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**Landfill Leak Detection System Semiannual Report 2023**

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# **COLDWATER ROAD LANDFILL - MID 005 356 860 LANDFILL LEAK DETECTION SYSTEM**

## **COLDWATER ROAD LANDFILL - MID 005 356 860 LANDFILL LEAK DETECTION SYSTEM**

Project name **RACER Trust Coldwater Road Landfill**  
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Recipient **Nicole Sanabria, Christina Hebert, & Oonagh McKenna**  
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Prepared by **Kalyssa Ramirez**  
Checked by **Kevin Schneider**  
Approved by **Clifford Yantz**  
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Ramboll  
2090 Commonwealth  
Boulevard  
Ann Arbor, MI 48105  
USA

T 734-761-4000  
F 734-761-2050  
<https://ramboll.com>

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## 1. INTRODUCTION

On behalf of Revitalizing Auto Communities Environmental Response Trust (RACER), Ramboll Americas Engineering Solutions, Inc. (Ramboll), presents the results of the 2023 semiannual leak detection system (LDS) sampling event conducted in June 2023 for the Coldwater Road Landfill site (**Figure 1**). A total of 4,267 gallons of liquid have been removed from the leak detection vaults through June 30, 2023, and a total of 2,784 gallons of leachate have been removed from the leachate collection sumps through June 30, 2023. Volumes are reported in the Quarterly Status Reports and summarized in **Appendix A**.

## 2. SAMPLING AND ANALYSIS

During this event samples were collected on June 6, 2023 and June 7, 2023 from the six leak detection vaults (A through F) for laboratory analysis and the six leachate collection sumps (A through F) for laboratory analysis.

The samples were analyzed for total organic carbon (TOC, Method 5310C), total suspended solids (TSS, Method 2540D), specific conductivity (Method 120.1), dissolved chromium (Cr), dissolved copper (Cu), dissolved nickel (Ni), and dissolved zinc (Zn, Method 200.8). Samples collected from Sumps A through F were also analyzed for volatile organic compounds (VOCs, Method 8260). The event also included field measurements for pH, specific conductivity, and temperature.

The analytical results are summarized in four attached tables: Landfill Leak Detection Vaults – Historical Analytical Results, Inorganics and Metals (**Table 1**) Landfill Leachate Sumps – Historical Analytical Results, Inorganics and Metals (**Table 2**), Landfill Leachate Sumps – Analytical Results, Volatile Organic Compounds (**Table 3**), and Leachate Sump Depth to Water (**Table 4**). A Site Location Map (**Figure 1**) and Landfill Site Layout (**Figure 2**) are also attached. The Analytical Laboratory Report and the Chain of Custody are included as (**Appendix B**).

The samples for the leak detection vaults were collected on June 6 and 7, 2023, using a peristaltic pump and tubing for each vault. Duplicate samples were collected from Vault C and Sump C. Samples were placed directly into laboratory prepared containers, logged onto a chain of custody form, and placed on ice for transport to Merit Laboratories, Inc., in East Lansing, Michigan.

The laboratory analysis for TOC, TSS, dissolved metals, and the field parameters continue to show historical consistent concentrations for the vaults (**Table 1**). A review of the analytical data presented in the attached tables indicate analytical results similar to previous sampling events. A summary of the data is provided below:

### **Vaults:**

- 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 30 µg/L at Vault A (6/20/2011).
- Copper 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 140 µg/L at Vault C (6/20/2000).
- Nickel concentrations ranged from below the reporting limit of 5 µg/L in Vault B and Vault E to 11 µg/L in Vault A. The results were within the range of the historic results, which ranged from below the reporting limit to 125 µg/L at Vault D (11/15/1997).
- Zinc concentrations ranged from below the reporting limit of 5 µg/L in Vault A, Vault E, and Vault F to 8 µg/L in Vault C duplicate and Vault D. The results were within the range of the historic results, which ranged from below the reporting limit to 230 µg/L at Vault C (5/29/2019).

- TOC concentrations ranged from below the reporting limit of 1 mg/L in Vault B, Vault E, and Vault F to 3.4 mg/L in Vault D. The results were similar or less than historic results, which ranged from 1.8 mg/L at Vault F (11/17/2008) and Vault A (6/6/2023) to 140 mg/L at Vault A (3/27/1996).
- TSS concentrations were not detected above the reporting limit of 3 mg/L. The results were within the range of the historic results, which ranged from below the reporting limit to 7,100 mg/L at Vault F (11/11/1996).
- pH concentrations ranged from 6.82 in Vault A and Vault B to 7.00 in Vault F. The results were within the range of the historic results, which ranged from 5.47 at Vault F (6/15/2005) to 10.01 at Vault A (1/17/2006).
- Specific conductivity ranged from 1,270  $\mu\text{s}/\text{cm}$  in Vault E to 1,730  $\mu\text{s}/\text{cm}$  in Vault C duplicate. The results were within the range of the historic results, which ranged from 340  $\mu\text{s}/\text{cm}$  at Vault C (8/30/1995) to 3,250  $\mu\text{s}/\text{cm}$  at Vault A (5/6/1999).

#### **Sumps:**

- Chromium concentrations ranged from 21  $\mu\text{g}/\text{L}$  in Sump F to 676  $\mu\text{g}/\text{L}$  in Sump B. The results were similar or less than historic results, which ranged from below the reporting limit to 1,490  $\mu\text{g}/\text{L}$  at Sump B (6/6/2013).
- Copper concentrations ranged from 52  $\mu\text{g}/\text{L}$  in Sump E to 1,290  $\mu\text{g}/\text{L}$  in Sump C duplicate. The results were similar or less than historic results, which ranged from below the reporting limit in Sump E (5/7/1997) and Sump F (12/12/2003) to 18,000 at Sump C (3/23/1995).
- Nickel concentrations ranged from 17  $\mu\text{g}/\text{L}$  in Sump E to 538  $\mu\text{g}/\text{L}$  in Sump D. The results were similar or less than historic results, which ranged from below the reporting limit in Sump E (6/14/2010) and Sump F (6/14/2010) to 2,500  $\mu\text{g}/\text{L}$  at Sump C (11/11/1996).
- Zinc concentrations ranged from not detected above the reporting limit of 5  $\mu\text{g}/\text{L}$  in Sump D to 20  $\mu\text{g}/\text{L}$  in Sump B. The results were similar or less than historic results, which ranged from below the reporting limit to 160  $\mu\text{g}/\text{L}$  at Sump F (5/31/2002).
- TOC concentrations ranged from 15.4 mg/L in Sump E to 105.5 mg/L in Sump D. The results were similar or less than historic results, which ranged from 2.9 mg/L at Sump F (11/10/2000) to 800 mg/L at Sump B (3/23/1995).
- TSS concentrations were not detected above the reporting limit of 3 mg/L. The results were similar or less than historic results, which ranged from below the reporting limit to 69,000 mg/L at Sump D (8/30/1995).
- pH ranged from 7.83 in Sump A to 10.23 in Sump D. The results were within the range of the historic results, which ranged from 5.60 in Sump E (11/6/1998) to 12.30 Sump D (3/23/1995).

- Specific conductivity ranged from 1,720  $\mu\text{s}/\text{cm}$  in Sump E to 4,500  $\mu\text{s}/\text{cm}$  in Sump D. The results were similar or less than historic results, which ranged from 682  $\mu\text{s}/\text{cm}$  at Sump F (4/26/1999) to 19,920  $\mu\text{s}/\text{cm}$  at Sump E (6/5/2015).
- Sump D was the only sump with VOCs detected. Acetone was detected in Sump D at a concentration of 450  $\mu\text{g}/\text{L}$ . VOCs have been detected in Sump D during previous events.

### 3. SUMMARY

Duplicate samples were collected during this sampling event from Vault C and Sump C and exhibited values consistent with the original results (within acceptable relative percent differences [RPD]), except for TSS within Sump C. The TSS sample concentration was 4.0 ug/L in the original samples and in the duplicate sample the concentration was below the laboratory reporting limit of 3 ug/L. Therefore, the sample results for TSS in Sump C and Sump-Dup-060623 should be considered as estimated (J).

There were no exceedances of the Shewart control limits (SCL) during this sampling event. There was a negative (decreasing) trend for nickel in Vault F, which is not an indication of a leak from the primary landfill liner. The trend was calculated using regression analysis over the last four sampling events per the Post Closure Care Plan, January 2014.

No other trends or spikes were observed during this monitoring event. The Shewart control charts are included as [Appendix C](#).

The next semiannual sampling event will be completed in November 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



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Clifford S. Yantz

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

Date: August 30, 2023

cc: file

## **TABLES**



**TABLE 1**  
**RACER Trust - Coldwater Road**  
**Landfill Leak Detection Vaults - Historical Analytical Results**  
**Inorganics and Metals**

Indicator Parameters							Dissolved Metals (ug/L)			
Vault	Sample Date	TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn
EGLE Residential Drinking Water Criteria & RBSLs							100 (A)	1,000 ( E )	100 (A)	2,400
Vault A	23-Mar-95	4.6	<1	7.50	690	--	<20	<20	<40	180
	20-Jun-95	8.9	2.0	6.80	1900	--	24	21	<30	<20
	30-Aug-95	8.2	2.0	6.90	2000	--	<20	<20	<40	<20
	28-Nov-95	9.1	<1	7.00	1900	--	23	31	43	24
	27-Mar-96	140.0	<10	7.20	2000	--	<20	<20	46	<20
	18-Jun-96	12.0	<10	6.90	2000	--	<20	<20	<20	<20
	20-Aug-96	32.0	<5	7.10	1900	--	<20	<20	<20	30
	11-Nov-96	18.0	5.0	7.10	2000	--	<20	<20	30	60
	19-Feb-97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9-May-97	13.0	17.0	6.67	1940	9.7	<10	<10	71	90
	12-Aug-97	6.0	4.0	5.98	1810	12.8	<10	<10	88	60
	15-Nov-97	8.0	12.0	6.50	2000	12.0	<10	10	125	100
	9-Feb-98	6.0	8.0	6.40	1960	11.5	<10	<10	73	60
	14-May-98	12.0	15.0	6.90	1760	17.4	<10	20	13	200
	14-Aug-98	5.0	6.0	6.70	--	--	<10	<10	15	160
	13-Nov-98	5.0	12.0	6.50	1990	16.5	<10	<10	20	220
	19-Mar-99	5.7	8.0	6.80	1334	13.6	<10	10	14	60
	6-May-99	5.6	16.0	6.85	3250	26.2	<10	<10	15	20
	23-Jul-99	5.7	3.0	6.30	1470	18.9	<5	9	13	19
	22-Oct-99	5.0	3.0	5.86	1750	12.1	<10	<10	16	30
	14-Mar-00	5.6	<1	7.60	1410	10.7	<10	<10	15	20
	20-Jun-00	7.0	3.0	6.90	1410	18.3	<10	<10	12	20
	13-Sep-00	5.9	5.0	7.50	1650	15.1	<5	<10	14	20
	10-Nov-00	6.4	2.0	7.20	1470	11.8	<10	100	10	150
	12-Mar-01	6.0	1.0	7.43	1530	12.8	<10	<10	7	10
	24-May-01	9.4	10.0	7.56	1380	11.9	<10	<10	10	20
	31-Aug-01	5.3	10.6	7.49	1450	12.5	<5	<10	14	9
	16-Nov-01	5.1	3.0	6.77	1300	12.4	<10	<10	15	50
	8-Mar-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	31-May-02	2.4	54.0	7.23	1470	13.8	<10	<10	<5	40
	5-Sep-02	4.7	6.0	6.60	--	--	<5	<5	14	140
	12-Dec-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	18-Mar-03	6.7	8.0	6.81	1290	12	<5	<5	9	99
	4-Jun-03	2.0	11.0	6.78	1370	11.3	<5	<5	10	<5
	5-Oct-03	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8-Dec-03	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Feb-04	NS	NS	NS	NS	NS	NS	NS	NS	NS
	30-Jun-04	4.5	55.0	6.99	1318	12.5	<5	<5	8	<5
	19-Nov-04	3.4	2.0	6.85	1120	11.4	6	<5	15	14
	19-Nov-04	4.4	4.0	--	--	--	6	<5	18	16
15-Jun-05	6.0	8.0	6.00	1640	13.4	<5	<5	13	21	
17-Jan-06	5.9	12785	10.01	1630	8.4	<5	<5	13	8	
14-Feb-06	--	--	7.88	1800	8.5	--	--	14	--	
29-Jun-06	NS	NS	NS	NS	NS	NS	NS	NS	NS	
28-Nov-06	4.7	438	7.73	1940	13.2	<5	<4	13	6	
6-Jun-07	4.9	11	6.76	1990	11.7	13	4	20	8	
12-Nov-07	5.9	70	6.76	2030	12.4	4	5	21	11	
24-Jun-08	5.0	371	6.89	2060	13.3	<5	<1	25	5	
17-Nov-08	5.8	23	6.06	2060	9.2	<5	<1	22	<5	
23-Jun-09	5.5	88	7.01	2050	13.6	<5	11	27	36	
17-Nov-09	6	8	7.07	2090	10.3	<5	<4	22	7	
14-Jun-10	6	10	7.05	2070	13.1	8	<4	16	6	
20-Jun-11	6.7	9	7.33	2010	12.2	30	<4	27	39	
14-Jul-11	--	--	--	--	--	<5	--	--	--	
14-Nov-11	7.0	316	6.93	2080	11.5	<5	<4	20	<5	
25-Jun-12	6.0	6	5.75	1870	11.9	<5	4	25	<5	
Duplicate	25-Jun-12	6.0	6	5.75	1872	11.9	<5	6	25	10
Duplicate	5-Dec-12	5.8	2	6.76	1820	10.6	<5	<4	24	10
Duplicate	5-Dec-12	5.8	3	6.76	1814	10.6	<5	<4	24	8
6-Jun-13	6.1	4	6.71	1882	11.0	<5	<4	22	<5	
4-Nov-13	5.0	<1	6.71	1630	11.2	<5	<4	18	<5	
23-Jun-14	5.0	3	6.82	1579	13.2	<5	<4	18	<5	
18-Nov-14	4.1	2	6.27	1525	6.6	<5	<4	25	20	
25-Jun-15	4.5	2	6.64	1507	11.2	<5	6	21	10	
17-Nov-15	3.6	1	6.64	1423	11.7	<5	<5	20	5	
21-Jun-16	3.8	<3	6.93	1364	12.0	<5	<5	14	<5	
Duplicate	21-Jun-16	3.9	<3	6.93	1362	12.0	<5	<5	13	<5
Duplicate	28-Nov-16	3.3	<3	6.82	1378	11.4	<5	<5	15	<5
Duplicate	19-Jun-17	4.2	<3	6.90	1450	11.4	<5	<5	15	<5
Duplicate	6-Nov-17	3.6	<3	6.16	1363	11.8	<5	<5	17	<5
Duplicate	11-Jun-18	4.3	<3	6.45	1447	11.0	<5	<5	15	10
Duplicate	7-Nov-18	4.1	<3	6.50	1451	6.0	<5	<5	16	6
Duplicate	29-May-19	8.4	<3	7.13	1436	9.1	<5	<5	15	<5
Duplicate	19-Nov-19	5.8	<3	6.89	1291	10.6	<5	<5	15	<5
Duplicate	15-Jun-20	7.9	<3	6.84	1378	17.2	<5	<5	11	<5
Duplicate	4-Nov-20	6.7	<3	6.69	1010	14.4	<5	<5	12	<5
Duplicate	16-Jun-21	6.6	<3	6.89	1247	12.9	<5	<5	5	<5
Duplicate	4-Nov-21	6.6	<3	6.94	1187	13.9	<5	<5	11	5
Duplicate	6-Jun-22	8.1	<3	7.21	1280	13.1	<5	<5	29	27
Duplicate	1-Nov-22	8.1	<3	6.55	1219	11.6	<5	5	10	10
Duplicate	6-Jun-23	1.8	<3	6.82	1310	12.97	<5	<5	11	<5

See notes on page 6.



