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COLDWATER ROAD LANDFILL - MID 005 356 860

POST-CLOSURE GROUNDWATER MONITORING REPORT

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

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CONTENTS

TABLES

FIGURES

APPENDICES

1. INTRODUCTION

On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, Ramboll Americas Engineering Solutions, Inc. (Ramboll), has prepared this report to present the results of the annual groundwater sampling event conducted in November 2022 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 zone (B-7, B-9, B-18A, B-19Ar, B-24r, and B-28). Samples were collected during the week of November 1, 2022.

The groundwater samples were analyzed for specific conductivity (Method 120.1), total organic carbon (TOC, Method 5310C), total organic halides (TOX, Method 9020B), and dissolved metals (chromium (Cr), copper (Cu), nickel (Ni), zinc (Zn)) Method 200.8. Chloride (Method 300.0) was not included on the chain of custody nor required to be analyzed this event yet was analyzed by the laboratory and included in the report. Therefore, the chloride results are included in this report.

The event also included field measurements for pH, specific conductivity, dissolved oxygen, oxidation reduction potential, temperature, and turbidity. Groundwater samples from the perched zone were collected using a Whale pump (B-19Ar & B-18A) 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 Ramboll 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 perched zone wells sampled during this event. Groundwater sampling logs are included in **Appendix B**.

Sampling occurred on November 2, 2022, December 21, 2022 (B-28 Resample), and December 22, 2022 (B-18A Resample). The results are presented in two separate tables: **Table 1** - Depth to Groundwater Levels in Monitoring Wells; and **Table 2** - Post-Closure Monitoring - Historical Analytical Results (Physical Parameters, TOC, TOX, and Metals. 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 prepared for the perched zone wells (**Figure 3**) and for the deeper drift unit (**Figure 4**). Additional site monitoring wells (not part of the landfill monitoring program) were used to aid in the creation of the contour maps.

The perched zone static water elevations were generally lower compared to the previous gauging event (June 2022). Groundwater in the perched zone includes discontinuous perched saturated zones within an otherwise clayey matrix. Based on these contours, the groundwater flow direction in the perched zone appears to be predominantly toward the northwest but turning toward the west in the westward extension of the Site as shown on **Figure 3**.

The drift unit static water elevations were consistent with historical data and the previous gauging event (June 2022). Groundwater in the drift unit flows in a southerly direction as shown on **Figure 4**.

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 reporting limit of 5 µg/L. The results were within the range of the historic results, which ranged from below the reporting limit to 37 µg/L at B-9 (8/31/1995).

- Copper concentrations ranged from below the reporting limit of 5 µg/L in monitoring wells B-19Ar, B-24r, and B-28 to 43 µg/L at B-18A. The results were within the range of the historic results, which ranged from below the reporting limit to 203 µg/L at OBG MW-16D (6/25/2009). The copper results from B-18A and B-28 are discussed further below.
- Nickel concentrations ranged from below the reporting limit of 5 µg/L in monitoring wells B-7, B-18A, B-19Ar, B-24r, and B-28 to 6 µg/L in monitoring well B-9. The results were within the range of the historic results, which ranged from below the reporting limit to 370 µg/L at B-22D (6/21/1995).
- Zinc concentrations ranged from 6 µg/L in monitoring well B-28 to 45 µg/L in monitoring well B-18A duplicate sample. The results were within the range of the historic results, which ranged from below the reporting limit to 150 µg/L at B-18A (6/21/1995).
- TOC concentrations ranged from 3.1 mg/L in monitoring wells B-28 and B-19Ar to 6.4 mg/L in monitoring well B-7. The results were within the range of the historic results, which ranged from below the reporting limit to 71 mg/L at B-9 (11/13/1996).
- TOX concentrations ranged from 4.16 µg/L in monitoring well B-18A to 36.6 µg/L in monitoring well B-9. Two samples (B-18A and B-28) had an estimated value less than the reporting limit, but greater than the method detection limit and were qualified with a "J" value. The results were within the range of the historic results, which ranged from below the reporting limit to 230 µg/L at B-7 (11/30/2016).
- pH concentrations ranged from 6.59 in monitoring well B-9 to 6.97 in monitoring wells B-7 and B-24r. The results were within the range of previous results, which ranged from 4.60 in monitoring well B-7 (11/5/1998) to 9.73 in monitoring well B-18A (12/8/2005).
- Specific conductivity ranged from 936 µs/cm in monitoring well B-28 to 2,150 µs/cm in monitoring well B-9. The results were within the range of previous results, which ranged from 405 µs/cm in monitoring well OBG MW-16D (11/5/1999) to 3,290 µs/cm in monitoring well B-9 (11/20/2008).
- Chloride concentrations ranged from 11 mg/L in monitoring wells B-28 to 88 mg/L in monitoring well B-19Ar. The results were within the range of previous results, which ranged from below the reporting limit to 163 mg/L at B-24r (12/23/1998).

There were Shewart control limit exceedances for copper in monitoring wells B-18A (43 µg/L) and B-28 (9 µg/L) during this sampling event. Therefore, in accordance with the Post-Closure Care Plan (PCCP), on December 15, 2022, EGLE was notified via email of the exceedances and the monitoring wells were resampled for copper on December 21, 2022 (B-28) and December 22, 2022 (B-18A).

The results from the initial sample collected from monitoring well B-28 had a concentration of less than the reporting limit of 5 µg/L for chromium and nickel, 9 µg/L for copper, and 6 µg/L for zinc.

The result from the monitoring well B-28 resample had a concentration of copper which was not detected above the reporting limit (5 µg/L); therefore, the resampling result did not confirm the spike and Shewart control limit exceedance for copper in B-28. The exceedance is due to a background data set for copper for this well that is based on non-detects resulting in a very low background mean and standard deviation (1.50 and 0.71, respectively).

In addition, Vault F to the northwest of B-28 was non-detect for chromium, copper, and zinc, and nickel was detected at 6 µg/L.

The results from the initial sample collected from monitoring well B-18A had a concentration of less than the reporting limit of 5 µg/L for the chromium and nickel duplicate results, 43 µg/L for the copper duplicate result, and 43 µg/L for the zinc duplicate result.

The results from the duplicate sample collected at monitoring well B-18A had a concentration of less than the reporting limit of 5 µg/L for the chromium and nickel duplicate result, 40 µg/L for the copper duplicate result, and 45 µg/L for the zinc duplicate result.

The detection of copper in the resample from B-18A was 34 µg/L, which still resulted in a Shewart control limit exceedance. The standardized mean concentration was 4.54 after the resample, which is slightly above the recommended Shewart control limit of 4.5. Therefore, confirming the spike and Shewart control limit exceedance for copper in B-18A, and in accordance with the PCCP, further data evaluation is warranted as presented herein.

Although the elevated concentration of copper in the initial sample and resample from B-18A are considered both a spike and a Shewart control limit exceedance, the result was not confirmed by the other metals concentrations in B-18A or the metals concentrations in the adjacent wells.

The metals results from adjacent monitoring wells were non-detect or similar to or less than previous results. Copper was non-detect in monitoring wells B-19Ar and B-24r. In monitoring well B-7, copper was detected at a concentration of 6 µg/L, which is slightly above the reporting limit of 5 µg/L.

In addition, the analytical results for Vault B to the east of B-18A was non-detect for chromium, copper, nickel, and zinc. Vault C was non-detect for chromium, copper, and zinc, and nickel was detected at 9 µg/L.

Metals in the other vaults were either not detected or detected at a concentration of 20 µg/L or less, which are considered low concentrations. The spikes in copper do not suggest there was a release from the landfill because concentrations of other metals/parameters do not support a release has occurred. If a release from the landfill had occurred, copper and potentially other metals concentrations in other monitoring wells and vaults would be expected to increase.

Therefore, for reporting purposes the result for the resample from monitoring well B-18A is being relied upon as the official result for this sampling event, and the spike and Shewart control limit exceedance does not appear to be a result of a release from the landfill. Furthermore, the laboratory reviewed their quality control (QC) data and there were no QC or reporting issues.

It is possible that the turbidity and/or a lower depth to water, could have impacted sample results for B-18A and B-28. During the next sampling event for the monitoring wells that are purged dry, additional time will be taken to make sure the monitoring wells have sufficiently recovered prior to sample collection and that the turbidity is measured prior to sample collection. Monitoring wells that consistently had final turbidity values of greater than 10 nephelometric turbidity units (NTU) after low-flow sampling for at least three consecutive sampling events were redeveloped in accordance with the PCCP for the Site in June 2020 and will be redeveloped prior to the next semiannual sampling event scheduled for June 2023.

3. SUMMARY

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 except for the chloride results which will be treated as estimated values. 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 GW-Dup-110222 (B-18A) were within acceptable limits except for TOX; which had an estimated value of 4.16 µg/L in the original sample and a concentration of 11.2 µg/L in the duplicate sample.

There were no exceedances of the Shewart control limits during this sampling event, except for the previously discussed copper results from monitoring wells B-18A and B-28.

There were significant negative (decreasing) trends for pH in monitoring wells B-18A, B-19Ar, and B-24r this event. The trends were calculated using regression analysis over the last four sampling events per the Post Closure Care Plan, January 2014. The negative trends for pH do not suggest there was a release from the landfill because concentrations of other metals/parameters do not support a release has occurred, including data from the landfill sumps and vaults. The trends 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 (semiannual event) is currently scheduled for June 2023. If you have any questions, please feel free to contact Clifford Yantz at (313) 333-0211.

Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

On Behalf of RACER Trust

Clifford S. Yantz
Managing Hydrogeologist – Ramboll Americas Engineering Solutions, Inc.
Agent for RACER Trust

Date: February 24, 2023
cc: file

TABLES

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

October 31, 2022

Well ID	Top of Casing Elevation (ft)*	Depth to Water (ft)	Static Water Elevation (ft)
Landfill Monitoring Wells			
B-7	813.63	16.96	796.67
B-9	807.45	17.31	790.14
B-18A	810.85	22.46	788.39
B-19A	812.66	15.05	797.61
B-19AR	811.80	39.81	771.99
B-20D	815.14	70.96	744.18
B-21D	821.07	81.00	740.07
B-22D	822.15	84.85	737.30
B-23DR	812.12	80.95	731.17
B-24R	816.04	19.18	796.86
B-27D	812.70	76.03	736.67
B-28	816.46	8.39	808.07
OBG MW-16D	807.43	59.12	748.31
former WWTP Monitoring Wells			
OBG MW-1	811.56	6.22	805.34
OBG MW-2	813.77	10.05	803.72
OBG MW-3	810.09	4.83	805.26
OBG MW-4	812.66	5.89	806.77
OBG MW-5	816.04	9.43	806.61
OBG MW-6	815.75	15.12	800.63
OBG MW-7	813.47	11.40	802.07
OBG MW-8	817.50	13.80	803.70
OBG MW-9	809.97	3.97	806.00
OBG MW-10	811.54	8.20	803.34
Additional Site Monitoring Wells			
OBG MW-11	801.94	11.17	790.77
OBG MW-12D	797.13	48.62	748.51
OBG MW-12S	796.88	11.31	785.57
OBG MW-13	801.81	7.28	794.53
OBG MW-14	810.98	11.55	799.43
OBG MW-15D	810.68	79.46	731.22
OBG MW-17D	800.09	51.72	748.37
OBG MW-17S	800.51	14.60	785.91
OBG MW-18D	800.17	51.50	748.67
OBG MW-18S	799.32	16.60	782.72
OBG MW-19D	795.37	48.85	746.52
OBG MW-20	783.93	27.22	DRY
OBG MW-21	797.49	9.77	787.72
OBG MW-22	794.11	14.02	780.09
OBG MW-23 (D)	776.76	29.36	747.40
OBG MW-24	781.50	1.71	779.79
OBG MW-25	786.61		--
OBG MW-26	772.34	9.98	762.36
OBG MW-27 (D)	771.94	24.38	747.56
OBG MW-28	800.35	14.89	785.46
OBG MW-29 (D)	773.28	26.10	747.18
Piezometers			
PZ-1	790.30	15.72	774.58
PZ-2 (D)	774.64		--
PZ-3	788.37		--
Peregrine Site Wells			
MW-19-13	807.85	2.20	805.65
MW-20-13	810.81	4.49	806.32
MW-15-10	808.15	76.47	731.68
MW-16-10	798.64	66.75	731.89
PFW-1	809.51	77.72	731.79

Notes
Casing elevations were provided by Norwy & Hale Surveyors and are in feet relative to National Geodetic Vert
-- No data.
Top of casing elevations were resurveyed in June 2017.
R - Indicates a replacement well location.
Monitoring wells OBG MW-25, PZ-2, and PZ-3 were abandon on July 7, 2020 as part of the onsite berm const

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TABLE 2
RACER Trust - Coldwater Road
Landfill Leak Detection Vaults - Historical Analytical Results
Inorganics and Metals

		Indicator Parameters					Dissolved Metals (µg/L)							Inorganics (mg/L)			
Vault	Sample Date	TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
	EGLE Residential Drinking Water Criteria & RBSLs						*100 (A)*	*,000 (E*	*100 (A)*	*2,400*							
B-7	6/21/1995	8.7	23	7.48	1509	13.8	<20	<20	<30	<20	--	--	--	--	--	--	--
	8/31/1995	--	--	--	--	--	<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	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	--	--	--	--
	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	--	--	--	--	--	--	--
Duplicate	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	--	--	--	--	--	--	--
	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
Replicate	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
	11/5/2020	6.2	21.0	6.92	1,126	13.5	<5	<5	<5	<5	--	--	--	--	--	--	--
	6/11/2021	6.3	15.0	7.08	1,057	18.8	<5	<5	<5	6	90	6	43,700	27	<0.004	<0.02	167
	11/5/2021	6.6	21.2	7.15	927	13.0	<5	<5	<5	<5	--	--	--	--	--	--	--
	6/8/2022	7.9	3.3	7.00	1,070	19.97	<5	<5	<5	8	20	9	49,000	33	<0.004	<0.02	171
	11/2/2022	**6.4**	**32.9**	**6.97**	**1,073**	**12.97**	**<5**	**6**	**<5**	**11**	**--**	**--**	**--**	**34**	**--**	**--**	**--**

See notes on page 6.

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TABLE 2
RACER Trust - Coldwater Road
Landfill Leak Detection Vaults - Historical Analytical Results
Inorganics and Metals

		Indicator Parameters					Dissolved Metals (µg/L)							Inorganics (mg/L)			
Vault	Sample Date	TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
	EGLE Residential Drinking Water Criteria & RBSLs						*100 (A)*	*,000 (E*	*100 (A)*	*2,400*							
B-9	6/21/1995	3.5	34	7.68	2,400	14.6	<20	<20	<30	<20	--	--	--	--	--	--	--
	8/31/1995	3.9	<10	7.72	1,829	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	--	--	--	--
	12/23/1998	--	--	--	--	--	--	--	--	--	--	--	--	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
	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
	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	--	--	--	--	--	--	--
Duplicate	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
Replicate	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
	11/5/2020	7.3	14.6	6.72	2,800	13.8	<5	<5	7	6	--	--	--	--	--	--	--
	6/11/2021	5.4	<10	6.85	2,168	14.7	<5	<5	<5	<5	50	124	50,700	62	<0.004	<0.02	731
	11/4/2021	4.8	5.68 J	6.80	2,135	13.9	<5	<5	<5	<5	--	--	--	--	--	--	--
	6/8/2022	7.0	7.40 J	6.74	1,830	14.25	<5	<5	<5	14	70	180	45,900	46	<0.004	<0.02	562
	11/2/2022	**4.6**	**36.6**	**6.59**	**2,150**	**15.03**	**<5**	**15**	**6**	**14**	**--**	**--**	**--**	**62**	**--**	**--**	**--**

See notes on page 6.

RAMBOLL

TABLE 2
RACER Trust - Coldwater Road
Landfill Leak Detection Vaults - Historical Analytical Results
Inorganics and Metals

		Indicator Parameters					Dissolved Metals (µg/L)							Inorganics (mg/L)			
Vault	**Sample Date**	**TOC (mg/L)**	**TOX (µg/L)**	**pH**	**SpC**	**Temp**	**Cr**	**Cu**	**Ni**	**Zn**	**Fe**	**Mn**	**Na**	**Chloride**	**Cyanide**	**Phenols**	**Sulfate**
	EGLE Residential Drinking Water Criteria & RBSLs						*100 (A)*	*,000 (E*	*100 (A)*	*2,400*							
	6/21/1995	2.7	<10	7.54	1,048	13.3	<20	<20	<30	150	--	--	--	--	--	--	--
	8/31/1995	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	--	--	--	--	--	--	--
B-18A	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	<10	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	<10	--	34,500	7	<0.005	<0.020	126
Duplicate	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
Duplicate	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
Replicate	6/21/2011	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	--
	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
Duplicate	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	4.7	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	--	--	--	--	--	--	--
Duplicate	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
Duplicate	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
Duplicate	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
	11/5/2020	4.3	9.42	7.09	1,084	13.2	<5	<5	<5	9	--	--	--	--	--	--	--
	6/11/2021	3.7	8.78 J	7.07	1,080	16.0	<5	<5	<5	16	30	40	40,000	21	<0.004	<0.02	125
	11/5/2021	2.5	<10	7.06	1,001	11.4	<5	<5	<5	11	--	--	--	--	--	--	--
	6/8/2022	5.4	<10	6.91	1,090	13.66	<5	<5	<5	11	<20	39	35200	22	<0.004	<0.02	124
	11/2/2022	**3.3**	**4.16 J**	**6.81**	**1,086**	**13.42**	**<5**	**43**	**<5**	**43**	**--**	**--**	**--**	**21 L**	**--**	**--**	**--**
Duplicate	**11/2/2022**	**3.2**	**11.2**	**6.81**	**1,006**	**13.42**	**<5**	**40**	**<5**	**45**	**--**	**--**	**--**	**20**	**--**	**--**	**--**
Re-sample	**12/22/2022**	**--**	**--**	**--**	**--**	**--**	**--**	**34**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**

See notes on page 6.

RAMBOLL

TABLE 2
RACER Trust - Coldwater Road
Landfill Leak Detection Vaults - Historical Analytical Results
Inorganics and Metals

		Indicator Parameters					Dissolved Metals (µg/L)							Inorganics (mg/L)			
Vault	**Sample Date**	**TOC (mg/L)**	**TOX (µg/L)**	**pH**	**SpC**	**Temp**	**Cr**	**Cu**	**Ni**	**Zn**	**Fe**	**Mn**	**Na**	**Chloride**	**Cyanide**	**Phenols**	**Sulfate**
	EGLE Residential Drinking Water Criteria & RBSLs						*100 (A)*	*,000 (E*	*100 (A)*	*2,400*							
	6/21/1995	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--
	8/31/1995	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	--	--	--	--
B-19A	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	3.0	<5	6.84	1,480	10.1	<10	<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
	4/26/1999	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
	4/26/2000	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
	5/16/2001	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
	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
	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
Duplicate	12/9/2004	5.0	<30	--	--	--	<5	<5	<5	7	170	<5	114,000	116	<0.005	<0.010	233
B-19AR	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
	12/8/2005	5.3	<30	7.13	1,390	12.3	10	<4	<5	<10	150	<20	74,800	--	--	--	--
Duplicate	12/8/2005	5.5	<30	--	1,390	--	10	<4	<5	20	160	<20	81,400	--	--	--	--
Re-sample	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
	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
	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
	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
	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
	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
Replicate	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
	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
	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
	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
	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
	11/30/2016	1.8	12	7.39	1,104	11.2	14	14	20	39	--	--	--	--	--	--	--
Re-sample	1/12/2017	--	--	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
	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
	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
	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
	11/5/2020	6.6	19.4	7.02	1,172	13.0	8	108	11	42	--	--	--	--	--	--	--
Re-sample	12/4/2020	--	--	--	--	--	<5	<5	6	13	--	--	--	--	--	--	--
	6/9/2021	4.0	5.8 J	7.28	1,194	18.1	<5	5	6	12	1,690	217	23,800	88	<0.004	<0.02	150
	11/4/2021	3.6	10.1	7.14	926	11.4	<5	<5	<5	7	--	--	--	--	--	--	--
	6/9/2022	4.5	5.22 J	7.04	1,180	15.21	<5	<5	<5	<5	40	56	19,900	90	<0.004	<0.02	151
	11/2/2022	**3.1**	**12.5**	**6.82**	**1,126**	**13.81**	**<5**	**<5**	**<5**	**20**	**--**	**--**	**--**	**88**	**--**	**--**	**--**

See notes on page 6.

RAMBOLL

TABLE 2
RACER Trust - Coldwater Road
Landfill Leak Detection Vaults - Historical Analytical Results
Inorganics and Metals

		Indicator Parameters					Dissolved Metals (µg/L)							Inorganics (mg/L)			
Vault	Sample Date	TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
	EGLE Residential Drinking Water Criteria & RBSLs						*100 (A)*	*,000 (E*	*100 (A)*	*2,400*							
	6/21/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/31/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/9/1996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/19/1996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-24	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	--	--	--	--	--	--	--	--	--	--	--	--	NS	NS	NS	NS
	5/4/1998	4.0	<5	6.52	1,410	11.6	<10	<10	8	20	--	--	--	--	--	--	--
	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	--	--	--	--
	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
B-24R	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	6	<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	--	--	--	--	--	--	--	--	--	--
	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	<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	<5	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	110	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
	11/5/2020	5.2	18.5	7.07	1,257	14.4	<5	<5	<5	<5	--	--	--	--	--	--	--
Duplicate	11/5/2020	5.2	4.26	7.07	1,226	14.4	<5	<5	<5	<5	--	--	--	--	--	--	--
	6/10/2021	5.3	11.4	7.24	1,295	17.8	<5	<5	<5	7	170	54	67,600	49	<0.004	<0.02	258
	11/5/2021	4.0	9.72 J	7.21	1,008	11.9	<5	<5	<5	<5	--	--	--	--	--	--	--
Duplicate	11/5/2021	3.6	7.92 J	7.21	1,210	11.9	<5	<5	<5	6	--	--	--	--	--	--	--
	6/8/2022	7.3	17.7	7.09	1,320	12.89	<5	<5	<5	10	30	45	62,900	50	<0.004	<0.02	264
	11/2/2022	**5.2**	**33.5**	**6.97**	**1,186**	**13.84**	**<5**	**<5**	**<5**	**10**	**--**	**--**	**--**	**46**	**--**	**--**	**--**

See notes on page 6.

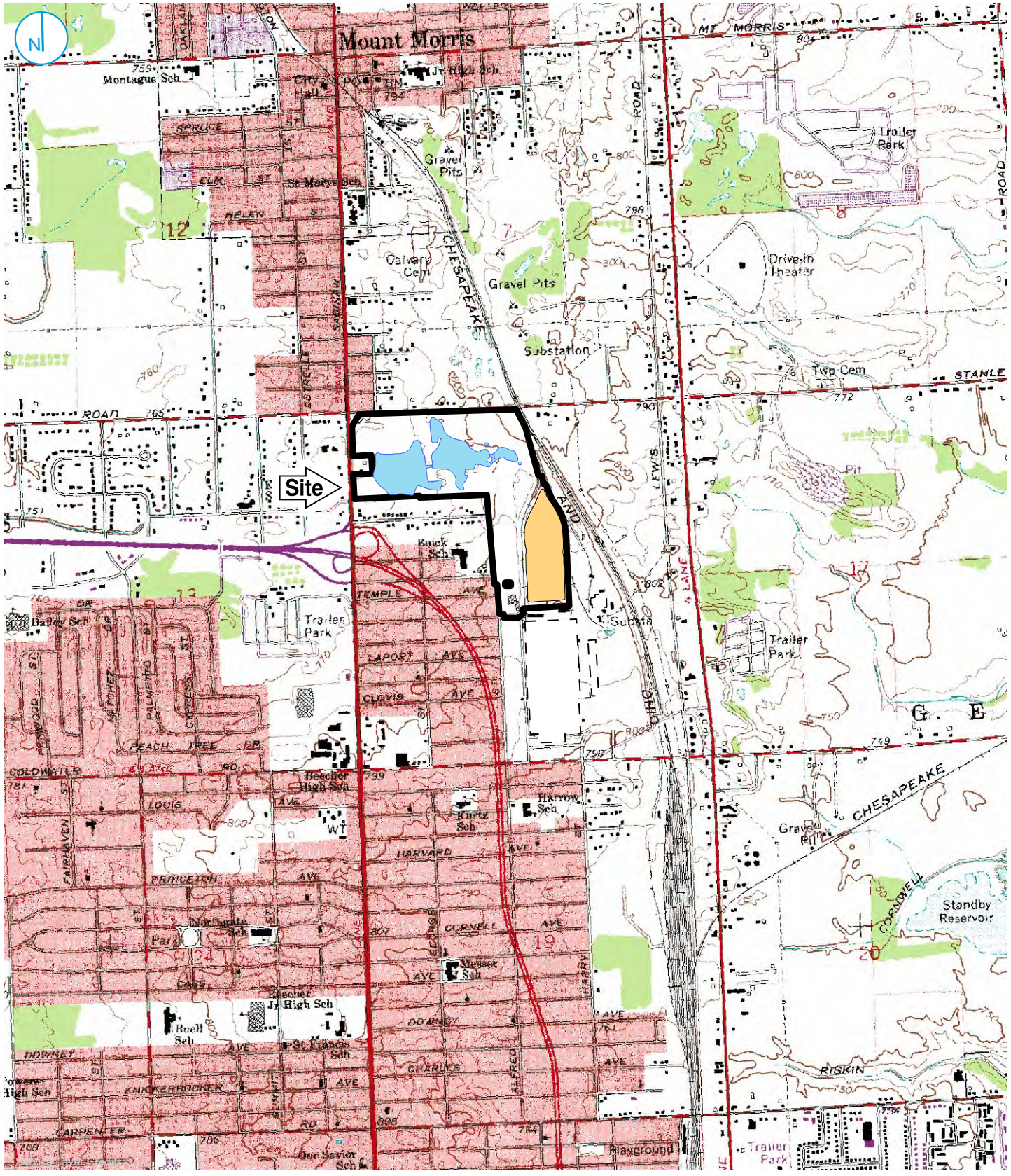
RAMBOLL

TABLE 2
RACER Trust - Coldwater Road
Landfill Leak Detection Vaults - Historical Analytical Results
Inorganics and Metals

		Indicator Parameters					Dissolved Metals (µg/L)							Inorganics (mg/L)			
Vault	**Sample Date**	**TOC (mg/L)**	**TOX (µg/L)**	**pH**	**SpC**	**Temp**	**Cr**	**Cu**	**Ni**	**Zn**	**Fe**	**Mn**	**Na**	**Chloride**	**Cyanide**	**Phenols**	**Sulfate**
	EGLE Residential Drinking Water Criteria & RBSLs						*100 (A)*	*,000 (E*	*100 (A)*	*2,400*							
	11/21/2005	--	--	6.21	994	12.3	--	--	--	<5	--	--	--	--	--	--	--
Duplicate	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	--	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--
	11/19/2014	1.6	<60	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
	11/21/2019	2.1	42	7.34	833	12.2	<5	<5	<5	<5	--	--	--	--	--	--	--
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
	11/5/2020	3.8	<10	7.09	904	13.8	<5	<5	<5	<5	--	--	--	--	--	--	--
	6/9/2021	3.6	8.14 J	7.12	936	15.1	<5	<5	<5	<5	280	82	14,900	11	<0.004	<0.02	161
	11/5/2021	2.2	<10	7.26	674	12.2	<5	<5	<5	<5	--	--	--	--	--	--	--
	6/7/2022	5.1	9.16 J	6.97	936	11.09	<5	<5	<5	<5	810	93	20,100	12	<0.004	<0.02	166
	11/2/2022	**3.1**	**6.34 J**	**6.90**	**936**	**15.15**	**<5**	**9**	**<5**	**6**	**--**	**--**	**--**	**11 L**	**--**	**--**	**--**
Re-sample	**12/21/2022**	**--**	**--**	**--**	**--**	**--**	**--**	**<5**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
	12/10/2004	<1	<30	--	--	--	<5	<5	<5	11	<20	13	810	<2	<0.005	<0.010	<2
	6/8/2005	<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
Equipment Blank	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
	11/7/2018	39.3	<150	--	5.40	--	<5	<5	<5	<5	--	--	--	--	--	--	--
	6/3/2019	<1	<150	--	2.63	--	<5	<5	<5	<5	<20	<5	530	<2.5	<0.004	<0.02	<2.5
	11/21/2019	<1	<40	--	4.90	--	<5	<5	<5	<5	--	--	--	--	--	--	--
	6/18/2020	<1	<40	--	3.31	--	<5	<5	<5	<5	<20	<5	<500	<2.5	<0.004	<0.02	<2.5
	11/5/2020	<1	<10	--	3,950	--	<5	<5	<5	<5	--	--	--	--	--	--	--
	6/10/2022	**<1**	**<10**	**--**	**<1**	**--**	**<5**	**<5**	**<5**	**<5**	**<20**	**<5**	**<2,500**	**<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.
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)
9) J = Value is estimated.
10) L= Elevated reporting limit due to low sample amount
11) Monitoring wells B-19 and B-24 were replaced on March 15, 2005.

