical Results
Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

Vault	Sample Date	Indicator Parameters					Dissolved Metals (µg/L)				Inorganics (mg/L)						
		TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
		<i>EGLR Residential Drinking Water Criteria & RSLs</i>					<i>100 (A)</i>	<i>1,000 (F)</i>	<i>100 (A)</i>	<i>2,400</i>							
Duplicate	11/21/2005	--	--	6.21	994	12.3	--	--	--	<5	--	--	--	--	--	--	--
	11/21/2005	--	--	6.21	--	12.3	--	--	7	--	--	--	--	--	--	--	--
	6/27/2006	3	<30	7.12	828	13.2	5	<4	<5	18	2,380	210	17,000	--	--	--	--
	12/1/2006	2.4	<30	7.48	812	12.3	<5	<4	<5	5	--	--	--	--	--	--	--
Duplicate	12/1/2006	3.3	<30	7.48	810	12.3	<5	<4	<5	5	--	--	--	--	--	--	--
B-28	6/5/2007	2.1	<30	6.84	845	10.6	9	2	3	6	1,690	160	25,100	12	<0.005	<0.010	87
	11/15/2007	2.5	15	6.81	816	9.1	3	2	5	11	--	--	--	--	--	--	--
	6/27/2008	1.8	<30	6.87	840	17.6	<5	1	<5	5	370	84	16,300	10	<0.005	<0.010	88
	11/19/2008	1.1	<30	6.75	804	7.0	<5	<1	<5	<5	--	--	--	--	--	--	--
	6/24/2009	1.1	<30	6.96	822	19.5	<5	<1	<5	<5	204	132	14,600	10	<0.005	<0.010	84
	11/18/2009	2	<30	6.94	814	11.6	<5	<4	<5	20	--	--	--	--	--	--	--
	6/16/2010	2	<30	7.02	841	17.6	<5	<4	<5	<5	790	173	19,100	12	<0.005	<0.020	78
	11/10/2010	3	<30	7.05	813	13.3	18	<4	<5	<5	--	--	--	--	--	--	--
	6/21/2011	1.5	<30	7.23	837	14.1	9	<4	5	<5	1,380	130	23,400	12	<0.005	<0.010	80
Replicate	6/21/2011	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	--
	11/15/2011	2	160	7.17	823	12.5	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/26/2012	2	<40	6.45	849	13.0	<5	<4	<5	<5	1,960	84	29,800	12	<0.005	<0.02	80
Duplicate	12/6/2012	1.6	<40	7.25	823	11.4	<5	<4	<5	<5	--	--	--	--	--	--	--
	12/6/2012	1.7	<40	7.25	823	11.4	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/3/2013	1.5	10	6.88	834	13.1	<5	<4	5	<5	1,310	111	26,000	12	<0.005	<0.02	87
	11/5/2013	1.6	<10	7.26	842	12.9	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/24/2014	1.5	<30	7.03	852	12.2	<5	9	<5	<5	1,490	53	15,400	12	<0.005	<0.02	89
Replicate	7/28/2014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/19/2014	1.6	<50	7.05	844	7.48	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/22/2015	1.5	<30	7.04	860	13.4	<5	<5	<5	<5	3,330	53	37,100	11	<0.005	<0.02	92
	11/18/2015	1.6	<30	7.13	849	13.8	<5	<5	<5	6	--	--	--	--	--	--	--
	6/24/2016	1.6	49	7.18	866	15.0	<5	<5	<5	<5	4,960	53	45,800	11	<0.005	<0.02	92
	11/29/2016	1.5	<30	7.27	853	12.6	<5	<5	<5	<5	--	--	--	--	--	--	--
Duplicate	11/29/2016	1.5	16	7.27	860	12.6	<5	<5	<5	<5	--	--	--	--	--	--	--
	6/20/2017	1.6	18	7.05	863	11.4	<5	<5	<5	<5	80	35	30,000	13	<0.005	<0.02	106
	11/7/2017	1.6	<30	7.11	859	12.5	<5	<5	<5	<5	--	--	--	--	--	--	--
Duplicate	11/7/2017	1.5	<30	7.11	867	12.5	<5	<5	<5	<5	--	--	--	--	--	--	--
	6/12/2018	1.6	<60	7.09	839	12.2	<5	<5	<5	<5	60	27	14,600	12	<0.005	<0.02	100
	11/7/2018	1.5	<150	7.37	880	11.8	<5	<5	<5	<5	--	--	--	--	--	--	--
Duplicate	11/7/2018	1.6	<150	7.37	880	11.8	<5	<5	<5	<5	--	--	--	--	--	--	--
	5/29/2019	3.4	<150	7.39	803	11.0	<5	<5	<5	<5	50	84	16,200	13	<0.004	<0.02	118
Duplicate	11/21/2019	2.1	<40	7.34	839	12.2	<5	<5	<5	<5	--	--	--	--	--	--	--
	6/16/2020	2.8	41	7.38	862	14.4	<5	<5	<5	<5	110	74	14,200	13	<0.004	<0.02	142

See notes on page 13.

TABLE 2
RACER Trust - Coldwater Road
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Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

Vault	Sample Date	Indicator Parameters					Dissolved Metals (µg/L)				Inorganics (mg/L)						
		TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
		EGL Residential Drinking Water Criteria & RBSLs					100 (A)	1,000 (E)	100 (A)	2,400							
Equipment Blank	12/10/2004	<1	<30	--	--	--	<5	<5	<5	11	<20	13	810	<2	<0.005	<0.010	<2
	6/9/2005	<1	<30	--	--	--	<5	<5	<5	<5	<20	<5	120	<5	<0.005	<0.010	<5
	12/8/2005	<1	<30	--	5	--	<5	<4	<5	<10	<100	<20	<1000	--	--	--	--
	6/28/2006	<1	<30	--	12	--	<5	<4	<5	<5	<100	<20	<1000	<1	<0.005	<0.010	<1
	12/1/2006	<1	<30	--	26	--	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/8/2007	<1	26	--	13	--	<5	1	1	13	<20	11	340	<2	<0.005	<0.010	<2
	11/15/2007	<1	<30	--	4	--	<5	1	1	9	--	--	--	--	--	--	--
	6/26/2008	<1	<30	--	3	--	<5	1	<5	<5	100	7	420	<2	<0.005	<0.010	<2
	11/19/2008	<1	<30	--	6	--	<5	1	<5	<5	--	--	--	--	--	--	--
	6/25/2009	<1	<30	--	24	--	<5	<1	<5	<5	110	<5	200	<2	<0.005	<0.010	<2
	11/19/2009	0.7	<30	--	5	--	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/17/2010	0.4	<30	--	4	--	<5	<4	<5	<5	<20	<5	<200	<2	<0.005	<0.020	<2
	11/11/2010	1	<30	--	1.2	--	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/22/2011	0.88	<30	--	3	--	<5	<4	<5	<5	<20	<5	460	<2	<0.005	<0.010	<2
	11/16/2011	<1	4.9	--	1,330	--	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/27/2012	<1	<20	--	3	--	<5	<4	<5	13	50	<5	6350	<2	<0.005	<0.02	<2
	12/6/2012	<1	<40	--	17.0	--	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/6/2013	<1	<10	--	1,370	--	<5	<4	<5	<5	<20	<5	<500	<2	<0.005	<0.02	<2
	11/6/2013	<1	<10	--	2,350	--	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/24/2014	<1	<30	--	1,930	--	<5	<5	<5	<5	<20	<5	<1000	<2.5	<0.005	<0.02	<2.5
6/24/2015	<1	<30	--	4.09	--	<5	<5	<5	<5	<20	<5	140	<2	<0.005	<0.02	<2	
6/24/2016	<1	6.2	--	2,220	--	<5	<5	<5	<5	<20	<5	<500	<2.5	<0.005	<0.02	<2	
6/22/2017	<1	<30	--	5,780	--	<5	<5	<5	<5	<20	<5	<200	<5	<0.005	<0.02	<5	
11/7/2017	<1	<30	--	7.07	--	<5	<5	<5	<5	--	--	--	--	--	--	--	
6/14/2018	1.2	<60	--	28.8	--	<5	<5	<5	<5	<20	<5	<250	<2.5	<0.005	<0.02	<2.5	
6/3/2019	<1	<150	--	2.63	--	<5	<5	<5	<5	<20	<5	530	<2.5	<0.004	<0.02	<2.5	
6/18/2020	<1	<40	--	3.31	--	<5	<5	<5	<5	<20	<5	<500	<2.5	<0.004	<0.02	<2.5	

Notes
 1) < = Not detected.
 2) NS = Not sampled, insufficient liquid encountered.
 3) NR = No Result, insufficient sample volume.
 4) T = Temperature in degrees Celsius.
 5) -- = Not analyzed.
 6) Dup = Duplicate sample.
 Exceeds MDEQ Residential Drinking Water Criteria
 7) A = Criterion is the state of Michigan drinking water standard established pursuant to Section 5 of 1976 PA 399, MCL 325.1005.
 8) E = Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA)



TABLE 3
RACER Trust - Coldwater Road
Post-Closure Monitoring-Analytical Results
Volatile Organics (VOCs)

Parameter	Sample ID & Sample Date							
	B-7 18-Jun-20	B-9 17-Jun-20	B-18A 18-Jun-20	B-18A (Dup-1) 18-Jun-20	B-19AR 18-Jun-20	B-20D 18-Jun-20	B-21D 17-Jun-20	B-22D 17-Jun-20
Diethyl ether	<10	<10	<10	<10	<10	<10	<10	<10
Acetone	<50	<50	<50	<50	<50	<50	<50	<50
Methyl iodide	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide	<5	<5	<5	<5	<5	<5	<5	<5
tert-Methyl butyl ether (MTBE)	<5	<5	<5	<5	<5	<5	<5	<5
Acrylonitrile	<2	<2	<2	<2	<2	<2	<2	<2
2-Butanone	<25	<25	<25	<25	<25	<25	<25	<25
Dichlorodifluoromethane	<5	<5	<5	<5	<5	<5	<5	<5
Chloromethane	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	<5	<5	<5	<5	<5	<5	<5	<5
Chloroethane	<5	<5	<5	<5	<5	<5	<5	<5
Trichlorofluoromethane	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	<5	<5	<5	<5	<5	<5	<5	<5
trans-1,2-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1
Tetrahydrofuran	<90	<90	<90	<90	<90	<90	<90	<90
Chloroform	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1
4-Methyl-2-pentanone	<50	<50	<50	<50	<50	<50	<50	<50
2-Hexanone	<50	<50	<50	<50	<50	<50	<50	<50
Carbon tetrachloride	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	<5	<5	<5	<5	<5	<5	<5	<5
cis-1,3-Dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dibromoethane	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1
p,m-Xylene	<2	<2	<2	<2	<2	<2	<2	<2
o-Xylene	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene	<5	<5	<5	<5	<5	<5	<5	<5
Bromoform	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	<1	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	<5	<5	<5	<5	<5	<5	<5	<5
1,3-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1
Hexachloroethane	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dibromo-3-chloropropane	<5	<5	<5	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5
1,2,3-Trichlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5
Napthalene	<5	<5	<5	<5	<5	<5	<5	<5
2-Methylnapthalene	<5	<5	<5	<5	<5	<5	<5	<5

Notes: ** Elevated reporting limit due to high target concentration.
 EPA Method 8260 used for analysis.
 Dup- Duplicate analysis
 Analysis in µg/L

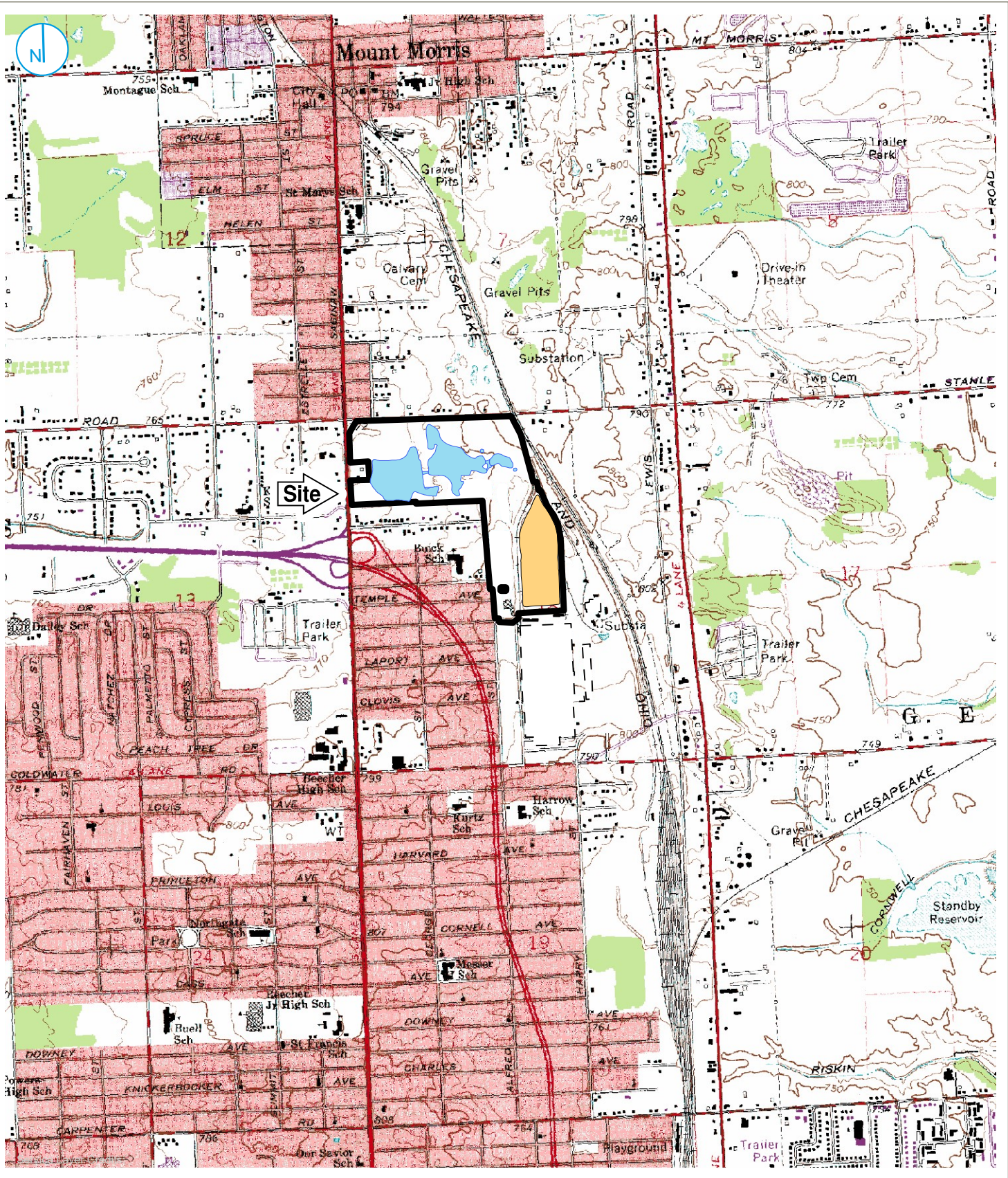


TABLE 3
RACER Trust - Coldwater Road
Post-Closure Monitoring-Analytical Results
Volatile Organics (VOCs)

Parameter	Sample ID & Sample Date					Equipment	Trip Blank	Trip Blank
	B-23DR 16-Jun-20	B-24R 17-Jun-20	B-27D 17-Jun-20	B-28 16-Jun-20	OBG MW-16D 18-Jun-20	Blank-1 18-Jun-20	061720 17-Jun-20	061820 18-Jun-20
Diethyl ether	<10	<10	<10	<10	<10	<10	<10	<10
Acetone	<50	<50	<50	<50	<50	<50	<50	<50
Methyl iodide	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide	<5	<5	<5	<5	<5	<5	<5	<5
tert-Methyl butyl ether (MTBE)	<5	<5	<5	<5	<5	<5	<5	<5
Acrylonitrile	<2	<2	<2	<2	<2	<2	<2	<2
2-Butanone	<25	<25	<25	<25	<25	<25	<25	<25
Dichlorodifluoromethane	<5	<5	<5	<5	<5	<5	<5	<5
Chloromethane	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	<5	<5	<5	<5	<5	<5	<5	<5
Chloroethane	<5	<5	<5	<5	<5	<5	<5	<5
Trichlorofluoromethane	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	<5	<5	<5	<5	<5	<5	<5	<5
trans-1,2-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1
Tetrahydrofuran	<90	<90	<90	<90	<90	<90	<90	<90
Chloroform	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1
4-Methyl-2-pentanone	<50	<50	<50	<50	<50	<50	<50	<50
2-Hexanone	<50	<50	<50	<50	<50	<50	<50	<50
Carbon tetrachloride	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	<5	<5	<5	<5	<5	<5	<5	<5
cis-1,3-Dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dibromoethane	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1
p,m-Xylene	<2	<2	<2	<2	<2	<2	<2	<2
o-Xylene	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene	<5	<5	<5	<5	<5	<5	<5	<5
Bromoform	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	<1	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	<5	<5	<5	<5	<5	<5	<5	<5
1,3-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1
Hexachloroethane	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dibromo-3-chloropropane	<5	<5	<5	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5
1,2,3-Trichlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5
Napthalene	<5	<5	<5	<5	<5	<5	<5	<5
2-Methylnapthalene	<5	<5	<5	<5	<5	<5	<5	<5

Notes: ** Elevated reporting limit due to high target concentration.
 EPA Method 8260 used for analysis.
 Dup- Duplicate analysis
 Analysis in µg/L

FIGURES



KEY MAP

Map Scale: 1:1,24,000;
Map Center: 83°41'9"W 43°5'51"N



SITE LOCATION

FIGURE 01

O'BRIEN & GERE ENGINEERS, INC.
A RAMBOLL COMPANY

Racer Trust
Coldwater Road Landfill Facility
Flint, Michigan



PROJECT: 169000XXXXX | DATED: 8/11/2020 | DESIGNER: MONETANT
 I:\Racer-Trust_1538875178_Coldwater-2020\Docs\Reports\GW_Monitoring\Semi-Annual June 2020\Figures\002- Figure 2 GW_Report_Site_Layout_AUG_2020_08112020.mxd



- MONITORING WELL
- LEACHATE COLLECTION SUMP
- ACCESS PORT FOR LEAK DETECTION VAULT
- PROPERTY BOUNDARY
- FORMER BUILDING



SITE LAYOUT

Racer Trust
 Coldwater Road Landfill Facility
 Flint, Michigan

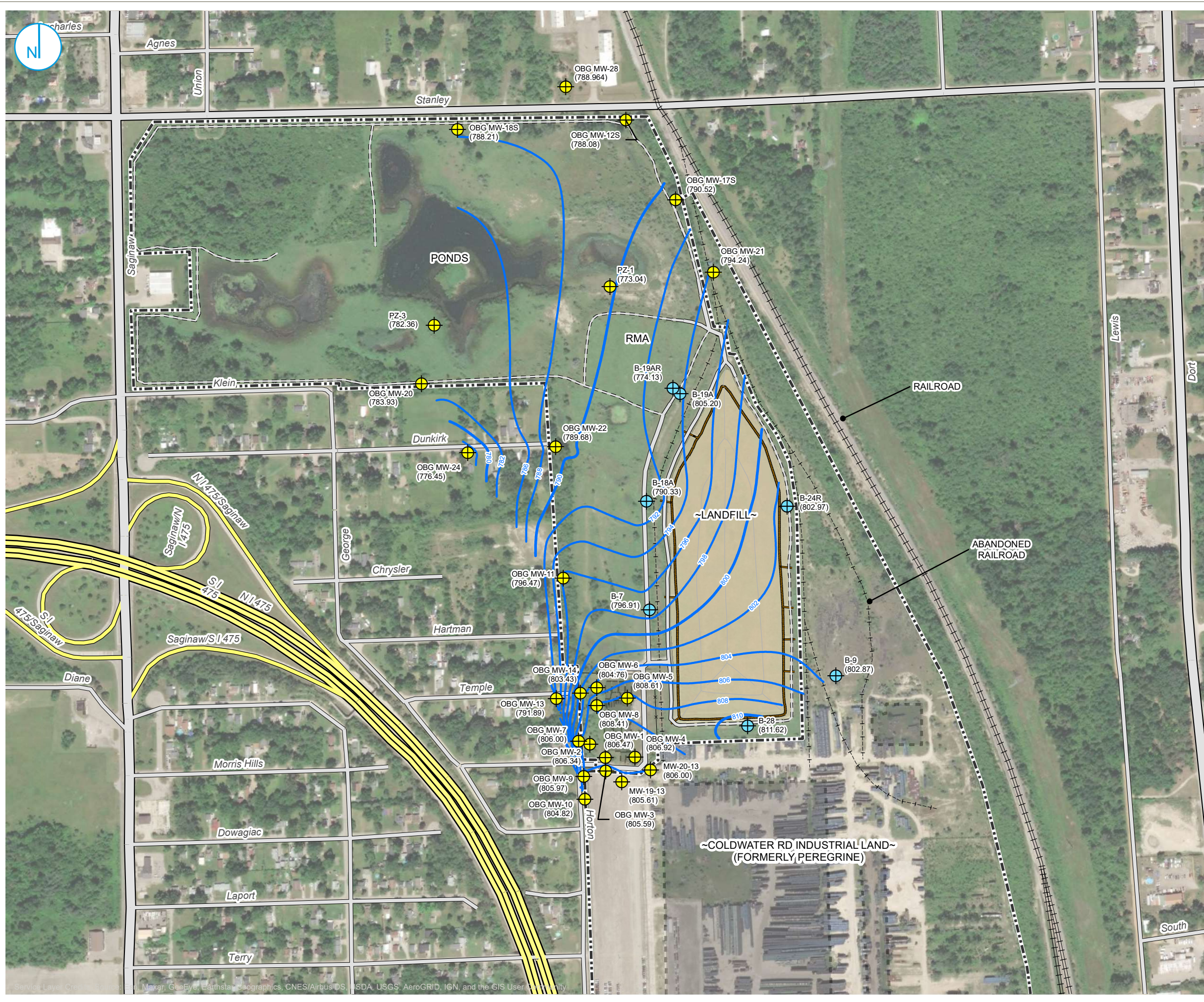
FIGURE 02

O'BRIEN & GERE ENGINEERS, INC.
 A RAMBOLL COMPANY



Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus D.S., USDA, USGS, AeroGRID, IGN, and the GIS User Community

I:\Racer-Trust\15388\75178_Coldwater-2020\Docs\Reports\GW Monitoring\Semi-Annual June 2020\Figures\003- Figure 3- GW_Elevations_Perched_AUG_20200811 2020.mxd



- MONITORING WELL / PIEZOMETER
- ADDITIONAL SITE MONITORING WELL
- GROUNDWATER CONTOUR (JUNE 15, 2020)
- PROPERTY BOUNDARY
- FORMER BUILDING
- (800.93) GROUNDWATER ELEVATION

NOTES
 THE GROUNDWATER ELEVATION FOR MONITORING WELL B-19A WAS NOT USED IN DEVELOPING THE GROUNDWATER POTENTIOMETRIC SURFACE DUE TO THE DEPTH OF THIS WELL AND VERTICAL GRADIENTS AT THE SITE.

THE ADDITIONAL SITE MONITORING WELLS WERE USED IN THE CREATION OF THE GROUNDWATER CONTOURS BUT ARE NOT PART OF THE LANDFILL MONITORING PROGRAM.



SHALLOW GROUNDWATER ELEVATION MAP
 JUNE 15, 2020

Racer Trust
 Coldwater Road Landfill Facility
 Flint, Michigan

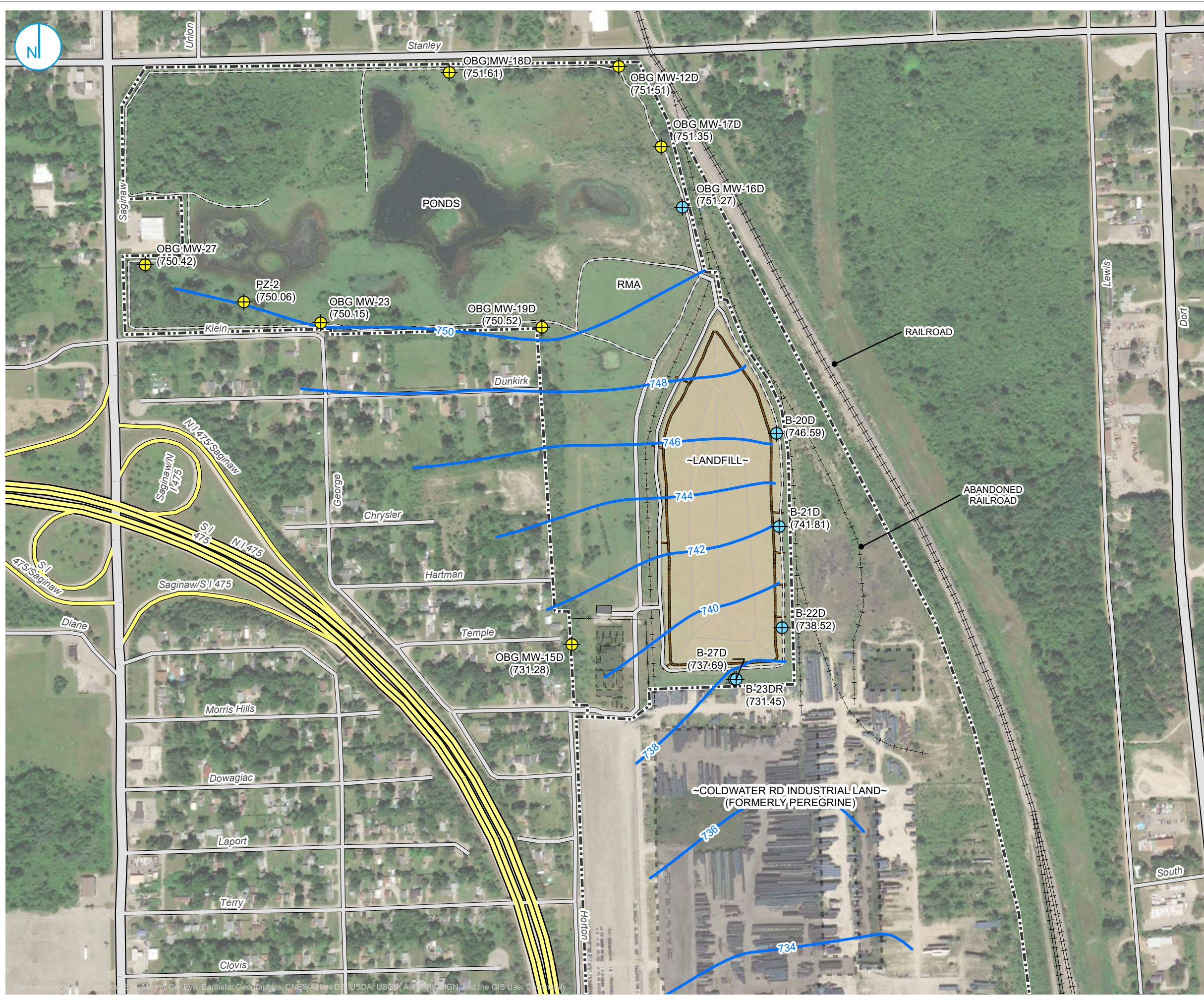
FIGURE 03

O'BRIEN & GERE ENGINEERS, INC.
 A RAMBOLL COMPANY



Service Layer Credits: Esri, DeLorme, GeoEye, Earthstar, Geographic, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

PROJECT: 169000XXXX | DATED: 8/12/2020 | DESIGNER: MONETANT
 I:\Racer-Trust\15388\75178.Coldwater-2020\Docs\Reports\GW Monitoring\Semi-Annual June 2020\Figures\004- Figure 4 - Drift GWE AUG_2020_08122020.mxd



- MONITORING WELL / PIEZOMETER
 - ADDITIONAL SITE MONITORING WELL
 - GROUNDWATER CONTOUR (JUNE 15, 2020)
 - PROPERTY BOUNDARY
 - FORMER BUILDING
- (800.93) GROUNDWATER ELEVATION

NOTES
 THE GROUNDWATER ELEVATIONS FOR MONITORING WELLS B-23DR AND OBG MW-15D WERE NOT USED IN DEVELOPING THE GROUNDWATER POTENTIOMETRIC SURFACE DUE TO THE DEPTH OF THESE WELLS AND APPARENT VERTICAL GRADIENT WITHIN THE DRIFT AQUIFER.

THE ADDITIONAL SITE MONITORING WELLS WERE USED IN THE CREATION OF THE GROUNDWATER CONTOURS BUT ARE NOT PART OF THE LANDFILL MONITORING PROGRAM.



DRIFT AQUIFER GROUNDWATER ELEVATION MAP
 JUNE 15, 2020

Racer Trust
 Coldwater Road Landfill Facility
 Flint, Michigan

FIGURE 04

O'BRIEN & GERE ENGINEERS, INC.
 A RAMBOLL COMPANY



Service Layer Credits: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

APPENDIX A SAMPLING PROCEDURES

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1 Introduction

This procedure is for the collection of groundwater samples for laboratory analysis. The objective of most groundwater quality monitoring programs is to obtain samples that are representative of existing groundwater conditions, or samples that retain the physical and chemical properties of the groundwater within an aquifer.

One of the most important aspects of groundwater sampling is acquiring samples that are free of suspended silt, sediment, or other fine grained particulates. Fine grain materials may often have a variety of chemical components sorbed to the particle or have the ability to sorb chemicals from the aqueous phase to the particle, which will bias the subsequent analytical results.

Constituents known to have an affinity for fine-grained particulates are: polychlorinated biphenyls (PCBs), semi-volatile organic compounds (SVOCs), and inorganics. Monitoring programs where these constituents are suspected or known to be prevalent must employ sampling methods that minimize particulate presence.

The "Low Stress/Low Flow" purging and sampling method will be utilized to purge the well to allow representative water from the formation to replace the standing water within the sampling zone of the well. Experience has shown that the low stress/low flow technique typically achieves representative groundwater samples with minimal particulate interference.

Lastly, in extreme cases "ultra-low flow" techniques have been employed at select sites where low stress/low flow methods were used, yet particulate-sensitive constituents continue to bias the analytical results, or excessive drawdown is produced using standard low stress/low flow methods due to the presence of low permeability materials within a well's screened zone. Ultra-low flow techniques are conducted at purging rates below 100 ml per minute, and should only be utilized after low stress/low flow methods have been attempted (see Section 2.2 for further discussion on the purging of wells prior to sample collection).

2 Procedural Guidelines

The following describes techniques for groundwater sampling: Low Stress/Low Flow Methods. Low stress/low flow methods will be employed when it is critical to collect groundwater samples truly representative of the groundwater present, and to minimize the impact of sediment/colloid presence.

2.1 PREPARATORY REQUIREMENTS

Prior to groundwater sampling, an inspection will be performed on each well. The inspection will include:

- Inspecting the concrete pad for cracks
- Inspecting the protective steel cover
- Inspecting the integrity of the PVC well casing (to the extent possible)
- Inspecting the well caps
- Inspecting the well identification markings to confirm they are legible (if illegible, re-mark)
- Inspecting the locks to assess whether they are in good working condition.

Results of the well inspection will be documented on the Groundwater Sampling Log for each well. If the inspection indicates repairs are required, these will be performed prior to the next sampling event. Corrective actions implemented to repair well(s) will also be documented on the Groundwater Sampling Log and/or the field notebook for the facility.

Groundwater purging and sampling data will be recorded on the Groundwater Sampling Log.

2.2 WELL PURGING AND STABILIZATION MONITORING (LOW STRESS/LOW FLOW METHOD)

The procedure for sampling the monitoring wells is as follows:

- 1) Sampling equipment will first be decontaminated prior to each use by the following protocol:
 - Scrub equipment thoroughly in a low-sudsing detergent solution (e.g., Alconox). Pump low-sudsing detergent solution through submersible pump for approximately 5 minutes, if utilized
 - Rinse equipment thoroughly with distilled water, and pump distilled water through submersible pump, if utilized
 - Wrap equipment in plastic for handling and/or storage until next use
 - Decontamination of disposable tubing, if used, will not be necessary
- 2) Calibrate field instrument and document calibration activity. Calibration shall be performed in accordance with manufacturer's recommendations, and noted on the Groundwater Sampling Log

- 3) An electric water level probe will be used to measure the depth from the top of the casing to the top of water to the nearest 0.01-ft. The measurement will be recorded in a dedicated field notebook and Groundwater Sampling Log
- 4) Measure the depth from the top of casing to the bottom of the well for the initial sampling event
- 5) Slowly lower the pump and/or tubing into the well positioning the pump intake at the mid-point of the well screen taking care to minimize disturbing the well
- 6) During the purging of the well, monitor and record the field indicator parameters (pH, temperature, conductivity, oxidation-reduction (redox) reaction potential (ORP), dissolved oxygen (DO), and turbidity) approximately every 5 minutes. Stabilization is considered achieved when the final groundwater flow rate is achieved, and three consecutive readings for each parameter are within the following limits:

pH	±0.1 pH units for three consecutive readings;
temperature	±3 percent for three consecutive readings;
conductivity	±3 percent for three consecutive readings;
ORP	±10 millivolts (mV) for three consecutive readings;
DO	±10 percent for three consecutive readings; and
Turbidity	±10 percent for three consecutive readings or a final value of less than 5 nephelometric turbidity units (NTU).
- 7) Verify that drawdowns of 0.3 ft or less are maintained and make adjustments as necessary. Record drawdown measurements and note adjustments in pumping rates as necessary on the Groundwater Sampling Log. If drawdowns of 0.3 ft or less cannot be maintained utilize ultra-low flow purge techniques. However, if ultra-low flow purging still results in excessive drawdown, the well will be purged “dry” and allowed to recharge, and the sample will be collected as soon as sufficient water is present to obtain the necessary sample volume
- 8) Obtain a sample for chemical analyses immediately upon stabilization of field parameter measurements. Field filter the sample for dissolved metals using a 0.45-micron filter prior to preserving with acid. Samples are to be collected in the order of volatility as follows: TOC/TOX (or VOCs) and dissolved metals.

If after 2 hours of purging the indicator parameters have not stabilized, as recommended in the USEPA guidance, the purging will be discontinued and the sample will be collected with an explanation of attempts to achieve stabilization.

Either a decontaminated submersible pump or peristaltic pump (for shallow wells only) may be utilized to purge each well. If a submersible pump is utilized in the purging process, then it will be decontaminated prior to and after sampling each well. Sampling equipment must be protected from the

ground surface by a clean plastic sheet laid around the work area. Water from purging will not be containerized.

2.3 SAMPLE PRESERVATION

Sample bottles will be labeled with sample identification, collection date and time, filtration/preservative status. Sample bottles will be filled and capped securely and immediately preserved (if required) and stored at 4 degrees Celsius in a cooler.

The cooler and samples will be prepared for shipment or transport by the following procedure:

- 1) Prepare cooler(s) for shipment.
 - Tape drain(s) of cooler shut
 - Place mailing label with laboratory address on top of cooler(s).
- 2) Arrange sample containers in a manner to prevent potential sample container breakage.
- 3) Confirm the bottle labels are completed correctly. Place clear tape over bottle labels to prevent moisture accumulation from causing the label to peel off.
- 4) Seal sample containers within plastic zip-lock bags to prevent packing material from contacting samples.
- 5) Place packing material at the bottom of the cooler to act as a cushion for the sample containers.
- 6) Fill remaining spaces with packing material.
- 7) Confirm containers are firmly packed in cooler.
- 8) If ice is required to preserve the samples, cubes should be repackaged in double zip-lock bags, and placed on top of the packing material.
- 9) Sign COC form (or obtain signature) and indicate the time and date it was relinquished to Federal Express or other carrier, as appropriate.
- 10) Separate copies of COC forms. Seal proper copies within a large zip-lock bag and tape to inside lid of cooler. Retain copies of forms in-house.
- 11) Close lid and latch.
- 12) Tape cooler shut on both ends, making several complete revolutions with strapping tape.
- 13) Relinquish to Federal Express or other courier service. Retain airbill receipt for project records (Note: Samples will be shipped for "NEXT DAY" delivery).

If samples are delivered directly to the laboratory, or the laboratories in-house courier, by the sampling team, the packaging/shipping requirements may be omitted. COC procedures; however, must be strictly maintained.

2.4 SAMPLE MANAGEMENT AND CHAIN-OF-CUSTODY

COC procedures document the history of sample containers and samples from the time of preparation of sample containers through sample collection, shipment, and analysis. A sample is considered in custody if:

- The sample is in the sampler's physical possession
- The sample is secured by the sampler to prevent tampering
- The sample is secured by the sampler employee in an area that is restricted to authorized personnel.

To maintain a record of sample collection, transfer between personnel, shipment, and receipt by the laboratory, a COC record will be completed for each sample at each sampling location. Each time the samples are transferred, signatures of the person relinquishing and receiving the samples, as well as the date and time, will be documented.

Parallel field notebook/Groundwater Sampling Log and COC records will be maintained. Recorded information will include:

- Sampling Location
- Time and Date
- Sampling Method
- Method of Preservation.

Additionally, the field notebook will also include information on weather conditions, depth to water, total depth of the well, field parameter and instrument calibration records and other useful or pertinent information. The notebook will be kept at the facility or with their designated contractor.

2.5 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) MEASURES

Field QA/QC procedures will consist of collecting one equipment blank (if reusable equipment is used) and one duplicate sample (one additional sample from one of the wells) for each sampling event. The duplicate sample will be assigned a separate sample identification and submitted to the laboratory "blind".

The procedure for collecting an equipment blank will be to pass distilled water through the decontaminated sampling device into a laboratory-supplied sample bottles. An equipment blank sample will not be required if disposable sampling equipment is used.

3 References

USEPA Low-Flow (Minimal Drawdown) Groundwater Sampling Procedures (EPA/540/S -95/504).

USEPA (Region 1) Low Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells (EQASOP-GW 001), January 19, 2010.

USEPA RCRA Groundwater Monitoring: Draft Technical Guidance (EPA/530-R-93-001).

MDEQ RRD Operational Memorandum No. 2: Sampling and Analysis.

APPENDIX B GROUNDWATER SAMPLING LOGS

Standard Groundwater Sampling Log

Date 6/16/20-6/18/20
 Site Name RACER Coldwater Rd Weather sunny, 70s
 Location Flint, MI Well # B-7
 Project No. 75178 Evacuation Method Whale Pump-Peristaltic
 Personnel WHL, KBS Sampling Method Purged Dry

Well Information:

Depth of Well * 28.80 ft. Water Volume /ft. for:
 Depth to Water * 16.72 - 6/18 was 22.76 ft. X 2" Diameter Well = 0.163 X LWC
 Length of Water Column 12.08 ft. 4" Diameter Well = 0.653 X LWC
 Volume of Water in Well 1.97 gal.(s) 6" Diameter Well = 1.469 X LWC
 3X Volume of Water in Well 5.91 gal.(s)
 Volume removed before sampling 2 gal.(s)
 Did well go dry? yes

* Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration:

Calibrated within range

pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity mS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>19.38</u>	initial <u>16.88</u>	initial <u>0.75</u>	initial <u>3.61</u>	initial <u>7.43</u>	initial <u>74.5</u>	initial <u>59.50</u>
5 min	<u>25.08</u>	<u>10.78</u>	<u>0.81</u>	<u>6.63</u>	<u>7.48</u>	<u>91.3</u>	<u>30.40</u>
10 min	<u>26.98</u>						
15 min	<u>6/18/2020</u>						
20 min	<u>22.76</u>	<u>23.77</u>	<u>0.79</u>	<u>1.91</u>	<u>7.30</u>	<u>120.4</u>	<u>21.81</u>
25 min	<u>25.44</u>	<u>15.26</u>	<u>0.87</u>	<u>2.87</u>	<u>7.33</u>	<u>115.6</u>	<u>20.90</u>
30 min	<u>26.50</u>						
35 min							
40 min							
45 min							
50 min							
55 min							
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 6/18/2020 - 1:10

Physical Appearance at Start

Physical Appearance at Sampling

Color light brown Color clear
 Odor none Odor none
 Turbidity (> 100 NTU) 59.50 Turbidity (> 100 NTU) 20.90
 Sheen/Free Product none Sheen/Free Product none

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO ₃	yes
Cyanide	1	125 ml Plastic	NAOH	
Phenols	1	125 ml Amber	H ₂ SO ₄	
TOC	2	40 ml Glass	H ₂ SO ₄	
TOX	1	250 ml Amber	H ₂ SO ₄	
Sulfate, Chlorides, SpC	1	500 ml Plastic	None	

Notes:

Standard Groundwater Sampling Log

Date 6/16/20-6/17/20
 Site Name RACER Coldwater Rd Weather sunny, 70s
 Location Flint, MI Well # B-9
 Project No. 75178 Evacuation Method Whale Pump-Peristaltic
 Personnel WHL Sampling Method Purge Dry

Well Information:

Depth of Well * 25.79 ft. Water Volume /ft. for:
 Depth to Water * 5.29 - 6/17 was 7.79 ft. X 2" Diameter Well = 0.163 X LWC
 Length of Water Column 20.50 ft. 4" Diameter Well = 0.653 X LWC
 Volume of Water in Well 3.34 gal.(s) 6" Diameter Well = 1.469 X LWC
 3X Volume of Water in Well 10.02 gal.(s)
 Volume removed before sampling 4.5 gal.(s)
 Did well go dry? yes

* Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration:

Calibrated within range

pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity mS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial		initial 17.89	initial 2.15	initial 3.05	initial 7.03	initial 240.2	initial 50.7
5 min	14.62	11.38	2.31	5.59	7.03	209.1	70.1
10 min	21.64	11.38	2.39	4.12	7.13	160.7	81.6
15 min	23.58						
20 min	6/17/2020						
25 min	7.79	15.46	2.30	5.21	7.14	127.7	60.9
30 min	8.92	13.13	2.41	5.63	7.13	124.1	42.0
35 min	11.29						
40 min							
45 min							
50 min							
55 min							
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 6/17/2020 - 10:25

Physical Appearance at Start

Physical Appearance at Sampling

Color light brown Color clear
 Odor None Odor None
 Turbidity (> 100 NTU) 50.70 Turbidity (> 100 NTU) 42.0
 Sheen/Free Product None Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO ₃	yes
Cyanide	1	125 ml Plastic	NAOH	
Phenols	1	125 ml Amber	H ₂ SO ₄	
TOC	2	40 ml Glass	H ₂ SO ₄	
TOX	1	250 ml Amber	H ₂ SO ₄	
Sulfate, Chlorides, SpC	1	500 ml Plastic	None	

Notes:

Standard Groundwater Sampling Log

Date 6/16/20-6/18/20
 Site Name RACER Coldwater Rd Weather sunny, 80s
 Location Flint, MI Well # B-18A
 Project No. 75178 Evacuation Method Whale Pump
 Personnel WHL, KBS Sampling Method purged dry

Well Information:

Depth of Well * 43.44 ft. Water Volume /ft. for:
 Depth to Water * 20.52 - 6/18 was 33.92 ft. X 2" Diameter Well = 0.163 X LWC
 Length of Water Column 22.92 ft. 4" Diameter Well = 0.653 X LWC
 Volume of Water in Well 3.74 gal.(s) 6" Diameter Well = 1.469 X LWC
 3X Volume of Water in Well 11.21 gal.(s)
 Volume removed before sampling 8 gal.(s)
 Did well go dry? yes
 * Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration:

Calibrated within range
 pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity mS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>21.87</u>	initial <u>16.41</u>	initial <u>0.91</u>	initial <u>3.67</u>	initial <u>7.39</u>	initial <u>97.4</u>	initial <u>13.10</u>
5 min	<u>26.33</u>	<u>11.6</u>	<u>1.00</u>	<u>2.70</u>	<u>7.34</u>	<u>86.7</u>	<u>7.23</u>
10 min	<u>31.22</u>	<u>11.44</u>	<u>1.02</u>	<u>1.36</u>	<u>7.31</u>	<u>80.0</u>	<u>9.23</u>
15 min	<u>36.54</u>	<u>11.57</u>	<u>1.03</u>	<u>0.56</u>	<u>7.29</u>	<u>71.4</u>	<u>6.74</u>
20 min	<u>39.54</u>	<u>11.7</u>	<u>1.03</u>	<u>0.48</u>	<u>7.23</u>	<u>54.0</u>	<u>6.53</u>
25 min	<u>41.56</u>	<u>11.8</u>	<u>1.03</u>	<u>0.76</u>	<u>7.26</u>	<u>46.5</u>	<u>16.00</u>
30 min	<u>41.57</u>	<u>11.7</u>		<u>0.70</u>	<u>7.28</u>	<u>65.0</u>	<u>25.20</u>
35 min	<u>6/18/2020</u>						
40 min	<u>33.92</u>	<u>18.29</u>	<u>0.92</u>	<u>2.75</u>	<u>7.20</u>	<u>65.3</u>	<u>20.70</u>
45 min	<u>40.25</u>	<u>13.22</u>	<u>1.03</u>	<u>2.81</u>	<u>7.18</u>	<u>89.1</u>	<u>14.50</u>
50 min							
55 min							
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 6/18/2020 - 11:55

Physical Appearance at Start

Physical Appearance at Sampling

Color clear Color Clear
 Odor None Odor None
 Turbidity (> 100 NTU) 13.1 Turbidity (> 100 NTU) 14.5
 Sheen/Free Product None Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO ₃	yes
Cyanide	1	125 ml Plastic	NAOH	
Phenols	1	125 ml Amber	H ₂ SO ₄	
TOC	2	40 ml Glass	H ₂ SO ₄	
TOX	1	250 ml Amber	H ₂ SO ₄	
Sulfate, Chlorides, SpC	1	500 ml Plastic	None	

Notes: DUP-1 collected

Standard Groundwater Sampling Log

Date 6/16/20-6/18/20
 Site Name RACER Coldwater Rd
 Location Flint, MI
 Project No. 75178
 Personnel WHL, KBS

Weather sunny, 70s
 Well # B-19Ar
 Evacuation Method Whale Pump
 Sampling Method Purge Dry

Well Information:

Depth of Well * 47.10 ft.
 Depth to Water * 37.67 - 6/18 was 42.15 ft.
 Length of Water Column 9.43 ft.
 Volume of Water in Well 1.54 gal.(s)
 3X Volume of Water in Well 4.61 gal.(s)

Water Volume /ft. for:
 X 2" Diameter Well = 0.163 X LWC
4" Diameter Well = 0.653 X LWC
6" Diameter Well = 1.469 X LWC

Volume removed before sampling 4 gal.(s)
 Did well go dry? yes

* Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration:

Calibrated within range

pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity mS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>39.47</u>	initial <u>17.05</u>	initial <u>1.03</u>	initial <u>0.15</u>	initial <u>7.31</u>	initial <u>77.4</u>	initial <u>236</u>
5 min	<u>41.83</u>	<u>13.13</u>	<u>1.10</u>	<u>0.13</u>	<u>7.30</u>	<u>67.1</u>	<u>415</u>
10 min	<u>43.27</u>	<u>13.05</u>	<u>1.08</u>	<u>0.36</u>	<u>7.33</u>	<u>79.9</u>	
15 min	<u>45.38</u>						
20 min	<u>6/18/2020</u>						
25 min	<u>42.15</u>	<u>22.20</u>	<u>0.92</u>	<u>0.54</u>	<u>7.26</u>	<u>85.8</u>	<u>623</u>
30 min		<u>13.44</u>	<u>1.08</u>	<u>0.63</u>	<u>7.26</u>	<u>97.2</u>	<u>677</u>
35 min							
40 min							
45 min							
50 min							
55 min							
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 6/18/2020 - 9:55

Physical Appearance at Start

Physical Appearance at Sampling

Color light brown
 Odor None
 Turbidity (> 100 NTU) 236
 Sheen/Free Product None

Color cloudy / light brown
 Odor None
 Turbidity (> 100 NTU) 677
 Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO ₃	yes
Cyanide	1	125 ml Plastic	NAOH	
Phenols	1	125 ml Amber	H ₂ SO ₄	
TOC	2	40 ml Glass	H ₂ SO ₄	
TOX	1	250 ml Amber	H ₂ SO ₄	
Sulfate, Chlorides, SpC	1	500 ml Plastic	None	

Notes:

collected sample prior to readings

Standard Groundwater Sampling Log

Date 6/16/20 - 6/17/20
 Site Name RACER Coldwater Rd Weather sunny, 70s
 Location Flint, MI Well # B-24r
 Project No. 75178 Evacuation Method Whale Pump-Peristaltic
 Personnel WHL Sampling Method purge dry

Well Information:

Depth of Well * 30.38 ft.
 Depth to Water * 13.07 - 6/17 was 13.82 ft.
 Length of Water Column 17.31 ft.
 Volume of Water in Well 2.82 gal.(s)
 3X Volume of Water in Well 8.46 gal.(s)

Water Volume /ft. for:
 X 2" Diameter Well = 0.163 X LWC
 4" Diameter Well = 0.653 X LWC
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 7.5 gal.(s)
 Did well go dry? yes

* Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration:

Calibrated within range
 pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity mS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>14.31</u>	initial <u>18.14</u>	initial <u>0.96</u>	initial <u>0.26</u>	initial <u>7.35</u>	initial <u>92.6</u>	initial <u>73</u>
5 min	<u>20.67</u>	<u>11.01</u>	<u>1.12</u>	<u>0.26</u>	<u>7.33</u>	<u>69.8</u>	<u>19</u>
10 min	<u>21.76</u>	<u>10.80</u>	<u>1.22</u>	<u>1.07</u>	<u>7.33</u>	<u>77.2</u>	<u>21.5</u>
15 min	<u>24.71</u>	<u>10.70</u>	<u>1.13</u>	<u>0.29</u>	<u>7.33</u>	<u>59.3</u>	<u>79.6</u>
20 min	<u>27.62</u>	<u>10.92</u>	<u>1.10</u>	<u>0.21</u>	<u>7.34</u>	<u>53.9</u>	<u>35.1</u>
25 min	<u>28.9</u>						
30 min	<u>6/17/2020</u>						
35 min	<u>13.82</u>	<u>21.01</u>	<u>1.05</u>	<u>6.94</u>	<u>7.39</u>	<u>103.9</u>	<u>88.2</u>
40 min	<u>14.84</u>	<u>14.87</u>	<u>1.20</u>	<u>9.02</u>	<u>7.38</u>	<u>109.3</u>	<u>36.2</u>
45 min	<u>17.43</u>						
50 min							
55 min							
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 6/17/2020 - 13:20

Physical Appearance at Start Physical Appearance at Sampling

Color light brown Color clear
 Odor none Odor none
 Turbidity (> 100 NTU) 72.8 Turbidity (> 100 NTU) 36.2
 Sheen/Free Product none Sheen/Free Product none

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	<u>3</u>	<u>40 ml Glass</u>	<u>HCL</u>	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	<u>1</u>	<u>125 ml Plastic</u>	<u>HNO₃</u>	<u>yes</u>
Cyanide	<u>1</u>	<u>125 ml Plastic</u>	<u>NAOH</u>	
Phenols	<u>1</u>	<u>125 ml Amber</u>	<u>H₂SO₄</u>	
TOC	<u>2</u>	<u>40 ml Glass</u>	<u>H₂SO₄</u>	
TOX	<u>1</u>	<u>250 ml Amber</u>	<u>H₂SO₄</u>	
Sulfate, Chlorides, SpC	<u>1</u>	<u>500 ml Plastic</u>	<u>None</u>	

Notes:

Standard Groundwater Sampling Log

Date 6/15/20-6/16/20
 Site Name RACER Coldwater Rd
 Location Flint, MI
 Project No. 75178
 Personnel WHL, KBS

Weather sunny, 70s
 Well # B-28
 Evacuation Method Whale Pump-Peristaltic
 Sampling Method purge dry

Well Information:

Depth of Well * 32.23 ft.
 Depth to Water * 4.84 - 6/16 was 5.25 ft.
 Length of Water Column 27.39 ft.
 Volume of Water in Well 4.40 gal.(s)
 3X Volume of Water in Well 13.39 gal.(s)

Water Volume /ft. for:
 2" Diameter Well = 0.163 X LWC
 4" Diameter Well = 0.653 X LWC
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 14 gal.(s)
 Did well go dry? yes

* Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration:

Calibrated within range

pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity mS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial		initial 12.96	initial 0.84	initial 1.22	initial 7.19	initial 56.3	initial <800
5 min	16.85	11.6	0.85	0.96	7.23	40.8	100
10 min	20.95	12.03	0.84	1.24	7.25	33.7	100
15 min	23.94	12.23	0.84	1.16	7.23	32.1	100
20 min	26.17	11.5	0.83	0.41	7.24	15.2	800
25 min	27.98	11.59	0.80	0.65	7.26	51.3	800
30 min	29.48	11.72	0.77	0.61	7.27	47.7	800
35 min	31.65	11.82	0.75	2.11	7.34	46.8	>1000
40 min	30.45						
45 min	6/16/2020						
50 min	6.05	18.68	0.79	3.38	7.38	70.2	>1000
55 min	6.55	15.75	0.82	3.56	7.38	83.2	157.7
60 min	7.19	14.44	0.83	3.59	7.38	89.1	84.4
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 6/16/2020 - 16:33

Physical Appearance at Start

Physical Appearance at Sampling

Color clear
 Odor None
 Turbidity (> 100 NTU) >1000
 Sheen/Free Product None

Color light brown
 Odor None
 Turbidity (> 100 NTU) 84.4
 Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO ₃	yes
Cyanide	1	125 ml Plastic	NAOH	
Phenols	1	125 ml Amber	H ₂ SO ₄	
TOC	2	40 ml Glass	H ₂ SO ₄	
TOX	1	250 ml Amber	H ₂ SO ₄	
Sulfate, Chlorides, SpC	1	500 ml Plastic	None	

Notes:

Standard Groundwater Sampling Log

Date 6/18/2020
 Site Name RACER Coldwater Rd Weather mostly sunny, 70s
 Location Flint, MI Well # B-20D
 Project No. 75178 Evacuation Method bladder pump
 Personnel WHL, KBS Sampling Method low flow

Well Information:
 Depth of Well * 90.90 ft. Water Volume /ft. for:
 Depth to Water * 68.36 ft. X 2" Diameter Well = 0.163 X LWC
 Length of Water Column 22.54 ft. 4" Diameter Well = 0.653 X LWC
 Volume of Water in Well 3.67 gal.(s) 6" Diameter Well = 1.469 X LWC
 3X Volume of Water in Well 11.02 gal.(s)
 Volume removed before sampling 3 gal.(s)
 Did well go dry? no
 * Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration: Calibrated within range
 pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity mS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>69.01</u>	initial <u>14.76</u>	initial <u>0.78</u>	initial <u>0.43</u>	initial <u>7.45</u>	initial <u>-32.4</u>	initial <u>658</u>
5 min	<u>69.01</u>	<u>14.11</u>	<u>0.80</u>	<u>0.29</u>	<u>7.43</u>	<u>-39.3</u>	<u>815</u>
10 min	<u>68.85</u>	<u>14.29</u>	<u>0.82</u>	<u>0.28</u>	<u>7.42</u>	<u>-44.1</u>	<u>833</u>
15 min	<u>68.81</u>	<u>15.94</u>	<u>0.81</u>	<u>0.29</u>	<u>7.42</u>	<u>-48.5</u>	<u>803</u>
20 min	<u>68.81</u>	<u>15.94</u>	<u>0.81</u>	<u>0.27</u>	<u>7.42</u>	<u>-50.1</u>	<u>685</u>
25 min	<u>68.81</u>	<u>16.06</u>	<u>0.80</u>	<u>0.30</u>	<u>7.42</u>	<u>-49.0</u>	<u>555</u>
30 min	<u>68.80</u>	<u>16.11</u>	<u>0.80</u>	<u>0.32</u>	<u>7.42</u>	<u>-50.0</u>	<u>443</u>
35 min	<u>68.79</u>	<u>16.11</u>	<u>0.79</u>	<u>0.31</u>	<u>7.43</u>	<u>-50.2</u>	<u>400</u>
40 min	<u>68.79</u>	<u>16.16</u>	<u>0.80</u>	<u>0.32</u>	<u>7.43</u>	<u>-52.6</u>	<u>306</u>
45 min	<u>68.81</u>	<u>15.99</u>	<u>0.79</u>	<u>0.31</u>	<u>7.43</u>	<u>-53.3</u>	<u>275</u>
50 min	<u>68.80</u>	<u>16.02</u>	<u>0.79</u>	<u>0.31</u>	<u>7.43</u>	<u>-54.0</u>	<u>223</u>
55 min	<u>68.80</u>	<u>16.25</u>	<u>0.79</u>	<u>0.30</u>	<u>7.43</u>	<u>-57.0</u>	<u>179</u>
60 min	<u>68.81</u>	<u>16.12</u>	<u>0.79</u>	<u>0.28</u>	<u>7.43</u>	<u>-56.8</u>	<u>132</u>
65 min	<u>68.80</u>	<u>16.50</u>	<u>0.80</u>	<u>0.30</u>	<u>7.43</u>	<u>-60.3</u>	<u>113</u>
70 min	<u>68.79</u>	<u>16.51</u>	<u>0.79</u>	<u>0.28</u>	<u>7.43</u>	<u>-60.3</u>	<u>104</u>
75 min	<u>68.79</u>	<u>16.47</u>	<u>0.79</u>	<u>0.28</u>	<u>7.43</u>	<u>-59.1</u>	<u>94.7</u>
80 min	<u>68.81</u>	<u>15.94</u>	<u>0.81</u>	<u>0.26</u>	<u>7.42</u>	<u>-57.6</u>	<u>81.2</u>
85 min	<u>68.81</u>	<u>15.57</u>	<u>0.80</u>	<u>0.25</u>	<u>7.42</u>	<u>-56.8</u>	<u>80.8</u>
90 min	<u>68.80</u>	<u>15.15</u>	<u>0.81</u>	<u>0.26</u>	<u>7.42</u>	<u>-57.4</u>	<u>69.6</u>
95 min	<u>68.80</u>	<u>15.40</u>	<u>0.81</u>	<u>0.26</u>	<u>7.42</u>	<u>-57.8</u>	<u>69.4</u>
100 min	<u>68.79</u>	<u>15.40</u>	<u>0.81</u>	<u>0.25</u>	<u>7.42</u>	<u>-58.8</u>	<u>58.8</u>

Water Sample:
 Time Collected 12:35
 Physical Appearance at Start _____ Physical Appearance at Sampling _____
 Color gray Color clear
 Odor None Odor None
 Turbidity (> 100 NTU) 658 Turbidity (> 100 NTU) 58.8
 Sheen/Free Product None Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO ₃	yes
Cyanide	1	125 ml Plastic	NAOH	
Phenols	1	125 ml Amber	H ₂ SO ₄	
TOC	2	40 ml Glass	H ₂ SO ₄	
TOX	1	250 ml Amber	H ₂ SO ₄	
Sulfate, Chlorides, SpC	1	500 ml Plastic	None	

Notes:

Standard Groundwater Sampling Log

Date 6/17/2020
 Site Name RACER Coldwater Rd Weather sunny, 80s
 Location Flint, MI Well # B-21D
 Project No. 75178 Evacuation Method bladder pump
 Personnel KBS Sampling Method low flow

Well Information:

Depth of Well * 98.34 ft.
 Depth to Water * 79.26 ft.
 Length of Water Column 19.08 ft.
 Volume of Water in Well 3.11 gal.(s)
 3X Volume of Water in Well 9.33 gal.(s)

Water Volume /ft. for:
 X 2" Diameter Well = 0.163 X LWC
 4" Diameter Well = 0.653 X LWC
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 4 gal.(s)
 Did well go dry? no

* Measurements taken from Well Casing Protective Casing (Other, Specify)

Instrument Calibration:

Calibrated within range
 pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity mS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	80.31	initial 15.64	initial 0.44	initial 1.98	initial 7.61	initial 8.9	initial >1000
5 min	80.31	14.13	0.47	1.54	7.62	-0.8	>1000
10 min	80.40	13.52	0.48	0.55	7.59	-33.5	>1000
15 min	80.40	13.02	0.49	0.49	7.59	-42.7	>1000
20 min	80.79	12.74	0.49	0.30	7.59	-52.3	760
25 min	80.91	12.58	0.50	0.25	7.59	-58.1	551
30 min	80.95	12.68	0.51	0.27	7.58	-60.9	292
35 min	80.95	12.70	0.51	0.22	7.58	-64.0	231
40 min	80.95	12.53	0.51	0.21	7.58	-65.1	157
45 min	80.95	12.50	0.52	0.20	7.58	-67.9	155
50 min	80.95	12.51	0.52	0.18	7.58	-68.6	150
55 min	80.95	12.46	0.52	0.18	7.58	-68.8	114
60 min	80.95	12.48	0.53	0.18	7.58	-67.7	99.2
65 min	80.95	12.39	0.53	0.20	7.58	-70.5	98.9
70 min	80.95	12.43	0.53	0.26	7.57	-69.4	54.4
75 min	80.95	12.48	0.53	0.24	7.57	-70.6	45.6
80 min	80.95	12.57	0.54	0.17	7.56	-73.5	45.2
85 min	80.95	12.36	0.54	0.18	7.56	-73.8	35.2
90 min	80.95	12.43	0.54	0.20	7.57	-73.8	31.5
95 min	80.95	12.48	0.54	0.18	7.57	-74.2	34.9

Water Sample:

Time Collected 16:58

Physical Appearance at Start Physical Appearance at Sampling

Color brown Color slightly cloudy
 Odor None Odor None
 Turbidity (> 100 NTU) >1000 Turbidity (> 100 NTU) 34.9
 Sheen/Free Product None Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO ₃	yes
Cyanide	1	125 ml Plastic	NAOH	
Phenols	1	125 ml Amber	H ₂ SO ₄	
TOC	2	40 ml Glass	H ₂ SO ₄	
TOX	1	250 ml Amber	H ₂ SO ₄	
Sulfate, Chlorides, SpC	1	500 ml Plastic	None	

Notes:

Standard Groundwater Sampling Log

Date 6/17/2020
 Site Name RACER Coldwater Rd
 Location Flint, MI
 Project No. 75178
 Personnel KBS

Weather mostly sunny, 80's
 Well # B-22D
 Evacuation Method bladder pump
 Sampling Method low flow

Well Information:

Depth of Well * 99.26 ft.
 Depth to Water * 83.56 ft.
 Length of Water Column 15.70 ft.
 Volume of Water in Well 2.55 gal.(s)
 3X Volume of Water in Well 7.67 gal.(s)

Water Volume /ft. for:
 2" Diameter Well = 0.163 X LWC
 4" Diameter Well = 0.653 X LWC
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 2 1/2 gal.(s)
 Did well go dry? no

* Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration:

Calibrated within range

pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity mS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>84.15</u>	initial <u>23.48</u>	initial <u>0.42</u>	initial <u>2.60</u>	initial <u>7.67</u>	initial <u>38.6</u>	initial <u>227</u>
5 min	<u>84.15</u>	<u>16.21</u>	<u>0.46</u>	<u>0.70</u>	<u>7.63</u>	<u>-22.9</u>	<u>237</u>
10 min	<u>84.15</u>	<u>15.39</u>	<u>0.48</u>	<u>0.43</u>	<u>7.60</u>	<u>-40.9</u>	<u>143</u>
15 min	<u>84.00</u>	<u>15.52</u>	<u>0.48</u>	<u>0.40</u>	<u>7.60</u>	<u>-55.8</u>	<u>127</u>
20 min	<u>84.00</u>	<u>15.42</u>	<u>0.48</u>	<u>0.37</u>	<u>7.61</u>	<u>-67.5</u>	<u>80.4</u>
25 min	<u>84.00</u>	<u>15.14</u>	<u>0.48</u>	<u>0.31</u>	<u>7.61</u>	<u>-73.9</u>	
30 min	<u>84.00</u>	<u>15.20</u>	<u>0.48</u>	<u>0.30</u>	<u>7.61</u>	<u>-75.9</u>	<u>81.4</u>
35 min	<u>84.00</u>	<u>15.34</u>	<u>0.48</u>	<u>0.28</u>	<u>7.61</u>	<u>-77.6</u>	<u>46.9</u>
40 min	<u>84.00</u>	<u>15.29</u>	<u>0.48</u>	<u>0.27</u>	<u>7.60</u>	<u>-80.5</u>	<u>46.2</u>
45 min	<u>84.00</u>	<u>15.43</u>	<u>0.47</u>	<u>0.26</u>	<u>7.61</u>	<u>-80.5</u>	<u>34.0</u>
50 min	<u>84.00</u>	<u>15.13</u>	<u>0.48</u>	<u>0.24</u>	<u>7.61</u>	<u>-84.3</u>	<u>23.7</u>
55 min	<u>84.00</u>	<u>15.14</u>	<u>0.48</u>	<u>0.23</u>	<u>7.61</u>	<u>-82.8</u>	<u>23.7</u>
60 min	<u>84.00</u>	<u>15.20</u>	<u>0.48</u>	<u>0.23</u>	<u>7.61</u>	<u>-83.2</u>	<u>22.3</u>
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:

Time Collected 14:18

Physical Appearance at Start

Physical Appearance at Sampling

Color cloudy / light gray
 Odor None
 Turbidity (> 100 NTU) 227
 Sheen/Free Product None

Color clear
 Odor None
 Turbidity (> 100 NTU) 22.3
 Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO ₃	yes
Cyanide	1	125 ml Plastic	NAOH	
Phenols	1	125 ml Amber	H ₂ SO ₄	
TOC	2	40 ml Glass	H ₂ SO ₄	
TOX	1	250 ml Amber	H ₂ SO ₄	
Sulfate, Chlorides, SpC	1	500 ml Plastic	None	

Notes:

Standard Groundwater Sampling Log

Date 6/16/2020
 Site Name RACER Coldwater Rd
 Location Flint, MI
 Project No. 75178
 Personnel WHL, KBS

Weather mostly sunny, 80s
 Well # B-23Dr
 Evacuation Method bladder pump
 Sampling Method low flow

Well Information:

Depth of Well * 110.50 ft.
 Depth to Water * 80.60 ft.
 Length of Water Column 29.90 ft.
 Volume of Water in Well 4.87 gal.(s)
 3X Volume of Water in Well 14.62 gal.(s)

Water Volume /ft. for:
 2" Diameter Well = 0.163 X LWC
 4" Diameter Well = 0.653 X LWC
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 3.58 gal.(s)
 Did well go dry? no

* Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration:

Calibrated within range

pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity mS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>80.65</u>	initial <u>21.25</u>	initial <u>0.69</u>	initial <u>3.06</u>	initial <u>7.53</u>	initial <u>-36.8</u>	initial <u>143</u>
5 min	<u>80.65</u>	<u>14.15</u>	<u>0.79</u>	<u>1.45</u>	<u>7.53</u>	<u>-45.5</u>	<u>219</u>
10 min	<u>80.65</u>	<u>13.73</u>	<u>0.78</u>	<u>1.31</u>	<u>7.53</u>	<u>-49.6</u>	<u>180</u>
15 min	<u>80.65</u>	<u>13.67</u>	<u>0.77</u>	<u>1.28</u>	<u>7.53</u>	<u>-51.9</u>	<u>168</u>
20 min	<u>80.65</u>	<u>13.71</u>	<u>0.76</u>	<u>0.33</u>	<u>7.54</u>	<u>-53.7</u>	
25 min	<u>80.65</u>	<u>13.83</u>	<u>0.76</u>	<u>0.30</u>	<u>7.53</u>	<u>-55.8</u>	<u>68.2</u>
30 min	<u>80.65</u>	<u>14.07</u>	<u>0.77</u>	<u>0.26</u>	<u>7.52</u>	<u>-57.3</u>	<u>50.5</u>
35 min	<u>80.65</u>	<u>14.07</u>	<u>0.77</u>	<u>0.23</u>	<u>7.51</u>	<u>-58.5</u>	<u>39.9</u>
40 min	<u>80.65</u>	<u>14.30</u>	<u>0.78</u>	<u>0.21</u>	<u>7.51</u>	<u>-61.2</u>	<u>36.8</u>
45 min	<u>80.65</u>	<u>14.23</u>	<u>0.77</u>	<u>0.19</u>	<u>7.51</u>	<u>-61.7</u>	<u>32.6</u>
50 min	<u>80.65</u>	<u>14.57</u>	<u>0.77</u>	<u>0.18</u>	<u>7.51</u>	<u>-63.8</u>	<u>27.0</u>
55 min	<u>80.65</u>	<u>14.80</u>	<u>0.76</u>	<u>0.18</u>	<u>7.51</u>	<u>-66.1</u>	<u>26.0</u>
60 min	<u>80.65</u>	<u>14.61</u>	<u>0.76</u>	<u>0.17</u>	<u>7.51</u>	<u>-65.5</u>	<u>23.8</u>
65 min	<u>80.65</u>	<u>14.75</u>	<u>0.75</u>	<u>0.17</u>	<u>7.51</u>	<u>-67.7</u>	<u>20.9</u>
70 min	<u>80.65</u>	<u>15.03</u>	<u>0.74</u>	<u>0.16</u>	<u>7.51</u>	<u>-68.0</u>	<u>20.3</u>
75 min	<u>80.65</u>	<u>14.96</u>	<u>0.74</u>	<u>0.16</u>	<u>7.51</u>	<u>-68.4</u>	<u>20.2</u>
80 min							
85 min							
90 min							

Water Sample:

Time Collected 15:32

Physical Appearance at Start

Physical Appearance at Sampling

Color light gray
 Odor None
 Turbidity (> 100 NTU) 143
 Sheen/Free Product None

Color clear
 Odor None
 Turbidity (> 100 NTU) 20.2
 Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO ₃	yes
Cyanide	1	125 ml Plastic	NAOH	
Phenols	1	125 ml Amber	H ₂ SO ₄	
TOC	2	40 ml Glass	H ₂ SO ₄	
TOX	1	250 ml Amber	H ₂ SO ₄	
Sulfate, Chlorides, SpC	1	500 ml Plastic	None	

Notes:

RAMBOLL **Standard Groundwater Sampling Log**

Date 6/17/2020
 Site Name RACER Coldwater Rd Weather sunny, 70s
 Location Flint, MI Well # B-27D
 Project No. 75178 Evacuation Method badder pump
 Personnel WHL, KBS Sampling Method low flow

Well Information:
 Depth of Well * 88.47 ft. Water Volume /ft. for:
 X 2" Diameter Well = 0.163 X LWC
 4" Diameter Well = 0.653 X LWC
 6" Diameter Well = 1.469 X LWC
 Depth to Water * 75.01 ft.
 Length of Water Column 13.46 ft.
 Volume of Water in Well 2.20 gal.(s)
 3X Volume of Water in Well 6.58 gal.(s)
 Volume removed before sampling 6 gal.(s)
 Did well go dry? no
 * Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration: Calibrated within range
 pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured <small>0.3 feet or less</small>	Temperature Celsius <small>±3 percent</small>	Conductivity mS/cm <small>±3 percent</small>	Dissolved Oxygen mg/L <small>±10 percent</small>	pH <small>±0.1 pH units</small>	ORP mV <small>±10 millivolts</small>	Turbidity NTUs <small>±10 percent</small>
initial	<u>75.04</u>	initial <u>13.80</u>	initial <u>0.42</u>	initial <u>0.42</u>	initial <u>7.66</u>	initial <u>-57.9</u>	initial <u>>1000</u>
5 min	<u>75.31</u>	<u>12.80</u>	<u>0.42</u>	<u>0.20</u>	<u>7.66</u>	<u>-75.1</u>	<u>>1000</u>
10 min	<u>75.41</u>	<u>12.57</u>	<u>0.41</u>	<u>0.17</u>	<u>7.62</u>	<u>-71.0</u>	<u>>1000</u>
15 min	<u>75.41</u>	<u>12.74</u>	<u>0.41</u>	<u>0.31</u>	<u>7.66</u>	<u>-74.3</u>	<u>928</u>
20 min	<u>75.41</u>	<u>12.62</u>	<u>0.41</u>	<u>0.19</u>	<u>7.66</u>	<u>-78.1</u>	<u>981</u>
25 min	<u>75.41</u>	<u>13.40</u>	<u>0.40</u>	<u>0.19</u>	<u>7.67</u>	<u>-71.8</u>	<u>978</u>
30 min	<u>75.41</u>	<u>12.53</u>	<u>0.40</u>	<u>0.17</u>	<u>7.67</u>	<u>-80.6</u>	<u>981</u>
35 min	<u>75.41</u>	<u>12.57</u>	<u>0.40</u>	<u>0.13</u>	<u>7.67</u>	<u>-82.9</u>	<u>898</u>
40 min	<u>75.41</u>	<u>12.66</u>	<u>0.39</u>	<u>0.15</u>	<u>7.67</u>	<u>-84.1</u>	<u>846</u>
45 min	<u>75.41</u>	<u>12.71</u>	<u>0.38</u>	<u>0.07</u>	<u>7.67</u>	<u>-85.8</u>	<u></u>
50 min	<u>75.41</u>	<u>12.53</u>	<u>0.38</u>	<u>0.06</u>	<u>7.67</u>	<u>-86.3</u>	<u>857</u>
55 min	<u>75.41</u>	<u>12.67</u>	<u>0.37</u>	<u>0.17</u>	<u>7.67</u>	<u>-87.2</u>	<u>723</u>
60 min	<u>75.41</u>	<u>12.53</u>	<u>0.37</u>	<u>0.04</u>	<u>7.67</u>	<u>-87.3</u>	<u>677</u>
65 min	<u>75.41</u>	<u>12.80</u>	<u>0.36</u>	<u>0.29</u>	<u>7.67</u>	<u>-87.5</u>	<u>654</u>
70 min	<u>75.41</u>	<u>12.89</u>	<u>0.36</u>	<u>0.53</u>	<u>7.67</u>	<u>-84.4</u>	<u>639</u>
75 min	<u>75.41</u>	<u>12.57</u>	<u>0.36</u>	<u>0.09</u>	<u>7.67</u>	<u>-85.9</u>	<u>589</u>
80 min	<u>75.41</u>	<u>12.61</u>	<u>0.35</u>	<u>0.07</u>	<u>7.67</u>	<u>-86.1</u>	<u>537</u>
85 min	<u>75.41</u>	<u>12.66</u>	<u>0.35</u>	<u>0.09</u>	<u>7.67</u>	<u>-86.3</u>	<u></u>
90 min	<u>75.41</u>	<u>12.57</u>	<u>0.35</u>	<u>0.06</u>	<u>7.67</u>	<u>-87.0</u>	<u>537</u>
95 min	<u>75.41</u>	<u>12.62</u>	<u>0.34</u>	<u>0.03</u>	<u>7.67</u>	<u>-87.4</u>	<u>398</u>
100 min	<u>75.41</u>	<u>12.65</u>	<u>0.34</u>	<u>0.03</u>	<u>7.67</u>	<u>-87.5</u>	<u>413</u>
105 min	<u>75.41</u>	<u>12.57</u>	<u>0.33</u>	<u>0.03</u>	<u>7.67</u>	<u>-87.8</u>	<u>415</u>
110 min	<u>75.41</u>	<u>12.59</u>	<u>0.33</u>	<u>0.02</u>	<u>7.67</u>	<u>-85.0</u>	<u>417</u>

Water Sample:
 Time Collected 12:06
 Physical Appearance at Start _____ Physical Appearance at Sampling _____
 Color gray Color light gray
 Odor None Odor None
 Turbidity (> 100 NTU) >1000 Turbidity (> 100 NTU) 417
 Sheen/Free Product None Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCS	3	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO ₃	yes
Cyanide	1	125 ml Plastic	NAOH	
Phenols	1	125 ml Amber	H ₂ SO ₄	
TOC	2	40 ml Glass	H ₂ SO ₄	
TOX	1	250 ml Amber	H ₂ SO ₄	
Sulfate, Chlorides, SpC	1	500 ml Plastic	None	

Notes:

Standard Groundwater Sampling Log

Date 6/18/2020
 Site Name RACER Coldwater Rd
 Location Flint, MI
 Project No. 75178
 Personnel WHL

Weather sunny, 80's
 Well # OBG MW-16D
 Evacuation Method bladder pump
 Sampling Method low flow

Well Information:

Depth of Well * 75.10 ft.
 Depth to Water * 55.96 ft.
 Length of Water Column 19.14 ft.
 Volume of Water in Well 3.11 gal.(s)
 3X Volume of Water in Well 9.35 gal.(s)

Water Volume /ft. for:
 2" Diameter Well = 0.163 X LWC
 4" Diameter Well = 0.653 X LWC
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 2 1/2 gal.(s)
 Did well go dry? no

* Measurements taken from Well Casing Protective Casing (Other, Specify) _____

Instrument Calibration:

Calibrated within range

pH Yes
 ORP Yes
 Conductivity Yes
 DO Yes

Water parameters:

	Drawdown measured 0.3 feet or less	Temperature Celsius ±3 percent	Conductivity mS/cm ±3 percent	Dissolved Oxygen mg/L ±10 percent	pH ±0.1 pH units	ORP mV ±10 millivolts	Turbidity NTUs ±10 percent
initial	<u>55.65</u>	initial <u>18.48</u>	initial <u>0.55</u>	initial <u>3.05</u>	initial <u>7.66</u>	initial <u>-30.4</u>	initial <u>526</u>
5 min	<u>56.00</u>	<u>14.31</u>	<u>0.57</u>	<u>4.75</u>	<u>7.68</u>	<u>-37.2</u>	<u>417</u>
10 min	<u>55.95</u>	<u>13.59</u>	<u>0.58</u>	<u>3.97</u>	<u>7.66</u>	<u>-56.5</u>	<u>252</u>
15 min	<u>55.93</u>	<u>13.41</u>	<u>0.58</u>	<u>4.28</u>	<u>7.66</u>	<u>-58.0</u>	<u>167</u>
20 min	<u>55.91</u>	<u>13.34</u>	<u>0.58</u>	<u>4.80</u>	<u>7.68</u>	<u>-58.0</u>	<u>134</u>
25 min	<u>55.91</u>	<u>13.40</u>	<u>0.58</u>	<u>5.02</u>	<u>7.68</u>	<u>-60.6</u>	<u>114</u>
30 min	<u>55.90</u>	<u>13.36</u>	<u>0.58</u>	<u>5.21</u>	<u>7.68</u>	<u>-63.3</u>	<u>90.4</u>
35 min	<u>55.89</u>	<u>13.31</u>	<u>0.58</u>	<u>5.52</u>	<u>7.69</u>	<u>-63.9</u>	<u>76.3</u>
40 min	<u>55.91</u>	<u>13.31</u>	<u>0.58</u>	<u>5.49</u>	<u>7.69</u>	<u>-68.3</u>	<u>70.5</u>
45 min	<u>55.89</u>	<u>13.24</u>	<u>0.58</u>	<u>5.55</u>	<u>7.70</u>	<u>-68.1</u>	<u>63.1</u>
50 min	_____	_____	_____	_____	_____	_____	_____
55 min	_____	_____	_____	_____	_____	_____	_____
60 min	_____	_____	_____	_____	_____	_____	_____
65 min	_____	_____	_____	_____	_____	_____	_____
70 min	_____	_____	_____	_____	_____	_____	_____
75 min	_____	_____	_____	_____	_____	_____	_____
80 min	_____	_____	_____	_____	_____	_____	_____
85 min	_____	_____	_____	_____	_____	_____	_____
90 min	_____	_____	_____	_____	_____	_____	_____

Water Sample:

Time Collected 15:50

Physical Appearance at Start _____

Physical Appearance at Sampling _____

Color clear / light gray
 Odor None
 Turbidity (> 100 NTU) 526
 Sheen/Free Product None

Color clear
 Odor None
 Turbidity (> 100 NTU) 63.1
 Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	3	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO ₃	yes
Cyanide	1	125 ml Plastic	NAOH	
Phenols	1	125 ml Amber	H ₂ SO ₄	
TOC	2	40 ml Glass	H ₂ SO ₄	
TOX	1	250 ml Amber	H ₂ SO ₄	
Sulfate, Chlorides, SpC	1	500 ml Plastic	None	

Notes:

APPENDIX C ANALYTICAL LABORATORY RESULTS



Analytical Laboratory Report

Report ID: S14946.01(01)
Generated on 06/29/2020

Report to

Attention: Clifford Yantz
O'Brien & Gere Engineers, Inc.
2260 E Saginaw St
East Lansing, MI 48823

Phone: 313-333-0211 FAX:
Email: Clifford.Yantz@obg.com

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
John Lavery (johnlavery@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S14946.01-S14946.05
Project: RACER Coldwater Rd
Collected Date(s): 06/16/2020 - 06/17/2020
Submitted Date/Time: 06/17/2020 13:35
Sampled by: Kevin Schneider
P.O. #: 11900504

Table of Contents

- Cover Page (Page 1)
- General Report Notes (Page 2)
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- Sample Summary (Page 5)

Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched



Analytical Laboratory Report

Method Summary

Method	Version
E120.1	EPA Method 120.1 Revision 1982
E200.8	EPA Method 200.8 Revision 5.4
E300.0	EPA Method 300.0 Revision 2.1
E335.4/SM4500-CN	EPA Method 335.4 Revision 1.0 / Standard Method 4500-CN E 20th Edition
E420.1	EPA Method 420.1 Editorial Revision 1978
N/A	Not Applicable
SM5310C	Standard Method 5310C 2011
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003



Analytical Laboratory Report

Sample Summary (5 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S14946.01	B-23Dr	Groundwater	06/16/20 15:32
S14946.02	B-28	Groundwater	06/16/20 16:33
S14946.03	B-9	Groundwater	06/17/20 10:25
S14946.04	B-27D	Groundwater	06/17/20 12:06
S14946.05	Trip Blank 061720	Water	06/17/20 00:01



Analytical Laboratory Report

Lab Sample ID: S14946.01

Sample Tag: B-23Dr

Collected Date/Time: 06/16/2020 15:32

Matrix: Groundwater

COC Reference: 128644

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.7	IR
2	40ml Glass	H2SO4	Yes	4.7	IR
1	250ml Amber	H2SO4	Yes	4.7	IR
1	1L Plastic	None	Yes	4.7	IR
1	125ml Plastic	NaOH	Yes	4.7	IR
3	40ml Glass	HCL	Yes	4.7	IR
1	125ml Amber	H2SO4	Yes	4.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/22/20 12:40	JML	
Metal Digestion	Completed	SW3015A	06/22/20 14:00	CCM	
Metal Digestion	Completed	SW3015A	06/24/20 10:45	CCM	

Inorganics

Method: E120.1, Run Date: 06/19/20 13:40, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	822	1		umhos/cm	1		

Method: E300.0, Run Date: 06/18/20 09:07, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloride	40	10	0.16	mg/L	10	16887-00-6	
Sulfate	68	10	0.59	mg/L	10	14808-79-8	

Method: E335.4/SM4500-CN, Run Date: 06/19/20 10:38, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Cyanide, Total	Not detected	0.004	0.001	mg/L	2	57-12-5	

Method: E420.1, Run Date: 06/26/20 16:06, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Phenols	Not detected	0.02		mg/L	1.7		

Method: SM5310C, Run Date: 06/22/20 20:44, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	2.7	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/22/20 15:06, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Sodium	28.2	2.5		mg/L	50	7440-23-5	

Method: E200.8, Run Date: 06/24/20 12:11, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Iron, Dissolved	1.84	0.02		mg/L	5	7439-89-6	



Analytical Laboratory Report

Lab Sample ID: S14946.01 (continued)

Sample Tag: B-23Dr

Method: E200.8, Run Date: 06/24/20 12:11, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Manganese, Dissolved	0.042	0.005		mg/L	5	7439-96-5	
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 10:03, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S14946.01 (continued)

Sample Tag: B-23Dr

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 10:03, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Other / Misc.