**TABLE 1**  
**RACER Trust - Coldwater Road**  
**Landfill Leak Detection Vaults - Historical Analytical Results**  
**Inorganics and Metals**

Vault	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn
		<i>EGLE Residential Drinking Water Criteria &amp; RBSLs</i>					100 (A)	1,000 (E)	100 (A)	2,400
Vault B	23-Mar-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	20-Jun-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	30-Aug-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	28-Nov-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Mar-96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	18-Jun-96	11.0	<10	6.90	1900	--	<20	<20	<20	<20
	20-Aug-96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11-Nov-96	17.0	66.0	7.00	1600	--	<20	<20	20	40
	19-Feb-97	7.0	4	7.10	1590	8.9	<10	<10	43	20
	7-May-97	7.0	4	6.50	1930	13.8	<10	<10	45	20
	12-Aug-97	5.0	3.0	6.45	663	26.0	<10	<10	26	60
	15-Nov-97	6.0	4.0	6.80	1400	11.0	<10	<10	96	50
	9-Feb-98	7.0	8.0	6.60	1560	12.6	<10	<10	57	20
	14-May-98	6.0	3.0	6.90	1490	11.2	<10	<10	14	30
	14-Aug-98	4.0	7.0	6.60	--	--	<10	<10	10	14
	13-Nov-98	6.0	18.0	6.30	1940	20.6	<10	10	17	80
	19-Mar-99	4.2	6.0	6.50	817	14.2	<10	<10	5	<10
	6-May-99	5.6	4.0	7.00	1330	26.2	<10	10	6	20
	23-Jul-99	5.8	3.0	6.50	1070	16.2	<5	13	10	18
	22-Oct-99	5.0	5.0	6.23	1440	11.0	<10	<10	16	20
	14-Mar-00	6.6	<1	8.00	900	11.0	<10	<10	8	20
	20-Jun-00	7.1	7.0	6.80	1120	17.3	<10	30	9	30
	13-Sep-00	5.4	<1	7.40	1560	15.6	<5	10	8	20
	10-Nov-00	6.8	1.0	7.10	1280	11.6	<5	40	14	90
	12-Mar-01	5.2	5.0	7.36	1460	12.3	<10	<10	7	20
	24-May-01	8.5	10.0	7.58	1280	13.0	<10	20	12	40
	31-Aug-01	3.9	<1.3	7.78	1370	12.9	<5	<10	11	20
	16-Nov-01	5.7	2.0	7.12	1230	13.1	<10	10	8	60
	8-Mar-02	5.4	2.0	6.99	2400	8.5	<10	10	<5	70
	31-May-02	5.1	3.0	7.23	1070	14.2	<10	<10	<5	20
	5-Sep-02	4.8	4.0	6.70	--	--	<5	<5	8	84
	12-Dec-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	18-Mar-03	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4-Jun-03	5.5	3.0	6.98	1530	10.1	<5	<5	7	<5
	5-Oct-03	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8-Dec-03	4.7	2.0	7.12	1490	11.5	<5	6	5	35
	8-Dec-03	4.7	7.0	--	--	--	<5	6	5	35
	27-Feb-04	4.0	12.0	7.42	1380	12.3	<5	5	<5	16
	30-Jun-04	4.1	396.0	6.98	1210	11.8	<5	12	7	<5
	19-Nov-04	NS	NS	NS	NS	NS	NS	NS	NS	NS
	15-Jun-05	6.0	6.0	6.07	1560	12.8	<5	<5	14	20
	1-Dec-05	4.7	<1	6.87	1310	9.1	<5	<5	8	50
	Re-sample	14-Feb-06	--	--	7.70	1520	6.1	--	<4	--
	Duplicate	29-Jun-06	2.6	1.0	7.04	1050	13.9	<5	<4	5
		28-Nov-06	5.5	4.0	7.46	1380	13.0	<5	<4	8
	Duplicate	28-Nov-06	4.7	--	7.17	1340	13.0	5	4	7
		6-Jun-07	4.7	2.0	6.34	1670	12.1	9	6	13
	12-Nov-07	3.8	1.0	6.93	1690	12.6	2	5	16	
	24-Jun-08	3.2	6.0	6.95	1880	14.0	<5	2	8	
	17-Nov-08	2.4	<1	6.89	1818	9.6	<5	2	8	
Duplicate	17-Nov-08	1.7	2.0	6.89	1820	9.6	<5	1	8	
	23-Jun-09	3.6	4.0	7.13	1780	13.3	<5	1	6	
	17-Nov-09	3	0	6.99	1970	10.9	<5	<4	9	
	14-Jun-10	3	2	6.90	1810	12.1	8	<4	5	
	8-Nov-10	4	3	6.93	1911	12.2	21	<4	11	
Re-sample	1-Dec-10	--	--	6.93	--	12.2	6	--	--	
	20-Jun-11	3.4	1	7.03	1496	12.2	28	<4	11	
Re-sample	14-Jul-11	--	--	--	--	--	<5	--	--	
	14-Nov-11	3.0	1	6.93	1948	12.0	<5	<4	7	
	25-Jun-12	3.0	4	6.16	1781	12.5	<5	<4	<5	
	5-Dec-12	3.2	5	6.85	1936	10.2	<5	6	9	
	6-Jun-13	3.2	<1	6.66	1455	10.8	<5	<4	6	
	4-Nov-13	3.0	1	6.74	1750	11.8	<5	<4	5	
	23-Jun-14	3.2	1	6.87	1369	12.3	<5	<4	<5	
	18-Nov-14	2.7	3	7.05	1656	7.1	<5	<4	13	
	25-Jun-15	3.0	<1	7.07	1513	13.4	<5	5	11	
	17-Nov-15	2.6	3	6.76	1635	11.7	<5	<5	9	
	21-Jun-16	2.7	<3	6.89	1176	13.7	<5	<5	<5	
	28-Nov-16	2.2	<3	6.78	1654	11.3	<5	<5	<5	
	19-Jun-17	2.5	<3	6.80	1110	11.6	<5	<5	<5	
	6-Nov-17	2.6	<3	6.28	1450	12.0	<5	<5	<5	
	11-Jun-18	2.4	<3	6.51	1064	11.4	<5	<5	<5	
	7-Nov-18	2.9	<3	6.60	1463	5.0	<5	<5	<5	
Duplicate	7-Nov-18	2.5	<3	6.60	1450	5.0	<5	<5	<5	
	29-May-19	6.0	<3	7.21	1058	9.8	<5	<5	<5	
	19-Nov-19	4.8	<3	7.00	1235	9.9	<5	<5	<5	
	15-Jun-20	6.2	<3	6.93	1165	15.6	<5	<5	<5	
Duplicate	4-Nov-20	7.4	<3	6.62	1053	12.5	<5	<5	<5	
	4-Nov-20	5.4	<3	6.62	1045	12.5	<5	<5	<5	
	16-Jun-21	6.0	<3	6.88	1046	15.4	<5	<5	<5	
	4-Nov-21	6.7	<3	6.86	1208	12.2	<5	<5	<5	
	7-Jun-22	6.6	<3	6.81	1170	10.9	<5	<5	<5	
	1-Nov-22	6.3	14	6.56	1283	11.9	<5	<5	<5	
	<b>6-Jun-23</b>	<b>&lt;1</b>	<b>&lt;3</b>	<b>6.82</b>	<b>1290</b>	<b>14.96</b>	<b>&lt;5</b>	<b>&lt;5</b>	<b>&lt;5</b>	<b>6</b>

See notes on page 6.

**TABLE 1**  
**RACER Trust - Coldwater Road**  
**Landfill Leak Detection Vaults - Historical Analytical Results**  
**Inorganics and Metals**

Vault	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn
<i>EGLE Residential Drinking Water Criteria &amp; RBSLs</i>										
							100 (A)	1,000 ( E )	100 (A)	2,400
Vault C	23-Mar-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	20-Jun-95	4.4	<1	7.40	530	--	25	25	<30	60
	30-Aug-95	3.7	<1	7.40	340	--	<20	<20	<40	74
	28-Nov-95	7.6	<1	7.00	2200	--	29	37	67	36
	27-Mar-96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	18-Jun-96	7.7	<10	6.90	2000	--	<20	<20	<20	<20
	20-Aug-96	8.3	<5	6.90	1900	--	<20	<20	<20	40
	11-Nov-96	16.0	9.0	7.00	2100	--	<20	<20	<20	80
	19-Feb-97	7.0	1.0	7.60	1610	9.0	<10	<10	45	30
	7-May-97	6.0	10.0	6.57	1730	12.5	<10	100	66	20
	8-Aug-97	4.0	13.0	6.34	1610	24.1	<10	<10	79	20
	15-Nov-97	6.0	4.0	6.70	2000	12.0	<10	<10	122	50
	9-Feb-98	8.0	4.0	6.50	1720	12.2	<10	<10	64	50
	14-May-98	6.0	3.0	6.90	1600	12.1	<10	<10	23	40
	14-Aug-98	6.0	5.0	6.80	--	--	<10	<10	23	40
	13-Nov-98	6.0	12.0	6.30	1760	21.4	<10	<10	21	30
	13-Nov-98	6.0	10.0	--	--	--	<10	<10	21	30
	19-Mar-99	6.3	2.0	7.00	1300	15.6	<10	<10	19	20
	6-May-99	6.1	8.0	6.90	1600	26.6	<10	10	20	20
	23-Jul-99	6.5	0.0	6.70	1370	17.3	<5	12	20	20
	22-Oct-99	6.4	5.0	6.57	1160	11.0	<10	<10	18	10
	14-Mar-00	6.5	1.0	7.80	1350	12.6	<10	<10	17	10
	20-Jun-00	6.0	4.0	6.90	1280	18.3	<10	140	19	170
	13-Sep-00	6.1	<1	7.60	1430	14.9	<5	<10	16	20
	10-Nov-00	10.6	4.0	6.80	1210	12.1	<10	<10	17	40
	12-Mar-01	6.3	4.0	7.69	1380	12.1	<10	<10	8	<10
	24-May-01	9.2	8.0	7.54	1410	13.3	<10	<10	17	30
	31-Aug-01	5.4	4.0	7.44	1530	13.1	<5	<10	16	20
	16-Nov-01	6.0	2.0	6.79	1170	13.2	<10	<10	15	60
	8-Mar-02	4.0	1.0	7.09	1680	11.3	<10	10	<5	20
	31-May-02	5.1	7.0	7.17	1280	14.2	<10	<10	14	40
	5-Sep-02	5.0	7.0	6.69	--	--	<5	<5	14	39
	12-Dec-02	4.2	7.0	6.90	1330	12.1	<5	<5	12	53
	18-Mar-03	5.7	4.0	6.80	1260	10.7	<5	<5	10	37
	4-Jun-03	4.4	6.0	6.92	1150	11.0	<5	<5	8	<5
	5-Oct-03	4.4	4.0	6.99	1230	13.6	<5	<5	14	28
	8-Dec-03	3.8	6.0	7.14	1520	11.6	<5	11	14	63
	27-Feb-04	4.6	1.0	7.39	1410	12.1	<5	<5	12	36
	30-Jun-04	3.7	14.0	6.96	1008	12.2	<5	<5	12	8
	19-Nov-04	4.3	4.0	6.90	1090	11.7	<5	<5	20	6
	15-Jun-05	5.0	6.0	6.26	1460	12.5	<5	<5	15	39
	1-Dec-05	5.9	2.0	6.92	1620	11.1	<5	<5	18	15
	29-Jun-06	2.6	5.0	6.90	2260	15.2	5	<4	10	11
	28-Nov-06	11.6	44.0	7.04	1430	13.4	<5	5	15	<5
	6-Jun-07	4.9	6.0	6.54	1510	12.2	9	5	11	6
	12-Nov-07	4.3	1.0	6.90	1490	13.2	2	5	16	12
	24-Jun-08	4.2	49.0	6.91	1620	13.4	<5	<1	9	<5
	17-Nov-08	4.4	6.0	6.79	1600	9.4	<5	<1	10	11
	23-Jun-09	4.6	9.0	7.16	1660	13.7	<5	<1	8	6
	17-Nov-09	5	15	7.11	1650	11.5	<5	<4	9	6
Duplicate	17-Nov-09	5	20	7.11	1650	11.5	<5	<4	9	6
	14-Jun-10	5	4	7.01	1710	12.4	7	<4	7	7
	8-Nov-10	6	7	7.16	1670	12.7	16	<4	11	<5
Duplicate	20-Jun-11	5.4	5	7.28	1686	12.9	25	<4	15	22
Re-sample	20-Jun-11	5.9	5	7.28	1688	12.9	24	<4	14	21
	14-Jul-11	--	--	--	--	--	<5	--	--	--
	14-Nov-11	5.0	5	6.97	1699	12.4	<5	<4	10	<5
	25-Jun-12	5.0	7	6.83	1748	13.0	<5	<4	6	<5
	5-Dec-12	5.4	1	6.91	1713	11.1	<5	11	16	9
	6-Jun-13	5.4	22	6.66	1744	12.2	<5	<4	10	6
	4-Nov-13	5.3	1	6.84	1703	11.8	<5	<4	8	<5
	23-Jun-14	5.7	4	7.01	1759	12.3	<5	5	10	<5
	18-Nov-14	4.6	4	7.09	1724	7.4	<5	<4	18	5
	25-Jun-15	5.1	6	6.87	1788	12.4	<5	6	14	8
	17-Nov-15	4.4	0	6.84	1706	12.1	<5	<5	17	<5
	21-Jun-16	5.0	6	6.82	1795	14.5	<5	<5	11	6
	28-Nov-16	4.9	4	6.89	1808	11.1	<5	<5	9	<5
	19-Jun-17	5.0	3	6.88	1805	12.2	<5	<5	11	<5
Duplicate	6-Nov-17	4.9	3	6.36	1764	11.7	<5	<5	10	<5
	6-Nov-17	4.9	<3	6.36	1761	11.7	<5	<5	10	<5
	11-Jun-18	4.7	5	6.75	1774	12.1	<5	<5	8	<5
Duplicate	11-Jun-18	5.2	3	6.75	1789	12.1	<5	<5	8	<5
	7-Nov-18	5.3	<3	6.90	1696	4.0	<5	<5	11	<5
	29-May-19	8.0	6	7.17	1668	9.6	<5	<5	8	230
Re-sample	7-Jun-19	--	--	--	--	--	--	--	--	<5
	19-Nov-19	6.7	<3	7.08	1635	10.6	<5	<5	9	<5
Duplicate	19-Nov-19	6.9	<3	7.08	1638	10.6	<5	<5	10	<5
	16-Jun-20	9.7	3	7.13	1747	12.2	<5	<5	8	<5
Duplicate	16-Jun-20	10.0	3	7.13	1746	12.2	<5	<5	8	<5
	4-Nov-20	7.4	1	6.67	1438	12.7	<5	<5	10	<5
	16-Jun-21	8.2	4	6.96	1771	15.1	<5	<5	8	<5
Duplicate	16-Jun-21	7.6	3	6.96	1766	15.1	<5	<5	9	<5
	4-Nov-21	7.5	<3	6.96	1649	11.6	<5	<5	8	<5
Duplicate	4-Nov-21	7.2	<3	6.96	1305	11.6	<5	<5	8	<5
	7-Jun-22	9.0	<3	6.82	1760	11.7	<5	<5	9	5
Duplicate	7-Jun-22	8.6	<3	6.82	1740	11.7	<5	<5	10	<5
	1-Nov-22	9.6	<3	6.63	1716	11.7	<5	<5	9	<5
Duplicate	1-Nov-22	9.8	3	6.63	1716	11.7	<5	<5	9	<5
Duplicate	<b>6-Jun-23</b>	<b>3.0</b>	<b>&lt;3</b>	<b>6.95</b>	<b>1720</b>	<b>13.68</b>	<b>&lt;5</b>	<b>&lt;5</b>	<b>8</b>	<b>7</b>
<b>Duplicate</b>	<b>6-Jun-23</b>	<b>2.9</b>	<b>&lt;3</b>	<b>6.95</b>	<b>1730</b>	<b>13.68</b>	<b>&lt;5</b>	<b>&lt;5</b>	<b>8</b>	<b>8</b>

See notes on page 6.