FIGURES



PROJECT: 169000XXXX | DATED: 8/11/2020 | DESIGNER: MONETANT I:\Racer-Trust.153881\75178.Coldwater-2020\Docs\Reports\LDS\Semi-Annual Jun 2020\Figure\001 - Site_Location SA Rpts (2020-08)_08112020.mxd

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

SITE LOCATION

RACER TRUST
Coldwater Road Landfill
Flint, Michigan

FIGURE 01

A RAMBOLL COMPANY

RAMBOLL

- DRIFT MONITORING WELL
- OTHER MONITORING WELL / PIEZOMETER
- PERCHED MONITORING WELL
- ABANDONED WELL
- LEACHATE COLLECTION SUMP
- ACCESS PORT FOR LEAK DETECTION VAULT
- PROPERTY BOUNDARY
- FORMER BUILDING

0 175 350 Feet

SITE LAYOUT

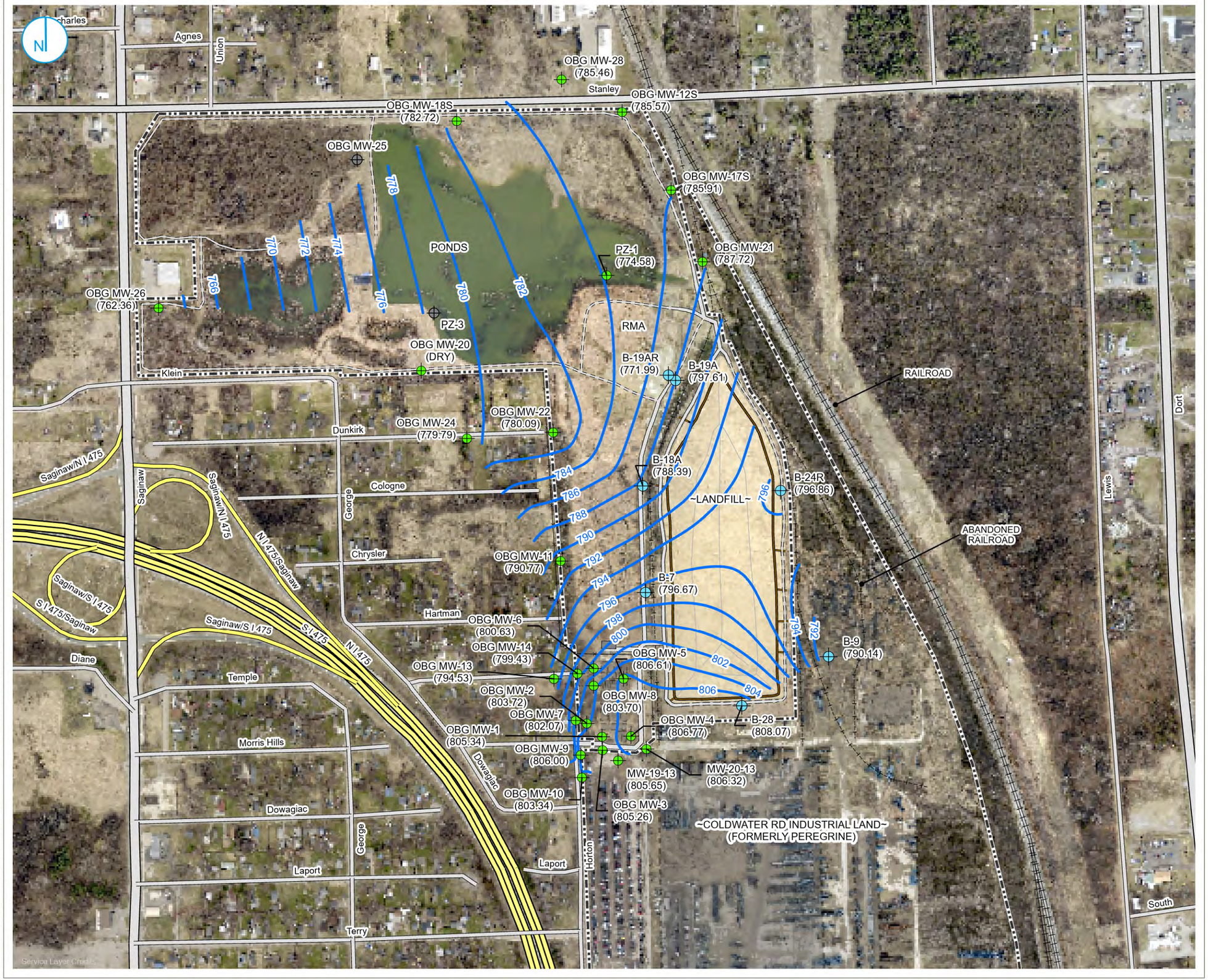
Racer Trust
COLDWATER ROAD
FLINT, MICHIGAN

FIGURE 2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

PROJECT: 1940100783 | DATED: 2/7/2023 | DESIGNER: MONETANT I:\Racer-Trust 1088190\GIS\Coldwater_Road\ProRACER_Coldwater_Road_2022_Annual_LDS_and_GW_Figures\RACER_Coldwater_Road_2022_Annual_LDS_and_GW_Figures.aprx\002- Figure 2 GW_Report_Site_Layout



OTHER MONITORING WELL / PIEZOMETER

LANDFILL MONITORING WELL / PIEZOMETER

ABANDONED WELL

GROUNDWATER CONTOUR (OCTOBER 31, 2022)

PROPERTY BOUNDARY

FORMER BUILDING

(800.93) GROUNDWATER ELEVATION

NOTES

THE GROUNDWATER ELEVATION FOR MONITORING WELLS B-19A, B-19AR, AND PZ-1 WERE NOT USED IN DEVELOPING THE GROUNDWATER POTENTIOMETRIC SURFACE DUE TO THE DEPTH OF THESE WELLS 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.

0 225 450 Feet

PERCHED ZONE GROUNDWATER ELEVATION MAP

OCTOBER 31, 2022

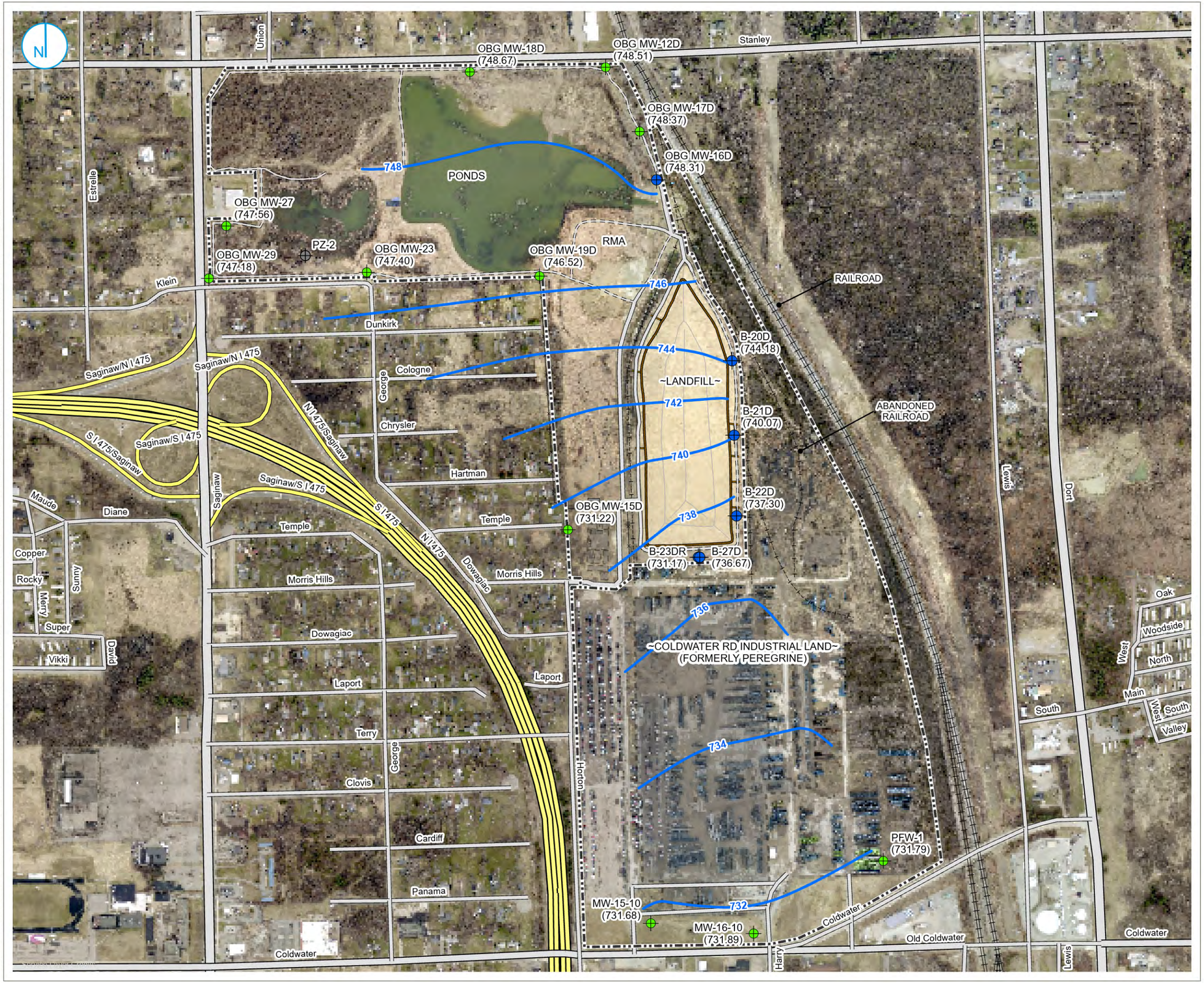
RACER TRUST
COLDWATER ROAD
FLINT, MICHIGAN

FIGURE 3

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

PROJECT: 1940105462 | DATED: 2/7/2023 | DESIGNER: MONETANT I:\Racer-Trust 1088190\GIS\Coldwater_Road\ProjRACER_Coldwater_Road_2022_Annual_LDS_and_GW_Figures.aprx\003- Figure 3- GW_Elevations_Perched_October 2022_Annual_LDS_and_GW_Figures\RACER_Coldwater_Road_2022_Annual_LDS_and_GW_Figures.aprx



- LANDFILL MONITORING WELL / PIEZOMETER
- OTHER MONITORING WELL / PIEZOMETER
- ABANDONED WELL
- GROUNDWATER CONTOUR (OCTOBER 31, 2022)
- 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 UNIT.

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

0 275 550
Feet

DRIFT UNIT GROUNDWATER ELEVATION MAP
OCTOBER 31, 2022

RACER TRUST
COLDWATER ROAD
FLINT, MICHIGAN

FIGURE 4

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

PROJECT: 1940103462 | DATED: 2/7/2023 | DESIGNER: MONETANT I:\Racer-Trust.1088190\GIS\Coldwater_Road\ProRACER_Coldwater_Road_2022_Annual_LDS_and_GW_Figures.aprx\004- Figure 4 - GW_Elevations_Drift_October 2022_LDS_and_GW_Figures\RACER_Coldwater_Road_2022_Annual_LDS_and_GW_Figures.aprx\004- Figure 4 - GW_Elevations_Drift_October 2022

APPENDIX A
SAMPLING PROCEDURES

Table of Contents

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

RAMBOLL

Standard Groundwater Sampling Log

Date	10/31/22 | 11/2/22		
Site Name	RACER Coldwater Rd	Weather	Light Rain 50's °F
Location	Flint, MI	Well #	B-7
Project No.	1940102192	Evacuation Method	Whale Pump-Peristaltic
Personnel	KRR	Sampling Method	Purged Dry

Well Information:

Depth of Well *	28.86	ft.
Depth to Water *	16.55 | 23.03	ft.
Length of Water Column	12.31	ft.
Volume of Water in Well	2.00	gal.(s)
3X Volume of Water in Well	6.00	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: 3.5 gal.(s)
Did well go dry? yes

* Measurements taken from: X 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	16.55						
5 min	17.50	13.81	0.74	2.02	6.99	89.8	61.7
10 min	26.88	13.65	0.69	2.92	7.09	105.7	14.2
15 min	26.93	12.97	0.74	2.59	6.97	100.5	213
20 min	26.92						
25 min	27.10						
30 min							
35 min	**11/2/2022**						
40 min	23.03	No Readings collected during sample collection					
45 min							
50 min							
55 min							
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:
Time Collected: 11/2/22 - 12:50

Physical Appearance at Start		Physical Appearance at Sampling	
Color	Cloudy	Color	Slightly Cloudy
Odor	None	Odor	None
Turbidity (> 100 NTU)	No	Turbidity (> 100 NTU)	No
Sheen/Free Product	None	Sheen/Free Product	None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
Dissolved Metals - Cu, Cr, Ni, Zn	1	125 ml Plastic	HNO_3	yes
TOC	2	40 ml Glass	H_2SO_4	
TOX	1	250 ml Plastic	H_2SO_4	
SpC	1	500 ml Plasitc	None	

Notes:

RAMBOLL

Standard Groundwater Sampling Log

Date	11/1/22 | 11/2/22		
Site Name	RACER Coldwater Rd	Weather	Mostly Sunny 60's ºF
Location	Flint, MI	Well #	B-9
Project No.	1940102192	Evacuation Method	Whale Pump-Peristaltic
Personnel	KBS/KRR	Sampling Method	Purged Dry

Well Information:

Depth of Well *	25.25	ft.
Depth to Water *	17.31 | 19.70	ft.
Length of Water Column	7.94	ft.
Volume of Water in Well	1.29	gal.(s)
3X Volume of Water in Well	3.87	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: 3.0 gal.(s)
Did well go dry? yes

* Measurements taken from [ ] Well Casing [X] 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	18.52	13.26	1.61	0.19	6.56	110.4	>1000
5 min	21.45	13.61	1.38	2.88	6.62	95.4	134
10 min							
15 min	**11/2/2022**						
20 min	19.70						
25 min	21.16	19.16	1.67	5.77	6.68	145.1	34.9
30 min	21.68	15.03	1.78	3.17	6.59	120.0	50.9
35 min	22.13						
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 11/2/22 - 13:21

Physical Appearance at Start		Physical Appearance at Sampling	
Color	Light Brownish Gray	Color	Cloudy/Clear
Odor	None	Odor	None
Turbidity (> 100 NTU)	Yes	Turbidity (> 100 NTU)	No
Sheen/Free Product	None	Sheen/Free Product	None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
Dissolved Metals - Cu, Cr, Ni, Zn	1	125 ml Plastic	HNO_3	yes
TOC	2	40 ml Glass	H_2SO_4	
TOX	1	250 ml Plastic	H_2SO_4	
SpC	1	500 ml Plasitc	None	

Notes:

RAMBOLL

Standard Groundwater Sampling Log

Date	11/1/22 | 11/2/22		
Site Name	RACER Coldwater Rd	Weather	Mostly Sunny 60's °F
Location	Flint, MI	Well #	B-18A
Project No.	1940102192	Evacuation Method	Whale Pump-Peristaltic
Personnel	KRR	Sampling Method	Purge Dry

Well Information:

Depth of Well *	43.58	ft.
Depth to Water *	22.12 | 39.10	ft.
Length of Water Column	21.32	ft.
Volume of Water in Well	3.48	gal.(s)
3X Volume of Water in Well	10.43	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: 10.25 gal.(s)
Did well go dry? yes

* Measurements taken from: X 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	22.65	initial	15.08	initial	0.85	initial	1.54	initial	7.00	initial	167.0	initial	31.1
5 min	24.65		12.13		0.89		0.57		6.97		117.9		36.4
10 min	27.55		11.83		0.89		0.50		6.92		113.9		27.4
15 min	32.50		11.97		0.86		0.34		6.88		104.2		12.1
20 min	37.42		12.25		0.84		0.18		6.88		89.1		7.75
25 min	38.6		12.98		0.82		0.07		6.86		72.3		6.26
30 min	39.31		12.89		0.81		0.04		6.85		73.2		6.71
35 min	39.31		12.83		0.84		0.02		6.83		72.9		13.5
40 min	39.25		13.75		0.86		0.00		6.82		62.0		18.6
45 min	39.25		13.84		0.86		0.00		6.82		48.5		11.4
50 min	39.25		13.98		0.86		0.03		6.81		46.7		10.7
55 min	39.22		14.29		0.85		0.07		6.81		48.1		7.25
60 min	39.30		14.25		0.85		0.09		6.81		50.1		8.97
65 min	39.31		14.14		0.86		0.13		6.81		52.7		4.68
70 min	40.85		12.06		0.86		0.01		6.84		31.3		10.6
75 min	41.35		12.08		0.86		0.07		6.86		36.0		14.2
80 min	41.01												
85 min	**11/2/2022**												
90 min	39.1		19.87		0.73		4.52		6.90		123.4		12.00
95 min	39.65		13.42		0.76		5.26		6.81		112.4		10.02

Water Sample:
Time Collected: 11/2/22 - 13:50

Physical Appearance at Start		Physical Appearance at Sampling	
Color	Slightly Cloudy	Color	Clear
Odor	None	Odor	None
Turbidity (> 100 NTU)	No	Turbidity (> 100 NTU)	No
Sheen/Free Product	None	Sheen/Free Product	None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
Dissolved Metals - Cu, Cr, Ni, Zn	1	125 ml Plastic	HNO_3	yes
TOC	2	40 ml Glass	H_2SO_4	
TOX	1	250 ml Plastic	H_2SO_4	
SpC	1	500 ml Plasitc	None	

Notes:

RAMBOLL

Standard Groundwater Sampling Log

Date	12/19/22 | 12/22/22		
Site Name	RACER Coldwater Rd	Weather	Cloudy, 39 °F
Location	Flint, MI	Well #	B-18A (Resample)
Project No.	1940102192	Evacuation Method	Whale Pump-Peristaltic
Personnel	KBS	Sampling Method	Purge Dry

Well Information:

Depth of Well *	43.58	ft.
Depth to Water *	21.74 | 33.87	ft.
Length of Water Column	21.84	ft.
Volume of Water in Well	3.55	gal.(s)
3X Volume of Water in Well	10.67	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: 8.5 gal.(s)
Did well go dry? yes

* Measurements taken from: X 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	23.24	10.8	1.07	4.5	6.54	197.8	
5 min	25.20	11.20	1.06	3.06	6.69	190.9	5.83
10 min	29.60	11.7	1.06	2.44	6.79	185.2	3.10
15 min	36.10	11.9	1.06	0.30	6.89	174.4	3.92
20 min	39.24	11.90	1.06	1.36	6.90	163.6	11.4
25 min	40.00	11.50	1.08	0.56	6.93	110.0	21.2
30 min		11.50	1.08	1.63	6.92	88.9	13.3
35 min	42.30	11.3	1.08	1.8	6.94	65.1	10.7
40 min							
45 min	**12/22/2022**						
50 min	32.65	10.9	1.10	2.68	6.85	35.2	43.2
55 min	33.64	11.1	1.10	2.37	6.84	56.5	37.5
60 min							23.6
65 min						After Fliter	3.1
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:
Time Collected: 12/22/22 - 12:55

Physical Appearance at Start		Physical Appearance at Sampling	
Color	Slightly Cloudy	Color	Clear
Odor	None	Odor	None
Turbidity (> 100 NTU)	No	Turbidity (> 100 NTU)	No
Sheen/Free Product	None	Sheen/Free Product	None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
Dissolved Metals - Cu	1	125 ml Plastic	HNO_3	yes

Notes:

RAMBOLL

Standard Groundwater Sampling Log

Date	10/31/2022 | 11/2/2022		
Site Name	RACER Coldwater Rd	Weather	Cloudy, 50's ºF
Location	Flint, MI	Well #	B-19Ar
Project No.	1940102192	Evacuation Method	Whale Pump
Personnel	KRR	Sampling Method	Purge Dry

Well Information:

Depth of Well *	47.12	ft.
Depth to Water *	39.40 | 41.01	ft.
Length of Water Column	7.72	ft.
Volume of Water in Well	1.25	gal.(s)
3X Volume of Water in Well	3.77	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: 3.0 gal.(s)
Did well go dry? yes

* Measurements taken from: X 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	40.69	13.11	0.84	0.16	7.06	15.7	856
5 min	43.00	12.06	0.85	0.01	7.01	48.9	330
10 min	44.81	12.01	0.84	0.00	7.02	58.5	442
15 min							
20 min	**11/2/2022**						
25 min	41.01	15.56	0.82	1.20	6.91	132.6	866
30 min	42.05	13.81	0.84	0.67	6.82	120.2	204
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: 11/2/22 - 14:55

Physical Appearance at Start		Physical Appearance at Sampling	
Color	Light Gray	Color	Light Gray
Odor	None	Odor	None
Turbidity (> 100 NTU)	Yes	Turbidity (> 100 NTU)	Yes
Sheen/Free Product	None	Sheen/Free Product	None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
Dissolved Metals - Cu, Cr, Ni, Zn	1	125 ml Plastic	HNO_3	yes
TOC	2	40 ml Glass	H_2SO_4	
TOX	1	250 ml Plastic	H_2SO_4	
SpC	1	500 ml Plasitc	None	

Notes:

RAMBOLL

Standard Groundwater Sampling Log

Date	11/1/22 | 11/2/22		
Site Name	RACER Coldwater Rd	Weather	Cloudy, 50's °F
Location	Flint, MI	Well #	B-24r
Project No.	1940102192	Evacuation Method	Whale Pump-Peristaltic
Personnel	KRR	Sampling Method	Purge Dry

Well Information:

Depth of Well *	30.38	ft.
Depth to Water *	18.90 | 20.05	ft.
Length of Water Column	11.48	ft.
Volume of Water in Well	1.87	gal.(s)
3X Volume of Water in Well	5.61	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: 5.25 gal.(s)
Did well go dry? yes

* Measurements taken from: X 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	20.63	17.47	1.00	2.19	6.97	149.0	67.5
5 min	21.72	12.74	1.07	0.06	6.90	121.5	26.6
10 min	23.51	13.11	1.05	0.37	6.89	104.5	39.3
15 min	26.40	12.89	1.07	0.04	6.89	93.7	42.1
20 min	29.41						
25 min							
30 min	**11/2/2022**						
35 min	20.05	16.32	0.98	10.57	7.31	229.4	767
40 min	20.50	13.95	1.05	6.30	7.02	182.5	94.0
45 min	20.95	13.65	1.04	6.77	6.99	135.6	32.8
50 min	21.49	13.70	1.04	6.79	6.98	117.6	23.6
55 min	21.83	13.80	1.04	6.76	6.97	114.1	16.8
60 min	22.22	13.84	1.04	6.73	6.97	112.2	18.7
65 min	23.00						
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:
Time Collected: 11/2/2022 - 12:25

Physical Appearance at Start		Physical Appearance at Sampling	
Color	Cloudy	Color	Clear
Odor	None	Odor	None
Turbidity (> 100 NTU)	No	Turbidity (> 100 NTU)	No
Sheen/Free Product	None	Sheen/Free Product	None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
Dissolved Metals - Cu, Cr, Ni, Zn	1	125 ml Plastic	HNO_3	yes
TOC	2	40 ml Glass	H_2SO_4	
TOX	1	250 ml Plastic	H_2SO_4	
SpC	1	500 ml Plasitc	None	