Method: , Run Date: 06/25/20 10:42, Analyst: TA

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Misc. Special Project*	Completed				1		O

O-Analysis performed by outside laboratory. See attached report.



Analytical Laboratory Report

Lab Sample ID: S14946.02

Sample Tag: B-28

Collected Date/Time: 06/16/2020 16:33

Matrix: Groundwater

COC Reference: 128644

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.7	IR
2	40ml Glass	H2SO4	Yes	4.7	IR
1	250ml Amber	H2SO4	Yes	4.7	IR
1	1L Plastic	None	Yes	4.7	IR
1	125ml Plastic	NaOH	Yes	4.7	IR
3	40ml Glass	HCL	Yes	4.7	IR
1	125ml Amber	H2SO4	Yes	4.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/22/20 12:40	JML	
Metal Digestion	Completed	SW3015A	06/22/20 14:00	CCM	
Metal Digestion	Completed	SW3015A	06/24/20 10:45	CCM	

Inorganics

Method: E120.1, Run Date: 06/19/20 13:42, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	862	1		umhos/cm	1		

Method: E300.0, Run Date: 06/18/20 09:19, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloride	13	10	0.16	mg/L	10	16887-00-6	
Sulfate	142	10	0.59	mg/L	10	14808-79-8	

Method: E335.4/SM4500-CN, Run Date: 06/19/20 10:46, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Cyanide, Total	Not detected	0.004	0.001	mg/L	2	57-12-5	

Method: E420.1, Run Date: 06/26/20 16:10, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Phenols	Not detected	0.02		mg/L	1.7		

Method: SM5310C, Run Date: 06/22/20 21:03, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	2.8	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/22/20 15:08, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Sodium	14.2	2.5		mg/L	50	7440-23-5	

Method: E200.8, Run Date: 06/24/20 12:13, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Iron, Dissolved	0.11	0.02		mg/L	5	7439-89-6	



Analytical Laboratory Report

Lab Sample ID: S14946.02 (continued)

Sample Tag: B-28

Method: E200.8, Run Date: 06/24/20 12:13, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Manganese, Dissolved	0.074	0.005		mg/L	5	7439-96-5	
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 10:22, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S14946.02 (continued)

Sample Tag: B-28

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 10:22, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Other / Misc.

Method: , Run Date: 06/25/20 12:17, Analyst: TA

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Misc. Special Project*	Completed				1		O

O-Analysis performed by outside laboratory. See attached report.



Analytical Laboratory Report

Lab Sample ID: S14946.03

Sample Tag: B-9

Collected Date/Time: 06/17/2020 10:25

Matrix: Groundwater

COC Reference: 128644

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.7	IR
2	40ml Glass	H2SO4	Yes	4.7	IR
1	250ml Amber	H2SO4	Yes	4.7	IR
1	1L Plastic	None	Yes	4.7	IR
1	125ml Plastic	NaOH	Yes	4.7	IR
3	40ml Glass	HCL	Yes	4.7	IR
1	125ml Amber	H2SO4	Yes	4.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/22/20 12:40	JML	
Metal Digestion	Completed	SW3015A	06/22/20 14:00	CCM	
Metal Digestion	Completed	SW3015A	06/24/20 10:45	CCM	

Inorganics

Method: E120.1, Run Date: 06/19/20 13:44, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	2,260	1		umhos/cm	1		

Method: E300.0, Run Date: 06/18/20 09:32, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloride	76	10	0.16	mg/L	10	16887-00-6	

Method: E300.0, Run Date: 06/18/20 12:07, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Sulfate	929	50	3.0	mg/L	50	14808-79-8	

Method: E335.4/SM4500-CN, Run Date: 06/19/20 10:48, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Cyanide, Total	Not detected	0.004	0.001	mg/L	2	57-12-5	

Method: E420.1, Run Date: 06/26/20 16:14, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Phenols	Not detected	0.02		mg/L	1.7		

Method: SM5310C, Run Date: 06/22/20 21:23, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	4.3	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/22/20 15:10, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Sodium	52.2	2.5		mg/L	50	7440-23-5	



Analytical Laboratory Report

Lab Sample ID: S14946.03 (continued)

Sample Tag: B-9

Method: E200.8, Run Date: 06/24/20 12:15, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Iron, Dissolved	0.16	0.02		mg/L	5	7439-89-6	
Manganese, Dissolved	0.031	0.005		mg/L	5	7439-96-5	
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.013	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 10:42, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	



Analytical Laboratory Report

Lab Sample ID: S14946.03 (continued)

Sample Tag: B-9

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 10:42, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Other / Misc.

Method: , Run Date: 06/25/20 12:57, Analyst: TA

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Misc. Special Project*	Completed				1		O

O-Analysis performed by outside laboratory. See attached report.



Analytical Laboratory Report

Lab Sample ID: S14946.04

Sample Tag: B-27D

Collected Date/Time: 06/17/2020 12:06

Matrix: Groundwater

COC Reference: 128644

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.7	IR
2	40ml Glass	H2SO4	Yes	4.7	IR
1	250ml Amber	H2SO4	Yes	4.7	IR
1	1L Plastic	None	Yes	4.7	IR
1	125ml Plastic	NaOH	Yes	4.7	IR
3	40ml Glass	HCL	Yes	4.7	IR
1	125ml Amber	H2SO4	Yes	4.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/22/20 12:40	JML	
Metal Digestion	Completed	SW3015A	06/22/20 14:00	CCM	
Metal Digestion	Completed	SW3015A	06/24/20 10:45	CCM	

Inorganics

Method: E120.1, Run Date: 06/19/20 13:46, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	622	1		umhos/cm	1		

Method: E300.0, Run Date: 06/18/20 09:45, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloride	Not detected	10	0.16	mg/L	10	16887-00-6	
Sulfate	17	10	0.59	mg/L	10	14808-79-8	

Method: E335.4/SM4500-CN, Run Date: 06/19/20 10:50, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Cyanide, Total	Not detected	0.004	0.001	mg/L	2	57-12-5	

Method: E420.1, Run Date: 06/26/20 16:16, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Phenols	Not detected	0.02		mg/L	1.7		

Method: SM5310C, Run Date: 06/22/20 21:43, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	3.4	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/22/20 15:11, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Sodium	35.7	2.5		mg/L	50	7440-23-5	

Method: E200.8, Run Date: 06/24/20 12:17, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Iron, Dissolved	1.18	0.02		mg/L	5	7439-89-6	



Analytical Laboratory Report

Lab Sample ID: S14946.04 (continued)

Sample Tag: B-27D

Method: E200.8, Run Date: 06/24/20 12:17, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Manganese, Dissolved	0.028	0.005		mg/L	5	7439-96-5	
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 11:01, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S14946.04 (continued)

Sample Tag: B-27D

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 11:01, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Other / Misc.

Method: , Run Date: 06/25/20 13:36, Analyst: TA

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Misc. Special Project*	Completed				1		O

O-Analysis performed by outside laboratory. See attached report.



Analytical Laboratory Report

Lab Sample ID: S14946.05

Sample Tag: Trip Blank 061720

Collected Date/Time: 06/17/2020 00:01

Matrix: Water

COC Reference: 128644

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	4.7	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/22/20 12:40	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 11:21, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S14946.05 (continued)

Sample Tag: Trip Blank 061720

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 11:21, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Merit Laboratories Login Checklist

Lab Set ID:S14946

Client:OBG02 (O'Brien & Gere Engineers, Inc.)

Project: RACER Coldwater Rd

Submitted:06/17/2020 13:35 Login User: SRS

Attention: Clifford Yantz

Address: O'Brien & Gere Engineers, Inc.
2260 E Saginaw St
East Lansing, MI 48823

Phone: 313-333-0211 FAX:

Email: Clifford.Yantz@obg.com

Selection	Description	Note
Sample Receiving		
01.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Samples are received at 4C +/- 2C Thermometer # IR 4.7
02.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Received on ice/ cooling process begun
03.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples shipped
04.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples left in 24 hr. drop box
05.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	COC adequately filled out
07.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	COC signed and relinquished to the lab
08.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample tag on bottles match COC
09.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Subcontracting needed? Subcontracted to: Test America
Preservation		
10.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Do sample have correct chemical preservation
11.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Completed pH checks on preserved samples? (no VOAs)
12.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	All bottles intact
14.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Appropriate analytical bottles are used
15.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Merit bottles used
16.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sufficient sample volume received
17.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples require laboratory filtration
18.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Samples submitted within holding time
19.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Do water VOC or TOX bottles contain headspace

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____

Merit Laboratories Bottle Preservation Check

Lab Set ID: S14946 Submitted: 06/17/2020 13:35

Attention: Clifford Yantz
Address: O'Brien & Gere Engineers, Inc.
2260 E Saginaw St
East Lansing, MI 48823

Client: OBG02 (O'Brien & Gere Engineers, Inc.)

Project: RACER Coldwater Rd

Initial Preservation Check: 06/17/2020 15:15 SRS

Phone: 313-333-0211 FAX:
Email: Clifford.Yantz@obg.com

Preservation Recheck (E200.8): N/A

Lab ID	125 ml Plastic HNO ₃	250 ml Plastic HNO ₃	1 L Plastic HNO ₃	250 ml Plastic H ₂ SO ₄	125 ml Amber H ₂ SO ₄	32 oz Glass HCl	125 ml Plastic NaOH	125 ml Amber PbCO ₃ NaOH	pH					Notes	
									<2	>12	other	ml add	new pH		
S14946.01	X								X						
S14946.01	X								X						
S14946.01					X				X						
S14946.01							X			X					
S14946.02	X								X						
S14946.02	X								X						
S14946.02					X				X						
S14946.02							X			X					
S14946.03	X								X						
S14946.03	X								X						
S14946.03					X				X						
S14946.03							X			X					
S14946.04	X								X						
S14946.04	X								X						
S14946.04					X				X						
S14946.04							X			X					



2680 East Lansing Dr., East Lansing, MI 48823
 Phone (517) 332-0167 Fax (517) 332-4034
 www.meritlabs.com

C.O.C. PAGE # 1 OF 1

128644

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME Clifford Yantz
 COMPANY O'Brien + Gere, A Ramboll Company
 ADDRESS 2260 East Saginaw
 CITY East Lansing STATE MI ZIP CODE 48823
 PHONE NO. 313-333-0211 FAX NO. _____ P.O. NO. _____
 E-MAIL ADDRESS Clifford.Yantz@Ramboll.com QUOTE NO. _____

CONTACT NAME _____ SAME
 COMPANY _____
 ADDRESS _____
 CITY _____ STATE _____ ZIP CODE _____
 PHONE NO. _____ E-MAIL ADDRESS _____

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME RALER Colowater rd SAMPLER(S) - PLEASE PRINT/SIGN NAME Rain Surrender X JLL
 TURNAROUND TIME REQUIRED 1 DAY 2 DAYS 3 DAYS STANDARD OTHER _____
 DELIVERABLES REQUIRED STD LEVEL II LEVEL III LEVEL IV EDD OTHER _____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID
 SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

Containers & Preservatives
 Certifications OHIO VAP Drinking Water
 DoD NPDES
 Project Locations Detroit New York
 Other _____
 Special Instructions _____

MERIT LAB NO. <small>FOR LAB USE ONLY</small>	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER	VOCs	TOC	Phenols	Cyanide	Sulfate	Specific Conductivity	Dissolved Metals	Chlorides	TOX	Total Sodium	Special Instructions
	DATE	TIME																					
14946.01	6/16/20	1532	B-23Dr	GW	11	1	3	2	4	1			X	X	X	X	X	X	X	X	X	X	Dissolved Metals
.02	6/16/20	1633	B-28										X	X	X	X	X	X	X	X	X	X	were Field Filter
.03	6/17/20	1025	B-9										X	X	X	X	X	X	X	X	X	X	
.04	6/17/20	1206	B-27D										X	X	X	X	X	X	X	X	X	X	Metals ARE
.05	6/17/20	-	Trip Blank 061720	QL	1	1							X										Cu, Cr, Ni, Zn, Fe, Mn

RELINQUISHED BY: JLL Sampler DATE 6/17/20 TIME 12:42
 RECEIVED BY: J. Ashmole DATE 6/17/20 TIME 10:40
 RELINQUISHED BY: J. Ashmole DATE 6/17/20 TIME 13:35
 RECEIVED BY: Sangwh DATE 6/17/20 TIME 13:35

RELINQUISHED BY: _____ DATE _____ TIME _____
 RECEIVED BY: _____ DATE _____ TIME _____
 SEAL NO. SEAL INTACT YES NO INITIALS _____
 SEAL NO. SEAL INTACT YES NO INITIALS _____
 NOTES: TEMP. ON ARRIVAL 4.7

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

ANALYTICAL REPORT

Eurofins TestAmerica, Michigan
10448 Citation Drive
Suite 200
Brighton, MI 48116
Tel: (810)229-2763

Laboratory Job ID: 190-23303-1
Client Project/Site: S14946/TOX

For:
Merit Laboratories
2680 E Lansing Drive
East Lansing, Michigan 48823

Attn: John Lavery

Sue Schafer

Authorized for release by:
6/29/2020 10:13:45 AM

Sue Schafer, Project Manager II
(810)229-2763
sue.schafer@testamericainc.com

LINKS

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results through
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www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Sample Summary

Client: Merit Laboratories
Project/Site: S14946/TOX

Job ID: 190-23303-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
190-23303-1	S14946.01	Water	06/16/20 15:32	06/19/20 10:15	
190-23303-2	S14946.02	Water	06/16/20 16:33	06/19/20 10:15	
190-23303-3	S14946.03	Water	06/17/20 10:25	06/19/20 10:15	
190-23303-4	S14946.04	Water	06/17/20 12:06	06/19/20 10:15	

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Case Narrative

Client: Merit Laboratories
Project/Site: S14946/TOX

Job ID: 190-23303-1

Job ID: 190-23303-1

Laboratory: Eurofins TestAmerica, Michigan

Narrative

Job Narrative 190-23303-1

Comments

No additional comments.

Receipt

The samples were received on 6/19/2020 10:15 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.8° C.

General Chemistry

Method 9020B: Breakthrough exceeded 10% for the following samples: S14946.01 (190-23303-1), S14946.02 (190-23303-2), S14946.03 (190-23303-3) and S14946.04 (190-23303-4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Client Sample Results

Client: Merit Laboratories
Project/Site: S14946/TOX

Job ID: 190-23303-1

Client Sample ID: S14946.01

Lab Sample ID: 190-23303-1

Date Collected: 06/16/20 15:32

Matrix: Water

Date Received: 06/19/20 10:15

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/25/20 07:45	06/25/20 10:42	1
TOX Result 1	<40		40	ug/L		06/25/20 07:45	06/25/20 10:42	1
TOX Result 2	<40		40	ug/L		06/25/20 07:45	06/25/20 10:42	1
TOX Dup	<40		40	ug/L		06/25/20 07:45	06/25/20 10:42	1

Client Sample ID: S14946.02

Lab Sample ID: 190-23303-2

Date Collected: 06/16/20 16:33

Matrix: Water

Date Received: 06/19/20 10:15

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	41		40	ug/L		06/25/20 07:45	06/25/20 12:17	1
TOX Result 1	40		40	ug/L		06/25/20 07:45	06/25/20 12:17	1
TOX Result 2	41		40	ug/L		06/25/20 07:45	06/25/20 12:17	1
TOX Dup	41		40	ug/L		06/25/20 07:45	06/25/20 12:17	1

Client Sample ID: S14946.03

Lab Sample ID: 190-23303-3

Date Collected: 06/17/20 10:25

Matrix: Water

Date Received: 06/19/20 10:15

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	42		40	ug/L		06/25/20 07:45	06/25/20 12:57	1
TOX Result 1	45		40	ug/L		06/25/20 07:45	06/25/20 12:57	1
TOX Result 2	40		40	ug/L		06/25/20 07:45	06/25/20 12:57	1
TOX Dup	42		40	ug/L		06/25/20 07:45	06/25/20 12:57	1

Client Sample ID: S14946.04

Lab Sample ID: 190-23303-4

Date Collected: 06/17/20 12:06

Matrix: Water

Date Received: 06/19/20 10:15

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/25/20 07:45	06/25/20 13:36	1
TOX Result 1	<40		40	ug/L		06/25/20 07:45	06/25/20 13:36	1
TOX Result 2	<40		40	ug/L		06/25/20 07:45	06/25/20 13:36	1
TOX Dup	<40		40	ug/L		06/25/20 07:45	06/25/20 13:36	1

QC Sample Results

Client: Merit Laboratories
Project/Site: S14946/TOX

Job ID: 190-23303-1

Method: 9020B - Organic Halides, Total (TOX)

Lab Sample ID: MB 680-623957/1-A
Matrix: Water
Analysis Batch: 624079

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 623957

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/25/20 07:45	06/25/20 09:12	1
TOX Result 1	<40		40	ug/L		06/25/20 07:45	06/25/20 09:12	1
TOX Result 2	<40		40	ug/L		06/25/20 07:45	06/25/20 09:12	1
TOX Dup	<40		40	ug/L		06/25/20 07:45	06/25/20 09:12	1

Lab Sample ID: LCS 680-623957/2-A
Matrix: Water
Analysis Batch: 624079

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 623957

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
TOX Result 1	400	430		ug/L		107	60 - 140
TOX Result 2	400	430		ug/L		107	60 - 140
TOX Dup	400	430		ug/L		107	60 - 140

Lab Sample ID: 190-23303-1 MS
Matrix: Water
Analysis Batch: 624079

Client Sample ID: S14946.01
Prep Type: Total/NA
Prep Batch: 623957

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
TOX Result 1	<40		400	460		ug/L		107	60 - 140
TOX Result 2	<40		400	460		ug/L		106	60 - 140
TOX Dup	<40		400	460		ug/L		107	60 - 140

Lab Sample ID: 190-23303-1 MSD
Matrix: Water
Analysis Batch: 624079

Client Sample ID: S14946.01
Prep Type: Total/NA
Prep Batch: 623957

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
TOX Result 1	<40		400	456		ug/L		106	60 - 140	1	40
TOX Result 2	<40		400	456		ug/L		105	60 - 140	1	40
TOX Dup	<40		400	456		ug/L		106	60 - 140	1	40

Definitions/Glossary

Client: Merit Laboratories
Project/Site: S14946/TOX

Job ID: 190-23303-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

Client: Merit Laboratories
Project/Site: S14946/TOX

Job ID: 190-23303-1

General Chemistry

Prep Batch: 623957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-23303-1	S14946.01	Total/NA	Water	Carbon Trap	
190-23303-2	S14946.02	Total/NA	Water	Carbon Trap	
190-23303-3	S14946.03	Total/NA	Water	Carbon Trap	
190-23303-4	S14946.04	Total/NA	Water	Carbon Trap	
MB 680-623957/1-A	Method Blank	Total/NA	Water	Carbon Trap	
LCS 680-623957/2-A	Lab Control Sample	Total/NA	Water	Carbon Trap	
190-23303-1 MS	S14946.01	Total/NA	Water	Carbon Trap	
190-23303-1 MSD	S14946.01	Total/NA	Water	Carbon Trap	

Analysis Batch: 624079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-23303-1	S14946.01	Total/NA	Water	9020B	623957
190-23303-2	S14946.02	Total/NA	Water	9020B	623957
190-23303-3	S14946.03	Total/NA	Water	9020B	623957
190-23303-4	S14946.04	Total/NA	Water	9020B	623957
MB 680-623957/1-A	Method Blank	Total/NA	Water	9020B	623957
LCS 680-623957/2-A	Lab Control Sample	Total/NA	Water	9020B	623957
190-23303-1 MS	S14946.01	Total/NA	Water	9020B	623957
190-23303-1 MSD	S14946.01	Total/NA	Water	9020B	623957

Lab Chronicle

Client: Merit Laboratories
Project/Site: S14946/TOX

Job ID: 190-23303-1

Client Sample ID: S14946.01

Date Collected: 06/16/20 15:32

Date Received: 06/19/20 10:15

Lab Sample ID: 190-23303-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Carbon Trap			623957	06/25/20 07:45	CLJ	TAL SAV
Total/NA	Analysis	9020B		1	624079	06/25/20 10:42	CLJ	TAL SAV

Client Sample ID: S14946.02

Date Collected: 06/16/20 16:33

Date Received: 06/19/20 10:15

Lab Sample ID: 190-23303-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Carbon Trap			623957	06/25/20 07:45	CLJ	TAL SAV
Total/NA	Analysis	9020B		1	624079	06/25/20 12:17	CLJ	TAL SAV

Client Sample ID: S14946.03

Date Collected: 06/17/20 10:25

Date Received: 06/19/20 10:15

Lab Sample ID: 190-23303-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Carbon Trap			623957	06/25/20 07:45	CLJ	TAL SAV
Total/NA	Analysis	9020B		1	624079	06/25/20 12:57	CLJ	TAL SAV

Client Sample ID: S14946.04

Date Collected: 06/17/20 12:06

Date Received: 06/19/20 10:15

Lab Sample ID: 190-23303-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Carbon Trap			623957	06/25/20 07:45	CLJ	TAL SAV
Total/NA	Analysis	9020B		1	624079	06/25/20 13:36	CLJ	TAL SAV

Laboratory References:

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Analyst References:

Lab: TAL SAV

Batch Type: Prep

CLJ = Cynthia Johnson

Batch Type: Analysis

CLJ = Cynthia Johnson

Accreditation/Certification Summary

Client: Merit Laboratories
Project/Site: S14946/TOX

Job ID: 190-23303-1

Laboratory: Eurofins TestAmerica, Michigan

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Michigan	State	0057	10-01-20

Laboratory: Eurofins TestAmerica, Savannah

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-20
Alaska	State	GA00006	06-30-20
Alaska (UST)	State	17-016	09-30-20
ANAB	Dept. of Defense ELAP	L2463	09-22-22
ANAB	ISO/IEC 17025	L2463.01	09-22-22
Arizona	State	AZ0808	12-14-20
Arkansas DEQ	State	19-015-0	02-02-21
California	State	2939	06-30-20
Colorado	State	GA00006	12-31-20
Connecticut	State	PH-0161	03-31-21
Florida	NELAP	E87052	06-30-20
Georgia	State	E87052	06-30-20
Georgia (DW)	State	803	06-30-20
Guam	State	19-007R	04-17-21
Hawaii	State	<cert No.>	06-30-20
Illinois	NELAP	004547	11-30-20
Indiana	State	C-GA-02	06-30-20
Iowa	State	353	06-30-21
Kansas	NELAP	E-10322	10-15-20
Kentucky (DW)	State	KY90084	12-31-21
Kentucky (UST)	State	<cert No.>	06-30-20
Kentucky (WW)	State	KY90084	12-31-20
Louisiana	NELAP	02011	06-30-20
Louisiana (DW)	State	LA009	12-31-20
Maine	State	GA00006	09-26-20
Maryland	State	250	12-31-20
Massachusetts	State	M-GA006	06-30-20
Michigan	State	9925	06-30-20
Mississippi	State	<cert No.>	06-30-20
Nebraska	State	NE-OS-7-04	06-30-20
New Jersey	NELAP	GA769	06-30-20
New Mexico	State	GA00006	06-30-20
New York	NELAP	10842	04-01-21
North Carolina (DW)	State	13701	07-31-20
North Carolina (WW/SW)	State	269	12-31-20
Oklahoma	State	9984	08-31-20
Pennsylvania	NELAP	68-00474	06-30-20
Puerto Rico	State	GA00006	01-01-21
South Carolina	State	98001	06-30-20
Tennessee	State	02961	06-30-20
Texas	NELAP	T1047004185-19-14	11-30-20
Texas	TCEQ Water Supply	T104704185	06-30-20
US Fish & Wildlife	US Federal Programs	LE058448-0	07-31-20

Eurofins TestAmerica, Michigan

Accreditation/Certification Summary

Client: Merit Laboratories
Project/Site: S14946/TOX

Job ID: 190-23303-1

Laboratory: Eurofins TestAmerica, Savannah (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
USDA	US Federal Programs	P330-18-00313	10-29-21
Virginia	NELAP	10509	06-14-21
Washington	State	C805	06-10-20 *
West Virginia (DW)	State	9950C	12-31-20
West Virginia DEP	State	094	07-31-20
Wisconsin	State	999819810	08-31-20
Wyoming	State	8TMS-L	06-30-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Michigan

Method Summary

Client: Merit Laboratories
Project/Site: S14946/TOX

Job ID: 190-23303-1

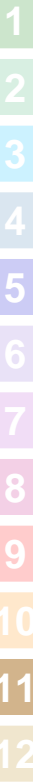
Method	Method Description	Protocol	Laboratory
9020B	Organic Halides, Total (TOX)	SW846	TAL SAV
Carbon Trap	Carbon Trap Preparation	EPA-17	TAL SAV

Protocol References:

EPA-17 = "Method 1650, Revision A, Adsorbable Organic Halides By Adsorption And Colormetric Titration," EPA, February 1992
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858





2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # ___ OF ___

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME: **John Laverty** (same) / **Julie Teague**
 COMPANY: **Merit Laboratories** / **Merit Laboratories**
 ADDRESS: **2680 East Lansing Drive** / **2680 East Lansing Drive**
 CITY: **East Lansing** / **East Lansing**
 STATE: **MI** / **MI** ZIP CODE: **48823** / **48823**
 PHONE NO.: **517-332-0167** / **517-332-0167**
 E-MAIL ADDRESS: **johnlaverty@meritlabs.com** / **juliet@meritlabs.com**

PROJECT NO./NAME: **S14946**
 SAMPLER(S) - PLEASE PRINT/SIGN NAME: _____
 TURNAROUND TIME REQUIRED: 1 DAY 2 DAYS 3 DAYS STANDARD OTHER _____
 DELIVERABLES REQUIRED: STD LEVEL II LEVEL III LEVEL IV EDD OTHER _____

MATRIX CODE: **GW=GROUNDWATER** **WW=WASTEWATER** **S=SOIL** **L=LIVID** **SD=SOLID**
SL=SLUDGE **DW=DRINKING WATER** **O=OIL** **WP=WIPE** **A=AIR** **W=WASTE**
 ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

MERT LAB NO. FOR LAB USE ONLY	YEAR	DATE	TIME	IDENTIFICATION-DESCRIPTION	MATRIX	# BOTTLES	NONE	H ₂ O	H ₂ O ₂	H ₂ SO ₄	HNO ₃	Meth	OTHER	Certifications	
														<input type="checkbox"/> OHIO VAP	<input type="checkbox"/> Drinking Water
	6/16/2020	1532		S14946.01	GW	1								<input type="checkbox"/> DoD	<input type="checkbox"/> NPDES
	6/16/2020	1633		S14946.02	GW	1								<input type="checkbox"/> Detroit	<input type="checkbox"/> New York
	6/17/2020	1025		S14946.03	GW	1								<input type="checkbox"/> Other	Special Instructions
	6/17/2020	1206		S14946.04	GW	1									



190-23303 Chain of Custody

RELINQUISHED BY: **W. Chilcote** DATE: **6/18/2020** TIME: **1400**
 RECEIVED BY: **B.P. Buser** DATE: **6/18/2020** TIME: **1400**
 RELINQUISHED BY: **B.P. Buser** DATE: **6/18/2020** TIME: **1814**
 RECEIVED BY: **Erin M** DATE: **6/18/2020** TIME: **1815**

RELINQUISHED BY: _____ DATE: _____ TIME: _____
 RECEIVED BY: _____ DATE: _____ TIME: _____

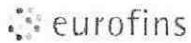
INITIALS: YES NO SEAL INTACT: YES NO

NOTES: _____ TEMP. ON ARRIVAL: _____

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.17





Environment Testing
TestAmerica

SDS or Known Hazard Information Supplied by Client
 Discrepancies Client ID: Ment Labs
 Short Hold Work Oder #: 190-23303
 Rush 24 Hr 2-Day 3-Day 5-Day Other: _____
Receipt Evaluation Performed by: Initials: AmY Date: 6/19/20 Time: 10:20

Cooler / Sample Receipt

After hours receipt: complete gray areas. Place cooler in walk-in, place form in Receiving box. Date: _____ Time: _____

Method of Shipment:

Walk-In Client Eurofins TA Field/Courier
Other Client / 3rd Party Courier: _____
Fed Ex Tracking #: _____
UPS Tracking #: _____
Other: _____

Shipping Container Type:

Cooler Box
 None Other: _____

Custody Seals Intact:

Yes No
 NA (not used or required)

Packing Materials:

Plastic Bags Foam
 Bubble Wrap Paper
 Packing Peanuts None
 Other: _____

Cooling Materials:

Ice (Solid) Ice (Melted)
 Blue Ice None
 Other: _____

Bacteriological Samples	Temp Corrected (°C)	Frozen?		Rec'd Within 2 Hrs?		Sample Flagged?	
		Yes	No	Yes	No	Yes	No

Received on same day sampled? Yes No Additional Sheets Required? Yes No

Receipt Temperatures

Thermometer ID	Observed (°C)	Corrected (°C)	Temp Blank	Sample Temp	Acceptable	Cooler ID	Affected Samples
<u>CP 313207</u>	<u>2.8</u>	<u>2.8</u>		<u>2</u>	<u>Y</u> <u>N</u>		
					<u>Y</u> <u>N</u>		
					<u>Y</u> <u>N</u>		

C.F.
0.0

Receipt Questions**	Y	N	NA	"No" answers require additional comment
CoC present and ETA receipt signature, date, and time properly documented?	<input checked="" type="checkbox"/>			
Containers and Labels in good condition? (unbroken, not leaking, appropriately filled, labels legible & attached)	<input checked="" type="checkbox"/>			
Appropriate containers used and adequate volume provided?	<input checked="" type="checkbox"/>			Preserved bottles checked for pH? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Number of sample containers match CoC?	<input checked="" type="checkbox"/>			pH strip lot # <u>150211</u>
Samples received within hold?	<input checked="" type="checkbox"/>			
Samples submitted for GRO and Volatiles analysis (8260, 624, 524) received without headspace?			<input checked="" type="checkbox"/>	
Was a Trip Blank received with VOA samples?			<input checked="" type="checkbox"/>	
Were the samples free of any questionable physical conformities? (i.e.: field duplicates or multiple bottles of the same sample do not significantly vary in appearance - color, solid proportions, etc.)	<input checked="" type="checkbox"/>			
Were the CoC bottle labels and all other items free of all other discrepancies or issues that would need to be addressed with the Project Manager and/or Client?	<input checked="" type="checkbox"/>			
**May not be applicable if samples are not for compliance testing				*Excludes FOG, VOAs, TOC Vials, HEM

Client Contact Record

Contact Via: Phone Email Other: _____ Person Contacted: _____ Date/Time: _____
 Discrepancy allowance agreement is on record in the client project file

Discussion / Resolution

Any additional documentation and clarification from the client must be noted in the narrative and/or scanned into the CoC directory.

Reviewed by [Signature] Date: 6/19/20

WI-MI-010_020720

Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Carrier Tracking No(s):	COG No:
Company: TestAmerica Laboratories, Inc.		Phone:	Schafer, Sue		190-27426-1
Address: 5102 LaRoche Avenue, Savannah, GA, 31404		E-Mail:		State of Origin:	
Phone: 912-354-7858(Tel) 912-352-0165(Fax)				Michigan	Page: 1 of 1
Email:		Accreditations Required (See note):			
Project Name: S14946/TOX		Job #: 190-23303-1			
Site:		Preservation Codes:			
Due Date Requested: 7/1/2020		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:			
TAT Requested (days):		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - H2SO4 S - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)			
PO #:		Analysis Requested			
WO #:		Total Number of Containers			
Project #: 19001249		Perform M/MSD (Yes or No)			
SSOW#:		Field Filtered Sample (Yes or No)			
		9020B/Carbon Trap			
		Special Instructions/Note:			
Sample Identification - Client ID (Lab ID)					
Sample ID	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=oil, BT=issue, A=air)	Preservation Code
S14946.01 (190-23303-1)	6/16/20	15:32 Eastern	Water	Water	X
S14946.02 (190-23303-2)	6/16/20	16:33 Eastern	Water	Water	X
S14946.03 (190-23303-3)	6/17/20	10:25 Eastern	Water	Water	X
S14946.04 (190-23303-4)	6/17/20	12:06 Eastern	Water	Water	X

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.

Possible Hazard Identification

Unconfirmed Return To Client Disposal By Lab Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify) _____ Primary Deliverable Rank: 2

Empty Kit Relinquished by: _____ Date: _____ Method of Shipment: _____

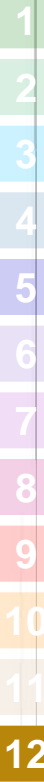
Relinquished by: _____ Date/Time: 6-19-20 1600 Company: ETA Received by: [Signature] Date/Time: 6-20-20 1000 Company: M

Relinquished by: _____ Date/Time: _____ Company: _____ Received by: _____ Date/Time: _____ Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____ Received by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: Yes No Δ No Δ No

Custody Seal No.: _____ Cooler Temperature(s) °C and Other Remarks: 4.1/4.5





Quality Control Report

Report ID: QC-S14946-01
Generated on 06/30/2020

Report to

Attention: Clifford Yantz
O'Brien & Gere Engineers, Inc.
2260 E Saginaw St
East Lansing, MI 48823

Phone: 313-333-0211 FAX:

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S14946.01-S14946.05
Project: RACER Coldwater Rd
Submitted Date/Time: 06/17/2020 13:35
Sampled by: Kevin Schneider
P.O. #: 12000277

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-6)
Prep Batch Summary (Pages 7-8)
Surrogates per Lab Sample (Pages 9-13)
Surrogates per QC Sample (Page 14)
Batch QC Results (Pages 15-28)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S14946.01

Sample Tag: B-23Dr

Collected Date/Time: 06/16/2020 15:32

Matrix: Groundwater

COC Reference: 128644

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chloride	E300.0	06/18/20 09:07	CL200618-W1-B	CL200618-W1-B	No	BLK/LCS/MS/MSD/DU
Conductivity	E120.1	06/19/20 13:40	COND200619-W1	COND200619-W1	No	BLK/LCS/DUP
Cyanide, Total	E335.4/SM4500-CN	06/19/20 10:38	CN200619-W1	CN200619-W1	No	BLK/LCS/MS/MSD/DU
Phenols	E420.1	06/26/20 16:06	PHL200626-W1	PHL200626-W1	No	BLK/LCS/MS/DUP
Sulfate	E300.0	06/18/20 09:07	SFT200618-W1-B	SFT200618-W1-B	No	BLK/LCS/MS/MSD/DU
TOC	SM5310C	06/22/20 20:44	TOC200622-W1	TOC200622-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Chromium, Dissolved	E200.8	06/24/20 12:11	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/24/20 12:11	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Iron, Dissolved	E200.8	06/24/20 12:11	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Manganese, Dissolved	E200.8	06/24/20 12:11	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/24/20 12:11	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Sodium	E200.8	06/22/20 15:06	MT4-20-0622B	MTD-062220-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/24/20 12:11	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 10:03	200618C7	VF200618W3	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S14946.02

Sample Tag: B-28

Collected Date/Time: 06/16/2020 16:33

Matrix: Groundwater

COC Reference: 128644

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chloride	E300.0	06/18/20 09:19	CL200618-W1-B	CL200618-W1-B	No	BLK/LCS/MS/MSD/DU
Conductivity	E120.1	06/19/20 13:42	COND200619-W1	COND200619-W1	No	BLK/LCS/DUP
Cyanide, Total	E335.4/SM4500-CN	06/19/20 10:46	CN200619-W1	CN200619-W1	No	BLK/LCS/MS/MSD/DU
Phenols	E420.1	06/26/20 16:10	PHL200626-W1	PHL200626-W1	No	BLK/LCS/MS/DUP
Sulfate	E300.0	06/18/20 09:19	SFT200618-W1-B	SFT200618-W1-B	No	BLK/LCS/MS/MSD/DU
TOC	SM5310C	06/22/20 21:03	TOC200622-W1	TOC200622-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Chromium, Dissolved	E200.8	06/24/20 12:13	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/24/20 12:13	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Iron, Dissolved	E200.8	06/24/20 12:13	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Manganese, Dissolved	E200.8	06/24/20 12:13	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/24/20 12:13	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Sodium	E200.8	06/22/20 15:08	MT4-20-0622B	MTD-062220-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/24/20 12:13	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 10:22	200618C7	VF200618W3	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S14946.03

Sample Tag: B-9

Collected Date/Time: 06/17/2020 10:25

Matrix: Groundwater

COC Reference: 128644

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chloride	E300.0	06/18/20 09:32	CL200618-W1-B	CL200618-W1-B	No	BLK/LCS/MS/MSD/DU
Conductivity	E120.1	06/19/20 13:44	COND200619-W1	COND200619-W1	No	BLK/LCS/DUP
Cyanide, Total	E335.4/SM4500-CN	06/19/20 10:48	CN200619-W1	CN200619-W1	No	BLK/LCS/MS/MSD/DU
Phenols	E420.1	06/26/20 16:14	PHL200626-W1	PHL200626-W1	No	BLK/LCS/MS/DUP
Sulfate	E300.0	06/18/20 12:07	SFT200618-W1-B	SFT200618-W1-B	No	BLK/LCS/MS/MSD/DU
TOC	SM5310C	06/22/20 21:23	TOC200622-W1	TOC200622-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Chromium, Dissolved	E200.8	06/24/20 12:15	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/24/20 12:15	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Iron, Dissolved	E200.8	06/24/20 12:15	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Manganese, Dissolved	E200.8	06/24/20 12:15	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/24/20 12:15	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Sodium	E200.8	06/22/20 15:10	MT4-20-0622B	MTD-062220-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/24/20 12:15	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 10:42	200618C7	VF200618W3	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S14946.04

Sample Tag: B-27D

Collected Date/Time: 06/17/2020 12:06

Matrix: Groundwater

COC Reference: 128644

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chloride	E300.0	06/18/20 09:45	CL200618-W1-B	CL200618-W1-B	No	BLK/LCS/MS/MSD/DU
Conductivity	E120.1	06/19/20 13:46	COND200619-W1	COND200619-W1	No	BLK/LCS/DUP
Cyanide, Total	E335.4/SM4500-CN	06/19/20 10:50	CN200619-W1	CN200619-W1	No	BLK/LCS/MS/MSD/DU
Phenols	E420.1	06/26/20 16:16	PHL200626-W1	PHL200626-W1	No	BLK/LCS/MS/DUP
Sulfate	E300.0	06/18/20 09:45	SFT200618-W1-B	SFT200618-W1-B	No	BLK/LCS/MS/MSD/DU
TOC	SM5310C	06/22/20 21:43	TOC200622-W1	TOC200622-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Chromium, Dissolved	E200.8	06/24/20 12:17	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/24/20 12:17	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Iron, Dissolved	E200.8	06/24/20 12:17	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Manganese, Dissolved	E200.8	06/24/20 12:17	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/24/20 12:17	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Sodium	E200.8	06/22/20 15:11	MT4-20-0622B	MTD-062220-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/24/20 12:17	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 11:01	200618C7	VF200618W3	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S14946.05

Sample Tag: Trip Blank 061720

Collected Date/Time: 06/17/2020 00:01

Matrix: Water

COC Reference: 128644

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 11:21	200618C7	VF200618W3	Yes	BLK/LCS/LCSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: CL200618-W1-B

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S14946.01	Chloride	E300.0	06/18/20 09:07	CL200618-W1-B
S14946.02	Chloride	E300.0	06/18/20 09:19	CL200618-W1-B
S14946.03	Chloride	E300.0	06/18/20 09:32	CL200618-W1-B
S14946.04	Chloride	E300.0	06/18/20 09:45	CL200618-W1-B

Inorganics, Prep Batch ID: CN200619-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S14946.01	Cyanide, Total	E335.4/SM4500-CN	06/19/20 10:38	CN200619-W1
S14946.02	Cyanide, Total	E335.4/SM4500-CN	06/19/20 10:46	CN200619-W1
S14946.03	Cyanide, Total	E335.4/SM4500-CN	06/19/20 10:48	CN200619-W1
S14946.04	Cyanide, Total	E335.4/SM4500-CN	06/19/20 10:50	CN200619-W1

Inorganics, Prep Batch ID: COND200619-W1

Surrogates: No, QC Types: BLK/LCS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S14946.01	Conductivity	E120.1	06/19/20 13:40	COND200619-W1
S14946.02	Conductivity	E120.1	06/19/20 13:42	COND200619-W1
S14946.03	Conductivity	E120.1	06/19/20 13:44	COND200619-W1
S14946.04	Conductivity	E120.1	06/19/20 13:46	COND200619-W1

Inorganics, Prep Batch ID: PHL200626-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S14946.01	Phenols	E420.1	06/26/20 16:06	PHL200626-W1
S14946.02	Phenols	E420.1	06/26/20 16:10	PHL200626-W1
S14946.03	Phenols	E420.1	06/26/20 16:14	PHL200626-W1
S14946.04	Phenols	E420.1	06/26/20 16:16	PHL200626-W1

Inorganics, Prep Batch ID: SFT200618-W1-B

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S14946.01	Sulfate	E300.0	06/18/20 09:07	SFT200618-W1-B
S14946.02	Sulfate	E300.0	06/18/20 09:19	SFT200618-W1-B
S14946.03	Sulfate	E300.0	06/18/20 12:07	SFT200618-W1-B
S14946.04	Sulfate	E300.0	06/18/20 09:45	SFT200618-W1-B

Inorganics, Prep Batch ID: TOC200622-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S14946.01	TOC	SM5310C	06/22/20 20:44	TOC200622-W1
S14946.02	TOC	SM5310C	06/22/20 21:03	TOC200622-W1
S14946.03	TOC	SM5310C	06/22/20 21:23	TOC200622-W1
S14946.04	TOC	SM5310C	06/22/20 21:43	TOC200622-W1

Metals, Prep Batch ID: MTD-062220-3

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S14946.01	Sodium	E200.8	06/22/20 15:06	MT4-20-0622B
S14946.02	Sodium	E200.8	06/22/20 15:08	MT4-20-0622B

QC Report - Prep Batch Summary

Metals, Prep Batch ID: MTD-062220-3 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S14946.03	Sodium	E200.8	06/22/20 15:10	MT4-20-0622B
S14946.04	Sodium	E200.8	06/22/20 15:11	MT4-20-0622B

Metals, Prep Batch ID: MTD-062420-4

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S14946.01	Chromium, Dissolved	E200.8	06/24/20 12:11	MT4-20-0624B
S14946.01	Copper, Dissolved	E200.8	06/24/20 12:11	MT4-20-0624B
S14946.01	Iron, Dissolved	E200.8	06/24/20 12:11	MT4-20-0624B
S14946.01	Manganese, Dissolved	E200.8	06/24/20 12:11	MT4-20-0624B
S14946.01	Nickel, Dissolved	E200.8	06/24/20 12:11	MT4-20-0624B
S14946.01	Zinc, Dissolved	E200.8	06/24/20 12:11	MT4-20-0624B
S14946.02	Chromium, Dissolved	E200.8	06/24/20 12:13	MT4-20-0624B
S14946.02	Copper, Dissolved	E200.8	06/24/20 12:13	MT4-20-0624B
S14946.02	Iron, Dissolved	E200.8	06/24/20 12:13	MT4-20-0624B
S14946.02	Manganese, Dissolved	E200.8	06/24/20 12:13	MT4-20-0624B
S14946.02	Nickel, Dissolved	E200.8	06/24/20 12:13	MT4-20-0624B
S14946.02	Zinc, Dissolved	E200.8	06/24/20 12:13	MT4-20-0624B
S14946.03	Chromium, Dissolved	E200.8	06/24/20 12:15	MT4-20-0624B
S14946.03	Copper, Dissolved	E200.8	06/24/20 12:15	MT4-20-0624B
S14946.03	Iron, Dissolved	E200.8	06/24/20 12:15	MT4-20-0624B
S14946.03	Manganese, Dissolved	E200.8	06/24/20 12:15	MT4-20-0624B
S14946.03	Nickel, Dissolved	E200.8	06/24/20 12:15	MT4-20-0624B
S14946.03	Zinc, Dissolved	E200.8	06/24/20 12:15	MT4-20-0624B
S14946.04	Chromium, Dissolved	E200.8	06/24/20 12:17	MT4-20-0624B
S14946.04	Copper, Dissolved	E200.8	06/24/20 12:17	MT4-20-0624B
S14946.04	Iron, Dissolved	E200.8	06/24/20 12:17	MT4-20-0624B
S14946.04	Manganese, Dissolved	E200.8	06/24/20 12:17	MT4-20-0624B
S14946.04	Nickel, Dissolved	E200.8	06/24/20 12:17	MT4-20-0624B
S14946.04	Zinc, Dissolved	E200.8	06/24/20 12:17	MT4-20-0624B

Organics - Volatiles, Prep Batch ID: VF200618W3

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S14946.01	Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 10:03	200618C7
S14946.02	Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 10:22	200618C7
S14946.03	Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 10:42	200618C7
S14946.04	Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 11:01	200618C7
S14946.05	Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 11:21	200618C7

QC Report - Surrogates per Lab Sample

Lab Sample ID: S14946.01

Sample Tag: B-23Dr

Collected Date/Time: 06/16/2020 15:32

Matrix: Groundwater

COC Reference: 128644

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 200618C7, Run Date: 06/19/2020 10:03, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		93.7	80.0	124.0
1,2-Dichloroethane-D4		96.6	72.0	125.0
Toluene-D8		99.2	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S14946.02

Sample Tag: B-28

Collected Date/Time: 06/16/2020 16:33

Matrix: Groundwater

COC Reference: 128644

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 200618C7, Run Date: 06/19/2020 10:22, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.5	80.0	124.0
1,2-Dichloroethane-D4		97.2	72.0	125.0
Toluene-D8		99.0	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S14946.03

Sample Tag: B-9

Collected Date/Time: 06/17/2020 10:25

Matrix: Groundwater

COC Reference: 128644

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 200618C7, Run Date: 06/19/2020 10:42, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.7	80.0	124.0
1,2-Dichloroethane-D4		95.3	72.0	125.0
Toluene-D8		99.2	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S14946.04

Sample Tag: B-27D

Collected Date/Time: 06/17/2020 12:06

Matrix: Groundwater

COC Reference: 128644

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 200618C7, Run Date: 06/19/2020 11:01, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		95.4	80.0	124.0
1,2-Dichloroethane-D4		96.7	72.0	125.0
Toluene-D8		98.5	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S14946.05

Sample Tag: Trip Blank 061720

Collected Date/Time: 06/17/2020 00:01

Matrix: Water

COC Reference: 128644

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 200618C7, Run Date: 06/19/2020 11:21, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.5	80.0	124.0
1,2-Dichloroethane-D4		92.9	72.0	125.0
Toluene-D8		99.4	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF200618W3

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 200618C7.BLKW18C

Run in Batch: 200618C7, Run Date: 06/19/2020 05:52, Prep Date: 06/18/2020, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.6	80.0	124.0
1,2-Dichloroethane-D4		95.1	72.0	125.0
Toluene-D8		99.0	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 200618C7.LCSW18C

Run in Batch: 200618C7, Run Date: 06/19/2020 04:34, Prep Date: 06/18/2020, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		95.6	80.0	124.0
1,2-Dichloroethane-D4		94.2	72.0	125.0
Toluene-D8		99.2	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 200618C7.LCSDW18C, Parent Sample ID: 200618C7.LCSW18C

Run in Batch: 200618C7, Run Date: 06/19/2020 04:54, Prep Date: 06/18/2020, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		95.0	80.0	124.0
1,2-Dichloroethane-D4		92.6	72.0	125.0
Toluene-D8		99.0	89.0	112.0

QC Report - Batch QC Results

Inorganics, Prep Batch ID: CL200618-W1-B

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: CL200618-W1-B.LRB1

Run in Batch: CL200618-W1-B, Run Date: 06/18/2020 08:28, Prep Date: 06/18/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Chloride		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: CL200618-W1-B.LCS1

Run in Batch: CL200618-W1-B, Run Date: 06/18/2020 08:54, Prep Date: 06/18/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chloride		99	90	110

Matrix Spike (MS)

Lab Sample ID: CL200618-W1-B.MS1, Parent Sample ID: S14946.01

Run in Batch: CL200618-W1-B, Run Date: 06/18/2020 11:28, Prep Date: 06/18/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chloride		108	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: CL200618-W1-B.MSD1, Parent Sample ID: CL200618-W1-B.MS1

Run in Batch: CL200618-W1-B, Run Date: 06/18/2020 11:41, Prep Date: 06/18/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chloride		108	80	120	0	15

Duplicate (DUP)

Lab Sample ID: CL200618-W1-B.DP1, Parent Sample ID: S14946.01

Run in Batch: CL200618-W1-B, Run Date: 06/18/2020 11:15, Prep Date: 06/18/2020, Matrix: Liquid, Dilution: 10

Analyte	Flags	RPD	RPD CL
Chloride		<1	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: CN200619-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: CN200619-W1.LRB1

Run in Batch: CN200619-W1, Run Date: 06/19/2020 10:30, Prep Date: 06/19/2020, Matrix: Liquid, Dilution: 2

Analyte	Flags	Conc	RDL	Units
Cyanide, Total		ND	0.004	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: CN200619-W1.LCS1

Run in Batch: CN200619-W1, Run Date: 06/19/2020 10:36, Prep Date: 06/19/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Cyanide, Total		101	90	110

Matrix Spike (MS)

Lab Sample ID: CN200619-W1.MS1, Parent Sample ID: S14946.01

Run in Batch: CN200619-W1, Run Date: 06/19/2020 10:42, Prep Date: 06/19/2020, Matrix: Liquid, Dilution: 2

Analyte	Flags	% Rec	LCL	UCL
Cyanide, Total		92	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: CN200619-W1.MSD1, Parent Sample ID: CN200619-W1.MS1

Run in Batch: CN200619-W1, Run Date: 06/19/2020 10:44, Prep Date: 06/19/2020, Matrix: Liquid, Dilution: 2

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Cyanide, Total		90	80	120	2	15

Duplicate (DUP)

Lab Sample ID: CN200619-W1.DP1, Parent Sample ID: S14946.01

Run in Batch: CN200619-W1, Run Date: 06/19/2020 10:40, Prep Date: 06/19/2020, Matrix: Liquid, Dilution: 2

Analyte	Flags	RPD	RPD CL
Cyanide, Total		<1	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: COND200619-W1

Surrogates: No, QC Types: BLK/LCS/DUP

Blank (BLK)

Lab Sample ID: COND200619-W1.LRB1

Run in Batch: COND200619-W1, Run Date: 06/19/2020 13:00, Prep Date: 06/19/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Conductivity		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: COND200619-W1.LCS1

Run in Batch: COND200619-W1, Run Date: 06/19/2020 13:06, Prep Date: 06/19/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Conductivity		95	90	110

Duplicate (DUP)

Lab Sample ID: COND200619-W1.DP1, Parent Sample ID: S14883.01

Run in Batch: COND200619-W1, Run Date: 06/19/2020 13:12, Prep Date: 06/19/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
Conductivity		<1	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: PHL200626-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: PHL200626-W1.LRB1

Run in Batch: PHL200626-W1, Run Date: 06/26/2020 16:00, Prep Date: 06/26/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Phenols		ND	0.01	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: PHL200626-W1.LCS1

Run in Batch: PHL200626-W1, Run Date: 06/26/2020 16:04, Prep Date: 06/26/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Phenols		101	90	110

Matrix Spike (MS)

Lab Sample ID: PHL200626-W1.MS1, Parent Sample ID: S14946.02

Run in Batch: PHL200626-W1, Run Date: 06/26/2020 16:12, Prep Date: 06/26/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Phenols		102	90	110

Duplicate (DUP)

Lab Sample ID: PHL200626-W1.DP1, Parent Sample ID: S14946.01

Run in Batch: PHL200626-W1, Run Date: 06/26/2020 16:08, Prep Date: 06/26/2020, Matrix: Liquid, Dilution: 1.7

Analyte	Flags	RPD	RPD CL
Phenols		<1	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: SFT200618-W1-B

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: SFT200618-W1-B.LRB1

Run in Batch: SFT200618-W1-B, Run Date: 06/18/2020 08:28, Prep Date: 06/18/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Sulfate		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: SFT200618-W1-B.LCS1

Run in Batch: SFT200618-W1-B, Run Date: 06/18/2020 08:54, Prep Date: 06/18/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Sulfate		99	90	110

Matrix Spike (MS)

Lab Sample ID: SFT200618-W1-B.MS1, Parent Sample ID: S14946.01

Run in Batch: SFT200618-W1-B, Run Date: 06/18/2020 11:28, Prep Date: 06/18/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Sulfate		104	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT200618-W1-B.MSD1, Parent Sample ID: SFT200618-W1-B.MS1

Run in Batch: SFT200618-W1-B, Run Date: 06/18/2020 11:41, Prep Date: 06/18/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Sulfate		104	80	120	0	15

Duplicate (DUP)

Lab Sample ID: SFT200618-W1-B.DP1, Parent Sample ID: S14946.01

Run in Batch: SFT200618-W1-B, Run Date: 06/18/2020 11:15, Prep Date: 06/18/2020, Matrix: Liquid, Dilution: 10

Analyte	Flags	RPD	RPD CL
Sulfate		<1	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: TOC200622-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: TOC200622-W1.LRB1

Run in Batch: TOC200622-W1, Run Date: 06/22/2020 12:25, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
TOC		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: TOC200622-W1.LCS1

Run in Batch: TOC200622-W1, Run Date: 06/22/2020 13:04, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
TOC		108	90	110

Matrix Spike (MS)

Lab Sample ID: TOC200622-W1.MS1, Parent Sample ID: S14883.02

Run in Batch: TOC200622-W1, Run Date: 06/22/2020 15:43, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
TOC		93	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: TOC200622-W1.MSD1, Parent Sample ID: TOC200622-W1.MS1

Run in Batch: TOC200622-W1, Run Date: 06/22/2020 16:03, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
TOC		92	80	120	1	15

Duplicate (DUP)

Lab Sample ID: TOC200622-W1.DP1, Parent Sample ID: S14883.01

Run in Batch: TOC200622-W1, Run Date: 06/22/2020 15:04, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
TOC		2	15

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-062220-3

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Blank (BLK)

Lab Sample ID: MT4-20-0622B.014.LRB

Run in Batch: MT4-20-0622B, Run Date: 06/22/2020 14:58, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Sodium		ND	0.05	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: MT4-20-0622B.013.LCS

Run in Batch: MT4-20-0622B, Run Date: 06/22/2020 14:53, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Sodium		97	85	115

Matrix Spike (MS)

Lab Sample ID: MT4-20-0622B.034.MS, Parent Sample ID: S14973.02

Run in Batch: MT4-20-0622B, Run Date: 06/22/2020 15:18, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Sodium		100	75	125

Matrix Spike (MS)

Lab Sample ID: MT4-20-0622B.053.MS, Parent Sample ID: S15058.02

Run in Batch: MT4-20-0622B, Run Date: 06/22/2020 15:33, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Sodium		97	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-20-0622B.035.MSD, Parent Sample ID: MT4-20-0622B.034.MS

Run in Batch: MT4-20-0622B, Run Date: 06/22/2020 15:19, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Sodium		98	75	125	2	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-20-0622B.054.MSD, Parent Sample ID: MT4-20-0622B.053.MS

Run in Batch: MT4-20-0622B, Run Date: 06/22/2020 15:34, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Sodium		106	75	125	8	20

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-062420-4

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Blank (BLK)

Lab Sample ID: MT4-20-0624B.021.LRB

Run in Batch: MT4-20-0624B, Run Date: 06/24/2020 11:49, Prep Date: 06/24/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Chromium		ND	0.001	mg/L
Copper		ND	0.001	mg/L
Iron		ND	0.004	mg/L
Manganese		ND	0.001	mg/L
Nickel		ND	0.001	mg/L
Zinc		ND	0.001	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: MT4-20-0624B.019.LCS

Run in Batch: MT4-20-0624B, Run Date: 06/24/2020 11:48, Prep Date: 06/24/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chromium		99	85	115
Copper		101	85	115
Iron		103	85	115
Manganese		105	85	115
Nickel		101	85	115
Zinc		102	85	115

Matrix Spike (MS)

Lab Sample ID: MT4-20-0624B.041.MS, Parent Sample ID: S14973.04

Run in Batch: MT4-20-0624B, Run Date: 06/24/2020 12:30, Prep Date: 06/24/2020, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Chromium		102	75	125
Copper		96	75	125
Iron		102	75	125
Manganese		103	75	125
Nickel		100	75	125
Zinc		98	75	125

Matrix Spike (MS)

Lab Sample ID: MT4-20-0624B.065.MS, Parent Sample ID: S14973.06

Run in Batch: MT4-20-0624B, Run Date: 06/24/2020 13:00, Prep Date: 06/24/2020, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Chromium		105	75	125
Copper		99	75	125
Iron		112	75	125
Manganese		109	75	125
Nickel		104	75	125
Zinc		104	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-20-0624B.042.MSD, Parent Sample ID: MT4-20-0624B.041.MS

Run in Batch: MT4-20-0624B, Run Date: 06/24/2020 12:31, Prep Date: 06/24/2020, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium		98	75	125	4	20
Copper		94	75	125	2	20

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-062420-4 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT4-20-0624B.042.MSD, Parent Sample ID: MT4-20-0624B.041.MS

Run in Batch: MT4-20-0624B, Run Date: 06/24/2020 12:31, Prep Date: 06/24/2020, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Iron		100	75	125	1	20
Manganese		99	75	125	3	20
Nickel		98	75	125	2	20
Zinc		96	75	125	2	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-20-0624B.066.MSD, Parent Sample ID: MT4-20-0624B.065.MS

Run in Batch: MT4-20-0624B, Run Date: 06/24/2020 13:01, Prep Date: 06/24/2020, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium		101	75	125	4	20
Copper		95	75	125	4	20
Iron		104	75	125	6	20
Manganese		103	75	125	5	20
Nickel		99	75	125	5	20
Zinc		99	75	125	5	20

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF200618W3

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 200618C7.BLKW18C

Run in Batch: 200618C7, Run Date: 06/19/2020 05:52, Prep Date: 06/18/2020, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	1.00	ug/l
Acetone		ND	10.00	ug/l
Methyl iodide		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Chloroform		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	2.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF200618W3 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Blank (BLK) (continued)

Lab Sample ID: 200618C7.BLKW18C

Run in Batch: 200618C7, Run Date: 06/19/2020 05:52, Prep Date: 06/18/2020, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bromoform		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l
2-Methylnaphthalene		ND	1.00	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 200618C7.LCSW18C

Run in Batch: 200618C7, Run Date: 06/19/2020 04:34, Prep Date: 06/18/2020, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		118.8	67.4	121.2
Acetone		108.7	29.9	161.5
Methyl iodide		110.2	68.8	116.4
Carbon disulfide		111.1	63.8	137.4
tert-Methyl butyl ether (MTBE)		113.8	73.2	122.4
Acrylonitrile		119.9	69.9	128.9
2-Butanone (MEK)		104.7	44.0	134.4
Dichlorodifluoromethane		132.2	10.0	222.8
Chloromethane		131.0	23.8	166.5
Vinyl chloride		128.1	43.5	149.1
Bromomethane		111.6	56.8	151.3
Chloroethane		121.7	53.4	149.4
Trichlorofluoromethane		106.2	59.7	151.8
1,1-Dichloroethene		111.6	69.6	139.4
Methylene chloride		109.6	73.3	121.1
trans-1,2-Dichloroethene		115.9	73.6	129.3
1,1-Dichloroethane		117.6	71.5	126.2
cis-1,2-Dichloroethene		114.8	76.6	122.1
Tetrahydrofuran		115.4	59.0	117.9
Chloroform		113.0	78.4	124.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF200618W3 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 200618C7.LCSW18C

Run in Batch: 200618C7, Run Date: 06/19/2020 04:34, Prep Date: 06/18/2020, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane		113.2	78.2	120.8
1,1,1-Trichloroethane		109.4	79.4	130.9
4-Methyl-2-pentanone (MIBK)		114.0	71.6	125.2
2-Hexanone		120.2	55.4	136.9
Carbon tetrachloride		102.3	72.6	133.0
Benzene		115.2	79.9	124.9
1,2-Dichloroethane		102.9	76.0	126.3
Trichloroethene		110.4	79.7	124.2
1,2-Dichloropropane		115.7	78.6	126.4
Bromodichloromethane		107.9	80.4	128.2
Dibromomethane		106.1	76.9	122.1
cis-1,3-Dichloropropene		106.2	79.8	129.9
Toluene		111.2	79.8	124.5
trans-1,3-Dichloropropene		105.0	74.0	131.3
1,1,2-Trichloroethane		111.9	78.7	123.1
Tetrachloroethene		104.0	74.5	124.5
trans-1,4-Dichloro-2-butene		91.6	68.6	135.4
Dibromochloromethane		103.0	74.6	127.2
1,2-Dibromoethane		107.9	70.3	133.7
Chlorobenzene		108.2	79.2	122.7
1,1,1,2-Tetrachloroethane		103.2	80.3	128.2
Ethylbenzene		110.8	79.5	129.1
p,m-Xylene		107.9	79.4	132.2
o-Xylene		107.5	80.2	131.0
Styrene		103.4	69.5	126.7
Isopropylbenzene		108.1	74.4	121.5
Bromoform		98.8	69.4	128.0
1,1,2,2-Tetrachloroethane		108.1	79.8	126.3
1,2,3-Trichloropropane		106.8	78.3	138.8
n-Propylbenzene		108.5	82.0	130.7
Bromobenzene		103.5	78.7	124.6
1,3,5-Trimethylbenzene		105.3	81.3	128.9
tert-Butylbenzene		102.8	80.7	128.9
1,2,4-Trimethylbenzene		104.2	81.4	130.8
sec-Butylbenzene		107.3	77.4	129.8
p-Isopropyltoluene		105.8	79.8	137.5
1,3-Dichlorobenzene		104.1	77.0	131.3
1,4-Dichlorobenzene		104.0	20.7	137.7
1,2-Dichlorobenzene		107.0	10.0	166.2
1,2,3-Trimethylbenzene		107.6	76.3	124.2
n-Butylbenzene		102.7	80.0	133.3
Hexachloroethane		97.5	23.8	138.1
1,2-Dibromo-3-chloropropane		107.1	21.2	189.4
1,2,4-Trichlorobenzene		94.0	27.4	143.4
1,2,3-Trichlorobenzene		90.7	75.4	131.4
Naphthalene		99.2	32.9	135.8

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF200618W3 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 200618C7.LCSW18C

Run in Batch: 200618C7, Run Date: 06/19/2020 04:34, Prep Date: 06/18/2020, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		89.0	25.5	165.5

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 200618C7.LCSDW18C, Parent Sample ID: 200618C7.LCSW18C

Run in Batch: 200618C7, Run Date: 06/19/2020 04:54, Prep Date: 06/18/2020, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		111.4	67.4	121.2	6.4	30.0
Acetone		121.6	29.9	161.5	11.2	30.0
Methyl iodide		104.4	68.8	116.4	5.4	30.0
Carbon disulfide		105.9	63.8	137.4	4.8	30.0
tert-Methyl butyl ether (MTBE)		107.7	73.2	122.4	5.5	30.0
Acrylonitrile		114.4	69.9	128.9	4.7	30.0
2-Butanone (MEK)		103.8	44.0	134.4	0.9	30.0
Dichlorodifluoromethane		128.0	10.0	222.8	3.3	30.0
Chloromethane		125.3	23.8	166.5	4.4	30.0
Vinyl chloride		123.2	43.5	149.1	3.9	30.0
Bromomethane		108.1	56.8	151.3	3.2	30.0
Chloroethane		115.7	53.4	149.4	5.1	30.0
Trichlorofluoromethane		102.1	59.7	151.8	4.0	30.0
1,1-Dichloroethene		106.6	69.6	139.4	4.5	30.0
Methylene chloride		103.5	73.3	121.1	5.7	30.0
trans-1,2-Dichloroethene		110.2	73.6	129.3	5.1	30.0
1,1-Dichloroethane		111.2	71.5	126.2	5.6	30.0
cis-1,2-Dichloroethene		107.9	76.6	122.1	6.2	30.0
Tetrahydrofuran		111.7	59.0	117.9	3.3	30.0
Chloroform		106.9	78.4	124.0	5.6	30.0
Bromochloromethane		106.2	78.2	120.8	6.4	30.0
1,1,1-Trichloroethane		104.7	79.4	130.9	4.4	30.0
4-Methyl-2-pentanone (MIBK)		111.7	71.6	125.2	2.0	30.0
2-Hexanone		116.5	55.4	136.9	3.1	30.0
Carbon tetrachloride		98.8	72.6	133.0	3.4	30.0
Benzene		110.5	79.9	124.9	4.2	30.0
1,2-Dichloroethane		97.2	76.0	126.3	5.7	30.0
Trichloroethene		105.3	79.7	124.2	4.8	30.0
1,2-Dichloropropane		110.9	78.6	126.4	4.2	30.0
Bromodichloromethane		103.7	80.4	128.2	4.0	30.0
Dibromomethane		101.4	76.9	122.1	4.5	30.0
cis-1,3-Dichloropropene		102.8	79.8	129.9	3.2	30.0
Toluene		108.3	79.8	124.5	2.6	30.0
trans-1,3-Dichloropropene		102.4	74.0	131.3	2.5	30.0
1,1,2-Trichloroethane		108.8	78.7	123.1	2.8	30.0
Tetrachloroethene		99.7	74.5	124.5	4.2	30.0
trans-1,4-Dichloro-2-butene		89.0	68.6	135.4	2.8	30.0
Dibromochloromethane		99.5	74.6	127.2	3.4	30.0
1,2-Dibromoethane		104.5	70.3	133.7	3.3	30.0
Chlorobenzene		104.3	79.2	122.7	3.7	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF200618W3 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 200618C7.LCSDW18C, Parent Sample ID: 200618C7.LCSW18C

Run in Batch: 200618C7, Run Date: 06/19/2020 04:54, Prep Date: 06/18/2020, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		97.7	80.3	128.2	5.4	30.0
Ethylbenzene		107.4	79.5	129.1	3.2	30.0
p,m-Xylene		103.9	79.4	132.2	3.8	30.0
o-Xylene		103.5	80.2	131.0	3.9	30.0
Styrene		101.1	69.5	126.7	2.3	30.0
Isopropylbenzene		104.4	74.4	121.5	3.5	30.0
Bromoform		95.2	69.4	128.0	3.7	30.0
1,1,2,2-Tetrachloroethane		104.6	79.8	126.3	3.3	30.0
1,2,3-Trichloropropane		103.5	78.3	138.8	3.1	30.0
n-Propylbenzene		105.5	82.0	130.7	2.8	30.0
Bromobenzene		99.3	78.7	124.6	4.1	30.0
1,3,5-Trimethylbenzene		102.2	81.3	128.9	2.9	30.0
tert-Butylbenzene		99.8	80.7	128.9	3.0	30.0
1,2,4-Trimethylbenzene		100.6	81.4	130.8	3.6	30.0
sec-Butylbenzene		106.4	77.4	129.8	0.8	30.0
p-Isopropyltoluene		103.0	79.8	137.5	2.7	30.0
1,3-Dichlorobenzene		102.6	77.0	131.3	1.4	30.0
1,4-Dichlorobenzene		102.8	20.7	137.7	1.2	30.0
1,2-Dichlorobenzene		105.2	10.0	166.2	1.7	30.0
1,2,3-Trimethylbenzene		105.9	76.3	124.2	1.6	30.0
n-Butylbenzene		100.1	80.0	133.3	2.5	30.0
Hexachloroethane		96.6	23.8	138.1	0.9	30.0
1,2-Dibromo-3-chloropropane		104.2	21.2	189.4	2.8	30.0
1,2,4-Trichlorobenzene		95.3	27.4	143.4	1.4	30.0
1,2,3-Trichlorobenzene		93.3	75.4	131.4	2.8	30.0
Naphthalene		99.4	32.9	135.8	0.2	30.0
2-Methylnaphthalene		91.3	25.5	165.5	2.6	30.0



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C.O.C. PAGE # 1 OF 1

128644

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME Clifford Yantz
 COMPANY O'Brien + Gere, A Ramboll Company
 ADDRESS 2260 East Saginaw
 CITY East Lansing STATE MI ZIP CODE 48823
 PHONE NO. 313-333-0211 FAX NO. _____ P.O. NO. _____
 E-MAIL ADDRESS clifford.yantz@Ramboll.com QUOTE NO. _____

CONTACT NAME _____ SAME
 COMPANY _____
 ADDRESS _____
 CITY _____ STATE _____ ZIP CODE _____
 PHONE NO. _____ E-MAIL ADDRESS _____

PROJECT NO./NAME RALER Colowater rd SAMPLER(S) - PLEASE PRINT/SIGN NAME [Signature]
 TURNAROUND TIME REQUIRED 1 DAY 2 DAYS 3 DAYS STANDARD OTHER _____
 DELIVERABLES REQUIRED STD LEVEL II LEVEL III LEVEL IV EDD OTHER _____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID
 SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

Containers & Preservatives

VOLs	TOC	Phenols	Cyanide	Sulfate	Specific Conductivity	Dissolved Metals	Chlorides	TDX	Total Sodium
------	-----	---------	---------	---------	-----------------------	------------------	-----------	-----	--------------

Certifications
 OHIO VAP Drinking Water
 DoD NPDES
 Project Locations
 Detroit New York
 Other _____
 Special Instructions

MERIT LAB NO. <small>FOR LAB USE ONLY</small>	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER	VOLs	TOC	Phenols	Cyanide	Sulfate	Specific Conductivity	Dissolved Metals	Chlorides	TDX	Total Sodium	Special Instructions
	DATE	TIME																					
14946.01	6/16/20	1532	B-23 Dr	GW	11	1	3	2	4	1			X	X	X	X	X	X	X	X	X	X	Dissolved Metals were Field Filtered
.02	6/16/20	1633	B-28										X	X	X	X	X	X	X	X	X	X	
.03	6/17/20	1025	B-9										X	X	X	X	X	X	X	X	X	X	
.04	6/17/20	1206	B-27D										X	X	X	X	X	X	X	X	X	X	Metals ARE
.05	6/17/20	-	Trip Blank 061720	QL	1	1							X										Cu, Cr, Ni, Zn, Fe, Mn

RELINQUISHED BY: [Signature] Sampler DATE 6/17/20 TIME 1242
 RECEIVED BY: [Signature] DATE 6/17/20 TIME 10:40
 RELINQUISHED BY: [Signature] DATE 6/17/20 TIME 13:35
 RECEIVED BY: [Signature] DATE 6/17/20 TIME 13:35

RELINQUISHED BY: _____ DATE _____ TIME _____
 RECEIVED BY: _____ DATE _____ TIME _____
 SEAL NO. SEAL INTACT YES NO INITIALS _____
 SEAL NO. SEAL INTACT YES NO INITIALS _____
 NOTES: TEMP. ON ARRIVAL 4.7

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE



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C.O.C. PAGE # _____ OF _____

REPORT TO **CHAIN OF CUSTODY RECORD** **INVOICE TO**

CONTACT NAME **John Laverty**
 COMPANY **Merit Laboratories**
 ADDRESS **2680 East Lansing Drive**
 CITY **East Lansing** STATE **MI** ZIP CODE **48823**
 PHONE NO. **517-332-0167** FAX NO. **517-332-4034** P.O. NO. _____
 E-MAIL ADDRESS **johnlaverty@meritlabs.com** QUOTE NO. _____

CONTACT NAME **Julie Teague** SAME
 COMPANY **Merit Laboratories**
 ADDRESS **2680 East Lansing Drive**
 CITY **East Lansing** STATE **MI** ZIP CODE **48823**
 PHONE NO. **517-332-0167** E-MAIL ADDRESS **juliet@meritlabs.com**

PROJECT NO./NAME **S14946** SAMPLER(S) - PLEASE PRINT/SIGN NAME _____
 TURNAROUND TIME REQUIRED 1 DAY 2 DAYS 3 DAYS STANDARD OTHER _____
 DELIVERABLES REQUIRED STD LEVEL II LEVEL III LEVEL IV EDD OTHER _____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID
 SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

MERIT LAB NO. <small>FOR LAB USE ONLY</small>	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives								TOX
	DATE	TIME				NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER		
	6/16/2020	1532	S14946.01	GW	1				1					✓
	6/16/2020	1633	S14946.02	GW	1				1					✓
	6/17/2020	1025	S14946.03	GW	1				1					✓
	6/17/2020	1206	S14946.04	GW	1				1					✓

Certifications
 OHIO VAP Drinking Water
 DoD NPDES
 Project Locations
 Detroit New York
 Other _____
 Special Instructions _____

Subcontracted to
 Test America

RELINQUISHED BY: *M Chilcote* Sampler DATE **6/18/2020** TIME _____
 SIGNATURE/ORGANIZATION _____
 RECEIVED BY: _____ DATE _____ TIME _____
 SIGNATURE/ORGANIZATION _____

RELINQUISHED BY: _____ DATE _____ TIME _____
 SIGNATURE/ORGANIZATION _____
 RECEIVED BY: _____ DATE _____ TIME _____
 SIGNATURE/ORGANIZATION _____

SEAL NO. _____ SEAL INTACT YES NO INITIALS _____
 SEAL NO. _____ SEAL INTACT YES NO INITIALS _____

NOTES: _____ TEMP. ON ARRIVAL _____



Analytical Laboratory Report

Report ID: S14973.01(01)
Generated on 06/30/2020

Report to

Attention: Clifford Yantz
O'Brien & Gere Engineers, Inc.
2260 E Saginaw St
East Lansing, MI 48823

Phone: 313-333-0211 FAX:
Email: Clifford.Yantz@obg.com

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:

John Lavery (johnlavery@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S14973.01-S14973.09
Project: RACER Coldwater Rd
Collected Date(s): 06/17/2020 - 06/18/2020
Submitted Date/Time: 06/18/2020 14:40
Sampled by: Kevin Schneider
P.O. #: 12000277

Table of Contents

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Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched



Analytical Laboratory Report

Method Summary

Method	Version
E120.1	EPA Method 120.1 Revision 1982
E200.8	EPA Method 200.8 Revision 5.4
E300.0	EPA Method 300.0 Revision 2.1
E335.4/SM4500-CN	EPA Method 335.4 Revision 1.0 / Standard Method 4500-CN E 20th Edition
E420.1	EPA Method 420.1 Editorial Revision 1978
N/A	Not Applicable
SM5310C	Standard Method 5310C 2011
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003



Analytical Laboratory Report

Sample Summary (9 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S14973.01	B-24r	Groundwater	06/17/20 13:20
S14973.02	B-22D	Groundwater	06/17/20 14:18
S14973.03	B-21D	Groundwater	06/17/20 16:58
S14973.04	DUP-1	Groundwater	06/18/20 00:01
S14973.05	B-19Ar	Groundwater	06/18/20 09:55
S14973.06	B-18A	Groundwater	06/18/20 11:50
S14973.07	B-7	Groundwater	06/18/20 13:10
S14973.08	B-20D	Groundwater	06/18/20 12:35
S14973.09	Trip Blank 061820	Water	06/18/20 00:01



Analytical Laboratory Report

Lab Sample ID: S14973.01

Sample Tag: B-24r

Collected Date/Time: 06/17/2020 13:20

Matrix: Groundwater

COC Reference: 128653

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.8	IR
2	40ml Glass	H2SO4	Yes	3.8	IR
1	250ml Amber	H2SO4	Yes	3.8	IR
1	1L Plastic	None	Yes	3.8	IR
1	125ml Plastic	NaOH	Yes	3.8	IR
3	40ml Glass	HCL	Yes	3.8	IR
1	125ml Amber	H2SO4	Yes	3.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/22/20 12:40	JML	
Metal Digestion	Completed	SW3015A	06/24/20 10:45	CCM	
Metal Digestion	Completed	SW3015A	06/22/20 14:00	CCM	

Inorganics

Method: E120.1, Run Date: 06/25/20 13:10, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,125	1		umhos/cm	1		

Method: E300.0, Run Date: 06/19/20 10:12, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloride	49	25	0.40	mg/L	25	16887-00-6	
Sulfate	271	25	1.5	mg/L	25	14808-79-8	

Method: E335.4/SM4500-CN, Run Date: 06/22/20 11:08, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Cyanide, Total	Not detected	0.004	0.001	mg/L	2	57-12-5	

Method: E420.1, Run Date: 06/26/20 16:20, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Phenols	Not detected	0.02		mg/L	1.7		

Method: SM5310C, Run Date: 06/23/20 14:51, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	5.4	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/22/20 15:22, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Sodium	62.6	2.5		mg/L	50	7440-23-5	

Method: E200.8, Run Date: 06/24/20 12:19, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Iron, Dissolved	0.07	0.02		mg/L	5	7439-89-6	



Analytical Laboratory Report

Lab Sample ID: S14973.01 (continued)

Sample Tag: B-24r

Method: E200.8, Run Date: 06/24/20 12:19, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Manganese, Dissolved	0.044	0.005		mg/L	5	7439-96-5	
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.006	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 18:01, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S14973.01 (continued)

Sample Tag: B-24r

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 18:01, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Other / Misc.