**TABLE 1**  
**RACER Trust - Coldwater Road**  
**Landfill Leak Detection Vaults - Historical Analytical Results**  
**Inorganics and Metals**

Indicator Parameters							Dissolved Metals (ug/L)			
Vault	Sample Date	TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn
EGLE Residential Drinking Water Criteria & RBSLs							100 (A)	1,000 ( E )	100 (A)	2,400
Vault D	23-Mar-95	8.9	83.0	7.30	2200	--	13	<20	44	<20
	20-Jun-95	NS	NS	NS	NS	--	NS	NS	NS	NS
	30-Aug-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	28-Nov-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Mar-96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	18-Jun-96	11.0	150.0	6.90	1800	--	<20	<20	<20	20
	20-Aug-96	40.0	<5	7.20	1600	--	<20	<20	<20	40
	11-Nov-96	23.0	9.0	7.00	1700	--	<20	<20	40	70
	19-Feb-97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9-May-97	23.0	76.0	6.69	1580	8.8	<10	<10	58	70
	8-Aug-97	11.0	44.0	6.48	1540	28.5	<10	<10	79	20
	15-Nov-97	12.0	6.0	6.60	1800	11.0	<10	<10	114	30
	9-Feb-98	12.0	52.0	6.50	1655	12.5	<10	<10	66	40
	14-May-98	10.0	40.0	7.00	1700	16.3	<10	30	23	50
	14-Aug-98	11.0	57.0	6.60	--	--	<10	<10	23	40
	13-Nov-98	11.0	22.0	6.70	1790	15.2	<10	<10	20	30
	19-Mar-99	6.3	2.0	7.00	1302	14.8	<10	30	20	40
	6-May-99	12.4	28.0	6.90	1510	25.2	<10	30	15	30
	23-Jul-99	11.0	40.0	7.00	1231	21.0	<5	9	21	19
	22-Oct-99	10.6	13.0	6.76	1384	10.3	<10	<10	23	20
	14-Mar-00	10.7	57.0	7.80	1460	13.0	<10	<10	15	20
	20-Jun-00	10.1	23.0	6.80	1410	18.7	<10	60	21	70
	13-Sep-00	10.7	7.0	7.60	1370	16.1	<5	<10	21	20
	10-Nov-00	7.0	10.0	7.20	1630	12.2	<10	<10	23	20
	12-Mar-01	5.6	33.0	7.84	1710	12.9	<10	<10	11	10
	24-May-01	12.0	16.0	7.48	1760	13.1	<10	10	18	30
	31-Aug-01	9.8	8.0	7.66	1420	12.8	5	<10	24	20
	16-Nov-01	7.4	20.0	7.58	1270	12.9	<10	10	17	50
	8-Mar-02	8.4	3.0	7.18	1430	10.9	<10	10	<5	10
	31-May-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5-Sep-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12-Dec-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	18-Mar-03	8.9	15.0	6.77	1380	11.6	<5	5.0	10.0	19
4-Jun-03	9.6	5.0	6.91	1430	11.0	<5	<5	8	<5	
5-Oct-03	NS	NS	NS	NS	NS	NS	NS	NS	NS	
8-Dec-03	6.1	4.0	6.92	1330	11.0	8	17	14	63	
27-Feb-04	NS	NS	NS	NS	NS	NS	NS	NS	NS	
30-Jun-04	6.5	5.0	6.96	1050	12.1	<5	<5	30	9	
19-Nov-04	NS	NS	NS	NS	NS	NS	NS	NS	NS	
15-Jun-05	6.0	6.0	5.90	1540	12.9	<5	<5	25	17	
17-Jan-06	6.2	8.0	7.34	1600	7.9	6	14	37	<5	
14-Feb-06	--	--	7.96	1520	9.2	--	5	--	--	
29-Jun-06	5.9	51.0	6.98	1570	13.9	6	<4	26	14	
28-Nov-06	7.2	13.0	7.18	1590	13.1	<5	<4	17	7	
6-Jun-07	6.9	7.0	7.30	1530	14.2	9	5	34	8	
12-Nov-07	7.3	5.0	6.91	1580	12.3	3	5	23	12	
12-Nov-07	6.0	7.0	6.91	1570	12.3	3	5	23	9	
24-Jun-08	4.1	4.0	6.87	1570	15.4	<5	<1	35	<5	
17-Nov-08	5.6	10.0	7.42	1580	8.0	<5	1	17	6	
23-Jun-09	7.0	20.0	7.17	1570	13.7	<5	<1	34	5	
17-Nov-09	6.0	7	7.28	1610	11.5	<5	<4	16	7	
14-Jun-10	7.0	35	7.10	1550	11.9	8	<4	32	11	
14-Jun-10	7.0	1	7.10	1550	11.9	7	<4	33	11	
8-Nov-10	9.0	31	7.41	1555	13.4	19	<4	18	<5	
14-Jul-11	--	--	7.23	--	18.0	<5	<4	40	<5	
14-Nov-11	9.0	5	7.04	1513	11.8	<5	<4	25	<5	
25-Jun-12	5.0	3	5.70	1367	14.5	<5	16	29	15	
5-Dec-12	7.3	3	7.11	1471	10.4	<5	11	33	22	
6-Jun-13	7.5	3	6.76	1534	11.5	<5	5	18	75	
4-Nov-13	7.2	<1	7.03	1565	11.8	<5	4	13	7	
4-Nov-13	7.6	<1	7.03	1562	11.8	<5	<4	13	9	
23-Jun-14	8.0	7	7.10	1592	12.2	<5	4	15	9	
23-Jun-14	7.9	2	7.10	1591	12.2	<5	<4	16	8	
18-Nov-14	6.2	2	7.02	1635	7.6	<5	10	20	11	
18-Nov-14	6.0	<1	7.02	1640	7.6	<5	5	21	12	
25-Jun-15	6.9	3	6.93	1643	11.8	<5	8	23	17	
17-Nov-15	5.7	3	6.84	1729	12.2	<5	<5	17	10	
21-Jun-16	6.9	3	7.04	1656	14.7	<5	6	13	10	
28-Nov-16	5.2	<3	6.91	1659	10.7	<5	6	17	9	
19-Jun-17	7.3	<3	6.83	1655	16.7	<5	<5	15	10	
6-Nov-17	5.9	<3	6.44	1650	11.7	<5	<5	12	6	
11-Jun-18	6.5	<3	6.82	1655	13.6	<5	<5	14	9	
7-Nov-18	6.5	<3	7.00	1619	7.0	<5	<5	35	<5	
29-May-19	9.9	<3	7.37	1583	10.2	<5	<5	13	8	
19-Nov-19	6.7	<3	7.08	1671	10.6	<5	<5	13	8	
16-Jun-20	9.8	<3	7.09	1586	13.8	<5	<5	12	6	
4-Nov-20	9.8	<3	6.66	1406	13.3	<5	<5	12	6	
16-Jun-21	8.8	<3	6.92	1527	20.5	<5	<5	12	6	
4-Nov-21	8.8	<3	7.06	1186	11.2	<5	<5	19	7	
7-Jun-22	9.5	<3	6.72	1450	13.1	<5	<5	11	<5	
1-Nov-22	9.8	<3	6.61	1440	11.8	<5	6	9	7	
<b>7-Jun-23</b>	<b>3.4</b>	<b>&lt;3</b>	<b>6.86</b>	<b>1470</b>	<b>15.28</b>	<b>&lt;5</b>	<b>&lt;5</b>	<b>11</b>	<b>8</b>	

See notes on page 6.



**TABLE 1**  
**RACER Trust - Coldwater Road**  
**Landfill Leak Detection Vaults - Historical Analytical Results**  
**Inorganics and Metals**

Vault	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn
<i>EGLE Residential Drinking Water Criteria &amp; RBSLs</i>										
							100 (A)	1,000 ( E )	100 (A)	2,400
Vault E	23-Mar-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	20-Jun-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	30-Aug-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	28-Nov-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Mar-96	110.0	<10	7.20	2000	--	<20	<20	46	<20
	18-Jun-96	9.0	76.0	7.00	2400	--	<20	<20	<20	<20
	4-Oct-96	5.9	19.0	6.90	2000	--	<20	<20	<20	20
	11-Nov-96	12.0	11.0	7.00	1800	--	<20	<20	<20	30
	19-Feb-97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7-May-97	7.0	2.0	6.33	2120	15.6	<10	<10	35	30
	12-Aug-97	5.0	27.0	6.70	1840	14.9	<10	<10	64	40
	15-Nov-97	5.0	12.0	6.50	2100	11.0	<10	<10	116	40
	9-Feb-98	6.0	4.0	6.60	1950	12.6	<10	<10	54	50
	14-May-98	6.0	32.0	7.10	1850	13.5	<10	<10	7	60
	14-Aug-98	4.0	8.0	6.70	--	--	<10	<10	8	40
	30-Nov-98	3.0	14.0	--	--	--	<10	<10	46	60
	19-Mar-99	4.8	20.0	6.50	1302	14.3	<10	20	6	30
	6-May-99	8.2	14.0	6.90	1720	27.4	<10	<10	5	20
	23-Jul-99	4.6	9.0	6.50	1468	21.8	<5	11	6	19
	22-Oct-99	3.5	6.0	6.33	1382	11.0	<10	<10	6	20
	14-Mar-00	5.6	48.0	8.00	1500	13.9	<10	<10	5	10
	20-Jun-00	6.3	22.0	6.90	1430	19.6	<10	30	<5	30
	13-Sep-00	4.1	5.0	7.70	1360	15.7	<5	<10	5	20
	10-Nov-00	4.3	4.0	7.50	1290	11.8	<10	40	5	60
	12-Mar-01	5.4	9.0	7.33	--	12.7	<10	<10	5	10
	24-May-01	8.6	10.0	7.52	1900	13.6	<10	10	6	40
	31-Aug-01	5.7	5.3	7.58	1810	13.2	<5	10	6	70
	16-Nov-01	3.6	<1.0	7.46	1630	12.8	<10	10	6	60
	8-Mar-02	6.0	<1.0	7.01	1570	9.8	<10	10	6	90
	31-May-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5-Sep-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12-Dec-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	18-Mar-03	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4-Jun-03	5.1	6.0	6.92	1470	11.0	<5	6.0	<5	50
	5-Oct-03	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8-Dec-03	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Feb-04	5.4	4.0	7.61	1190	12.1	<5	6	7	43
	30-Jun-04	4.9	390	6.91	1337	12.7	<5	<5	6	43
	19-Nov-04	4.3	3	7.06	1230	11.4	<5	7	22	11
	15-Jun-05	7.0	3	6.77	1790	12.6	<5	<5	12	31
	1-Dec-05	3.7	<1	7.10	1630	10.9	<5	66	<5	73
	29-Jun-06	5.8	8.0	6.94	1790	14.0	5	4	6	13
	28-Nov-06	6.3	134.0	7.51	1680	13.1	5	5	<5	10
	6-Jun-07	4.6	3.0	6.48	1820	12.7	9	7	<5	9
	Duplicate	6-Jun-07	4.8	3.0	--	1820	--	10	5	<5
	12-Nov-07	3.9	4.0	6.80	1740	12.0	2	4	11	13
	24-Jun-08	6.0	2.0	6.76	1860	13.9	<5	2	<5	6
	17-Nov-08	4.1	1.0	7.43	1630	10.3	<5	2	<5	19
Duplicate	23-Jun-09	3.2	10.0	6.79	1950	14.0	<5	2	<5	15
	23-Jun-09	3.0	17.0	6.79	1960	14.0	<5	2	<5	14
	17-Nov-09	5.0	9	6.89	1780	11.2	<5	<4	<5	14
	14-Jun-10	4.0	21	6.85	1910	12.5	9	<4	<5	13
Duplicate	8-Nov-10	5.0	<1	7.02	1714	12.4	24	<4	<5	7
	8-Nov-10	5.0	3	7.02	1715	12.4	20	<4	<5	7
	20-Jun-11	3.4	5	6.91	1711	13.0	29	<4	10	15
Re-sample	14-Jul-11	--	--	--	--	--	<5	--	--	--
	14-Nov-11	4.0	9	6.89	1637	11.7	<5	<4	<5	<5
Duplicate	14-Nov-11	3.0	5	6.89	1635	11.7	<5	<4	<5	<5
	25-Jun-12	3.0	3	6.00	1792	12.9	<5	<4	<5	7
	5-Dec-12	3.4	0	6.77	1776	10.4	<5	<4	6	11
	6-Jun-13	3.3	8	6.54	1397	10.6	<5	6	<5	<5
	4-Nov-13	3.0	2	6.74	1741	12.0	<5	4	12	9
	23-Jun-14	3.3	<1	6.88	1677	11.7	<5	<4	<5	<5
	18-Nov-14	3.0	2	7.08	1747	7.5	<5	<4	10	6
Duplicate	25-Jun-15	2.9	4	6.88	1456	12.6	<5	<5	7	8
	25-Jun-15	2.9	3	6.88	1460	12.6	<5	<5	7	7
	17-Nov-15	2.7	2	6.80	1435	12.9	<5	<5	5	<5
	21-Jun-16	2.6	<3	6.75	1408	13.9	<5	<5	<5	5
	28-Nov-16	2.3	<3	6.88	1502	11.3	<5	<5	<5	<5
	19-Jun-17	2.6	3	6.79	1431	11.9	<5	<5	<5	<5
	19-Jun-17	2.7	<3	6.79	1430	11.9	<5	<5	<5	<5
	6-Nov-17	2.5	<3	6.37	1465	11.8	<5	<5	<5	<5
	11-Jun-18	2.6	<3	6.57	1300	14.3	<5	<5	<5	5
	7-Nov-18	3.1	<3	7.20	1274	5.0	<5	<5	<5	<5
Duplicate	29-May-19	5.3	<3	7.16	1339	10.4	<5	<5	<5	<5
	29-May-19	5.1	<3	7.16	1334	10.4	<5	<5	<5	<5
	19-Nov-19	5.0	<3	6.95	1383	10.6	<5	7	<5	5
	16-Jun-20	6.0	<3	6.99	1210	14.5	<5	<5	<5	<5
	4-Nov-20	4.8	<3	6.61	1188	12.2	<5	<5	<5	<5
	16-Jun-21	4.9	<3	6.89	1211	17.7	<5	<5	<5	<5
	4-Nov-21	5.7	<3	6.89	831	11.6	<5	<5	<5	<5
	7-Jun-22	6.0	<3	6.73	1150	14.0	<5	<5	<5	8
	1-Nov-22	7.8	<3	6.57	1201	11.8	<5	5	<5	5
	<b>7-Jun-23</b>	<b>&lt;1</b>	<b>&lt;3</b>	<b>6.86</b>	<b>1270</b>	<b>18.6</b>	<b>&lt;5</b>	<b>&lt;5</b>	<b>&lt;5</b>	<b>&lt;5</b>

See notes on page 6.



**TABLE 1**  
**RACER Trust - Coldwater Road**  
**Landfill Leak Detection Vaults - Historical Analytical Results**  
**Inorganics and Metals**