Notes:

RAMBOLL

Standard Groundwater Sampling Log

Date	11/1/22 | 11/2/22		
Site Name	RACER Coldwater Rd	Weather	Mostly Cloudy, 50's °F
Location	Flint, MI	Well #	B-28
Project No.	1940102192	Evacuation Method	Whale Pump-Peristaltic
Personnel	KBS/KRR	Sampling Method	Purge Dry

Well Information:

Depth of Well *	32.40	ft.
Depth to Water *	8.40 | 8.38	ft.
Length of Water Column	24.00	ft.
Volume of Water in Well	3.91	gal.(s)
3X Volume of Water in Well	11.73	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: 9 gal.(s)
Did well go dry? yes

* Measurements taken from: X 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 14.46	initial 0.68	initial 2.16	initial 6.93	initial 119.9	initial 855
5 min	14.00	13.82	0.67	1.81	6.94	106.4	805.46
10 min	23.71	13.49	0.68	4.16	7.01	92	5050
15 min	27.9	12.77	0.67	4.75	7.02	87.2	6175
20 min	30.80						
25 min							
30 min	**11/2/2022**						
35 min	8.38	20.33	0.53	4.87	6.86	192.1	190
40 min	9.05	15.78	0.59	5.03	6.88	124.6	96.1
45 min	9.55	15.15	0.58	4.84	6.90	117.0	82.7
50 min							
55 min							
60 min							
65 min							
70 min							
75 min							
80 min							
85 min							
90 min							

Water Sample:
Time Collected: 11/2/2022 - 12:08

Physical Appearance at Start		Physical Appearance at Sampling	
Color	Light Brownish Gray	Color	Cloudy
Odor	None	Odor	None
Turbidity (> 100 NTU)	Yes	Turbidity (> 100 NTU)	Yes
Sheen/Free Product	None	Sheen/Free Product	None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
Dissolved Metals - Cu, Cr, Ni, Zn	1	125 ml Plastic	HNO_3	yes
TOC	2	40 ml Glass	H_2SO_4	
TOX	1	250 ml Plastic	H_2SO_4	
SpC	1	500 ml Plasitc	None	

Notes:

RAMBOLL

Standard Groundwater Sampling Log

Date	12/20/22 | 12/21/22		
Site Name	RACER Coldwater Rd	Weather	Cloudy, 20's ºF
Location	Flint, MI	Well #	B-28 (Resample)
Project No.	1940102192	Evacuation Method	Whale Pump-Peristaltic
Personnel	KBS	Sampling Method	Purge Dry

Well Information:

Depth of Well *	32.21	ft.
Depth to Water *	7.75 | 8.35	ft.
Length of Water Column	24.46	ft.
Volume of Water in Well	3.98	gal.(s)
3X Volume of Water in Well	11.96	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: 10 gal.(s)
Did well go dry? yes

* Measurements taken from: X 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	8.09	9.7	0.090	7.23	7.13	147.1	456
5 min	10.99	11.8	0.94	2.32	7.25	71.2	161
10 min	19.19	11.9	0.93	3.09	7.41	47.9	73.9
15 min	21.9	12.0	0.94	2.98	7.32	25.7	51.6
20 min	23.29	12.0	0.94	2.50	7.27	6.9	40.7
25 min	23.56	12.1	0.96	1.75	7.20	-5.1	75.7
30 min	24.19	12.2	0.96	1.34	7.20	-18.1	164
35 min	24.20	12.2	0.96	2.69	7.24	-28.6	
40 min							
45 min	**12/21/2022**						
50 min	8.35						109
55 min	8.90	7.0	0.92	1.37	6.83	83.7	56
60 min	9.25	7.7	0.94	1.14	6.84	73.1	50.2
65 min	9.38	7.2	0.96	1.84	6.93	63.7	45
70 min	9.53	7.5	0.94	1.34	7.02	56.0	44.6
75 min	9.74	7.9	0.94	1.27	7.07	50.2	43.2
80 min						After Fliter	4.73
85 min							
90 min							

Water Sample:
Time Collected: 12/21/22 - 15:07

Physical Appearance at Start		Physical Appearance at Sampling	
Color	Clear	Color	Clear
Odor	None	Odor	None
Turbidity (> 100 NTU)	Yes	Turbidity (> 100 NTU)	No
Sheen/Free Product	None	Sheen/Free Product	None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
Dissolved Metals - Cu	1	125 ml Plastic	HNO_3	yes

Notes:

APPENDIX C
ANALYTICAL LABORATORY RESULTS

Analytical Laboratory Report

Report ID: S42174.01(01)
Generated on 11/21/2022

Report to

Attention: Clifford Yantz
Ramboll Americas
2090 Commonwealth Blvd
Ann Arbor, MI 48105

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

Addtional Contacts: Kevin Schneider

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 Laverty (johnlaverty@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S42174.01-S42174.07
Project: RACER Coldwater Road
Collected Date(s): 11/02/2022
Submitted Date/Time: 11/03/2022 16:07
Sampled by: Kevin Schneider
P.O. #: PO

Table of Contents

Maya Murshak
Technical Director

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).
When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.
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, and 2-chloroethylvinyl ether 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)
PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."
Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.
Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

Report Narrative

There is no additional narrative for this analytical 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
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

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

Method Summary

Method	Version
E120.1	EPA Method 120.1 Revision 1982
E200.8	EPA Method 200.8 Revision 5.4
SM4500-Cl- E	Standard Method 4500-Cl- E 2011
SM5310C	Standard Method 5310C 2011
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW9020B	SW 846 Method 9020B Revision 2 September 1994

Sample Summary (7 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S42174.01	B-24R	Groundwater	11/02/22 12:25
S42174.02	B-28	Groundwater	11/02/22 12:08
S42174.03	B-7	Groundwater	11/02/22 12:50
S42174.04	B-9	Groundwater	11/02/22 13:21
S42174.05	B-18A	Groundwater	11/02/22 13:50
S42174.06	B-19AR	Groundwater	11/02/22 14:55
S42174.07	GW-DUP-110222	Groundwater	11/02/22 00:01

Analytical Laboratory Report

Lab Sample ID: S42174.01
Sample Tag: B-24R
Collected Date/Time: 11/02/2022 12:25
Matrix: Groundwater
COC Reference: 154971

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	1.6	IR
1	8oz Glass	H2SO4	Yes	1.6	IR
1	125ml Plastic	HNO3	Yes	1.6	IR
1	250ml Plastic	None	Yes	1.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	11/04/22 13:40	CCM	

Inorganics

Method: E120.1, Run Date: 11/08/22 12:28, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,186	1		umhos/cm	1		

Method: SM4500-Cl- E, Run Date: 11/10/22 16:00, Analyst: PJH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloride*	46	20		mg/L	1	16887-00-6	

Method: SM5310C, Run Date: 11/08/22 14:26, Analyst: JKB

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

Metals

Method: E200.8, Run Date: 11/04/22 14:32, 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	
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.010	0.005		mg/L	5	7440-66-6	

Organics

Method: SW9020B, Run Date: 11/17/22 15:12, Analyst: GEL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOX*	Completed	3,000		ug/L	1		O

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

Analytical Laboratory Report

Lab Sample ID: S42174.02
Sample Tag: B-28
Collected Date/Time: 11/02/2022 12:08
Matrix: Groundwater
COC Reference: 154971

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	1.6	IR
1	8oz Glass	H2SO4	Yes	1.6	IR
1	125ml Plastic	HNO3	Yes	1.6	IR
1	250ml Plastic	None	Yes	1.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	11/04/22 13:40	CCM	

Inorganics

Method: E120.1, Run Date: 11/08/22 12:30, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	936	1		umhos/cm	1		

Method: SM4500-Cl- E, Run Date: 11/10/22 16:00, Analyst: PJH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloride*	11	1		mg/L	1	16887-00-6	L

Method: SM5310C, Run Date: 11/08/22 15:04, Analyst: JKB

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

Metals

Method: E200.8, Run Date: 11/04/22 14:33, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	0.009	0.005		mg/L	5	7440-50-8	
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

Method: SW9020B, Run Date: 11/17/22 16:15, Analyst: GEL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOX*	Completed	3,000		ug/L	1		O

L-Elevated reporting limit due to low sample amount
O-Analysis performed by outside laboratory. See attached report.

Analytical Laboratory Report

Lab Sample ID: S42174.03
Sample Tag: B-7
Collected Date/Time: 11/02/2022 12:50
Matrix: Groundwater
COC Reference: 154971

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	1.6	IR
1	8oz Glass	H2SO4	Yes	1.6	IR
1	125ml Plastic	HNO3	Yes	1.6	IR
1	250ml Plastic	None	Yes	1.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	11/04/22 13:40	CCM	

Inorganics

Method: E120.1, Run Date: 11/08/22 12:32, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,073	1		umhos/cm	1		

Method: SM4500-Cl- E, Run Date: 11/10/22 16:00, Analyst: PJH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloride*	34	20		mg/L	1	16887-00-6	

Method: SM5310C, Run Date: 11/08/22 16:02, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	6.4	1		mg/L	1		

Metals

Method: E200.8, Run Date: 11/04/22 14:35, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	0.006	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.011	0.005		mg/L	5	7440-66-6	

Organics

Method: SW9020B, Run Date: 11/18/22 14:35, Analyst: GEL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOX*	Completed	3,000		ug/L	1		O

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

Analytical Laboratory Report

Lab Sample ID: S42174.04
Sample Tag: B-9
Collected Date/Time: 11/02/2022 13:21
Matrix: Groundwater
COC Reference: 154971

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	1.6	IR
1	8oz Glass	H2SO4	Yes	1.6	IR
1	125ml Plastic	HNO3	Yes	1.6	IR
1	250ml Plastic	None	Yes	1.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	11/04/22 13:40	CCM	

Inorganics

Method: E120.1, Run Date: 11/08/22 12:34, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	2,150	1		umhos/cm	1		

Method: SM4500-Cl- E, Run Date: 11/10/22 16:01, Analyst: PJH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloride*	62	20		mg/L	1	16887-00-6	

Method: SM5310C, Run Date: 11/08/22 16:21, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	4.6	1		mg/L	1		

Metals

Method: E200.8, Run Date: 11/04/22 14:36, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	0.015	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.006	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.014	0.005		mg/L	5	7440-66-6	

Organics

Method: SW9020B, Run Date: 11/18/22 21:23, Analyst: GEL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOX*	Completed	3,000		ug/L	1		O

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

Analytical Laboratory Report

Lab Sample ID: S42174.05
Sample Tag: B-18A
Collected Date/Time: 11/02/2022 13:50
Matrix: Groundwater
COC Reference: 154971

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	1.6	IR
1	8oz Glass	H2SO4	Yes	1.6	IR
1	125ml Plastic	HNO3	Yes	1.6	IR
1	250ml Plastic	None	Yes	1.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	11/04/22 13:40	CCM	

Inorganics

Method: E120.1, Run Date: 11/08/22 12:36, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,086	1		umhos/cm	1		

Method: SM4500-Cl- E, Run Date: 11/10/22 16:01, Analyst: PJH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloride*	21	1		mg/L	1	16887-00-6	L

Method: SM5310C, Run Date: 11/08/22 16:40, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	3.3	1		mg/L	1		

Metals

Method: E200.8, Run Date: 11/04/22 14:37, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	0.043	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.043	0.005		mg/L	5	7440-66-6	

Organics

Method: SW9020B, Run Date: 11/18/22 15:12, Analyst: GEL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOX*	Completed	3,000		ug/L	1		O

L-Elevated reporting limit due to low sample amount
O-Analysis performed by outside laboratory. See attached report.

Analytical Laboratory Report

Lab Sample ID: S42174.06
Sample Tag: B-19AR
Collected Date/Time: 11/02/2022 14:55
Matrix: Groundwater
COC Reference: 154971

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	1.6	IR
1	8oz Glass	H2SO4	Yes	1.6	IR
1	125ml Plastic	HNO3	Yes	1.6	IR
1	250ml Plastic	None	Yes	1.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	11/04/22 13:40	CCM	

Inorganics

Method: E120.1, Run Date: 11/08/22 12:38, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,126	1		umhos/cm	1		

Method: SM4500-Cl- E, Run Date: 11/10/22 16:01, Analyst: PJH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloride*	88	20		mg/L	1	16887-00-6	

Method: SM5310C, Run Date: 11/08/22 16:59, Analyst: JKB

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

Metals

Method: E200.8, Run Date: 11/04/22 14:39, 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	
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.020	0.005		mg/L	5	7440-66-6	

Organics

Method: SW9020B, Run Date: 11/18/22 16:10, Analyst: GEL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOX*	Completed	3,000		ug/L	1		O

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

Analytical Laboratory Report

Lab Sample ID: S42174.07
Sample Tag: GW-DUP-110222
Collected Date/Time: 11/02/2022 00:01
Matrix: Groundwater
COC Reference: 154971

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	1.6	IR
1	8oz Glass	H2SO4	Yes	1.6	IR
1	125ml Plastic	HNO3	Yes	1.6	IR
1	250ml Plastic	None	Yes	1.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	11/04/22 13:40	CCM	

Inorganics

Method: E120.1, Run Date: 11/08/22 12:40, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,006	1		umhos/cm	1		

Method: SM4500-Cl- E, Run Date: 11/10/22 16:03, Analyst: PJH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloride*	20	20		mg/L	1	16887-00-6	

Method: SM5310C, Run Date: 11/08/22 17:19, Analyst: JKB

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

Metals

Method: E200.8, Run Date: 11/04/22 14:40, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	0.040	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	Not detected	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.045	0.005		mg/L	5	7440-66-6	

Organics

Method: SW9020B, Run Date: 11/18/22 16:47, Analyst: GEL

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOX*	Completed	3,000		ug/L	1		O

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

Merit Laboratories Login Checklist

Lab Set ID: S42174
Client: OBG02 (Ramboll Americas)
Project: RACER Coldwater Road
Submitted: 11/03/2022 16:07 Login User: MMC

Attention: Clifford Yantz
Address: Ramboll Americas
2090 Commonwealth Blvd
Ann Arbor, MI 48105

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

Selection				Description	Note
Sample Receiving					
01.	☐ Yes	☒ No	☐ N/A	Samples are received at 4C +/- 2C Thermometer #	IR 1.6
02.	☒ Yes	☐ No	☐ N/A	Received on ice/ cooling process begun	
03.	☐ Yes	☒ No	☐ N/A	Samples shipped	
04.	☐ Yes	☒ No	☐ N/A	Samples left in 24 hr. drop box	
05.	☐ Yes	☐ No	☒ N/A	Are there custody seals/tape or is the drop box locked	
Chain of Custody					
06.	☒ Yes	☐ No	☐ N/A	COC adequately filled out	
07.	☒ Yes	☐ No	☐ N/A	COC signed and relinquished to the lab	
08.	☒ Yes	☐ No	☐ N/A	Sample tag on bottles match COC	
09.	☒ Yes	☐ No	☐ N/A	Subcontracting needed? Subcontacted to:	Eurofins
Preservation					
10.	☒ Yes	☐ No	☐ N/A	Do sample have correct chemical preservation	
11.	☒ Yes	☐ No	☐ N/A	Completed pH checks on preserved samples? (no VOAs)	
12.	☐ Yes	☒ No	☐ N/A	Did any samples need to be preserved in the lab?	
Bottle Conditions					
13.	☒ Yes	☐ No	☐ N/A	All bottles intact	
14.	☒ Yes	☐ No	☐ N/A	Appropriate analytical bottles are used	
15.	☒ Yes	☐ No	☐ N/A	Merit bottles used	
16.	☒ Yes	☐ No	☐ N/A	Sufficient sample volume received	
17.	☐ Yes	☒ No	☐ N/A	Samples require laboratory filtration	
18.	☒ Yes	☐ No	☐ N/A	Samples submitted within holding time	
19.	☐ Yes	☒ No	☐ 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: S42174 Submitted: 11/03/2022 16:07

Client: OBG02 (Ramboll Americas)

Project: RACER Coldwater Road

Initial Preservation Check: 11/03/2022 16:52 MMC

Preservation Recheck (E200.8): N/A

Attention: Clifford Yantz
Address: Ramboll Americas
2090 Commonwealth Blvd
Ann Arbor, MI 48105

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

Sample ID	Bottle / Preservation	pH (Orig)	Add ml	pH (New)	Notes
S42174.01	125ml Plastic HNO3	<2			
S42174.02	125ml Plastic HNO3	<2			
S42174.03	125ml Plastic HNO3	<2			
S42174.04	125ml Plastic HNO3	<2			
S42174.05	125ml Plastic HNO3	<2			
S42174.06	125ml Plastic HNO3	<2			
S42174.07	125ml Plastic HNO3	<2			

Merit Laboratories, Inc.
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 154971

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Clifford Yantz / Kevin Schneider
COMPANY: Ramboll
ADDRESS: 2090 Commonwealth Blvd.
CITY: Ann Arbor STATE: MI ZIP CODE: 48105
PHONE NO.: 313-333-0211 CELL NO.: P.O. NO.:
E-MAIL ADDRESS: Clifford.Yantz@Ramboll.com QUOTE NO.:

INVOICE TO

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

PROJECT NO./NAME: RACER Coldwater Road
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schneider

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS X STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD X LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

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

MERIT LAB NO. (FOR LAB USE ONLY)	COLLECTION DATE	COLLECTION TIME	SAMPLE TAG. IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	Dissolved Metals	Specific conductivity	TOC	TOX	Special Instructions
421741.01	11/2/22	1225	B-24R	GW	5	1		1	3				X	X	X	X	Metals were field filtered
.02		1208	B-28										X	X	X	X	
.03		1250	B-7										X	X	X	X	
.04		1321	B-9										X	X	X	X	Metals ARE:
.05		1350	B-18A										X	X	X	X	Cr, Cu, Ni, Zn
.06		1455	B-19AR										X	X	X	X	
.07	↓	—	GW-DUP-110222	↓	↓	↓		↓	↓				X	X	X	X	

185

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☐ Sampler	DATE 11/3/22	TIME 1521
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 11/3/22	TIME 1521
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 11/3/22	TIME 1607
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 11/3/22	TIME 1607

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

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 1.6°C

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

Rev. 1.26.22

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171
F 843.766.1178

gel.com

November 21, 2022

John Laverty
Merit Laboratories Inc.
2680 East Lansing Drive
East Lansing, Michigan 48823

Re: Halogen Analysis
Work Order: 599887
SDG: S42174

Dear John Laverty:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on November 08, 2022. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 1614.

Sincerely,

Jordan Melton for
Delaney Stone
Project Manager

Purchase Order: GELP20-0014
Enclosures

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 − (843) 556−8171 − www.gel.com

Certificate of Analysis Report
for

MERI001 Merit Laboratories, Inc.

Client SDG: S42174 GEL Work Order: 599887

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

J See case narrative for an explanation

J Value is estimated

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Delaney Stone.

Reviewed by Jordan Melton

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: November 21, 2022

Company :	Merit Laboratories Inc.
Address :	2680 East Lansing Drive
	East Lansing, Michigan 48823
Contact:	John Laverty
Project:	Halogen Analysis

Client Sample ID:	S42174.01	Project:	MERI00220
Sample ID:	599887001	Client ID:	MERI001
Matrix:	Ground Water		
Collect Date:	02-NOV-22 12:25		
Receive Date:	08-NOV-22		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Halogen Analysis												
SW9020B TOX (Organic Halogen) "As Received"												
Total Organic Halogens		33.5	3.33	10.0	ug/L		1	RM3	11/17/22	1512	2344634	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9020B	

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: November 21, 2022

Company :	Merit Laboratories Inc.
Address :	2680 East Lansing Drive
	East Lansing, Michigan 48823
Contact:	John Laverty
Project:	Halogen Analysis

Client Sample ID:	S42174.02	Project:	MERI00220
Sample ID:	599887002	Client ID:	MERI001
Matrix:	Ground Water		
Collect Date:	02-NOV-22 12:08		
Receive Date:	08-NOV-22		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Halogen Analysis												
SW9020B TOX (Organic Halogen) "As Received"												
Total Organic Halogens	J	6.34	3.33	10.0	ug/L		1	RM3	11/17/22	1615	2344634	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9020B	

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: November 21, 2022

Company :	Merit Laboratories Inc.
Address :	2680 East Lansing Drive
	East Lansing, Michigan 48823
Contact:	John Laverty
Project:	Halogen Analysis

Client Sample ID:	S42174.03	Project:	MERI00220
Sample ID:	599887003	Client ID:	MERI001
Matrix:	Ground Water		
Collect Date:	02-NOV-22 12:50		
Receive Date:	08-NOV-22		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Halogen Analysis												
SW9020B TOX (Organic Halogen) "As Received"												
Total Organic Halogens		32.9	3.33	10.0	ug/L		1	RM3	11/18/22	1435	2345451	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9020B	

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: November 21, 2022

Company :	Merit Laboratories Inc.
Address :	2680 East Lansing Drive
	East Lansing, Michigan 48823
Contact:	John Laverty
Project:	Halogen Analysis

Client Sample ID:	S42174.04	Project:	MERI00220
Sample ID:	599887004	Client ID:	MERI001
Matrix:	Ground Water		
Collect Date:	02-NOV-22 13:21		
Receive Date:	08-NOV-22		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Halogen Analysis												
SW9020B TOX (Organic Halogen) "As Received"												
Total Organic Halogens		36.6	6.66	20.0	ug/L		2	RM3	11/18/22	2123	2345451	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9020B	

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: November 21, 2022

Company :	Merit Laboratories Inc.
Address :	2680 East Lansing Drive
	East Lansing, Michigan 48823
Contact:	John Laverty
Project:	Halogen Analysis

Client Sample ID:	S42174.05	Project:	MERI00220
Sample ID:	599887005	Client ID:	MERI001
Matrix:	Ground Water		
Collect Date:	02-NOV-22 13:50		
Receive Date:	08-NOV-22		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Halogen Analysis												
SW9020B TOX (Organic Halogen) "As Received"												
Total Organic Halogens	J	4.16	3.33	10.0	ug/L		1	RM3	11/18/22	1512	2345451	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9020B	

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: November 21, 2022

Company :	Merit Laboratories Inc.
Address :	2680 East Lansing Drive
	East Lansing, Michigan 48823
Contact:	John Laverty
Project:	Halogen Analysis

Client Sample ID:	S42174.06	Project:	MERI00220
Sample ID:	599887006	Client ID:	MERI001
Matrix:	Ground Water		
Collect Date:	02-NOV-22 14:55		
Receive Date:	08-NOV-22		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Halogen Analysis												
SW9020B TOX (Organic Halogen) "As Received"												
Total Organic Halogens		12.5	3.33	10.0	ug/L		1	RM3	11/18/22	1610	2345451	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9020B	

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: November 21, 2022

Company :	Merit Laboratories Inc.
Address :	2680 East Lansing Drive
	East Lansing, Michigan 48823
Contact:	John Laverty
Project:	Halogen Analysis

Client Sample ID:	S42174.07	Project:	MERI00220
Sample ID:	599887007	Client ID:	MERI001
Matrix:	Ground Water		
Collect Date:	02-NOV-22 00:01		
Receive Date:	08-NOV-22		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Halogen Analysis												
SW9020B TOX (Organic Halogen) "As Received"												
Total Organic Halogens		11.2	3.33	10.0	ug/L		1	RM3	11/18/22	1647	2345451	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9020B	

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

QC Summary

Report Date: November 21, 2022

Merit Laboratories Inc.
2680 East Lansing Drive
East Lansing, Michigan

Contact: **John Laverty**

Workorder: **599887**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Halogen Analysis											
Batch 2344634											
QC1205249202 599307007 DUP											
Total Organic Halogens			U	ND	ug/L	N/A		(+/-10.0)	RM3	11/17/22	13:37
QC1205249201 LCS											
Total Organic Halogens	100			92.5	ug/L		92.5	(71%-120%)		11/17/22	12:54
QC1205249200 MB											
Total Organic Halogens			U	ND	ug/L					11/17/22	12:28
QC1205249203 599307007 MS											
Total Organic Halogens	100			68.4	ug/L		59.7	(50%-144%)		11/17/22	14:27
Batch 2345451											
QC1205250522 599307034 DUP											
Total Organic Halogens	U	ND	J	3.58	ug/L	200 ^			RM3	11/18/22	17:57
QC1205250521 LCS											
Total Organic Halogens	100			92.7	ug/L		92.7	(71%-120%)		11/18/22	12:45
QC1205250520 MB											
Total Organic Halogens			U	ND	ug/L					11/18/22	12:24
QC1205250523 599307034 MS											
Total Organic Halogens	100 U	ND		82.3	ug/L		81.1	(50%-144%)		11/18/22	18:18

Notes:

The Qualifiers in this report are defined as follows:

- < Result is less than value reported
- > Result is greater than value reported
- B The target analyte was detected in the associated blank.
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range

QC Summary

Workorder: **599887**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time

H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Per section 9.3.4.1 of Method 1664 Revision B, due to matrix spike recovery issues, this result may not be reported or used for regulatory compliance purposes.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d	5-day BOD--The 2:1 depletion requirement was not met for this sample
e	5-day BOD--Test replicates show more than 30% difference between high and low values. The data is qualified per the method and can be used for reporting purposes
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where the duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

General Chemistry
Technical Case Narrative
Merit Laboratories, Inc.
SDG #: S42174
Work Order #: 599887

Product: **Total Organic Halogens (TOX)**
Analytical Method: SW846 9020B
Analytical Procedure: GL-GC-E-007 REV# 16
Analytical Batch: 2344634

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
599887001	S42174.01
599887002	S42174.02
1205249200	Method Blank (MB)
1205249201	Laboratory Control Sample (LCS)
1205249202	599307007(NonSDG) Sample Duplicate (DUP)
1205249203	599307007(NonSDG) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Sample Re-analysis
Samples were re-analyzed to verify the results. The reanalysis data with passing instrument QC was reported. 1205249202 (Non SDG 599307007DUP) and 1205249203 (Non SDG 599307007MS).