Method: , Run Date: 06/26/20 10:46, Analyst: TA

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Misc. Special Project*	Completed				1		O

O-Analysis performed by outside laboratory. See attached report.



Analytical Laboratory Report

Lab Sample ID: S14973.02

Sample Tag: B-22D

Collected Date/Time: 06/17/2020 14:18

Matrix: Groundwater

COC Reference: 128653

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.8	IR
2	40ml Glass	H2SO4	Yes	3.8	IR
1	250ml Amber	H2SO4	Yes	3.8	IR
1	1L Plastic	None	Yes	3.8	IR
1	125ml Plastic	NaOH	Yes	3.8	IR
3	40ml Glass	HCL	Yes	3.8	IR
1	125ml Amber	H2SO4	Yes	3.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/22/20 12:40	JML	
Metal Digestion	Completed	SW3015A	06/24/20 10:45	CCM	
Metal Digestion	Completed	SW3015A	06/22/20 14:00	CCM	

Inorganics

Method: E120.1, Run Date: 06/25/20 13:14, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	535	1		umhos/cm	1		

Method: E300.0, Run Date: 06/19/20 10:25, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloride	Not detected	10	0.16	mg/L	10	16887-00-6	
Sulfate	58	10	0.59	mg/L	10	14808-79-8	

Method: E335.4/SM4500-CN, Run Date: 06/22/20 11:16, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Cyanide, Total	Not detected	0.004	0.001	mg/L	2	57-12-5	

Method: E420.1, Run Date: 06/26/20 16:22, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Phenols	Not detected	0.02		mg/L	1.7		

Method: SM5310C, Run Date: 06/23/20 15:50, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	5.2	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/22/20 15:17, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Sodium	26.7	2.5		mg/L	50	7440-23-5	

Method: E200.8, Run Date: 06/24/20 12:23, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Iron, Dissolved	1.56	0.02		mg/L	5	7439-89-6	



Analytical Laboratory Report

Lab Sample ID: S14973.02 (continued)

Sample Tag: B-22D

Method: E200.8, Run Date: 06/24/20 12:23, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Manganese, Dissolved	0.036	0.005		mg/L	5	7439-96-5	
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 18:20, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S14973.02 (continued)

Sample Tag: B-22D

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 18:20, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Other / Misc.

Method: , Run Date: 06/26/20 11:26, Analyst: TA

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Misc. Special Project*	Completed				1		O

O-Analysis performed by outside laboratory. See attached report.



Analytical Laboratory Report

Lab Sample ID: S14973.03

Sample Tag: B-21D

Collected Date/Time: 06/17/2020 16:58

Matrix: Groundwater

COC Reference: 128653

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.8	IR
2	40ml Glass	H2SO4	Yes	3.8	IR
1	250ml Amber	H2SO4	Yes	3.8	IR
1	1L Plastic	None	Yes	3.8	IR
1	125ml Plastic	NaOH	Yes	3.8	IR
3	40ml Glass	HCL	Yes	3.8	IR
1	125ml Amber	H2SO4	Yes	3.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/22/20 12:40	JML	
Metal Digestion	Completed	SW3015A	06/24/20 10:45	CCM	
Metal Digestion	Completed	SW3015A	06/22/20 14:00	CCM	

Inorganics

Method: E120.1, Run Date: 06/25/20 13:16, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	554	1		umhos/cm	1		

Method: E300.0, Run Date: 06/19/20 10:38, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloride	Not detected	10	0.16	mg/L	10	16887-00-6	
Sulfate	108	10	0.59	mg/L	10	14808-79-8	

Method: E335.4/SM4500-CN, Run Date: 06/22/20 11:18, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Cyanide, Total	Not detected	0.004	0.001	mg/L	2	57-12-5	

Method: E420.1, Run Date: 06/26/20 16:24, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Phenols	Not detected	0.02		mg/L	1.7		

Method: SM5310C, Run Date: 06/23/20 16:19, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	2.9	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/22/20 15:23, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Sodium	21.2	2.5		mg/L	50	7440-23-5	

Method: E200.8, Run Date: 06/24/20 12:25, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Iron, Dissolved	1.40	0.02		mg/L	5	7439-89-6	



Analytical Laboratory Report

Lab Sample ID: S14973.03 (continued)

Sample Tag: B-21D

Method: E200.8, Run Date: 06/24/20 12:25, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Manganese, Dissolved	0.033	0.005		mg/L	5	7439-96-5	
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 18:39, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S14973.03 (continued)

Sample Tag: B-21D

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 18:39, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Other / Misc.

Method: , Run Date: 06/26/20 13:07, Analyst: TA

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Misc. Special Project*	Completed				1		O

O-Analysis performed by outside laboratory. See attached report.



Analytical Laboratory Report

Lab Sample ID: S14973.04

Sample Tag: DUP-1

Collected Date/Time: 06/18/2020 00:01

Matrix: Groundwater

COC Reference: 128653

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.8	IR
2	40ml Glass	H2SO4	Yes	3.8	IR
1	250ml Amber	H2SO4	Yes	3.8	IR
1	1L Plastic	None	Yes	3.8	IR
1	125ml Plastic	NaOH	Yes	3.8	IR
3	40ml Glass	HCL	Yes	3.8	IR
1	125ml Amber	H2SO4	Yes	3.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/22/20 12:40	JML	
Metal Digestion	Completed	SW3015A	06/24/20 10:45	CCM	
Metal Digestion	Completed	SW3015A	06/22/20 14:00	CCM	

Inorganics

Method: E120.1, Run Date: 06/25/20 13:18, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	769	1		umhos/cm	1		

Method: E300.0, Run Date: 06/19/20 10:51, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloride	20	10	0.16	mg/L	10	16887-00-6	
Sulfate	138	10	0.59	mg/L	10	14808-79-8	

Method: E335.4/SM4500-CN, Run Date: 06/22/20 11:20, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Cyanide, Total	Not detected	0.004	0.001	mg/L	2	57-12-5	

Method: E420.1, Run Date: 06/26/20 16:26, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Phenols	Not detected	0.02		mg/L	1.7		

Method: SM5310C, Run Date: 06/23/20 16:36, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	3.9	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/22/20 15:25, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Sodium	40.8	2.5		mg/L	50	7440-23-5	

Method: E200.8, Run Date: 06/24/20 12:28, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Iron, Dissolved	0.05	0.02		mg/L	5	7439-89-6	



Analytical Laboratory Report

Lab Sample ID: S14973.04 (continued)

Sample Tag: DUP-1

Method: E200.8, Run Date: 06/24/20 12:28, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Manganese, Dissolved	0.068	0.005		mg/L	5	7439-96-5	
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.006	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 18:59, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S14973.04 (continued)

Sample Tag: DUP-1

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 18:59, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Other / Misc.

Method: , Run Date: 06/26/20 13:49, Analyst: TA

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Misc. Special Project*	Completed				1		O

O-Analysis performed by outside laboratory. See attached report.



Analytical Laboratory Report

Lab Sample ID: S14973.05

Sample Tag: B-19Ar

Collected Date/Time: 06/18/2020 09:55

Matrix: Groundwater

COC Reference: 128653

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.8	IR
2	40ml Glass	H2SO4	Yes	3.8	IR
1	250ml Amber	H2SO4	Yes	3.8	IR
1	1L Plastic	None	Yes	3.8	IR
1	125ml Plastic	NaOH	Yes	3.8	IR
3	40ml Glass	HCL	Yes	3.8	IR
1	125ml Amber	H2SO4	Yes	3.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/22/20 12:40	JML	
Metal Digestion	Completed	SW3015A	06/24/20 10:45	CCM	
Metal Digestion	Completed	SW3015A	06/22/20 14:00	CCM	

Inorganics

Method: E120.1, Run Date: 06/25/20 13:20, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	845	1		umhos/cm	1		

Method: E300.0, Run Date: 06/19/20 11:04, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloride	88	10	0.16	mg/L	10	16887-00-6	
Sulfate	157	10	0.59	mg/L	10	14808-79-8	

Method: E335.4/SM4500-CN, Run Date: 06/22/20 11:22, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Cyanide, Total	Not detected	0.004	0.001	mg/L	2	57-12-5	

Method: E420.1, Run Date: 06/26/20 16:28, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Phenols	Not detected	0.02		mg/L	1.7		

Method: SM5310C, Run Date: 06/23/20 16:56, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	3.1	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/22/20 15:27, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Sodium	22.2	2.5		mg/L	50	7440-23-5	

Method: E200.8, Run Date: 06/24/20 12:35, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Iron, Dissolved	1.18	0.02		mg/L	5	7439-89-6	



Analytical Laboratory Report

Lab Sample ID: S14973.05 (continued)

Sample Tag: B-19Ar

Method: E200.8, Run Date: 06/24/20 12:35, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Manganese, Dissolved	0.276	0.005		mg/L	5	7439-96-5	
Nickel, Dissolved	0.006	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.008	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 19:18, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S14973.05 (continued)

Sample Tag: B-19Ar

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 19:18, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Other / Misc.

Method: , Run Date: 06/29/20 13:03, Analyst: TA

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Misc. Special Project*	Completed				1		O

O-Analysis performed by outside laboratory. See attached report.



Analytical Laboratory Report

Lab Sample ID: S14973.06

Sample Tag: B-18A

Collected Date/Time: 06/18/2020 11:50

Matrix: Groundwater

COC Reference: 128653

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.8	IR
2	40ml Glass	H2SO4	Yes	3.8	IR
1	250ml Amber	H2SO4	Yes	3.8	IR
1	1L Plastic	None	Yes	3.8	IR
1	125ml Plastic	NaOH	Yes	3.8	IR
3	40ml Glass	HCL	Yes	3.8	IR
1	125ml Amber	H2SO4	Yes	3.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/22/20 12:40	JML	
Metal Digestion	Completed	SW3015A	06/24/20 10:45	CCM	
Metal Digestion	Completed	SW3015A	06/22/20 14:00	CCM	

Inorganics

Method: E120.1, Run Date: 06/25/20 13:22, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	725	1		umhos/cm	1		

Method: E300.0, Run Date: 06/19/20 11:17, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloride	20	10	0.16	mg/L	10	16887-00-6	
Sulfate	137	10	0.59	mg/L	10	14808-79-8	

Method: E335.4/SM4500-CN, Run Date: 06/22/20 11:24, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Cyanide, Total	Not detected	0.004	0.001	mg/L	2	57-12-5	

Method: E420.1, Run Date: 06/26/20 16:30, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Phenols	Not detected	0.02		mg/L	1.7		

Method: SM5310C, Run Date: 06/23/20 17:15, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	3.2	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/22/20 15:28, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Sodium	39.7	2.5		mg/L	50	7440-23-5	

Method: E200.8, Run Date: 06/24/20 12:39, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Iron, Dissolved	0.05	0.02		mg/L	5	7439-89-6	



Analytical Laboratory Report

Lab Sample ID: S14973.06 (continued)

Sample Tag: B-18A

Method: E200.8, Run Date: 06/24/20 12:39, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Manganese, Dissolved	0.065	0.005		mg/L	5	7439-96-5	
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.007	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 19:37, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S14973.06 (continued)

Sample Tag: B-18A

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 19:37, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Other / Misc.

Method: , Run Date: 06/29/20 15:59, Analyst: TA

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Misc. Special Project*	Completed				1		O

O-Analysis performed by outside laboratory. See attached report.



Analytical Laboratory Report

Lab Sample ID: S14973.07

Sample Tag: B-7

Collected Date/Time: 06/18/2020 13:10

Matrix: Groundwater

COC Reference: 128653

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.8	IR
2	40ml Glass	H2SO4	Yes	3.8	IR
1	250ml Amber	H2SO4	Yes	3.8	IR
1	1L Plastic	None	Yes	3.8	IR
1	125ml Plastic	NaOH	Yes	3.8	IR
3	40ml Glass	HCL	Yes	3.8	IR
1	125ml Amber	H2SO4	Yes	3.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/22/20 12:40	JML	
Metal Digestion	Completed	SW3015A	06/24/20 10:45	CCM	
Metal Digestion	Completed	SW3015A	06/22/20 14:00	CCM	

Inorganics

Method: E120.1, Run Date: 06/25/20 13:24, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	728	1		umhos/cm	1		

Method: E300.0, Run Date: 06/19/20 11:30, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloride	27	10	0.16	mg/L	10	16887-00-6	
Sulfate	145	10	0.59	mg/L	10	14808-79-8	

Method: E335.4/SM4500-CN, Run Date: 06/22/20 11:26, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Cyanide, Total	Not detected	0.004	0.001	mg/L	2	57-12-5	

Method: E420.1, Run Date: 06/26/20 16:32, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Phenols	Not detected	0.02		mg/L	1.7		

Method: SM5310C, Run Date: 06/23/20 17:35, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	5.6	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/22/20 15:30, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Sodium	35.4	2.5		mg/L	50	7440-23-5	

Method: E200.8, Run Date: 06/24/20 12:41, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Iron, Dissolved	0.13	0.02		mg/L	5	7439-89-6	



Analytical Laboratory Report

Lab Sample ID: S14973.07 (continued)

Sample Tag: B-7

Method: E200.8, Run Date: 06/24/20 12:41, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Manganese, Dissolved	0.041	0.005		mg/L	5	7439-96-5	
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 19:57, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S14973.07 (continued)

Sample Tag: B-7

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 19:57, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Other / Misc.

Method: , Run Date: 06/29/20 12:11, Analyst: TA

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Misc. Special Project*	Completed				1		O

O-Analysis performed by outside laboratory. See attached report.



Analytical Laboratory Report

Lab Sample ID: S14973.08

Sample Tag: B-20D

Collected Date/Time: 06/18/2020 12:35

Matrix: Groundwater

COC Reference: 128653

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.8	IR
2	40ml Glass	H2SO4	Yes	3.8	IR
1	250ml Amber	H2SO4	Yes	3.8	IR
1	1L Plastic	None	Yes	3.8	IR
1	125ml Plastic	NaOH	Yes	3.8	IR
3	40ml Glass	HCL	Yes	3.8	IR
1	125ml Amber	H2SO4	Yes	3.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/22/20 12:40	JML	
Metal Digestion	Completed	SW3015A	06/24/20 10:45	CCM	
Metal Digestion	Completed	SW3015A	06/22/20 14:00	CCM	

Inorganics

Method: E120.1, Run Date: 06/25/20 13:26, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	618	1		umhos/cm	1		

Method: E300.0, Run Date: 06/19/20 11:42, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloride	Not detected	10	0.16	mg/L	10	16887-00-6	
Sulfate	132	10	0.59	mg/L	10	14808-79-8	

Method: E335.4/SM4500-CN, Run Date: 06/22/20 11:28, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Cyanide, Total	Not detected	0.004	0.001	mg/L	2	57-12-5	

Method: E420.1, Run Date: 06/26/20 16:34, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Phenols	Not detected	0.02		mg/L	1.7		

Method: SM5310C, Run Date: 06/23/20 17:54, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	2.9	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/22/20 15:31, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Sodium	17.1	2.5		mg/L	50	7440-23-5	

Method: E200.8, Run Date: 06/24/20 12:42, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Iron, Dissolved	1.73	0.02		mg/L	5	7439-89-6	



Analytical Laboratory Report

Lab Sample ID: S14973.08 (continued)

Sample Tag: B-20D

Method: E200.8, Run Date: 06/24/20 12:42, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Manganese, Dissolved	0.047	0.005		mg/L	5	7439-96-5	
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 20:16, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S14973.08 (continued)

Sample Tag: B-20D

Volatiles Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 20:16, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Other / Misc.

Method: , Run Date: 06/29/20 17:18, Analyst: TA

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Misc. Special Project*	Completed				1		O

O-Analysis performed by outside laboratory. See attached report.



Analytical Laboratory Report

Lab Sample ID: S14973.09

Sample Tag: Trip Blank 061820

Collected Date/Time: 06/18/2020 00:01

Matrix: Water

COC Reference: 128653

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	3.8	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/22/20 12:40	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 15:45, Analyst: JGH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S14973.09 (continued)

Sample Tag: Trip Blank 061820

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/19/20 15:45, Analyst: JGH (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	

Merit Laboratories Login Checklist

Lab Set ID:S14973

Client:OBG02 (O'Brien & Gere Engineers, Inc.)

Project: RACER Coldwater Rd

Submitted:06/18/2020 14:40 Login User: MMC

Attention: Clifford Yantz

Address: O'Brien & Gere Engineers, Inc.
2260 E Saginaw St
East Lansing, MI 48823

Phone: 313-333-0211 FAX:

Email: Clifford.Yantz@obg.com

Selection	Description	Note
-----------	-------------	------

Sample Receiving

- | | | |
|-----|--|--|
| 01. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer # IR 3.8 |
| 02. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun |
| 03. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped |
| 04. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box |
| 05. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |

Chain of Custody

- | | | |
|-----|--|---|
| 06. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out |
| 07. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab |
| 08. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC |
| 09. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontracted to: Test America |

Preservation

- | | | |
|-----|--|---|
| 10. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation |
| 11. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs) |
| 12. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab? |

Bottle Conditions

- | | | |
|-----|--|---|
| 13. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact |
| 14. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used |
| 15. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used |
| 16. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received |
| 17. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration |
| 18. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time |
| 19. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Do water VOC or TOX bottles contain headspace |

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____

Merit Laboratories Bottle Preservation Check

Lab Set ID: S14973 Submitted: 06/18/2020 14:40

Attention: Clifford Yantz
Address: O'Brien & Gere Engineers, Inc.
2260 E Saginaw St
East Lansing, MI 48823

Client: OBG02 (O'Brien & Gere Engineers, Inc.)

Project: RACER Coldwater Rd

Initial Preservation Check: 06/18/2020 15:07 MMC

Phone: 313-333-0211 FAX:

Preservation Recheck (E200.8): N/A

Email: Clifford.Yantz@obg.com

Lab ID	125 ml Plastic HNO ₃	250 ml Plastic HNO ₃	1 L Plastic HNO ₃	250 ml Plastic H ₂ SO ₄	125 ml Amber H ₂ SO ₄	32 oz Glass HCl	125 ml Plastic NaOH	125 ml Amber PbCO ₃ NaOH	pH					Notes	
									<2	>12	other	ml add	new pH		
S14973.01	X								X						
S14973.01	X								X						
S14973.01					X				X						
S14973.01							X			X					
S14973.02	X								X						
S14973.02	X								X						
S14973.02					X				X						
S14973.02							X			X					
S14973.03	X								X						
S14973.03	X								X						
S14973.03					X				X						
S14973.03							X			X					
S14973.04	X								X						
S14973.04	X								X						
S14973.04					X				X						
S14973.04							X			X					
S14973.05	X								X						
S14973.05	X								X						
S14973.05					X				X						
S14973.05							X			X					
S14973.06	X								X						
S14973.06	X								X						
S14973.06					X				X						
S14973.06							X			X					
S14973.07	X								X						
S14973.07	X								X						
S14973.07					X				X						
S14973.07							X			X					
S14973.08	X								X						

Merit Laboratories Bottle Preservation Check

Lab Set ID: S14973 Submitted: 06/18/2020 14:40

Client: OBG02 (O'Brien & Gere Engineers, Inc.)

Project: RACER Coldwater Rd

Attention: Clifford Yantz
 Address: O'Brien & Gere Engineers, Inc.
 2260 E Saginaw St
 East Lansing, MI 48823

Initial Preservation Check: 06/18/2020 15:07 MMC

Preservation Recheck (E200.8): N/A

Phone: 313-333-0211 FAX:
 Email: Clifford.Yantz@obg.com

Lab ID	125 ml Plastic HNO ₃	250 ml Plastic HNO ₃	1 L Plastic HNO ₃	250 ml Plastic H ₂ SO ₄	125 ml Amber H ₂ SO ₄	32 oz Glass HCl	125 ml Plastic NaOH	125 ml Amber PbCO ₃ NaOH	pH					Notes
									<2	>12	other	ml add	new pH	
S14973.08	X								X					
S14973.08					X				X					
S14973.08							X			X				



2680 East Lansing Dr., East Lansing, MI 48823
 Phone (517) 332-0167 Fax (517) 332-4034
 www.meritlabs.com

C.O.C. PAGE # 1 OF 1

128653

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME: Clifford Yantz
 COMPANY: O'Brien + Gere, A Ramboll Company
 ADDRESS: 2260 East Saginaw
 CITY: East Lansing STATE: MI ZIP CODE: 48823
 PHONE NO.: 313-333-0211 FAX NO.: _____ P.O. NO.: _____
 E-MAIL ADDRESS: Clifford.Yantz@Ramboll.com QUOTE NO.: _____

CONTACT NAME: SAME
 COMPANY: _____
 ADDRESS: _____
 CITY: _____ STATE: _____ ZIP CODE: _____
 PHONE NO.: _____ E-MAIL ADDRESS: _____

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME: RACER Coldwater Rd SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schmitter
 TURNAROUND TIME REQUIRED: 1 DAY 2 DAYS 3 DAYS STANDARD OTHER _____
 DELIVERABLES REQUIRED: STD LEVEL II LEVEL III LEVEL IV EDD OTHER _____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID
 SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

Matrix	None	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER	VOCs	TOC	Phenols	Cyanide	Sulfate	Specific Conductivity	Dissolved Metals	Chlorides	TOX	TOTAL Sodium	Certifications
GW	1	3	2	4	1			X	X	X	X	X	X	X	X	X	X	<input type="checkbox"/> OHIO VAP <input type="checkbox"/> Drinking Water
								X	X	X	X	X	X	X	X	X	X	<input type="checkbox"/> DoD <input type="checkbox"/> NPDES
								X	X	X	X	X	X	X	X	X	X	Project Locations
								X	X	X	X	X	X	X	X	X	X	<input type="checkbox"/> Detroit <input type="checkbox"/> New York
								X	X	X	X	X	X	X	X	X	X	<input type="checkbox"/> Other _____
								X	X	X	X	X	X	X	X	X	X	Special Instructions

MERIT LAB NO. <small>FOR LAB USE ONLY</small>	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER	VOCs	TOC	Phenols	Cyanide	Sulfate	Specific Conductivity	Dissolved Metals	Chlorides	TOX	TOTAL Sodium	
	DATE	TIME																					
14973.01	6/17/20	1320	B-24r	GW	11	1	3	2	4	1			X	X	X	X	X	X	X	X	X	X	X
.02	↓	1418	B-22D										X	X	X	X	X	X	X	X	X	X	X
.03	↓	1658	B-21D										X	X	X	X	X	X	X	X	X	X	X
.04	6/18/20	—	DUP-1										X	X	X	X	X	X	X	X	X	X	X
.05	↓	955	B-19Ar										X	X	X	X	X	X	X	X	X	X	X
.06	↓	1150	B-18A										X	X	X	X	X	X	X	X	X	X	X
.07	↓	1310	B-7										X	X	X	X	X	X	X	X	X	X	X
.08	↓	1235	B-20D										X	X	X	X	X	X	X	X	X	X	X
.09	↓	—	Tip Blank 061820	GW	1	1							X										

Dissolved Metals were field filtered
 Metals ARE: Cu, Cr, Ni, Zn, Fe, Mn

RELINQUISHED BY: [Signature] Sampler DATE: 6/18/20 TIME: 1340
 RECEIVED BY: [Signature] DATE: 6/18/20 TIME: 1340
 RELINQUISHED BY: [Signature] DATE: 6/18/20 TIME: 1440
 RECEIVED BY: [Signature] DATE: 6/18/2020 TIME: 1440

RELINQUISHED BY: _____ DATE: _____ TIME: _____
 RECEIVED BY: _____ DATE: _____ TIME: _____
 SEAL NO. SEAL INTACT YES NO INITIALS _____
 SEAL NO. SEAL INTACT YES NO INITIALS _____
 NOTES: TEMP. ON ARRIVAL 3.8

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

ANALYTICAL REPORT

Eurofins TestAmerica, Michigan
10448 Citation Drive
Suite 200
Brighton, MI 48116
Tel: (810)229-2763

Laboratory Job ID: 190-23332-1
Client Project/Site: S14973/TOX

For:
Merit Laboratories
2680 E Lansing Drive
East Lansing, Michigan 48823

Attn: John Laverty

Sue Schafer

Authorized for release by:
6/30/2020 2:55:39 PM

Sue Schafer, Project Manager II
(810)229-2763
sue.schafer@testamericainc.com

LINKS

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results through
TotalAccess

Have a Question?



Visit us at:

www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Sample Summary

Client: Merit Laboratories
Project/Site: S14973/TOX

Job ID: 190-23332-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
190-23332-1	S14973.01	Ground Water	06/17/20 13:20	06/23/20 11:55	
190-23332-2	S14973.02	Ground Water	06/17/20 14:18	06/23/20 11:55	
190-23332-3	S14973.03	Ground Water	06/17/20 16:58	06/23/20 11:55	
190-23332-4	S14973.04	Ground Water	06/17/20 00:01	06/23/20 11:55	
190-23332-5	S14973.05	Ground Water	06/17/20 09:55	06/23/20 11:55	
190-23332-6	S14973.06	Ground Water	06/17/20 11:50	06/23/20 11:55	
190-23332-7	S14973.07	Ground Water	06/17/20 13:10	06/23/20 11:55	
190-23332-8	S14973.08	Ground Water	06/17/20 12:35	06/23/20 11:55	

Case Narrative

Client: Merit Laboratories
Project/Site: S14973/TOX

Job ID: 190-23332-1

Job ID: 190-23332-1

Laboratory: Eurofins TestAmerica, Michigan

Narrative

Job Narrative 190-23332-1

Comments

No additional comments.

Receipt

The samples were received on 6/23/2020 11:55 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.6° C.

General Chemistry

Method 9020B: Breakthrough exceeded 10% for the following samples: S14973.01 (190-23332-1), S14973.02 (190-23332-2), S14973.03 (190-23332-3) and S14973.04 (190-23332-4).

Method 9020B: Breakthrough exceeded 10% for the following samples: S14973.05 (190-23332-5), S14973.06 (190-23332-6), S14973.07 (190-23332-7) and S14973.08 (190-23332-8).

Method 9020B: Breakthrough exceeded 10% for the following sample: S14973.07 (190-23332-7).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Client Sample Results

Client: Merit Laboratories
Project/Site: S14973/TOX

Job ID: 190-23332-1

Client Sample ID: S14973.01

Date Collected: 06/17/20 13:20

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-1

Matrix: Ground Water

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/26/20 07:15	06/26/20 10:46	1
TOX Result 1	<40		40	ug/L		06/26/20 07:15	06/26/20 10:46	1
TOX Result 2	<40		40	ug/L		06/26/20 07:15	06/26/20 10:46	1
TOX Dup	<40		40	ug/L		06/26/20 07:15	06/26/20 10:46	1

Client Sample ID: S14973.02

Date Collected: 06/17/20 14:18

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-2

Matrix: Ground Water

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/26/20 07:15	06/26/20 11:26	1
TOX Result 1	<40		40	ug/L		06/26/20 07:15	06/26/20 11:26	1
TOX Result 2	<40		40	ug/L		06/26/20 07:15	06/26/20 11:26	1
TOX Dup	<40		40	ug/L		06/26/20 07:15	06/26/20 11:26	1

Client Sample ID: S14973.03

Date Collected: 06/17/20 16:58

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-3

Matrix: Ground Water

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/26/20 07:15	06/26/20 13:07	1
TOX Result 1	<40		40	ug/L		06/26/20 07:15	06/26/20 13:07	1
TOX Result 2	40		40	ug/L		06/26/20 07:15	06/26/20 13:07	1
TOX Dup	<40		40	ug/L		06/26/20 07:15	06/26/20 13:07	1

Client Sample ID: S14973.04

Date Collected: 06/17/20 00:01

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-4

Matrix: Ground Water

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/26/20 07:15	06/26/20 13:49	1
TOX Result 1	<40		40	ug/L		06/26/20 07:15	06/26/20 13:49	1
TOX Result 2	<40		40	ug/L		06/26/20 07:15	06/26/20 13:49	1
TOX Dup	<40		40	ug/L		06/26/20 07:15	06/26/20 13:49	1

Client Sample ID: S14973.05

Date Collected: 06/17/20 09:55

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-5

Matrix: Ground Water

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/28/20 10:15	06/29/20 13:03	1
TOX Result 1	<40		40	ug/L		06/28/20 10:15	06/29/20 13:03	1
TOX Result 2	<40		40	ug/L		06/28/20 10:15	06/29/20 13:03	1
TOX Dup	<40		40	ug/L		06/28/20 10:15	06/29/20 13:03	1

Eurofins TestAmerica, Michigan

Client Sample Results

Client: Merit Laboratories
Project/Site: S14973/TOX

Job ID: 190-23332-1

Client Sample ID: S14973.06

Date Collected: 06/17/20 11:50

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-6

Matrix: Ground Water

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/28/20 10:15	06/29/20 15:59	1
TOX Result 1	<40		40	ug/L		06/28/20 10:15	06/29/20 15:59	1
TOX Result 2	44		40	ug/L		06/28/20 10:15	06/29/20 15:59	1
TOX Dup	<40		40	ug/L		06/28/20 10:15	06/29/20 15:59	1

Client Sample ID: S14973.07

Date Collected: 06/17/20 13:10

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-7

Matrix: Ground Water

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/29/20 08:03	06/29/20 12:11	1
TOX Result 1	<40		40	ug/L		06/29/20 08:03	06/29/20 12:11	1
TOX Result 2	<40		40	ug/L		06/29/20 08:03	06/29/20 12:11	1
TOX Dup	<40		40	ug/L		06/29/20 08:03	06/29/20 12:11	1

Client Sample ID: S14973.08

Date Collected: 06/17/20 12:35

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-8

Matrix: Ground Water

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	61		40	ug/L		06/28/20 10:15	06/29/20 17:18	1
TOX Result 1	67		40	ug/L		06/28/20 10:15	06/29/20 17:18	1
TOX Result 2	55		40	ug/L		06/28/20 10:15	06/29/20 17:18	1
TOX Dup	61		40	ug/L		06/28/20 10:15	06/29/20 17:18	1

QC Sample Results

Client: Merit Laboratories
Project/Site: S14973/TOX

Job ID: 190-23332-1

Method: 9020B - Organic Halides, Total (TOX)

Lab Sample ID: MB 680-624120/1-A
Matrix: Water
Analysis Batch: 624357

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 624120

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/26/20 07:15	06/26/20 07:27	1
TOX Result 1	<40		40	ug/L		06/26/20 07:15	06/26/20 07:27	1
TOX Result 2	<40		40	ug/L		06/26/20 07:15	06/26/20 07:27	1
TOX Dup	<40		40	ug/L		06/26/20 07:15	06/26/20 07:27	1

Lab Sample ID: LCS 680-624120/2-A
Matrix: Water
Analysis Batch: 624357

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 624120

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
TOX Result 1	400	406		ug/L		102	60 - 140
TOX Result 2	400	406		ug/L		102	60 - 140
TOX Dup	400	406		ug/L		102	60 - 140

Lab Sample ID: MB 680-624410/1-A
Matrix: Water
Analysis Batch: 624428

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 624410

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/28/20 10:15	06/29/20 11:36	1
TOX Result 1	<40		40	ug/L		06/28/20 10:15	06/29/20 11:36	1
TOX Result 2	<40		40	ug/L		06/28/20 10:15	06/29/20 11:36	1
TOX Dup	<40		40	ug/L		06/28/20 10:15	06/29/20 11:36	1

Lab Sample ID: LCS 680-624410/2-A
Matrix: Water
Analysis Batch: 624428

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 624410

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
TOX Result 1	400	423		ug/L		106	60 - 140
TOX Result 2	400	423		ug/L		106	60 - 140
TOX Dup	400	423		ug/L		106	60 - 140

Lab Sample ID: 190-23332-5 MS
Matrix: Ground Water
Analysis Batch: 624428

Client Sample ID: S14973.05
Prep Type: Total/NA
Prep Batch: 624410

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
TOX Result 1	<40		400	414		ug/L		97	60 - 140
TOX Result 2	<40		400	414		ug/L		96	60 - 140
TOX Dup	<40		400	414		ug/L		97	60 - 140

Lab Sample ID: 190-23332-5 MSD
Matrix: Ground Water
Analysis Batch: 624428

Client Sample ID: S14973.05
Prep Type: Total/NA
Prep Batch: 624410

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
TOX Result 1	<40		400	427		ug/L		101	60 - 140	3	40
TOX Result 2	<40		400	427		ug/L		99	60 - 140	3	40
TOX Dup	<40		400	427		ug/L		100	60 - 140	3	40

Eurofins TestAmerica, Michigan

QC Sample Results

Client: Merit Laboratories
Project/Site: S14973/TOX

Job ID: 190-23332-1

Method: 9020B - Organic Halides, Total (TOX)

Lab Sample ID: MB 680-624544/1-A
Matrix: Water
Analysis Batch: 624580

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 624544

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/29/20 08:03	06/29/20 09:18	1
TOX Result 1	<40		40	ug/L		06/29/20 08:03	06/29/20 09:18	1
TOX Result 2	<40		40	ug/L		06/29/20 08:03	06/29/20 09:18	1
TOX Dup	<40		40	ug/L		06/29/20 08:03	06/29/20 09:18	1

Lab Sample ID: LCS 680-624544/2-A
Matrix: Water
Analysis Batch: 624580

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 624544

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
TOX Result 1	400	397		ug/L		99	60 - 140
TOX Result 2	400	397		ug/L		99	60 - 140
TOX Dup	400	397		ug/L		99	60 - 140

Definitions/Glossary

Client: Merit Laboratories
Project/Site: S14973/TOX

Job ID: 190-23332-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

Client: Merit Laboratories
Project/Site: S14973/TOX

Job ID: 190-23332-1

General Chemistry

Prep Batch: 624120

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-23332-1	S14973.01	Total/NA	Ground Water	Carbon Trap	
190-23332-2	S14973.02	Total/NA	Ground Water	Carbon Trap	
190-23332-3	S14973.03	Total/NA	Ground Water	Carbon Trap	
190-23332-4	S14973.04	Total/NA	Ground Water	Carbon Trap	
MB 680-624120/1-A	Method Blank	Total/NA	Water	Carbon Trap	
LCS 680-624120/2-A	Lab Control Sample	Total/NA	Water	Carbon Trap	

Analysis Batch: 624357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-23332-1	S14973.01	Total/NA	Ground Water	9020B	624120
190-23332-2	S14973.02	Total/NA	Ground Water	9020B	624120
190-23332-3	S14973.03	Total/NA	Ground Water	9020B	624120
190-23332-4	S14973.04	Total/NA	Ground Water	9020B	624120
MB 680-624120/1-A	Method Blank	Total/NA	Water	9020B	624120
LCS 680-624120/2-A	Lab Control Sample	Total/NA	Water	9020B	624120

Prep Batch: 624410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-23332-5	S14973.05	Total/NA	Ground Water	Carbon Trap	
190-23332-6	S14973.06	Total/NA	Ground Water	Carbon Trap	
190-23332-8	S14973.08	Total/NA	Ground Water	Carbon Trap	
MB 680-624410/1-A	Method Blank	Total/NA	Water	Carbon Trap	
LCS 680-624410/2-A	Lab Control Sample	Total/NA	Water	Carbon Trap	
190-23332-5 MS	S14973.05	Total/NA	Ground Water	Carbon Trap	
190-23332-5 MSD	S14973.05	Total/NA	Ground Water	Carbon Trap	

Analysis Batch: 624428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-23332-5	S14973.05	Total/NA	Ground Water	9020B	624410
190-23332-6	S14973.06	Total/NA	Ground Water	9020B	624410
190-23332-8	S14973.08	Total/NA	Ground Water	9020B	624410
MB 680-624410/1-A	Method Blank	Total/NA	Water	9020B	624410
LCS 680-624410/2-A	Lab Control Sample	Total/NA	Water	9020B	624410
190-23332-5 MS	S14973.05	Total/NA	Ground Water	9020B	624410
190-23332-5 MSD	S14973.05	Total/NA	Ground Water	9020B	624410

Prep Batch: 624544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-23332-7	S14973.07	Total/NA	Ground Water	Carbon Trap	
MB 680-624544/1-A	Method Blank	Total/NA	Water	Carbon Trap	
LCS 680-624544/2-A	Lab Control Sample	Total/NA	Water	Carbon Trap	

Analysis Batch: 624580

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-23332-7	S14973.07	Total/NA	Ground Water	9020B	624544
MB 680-624544/1-A	Method Blank	Total/NA	Water	9020B	624544
LCS 680-624544/2-A	Lab Control Sample	Total/NA	Water	9020B	624544

Lab Chronicle

Client: Merit Laboratories
Project/Site: S14973/TOX

Job ID: 190-23332-1

Client Sample ID: S14973.01

Date Collected: 06/17/20 13:20

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-1

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Carbon Trap			624120	06/26/20 07:15	CLJ	TAL SAV
Total/NA	Analysis	9020B		1	624357	06/26/20 10:46	CLJ	TAL SAV

Client Sample ID: S14973.02

Date Collected: 06/17/20 14:18

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-2

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Carbon Trap			624120	06/26/20 07:15	CLJ	TAL SAV
Total/NA	Analysis	9020B		1	624357	06/26/20 11:26	CLJ	TAL SAV

Client Sample ID: S14973.03

Date Collected: 06/17/20 16:58

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-3

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Carbon Trap			624120	06/26/20 07:15	CLJ	TAL SAV
Total/NA	Analysis	9020B		1	624357	06/26/20 13:07	CLJ	TAL SAV

Client Sample ID: S14973.04

Date Collected: 06/17/20 00:01

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-4

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Carbon Trap			624120	06/26/20 07:15	CLJ	TAL SAV
Total/NA	Analysis	9020B		1	624357	06/26/20 13:49	CLJ	TAL SAV

Client Sample ID: S14973.05

Date Collected: 06/17/20 09:55

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-5

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Carbon Trap			624410	06/28/20 10:15	CLJ	TAL SAV
Total/NA	Analysis	9020B		1	624428	06/29/20 13:03	CLJ	TAL SAV

Client Sample ID: S14973.06

Date Collected: 06/17/20 11:50

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-6

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Carbon Trap			624410	06/28/20 10:15	CLJ	TAL SAV
Total/NA	Analysis	9020B		1	624428	06/29/20 15:59	CLJ	TAL SAV

Lab Chronicle

Client: Merit Laboratories
Project/Site: S14973/TOX

Job ID: 190-23332-1

Client Sample ID: S14973.07

Date Collected: 06/17/20 13:10

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-7

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Carbon Trap			624544	06/29/20 08:03	CLJ	TAL SAV
Total/NA	Analysis	9020B		1	624580	06/29/20 12:11	CLJ	TAL SAV

Client Sample ID: S14973.08

Date Collected: 06/17/20 12:35

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-8

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Carbon Trap			624410	06/28/20 10:15	CLJ	TAL SAV
Total/NA	Analysis	9020B		1	624428	06/29/20 17:18	CLJ	TAL SAV

Laboratory References:

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Analyst References:

Lab: TAL SAV

Batch Type: Prep

CLJ = Cynthia Johnson

Batch Type: Analysis

CLJ = Cynthia Johnson

Accreditation/Certification Summary

Client: Merit Laboratories
Project/Site: S14973/TOX

Job ID: 190-23332-1

Laboratory: Eurofins TestAmerica, Michigan

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Michigan	State	0057	10-01-20

Laboratory: Eurofins TestAmerica, Savannah

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-20
Alaska	State	GA00006	06-30-20
Alaska (UST)	State	17-016	09-30-20
ANAB	Dept. of Defense ELAP	L2463	09-22-22
ANAB	ISO/IEC 17025	L2463.01	09-22-22
Arizona	State	AZ0808	12-14-20
Arkansas DEQ	State	19-015-0	02-02-21
California	State	2939	06-30-20
Colorado	State	GA00006	12-31-20
Connecticut	State	PH-0161	03-31-21
Florida	NELAP	E87052	06-30-20
Georgia	State	E87052	06-30-20
Georgia (DW)	State	803	06-30-20
Guam	State	19-007R	04-17-21
Hawaii	State	<cert No.>	06-30-20
Illinois	NELAP	004547	11-30-20
Indiana	State	C-GA-02	06-30-20
Iowa	State	353	06-30-21
Kansas	NELAP	E-10322	10-15-20
Kentucky (DW)	State	KY90084	12-31-21
Kentucky (UST)	State	<cert No.>	06-30-20
Kentucky (WW)	State	KY90084	12-31-20
Louisiana	NELAP	02011	06-30-20
Louisiana (DW)	State	LA009	12-31-20
Maine	State	GA00006	09-26-20
Maryland	State	250	12-31-20
Massachusetts	State	M-GA006	06-30-20
Michigan	State	9925	06-30-20
Mississippi	State	<cert No.>	06-30-20
Nebraska	State	NE-OS-7-04	06-30-20
New Jersey	NELAP	GA769	06-30-20
New Mexico	State	GA00006	06-30-20
New York	NELAP	10842	04-01-21
North Carolina (DW)	State	13701	07-31-20
North Carolina (WW/SW)	State	269	12-31-20
Oklahoma	State	9984	08-31-20
Pennsylvania	NELAP	68-00474	06-30-20
Puerto Rico	State	GA00006	01-01-21
South Carolina	State	98001	06-30-20
Tennessee	State	02961	06-30-20
Texas	NELAP	T1047004185-19-14	11-30-20
Texas	TCEQ Water Supply	T104704185	06-30-20
US Fish & Wildlife	US Federal Programs	LE058448-0	07-31-20

Eurofins TestAmerica, Michigan

Accreditation/Certification Summary

Client: Merit Laboratories
Project/Site: S14973/TOX

Job ID: 190-23332-1

Laboratory: Eurofins TestAmerica, Savannah (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
USDA	US Federal Programs	P330-18-00313	10-29-21
Virginia	NELAP	10509	06-14-21
Washington	State	C805	06-10-20 *
West Virginia (DW)	State	9950C	12-31-20
West Virginia DEP	State	094	07-31-20
Wisconsin	State	999819810	08-31-20
Wyoming	State	8TMS-L	06-30-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Michigan

Method Summary

Client: Merit Laboratories
Project/Site: S14973/TOX

Job ID: 190-23332-1

Method	Method Description	Protocol	Laboratory
9020B	Organic Halides, Total (TOX)	SW846	TAL SAV
Carbon Trap	Carbon Trap Preparation	EPA-17	TAL SAV

Protocol References:

EPA-17 = "Method 1650, Revision A, Adsorbable Organic Halides By Adsorption And Colormetric Titration," EPA, February 1992
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858





Environment Testing
TestAmerica

SDS or Known Hazard Information Supplied by Client
 Discrepancies Client ID: Merrif Labs
 Short Hold Work Order #: 196-23332
 Rush 24 Hr 2-Day 3-Day 5-Day Other: _____
 Receipt Evaluation Performed by: Initials: AMY Date: 6/23/20 Time: 1:32c

Cooler / Sample Receipt

After hours receipt: complete gray areas. Place cooler in walk-in, place form in Receiving box. Date: _____ Time: _____

Method of Shipment:

Walk-In Client Eurofins TA Field/Courier
 Other Client / 3rd Party Courier: _____
 Fed Ex Tracking #: _____
 UPS Tracking #: _____
 Other: _____

Shipping Container Type:

Cooler Box
 None Other: _____

Custody Seals Intact:

Yes No
 NA (not used or required)

Packing Materials:

Plastic Bags Foam
 Bubble Wrap Paper
 Packing Peanuts None
 Other: _____

Cooling Materials:

Ice (Solid) Ice (Melted)
 Blue Ice None
 Other: _____

Bacteriological Samples	Temp Corrected (°C)	Frozen?		Rec'd Within 2 Hrs?		Sample Flagged?	
		Yes	No	Yes	No	Yes	No

Received on same day sampled? Yes No Additional Sheets Required? Yes No

Receipt Temperatures

C.F.
C.O.

Thermometer ID	Observed (°C)	Corrected (°C)	Temp Blank	Sample Temp	Acceptable	Cooler ID	Affected Samples
<u>CP313207</u>	<u>2.6</u>	<u>2.6</u>		<u>X</u>	<u>Y</u> <u>N</u>		
					<u>Y</u> <u>N</u>		
					<u>Y</u> <u>N</u>		

Receipt Questions**	Y	N	NA	"No" answers require additional comment
CoC present and ETA receipt signature, date, and time properly documented?	<input checked="" type="checkbox"/>			
Containers and Labels in good condition? (unbroken, not leaking, appropriately filled, labels legible & attached)	<input checked="" type="checkbox"/>			
Appropriate containers used and adequate volume provided?	<input checked="" type="checkbox"/>			Preserved bottles checked for pH? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Number of sample containers match CoC?	<input checked="" type="checkbox"/>			pH strip lot # <u>156214</u>
Samples received within hold?	<input checked="" type="checkbox"/>			
Samples submitted for GRO and Volatiles analysis (8260, 624, 524) received without headspace?			<input checked="" type="checkbox"/>	
Was a Trip Blank received with VOA samples?			<input checked="" type="checkbox"/>	
Were the samples free of any questionable physical conformities? (i.e.; field duplicates or multiple bottles of the same sample do not significantly vary in appearance - color, solid proportions, etc.)	<input checked="" type="checkbox"/>			
Were the CoC bottle labels and all other items free of all other discrepancies or issues that would need to be addressed with the Project Manager and/or Client?	<input checked="" type="checkbox"/>			
**May not be applicable if samples are not for compliance testing				*Excludes FOG, VOAs, TOC Vials, HEM

Client Contact Record

Contact Via: Phone Email Other: _____ Person Contacted: _____ Date/Time: _____
 Discrepancy allowance agreement is on record in the client project file

Discussion / Resolution

Any additional documentation and clarification from the client must be noted in the narrative and/or scanned into the CoC directory.

Reviewed by [Signature] Date: 6/23/20

WI-M-010_020720

Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Carrier Tracking No(s):	GOC No:					
Client Contact:		Schrafer, Sue	Schrafer, Sue		190-27470-1					
Shipping/Receiving		Phone:	E-Mail:	State of Origin:	Page:					
Company:		TestAmerica Laboratories, Inc.	sue.schrafer@testamerica.com	Michigan	Page 1 of 1					
Address:		5102 LaRoche Avenue,		Accreditations Required (See note):	Job #:					
City:		Savannah		190-23332-1						
State, Zip:		GA, 31404		Analysis Requested						
Phone:		912-354-7858(Tel) 912-352-0165(Fax)		PO #:						
Email:				WO #:						
Project Name:		S14973/TOX		Project #:						
Site:				SSOW#:						
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=water/oil, BT=liquid, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9020B/Carbon Trap	Total Number of Containers	Special Instructions/Note:
S14973.01 (190-23332-1)	6/17/20	13:20 Eastern	Water	X	X	1				
S14973.02 (190-23332-2)	6/17/20	14:18 Eastern	Water	X	X	1				
S14973.03 (190-23332-3)	6/17/20	16:58 Eastern	Water	X	X	1				
S14973.04 (190-23332-4)	6/17/20	00:01 Eastern	Water	X	X	1				
S14973.05 (190-23332-5)	6/17/20	09:55 Eastern	Water	X	X	1				
S14973.06 (190-23332-6)	6/17/20	11:50 Eastern	Water	X	X	1				
S14973.07 (190-23332-7)	6/17/20	13:10 Eastern	Water	X	X	1				
S14973.08 (190-23332-8)	6/17/20	12:35 Eastern	Water	X	X	1				

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.

Possible Hazard Identification
 Unconfirmed
 Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2
 Empty Kit Relinquished by: _____ Date: _____
 Relinquished by: _____ Date/Time: 6-23-20 15:35 Company: ETA
 Relinquished by: _____ Date/Time: _____ Company: _____
 Relinquished by: _____ Date/Time: _____ Company: _____
 Custody Seals Intact: _____ Custody Seal No.: _____
 Δ Yes Δ No
 Cooler Temperature(s) °C and Other Remarks: 1.11.5

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months
 Special Instructions/QC Requirements:

Method of Shipment: _____
 Received by: _____ Date/Time: 6-24-20 7:40 Company: M
 Received by: _____ Date/Time: _____ Company: _____
 Received by: _____ Date/Time: _____ Company: _____



ANALYTICAL REPORT

Eurofins TestAmerica, Michigan
10448 Citation Drive
Suite 200
Brighton, MI 48116
Tel: (810)229-2763

Laboratory Job ID: 190-23332-1
Client Project/Site: S14973/TOX

For:
Merit Laboratories
2680 E Lansing Drive
East Lansing, Michigan 48823

Attn: John Lavery

Sue Schafer

Authorized for release by:
6/30/2020 2:55:39 PM

Sue Schafer, Project Manager II
(810)229-2763
sue.schafer@testamericainc.com

LINKS

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results through
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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Sample Summary

Client: Merit Laboratories
Project/Site: S14973/TOX

Job ID: 190-23332-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
190-23332-1	S14973.01	Ground Water	06/17/20 13:20	06/23/20 11:55	
190-23332-2	S14973.02	Ground Water	06/17/20 14:18	06/23/20 11:55	
190-23332-3	S14973.03	Ground Water	06/17/20 16:58	06/23/20 11:55	
190-23332-4	S14973.04	Ground Water	06/17/20 00:01	06/23/20 11:55	
190-23332-5	S14973.05	Ground Water	06/17/20 09:55	06/23/20 11:55	
190-23332-6	S14973.06	Ground Water	06/17/20 11:50	06/23/20 11:55	
190-23332-7	S14973.07	Ground Water	06/17/20 13:10	06/23/20 11:55	
190-23332-8	S14973.08	Ground Water	06/17/20 12:35	06/23/20 11:55	

Case Narrative

Client: Merit Laboratories
Project/Site: S14973/TOX

Job ID: 190-23332-1

Job ID: 190-23332-1

Laboratory: Eurofins TestAmerica, Michigan

Narrative

Job Narrative 190-23332-1

Comments

No additional comments.

Receipt

The samples were received on 6/23/2020 11:55 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.6° C.

General Chemistry

Method 9020B: Breakthrough exceeded 10% for the following samples: S14973.01 (190-23332-1), S14973.02 (190-23332-2), S14973.03 (190-23332-3) and S14973.04 (190-23332-4).

Method 9020B: Breakthrough exceeded 10% for the following samples: S14973.05 (190-23332-5), S14973.06 (190-23332-6), S14973.07 (190-23332-7) and S14973.08 (190-23332-8).

Method 9020B: Breakthrough exceeded 10% for the following sample: S14973.07 (190-23332-7).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Client Sample Results

Client: Merit Laboratories
Project/Site: S14973/TOX

Job ID: 190-23332-1

Client Sample ID: S14973.01

Date Collected: 06/17/20 13:20

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-1

Matrix: Ground Water

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/26/20 07:15	06/26/20 10:46	1
TOX Result 1	<40		40	ug/L		06/26/20 07:15	06/26/20 10:46	1
TOX Result 2	<40		40	ug/L		06/26/20 07:15	06/26/20 10:46	1
TOX Dup	<40		40	ug/L		06/26/20 07:15	06/26/20 10:46	1

Client Sample ID: S14973.02

Date Collected: 06/17/20 14:18

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-2

Matrix: Ground Water

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/26/20 07:15	06/26/20 11:26	1
TOX Result 1	<40		40	ug/L		06/26/20 07:15	06/26/20 11:26	1
TOX Result 2	<40		40	ug/L		06/26/20 07:15	06/26/20 11:26	1
TOX Dup	<40		40	ug/L		06/26/20 07:15	06/26/20 11:26	1

Client Sample ID: S14973.03

Date Collected: 06/17/20 16:58

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-3

Matrix: Ground Water

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/26/20 07:15	06/26/20 13:07	1
TOX Result 1	<40		40	ug/L		06/26/20 07:15	06/26/20 13:07	1
TOX Result 2	40		40	ug/L		06/26/20 07:15	06/26/20 13:07	1
TOX Dup	<40		40	ug/L		06/26/20 07:15	06/26/20 13:07	1

Client Sample ID: S14973.04

Date Collected: 06/17/20 00:01

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-4

Matrix: Ground Water

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/26/20 07:15	06/26/20 13:49	1
TOX Result 1	<40		40	ug/L		06/26/20 07:15	06/26/20 13:49	1
TOX Result 2	<40		40	ug/L		06/26/20 07:15	06/26/20 13:49	1
TOX Dup	<40		40	ug/L		06/26/20 07:15	06/26/20 13:49	1

Client Sample ID: S14973.05

Date Collected: 06/17/20 09:55

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-5

Matrix: Ground Water

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/28/20 10:15	06/29/20 13:03	1
TOX Result 1	<40		40	ug/L		06/28/20 10:15	06/29/20 13:03	1
TOX Result 2	<40		40	ug/L		06/28/20 10:15	06/29/20 13:03	1
TOX Dup	<40		40	ug/L		06/28/20 10:15	06/29/20 13:03	1

Eurofins TestAmerica, Michigan

Client Sample Results

Client: Merit Laboratories
Project/Site: S14973/TOX

Job ID: 190-23332-1

Client Sample ID: S14973.06

Date Collected: 06/17/20 11:50

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-6

Matrix: Ground Water

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/28/20 10:15	06/29/20 15:59	1
TOX Result 1	<40		40	ug/L		06/28/20 10:15	06/29/20 15:59	1
TOX Result 2	44		40	ug/L		06/28/20 10:15	06/29/20 15:59	1
TOX Dup	<40		40	ug/L		06/28/20 10:15	06/29/20 15:59	1

Client Sample ID: S14973.07

Date Collected: 06/17/20 13:10

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-7

Matrix: Ground Water

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/29/20 08:03	06/29/20 12:11	1
TOX Result 1	<40		40	ug/L		06/29/20 08:03	06/29/20 12:11	1
TOX Result 2	<40		40	ug/L		06/29/20 08:03	06/29/20 12:11	1
TOX Dup	<40		40	ug/L		06/29/20 08:03	06/29/20 12:11	1

Client Sample ID: S14973.08

Date Collected: 06/17/20 12:35

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-8

Matrix: Ground Water

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	61		40	ug/L		06/28/20 10:15	06/29/20 17:18	1
TOX Result 1	67		40	ug/L		06/28/20 10:15	06/29/20 17:18	1
TOX Result 2	55		40	ug/L		06/28/20 10:15	06/29/20 17:18	1
TOX Dup	61		40	ug/L		06/28/20 10:15	06/29/20 17:18	1

QC Sample Results

Client: Merit Laboratories
Project/Site: S14973/TOX

Job ID: 190-23332-1

Method: 9020B - Organic Halides, Total (TOX)

Lab Sample ID: MB 680-624120/1-A
Matrix: Water
Analysis Batch: 624357

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 624120

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/26/20 07:15	06/26/20 07:27	1
TOX Result 1	<40		40	ug/L		06/26/20 07:15	06/26/20 07:27	1
TOX Result 2	<40		40	ug/L		06/26/20 07:15	06/26/20 07:27	1
TOX Dup	<40		40	ug/L		06/26/20 07:15	06/26/20 07:27	1

Lab Sample ID: LCS 680-624120/2-A
Matrix: Water
Analysis Batch: 624357

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 624120

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
TOX Result 1	400	406		ug/L		102	60 - 140
TOX Result 2	400	406		ug/L		102	60 - 140
TOX Dup	400	406		ug/L		102	60 - 140

Lab Sample ID: MB 680-624410/1-A
Matrix: Water
Analysis Batch: 624428

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 624410

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/28/20 10:15	06/29/20 11:36	1
TOX Result 1	<40		40	ug/L		06/28/20 10:15	06/29/20 11:36	1
TOX Result 2	<40		40	ug/L		06/28/20 10:15	06/29/20 11:36	1
TOX Dup	<40		40	ug/L		06/28/20 10:15	06/29/20 11:36	1

Lab Sample ID: LCS 680-624410/2-A
Matrix: Water
Analysis Batch: 624428

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 624410

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
TOX Result 1	400	423		ug/L		106	60 - 140
TOX Result 2	400	423		ug/L		106	60 - 140
TOX Dup	400	423		ug/L		106	60 - 140

Lab Sample ID: 190-23332-5 MS
Matrix: Ground Water
Analysis Batch: 624428

Client Sample ID: S14973.05
Prep Type: Total/NA
Prep Batch: 624410

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
TOX Result 1	<40		400	414		ug/L		97	60 - 140
TOX Result 2	<40		400	414		ug/L		96	60 - 140
TOX Dup	<40		400	414		ug/L		97	60 - 140

Lab Sample ID: 190-23332-5 MSD
Matrix: Ground Water
Analysis Batch: 624428

Client Sample ID: S14973.05
Prep Type: Total/NA
Prep Batch: 624410

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
TOX Result 1	<40		400	427		ug/L		101	60 - 140	3	40
TOX Result 2	<40		400	427		ug/L		99	60 - 140	3	40
TOX Dup	<40		400	427		ug/L		100	60 - 140	3	40

Eurofins TestAmerica, Michigan

QC Sample Results

Client: Merit Laboratories
 Project/Site: S14973/TOX

Job ID: 190-23332-1

Method: 9020B - Organic Halides, Total (TOX)

Lab Sample ID: MB 680-624544/1-A
Matrix: Water
Analysis Batch: 624580

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 624544

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/29/20 08:03	06/29/20 09:18	1
TOX Result 1	<40		40	ug/L		06/29/20 08:03	06/29/20 09:18	1
TOX Result 2	<40		40	ug/L		06/29/20 08:03	06/29/20 09:18	1
TOX Dup	<40		40	ug/L		06/29/20 08:03	06/29/20 09:18	1

Lab Sample ID: LCS 680-624544/2-A
Matrix: Water
Analysis Batch: 624580

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 624544

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
TOX Result 1	400	397		ug/L		99	60 - 140
TOX Result 2	400	397		ug/L		99	60 - 140
TOX Dup	400	397		ug/L		99	60 - 140

Definitions/Glossary

Client: Merit Laboratories
Project/Site: S14973/TOX

Job ID: 190-23332-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

Client: Merit Laboratories
Project/Site: S14973/TOX

Job ID: 190-23332-1

General Chemistry

Prep Batch: 624120

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-23332-1	S14973.01	Total/NA	Ground Water	Carbon Trap	
190-23332-2	S14973.02	Total/NA	Ground Water	Carbon Trap	
190-23332-3	S14973.03	Total/NA	Ground Water	Carbon Trap	
190-23332-4	S14973.04	Total/NA	Ground Water	Carbon Trap	
MB 680-624120/1-A	Method Blank	Total/NA	Water	Carbon Trap	
LCS 680-624120/2-A	Lab Control Sample	Total/NA	Water	Carbon Trap	

Analysis Batch: 624357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-23332-1	S14973.01	Total/NA	Ground Water	9020B	624120
190-23332-2	S14973.02	Total/NA	Ground Water	9020B	624120
190-23332-3	S14973.03	Total/NA	Ground Water	9020B	624120
190-23332-4	S14973.04	Total/NA	Ground Water	9020B	624120
MB 680-624120/1-A	Method Blank	Total/NA	Water	9020B	624120
LCS 680-624120/2-A	Lab Control Sample	Total/NA	Water	9020B	624120

Prep Batch: 624410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-23332-5	S14973.05	Total/NA	Ground Water	Carbon Trap	
190-23332-6	S14973.06	Total/NA	Ground Water	Carbon Trap	
190-23332-8	S14973.08	Total/NA	Ground Water	Carbon Trap	
MB 680-624410/1-A	Method Blank	Total/NA	Water	Carbon Trap	
LCS 680-624410/2-A	Lab Control Sample	Total/NA	Water	Carbon Trap	
190-23332-5 MS	S14973.05	Total/NA	Ground Water	Carbon Trap	
190-23332-5 MSD	S14973.05	Total/NA	Ground Water	Carbon Trap	

Analysis Batch: 624428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-23332-5	S14973.05	Total/NA	Ground Water	9020B	624410
190-23332-6	S14973.06	Total/NA	Ground Water	9020B	624410
190-23332-8	S14973.08	Total/NA	Ground Water	9020B	624410
MB 680-624410/1-A	Method Blank	Total/NA	Water	9020B	624410
LCS 680-624410/2-A	Lab Control Sample	Total/NA	Water	9020B	624410
190-23332-5 MS	S14973.05	Total/NA	Ground Water	9020B	624410
190-23332-5 MSD	S14973.05	Total/NA	Ground Water	9020B	624410

Prep Batch: 624544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-23332-7	S14973.07	Total/NA	Ground Water	Carbon Trap	
MB 680-624544/1-A	Method Blank	Total/NA	Water	Carbon Trap	
LCS 680-624544/2-A	Lab Control Sample	Total/NA	Water	Carbon Trap	

Analysis Batch: 624580

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-23332-7	S14973.07	Total/NA	Ground Water	9020B	624544
MB 680-624544/1-A	Method Blank	Total/NA	Water	9020B	624544
LCS 680-624544/2-A	Lab Control Sample	Total/NA	Water	9020B	624544

Lab Chronicle

Client: Merit Laboratories
Project/Site: S14973/TOX

Job ID: 190-23332-1

Client Sample ID: S14973.01

Date Collected: 06/17/20 13:20

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-1

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Carbon Trap			624120	06/26/20 07:15	CLJ	TAL SAV
Total/NA	Analysis	9020B		1	624357	06/26/20 10:46	CLJ	TAL SAV

Client Sample ID: S14973.02

Date Collected: 06/17/20 14:18

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-2

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Carbon Trap			624120	06/26/20 07:15	CLJ	TAL SAV
Total/NA	Analysis	9020B		1	624357	06/26/20 11:26	CLJ	TAL SAV

Client Sample ID: S14973.03

Date Collected: 06/17/20 16:58

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-3

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Carbon Trap			624120	06/26/20 07:15	CLJ	TAL SAV
Total/NA	Analysis	9020B		1	624357	06/26/20 13:07	CLJ	TAL SAV

Client Sample ID: S14973.04

Date Collected: 06/17/20 00:01

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-4

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Carbon Trap			624120	06/26/20 07:15	CLJ	TAL SAV
Total/NA	Analysis	9020B		1	624357	06/26/20 13:49	CLJ	TAL SAV

Client Sample ID: S14973.05

Date Collected: 06/17/20 09:55

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-5

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Carbon Trap			624410	06/28/20 10:15	CLJ	TAL SAV
Total/NA	Analysis	9020B		1	624428	06/29/20 13:03	CLJ	TAL SAV

Client Sample ID: S14973.06

Date Collected: 06/17/20 11:50

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-6

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Carbon Trap			624410	06/28/20 10:15	CLJ	TAL SAV
Total/NA	Analysis	9020B		1	624428	06/29/20 15:59	CLJ	TAL SAV

Lab Chronicle

Client: Merit Laboratories
Project/Site: S14973/TOX

Job ID: 190-23332-1

Client Sample ID: S14973.07

Date Collected: 06/17/20 13:10

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-7

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Carbon Trap			624544	06/29/20 08:03	CLJ	TAL SAV
Total/NA	Analysis	9020B		1	624580	06/29/20 12:11	CLJ	TAL SAV

Client Sample ID: S14973.08

Date Collected: 06/17/20 12:35

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23332-8

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Carbon Trap			624410	06/28/20 10:15	CLJ	TAL SAV
Total/NA	Analysis	9020B		1	624428	06/29/20 17:18	CLJ	TAL SAV

Laboratory References:

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Analyst References:

Lab: TAL SAV

Batch Type: Prep

CLJ = Cynthia Johnson

Batch Type: Analysis

CLJ = Cynthia Johnson

Accreditation/Certification Summary

Client: Merit Laboratories
Project/Site: S14973/TOX

Job ID: 190-23332-1

Laboratory: Eurofins TestAmerica, Michigan

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Michigan	State	0057	10-01-20

Laboratory: Eurofins TestAmerica, Savannah

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-20
Alaska	State	GA00006	06-30-20
Alaska (UST)	State	17-016	09-30-20
ANAB	Dept. of Defense ELAP	L2463	09-22-22
ANAB	ISO/IEC 17025	L2463.01	09-22-22
Arizona	State	AZ0808	12-14-20
Arkansas DEQ	State	19-015-0	02-02-21
California	State	2939	06-30-20
Colorado	State	GA00006	12-31-20
Connecticut	State	PH-0161	03-31-21
Florida	NELAP	E87052	06-30-20
Georgia	State	E87052	06-30-20
Georgia (DW)	State	803	06-30-20
Guam	State	19-007R	04-17-21
Hawaii	State	<cert No.>	06-30-20
Illinois	NELAP	004547	11-30-20
Indiana	State	C-GA-02	06-30-20
Iowa	State	353	06-30-21
Kansas	NELAP	E-10322	10-15-20
Kentucky (DW)	State	KY90084	12-31-21
Kentucky (UST)	State	<cert No.>	06-30-20
Kentucky (WW)	State	KY90084	12-31-20
Louisiana	NELAP	02011	06-30-20
Louisiana (DW)	State	LA009	12-31-20
Maine	State	GA00006	09-26-20
Maryland	State	250	12-31-20
Massachusetts	State	M-GA006	06-30-20
Michigan	State	9925	06-30-20
Mississippi	State	<cert No.>	06-30-20
Nebraska	State	NE-OS-7-04	06-30-20
New Jersey	NELAP	GA769	06-30-20
New Mexico	State	GA00006	06-30-20
New York	NELAP	10842	04-01-21
North Carolina (DW)	State	13701	07-31-20
North Carolina (WW/SW)	State	269	12-31-20
Oklahoma	State	9984	08-31-20
Pennsylvania	NELAP	68-00474	06-30-20
Puerto Rico	State	GA00006	01-01-21
South Carolina	State	98001	06-30-20
Tennessee	State	02961	06-30-20
Texas	NELAP	T1047004185-19-14	11-30-20
Texas	TCEQ Water Supply	T104704185	06-30-20
US Fish & Wildlife	US Federal Programs	LE058448-0	07-31-20

Eurofins TestAmerica, Michigan

Accreditation/Certification Summary

Client: Merit Laboratories
Project/Site: S14973/TOX

Job ID: 190-23332-1

Laboratory: Eurofins TestAmerica, Savannah (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
USDA	US Federal Programs	P330-18-00313	10-29-21
Virginia	NELAP	10509	06-14-21
Washington	State	C805	06-10-20 *
West Virginia (DW)	State	9950C	12-31-20
West Virginia DEP	State	094	07-31-20
Wisconsin	State	999819810	08-31-20
Wyoming	State	8TMS-L	06-30-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Michigan

Method Summary

Client: Merit Laboratories
Project/Site: S14973/TOX

Job ID: 190-23332-1

Method	Method Description	Protocol	Laboratory
9020B	Organic Halides, Total (TOX)	SW846	TAL SAV
Carbon Trap	Carbon Trap Preparation	EPA-17	TAL SAV

Protocol References:

EPA-17 = "Method 1650, Revision A, Adsorbable Organic Halides By Adsorption And Colormetric Titration," EPA, February 1992
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858





Environment Testing
TestAmerica

SDS or Known Hazard Information Supplied by Client
 Discrepancies Client ID: Merrif Labs
 Short Hold Work Order #: 196-23332
 Rush 24 Hr 2-Day 3-Day 5-Day Other: _____
 Receipt Evaluation Performed by: Initials: AMY Date: 6/23/20 Time: 1:32c

Cooler / Sample Receipt

After hours receipt: complete gray areas. Place cooler in walk-in, place form in Receiving box. Date: _____ Time: _____

Method of Shipment:

Walk-In Client Eurofins TA Field/Courier
 Other Client / 3rd Party Courier: _____
 Fed Ex Tracking #: _____
 UPS Tracking #: _____
 Other: _____

Shipping Container Type:

Cooler Box
 None Other: _____

Custody Seals Intact:

Yes No
 NA (not used or required)

Packing Materials:

Plastic Bags Foam
 Bubble Wrap Paper
 Packing Peanuts None
 Other: _____

Cooling Materials:

Ice (Solid) Ice (Melted)
 Blue Ice None
 Other: _____

Bacteriological Samples	Temp Corrected (°C)	Frozen?		Rec'd Within 2 Hrs?		Sample Flagged?	
		Yes	No	Yes	No	Yes	No

Received on same day sampled? Yes No Additional Sheets Required? Yes No

Receipt Temperatures

C.F.
C.O.

Thermometer ID	Observed (°C)	Corrected (°C)	Temp Blank	Sample Temp	Acceptable	Cooler ID	Affected Samples
<u>CP313207</u>	<u>2.6</u>	<u>2.6</u>		<u>X</u>	<u>Y</u> <u>N</u>		
					<u>Y</u> <u>N</u>		
					<u>Y</u> <u>N</u>		

Receipt Questions**	Y	N	NA	"No" answers require additional comment
CoC present and ETA receipt signature, date, and time properly documented?	<input checked="" type="checkbox"/>			
Containers and Labels in good condition? (unbroken, not leaking, appropriately filled, labels legible & attached)	<input checked="" type="checkbox"/>			
Appropriate containers used and adequate volume provided?	<input checked="" type="checkbox"/>			Preserved bottles checked for pH? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Number of sample containers match CoC?	<input checked="" type="checkbox"/>			pH strip lot # <u>156214</u>
Samples received within hold?	<input checked="" type="checkbox"/>			
Samples submitted for GRO and Volatiles analysis (8260, 624, 524) received without headspace?			<input checked="" type="checkbox"/>	
Was a Trip Blank received with VOA samples?			<input checked="" type="checkbox"/>	
Were the samples free of any questionable physical conformities? (i.e.; field duplicates or multiple bottles of the same sample do not significantly vary in appearance - color, solid proportions, etc.)	<input checked="" type="checkbox"/>			
Were the CoC bottle labels and all other items free of all other discrepancies or issues that would need to be addressed with the Project Manager and/or Client?	<input checked="" type="checkbox"/>			
**May not be applicable if samples are not for compliance testing				*Excludes FOG, VOAs, TOC Vials, HEM

Client Contact Record

Contact Via: Phone Email Other: _____ Person Contacted: _____ Date/Time: _____
 Discrepancy allowance agreement is on record in the client project file

Discussion / Resolution

Any additional documentation and clarification from the client must be noted in the narrative and/or scanned into the CoC directory.

Reviewed by [Signature] Date: 6/23/20

WI-M-010_020720

Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:				
Client Contact: Shipping/Receiving TestAmerica Laboratories, Inc. Address: 5102 LaRoche Avenue, City: Savannah State, Zip: GA, 31404 Phone: 912-354-7858(Tel) 912-352-0165(Fax) Email: Project Name: S14973/TOX Site:		Schrafer, Sue E-Mail: sue.schrafer@testamericainc.com	Schrafer, Sue	Michigan	190-27470-1				
Due Date Requested:		Phone:	E-Mail:	State of Origin:	Page:				
7/3/2020			sue.schrafer@testamericainc.com	Michigan	Page 1 of 1				
TAT Requested (days):		Accreditations Required (See note):		Job #:	Preservation Codes:				
7/3/2020				190-23332-1	M - Hexane N - None O - AsNaO2 P - Na2O4S Q - NaHSO4 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Ascorbic Acid V - MCAA W - pH 4-5 X - EDTA Y - EDA Z - other (specify)				
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=wasteoil, BT=liquid, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9020B/Carbon_Trap	Total Number of Containers	Special Instructions/Note:
S14973.01 (190-23332-1)	6/17/20	13:20 Eastern	Water	Water	X	X		1	
S14973.02 (190-23332-2)	6/17/20	14:18 Eastern	Water	Water	X	X		1	
S14973.03 (190-23332-3)	6/17/20	16:58 Eastern	Water	Water	X	X		1	
S14973.04 (190-23332-4)	6/17/20	00:01 Eastern	Water	Water	X	X		1	
S14973.05 (190-23332-5)	6/17/20	09:55 Eastern	Water	Water	X	X		1	
S14973.06 (190-23332-6)	6/17/20	11:50 Eastern	Water	Water	X	X		1	
S14973.07 (190-23332-7)	6/17/20	13:10 Eastern	Water	Water	X	X		1	
S14973.08 (190-23332-8)	6/17/20	12:35 Eastern	Water	Water	X	X		1	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.