Vault	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn
		<i>EGLE Residential Drinking Water Criteria &amp; RBSLs</i>					100 (A)	1,000 ( E )	100 (A)	2,400
	23-Mar-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	20-Jun-95	8.2	<1	6.80	1400	--	<20	<20	<30	190
	30-Aug-95	6.1	<1	6.80	1100	NS	<20	<20	<40	220
	28-Nov-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Mar-96	NS	NS	NS	NS	NS	NS	NS	NS	NS
<b>Vault F</b>	18-Jun-96	6.2	77.0	6.80	1600	--	<20	<20	<20	<20
	20-Aug-96	4.8	1500.0	7.10	1500	--	<20	20	<20	50
	11-Nov-96	14.0	7100.0	7.00	1600	--	<20	<20	<20	30
	19-Feb-97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9-May-97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8-Aug-97	3.0	21.0	6.14	1530	20.6	<10	<10	64	20
	15-Nov-97	7.0	56.0	6.70	1800	13.0	<10	<10	93	130
	9-Feb-98	5.0	30.0	6.50	1750	13.5	<10	<10	49	160
	14-May-98	5.0	16.0	7.07	1400	25.4	<10	20	7	130
	14-Aug-98	3.0	25.0	6.60	--	--	<10	<10	7	40
	30-Nov-98	4.0	38.0	--	--	--	10	<10	47	30
	19-Mar-99	4.2	52.0	6.80	982	14.4	<10	20	9	20
	6-May-99	4.6	50.0	7.00	1460	28.0	<10	10	5	30
	23-Jul-99	3.7	95.0	6.30	1262	21.2	6	17	6	26
	22-Oct-99	3.7	12.0	6.29	1116	12.3	<10	<10	6	20
	14-Mar-00	5.4	81.0	8.00	1250	14.9	<10	<10	6	30
	20-Jun-00	4.4	66.0	7.10	1310	20.1	<10	40	<5	80
	13-Sep-00	3.0	11.0	7.40	1440	15.6	<5	<10	6	20
	10-Nov-00	3.9	41.0	6.80	1040	11.6	<10	60	5	100
	12-Mar-01	5.5	24.0	7.12	1110	12.3	<10	<10	5	10
	24-May-01	7.4	16.0	7.44	1470	12.8	<10	60	5	100
	31-Aug-01	NS	NS	NS	NS	NS	NS	NS	NS	NS
	16-Nov-01	4.2	68.0	7.26	1110	12.9	<10	40	<5	100
	8-Mar-02	4.4	11.0	6.92	1290	10.4	<10	10	<5	60
	31-May-02	2.4	45.0	7.17	1200	14.3	<10	<10	6	20
	5-Sep-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12-Dec-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	18-Mar-03	3.7	7.0	6.78	1270	12.4	<5	19	<5	119
	4-Jun-03	2.5	4.0	6.92	1300	10.9	<5	<5	<5	<5
	5-Oct-03	3.9	5.0	6.88	1040	13.5	<5	11	5	66
	8-Dec-03	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Feb-04	3.9	7.0	7.11	1920	12.2	<5	5	<5	30
	30-Jun-04	3.5	1.0	6.89	1300	12.0	<5	5	<5	10
	30-Jun-04	3.5	1.0	6.89	1300	12.0	<5	5	<5	10
	19-Nov-04	3.2	4.0	7.07	1160	11.0	<5	<5	15	8
	15-Jun-05	4.0	8.0	5.47	1780	12.3	<5	<5	9	17
	1-Dec-05	3.7	3.0	6.92	1640	10.7	<5	83	<5	62
Duplicate	7-Dec-05	4.7	5.0	--	1540	--	<5	31	19	<10
Re-sample	14-Feb-06	--	--	7.90	1710	7.2	--	<4	--	--
	29-Jun-06	2.9	90.0	6.72	1710	15.3	7	<4	<5	9
	28-Nov-06	4.4	3.0	7.04	1610	13.9	5	<4	<5	10
	6-Jun-07	3.9	2.0	6.44	1640	15.5	10	3	<5	8
	12-Nov-07	2.2	53.0	6.84	1600	12.2	2	3	9	11
Duplicate	24-Jun-08	2.3	5.0	6.86	1510	14.5	<5	<1	<5	<5
	24-Jun-08	2.8	3.0	6.86	1500	14.5	<5	<1	<5	<5
	17-Nov-08	1.8	9.0	7.20	1510	9.5	<5	<1	<5	15
	23-Jun-09	2.9	29.0	7.08	1530	13.1	<5	<1	<5	10
	17-Nov-09	3	16	7.03	1550	11.0	<5	<4	<5	11
	14-Jun-10	3	14	7.02	1540	12.1	6	<4	<5	17
	8-Nov-10	3	2	7.00	1590	12.3	16	<4	<5	14
Re-sample	20-Jun-11	2.5	47	7.03	1642	14.6	23	<4	9	20
	14-Jul-11	--	--	--	--	--	<5	--	--	--
	14-Nov-11	2.0	29	6.93	1651	11.4	<5	<4	<5	<5
	25-Jun-12	--	--	--	--	--	--	--	--	--
	5-Dec-12	2.8	7	6.69	1729	9.9	<5	<4	6	12
Duplicate	6-Jun-13	2.7	2	6.78	1761	10.8	<5	<4	6	6
	6-Jun-13	2.9	<1	6.78	1759	10.8	<5	<4	<5	6
	4-Nov-13	2.6	1	6.83	1736	11.6	<5	<4	<5	<5
	23-Jun-14	2.6	3	7.15	1710	13.3	<5	<4	<5	<5
	18-Nov-14	2.4	2	7.13	1724	7.4	<5	<4	10	8
	25-Jun-15	2.3	3	7.08	1669	14.0	<5	<5	7	9
	17-Nov-15	2.1	1	6.95	1686	13.5	<5	<5	6	6
Duplicate	17-Nov-15	2.1	1	6.95	1686	13.5	<5	<5	6	6
	21-Jun-16	2.4	<3	7.03	1640	14.2	<5	<5	<5	6
Duplicate	28-Nov-16	1.9	3	6.84	1641	11.1	<5	<5	<5	<5
	28-Nov-16	1.9	<3	6.84	1640	11.1	<5	<5	<5	6
	19-Jun-17	2.4	<3	6.89	1675	11.8	<5	<5	<5	<5
	6-Nov-17	2.2	<3	6.47	1626	11.0	<5	<5	<5	<5
	11-Jun-18	2.2	<3	6.75	1685	13.6	<5	<5	<5	6
	7-Nov-18	2.9	<3	7.20	1637	5.0	<5	<5	<5	<5
	29-May-19	5.3	<3	7.13	1563	11.3	<5	<5	10	<5
	19-Nov-19	4.6	<3	7.20	1593	10.1	<5	<5	14	6
	16-Jun-20	6.6	<3	7.23	1623	13.3	<5	<5	18	<5
	4-Nov-20	5.2	<3	6.72	1347	13.1	<5	<5	12	<5
	16-Jun-21	5.8	<3	6.84	1554	20.2	<5	<5	8	<5
	4-Nov-21	5.8	<3	7.03	1398	10.8	<5	<5	10	<5
	7-Jun-22	6.6	3	6.85	1620	14.4	<5	<5	9	<5
	1-Nov-22	7.8	<3	6.71	1570	11.8	<5	<5	6	<5
	<b>7-Jun-23</b>	<b>&lt;1</b>	<b>&lt;3</b>	<b>7.00</b>	<b>1570</b>	<b>15.11</b>	<b>&lt;5</b>	<b>&lt;5</b>	<b>5</b>	<b>&lt;5</b>

Notes

"<" - Not detected above specified detection limit.  
 "NS" - Not sampled - no liquid.  
 "SpC" - Specific conductivity in micro siemens (uS).  
 "Temp" - Temperature in degrees celsius.  
 "--" - Physical parameter not measured (instrument failure or duplicate sample).  
 Exceedances of EGLE Residential Drinking Water Criteria highlighted in yellow.

"A" - Criterion is the state of Michigan drinking water standard established pursuant to Section 5 of 1976 PA 399, MCL 325.1005.  
 "E" - Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA)



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

Sump	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)				
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	
			<i>EGLE Residential Drinking Water Criteria &amp; RBSLs</i>					<i>100 (A)</i>	<i>1,000 (E)</i>	<i>100 (A)</i>	<i>2,400</i>
<b>Sump A</b>	18-Jun-96	170.0	200	9.50	2800	--	50	4300	640	<20	
	11-Nov-96	350.0	3000	10.00	4400	--	150	8800	1300	30	
	7-May-97	85.0	62	7.86	2200	8.9	20	2450	422	10	
	5-Nov-97	110.0	14	8.50	2800	11.0	<1	1050	376	20	
	5-May-98	125.0	2	7.90	2280	9.1	40	1380	383	10	
	6-Nov-98	136.0	984	7.54	2750	11.7	40	2950	519	<10	
	26-Apr-99	110.0	253	9.49	1334	12.6	40	2380	375	<10	
	22-Oct-99	44.7	8	6.60	1750	12.1	20	960	155	30	
	20-Jun-00	53.4	16	8.20	1980	13.1	40	1160	187	20	
	10-Nov-00	66.7	31	7.70	2130	11.1	30	1050	174	20	
	24-May-01	70.0	16	8.59	2470	10.2	40	1030	163	20	
	16-Nov-01	69.6	300	7.87	2130	12.3	40	990	160	20	
	31-May-02	51.7	48	7.17	2340	15.3	80	880	127	20	
	12-Dec-03	55.2	25	7.40	1840	11.2	37	770	121	7	
	3-Jun-03	75.5	90	--	--	--	41	1180	156	22	
	8-Dec-03	67.0	115	8.75	2210	11.6	74	969	138	31	
	30-Jun-04	62.0	6	8.37	2501	12.6	104	1450	161	7	
	19-Nov-04	36.9	2.7	8.19	2070	11.4	31	492	70	20	
	15-Jun-05	89.0	18.0	8.95	3320	14.7	215	1930	200	<5	
	17-Jan-06	83.7	980.0	8.40	3970	6.9	70	1350	155	14	
	29-Jun-06	65.4	36.0	8.48	3640	11.7	192	1070	109	7	
	28-Nov-06	78.2	258	8.15	3660	12.9	132	1240	126	6	
	6-Jun-07	64.4	7	6.94	3350	10.0	95	1280	131	17	
	12-Nov-07	71.7	3	7.19	3970	11.8	41	1460	150	22	
	24-Jun-08	46.6	2	7.89	3210	12.4	123	1240	118	8	
	17-Nov-08	48.5	4	7.26	3670	10.6	65	1190	114	12	
	23-Jun-09	61.0	3	7.53	2900	12.8	222	1400	126	<5	
	17-Nov-09	69	40	8.42	3570	9.6	71	1040	100	14	
	14-Jun-10	120	4	9.09	2880	11.9	305	1380	124	<5	
	8-Nov-10	71	10	8.34	3560	10.9	113	1110	1030	23	
	20-Jun-11	52.4	3	9.18	2380	11.1	330	965	91	<5	
	14-Nov-11	62.0	1	8.09	3420	11.4	116	1000	94	6	
	25-Jun-12	53.0	3	7.40	3070	12.0	180	863	83	32	
Duplicate	25-Jun-12	52.0	3	7.40	3070	12.0	183	882	86	5	
Duplicate	5-Dec-12	63.5	4	7.86	3640	9.2	115	1050	97	10	
Duplicate	5-Dec-12	63.5	4	7.86	3630	9.2	104	990	88	10	
	6-Jun-13	50.2	5	9.11	2210	11.2	323	936	87	<5	
	4-Nov-13	58.9	<1	7.96	3100	10.9	129	819	73	8	
	23-Jun-14	49.2	58	8.84	2290	12.3	196	860	82	<5	
	25-Jun-15	36.6	3	7.60	1831	11.5	452	437	42	27	
	21-Jun-16	39.8	<3	8.46	1866	12.0	317	645	55	<5	
Duplicate	21-Jun-16	39.9	<3	8.46	1867	12.0	315	659	54	<5	
	19-Jun-17	40.1	<3	9.43	1716	12.9	317	554	52	<5	
	11-Jun-18	35.1	50	7.93	1894	11.0	288	435	43	<5	
	29-May-19	38.4	<3	7.90	1735	8.8	274	481	42	<5	
	15-Jun-20	22.6	<3	8.83	1000	14.9	409	134	14	<5	
	16-Jun-21	36.5	<3	8.09	1920	17.9	252	385	35	<5	
	6-Jun-22	30.2	<3	8.07	1670	11.7	209	331	34	<5	
	<b>6-Jun-23</b>	<b>28.9</b>	<b>&lt;3</b>	<b>7.83</b>	<b>1850</b>	<b>12.7</b>	<b>170</b>	<b>320</b>	<b>31</b>	<b>5</b>	

See notes on page 6.



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

Sump	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)				
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	
			<i>EGLE Residential Drinking Water Criteria &amp; RBSLs</i>					<i>100 (A)</i>	<i>1,000 (E)</i>	<i>100 (A)</i>	<i>2,400</i>
<b>Sump B</b>	23-Mar-95	800.0	310	12.10	7100	--	220	14000	1700	91	
	30-Aug-95	590.0	7400	11.50	4600	--	220	9300	1100	<20	
	18-Jun-96	36.0	<10	8.60	720	--	100	760	100	<20	
	11-Nov-96	340.0	19	10.00	3100	--	180	6100	850	30	
	7-May-97	184.0	963	8.49	2340	8.1	150	3910	607	10	
	5-Nov-97	53.0	20	7.20	1600	10.0	50	1050	204	10	
	5-May-98	241.0	24	9.60	3010	9.2	280	5600	644	10	
	6-Nov-98	177.0	438	7.80	2950	12.1	100	2690	558	<10	
	26-Apr-99	75.0	10600	10.20	835	8.9	30	500	238	<10	
	22-Oct-99	126.0	1604	8.10	1410	11.9	30	750	387	<10	
	20-Jun-00	49.2	4	9.10	1880	12.6	160	1180	160	<10	
	10-Nov-00	78.2	80	8.60	1460	11.5	70	1170	205	<10	
	24-May-01	101.0	502	9.08	2800	10.4	120	1490	225	<10	
	16-Nov-01	189.0	13	9.50	3310	12.4	290	3050	426	<10	
	31-May-02	65.7	434	7.23	2530	14.7	160	1070	154	<10	
	12-Dec-03	118.0	15	8.90	2150	11.4	215	1790	260	27	
	3-Jun-03	113.0	44	--	--	--	118	1510	216	<5	
	8-Dec-03	87.8	22	7.13	1990	11.5	170	1380	199	45	
	30-Jun-04	110	14	8.10	1598	12.5	508	1880	225	7	
	19-Nov-04	66.2	2	8.23	2690	11.5	148	1100	163	13	
	15-Jun-05	84.0	8	8.80	3200	14.1	324	1050	160	19	
	5-Dec-05	35.7	6	7.10	2290	10.5	81	374	56	22	
	29-Jun-06	26.6	6	7.74	1650	10.9	156	358	48	23	
	28-Nov-06	47.5	6	8.17	2300	12.5	142	526	72	25	
	Duplicate	28-Nov-06	59.8	--	8.19	2370	12.5	142	522	72	15
		6-Jun-07	32.2	2	6.59	1950	9.8	18	275	46	18
		12-Nov-07	22.6	1	7.91	2060	12.2	28	226	32	24
	24-Jun-08	45.9	6	8.19	2430	11.9	659	877	99	16	
Duplicate	17-Nov-08	41.5	19	6.48	2560	10.6	401	767	91	20	
	17-Nov-08	39.8	38	6.48	2550	10.6	399	763	91	23	
	23-Jun-09	52.3	1	7.44	2250	13.2	685	696	82	17	
	17-Nov-09	52	2	8.06	2610	10.6	269	579	73	39	
	14-Jun-10	90	3	7.90	2720	12.4	908	1050	118	21	
	8-Nov-10	78	1	8.08	3450	12.1	163	669	76	8	
	20-Jun-11	75.5	5	8.10	2520	11.9	1070	867	97	7	
	14-Nov-11	83.0	3	8.09	3390	11.6	628	914	111	8	
	25-Jun-12	82.0	5	7.46	3240	12.4	657	1000	124	13	
	5-Dec-12	89.0	3	8.18	3830	9.5	352	904	111	17	
	6-Jun-13	77.4	3	8.98	2150	10.2	1490	1060	104	<5	
	4-Nov-13	79.0	2	8.04	3590	10.8	516	749	87	11	
	23-Jun-14	64.8	1	7.90	2520	12.1	735	563	65	11	
	25-Jun-15	79.1	2	7.68	3430	11.9	349	689	93	12	
	21-Jun-16	86.0	4	6.70	3260	12.4	935	796	77	20	
	19-Jun-17	69.6	<3	8.10	2680	13.9	649	526	65	12	
	11-Jun-18	53.2	59	7.67	2360	10.6	571	425	48	12	
	29-May-19	75.8	<3	8.10	3440	8.9	459	482	60	13	
	15-Jun-20	71.4	<3	7.88	3340	15.8	498	436	48	15	
	16-Jun-21	78.4	<3	8.05	3850	14.4	609	477	56	12	
	7-Jun-22	71.0	<3	7.95	4090	11.3	520	445	49	19	
	<b>6-Jun-23</b>	<b>72.1</b>	<b>&lt;3</b>	<b>7.88</b>	<b>3300</b>	<b>15.76</b>	<b>676</b>	<b>426</b>	<b>46</b>	<b>20</b>	

See notes on page 6.



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

Sump	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)				
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	
		<i>EGLE Residential Drinking Water Criteria &amp; RBSLs</i>					100 (A)	1,000 (E)	100 (A)	2,400	
	23-Mar-95	750.0	18	11.80	6000	--	21	18000	2400	36	
	30-Aug-95	660.0	30000	10.90	4900	--	21	15000	2100	26	
	18-Jun-96	280.0	1200	9.10	2700	--	<20	5100	820	<20	
	11-Nov-96	730.0	93	10.00	5200	--	<20	15000	2500	50	
<b>Sump C</b>	7-May-97	433.0	1200	8.58	4210	10.0	10	10200	2070	40	
	5-Nov-97	289.0	83	8.30	3400	10.0	<10	3150	1320	20	
	5-May-98	235.0	24	9.80	3520	9.8	60	5640	891	10	
	6-Nov-98	418.0	164	7.90	4590	11.9	<10	4660	145	<10	
	26-Apr-99	278.0	24	9.50	2520	8.6	<10	1730	1148	<10	
	22-Oct-99	351.0	1604	8.20	1210	12.1	<10	1330	1050	<10	
	20-Jun-00	156.0	12	8.50	2270	11.9	<10	3370	802	<10	
	10-Nov-00	250.0	30	8.40	1920	11.4	<10	620	998	<10	
	24-May-01	200.0	120	9.01	3660	10.3	<10	4950	1110	20	
	16-Nov-01	269.0	191	8.54	3930	12.1	10	5470	1800	10	
	31-May-02	113.0	24	7.23	2530	14.4	<10	2510	612	10	
	12-Dec-03	198.0	18	8.10	4100	11.2	12	3020	1060	15	
	3-Jun-03	178.0	34	--	--	--	15	4790	1030	8	
	8-Dec-03	85.2	742	7.96	2140	11.9	9	607	708	62	
	Duplicate	30-Jun-04	96.0	10	8.45	2708	12.0	46	2470	539	5
19-Nov-04		126	16	8.38	3200	11.6	32	3190	874	13	
15-Jun-05		95	10	7.20	2950	14.3	21	2350	505	16	
5-Dec-05		56.7	12	7.90	2830	10.9	30	1570	363	12	
7-Dec-05		62.0	2	--	2860	--	28	1700	364	<10	
29-Jun-06		145.7	20	8.52	3810	11.4	25	3030	847	8	
28-Nov-06		60.3	6	7.96	2340	12.9	43	1380	353	<5	
6-Jun-07		3.9	1	6.97	2650	11.0	44	1570	365	<5	
12-Nov-07		83.7	1	8.22	3660	12.2	44	2080	543	8	
24-Jun-08		65.4	5	7.89	3530	13.0	8	1820	456	22	
17-Nov-08		120.0	10	8.19	4510	10.6	30	2940	939	22	
23-Jun-09		139.0	9	8.16	4240	12.7	25	3600	800	7	
Duplicate		17-Nov-09	90	4	7.91	3940	11.1	22	2280	447	12
		17-Nov-09	98	7	7.91	3950	11.1	21	2260	438	12
		14-Jun-10	120	14	8.06	4580	11.9	32	3200	714	18
Duplicate	8-Nov-10	130	4	7.82	4910	12.1	55	3170	555	10	
	20-Jun-11	112	5	9.24	4560	12.1	133	2670	639	<5	
	20-Jun-11	112	7	9.24	4570	12.1	129	2580	623	<5	
Duplicate	14-Nov-11	134	8	8.25	5320	11.9	28	3830	761	6	
	25-Jun-12	114	8	8.06	5380	12.2	29	3820	611	16	
	5-Dec-12	121.7	6	8.30	5430	10.4	24	4130	580	8	
	6-Jun-13	111.0	5	7.83	4950	10.9	25	3390	504	7	
	4-Nov-13	132.0	1	8.16	5150	11.3	38	3410	539	7	
	23-Jun-14	118.0	3	8.01	5040	11.2	17	3010	461	8	
	25-Jun-15	122.0	3	7.93	4050	11.2	29	2870	539	14	
	21-Jun-16	203.0	6	8.23	5170	12.2	37	4230	844	8	
	19-Jun-17	108.0	3	8.06	4810	13.3	25	1880	505	8	
	Duplicate	11-Jun-18	56.6	91	7.80	3150	11.3	80	1010	232	7
		11-Jun-18	51.4	26	7.80	3170	11.3	83	1030	235	9
		29-May-19	43.0	<3	7.88	2240	9.5	105	690	162	8
	Duplicate	16-Jun-20	14.8	<3	8.34	1316	12.3	143	155	27	<5
		16-Jun-20	15.6	<3	8.34	1312	12.3	142	159	27	5
	Duplicate	16-Jun-21	108	<3	7.98	4860	19.4	17	2080	460	10
16-Jun-21		107	<3	7.98	4890	19.4	17	2040	453	9	
Duplicate	7-Jun-22	101	7	7.84	4230	11.9	46	1650	349	5	
	7-Jun-22	105	8	7.84	4250	11.9	47	1660	349	<5	
<b>Duplicate</b>	<b>6-Jun-23</b>	<b>85.1</b>	<b>4.0</b>	<b>7.92</b>	<b>3490</b>	<b>19.02</b>	<b>43</b>	<b>1270</b>	<b>284</b>	<b>6</b>	
	<b>6-Jun-23</b>	<b>84.7</b>	<b>&lt;3</b>	<b>7.92</b>	<b>3490</b>	<b>19.02</b>	<b>42</b>	<b>1290</b>	<b>286</b>	<b>6</b>	