Miscellaneous Information

Additional Comments
A pair of nitrate wash blanks is analyzed at the start of the batch. Although they are designated as ICB, they are performed for calculating purposes only. The value of the nitrate wash blanks are averaged and subtracted from all samples. Neither of these values should exceed 0.6 ug Cl. The PQL limit typically applied to ICB results does not apply in this application, since the results are used only to determine background concentrations and are subtracted from all calculated results.

Breakthrough effect
Breakthrough effect: If the value for a sample is greater than the reporting limit (10 ug/L), the result for the second slug should not be greater than 25% of the combined value of the first and second slug. Results which do not meet these criteria are designated with a "Fail" comment in the Breakthrough effect column on the Logbook page; however, the "fail" designation is not applicable for samples with a result of less than 10 ug/L.

Product: **Total Organic Halogens (TOX)**
Analytical Method: SW846 9020B

Analytical Procedure: GL-GC-E-007 REV# 16
Analytical Batch: 2345451

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
599887003	S42174.03
599887004	S42174.04
599887005	S42174.05
599887006	S42174.06
599887007	S42174.07
1205250520	Method Blank (MB)
1205250521	Laboratory Control Sample (LCS)
1205250522	599307034(NonSDG) Sample Duplicate (DUP)
1205250523	599307034(NonSDG) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Sample Dilutions
The following sample 599887004 (S42174.04) in this sample group was diluted due to limited sample quantity. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Analyte	599887 004
Total Organic Halogens	2X

Sample Re-analysis
Samples 599887004 (S42174.04), 599887005 (S42174.05), 599887006 (S42174.06) and 599887007 (S42174.07) were re-analyzed due to CCV failure. The reanalysis data with passing instrument QC was reported. Sample was re-analyzed to verify the result. The reanalysis data with passing instrument QC was reported. 599887003 (S42174.03).

Miscellaneous Information

Additional Comments
A pair of nitrate wash blanks is analyzed at the start of the batch. Although they are designated as ICB, they are performed for calculating purposes only. The value of the nitrate wash blanks are averaged and subtracted from all samples. Neither of these values should exceed 0.6 ug Cl. The PQL limit typically applied to ICB results does not apply in this application, since the results are used only to determine background concentrations and are subtracted from all calculated results.

Breakthrough effect
Breakthrough effect: If the value for a sample is greater than the reporting limit (10 ug/L), the result for the second slug should not be greater than 25% of the combined value of the first and second slug. Results which do

not meet these criteria are designated with a "Fail" comment in the Breakthrough effect column on the Logbook page; however, the "fail" designation is not applicable for samples with a result of less than 10 ug/L.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

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

C.O.C. PAGE # _____ OF _____

599857

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Project Management Team
COMPANY: Merit Laboratories
ADDRESS: 2680 East Lansing Drive
CITY: East Lansing STATE: MI ZIP CODE: 48823
PHONE NO.: 517-332-0167 FAX NO.: P.O. NO.:
E-MAIL ADDRESS: results@meritlabs.com QUOTE NO.:

INVOICE TO

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: S42174 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
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES
Project Locations
☐ Detroit ☐ New York
☐ Other _____
Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO3	H2SO4	NaOH	MeOH	OTHER	TOX	Special Instructions
	11/2/22	1225	S42174.01	GW	1				X				✓	
	11/2/22	1208	S42174.02	GW	1				X				✓	
	11/2/22	1250	S42174.03	GW	1				X				✓	
	11/2/22	1321	S42174.04	GW	1				X				✓	
	11/2/22	1350	S42174.05	GW	1				X				✓	
	11/2/22	1455	S42174.06	GW	1				X				✓	
	11/2/22	0001	S42174.07	GW	1				X				✓	
														(Ship on ice)
														Subcontracted to
														GEL
														2040 Savage Road
														Charleston, SC 29407

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Patrick Lee ☐ Sampler DATE: 11/3/22 TIME: 1700
RECEIVED BY: SIGNATURE/ORGANIZATION: Patrick Lee DATE: 11/3/22 TIME: 1700

RELINQUISHED BY: SIGNATURE/ORGANIZATION: UPS DATE: TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: M DATE: 11/8/22 TIME: 1000

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

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

Rev. 6.18.12

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM DS

Client: MERI	**SDG/AR/COC/Work Order:** 599887
Received By: MLS	**Date Received:** 11-8-22
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other 1Z 466 477 01 6379 9592

Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		✓	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0 CPM/mR/Hr **Classified as: Rad 1 Rad 2 Rad 3**
D) Did the client designate samples are hazardous?		✓	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		✓	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	Yes	NA	No	**Comments/Qualifiers (Required for Non-Conforming Items)**
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP: 3°
4	Daily check performed and passed on IR temperature gun?	✓			**Temperature Device Serial #:** IR2-21 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?			✓	Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?			✓	If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided by use of GEL labels?			✓	
13	COC form is properly signed in relinquished/received sections?	✓			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials JH Date 11-9-22 Page 1 of 1

GL-CHL-SR-001 Rev 7

List of current GEL Certifications as of 21 November 2022

State	Certification
Alabama	42200
Alaska	17−018
Alaska Drinking Water	SC00012
Arkansas	88−0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH−0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−15−00283, P330−15−00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M−SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE−OS−26−13
Nevada	SC000122023−3
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R−158
Oklahoma	2022−160
Pennsylvania NELAP	68−00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235−22−20
Utah NELAP	SC000122022−37
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

Quality Control Report

Report ID: QC-S42174-01
Generated on 11/21/2022

Report to

Attention: Clifford Yantz
Ramboll Americas
2090 Commonwealth Blvd
Ann Arbor, MI 48105

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): S42174.01-S42174.07
Project: RACER Coldwater Road
Submitted Date/Time: 11/03/2022 16:07
Sampled by: Kevin Schneider
P.O. #: PO

QC Report Sections

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: S42174.01
Sample Tag: B-24R
Collected Date/Time: 11/02/2022 12:25
Matrix: Groundwater
COC Reference: 154971

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chloride	SM4500-Cl- E	11/10/22 16:00	CL221110W1	CL221110W1	No	BLK/LCS/MS/DUP
Conductivity	E120.1	11/08/22 12:28	COND221108-W1	COND221108-W1	No	BLK/LCS/DUP
TOC	SM5310C	11/08/22 14:26	TOC221108-W1	TOC221108-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Chromium, Dissolved	E200.8	11/04/22 14:32	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/04/22 14:32	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	11/04/22 14:32	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/04/22 14:32	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S42174.02

Sample Tag: B-28

Collected Date/Time: 11/02/2022 12:08

Matrix: Groundwater

COC Reference: 154971

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chloride	SM4500-Cl- E	11/10/22 16:00	CL221110W1	CL221110W1	No	BLK/LCS/MS/DUP
Conductivity	E120.1	11/08/22 12:30	COND221108-W1	COND221108-W1	No	BLK/LCS/DUP
TOC	SM5310C	11/08/22 15:04	TOC221108-W1	TOC221108-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Chromium, Dissolved	E200.8	11/04/22 14:33	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/04/22 14:33	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	11/04/22 14:33	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/04/22 14:33	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S42174.03

Sample Tag: B-7

Collected Date/Time: 11/02/2022 12:50

Matrix: Groundwater

COC Reference: 154971

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chloride	SM4500-Cl- E	11/10/22 16:00	CL221110W1	CL221110W1	No	BLK/LCS/MS/DUP
Conductivity	E120.1	11/08/22 12:32	COND221108-W1	COND221108-W1	No	BLK/LCS/DUP
TOC	SM5310C	11/08/22 16:02	TOC221108-W1	TOC221108-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Chromium, Dissolved	E200.8	11/04/22 14:35	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/04/22 14:35	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	11/04/22 14:35	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/04/22 14:35	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S42174.04

Sample Tag: B-9

Collected Date/Time: 11/02/2022 13:21

Matrix: Groundwater

COC Reference: 154971

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chloride	SM4500-Cl- E	11/10/22 16:01	CL221110W1	CL221110W1	No	BLK/LCS/MS/DUP
Conductivity	E120.1	11/08/22 12:34	COND221108-W1	COND221108-W1	No	BLK/LCS/DUP
TOC	SM5310C	11/08/22 16:21	TOC221108-W1	TOC221108-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Chromium, Dissolved	E200.8	11/04/22 14:36	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/04/22 14:36	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	11/04/22 14:36	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/04/22 14:36	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD

Lab Sample ID: S42174.05

Sample Tag: B-18A

Collected Date/Time: 11/02/2022 13:50

Matrix: Groundwater

COC Reference: 154971

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chloride	SM4500-Cl- E	11/10/22 16:01	CL221110W1	CL221110W1	No	BLK/LCS/MS/DUP
Conductivity	E120.1	11/08/22 12:36	COND221108-W1	COND221108-W1	No	BLK/LCS/DUP
TOC	SM5310C	11/08/22 16:40	TOC221108-W1	TOC221108-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Chromium, Dissolved	E200.8	11/04/22 14:37	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/04/22 14:37	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	11/04/22 14:37	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/04/22 14:37	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S42174.06

Sample Tag: B-19AR

Collected Date/Time: 11/02/2022 14:55

Matrix: Groundwater

COC Reference: 154971

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chloride	SM4500-Cl- E	11/10/22 16:01	CL221110W1	CL221110W1	No	BLK/LCS/MS/DUP
Conductivity	E120.1	11/08/22 12:38	COND221108-W1	COND221108-W1	No	BLK/LCS/DUP
TOC	SM5310C	11/08/22 16:59	TOC221108-W1	TOC221108-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Chromium, Dissolved	E200.8	11/04/22 14:39	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/04/22 14:39	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	11/04/22 14:39	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/04/22 14:39	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S42174.07
Sample Tag: GW-DUP-110222
Collected Date/Time: 11/02/2022 00:01
Matrix: Groundwater
COC Reference: 154971

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chloride	SM4500-Cl- E	11/10/22 16:03	CL221110W1	CL221110W1	No	BLK/LCS/MS/DUP
Conductivity	E120.1	11/08/22 12:40	COND221108-W1	COND221108-W1	No	BLK/LCS/DUP
TOC	SM5310C	11/08/22 17:19	TOC221108-W1	TOC221108-W1	No	BLK/LCS/MS/MSD/DU
Metals						
Chromium, Dissolved	E200.8	11/04/22 14:40	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/04/22 14:40	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	11/04/22 14:40	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/04/22 14:40	MT4-22-1104B	MTD-110422-5	No	BLK/LCS/MS/MSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: CL221110W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S42174.01	Chloride	SM4500-Cl- E	11/10/22 16:00	CL221110W1
S42174.02	Chloride	SM4500-Cl- E	11/10/22 16:00	CL221110W1
S42174.03	Chloride	SM4500-Cl- E	11/10/22 16:00	CL221110W1
S42174.04	Chloride	SM4500-Cl- E	11/10/22 16:01	CL221110W1
S42174.05	Chloride	SM4500-Cl- E	11/10/22 16:01	CL221110W1
S42174.06	Chloride	SM4500-Cl- E	11/10/22 16:01	CL221110W1
S42174.07	Chloride	SM4500-Cl- E	11/10/22 16:03	CL221110W1

Inorganics, Prep Batch ID: COND221108-W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S42174.01	Conductivity	E120.1	11/08/22 12:28	COND221108-W1
S42174.02	Conductivity	E120.1	11/08/22 12:30	COND221108-W1
S42174.03	Conductivity	E120.1	11/08/22 12:32	COND221108-W1
S42174.04	Conductivity	E120.1	11/08/22 12:34	COND221108-W1
S42174.05	Conductivity	E120.1	11/08/22 12:36	COND221108-W1
S42174.06	Conductivity	E120.1	11/08/22 12:38	COND221108-W1
S42174.07	Conductivity	E120.1	11/08/22 12:40	COND221108-W1

Inorganics, Prep Batch ID: TOC221108-W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S42174.01	TOC	SM5310C	11/08/22 14:26	TOC221108-W1
S42174.02	TOC	SM5310C	11/08/22 15:04	TOC221108-W1
S42174.03	TOC	SM5310C	11/08/22 16:02	TOC221108-W1
S42174.04	TOC	SM5310C	11/08/22 16:21	TOC221108-W1
S42174.05	TOC	SM5310C	11/08/22 16:40	TOC221108-W1
S42174.06	TOC	SM5310C	11/08/22 16:59	TOC221108-W1
S42174.07	TOC	SM5310C	11/08/22 17:19	TOC221108-W1

Metals, Prep Batch ID: MTD-110422-5

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S42174.01	Chromium, Dissolved	E200.8	11/04/22 14:32	MT4-22-1104B
S42174.01	Copper, Dissolved	E200.8	11/04/22 14:32	MT4-22-1104B
S42174.01	Nickel, Dissolved	E200.8	11/04/22 14:32	MT4-22-1104B
S42174.01	Zinc, Dissolved	E200.8	11/04/22 14:32	MT4-22-1104B
S42174.02	Chromium, Dissolved	E200.8	11/04/22 14:33	MT4-22-1104B
S42174.02	Copper, Dissolved	E200.8	11/04/22 14:33	MT4-22-1104B
S42174.02	Nickel, Dissolved	E200.8	11/04/22 14:33	MT4-22-1104B
S42174.02	Zinc, Dissolved	E200.8	11/04/22 14:33	MT4-22-1104B
S42174.03	Chromium, Dissolved	E200.8	11/04/22 14:35	MT4-22-1104B
S42174.03	Copper, Dissolved	E200.8	11/04/22 14:35	MT4-22-1104B
S42174.03	Nickel, Dissolved	E200.8	11/04/22 14:35	MT4-22-1104B
S42174.03	Zinc, Dissolved	E200.8	11/04/22 14:35	MT4-22-1104B
S42174.04	Chromium, Dissolved	E200.8	11/04/22 14:36	MT4-22-1104B
S42174.04	Copper, Dissolved	E200.8	11/04/22 14:36	MT4-22-1104B
S42174.04	Nickel, Dissolved	E200.8	11/04/22 14:36	MT4-22-1104B
S42174.04	Zinc, Dissolved	E200.8	11/04/22 14:36	MT4-22-1104B
S42174.05	Chromium, Dissolved	E200.8	11/04/22 14:37	MT4-22-1104B

Metals, Prep Batch ID: MTD-110422-5 (continued)

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S42174.05	Copper, Dissolved	E200.8	11/04/22 14:37	MT4-22-1104B
S42174.05	Nickel, Dissolved	E200.8	11/04/22 14:37	MT4-22-1104B
S42174.05	Zinc, Dissolved	E200.8	11/04/22 14:37	MT4-22-1104B
S42174.06	Chromium, Dissolved	E200.8	11/04/22 14:39	MT4-22-1104B
S42174.06	Copper, Dissolved	E200.8	11/04/22 14:39	MT4-22-1104B
S42174.06	Nickel, Dissolved	E200.8	11/04/22 14:39	MT4-22-1104B
S42174.06	Zinc, Dissolved	E200.8	11/04/22 14:39	MT4-22-1104B
S42174.07	Chromium, Dissolved	E200.8	11/04/22 14:40	MT4-22-1104B
S42174.07	Copper, Dissolved	E200.8	11/04/22 14:40	MT4-22-1104B
S42174.07	Nickel, Dissolved	E200.8	11/04/22 14:40	MT4-22-1104B
S42174.07	Zinc, Dissolved	E200.8	11/04/22 14:40	MT4-22-1104B

Inorganics, Prep Batch ID: CL221110W1

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

Blank (BLK)

Lab Sample ID: CL221110W1.LRB1

Run in Batch: CL221110W1, Run Date: 11/10/2022 15:57, Prep Date: 11/10/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Chloride		ND	20	mg/L

Blank (BLK)

Lab Sample ID: CL221110W1.LRB2

Run in Batch: CL221110W1, Run Date: 11/10/2022 15:58, Prep Date: 11/10/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Chloride		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: CL221110W1.LCS1

Run in Batch: CL221110W1, Run Date: 11/10/2022 15:58, Prep Date: 11/10/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chloride		105.2	90	110

Laboratory Control Sample (LCS)

Lab Sample ID: CL221110W1.LCS2

Run in Batch: CL221110W1, Run Date: 11/10/2022 15:58, Prep Date: 11/10/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chloride		103.0	90	110

Matrix Spike (MS)

Lab Sample ID: CL221110W1.MS1, Parent Sample ID: S42174.02

Run in Batch: CL221110W1, Run Date: 11/10/2022 16:09, Prep Date: 11/10/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chloride		102.3	80	120

Duplicate (DUP)

Lab Sample ID: CL221110W1.DP1, Parent Sample ID: S42174.02

Run in Batch: CL221110W1, Run Date: 11/10/2022 16:00, Prep Date: 11/10/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
Chloride		0.2	15

Inorganics, Prep Batch ID: COND221108-W1

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

Blank (BLK)

Lab Sample ID: COND221108-W1.LRB1

Run in Batch: COND221108-W1, Run Date: 11/08/2022 12:00, Prep Date: 11/08/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Conductivity		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: COND221108-W1.LCS1

Run in Batch: COND221108-W1, Run Date: 11/08/2022 12:06, Prep Date: 11/08/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Conductivity		98	90	110

Laboratory Control Sample (LCS)

Lab Sample ID: COND221108-W1.LCS2

Run in Batch: COND221108-W1, Run Date: 11/08/2022 12:08, Prep Date: 11/08/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Conductivity		92	90	110

Duplicate (DUP)

Lab Sample ID: COND221108-W1.DP1, Parent Sample ID: S42133.01

Run in Batch: COND221108-W1, Run Date: 11/08/2022 12:12, Prep Date: 11/08/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
Conductivity		0	15

Inorganics, Prep Batch ID: TOC221108-W1

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

Blank (BLK)

Lab Sample ID: TOC221108-W1.LRB1

Run in Batch: TOC221108-W1, Run Date: 11/08/2022 12:08, Prep Date: 11/08/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
TOC		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: TOC221108-W1.LCS1

Run in Batch: TOC221108-W1, Run Date: 11/08/2022 12:48, Prep Date: 11/08/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
TOC		99	90	110

Matrix Spike (MS)

Lab Sample ID: TOC221108-W1.MS1, Parent Sample ID: S42174.02

Run in Batch: TOC221108-W1, Run Date: 11/08/2022 15:24, Prep Date: 11/08/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
TOC		96	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: TOC221108-W1.MSD1, Parent Sample ID: TOC221108-W1.MS1

Run in Batch: TOC221108-W1, Run Date: 11/08/2022 15:43, Prep Date: 11/08/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
TOC		95	80	120	1	15

Duplicate (DUP)

Lab Sample ID: TOC221108-W1.DP1, Parent Sample ID: S42174.01

Run in Batch: TOC221108-W1, Run Date: 11/08/2022 14:45, Prep Date: 11/08/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
TOC		2	15

Metals, Prep Batch ID: MTD-110422-5

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

Blank (BLK)

Lab Sample ID: MT4-22-1104B.021.LRB

Run in Batch: MT4-22-1104B, Run Date: 11/04/2022 14:28, Prep Date: 11/04/2022, Matrix: Liquid, Dilution: 1

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

Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-1104B.019.LCS

Run in Batch: MT4-22-1104B, Run Date: 11/04/2022 14:24, Prep Date: 11/04/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chromium		99	85	115
Copper		96	85	115
Nickel		98	85	115
Zinc		97	85	115

Matrix Spike (MS)

Lab Sample ID: MT4-22-1104B.033.MS, Parent Sample ID: S42174.07

Run in Batch: MT4-22-1104B, Run Date: 11/04/2022 14:51, Prep Date: 11/04/2022, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Chromium		98	75	125
Copper		92	75	125
Nickel		96	75	125
Zinc		96	75	125

Matrix Spike (MS)

Lab Sample ID: MT4-22-1104B.049.MS, Parent Sample ID: S42096.02

Run in Batch: MT4-22-1104B, Run Date: 11/04/2022 15:18, Prep Date: 11/04/2022, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Chromium		101	75	125
Copper		100	75	125
Nickel		100	75	125
Zinc		106	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1104B.034.MSD, Parent Sample ID: MT4-22-1104B.033.MS

Run in Batch: MT4-22-1104B, Run Date: 11/04/2022 14:52, Prep Date: 11/04/2022, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium		97	75	125	1	20
Copper		95	75	125	3	20
Nickel		96	75	125	0	20
Zinc		98	75	125	2	20

Metals, Prep Batch ID: MTD-110422-5 (continued)

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

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1104B.050.MSD, Parent Sample ID: MT4-22-1104B.049.MS

Run in Batch: MT4-22-1104B, Run Date: 11/04/2022 15:19, Prep Date: 11/04/2022, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium		100	75	125	0	20
Copper		97	75	125	3	20
Nickel		98	75	125	2	20
Zinc		98	75	125	2	20

Merit Laboratories, Inc.
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 154971

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Clifford Yantz / Kevin Schneider
COMPANY: Ramboll
ADDRESS: 2090 Commonwealth Blvd.
CITY: Ann Arbor STATE: MI ZIP CODE: 48105
PHONE NO.: 313-333-0211 CELL NO.: P.O. NO.:
E-MAIL ADDRESS: Clifford.Yantz@Ramboll.com QUOTE NO.:

INVOICE TO

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

PROJECT NO./NAME: RACER Coldwater Road
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schneider

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS X STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD X LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

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

MERIT LAB NO. (FOR LAB USE ONLY)	COLLECTION DATE	COLLECTION TIME	SAMPLE TAG. IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	Dissolved Metals	Specific conductivity	TOC	TOX	Special Instructions
421741.01	11/2/22	1225	B-24R	GW	5	1		1	3				X	X	X	X	Metals were field filtered
.02		1208	B-28										X	X	X	X	
.03		1250	B-7										X	X	X	X	
.04		1321	B-9										X	X	X	X	Metals ARE:
.05		1350	B-18A										X	X	X	X	Cr, Cu, Ni, Zn
.06		1455	B-19AR										X	X	X	X	
.07	↓	—	GW-DUP-110222	↓	↓	↓		↓	↓				X	X	X	X	

185

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☐ Sampler	DATE 11/3/22	TIME 1521
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 11/3/22	TIME 1521
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 11/3/22	TIME 1607
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 11/3/22	TIME 1607

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

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 1.6°C

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

Rev. 1.26.22

Merit Laboratories, Inc.

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

C.O.C. PAGE # _____ OF _____

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Project Management Team
COMPANY: Merit Laboratories
ADDRESS: 2680 East Lansing Drive
CITY: East Lansing | STATE: MI | ZIP CODE: 48823
PHONE NO.: 517-332-0167 | FAX NO.: | P.O. NO.:
E-MAIL ADDRESS: results@meritlabs.com | QUOTE NO.:

INVOICE TO

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: S42174 | 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
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other _____

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	TOX
	11/2/22	1225	S42174.01	GW	1				x				✓
	11/2/22	1208	S42174.02	GW	1				x				✓
	11/2/22	1250	S42174.03	GW	1				x				✓
	11/2/22	1321	S42174.04	GW	1				x				✓
	11/2/22	1350	S42174.05	GW	1				x				✓
	11/2/22	1455	S42174.06	GW	1				x				✓
	11/2/22	0001	S42174.07	GW	1				x				✓

(Ship on ice)
Subcontracted to
GEL
2040 Savage Road
Charleston, SC 29407

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Patrick Dale MPE ☐ Sampler | DATE: 11/2/22 | TIME: 1700
RECEIVED BY: SIGNATURE/ORGANIZATION: | DATE: 11/3/22 | TIME: 1200

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

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

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

Rev. 5.18.12

Analytical Laboratory Report

Report ID: S43807.01(01)
Generated on 12/23/2022

Report to

Attention: Clifford Yantz
Ramboll Americas
2090 Commonwealth Blvd
Ann Arbor, MI 48105

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

Addtional Contacts: Kevin Schneider

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 Laverty (johnlaverty@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S43807.01-S43807.02
Project: RACER Coldwater Road
Collected Date(s): 12/21/2022 - 12/22/2022
Submitted Date/Time: 12/22/2022 16:40
Sampled by: Kevin Schneider
P.O. #: 194002628 TASK 001

Table of Contents

Maya Murshak
Technical Director

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).
When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.
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, and 2-chloroethylvinyl ether 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.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)
PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."
Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.
Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

Report Narrative

There is no additional narrative for this analytical 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
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

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

Method Summary

Method	Version
E200.8	EPA Method 200.8 Revision 5.4
SW3015A	SW 846 Method 3015A Revision 1 February 2007

Analytical Laboratory Report

Sample Summary (2 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S43807.01	B-28	Groundwater	12/21/22 15:07
S43807.02	B-18A	Groundwater	12/22/22 12:55

Analytical Laboratory Report

Lab Sample ID: S43807.01
Sample Tag: B-28
Collected Date/Time: 12/21/2022 15:07
Matrix: Groundwater
COC Reference: 154987

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	12/23/22 11:50	CCM	

Metals

Method: E200.8, Run Date: 12/23/22 13:15, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Copper	Not detected	0.005		mg/L	5	7440-50-8	

Analytical Laboratory Report

Lab Sample ID: S43807.02
Sample Tag: B-18A
Collected Date/Time: 12/22/2022 12:55
Matrix: Groundwater
COC Reference: 154987

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	12/23/22 11:50	CCM	

Metals

Method: E200.8, Run Date: 12/23/22 13:16, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Copper	0.034	0.005		mg/L	5	7440-50-8	

Merit Laboratories Login Checklist

Lab Set ID: S43807
Client: OBG02 (Ramboll Americas)
Project: RACER Coldwater Road
Submitted: 12/22/2022 16:40 Login User: MMC

Attention: Clifford Yantz
Address: Ramboll Americas
2090 Commonwealth Blvd
Ann Arbor, MI 48105