Possible Hazard Identification
 Unconfirmed
 Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: <i>[Signature]</i>	6-23-20	1535	Company: ETA
Relinquished by:			Company: <i>[Signature]</i>
Relinquished by:			Company:
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No	Custody Seal No.:		

Cooler Temperature(s) °C and Other Remarks: 1.11.5





Quality Control Report

Report ID: QC-S14973-01
Generated on 07/01/2020

Report to

Attention: Clifford Yantz
O'Brien & Gere Engineers, Inc.
2260 E Saginaw St
East Lansing, MI 48823

Phone: 313-333-0211 FAX:

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S14973.01-S14973.09
Project: RACER Coldwater Rd
Submitted Date/Time: 06/18/2020 14:40
Sampled by: Kevin Schneider
P.O. #: 12000277

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-10)
Prep Batch Summary (Pages 11-13)
Surrogates per Lab Sample (Pages 14-22)
Surrogates per QC Sample (Page 23)
Batch QC Results (Pages 24-37)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S14973.01

Sample Tag: B-24r

Collected Date/Time: 06/17/2020 13:20

Matrix: Groundwater

COC Reference: 128653

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chloride	E300.0	06/19/20 10:12	CL200619-W1-B	CL200619-W1-B	No	BLK/LCS/MS/MSD/DU
Conductivity	E120.1	06/25/20 13:10	COND200625-W1	COND200625-W1	No	BLK/LCS/DUP
Cyanide, Total	E335.4/SM4500-CN	06/22/20 11:08	CN200622-W1	CN200622-W1	No	BLK/LCS/MS/MSD/DU
Phenols	E420.1	06/26/20 16:20	PHL200626-W1	PHL200626-W1	No	BLK/LCS/MS/DUP
Sulfate	E300.0	06/19/20 10:12	SFT200619-W1-B	SFT200619-W1-B	No	BLK/LCS/MS/MSD/DU
TOC	SM5310C	06/23/20 14:51	TOC200623-W1	TOC200623-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Chromium, Dissolved	E200.8	06/24/20 12:19	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/24/20 12:19	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Iron, Dissolved	E200.8	06/24/20 12:19	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Manganese, Dissolved	E200.8	06/24/20 12:19	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/24/20 12:19	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Sodium	E200.8	06/22/20 15:22	MT4-20-0622B	MTD-062220-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/24/20 12:19	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 18:01	200619A7	VF200619W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S14973.02

Sample Tag: B-22D

Collected Date/Time: 06/17/2020 14:18

Matrix: Groundwater

COC Reference: 128653

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chloride	E300.0	06/19/20 10:25	CL200619-W1-B	CL200619-W1-B	No	BLK/LCS/MS/MSD/DU
Conductivity	E120.1	06/25/20 13:14	COND200625-W1	COND200625-W1	No	BLK/LCS/DUP
Cyanide, Total	E335.4/SM4500-CN	06/22/20 11:16	CN200622-W1	CN200622-W1	No	BLK/LCS/MS/MSD/DU
Phenols	E420.1	06/26/20 16:22	PHL200626-W1	PHL200626-W1	No	BLK/LCS/MS/DUP
Sulfate	E300.0	06/19/20 10:25	SFT200619-W1-B	SFT200619-W1-B	No	BLK/LCS/MS/MSD/DU
TOC	SM5310C	06/23/20 15:50	TOC200623-W1	TOC200623-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Chromium, Dissolved	E200.8	06/24/20 12:23	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/24/20 12:23	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Iron, Dissolved	E200.8	06/24/20 12:23	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Manganese, Dissolved	E200.8	06/24/20 12:23	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/24/20 12:23	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Sodium	E200.8	06/22/20 15:17	MT4-20-0622B	MTD-062220-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/24/20 12:23	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 18:20	200619A7	VF200619W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S14973.03

Sample Tag: B-21D

Collected Date/Time: 06/17/2020 16:58

Matrix: Groundwater

COC Reference: 128653

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chloride	E300.0	06/19/20 10:38	CL200619-W1-B	CL200619-W1-B	No	BLK/LCS/MS/MSD/DU
Conductivity	E120.1	06/25/20 13:16	COND200625-W1	COND200625-W1	No	BLK/LCS/DUP
Cyanide, Total	E335.4/SM4500-CN	06/22/20 11:18	CN200622-W1	CN200622-W1	No	BLK/LCS/MS/MSD/DU
Phenols	E420.1	06/26/20 16:24	PHL200626-W1	PHL200626-W1	No	BLK/LCS/MS/DUP
Sulfate	E300.0	06/19/20 10:38	SFT200619-W1-B	SFT200619-W1-B	No	BLK/LCS/MS/MSD/DU
TOC	SM5310C	06/23/20 16:19	TOC200623-W1	TOC200623-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Chromium, Dissolved	E200.8	06/24/20 12:25	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/24/20 12:25	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Iron, Dissolved	E200.8	06/24/20 12:25	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Manganese, Dissolved	E200.8	06/24/20 12:25	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/24/20 12:25	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Sodium	E200.8	06/22/20 15:23	MT4-20-0622B	MTD-062220-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/24/20 12:25	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 18:39	200619A7	VF200619W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S14973.04

Sample Tag: DUP-1

Collected Date/Time: 06/18/2020 00:01

Matrix: Groundwater

COC Reference: 128653

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chloride	E300.0	06/19/20 10:51	CL200619-W1-B	CL200619-W1-B	No	BLK/LCS/MS/MSD/DU
Conductivity	E120.1	06/25/20 13:18	COND200625-W1	COND200625-W1	No	BLK/LCS/DUP
Cyanide, Total	E335.4/SM4500-CN06	06/22/20 11:20	CN200622-W1	CN200622-W1	No	BLK/LCS/MS/MSD/DU
Phenols	E420.1	06/26/20 16:26	PHL200626-W1	PHL200626-W1	No	BLK/LCS/MS/DUP
Sulfate	E300.0	06/19/20 10:51	SFT200619-W1-B	SFT200619-W1-B	No	BLK/LCS/MS/MSD/DU
TOC	SM5310C	06/23/20 16:36	TOC200623-W1	TOC200623-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Chromium, Dissolved	E200.8	06/24/20 12:28	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/24/20 12:28	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Iron, Dissolved	E200.8	06/24/20 12:28	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Manganese, Dissolved	E200.8	06/24/20 12:28	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/24/20 12:28	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Sodium	E200.8	06/22/20 15:25	MT4-20-0622B	MTD-062220-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/24/20 12:28	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 18:59	200619A7	VF200619W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S14973.05

Sample Tag: B-19Ar

Collected Date/Time: 06/18/2020 09:55

Matrix: Groundwater

COC Reference: 128653

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chloride	E300.0	06/19/20 11:04	CL200619-W1-B	CL200619-W1-B	No	BLK/LCS/MS/MSD/DU
Conductivity	E120.1	06/25/20 13:20	COND200625-W1	COND200625-W1	No	BLK/LCS/DUP
Cyanide, Total	E335.4/SM4500-CN06	06/22/20 11:22	CN200622-W1	CN200622-W1	No	BLK/LCS/MS/MSD/DU
Phenols	E420.1	06/26/20 16:28	PHL200626-W1	PHL200626-W1	No	BLK/LCS/MS/DUP
Sulfate	E300.0	06/19/20 11:04	SFT200619-W1-B	SFT200619-W1-B	No	BLK/LCS/MS/MSD/DU
TOC	SM5310C	06/23/20 16:56	TOC200623-W1	TOC200623-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Chromium, Dissolved	E200.8	06/24/20 12:35	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/24/20 12:35	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Iron, Dissolved	E200.8	06/24/20 12:35	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Manganese, Dissolved	E200.8	06/24/20 12:35	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/24/20 12:35	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Sodium	E200.8	06/22/20 15:27	MT4-20-0622B	MTD-062220-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/24/20 12:35	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 19:18	200619A7	VF200619W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S14973.06

Sample Tag: B-18A

Collected Date/Time: 06/18/2020 11:50

Matrix: Groundwater

COC Reference: 128653

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chloride	E300.0	06/19/20 11:17	CL200619-W1-B	CL200619-W1-B	No	BLK/LCS/MS/MSD/DU
Conductivity	E120.1	06/25/20 13:22	COND200625-W1	COND200625-W1	No	BLK/LCS/DUP
Cyanide, Total	E335.4/SM4500-CN06	06/22/20 11:24	CN200622-W1	CN200622-W1	No	BLK/LCS/MS/MSD/DU
Phenols	E420.1	06/26/20 16:30	PHL200626-W1	PHL200626-W1	No	BLK/LCS/MS/DUP
Sulfate	E300.0	06/19/20 11:17	SFT200619-W1-B	SFT200619-W1-B	No	BLK/LCS/MS/MSD/DU
TOC	SM5310C	06/23/20 17:15	TOC200623-W1	TOC200623-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Chromium, Dissolved	E200.8	06/24/20 12:39	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/24/20 12:39	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Iron, Dissolved	E200.8	06/24/20 12:39	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Manganese, Dissolved	E200.8	06/24/20 12:39	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/24/20 12:39	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Sodium	E200.8	06/22/20 15:28	MT4-20-0622B	MTD-062220-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/24/20 12:39	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 19:37	200619A7	VF200619W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S14973.07

Sample Tag: B-7

Collected Date/Time: 06/18/2020 13:10

Matrix: Groundwater

COC Reference: 128653

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chloride	E300.0	06/19/20 11:30	CL200619-W1-B	CL200619-W1-B	No	BLK/LCS/MS/MSD/DU
Conductivity	E120.1	06/25/20 13:24	COND200625-W1	COND200625-W1	No	BLK/LCS/DUP
Cyanide, Total	E335.4/SM4500-CN	06/22/20 11:26	CN200622-W1	CN200622-W1	No	BLK/LCS/MS/MSD/DU
Phenols	E420.1	06/26/20 16:32	PHL200626-W1	PHL200626-W1	No	BLK/LCS/MS/DUP
Sulfate	E300.0	06/19/20 11:30	SFT200619-W1-B	SFT200619-W1-B	No	BLK/LCS/MS/MSD/DU
TOC	SM5310C	06/23/20 17:35	TOC200623-W1	TOC200623-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Chromium, Dissolved	E200.8	06/24/20 12:41	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/24/20 12:41	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Iron, Dissolved	E200.8	06/24/20 12:41	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Manganese, Dissolved	E200.8	06/24/20 12:41	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/24/20 12:41	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Sodium	E200.8	06/22/20 15:30	MT4-20-0622B	MTD-062220-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/24/20 12:41	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 19:57	200619A7	VF200619W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S14973.08

Sample Tag: B-20D

Collected Date/Time: 06/18/2020 12:35

Matrix: Groundwater

COC Reference: 128653

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chloride	E300.0	06/19/20 11:42	CL200619-W1-B	CL200619-W1-B	No	BLK/LCS/MS/MSD/DU
Conductivity	E120.1	06/25/20 13:26	COND200625-W1	COND200625-W1	No	BLK/LCS/DUP
Cyanide, Total	E335.4/SM4500-CN	06/22/20 11:28	CN200622-W1	CN200622-W1	No	BLK/LCS/MS/MSD/DU
Phenols	E420.1	06/26/20 16:34	PHL200626-W1	PHL200626-W1	No	BLK/LCS/MS/DUP
Sulfate	E300.0	06/19/20 11:42	SFT200619-W1-B	SFT200619-W1-B	No	BLK/LCS/MS/MSD/DU
TOC	SM5310C	06/23/20 17:54	TOC200623-W1	TOC200623-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Chromium, Dissolved	E200.8	06/24/20 12:42	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/24/20 12:42	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Iron, Dissolved	E200.8	06/24/20 12:42	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Manganese, Dissolved	E200.8	06/24/20 12:42	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/24/20 12:42	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Sodium	E200.8	06/22/20 15:31	MT4-20-0622B	MTD-062220-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/24/20 12:42	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 20:16	200619A7	VF200619W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S14973.09

Sample Tag: Trip Blank 061820

Collected Date/Time: 06/18/2020 00:01

Matrix: Water

COC Reference: 128653

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 15:45	200619A7	VF200619W1	Yes	BLK/LCS/LCSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: CL200619-W1-B

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S14973.01	Chloride	E300.0	06/19/20 10:12	CL200619-W1-B
S14973.02	Chloride	E300.0	06/19/20 10:25	CL200619-W1-B
S14973.03	Chloride	E300.0	06/19/20 10:38	CL200619-W1-B
S14973.04	Chloride	E300.0	06/19/20 10:51	CL200619-W1-B
S14973.05	Chloride	E300.0	06/19/20 11:04	CL200619-W1-B
S14973.06	Chloride	E300.0	06/19/20 11:17	CL200619-W1-B
S14973.07	Chloride	E300.0	06/19/20 11:30	CL200619-W1-B
S14973.08	Chloride	E300.0	06/19/20 11:42	CL200619-W1-B

Inorganics, Prep Batch ID: CN200622-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S14973.01	Cyanide, Total	E335.4/SM4500-CN06/22/20	11:08	CN200622-W1
S14973.02	Cyanide, Total	E335.4/SM4500-CN06/22/20	11:16	CN200622-W1
S14973.03	Cyanide, Total	E335.4/SM4500-CN06/22/20	11:18	CN200622-W1
S14973.04	Cyanide, Total	E335.4/SM4500-CN06/22/20	11:20	CN200622-W1
S14973.05	Cyanide, Total	E335.4/SM4500-CN06/22/20	11:22	CN200622-W1
S14973.06	Cyanide, Total	E335.4/SM4500-CN06/22/20	11:24	CN200622-W1
S14973.07	Cyanide, Total	E335.4/SM4500-CN06/22/20	11:26	CN200622-W1
S14973.08	Cyanide, Total	E335.4/SM4500-CN06/22/20	11:28	CN200622-W1

Inorganics, Prep Batch ID: COND200625-W1

Surrogates: No, QC Types: BLK/LCS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S14973.01	Conductivity	E120.1	06/25/20 13:10	COND200625-W1
S14973.02	Conductivity	E120.1	06/25/20 13:14	COND200625-W1
S14973.03	Conductivity	E120.1	06/25/20 13:16	COND200625-W1
S14973.04	Conductivity	E120.1	06/25/20 13:18	COND200625-W1
S14973.05	Conductivity	E120.1	06/25/20 13:20	COND200625-W1
S14973.06	Conductivity	E120.1	06/25/20 13:22	COND200625-W1
S14973.07	Conductivity	E120.1	06/25/20 13:24	COND200625-W1
S14973.08	Conductivity	E120.1	06/25/20 13:26	COND200625-W1

Inorganics, Prep Batch ID: PHL200626-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S14973.01	Phenols	E420.1	06/26/20 16:20	PHL200626-W1
S14973.02	Phenols	E420.1	06/26/20 16:22	PHL200626-W1
S14973.03	Phenols	E420.1	06/26/20 16:24	PHL200626-W1
S14973.04	Phenols	E420.1	06/26/20 16:26	PHL200626-W1
S14973.05	Phenols	E420.1	06/26/20 16:28	PHL200626-W1
S14973.06	Phenols	E420.1	06/26/20 16:30	PHL200626-W1
S14973.07	Phenols	E420.1	06/26/20 16:32	PHL200626-W1
S14973.08	Phenols	E420.1	06/26/20 16:34	PHL200626-W1

Inorganics, Prep Batch ID: SFT200619-W1-B

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S14973.01	Sulfate	E300.0	06/19/20 10:12	SFT200619-W1-B
S14973.02	Sulfate	E300.0	06/19/20 10:25	SFT200619-W1-B

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: SFT200619-W1-B (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S14973.03	Sulfate	E300.0	06/19/20 10:38	SFT200619-W1-B
S14973.04	Sulfate	E300.0	06/19/20 10:51	SFT200619-W1-B
S14973.05	Sulfate	E300.0	06/19/20 11:04	SFT200619-W1-B
S14973.06	Sulfate	E300.0	06/19/20 11:17	SFT200619-W1-B
S14973.07	Sulfate	E300.0	06/19/20 11:30	SFT200619-W1-B
S14973.08	Sulfate	E300.0	06/19/20 11:42	SFT200619-W1-B

Inorganics, Prep Batch ID: TOC200623-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S14973.01	TOC	SM5310C	06/23/20 14:51	TOC200623-W1
S14973.02	TOC	SM5310C	06/23/20 15:50	TOC200623-W1
S14973.03	TOC	SM5310C	06/23/20 16:19	TOC200623-W1
S14973.04	TOC	SM5310C	06/23/20 16:36	TOC200623-W1
S14973.05	TOC	SM5310C	06/23/20 16:56	TOC200623-W1
S14973.06	TOC	SM5310C	06/23/20 17:15	TOC200623-W1
S14973.07	TOC	SM5310C	06/23/20 17:35	TOC200623-W1
S14973.08	TOC	SM5310C	06/23/20 17:54	TOC200623-W1

Metals, Prep Batch ID: MTD-062220-3

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S14973.01	Sodium	E200.8	06/22/20 15:22	MT4-20-0622B
S14973.02	Sodium	E200.8	06/22/20 15:17	MT4-20-0622B
S14973.03	Sodium	E200.8	06/22/20 15:23	MT4-20-0622B
S14973.04	Sodium	E200.8	06/22/20 15:25	MT4-20-0622B
S14973.05	Sodium	E200.8	06/22/20 15:27	MT4-20-0622B
S14973.06	Sodium	E200.8	06/22/20 15:28	MT4-20-0622B
S14973.07	Sodium	E200.8	06/22/20 15:30	MT4-20-0622B
S14973.08	Sodium	E200.8	06/22/20 15:31	MT4-20-0622B

Metals, Prep Batch ID: MTD-062420-4

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S14973.01	Chromium, Dissolved	E200.8	06/24/20 12:19	MT4-20-0624B
S14973.01	Copper, Dissolved	E200.8	06/24/20 12:19	MT4-20-0624B
S14973.01	Iron, Dissolved	E200.8	06/24/20 12:19	MT4-20-0624B
S14973.01	Manganese, Dissolved	E200.8	06/24/20 12:19	MT4-20-0624B
S14973.01	Nickel, Dissolved	E200.8	06/24/20 12:19	MT4-20-0624B
S14973.01	Zinc, Dissolved	E200.8	06/24/20 12:19	MT4-20-0624B
S14973.02	Chromium, Dissolved	E200.8	06/24/20 12:23	MT4-20-0624B
S14973.02	Copper, Dissolved	E200.8	06/24/20 12:23	MT4-20-0624B
S14973.02	Iron, Dissolved	E200.8	06/24/20 12:23	MT4-20-0624B
S14973.02	Manganese, Dissolved	E200.8	06/24/20 12:23	MT4-20-0624B
S14973.02	Nickel, Dissolved	E200.8	06/24/20 12:23	MT4-20-0624B
S14973.02	Zinc, Dissolved	E200.8	06/24/20 12:23	MT4-20-0624B
S14973.03	Chromium, Dissolved	E200.8	06/24/20 12:25	MT4-20-0624B
S14973.03	Copper, Dissolved	E200.8	06/24/20 12:25	MT4-20-0624B
S14973.03	Iron, Dissolved	E200.8	06/24/20 12:25	MT4-20-0624B

QC Report - Prep Batch Summary

Metals, Prep Batch ID: MTD-062420-4 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S14973.03	Manganese, Dissolved	E200.8	06/24/20 12:25	MT4-20-0624B
S14973.03	Nickel, Dissolved	E200.8	06/24/20 12:25	MT4-20-0624B
S14973.03	Zinc, Dissolved	E200.8	06/24/20 12:25	MT4-20-0624B
S14973.04	Chromium, Dissolved	E200.8	06/24/20 12:28	MT4-20-0624B
S14973.04	Copper, Dissolved	E200.8	06/24/20 12:28	MT4-20-0624B
S14973.04	Iron, Dissolved	E200.8	06/24/20 12:28	MT4-20-0624B
S14973.04	Manganese, Dissolved	E200.8	06/24/20 12:28	MT4-20-0624B
S14973.04	Nickel, Dissolved	E200.8	06/24/20 12:28	MT4-20-0624B
S14973.04	Zinc, Dissolved	E200.8	06/24/20 12:28	MT4-20-0624B
S14973.05	Chromium, Dissolved	E200.8	06/24/20 12:35	MT4-20-0624B
S14973.05	Copper, Dissolved	E200.8	06/24/20 12:35	MT4-20-0624B
S14973.05	Iron, Dissolved	E200.8	06/24/20 12:35	MT4-20-0624B
S14973.05	Manganese, Dissolved	E200.8	06/24/20 12:35	MT4-20-0624B
S14973.05	Nickel, Dissolved	E200.8	06/24/20 12:35	MT4-20-0624B
S14973.05	Zinc, Dissolved	E200.8	06/24/20 12:35	MT4-20-0624B
S14973.06	Chromium, Dissolved	E200.8	06/24/20 12:39	MT4-20-0624B
S14973.06	Copper, Dissolved	E200.8	06/24/20 12:39	MT4-20-0624B
S14973.06	Iron, Dissolved	E200.8	06/24/20 12:39	MT4-20-0624B
S14973.06	Manganese, Dissolved	E200.8	06/24/20 12:39	MT4-20-0624B
S14973.06	Nickel, Dissolved	E200.8	06/24/20 12:39	MT4-20-0624B
S14973.06	Zinc, Dissolved	E200.8	06/24/20 12:39	MT4-20-0624B
S14973.07	Chromium, Dissolved	E200.8	06/24/20 12:41	MT4-20-0624B
S14973.07	Copper, Dissolved	E200.8	06/24/20 12:41	MT4-20-0624B
S14973.07	Iron, Dissolved	E200.8	06/24/20 12:41	MT4-20-0624B
S14973.07	Manganese, Dissolved	E200.8	06/24/20 12:41	MT4-20-0624B
S14973.07	Nickel, Dissolved	E200.8	06/24/20 12:41	MT4-20-0624B
S14973.07	Zinc, Dissolved	E200.8	06/24/20 12:41	MT4-20-0624B
S14973.08	Chromium, Dissolved	E200.8	06/24/20 12:42	MT4-20-0624B
S14973.08	Copper, Dissolved	E200.8	06/24/20 12:42	MT4-20-0624B
S14973.08	Iron, Dissolved	E200.8	06/24/20 12:42	MT4-20-0624B
S14973.08	Manganese, Dissolved	E200.8	06/24/20 12:42	MT4-20-0624B
S14973.08	Nickel, Dissolved	E200.8	06/24/20 12:42	MT4-20-0624B
S14973.08	Zinc, Dissolved	E200.8	06/24/20 12:42	MT4-20-0624B

Organics - Volatiles, Prep Batch ID: VF200619W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S14973.01	Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 18:01	200619A7
S14973.02	Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 18:20	200619A7
S14973.03	Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 18:39	200619A7
S14973.04	Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 18:59	200619A7
S14973.05	Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 19:18	200619A7
S14973.06	Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 19:37	200619A7
S14973.07	Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 19:57	200619A7
S14973.08	Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 20:16	200619A7
S14973.09	Volatile Organics - DEQ List	SW5030C/8260C	06/19/20 15:45	200619A7

QC Report - Surrogates per Lab Sample

Lab Sample ID: S14973.01

Sample Tag: B-24r

Collected Date/Time: 06/17/2020 13:20

Matrix: Groundwater

COC Reference: 128653

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 200619A7, Run Date: 06/19/2020 18:01, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		93.4	80.0	124.0
1,2-Dichloroethane-D4		94.6	72.0	125.0
Toluene-D8		100.4	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S14973.02

Sample Tag: B-22D

Collected Date/Time: 06/17/2020 14:18

Matrix: Groundwater

COC Reference: 128653

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 200619A7, Run Date: 06/19/2020 18:20, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		93.1	80.0	124.0
1,2-Dichloroethane-D4		96.5	72.0	125.0
Toluene-D8		101.1	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S14973.03

Sample Tag: B-21D

Collected Date/Time: 06/17/2020 16:58

Matrix: Groundwater

COC Reference: 128653

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 200619A7, Run Date: 06/19/2020 18:39, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		95.1	80.0	124.0
1,2-Dichloroethane-D4		94.8	72.0	125.0
Toluene-D8		101.1	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S14973.04

Sample Tag: DUP-1

Collected Date/Time: 06/18/2020 00:01

Matrix: Groundwater

COC Reference: 128653

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 200619A7, Run Date: 06/19/2020 18:59, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		93.6	80.0	124.0
1,2-Dichloroethane-D4		93.9	72.0	125.0
Toluene-D8		100.2	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S14973.05

Sample Tag: B-19Ar

Collected Date/Time: 06/18/2020 09:55

Matrix: Groundwater

COC Reference: 128653

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 200619A7, Run Date: 06/19/2020 19:18, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		92.1	80.0	124.0
1,2-Dichloroethane-D4		92.4	72.0	125.0
Toluene-D8		101.7	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S14973.06

Sample Tag: B-18A

Collected Date/Time: 06/18/2020 11:50

Matrix: Groundwater

COC Reference: 128653

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 200619A7, Run Date: 06/19/2020 19:37, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		93.9	80.0	124.0
1,2-Dichloroethane-D4		93.3	72.0	125.0
Toluene-D8		100.7	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S14973.07

Sample Tag: B-7

Collected Date/Time: 06/18/2020 13:10

Matrix: Groundwater

COC Reference: 128653

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 200619A7, Run Date: 06/19/2020 19:57, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.2	80.0	124.0
1,2-Dichloroethane-D4		94.7	72.0	125.0
Toluene-D8		101.8	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S14973.08

Sample Tag: B-20D

Collected Date/Time: 06/18/2020 12:35

Matrix: Groundwater

COC Reference: 128653

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 200619A7, Run Date: 06/19/2020 20:16, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		93.2	80.0	124.0
1,2-Dichloroethane-D4		95.5	72.0	125.0
Toluene-D8		99.3	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S14973.09

Sample Tag: Trip Blank 061820

Collected Date/Time: 06/18/2020 00:01

Matrix: Water

COC Reference: 128653

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 200619A7, Run Date: 06/19/2020 15:45, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.2	80.0	124.0
1,2-Dichloroethane-D4		96.2	72.0	125.0
Toluene-D8		100.3	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF200619W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 200619A7.BLKW19A

Run in Batch: 200619A7, Run Date: 06/19/2020 15:26, Prep Date: 06/19/2020, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		95.5	80.0	124.0
1,2-Dichloroethane-D4		96.3	72.0	125.0
Toluene-D8		98.6	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 200619A7.LCSW19A

Run in Batch: 200619A7, Run Date: 06/19/2020 14:09, Prep Date: 06/19/2020, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.9	80.0	124.0
1,2-Dichloroethane-D4		95.6	72.0	125.0
Toluene-D8		98.3	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 200619A7.LCSDW19A, Parent Sample ID: 200619A7.LCSW19A

Run in Batch: 200619A7, Run Date: 06/19/2020 14:28, Prep Date: 06/19/2020, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.3	80.0	124.0
1,2-Dichloroethane-D4		95.4	72.0	125.0
Toluene-D8		99.1	89.0	112.0

QC Report - Batch QC Results

Inorganics, Prep Batch ID: CL200619-W1-B

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: CL200619-W1-B.LRB1

Run in Batch: CL200619-W1-B, Run Date: 06/19/2020 09:34, Prep Date: 06/19/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Chloride		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: CL200619-W1-B.LCS1

Run in Batch: CL200619-W1-B, Run Date: 06/19/2020 09:59, Prep Date: 06/19/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chloride		100	90	110

Matrix Spike (MS)

Lab Sample ID: CL200619-W1-B.MS1, Parent Sample ID: S14973.02

Run in Batch: CL200619-W1-B, Run Date: 06/19/2020 12:08, Prep Date: 06/19/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chloride		100	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: CL200619-W1-B.MSD1, Parent Sample ID: CL200619-W1-B.MS1

Run in Batch: CL200619-W1-B, Run Date: 06/19/2020 12:21, Prep Date: 06/19/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chloride		100	80	120	0	15

Duplicate (DUP)

Lab Sample ID: CL200619-W1-B.DP1, Parent Sample ID: S14973.02

Run in Batch: CL200619-W1-B, Run Date: 06/19/2020 11:55, Prep Date: 06/19/2020, Matrix: Liquid, Dilution: 10

Analyte	Flags	RPD	RPD CL
Chloride		<1	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: CN200622-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: CN200622-W1.LRB1

Run in Batch: CN200622-W1, Run Date: 06/22/2020 11:00, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 2

Analyte	Flags	Conc	RDL	Units
Cyanide, Total		ND	0.004	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: CN200622-W1.LCS1

Run in Batch: CN200622-W1, Run Date: 06/22/2020 11:06, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Cyanide, Total		103	90	110

Matrix Spike (MS)

Lab Sample ID: CN200622-W1.MS1, Parent Sample ID: S14973.01

Run in Batch: CN200622-W1, Run Date: 06/22/2020 11:12, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 2

Analyte	Flags	% Rec	LCL	UCL
Cyanide, Total		92	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: CN200622-W1.MSD1, Parent Sample ID: CN200622-W1.MS1

Run in Batch: CN200622-W1, Run Date: 06/22/2020 11:14, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 2

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Cyanide, Total		92	80	120	0	15

Duplicate (DUP)

Lab Sample ID: CN200622-W1.DP1, Parent Sample ID: S14973.01

Run in Batch: CN200622-W1, Run Date: 06/22/2020 11:10, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 2

Analyte	Flags	RPD	RPD CL
Cyanide, Total		<1	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: COND200625-W1

Surrogates: No, QC Types: BLK/LCS/DUP

Blank (BLK)

Lab Sample ID: COND200625-W1.LRB1

Run in Batch: COND200625-W1, Run Date: 06/25/2020 13:00, Prep Date: 06/25/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Conductivity		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: COND200625-W1.LCS1

Run in Batch: COND200625-W1, Run Date: 06/25/2020 13:04, Prep Date: 06/25/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Conductivity		95	90	110

Laboratory Control Sample (LCS)

Lab Sample ID: COND200625-W1.LCS2

Run in Batch: COND200625-W1, Run Date: 06/25/2020 13:08, Prep Date: 06/25/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Conductivity		90	90	110

Duplicate (DUP)

Lab Sample ID: COND200625-W1.DP1, Parent Sample ID: S14973.01

Run in Batch: COND200625-W1, Run Date: 06/25/2020 13:12, Prep Date: 06/25/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
Conductivity		<1	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: PHL200626-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: PHL200626-W1.LRB1

Run in Batch: PHL200626-W1, Run Date: 06/26/2020 16:00, Prep Date: 06/26/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Phenols		ND	0.01	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: PHL200626-W1.LCS1

Run in Batch: PHL200626-W1, Run Date: 06/26/2020 16:04, Prep Date: 06/26/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Phenols		101	90	110

Matrix Spike (MS)

Lab Sample ID: PHL200626-W1.MS1, Parent Sample ID: S14946.02

Run in Batch: PHL200626-W1, Run Date: 06/26/2020 16:12, Prep Date: 06/26/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Phenols		102	90	110

Duplicate (DUP)

Lab Sample ID: PHL200626-W1.DP1, Parent Sample ID: S14946.01

Run in Batch: PHL200626-W1, Run Date: 06/26/2020 16:08, Prep Date: 06/26/2020, Matrix: Liquid, Dilution: 1.7

Analyte	Flags	RPD	RPD CL
Phenols		<1	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: SFT200619-W1-B

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: SFT200619-W1-B.LRB1

Run in Batch: SFT200619-W1-B, Run Date: 06/19/2020 09:34, Prep Date: 06/19/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Sulfate		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: SFT200619-W1-B.LCS1

Run in Batch: SFT200619-W1-B, Run Date: 06/19/2020 09:59, Prep Date: 06/19/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Sulfate		100	90	110

Matrix Spike (MS)

Lab Sample ID: SFT200619-W1-B.MS1, Parent Sample ID: S14973.02

Run in Batch: SFT200619-W1-B, Run Date: 06/19/2020 12:08, Prep Date: 06/19/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Sulfate		105	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT200619-W1-B.MSD1, Parent Sample ID: SFT200619-W1-B.MS1

Run in Batch: SFT200619-W1-B, Run Date: 06/19/2020 12:21, Prep Date: 06/19/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Sulfate		105	80	120	0	15

Duplicate (DUP)

Lab Sample ID: SFT200619-W1-B.DP1, Parent Sample ID: S14973.02

Run in Batch: SFT200619-W1-B, Run Date: 06/19/2020 11:55, Prep Date: 06/19/2020, Matrix: Liquid, Dilution: 10

Analyte	Flags	RPD	RPD CL
Sulfate		2	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: TOC200623-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: TOC200623-W1.LRB1

Run in Batch: TOC200623-W1, Run Date: 06/23/2020 13:12, Prep Date: 06/23/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
TOC		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: TOC200623-W1.LCS1

Run in Batch: TOC200623-W1, Run Date: 06/23/2020 13:52, Prep Date: 06/23/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
TOC		105	90	110

Matrix Spike (MS)

Lab Sample ID: TOC200623-W1.MS1, Parent Sample ID: S14973.01

Run in Batch: TOC200623-W1, Run Date: 06/23/2020 15:11, Prep Date: 06/23/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
TOC		98	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: TOC200623-W1.MSD1, Parent Sample ID: TOC200623-W1.MS1

Run in Batch: TOC200623-W1, Run Date: 06/23/2020 15:31, Prep Date: 06/23/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
TOC		98	80	120	0	15

Duplicate (DUP)

Lab Sample ID: TOC200623-W1.DP1, Parent Sample ID: S14884.03

Run in Batch: TOC200623-W1, Run Date: 06/23/2020 14:32, Prep Date: 06/23/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
TOC		2	15

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-062220-3

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Blank (BLK)

Lab Sample ID: MT4-20-0622B.014.LRB

Run in Batch: MT4-20-0622B, Run Date: 06/22/2020 14:58, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Sodium		ND	0.05	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: MT4-20-0622B.013.LCS

Run in Batch: MT4-20-0622B, Run Date: 06/22/2020 14:53, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Sodium		97	85	115

Matrix Spike (MS)

Lab Sample ID: MT4-20-0622B.034.MS, Parent Sample ID: S14973.02

Run in Batch: MT4-20-0622B, Run Date: 06/22/2020 15:18, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Sodium		100	75	125

Matrix Spike (MS)

Lab Sample ID: MT4-20-0622B.053.MS, Parent Sample ID: S15058.02

Run in Batch: MT4-20-0622B, Run Date: 06/22/2020 15:33, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Sodium		97	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-20-0622B.035.MSD, Parent Sample ID: MT4-20-0622B.034.MS

Run in Batch: MT4-20-0622B, Run Date: 06/22/2020 15:19, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Sodium		98	75	125	2	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-20-0622B.054.MSD, Parent Sample ID: MT4-20-0622B.053.MS

Run in Batch: MT4-20-0622B, Run Date: 06/22/2020 15:34, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Sodium		106	75	125	8	20

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-062420-4

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Blank (BLK)

Lab Sample ID: MT4-20-0624B.021.LRB

Run in Batch: MT4-20-0624B, Run Date: 06/24/2020 11:49, Prep Date: 06/24/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Chromium		ND	0.001	mg/L
Copper		ND	0.001	mg/L
Iron		ND	0.004	mg/L
Manganese		ND	0.001	mg/L
Nickel		ND	0.001	mg/L
Zinc		ND	0.001	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: MT4-20-0624B.019.LCS

Run in Batch: MT4-20-0624B, Run Date: 06/24/2020 11:48, Prep Date: 06/24/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chromium		99	85	115
Copper		101	85	115
Iron		103	85	115
Manganese		105	85	115
Nickel		101	85	115
Zinc		102	85	115

Matrix Spike (MS)

Lab Sample ID: MT4-20-0624B.041.MS, Parent Sample ID: S14973.04

Run in Batch: MT4-20-0624B, Run Date: 06/24/2020 12:30, Prep Date: 06/24/2020, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Chromium		102	75	125
Copper		96	75	125
Iron		102	75	125
Manganese		103	75	125
Nickel		100	75	125
Zinc		98	75	125

Matrix Spike (MS)

Lab Sample ID: MT4-20-0624B.065.MS, Parent Sample ID: S14973.06

Run in Batch: MT4-20-0624B, Run Date: 06/24/2020 13:00, Prep Date: 06/24/2020, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Chromium		105	75	125
Copper		99	75	125
Iron		112	75	125
Manganese		109	75	125
Nickel		104	75	125
Zinc		104	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-20-0624B.042.MSD, Parent Sample ID: MT4-20-0624B.041.MS

Run in Batch: MT4-20-0624B, Run Date: 06/24/2020 12:31, Prep Date: 06/24/2020, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium		98	75	125	4	20
Copper		94	75	125	2	20

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-062420-4 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT4-20-0624B.042.MSD, Parent Sample ID: MT4-20-0624B.041.MS

Run in Batch: MT4-20-0624B, Run Date: 06/24/2020 12:31, Prep Date: 06/24/2020, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Iron		100	75	125	1	20
Manganese		99	75	125	3	20
Nickel		98	75	125	2	20
Zinc		96	75	125	2	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-20-0624B.066.MSD, Parent Sample ID: MT4-20-0624B.065.MS

Run in Batch: MT4-20-0624B, Run Date: 06/24/2020 13:01, Prep Date: 06/24/2020, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium		101	75	125	4	20
Copper		95	75	125	4	20
Iron		104	75	125	6	20
Manganese		103	75	125	5	20
Nickel		99	75	125	5	20
Zinc		99	75	125	5	20

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF200619W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 200619A7.BLKW19A

Run in Batch: 200619A7, Run Date: 06/19/2020 15:26, Prep Date: 06/19/2020, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	1.00	ug/l
Acetone		ND	10.00	ug/l
Methyl iodide		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Chloroform		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	2.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF200619W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Blank (BLK) (continued)

Lab Sample ID: 200619A7.BLKW19A

Run in Batch: 200619A7, Run Date: 06/19/2020 15:26, Prep Date: 06/19/2020, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bromoform		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l
2-Methylnaphthalene		ND	1.00	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 200619A7.LCSW19A

Run in Batch: 200619A7, Run Date: 06/19/2020 14:09, Prep Date: 06/19/2020, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		120.2	67.4	121.2
Acetone		116.2	29.9	161.5
Methyl iodide		109.8	68.8	116.4
Carbon disulfide		112.4	63.8	137.4
tert-Methyl butyl ether (MTBE)		113.9	73.2	122.4
Acrylonitrile		108.7	69.9	128.9
2-Butanone (MEK)		103.2	44.0	134.4
Dichlorodifluoromethane		145.0	10.0	222.8
Chloromethane		134.8	23.8	166.5
Vinyl chloride		132.9	43.5	149.1
Bromomethane		114.4	56.8	151.3
Chloroethane		122.6	53.4	149.4
Trichlorofluoromethane		108.9	59.7	151.8
1,1-Dichloroethene		113.3	69.6	139.4
Methylene chloride		109.9	73.3	121.1
trans-1,2-Dichloroethene		116.1	73.6	129.3
1,1-Dichloroethane		117.2	71.5	126.2
cis-1,2-Dichloroethene		113.7	76.6	122.1
Tetrahydrofuran	*	119.6	59.0	117.9
Chloroform		112.8	78.4	124.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF200619W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 200619A7.LCSW19A

Run in Batch: 200619A7, Run Date: 06/19/2020 14:09, Prep Date: 06/19/2020, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane		113.6	78.2	120.8
1,1,1-Trichloroethane		109.5	79.4	130.9
4-Methyl-2-pentanone (MIBK)		120.3	71.6	125.2
2-Hexanone		123.5	55.4	136.9
Carbon tetrachloride		104.2	72.6	133.0
Benzene		116.2	79.9	124.9
1,2-Dichloroethane		105.3	76.0	126.3
Trichloroethene		111.3	79.7	124.2
1,2-Dichloropropane		116.1	78.6	126.4
Bromodichloromethane		108.4	80.4	128.2
Dibromomethane		109.1	76.9	122.1
cis-1,3-Dichloropropene		110.5	79.8	129.9
Toluene		111.6	79.8	124.5
trans-1,3-Dichloropropene		112.0	74.0	131.3
1,1,2-Trichloroethane		114.6	78.7	123.1
Tetrachloroethene		105.7	74.5	124.5
trans-1,4-Dichloro-2-butene		107.1	68.6	135.4
Dibromochloromethane		104.7	74.6	127.2
1,2-Dibromoethane		111.5	70.3	133.7
Chlorobenzene		108.4	79.2	122.7
1,1,1,2-Tetrachloroethane		104.3	80.3	128.2
Ethylbenzene		110.6	79.5	129.1
p,m-Xylene		108.2	79.4	132.2
o-Xylene		107.6	80.2	131.0
Styrene		109.8	69.5	126.7
Isopropylbenzene		108.5	74.4	121.5
Bromoform		101.3	69.4	128.0
1,1,2,2-Tetrachloroethane		113.2	79.8	126.3
1,2,3-Trichloropropane		110.6	78.3	138.8
n-Propylbenzene		108.9	82.0	130.7
Bromobenzene		104.0	78.7	124.6
1,3,5-Trimethylbenzene		105.3	81.3	128.9
tert-Butylbenzene		102.1	80.7	128.9
1,2,4-Trimethylbenzene		104.1	81.4	130.8
sec-Butylbenzene		106.1	77.4	129.8
p-Isopropyltoluene		105.0	79.8	137.5
1,3-Dichlorobenzene		106.0	77.0	131.3
1,4-Dichlorobenzene		106.1	20.7	137.7
1,2-Dichlorobenzene		108.2	10.0	166.2
1,2,3-Trimethylbenzene		107.2	76.3	124.2
n-Butylbenzene		101.4	80.0	133.3
Hexachloroethane		93.9	23.8	138.1
1,2-Dibromo-3-chloropropane		109.2	21.2	189.4
1,2,4-Trichlorobenzene		96.1	27.4	143.4
1,2,3-Trichlorobenzene		91.5	75.4	131.4
Naphthalene		101.8	32.9	135.8

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF200619W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 200619A7.LCSW19A

Run in Batch: 200619A7, Run Date: 06/19/2020 14:09, Prep Date: 06/19/2020, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		90.3	25.5	165.5

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 200619A7.LCSDW19A, Parent Sample ID: 200619A7.LCSW19A

Run in Batch: 200619A7, Run Date: 06/19/2020 14:28, Prep Date: 06/19/2020, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether	*	127.3	67.4	121.2	5.7	30.0
Acetone		121.7	29.9	161.5	4.6	30.0
Methyl iodide		115.6	68.8	116.4	5.1	30.0
Carbon disulfide		119.9	63.8	137.4	6.4	30.0
tert-Methyl butyl ether (MTBE)		119.7	73.2	122.4	5.0	30.0
Acrylonitrile	*	131.0	69.9	128.9	18.7	30.0
2-Butanone (MEK)		110.5	44.0	134.4	6.8	30.0
Dichlorodifluoromethane		152.6	10.0	222.8	5.1	30.0
Chloromethane		143.8	23.8	166.5	6.5	30.0
Vinyl chloride		141.4	43.5	149.1	6.2	30.0
Bromomethane		121.0	56.8	151.3	5.6	30.0
Chloroethane		129.5	53.4	149.4	5.5	30.0
Trichlorofluoromethane		115.2	59.7	151.8	5.6	30.0
1,1-Dichloroethene		119.0	69.6	139.4	5.0	30.0
Methylene chloride		115.6	73.3	121.1	5.0	30.0
trans-1,2-Dichloroethene		123.4	73.6	129.3	6.1	30.0
1,1-Dichloroethane		123.7	71.5	126.2	5.3	30.0
cis-1,2-Dichloroethene		120.2	76.6	122.1	5.6	30.0
Tetrahydrofuran	*	125.7	59.0	117.9	5.0	30.0
Chloroform		118.2	78.4	124.0	4.7	30.0
Bromochloromethane		120.1	78.2	120.8	5.5	30.0
1,1,1-Trichloroethane		114.7	79.4	130.9	4.6	30.0
4-Methyl-2-pentanone (MIBK)	*	125.8	71.6	125.2	4.5	30.0
2-Hexanone		130.7	55.4	136.9	5.7	30.0
Carbon tetrachloride		107.9	72.6	133.0	3.5	30.0
Benzene		121.1	79.9	124.9	4.2	30.0
1,2-Dichloroethane		108.2	76.0	126.3	2.7	30.0
Trichloroethene		115.6	79.7	124.2	3.8	30.0
1,2-Dichloropropane		121.8	78.6	126.4	4.8	30.0
Bromodichloromethane		112.9	80.4	128.2	4.1	30.0
Dibromomethane		112.8	76.9	122.1	3.4	30.0
cis-1,3-Dichloropropene		117.9	79.8	129.9	6.4	30.0
Toluene		116.9	79.8	124.5	4.6	30.0
trans-1,3-Dichloropropene		116.8	74.0	131.3	4.2	30.0
1,1,2-Trichloroethane		118.6	78.7	123.1	3.4	30.0
Tetrachloroethene		111.8	74.5	124.5	5.6	30.0
trans-1,4-Dichloro-2-butene		111.3	68.6	135.4	3.8	30.0
Dibromochloromethane		108.7	74.6	127.2	3.7	30.0
1,2-Dibromoethane		115.1	70.3	133.7	3.2	30.0
Chlorobenzene		112.2	79.2	122.7	3.4	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF200619W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 200619A7.LCSDW19A, Parent Sample ID: 200619A7.LCSW19A

Run in Batch: 200619A7, Run Date: 06/19/2020 14:28, Prep Date: 06/19/2020, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		107.6	80.3	128.2	3.1	30.0
Ethylbenzene		115.9	79.5	129.1	4.7	30.0
p,m-Xylene		112.8	79.4	132.2	4.2	30.0
o-Xylene		112.9	80.2	131.0	4.8	30.0
Styrene		115.0	69.5	126.7	4.6	30.0
Isopropylbenzene		112.4	74.4	121.5	3.5	30.0
Bromoform		104.9	69.4	128.0	3.5	30.0
1,1,2,2-Tetrachloroethane		117.2	79.8	126.3	3.5	30.0
1,2,3-Trichloropropane		114.6	78.3	138.8	3.6	30.0
n-Propylbenzene		114.5	82.0	130.7	5.0	30.0
Bromobenzene		108.1	78.7	124.6	3.9	30.0
1,3,5-Trimethylbenzene		109.5	81.3	128.9	3.9	30.0
tert-Butylbenzene		105.9	80.7	128.9	3.6	30.0
1,2,4-Trimethylbenzene		107.6	81.4	130.8	3.2	30.0
sec-Butylbenzene		111.2	77.4	129.8	4.7	30.0
p-Isopropyltoluene		109.1	79.8	137.5	3.9	30.0
1,3-Dichlorobenzene		109.0	77.0	131.3	2.8	30.0
1,4-Dichlorobenzene		110.2	20.7	137.7	3.8	30.0
1,2-Dichlorobenzene		112.4	10.0	166.2	3.8	30.0
1,2,3-Trimethylbenzene		111.6	76.3	124.2	4.0	30.0
n-Butylbenzene		107.4	80.0	133.3	5.7	30.0
Hexachloroethane		98.9	23.8	138.1	5.2	30.0
1,2-Dibromo-3-chloropropane		113.4	21.2	189.4	3.8	30.0
1,2,4-Trichlorobenzene		99.8	27.4	143.4	3.7	30.0
1,2,3-Trichlorobenzene		95.5	75.4	131.4	4.3	30.0
Naphthalene		105.7	32.9	135.8	3.7	30.0
2-Methylnaphthalene		92.3	25.5	165.5	2.2	30.0



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C.O.C. PAGE # 1 OF 1

128653

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME: Clifford Yantz
 COMPANY: O'Brien + Gere, A Ramboll Company
 ADDRESS: 2260 East Saginaw
 CITY: East Lansing STATE: MI ZIP CODE: 48823
 PHONE NO.: 313-333-0211 FAX NO.: _____ P.O. NO.: _____
 E-MAIL ADDRESS: Clifford.Yantz@Ramboll.com QUOTE NO.: _____

CONTACT NAME: SAME
 COMPANY: _____
 ADDRESS: _____
 CITY: _____ STATE: _____ ZIP CODE: _____
 PHONE NO.: _____ E-MAIL ADDRESS: _____

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME: RACER Coldwater Rd SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schmitter
 TURNAROUND TIME REQUIRED: 1 DAY 2 DAYS 3 DAYS STANDARD OTHER _____
 DELIVERABLES REQUIRED: STD LEVEL II LEVEL III LEVEL IV EDD OTHER _____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID
 SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIFE A=AIR W=WASTE

Containers & Preservatives

MERIT LAB NO. <small>FOR LAB USE ONLY</small>	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER	VOCs	TOC	Phenols	Cyanide	Sulfate	Specific Conductivity	Dissolved Metals	Chlorides	TOX	TOTAL Sodium	Certifications		Special Instructions
	DATE	TIME																					<input type="checkbox"/> OHIO VAP	<input type="checkbox"/> Drinking Water	
14973.01	6/17/20	1320	B-24r	GW	11	1	3	2	4	1			X	X	X	X	X	X	X	X	X	X	<input type="checkbox"/> DoD	<input type="checkbox"/> NPDES	Dissolved Metals were field filtered Metals ARE: Cu, Cr, Ni, Zn, Fe, Mn
.02	↓	1418	B-22D										X	X	X	X	X	X	X	X	X	X	<input type="checkbox"/> Detroit	<input type="checkbox"/> New York	
.03	↓	1658	B-21D										X	X	X	X	X	X	X	X	X				
.04	6/18/20	—	DUP-1										X	X	X	X	X	X	X	X	X				
.05	↓	955	B-19Ar										X	X	X	X	X	X	X	X	X				
.06	↓	1150	B-18A										X	X	X	X	X	X	X	X	X				
.07	↓	1310	B-7										X	X	X	X	X	X	X	X	X				
.08	↓	1235	B-20D										X	X	X	X	X	X	X	X	X				
.09	↓	—	Tip Blank 061820	GW	1	1							X												

RELINQUISHED BY: [Signature] Sampler DATE: 6/18/20 TIME: 1340
 RECEIVED BY: [Signature] DATE: 6/18/20 TIME: 1340
 RELINQUISHED BY: [Signature] DATE: 6/18/20 TIME: 1440
 RECEIVED BY: [Signature] DATE: 6/18/2020 TIME: 1440

RELINQUISHED BY: _____ DATE: _____ TIME: _____
 RECEIVED BY: _____ DATE: _____ TIME: _____
 SEAL NO. SEAL INTACT YES NO INITIALS _____
 SEAL NO. SEAL INTACT YES NO INITIALS _____
 NOTES: TEMP. ON ARRIVAL 3.8

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE



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C.O.C. PAGE # _____ OF _____

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME **John Laverty**
 COMPANY **Merit Laboratories**
 ADDRESS **2680 East Lansing Drive**
 CITY **East Lansing** STATE **MI** ZIP CODE **48823**
 PHONE NO. **517-332-0167** FAX NO. **517-332-4034** P.O. NO. _____
 E-MAIL ADDRESS **johnlaverty@meritlabs.com** QUOTE NO. _____

CONTACT NAME **Julie Teague** SAME
 COMPANY **Merit Laboratories**
 ADDRESS **2680 East Lansing Drive**
 CITY **East Lansing** STATE **MI** ZIP CODE **48823**
 PHONE NO. **517-332-0167** E-MAIL ADDRESS **juliet@meritlabs.com**

PROJECT NO./NAME **S14973** SAMPLER(S) - PLEASE PRINT/SIGN NAME _____
 TURNAROUND TIME REQUIRED 1 DAY 2 DAYS 3 DAYS STANDARD OTHER _____
 DELIVERABLES REQUIRED STD LEVEL II LEVEL III LEVEL IV EDD OTHER _____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID
 SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

										Certifications <input type="checkbox"/> OHIO VAP <input type="checkbox"/> Drinking Water <input type="checkbox"/> DoD <input type="checkbox"/> NPDES Project Locations <input type="checkbox"/> Detroit <input type="checkbox"/> New York <input type="checkbox"/> Other _____ Special Instructions
--	--	--	--	--	--	--	--	--	--	---

MERIT LAB NO. FOR LAB USE ONLY	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives							TOX
	DATE	TIME				NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER	
	6/17/20	1320	S14973.01	GW	1				1				✓
	6/17/20	1418	S14973.02	GW	1				1				✓
	6/17/20	1658	S14973.03	GW	1				1				✓
	6/17/20	0001	S14973.04	GW	1				1				✓
	6/17/20	0955	S14973.05	GW	1				1				✓
	6/17/20	1150	S14973.06	GW	1				1				✓
	6/17/20	1310	S14973.07	GW	1				1				✓
	6/17/20	1235	S14973.08	GW	1				1				✓

RELINQUISHED BY: _____ Sampler DATE _____ TIME _____
 SIGNATURE/ORGANIZATION *Sam Smith*
 RECEIVED BY: _____ DATE _____ TIME _____
 SIGNATURE/ORGANIZATION _____
 RECEIVED BY: _____ DATE _____ TIME _____
 SIGNATURE/ORGANIZATION _____

RELINQUISHED BY: _____ DATE _____ TIME _____
 SIGNATURE/ORGANIZATION _____
 RECEIVED BY: _____ DATE _____ TIME _____
 SIGNATURE/ORGANIZATION _____
 SEAL NO. _____ SEAL INTACT YES NO INITIALS _____
 SEAL NO. _____ SEAL INTACT YES NO INITIALS _____
 NOTES: TEMP. ON ARRIVAL _____

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE



Analytical Laboratory Report

Report ID: S15058.01(01)
Generated on 06/30/2020

Report to

Attention: Clifford Yantz
O'Brien & Gere Engineers, Inc.
2260 E Saginaw St
East Lansing, MI 48823

Phone: 313-333-0211 FAX:
Email: Clifford.Yantz@obg.com

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:

John Lavery (johnlavery@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S15058.01-S15058.03
Project: RACER Coldwater Rd
Collected Date(s): 06/18/2020
Submitted Date/Time: 06/19/2020 14:40
Sampled by: Kevin Schneider
P.O. #: 12000277

Table of Contents

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Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched



Analytical Laboratory Report

Method Summary

Method	Version
E120.1	EPA Method 120.1 Revision 1982
E200.8	EPA Method 200.8 Revision 5.4
E300.0	EPA Method 300.0 Revision 2.1
E335.4/SM4500-CN	EPA Method 335.4 Revision 1.0 / Standard Method 4500-CN E 20th Edition
E420.1	EPA Method 420.1 Editorial Revision 1978
N/A	Not Applicable
SM5310C	Standard Method 5310C 2011
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003



Analytical Laboratory Report

Sample Summary (3 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S15058.01	Equipment Blank - 1	Water	06/18/20 14:20
S15058.02	OBG MW-16D	Groundwater	06/18/20 15:50
S15058.03	Trip Blank 061820	Water	06/18/20 00:01



Analytical Laboratory Report

Lab Sample ID: S15058.01

Sample Tag: Equipment Blank - 1

Collected Date/Time: 06/18/2020 14:20

Matrix: Water

COC Reference: 116025

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	2.3	IR
2	40ml Glass	H2SO4	Yes	2.3	IR
1	250ml Amber	H2SO4	Yes	2.3	IR
1	1L Plastic	None	Yes	2.3	IR
1	125ml Plastic	NaOH	Yes	2.3	IR
3	40ml Glass	HCL	Yes	2.3	IR
1	125ml Amber	H2SO4	Yes	2.3	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/23/20 09:57	JML	
Metal Digestion	Completed	SW3015A	06/24/20 10:45	CCM	
Metal Digestion	Completed	SW3015A	06/26/20 14:10	CCM	

Inorganics

Method: E120.1, Run Date: 06/25/20 13:40, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	3.31	1		umhos/cm	1		

Method: E300.0, Run Date: 06/22/20 09:13, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloride	Not detected	2.5	0.04	mg/L	2.5	16887-00-6	
Sulfate	Not detected	2.5	0.15	mg/L	2.5	14808-79-8	

Method: E335.4/SM4500-CN, Run Date: 06/23/20 10:52, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Cyanide, Total	Not detected	0.004	0.001	mg/L	2	57-12-5	

Method: E420.1, Run Date: 06/30/20 15:12, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Phenols	Not detected	0.02		mg/L	1.7		

Method: SM5310C, Run Date: 06/23/20 18:15, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	Not detected	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/26/20 15:21, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Sodium	Not detected	0.50		mg/L	5	7440-23-5	

Method: E200.8, Run Date: 06/24/20 12:05, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	2	7440-47-3	
Copper, Dissolved	Not detected	0.005		mg/L	2	7440-50-8	
Iron, Dissolved	Not detected	0.02		mg/L	2	7439-89-6	



Analytical Laboratory Report

Lab Sample ID: S15058.01 (continued)

Sample Tag: Equipment Blank - 1

Method: E200.8, Run Date: 06/24/20 12:05, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Manganese, Dissolved	Not detected	0.005		mg/L	2	7439-96-5	
Nickel, Dissolved	Not detected	0.005		mg/L	2	7440-02-0	
Zinc, Dissolved	Not detected	0.005		mg/L	2	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/23/20 01:13, Analyst: WAT

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.50	ug/L	1	60-29-7	
Acetone	Not detected	50	0.56	ug/L	1	67-64-1	
Methyl iodide	Not detected	1	0.25	ug/L	1	74-88-4	
Carbon disulfide	Not detected	5	0.24	ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.19	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.57	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	0.26	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.50	ug/L	1	75-71-8	
Chloromethane	Not detected	5	0.26	ug/L	1	74-87-3	
Vinyl chloride	Not detected	1	0.31	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.32	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.34	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.33	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.27	ug/L	1	75-35-4	
Methylene chloride	Not detected	5	0.29	ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1	0.20	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.20	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1	0.26	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	1.3	ug/L	1	109-99-9	
Chloroform	Not detected	1	0.20	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.38	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.28	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.14	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.29	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.20	ug/L	1	56-23-5	
Benzene	Not detected	1	0.20	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.16	ug/L	1	107-06-2	
Trichloroethene	Not detected	1	0.23	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.20	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.23	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.20	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.19	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.25	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.25	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.28	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.20	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.24	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.30	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.17	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.24	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.26	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.41	ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S15058.01 (continued)

Sample Tag: Equipment Blank - 1

Volatiles Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/23/20 01:13, Analyst: WAT (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
o-Xylene	Not detected	1	0.25	ug/L	1	95-47-6	
Styrene	Not detected	1	0.18	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.25	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.22	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.18	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.33	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.23	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.27	ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1	0.26	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.18	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.22	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.25	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.21	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.24	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.23	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.28	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.061	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.22	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.21	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.47	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.19	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.20	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.21	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.16	ug/L	1	91-57-6	

Other / Misc.

Method: , Run Date: 06/26/20 08:33, Analyst: TA

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Misc. Special Project*	Completed				1		O

O-Analysis performed by outside laboratory. See attached report.



Analytical Laboratory Report

Lab Sample ID: S15058.02

Sample Tag: OBG MW-16D

Collected Date/Time: 06/18/2020 15:50

Matrix: Groundwater

COC Reference: 116025

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	2.3	IR
2	40ml Glass	H2SO4	Yes	2.3	IR
1	250ml Amber	H2SO4	Yes	2.3	IR
1	1L Plastic	None	Yes	2.3	IR
1	125ml Plastic	NaOH	Yes	2.3	IR
3	40ml Glass	HCL	Yes	2.3	IR
1	125ml Amber	H2SO4	Yes	2.3	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/23/20 09:57	JML	
Metal Digestion	Completed	SW3015A	06/24/20 10:45	CCM	
Metal Digestion	Completed	SW3015A	06/22/20 14:00	CCM	

Inorganics

Method: E120.1, Run Date: 06/25/20 13:42, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	590	1		umhos/cm	1		

Method: E300.0, Run Date: 06/22/20 09:26, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloride	Not detected	10	0.16	mg/L	10	16887-00-6	
Sulfate	30	10	0.59	mg/L	10	14808-79-8	

Method: E335.4/SM4500-CN, Run Date: 06/23/20 10:54, Analyst: JDP

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Cyanide, Total	Not detected	0.004	0.001	mg/L	2	57-12-5	

Method: E420.1, Run Date: 06/30/20 15:16, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Phenols	Not detected	0.02		mg/L	1.7		

Method: SM5310C, Run Date: 06/23/20 18:34, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	2.7	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/22/20 15:33, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Sodium	11.5	2.5		mg/L	50	7440-23-5	

Method: E200.8, Run Date: 06/24/20 12:08, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Iron, Dissolved	1.09	0.02		mg/L	5	7439-89-6	



Analytical Laboratory Report

Lab Sample ID: S15058.02 (continued)

Sample Tag: OBG MW-16D

Method: E200.8, Run Date: 06/24/20 12:08, Analyst: CCM (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Manganese, Dissolved	0.062	0.005		mg/L	5	7439-96-5	
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/23/20 07:59, Analyst: WAT

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.50	ug/L	1	60-29-7	
Acetone	Not detected	50	0.56	ug/L	1	67-64-1	
Methyl iodide	Not detected	1	0.25	ug/L	1	74-88-4	
Carbon disulfide	Not detected	5	0.24	ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.19	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.57	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	0.26	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.50	ug/L	1	75-71-8	
Chloromethane	Not detected	5	0.26	ug/L	1	74-87-3	
Vinyl chloride	Not detected	1	0.31	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.32	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.34	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.33	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.27	ug/L	1	75-35-4	
Methylene chloride	Not detected	5	0.29	ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1	0.20	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.20	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1	0.26	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	1.3	ug/L	1	109-99-9	
Chloroform	Not detected	1	0.20	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.38	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.28	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.14	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.29	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.20	ug/L	1	56-23-5	
Benzene	Not detected	1	0.20	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.16	ug/L	1	107-06-2	
Trichloroethene	Not detected	1	0.23	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.20	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.23	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.20	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.19	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.25	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.25	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.28	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.20	ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5	0.24	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.30	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.17	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.24	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.26	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.41	ug/L	1		



Analytical Laboratory Report

Lab Sample ID: S15058.02 (continued)

Sample Tag: OBG MW-16D

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/23/20 07:59, Analyst: WAT (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
o-Xylene	Not detected	1	0.25	ug/L	1	95-47-6	
Styrene	Not detected	1	0.18	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.25	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.22	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.18	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.33	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.23	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.27	ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1	0.26	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.18	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.22	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.25	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.21	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.24	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.23	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.28	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.061	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.22	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.21	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.47	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.19	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.20	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.21	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.16	ug/L	1	91-57-6	

Other / Misc.

Method: , Run Date: 06/26/20 09:55, Analyst: TA

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Misc. Special Project*	Completed				1		O

O-Analysis performed by outside laboratory. See attached report.



Analytical Laboratory Report

Lab Sample ID: S15058.03

Sample Tag: Trip Blank 061820

Collected Date/Time: 06/18/2020 00:01

Matrix: Water

COC Reference: 116025

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	2.3	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/23/20 09:57	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/23/20 01:32, Analyst: WAT

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10	0.50	ug/L	1	60-29-7	
Acetone	Not detected	50	0.56	ug/L	1	67-64-1	
Methyl iodide	Not detected	1	0.25	ug/L	1	74-88-4	
Carbon disulfide	Not detected	5	0.24	ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5	0.19	ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2	0.57	ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25	0.26	ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5	0.50	ug/L	1	75-71-8	
Chloromethane	Not detected	5	0.26	ug/L	1	74-87-3	
Vinyl chloride	Not detected	1	0.31	ug/L	1	75-01-4	
Bromomethane	Not detected	5	0.32	ug/L	1	74-83-9	
Chloroethane	Not detected	5	0.34	ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1	0.33	ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1	0.27	ug/L	1	75-35-4	
Methylene chloride	Not detected	5	0.29	ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1	0.20	ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1	0.20	ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1	0.26	ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90	1.3	ug/L	1	109-99-9	
Chloroform	Not detected	1	0.20	ug/L	1	67-66-3	
Bromochloromethane	Not detected	1	0.38	ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1	0.28	ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50	0.14	ug/L	1	108-10-1	
2-Hexanone	Not detected	50	0.29	ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1	0.20	ug/L	1	56-23-5	
Benzene	Not detected	1	0.20	ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1	0.16	ug/L	1	107-06-2	
Trichloroethene	Not detected	1	0.23	ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1	0.20	ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1	0.23	ug/L	1	75-27-4	
Dibromomethane	Not detected	5	0.20	ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1	0.19	ug/L	1	10061-01-5	
Toluene	Not detected	1	0.25	ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1	0.25	ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1	0.28	ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1	0.20	ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1	0.20	ug/L	1	110-57-6	



Analytical Laboratory Report

Lab Sample ID: S15058.03 (continued)

Sample Tag: Trip Blank 061820

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/23/20 01:32, Analyst: WAT (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Dibromochloromethane	Not detected	5	0.24	ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1	0.30	ug/L	1	106-93-4	
Chlorobenzene	Not detected	1	0.17	ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1	0.24	ug/L	1	630-20-6	
Ethylbenzene	Not detected	1	0.26	ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2	0.41	ug/L	1		
o-Xylene	Not detected	1	0.25	ug/L	1	95-47-6	
Styrene	Not detected	1	0.18	ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5	0.25	ug/L	1	98-82-8	
Bromoform	Not detected	1	0.22	ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1	0.18	ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1	0.33	ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1	0.23	ug/L	1	103-65-1	
Bromobenzene	Not detected	1	0.27	ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1	0.26	ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1	0.18	ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1	0.22	ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1	0.25	ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5	0.21	ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1	0.24	ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1	0.23	ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1	0.28	ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1	0.061	ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1	0.22	ug/L	1	104-51-8	
Hexachloroethane	Not detected	5	0.21	ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5	0.47	ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5	0.19	ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5	0.20	ug/L	1	87-61-6	
Naphthalene	Not detected	5	0.21	ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5	0.16	ug/L	1	91-57-6	

Merit Laboratories Login Checklist

Lab Set ID:S15058

Client:OBG02 (O'Brien & Gere Engineers, Inc.)

Project: RACER Coldwater Rd

Submitted:06/19/2020 14:40 Login User: SRS

Attention: Clifford Yantz

Address: O'Brien & Gere Engineers, Inc.
2260 E Saginaw St
East Lansing, MI 48823

Phone: 313-333-0211 FAX:

Email: Clifford.Yantz@obg.com

Selection	Description	Note
-----------	-------------	------

Sample Receiving

- | | | |
|-----|--|--|
| 01. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer # IR 2.3 |
| 02. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun |
| 03. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped |
| 04. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box |
| 05. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |

Chain of Custody

- | | | |
|-----|--|---|
| 06. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out |
| 07. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab |
| 08. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC |
| 09. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontracted to: Test America |

Preservation

- | | | |
|-----|--|---|
| 10. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation |
| 11. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs) |
| 12. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab? |

Bottle Conditions

- | | | |
|-----|--|---|
| 13. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact |
| 14. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used |
| 15. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used |
| 16. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received |
| 17. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration |
| 18. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time |
| 19. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Do water VOC or TOX bottles contain headspace |

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____

Merit Laboratories Bottle Preservation Check

Lab Set ID: S15058 Submitted: 06/19/2020 14:40

Client: OBG02 (O'Brien & Gere Engineers, Inc.)

Project: RACER Coldwater Rd

Attention: Clifford Yantz
 Address: O'Brien & Gere Engineers, Inc.
 2260 E Saginaw St
 East Lansing, MI 48823

Initial Preservation Check: 06/25/2020 12:04 MMC

Preservation Recheck (E200.8): 06/26/2020 11:21 SRS

Phone: 313-333-0211 FAX:
 Email: Clifford.Yantz@obg.com

Lab ID	125 ml Plastic HNO ₃	250 ml Plastic HNO ₃	1 L Plastic HNO ₃	250 ml Plastic H ₂ SO ₄	125 ml Amber H ₂ SO ₄	32 oz Glass HCl	125 ml Plastic NaOH	125 ml Amber PbCO ₃ NaOH	pH					Notes	
									<2	>12	other	ml add	new pH		
S15058.01	X								X						
S15058.01	X										7	0.5	<2	Lot# 237365 *Bulk sample pres.	
S15058.01					X				X						
S15058.01							X			X					
S15058.02	X								X						
S15058.02	X								X						
S15058.02					X				X						
S15058.02							X			X					



2680 East Lansing Dr., East Lansing, MI 48823
 Phone (517) 332-0167 Fax (517) 332-4034
 www.meritlabs.com

C.O.C. PAGE # 1 OF 1

116025

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME: Clifford Yant 2
 COMPANY: O'Brien + Gere, A Ramboll company
 ADDRESS: 2200 East Saginaw
 CITY: East Lansing STATE: MI ZIP CODE: 48823
 PHONE NO.: 313-333-0211 P.O. NO.: _____
 E-MAIL ADDRESS: Clifford.Yant2@Ramboll.com QUOTE NO.: _____

CONTACT NAME: SAME
 COMPANY: _____
 ADDRESS: _____
 CITY: _____ STATE: _____ ZIP CODE: _____
 PHONE NO.: _____ E-MAIL ADDRESS: _____

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME: RACER Colwater rd SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schmitter
 TURNAROUND TIME REQUIRED: 1 DAY 2 DAYS 3 DAYS STANDARD OTHER _____
 DELIVERABLES REQUIRED: STD LEVEL II LEVEL III LEVEL IV EDD OTHER _____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID
 SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIFE A=AIR W=WASTE

Containers & Preservatives

MERIT LAB NO. <small>FOR LAB USE ONLY</small>	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER	VOCs	TOC	Phenols	Cyanide	Sulfate	Specific Conductivity	Dissolved Metals	Chlorides	Tox	total sodium	Certifications		Project Locations		Special Instructions		
	DATE	TIME																					<input type="checkbox"/> OHIO VAP	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> DoD	<input type="checkbox"/> NPDES	<input type="checkbox"/> Detroit	<input type="checkbox"/> New York	<input type="checkbox"/> Other
15038.01	6/18/20	1420	Equipment Blank - 1	QC	10	1	3	1	4	1			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Dissolved metals were field filtered
.02	6/18/20	1550	OBG MW-16D	GW	11	1	3	2	4	1			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
.03	6/18/20	-	Trip Blank 061820	QC	1	1							X																Metals are: Cu, Cr, Ni, Zn, Fe, Mn

RELINQUISHED BY: [Signature] DATE: 6/19/20 TIME: 1345
 RECEIVED BY: [Signature] DATE: 6/19/20 TIME: 12:41
 RELINQUISHED BY: [Signature] DATE: 6/19/20 TIME: 14:40
 RECEIVED BY: [Signature] DATE: 6/19/20 TIME: 14:40

RELINQUISHED BY: _____ DATE: _____ TIME: _____
 RECEIVED BY: _____ DATE: _____ TIME: _____
 SEAL NO. SEAL INTACT YES NO INITIALS _____
 SEAL NO. SEAL INTACT YES NO INITIALS _____
 NOTES: TEMP. ON ARRIVAL: 23

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

ANALYTICAL REPORT

Eurofins TestAmerica, Michigan
10448 Citation Drive
Suite 200
Brighton, MI 48116
Tel: (810)229-2763

Laboratory Job ID: 190-23333-1
Client Project/Site: S15058/TOX

For:
Merit Laboratories
2680 E Lansing Drive
East Lansing, Michigan 48823

Attn: John Lavery

Sue Schafer

Authorized for release by:
6/29/2020 3:39:09 PM

Sue Schafer, Project Manager II
(810)229-2763
sue.schafer@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:

www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Chain of Custody	13

Sample Summary

Client: Merit Laboratories
Project/Site: S15058/TOX

Job ID: 190-23333-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
190-23333-1	S15058.01	Ground Water	06/18/20 14:20	06/23/20 11:55	
190-23333-2	S15058.02	Ground Water	06/18/20 15:50	06/23/20 11:55	

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Case Narrative

Client: Merit Laboratories
Project/Site: S15058/TOX

Job ID: 190-23333-1

Job ID: 190-23333-1

Laboratory: Eurofins TestAmerica, Michigan

Narrative

Job Narrative 190-23333-1

Comments

No additional comments.

Receipt

The samples were received on 6/23/2020 11:55 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.8° C.

General Chemistry

Method 9020B: Breakthrough exceeded 10% for the following samples: S15058.01 (190-23333-1) and S15058.02 (190-23333-2).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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Client Sample Results

Client: Merit Laboratories
Project/Site: S15058/TOX

Job ID: 190-23333-1

Client Sample ID: S15058.01

Date Collected: 06/18/20 14:20

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23333-1

Matrix: Ground Water

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/26/20 07:15	06/26/20 08:33	1
TOX Result 1	<40		40	ug/L		06/26/20 07:15	06/26/20 08:33	1
TOX Result 2	<40		40	ug/L		06/26/20 07:15	06/26/20 08:33	1
TOX Dup	<40		40	ug/L		06/26/20 07:15	06/26/20 08:33	1

Client Sample ID: S15058.02

Date Collected: 06/18/20 15:50

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23333-2

Matrix: Ground Water

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/26/20 07:15	06/26/20 09:55	1
TOX Result 1	<40		40	ug/L		06/26/20 07:15	06/26/20 09:55	1
TOX Result 2	<40		40	ug/L		06/26/20 07:15	06/26/20 09:55	1
TOX Dup	<40		40	ug/L		06/26/20 07:15	06/26/20 09:55	1

QC Sample Results

Client: Merit Laboratories
Project/Site: S15058/TOX

Job ID: 190-23333-1

Method: 9020B - Organic Halides, Total (TOX)

Lab Sample ID: MB 680-624120/1-A
Matrix: Water
Analysis Batch: 624357

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 624120

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	<40		40	ug/L		06/26/20 07:15	06/26/20 07:27	1
TOX Result 1	<40		40	ug/L		06/26/20 07:15	06/26/20 07:27	1
TOX Result 2	<40		40	ug/L		06/26/20 07:15	06/26/20 07:27	1
TOX Dup	<40		40	ug/L		06/26/20 07:15	06/26/20 07:27	1

Lab Sample ID: LCS 680-624120/2-A
Matrix: Water
Analysis Batch: 624357

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 624120

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
TOX Result 1	400	406		ug/L		102	60 - 140
TOX Result 2	400	406		ug/L		102	60 - 140
TOX Dup	400	406		ug/L		102	60 - 140

Lab Sample ID: 190-23333-1 MS
Matrix: Ground Water
Analysis Batch: 624357

Client Sample ID: S15058.01
Prep Type: Total/NA
Prep Batch: 624120

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
TOX Result 1	<40		400	405		ug/L		101	60 - 140
TOX Result 2	<40		400	405		ug/L		101	60 - 140
TOX Dup	<40		400	405		ug/L		101	60 - 140

Lab Sample ID: 190-23333-1 MSD
Matrix: Ground Water
Analysis Batch: 624357

Client Sample ID: S15058.01
Prep Type: Total/NA
Prep Batch: 624120

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
TOX Result 1	<40		400	383		ug/L		96	60 - 140	6	40
TOX Result 2	<40		400	383		ug/L		96	60 - 140	6	40
TOX Dup	<40		400	383		ug/L		96	60 - 140	6	40

Definitions/Glossary

Client: Merit Laboratories
Project/Site: S15058/TOX

Job ID: 190-23333-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

Client: Merit Laboratories
Project/Site: S15058/TOX

Job ID: 190-23333-1

General Chemistry

Prep Batch: 624120

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-23333-1	S15058.01	Total/NA	Ground Water	Carbon Trap	
190-23333-2	S15058.02	Total/NA	Ground Water	Carbon Trap	
MB 680-624120/1-A	Method Blank	Total/NA	Water	Carbon Trap	
LCS 680-624120/2-A	Lab Control Sample	Total/NA	Water	Carbon Trap	
190-23333-1 MS	S15058.01	Total/NA	Ground Water	Carbon Trap	
190-23333-1 MSD	S15058.01	Total/NA	Ground Water	Carbon Trap	

Analysis Batch: 624357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-23333-1	S15058.01	Total/NA	Ground Water	9020B	624120
190-23333-2	S15058.02	Total/NA	Ground Water	9020B	624120
MB 680-624120/1-A	Method Blank	Total/NA	Water	9020B	624120
LCS 680-624120/2-A	Lab Control Sample	Total/NA	Water	9020B	624120
190-23333-1 MS	S15058.01	Total/NA	Ground Water	9020B	624120
190-23333-1 MSD	S15058.01	Total/NA	Ground Water	9020B	624120

Lab Chronicle

Client: Merit Laboratories
Project/Site: S15058/TOX

Job ID: 190-23333-1

Client Sample ID: S15058.01

Date Collected: 06/18/20 14:20

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23333-1

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Carbon Trap			624120	06/26/20 07:15	CLJ	TAL SAV
Total/NA	Analysis	9020B		1	624357	06/26/20 08:33	CLJ	TAL SAV

Client Sample ID: S15058.02

Date Collected: 06/18/20 15:50

Date Received: 06/23/20 11:55

Lab Sample ID: 190-23333-2

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Carbon Trap			624120	06/26/20 07:15	CLJ	TAL SAV
Total/NA	Analysis	9020B		1	624357	06/26/20 09:55	CLJ	TAL SAV

Laboratory References:

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Analyst References:

Lab: TAL SAV

Batch Type: Prep

CLJ = Cynthia Johnson

Batch Type: Analysis

CLJ = Cynthia Johnson

Accreditation/Certification Summary

Client: Merit Laboratories
Project/Site: S15058/TOX

Job ID: 190-23333-1

Laboratory: Eurofins TestAmerica, Michigan

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Michigan	State	0057	10-01-20

Laboratory: Eurofins TestAmerica, Savannah

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-20
Alaska	State	GA00006	06-30-20
Alaska (UST)	State	17-016	09-30-20
ANAB	Dept. of Defense ELAP	L2463	09-22-22
ANAB	ISO/IEC 17025	L2463.01	09-22-22
Arizona	State	AZ0808	12-14-20
Arkansas DEQ	State	19-015-0	02-02-21
California	State	2939	06-30-20
Colorado	State	GA00006	12-31-20
Connecticut	State	PH-0161	03-31-21
Florida	NELAP	E87052	06-30-20
Georgia	State	E87052	06-30-20
Georgia (DW)	State	803	06-30-20
Guam	State	19-007R	04-17-21
Hawaii	State	<cert No.>	06-30-20
Illinois	NELAP	004547	11-30-20
Indiana	State	C-GA-02	06-30-20
Iowa	State	353	06-30-21
Kansas	NELAP	E-10322	10-15-20
Kentucky (DW)	State	KY90084	12-31-21
Kentucky (UST)	State	<cert No.>	06-30-20
Kentucky (WW)	State	KY90084	12-31-20
Louisiana	NELAP	02011	06-30-20
Louisiana (DW)	State	LA009	12-31-20
Maine	State	GA00006	09-26-20
Maryland	State	250	12-31-20
Massachusetts	State	M-GA006	06-30-20
Michigan	State	9925	06-30-20
Mississippi	State	<cert No.>	06-30-20
Nebraska	State	NE-OS-7-04	06-30-20
New Jersey	NELAP	GA769	06-30-20
New Mexico	State	GA00006	06-30-20
New York	NELAP	10842	04-01-21
North Carolina (DW)	State	13701	07-31-20
North Carolina (WW/SW)	State	269	12-31-20
Oklahoma	State	9984	08-31-20
Pennsylvania	NELAP	68-00474	06-30-20
Puerto Rico	State	GA00006	01-01-21
South Carolina	State	98001	06-30-20
Tennessee	State	02961	06-30-20
Texas	NELAP	T1047004185-19-14	11-30-20
Texas	TCEQ Water Supply	T104704185	06-30-20
US Fish & Wildlife	US Federal Programs	LE058448-0	07-31-20

Eurofins TestAmerica, Michigan

Accreditation/Certification Summary

Client: Merit Laboratories
Project/Site: S15058/TOX

Job ID: 190-23333-1

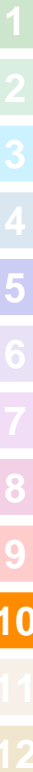
Laboratory: Eurofins TestAmerica, Savannah (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
USDA	US Federal Programs	P330-18-00313	10-29-21
Virginia	NELAP	10509	06-14-21
Washington	State	C805	06-10-20 *
West Virginia (DW)	State	9950C	12-31-20
West Virginia DEP	State	094	07-31-20
Wisconsin	State	999819810	08-31-20
Wyoming	State	8TMS-L	06-30-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Michigan



Method Summary

Client: Merit Laboratories
Project/Site: S15058/TOX

Job ID: 190-23333-1

Method	Method Description	Protocol	Laboratory
9020B	Organic Halides, Total (TOX)	SW846	TAL SAV
Carbon Trap	Carbon Trap Preparation	EPA-17	TAL SAV

Protocol References:

EPA-17 = "Method 1650, Revision A, Adsorbable Organic Halides By Adsorption And Colormetric Titration," EPA, February 1992
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858





2680 East Lansing Dr., East Lansing, MI 48823
 Phone (517) 332-0167 Fax (517) 332-4034
 www.meritlabs.com

C.O.C. PAGE # _____ OF _____

REPORT TO

CONTACT NAME **John Lavery**
 COMPANY **Merit Laboratories**
 ADDRESS **2680 East Lansing Drive**
 CITY **East Lansing** STATE **MI** ZIP CODE **48823**
 PHONE NO. **517-332-0167** P.O. NO. _____
 E-MAIL ADDRESS **johnlavery@meritlabs.com** QUOTE NO. _____

CHAIN OF CUSTODY RECORD

CONTACT NAME **Julie Teague** SAME
 COMPANY **Merit Laboratories**
 ADDRESS **2680 East Lansing Drive**
 CITY **East Lansing** STATE **MI** ZIP CODE **48823**
 PHONE NO. **517-332-0167** E-MAIL ADDRESS **juliet@meritlabs.com**

INVOICE TO

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME **S15058** SAMPLER(S) - PLEASE PRINT/SIGN NAME _____
 TURNAROUND TIME REQUIRED 1 DAY 2 DAYS 3 DAYS STANDARD OTHER
 DELIVERABLES REQUIRED STD LEVEL II LEVEL III LEVEL IV EDD OTHER

MATRIX CODE: **GW**=GROUNDWATER **WW**=WASTEWATER **S**=SOIL **L**=LIQUID **SD**=SOLID
SL=SLUDGE **DW**=DRINKING WATER **O**=OIL **WP**=WIPE **A**=AIR **W**=WASTE

MERIT LAB NO. <small>FOR LAB USE ONLY</small>	YEAR		IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives
	DATE	TIME				
	6/18/20	1420	S15058.01	GW	1	HCl, H ₂ O ₂ , NaOH, MeOH, OTHER
	6/18/20	1550	S15058.02	GW	1	

XOL ✓ ✓



190-23333 Chain of Custody

Certifications
 OHIO VAP Drinking Water
 DoD NPDES
 Project Locations
 Detroit New York
 Other _____
 Special Instructions _____

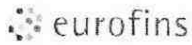
Subcontracted to
 Test America

RELINQUISHED BY: SIGNATURE/Organization	DATE	TIME
<i>John Lavery</i>	6/18/20	1420
<i>Julie Teague</i>	6/18/20	1550
RELINQUISHED BY: SIGNATURE/Organization	DATE	TIME
<i>John Lavery</i>	6/23/20	11:55
RECEIVED BY: SIGNATURE/Organization	DATE	TIME
<i>John Lavery</i>	6/23/20	11:55
SEAL NO.	SEAL INTACT	INITIALS
	YES <input type="checkbox"/> NO <input type="checkbox"/>	
SEAL NO.	SEAL INTACT	INITIALS
	YES <input type="checkbox"/> NO <input type="checkbox"/>	
NOTES	TEMP. ON ARRIVAL	

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5/16/12





Environment Testing
TestAmerica

SDS or Known Hazard Information Supplied by Client

Discrepancies

Short Hold

Rush 24 Hr 2-Day 3-Day 5-Day Other: _____

Client ID: Merit Labs

Work Order #: 190-23333

Receipt Evaluation Performed by: Initials: AMY Date: 6/23/20 Time: 13:20

Cooler / Sample Receipt

After hours receipt: complete gray areas. Place cooler in walk-in, place form in Receiving box. Date: _____ Time: _____

Method of Shipment:

Walk-In Client Eurofins TA Field/Courier

Other Client / 3rd Party Courier: _____

Fed Ex Tracking #: _____

UPS Tracking #: _____

Other: _____

Shipping Container Type:

Cooler Box

None Other: _____

Packing Materials:

Plastic Bags Foam

Bubble Wrap Paper

Packing Peanuts None

Other: _____

Custody Seals Intact:

Yes No

NA (not used or required)

Cooling Materials:

Ice (Solid) Ice (Melted)

Blue Ice None

Other: _____

Bacteriological Samples	Temp Corrected (°C)	Frozen?		Rec'd Within 2 Hrs?		Sample Flagged?	
		Yes	No	Yes	No	Yes	No

Received on same day sampled? Yes No

Additional Sheets Required? Yes No

Receipt Temperatures

Thermometer ID	Observed (°C)	Corrected (°C)	Temp Blank	Sample Temp	Acceptable	Cooler ID	Affected Samples
<u>CP313207</u>	<u>1.8</u>	<u>1.8</u>		<u>X</u>	<u>X</u> Y ___ N		
					___ Y ___ N		
					___ Y ___ N		

C.F.
0.0

Receipt Questions**	Y	N	NA	"No" answers require additional comment
CoC present and ETA receipt signature, date, and time properly documented?	<input checked="" type="checkbox"/>			
Containers and Labels in good condition? (unbroken, not leaking, appropriately filled, labels legible & attached)	<input checked="" type="checkbox"/>			
Appropriate containers used and adequate volume provided?	<input checked="" type="checkbox"/>			Preserved bottles checked for pH?* <input checked="" type="checkbox"/> Yes No
Number of sample containers match CoC?	<input checked="" type="checkbox"/>			pH strip lot # <u>150214</u>
Samples received within hold?	<input checked="" type="checkbox"/>			
Samples submitted for GRO and Volatiles analysis (8260, 624, 524) received without headspace?			<input checked="" type="checkbox"/>	
Was a Trip Blank received with VOA samples?			<input checked="" type="checkbox"/>	
Were the samples free of any questionable physical conformities? (i.e.; field duplicates or multiple bottles of the same sample do not significantly vary in appearance – color, solid proportions, etc.)	<input checked="" type="checkbox"/>			
Were the CoC bottle labels and all other items free of all other discrepancies or issues that would need to be addressed with the Project Manager and/or Client?	<input checked="" type="checkbox"/>			
**May not be applicable if samples are not for compliance testing				*Excludes FOG, VOAs, TOC Vials, HEM

Client Contact Record

Contact Via: Phone Email Other: _____ Person Contacted: _____ Date/Time: _____

Discrepancy allowance agreement is on record in the client project file

Discussion / Resolution

Any additional documentation and clarification from the client must be noted in the narrative and/or scanned into the CoC directory.