See notes on page 6.



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

Sump	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)				
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	
			<i>EGLE Residential Drinking Water Criteria &amp; RBSLs</i>					<i>100 (A)</i>	<i>1,000 (E)</i>	<i>100 (A)</i>	<i>2,400</i>
	23-Mar-95	650.0	45	12.30	8400	--	360	7800	1600	<20	
	30-Aug-95	550.0	69000	12.00	6400	--	260	6100	1400	<20	
	18-Jun-96	300.0	230	11.00	3300	--	100	3100	850	<20	
	11-Nov-96	660.0	3500	12.00	5700	--	220	7200	1800	30	
	7-May-97	331.0	432	9.14	4020	10.2	30	4110	1330	<10	
	5-Nov-97	208.0	546	8.80	3400	10.2	20	3000	1020	20	
	5-May-98	251.0	<1	10.60	4200	9.7	110	3810	1120	10	
	6-Nov-98	193.0	8280	7.90	3940	11.4	10	2530	101	<10	
	26-Apr-99	177.0	29600	10.50	1237	8.0	10	770	1013	<10	
	22-Oct-99	199.0	10748	8.90	910	10.9	<10	70	735	<10	
	20-Jun-00	112.0	16	8.80	1190	11.6	<10	430	656	<10	
	10-Nov-00	159.0	100	9.10	2360	11.5	20	760	831	<10	
	24-May-01	196.0	124	10.80	3900	10.9	10	1000	1270	<10	
	16-Nov-01	64.2	268	8.87	1690	12.0	<10	100	414	<10	
	31-May-02	72.3	137	7.23	2020	14.3	<10	210	445	<10	
	3-Jun-03	80.8	6	--	--	--	7	878	540	<5	
	8-Dec-03	48.8	392	8.18	2470	10.9	7	651	423	18	
	12-Dec-03	130.0	4	8.80	1430	11.5	11	926	798	<5	
	30-Jun-04	160.0	34	10.20	3601	--	25	1670	1320	<5	
	19-Nov-04	157	14	10.39	4320	11.4	34	1550	1680	8	
	15-Jun-05	79	8	11.10	3160	12.2	14	737	822	<5	
Duplicate	15-Jun-05	76.0	26.0	--	--	--	12	724	812	<5	
	5-Dec-05	123.0	6.0	8.20	5320	10.9	35	1420	1340	<5	
	29-Jun-06	87.6	14.0	9.97	4120	12.4	16	714	995	5	
	28-Nov-06	128.9	2	10.10	5180	12.9	23	651	1300	<5	
	6-Jun-07	157.0	11	9.25	5980	11.0	62	955	1770	<5	
	12-Nov-07	115.0	78	10.20	5550	11.7	34	1680	1480	8	
Duplicate	12-Nov-07	109.0	28	10.23	5550	11.7	31	1540	1400	3	
	24-Jun-08	99.5	7	9.92	6170	11.8	20	990	1640	7	
	17-Nov-08	295.0	2	11.11	6220	10.8	62	2460	2090	5	
	23-Jun-09	308.0	7	10.91	6210	14.8	88	2170	1990	<5	
	17-Nov-09	130	10	9.78	4870	11.6	37	2240	1180	<5	
	14-Jun-10	15	12	10.01	4880	12.0	62	1160	1340	5	
Duplicate	14-Jun-10	150	12	10.01	4860	12.0	62	1180	1340	6	
	8-Nov-10	170	2	10.11	5830	12.6	119	1220	1520	<5	
	20-Jun-11	99.5	9	11.72	3470	12.0	97	645	413	<5	
	14-Nov-11	332.0	4	10.49	6440	11.6	92	3350	2200	<5	
	25-Jun-12	282.0	10	10.11	6220	12.4	126	1730	2190	<5	
	5-Dec-12	181.7	8	9.95	6070	8.8	81	1360	1610	5	
	6-Jun-13	227.0	4	10.46	5570	10.7	66	1710	1440	5	
	4-Nov-13	204.0	3	10.11	5740	11.4	78	2190	1400	6	
Duplicate	4-Nov-13	208.0	2	10.11	5760	11.4	75	2140	1370	<5	
	23-Jun-14	149.0	4	10.01	6350	12.6	37	890	1340	7	
Duplicate	23-Jun-14	150.0	4	10.01	6360	12.6	37	916	1360	9	
	25-Jun-15	131.0	8	9.83	6060	11.6	52	1310	1500	11	
	21-Jun-16	334.0	6	11.49	6380	13.3	140	3410	1460	9	
	19-Jun-17	268.0	<3	10.75	5830	13.9	61	1220	1460	5	
	11-Jun-18	256.0	<3	10.69	6140	12.0	67	1250	1350	<5	
	29-May-19	192.0	<3	10.73	5430	9.5	53	983	1130	6	
	16-Jun-20	280.0	<3	12.44	5840	12.5	140	1380	946	<5	
	16-Jun-21	237	4	11.98	5200	21.8	174	1420	893	6	
	7-Jun-22	170	6	12.22	4310	13.2	355	825	510	<5	
	<b>7-Jun-23</b>	<b>105.5</b>	<b>&lt;3</b>	<b>10.23</b>	<b>4500</b>	<b>16.55</b>	<b>57</b>	<b>669</b>	<b>538</b>	<b>&lt;5</b>	

See notes on page 6.



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**Inorganics and Metals**

Sump	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn
EGLE Residential Drinking Water Criteria & RBSLs										
							100 (A)	1,000 (E)	100 (A)	2,400
	23-Mar-95	250.0	1400	11.70	4000	--	79	1500	850	<20
	30-Aug-95	120.0	37000	9.70	2100	--	25	980	270	<20
	18-Jun-96	9.6	2000	7.60	1800	--	<20	<20	<20	40
	11-Nov-96	23.0	2200	8.20	1800	--	<20	20	50	<20
<b>Sump E</b>	7-May-97	6.0	188	6.76	1560	9.7	<10	<10	30	90
	11/05/97	10.0	3370	7.00	1600	10.0	<10	10	72	30
	5-May-98	10.0	13300	7.00	1750	10.1	<10	20	23	40
	6-Nov-98	5.0	2500	5.60	1500	11.9	<10	60	11	40
	26-Apr-99	8.6	7720	7.70	1428	8.2	<10	30	22	<10
	22-Oct-99	4.7	3485	6.80	1115	10.8	<10	50	10	30
	20-Jun-00	7.0	2	6.80	1410	12.4	<10	20	<10	20
	10-Nov-00	3.2	<1	7.30	1550	11.4	<10	30	7	20
	24-Feb-01	9.0	292	7.98	1660	10.6	<10	20	7	20
	16-Nov-01	4.4	350	7.26	1240	12.2	<10	10	23	30
	31-May-02	10.1	9	7.24	1470	14.6	<10	90	62	30
	12-Dec-03	4.5	310	7.70	1490	11.1	<5	21	12	<5
	3-Jun-03	9.0	1884	--	--	--	<5	20	11	7
	8-Dec-03	22.4	331	7.25	1320	11.4	63	132	53	34
	30-Jun-04	5.8	5	7.83	1061	--	<5	8	13	33
	19-Nov-04	6.2	2	7.62	1380	11.8	19	14	16	16
	15-Jun-05	230.0	10	--	19920	16.6	285	1220	337	5
	5-Dec-05	257.0	396	7.30	9460	10.7	142	514	232	<5
29-Jun-06	11.4	4	8.23	1690	11.6	18	48	34	6	
28-Nov-06	45.6	<1	8.11	2220	12.9	29	728	180	<5	
Duplicate	6-Jun-07	6.9	3	6.41	1630	11.6	12	13	10	23
	6-Jun-07	6.7	4	--	1630	--	11	15	10	20
	12-Nov-07	5.6	3	7.34	1570	12.0	5	11	14	19
	24-Jun-08	3.8	3	7.35	1600	11.5	<5	6	6	9
	17-Nov-08	4.9	1	7.34	1660	11.3	24	10	7	13
Duplicate	23-Jun-09	4.7	<1	6.93	1600	11.6	<5	6	6	14
	23-Jun-09	3.5	1	6.93	1580	11.6	<5	6	5	15
	17-Nov-09	5	1	7.44	1520	11.2	<5	4	20	24
	14-Jun-10	6	4	7.55	1530	12.7	17	8	<5	17
Duplicate	8-Nov-10	6	2	7.44	1647	12.5	18	10	9	101
	8-Nov-10	6	3	7.44	1647	12.5	16	10	9	108
Duplicate	20-Jun-11	7.6	<1	8.81	1760	12.2	7	20	15	12
	14-Nov-11	15.0	<1	7.81	1856	11.7	5	67	25	10
Duplicate	14-Nov-11	15.0	2	7.81	1864	11.7	<5	69	24	10
	25-Jun-12	12.0	4	7.58	2150	13.1	7	40	14	5
	5-Dec-12	26.5	3	8.01	2670	10.0	9	124	51	11
	6-Jun-13	17.2	<1	6.72	2190	9.8	5	60	32	6
	4-Nov-13	14.3	<1	7.92	2020	11.5	10	45	21	<5
	23-Jun-14	29.1	3	8.01	2250	15.2	45	271	44	6
Duplicate	25-Jun-15	21.7	3	7.70	2220	11.6	15	151	34	8
	25-Jun-15	21.9	3	7.69	2230	11.6	14	143	33	7
	21-Jun-16	19.1	3	7.30	2340	13.1	6	86	21	9
Duplicate	19-Jun-17	13.7	184	--	1750	--	<5	31	24	<5
	19-Jun-17	13.8	132	--	1750	--	<5	32	19	8
	11-Jun-18	23.1	20	8.02	1686	11.7	160	164	35	<5
Duplicate	29-May-19	23.9	3	8.08	1866	9.4	33	177	42	7
	29-May-19	23.9	24	8.08	1861	9.4	36	177	43	7
	16-Jun-20	22.8	<3	8.08	1522	14.7	52	138	30	6
	16-Jun-21	17.1	<3	8.63	1703	17.1	9	77	20	5
	7-Jun-22	17.7	<3	8.09	1590	14.1	18	61	17	<5
	<b>7-Jun-23</b>	<b>15.4</b>	<b>&lt;3</b>	<b>8.18</b>	<b>1720</b>	<b>20.85</b>	<b>22</b>	<b>52</b>	<b>17</b>	<b>6</b>

See notes on page 6.



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

Sump	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)				
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	
			<i>EGLE Residential Drinking Water Criteria &amp; RBSLs</i>					<i>100 (A)</i>	<i>1,000 (E)</i>	<i>100 (A)</i>	<i>2,400</i>
<b>Sump F</b>	23-Mar-95	300.0	100	11.80	4100	--	61	3200	2200	<20	
	30-Aug-95	100.0	250	7.50	1600	--	<20	300	85	<20	
	18-Jun-96	5.4	19	7.40	1400	--	<20	<20	<20	40	
	11-Nov-96	7.1	260	7.70	1200	--	<20	<20	30	50	
	7-May-97	5.0	138	6.54	1190	9.6	<20	<20	18	80	
	5-Nov-97	5.0	14	7.10	1300	11.0	<10	<10	49	40	
	5-May-98	6.0	635	7.12	1250	10.5	<10	<10	6	30	
	6-Nov-98	4.0	14	6.11	1340	12.3	<10	70	7	50	
	26-Apr-99	5.3	38	8.10	682	8.2	<10	40	27	10	
	22-Oct-99	3.4	11	6.60	1053	11.3	<10	30	6	20	
	20-Jun-00	4.1	2	7.70	1170	11.4	<10	<10	<5	<10	
	10-Nov-00	2.9	8	7.30	1340	11.1	<10	<10	30	30	
	24-May-01	6.6	40	8.50	1310	10.6	<10	20	<10	20	
	16-Nov-01	4.2	323	7.30	1070	12.1	<10	10	8	20	
	31-May-02	5.2	150	7.23	1250	14.8	<10	20	<5	160	
	12-Dec-03	3.4	7	7.70	1180	11.3	<5	<5	<5	<5	
	3-Jun-03	5.9	336	--	--	--	<5	12	<5	21	
	8-Dec-03	6.0	35	7.04	1210	11.3	<5	14	15	33	
	30-Jun-04	4.7	2	7.72	949	11.1	<5	27	13	20	
	19-Nov-04	6.7	3	7.86	1260	11.2	12	8	14	11	
	15-Jun-05	13.0	8	6.37	1630	16.7	<5	9	13	55	
	17-Jan-06	33.9	3263	7.50	2390	6.6	107	475	124	12	
	29-Jun-06	7.0	2	7.64	1280	11.6	16	38	11	29	
	28-Nov-06	4.9	<1	7.99	1250	12.9	5	18	9	8	
	6-Jun-07	22.1	8	6.75	1710	11.7	11	74	22	10	
	12-Nov-07	3.8	1	7.74	1350	11.9	3	16	13	30	
	24-Jun-08	4.0	2	7.97	1160	12.3	12	15	6	102	
	Duplicate	24-Jun-08	3.9	1	7.97	1160	12.3	11	14	6	8
		17-Nov-08	13.6	2	7.60	1740	10.9	29	87	81	11
		23-Jun-09	14.4	<1	7.76	1500	12.2	43	100	30	9
		17-Nov-09	10	0	7.96	1570	10.9	25	46	19	23
		14-Jun-10	5	4	7.81	1010	11.7	9	15	<5	12
		8-Nov-10	9	<1	8.19	1260	12.1	17	19	8	6
	20-Jun-11	9	<1	7.86	1360	12.8	16	25	11	13	
	14-Nov-11	38	2	8.13	3170	11.5	56	204	105	10	
	25-Jun-12	40	4	7.68	3290	14.1	48	335	108	17	
	5-Dec-12	44.3	5	8.37	3530	10.0	13	264	104	13	
Duplicate	6-Jun-13	41.9	2	7.98	3580	10.0	16	250	86	24	
	6-Jun-13	41.4	1	7.98	3580	10.0	15	238	85	28	
	4-Nov-13	37.6	1	8.21	3770	11.2	23	124	55	37	
	23-Jun-14	36.6	3	8.19	3800	11.5	17	117	46	29	
	25-Jun-15	45.2	3	7.98	3930	12.2	44	372	94	33	
	21-Jun-16	44.0	3	7.39	4020	12.4	17	248	69	34	
	19-Jun-17	40.4	<3	8.51	3700	13.2	15	218	71	17	
	11-Jun-18	32.2	<3	8.03	3840	11.3	24	86	31	16	
	29-May-19	33.7	<3	8.18	3810	9.7	34	66	25	12	
	16-Jun-20	35.6	<3	8.16	3830	14.8	38	51	22	11	
	16-Jun-21	32	<3	8.27	4150	16.4	43	49	22	9	
	7-Jun-22	34.0	<3	8.03	3680	13.0	11	110	48	13	
	<b>7-Jun-23</b>	<b>42.6</b>	<b>&lt;3</b>	<b>8.29</b>	<b>3810</b>	<b>14.78</b>	<b>21</b>	<b>243</b>	<b>87</b>	<b>15</b>	
<b>Equipment Blank</b>	24-Jun-08	<1	1	--	4	--	<5	<1	<5	<5	
	17-Nov-08	1	2	--	4	--	<5	5	<5	23	

Notes:  
 "<" - Not detected above specified detection limit.  
 "NS" - Not sampled - no liquid.  
 "SpC" - Specific conductivity in micro siemens (uS).  
 "T" - Temperature in degrees celsius.  
 "--" - Physical parameter not measured (instrument failure or duplicate sample).