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

Selection				Description	Note
Sample Receiving					
01.	[X] Yes	[ ] No	[ ] N/A	Samples are received at 4C +/- 2C Thermometer #	IR 4.6
02.	[X] Yes	[ ] No	[ ] N/A	Received on ice/ cooling process begun	
03.	[ ] Yes	[X] No	[ ] N/A	Samples shipped	
04.	[ ] Yes	[X] No	[ ] N/A	Samples left in 24 hr. drop box	
05.	[ ] Yes	[ ] No	[X] N/A	Are there custody seals/tape or is the drop box locked	
Chain of Custody					
06.	[X] Yes	[ ] No	[ ] N/A	COC adequately filled out	
07.	[X] Yes	[ ] No	[ ] N/A	COC signed and relinquished to the lab	
08.	[X] Yes	[ ] No	[ ] N/A	Sample tag on bottles match COC	
09.	[ ] Yes	[X] No	[ ] N/A	Subcontracting needed? Subcontacted to:	
Preservation					
10.	[X] Yes	[ ] No	[ ] N/A	Do sample have correct chemical preservation	
11.	[X] Yes	[ ] No	[ ] N/A	Completed pH checks on preserved samples? (no VOAs)	
12.	[ ] Yes	[X] No	[ ] N/A	Did any samples need to be preserved in the lab?	
Bottle Conditions					
13.	[X] Yes	[ ] No	[ ] N/A	All bottles intact	
14.	[X] Yes	[ ] No	[ ] N/A	Appropriate analytical bottles are used	
15.	[X] Yes	[ ] No	[ ] N/A	Merit bottles used	
16.	[X] Yes	[ ] No	[ ] N/A	Sufficient sample volume received	
17.	[ ] Yes	[X] No	[ ] N/A	Samples require laboratory filtration	
18.	[X] Yes	[ ] No	[ ] N/A	Samples submitted within holding time	
19.	[ ] Yes	[ ] No	[X] 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: S43807 Submitted: 12/22/2022 16:40

Client: OBG02 (Ramboll Americas)

Project: RACER Coldwater Road

Initial Preservation Check: 12/22/2022 17:03 MMC

Preservation Recheck (E200.8): N/A

Attention: Clifford Yantz
Address: Ramboll Americas
2090 Commonwealth Blvd
Ann Arbor, MI 48105

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

Sample ID	Bottle / Preservation	pH (Orig)	Add ml	pH (New)	Notes
S43807.01	125ml Plastic HNO3	<2			
S43807.02	125ml Plastic HNO3	<2			

Merit Laboratories, Inc.
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

154987

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Clifford Yantz / Kevin Schneider
COMPANY: Ramboll
ADDRESS: 2090 Commonwealth Blvd
CITY: Ann Arbor | STATE: MI | ZIP CODE: 48105
PHONE NO.: 313-333-0211 | CELL NO.: | P.O. NO.: 1940026278 Task 004
E-MAIL ADDRESS: Clifford.Yantz@Ramboll.com, Kevin.Schneider@Ramboll.com | QUOTE NO.:

INVOICE TO

CONTACT NAME: | ☒ SAME
COMPANY:
ADDRESS:
CITY: | STATE: | ZIP CODE:
PHONE NO.: | E-MAIL ADDRESS:

PROJECT NO./NAME: RACER Coldwater Road
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schneider

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. FOR LAB USE ONLY	COLLECTION DATE	COLLECTION TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	Copper
438701	12/21/22	1567	B-28	GW	1			1					X
.02	12/22/22	1255	B-18A	GW	1			1					X

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☒ Sampler	DATE 12/22/22	TIME 14:30
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 12/22/22	TIME 14:30
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 12/22/22	TIME 16:40
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 12/22/22	TIME 1640

RELINQUISHED BY: SIGNATURE/ORGANIZATION			DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION			DATE	TIME
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES:	TEMP. ON ARRIVAL 4.6
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS		

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

Rev. 1.26.22

Quality Control Report

Report ID: QC-S43807-01
Generated on 12/27/2022

Report to

Attention: Clifford Yantz
Ramboll Americas
2090 Commonwealth Blvd
Ann Arbor, MI 48105

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): S43807.01-S43807.02
Project: RACER Coldwater Road
Submitted Date/Time: 12/22/2022 16:40
Sampled by: Kevin Schneider
P.O. #: 194002628 TASK 001

QC Report Sections

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: S43807.01

Sample Tag: B-28

Collected Date/Time: 12/21/2022 15:07

Matrix: Groundwater

COC Reference: 154987

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Copper	E200.8	12/23/22 13:15	MT4-22-1223B	MTD-122322-5	No	BLK/LCS/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S43807.02
Sample Tag: B-18A
Collected Date/Time: 12/22/2022 12:55
Matrix: Groundwater
COC Reference: 154987

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Copper	E200.8	12/23/22 13:16	MT4-22-1223B	MTD-122322-5	No	BLK/LCS/MS/MSD

QC Report - Prep Batch Summary

Metals, Prep Batch ID: MTD-122322-5

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S43807.01	Copper	E200.8	12/23/22 13:15	MT4-22-1223B
S43807.02	Copper	E200.8	12/23/22 13:16	MT4-22-1223B

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-122322-5

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

Blank (BLK)

Lab Sample ID: MT4-22-1223B.021.LRB

Run in Batch: MT4-22-1223B, Run Date: 12/23/2022 12:51, Prep Date: 12/23/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Copper		ND	0.001	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-1223B.019.LCS

Run in Batch: MT4-22-1223B, Run Date: 12/23/2022 12:49, Prep Date: 12/23/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Copper		100	85	115

Matrix Spike (MS)

Lab Sample ID: MT4-22-1223B.033.MS, Parent Sample ID: S43792.06

Run in Batch: MT4-22-1223B, Run Date: 12/23/2022 13:07, Prep Date: 12/23/2022, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Copper		100	75	125

Matrix Spike (MS)

Lab Sample ID: MT4-22-1223B.048.MS, Parent Sample ID: S43792.06

Run in Batch: MT4-22-1223B, Run Date: 12/23/2022 13:27, Prep Date: 12/23/2022, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Copper		96	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1223B.034.MSD, Parent Sample ID: MT4-22-1223B.033.MS

Run in Batch: MT4-22-1223B, Run Date: 12/23/2022 13:08, Prep Date: 12/23/2022, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Copper		101	75	125	1	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1223B.049.MSD, Parent Sample ID: MT4-22-1223B.048.MS

Run in Batch: MT4-22-1223B, Run Date: 12/23/2022 13:29, Prep Date: 12/23/2022, Matrix: Liquid, Dilution: 5

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

Merit Laboratories, Inc.
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

154987

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Clifford Yantz / Kevin Schneider
COMPANY: Ramboll
ADDRESS: 2090 Commonwealth Blvd
CITY: Ann Arbor | STATE: MI | ZIP CODE: 48105
PHONE NO.: 313-333-0211 | CELL NO.: | P.O. NO.: 1940026278 Task 004
E-MAIL ADDRESS: Clifford.Yantz@Ramboll.com, Kevin.Schneider@Ramboll.com | QUOTE NO.:

INVOICE TO

CONTACT NAME: | ☒ SAME
COMPANY:
ADDRESS:
CITY: | STATE: | ZIP CODE:
PHONE NO.: | E-MAIL ADDRESS:

PROJECT NO./NAME: RACER Coldwater Road
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schneider

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. FOR LAB USE ONLY	COLLECTION DATE	COLLECTION TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	Copper
438701	12/21/22	1567	B-28	GW	1			1					X
.02	12/22/22	1255	B-18A	GW	1			1					X

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☒ Sampler	DATE 12/22/22	TIME 14:30
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 12/22/22	TIME 14:30
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 12/22/22	TIME 16:40
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 12/22/22	TIME 1640

RELINQUISHED BY: SIGNATURE/ORGANIZATION			DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION			DATE	TIME
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES:	TEMP. ON ARRIVAL 4.6
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS		

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

Rev. 1.26.22

APPENDIX D
GROUNDWATER SAMPLING PROGRAM QA/QC SUMMARY

Appendix D
Quality Assurance/Quality Control Summary

Data verification was independently performed by Ramboll Americas Engineering Solutions, Inc. (Ramboll), to assess the groundwater monitoring data quality for samples collected during the 2022 semiannual groundwater sampling event conducted in November 2022. Data verification was utilized to confirm the quality of the field and laboratory (Merit Laboratories, Inc. (Merit) of East Lansing, Michigan and GEL Laboratories, LLC (GEL) subcontract for TOX analysis) 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 except chloride.
- 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 except chloride in lab samples B-28 and B-18A had elevated reporting limits due to low sample amounts. In samples B-24R, B-7, B-9, B-19AR, and GW-DUP-110222 chloride had an elevated RL.
- No breakthroughs exceeding 25% for TOX samples were reported.

The relative percent difference (RPD) for the duplicate sample results for B-18A and GW-Dup-110222 (B-18A) were within acceptable limits except for TOX.

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 except for the use of the chloride results which will be treated as estimated values.

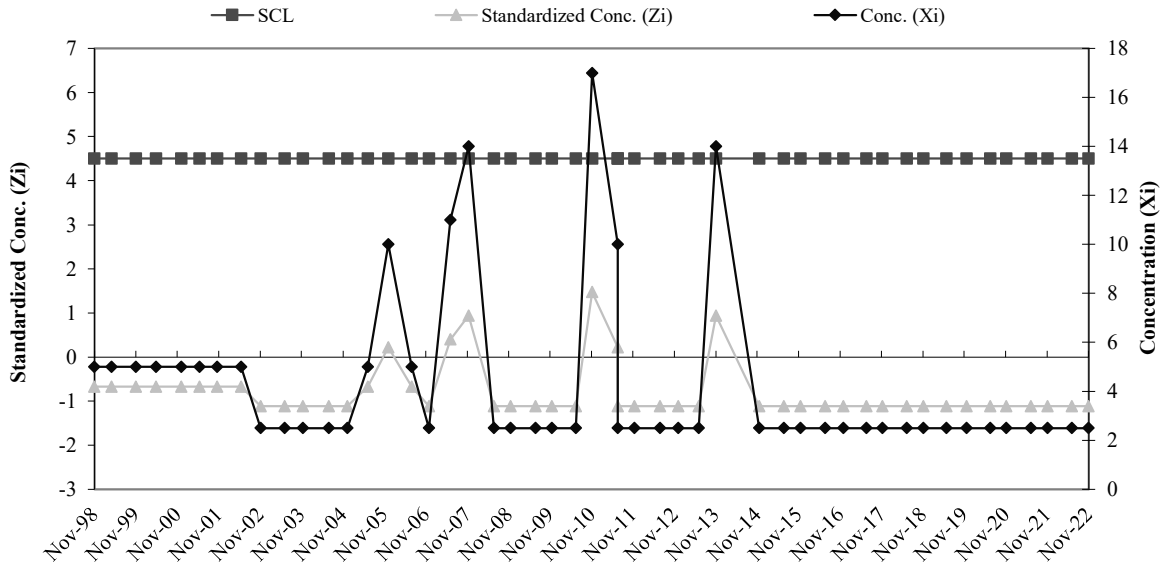
APPENDIX E
MONITORING WELL CONTROL CHARTS

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		
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10	**8.75**	**5.60**
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	53	Nov-20	4.5	2.5	-1.12
27	Nov-07	4.5	14	0.94	54	Jun-21	4.5	2.5	-1.12
28	Jun-08	4.5	2.5	-1.12	55	Nov-21	4.5	2.5	-1.12
29	Nov-08	4.5	2.5	-1.12	56	Jun-22	4.5	2.5	-1.12
30	Jun-09	4.5	2.5	-1.12	57	Nov-22	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

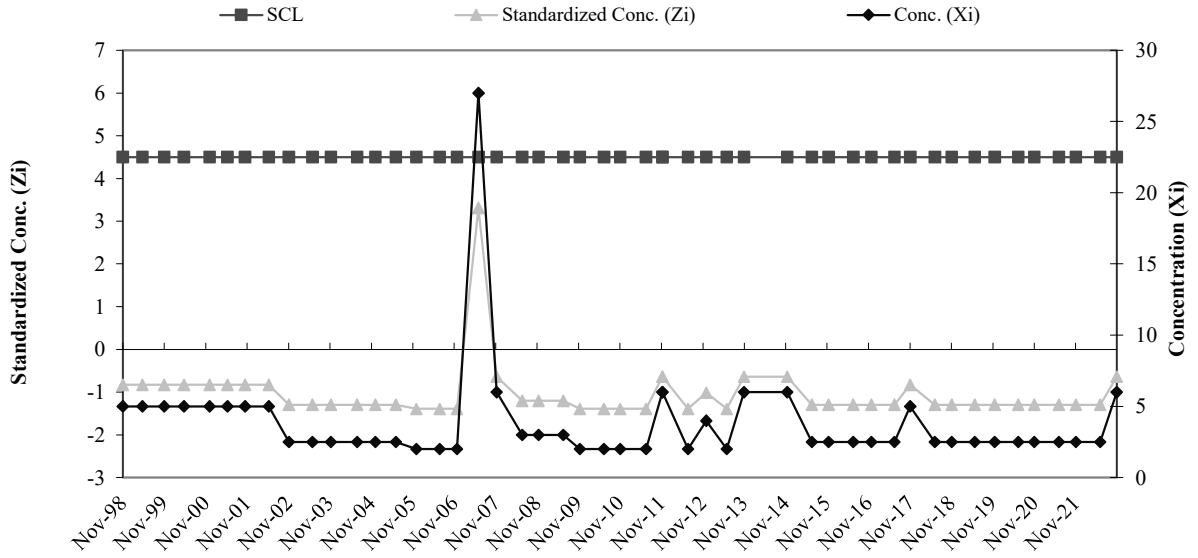


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-7 Cu

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10	**9.40**	**5.32**
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	52	Nov-20	4.5	2.5	-1.30
27	Nov-07	4.5	6	-0.64	53	Jun-21	4.5	2.5	-1.30
28	Jun-08	4.5	3	-1.20	54	Nov-21	4.5	2.5	-1.30
29	Nov-08	4.5	3	-1.20	55	Jun-22	4.5	2.5	-1.30
30	Jun-09	4.5	3	-1.20	56	Nov-22	4.5	6	-0.64
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

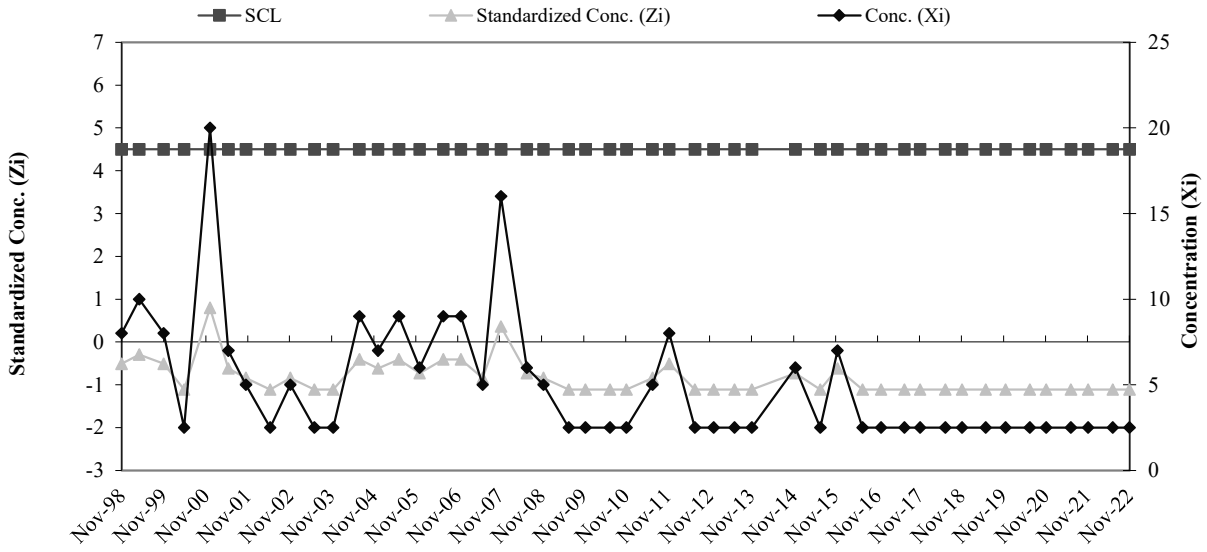


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-7 Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	15		
2	Aug-95	20		
3	Feb-96	20		
4	Jun-96	10	**12.70**	**9.19**
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	52	Nov-20	4.5	2.5	-1.11
27	Nov-07	4.5	16	0.36	53	Jun-21	4.5	2.5	-1.11
28	Jun-08	4.5	6	-0.73	54	Nov-21	4.5	2.5	-1.11
29	Nov-08	4.5	5	-0.84	55	Jun-22	4.5	2.5	-1.11
30	Jun-09	4.5	2.5	-1.11	56	Nov-22	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

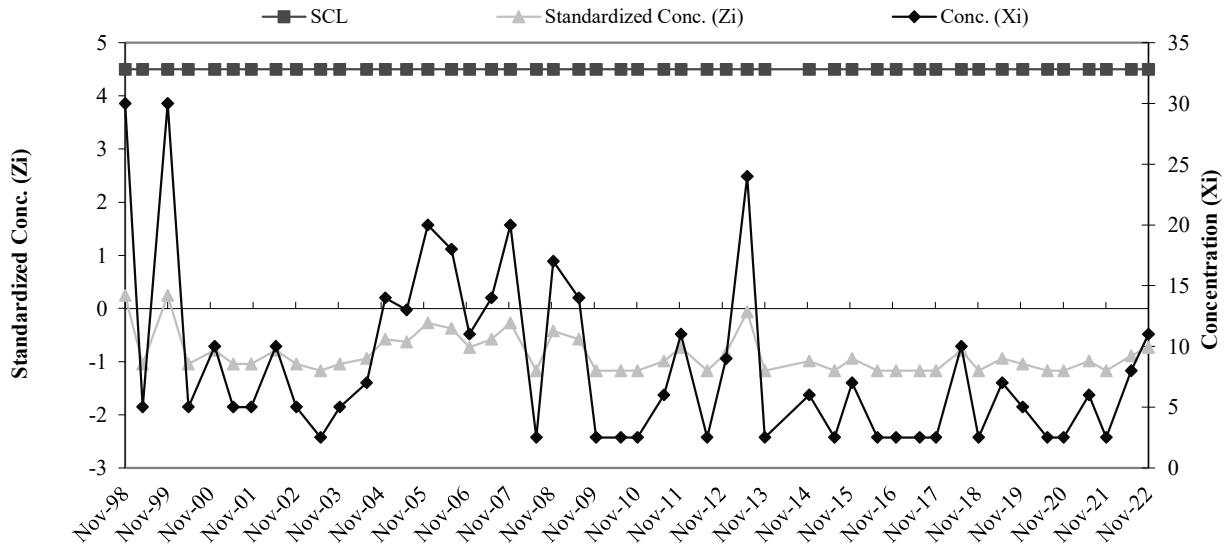


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-7 Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	10		
3	Feb-96	22		
4	Jun-96	20	**25.25**	**19.40**
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	52	Nov-20	4.5	2.5	-1.17
27	Nov-07	4.5	20	-0.27	53	Jun-21	4.5	6	-0.99
28	Jun-08	4.5	2.5	-1.17	54	Nov-21	4.5	2.5	-1.17
29	Nov-08	4.5	17	-0.43	55	Jun-22	4.5	8	-0.89
30	Jun-09	4.5	14	-0.58	56	Nov-22	4.5	11	-0.73
31	Nov-09	4.5	2.5	-1.17			4.5		
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

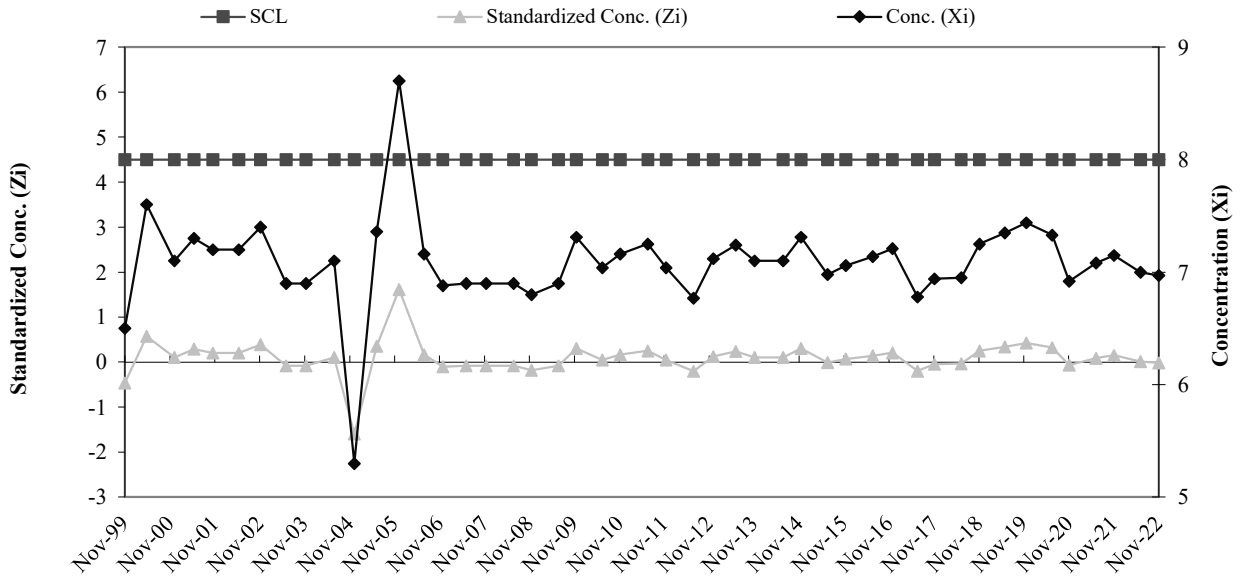


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-7 pH

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	51	Nov-20	4.5	6.9	-0.06
28	Jun-09	4.5	6.9	-0.08	52	Jun-21	4.5	7.1	0.09
29	Nov-09	4.5	7.3	0.30	53	Nov-21	4.5	7.2	0.15
30	Jun-10	4.5	7.0	0.05	54	Jun-22	4.5	7.0	0.01
31	Nov-10	4.5	7.2	0.16	55	Nov-22	4.5	7.0	-0.02
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

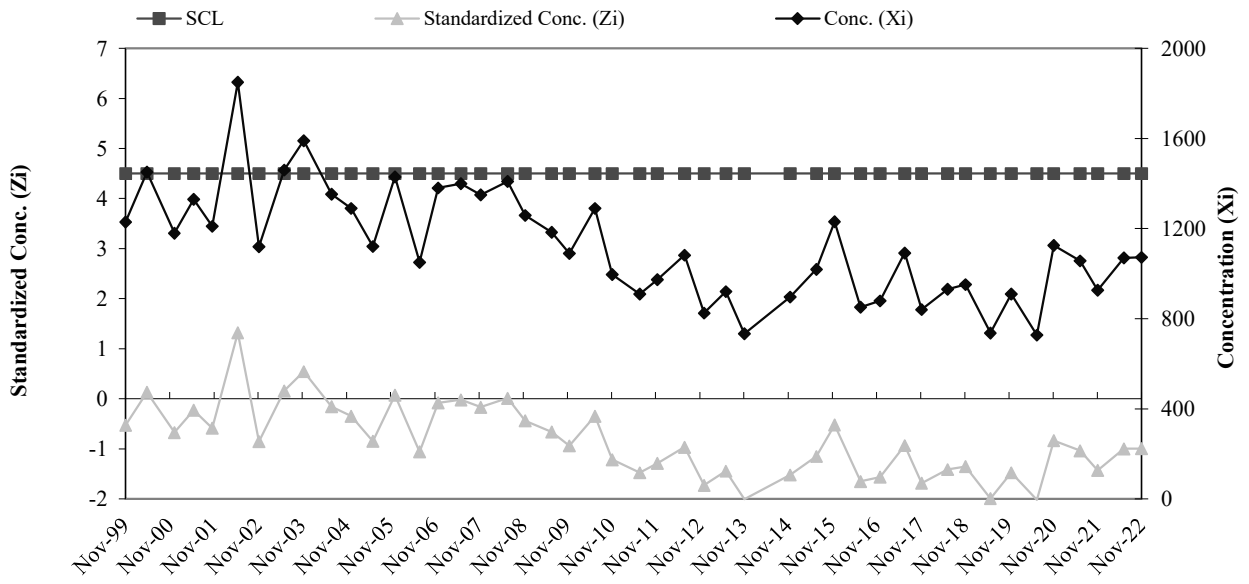


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-7 SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	1509.0		
2	Jun-96	1508.0		
3	Aug-96	1567.0		
4	Nov-96	1960.0	**1,405.88**	**336.33**
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	50	Nov-20	4.5	1126.0	-0.83
27	Nov-08	4.5	1258.0	-0.44	51	Jun-21	4.5	1057.0	-1.04
28	Jun-09	4.5	1184.0	-0.66	52	Nov-21	4.5	927.0	-1.42
29	Nov-09	4.5	1090.0	-0.94	53	Jun-22	4.5	1070.0	-1.00
30	Jun-10	4.5	1290.0	-0.34	54	Nov-22	4.5	1073.0	-0.99
31	Nov-10	4.5	997.0	-1.22			4.5		
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

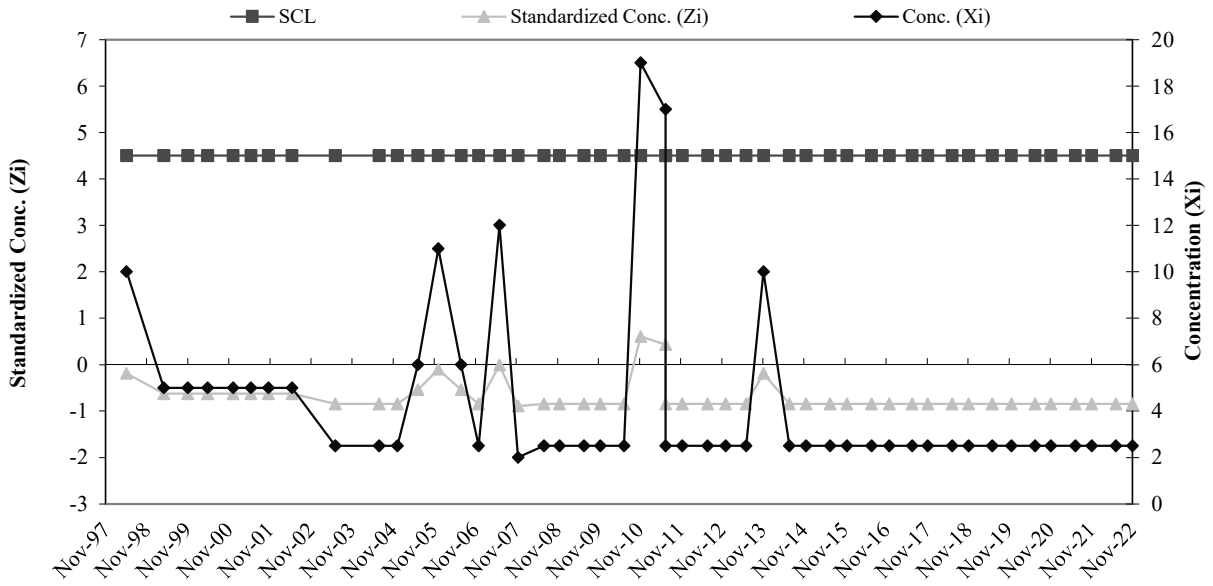


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-9 Cr

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	37		
3	Feb-96	10		
4	Jun-96	10	**12.12**	**11.34**
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	52	Nov-20	4.5	2.5	-0.85
28	Jun-09	4.5	2.5	-0.85	53	Jun-21	4.5	2.5	-0.85
29	Nov-09	4.5	2.5	-0.85	54	Nov-21	4.5	2.5	-0.85
30	Jun-10	4.5	2.5	-0.85	55	Jun-22	4.5	2.5	-0.85
31	Nov-10	4.5	19	0.61	56	Nov-22	4.5	2.5	-0.85
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