Reviewed by [Signature] Date: 6/23/20

WI-MI-010_020720

Chain of Custody Record



Environment Testing
 America



Client Information (Sub Contract Lab) Client Contact: Schaefer, Sue Shipping/Receiving: sue.schafer@testamericainc.com Company: TestAmerica Laboratories, Inc. Address: 5102 LaRoche Avenue, Savannah, GA, 31404 Phone: 912-354-7858(Tel) 912-352-0165(Fax) Email: Project #: 19001249 Site: S15058/TOX		Lab PM: Schaefer, Sue E-Mail: sue.schafer@testamericainc.com Accreditations Required (See note):		Carner Tracking No(s): 190-27471-1 State of Origin: Michigan Page: Page 1 of 1 Job #: 190-23333-1 Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexano N - None O - AcNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Due Date Requested: 7/3/2020 TAT Requested (days):		Analysis Requested		Total Number of Containers: 1	
PO #: WO #: Project #: 19001249 SOW#:		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> 902B/Carbon_Trap <input checked="" type="checkbox"/>		Special Instructions/Note:	
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air)	Preservation Code
S15058.01 (190-23333-1)	6/18/20	14:20 Eastern	Water	Water	X
S15058.02 (190-23333-2)	6/18/20	15:50 Eastern	Water	Water	X
Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica					
Possible Hazard Identification Unconfirmed: <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Deliverable Requested: I, II, III, IV, Other (specify) _____ Primary Deliverable Rank: 2 Empty Kit Relinquished by: _____ Date: _____ Relinquished by: _____ Date/Time: 6-23-20 1535 Company: ETA Relinquished by: _____ Date/Time: _____ Company: _____ Relinquished by: _____ Date/Time: _____ Company: _____ Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Custody Seal No.: _____ Cooler Temperature(s) °C and Other Remarks: 1.1/1.5					





Quality Control Report

Report ID: QC-S15058-01
Generated on 07/01/2020

Report to

Attention: Clifford Yantz
O'Brien & Gere Engineers, Inc.
2260 E Saginaw St
East Lansing, MI 48823

Phone: 313-333-0211 FAX:

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S15058.01-S15058.03
Project: RACER Coldwater Rd
Submitted Date/Time: 06/19/2020 14:40
Sampled by: Kevin Schneider
P.O. #: 12000277

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-4)
Prep Batch Summary (Pages 5-6)
Surrogates per Lab Sample (Pages 7-9)
Surrogates per QC Sample (Page 10)
Batch QC Results (Pages 11-25)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S15058.01

Sample Tag: Equipment Blank - 1

Collected Date/Time: 06/18/2020 14:20

Matrix: Water

COC Reference: 116025

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chloride	E300.0	06/22/20 09:13	CL200622-W1-B	CL200622-W1-B	No	BLK/LCS/MS/MSD/DU
Conductivity	E120.1	06/25/20 13:40	COND200625-W1	COND200625-W1	No	BLK/LCS/DUP
Cyanide, Total	E335.4/SM4500-CN	06/23/20 10:52	CN200623-W1	CN200623-W1	No	BLK/LCS/MS/MSD/DU
Phenols	E420.1	06/30/20 15:12	PHL200630-W1	PHL200630-W1	No	BLK/LCS/MS/DUP
Sulfate	E300.0	06/22/20 09:13	SFT200622-W1-B	SFT200622-W1-B	No	BLK/LCS/MS/MSD/DU
TOC	SM5310C	06/23/20 18:15	TOC200623-W1	TOC200623-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Chromium, Dissolved	E200.8	06/24/20 12:05	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/24/20 12:05	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Iron, Dissolved	E200.8	06/24/20 12:05	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Manganese, Dissolved	E200.8	06/24/20 12:05	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/24/20 12:05	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Sodium	E200.8	06/26/20 15:21	MT4-20-0626C	MTD-062620-4	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/24/20 12:05	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	06/23/20 01:13	200622B7	VF200622W3	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S15058.02

Sample Tag: OBG MW-16D

Collected Date/Time: 06/18/2020 15:50

Matrix: Groundwater

COC Reference: 116025

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chloride	E300.0	06/22/20 09:26	CL200622-W1-B	CL200622-W1-B	No	BLK/LCS/MS/MSD/DU
Conductivity	E120.1	06/25/20 13:42	COND200625-W1	COND200625-W1	No	BLK/LCS/DUP
Cyanide, Total	E335.4/SM4500-CN	06/23/20 10:54	CN200623-W1	CN200623-W1	No	BLK/LCS/MS/MSD/DU
Phenols	E420.1	06/30/20 15:16	PHL200630-W1	PHL200630-W1	No	BLK/LCS/MS/DUP
Sulfate	E300.0	06/22/20 09:26	SFT200622-W1-B	SFT200622-W1-B	No	BLK/LCS/MS/MSD/DU
TOC	SM5310C	06/23/20 18:34	TOC200623-W1	TOC200623-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Chromium, Dissolved	E200.8	06/24/20 12:08	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/24/20 12:08	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Iron, Dissolved	E200.8	06/24/20 12:08	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Manganese, Dissolved	E200.8	06/24/20 12:08	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/24/20 12:08	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Sodium	E200.8	06/22/20 15:33	MT4-20-0622B	MTD-062220-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/24/20 12:08	MT4-20-0624B	MTD-062420-4	No	BLK/LCS/MS/MSD
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	06/23/20 07:59	200622B7	VF200622W3	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S15058.03

Sample Tag: Trip Blank 061820

Collected Date/Time: 06/18/2020 00:01

Matrix: Water

COC Reference: 116025

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	06/23/20 01:32	200622B7	VF200622W3	Yes	BLK/LCS/LCSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: CL200622-W1-B

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S15058.01	Chloride	E300.0	06/22/20 09:13	CL200622-W1-B
S15058.02	Chloride	E300.0	06/22/20 09:26	CL200622-W1-B

Inorganics, Prep Batch ID: CN200623-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S15058.01	Cyanide, Total	E335.4/SM4500-CN06/23/20 10:52	06/23/20 10:52	CN200623-W1
S15058.02	Cyanide, Total	E335.4/SM4500-CN06/23/20 10:54	06/23/20 10:54	CN200623-W1

Inorganics, Prep Batch ID: COND200625-W1

Surrogates: No, QC Types: BLK/LCS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S15058.01	Conductivity	E120.1	06/25/20 13:40	COND200625-W1
S15058.02	Conductivity	E120.1	06/25/20 13:42	COND200625-W1

Inorganics, Prep Batch ID: PHL200630-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S15058.01	Phenols	E420.1	06/30/20 15:12	PHL200630-W1
S15058.02	Phenols	E420.1	06/30/20 15:16	PHL200630-W1

Inorganics, Prep Batch ID: SFT200622-W1-B

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S15058.01	Sulfate	E300.0	06/22/20 09:13	SFT200622-W1-B
S15058.02	Sulfate	E300.0	06/22/20 09:26	SFT200622-W1-B

Inorganics, Prep Batch ID: TOC200623-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S15058.01	TOC	SM5310C	06/23/20 18:15	TOC200623-W1
S15058.02	TOC	SM5310C	06/23/20 18:34	TOC200623-W1

Metals, Prep Batch ID: MTD-062220-3

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S15058.02	Sodium	E200.8	06/22/20 15:33	MT4-20-0622B

Metals, Prep Batch ID: MTD-062420-4

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S15058.01	Chromium, Dissolved	E200.8	06/24/20 12:05	MT4-20-0624B
S15058.01	Copper, Dissolved	E200.8	06/24/20 12:05	MT4-20-0624B
S15058.01	Iron, Dissolved	E200.8	06/24/20 12:05	MT4-20-0624B
S15058.01	Manganese, Dissolved	E200.8	06/24/20 12:05	MT4-20-0624B
S15058.01	Nickel, Dissolved	E200.8	06/24/20 12:05	MT4-20-0624B
S15058.01	Zinc, Dissolved	E200.8	06/24/20 12:05	MT4-20-0624B
S15058.02	Chromium, Dissolved	E200.8	06/24/20 12:08	MT4-20-0624B
S15058.02	Copper, Dissolved	E200.8	06/24/20 12:08	MT4-20-0624B
S15058.02	Iron, Dissolved	E200.8	06/24/20 12:08	MT4-20-0624B

QC Report - Prep Batch Summary

Metals, Prep Batch ID: MTD-062420-4 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S15058.02	Manganese, Dissolved	E200.8	06/24/20 12:08	MT4-20-0624B
S15058.02	Nickel, Dissolved	E200.8	06/24/20 12:08	MT4-20-0624B
S15058.02	Zinc, Dissolved	E200.8	06/24/20 12:08	MT4-20-0624B

Metals, Prep Batch ID: MTD-062620-4

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S15058.01	Sodium	E200.8	06/26/20 15:21	MT4-20-0626C

Organics - Volatiles, Prep Batch ID: VF200622W3

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S15058.01	Volatile Organics - DEQ List	SW5030C/8260C	06/23/20 01:13	200622B7
S15058.02	Volatile Organics - DEQ List	SW5030C/8260C	06/23/20 07:59	200622B7
S15058.03	Volatile Organics - DEQ List	SW5030C/8260C	06/23/20 01:32	200622B7

QC Report - Surrogates per Lab Sample

Lab Sample ID: S15058.01

Sample Tag: Equipment Blank - 1

Collected Date/Time: 06/18/2020 14:20

Matrix: Water

COC Reference: 116025

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 200622B7, Run Date: 06/23/2020 01:13, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.0	80.0	124.0
1,2-Dichloroethane-D4		94.7	72.0	125.0
Toluene-D8		100.9	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S15058.02

Sample Tag: OBG MW-16D

Collected Date/Time: 06/18/2020 15:50

Matrix: Groundwater

COC Reference: 116025

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 200622B7, Run Date: 06/23/2020 07:59, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		93.6	80.0	124.0
1,2-Dichloroethane-D4		92.9	72.0	125.0
Toluene-D8		100.5	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S15058.03

Sample Tag: Trip Blank 061820

Collected Date/Time: 06/18/2020 00:01

Matrix: Water

COC Reference: 116025

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 200622B7, Run Date: 06/23/2020 01:32, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		94.1	80.0	124.0
1,2-Dichloroethane-D4		93.2	72.0	125.0
Toluene-D8		101.1	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF200622W3

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 200622B7.BLKW22B

Run in Batch: 200622B7, Run Date: 06/23/2020 00:34, Prep Date: 06/22/2020, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		95.3	80.0	124.0
1,2-Dichloroethane-D4		93.4	72.0	125.0
Toluene-D8		101.3	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 200622B7.LCSW22C

Run in Batch: 200622B7, Run Date: 06/22/2020 23:17, Prep Date: 06/22/2020, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		95.2	80.0	124.0
1,2-Dichloroethane-D4		93.6	72.0	125.0
Toluene-D8		101.3	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 200622B7.LCSDW22C, Parent Sample ID: 200622B7.LCSW22C

Run in Batch: 200622B7, Run Date: 06/22/2020 23:36, Prep Date: 06/22/2020, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		95.4	80.0	124.0
1,2-Dichloroethane-D4		91.9	72.0	125.0
Toluene-D8		101.8	89.0	112.0

QC Report - Batch QC Results

Inorganics, Prep Batch ID: CL200622-W1-B

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: CL200622-W1-B.LRB1

Run in Batch: CL200622-W1-B, Run Date: 06/22/2020 08:22, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Chloride		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: CL200622-W1-B.LCS1

Run in Batch: CL200622-W1-B, Run Date: 06/22/2020 08:47, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chloride		97	90	110

Matrix Spike (MS)

Lab Sample ID: CL200622-W1-B.MS1, Parent Sample ID: S15027.01

Run in Batch: CL200622-W1-B, Run Date: 06/22/2020 10:56, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chloride		112	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: CL200622-W1-B.MSD1, Parent Sample ID: CL200622-W1-B.MS1

Run in Batch: CL200622-W1-B, Run Date: 06/22/2020 11:09, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chloride		112	80	120	0	15

Duplicate (DUP)

Lab Sample ID: CL200622-W1-B.DP1, Parent Sample ID: S15027.01

Run in Batch: CL200622-W1-B, Run Date: 06/22/2020 10:43, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 10

Analyte	Flags	RPD	RPD CL
Chloride		4	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: CN200623-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: CN200623-W1.LRB1

Run in Batch: CN200623-W1, Run Date: 06/23/2020 10:30, Prep Date: 06/23/2020, Matrix: Liquid, Dilution: 2

Analyte	Flags	Conc	RDL	Units
Cyanide, Total		ND	0.004	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: CN200623-W1.LCS1

Run in Batch: CN200623-W1, Run Date: 06/23/2020 10:36, Prep Date: 06/23/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Cyanide, Total		98	90	110

Matrix Spike (MS)

Lab Sample ID: CN200623-W1.MS1, Parent Sample ID: S15020.02

Run in Batch: CN200623-W1, Run Date: 06/23/2020 10:42, Prep Date: 06/23/2020, Matrix: Liquid, Dilution: 2

Analyte	Flags	% Rec	LCL	UCL
Cyanide, Total		90	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: CN200623-W1.MSD1, Parent Sample ID: CN200623-W1.MS1

Run in Batch: CN200623-W1, Run Date: 06/23/2020 10:44, Prep Date: 06/23/2020, Matrix: Liquid, Dilution: 2

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Cyanide, Total		88	80	120	2	15

Duplicate (DUP)

Lab Sample ID: CN200623-W1.DP1, Parent Sample ID: S15020.02

Run in Batch: CN200623-W1, Run Date: 06/23/2020 10:40, Prep Date: 06/23/2020, Matrix: Liquid, Dilution: 2

Analyte	Flags	RPD	RPD CL
Cyanide, Total		<1	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: COND200625-W1

Surrogates: No, QC Types: BLK/LCS/DUP

Blank (BLK)

Lab Sample ID: COND200625-W1.LRB1

Run in Batch: COND200625-W1, Run Date: 06/25/2020 13:00, Prep Date: 06/25/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Conductivity		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: COND200625-W1.LCS1

Run in Batch: COND200625-W1, Run Date: 06/25/2020 13:04, Prep Date: 06/25/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Conductivity		95	90	110

Laboratory Control Sample (LCS)

Lab Sample ID: COND200625-W1.LCS2

Run in Batch: COND200625-W1, Run Date: 06/25/2020 13:08, Prep Date: 06/25/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Conductivity		90	90	110

Duplicate (DUP)

Lab Sample ID: COND200625-W1.DP1, Parent Sample ID: S14973.01

Run in Batch: COND200625-W1, Run Date: 06/25/2020 13:12, Prep Date: 06/25/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
Conductivity		<1	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: PHL200630-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: PHL200630-W1.LRB1

Run in Batch: PHL200630-W1, Run Date: 06/30/2020 15:00, Prep Date: 06/30/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Phenols		ND	0.01	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: PHL200630-W1.LCS1

Run in Batch: PHL200630-W1, Run Date: 06/30/2020 15:04, Prep Date: 06/30/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Phenols		104	90	110

Matrix Spike (MS)

Lab Sample ID: PHL200630-W1.MS1, Parent Sample ID: S15058.01

Run in Batch: PHL200630-W1, Run Date: 06/30/2020 15:14, Prep Date: 06/30/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Phenols		98	90	110

Duplicate (DUP)

Lab Sample ID: PHL200630-W1.DP1, Parent Sample ID: S14963.01

Run in Batch: PHL200630-W1, Run Date: 06/30/2020 15:08, Prep Date: 06/30/2020, Matrix: Liquid, Dilution: 1.7

Analyte	Flags	RPD	RPD CL
Phenols	*	19	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: SFT200622-W1-B

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: SFT200622-W1-B.LRB1

Run in Batch: SFT200622-W1-B, Run Date: 06/22/2020 08:22, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Sulfate		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: SFT200622-W1-B.LCS1

Run in Batch: SFT200622-W1-B, Run Date: 06/22/2020 08:47, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Sulfate		97	90	110

Matrix Spike (MS)

Lab Sample ID: SFT200622-W1-B.MS1, Parent Sample ID: S15027.01

Run in Batch: SFT200622-W1-B, Run Date: 06/22/2020 10:56, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Sulfate		100	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT200622-W1-B.MSD1, Parent Sample ID: SFT200622-W1-B.MS1

Run in Batch: SFT200622-W1-B, Run Date: 06/22/2020 11:09, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Sulfate		100	80	120	0	15

Duplicate (DUP)

Lab Sample ID: SFT200622-W1-B.DP1, Parent Sample ID: S15027.01

Run in Batch: SFT200622-W1-B, Run Date: 06/22/2020 10:43, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 10

Analyte	Flags	RPD	RPD CL
Sulfate		4	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: TOC200623-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: TOC200623-W1.LRB1

Run in Batch: TOC200623-W1, Run Date: 06/23/2020 13:12, Prep Date: 06/23/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
TOC		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: TOC200623-W1.LCS1

Run in Batch: TOC200623-W1, Run Date: 06/23/2020 13:52, Prep Date: 06/23/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
TOC		105	90	110

Matrix Spike (MS)

Lab Sample ID: TOC200623-W1.MS1, Parent Sample ID: S14973.01

Run in Batch: TOC200623-W1, Run Date: 06/23/2020 15:11, Prep Date: 06/23/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
TOC		98	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: TOC200623-W1.MSD1, Parent Sample ID: TOC200623-W1.MS1

Run in Batch: TOC200623-W1, Run Date: 06/23/2020 15:31, Prep Date: 06/23/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
TOC		98	80	120	0	15

Duplicate (DUP)

Lab Sample ID: TOC200623-W1.DP1, Parent Sample ID: S14884.03

Run in Batch: TOC200623-W1, Run Date: 06/23/2020 14:32, Prep Date: 06/23/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
TOC		2	15

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-062220-3

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Blank (BLK)

Lab Sample ID: MT4-20-0622B.014.LRB

Run in Batch: MT4-20-0622B, Run Date: 06/22/2020 14:58, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Sodium		ND	0.05	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: MT4-20-0622B.013.LCS

Run in Batch: MT4-20-0622B, Run Date: 06/22/2020 14:53, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Sodium		97	85	115

Matrix Spike (MS)

Lab Sample ID: MT4-20-0622B.034.MS, Parent Sample ID: S14973.02

Run in Batch: MT4-20-0622B, Run Date: 06/22/2020 15:18, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Sodium		100	75	125

Matrix Spike (MS)

Lab Sample ID: MT4-20-0622B.053.MS, Parent Sample ID: S15058.02

Run in Batch: MT4-20-0622B, Run Date: 06/22/2020 15:33, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Sodium		97	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-20-0622B.035.MSD, Parent Sample ID: MT4-20-0622B.034.MS

Run in Batch: MT4-20-0622B, Run Date: 06/22/2020 15:19, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Sodium		98	75	125	2	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-20-0622B.054.MSD, Parent Sample ID: MT4-20-0622B.053.MS

Run in Batch: MT4-20-0622B, Run Date: 06/22/2020 15:34, Prep Date: 06/22/2020, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Sodium		106	75	125	8	20

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-062420-4

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Blank (BLK)

Lab Sample ID: MT4-20-0624B.021.LRB

Run in Batch: MT4-20-0624B, Run Date: 06/24/2020 11:49, Prep Date: 06/24/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Chromium		ND	0.001	mg/L
Copper		ND	0.001	mg/L
Iron		ND	0.004	mg/L
Manganese		ND	0.001	mg/L
Nickel		ND	0.001	mg/L
Zinc		ND	0.001	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: MT4-20-0624B.019.LCS

Run in Batch: MT4-20-0624B, Run Date: 06/24/2020 11:48, Prep Date: 06/24/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chromium		99	85	115
Copper		101	85	115
Iron		103	85	115
Manganese		105	85	115
Nickel		101	85	115
Zinc		102	85	115

Matrix Spike (MS)

Lab Sample ID: MT4-20-0624B.041.MS, Parent Sample ID: S14973.04

Run in Batch: MT4-20-0624B, Run Date: 06/24/2020 12:30, Prep Date: 06/24/2020, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Chromium		102	75	125
Copper		96	75	125
Iron		102	75	125
Manganese		103	75	125
Nickel		100	75	125
Zinc		98	75	125

Matrix Spike (MS)

Lab Sample ID: MT4-20-0624B.065.MS, Parent Sample ID: S14973.06

Run in Batch: MT4-20-0624B, Run Date: 06/24/2020 13:00, Prep Date: 06/24/2020, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Chromium		105	75	125
Copper		99	75	125
Iron		112	75	125
Manganese		109	75	125
Nickel		104	75	125
Zinc		104	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-20-0624B.042.MSD, Parent Sample ID: MT4-20-0624B.041.MS

Run in Batch: MT4-20-0624B, Run Date: 06/24/2020 12:31, Prep Date: 06/24/2020, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium		98	75	125	4	20
Copper		94	75	125	2	20

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-062420-4 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT4-20-0624B.042.MSD, Parent Sample ID: MT4-20-0624B.041.MS

Run in Batch: MT4-20-0624B, Run Date: 06/24/2020 12:31, Prep Date: 06/24/2020, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Iron		100	75	125	1	20
Manganese		99	75	125	3	20
Nickel		98	75	125	2	20
Zinc		96	75	125	2	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-20-0624B.066.MSD, Parent Sample ID: MT4-20-0624B.065.MS

Run in Batch: MT4-20-0624B, Run Date: 06/24/2020 13:01, Prep Date: 06/24/2020, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium		101	75	125	4	20
Copper		95	75	125	4	20
Iron		104	75	125	6	20
Manganese		103	75	125	5	20
Nickel		99	75	125	5	20
Zinc		99	75	125	5	20

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-062620-4

Surrogates: No, QC Types: BLK/LCS/MS/MSD

Blank (BLK)

Lab Sample ID: MT4-20-0626C.014.LRB

Run in Batch: MT4-20-0626C, Run Date: 06/26/2020 15:19, Prep Date: 06/26/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Sodium		ND	0.05	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: MT4-20-0626C.013.LCS

Run in Batch: MT4-20-0626C, Run Date: 06/26/2020 15:18, Prep Date: 06/26/2020, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Sodium		98	85	115

Matrix Spike (MS)

Lab Sample ID: MT4-20-0626C.033.MS, Parent Sample ID: S15166.04

Run in Batch: MT4-20-0626C, Run Date: 06/26/2020 15:35, Prep Date: 06/26/2020, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Sodium		109	75	125

Matrix Spike (MS)

Lab Sample ID: MT4-20-0626C.056.MS, Parent Sample ID: S15167.06

Run in Batch: MT4-20-0626C, Run Date: 06/26/2020 15:54, Prep Date: 06/26/2020, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Sodium		95	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-20-0626C.034.MSD, Parent Sample ID: MT4-20-0626C.033.MS

Run in Batch: MT4-20-0626C, Run Date: 06/26/2020 15:36, Prep Date: 06/26/2020, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Sodium		104	75	125	1	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-20-0626C.057.MSD, Parent Sample ID: MT4-20-0626C.056.MS

Run in Batch: MT4-20-0626C, Run Date: 06/26/2020 15:56, Prep Date: 06/26/2020, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Sodium		98	75	125	1	20

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF200622W3

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 200622B7.BLKW22B

Run in Batch: 200622B7, Run Date: 06/23/2020 00:34, Prep Date: 06/22/2020, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	1.00	ug/l
Acetone		ND	10.00	ug/l
Methyl iodide		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Chloroform		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	2.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF200622W3 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Blank (BLK) (continued)

Lab Sample ID: 200622B7.BLKW22B

Run in Batch: 200622B7, Run Date: 06/23/2020 00:34, Prep Date: 06/22/2020, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bromoform		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l
2-Methylnaphthalene		ND	1.00	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 200622B7.LCSW22C

Run in Batch: 200622B7, Run Date: 06/22/2020 23:17, Prep Date: 06/22/2020, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether	*	125.6	67.4	121.2
Acetone		123.4	29.9	161.5
Methyl iodide		110.7	68.8	116.4
Carbon disulfide		113.7	63.8	137.4
tert-Methyl butyl ether (MTBE)		118.6	73.2	122.4
Acrylonitrile	*	130.2	69.9	128.9
2-Butanone (MEK)		128.8	44.0	134.4
Dichlorodifluoromethane		133.9	10.0	222.8
Chloromethane		137.9	23.8	166.5
Vinyl chloride		134.5	43.5	149.1
Bromomethane		114.7	56.8	151.3
Chloroethane		127.9	53.4	149.4
Trichlorofluoromethane		110.5	59.7	151.8
1,1-Dichloroethene		114.7	69.6	139.4
Methylene chloride		113.0	73.3	121.1
trans-1,2-Dichloroethene		120.0	73.6	129.3
1,1-Dichloroethane		122.2	71.5	126.2
cis-1,2-Dichloroethene		118.5	76.6	122.1
Tetrahydrofuran	*	125.5	59.0	117.9
Chloroform		115.9	78.4	124.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF200622W3 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 200622B7.LCSW22C

Run in Batch: 200622B7, Run Date: 06/22/2020 23:17, Prep Date: 06/22/2020, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane		117.3	78.2	120.8
1,1,1-Trichloroethane		110.9	79.4	130.9
4-Methyl-2-pentanone (MIBK)	*	128.6	71.6	125.2
2-Hexanone		136.7	55.4	136.9
Carbon tetrachloride		104.4	72.6	133.0
Benzene		118.5	79.9	124.9
1,2-Dichloroethane		104.3	76.0	126.3
Trichloroethene		113.0	79.7	124.2
1,2-Dichloropropane		122.2	78.6	126.4
Bromodichloromethane		111.7	80.4	128.2
Dibromomethane		111.6	76.9	122.1
cis-1,3-Dichloropropene		116.5	79.8	129.9
Toluene		117.5	79.8	124.5
trans-1,3-Dichloropropene		115.9	74.0	131.3
1,1,2-Trichloroethane		121.6	78.7	123.1
Tetrachloroethene		110.5	74.5	124.5
trans-1,4-Dichloro-2-butene		98.9	68.6	135.4
Dibromochloromethane		106.1	74.6	127.2
1,2-Dibromoethane		112.6	70.3	133.7
Chlorobenzene		109.1	79.2	122.7
1,1,1,2-Tetrachloroethane		101.8	80.3	128.2
Ethylbenzene		112.7	79.5	129.1
p,m-Xylene		109.7	79.4	132.2
o-Xylene		108.7	80.2	131.0
Styrene		110.8	69.5	126.7
Isopropylbenzene		108.8	74.4	121.5
Bromoform		103.2	69.4	128.0
1,1,2,2-Tetrachloroethane		114.5	79.8	126.3
1,2,3-Trichloropropane		112.3	78.3	138.8
n-Propylbenzene		110.2	82.0	130.7
Bromobenzene		106.8	78.7	124.6
1,3,5-Trimethylbenzene		105.0	81.3	128.9
tert-Butylbenzene		99.4	80.7	128.9
1,2,4-Trimethylbenzene		104.6	81.4	130.8
sec-Butylbenzene		108.3	77.4	129.8
p-Isopropyltoluene		106.0	79.8	137.5
1,3-Dichlorobenzene		107.1	77.0	131.3
1,4-Dichlorobenzene		109.0	20.7	137.7
1,2-Dichlorobenzene		110.2	10.0	166.2
1,2,3-Trimethylbenzene		111.1	76.3	124.2
n-Butylbenzene		103.3	80.0	133.3
Hexachloroethane		94.7	23.8	138.1
1,2-Dibromo-3-chloropropane		109.9	21.2	189.4
1,2,4-Trichlorobenzene		93.7	27.4	143.4
1,2,3-Trichlorobenzene		89.7	75.4	131.4
Naphthalene		100.2	32.9	135.8

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF200622W3 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 200622B7.LCSW22C

Run in Batch: 200622B7, Run Date: 06/22/2020 23:17, Prep Date: 06/22/2020, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		90.7	25.5	165.5

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 200622B7.LCSDW22C, Parent Sample ID: 200622B7.LCSW22C

Run in Batch: 200622B7, Run Date: 06/22/2020 23:36, Prep Date: 06/22/2020, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether	*	121.7	67.4	121.2	3.1	30.0
Acetone		111.3	29.9	161.5	10.4	30.0
Methyl iodide		109.0	68.8	116.4	1.6	30.0
Carbon disulfide		113.5	63.8	137.4	0.2	30.0
tert-Methyl butyl ether (MTBE)		115.7	73.2	122.4	2.5	30.0
Acrylonitrile	*	129.6	69.9	128.9	0.5	30.0
2-Butanone (MEK)		112.3	44.0	134.4	13.7	30.0
Dichlorodifluoromethane		130.4	10.0	222.8	2.6	30.0
Chloromethane		137.0	23.8	166.5	0.6	30.0
Vinyl chloride		134.2	43.5	149.1	0.2	30.0
Bromomethane		113.5	56.8	151.3	1.0	30.0
Chloroethane		125.3	53.4	149.4	2.0	30.0
Trichlorofluoromethane		109.6	59.7	151.8	0.8	30.0
1,1-Dichloroethene		112.9	69.6	139.4	1.6	30.0
Methylene chloride		109.6	73.3	121.1	3.0	30.0
trans-1,2-Dichloroethene		117.5	73.6	129.3	2.1	30.0
1,1-Dichloroethane		118.6	71.5	126.2	3.0	30.0
cis-1,2-Dichloroethene		114.7	76.6	122.1	3.3	30.0
Tetrahydrofuran	*	125.1	59.0	117.9	0.3	30.0
Chloroform		112.1	78.4	124.0	3.3	30.0
Bromochloromethane		112.6	78.2	120.8	4.1	30.0
1,1,1-Trichloroethane		108.6	79.4	130.9	2.0	30.0
4-Methyl-2-pentanone (MIBK)		125.0	71.6	125.2	2.9	30.0
2-Hexanone		134.8	55.4	136.9	1.4	30.0
Carbon tetrachloride		101.7	72.6	133.0	2.6	30.0
Benzene		114.8	79.9	124.9	3.2	30.0
1,2-Dichloroethane		99.9	76.0	126.3	4.3	30.0
Trichloroethene		112.4	79.7	124.2	0.5	30.0
1,2-Dichloropropane		117.1	78.6	126.4	4.3	30.0
Bromodichloromethane		106.4	80.4	128.2	4.8	30.0
Dibromomethane		107.3	76.9	122.1	4.0	30.0
cis-1,3-Dichloropropene		111.8	79.8	129.9	4.1	30.0
Toluene		114.4	79.8	124.5	2.7	30.0
trans-1,3-Dichloropropene		111.4	74.0	131.3	4.0	30.0
1,1,2-Trichloroethane		117.1	78.7	123.1	3.8	30.0
Tetrachloroethene	*	168.2	74.5	124.5	41.4	30.0
trans-1,4-Dichloro-2-butene		96.6	68.6	135.4	2.4	30.0
Dibromochloromethane		101.9	74.6	127.2	4.1	30.0
1,2-Dibromoethane		109.5	70.3	133.7	2.8	30.0
Chlorobenzene		105.7	79.2	122.7	3.2	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF200622W3 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 200622B7.LCSDW22C, Parent Sample ID: 200622B7.LCSW22C

Run in Batch: 200622B7, Run Date: 06/22/2020 23:36, Prep Date: 06/22/2020, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		97.8	80.3	128.2	4.0	30.0
Ethylbenzene		109.2	79.5	129.1	3.2	30.0
p,m-Xylene		106.4	79.4	132.2	3.1	30.0
o-Xylene		106.0	80.2	131.0	2.5	30.0
Styrene		108.7	69.5	126.7	1.9	30.0
Isopropylbenzene		105.7	74.4	121.5	2.9	30.0
Bromoform		98.5	69.4	128.0	4.6	30.0
1,1,2,2-Tetrachloroethane		106.0	79.8	126.3	7.7	30.0
1,2,3-Trichloropropane		108.9	78.3	138.8	3.1	30.0
n-Propylbenzene		107.2	82.0	130.7	2.7	30.0
Bromobenzene		102.5	78.7	124.6	4.1	30.0
1,3,5-Trimethylbenzene		102.7	81.3	128.9	2.2	30.0
tert-Butylbenzene		97.2	80.7	128.9	2.2	30.0
1,2,4-Trimethylbenzene		101.1	81.4	130.8	3.4	30.0
sec-Butylbenzene		105.6	77.4	129.8	2.5	30.0
p-Isopropyltoluene		103.0	79.8	137.5	2.9	30.0
1,3-Dichlorobenzene		104.4	77.0	131.3	2.6	30.0
1,4-Dichlorobenzene		104.8	20.7	137.7	3.9	30.0
1,2-Dichlorobenzene		106.4	10.0	166.2	3.5	30.0
1,2,3-Trimethylbenzene		106.2	76.3	124.2	4.6	30.0
n-Butylbenzene		100.6	80.0	133.3	2.7	30.0
Hexachloroethane		91.8	23.8	138.1	3.2	30.0
1,2-Dibromo-3-chloropropane		106.8	21.2	189.4	2.8	30.0
1,2,4-Trichlorobenzene		95.6	27.4	143.4	2.0	30.0
1,2,3-Trichlorobenzene		92.2	75.4	131.4	2.7	30.0
Naphthalene		100.5	32.9	135.8	0.3	30.0
2-Methylnaphthalene		95.2	25.5	165.5	4.9	30.0

APPENDIX D GROUNDWATER SAMPLING PROGRAM QA/QC SUMMARY

Appendix D Quality Assurance/Quality Control Summary

Data verification was independently performed by O'Brien & Gere, Part of Ramboll (OBG) to assess the groundwater monitoring data quality for samples collected during the 2020 semiannual groundwater sampling event conducted in June 2020. Data verification was utilized to confirm the quality of the field and laboratory (Merit Laboratories, Inc. (Merit) of East Lansing, Michigan) data. The data verification included review of: (1) laboratory documentation, (2) chain-of-custody (COC) documentation, (3) target analyte results, (4) laboratory data qualifiers, if any, (5) laboratory reporting (quantitation) limits, (6) laboratory blank analysis, and (7) quality control samples, including duplicate samples.

The results of the data verification indicated the following:

- Laboratory documentation was complete.
- Chain-of-custody (COC) documentation was complete.
- Target analyte results were reported in accordance with the project requirements.
- Laboratory blank analysis did not indicate evidence of artifacts from the sampling or analytical process (above reporting limit [RL]).
- Laboratory quantitation (or reporting) limits (RLs) were within the project required limits for undiluted samples.
- No elevated RLs were reported due to matrix interference or sample dilution.
- Breakthroughs exceeding 10% for TOX samples were reported in samples Equipment Blank-1, OBG MW-16D, B-7, B-9, DUP-1 (B-18A), B-19Ar, B-20D, B-21D, B-22D, B-23Dr, B-24r, B-27D, and B-28. Re-analysis was performed in accordance with United States Environmental Protection Agency (USEPA) Method 9020B with concurring results. Furthermore, the method blank results were non-detects and laboratory control sample (LCS) results were within percent recover limits (between 60 and 140 percent); therefore, the data was reported in accordance with USEPA Method 9020B.
- The primary and secondary constituents of concern (COCs) were not detected in Equipment Blank-1 nor the trip blanks associated with this sampling event; therefore, cross-contamination during sampling and shipping is not evident.
- The relative percent difference (RPD) for the duplicate sample results for B-18A and Dup-1 (B-18A) were within acceptable limits.

Furthermore, the instrument utilized for measurement of field parameters calibrated within range (deviation from standard of less than 3 percent) for pH, oxidation reduction potential (ORP), specific conductivity (conductivity), and dissolved oxygen (DO); therefore, operated within manufacturers specifications during sample collection.

The data verification indicates that the overall usability of the groundwater monitoring data is acceptable for the intended use without further qualification or rejection of the data.

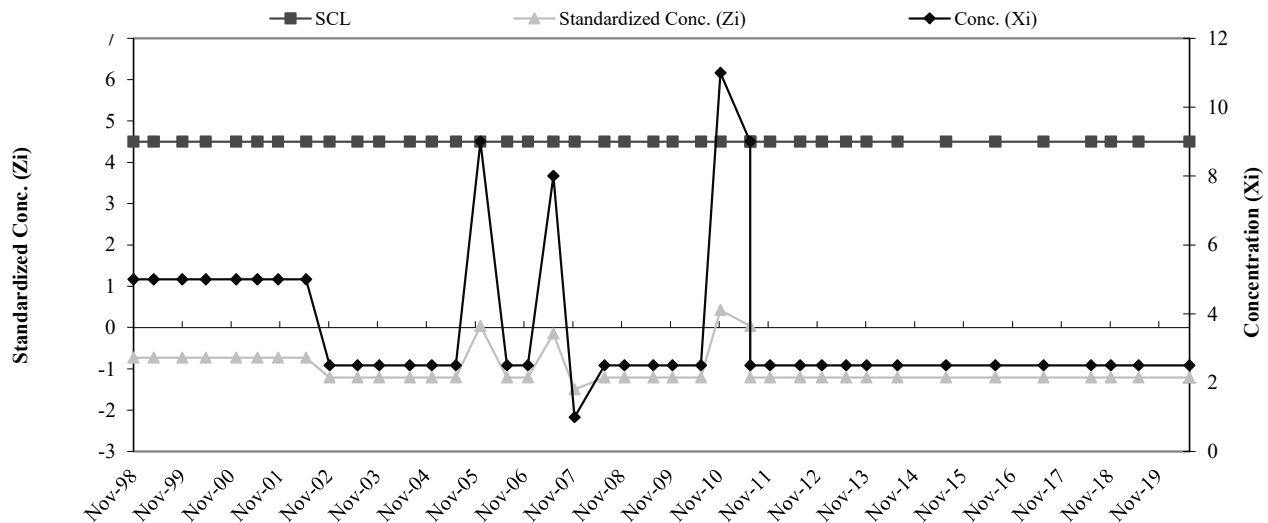
APPENDIX E MONITORING WELL CONTROL CHARTS

**COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-2D-OBGMW-16D Cr**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	8.78	5.19
2	Aug-95	10		
3	Jun-96	10		
4	Aug-96	10		
5	Nov-96	10		
6	May-97	10		
7	Nov-97	5		
8	May-98	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	5	-0.73	36	Nov-11	4.50	2.5	-1.21
10	Apr-99	4.5	5	-0.73	37	Jun-12	4.50	2.5	-1.21
11	Nov-99	4.5	5	-0.73	38	Dec-12	4.50	2.5	-1.21
12	Apr-00	4.5	5	-0.73	39	Jun-13	4.50	2.5	-1.21
13	Dec-00	4.5	5	-0.73	40	Nov-13	4.50	2.5	-1.21
14	May-01	4.5	5	-0.73	41	Jun-14	4.50	2.5	-1.21
15	Oct-01	4.5	5	-0.73	42	Jun-15	4.50	2.5	-1.21
16	May-02	4.5	5	-0.73	43	Jun-16	4.50	2.5	-1.21
17	Nov-02	4.5	2.5	-1.21	44	Jun-17	4.50	2.5	-1.21
18	Jun-03	4.5	2.5	-1.21	45	Jun-18	4.50	2.5	-1.21
19	Nov-03	4.5	2.5	-1.21	46	Nov-18	4.50	2.5	-1.21
20	Jun-04	4.5	2.5	-1.21	47	Jun-19	4.50	2.5	-1.21
21	Dec-04	4.5	2.5	-1.21	48	Jun-20	4.50	2.5	-1.21
22	Jun-05	4.5	2.5	-1.21					
23	Dec-05	4.5	9	0.04					
24	Jun-06	4.5	2.5	-1.21					
25	Nov-06	4.5	2.5	-1.21					
26	Jun-07	4.5	8	-0.15					
27	Nov-07	4.5	1	-1.50					
28	Jun-08	4.5	2.5	-1.21					
29	Nov-08	4.5	2.5	-1.21					
30	Jun-09	4.5	2.5	-1.21					
31	Nov-09	4.5	2.5	-1.21					
32	Jun-10	4.5	2.5	-1.21					
33	Nov-10	4.5	11	0.43					
34	Jun-11	4.5	9	0.04					
35	Jun-11	4.5	2.5	-1.21					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

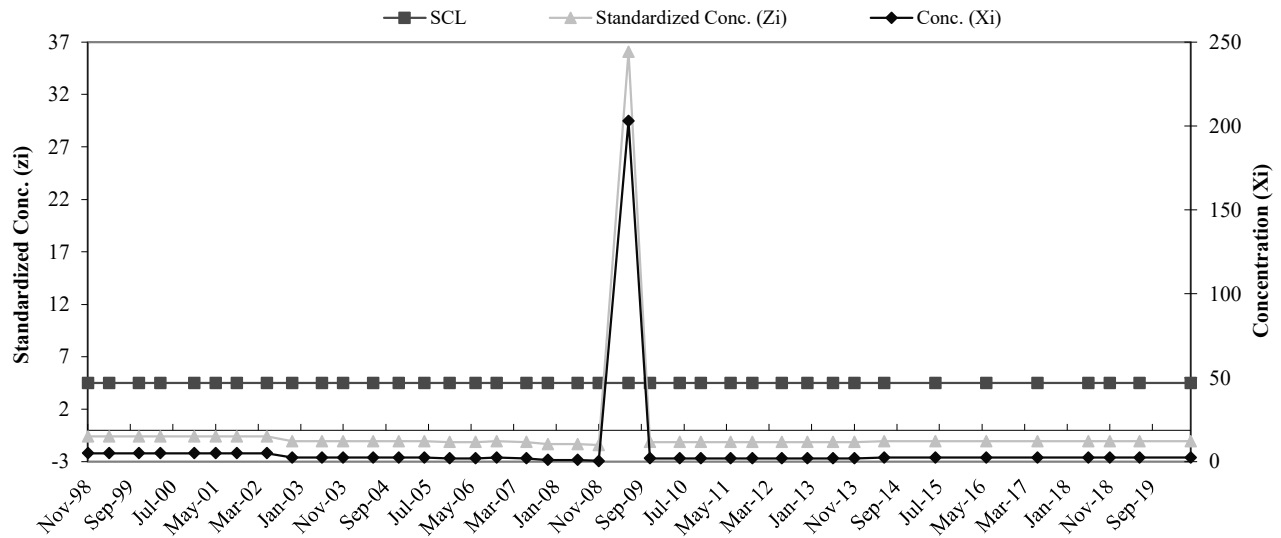


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-2D-OBGMW-16D Cu

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	8.13	5.40
2	Aug-95	10		
3	Jun-96	10		
4	Aug-96	10		
5	Nov-96	10		
6	May-97	5		
7	Nov-97	5		
8	May-98	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	5	-0.58	35	Nov-11	4.5	2	-1.14
10	Apr-99	4.5	5	-0.58	36	Jun-12	4.5	2	-1.14
11	Nov-99	4.5	5	-0.58	37	Dec-12	4.5	2	-1.14
12	Apr-00	4.5	5	-0.58	38	Jun-13	4.5	2	-1.14
13	Dec-00	4.5	5	-0.58	39	Nov-13	4.5	2	-1.14
14	May-01	4.5	5	-0.58	40	Jun-14	4.5	2.5	-1.04
15	Oct-01	4.5	5	-0.58	41	Jun-15	4.5	2.5	-1.04
16	May-02	4.5	5	-0.58	42	Jun-16	4.5	2.5	-1.04
17	Nov-02	4.5	2.5	-1.04	43	Jun-17	4.5	2.5	-1.04
18	Jun-03	4.5	2.5	-1.04	44	Jun-18	4.5	2.5	-1.04
19	Nov-03	4.5	2.5	-1.04	45	Nov-18	4.5	2.5	-1.04
20	Jun-04	4.5	2.5	-1.04	46	Jun-19	4.5	2.5	-1.04
21	Dec-04	4.5	2.5	-1.04	47	Jun-20	4.5	2.5	-1.04
22	Jun-05	4.5	2.5	-1.04					
23	Dec-05	4.5	2	-1.14					
24	Jun-06	4.5	2	-1.14					
25	Nov-06	4.5	2.5	-1.04					
26	Jun-07	4.5	2	-1.14					
27	Nov-07	4.5	1	-1.32					
28	Jun-08	4.5	1	-1.32					
29	Nov-08	4.5	0.5	-1.41					
30	Jun-09	4.5	203	36.09					
31	Nov-09	4.5	2	-1.14					
32	Jun-10	4.5	2	-1.14					
33	Nov-10	4.5	2	-1.14					
34	Jun-11	4.5	2	-1.14					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

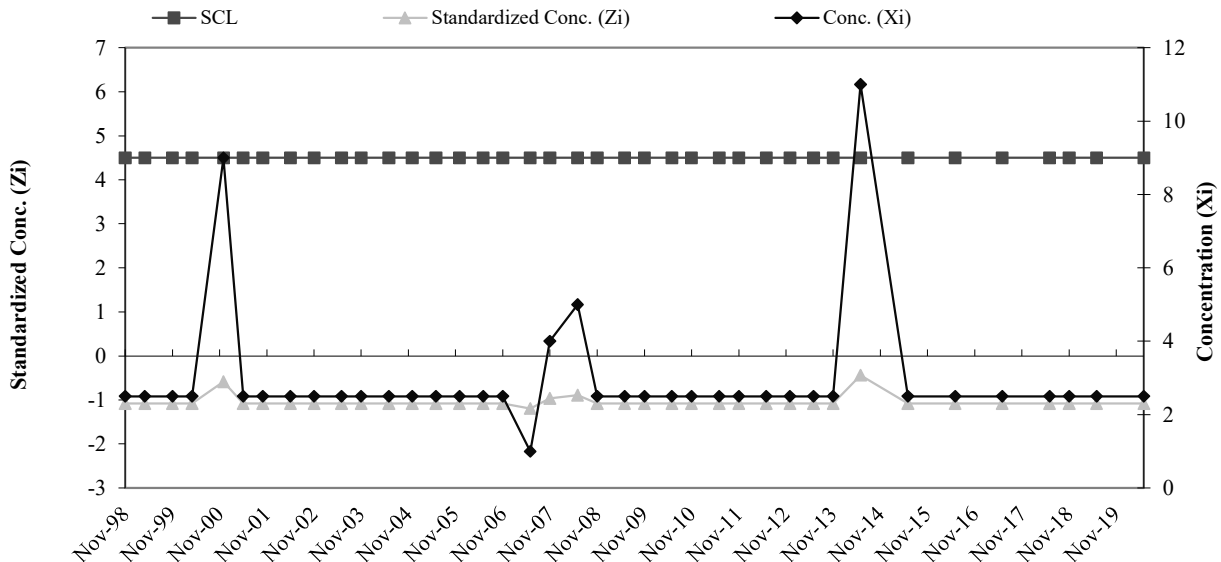


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-2D-OBGMW-16D Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	15	16.83	13.28
2	Aug-95	20		
3	Jun-96	10		
4	Aug-96	10		
5	Nov-96	10		
6	May-97	28		
7	Nov-97	39		
8	May-98	2.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	2.5	-1.08	35	Nov-11	4.5	2.5	-1.08
10	Apr-99	4.5	2.5	-1.08	36	Jun-12	4.5	2.5	-1.08
11	Nov-99	4.5	2.5	-1.08	37	Dec-12	4.5	2.5	-1.08
12	Apr-00	4.5	2.5	-1.08	38	Jun-13	4.5	2.5	-1.08
13	Dec-00	4.5	9	-0.59	39	Nov-13	4.5	2.5	-1.08
14	May-01	4.5	2.5	-1.08	40	Jun-14	4.5	11	-0.44
15	Oct-01	4.5	2.5	-1.08	41	Jun-15	4.5	2.5	-1.08
16	May-02	4.5	2.5	-1.08	42	Jun-16	4.5	2.5	-1.08
17	Nov-02	4.5	2.5	-1.08	43	Jun-17	4.5	2.5	-1.08
18	Jun-03	4.5	2.5	-1.08	44	Jun-18	4.5	2.5	-1.08
19	Nov-03	4.5	2.5	-1.08	45	Nov-18	4.5	2.5	-1.08
20	Jun-04	4.5	2.5	-1.08	46	Nov-19	4.5	2.5	-1.08
21	Dec-04	4.5	2.5	-1.08	47	Jun-20	4.5	2.5	-1.08
22	Jun-05	4.5	2.5	-1.08					
23	Dec-05	4.5	2.5	-1.08					
24	Jun-06	4.5	2.5	-1.08					
25	Nov-06	4.5	2.5	-1.08					
26	Jun-07	4.5	1	-1.19					
27	Nov-07	4.5	4	-0.97					
28	Jun-08	4.5	5	-0.89					
29	Nov-08	4.5	2.5	-1.08					
30	Jun-09	4.5	2.5	-1.08					
31	Nov-09	4.5	2.5	-1.08					
32	Jun-10	4.5	2.5	-1.08					
33	Nov-10	4.5	2.5	-1.08					
34	Jun-11	4.5	2.5	-1.08					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

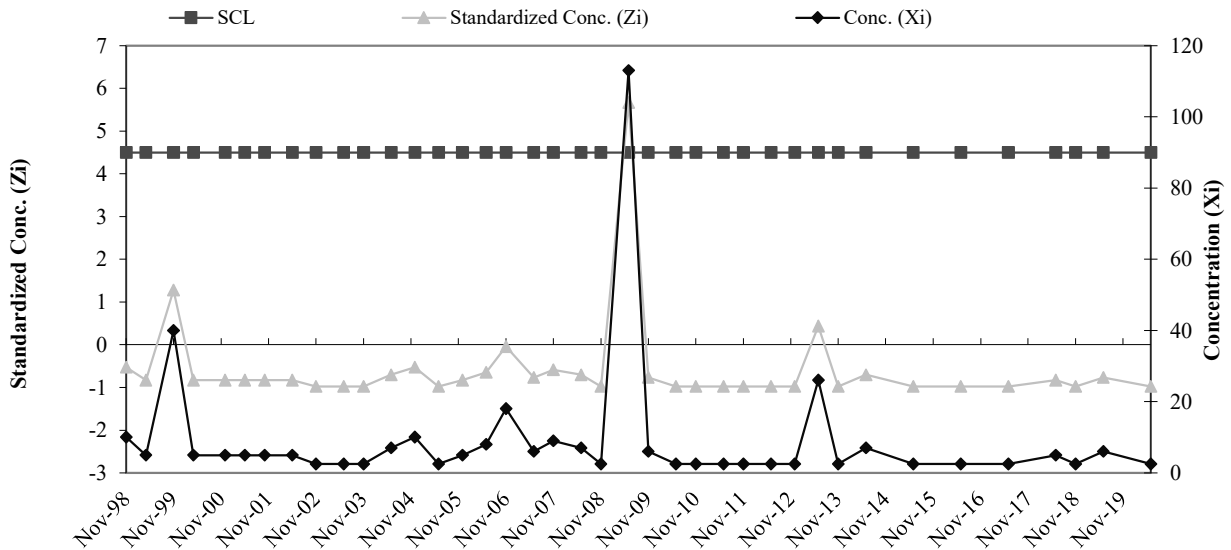


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-2D-OBGMW-16D Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	18.75	16.62
2	Aug-95	10		
3	Jun-96	10		
4	Aug-96	50		
5	Nov-96	30		
6	May-97	30		
7	Nov-97	5		
8	May-98	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	10	-0.53	35	Nov-11	4.5	2.5	-0.98
10	Apr-99	4.5	5	-0.83	36	Jun-12	4.5	2.5	-0.98
11	Nov-99	4.5	40	1.28	37	Dec-12	4.5	2.5	-0.98
12	Apr-00	4.5	5	-0.83	38	Jun-13	4.5	26	0.44
13	Dec-00	4.5	5	-0.83	39	Nov-13	4.5	2.5	-0.98
14	May-01	4.5	5	-0.83	40	Jun-14	4.5	7	-0.71
15	Oct-01	4.5	5	-0.83	41	Jun-15	4.5	2.5	-0.98
16	May-02	4.5	5	-0.83	42	Jun-16	4.5	2.5	-0.98
17	Nov-02	4.5	2.5	-0.98	43	Jun-17	4.5	2.5	-0.98
18	Jun-03	4.5	2.5	-0.98	44	Jun-18	4.5	5	-0.83
19	Nov-03	4.5	2.5	-0.98	45	Nov-18	4.5	2.5	-0.98
20	Jun-04	4.5	7	-0.71	46	Jun-19	4.5	6	-0.77
21	Dec-04	4.5	10	-0.53	47	Jun-20	4.5	2.5	-0.98
22	Jun-05	4.5	2.5	-0.98					
23	Dec-05	4.5	5	-0.83					
24	Jun-06	4.5	8	-0.65					
25	Nov-06	4.5	18	-0.05					
26	Jun-07	4.5	6	-0.77					
27	Nov-07	4.5	9	-0.59					
28	Jun-08	4.5	7	-0.71					
29	Nov-08	4.5	2.5	-0.98					
30	Jun-09	4.5	113	5.67					
31	Nov-09	4.5	6	-0.77					
32	Jun-10	4.5	2.5	-0.98					
33	Nov-10	4.5	2.5	-0.98					
34	Jun-11	4.5	2.5	-0.98					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

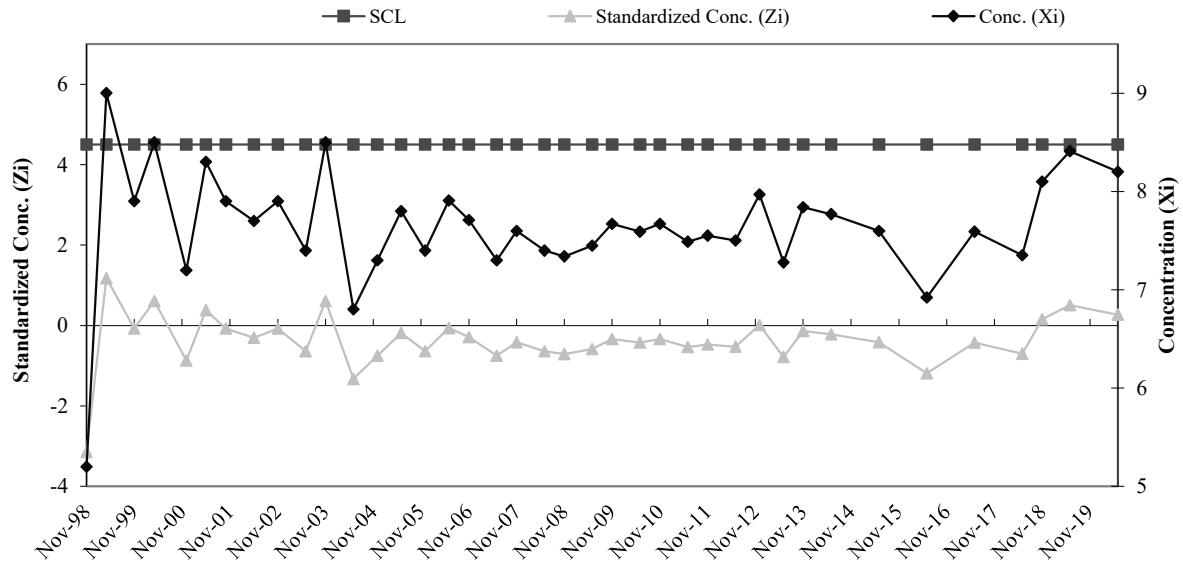


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-2D-OBGMW-16D pH

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	9.0	7.46	0.88
2	Aug-95	8.3		
3	Jun-96	7.5		
4	Aug-96	7.7		
5	Nov-96	7.3		
6	May-97	6.3		
7	Nov-97	6.9		
8	May-98	6.7		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	4.7	-3.15	35	Nov-11	4.5	7.1	-0.47
10	Apr-99	4.5	8.5	1.18	36	Jun-12	4.5	7.0	-0.53
11	Nov-99	4.5	7.4	-0.07	37	Dec-12	4.5	7.5	0.01
12	Apr-00	4.5	8.0	0.61	38	Jun-13	4.5	6.8	-0.78
13	Dec-00	4.5	6.7	-0.87	39	Nov-13	4.5	7.3	-0.14
14	May-01	4.5	7.8	0.38	40	Jun-14	4.5	7.3	-0.22
15	Oct-01	4.5	7.4	-0.07	41	Jun-15	4.5	7.1	-0.41
16	May-02	4.5	7.2	-0.30	42	Jun-16	4.5	6.4	-1.19
17	Nov-02	4.5	7.4	-0.07	43	Jun-17	4.5	7.1	-0.42
18	Jun-03	4.5	6.9	-0.64	44	Jun-18	4.5	6.9	-0.70
19	Nov-03	4.5	8.0	0.61	45	Nov-18	4.5	7.6	0.16
20	Jun-04	4.5	6.3	-1.32	46	Jun-19	4.5	7.9	0.51
21	Dec-04	4.5	6.8	-0.75	47	Jun-20	4.5	7.7	0.27
22	Jun-05	4.5	7.3	-0.19					
23	Dec-05	4.5	6.9	-0.64					
24	Jun-06	4.5	7.4	-0.06					
25	Nov-06	4.5	7.2	-0.29					
26	Jun-07	4.5	6.8	-0.75					
27	Nov-07	4.5	7.1	-0.41					
28	Jun-08	4.5	6.9	-0.64					
29	Nov-08	4.5	6.8	-0.71					
30	Jun-09	4.5	7.0	-0.58					
31	Nov-09	4.5	7.2	-0.33					
32	Jun-10	4.5	7.1	-0.42					
33	Nov-10	4.5	7.2	-0.33					
34	Jun-11	4.5	7.0	-0.54					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

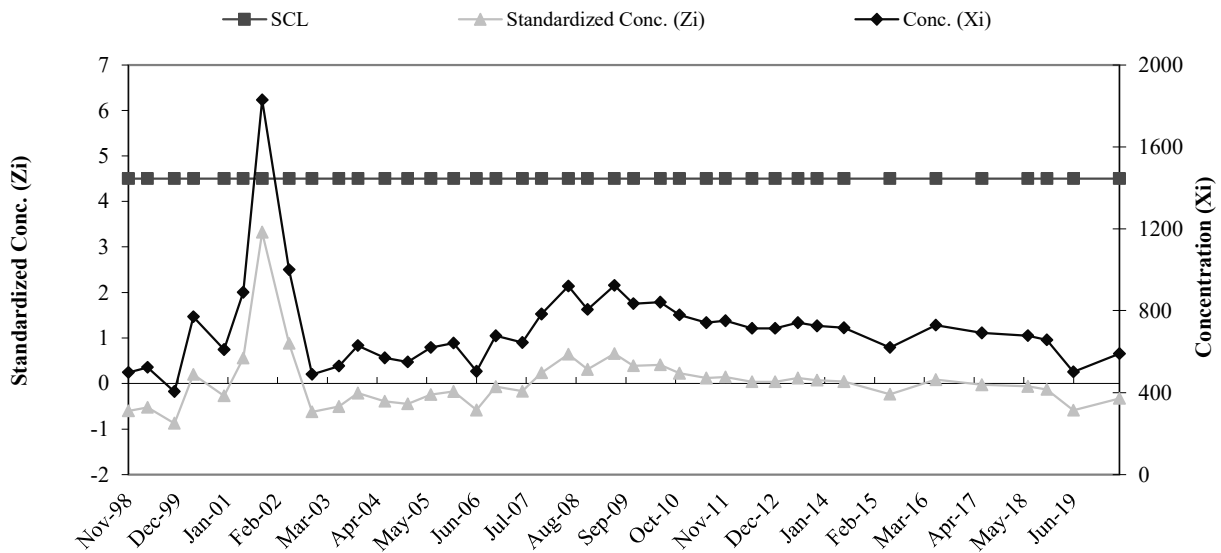


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-2D-OBGMW-16D SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	434.0	701.50	339.46
2	Aug-95	479.0		
3	Jun-96	580.0		
4	Aug-96	641.0		
5	Nov-96	769.0		
6	May-97	1500.0		
7	Nov-97	660.0		
8	May-98	549.0		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	498.0	-0.60	35	Nov-11	4.5	751.0	0.15
10	Apr-99	4.5	523.0	-0.53	36	Jun-12	4.5	714.0	0.04
11	Nov-99	4.5	405.0	-0.87	37	Dec-12	4.5	714.0	0.04
12	Apr-00	4.5	770.0	0.20	38	Jun-13	4.5	742.0	0.12
13	Dec-00	4.5	610.0	-0.27	39	Nov-13	4.5	726.0	0.07
14	May-01	4.5	890.0	0.56	40	Jun-14	4.5	717.0	0.05
15	Oct-01	4.5	1830.0	3.32	41	Jun-15	4.5	621.0	-0.24
16	May-02	4.5	1000.0	0.88	42	Jun-16	4.5	730.0	0.08
17	Nov-02	4.5	490.0	-0.62	43	Jun-17	4.5	691.0	-0.03
18	Jun-03	4.5	530.0	-0.51	44	Jun-18	4.5	679.0	-0.07
19	Nov-03	4.5	630.0	-0.21	45	Nov-18	4.5	657.0	-0.13
20	Jun-04	4.5	570.0	-0.39	46	Jun-19	4.5	501.0	-0.59
21	Dec-04	4.5	550.0	-0.45	47	Jun-20	4.5	590.0	-0.33
22	Jun-05	4.5	620.0	-0.24					
23	Dec-05	4.5	642.0	-0.18					
24	Jun-06	4.5	504.1	-0.58					
25	Nov-06	4.5	677.0	-0.07					
26	Jun-07	4.5	644.0	-0.17					
27	Nov-07	4.5	783.0	0.24					
28	Jun-08	4.5	920.0	0.64					
29	Nov-08	4.5	806.0	0.31					
30	Jun-09	4.5	924.0	0.66					
31	Nov-09	4.5	835.0	0.39					
32	Jun-10	4.5	841.0	0.41					
33	Nov-10	4.5	779.0	0.23					
34	Jun-11	4.5	742.0	0.12					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean



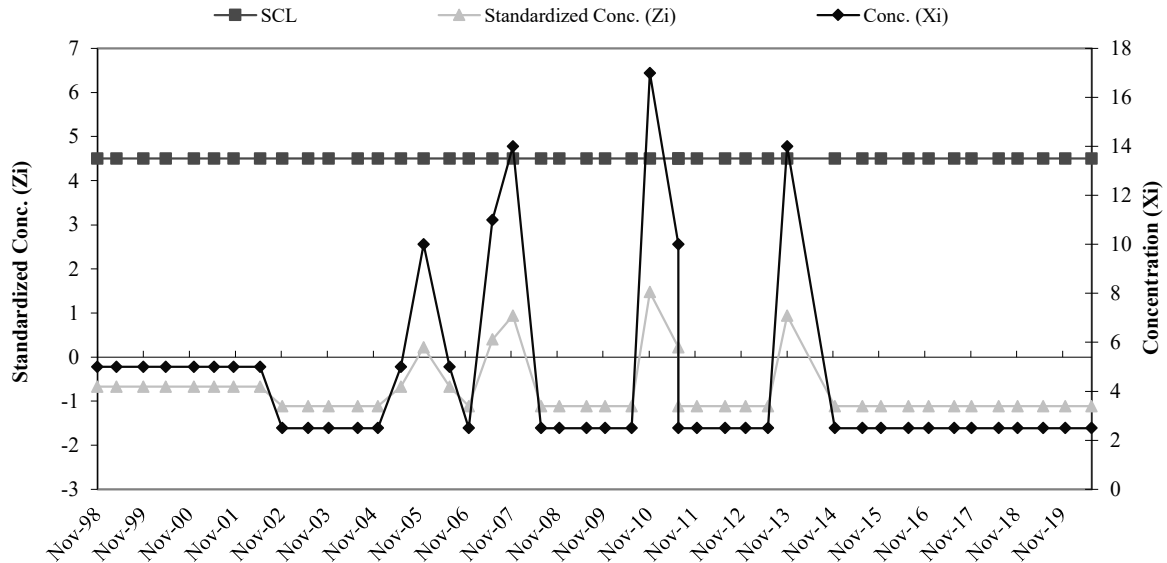
**COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART**

B-7 Cr

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	8.75	5.60
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	May-98	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	5	-0.67	36	Nov-11	4.5	2.5	-1.12
10	Apr-99	4.5	5	-0.67	37	Jun-12	4.5	2.5	-1.12
11	Nov-99	4.5	5	-0.67	38	Dec-12	4.5	2.5	-1.12
12	Apr-00	4.5	5	-0.67	39	Jun-13	4.5	2.5	-1.12
13	Dec-00	4.5	5	-0.67	40	Nov-13	4.5	14	0.94
14	May-01	4.5	5	-0.67	41	Nov-14	4.5	2.5	-1.12
15	Oct-01	4.5	5	-0.67	42	Jun-15	4.5	2.5	-1.12
16	May-02	4.5	5	-0.67	43	Nov-15	4.5	2.5	-1.12
17	Nov-02	4.5	2.5	-1.12	44	Jun-16	4.5	2.5	-1.12
18	Jun-03	4.5	2.5	-1.12	45	Nov-16	4.5	2.5	-1.12
19	Nov-03	4.5	2.5	-1.12	46	Jun-17	4.5	2.5	-1.12
20	Jun-04	4.5	2.5	-1.12	47	Nov-17	4.5	2.5	-1.12
21	Dec-04	4.5	2.5	-1.12	48	Jun-18	4.5	2.5	-1.12
22	Jun-05	4.5	5	-0.67	49	Nov-18	4.5	2.5	-1.12
23	Dec-05	4.5	10	0.22	50	May-19	4.5	2.5	-1.12
24	Jun-06	4.5	5	-0.67	51	Nov-19	4.5	2.5	-1.12
25	Nov-06	4.5	2.5	-1.12	52	Jun-20	4.5	2.5	-1.12
26	Jun-07	4.5	11	0.40					
27	Nov-07	4.5	14	0.94					
28	Nov-08	4.5	2.5	-1.12					
29	Nov-08	4.5	2.5	-1.12					
30	Jun-09	4.5	2.5	-1.12					
31	Nov-09	4.5	2.5	-1.12					
32	Jun-10	4.5	2.5	-1.12					
33	Nov-10	4.5	17	1.47					
34	Jun-11	4.5	10	0.22					
35	Jun-11	4.5	2.5	-1.12					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean



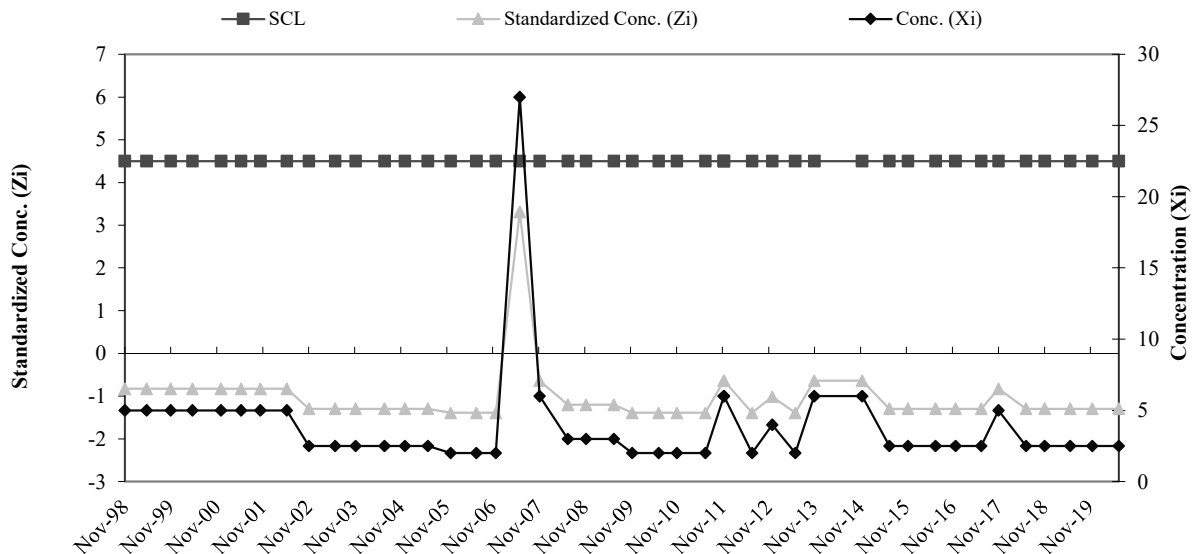
**COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART**

B-7 Cu

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	9.40	5.32
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	May-97	10		
8	May-98	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	5	-0.83	35	Nov-11	4.5	6	-0.64
10	Apr-99	4.5	5	-0.83	36	Jun-12	4.5	2	-1.39
11	Nov-99	4.5	5	-0.83	37	Dec-12	4.5	4	-1.02
12	Apr-00	4.5	5	-0.83	38	Jun-13	4.5	2	-1.39
13	Dec-00	4.5	5	-0.83	39	Nov-13	4.5	6	-0.64
14	May-01	4.5	5	-0.83	40	Nov-14	4.5	6	-0.64
15	Oct-01	4.5	5	-0.83	41	Jun-15	4.5	2.5	-1.30
16	May-02	4.5	5	-0.83	42	Nov-15	4.5	2.5	-1.30
17	Nov-02	4.5	2.5	-1.30	43	Jun-16	4.5	2.5	-1.30
18	Jun-03	4.5	2.5	-1.30	44	Nov-16	4.5	2.5	-1.30
19	Nov-03	4.5	2.5	-1.30	45	Jun-17	4.5	2.5	-1.30
20	Jun-04	4.5	2.5	-1.30	46	Nov-17	4.5	5	-0.83
21	Dec-04	4.5	2.5	-1.30	47	Jun-18	4.5	2.5	-1.30
22	Jun-05	4.5	2.5	-1.30	48	Nov-18	4.5	2.5	-1.30
23	Dec-05	4.5	2	-1.39	49	May-19	4.5	2.5	-1.30
24	Jun-06	4.5	2	-1.39	50	Nov-19	4.5	2.5	-1.30
25	Nov-06	4.5	2	-1.39	51	Jun-20	4.5	2.5	-1.30
26	Jun-07	4.5	27	3.31					
27	Nov-07	4.5	6	-0.64					
28	Jun-08	4.5	3	-1.20					
29	Nov-08	4.5	3	-1.20					
30	Jun-09	4.5	3	-1.20					
31	Nov-09	4.5	2	-1.39					
32	Jun-10	4.5	2	-1.39					
33	Nov-10	4.5	2	-1.39					
34	Jun-11	4.5	2	-1.39					
35	Nov-11	4.5	6	-0.64					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean



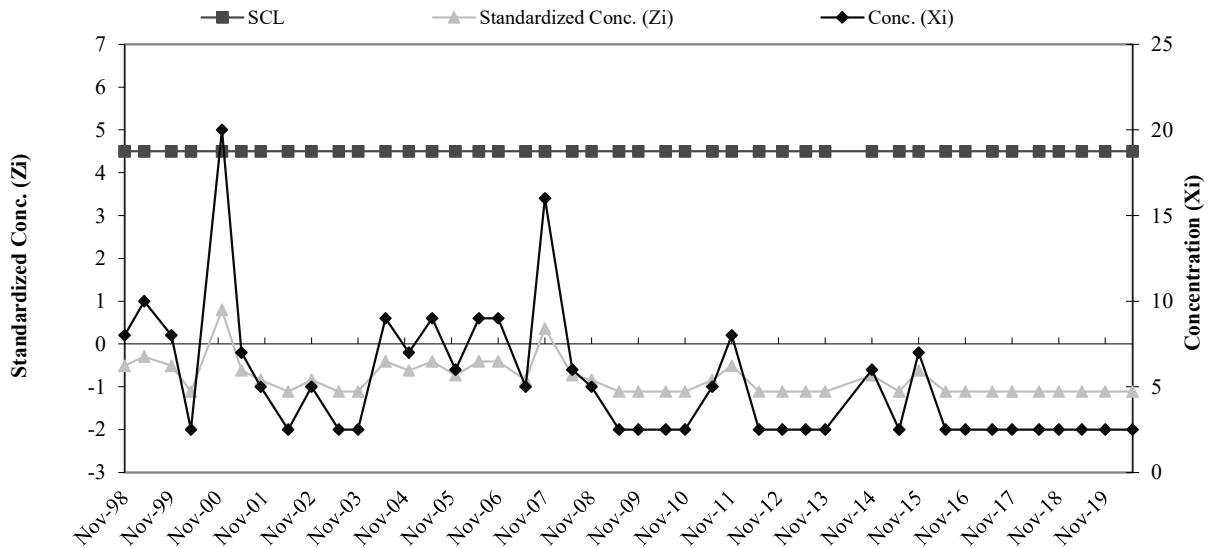
**COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART**

B-7 Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	15	12.70	9.19
2	Aug-95	20		
3	Feb-96	20		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	20		
7	May-97	14		
8	May-98	2.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	8	-0.51	35	Nov-11	4.5	8	-0.51
10	Apr-99	4.5	10	-0.29	36	Jun-12	4.5	2.5	-1.11
11	Nov-99	4.5	8	-0.51	37	Dec-12	4.5	2.5	-1.11
12	Apr-00	4.5	2.5	-1.11	38	Jun-13	4.5	2.5	-1.11
13	Dec-00	4.5	20	0.79	39	Nov-13	4.5	2.5	-1.11
14	May-01	4.5	7	-0.62	40	Nov-14	4.5	6	-0.73
15	Oct-01	4.5	5	-0.84	41	Jun-15	4.5	2.5	-1.11
16	May-02	4.5	2.5	-1.11	42	Nov-15	4.5	7	-0.62
17	Nov-02	4.5	5	-0.84	43	Jun-16	4.5	2.5	-1.11
18	Jun-03	4.5	2.5	-1.11	44	Nov-16	4.5	2.5	-1.11
19	Nov-03	4.5	2.5	-1.11	45	Jun-17	4.5	2.5	-1.11
20	Jun-04	4.5	9	-0.40	46	Nov-17	4.5	2.5	-1.11
21	Dec-04	4.5	7	-0.62	47	Jun-18	4.5	2.5	-1.11
22	Jun-05	4.5	9	-0.40	48	Nov-18	4.5	2.5	-1.11
23	Dec-05	4.5	6	-0.73	49	May-19	4.5	2.5	-1.11
24	Jun-06	4.5	9	-0.40	50	Nov-19	4.5	2.5	-1.11
25	Nov-06	4.5	9	-0.40	51	Jun-20	4.5	2.5	-1.11
26	Jun-07	4.5	5	-0.84					
27	Nov-07	4.5	16	0.36					
28	Jun-08	4.5	6	-0.73					
29	Nov-08	4.5	5	-0.84					
30	Jun-09	4.5	2.5	-1.11					
31	Nov-09	4.5	2.5	-1.11					
32	Jun-10	4.5	2.5	-1.11					
33	Nov-10	4.5	2.5	-1.11					
34	Jun-11	4.5	5	-0.84					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean



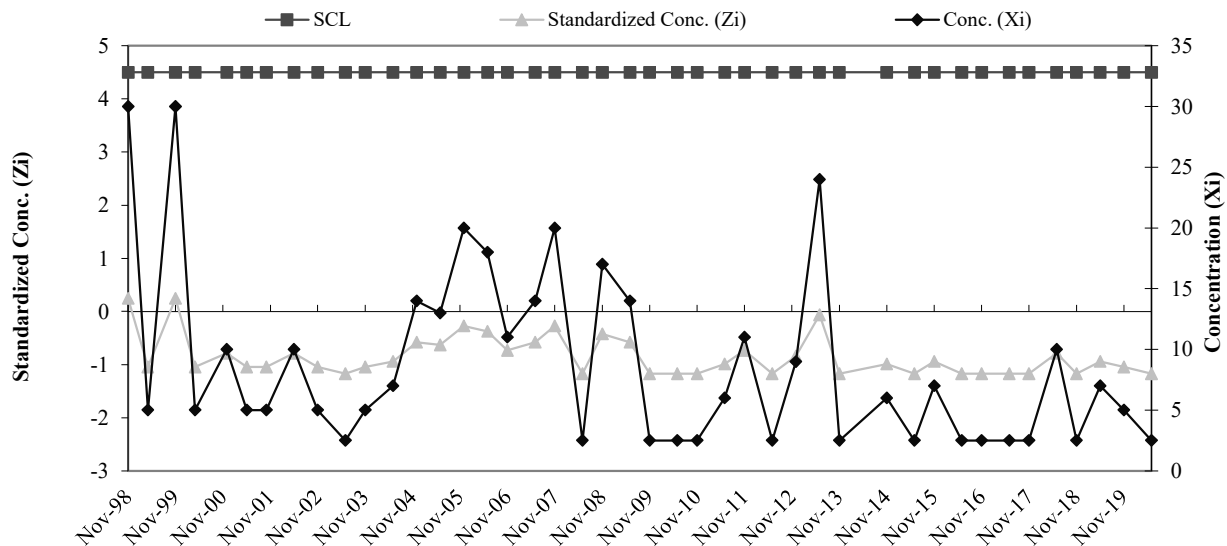
**COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART**

B-7 Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	25.25	19.40
2	Aug-95	10		
3	Feb-96	22		
4	Jun-96	20		
5	Aug-96	60		
6	Nov-96	50		
7	May-97	10		
8	May-98	20		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	30	0.24	35	Nov-11	4.5	11	-0.73
10	Apr-99	4.5	5	-1.04	36	Jun-12	4.5	2.5	-1.17
11	Nov-99	4.5	30	0.24	37	Dec-12	4.5	9	-0.84
12	Apr-00	4.5	5	-1.04	38	Jun-13	4.5	24	-0.06
13	Dec-00	4.5	10	-0.79	39	Nov-13	4.5	2.5	-1.17
14	May-01	4.5	5	-1.04	40	Nov-14	4.5	6	-0.99
15	Oct-01	4.5	5	-1.04	41	Jun-15	4.5	2.5	-1.17
16	May-02	4.5	10	-0.79	42	Nov-15	4.5	7	-0.94
17	Nov-02	4.5	5	-1.04	43	Jun-16	4.5	2.5	-1.17
18	Jun-03	4.5	2.5	-1.17	44	Nov-16	4.5	2.5	-1.17
19	Nov-03	4.5	5	-1.04	45	Jun-17	4.5	2.5	-1.17
20	Jun-04	4.5	7	-0.94	46	Nov-17	4.5	2.5	-1.17
21	Dec-04	4.5	14	-0.58	47	Jun-18	4.5	10	-0.79
22	Jun-05	4.5	13	-0.63	48	Nov-18	4.5	2.5	-1.17
23	Dec-05	4.5	20	-0.27	49	May-19	4.5	7	-0.94
24	Jun-06	4.5	18	-0.37	50	Nov-19	4.5	5	-1.04
25	Nov-06	4.5	11	-0.73	51	Jun-20	4.5	2.5	-1.17
26	Jun-07	4.5	14	-0.58			4.5		
27	Nov-07	4.5	20	-0.27					
28	Jun-08	4.5	2.5	-1.17					
29	Nov-08	4.5	17	-0.43					
30	Jun-09	4.5	14	-0.58					
31	Nov-09	4.5	2.5	-1.17					
32	Jun-10	4.5	2.5	-1.17					
33	Nov-10	4.5	2.5	-1.17					
34	Jun-11	4.5	6	-0.99					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

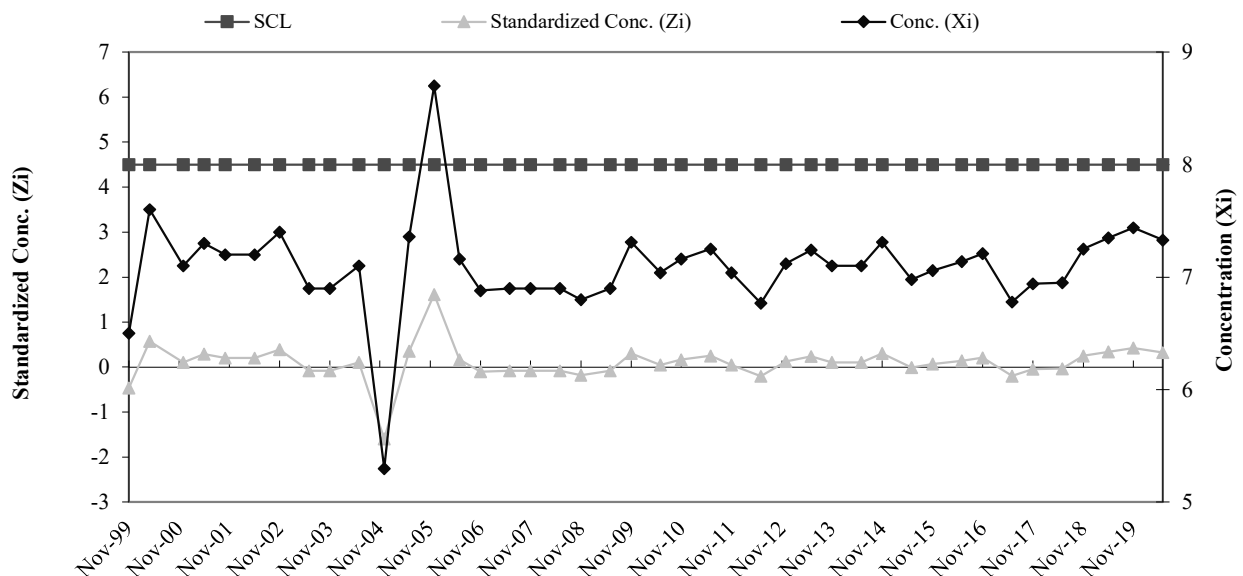


**COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-7 pH**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	7.5	6.99	1.06
2	Jun-96	6.9		
3	Aug-96	7.6		
4	Nov-96	8.0		
5	May-97	7.2		
6	May-98	6.6		
7	Nov-98	4.6		
8	Apr-99	7.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-99	4.5	6.5	-0.46	33	Nov-11	4.5	7.0	0.05
10	Apr-00	4.5	7.6	0.58	34	Jun-12	4.5	6.8	-0.21
11	Dec-00	4.5	7.1	0.11	35	Dec-12	4.5	7.1	0.13
12	May-01	4.5	7.3	0.30	36	Jun-13	4.5	7.2	0.24
13	Oct-01	4.5	7.2	0.20	37	Nov-13	4.5	7.1	0.11
14	May-02	4.5	7.2	0.20	38	Jun-14	4.5	7.1	0.11
15	Nov-02	4.5	7.4	0.39	39	Nov-14	4.5	7.3	0.30
16	Jun-03	4.5	6.9	-0.08	40	Jun-15	4.5	7.0	-0.01
17	Nov-03	4.5	6.9	-0.08	41	Nov-15	4.5	7.1	0.07
18	Jun-04	4.5	7.1	0.11	42	Jun-16	4.5	7.1	0.14
19	Dec-04	4.5	5.3	-1.60	43	Nov-16	4.5	7.2	0.21
20	Jun-05	4.5	7.4	0.35	44	Jun-17	4.5	6.8	-0.20
21	Dec-05	4.5	8.7	1.62	45	Nov-17	4.5	6.9	-0.04
22	Jun-06	4.5	7.2	0.16	46	Jun-18	4.5	7.0	-0.04
23	Nov-06	4.5	6.9	-0.10	47	Nov-18	4.5	7.3	0.25
24	Jun-07	4.5	6.9	-0.08	48	May-19	4.5	7.4	0.34
25	Nov-07	4.5	6.9	-0.08	49	Nov-19	4.5	7.4	0.43
26	Jun-08	4.5	6.9	-0.08	50	Jun-20	4.5	7.3	0.32
27	Nov-08	4.5	6.8	-0.18					
28	Jun-09	4.5	6.9	-0.08					
29	Nov-09	4.5	7.3	0.30					
30	Jun-10	4.5	7.0	0.05					
31	Nov-10	4.5	7.2	0.16					
32	Jun-11	4.5	7.3	0.25					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

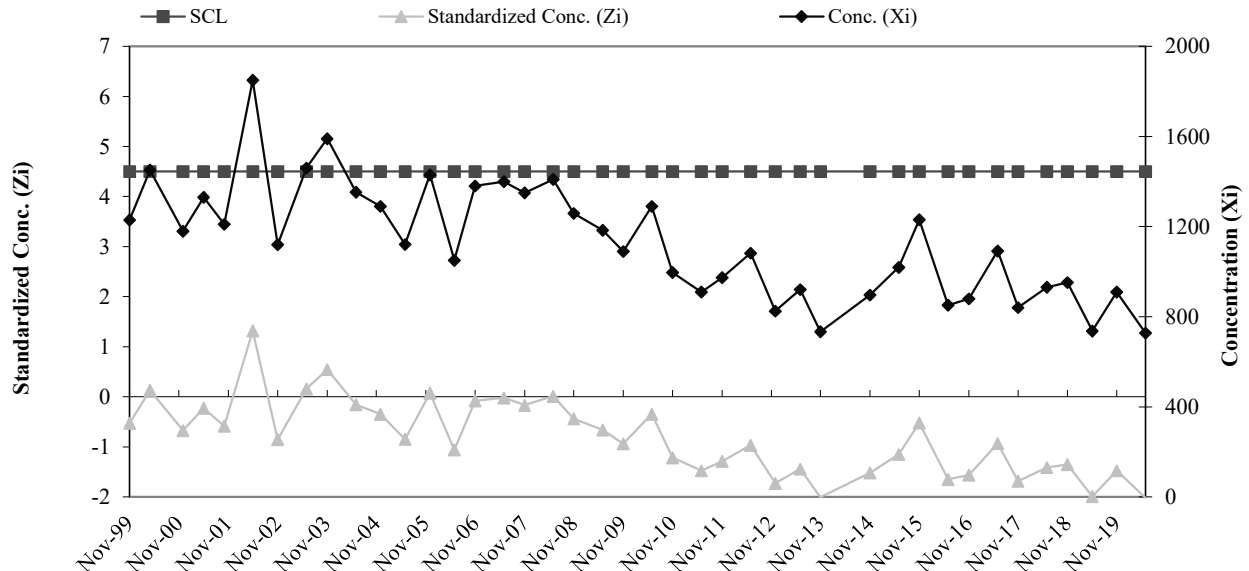


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-7 SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	1509.0	1,405.88	336.33
2	Jun-96	1508.0		
3	Aug-96	1567.0		
4	Nov-96	1960.0		
5	May-97	780.0		
6	May-98	1270.0		
7	Nov-98	1240.0		
8	Apr-99	1413.0		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-99	4.5	1230.0	-0.52	33	Nov-11	4.5	974.0	-1.28
10	Apr-00	4.5	1450.0	0.13	34	Jun-12	4.5	1082.0	-0.96
11	Dec-00	4.5	1180.0	-0.67	35	Dec-12	4.5	825.0	-1.73
12	May-01	4.5	1330.0	-0.23	36	Jun-13	4.5	921.0	-1.44
13	Oct-01	4.5	1210.0	-0.58	37	Nov-13	4.5	733.0	-2.00
14	May-02	4.5	1850.0	1.32	38	Nov-14	4.5	896.0	-1.52
15	Nov-02	4.5	1120.0	-0.85	39	Jun-15	4.5	1019.0	-1.15
16	Jun-03	4.5	1460.0	0.16	40	Nov-15	4.5	1231.0	-0.52
17	Nov-03	4.5	1590.0	0.55	41	Jun-16	4.5	852.0	-1.65
18	Jun-04	4.5	1353.0	-0.16	42	Nov-16	4.5	880.0	-1.56
19	Dec-04	4.5	1290.0	-0.34	43	Jun-17	4.5	1092.0	-0.93
20	Jun-05	4.5	1121.0	-0.85	44	Nov-17	4.5	841.0	-1.68
21	Dec-05	4.5	1430.0	0.07	45	Jun-18	4.5	932.0	-1.41
22	Jun-06	4.5	1051.0	-1.06	46	Nov-18	4.5	952.0	-1.35
23	Nov-06	4.5	1380.0	-0.08	47	May-19	4.5	737.0	-1.99
24	Jun-07	4.5	1400.0	-0.02	48	Nov-19	4.5	910.0	-1.47
25	Nov-07	4.5	1350.0	-0.17	49	Jun-20	4.5	728.0	-2.02
26	Jun-08	4.5	1410.0	0.01			4.5		
27	Nov-08	4.5	1258.0	-0.44					
28	Jun-09	4.5	1184.0	-0.66					
29	Nov-09	4.5	1090.0	-0.94					
30	Jun-10	4.5	1290.0	-0.34					
31	Nov-10	4.5	997.0	-1.22					
32	Jun-11	4.5	910.0	-1.47					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

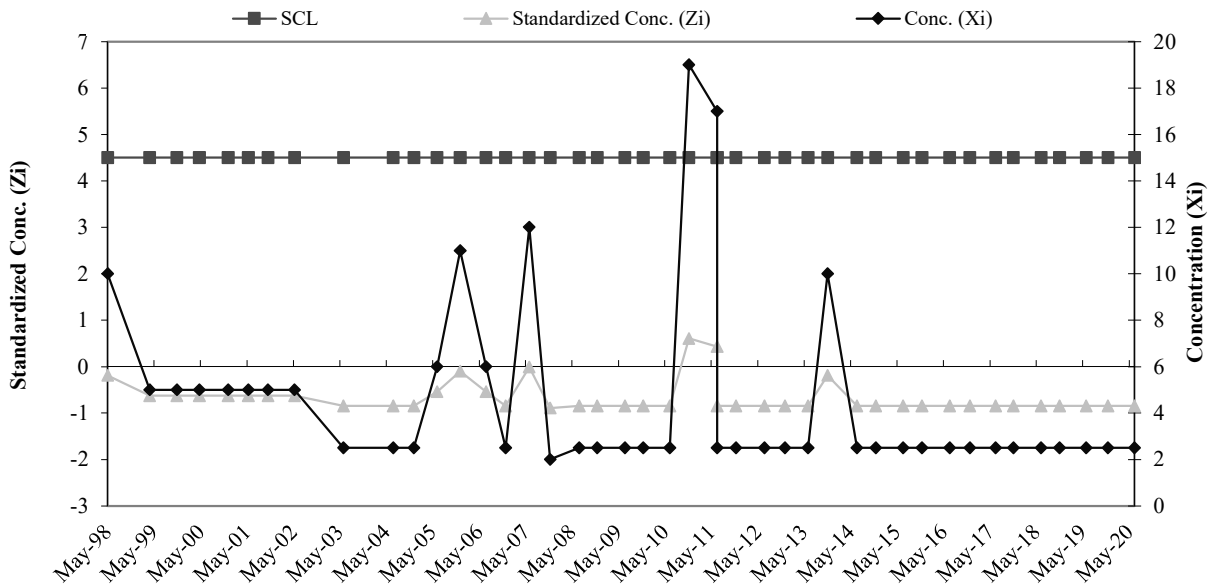


**COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-9 Cr**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	12.12	11.34
2	Aug-95	37		
3	Feb-96	10		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	10	-0.19	34	Nov-11	4.5	2.5	-0.85
10	Apr-99	4.5	5	-0.63	35	Jun-12	4.5	2.5	-0.85
11	Nov-99	4.5	5	-0.63	36	Dec-12	4.5	2.5	-0.85
12	Apr-00	4.5	5	-0.63	37	Jun-13	4.5	2.5	-0.85
13	Dec-00	4.5	5	-0.63	38	Nov-13	4.5	10	-0.19
14	May-01	4.5	5	-0.63	39	Jun-14	4.5	2.5	-0.85
15	Oct-01	4.5	5	-0.63	40	Nov-14	4.5	2.5	-0.85
16	May-02	4.5	5	-0.63	41	Jun-15	4.5	2.5	-0.85
17	Jun-03	4.5	2.5	-0.85	42	Nov-15	4.5	2.5	-0.85
18	Jun-04	4.5	2.5	-0.85	43	Jun-16	4.5	2.5	-0.85
19	Dec-04	4.5	2.5	-0.85	44	Nov-16	4.5	2.5	-0.85
20	Jun-05	4.5	6	-0.54	45	Jun-17	4.5	2.5	-0.85
21	Dec-05	4.5	11	-0.10	46	Nov-17	4.5	2.5	-0.85
22	Jun-06	4.5	6	-0.54	47	Jun-18	4.5	2.5	-0.85
23	Nov-06	4.5	2.5	-0.85	48	Nov-18	4.5	2.5	-0.85
24	Jun-07	4.5	12	-0.01	49	Jun-19	4.5	2.5	-0.85
25	Nov-07	4.5	2	-0.89	50	Nov-19	4.5	2.5	-0.85
26	Jul-08	4.5	2.5	-0.85	51	Jun-20	4.5	2.5	-0.85
27	Nov-08	4.5	2.5	-0.85					
28	Jun-09	4.5	2.5	-0.85					
29	Nov-09	4.5	2.5	-0.85					
30	Jun-10	4.5	2.5	-0.85					
31	Nov-10	4.5	19	0.61					
32	Jun-11	4.5	17	0.43					
33	Jun-11	4.5	2.5	-0.85					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

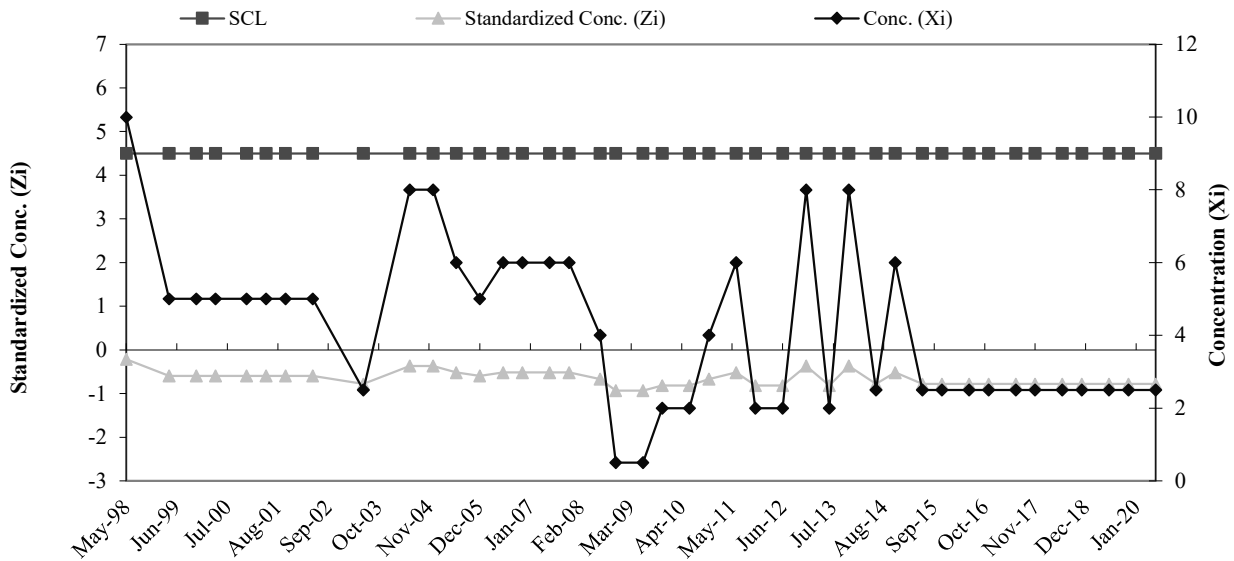


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-9 Cu

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	12.87	13.26
2	Aug-95	43		
3	Feb-96	10		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	10	-0.22	33	Nov-11	4.5	2	-0.82
10	Apr-99	4.5	5	-0.59	34	Jun-12	4.5	2	-0.82
11	Nov-99	4.5	5	-0.59	35	Dec-12	4.5	8	-0.37
12	Apr-00	4.5	5	-0.59	36	Jun-13	4.5	2	-0.82
13	Dec-00	4.5	5	-0.59	37	Nov-13	4.5	8	-0.37
14	May-01	4.5	5	-0.59	38	Jun-14	4.5	2.5	-0.78
15	Oct-01	4.5	5	-0.59	39	Nov-14	4.5	6	-0.52
16	May-02	4.5	5	-0.59	40	Jun-15	4.5	2.5	-0.78
17	Jun-03	4.5	2.5	-0.78	41	Nov-15	4.5	2.5	-0.78
18	Jun-04	4.5	8	-0.37	42	Jun-16	4.5	2.5	-0.78
19	Dec-04	4.5	8	-0.37	43	Nov-16	4.5	2.5	-0.78
20	Jun-05	4.5	6	-0.52	44	Jun-17	4.5	2.5	-0.78
21	Dec-05	4.5	5	-0.59	45	Nov-17	4.5	2.5	-0.78
22	Jun-06	4.5	6	-0.52	46	Jun-18	4.5	2.5	-0.78
23	Nov-06	4.5	6	-0.52	47	Nov-18	4.5	2.5	-0.78
24	Jun-07	4.5	6	-0.52	48	Jun-19	4.5	2.5	-0.78
25	Nov-07	4.5	6	-0.52	49	Nov-19	4.5	2.5	-0.78
26	Jul-08	4.5	4	-0.67	50	Jun-20	4.5	2.5	-0.78
27	Nov-08	4.5	0.5	-0.93					
28	Jun-09	4.5	0.5	-0.93					
29	Nov-09	4.5	2	-0.82					
30	Jun-10	4.5	2	-0.82					
31	Nov-10	4.5	4	-0.67					
32	Jun-11	4.5	6	-0.52					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean



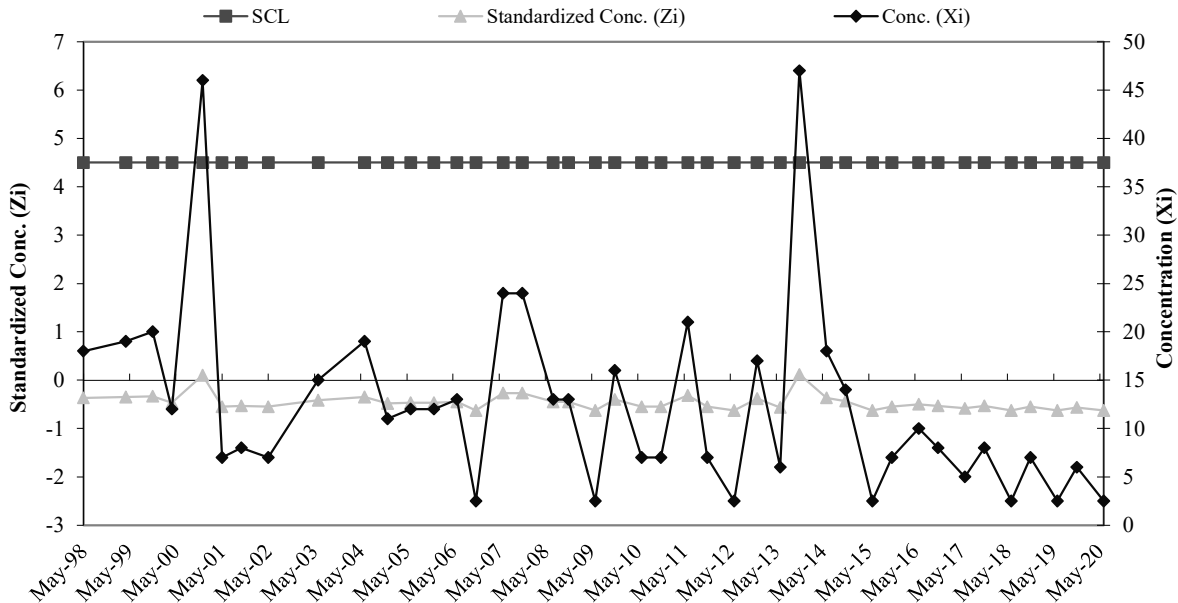
**COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART**

B-9 Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	15	39.83	59.86
2	Aug-95	20		
3	Feb-96	20		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	May-97	51		
8	Nov-97	183		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	18	-0.36	33	Nov-11	4.5	7	-0.55
10	Apr-99	4.5	19	-0.35	34	Jun-12	4.5	2.5	-0.62
11	Nov-99	4.5	20	-0.33	35	Dec-12	4.5	17	-0.38
12	Apr-00	4.5	12	-0.46	36	Jun-13	4.5	6	-0.57
13	Dec-00	4.5	46	0.10	37	Nov-13	4.5	47	0.12
14	May-01	4.5	7	-0.55	38	Jun-14	4.5	18	-0.36
15	Oct-01	4.5	8	-0.53	39	Nov-14	4.5	14	-0.43
16	May-02	4.5	7	-0.55	40	Jun-15	4.5	2.5	-0.62
17	Jun-03	4.5	15	-0.41	41	Nov-15	4.5	7	-0.55
18	Jun-04	4.5	19	-0.35	42	Jun-16	4.5	10	-0.50
19	Dec-04	4.5	11	-0.48	43	Nov-16	4.5	8	-0.53
20	Jun-05	4.5	12	-0.46	44	Jun-17	4.5	5	-0.58
21	Dec-05	4.5	12	-0.46	45	Nov-17	4.5	8	-0.53
22	Jun-06	4.5	13	-0.45	46	Jun-18	4.5	2.5	-0.62
23	Nov-06	4.5	2.5	-0.62	47	Nov-18	4.5	7	-0.55
24	Jun-07	4.5	24	-0.26	48	Jun-19	4.5	2.5	-0.62
25	Nov-07	4.5	24	-0.26	49	Nov-19	4.5	6	-0.57
26	Jul-08	4.5	13	-0.45	50	Jun-20	4.5	2.5	-0.62
27	Nov-08	4.5	13	-0.45					
28	Jun-09	4.5	2.5	-0.62					
29	Nov-09	4.5	16	-0.40					
30	Jun-10	4.5	7	-0.55					
31	Nov-10	4.5	7	-0.55					
32	Jun-11	4.5	21	-0.31					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

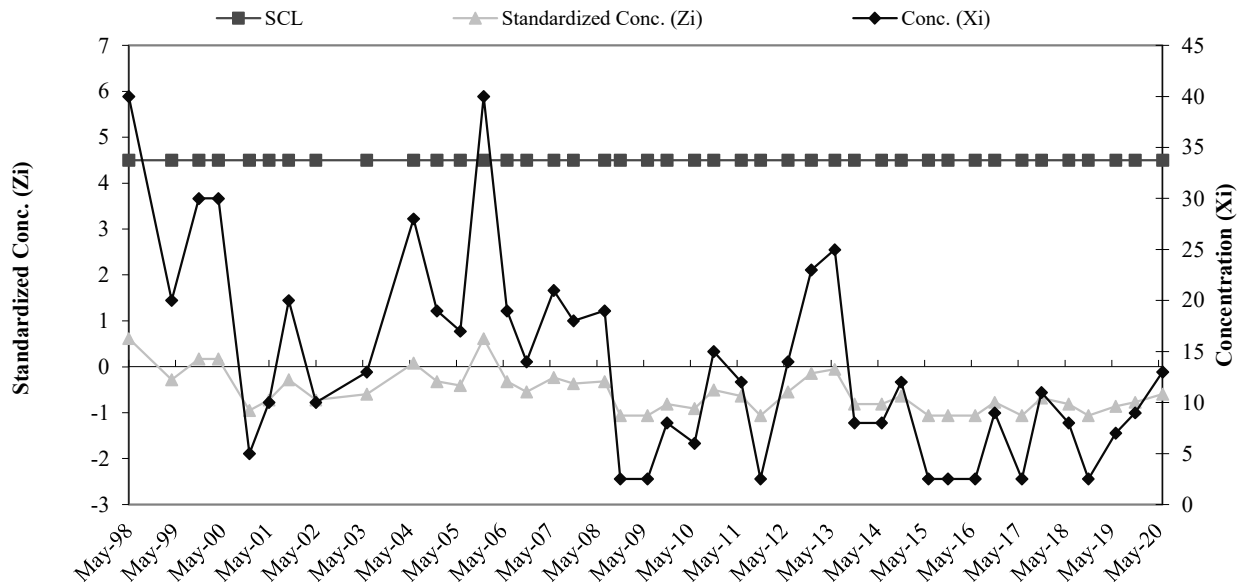


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-9 Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	26.23	22.36
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10		
5	Aug-96	70		
6	Nov-96	40		
7	May-97	20		
8	Nov-97	40		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	40	0.62	33	Nov-11	4.5	2.5	-1.06
10	Apr-99	4.5	20	-0.28	34	Jun-12	4.5	14	-0.55
11	Nov-99	4.5	30	0.17	35	Dec-12	4.5	23	-0.14
12	Apr-00	4.5	30	0.17	36	Jun-13	4.5	25	-0.06
13	Dec-00	4.5	5	-0.95	37	Nov-13	4.5	8	-0.82
14	May-01	4.5	10	-0.73	38	Jun-14	4.5	8	-0.82
15	Oct-01	4.5	20	-0.28	39	Nov-14	4.5	12	-0.64
16	May-02	4.5	10	-0.73	40	Jun-15	4.5	2.5	-1.06
17	Jun-03	4.5	13	-0.59	41	Nov-15	4.5	2.5	-1.06
18	Jun-04	4.5	28	0.08	42	Jun-16	4.5	2.5	-1.06
19	Dec-04	4.5	19	-0.32	43	Nov-16	4.5	9	-0.77
20	Jun-05	4.5	17	-0.41	44	Jun-17	4.5	2.5	-1.06
21	Dec-05	4.5	40	0.62	45	Nov-17	4.5	11	-0.68
22	Jun-06	4.5	19	-0.32	46	Jun-18	4.5	8	-0.82
23	Nov-06	4.5	14	-0.55	47	Nov-18	4.5	2.5	-1.06
24	Jun-07	4.5	21	-0.23	48	Jun-19	4.5	7	-0.86
25	Nov-07	4.5	18	-0.37	49	Nov-19	4.5	9	-0.77
26	Jul-08	4.5	19	-0.32	50	Jun-20	4.5	13	-0.59
27	Nov-08	4.5	2.5	-1.06					
28	Jun-09	4.5	2.5	-1.06					
29	Nov-09	4.5	8	-0.82					
30	Jun-10	4.5	6	-0.90					
31	Nov-10	4.5	15	-0.50					
32	Jun-11	4.5	12	-0.64					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

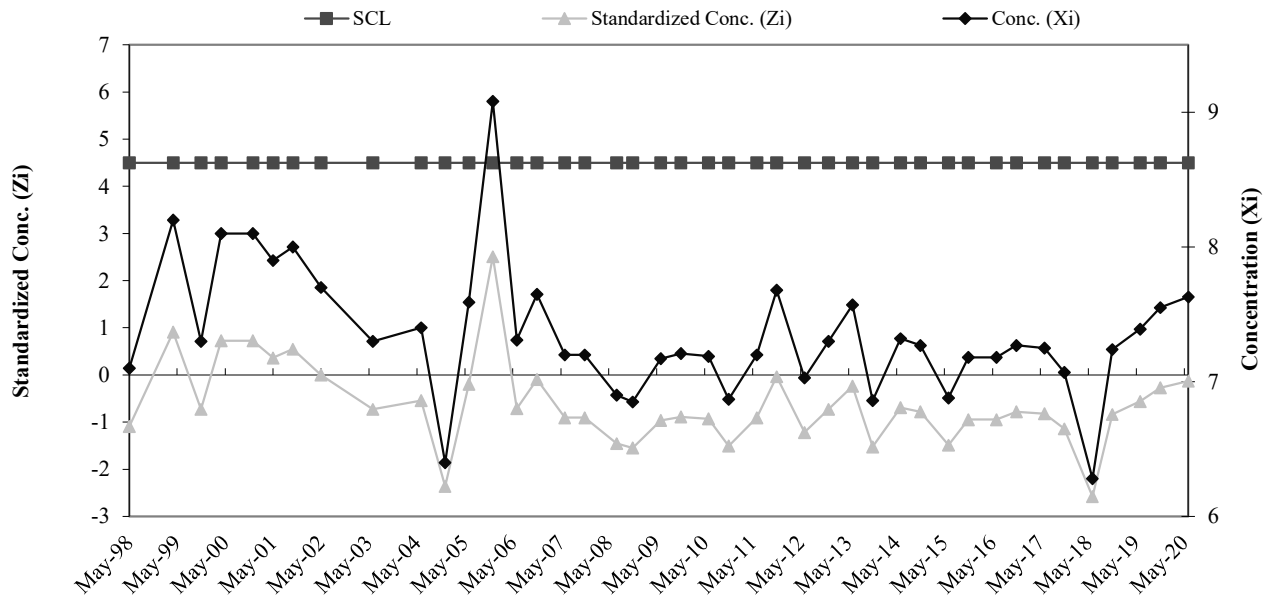


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-9 pH

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	7.7	7.20	0.55
2	Aug-95	7.7		
3	Feb-96	7.3		
4	Jun-96	6.8		
5	Aug-96	8.0		
6	Nov-96	6.8		
7	May-97	6.8		
8	Nov-97	6.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	6.6	-1.09	33	Nov-11	4.5	7.2	-0.04
10	Apr-99	4.5	7.7	0.91	34	Jun-12	4.5	6.5	-1.22
11	Nov-99	4.5	6.8	-0.73	35	Dec-12	4.5	6.8	-0.73
12	Apr-00	4.5	7.6	0.73	36	Jun-13	4.5	7.1	-0.24
13	Dec-00	4.5	7.6	0.73	37	Nov-13	4.5	6.4	-1.53
14	May-01	4.5	7.4	0.36	38	Jun-14	4.5	6.8	-0.69
15	Oct-01	4.5	7.5	0.55	39	Nov-14	4.5	6.8	-0.78
16	May-02	4.5	7.2	0.00	40	Jun-15	4.5	6.4	-1.49
17	Jun-03	4.5	6.8	-0.73	41	Nov-15	4.5	6.7	-0.94
18	Jun-04	4.5	6.9	-0.55	42	Jun-16	4.5	6.7	-0.94
19	Dec-04	4.5	5.9	-2.36	43	Nov-16	4.5	6.8	-0.78
20	Jun-05	4.5	7.1	-0.20	44	Jun-17	4.5	6.8	-0.82
21	Dec-05	4.5	8.6	2.51	45	Nov-17	4.5	6.6	-1.14
22	Jun-06	4.5	6.8	-0.71	46	Jun-18	4.5	5.8	-2.58
23	Nov-06	4.5	7.2	-0.09	47	Nov-18	4.5	6.7	-0.84
24	Jun-07	4.5	6.7	-0.91	48	Jun-19	4.5	6.9	-0.56
25	Nov-07	4.5	6.7	-0.91	49	Nov-19	4.5	7.1	-0.27
26	Jul-08	4.5	6.4	-1.45	50	Jun-20	4.5	7.1	-0.13
27	Nov-08	4.5	6.4	-1.54					
28	Jun-09	4.5	6.7	-0.96					
29	Nov-09	4.5	6.7	-0.89					
30	Jun-10	4.5	6.7	-0.93					
31	Nov-10	4.5	6.4	-1.51					
32	Jun-11	4.5	6.7	-0.91					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

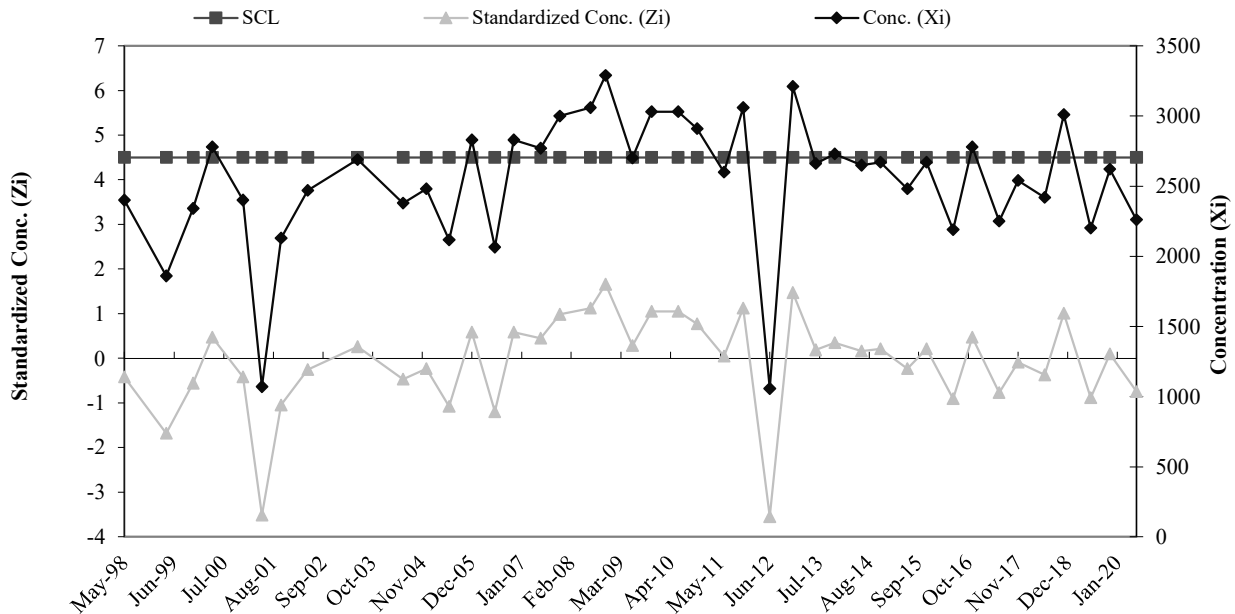


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-9 SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	2400	2,578.63	428.85
2	Aug-95	1829		
3	Feb-96	2860		
4	Jun-96	2550		
5	Aug-96	2310		
6	Nov-96	3280		
7	May-97	2600		
8	Nov-97	2800		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	2400	-0.42	33	Nov-11	4.5	3060	1.12
10	Apr-99	4.5	1860	-1.68	34	Jun-12	4.5	1057	-3.55
11	Nov-99	4.5	2340	-0.56	35	Dec-12	4.5	3210	1.47
12	Apr-00	4.5	2780	0.47	36	Jun-13	4.5	2660	0.19
13	Dec-00	4.5	2400	-0.42	37	Nov-13	4.5	2730	0.35
14	May-01	4.5	1070	-3.52	38	Jun-14	4.5	2650	0.17
15	Oct-01	4.5	2130	-1.05	39	Nov-14	4.5	2670	0.21
16	May-02	4.5	2470	-0.25	40	Jun-15	4.5	2480	-0.23
17	Jun-03	4.5	2690	0.26	41	Nov-15	4.5	2670	0.21
18	Jun-04	4.5	2379	-0.47	42	Jun-16	4.5	2190	-0.91
19	Dec-04	4.5	2480	-0.23	43	Nov-16	4.5	2780	0.47
20	Jun-05	4.5	2116	-1.08	44	Jun-17	4.5	2250	-0.77
21	Dec-05	4.5	2830	0.59	45	Nov-17	4.5	2540	-0.09
22	Jun-06	4.5	2065	-1.20	46	Jun-18	4.5	2420	-0.37
23	Nov-06	4.5	2830	0.59	47	Nov-18	4.5	3010	1.01
24	Jun-07	4.5	2770	0.45	48	Jun-19	4.5	2200	-0.88
25	Nov-07	4.5	3000	0.98	49	Nov-19	4.5	2620	0.10
26	Jul-08	4.5	3060	1.12	50	Jun-20	4.5	2260	-0.74
27	Nov-08	4.5	3290	1.66					
28	Jun-09	4.5	2700	0.28					
29	Nov-09	4.5	3030	1.05					
30	Jun-10	4.5	3030	1.05					
31	Nov-10	4.5	2910	0.77					
32	Jun-11	4.5	2600	0.05					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

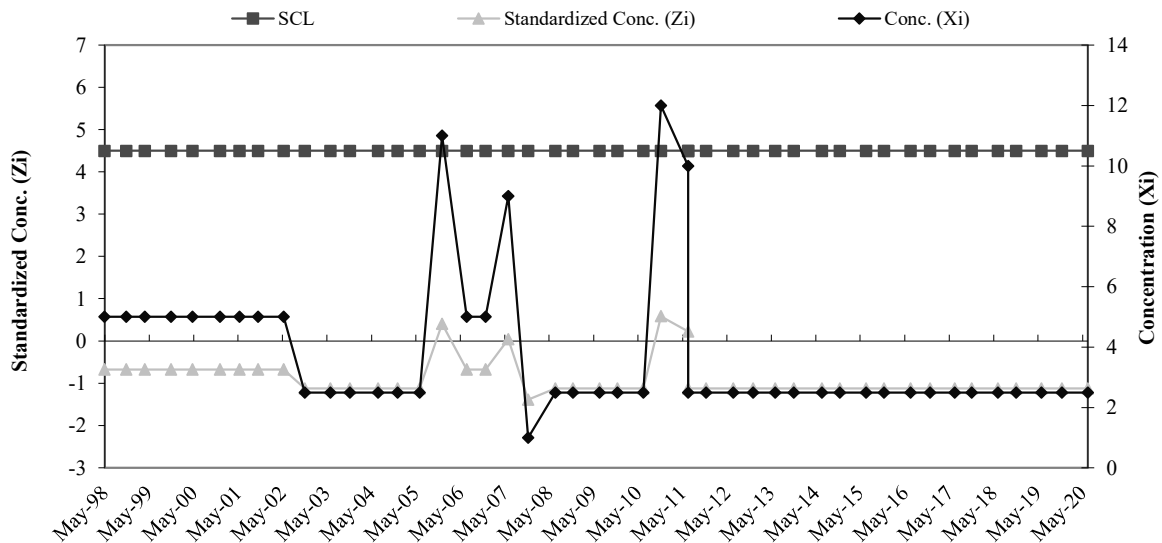


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-18a Cr

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	8.74	5.57
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.67	37	Nov-11	4.5	2.5	-1.12
10	Nov-98	4.5	5	-0.67	38	Jun-12	4.5	2.5	-1.12
11	Apr-99	4.5	5	-0.67	39	Dec-12	4.5	2.5	-1.12
12	Nov-99	4.5	5	-0.67	40	Jun-13	4.5	2.5	-1.12
13	Apr-00	4.5	5	-0.67	41	Nov-13	4.5	2.5	-1.12
14	Dec-00	4.5	5	-0.67	42	Jun-14	4.5	2.5	-1.12
15	May-01	4.5	5	-0.67	43	Nov-14	4.5	2.5	-1.12
16	Oct-01	4.5	5	-0.67	44	Jun-15	4.5	2.5	-1.12
17	May-02	4.5	5	-0.67	45	Nov-15	4.5	2.5	-1.12
18	Nov-02	4.5	2.5	-1.12	46	Jun-16	4.5	2.5	-1.12
19	Jun-03	4.5	2.5	-1.12	47	Nov-16	4.5	2.5	-1.12
20	Nov-03	4.5	2.5	-1.12	48	Jun-17	4.5	2.5	-1.12
21	Jun-04	4.5	2.5	-1.12	49	Nov-17	4.5	2.5	-1.12
22	Dec-04	4.5	2.5	-1.12	50	Jun-18	4.5	2.5	-1.12
23	Jun-05	4.5	2.5	-1.12	51	Nov-18	4.5	2.5	-1.12
24	Dec-05	4.5	11	0.41	52	Jun-19	4.5	2.5	-1.12
25	Jun-06	4.5	5	-0.67	53	Nov-19	4.5	2.5	-1.12
26	Nov-06	4.5	5	-0.67	54	Jun-20	4.5	2.5	-1.12
27	Jun-07	4.5	9	0.05					
28	Nov-07	4.5	1	-1.39					
29	Jun-08	4.5	2.5	-1.12					
30	Nov-08	4.5	2.5	-1.12					
31	Jun-09	4.5	2.5	-1.12					
32	Nov-09	4.5	2.5	-1.12					
33	Jun-10	4.5	2.5	-1.12					
34	Nov-10	4.5	12	0.59					
35	Jun-11	4.5	10	0.23					
36	Jun-11	4.5	2.5	-1.12					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

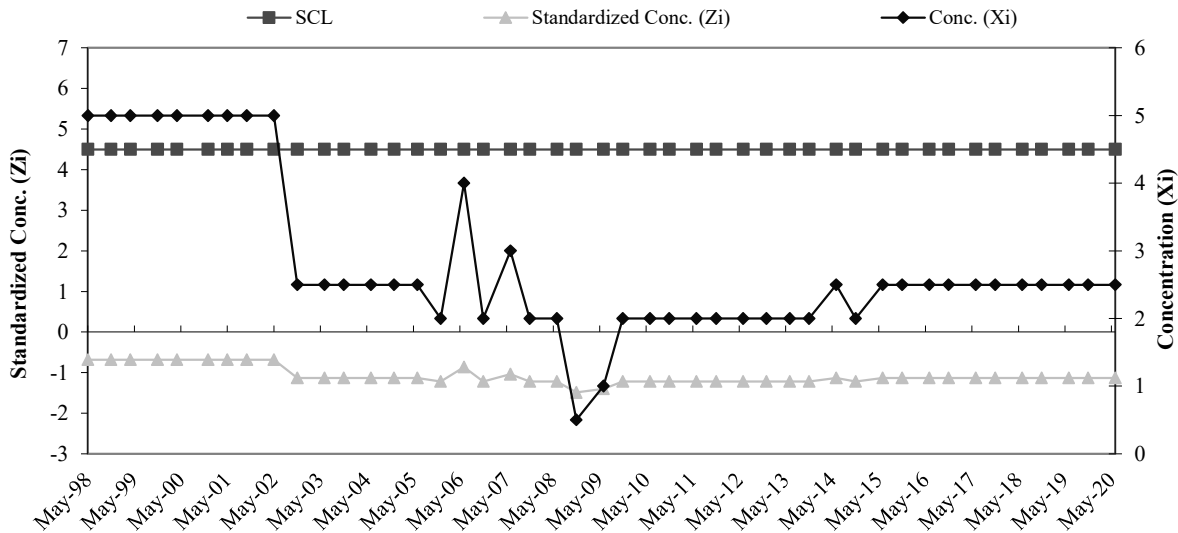


**COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-18a Cu**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	8.78	5.56
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.68	36	Nov-11	4.5	2	-1.22
10	Nov-98	4.5	5	-0.68	37	Jun-12	4.5	2	-1.22
11	Apr-99	4.5	5	-0.68	38	Dec-12	4.5	2	-1.22
12	Nov-99	4.5	5	-0.68	39	Jun-13	4.5	2	-1.22
13	Apr-00	4.5	5	-0.68	40	Nov-13	4.5	2	-1.22
14	Dec-00	4.5	5	-0.68	41	Jun-14	4.5	2.5	-1.13
15	May-01	4.5	5	-0.68	42	Nov-14	4.5	2	-1.22
16	Oct-01	4.5	5	-0.68	43	Jun-15	4.5	2.5	-1.13
17	May-02	4.5	5	-0.68	44	Nov-15	4.5	2.5	-1.13
18	Nov-02	4.5	2.5	-1.13	45	Jun-16	4.5	2.5	-1.13
19	Jun-03	4.5	2.5	-1.13	46	Nov-16	4.5	2.5	-1.13
20	Nov-03	4.5	2.5	-1.13	47	Jun-17	4.5	2.5	-1.13
21	Jun-04	4.5	2.5	-1.13	48	Nov-17	4.5	2.5	-1.13
22	Dec-04	4.5	2.5	-1.13	49	Jun-18	4.5	2.5	-1.13
23	Jun-05	4.5	2.5	-1.13	50	Nov-18	4.5	2.5	-1.13
24	Dec-05	4.5	2	-1.22	51	Jun-19	4.5	2.5	-1.13
25	Jun-06	4.5	4	-0.86	52	Nov-19	4.5	2.5	-1.13
26	Nov-06	4.5	2	-1.22	53	Jun-20	4.5	2.5	-1.13
27	Jun-07	4.5	3	-1.04					
28	Nov-07	4.5	2	-1.22					
29	Jun-08	4.5	2	-1.22					
30	Nov-08	4.5	0.5	-1.49					
31	Jun-09	4.5	1	-1.40					
32	Nov-09	4.5	2	-1.22					
33	Jun-10	4.5	2	-1.22					
34	Nov-10	4.5	2	-1.22					
35	Jun-11	4.5	2	-1.22					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean



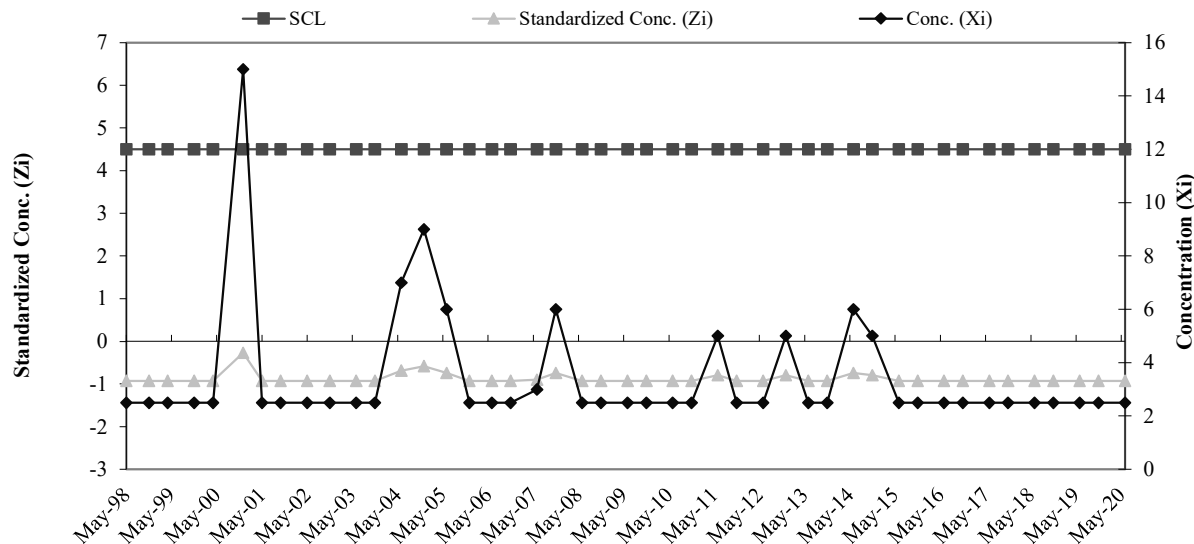
**COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART**

B-18a Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	15	20.01	18.96
2	Aug-95	20		
3	Feb-96	20		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	May-97	13		
8	Nov-97	62		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	2.5	-0.92	36	Nov-11	4.5	2.5	-0.92
10	Nov-98	4.5	2.5	-0.92	37	Jun-12	4.5	2.5	-0.92
11	Apr-99	4.5	2.5	-0.92	38	Dec-12	4.5	5	-0.79
12	Nov-99	4.5	2.5	-0.92	39	Jun-13	4.5	2.5	-0.92
13	Apr-00	4.5	2.5	-0.92	40	Nov-13	4.5	2.5	-0.92
14	Dec-00	4.5	15	-0.26	41	Jun-14	4.5	6	-0.74
15	May-01	4.5	2.5	-0.92	42	Nov-14	4.5	5	-0.79
16	Oct-01	4.5	2.5	-0.92	43	Jun-15	4.5	2.5	-0.92
17	May-02	4.5	2.5	-0.92	44	Nov-15	4.5	2.5	-0.92
18	Nov-02	4.5	2.5	-0.92	45	Jun-16	4.5	2.5	-0.92
19	Jun-03	4.5	2.5	-0.92	46	Nov-16	4.5	2.5	-0.92
20	Nov-03	4.5	2.5	-0.92	47	Jun-17	4.5	2.5	-0.92
21	Jun-04	4.5	7	-0.69	48	Nov-17	4.5	2.5	-0.92
22	Dec-04	4.5	9	-0.58	49	Jun-18	4.5	2.5	-0.92
23	Jun-05	4.5	6	-0.74	50	Nov-18	4.5	2.5	-0.92
24	Dec-05	4.5	2.5	-0.92	51	Jun-19	4.5	2.5	-0.92
25	Jun-06	4.5	2.5	-0.92	52	Nov-19	4.5	2.5	-0.92
26	Nov-06	4.5	2.5	-0.92	53	Jun-20	4.5	2.5	-0.92
27	Jun-07	4.5	3	-0.90					
28	Nov-07	4.5	6	-0.74					
29	Jun-08	4.5	2.5	-0.92					
30	Nov-08	4.5	2.5	-0.92					
31	Jun-09	4.5	2.5	-0.92					
32	Nov-09	4.5	2.5	-0.92					
33	Jun-10	4.5	2.5	-0.92					
34	Nov-10	4.5	2.5	-0.92					
35	Jun-11	4.5	5	-0.79					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

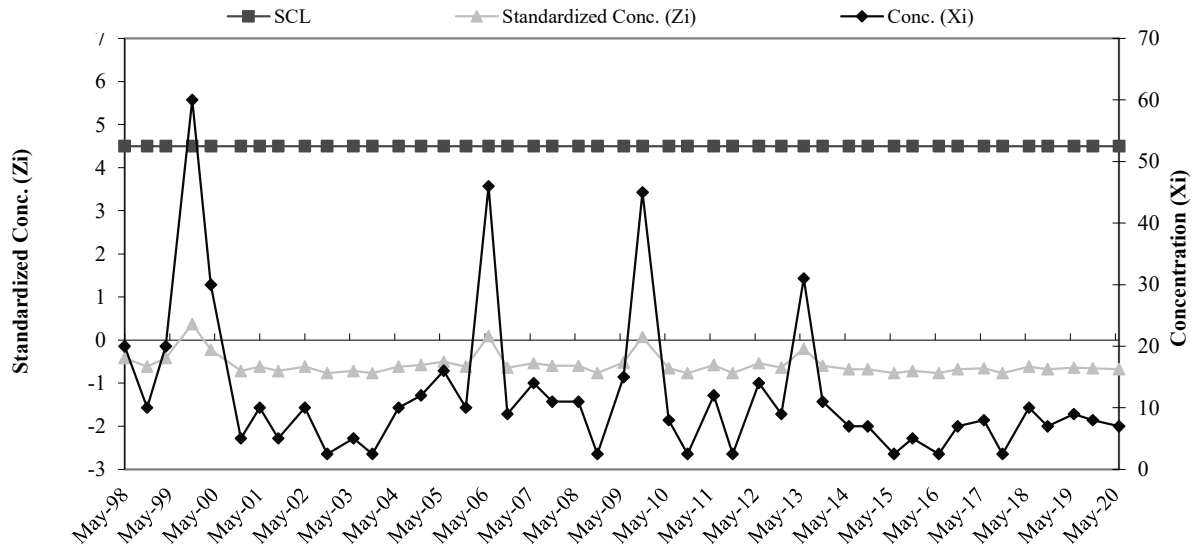


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-18a Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	150	41.25	50.67
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10		
5	Aug-96	60		
6	Nov-96	70		
7	May-97	10		
8	Nov-97	10		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	20	-0.42	36	Nov-11	4.5	2.5	-0.76
10	Nov-98	4.5	10	-0.62	37	Jun-12	4.5	14	-0.54
11	Apr-99	4.5	20	-0.42	38	Dec-12	4.5	9	-0.64
12	Nov-99	4.5	60	0.37	39	Jun-13	4.5	31	-0.20
13	Apr-00	4.5	30	-0.22	40	Nov-13	4.5	11	-0.60
14	Dec-00	4.5	5	-0.72	41	Jun-14	4.5	7	-0.68
15	May-01	4.5	10	-0.62	42	Nov-14	4.5	7	-0.68
16	Oct-01	4.5	5	-0.72	43	Jun-15	4.5	2.5	-0.76
17	May-02	4.5	10	-0.62	44	Nov-15	4.5	5	-0.72
18	Nov-02	4.5	2.5	-0.76	45	Jun-16	4.5	2.5	-0.76
19	Jun-03	4.5	5	-0.72	46	Nov-16	4.5	7	-0.68
20	Nov-03	4.5	2.5	-0.76	47	Jun-17	4.5	8	-0.66
21	Jun-04	4.5	10	-0.62	48	Nov-17	4.5	2.5	-0.76
22	Dec-04	4.5	12	-0.58	49	Jun-18	4.5	10	-0.62
23	Jun-05	4.5	16	-0.50	50	Nov-18	4.5	7	-0.68
24	Dec-05	4.5	10	-0.62	51	Jun-19	4.5	9	-0.64
25	Jun-06	4.5	46	0.09	52	Nov-19	4.5	8	-0.66
26	Nov-06	4.5	9	-0.64	53	Jun-20	4.5	7	-0.68
27	Jun-07	4.5	14	-0.54					
28	Nov-07	4.5	11	-0.60					
29	Jun-08	4.5	11	-0.60					
30	Nov-08	4.5	2.5	-0.76					
31	Jun-09	4.5	15	-0.52					
32	Nov-09	4.5	45	0.07					
33	Jun-10	4.5	8	-0.66					
34	Nov-10	4.5	2.5	-0.76					
35	Jun-11	4.5	12	-0.58					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

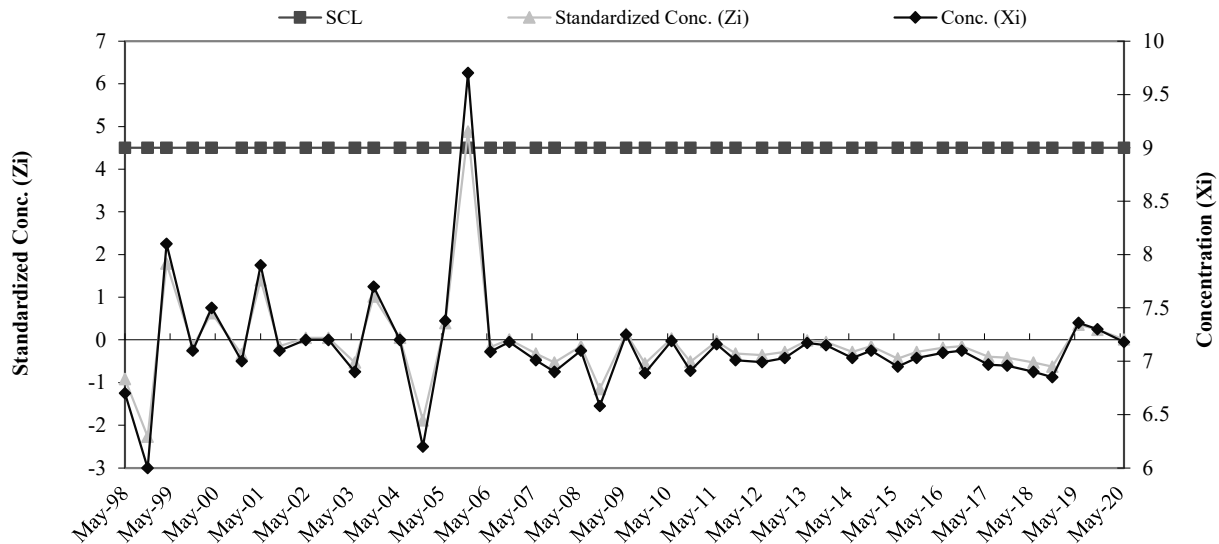


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-18a pH

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	7.5	7.18	0.52
2	Aug-95	7.9		
3	Feb-96	7.4		
4	Jun-96	7.0		
5	Aug-96	7.5		
6	Nov-96	7.2		
7	May-97	6.5		
8	Nov-97	6.4		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	6.7	-0.92	36	Nov-11	4.5	7.0	-0.32
10	Nov-98	4.5	6.0	-2.27	37	Jun-12	4.5	7.0	-0.36
11	Apr-99	4.5	8.1	1.79	38	Dec-12	4.5	7.0	-0.28
12	Nov-99	4.5	7.1	-0.14	39	Jun-13	4.5	7.2	-0.01
13	Apr-00	4.5	7.5	0.63	40	Nov-13	4.5	7.2	-0.05
14	Dec-00	4.5	7.0	-0.34	41	Jun-14	4.5	7.0	-0.28
15	May-01	4.5	7.9	1.40	42	Nov-14	4.5	7.1	-0.14
16	Oct-01	4.5	7.1	-0.14	43	Jun-15	4.5	7.0	-0.43
17	May-02	4.5	7.2	0.05	44	Nov-15	4.5	7.0	-0.28
18	Nov-02	4.5	7.2	0.05	45	Jun-16	4.5	7.1	-0.18
19	Jun-03	4.5	6.9	-0.53	46	Nov-16	4.5	7.1	-0.14
20	Nov-03	4.5	7.7	1.01	47	Jun-17	4.5	7.0	-0.40
21	Jun-04	4.5	7.2	0.05	48	Nov-17	4.5	7.0	-0.42
22	Dec-04	4.5	6.2	-1.88	49	Jun-18	4.5	6.9	-0.53
23	Jun-05	4.5	7.4	0.40	50	Nov-18	4.5	6.9	-0.63
24	Dec-05	4.5	9.7	4.88	51	Jun-19	4.5	7.4	0.36
25	Jun-06	4.5	7.1	-0.16	52	Nov-19	4.5	7.3	0.24
26	Nov-06	4.5	7.2	0.01	53	Jun-20	4.5	7.2	0.01
27	Jun-07	4.5	7.0	-0.32					
28	Nov-07	4.5	6.9	-0.53					
29	Jun-08	4.5	7.1	-0.14					
30	Nov-08	4.5	6.6	-1.15					
31	Jun-09	4.5	7.3	0.14					
32	Nov-09	4.5	6.9	-0.55					
33	Jun-10	4.5	7.2	0.03					
34	Nov-10	4.5	6.9	-0.51					
35	Jun-11	4.5	7.2	-0.03					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

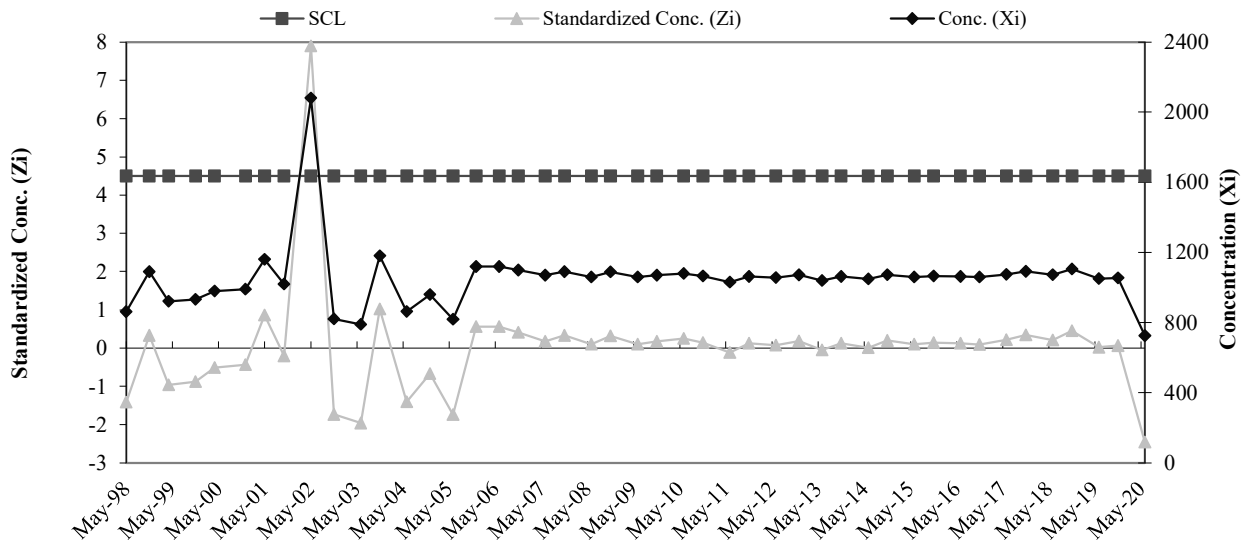


**COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-18a SpC**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	1048	1,046.75	130.80
2	Aug-95	989		
3	Feb-96	1021		
4	Jun-96	944.0		
5	Aug-96	1041		
6	Nov-96	1331		
7	May-97	900		
8	Nov-97	1100		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	862	-1.41	36	Nov-11	4.5	1063	0.12
10	Nov-98	4.5	1090.0	0.33	37	Jun-12	4.5	1057	0.08
11	Apr-99	4.5	921	-0.96	38	Dec-12	4.5	1071	0.19
12	Nov-99	4.5	932	-0.88	39	Jun-13	4.5	1040	-0.05
13	Apr-00	4.5	980	-0.51	40	Nov-13	4.5	1063	0.12
14	Dec-00	4.5	990.0	-0.43	41	Jun-14	4.5	1048	0.01
15	May-01	4.5	1160	0.87	42	Nov-14	4.5	1073	0.20
16	Oct-01	4.5	1020	-0.20	43	Jun-15	4.5	1060	0.10
17	May-02	4.5	2080	7.90	44	Nov-15	4.5	1065	0.14
18	Nov-02	4.5	820	-1.73	45	Jun-16	4.5	1063	0.12
19	Jun-03	4.5	790	-1.96	46	Nov-16	4.5	1059	0.09
20	Nov-03	4.5	1180	1.02	47	Jun-17	4.5	1075	0.22
21	Jun-04	4.5	863	-1.40	48	Nov-17	4.5	1092	0.35
22	Dec-04	4.5	960	-0.66	49	Jun-18	4.5	1074	0.21
23	Jun-05	4.5	819	-1.74	50	Nov-18	4.5	1106	0.45
24	Dec-05	4.5	1120	0.56	51	Jun-19	4.5	1050	0.02
25	Jun-06	4.5	1120	0.56	52	Nov-19	4.5	1055	0.06
26	Nov-06	4.5	1100	0.41	53	Jun-20	4.5	725	-2.46
27	Jun-07	4.5	1070	0.18					
28	Nov-07	4.5	1090	0.33					
29	Jun-08	4.5	1060	0.10					
30	Nov-08	4.5	1088	0.32					
31	Jun-09	4.5	1060	0.10					
32	Nov-09	4.5	1070	0.18					
33	Jun-10	4.5	1080	0.25					
34	Nov-10	4.5	1065	0.14					
35	Jun-11	4.5	1031	-0.12					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

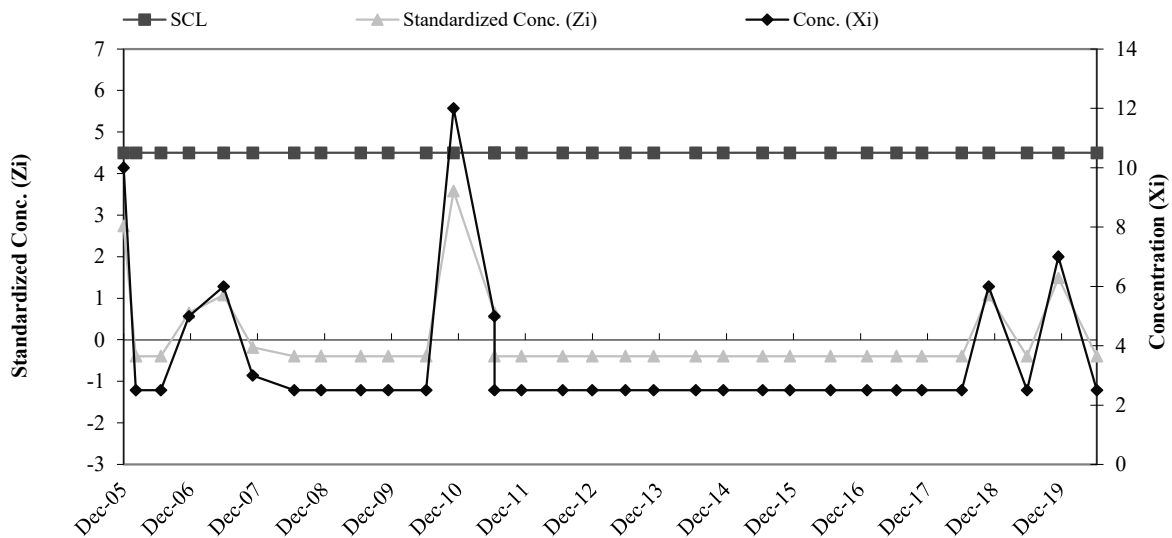


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-19a Cr

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	May-98	5	3.44	2.39
2	May-01	5		
3	May-02	5		
4	Jun-03	2.5		
5	Nov-03	2.5		
6	Jun-04	2.5		
7	Dec-04	2.5		
8	Jun-05	2.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Dec-05	4.5	10	2.74	37	Nov-18	4.5	6	1.07
10	Feb-06	4.5	2.5	-0.39	38	Jun-19	4.5	2.5	-0.39
11	Jun-06	4.5	2.5	-0.39	39	Nov-19	4.5	7	1.49
12	Nov-06	4.5	5	0.65	40	Jun-20	4.5	2.5	-0.39
13	Jun-07	4.5	6	1.07					
14	Nov-07	4.5	3	-0.18					
15	Jun-08	4.5	2.5	-0.39					
16	Nov-08	4.5	2.5	-0.39					
17	Jun-09	4.5	2.5	-0.39					
18	Nov-09	4.5	2.5	-0.39					
19	Jun-10	4.5	2.5	-0.39					
20	Nov-10	4.5	12	3.58					
21	Jun-11	4.5	5	0.65					
22	Jun-11	4.5	2.5	-0.39					
23	Nov-11	4.5	2.5	-0.39					
24	Jun-12	4.5	2.5	-0.39					
25	Dec-12	4.5	2.5	-0.39					
26	Jun-13	4.5	2.5	-0.39					
27	Nov-13	4.5	2.5	-0.39					
28	Jun-14	4.5	2.5	-0.39					
29	Nov-14	4.5	2.5	-0.39					
30	Jun-15	4.5	2.5	-0.39					
31	Nov-15	4.5	2.5	-0.39					
32	Jun-16	4.5	2.5	-0.39					
33	Jan-17	4.5	2.5	-0.39					
34	Jun-17	4.5	2.5	-0.39					
35	Nov-17	4.5	2.5	-0.39					
36	Jun-18	4.5	2.5	-0.39					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

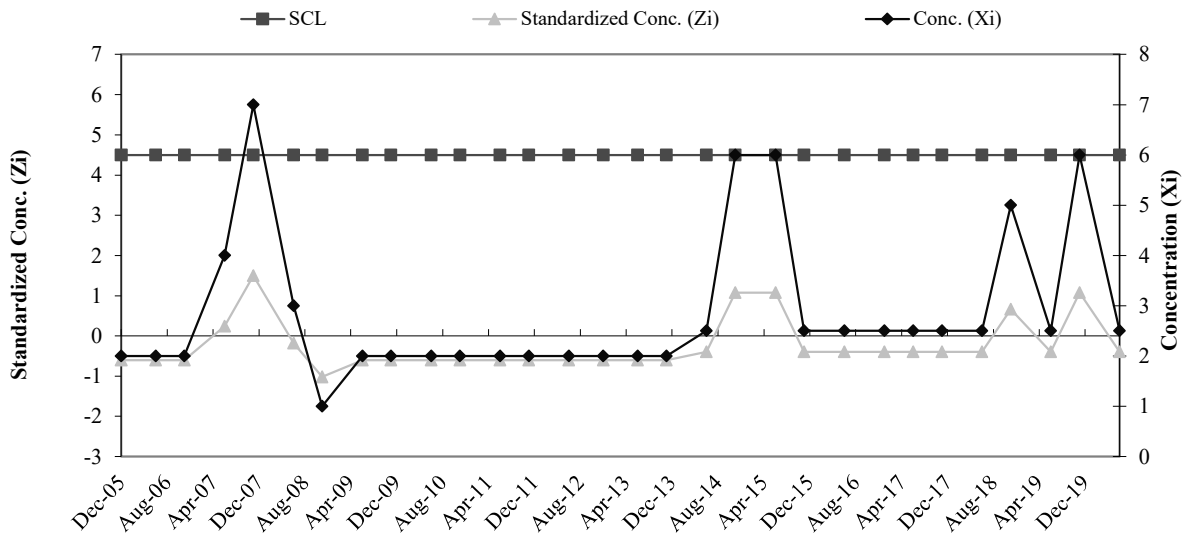


**COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-19a Cu**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	May-98	5	3.43	2.38
2	May-01	5		
3	May-02	5		
4	Jun-03	2.5		
5	Nov-03	2.5		
6	Jun-04	2.5		
7	Dec-04	2.5		
8	Jun-05	2.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Dec-05	4.5	2	-0.60	36	Jun-19	4.5	2.5	-0.39
10	Jun-06	4.5	2	-0.60		Nov-19	4.5	6	1.08
11	Nov-06	4.5	2	-0.60	1	Jun-20	4.5	2.5	-0.39
12	Jun-07	4.5	4	0.24					
13	Nov-07	4.5	7	1.50					
14	Jun-08	4.5	3	-0.18					
15	Nov-08	4.5	1	-1.02					
16	Jun-09	4.5	2	-0.60					
17	Nov-09	4.5	2	-0.60					
18	Jun-10	4.5	2	-0.60					
19	Nov-10	4.5	2	-0.60					
20	Jun-11	4.5	2	-0.60					
21	Nov-11	4.5	2	-0.60					
22	Jun-12	4.5	2	-0.60					
23	Dec-12	4.5	2	-0.60					
24	Jun-13	4.5	2	-0.60					
25	Nov-13	4.5	2	-0.60					
26	Jun-14	4.5	2.5	-0.39					
27	Nov-14	4.5	6	1.08					
28	Jun-15	4.5	6	1.08					
29	Nov-15	4.5	2.5	-0.39					
30	Jun-16	4.5	2.5	-0.39					
31	Jan-17	4.5	2.5	-0.39					
32	Jun-17	4.5	2.5	-0.39					
33	Nov-17	4.5	2.5	-0.39					
34	Jun-18	4.5	2.5	-0.39					
35	Nov-18	4.5	5	0.66					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