**TABLE 3**  
**RACER Trust - Coldwater Road**  
**Landfill Leachate Sumps - Analytical Results**  
**Volatile Organic Compounds (µg/L)**

Parameter	Sample ID & Sample Date							
	Sump A	Sump B	Sump C	Sump C (SUMP-DUP- 060623)	Sump D**	Sump E	Sump F	Trip Blank- 060723
	6-Jun-23	6-Jun-23	6-Jun-23	7-Jun-22	7-Jun-23	7-Jun-23	7-Jun-23	7-Jun-23
Diethyl ether	<10	<10	<10	<10	<50	<10	<10	<10
Acetone	<50	<50	<50	<50	<b>450</b>	<50	<50	<50
Methyl iodide	<1	<1	<1	<1	<5	<1	<1	<1
Carbon disulfide	<5	<5	<5	<5	<30	<5	<5	<5
tert-Methyl butyl ether (MTBE)	<5	<5	<5	<5	<30	<5	<5	<5
Acrylonitrile	<2	<2	<2	<2	<10	<2	<2	<2
2-Butanone (MEK)	<25	<25	<25	<25	<130	<25	<25	<25
Dichlorodifluoromethane	<5	<5	<5	<5	<30	<5	<5	<5
Chloromethane	<5	<5	<5	<5	<30	<5	<5	<5
Vinyl chloride	<1	<1	<1	<1	<5	<1	<1	<1
Bromomethane	<5	<5	<5	<5	<30	<5	<5	<5
Chloroethane	<5	<5	<5	<5	<30	<5	<5	<5
Trichlorofluoromethane	<1	<1	<1	<1	<5	<1	<1	<1
1,1-Dichloroethene	<1	<1	<1	<1	<5	<1	<1	<1
Methylene chloride	<5	<5	<5	<5	<30	<5	<5	<5
trans-1,2-Dichloroethene	<1	<1	<1	<1	<5	<1	<1	<1
1,1-Dichloroethane	<1	<1	<1	<1	<5	<1	<1	<1
cis-1,2-Dichloroethene	<1	<1	<1	<1	<5	<1	<1	<1
Tetrahydrofuran*	<90	<90	<90	<90	<450	<90	<90	<90
Chloroform	<1	<1	<1	<1	<5	<1	<1	<1
Bromochloromethane	<1	<1	<1	<1	<5	<1	<1	<1
1,1,1-Trichloroethane	<1	<1	<1	<1	<5	<1	<1	<1
4-Methyl-2-pentanone (MIBK)	<50	<50	<50	<50	<250	<50	<50	<50
2-Hexanone	<50	<50	<50	<50	<250	<50	<50	<50
Carbon tetrachloride	<1	<1	<1	<1	<5	<1	<1	<1
Benzene	<1	<1	<1	<1	<5	<1	<1	<1
1,2-Dichloroethane	<1	<1	<1	<1	<5	<1	<1	<1
Trichloroethene	<1	<1	<1	<1	<5	<1	<1	<1
1,2-Dichloropropane	<1	<1	<1	<1	<5	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1	<5	<1	<1	<1
Dibromomethane	<5	<5	<5	<5	<30	<5	<5	<5
cis-1,3-Dichloropropene	<1	<1	<1	<1	<5	<1	<1	<1
Toluene	<1	<1	<1	<1	<5	<1	<1	<1
trans-1,3-Dichloropropene	<1	<1	<1	<1	<5	<1	<1	<1
1,1,2-Trichloroethane	<1	<1	<1	<1	<5	<1	<1	<1
Tetrachloroethene	<1	<1	<1	<1	<5	<1	<1	<1
trans-1,4-Dichloro-2-butene	<1	<1	<1	<1	<5	<1	<1	<1
Dibromochloromethane	<5	<5	<5	<5	<30	<5	<5	<5
1,2-Dibromoethane	<1	<1	<1	<1	<5	<1	<1	<1
Chlorobenzene	<1	<1	<1	<1	<5	<1	<1	<1
1,1,1,2-Tetrachloroethane	<1	<1	<1	<1	<5	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<5	<1	<1	<1
p,m-Xylene*	<2	<2	<2	<2	<10	<2	<2	<2
o-Xylene	<1	<1	<1	<1	<5	<1	<1	<1
Styrene	<1	<1	<1	<1	<5	<1	<1	<1
Isopropylbenzene	<5	<5	<5	<5	<30	<5	<5	<5
Bromoform	<1	<1	<1	<1	<5	<1	<1	<1
1,1,2,2-Tetrachloroethane	<1	<1	<1	<1	<5	<1	<1	<1
1,2,3-Trichloropropane	<1	<1	<1	<1	<5	<1	<1	<1
n-Propylbenzene	<1	<1	<1	<1	<5	<1	<1	<1
Bromobenzene	<1	<1	<1	<1	<5	<1	<1	<1
1,3,5-Trimethylbenzene	<1	<1	<1	<1	<5	<1	<1	<1
tert-Butylbenzene	<1	<1	<1	<1	<5	<1	<1	<1
1,2,4-Trimethylbenzene	<1	<1	<1	<1	<5	<1	<1	<1
sec-Butylbenzene	<1	<1	<1	<1	<5	<1	<1	<1
p-Isopropyltoluene	<5	<5	<5	<5	<30	<5	<5	<5
1,3-Dichlorobenzene	<1	<1	<1	<1	<5	<1	<1	<1
1,4-Dichlorobenzene	<1	<1	<1	<1	<5	<1	<1	<1
1,2-Dichlorobenzene	<1	<1	<1	<1	<5	<1	<1	<1
1,2,3-Trimethylbenzene	<1	<1	<1	<1	<5	<1	<1	<1
n-Butylbenzene	<1	<1	<1	<1	<5	<1	<1	<1
Hexachloroethane	<5	<5	<5	<5	<30	<5	<5	<5
1,2-Dibromo-3-chloropropane	<5	<5	<5	<5	<30	<5	<5	<5
1,2,4-Trichlorobenzene	<5	<5	<5	<5	<30	<5	<5	<5
1,2,3-Trichlorobenzene	<5	<5	<5	<5	<30	<5	<5	<5
Naphthalene	<5	<5	<5	<5	<30	<5	<5	<5
2-Methylnaphthalene	<5	<5	<5	<5	<30	<5	<5	<5

Notes: \*\* Elevated reporting limit due to high target concentration.

EPA Method 8260 used for analysis.

Dup- Duplicate analysis

Analysis in µg/L

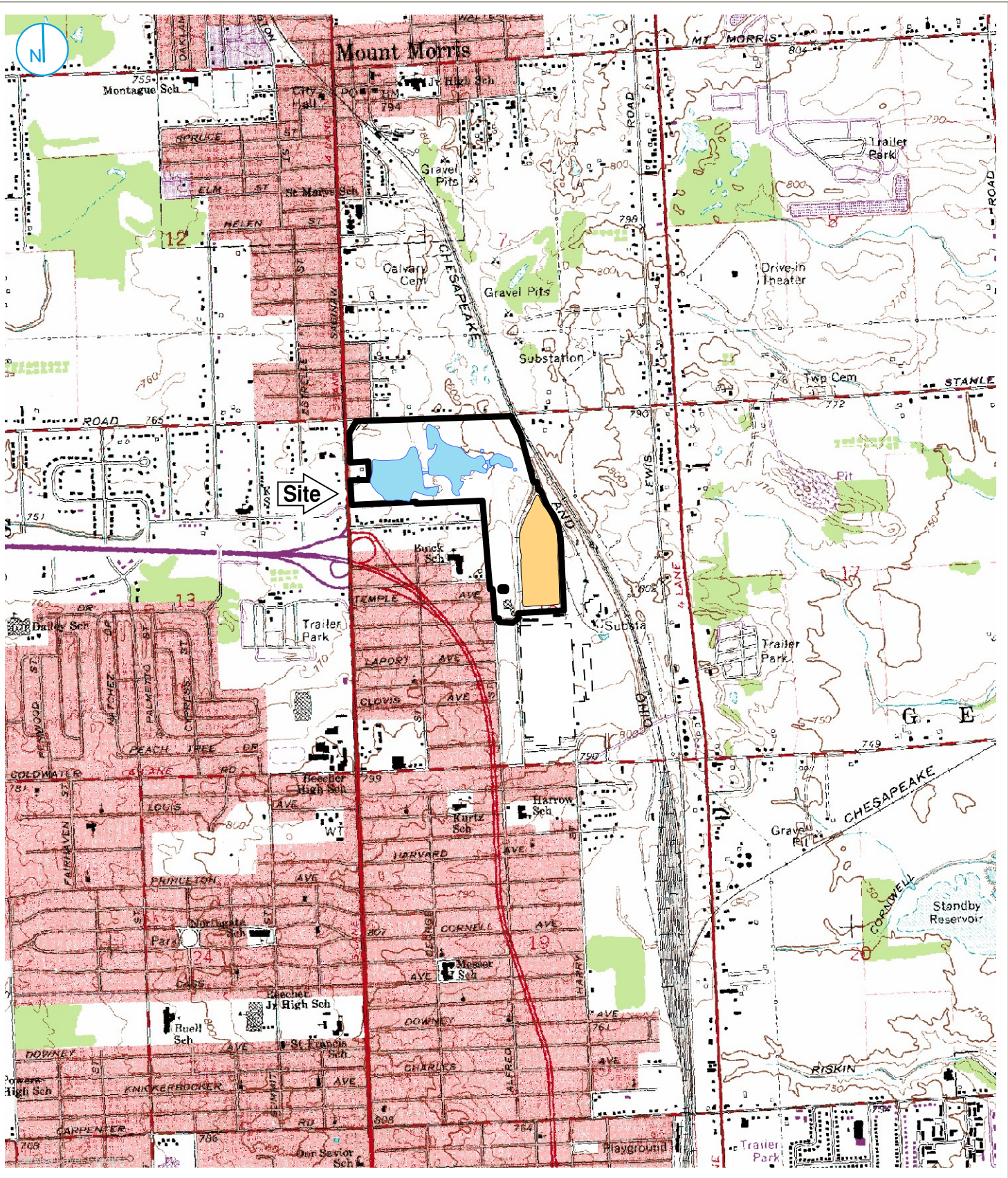


**TABLE 4**  
**RACER Trust - Coldwater Road**  
**Landfill Leachate Sumps - Depth to Water Measurements**

SUMP	DEPTH TO WATER
Sump A	19.87
Sump B	14.25
Sump C	16.33
Sump D	19.05
Sump E	20.21
Sump F	19.91

Notes:  
Depth to water measured in feet below top of casing.  
Measurements collected on June 6, 2023.

## FIGURES

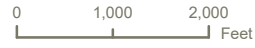


- Wetlands
- Site Buildings
- Landfill-poly
- Former Powerhouse
- Former Plant
- Landfill Property

**SITE LOCATION**

**FIGURE 01**

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



**RACER TRUST**  
 Coldwater Road Landfill  
 Flint, Michigan

A RAMBOLL COMPANY



PROJECT: 1940103462 | DATED: 2/7/2023 | DESIGNER: MONETANT  
I:\Racer-Trust\1088190\GIS\Coldwater\_Road\ProRACER\_Coldwater\_Road\_2022\_Annual\_LDS\_and\_GW\_Figures\prx002 - Site\_Layout 2022 SA Rpts (LDS-Rpt)\_02032023



- ⊙ LEACHATE COLLECTION SUMP
- ACCESS PORT FOR LEAK DETECTION VAULT
- - - PROPERTY BOUNDARY



### SITE LAYOUT

**RACER Trust**  
Coldwater Road Landfill Facility  
Flint, Michigan

**FIGURE 02**

RAMBOLL AMERICAS  
ENGINEERING SOLUTIONS, INC.  
A RAMBOLL COMPANY



## **APPENDIX A SUMMARY OF VOLUMES REMOVED**



**Appendix A**  
**RACER Trust - Coldwater Road**  
**Liquid Volumes Removed from Vaults and Sumps in 2023**

Date 2023	VAULT MONTHLY TOTALS	SUMP MONTHLY TOTALS
<b>JANUARY</b>	<b>127</b>	<b>1</b>
<b>FEBRUARY</b>	<b>--</b>	<b>372</b>
<b>MARCH</b>	<b>1,519</b>	<b>608</b>
<b>APRIL</b>	<b>375</b>	<b>102</b>
<b>MAY</b>	<b>1,458</b>	<b>0</b>
<b>JUNE</b>	<b>788</b>	<b>1,701</b>
JULY	--	--
AUGUST	--	--
SEPTEMBER	--	--
OCTOBER	--	--
NOVEMBER	--	--
DECEMBER	--	--
<b>Total Removed Through June 30, 2023</b>	<b>4,267</b>	<b>2,784</b>

**Notes**

Liquid volumes in gallons.  
-- No Data

**APPENDIX B**  
**ANALYTICAL LABORATORY REPORTS**



# Analytical Laboratory Report

Report ID: S49452.01(01)  
Generated on 06/15/2023

**Report to**

---

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

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

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

**Report Summary**

---

Lab Sample ID(s): S49452.01-S49452.07  
Project: RACER Coldwater Road  
Collected Date(s): 06/06/2023 - 06/07/2023  
Submitted Date/Time: 06/07/2023 15:10  
Sampled by: Kevin Schneider  
P.O. #: 1940006516 TASK 001

**Table of Contents**

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- Cover Page (Page 1)
- General Report Notes (Page 2)
- Report Narrative (Page 2)
- Laboratory Certifications (Page 3)
- Qualifier Descriptions (Page 3)
- Glossary of Abbreviations (Page 3)
- Method Summary (Page 4)
- Sample Summary (Page 5)

Maya Murshak  
Technical Director



# Analytical Laboratory Report

## General Report Notes

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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



# Analytical Laboratory Report

## Laboratory Certifications

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



# Analytical Laboratory Report

## Method Summary

Method	Version
E120.1	EPA Method 120.1 Revision 1982
E200.8	EPA Method 200.8 Revision 5.4
SM2540D	Standard Method 2540 D 2015
SM5310C	Standard Method 5310C 2011
SW3015A	SW 846 Method 3015A Revision 1 February 2007



# Analytical Laboratory Report

## Sample Summary (7 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S49452.01	Vault-A	Wastewater	06/06/23 11:52
S49452.02	Vault-B	Wastewater	06/06/23 13:22
S49452.03	Vault-C	Wastewater	06/06/23 14:42
S49452.04	Vault-DUP-060623	Wastewater	06/06/23 00:01
S49452.05	Vault-D	Wastewater	06/07/23 11:22
S49452.06	Vault-E	Wastewater	06/07/23 12:15
S49452.07	Vault-F	Wastewater	06/07/23 13:18



# Analytical Laboratory Report

Lab Sample ID: S49452.01

Sample Tag: Vault-A

Collected Date/Time: 06/06/2023 11:52

Matrix: Wastewater

COC Reference: 156510

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	2.9	IR
1	125ml Plastic	HNO3	Yes	2.9	IR
1	1L Plastic	None	Yes	2.9	IR
1	250ml Plastic	None	Yes	2.9	IR

### Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	06/08/23 11:30	CCM	

### Inorganics

Method: E120.1, Run Date: 06/14/23 11:50, Analyst: MDG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,310	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/09/23 13:00, Analyst: MDG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Suspended Solids	Not detected	3		mg/L	1		

Method: SM5310C, Run Date: 06/13/23 12:39, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	1.8	1		mg/L	1		

### Metals

Method: E200.8, Run Date: 06/08/23 13:36, Analyst: CCM

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



# Analytical Laboratory Report

Lab Sample ID: S49452.02

Sample Tag: Vault-B

Collected Date/Time: 06/06/2023 13:22

Matrix: Wastewater

COC Reference: 156510

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	2.9	IR
1	125ml Plastic	HNO3	Yes	2.9	IR
1	1L Plastic	None	Yes	2.9	IR
1	250ml Plastic	None	Yes	2.9	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	06/08/23 11:30	CCM	