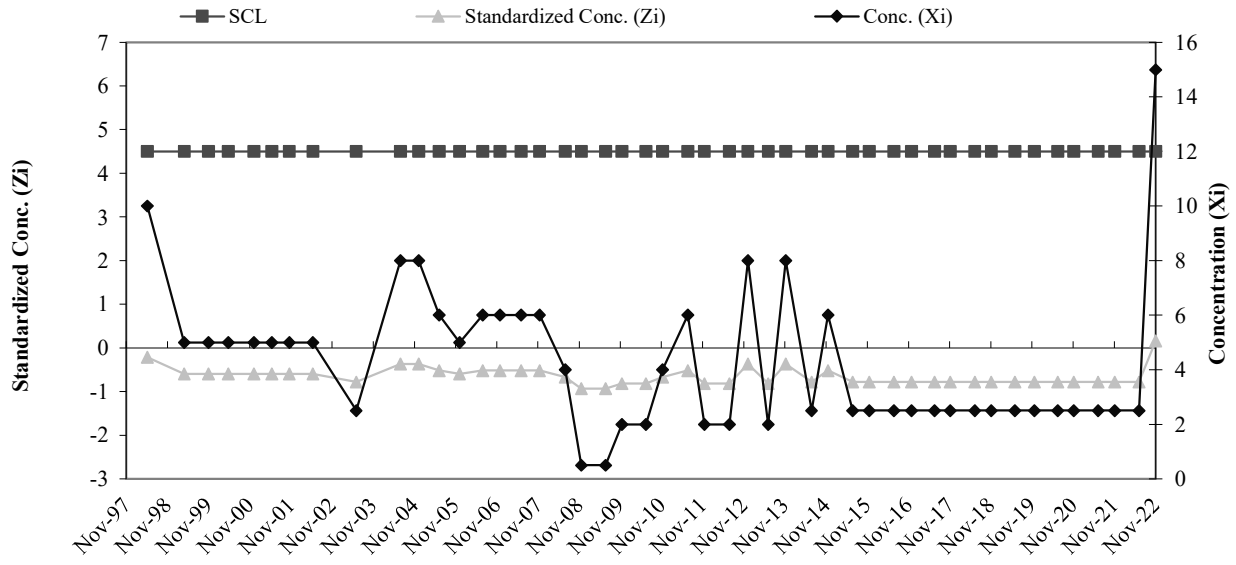


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-9 Cu

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	43		
3	Feb-96	10		
4	Jun-96	10	**12.87**	**13.26**
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	51	Nov-20	4.5	2.5	-0.78
28	Jun-09	4.5	0.5	-0.93	52	Jun-21	4.5	2.5	-0.78
29	Nov-09	4.5	2	-0.82	53	Nov-21	4.5	2.5	-0.78
30	Jun-10	4.5	2	-0.82	54	Jun-22	4.5	2.5	-0.78
31	Nov-10	4.5	4	-0.67	55	Nov-22	4.5	15	0.16
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

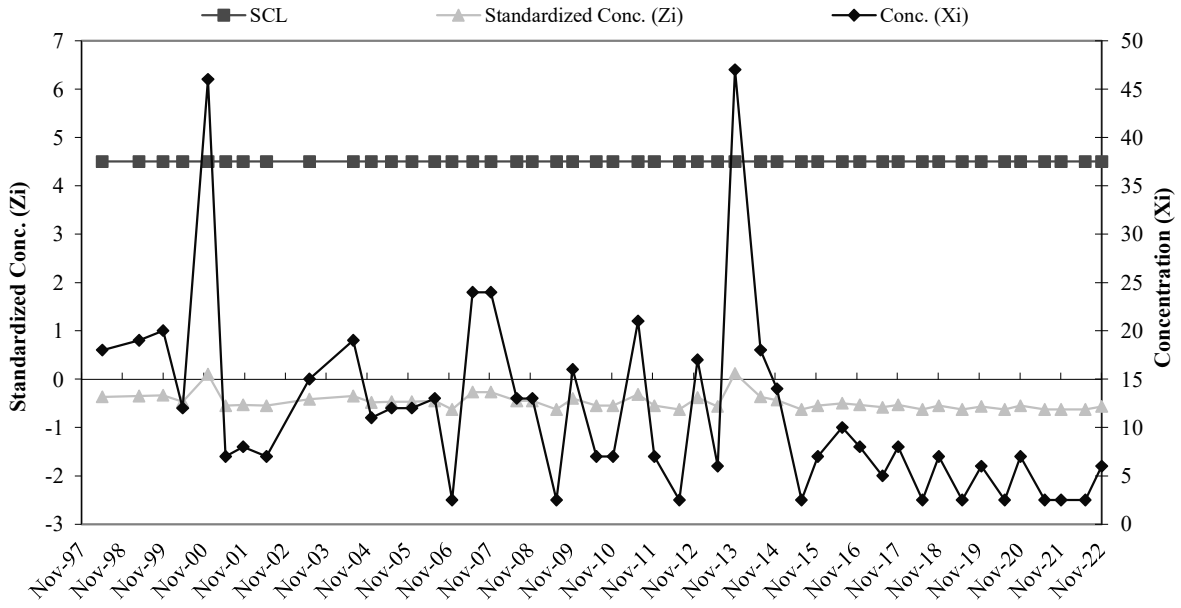


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-9 Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	15		
2	Aug-95	20		
3	Feb-96	20		
4	Jun-96	10	**39.83**	**59.86**
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	51	Nov-20	4.5	7	-0.55
28	Jun-09	4.5	2.5	-0.62	52	Jun-21	4.5	2.5	-0.62
29	Nov-09	4.5	16	-0.40	53	Nov-21	4.5	2.5	-0.62
30	Jun-10	4.5	7	-0.55	54	Jun-22	4.5	2.5	-0.62
31	Nov-10	4.5	7	-0.55	55	Nov-22	4.5	6	-0.57
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

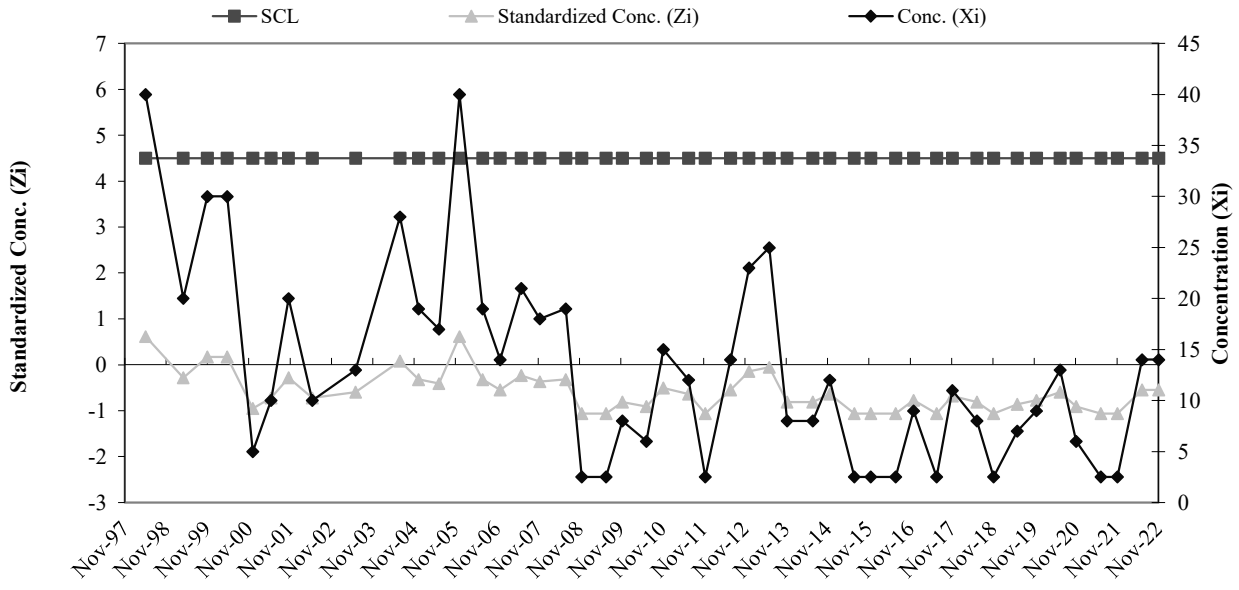


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-9 Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10	**26.23**	**22.36**
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	51	Nov-20	4.5	6	-0.90
28	Jun-09	4.5	2.5	-1.06	52	Jun-21	4.5	2.5	-1.06
29	Nov-09	4.5	8	-0.82	53	Nov-21	4.5	2.5	-1.06
30	Jun-10	4.5	6	-0.90	54	Jun-22	4.5	14	-0.55
31	Nov-10	4.5	15	-0.50	55	Nov-22	4.5	14	-0.55
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

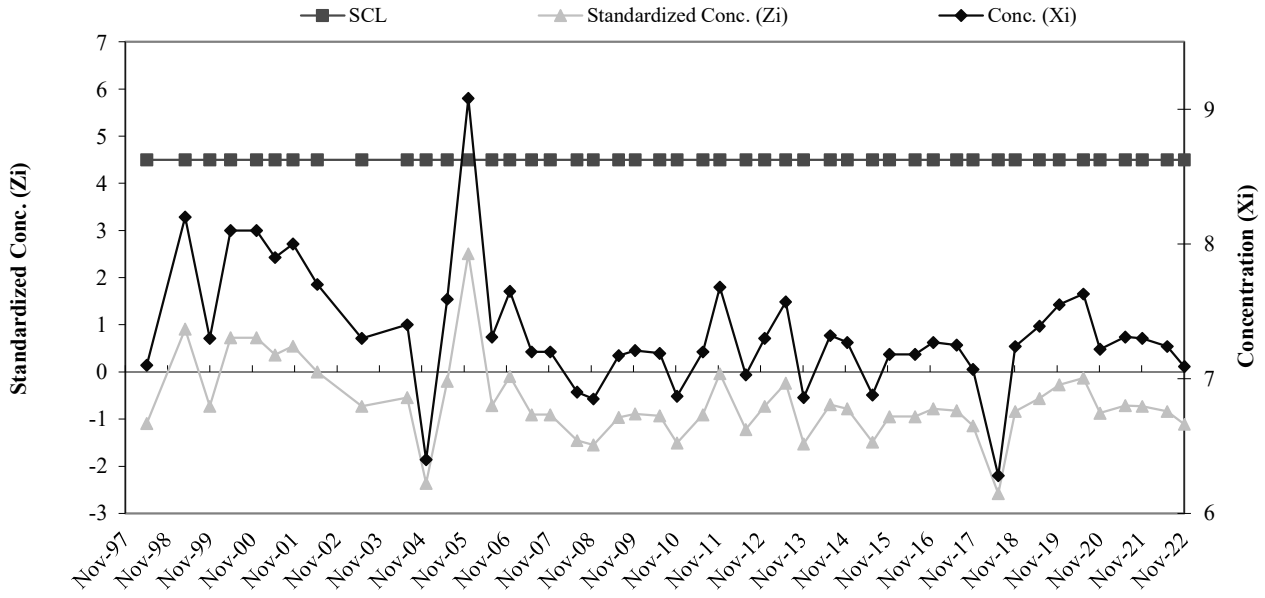


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-9 pH

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	7.7		
2	Aug-95	7.7		
3	Feb-96	7.3		
4	Jun-96	6.8	**7.20**	**0.55**
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	51	Nov-20	4.5	6.7	-0.87
28	Jun-09	4.5	6.7	-0.96	52	Jun-21	4.5	6.8	-0.71
29	Nov-09	4.5	6.7	-0.89	53	Nov-21	4.5	6.8	-0.73
30	Jun-10	4.5	6.7	-0.93	54	Jun-22	4.5	6.7	-0.84
31	Nov-10	4.5	6.4	-1.51	55	Nov-22	4.5	6.6	-1.11
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

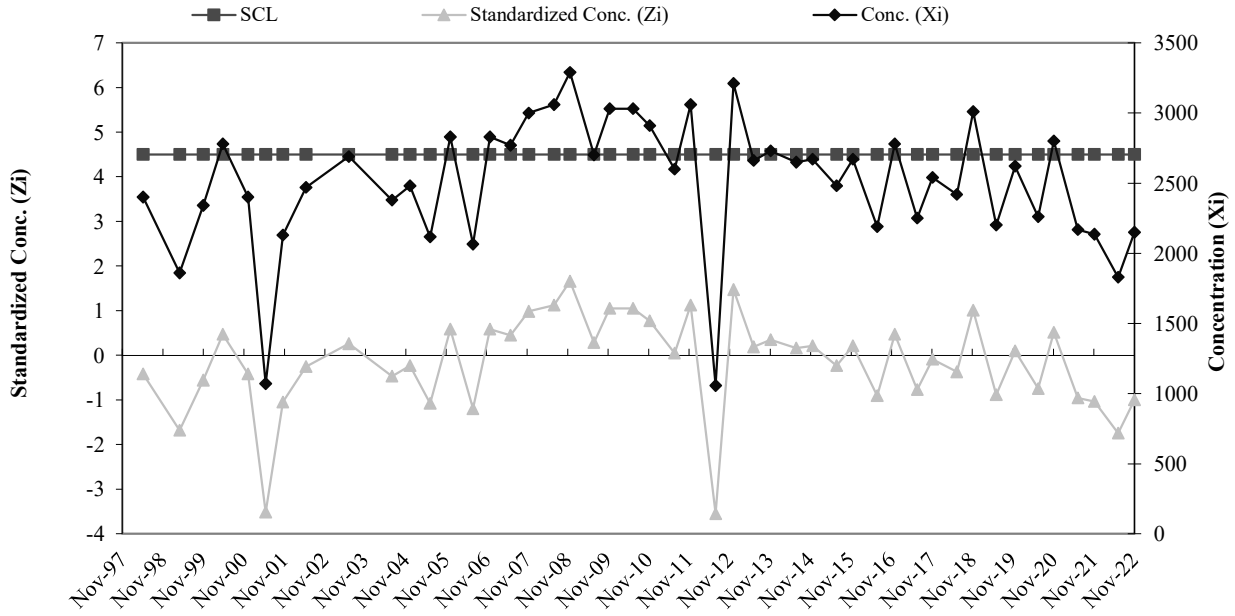


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-9 SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	2400		
2	Aug-95	1829		
3	Feb-96	2860		
4	Jun-96	2550	**2,578.63**	**428.85**
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	51	Nov-20	4.5	2800	0.52
28	Jun-09	4.5	2700	0.28	52	Jun-21	4.5	2168	-0.96
29	Nov-09	4.5	3030	1.05	53	Nov-21	4.5	2135	-1.03
30	Jun-10	4.5	3030	1.05	54	Jun-22	4.5	1830	-1.75
31	Nov-10	4.5	2910	0.77	55	Nov-22	4.5	2150	-1.00
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

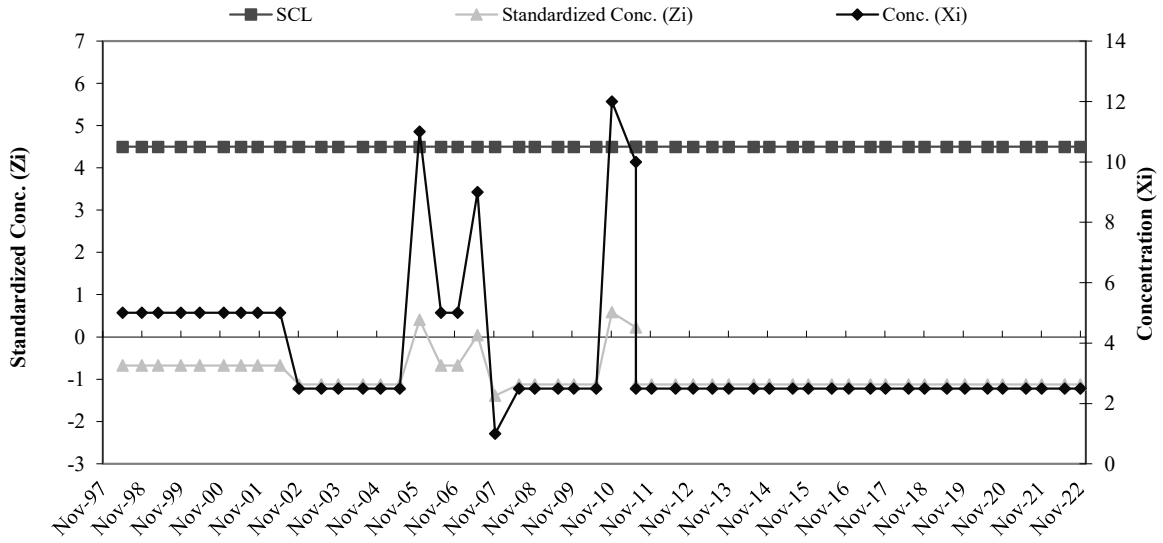


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-18a Cr

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10	**8.74**	**5.57**
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	55	Nov-20	4.5	2.5	-1.12
28	Nov-07	4.5	1	-1.39	56	Jun-21	4.5	2.5	-1.12
29	Jun-08	4.5	2.5	-1.12	57	Nov-21	4.5	2.5	-1.12
30	Nov-08	4.5	2.5	-1.12	58	Jun-22	4.5	2.5	-1.12
31	Jun-09	4.5	2.5	-1.12	59	Nov-22	4.5	2.5	-1.12
32	Nov-09	4.5	2.5	-1.12		Dec-22			
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

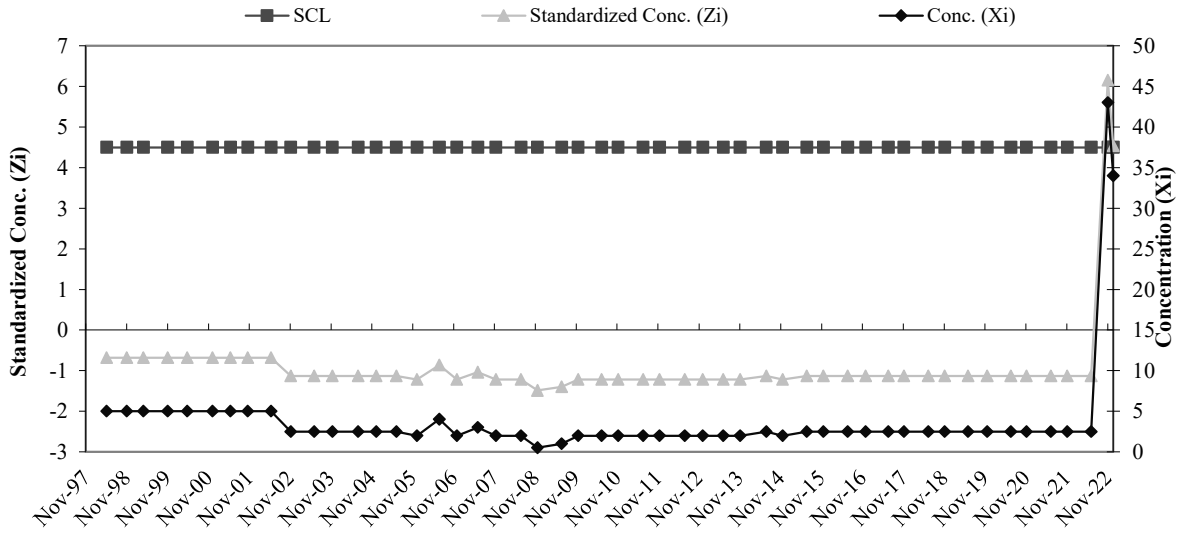


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-18a Cu

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10	**8.78**	**5.56**
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	54	Nov-20	4.5	2.5	-1.13
28	Nov-07	4.5	2	-1.22	55	Jun-21	4.5	2.5	-1.13
29	Jun-08	4.5	2	-1.22	56	Nov-21	4.5	2.5	-1.13
30	Nov-08	4.5	0.5	-1.49	57	Jun-22	4.5	2.5	-1.13
31	Jun-09	4.5	1	-1.40	58	Nov-22	4.5	43	6.15
32	Nov-09	4.5	2	-1.22	59	Dec-22	4.5	34	4.54
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

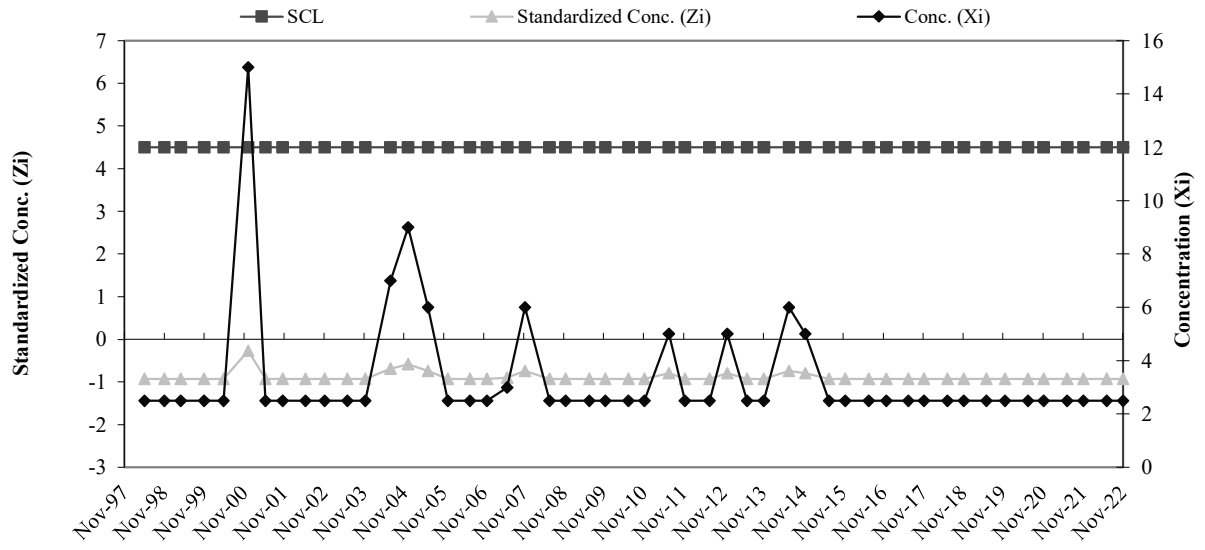


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-18a Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	15		
2	Aug-95	20		
3	Feb-96	20		
4	Jun-96	10	**20.01**	**18.96**
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	54	Nov-20	4.5	2.5	-0.92
28	Nov-07	4.5	6	-0.74	55	Jun-21	4.5	2.5	-0.92
29	Jun-08	4.5	2.5	-0.92	56	Nov-21	4.5	2.5	-0.92
30	Nov-08	4.5	2.5	-0.92	57	Jun-22	4.5	2.5	-0.92
31	Jun-09	4.5	2.5	-0.92	58	Nov-22	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

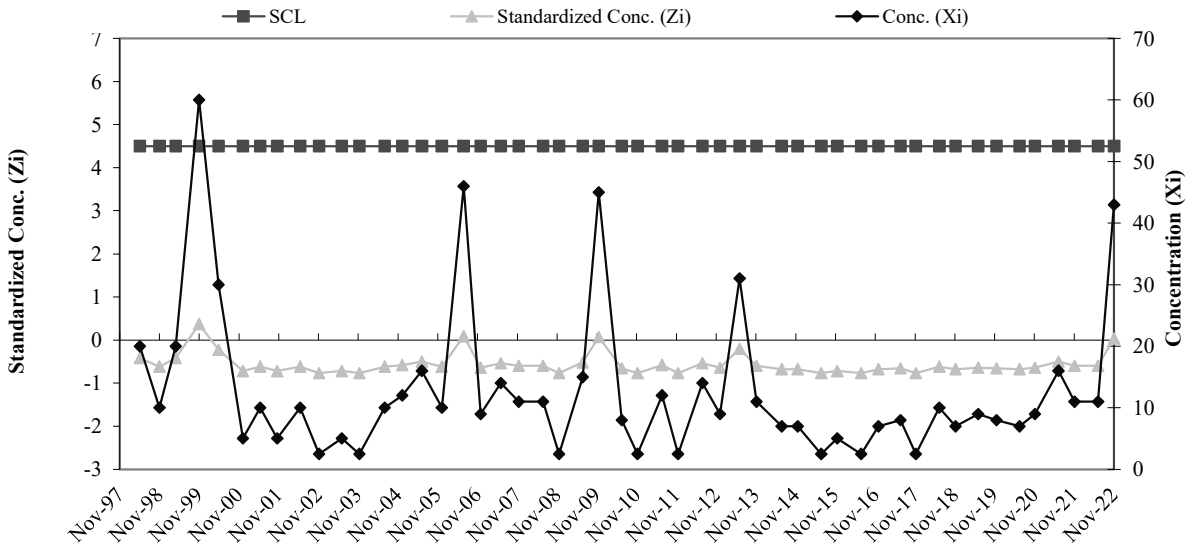


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-18a Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	150		
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10	**41.25**	**50.67**
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	54	Nov-20	4.5	9	-0.64
28	Nov-07	4.5	11	-0.60	55	Jun-21	4.5	16	-0.50
29	Jun-08	4.5	11	-0.60	56	Nov-21	4.5	11	-0.60
30	Nov-08	4.5	2.5	-0.76	57	Jun-22	4.5	11	-0.60
31	Jun-09	4.5	15	-0.52	58	Nov-22	4.5	43	0.03
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