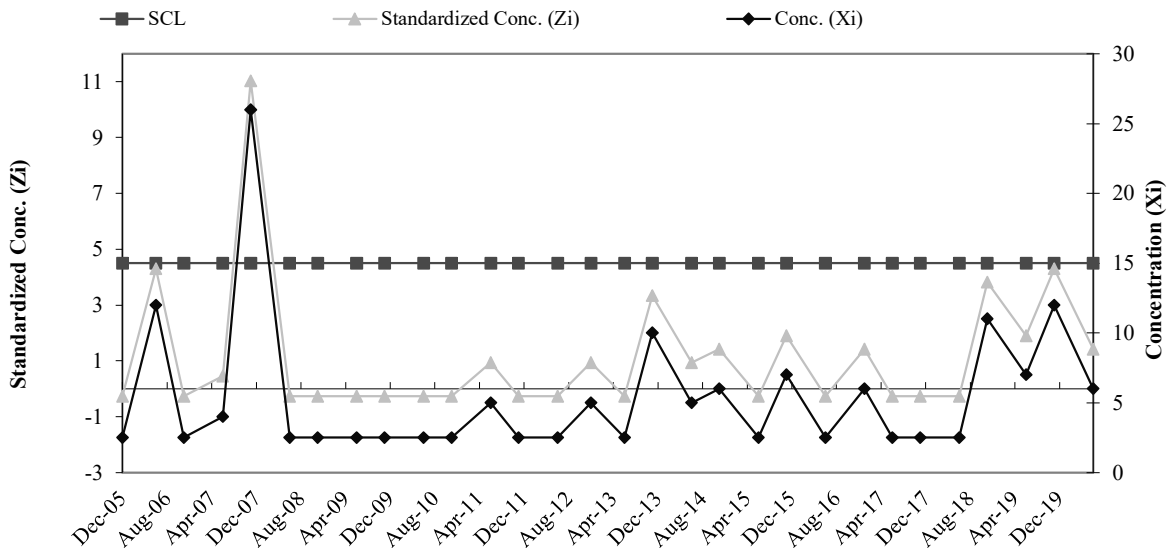


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-19a Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	May-98	2.5	3.06	2.08
2	May-01	2.5		
3	May-02	2.5		
4	Jun-03	2.5		
5	Nov-03	2.5		
6	Jun-04	2.5		
7	Dec-04	2.5		
8	Jun-05	7		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Dec-05	4.5	2.5	-0.27	37	Jun-19	4.5	7	1.89
10	Jun-06	4.5	12	4.30	38	Nov-19	4.5	12	4.30
11	Nov-06	4.5	2.5	-0.27	39	Jun-20	4.5	6	1.41
12	Jun-07	4.5	4	0.45					
13	Nov-07	4.5	26	11.03					
14	Jun-08	4.5	2.5	-0.27					
15	Nov-08	4.5	2.5	-0.27					
16	Jun-09	4.5	2.5	-0.27					
17	Nov-09	4.5	2.5	-0.27					
19	Jun-10	4.5	2.5	-0.27					
20	Nov-10	4.5	2.5	-0.27					
21	Jun-11	4.5	5	0.93					
22	Nov-11	4.5	2.5	-0.27					
23	Jun-12	4.5	2.5	-0.27					
24	Dec-12	4.5	5	0.93					
25	Jun-13	4.5	2.5	-0.27					
26	Nov-13	4.5	10	3.34					
27	Jun-14	4.5	5	0.93					
28	Nov-14	4.5	6	1.41					
29	Jun-15	4.5	2.5	-0.27					
30	Nov-15	4.5	7	1.89					
31	Jun-16	4.5	2.5	-0.27					
32	Jan-17	4.5	6	1.41					
33	Jun-17	4.5	2.5	-0.27					
34	Nov-17	4.5	2.5	-0.27					
35	Jun-18	4.5	2.5	-0.27					
36	Nov-18	4.5	11	3.82					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean



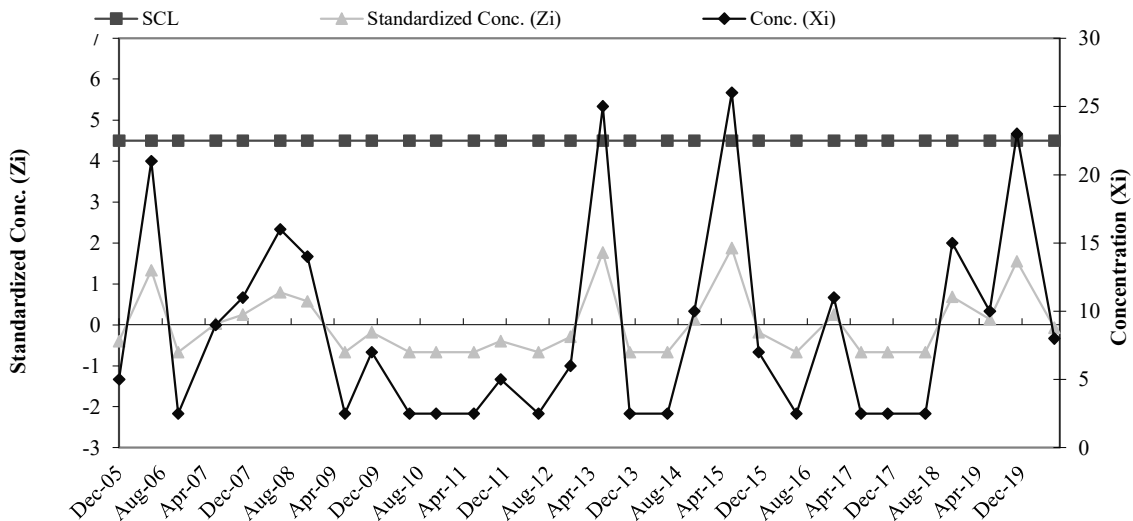
**COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART**

B-19a Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	May-98	30	8.69	9.24
2	May-01	5		
3	May-02	10		
4	Jun-03	2.5		
5	Nov-03	2.5		
6	Jun-04	8		
7	Dec-04	9		
8	Jun-05	2.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Dec-05	4.5	5	-0.40	37	Nov-19	4.5	23	1.55
10	Jun-06	4.5	21	1.33	38	Jun-20	4.5	8	-0.07
11	Nov-06	4.5	2.5	-0.67					
12	Jun-07	4.5	9	0.03					
13	Nov-07	4.5	11	0.25					
14	Jun-08	4.5	16	0.79					
15	Nov-08	4.5	14	0.57					
16	Jun-09	4.5	2.5	-0.67					
17	Nov-09	4.5	7	-0.18					
18	Jun-10	4.5	2.5	-0.67					
19	Nov-10	4.5	2.5	-0.67					
20	Jun-11	4.5	2.5	-0.67					
21	Nov-11	4.5	5	-0.40					
22	Jun-12	4.5	2.5	-0.67					
23	Dec-12	4.5	6	-0.29					
24	Jun-13	4.5	25	1.77					
25	Nov-13	4.5	2.5	-0.67					
26	Jun-14	4.5	2.5	-0.67					
27	Nov-14	4.5	10	0.14					
28	Jun-15	4.5	26	1.87					
29	Nov-15	4.5	7	-0.18					
30	Jun-16	4.5	2.5	-0.67					
31	Jan-17	4.5	11	0.25					
32	Jun-17	4.5	2.5	-0.67					
33	Nov-17	4.5	2.5	-0.67					
34	Jun-18	4.5	2.5	-0.67					
35	Nov-18	4.5	15	0.68					
36	Jun-19	4.5	10	0.14					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

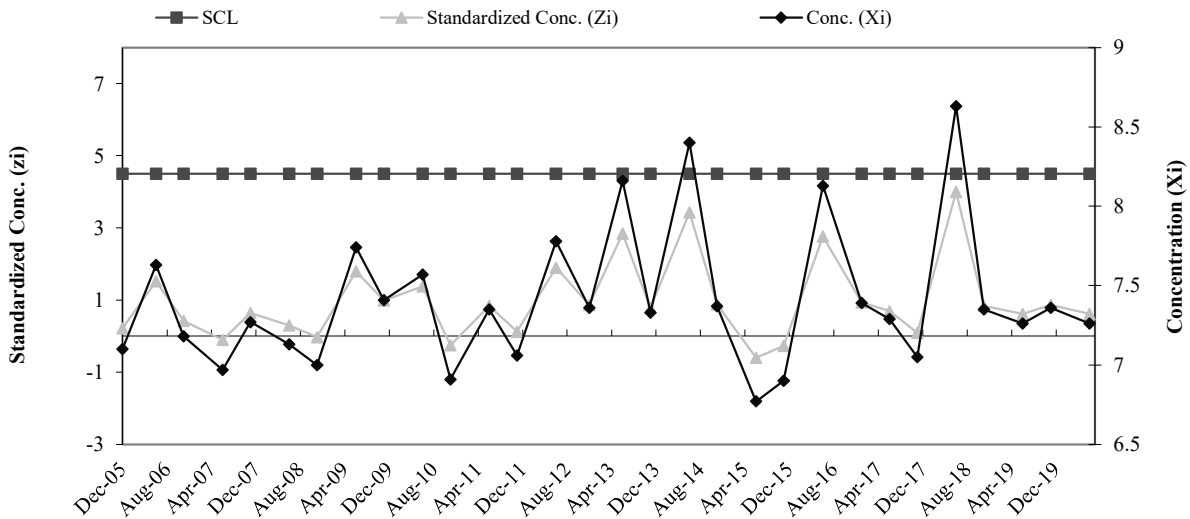


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-19a pH

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	May-98	6.8	7.01	0.40
2	May-01	7.1		
3	May-02	7.2		
4	Jun-03	6.9		
5	Nov-03	7.6		
6	Jun-04	7.2		
7	Dec-04	6.2		
8	Jun-05	7.1		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Dec-05	4.5	7.1	0.22	38	Jun-20	4.5	7.3	0.61
10	Jun-06	4.5	7.6	1.53					
11	Nov-06	4.5	7.2	0.42					
12	Jun-07	4.5	7.0	-0.10					
13	Nov-07	4.5	7.3	0.64					
14	Jun-08	4.5	7.1	0.29					
15	Nov-08	4.5	7.0	-0.03					
16	Jun-09	4.5	7.7	1.80					
17	Nov-09	4.5	7.4	0.99					
18	Jun-10	4.5	7.6	1.38					
19	Nov-10	4.5	6.9	-0.25					
20	Jun-11	4.5	7.4	0.84					
21	Nov-11	4.5	7.1	0.12					
22	Jun-12	4.5	7.8	1.90					
23	Dec-12	4.5	7.4	0.86					
24	Jun-13	4.5	8.2	2.84					
25	Nov-13	4.5	7.3	0.79					
26	Jun-14	4.5	8.4	3.43					
27	Nov-14	4.5	7.4	0.89					
28	Jun-15	4.5	6.8	-0.60					
29	Nov-15	4.5	6.9	-0.27					
30	Jun-16	4.5	8.1	2.76					
31	Jan-17	4.5	7.4	0.94					
32	Jun-17	4.5	7.3	0.69					
33	Nov-17	4.5	7.1	0.10					
34	Jun-18	4.5	8.6	4.00					
35	Nov-18	4.5	7.4	0.84					
36	Jun-19	4.5	7.3	0.61					
37	Nov-19	4.5	7.4	0.86					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

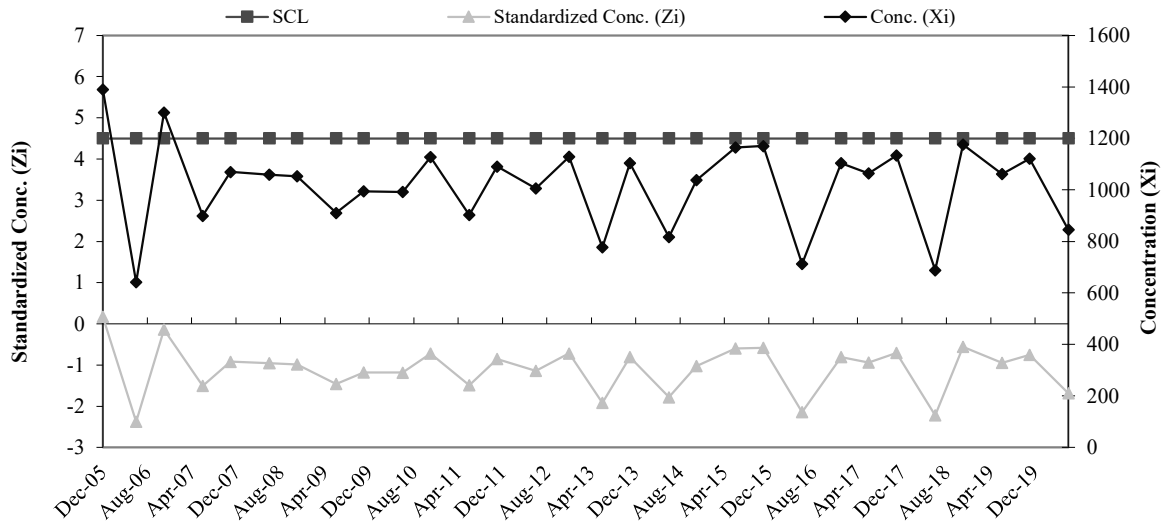


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-19a SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	May-98	1480	1,340.63	293.72
2	May-01	1050		
3	May-02	1740		
4	Jun-03	1350		
5	Nov-03	1620		
6	Jun-04	1316		
7	Dec-04	1340		
8	Jun-05	829		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Dec-05	4.5	1390	0.17	38	Jun-20	4.5	845	-1.69
10	Jun-06	4.5	642	-2.38					
11	Nov-06	4.5	1300	-0.14					
12	Jun-07	4.5	899	-1.50					
13	Nov-07	4.5	1070	-0.92					
14	Jun-08	4.5	1060	-0.96					
15	Nov-08	4.5	1052	-0.98					
16	Jun-09	4.5	911	-1.46					
17	Nov-09	4.5	994	-1.18					
18	Jun-10	4.5	992	-1.19					
19	Nov-10	4.5	1128	-0.72					
20	Jun-11	4.5	902	-1.49					
21	Nov-11	4.5	1091	-0.85					
22	Jun-12	4.5	1005	-1.14					
23	Dec-12	4.5	1129	-0.72					
24	Jun-13	4.5	777	-1.92					
25	Nov-13	4.5	1104	-0.81					
26	Jun-14	4.5	817	-1.78					
27	Nov-14	4.5	1038	-1.03					
28	Jun-15	4.5	1165	-0.60					
29	Nov-15	4.5	1170	-0.58					
30	Jun-16	4.5	712	-2.14					
31	Jan-17	4.5	1104	-0.81					
32	Jun-17	4.5	1064	-0.94					
33	Nov-17	4.5	1134	-0.70					
34	Jun-18	4.5	688	-2.22					
35	Nov-18	4.5	1176	-0.56					
36	Jun-19	4.5	1062	-0.95					
37	Nov-19	4.5	1121	-0.75					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

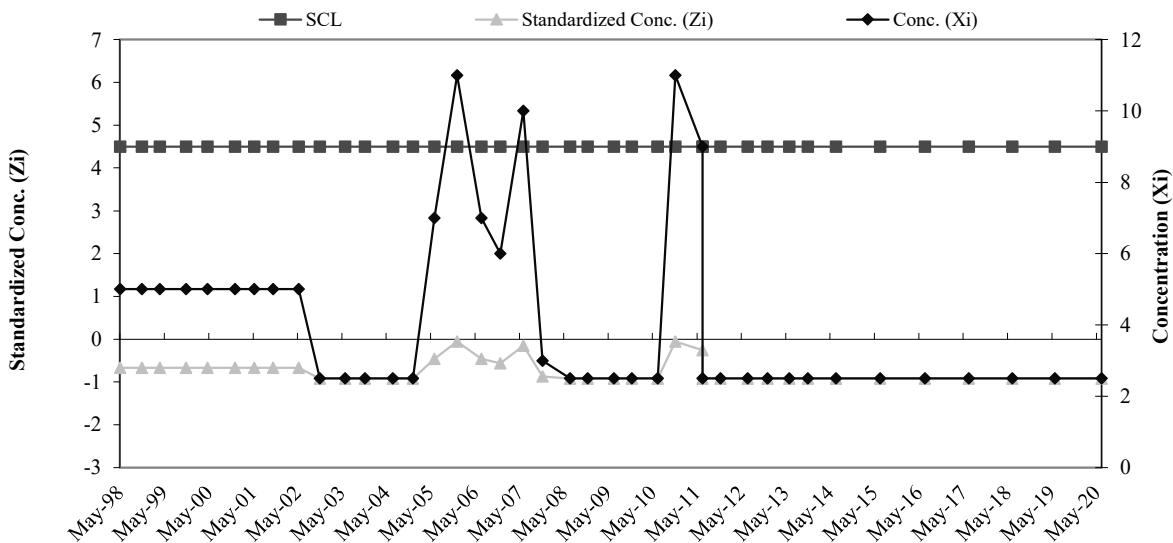


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-20d Cr

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	11.51	9.80
2	Aug-95	10		
3	Feb-96	32		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.66	37	Nov-11	4.5	2.5	-0.92
10	Nov-98	4.5	5	-0.66	38	Jun-12	4.5	2.5	-0.92
11	Apr-99	4.5	5	-0.66	39	Dec-12	4.5	2.5	-0.92
12	Nov-99	4.5	5	-0.66	40	Jun-13	4.5	2.5	-0.92
13	Apr-00	4.5	5	-0.66	41	Nov-13	4.5	2.5	-0.92
14	Dec-00	4.5	5	-0.66	42	Jun-14	4.5	2.5	-0.92
15	May-01	4.5	5	-0.66	43	Jun-15	4.5	2.5	-0.92
16	Oct-01	4.5	5	-0.66	44	Jun-16	4.5	2.5	-0.92
17	May-02	4.5	5	-0.66	45	Jun-17	4.5	2.5	-0.92
18	Nov-02	4.5	2.5	-0.92	46	Jun-18	4.5	2.5	-0.92
19	Jun-03	4.5	2.5	-0.92	47	May-19	4.5	2.5	-0.92
20	Nov-03	4.5	2.5	-0.92	48	Jun-20	4.5	2.5	-0.92
21	Jun-04	4.5	2.5	-0.92					
22	Dec-04	4.5	2.5	-0.92					
23	Jun-05	4.5	7	-0.46					
24	Dec-05	4.5	11	-0.05					
25	Jun-06	4.5	7	-0.46					
26	Nov-06	4.5	6	-0.56					
27	Jun-07	4.5	10	-0.15					
28	Nov-07	4.5	3	-0.87					
29	Jun-08	4.5	2.5	-0.92					
30	Nov-08	4.5	2.5	-0.92					
31	Jun-09	4.5	2.5	-0.92					
32	Nov-09	4.5	2.5	-0.92					
33	Jun-10	4.5	2.5	-0.92					
34	Nov-10	4.5	11	-0.05					
35	Jun-11	4.5	9	-0.26					
36	Jun-11	4.5	2.5	-0.92					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

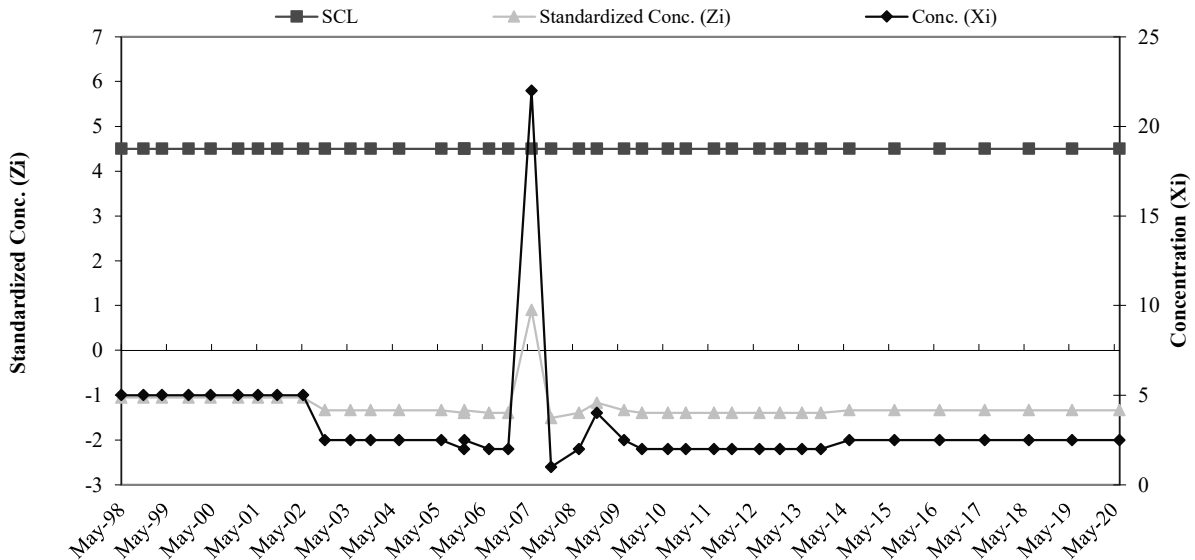


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-20d Cu

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	14.13	8.70
2	Aug-95	20		
3	Feb-96	28		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	Nov-97	20		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-1.05	36	Nov-11	4.5	2	-1.39
10	Nov-98	4.5	5	-1.05	37	Jun-12	4.5	2	-1.39
11	Apr-99	4.5	5	-1.05	38	Dec-12	4.5	2	-1.39
12	Nov-99	4.5	5	-1.05	39	Jun-13	4.5	2	-1.39
13	Apr-00	4.5	5	-1.05	40	Nov-13	4.5	2	-1.39
14	Dec-00	4.5	5	-1.05	41	Jun-14	4.5	2.5	-1.34
15	May-01	4.5	5	-1.05	42	Jun-15	4.5	2.5	-1.34
16	Oct-01	4.5	5	-1.05	43	Jun-16	4.5	2.5	-1.34
17	May-02	4.5	5	-1.05	44	Jun-17	4.5	2.5	-1.34
18	Nov-02	4.5	2.5	-1.34	45	Jun-18	4.5	2.5	-1.34
19	Jun-03	4.5	2.5	-1.34	46	May-19	4.5	2.5	-1.34
20	Nov-03	4.5	2.5	-1.34	47	Jun-20	4.5	2.5	-1.34
21	Jun-04	4.5	2.5	-1.34					
22	Dec-05	4.5	2.5	-1.34					
23	Jun-05	4.5	2.5	-1.34					
24	Dec-05	4.5	2	-1.39					
25	Jun-06	4.5	2	-1.39					
26	Nov-06	4.5	2	-1.39					
27	Jun-07	4.5	22	0.90					
28	Nov-07	4.5	1	-1.51					
29	Jun-08	4.5	2	-1.39					
30	Nov-08	4.5	4	-1.16					
31	Jun-09	4.5	2.5	-1.34					
32	Nov-09	4.5	2	-1.39					
33	Jun-10	4.5	2	-1.39					
34	Nov-10	4.5	2	-1.39					
35	Jun-11	4.5	2	-1.39					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

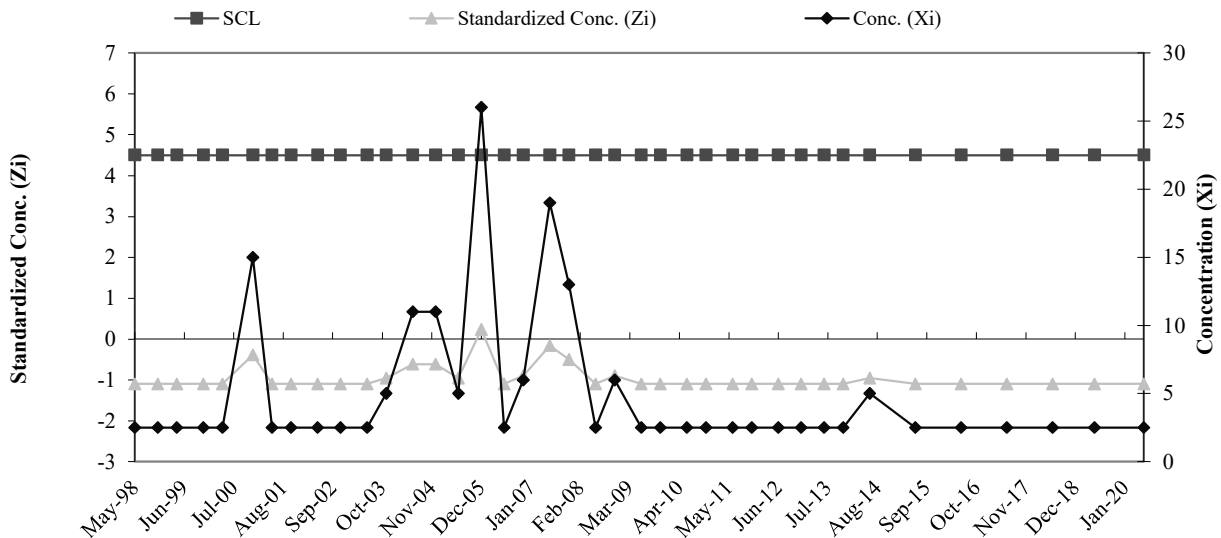


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-20d Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	15	21.88	17.64
2	Aug-95	20		
3	Feb-96	54		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	May-97	15		
8	Nov-97	41		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	2.5	-1.10	36	Nov-11	4.5	2.5	-1.10
10	Nov-98	4.5	2.5	-1.10	37	Jun-12	4.5	2.5	-1.10
11	Apr-99	4.5	2.5	-1.10	38	Dec-12	4.5	2.5	-1.10
12	Nov-99	4.5	2.5	-1.10	39	Jun-13	4.5	2.5	-1.10
13	Apr-00	4.5	2.5	-1.10	40	Nov-13	4.5	2.5	-1.10
14	Dec-00	4.5	15	-0.39	41	Jun-14	4.5	5	-0.96
15	May-01	4.5	2.5	-1.10	42	Jun-15	4.5	2.5	-1.10
16	Oct-01	4.5	2.5	-1.10	43	Jun-16	4.5	2.5	-1.10
17	May-02	4.5	2.5	-1.10	44	Jun-17	4.5	2.5	-1.10
18	Nov-02	4.5	2.5	-1.10	45	Jun-18	4.5	2.5	-1.10
19	Jun-03	4.5	2.5	-1.10	46	May-19	4.5	2.5	-1.10
20	Nov-03	4.5	5	-0.96	47	Jun-20	4.5	2.5	-1.10
21	Jun-04	4.5	11	-0.62					
22	Dec-04	4.5	11	-0.62					
23	Jun-05	4.5	5	-0.96					
24	Dec-05	4.5	26	0.23					
25	Jun-06	4.5	2.5	-1.10					
26	Nov-06	4.5	6	-0.90					
27	Jun-07	4.5	19	-0.16					
28	Nov-07	4.5	13	-0.50					
29	Jun-08	4.5	2.5	-1.10					
30	Nov-08	4.5	6	-0.90					
31	Jun-09	4.5	2.5	-1.10					
32	Nov-09	4.5	2.5	-1.10					
33	Jun-10	4.5	2.5	-1.10					
34	Nov-10	4.5	2.5	-1.10					
35	Jun-11	4.5	2.5	-1.10					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

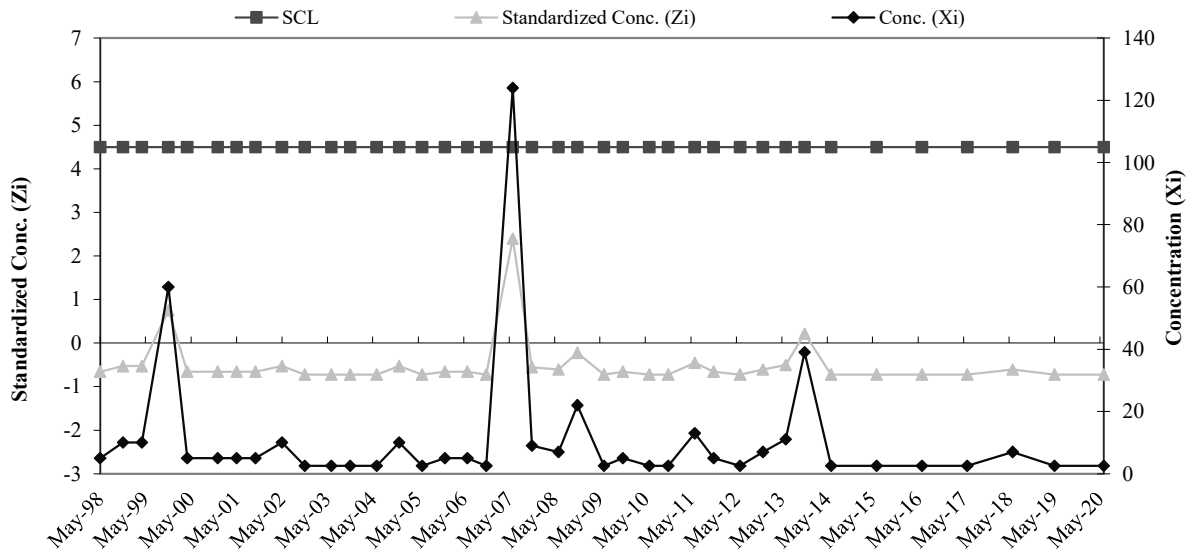


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-20d Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	30.66	38.93
2	Aug-95	10		
3	Feb-96	120		
4	Jun-96	10		
5	Aug-96	40		
6	Nov-96	40		
7	May-97	10		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.66	36	Nov-11	4.5	5	-0.66
10	Nov-98	4.5	10	-0.53	37	Jun-12	4.5	2.5	-0.72
11	Apr-99	4.5	10	-0.53	38	Dec-12	4.5	7	-0.61
12	Nov-99	4.5	60	0.75	39	Jun-13	4.5	11	-0.51
13	Apr-00	4.5	5	-0.66	40	Nov-13	4.5	39	0.21
14	Dec-00	4.5	5	-0.66	41	Jun-14	4.5	2.5	-0.72
15	May-01	4.5	5	-0.66	42	Jun-15	4.5	2.5	-0.72
16	Oct-01	4.5	5	-0.66	43	Jun-16	4.5	2.5	-0.72
17	May-02	4.5	10	-0.53	44	Jun-17	4.5	2.5	-0.72
18	Nov-02	4.5	2.5	-0.72	45	Jun-18	4.5	7	-0.61
19	Jun-03	4.5	2.5	-0.72	46	May-19	4.5	2.5	-0.72
20	Nov-03	4.5	2.5	-0.72	47	Jun-20	4.5	2.5	-0.72
21	Jun-04	4.5	2.5	-0.72					
22	Dec-04	4.5	10	-0.53					
23	Jun-05	4.5	2.5	-0.72					
24	Dec-05	4.5	5	-0.66					
25	Jun-06	4.5	5	-0.66					
26	Nov-06	4.5	2.5	-0.72					
27	Jun-07	4.5	124	2.40					
28	Nov-07	4.5	9	-0.56					
29	Jun-08	4.5	7	-0.61					
30	Nov-08	4.5	22	-0.22					
31	Jun-09	4.5	2.5	-0.72					
32	Nov-09	4.5	5	-0.66					
33	Jun-10	4.5	2.5	-0.72					
34	Nov-10	4.5	2.5	-0.72					
35	Jun-11	4.5	13	-0.45					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

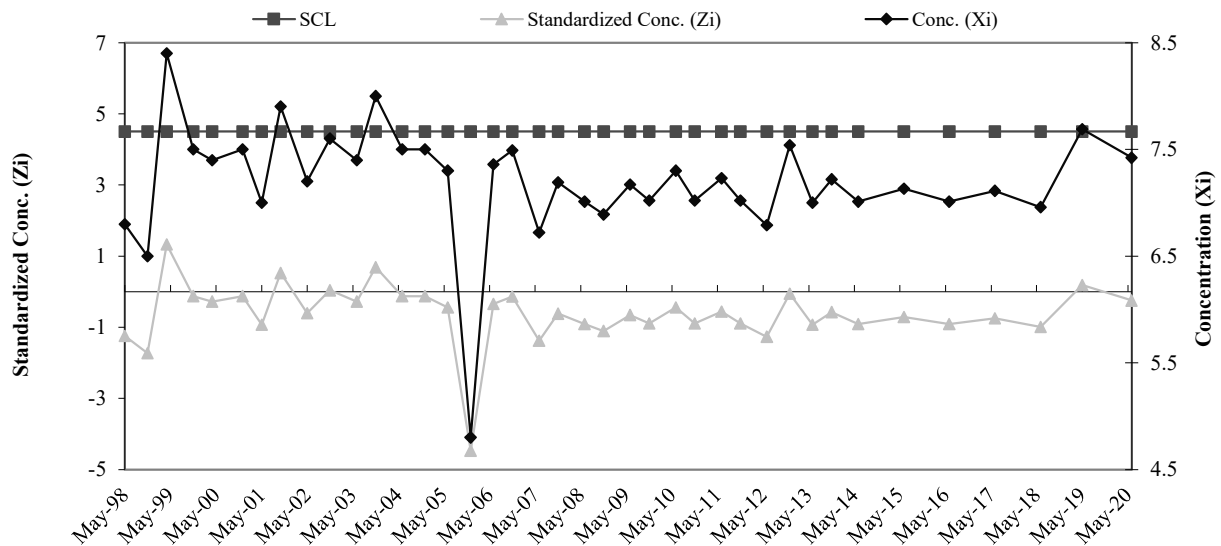


**COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-20d pH**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	8.3	7.58	0.62
2	Aug-95	8.1		
3	Feb-96	7.1		
4	Jun-96	7.9		
5	Aug-96	8.0		
6	Nov-96	7.7		
7	May-97	6.8		
8	Nov-97	6.7		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	6.8	-1.25	36	Nov-11	4.5	7.0	-0.89
10	Nov-98	4.5	6.5	-1.73	37	Jun-12	4.5	6.8	-1.27
11	Apr-99	4.5	8.4	1.33	38	Dec-12	4.5	7.5	-0.06
12	Nov-99	4.5	7.5	-0.12	39	Jun-13	4.5	7.0	-0.93
13	Apr-00	4.5	7.4	-0.28	40	Nov-13	4.5	7.2	-0.57
14	Dec-00	4.5	7.5	-0.12	41	Jun-14	4.5	7.0	-0.91
15	May-01	4.5	7.0	-0.93	42	Jun-15	4.5	7.1	-0.72
16	Oct-01	4.5	7.9	0.52	43	Jun-16	4.5	7.0	-0.91
17	May-02	4.5	7.2	-0.60	44	Jun-17	4.5	7.1	-0.75
18	Nov-02	4.5	7.6	0.04	45	Jun-18	4.5	7.0	-0.99
19	Jun-03	4.5	7.4	-0.28	46	May-19	4.5	7.7	0.19
20	Nov-03	4.5	8.0	0.68	47	Jun-20	4.5	7.4	-0.25
21	Jun-04	4.5	7.5	-0.12					
22	Dec-04	4.5	7.5	-0.12					
23	Jun-05	4.5	7.3	-0.44					
24	Dec-05	4.5	4.8	-4.47					
25	Jun-06	4.5	7.4	-0.35					
26	Nov-06	4.5	7.5	-0.14					
27	Jun-07	4.5	6.7	-1.38					
28	Nov-07	4.5	7.2	-0.62					
29	Jun-08	4.5	7.0	-0.91					
30	Nov-08	4.5	6.9	-1.10					
31	Jun-09	4.5	7.2	-0.65					
32	Nov-09	4.5	7.0	-0.89					
33	Jun-10	4.5	7.3	-0.44					
34	Nov-10	4.5	7.0	-0.89					
35	Jun-11	4.5	7.2	-0.56					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

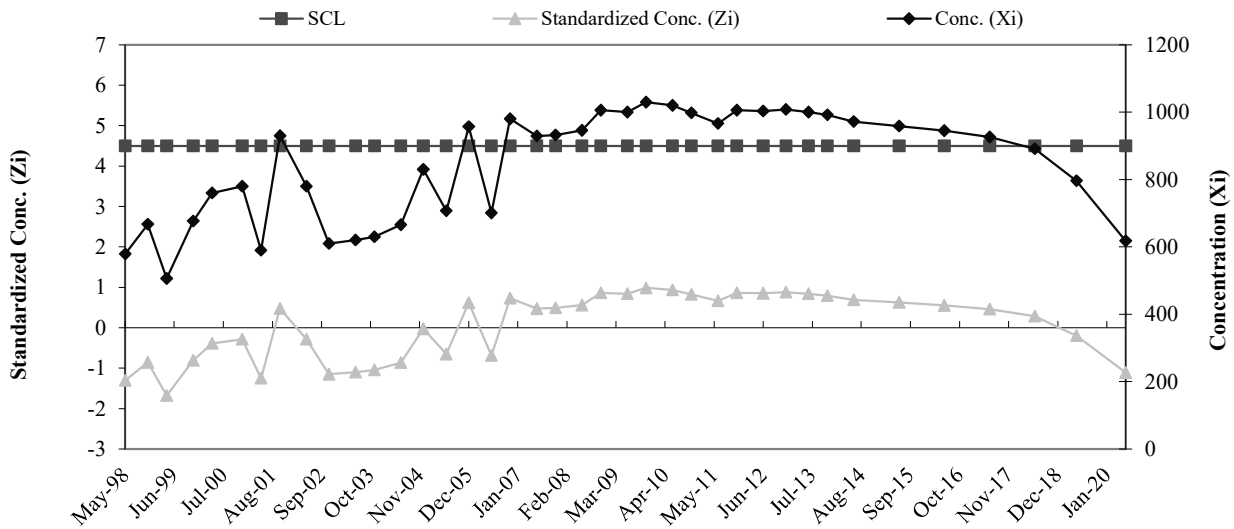


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-20d SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	771	835.75	196.61
2	Aug-95	1204		
3	Feb-96	801		
4	Jun-96	745		
5	Aug-96	750		
6	Nov-96	1075		
7	May-97	640		
8	Nov-97	700		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	579	-1.31	36	Nov-11	4.5	1006	0.87
10	Nov-98	4.5	667	-0.86	37	Jun-12	4.5	1003	0.85
11	Apr-99	4.5	506	-1.68	38	Dec-12	4.5	1008	0.88
12	Nov-99	4.5	677	-0.81	39	Jun-13	4.5	1000	0.84
13	Apr-00	4.5	760	-0.39	40	Nov-13	4.5	992	0.79
14	Dec-00	4.5	780	-0.28	41	Jun-14	4.5	972	0.69
15	May-01	4.5	590	-1.25	42	Jun-15	4.5	959	0.63
16	Oct-01	4.5	930	0.48	43	Jun-16	4.5	945	0.56
17	May-02	4.5	780	-0.28	44	Jun-17	4.5	926	0.46
18	Nov-02	4.5	610	-1.15	45	Jun-18	4.5	892	0.29
19	Jun-03	4.5	620	-1.10	46	May-19	4.5	797	-0.20
20	Nov-03	4.5	630	-1.05	47	Jun-20	4.5	618	-1.11
21	Jun-04	4.5	666	-0.86					
22	Dec-04	4.5	830	-0.03					
23	Jun-05	4.5	707	-0.65					
24	Dec-05	4.5	957	0.62					
25	Jun-06	4.5	701	-0.69					
26	Nov-06	4.5	980	0.73					
27	Jun-07	4.5	929	0.47					
28	Nov-07	4.5	932	0.49					
29	Jun-08	4.5	946	0.56					
30	Nov-08	4.5	1006	0.87					
31	Jun-09	4.5	1000	0.84					
32	Nov-09	4.5	1030	0.99					
33	Jun-10	4.5	1020	0.94					
34	Nov-10	4.5	998	0.83					
35	Jun-11	4.5	967	0.67					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

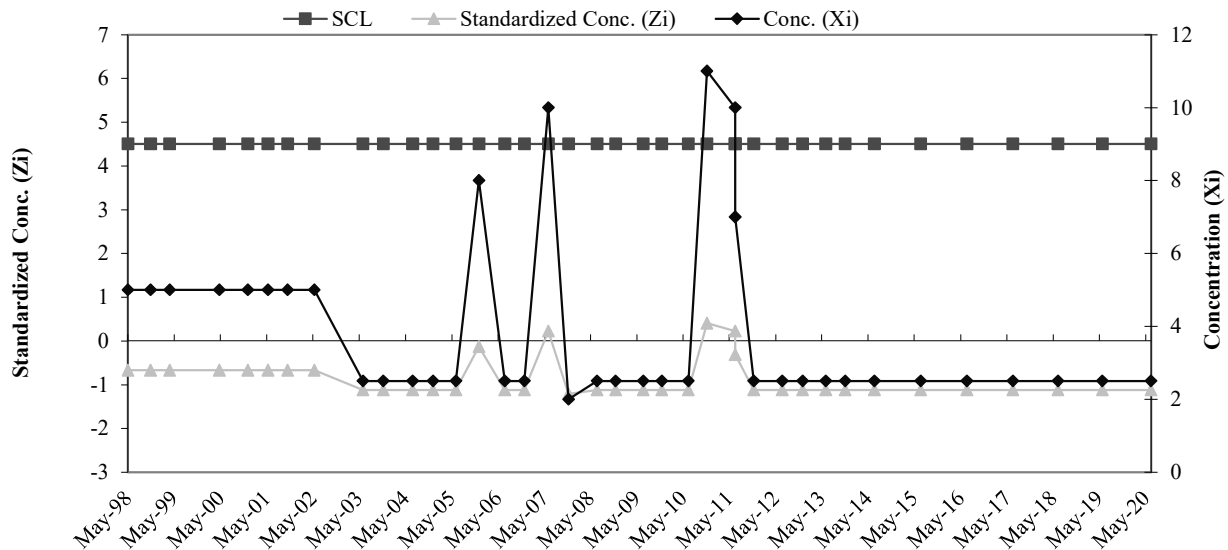


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-21d Cr

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	8.74	5.57
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.67	36	Nov-11	4.5	2.5	-1.12
10	Nov-98	4.5	5	-0.67	37	Jun-12	4.5	2.5	-1.12
11	Apr-99	4.5	5	-0.67	38	Dec-12	4.5	2.5	-1.12
12	Apr-00	4.5	5	-0.67	39	Jun-13	4.5	2.5	-1.12
13	Dec-00	4.5	5	-0.67	40	Nov-13	4.5	2.5	-1.12
14	May-01	4.5	5	-0.67	41	Jun-14	4.5	2.5	-1.12
15	Oct-01	4.5	5	-0.67	42	Jun-15	4.5	2.5	-1.12
16	May-02	4.5	5	-0.67	43	Jun-16	4.5	2.5	-1.12
18	Jun-03	4.5	2.5	-1.12	44	Jun-17	4.5	2.5	-1.12
19	Nov-03	4.5	2.5	-1.12	45	Jun-18	4.5	2.5	-1.12
20	Jun-04	4.5	2.5	-1.12	46	May-19	4.5	2.5	-1.12
21	Dec-04	4.5	2.5	-1.12	47	Jun-20	4.5	2.5	-1.12
22	Jun-05	4.5	2.5	-1.12					
23	Dec-05	4.5	8	-0.13					
24	Jun-06	4.5	2.5	-1.12					
25	Nov-06	4.5	2.5	-1.12					
26	Jun-07	4.5	10	0.23					
27	Nov-07	4.5	2	-1.21					
28	Jun-08	4.5	2.5	-1.12					
29	Nov-08	4.5	2.5	-1.12					
30	Jun-09	4.5	2.5	-1.12					
31	Nov-09	4.5	2.5	-1.12					
32	Jun-10	4.5	2.5	-1.12					
33	Nov-10	4.5	11	0.41					
34	Jun-11	4.5	10	0.23					
35	Jun-11	4.5	7	-0.31					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

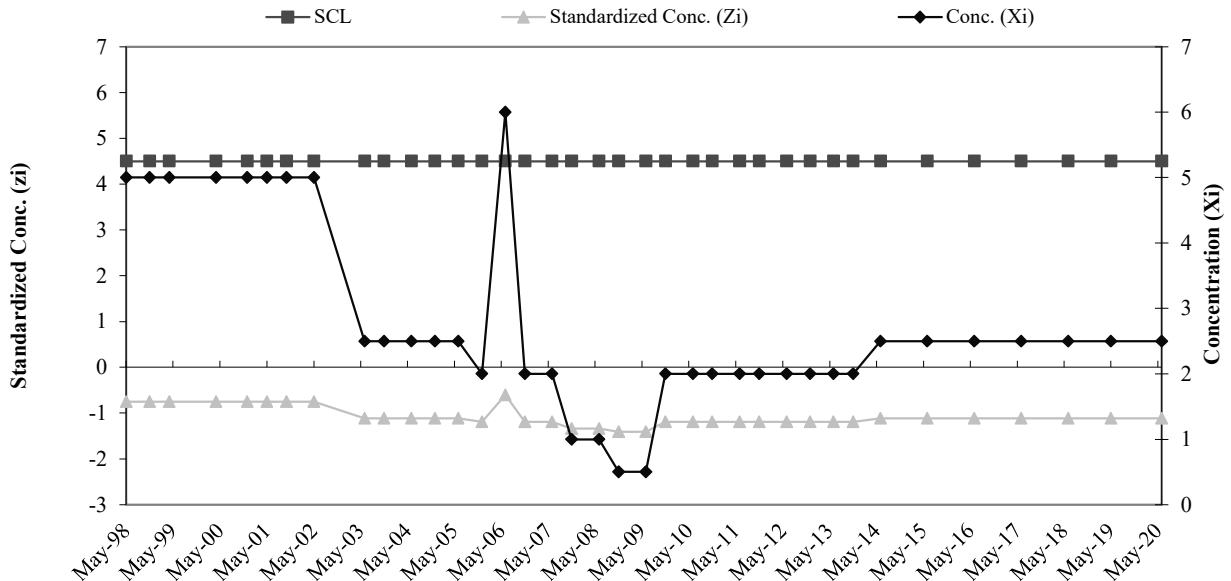


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-21d Cu

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	10.13	6.83
2	Aug-95	21		
3	Feb-96	10		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.75	35	Nov-11	4.5	2	-1.19
10	Nov-98	4.5	5	-0.75	36	Jun-12	4.5	2	-1.19
11	Apr-99	4.5	5	-0.75	37	Dec-12	4.5	2	-1.19
12	Apr-00	4.5	5	-0.75	38	Jun-13	4.5	2	-1.19
13	Dec-00	4.5	5	-0.75	39	Nov-13	4.5	2	-1.19
14	May-01	4.5	5	-0.75	40	Jun-14	4.5	2.5	-1.12
15	Oct-01	4.5	5	-0.75	41	Jun-15	4.5	2.5	-1.12
16	May-02	4.5	5	-0.75	42	Jun-16	4.5	2.5	-1.12
18	Jun-03	4.5	2.5	-1.12	43	Jun-17	4.5	2.5	-1.12
19	Nov-03	4.5	2.5	-1.12	44	Jun-18	4.5	2.5	-1.12
20	Jun-04	4.5	2.5	-1.12	45	May-19	4.5	2.5	-1.12
21	Dec-04	4.5	2.5	-1.12	46	Jun-20	4.5	2.5	-1.12
22	Jun-05	4.5	2.5	-1.12					
23	Dec-05	4.5	2	-1.19					
24	Jun-06	4.5	6	-0.60					
25	Nov-06	4.5	2	-1.19					
26	Jun-07	4.5	2	-1.19					
27	Nov-07	4.5	1	-1.34					
28	Jun-08	4.5	1	-1.34					
29	Nov-08	4.5	0.5	-1.41					
30	Jun-09	4.5	0.5	-1.41					
31	Nov-09	4.5	2	-1.19					
32	Jun-10	4.5	2	-1.19					
33	Nov-10	4.5	2	-1.19					
34	Jun-11	4.5	2	-1.19					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

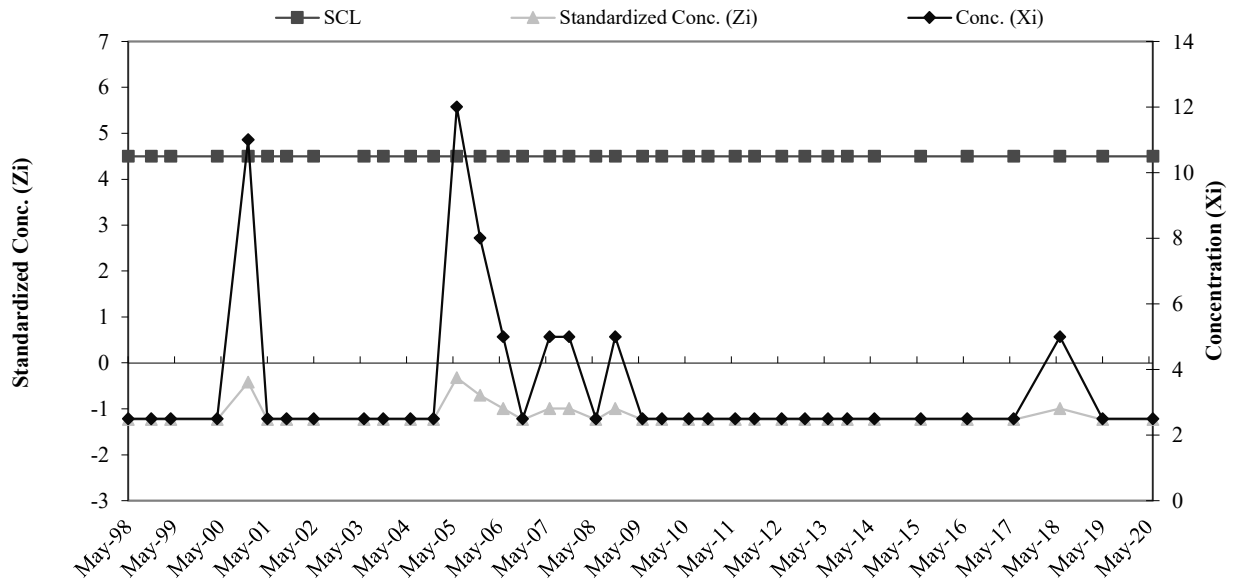


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-21d Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	15	15.37	10.43
2	Aug-95	20		
3	Feb-96	20		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	May-97	8		
8	Nov-97	30		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	2.5	-1.23	35	Nov-11	4.5	2.5	-1.23
10	Nov-98	4.5	2.5	-1.23	36	Jun-12	4.5	2.5	-1.23
11	Apr-99	4.5	2.5	-1.23	37	Dec-12	4.5	2.5	-1.23
12	Apr-00	4.5	2.5	-1.23	38	Jun-13	4.5	2.5	-1.23
13	Dec-00	4.5	11	-0.42	39	Nov-13	4.5	2.5	-1.23
14	May-01	4.5	2.5	-1.23	40	Jun-14	4.5	2.5	-1.23
15	Oct-01	4.5	2.5	-1.23	41	Jun-15	4.5	2.5	-1.23
16	May-02	4.5	2.5	-1.23	42	Jun-16	4.5	2.5	-1.23
18	Jun-03	4.5	2.5	-1.23	43	Jun-17	4.5	2.5	-1.23
19	Nov-03	4.5	2.5	-1.23	44	Jun-18	4.5	5	-0.99
20	Jun-04	4.5	2.5	-1.23	45	May-19	4.5	2.5	-1.23
20	Dec-04	4.5	2.5	-1.23	46	Jun-20	4.5	2.5	-1.23
21	Jun-05	4.5	12	-0.32					
22	Dec-05	4.5	8	-0.71					
23	Jun-06	4.5	5	-0.99					
24	Nov-06	4.5	2.5	-1.23					
25	Jun-07	4.5	5	-0.99					
26	Nov-07	4.5	5	-0.99					
27	Jun-08	4.5	2.5	-1.23					
28	Nov-08	4.5	5	-0.99					
30	Jun-09	4.5	2.5	-1.23					
31	Nov-09	4.5	2.5	-1.23					
32	Jun-10	4.5	2.5	-1.23					
33	Nov-10	4.5	2.5	-1.23					
34	Jun-11	4.5	2.5	-1.23					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

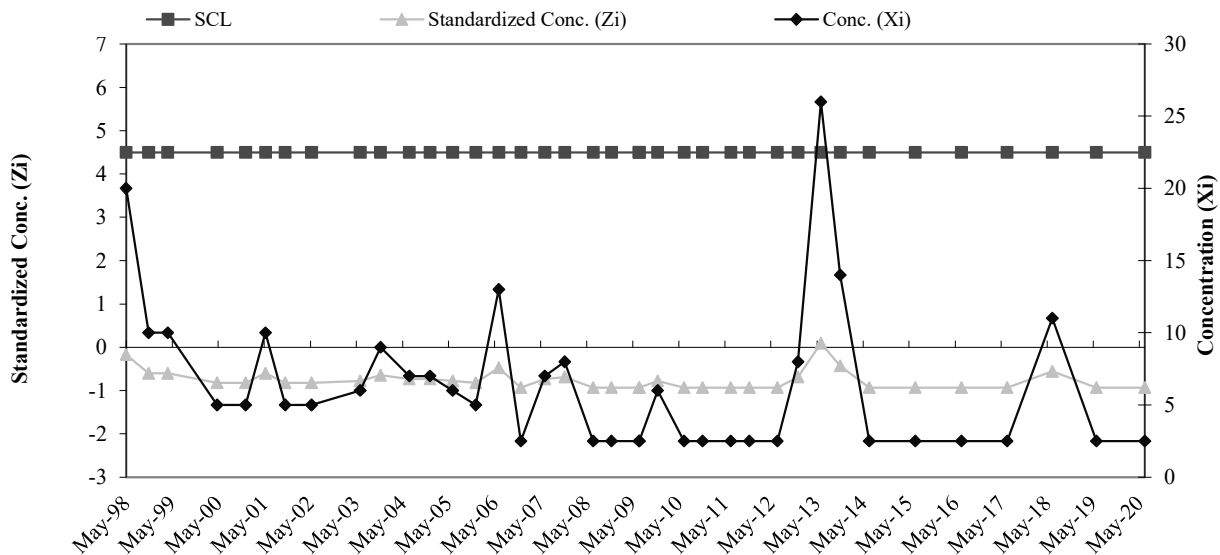


**COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-21d Zn**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	61	23.89	23.00
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10		
5	Aug-96	50		
6	Nov-96	40		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	20	-0.17	36	Nov-11	4.5	2.5	-0.93
10	Nov-98	4.5	10	-0.60	37	Jun-12	4.5	2.5	-0.93
11	Apr-99	4.5	10	-0.60	38	Dec-12	4.5	8	-0.69
12	Apr-00	4.5	5	-0.82	39	Jun-13	4.5	26	0.09
13	Dec-00	4.5	5	-0.82	40	Nov-13	4.5	14	-0.43
14	May-01	4.5	10	-0.60	41	Jun-14	4.5	2.5	-0.93
15	Oct-01	4.5	5	-0.82	42	Jun-15	4.5	2.5	-0.93
16	May-02	4.5	5	-0.82	43	Jun-16	4.5	2.5	-0.93
18	Jun-03	4.5	6	-0.78	44	Jun-17	4.5	2.5	-0.93
19	Nov-03	4.5	9	-0.65	45	Jun-18	4.5	11	-0.56
20	Jun-04	4.5	7	-0.73	46	May-19	4.5	2.5	-0.93
21	Dec-04	4.5	7	-0.73	47	Jun-20	4.5	2.5	-0.93
22	Jun-05	4.5	6	-0.78					
23	Dec-05	4.5	5	-0.82					
24	Jun-06	4.5	13	-0.47					
25	Nov-06	4.5	2.5	-0.93					
26	Jun-07	4.5	7	-0.73					
27	Nov-07	4.5	8	-0.69					
28	Jun-08	4.5	2.5	-0.93					
29	Nov-08	4.5	2.5	-0.93					
30	Jun-09	4.5	2.5	-0.93					
31	Jun-09	4.5	2.5	-0.93					
32	Nov-09	4.5	6	-0.78					
33	Jun-10	4.5	2.5	-0.93					
34	Nov-10	4.5	2.5	-0.93					
35	Jun-11	4.5	2.5	-0.93					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

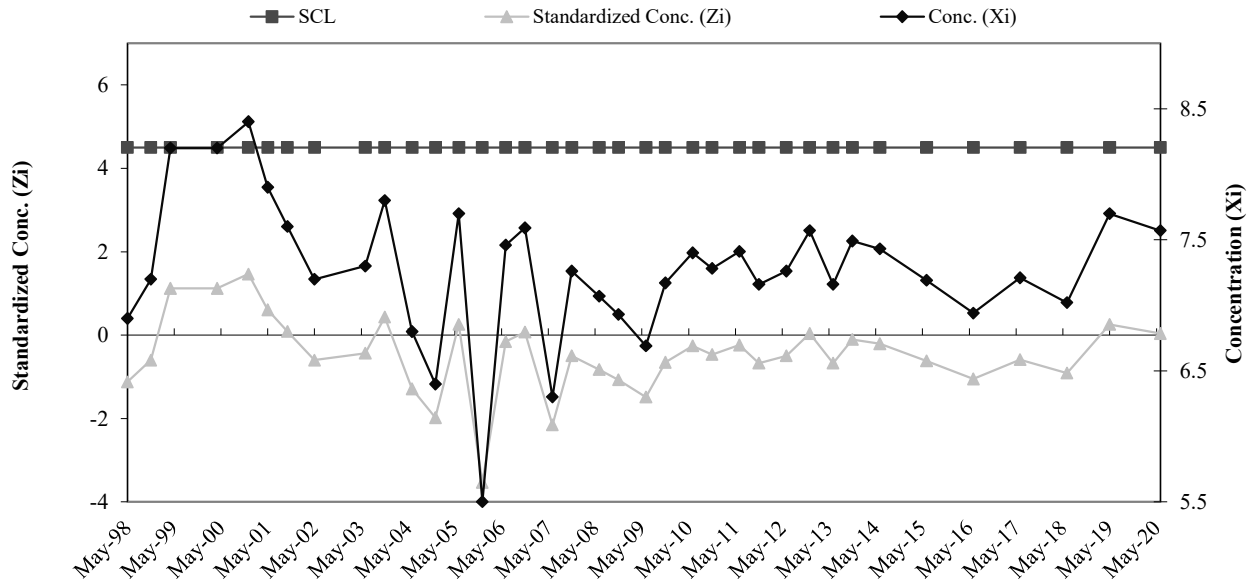


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-21d pH

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	8.3	7.55	0.58
2	Aug-95	8.1		
3	Feb-96	7.7		
4	Jun-96	7.6		
5	Aug-96	7.9		
6	Nov-96	7.3		
7	May-97	6.8		
8	Nov-97	6.7		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	6.9	-1.12	35	Nov-11	4.5	7.2	-0.67
10	Nov-98	4.5	7.2	-0.60	36	Jun-12	4.5	7.3	-0.50
11	Apr-99	4.5	8.2	1.12	37	Dec-12	4.5	7.6	0.03
12	Apr-00	4.5	8.2	1.12	38	Jun-13	4.5	7.2	-0.67
13	Dec-00	4.5	8.4	1.46	39	Nov-13	4.5	7.5	-0.10
14	May-01	4.5	7.9	0.60	40	Jun-14	4.5	7.4	-0.21
15	Oct-01	4.5	7.6	0.09	41	Jun-15	4.5	7.2	-0.62
16	May-02	4.5	7.2	-0.60	42	Jun-16	4.5	6.9	-1.05
18	Jun-03	4.5	7.3	-0.43	43	Jun-17	4.5	7.2	-0.59
19	Nov-03	4.5	7.8	0.43	44	Jun-18	4.5	7.0	-0.91
20	Jun-04	4.5	6.8	-1.29	45	May-19	4.5	7.7	0.26
21	Dec-04	4.5	6.4	-1.98	46	Jun-20	4.5	7.6	0.03
22	Jun-05	4.5	7.7	0.26					
23	Dec-05	4.5	5.5	-3.53					
24	Jun-06	4.5	7.5	-0.16					
25	Nov-06	4.5	7.6	0.07					
26	Jun-07	4.5	6.3	-2.15					
27	Nov-07	4.5	7.3	-0.50					
28	Jun-08	4.5	7.1	-0.83					
29	Nov-08	4.5	6.9	-1.07					
30	Jun-09	4.5	6.7	-1.48					
31	Nov-09	4.5	7.2	-0.65					
32	Jun-10	4.5	7.4	-0.26					
33	Nov-10	4.5	7.3	-0.47					
34	Jun-11	4.5	7.4	-0.24					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

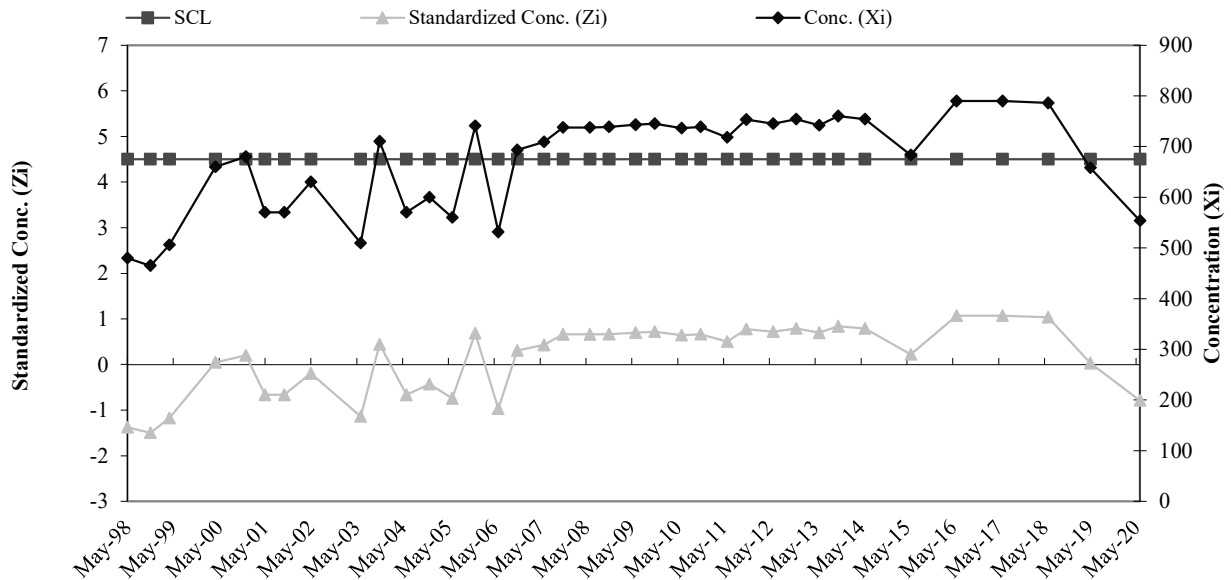


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-21d SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	870	654.13	126.68
2	Aug-95	684		
3	Feb-96	646		
4	Jun-96	577		
5	Aug-96	576		
6	Nov-96	810		
7	May-97	530		
8	Nov-97	540		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	480	-1.37	35	Nov-11	4.5	753	0.78
10	Nov-98	4.5	465	-1.49	36	Jun-12	4.5	745	0.72
11	Apr-99	4.5	506	-1.17	37	Dec-12	4.5	754	0.79
12	Apr-00	4.5	660	0.05	38	Jun-13	4.5	742	0.69
13	Dec-00	4.5	680	0.20	39	Nov-13	4.5	760	0.84
14	May-01	4.5	570	-0.66	40	Jun-14	4.5	754	0.79
15	Oct-01	4.5	570	-0.66	41	Jun-15	4.5	683	0.23
16	May-02	4.5	630	-0.19	42	Jun-16	4.5	790	1.07
18	Jun-03	4.5	510	-1.14	43	Jun-17	4.5	790	1.07
19	Nov-03	4.5	710	0.44	44	Jun-18	4.5	786	1.04
20	Jun-04	4.5	570	-0.66	45	May-19	4.5	658	0.03
21	Dec-04	4.5	600	-0.43	46	Jun-20	4.5	554	-0.79
22	Jun-05	4.5	560	-0.74					
23	Dec-05	4.5	741	0.69					
24	Jun-06	4.5	531.3	-0.97					
25	Nov-06	4.5	693	0.31					
26	Jun-07	4.5	709	0.43					
27	Nov-07	4.5	738	0.66					
28	Jun-08	4.5	738	0.66					
29	Nov-08	4.5	739	0.67					
30	Jun-09	4.5	743	0.70					
31	Nov-09	4.5	745	0.72					
32	Jun-10	4.5	736	0.65					
33	Nov-10	4.5	739	0.67					
34	Jun-11	4.5	718	0.50					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

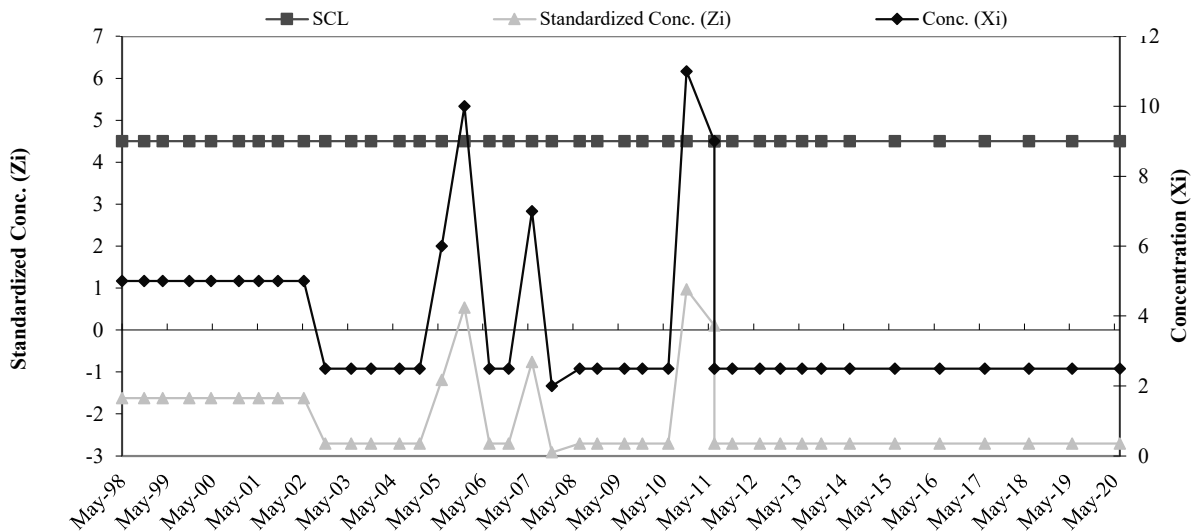


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-22D Cr

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	8.75	2.31
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-1.62	37	Nov-11	4.5	2.5	-2.70
10	Nov-98	4.5	5	-1.62	38	Jun-12	4.5	2.5	-2.70
11	Apr-99	4.5	5	-1.62	39	Dec-12	4.5	2.5	-2.70
12	Nov-99	4.5	5	-1.62	40	Jun-13	4.5	2.5	-2.70
13	Apr-00	4.5	5	-1.62	41	Nov-13	4.5	2.5	-2.70
14	Dec-00	4.5	5	-1.62	42	Jun-14	4.5	2.5	-2.70
15	May-01	4.5	5	-1.62	43	Jun-15	4.5	2.5	-2.70
16	Oct-01	4.5	5	-1.62	44	Jun-16	4.5	2.5	-2.70
17	May-02	4.5	5	-1.62	45	Jun-17	4.5	2.5	-2.70
18	Nov-02	4.5	2.5	-2.70	46	Jun-18	4.5	2.5	-2.70
19	Jun-03	4.5	2.5	-2.70	47	May-19	4.5	2.5	-2.70
20	Nov-03	4.5	2.5	-2.70	48	Jun-20	4.5	2.5	-2.70
21	Jun-04	4.5	2.5	-2.70					
22	Dec-04	4.5	2.5	-2.70					
23	Jun-05	4.5	6	-1.19					
24	Dec-05	4.5	10	0.54					
25	Jun-06	4.5	2.5	-2.70					
26	Nov-06	4.5	2.5	-2.70					
27	Jun-07	4.5	7	-0.76					
28	Nov-07	4.5	2	-2.92					
29	Jun-08	4.5	2.5	-2.70					
30	Nov-08	4.5	2.5	-2.70					
31	Jun-09	4.5	2.5	-2.70					
32	Nov-09	4.5	2.5	-2.70					
33	Jun-10	4.5	2.5	-2.70					
34	Nov-10	4.5	11	0.97					
35	Jun-11	4.5	9	0.11					
36	Jun-11	4.5	2.5	-2.70					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

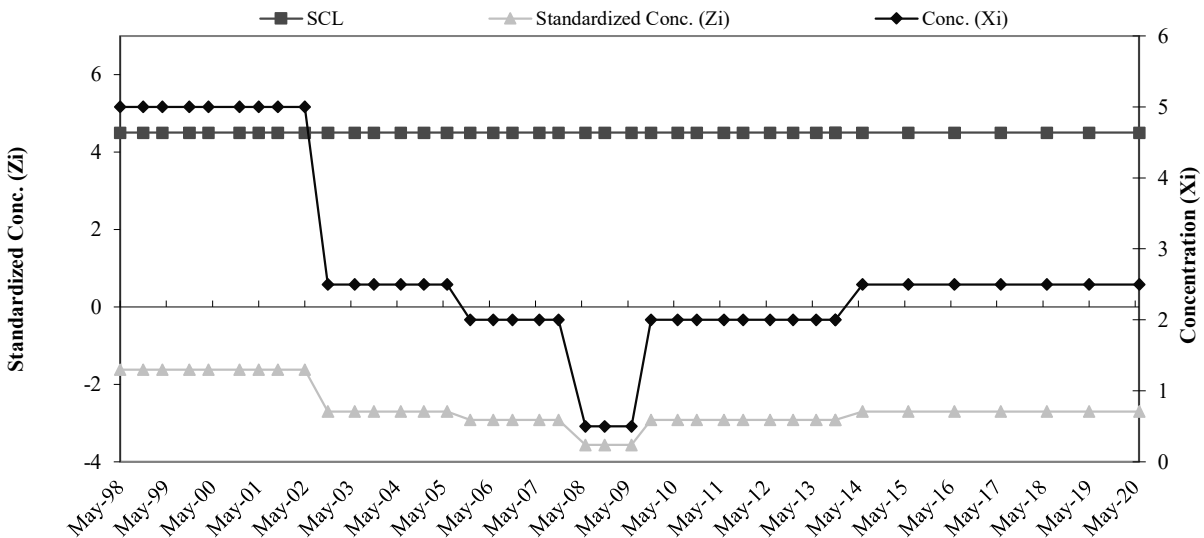


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-22D Cu

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	8.75	2.31
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-1.62	36	Nov-11	4.5	2	-2.92
10	Nov-98	4.5	5	-1.62	37	Jun-12	4.5	2	-2.92
11	Apr-99	4.5	5	-1.62	38	Dec-12	4.5	2	-2.92
12	Nov-99	4.5	5	-1.62	39	Jun-13	4.5	2	-2.92
13	Apr-00	4.5	5	-1.62	40	Nov-13	4.5	2	-2.92
14	Dec-00	4.5	5	-1.62	41	Nov-13	4.5	2	-2.92
15	May-01	4.5	5	-1.62	42	Jun-14	4.5	2.5	-2.70
16	Oct-01	4.5	5	-1.62	43	Jun-15	4.5	2.5	-2.70
17	May-02	4.5	5	-1.62	44	Jun-16	4.5	2.5	-2.70
18	Nov-02	4.5	2.5	-2.70	45	Jun-17	4.5	2.5	-2.70
19	Jun-03	4.5	2.5	-2.70	46	Jun-18	4.5	2.5	-2.70
20	Nov-03	4.5	2.5	-2.70	47	May-19	4.5	2.5	-2.70
21	Jun-04	4.5	2.5	-2.70	48	Jun-20	4.5	2.5	-2.70
22	Dec-04	4.5	2.5	-2.70					
23	Jun-05	4.5	2.5	-2.70					
24	Dec-05	4.5	2	-2.92					
25	Jun-06	4.5	2	-2.92					
26	Nov-06	4.5	2	-2.92					
27	Jun-07	4.5	2	-2.92					
28	Nov-07	4.5	2	-2.92					
29	Jun-08	4.5	0.5	-3.56					
30	Nov-08	4.5	0.5	-3.56					
31	Jun-09	4.5	0.5	-3.56					
32	Nov-09	4.5	2	-2.92					
33	Jun-10	4.5	2	-2.92					
34	Nov-10	4.5	2	-2.92					
35	Jun-11	4.5	2	-2.92					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

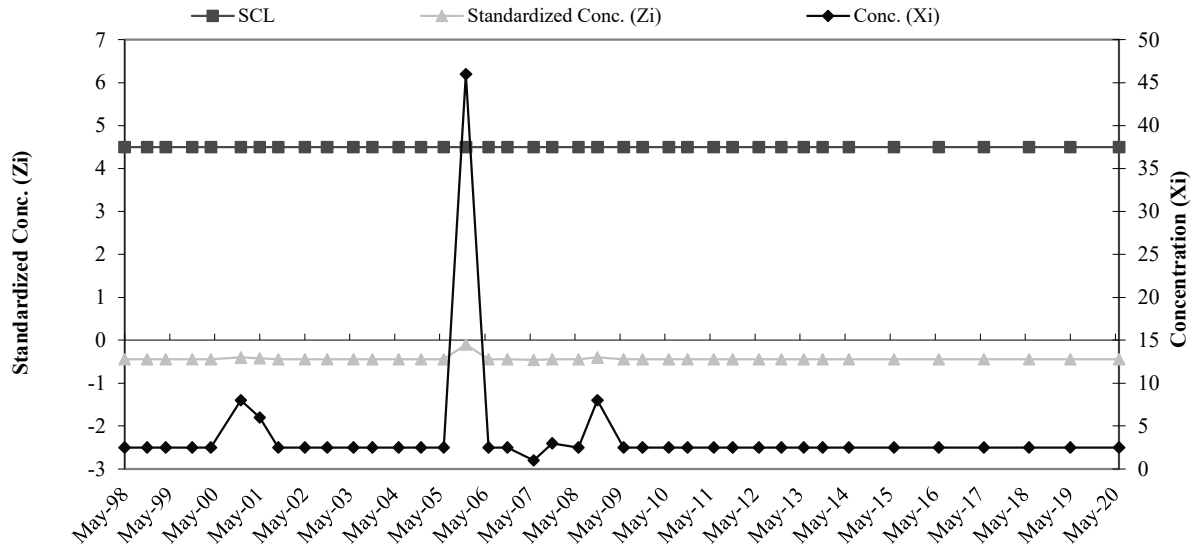


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-22D Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	370	58.94	125.96
2	Aug-95	20		
3	Feb-96	20		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	May-97	2.5		
8	Nov-97	29		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	2.5	-0.45	36	Nov-11	4.5	2.5	-0.45
10	Nov-98	4.5	2.5	-0.45	37	Jun-12	4.5	2.5	-0.45
11	Apr-99	4.5	2.5	-0.45	38	Dec-12	4.5	2.5	-0.45
12	Nov-99	4.5	2.5	-0.45	39	Jun-13	4.5	2.5	-0.45
13	Apr-00	4.5	2.5	-0.45	40	Nov-13	4.5	2.5	-0.45
14	Dec-00	4.5	8	-0.40	41	Jun-14	4.5	2.5	-0.45
15	May-01	4.5	6	-0.42	42	Jun-15	4.5	2.5	-0.45
16	Oct-01	4.5	2.5	-0.45	43	Jun-16	4.5	2.5	-0.45
17	May-02	4.5	2.5	-0.45	44	Jun-17	4.5	2.5	-0.45
18	Nov-02	4.5	2.5	-0.45	45	Jun-18	4.5	2.5	-0.45
19	Jun-03	4.5	2.5	-0.45	46	May-19	4.5	2.5	-0.45
20	Nov-03	4.5	2.5	-0.45	47	Jun-20	4.5	2.5	-0.45
21	Jun-04	4.5	2.5	-0.45					
22	Dec-04	4.5	2.5	-0.45					
23	Jun-05	4.5	2.5	-0.45					
24	Dec-05	4.5	46	-0.10					
25	Jun-06	4.5	2.5	-0.45					
26	Nov-06	4.5	2.5	-0.45					
27	Jun-07	4.5	1	-0.46					
28	Nov-07	4.5	3	-0.44					
29	Jun-08	4.5	2.5	-0.45					
30	Nov-08	4.5	8	-0.40					
31	Jun-09	4.5	2.5	-0.45					
32	Nov-09	4.5	2.5	-0.45					
33	Jun-10	4.5	2.5	-0.45					
34	Nov-10	4.5	2.5	-0.45					
35	Jun-11	4.5	2.5	-0.45					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