Inorganics

Method: E120.1, Run Date: 06/14/23 11:51, Analyst: MDG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,290	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/09/23 13:00, Analyst: MDG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Suspended Solids	Not detected	3		mg/L	1		

Method: SM5310C, Run Date: 06/13/23 13:13, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	Not detected	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/08/23 13:37, Analyst: CCM

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



# Analytical Laboratory Report

**Lab Sample ID: S49452.03**

Sample Tag: Vault-C

Collected Date/Time: 06/06/2023 14:42

Matrix: Wastewater

COC Reference: 156510

**Sample Containers**

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	2.9	IR
1	125ml Plastic	HNO3	Yes	2.9	IR
1	1L Plastic	None	Yes	2.9	IR
1	250ml Plastic	None	Yes	2.9	IR
3	40ml Glass	HCL	Yes	2.9	IR

**Extraction / Prep.**

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	06/08/23 11:30	CCM	

**Inorganics**

**Method: E120.1, Run Date: 06/14/23 11:52, Analyst: MDG**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,720	1		umhos/cm	1		

**Method: SM2540D, Run Date: 06/09/23 13:00, Analyst: MDG**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Suspended Solids	Not detected	3		mg/L	1		

**Method: SM5310C, Run Date: 06/13/23 13:28, Analyst: JKB**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	3.0	1		mg/L	1		

**Metals**

**Method: E200.8, Run Date: 06/08/23 13:38, 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	0.008	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.007	0.005		mg/L	5	7440-66-6	



# Analytical Laboratory Report

**Lab Sample ID: S49452.04**

Sample Tag: Vault-DUP-060623

Collected Date/Time: 06/06/2023 00:01

Matrix: Wastewater

COC Reference: 156510

**Sample Containers**

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	2.9	IR
1	125ml Plastic	HNO3	Yes	2.9	IR
1	1L Plastic	None	Yes	2.9	IR
1	250ml Plastic	None	Yes	2.9	IR
3	40ml Glass	HCL	Yes	2.9	IR

**Extraction / Prep.**

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	06/08/23 11:30	CCM	

**Inorganics**

**Method: E120.1, Run Date: 06/14/23 11:54, Analyst: MDG**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,730	1		umhos/cm	1		

**Method: SM2540D, Run Date: 06/09/23 13:00, Analyst: MDG**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Suspended Solids	Not detected	3		mg/L	1		

**Method: SM5310C, Run Date: 06/13/23 13:44, Analyst: JKB**

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

**Metals**

**Method: E200.8, Run Date: 06/08/23 13:41, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.008	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.008	0.005		mg/L	5	7440-66-6	



# Analytical Laboratory Report

Lab Sample ID: S49452.05

Sample Tag: Vault-D

Collected Date/Time: 06/07/2023 11:22

Matrix: Wastewater

COC Reference: 156510

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	2.9	IR
1	125ml Plastic	HNO3	Yes	2.9	IR
1	1L Plastic	None	Yes	2.9	IR
1	250ml Plastic	None	Yes	2.9	IR

### Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	06/08/23 11:30	CCM	

### Inorganics

Method: E120.1, Run Date: 06/14/23 11:55, Analyst: MDG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,470	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/13/23 13:45, Analyst: MDG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Suspended Solids	Not detected	3		mg/L	1		

Method: SM5310C, Run Date: 06/13/23 14:47, Analyst: JKB

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

### Metals

Method: E200.8, Run Date: 06/08/23 13:51, 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	0.011	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.008	0.005		mg/L	5	7440-66-6	



# Analytical Laboratory Report

Lab Sample ID: S49452.06

Sample Tag: Vault-E

Collected Date/Time: 06/07/2023 12:15

Matrix: Wastewater

COC Reference: 156510

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	2.9	IR
1	125ml Plastic	HNO3	Yes	2.9	IR
1	1L Plastic	None	Yes	2.9	IR
1	250ml Plastic	None	Yes	2.9	IR

**Extraction / Prep.**

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	06/08/23 11:30	CCM	

**Inorganics**

**Method: E120.1, Run Date: 06/14/23 11:56, Analyst: MDG**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,270	1		umhos/cm	1		

**Method: SM2540D, Run Date: 06/13/23 13:45, Analyst: MDG**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Suspended Solids	Not detected	3		mg/L	1		

**Method: SM5310C, Run Date: 06/13/23 15:03, Analyst: JKB**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	Not detected	1		mg/L	1		

**Metals**

**Method: E200.8, Run Date: 06/08/23 13:52, 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	Not detected	0.005		mg/L	5	7440-66-6	



# Analytical Laboratory Report

Lab Sample ID: S49452.07

Sample Tag: Vault-F

Collected Date/Time: 06/07/2023 13:18

Matrix: Wastewater

COC Reference: 156510

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	2.9	IR
1	125ml Plastic	HNO3	Yes	2.9	IR
1	1L Plastic	None	Yes	2.9	IR
1	250ml Plastic	None	Yes	2.9	IR

**Extraction / Prep.**

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	06/08/23 11:30	CCM	

**Inorganics**

**Method: E120.1, Run Date: 06/14/23 11:58, Analyst: MDG**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,570	1		umhos/cm	1		

**Method: SM2540D, Run Date: 06/13/23 13:45, Analyst: MDG**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Suspended Solids	Not detected	3		mg/L	1		

**Method: SM5310C, Run Date: 06/13/23 15:19, Analyst: JKB**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	Not detected	1		mg/L	1		

**Metals**

**Method: E200.8, Run Date: 06/08/23 13:53, 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	0.005	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

# Merit Laboratories Login Checklist

Lab Set ID:S49452

Client:RAMBOLL (Ramboll Americas)

Project: RACER Coldwater Road

Submitted:06/07/2023 15:10 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. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer # IR 2.9 |
| 02. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun                 |
| 03. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped  |
| 04. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box                        |
| 05. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |

## Chain of Custody

- |     |  |  |
|-----|--|--|
| 06. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out                |
| 07. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab   |
| 08. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC          |
| 09. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontracted to: |

## Preservation

- |     |  |   |
|-----|--|---|
| 10. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation        |
| 11. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs) |
| 12. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab?    |

## Bottle Conditions

- |     |  |   |
|-----|--|---|
| 13. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact                            |
| 14. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used       |
| 15. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used                            |
| 16. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received             |
| 17. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration         |
| 18. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time         |
| 19. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Do water VOC or TOX bottles contain headspace |

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

Client Review By: \_\_\_\_\_ Date: \_\_\_\_\_

# Merit Laboratories Bottle Preservation Check

Lab Set ID: S49452 Submitted: 06/07/2023 15:10

Client: RAMBOLL (Ramboll Americas)

Project: RACER Coldwater Road

Initial Preservation Check: 06/07/2023 16:25 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
S49452.01	125ml Plastic HNO3	<2			
S49452.02	125ml Plastic HNO3	<2			
S49452.03	125ml Plastic HNO3	<2			
S49452.04	125ml Plastic HNO3	<2			
S49452.05	125ml Plastic HNO3	<2			
S49452.06	125ml Plastic HNO3	<2			
S49452.07	125ml Plastic HNO3	<2			



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 156510

**REPORT TO**

**CHAIN OF CUSTODY RECORD**

**INVOICE TO**

CONTACT NAME clifford Vantz / Kevin Schneider  
 COMPANY Ramboll  
 ADDRESS 2090 Commonwealth Blvd  
 CITY Ann Arbor STATE MI ZIP CODE 48105  
 PHONE NO. \_\_\_\_\_ CELL NO. 313-333-0211 P.O. NO. 1940006516 Tusk  
 E-MAIL ADDRESS Kevin.Schneider@Ramboll.com QUOTE NO. 001  
clifford.Vantz@Ramboll.com

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 ZLL  
 TURNAROUND TIME REQUIRED  1 DAY  2 DAYS  3 DAYS  STANDARD  OTHER \_\_\_\_\_  
 DELIVERABLES REQUIRED  STD  LEVEL II  LEVEL III  LEVEL IV  EDD  OTHER \_\_\_\_\_

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

**ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)**

MERIT LAB NO. <small>FOR LAB USE ONLY</small>	COLLECTION		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives								TOC Dissolved Metals Specific Conductivity TSS	Certifications	Project Locations	Special Instructions
	DATE	TIME				NONE	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	MeOH	OTHER					
49452.01	6/6/23	1150	Vault - A	ww	5	2		1	2							Dissolved Metals were field filtered  Metals ARE: CR, CU, NI, ZN	
.02	6/6/23	1322	Vault - B	ww	5	2		1	2								
.03	6/6/23	1442	Vault - C	ww	5	2		1	2								
.04	6/6/23	—	Vault - DUP- 060623	ww	5	2		1	2								
.05	6/7/23	1122	Vault - D	ww	5	2		1	2								
.06	6/7/23	1215	Vault - E	ww	5	2		1	2								
.07	6/7/23	1318	Vault - F	ww	5	2		1	2								

RELINQUISHED BY: ZLL  Sampler DATE 6/12/23 TIME 14:15  
 SIGNATURE/ORGANIZATION \_\_\_\_\_  
 RECEIVED BY: Dunlap DATE 6/12/23 TIME 14:15  
 SIGNATURE/ORGANIZATION \_\_\_\_\_  
 RELINQUISHED BY: Kevin Schneider DATE 6/7/23 TIME 15:10  
 SIGNATURE/ORGANIZATION \_\_\_\_\_  
 RECEIVED BY: M. Chalcat DATE 6/7/23 TIME 15:10  
 SIGNATURE/ORGANIZATION \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 SIGNATURE/ORGANIZATION \_\_\_\_\_  
 RECEIVED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 SIGNATURE/ORGANIZATION \_\_\_\_\_  
 SEAL NO. \_\_\_\_\_ SEAL INTACT YES  NO  INITIALS \_\_\_\_\_  
 SEAL NO. \_\_\_\_\_ SEAL INTACT YES  NO  INITIALS \_\_\_\_\_  
 NOTES: TEMP. ON ARRIVAL 2.9

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



# Quality Control Report

Report ID: QC-S49452-01  
Generated on 06/15/2023

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): S49452.01-S49452.07  
Project: RACER Coldwater Road  
Submitted Date/Time: 06/07/2023 15:10  
Sampled by: Kevin Schneider  
P.O. #: 1940006516 TASK 001

QC Report Sections

Cover Page (Page 1)  
Analysis Summary (Pages 2-8)  
Prep Batch Summary (Pages 9-10)  
Batch QC Results (Pages 11-16)

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: S49452.01**

Sample Tag: Vault-A

Collected Date/Time: 06/06/2023 11:52

Matrix: Wastewater

COC Reference: 156510

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b><i>Inorganics</i></b>						
Conductivity	E120.1	06/14/23 11:50	COND230614-W1	COND230614-W1	No	BLK/LCS/DUP
TOC	SM5310C	06/13/23 12:39	TOC230613-W1	TOC230613-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	06/09/23 13:00	TSS230609	TSS230609	No	BLK/LCS/DUP
<b><i>Metals</i></b>						
Chromium, Dissolved	E200.8	06/08/23 13:36	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/08/23 13:36	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/08/23 13:36	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/08/23 13:36	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD

## QC Report - Analysis Summary

**Lab Sample ID: S49452.02**

Sample Tag: Vault-B

Collected Date/Time: 06/06/2023 13:22

Matrix: Wastewater

COC Reference: 156510

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b><i>Inorganics</i></b>						
Conductivity	E120.1	06/14/23 11:51	COND230614-W1	COND230614-W1	No	BLK/LCS/DUP
TOC	SM5310C	06/13/23 13:13	TOC230613-W1	TOC230613-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	06/09/23 13:00	TSS230609	TSS230609	No	BLK/LCS/DUP
<b><i>Metals</i></b>						
Chromium, Dissolved	E200.8	06/08/23 13:37	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/08/23 13:37	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/08/23 13:37	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/08/23 13:37	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD

## QC Report - Analysis Summary

**Lab Sample ID: S49452.03**

Sample Tag: Vault-C

Collected Date/Time: 06/06/2023 14:42

Matrix: Wastewater

COC Reference: 156510

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b><i>Inorganics</i></b>						
Conductivity	E120.1	06/14/23 11:52	COND230614-W1	COND230614-W1	No	BLK/LCS/DUP
TOC	SM5310C	06/13/23 13:28	TOC230613-W1	TOC230613-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	06/09/23 13:00	TSS230609	TSS230609	No	BLK/LCS/DUP
<b><i>Metals</i></b>						
Chromium, Dissolved	E200.8	06/08/23 13:38	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/08/23 13:38	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/08/23 13:38	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/08/23 13:38	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD

## QC Report - Analysis Summary

**Lab Sample ID: S49452.04**

Sample Tag: Vault-DUP-060623

Collected Date/Time: 06/06/2023 00:01

Matrix: Wastewater

COC Reference: 156510

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b><i>Inorganics</i></b>						
Conductivity	E120.1	06/14/23 11:54	COND230614-W1	COND230614-W1	No	BLK/LCS/DUP
TOC	SM5310C	06/13/23 13:44	TOC230613-W1	TOC230613-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	06/09/23 13:00	TSS230609	TSS230609	No	BLK/LCS/DUP
<b><i>Metals</i></b>						
Chromium, Dissolved	E200.8	06/08/23 13:41	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/08/23 13:41	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/08/23 13:41	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/08/23 13:41	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD

## QC Report - Analysis Summary

**Lab Sample ID: S49452.05**

Sample Tag: Vault-D

Collected Date/Time: 06/07/2023 11:22

Matrix: Wastewater

COC Reference: 156510

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b><i>Inorganics</i></b>						
Conductivity	E120.1	06/14/23 11:55	COND230614-W1	COND230614-W1	No	BLK/LCS/DUP
TOC	SM5310C	06/13/23 14:47	TOC230613-W1	TOC230613-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	06/13/23 13:45	TSS230613A	TSS230613A	No	BLK/LCS/DUP
<b><i>Metals</i></b>						
Chromium, Dissolved	E200.8	06/08/23 13:51	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/08/23 13:51	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/08/23 13:51	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/08/23 13:51	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD

## QC Report - Analysis Summary

**Lab Sample ID: S49452.06**

Sample Tag: Vault-E

Collected Date/Time: 06/07/2023 12:15

Matrix: Wastewater

COC Reference: 156510

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b><i>Inorganics</i></b>						
Conductivity	E120.1	06/14/23 11:56	COND230614-W1	COND230614-W1	No	BLK/LCS/DUP
TOC	SM5310C	06/13/23 15:03	TOC230613-W1	TOC230613-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	06/13/23 13:45	TSS230613A	TSS230613A	No	BLK/LCS/DUP
<b><i>Metals</i></b>						
Chromium, Dissolved	E200.8	06/08/23 13:52	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/08/23 13:52	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/08/23 13:52	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/08/23 13:52	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD

## QC Report - Analysis Summary

**Lab Sample ID: S49452.07**

Sample Tag: Vault-F

Collected Date/Time: 06/07/2023 13:18

Matrix: Wastewater

COC Reference: 156510

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b><i>Inorganics</i></b>						
Conductivity	E120.1	06/14/23 11:58	COND230614-W1	COND230614-W1	No	BLK/LCS/DUP
TOC	SM5310C	06/13/23 15:19	TOC230613-W1	TOC230613-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	06/13/23 13:45	TSS230613A	TSS230613A	No	BLK/LCS/DUP
<b><i>Metals</i></b>						
Chromium, Dissolved	E200.8	06/08/23 13:53	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/08/23 13:53	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/08/23 13:53	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/08/23 13:53	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD

## QC Report - Prep Batch Summary

### Inorganics, Prep Batch ID: COND230614-W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S49452.01	Conductivity	E120.1	06/14/23 11:50	COND230614-W1
S49452.02	Conductivity	E120.1	06/14/23 11:51	COND230614-W1
S49452.03	Conductivity	E120.1	06/14/23 11:52	COND230614-W1
S49452.04	Conductivity	E120.1	06/14/23 11:54	COND230614-W1
S49452.05	Conductivity	E120.1	06/14/23 11:55	COND230614-W1
S49452.06	Conductivity	E120.1	06/14/23 11:56	COND230614-W1
S49452.07	Conductivity	E120.1	06/14/23 11:58	COND230614-W1

### Inorganics, Prep Batch ID: TOC230613-W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S49452.01	TOC	SM5310C	06/13/23 12:39	TOC230613-W1
S49452.02	TOC	SM5310C	06/13/23 13:13	TOC230613-W1
S49452.03	TOC	SM5310C	06/13/23 13:28	TOC230613-W1
S49452.04	TOC	SM5310C	06/13/23 13:44	TOC230613-W1
S49452.05	TOC	SM5310C	06/13/23 14:47	TOC230613-W1
S49452.06	TOC	SM5310C	06/13/23 15:03	TOC230613-W1
S49452.07	TOC	SM5310C	06/13/23 15:19	TOC230613-W1