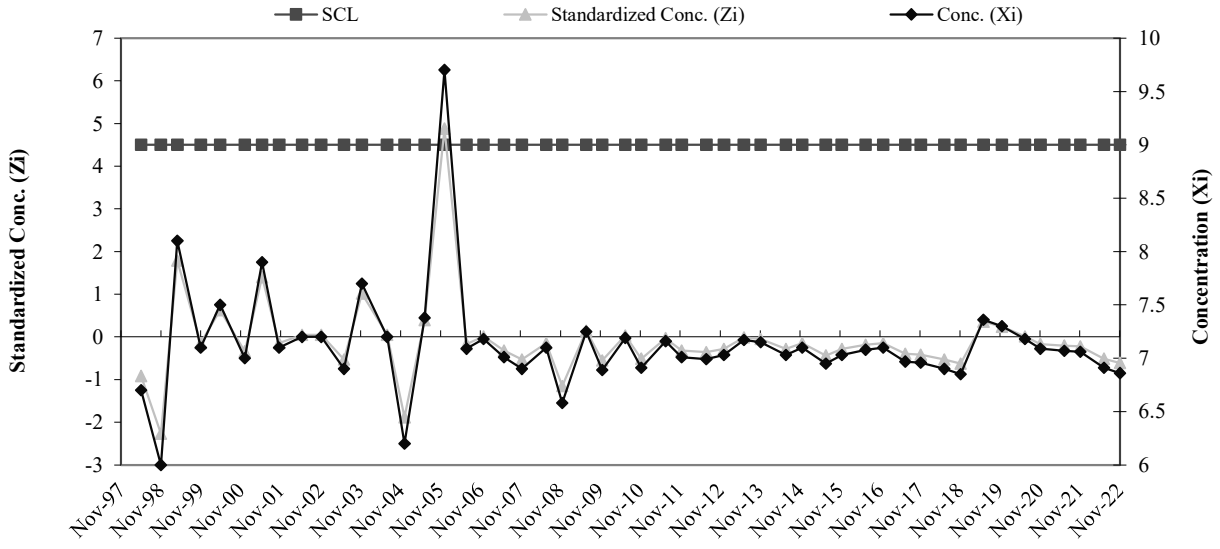


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-18a pH

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	7.5		
2	Aug-95	7.9		
3	Feb-96	7.4		
4	Jun-96	7.0	**7.18**	**0.52**
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	54	Nov-20	4.5	7.1	-0.16
28	Nov-07	4.5	6.9	-0.53	55	Jun-21	4.5	7.1	-0.20
29	Jun-08	4.5	7.1	-0.14	56	Nov-21	4.5	7.1	-0.22
30	Nov-08	4.5	6.6	-1.15	57	Jun-22	4.5	6.9	-0.51
31	Jun-09	4.5	7.3	0.14	58	Nov-22	4.5	6.9	-0.61
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

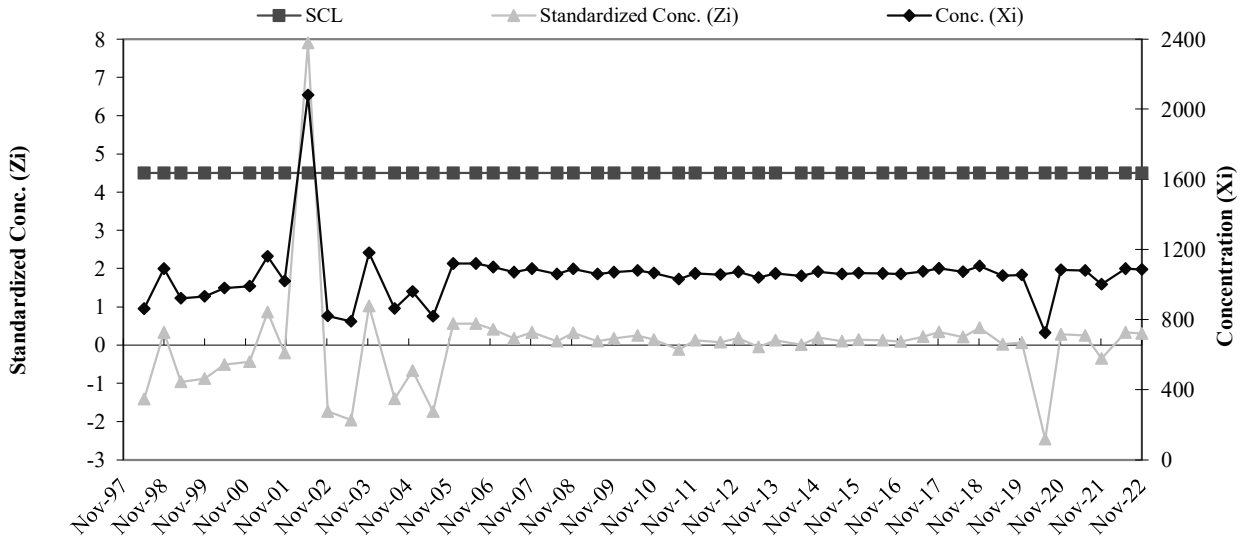


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-18a SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	1048		
2	Aug-95	989		
3	Feb-96	1021		
4	Jun-96	944.0	**1,046.75**	**130.80**
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	54	Nov-20	4.5	1084	0.28
28	Nov-07	4.5	1090	0.33	55	Jun-21	4.5	1080	0.25
29	Jun-08	4.5	1060	0.10	56	Nov-21	4.5	1001	-0.35
30	Nov-08	4.5	1088	0.32	57	Jun-22	4.5	1090	0.33
31	Jun-09	4.5	1060	0.10	58	Nov-22	4.5	1086	0.30
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

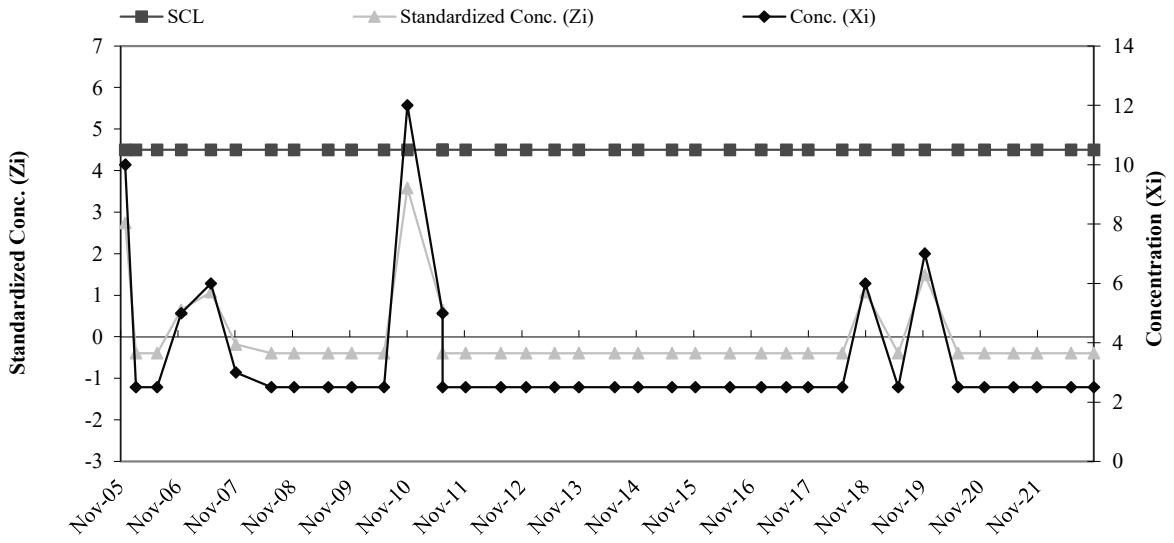


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-19a Cr

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	May-98	5		
2	May-01	5		
3	May-02	5		
4	Jun-03	2.5	**3.44**	**2.39**
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	41	Dec-20	4.5	2.5	-0.39
14	Nov-07	4.5	3	-0.18	42	Jun-21	4.5	2.5	-0.39
15	Jun-08	4.5	2.5	-0.39	43	Nov-21	4.5	2.5	-0.39
16	Nov-08	4.5	2.5	-0.39	44	Jun-22	4.5	2.5	-0.39
17	Jun-09	4.5	2.5	-0.39	45	Nov-22	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

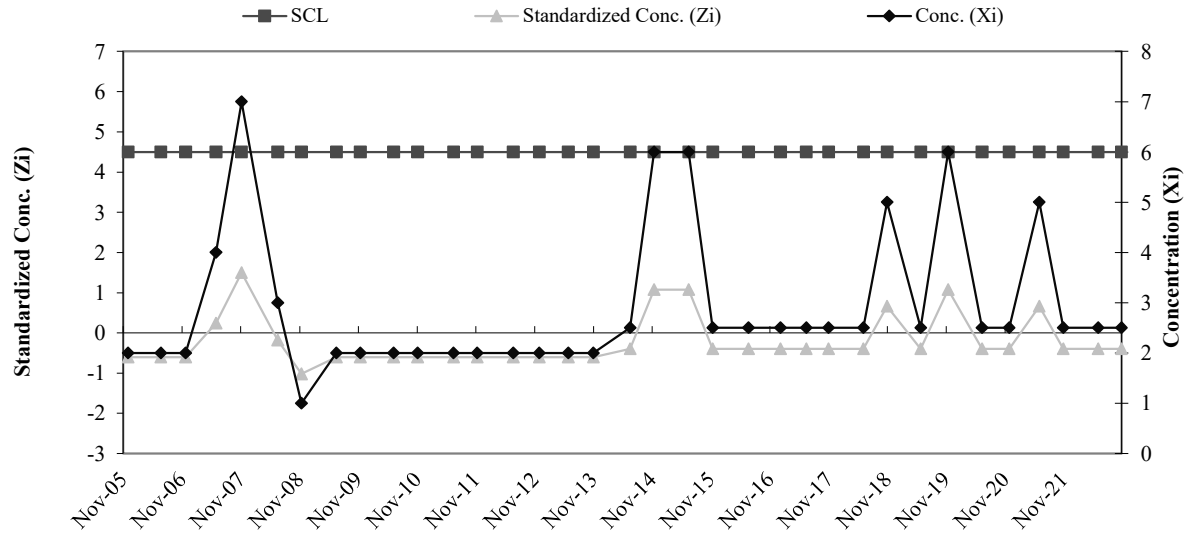


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-19a Cu

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	May-98	5		
2	May-01	5		
3	May-02	5		
4	Jun-03	2.5	**3.43**	**2.38**
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	37	Nov-19	4.5	6	1.08
11	Nov-06	4.5	2	-0.60	38	Jun-20	4.5	2.5	-0.39
12	Jun-07	4.5	4	0.24	39	Dec-20	4.5	2.5	-0.39
13	Nov-07	4.5	7	1.50	40	Jun-21	4.5	5	0.66
14	Jun-08	4.5	3	-0.18	41	Nov-21	4.5	2.5	-0.39
15	Nov-08	4.5	1	-1.02	42	Jun-22	4.5	2.5	-0.39
16	Jun-09	4.5	2	-0.60	43	Nov-22	4.5	2.5	-0.39
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

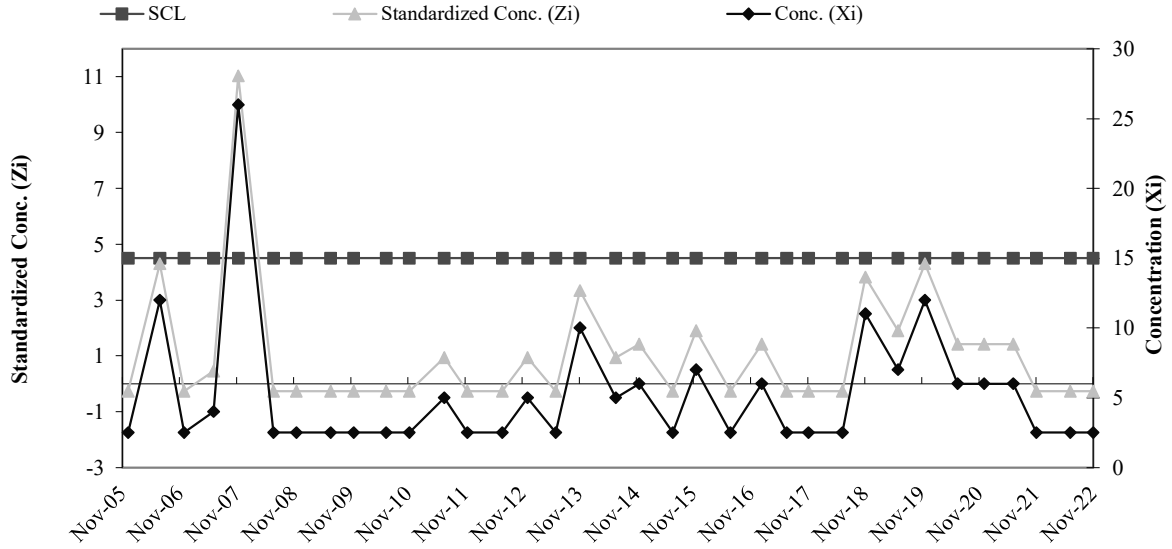


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-19a Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	May-98	2.5		
2	May-01	2.5		
3	May-02	2.5		
4	Jun-03	2.5	**3.06**	**2.08**
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	40	Dec-20	4.5	6	1.41
13	Nov-07	4.5	26	11.03	41	Jun-21	4.5	6	1.41
14	Jun-08	4.5	2.5	-0.27	42	Nov-21	4.5	2.5	-0.27
15	Nov-08	4.5	2.5	-0.27	43	Jun-22	4.5	2.5	-0.27
16	Jun-09	4.5	2.5	-0.27	44	Nov-22	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

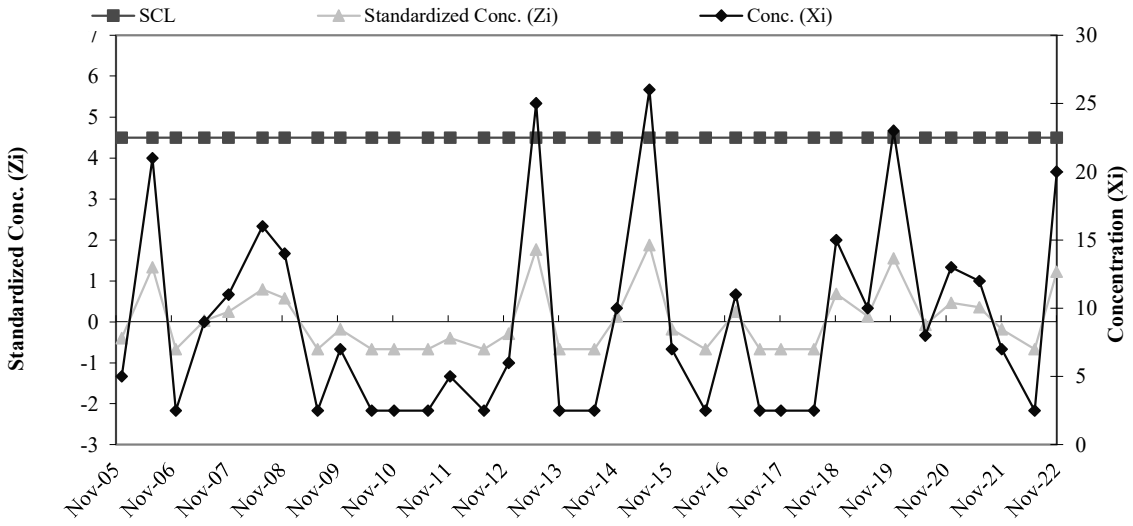


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-19a Zn

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	39	Dec-20	4.5	13	0.47
12	Jun-07	4.5	9	0.03	40	Jun-21	4.5	12	0.36
13	Nov-07	4.5	11	0.25	41	Nov-21	4.5	7	-0.18
14	Jun-08	4.5	16	0.79	42	Jun-22	4.5	2.5	-0.67
15	Nov-08	4.5	14	0.57	43	Nov-22	4.5	20	1.22
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

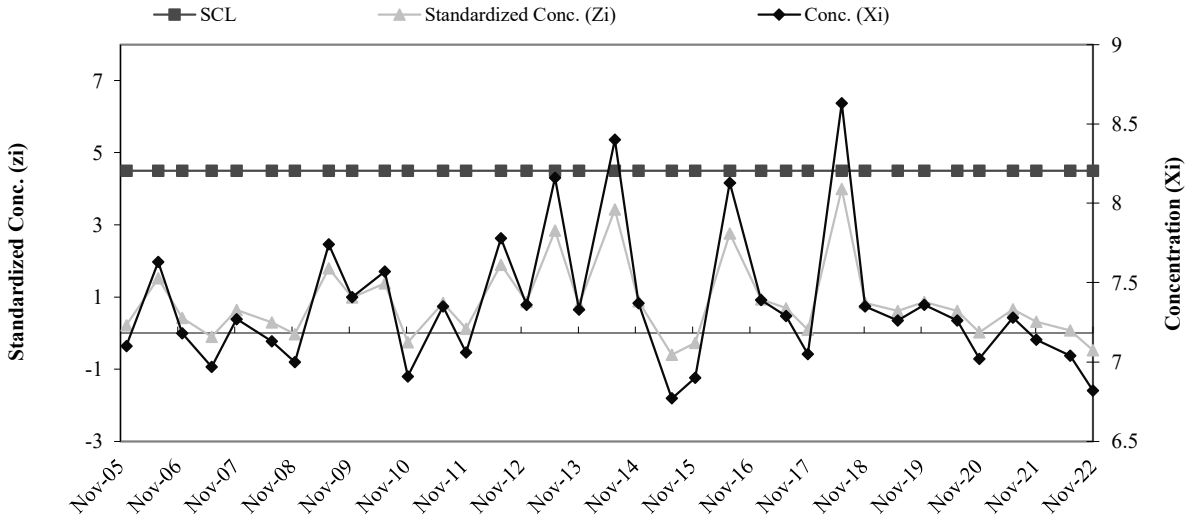


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-19a pH

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	May-98	6.8		
2	May-01	7.1		
3	May-02	7.2		
4	Jun-03	6.9	**7.01**	**0.40**
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	39	Nov-20	4.5	7.0	0.02
11	Nov-06	4.5	7.2	0.42	40	Jun-21	4.5	7.3	0.66
12	Jun-07	4.5	7.0	-0.10	41	Nov-21	4.5	7.1	0.32
13	Nov-07	4.5	7.3	0.64	42	Jun-22	4.5	7.0	0.07
14	Jun-08	4.5	7.1	0.29	43	Nov-22	4.5	6.8	-0.47
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

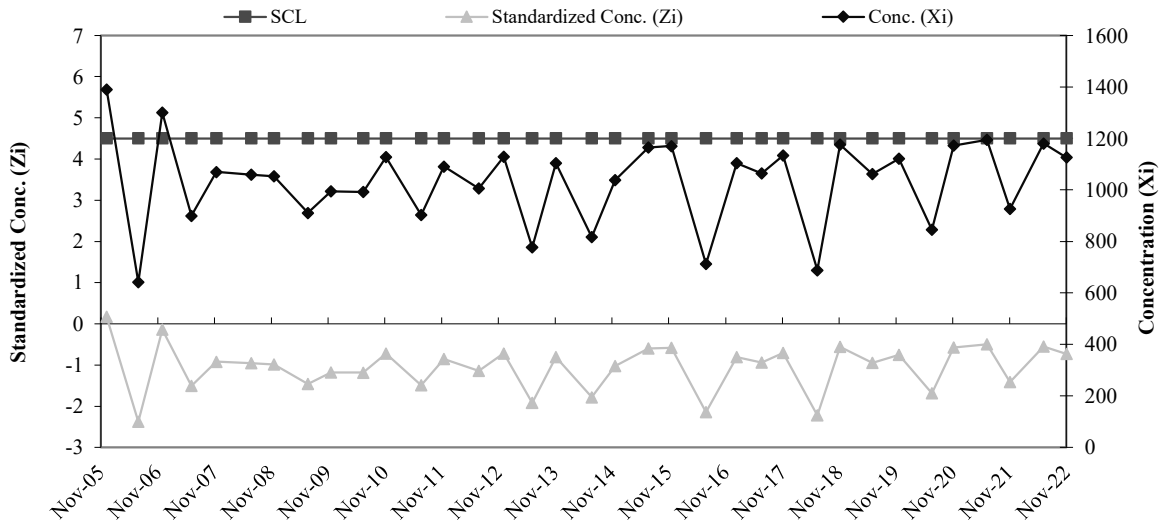


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-19a SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	May-98	1480		
2	May-01	1050		
3	May-02	1740		
4	Jun-03	1350	**1,340.63**	**293.72**
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	39	Nov-20	4.5	1172	-0.57
11	Nov-06	4.5	1300	-0.14	40	Jun-21	4.5	1194	-0.50
12	Jun-07	4.5	899	-1.50	41	Nov-21	4.5	926	-1.41
13	Nov-07	4.5	1070	-0.92	42	Jun-22	4.5	1180	-0.55
14	Jun-08	4.5	1060	-0.96	43	Nov-22	4.5	1126	-0.73
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

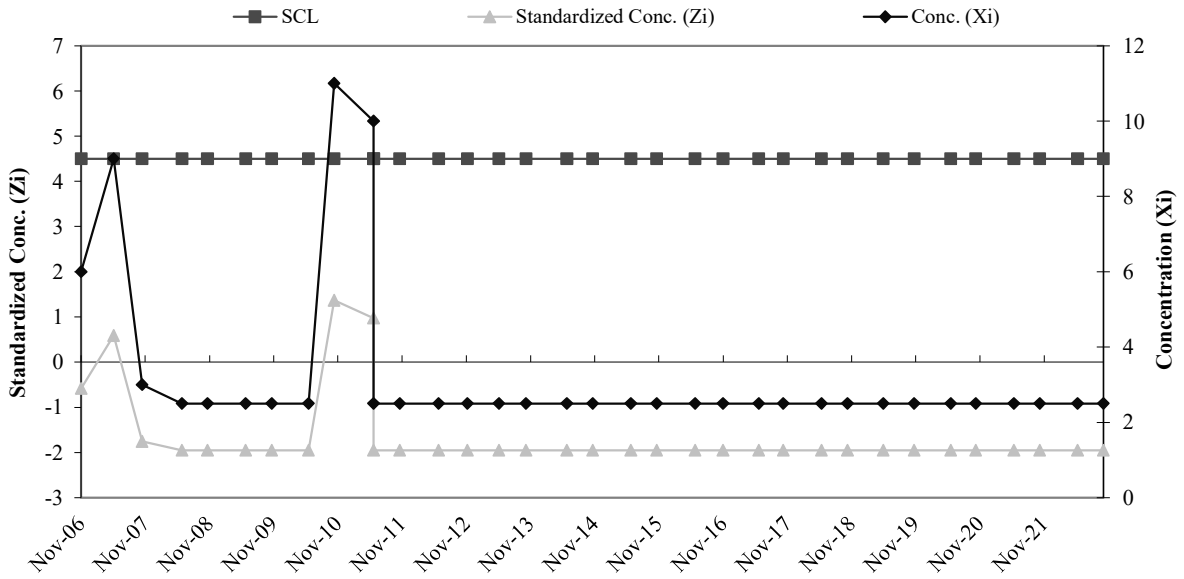


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-24 Cr

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	38	Nov-20	4.5	2.5	-1.95
13	Nov-08	4.5	2.5	-1.95	39	Jun-21	4.5	2.5	-1.95
14	Jun-09	4.5	2.5	-1.95	40	Nov-21	4.5	2.5	-1.95
15	Nov-09	4.5	2.5	-1.95	41	Jun-22	4.5	2.5	-1.95
16	Jun-10	4.5	2.5	-1.95	42	Nov-22	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

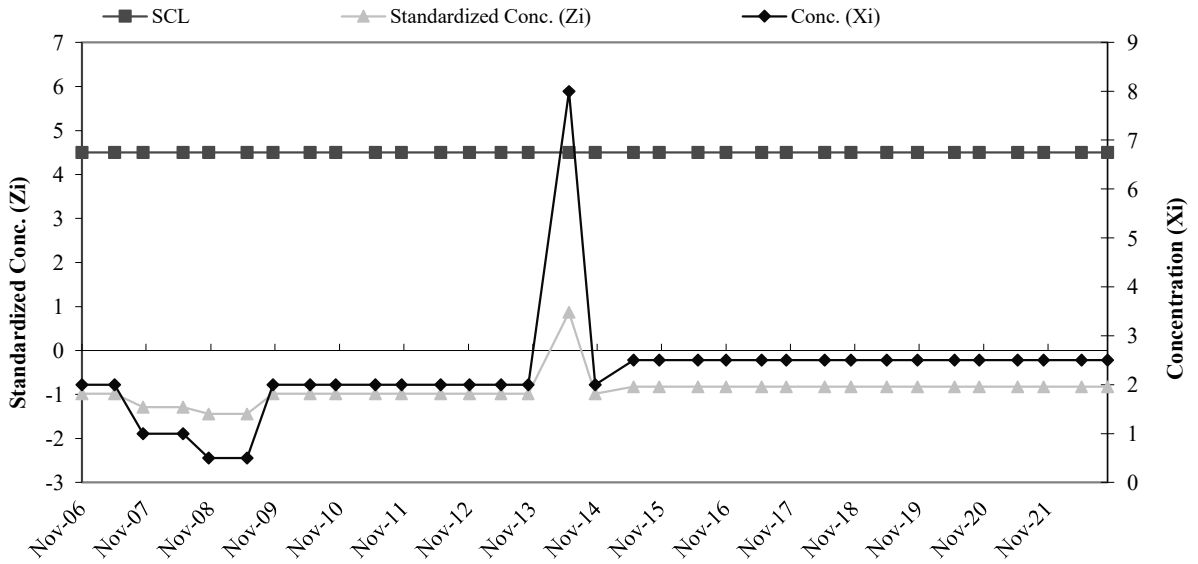


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-24 Cu

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Aug-96	10		
2	Nov-96	10		
3	May-97	5		
4	May-98	5	**5.19**	**3.25**
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	37	Nov-20	4.5	2.5	-0.83
12	Jun-08	4.5	1	-1.29	38	Jun-21	4.5	2.5	-0.83
13	Nov-08	4.5	0.5	-1.44	39	Nov-21	4.5	2.5	-0.83
14	Jun-09	4.5	0.5	-1.44	40	Jun-22	4.5	2.5	-0.83
15	Nov-09	4.5	2	-0.98	41	Nov-22	4.5	2.5	-0.83
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