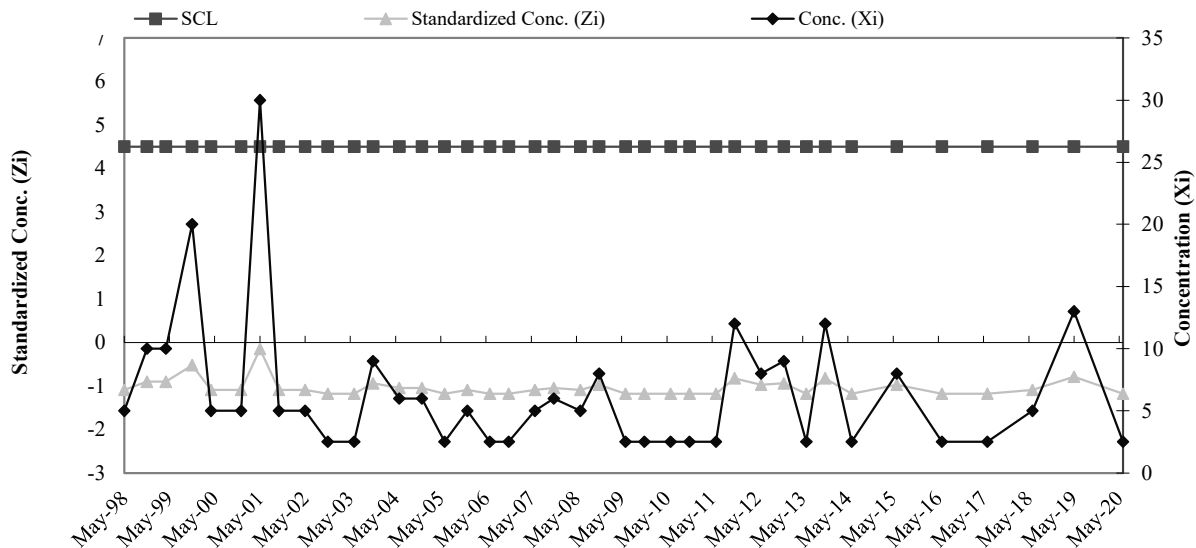


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-22D Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	34.00	26.69
2	Aug-95	47		
3	Feb-96	80		
4	Jun-96	20		
5	Aug-96	50		
6	Nov-96	50		
7	May-97	5		
8	Nov-97	10		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-1.09	36	Nov-11	4.5	12	-0.82
10	Nov-98	4.5	10	-0.90	37	Jun-12	4.5	8	-0.97
11	Apr-99	4.5	10	-0.90	38	Dec-12	4.5	9	-0.94
12	Nov-99	4.5	20	-0.52	39	Jun-13	4.5	2.5	-1.18
13	Apr-00	4.5	5	-1.09	40	Nov-13	4.5	12	-0.82
14	Dec-00	4.5	5	-1.09	41	Jun-14	4.5	2.5	-1.18
15	May-01	4.5	30	-0.15	42	Jun-15	4.5	8	-0.97
16	Oct-01	4.5	5	-1.09	43	Jun-16	4.5	2.5	-1.18
17	May-02	4.5	5	-1.09	44	Jun-17	4.5	2.5	-1.18
18	Nov-02	4.5	2.5	-1.18	45	Jun-18	4.5	5	-1.09
19	Jun-03	4.5	2.5	-1.18	46	May-19	4.5	13	-0.79
20	Nov-03	4.5	9	-0.94	47	Jun-20	4.5	2.5	-1.18
21	Jun-04	4.5	6	-1.05					
22	Dec-04	4.5	6	-1.05					
23	Jun-05	4.5	2.5	-1.18					
24	Dec-05	4.5	5	-1.09					
25	Jun-06	4.5	2.5	-1.18					
26	Nov-06	4.5	2.5	-1.18					
27	Jun-07	4.5	5	-1.09					
28	Nov-07	4.5	6	-1.05					
29	Jun-08	4.5	5	-1.09					
30	Nov-08	4.5	8	-0.97					
31	Jun-09	4.5	2.5	-1.18					
32	Nov-09	4.5	2.5	-1.18					
33	Jun-10	4.5	2.5	-1.18					
34	Nov-10	4.5	2.5	-1.18					
35	Jun-11	4.5	2.5	-1.18					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

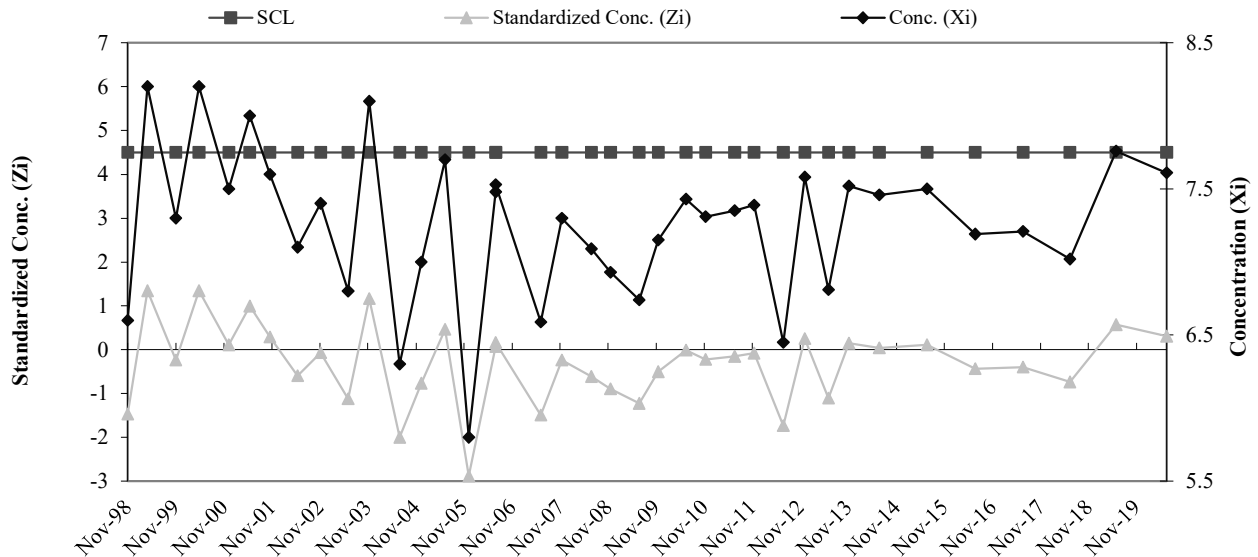


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-22D pH

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	7.7	7.44	0.57
2	Aug-95	8.3		
3	Jun-96	7.5		
4	Aug-96	8.1		
5	Nov-96	7.2		
6	May-97	6.7		
7	Nov-97	6.9		
8	May-98	7.1		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	6.6	-1.47	35	Nov-11	4.5	7.4	-0.08
10	Apr-99	4.5	8.2	1.34	36	Jun-12	4.5	6.5	-1.74
11	Nov-99	4.5	7.3	-0.24	37	Dec-12	4.5	7.6	0.25
12	Apr-00	4.5	8.2	1.34	38	Jun-13	4.5	6.8	-1.10
13	Dec-00	4.5	7.5	0.11	39	Nov-13	4.5	7.5	0.15
14	May-01	4.5	8	0.99	40	Jun-14	4.5	7.5	0.04
15	Oct-01	4.5	7.6	0.29	41	Jun-15	4.5	7.5	0.11
16	May-02	4.5	7.1	-0.59	42	Jun-16	4.5	7.2	-0.44
17	Nov-02	4.5	7.4	-0.07	43	Jun-17	4.5	7.2	-0.40
18	Jun-03	4.5	6.8	-1.12	44	Jun-18	4.5	7.0	-0.73
19	Nov-03	4.5	8.1	1.17	45	May-19	4.5	7.8	0.57
20	Jun-04	4.5	6.3	-2.00	46	Jun-20	4.5	7.6	0.30
21	Dec-04	4.5	7	-0.77					
22	Jun-05	4.5	7.7	0.46					
23	Dec-05	4.5	5.8	-2.88					
24	Jun-06	4.5	7.5	0.07					
25	Jun-06	4.5	7.5	0.16					
26	Jun-07	4.5	6.6	-1.49					
27	Nov-07	4.5	7.3	-0.24					
28	Jun-08	4.5	7.1	-0.61					
29	Nov-08	4.5	6.9	-0.89					
30	Jun-09	4.5	6.7	-1.23					
31	Nov-09	4.5	7.2	-0.51					
32	Jun-10	4.5	7.4	-0.01					
33	Nov-10	4.5	7.3	-0.22					
34	Jun-11	4.5	7.4	-0.15					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

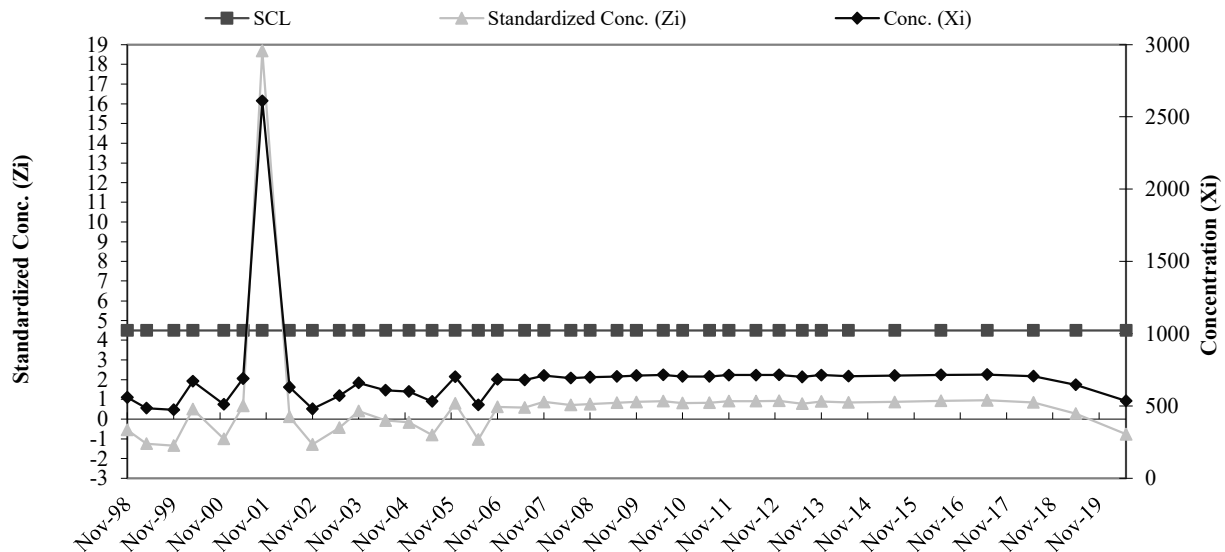


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-22D SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	573	617.25	106.65
2	Aug-95	739		
3	Jun-96	600		
4	Aug-96	608		
5	Nov-96	817		
6	May-97	550		
7	Nov-97	550		
8	May-98	501		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	559	-0.55	35	Nov-11	4.5	714	0.91
10	Apr-99	4.5	485	-1.24	36	Jun-12	4.5	714	0.91
11	Nov-99	4.5	474	-1.34	37	Dec-12	4.5	716	0.93
12	Apr-00	4.5	670	0.49	38	Jun-13	4.5	701	0.79
13	Dec-00	4.5	510	-1.01	39	Nov-13	4.5	713	0.90
14	May-01	4.5	690	0.68	40	Jun-14	4.5	707	0.84
15	Oct-01	4.5	2610	18.68	41	Jun-15	4.5	710	0.87
16	May-02	4.5	630	0.12	42	Jun-16	4.5	716	0.93
17	Nov-02	4.5	480	-1.29	43	Jun-17	4.5	718	0.94
18	Jun-03	4.5	570	-0.44	44	Jun-18	4.5	707	0.84
19	Nov-03	4.5	660	0.40	45	May-19	4.5	647	0.28
20	Jun-04	4.5	610	-0.07	46	Jun-20	4.5	535	-0.77
21	Dec-04	4.5	600	-0.16					
22	Jun-05	4.5	531	-0.81					
23	Dec-05	4.5	702	0.79					
24	Jun-06	4.5	507	-1.04					
25	Nov-06	4.5	684	0.63					
26	Jun-07	4.5	680	0.59					
27	Nov-07	4.5	710	0.87					
28	Jun-08	4.5	694	0.72					
29	Nov-08	4.5	699	0.77					
30	Jun-09	4.5	705	0.82					
31	Nov-09	4.5	710	0.87					
32	Jun-10	4.5	715	0.92					
33	Nov-10	4.5	704	0.81					
34	Jun-11	4.5	705	0.82					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

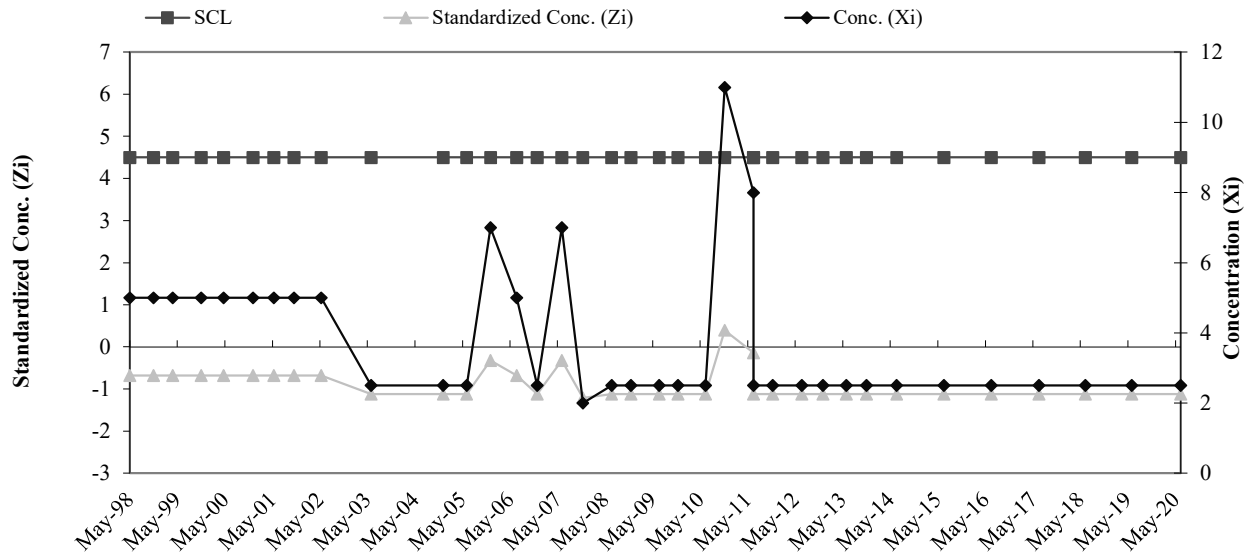


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-23d Cr

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	8.79	5.60
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.68	34	Nov-11	4.5	2.5	-1.12
10	Nov-98	4.5	5	-0.68	35	Jun-12	4.5	2.5	-1.12
11	Apr-99	4.5	5	-0.68	36	Dec-12	4.5	2.5	-1.12
12	Nov-99	4.5	5	-0.68	37	Jun-13	4.5	2.5	-1.12
13	Apr-00	4.5	5	-0.68	38	Nov-13	4.5	2.5	-1.12
14	Dec-00	4.5	5	-0.68	39	Jun-14	4.5	2.5	-1.12
15	May-01	4.5	5	-0.68	40	Jun-15	4.5	2.5	-1.12
16	Oct-01	4.5	5	-0.68	41	Jun-16	4.5	2.5	-1.12
17	May-02	4.5	5	-0.68	42	Jun-17	4.5	2.5	-1.12
18	Jun-03	4.5	2.5	-1.12	43	Jun-18	4.5	2.5	-1.12
19	Dec-04	4.5	2.5	-1.12	44	Jun-19	4.5	2.5	-1.12
20	Jun-05	4.5	2.5	-1.12	45	Jun-20	4.5	2.5	-1.12
21	Dec-05	4.5	7.0	-0.32					
22	Jun-06	4.5	5.0	-0.68					
23	Nov-06	4.5	2.5	-1.12					
24	Jun-07	4.5	7	-0.32					
25	Nov-07	4.5	2	-1.21					
26	Jun-08	4.5	2.5	-1.12					
27	Nov-08	4.5	2.5	-1.12					
28	Jun-09	4.5	2.5	-1.12					
29	Nov-09	4.5	2.5	-1.12					
30	Jun-10	4.5	2.5	-1.12					
31	Nov-10	4.5	11	0.39					
32	Jun-11	4.5	8	-0.14					
33	Jun-11	4.5	2.5	-1.12					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

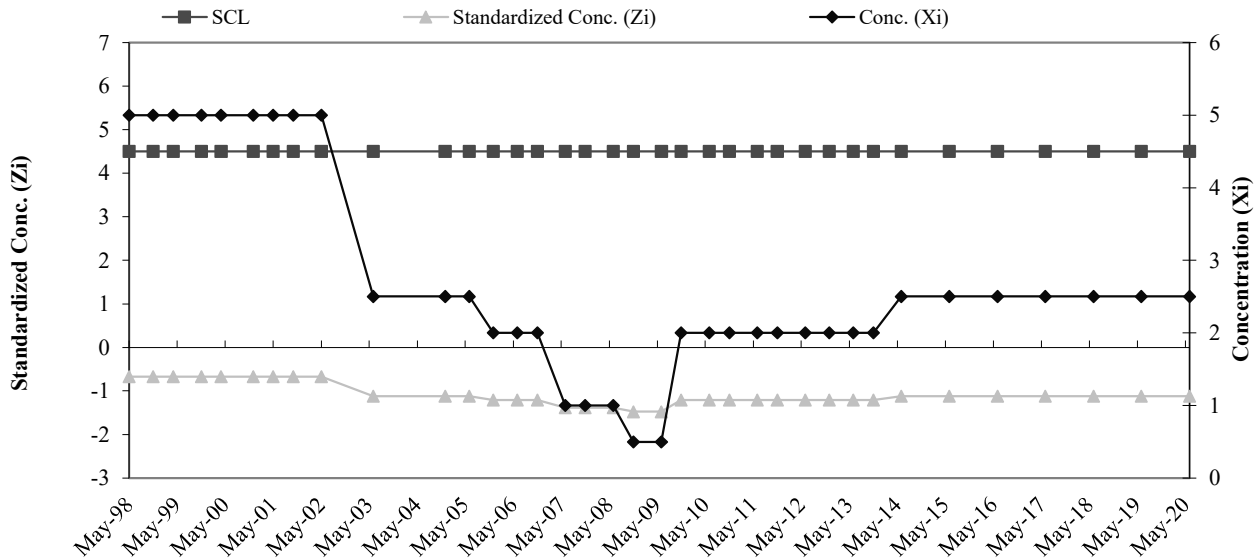


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-23d Cu

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	8.75	5.59
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.67	33	Nov-11	4.5	2	-1.21
10	Nov-98	4.5	5	-0.67	34	Jun-12	4.5	2	-1.21
11	Apr-99	4.5	5	-0.67	35	Dec-12	4.5	2	-1.21
12	Nov-99	4.5	5	-0.67	36	Jun-13	4.5	2	-1.21
13	Apr-00	4.5	5	-0.67	37	Nov-13	4.5	2	-1.21
14	Dec-00	4.5	5	-0.67	38	Jun-14	4.5	2.5	-1.12
15	May-01	4.5	5	-0.67	39	Jun-15	4.5	2.5	-1.12
16	Oct-01	4.5	5	-0.67	40	Jun-16	4.5	2.5	-1.12
17	May-02	4.5	5	-0.67	41	Jun-17	4.5	2.5	-1.12
18	Jun-03	4.5	2.5	-1.12	42	Jun-18	4.5	2.5	-1.12
19	Dec-04	4.5	2.5	-1.12	43	Jun-19	4.5	2.5	-1.12
20	Jun-05	4.5	2.5	-1.12	44	Jun-20	4.5	2.5	-1.12
21	Dec-05	4.5	2.0	-1.21					
22	Jun-06	4.5	2.0	-1.21					
23	Nov-06	4.5	2.0	-1.21					
24	Jun-07	4.5	1	-1.39					
25	Nov-07	4.5	1	-1.39					
26	Jun-08	4.5	1	-1.39					
27	Nov-08	4.5	0.5	-1.48					
28	Jun-09	4.5	0.5	-1.48					
29	Nov-09	4.5	2	-1.21					
30	Jun-10	4.5	2	-1.21					
31	Nov-10	4.5	2	-1.21					
32	Jun-11	4.5	2	-1.21					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

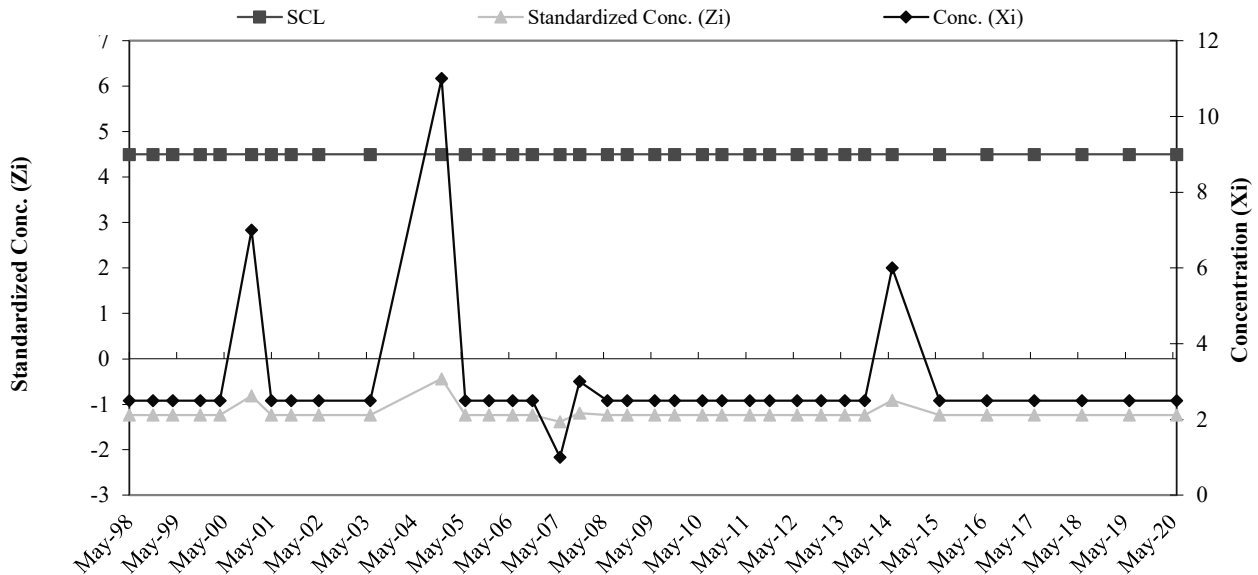


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-23d Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	15	15.61	10.57
2	Aug-95	20		
3	Feb-96	20		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	May-97	9		
8	Nov-97	31		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	2.5	-1.24	33	Nov-11	4.5	2.5	-1.24
10	Nov-98	4.5	2.5	-1.24	34	Jun-12	4.5	2.5	-1.24
11	Apr-99	4.5	2.5	-1.24	35	Dec-12	4.5	2.5	-1.24
12	Nov-99	4.5	2.5	-1.24	36	Jun-13	4.5	2.5	-1.24
13	Apr-00	4.5	2.5	-1.24	37	Nov-13	4.5	2.5	-1.24
14	Dec-00	4.5	7.0	-0.81	38	Jun-14	4.5	6	-0.91
15	May-01	4.5	2.5	-1.24	39	Jun-15	4.5	2.5	-1.24
16	Oct-01	4.5	2.5	-1.24	40	Jun-16	4.5	2.5	-1.24
17	May-02	4.5	2.5	-1.24	41	Jun-17	4.5	2.5	-1.24
18	Jun-03	4.5	2.5	-1.24	42	Jun-18	4.5	2.5	-1.24
19	Dec-04	4.5	11.0	-0.44	43	Jun-19	4.5	2.5	-1.24
20	Jun-05	4.5	2.5	-1.24	44	Jun-20	4.5	2.5	-1.24
21	Dec-05	4.5	2.5	-1.24					
22	Jun-06	4.5	2.5	-1.24					
23	Nov-06	4.5	2.5	-1.24					
24	Jun-07	4.5	1	-1.38					
25	Nov-07	4.5	3	-1.19					
26	Jun-08	4.5	2.5	-1.24					
27	Nov-08	4.5	2.5	-1.24					
28	Jun-09	4.5	2.5	-1.24					
29	Nov-09	4.5	2.5	-1.24					
30	Jun-10	4.5	2.5	-1.24					
31	Nov-10	4.5	2.5	-1.24					
32	Jun-11	4.5	2.5	-1.24					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

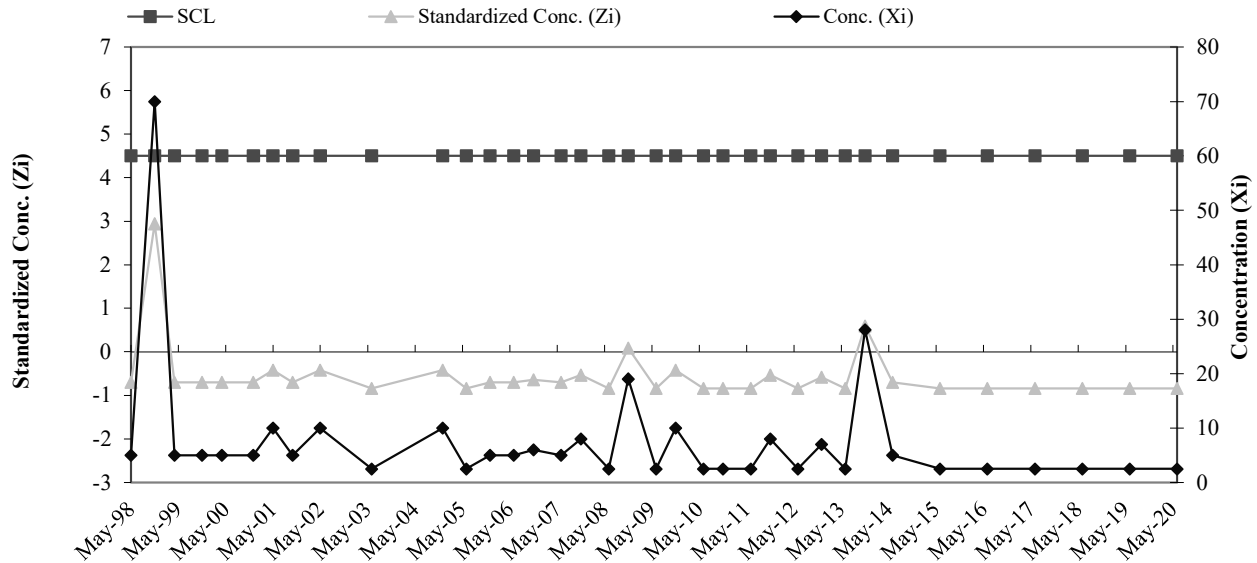


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-23d Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	17.49	17.84
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10		
5	Aug-96	50		
6	Nov-96	40		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5.0	-0.70	33	Nov-11	4.5	8	-0.53
10	Nov-98	4.5	70.0	2.94	34	Jun-12	4.5	2.5	-0.84
11	Apr-99	4.5	5.0	-0.70	35	Dec-12	4.5	7	-0.59
12	Nov-99	4.5	5.0	-0.70	36	Jun-13	4.5	2.5	-0.84
13	Apr-00	4.5	5.0	-0.70	37	Nov-13	4.5	28	0.59
14	Dec-00	4.5	5.0	-0.70	38	Jun-14	4.5	5	-0.70
15	May-01	4.5	10.0	-0.42	39	Jun-15	4.5	2.5	-0.84
16	Oct-01	4.5	5.0	-0.70	40	Jun-16	4.5	2.5	-0.84
17	May-02	4.5	10.0	-0.42	41	Jun-17	4.5	2.5	-0.84
18	Jun-03	4.5	2.5	-0.84	42	Jun-18	4.5	2.5	-0.84
19	Dec-04	4.5	10.0	-0.42	43	Jun-19	4.5	2.5	-0.84
20	Jun-05	4.5	2.5	-0.84	44	Jun-20	4.5	2.5	-0.84
21	Dec-05	4.5	5.0	-0.70					
22	Jun-06	4.5	5.0	-0.70					
23	Nov-06	4.5	6.0	-0.64					
24	Jun-07	4.5	5	-0.70					
25	Nov-07	4.5	8	-0.53					
26	Jun-08	4.5	2.5	-0.84					
27	Nov-08	4.5	19	0.08					
28	Jun-09	4.5	2.5	-0.84					
29	Nov-09	4.5	10	-0.42					
30	Jun-10	4.5	2.5	-0.84					
31	Nov-10	4.5	2.5	-0.84					
32	Jun-11	4.5	2.5	-0.84					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

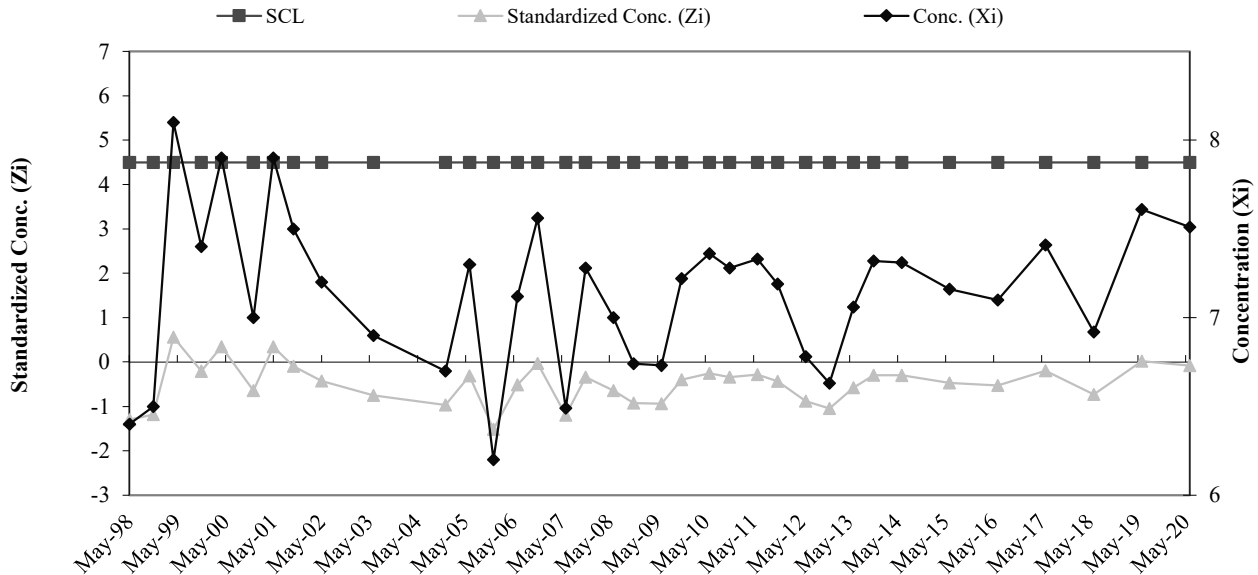


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-23d pH

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	7.3	7.59	0.91
2	Aug-95	8.2		
3	Feb-96	7.5		
4	Jun-96	8.3		
5	Aug-96	8.9		
6	Nov-96	7.7		
7	May-97	6.8		
8	Nov-97	6.0		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	6.4	-1.30	33	Nov-11	4.5	7.2	-0.43
10	Nov-98	4.5	6.5	-1.19	34	Jun-12	4.5	6.8	-0.88
11	Apr-99	4.5	8.1	0.56	35	Dec-12	4.5	6.6	-1.05
12	Nov-99	4.5	7.4	-0.21	36	Jun-13	4.5	7.1	-0.58
13	Apr-00	4.5	7.9	0.34	37	Nov-13	4.5	7.3	-0.29
14	Dec-00	4.5	7.0	-0.64	38	Jun-14	4.5	7.3	-0.30
15	May-01	4.5	7.9	0.34	39	Jun-15	4.5	7.2	-0.47
16	Oct-01	4.5	7.5	-0.10	40	Jun-16	4.5	7.1	-0.53
17	May-02	4.5	7.2	-0.42	41	Jun-17	4.5	7.4	-0.19
18	Jun-03	4.5	6.9	-0.75	42	Jun-18	4.5	6.9	-0.73
19	Dec-04	4.5	6.7	-0.97	43	Jun-19	4.5	7.6	0.02
20	Jun-05	4.5	7.3	-0.31	44	Jun-20	4.5	7.5	-0.08
21	Dec-05	4.5	6.2	-1.52					
22	Jun-06	4.5	7.1	-0.51					
23	Nov-06	4.5	7.6	-0.03					
24	Jun-07	4.5	6.5	-1.20					
25	Nov-07	4.5	7.3	-0.34					
26	Jun-08	4.5	7.0	-0.64					
27	Nov-08	4.5	6.7	-0.93					
28	Jun-09	4.5	6.7	-0.94					
29	Nov-09	4.5	7.2	-0.40					
30	Jun-10	4.5	7.4	-0.25					
31	Nov-10	4.5	7.3	-0.34					
32	Jun-11	4.5	7.3	-0.28					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

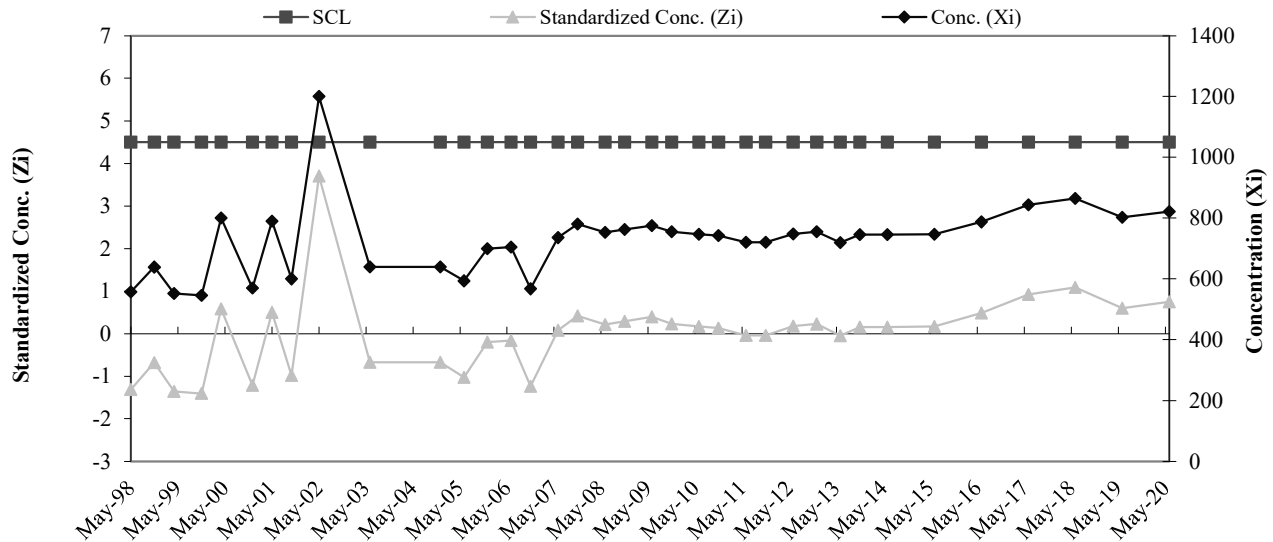


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-23d SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	680	725.75	127.98
2	Aug-95	845		
3	Feb-96	751		
4	Jun-96	632		
5	Aug-96	691		
6	Nov-96	977		
7	May-97	610		
8	Nov-97	620		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	558	-1.31	33	Nov-11	4.5	721	-0.04
10	Nov-98	4.5	639	-0.68	34	Jun-12	4.5	748	0.17
11	Apr-99	4.5	552	-1.36	35	Dec-12	4.5	755	0.23
12	Nov-99	4.5	546	-1.40	36	Jun-13	4.5	720	-0.04
13	Apr-00	4.5	800	0.58	37	Nov-13	4.5	746	0.16
14	Dec-00	4.5	570	-1.22	38	Jun-14	4.5	746	0.16
15	May-01	4.5	790	0.50	39	Jun-15	4.5	747	0.17
16	Oct-01	4.5	600	-0.98	40	Jun-16	4.5	788	0.49
17	May-02	4.5	1200	3.71	41	Jun-17	4.5	844	0.92
18	Jun-03	4.5	640	-0.67	42	Jun-18	4.5	865	1.09
19	Dec-04	4.5	640	-0.67	43	Jun-19	4.5	803	0.60
20	Jun-05	4.5	594	-1.03	44	Jun-20	4.5	822	0.75
21	Dec-05	4.5	700	-0.20					
22	Jun-06	4.5	705	-0.16					
23	Nov-06	4.5	568	-1.23					
24	Jun-07	4.5	736	0.08					
25	Nov-07	4.5	780	0.42					
26	Jun-08	4.5	753	0.21					
27	Nov-08	4.5	763	0.29					
28	Jun-09	4.5	776	0.39					
29	Nov-09	4.5	756	0.24					
30	Jun-10	4.5	747	0.17					
31	Nov-10	4.5	743	0.13					
32	Jun-11	4.5	721	-0.04					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

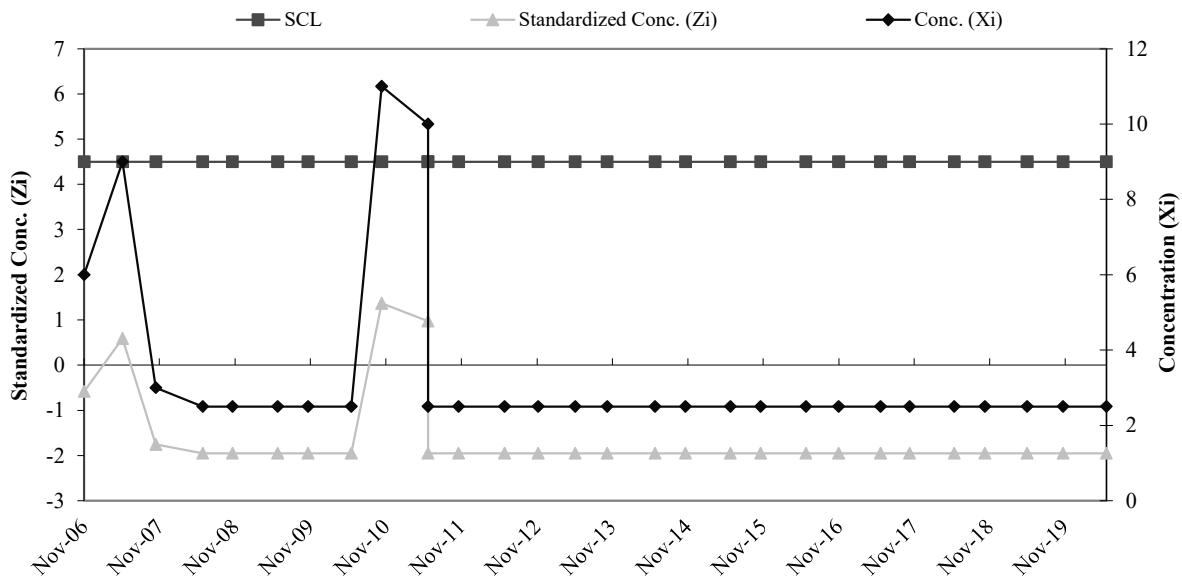


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-24 Cr

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Aug-96	10	7.50	2.56
2	Nov-96	10		
3	May-97	5		
4	May-98	5		
5	Nov-03	5		
6	Jun-05	8		
7	Dec-05	11		
8	Jun-06	6		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-06	4.5	6	-0.59	35	May-19	4.5	2.5	-1.95
10	Jun-07	4.5	9	0.59	36	Nov-19	4.5	2.5	-1.95
11	Nov-07	4.5	3	-1.76	37	Jun-20	4.5	2.5	-1.95
12	Jun-08	4.5	2.5	-1.95					
13	Nov-08	4.5	2.5	-1.95					
14	Jun-09	4.5	2.5	-1.95					
15	Nov-09	4.5	2.5	-1.95					
16	Jun-10	4.5	2.5	-1.95					
17	Nov-10	4.5	11	1.37					
18	Jun-11	4.5	10	0.98					
19	Jun-11	4.5	2.5	-1.95					
20	Nov-11	4.5	2.5	-1.95					
21	Jun-12	4.5	2.5	-1.95					
22	Dec-12	4.5	2.5	-1.95					
23	Jun-13	4.5	2.5	-1.95					
24	Nov-13	4.5	2.5	-1.95					
25	Jun-14	4.5	2.5	-1.95					
26	Nov-14	4.5	2.5	-1.95					
27	Jun-15	4.5	2.5	-1.95					
28	Nov-15	4.5	2.5	-1.95					
29	Jun-16	4.5	2.5	-1.95					
30	Nov-16	4.5	2.5	-1.95					
31	Jun-17	4.5	2.5	-1.95					
32	Nov-17	4.5	2.5	-1.95					
33	Jun-18	4.5	2.5	-1.95					
34	Nov-18	4.5	2.5	-1.95					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

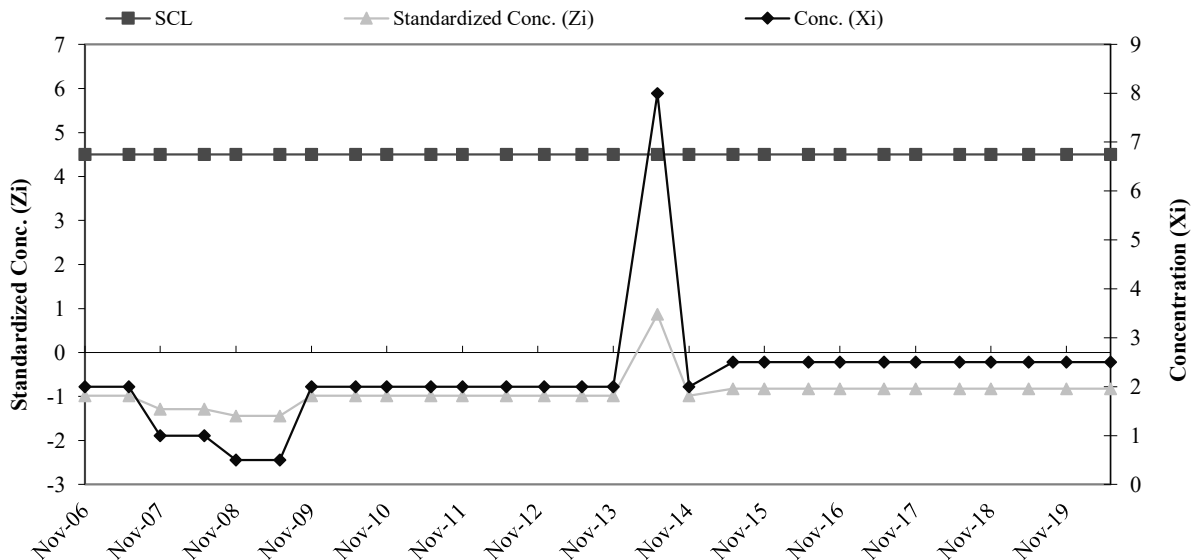


**COLDWATER ROAD LANDFILL FACILITY
 RCRA GROUND WATER DETECTION MONITORING SYSTEM
 SHEWART CONTROL CHART
 B-24 Cu**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Aug-96	10	5.19	3.25
2	Nov-96	10		
3	May-97	5		
4	May-98	5		
5	Nov-03	5		
6	Jun-05	2.5		
7	Dec-05	2		
8	Jun-06	2		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-06	4.5	2	-0.98	35	Nov-19	4.5	2.5	-0.83
10	Jun-07	4.5	2	-0.98	36	Jun-20	4.5	2.5	-0.83
11	Nov-07	4.5	1	-1.29					
12	Jun-08	4.5	1	-1.29					
13	Nov-08	4.5	0.5	-1.44					
14	Jun-09	4.5	0.5	-1.44					
15	Nov-09	4.5	2	-0.98					
16	Jun-10	4.5	2	-0.98					
17	Nov-10	4.5	2	-0.98					
18	Jun-11	4.5	2	-0.98					
19	Nov-11	4.5	2	-0.98					
20	Jun-12	4.5	2	-0.98					
21	Dec-12	4.5	2	-0.98					
22	Jun-13	4.5	2	-0.98					
23	Nov-13	4.5	2	-0.98					
24	Jun-14	4.5	8	0.87					
25	Nov-14	4.5	2	-0.98					
26	Jun-15	4.5	2.5	-0.83					
27	Nov-15	4.5	2.5	-0.83					
28	Jun-16	4.5	2.5	-0.83					
29	Nov-16	4.5	2.5	-0.83					
30	Jun-17	4.5	2.5	-0.83					
31	Nov-17	4.5	2.5	-0.83					
32	Jun-18	4.5	2.5	-0.83					
33	Nov-18	4.5	2.5	-0.83					
34	May-19	4.5	2.5	-0.83					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

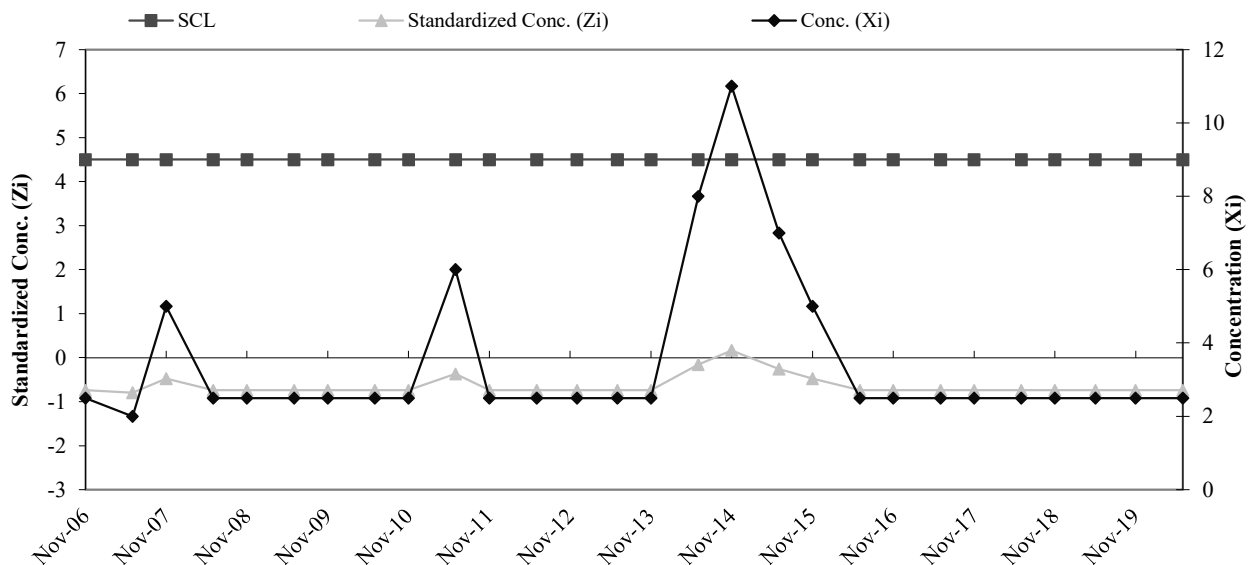


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-24 Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Aug-96	10	9.44	9.35
2	Nov-96	10		
3	May-97	31		
4	May-98	8		
5	Nov-03	9		
6	Jun-05	2.5		
7	Dec-05	2.5		
8	Jun-06	2.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-06	4.5	2.5	-0.74	35	Nov-19	4.5	2.5	-0.74
10	Jun-07	4.5	2	-0.80	36	Jun-20	4.5	2.5	-0.74
11	Nov-07	4.5	5	-0.47					
12	Jun-08	4.5	2.5	-0.74					
13	Nov-08	4.5	2.5	-0.74					
14	Jun-09	4.5	2.5	-0.74					
15	Nov-09	4.5	2.5	-0.74					
16	Jun-10	4.5	2.5	-0.74					
17	Nov-10	4.5	2.5	-0.74					
18	Jun-11	4.5	6	-0.37					
19	Nov-11	4.5	2.5	-0.74					
20	Jun-12	4.5	2.5	-0.74					
21	Dec-12	4.5	2.5	-0.74					
22	Jun-13	4.5	2.5	-0.74					
23	Nov-13	4.5	2.5	-0.74					
24	Jun-14	4.5	8	-0.15					
25	Nov-14	4.5	11	0.17					
26	Jun-15	4.5	7	-0.26					
27	Nov-15	4.5	5	-0.47					
28	Jun-16	4.5	2.5	-0.74					
29	Nov-16	4.5	2.5	-0.74					
30	Jun-17	4.5	2.5	-0.74					
31	Nov-17	4.5	2.5	-0.74					
32	Jun-18	4.5	2.5	-0.74					
33	Nov-18	4.5	2.5	-0.74					
34	May-19	4.5	2.5	-0.74					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

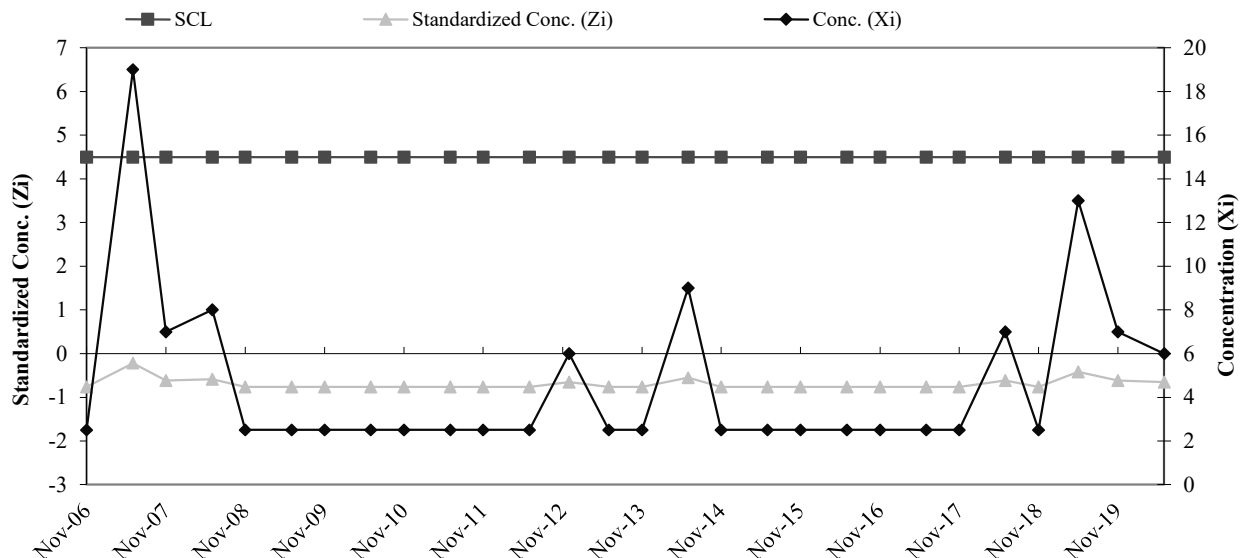


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-24 Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Aug-96	90	25.63	30.14
2	Nov-96	50		
3	May-97	10		
4	May-98	20		
5	Nov-03	20		
6	Jun-05	2.5		
7	Dec-05	10		
8	Jun-06	2.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-06	4.5	2.5	-0.77	35	Nov-19	4.5	7	-0.62
10	Jun-07	4.5	19	-0.22	36	Jun-20	4.5	6	-0.65
11	Nov-07	4.5	7	-0.62					
12	Jun-08	4.5	8	-0.58					
13	Nov-08	4.5	2.5	-0.77					
14	Jun-09	4.5	2.5	-0.77					
15	Nov-09	4.5	2.5	-0.77					
16	Jun-10	4.5	2.5	-0.77					
17	Nov-10	4.5	2.5	-0.77					
18	Jun-11	4.5	2.5	-0.77					
19	Nov-11	4.5	2.5	-0.77					
20	Jun-12	4.5	2.5	-0.77					
21	Dec-12	4.5	6	-0.65					
22	Jun-13	4.5	2.5	-0.77					
23	Nov-13	4.5	2.5	-0.77					
24	Jun-14	4.5	9	-0.55					
25	Nov-14	4.5	2.5	-0.77					
26	Jun-15	4.5	2.5	-0.77					
27	Nov-15	4.5	2.5	-0.77					
28	Jun-16	4.5	2.5	-0.77					
29	Nov-16	4.5	2.5	-0.77					
30	Jun-17	4.5	2.5	-0.77					
31	Nov-17	4.5	2.5	-0.77					
32	Jun-18	4.5	7	-0.62					
33	Nov-18	4.5	2.5	-0.77					
34	May-19	4.5	13	-0.42					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

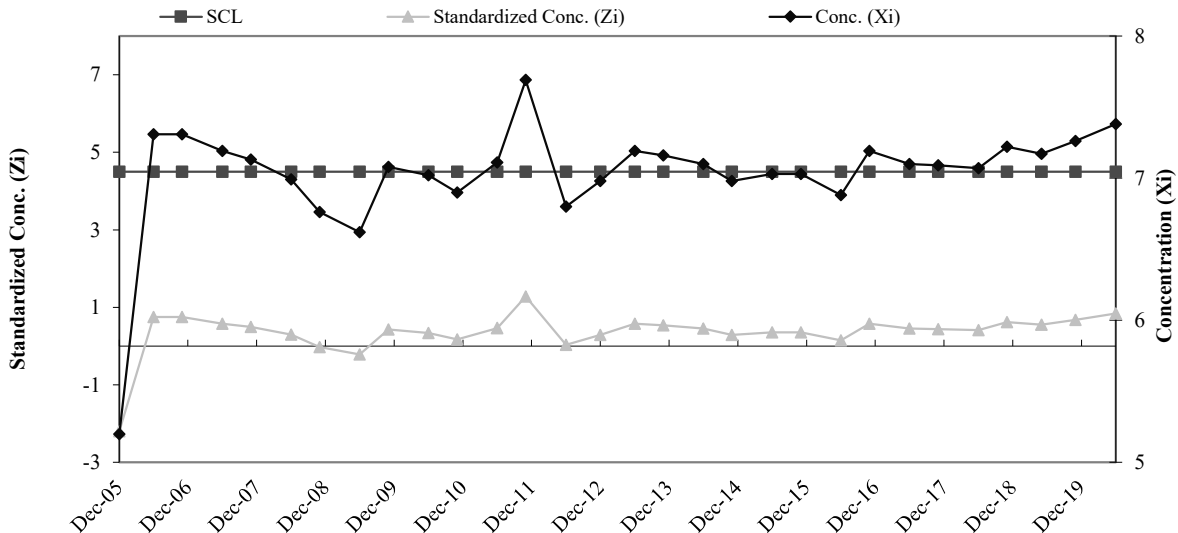


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-24 pH

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Aug-96	7.8	6.78	0.72
2	Nov-96	7.1		
3	May-97	6.4		
4	May-98	7		
5	Nov-98	6		
6	Nov-99	7		
7	May-01	6.4		
8	Jun-05	7.3		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Dec-05	4.5	5.2	-2.20	35	Nov-19	4.5	7.3	0.68
10	Jun-06	4.5	7.3	0.75	36	Jun-20	4.5	7.4	0.84
11	Nov-06	4.5	7.3	0.75					
12	Jun-07	4.5	7.2	0.58					
13	Nov-07	4.5	7.1	0.50					
14	Jun-08	4.5	7.0	0.30					
15	Nov-08	4.5	6.8	-0.02					
14	Jun-09	4.5	6.6	-0.22					
15	Nov-09	4.5	7.1	0.43					
16	Jun-10	4.5	7.0	0.34					
17	Nov-10	4.5	6.9	0.17					
18	Jun-11	4.5	7.1	0.47					
19	Nov-11	4.5	7.7	1.28					
20	Jun-12	4.5	6.8	0.03					
21	Dec-12	4.5	7.0	0.29					
22	Jun-13	4.5	7.2	0.58					
23	Nov-13	4.5	7.2	0.54					
24	Jun-14	4.5	7.1	0.45					
25	Nov-14	4.5	7.0	0.29					
26	Jun-15	4.5	7.0	0.36					
27	Nov-15	4.5	7.0	0.36					
28	Jun-16	4.5	6.9	0.15					
29	Nov-16	4.5	7.2	0.58					
30	Jun-17	4.5	7.1	0.45					
31	Nov-17	4.5	7.1	0.44					
32	Jun-18	4.5	7.1	0.41					
33	Nov-18	4.5	7.2	0.62					
34	May-19	4.5	7.2	0.55					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

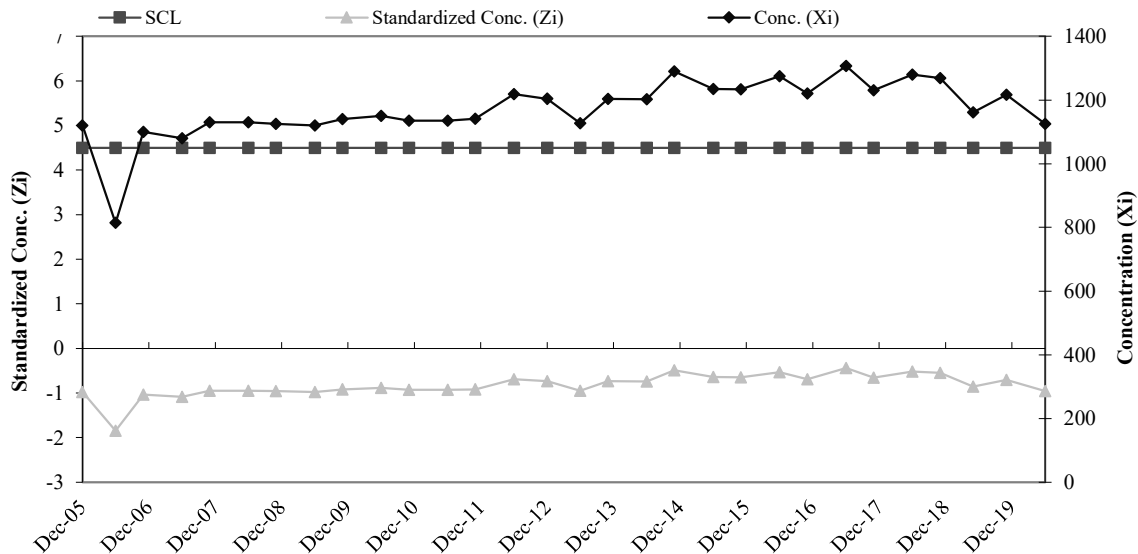


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-24 SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Aug-96	1502	1,462.00	351.23
2	Nov-96	2030		
3	May-97	1700		
4	May-98	1410		
5	Nov-98	1595		
6	Nov-99	1152		
7	May-01	1450		
8	Jun-05	857		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Dec-05	4.5	1120	-0.97	37	Nov-19	4.5	1216	-0.70
10	Jun-06	4.5	814	-1.84	38	Jun-20	4.5	1125	-0.96
11	Nov-06	4.5	1100	-1.03					
12	Jun-07	4.5	1080	-1.09					
13	Nov-07	4.5	1130	-0.95					
14	Jun-08	4.5	1130	-0.95					
15	Nov-08	4.5	1125	-0.96					
16	Jun-09	4.5	1120	-0.97					
17	Nov-09	4.5	1140	-0.92					
18	Jun-10	4.5	1150	-0.89					
19	Nov-10	4.5	1136	-0.93					
20	Jun-11	4.5	1136	-0.93					
21	Nov-11	4.5	1141	-0.91					
22	Jun-12	4.5	1219	-0.69					
23	Dec-12	4.5	1204	-0.73					
24	Jun-13	4.5	1127	-0.95					
25	Nov-13	4.5	1203	-0.74					
26	Jun-14	4.5	1202	-0.74					
27	Nov-14	4.5	1290	-0.49					
28	Jun-15	4.5	1235	-0.65					
29	Nov-15	4.5	1234	-0.65					
30	Jun-16	4.5	1275	-0.53					
31	Nov-16	4.5	1220	-0.69					
32	Jun-17	4.5	1307	-0.44					
33	Nov-17	4.5	1231	-0.66					
34	Jun-18	4.5	1280	-0.52					
35	Nov-18	4.5	1269	-0.55					
36	May-19	4.5	1161	-0.86					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

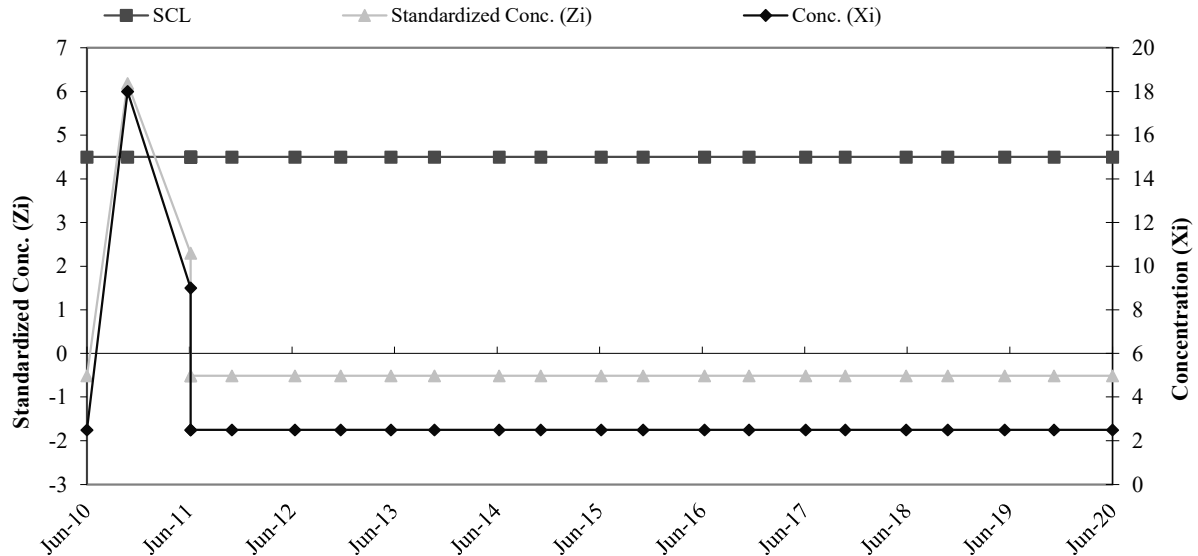


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-28 Cr

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-06	5	3.69	2.31
2	Dec-06	2.5		
3	Jun-07	9		
4	Nov-07	3		
5	Jun-08	2.5		
6	Nov-08	2.5		
7	Jun-09	2.5		
8	Nov-09	2.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Jun-10	4.5	2.5	-0.51
10	Nov-10	4.5	18	6.19
11	Jun-11	4.5	9	2.30
12	Jun-11	4.5	2.5	-0.51
13	Jun-11	4.5	2.5	-0.51
14	Nov-11	4.5	2.5	-0.51
15	Jun-12	4.5	2.5	-0.51
16	Dec-12	4.5	2.5	-0.51
17	Jun-13	4.5	2.5	-0.51
18	Nov-13	4.5	2.5	-0.51
19	Jun-14	4.5	2.5	-0.51
20	Nov-14	4.5	2.5	-0.51
21	Jun-15	4.5	2.5	-0.51
22	Nov-15	4.5	2.5	-0.51
23	Jun-16	4.5	2.5	-0.51
24	Nov-16	4.5	2.5	-0.51
25	Jun-17	4.5	2.5	-0.51
26	Nov-17	4.5	2.5	-0.51
27	Jun-18	4.5	2.5	-0.51
28	Nov-18	4.5	2.5	-0.51
29	May-19	4.5	2.5	-0.51
30	Nov-19	4.5	2.5	-0.51
31	Jun-20	4.5	2.5	-0.51

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

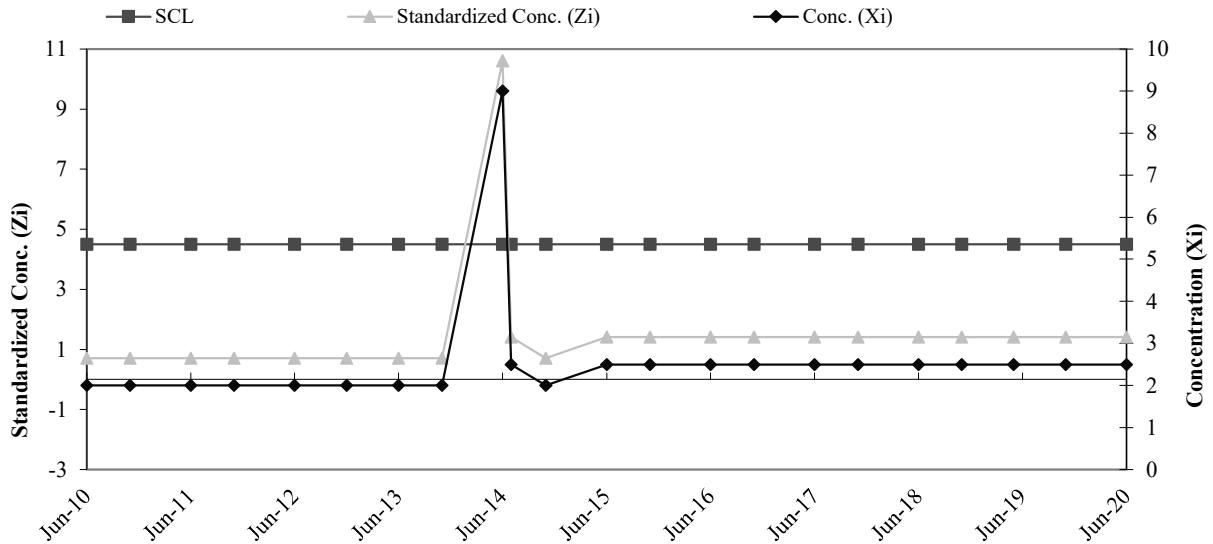


**COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-28 Cu**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-06	2	1.50	0.71
2	Dec-06	2		
3	Jun-07	2		
4	Nov-07	2		
5	Jun-08	1		
6	Nov-08	0.5		
7	Jun-09	0.5		
8	Nov-09	2		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Jun-10	4.5	2	0.71
10	Nov-10	4.5	2	0.71
11	Jun-11	4.5	2	0.71
12	Nov-11	4.5	2	0.71
13	Jun-12	4.5	2	0.71
14	Dec-12	4.5	2	0.71
15	Jun-13	4.5	2	0.71
16	Nov-13	4.5	2	0.71
17	Jun-14	4.5	9	10.61
18	Jul-14	4.5	2.5	1.41
19	Nov-14	4.5	2	0.71
20	Jun-15	4.5	2.5	1.41
21	Nov-15	4.5	2.5	1.41
22	Jun-16	4.5	2.5	1.41
23	Nov-16	4.5	2.5	1.41
24	Jun-17	4.5	2.5	1.41
25	Nov-17	4.5	2.5	1.41
26	Jun-18	4.5	2.5	1.41
27	Nov-18	4.5	2.5	1.41
28	May-19	4.5	2.5	1.41
29	Nov-19	4.5	2.5	1.41
30	Jun-20	4.5	2.5	1.41

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

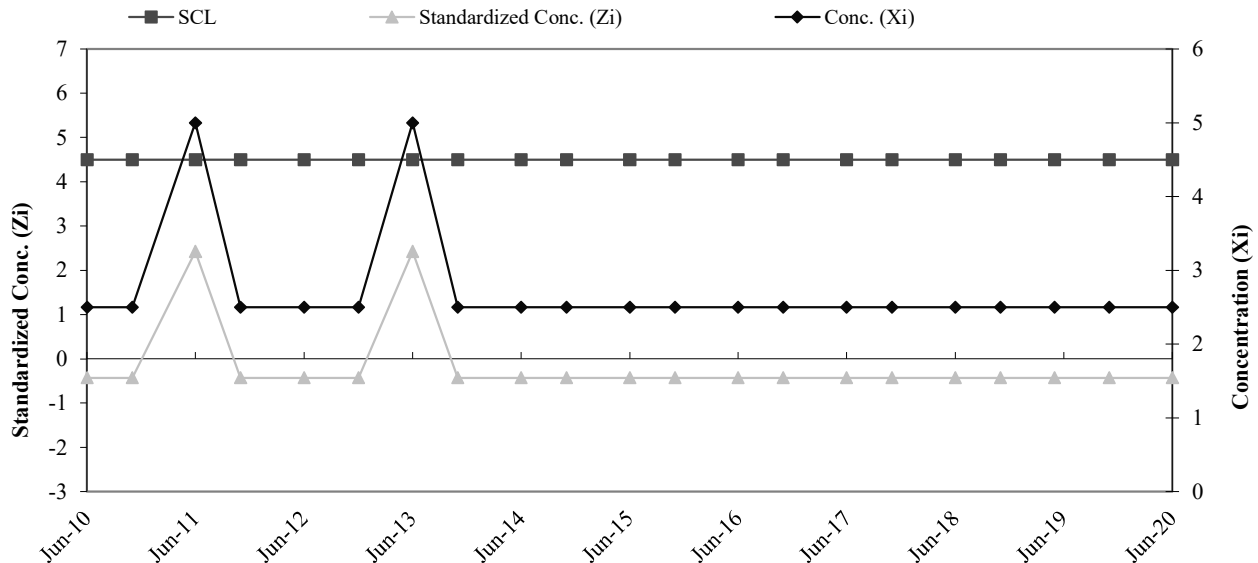


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-28 Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-06	2.5	2.88	0.88
2	Dec-06	2.5		
3	Jun-07	3		
4	Nov-07	5		
5	Jun-08	2.5		
6	Nov-08	2.5		
7	Jun-09	2.5		
8	Nov-09	2.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Jun-10	4.5	2.5	-0.43
10	Nov-10	4.5	2.5	-0.43
9	Jun-11	4.5	5	2.43
10	Nov-11	4.5	2.5	-0.43
11	Jun-12	4.5	2.5	-0.43
12	Dec-12	4.5	2.5	-0.43
13	Jun-13	4.5	5	2.43
14	Nov-13	4.5	2.5	-0.43
15	Jun-14	4.5	2.5	-0.43
16	Nov-14	4.5	2.5	-0.43
17	Jun-15	4.5	2.5	-0.43
18	Nov-15	4.5	2.5	-0.43
19	Jun-16	4.5	2.5	-0.43
20	Nov-16	4.5	2.5	-0.43
21	Jun-17	4.5	2.5	-0.43
22	Nov-17	4.5	2.5	-0.43
23	Jun-18	4.5	2.5	-0.43
24	Nov-18	4.5	2.5	-0.43
25	May-19	4.5	2.5	-0.43
26	Nov-19	4.5	2.5	-0.43
27	Jun-20	4.5	2.5	-0.43

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

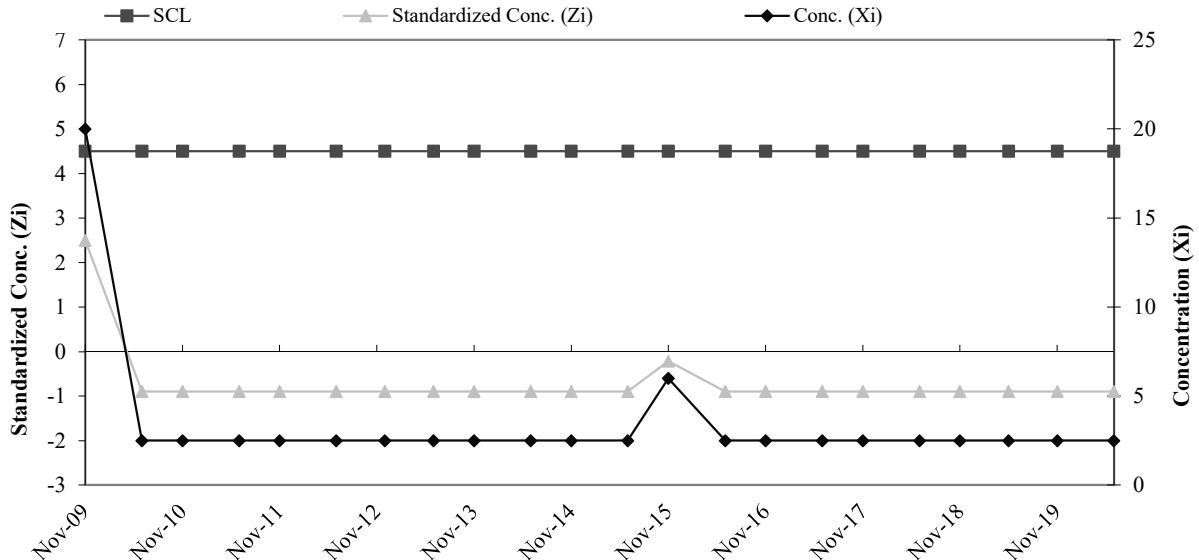


**COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-28 Zn**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Nov-05	7	7.13	5.16
2	Jun-06	18		
3	Dec-06	5		
4	Jun-07	6		
5	Nov-07	11		
6	Jun-08	5		
7	Nov-08	2.5		
8	Jun-09	2.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-09	4.5	20	2.50
10	Jun-10	4.5	2.5	-0.90
11	Nov-10	4.5	2.5	-0.90
12	Jun-11	4.5	2.5	-0.90
13	Nov-11	4.5	2.5	-0.90
14	Jun-12	4.5	2.5	-0.90
15	Dec-12	4.5	2.5	-0.90
16	Jun-13	4.5	2.5	-0.90
17	Nov-13	4.5	2.5	-0.90
18	Jun-14	4.5	2.5	-0.90
19	Nov-14	4.5	2.5	-0.90
20	Jun-15	4.5	2.5	-0.90
21	Nov-15	4.5	6	-0.22
22	Jun-16	4.5	2.5	-0.90
23	Nov-16	4.5	2.5	-0.90
24	Jun-17	4.5	2.5	-0.90
25	Nov-17	4.5	2.5	-0.90
26	Jun-18	4.5	2.5	-0.90
27	Nov-18	4.5	2.5	-0.90
28	May-19	4.5	2.5	-0.90
29	Nov-19	4.5	2.5	-0.90
30	Jun-20	4.5	2.5	-0.90

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

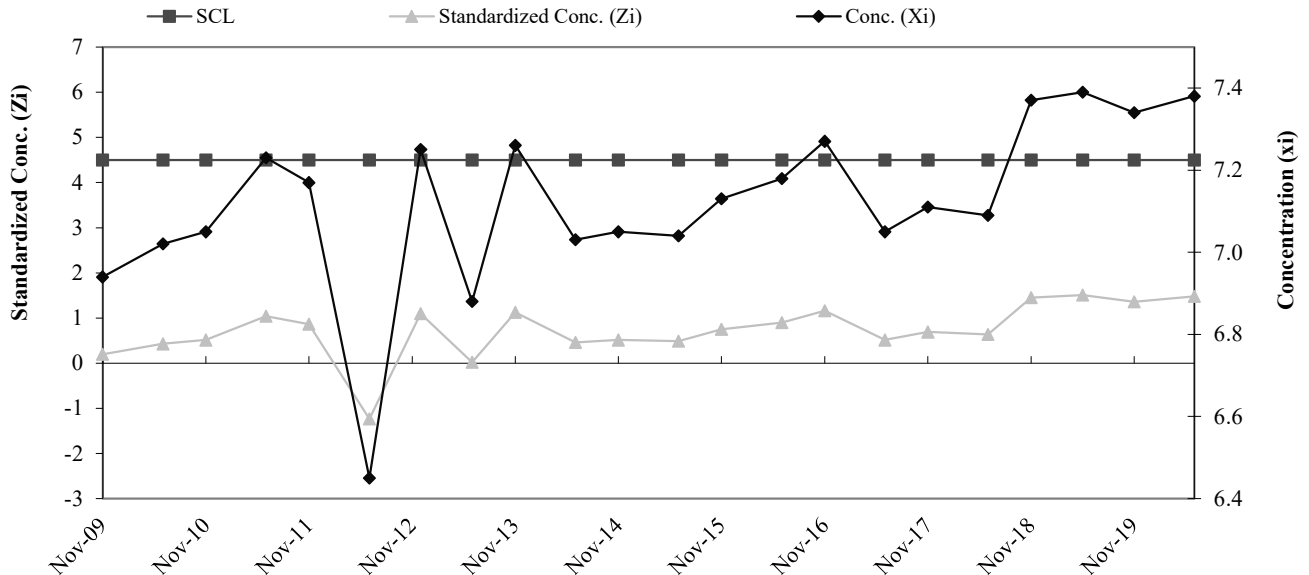


**COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-28 pH**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Nov-05	6.2	6.87	0.34
2	Jun-06	7.1		
3	Dec-06	7.4		
4	Jun-07	6.8		
5	Nov-07	6.8		
6	Jun-08	6.9		
7	Nov-08	6.8		
8	Jun-09	7.0		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-09	4.5	6.9	0.19
10	Jun-10	4.5	7.0	0.43
11	Nov-10	4.5	7.1	0.51
12	Jun-11	4.5	7.2	1.04
13	Nov-11	4.5	7.2	0.87
14	Jun-12	4.5	6.5	-1.24
15	Dec-12	4.5	7.3	1.10
16	Jun-13	4.5	6.9	0.02
17	Nov-13	4.5	7.3	1.13
18	Jun-14	4.5	7.0	0.46
19	Nov-14	4.5	7.1	0.51
20	Jun-15	4.5	7.0	0.49
21	Nov-15	4.5	7.1	0.75
22	Jun-16	4.5	7.2	0.89
23	Nov-16	4.5	7.3	1.16
24	Jun-17	4.5	7.1	0.51
25	Nov-17	4.5	7.1	0.69
26	Jun-18	4.5	7.1	0.63
27	Nov-18	4.5	7.4	1.45
28	May-19	4.5	7.4	1.51
29	Nov-19	4.5	7.3	1.36
30	Jun-20	4.5	7.4	1.48

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean



COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-28 SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Nov-05	994	845.13	61.71
2	Jun-06	828		
3	Dec-06	812		
4	Jun-07	845		
5	Nov-07	816		
6	Jun-08	840		
7	Nov-08	804		
8	Jun-09	822		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-09	4.5	814	-0.50
10	Jun-10	4.5	841	-0.07
11	Nov-10	4.5	813	-0.52
12	Jun-11	4.5	837	-0.13
13	Nov-11	4.5	823	-0.36
14	Jun-12	4.5	849	0.06
15	Dec-12	4.5	823	-0.36
16	Jun-13	4.5	834	-0.18
17	Nov-13	4.5	842	-0.05
18	Jun-14	4.5	852	0.11
19	Nov-14	4.5	844	-0.02
20	Jun-15	4.5	860	0.24
21	Nov-15	4.5	849	0.06
22	Jun-16	4.5	866	0.34
23	Nov-16	4.5	853	0.13
24	Jun-17	4.5	863	0.29
25	Nov-17	4.5	859	0.22
26	Jun-18	4.5	839	-0.10
27	Nov-18	4.5	880	0.57
28	May-19	4.5	803	-0.68
29	Nov-19	4.5	833	-0.20
30	Jun-20	4.5	862	0.27

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