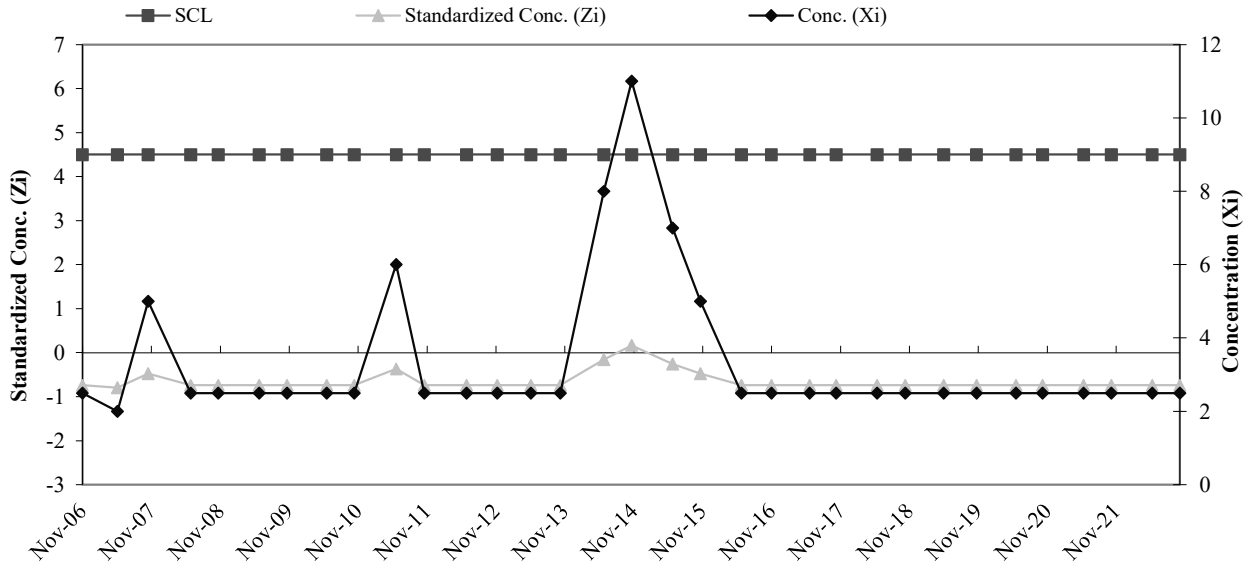


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-24 Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Aug-96	10		
2	Nov-96	10		
3	May-97	31		
4	May-98	8	**9.44**	**9.35**
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	37	Nov-20	4.5	2.5	-0.74
12	Jun-08	4.5	2.5	-0.74	38	Jun-21	4.5	2.5	-0.74
13	Nov-08	4.5	2.5	-0.74	39	Nov-21	4.5	2.5	-0.74
14	Jun-09	4.5	2.5	-0.74	40	Jun-22	4.5	2.5	-0.74
15	Nov-09	4.5	2.5	-0.74	41	Nov-22	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

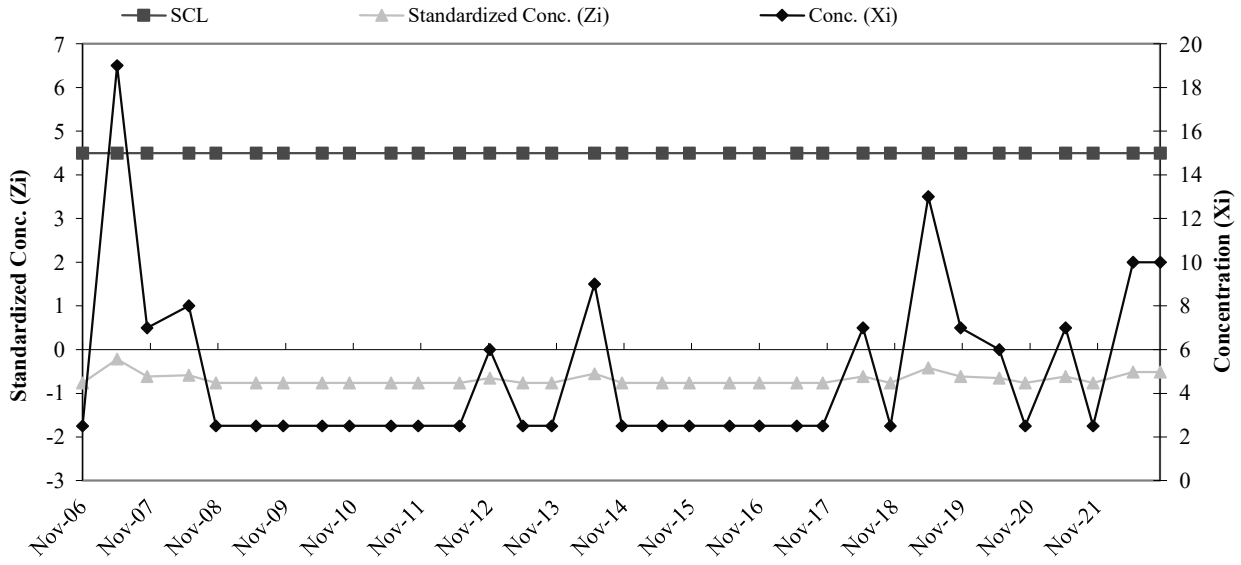


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-24 Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Aug-96	90		
2	Nov-96	50		
3	May-97	10		
4	May-98	20	**25.63**	**30.14**
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	37	Nov-20	4.5	2.5	-0.77
12	Jun-08	4.5	8	-0.58	38	Jun-21	4.5	7	-0.62
13	Nov-08	4.5	2.5	-0.77	39	Nov-21	4.5	2.5	-0.77
14	Jun-09	4.5	2.5	-0.77	40	Jun-22	4.5	10	-0.52
15	Nov-09	4.5	2.5	-0.77	41	Nov-22	4.5	10	-0.52
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

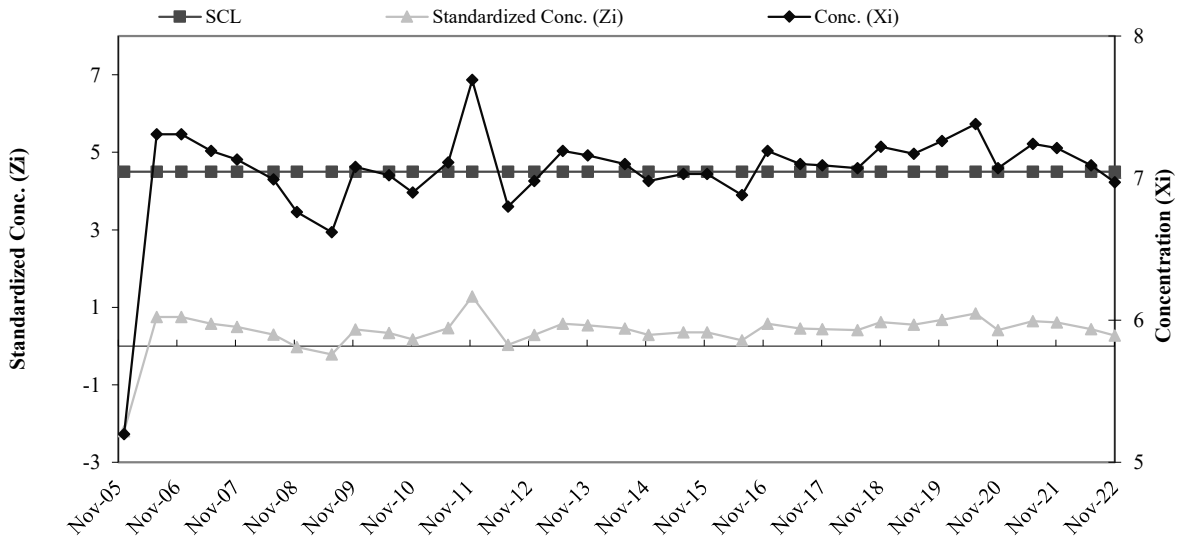


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-24 pH

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	37	Nov-20	4.5	7.1	0.41
12	Jun-07	4.5	7.2	0.58	38	Jun-21	4.5	7.2	0.65
13	Nov-07	4.5	7.1	0.50	39	Nov-21	4.5	7.2	0.61
14	Jun-08	4.5	7.0	0.30	40	Jun-22	4.5	7.1	0.44
15	Nov-08	4.5	6.8	-0.02	41	Nov-22	4.5	7.0	0.27
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

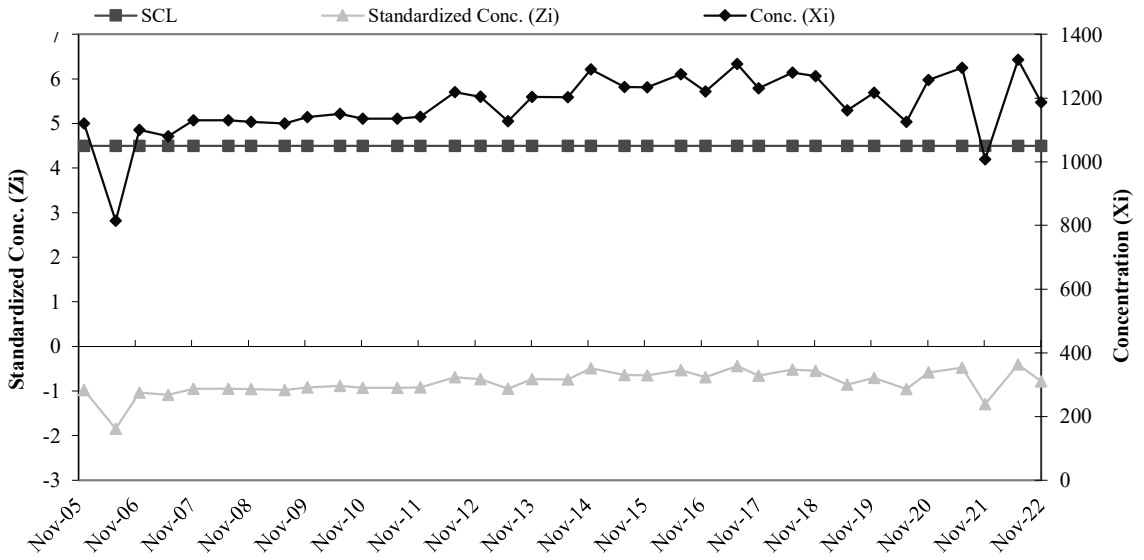


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-24 SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Aug-96	1502		
2	Nov-96	2030		
3	May-97	1700		
4	May-98	1410	**1,462.00**	**351.23**
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	39	Nov-20	4.5	1257	-0.58
12	Jun-07	4.5	1080	-1.09	40	Jun-21	4.5	1295	-0.48
13	Nov-07	4.5	1130	-0.95	41	Nov-21	4.5	1008	-1.29
14	Jun-08	4.5	1130	-0.95	42	Jun-22	4.5	1320	-0.40
15	Nov-08	4.5	1125	-0.96	43	Nov-22	4.5	1186	-0.79
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

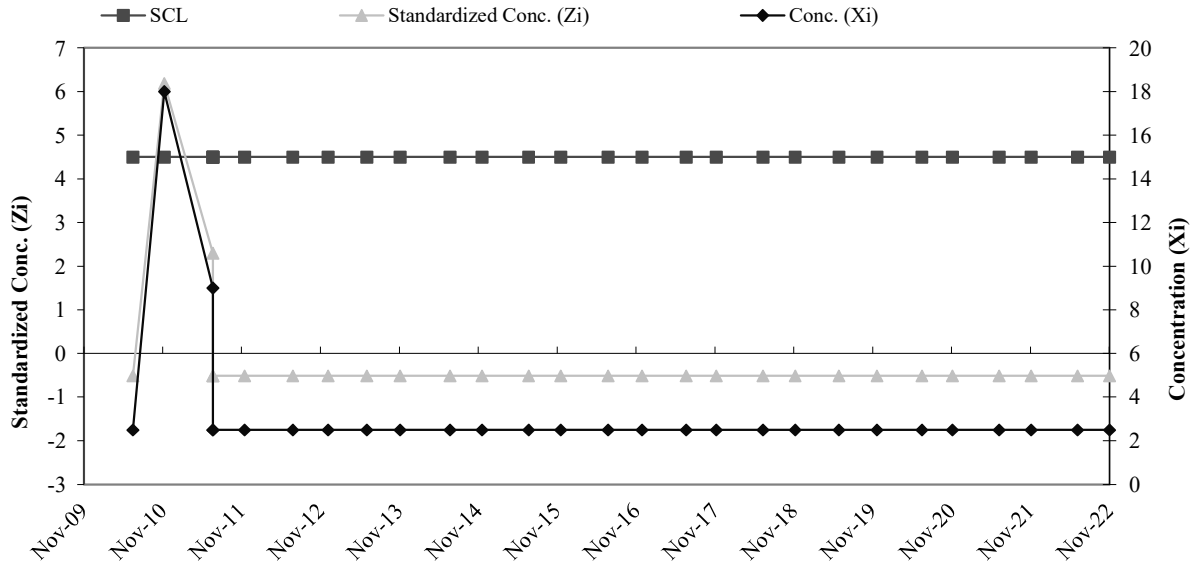


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-28 Cr

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)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Jun-10	4.5	2.5	-0.51	34	Nov-21	4.5	2.5	-0.51
10	Nov-10	4.5	18	6.19	35	Jun-22	4.5	2.5	-0.51
11	Jun-11	4.5	9	2.30	36	Nov-22	4.5	2.5	-0.51
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					
32	Nov-20	4.5	2.5	-0.51					
33	Jun-21	4.5	2.5	-0.51					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

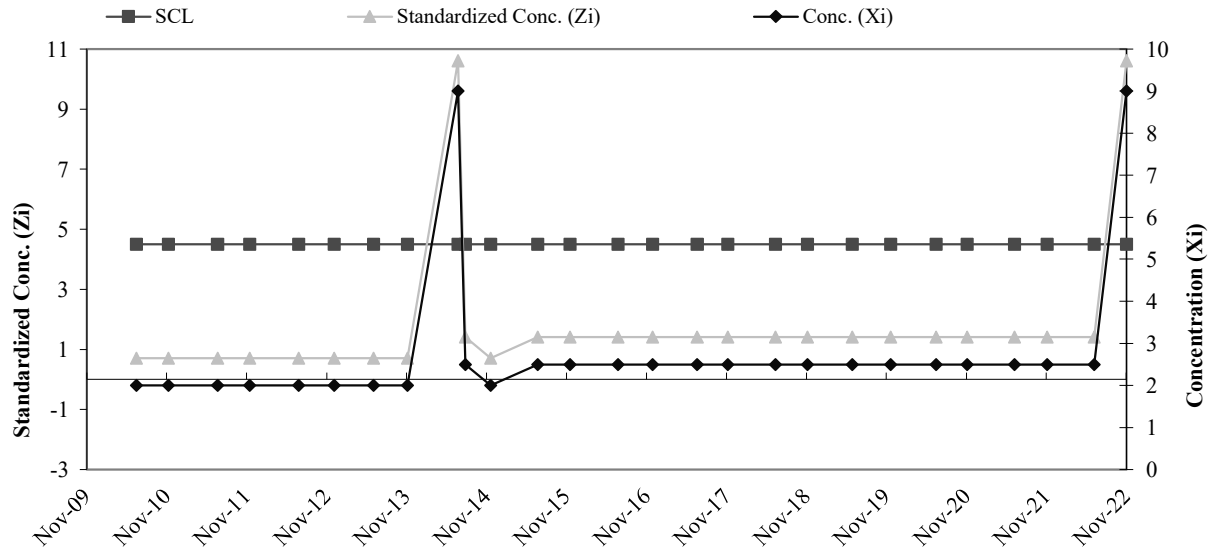


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-28 Cu

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-06	2		
2	Dec-06	2		
3	Jun-07	2		
4	Nov-07	2	**1.50**	**0.71**
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)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Jun-10	4.5	2	0.71	33	Nov-21	4.5	2.5	1.41
10	Nov-10	4.5	2	0.71	34	Jun-22	4.5	2.5	1.41
11	Jun-11	4.5	2	0.71	35	Nov-22	4.5	9	10.61
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					
31	Nov-20	4.5	2.5	1.41					
32	Jun-21	4.5	2.5	1.41					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

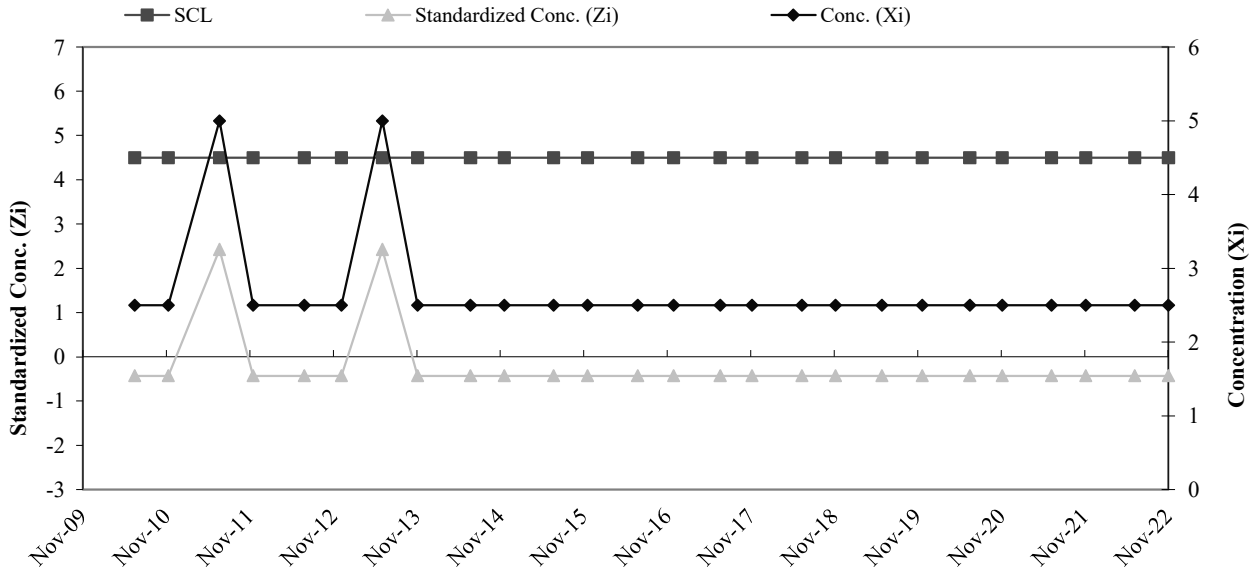


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-28 Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-06	2.5		
2	Dec-06	2.5		
3	Jun-07	3		
4	Nov-07	5	**2.88**	**0.88**
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)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Jun-10	4.5	2.5	-0.43	31	Jun-22	4.5	2.5	-0.43
10	Nov-10	4.5	2.5	-0.43	32	Nov-22	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					
28	Nov-20	4.5	2.5	-0.43					
29	Jun-21	4.5	2.5	-0.43					
30	Nov-21	4.5	2.5	-0.43					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

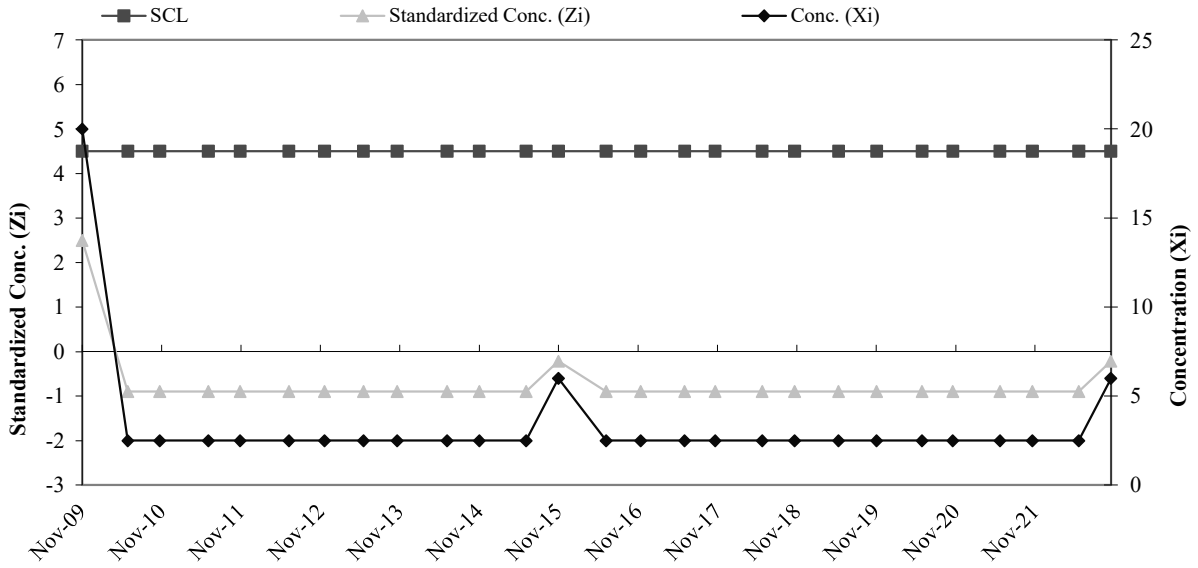


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-28 Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Nov-05	7		
2	Jun-06	18		
3	Dec-06	5		
4	Jun-07	6	**7.13**	**5.16**
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)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-09	4.5	20	2.50	34	Jun-22	4.5	2.5	-0.90
10	Jun-10	4.5	2.5	-0.90	35	Nov-22	4.5	6	-0.22
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					
31	Nov-20	4.5	2.5	-0.90					
32	Jun-21	4.5	2.5	-0.90					
33	Nov-21	4.5	2.5	-0.90					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean

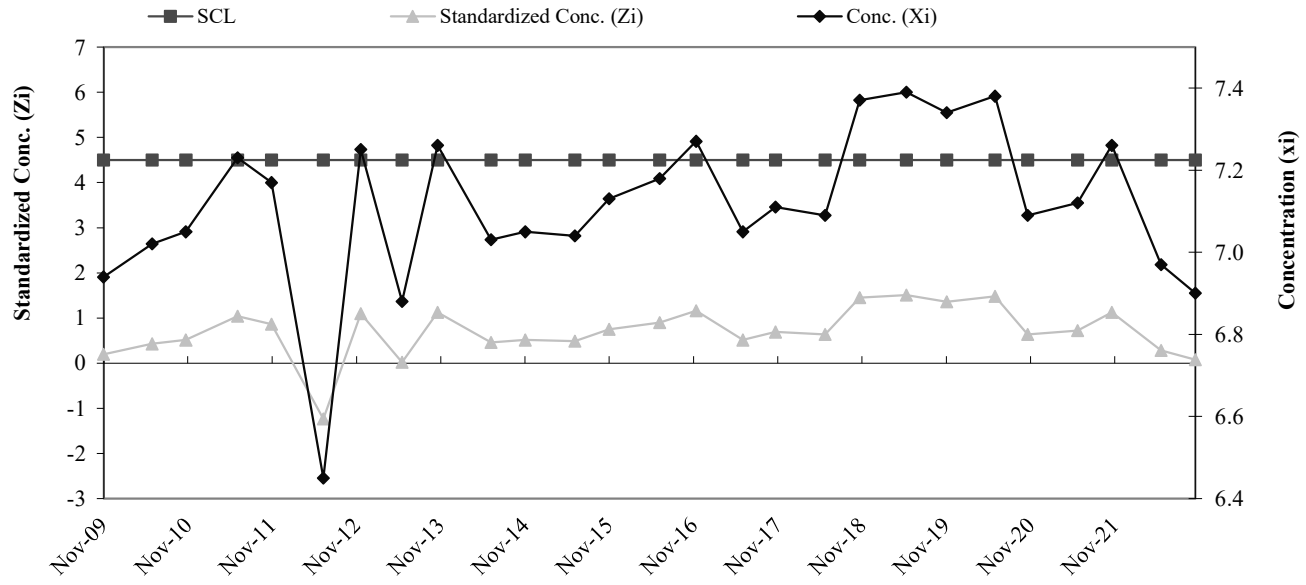


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-28 pH

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Nov-05	6.2		
2	Jun-06	7.1		
3	Dec-06	7.4		
4	Jun-07	6.8	**6.87**	**0.34**
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)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-09	4.5	6.9	0.19	33	Nov-21	4.5	7.3	1.13
10	Jun-10	4.5	7.0	0.43	34	Jun-22	4.5	7.0	0.28
11	Nov-10	4.5	7.1	0.51	35	Nov-22	4.5	6.9	0.08
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					
31	Nov-20	4.5	7.1	0.63					
32	Jun-21	4.5	7.1	0.72					

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		
2	Jun-06	828		
3	Dec-06	812		
4	Jun-07	845	**845.13**	**61.71**
5	Nov-07	816		
6	Jun-08	840		
7	Nov-08	804		
8	Jun-09	822		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-09	4.5	814	-0.50	33	Nov-21	4.5	674	-2.77
10	Jun-10	4.5	841	-0.07	34	Jun-22	4.5	936	1.47
11	Nov-10	4.5	813	-0.52	35	Nov-22	4.5	936	1.47
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					
31	Nov-20	4.5	904	0.95					
32	Jun-21	4.5	936	1.47					

h = Decision Value for CUSUM, SCL = Shewart Control Limit, k = Standard Error Shift Detection Parameter, Zi = Standardized Mean