### Inorganics, Prep Batch ID: TSS230609

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S49452.01	Total Suspended Solids	SM2540D	06/09/23 13:00	TSS230609
S49452.02	Total Suspended Solids	SM2540D	06/09/23 13:00	TSS230609
S49452.03	Total Suspended Solids	SM2540D	06/09/23 13:00	TSS230609
S49452.04	Total Suspended Solids	SM2540D	06/09/23 13:00	TSS230609

### Inorganics, Prep Batch ID: TSS230613A

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S49452.05	Total Suspended Solids	SM2540D	06/13/23 13:45	TSS230613A
S49452.06	Total Suspended Solids	SM2540D	06/13/23 13:45	TSS230613A
S49452.07	Total Suspended Solids	SM2540D	06/13/23 13:45	TSS230613A

### Metals, Prep Batch ID: MTD-060823-2

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S49452.01	Chromium, Dissolved	E200.8	06/08/23 13:36	MT4-23-0608A
S49452.01	Copper, Dissolved	E200.8	06/08/23 13:36	MT4-23-0608A
S49452.01	Nickel, Dissolved	E200.8	06/08/23 13:36	MT4-23-0608A
S49452.01	Zinc, Dissolved	E200.8	06/08/23 13:36	MT4-23-0608A
S49452.02	Chromium, Dissolved	E200.8	06/08/23 13:37	MT4-23-0608A
S49452.02	Copper, Dissolved	E200.8	06/08/23 13:37	MT4-23-0608A
S49452.02	Nickel, Dissolved	E200.8	06/08/23 13:37	MT4-23-0608A
S49452.02	Zinc, Dissolved	E200.8	06/08/23 13:37	MT4-23-0608A
S49452.03	Chromium, Dissolved	E200.8	06/08/23 13:38	MT4-23-0608A
S49452.03	Copper, Dissolved	E200.8	06/08/23 13:38	MT4-23-0608A
S49452.03	Nickel, Dissolved	E200.8	06/08/23 13:38	MT4-23-0608A
S49452.03	Zinc, Dissolved	E200.8	06/08/23 13:38	MT4-23-0608A
S49452.04	Chromium, Dissolved	E200.8	06/08/23 13:41	MT4-23-0608A

# QC Report - Prep Batch Summary

## Metals, Prep Batch ID: MTD-060823-2 (continued)

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S49452.04	Copper, Dissolved	E200.8	06/08/23 13:41	MT4-23-0608A
S49452.04	Nickel, Dissolved	E200.8	06/08/23 13:41	MT4-23-0608A
S49452.04	Zinc, Dissolved	E200.8	06/08/23 13:41	MT4-23-0608A
S49452.05	Chromium, Dissolved	E200.8	06/08/23 13:51	MT4-23-0608A
S49452.05	Copper, Dissolved	E200.8	06/08/23 13:51	MT4-23-0608A
S49452.05	Nickel, Dissolved	E200.8	06/08/23 13:51	MT4-23-0608A
S49452.05	Zinc, Dissolved	E200.8	06/08/23 13:51	MT4-23-0608A
S49452.06	Chromium, Dissolved	E200.8	06/08/23 13:52	MT4-23-0608A
S49452.06	Copper, Dissolved	E200.8	06/08/23 13:52	MT4-23-0608A
S49452.06	Nickel, Dissolved	E200.8	06/08/23 13:52	MT4-23-0608A
S49452.06	Zinc, Dissolved	E200.8	06/08/23 13:52	MT4-23-0608A
S49452.07	Chromium, Dissolved	E200.8	06/08/23 13:53	MT4-23-0608A
S49452.07	Copper, Dissolved	E200.8	06/08/23 13:53	MT4-23-0608A
S49452.07	Nickel, Dissolved	E200.8	06/08/23 13:53	MT4-23-0608A
S49452.07	Zinc, Dissolved	E200.8	06/08/23 13:53	MT4-23-0608A

# QC Report - Batch QC Results

## Inorganics, Prep Batch ID: COND230614-W1

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

### Blank (BLK)

Lab Sample ID: COND230614-W1.LRB1

Run in Batch: COND230614-W1, Run Date: 06/14/2023 11:24, Prep Date: 06/14/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Conductivity		ND	1	mg/L

### Laboratory Control Sample (LCS)

Lab Sample ID: COND230614-W1.LCS1

Run in Batch: COND230614-W1, Run Date: 06/14/2023 11:32, Prep Date: 06/14/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Conductivity		98.7	90	110

### Laboratory Control Sample (LCS)

Lab Sample ID: COND230614-W1.LCS2

Run in Batch: COND230614-W1, Run Date: 06/14/2023 11:35, Prep Date: 06/14/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Conductivity		92.5	90	110

### Duplicate (DUP)

Lab Sample ID: COND230614-W1.DP1, Parent Sample ID: S49369.01

Run in Batch: COND230614-W1, Run Date: 06/14/2023 11:39, Prep Date: 06/14/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
Conductivity		0.3	15

# QC Report - Batch QC Results

## Inorganics, Prep Batch ID: TOC230613-W1

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

### Blank (BLK)

Lab Sample ID: TOC230613-W1.LRB1

Run in Batch: TOC230613-W1, Run Date: 06/13/2023 11:27, Prep Date: 06/13/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
TOC		ND	1	mg/L

### Laboratory Control Sample (LCS)

Lab Sample ID: TOC230613-W1.LCS1

Run in Batch: TOC230613-W1, Run Date: 06/13/2023 12:03, Prep Date: 06/13/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
TOC		96	90	110

### Matrix Spike (MS)

Lab Sample ID: TOC230613-W1.MS1, Parent Sample ID: S49452.02

Run in Batch: TOC230613-W1, Run Date: 06/13/2023 14:16, Prep Date: 06/13/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
TOC		100	80	120

### Matrix Spike Duplicate (MSD)

Lab Sample ID: TOC230613-W1.MSD1, Parent Sample ID: TOC230613-W1.MS1

Run in Batch: TOC230613-W1, Run Date: 06/13/2023 14:31, Prep Date: 06/13/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
TOC		100	80	120	0	15

### Duplicate (DUP)

Lab Sample ID: TOC230613-W1.DP1, Parent Sample ID: S49452.02

Run in Batch: TOC230613-W1, Run Date: 06/13/2023 14:00, Prep Date: 06/13/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
TOC		<1	15

# QC Report - Batch QC Results

## Inorganics, Prep Batch ID: TSS230609

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

### Blank (BLK)

Lab Sample ID: TSS230609.LRB1

Run in Batch: TSS230609, Run Date: 06/09/2023 13:00, Prep Date: 06/09/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Total Suspended Solids		ND	3	mg/L

### Laboratory Control Sample (LCS)

Lab Sample ID: TSS230609.LCS1

Run in Batch: TSS230609, Run Date: 06/09/2023 13:00, Prep Date: 06/09/2023, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL
Total Suspended Solids		98.8	81.9	111

### Duplicate (DUP)

Lab Sample ID: TSS230609.DP1, Parent Sample ID: S49362.01

Run in Batch: TSS230609, Run Date: 06/09/2023 13:00, Prep Date: 06/09/2023, Matrix: Liquid, Dilution: 3.3

Analyte	Flags	RPD	RPD CL
Total Suspended Solids		0.0	10

# QC Report - Batch QC Results

## Inorganics, Prep Batch ID: TSS230613A

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

### Blank (BLK)

Lab Sample ID: TSS230613A.LRB1

Run in Batch: TSS230613A, Run Date: 06/13/2023 13:45, Prep Date: 06/13/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Total Suspended Solids		ND	3	mg/L

### Laboratory Control Sample (LCS)

Lab Sample ID: TSS230613A.LCS1

Run in Batch: TSS230613A, Run Date: 06/13/2023 13:45, Prep Date: 06/13/2023, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL
Total Suspended Solids		98.8	81.9	111

### Duplicate (DUP)

Lab Sample ID: TSS230613A.DP1, Parent Sample ID: S49471.01

Run in Batch: TSS230613A, Run Date: 06/13/2023 13:45, Prep Date: 06/13/2023, Matrix: Liquid, Dilution: 4

Analyte	Flags	RPD	RPD CL
Total Suspended Solids		9.3	10

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-060823-2

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

#### Blank (BLK)

Lab Sample ID: MT4-23-0608A.053.LRB

Run in Batch: MT4-23-0608A, Run Date: 06/08/2023 13:24, Prep Date: 06/08/2023, 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: MT4-23-0608A.052.LCS

Run in Batch: MT4-23-0608A, Run Date: 06/08/2023 13:21, Prep Date: 06/08/2023, Matrix: Liquid, Dilution: 1

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

#### Matrix Spike (MS)

Lab Sample ID: MT4-23-0608A.065.MS, Parent Sample ID: S49396.01

Run in Batch: MT4-23-0608A, Run Date: 06/08/2023 13:42, Prep Date: 06/08/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Chromium		102	75	125
Copper		95	75	125
Nickel		97	75	125
Zinc		101	75	125

#### Matrix Spike (MS)

Lab Sample ID: MT4-23-0608A.079.MS, Parent Sample ID: S49452.07

Run in Batch: MT4-23-0608A, Run Date: 06/08/2023 14:04, Prep Date: 06/08/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Chromium		100	75	125
Copper		93	75	125
Nickel		97	75	125
Zinc		101	75	125

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-23-0608A.066.MSD, Parent Sample ID: MT4-23-0608A.065.MS

Run in Batch: MT4-23-0608A, Run Date: 06/08/2023 13:43, Prep Date: 06/08/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium		104	75	125	2	20
Copper		94	75	125	1	20
Nickel		97	75	125	0	20
Zinc		98	75	125	3	20

# QC Report - Batch QC Results

## Metals, Prep Batch ID: MTD-060823-2 (continued)

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

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-23-0608A.080.MSD, Parent Sample ID: MT4-23-0608A.079.MS

Run in Batch: MT4-23-0608A, Run Date: 06/08/2023 14:06, Prep Date: 06/08/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium		102	75	125	1	20
Copper		94	75	125	1	20
Nickel		99	75	125	2	20
Zinc		102	75	125	1	20



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 156510

**REPORT TO**

**CHAIN OF CUSTODY RECORD**

**INVOICE TO**

CONTACT NAME clifford Vantz / Kevin Schneider  
 COMPANY Ramboll  
 ADDRESS 2090 Commonwealth Blvd  
 CITY Ann Arbor STATE MI ZIP CODE 48105  
 PHONE NO. \_\_\_\_\_ CELL NO. 313-333-0211 P.O. NO. 1940006516 Tusk  
 E-MAIL ADDRESS Kevin.Schneider@Ramboll.com QUOTE NO. 001  
clifford.Vantz@Ramboll.com

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 ZLL  
 TURNAROUND TIME REQUIRED  1 DAY  2 DAYS  3 DAYS  STANDARD  OTHER \_\_\_\_\_  
 DELIVERABLES REQUIRED  STD  LEVEL II  LEVEL III  LEVEL IV  EDD  OTHER \_\_\_\_\_

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

**ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)**

MERIT LAB NO. <small>FOR LAB USE ONLY</small>	COLLECTION		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives								TOC Dissolved Metals Specific Conductivity TSS	Certifications	Project Locations	Special Instructions	
	DATE	TIME				NONE	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	MeOH	OTHER						
49452.01	6/6/23	1150	Vault - A	ww	5	2		1	2					X	X	X	X	Dissolved Metals were field filtered  Metals ARE: CR, CU, NI, ZN
.02	6/6/23	1322	Vault - B	ww	5	2		1	2					X	X	X	X	
.03	6/6/23	1442	Vault - C	ww	5	2		1	2					X	X	X	X	
.04	6/6/23	—	Vault - DUP- 060623	ww	5	2		1	2					X	X	X	X	
.05	6/7/23	1122	Vault - D	ww	5	2		1	2					X	X	X	X	
.06	6/7/23	1215	Vault - E	ww	5	2		1	2					X	X	X	X	
.07	6/7/23	1318	Vault - F	ww	5	2		1	2					X	X	X	X	

RELINQUISHED BY: ZLL  Sampler DATE 6/5/23 TIME 14:15  
 SIGNATURE/ORGANIZATION \_\_\_\_\_  
 RECEIVED BY: Dunlap DATE 6/7/23 TIME 14:15  
 SIGNATURE/ORGANIZATION \_\_\_\_\_  
 RELINQUISHED BY: Kevin Schneider DATE 6/7/23 TIME 15:10  
 SIGNATURE/ORGANIZATION \_\_\_\_\_  
 RECEIVED BY: M. Chalcat DATE 6/7/23 TIME 15:10  
 SIGNATURE/ORGANIZATION \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 SIGNATURE/ORGANIZATION \_\_\_\_\_  
 RECEIVED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 SIGNATURE/ORGANIZATION \_\_\_\_\_  
 SEAL NO. \_\_\_\_\_ SEAL INTACT YES  NO  INITIALS \_\_\_\_\_  
 SEAL NO. \_\_\_\_\_ SEAL INTACT YES  NO  INITIALS \_\_\_\_\_  
 NOTES: TEMP. ON ARRIVAL 2.9

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



# Analytical Laboratory Report

Report ID: S49455.01(01)  
Generated on 06/15/2023

Report to

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

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

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

Report Summary

Lab Sample ID(s): S49455.01-S49455.08  
Project: RACER Coldwater Road  
Collected Date(s): 06/06/2023 - 06/07/2023  
Submitted Date/Time: 06/07/2023 15:10  
Sampled by: Kevin Schneider  
P.O. #: 1940006516 TASK 001

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Maya Murshak  
Technical Director



# Analytical Laboratory Report

## General Report Notes

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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.

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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

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There is no additional narrative for this analytical report



# Analytical Laboratory Report

## Laboratory Certifications

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



# Analytical Laboratory Report

## Method Summary

Method	Version
E120.1	EPA Method 120.1 Revision 1982
E200.8	EPA Method 200.8 Revision 5.4
N/A	Not Applicable
SM2540D	Standard Method 2540 D 2015
SM5310C	Standard Method 5310C 2011
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003



# Analytical Laboratory Report

## Sample Summary (8 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S49455.01	SUMP-A	Wastewater	06/06/23 11:18
S49455.02	SUMP-B	Wastewater	06/06/23 12:55
S49455.03	SUMP-C	Wastewater	06/06/23 13:52
S49455.04	SUMP-DUP-060623	Wastewater	06/06/23 00:01
S49455.05	SUMP-D	Wastewater	06/07/23 10:48
S49455.06	SUMP-E	Wastewater	06/07/23 11:50
S49455.07	SUMP-F	Wastewater	06/07/23 12:52
S49455.08	Trip Blank-060723	Water	06/07/23 00:01



# Analytical Laboratory Report

Lab Sample ID: S49455.01

Sample Tag: SUMP-A

Collected Date/Time: 06/06/2023 11:18

Matrix: Wastewater

COC Reference: 156516

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR
2	40ml Glass	H2SO4	Yes	2.9	IR
1	125ml Plastic	HNO3	Yes	2.9	IR
1	1L Plastic	None	Yes	2.9	IR
1	250ml Plastic	None	Yes	2.9	IR

### Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/12/23 10:16	ACK	
Metal Digestion	Completed	SW3015A	06/08/23 11:30	CCM	

### Inorganics

Method: E120.1, Run Date: 06/14/23 12:07, Analyst: MDG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,850	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/09/23 13:00, Analyst: MDG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Suspended Solids	Not detected	3		mg/L	1		

Method: SM5310C, Run Date: 06/13/23 15:34, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	28.9	1		mg/L	1		

### Metals

Method: E200.8, Run Date: 06/08/23 13:55, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	0.170	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	0.320	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.031	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.005	0.005		mg/L	5	7440-66-6	

### Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/10/23 00:42, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	



# Analytical Laboratory Report

Lab Sample ID: S49455.01 (continued)

Sample Tag: SUMP-A

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/10/23 00:42, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	



# Analytical Laboratory Report

Lab Sample ID: S49455.01 (continued)

Sample Tag: SUMP-A

**Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/10/23 00:42, Analyst: NDK (continued)**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S49455.02

Sample Tag: SUMP-B

Collected Date/Time: 06/06/2023 12:55

Matrix: Wastewater

COC Reference: 156516

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR
2	40ml Glass	H2SO4	Yes	2.9	IR
1	125ml Plastic	HNO3	Yes	2.9	IR
1	1L Plastic	None	Yes	2.9	IR
1	250ml Plastic	None	Yes	2.9	IR

### Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/12/23 10:16	ACK	
Metal Digestion	Completed	SW3015A	06/08/23 11:30	CCM	

### Inorganics

Method: E120.1, Run Date: 06/14/23 12:09, Analyst: MDG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	3,300	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/09/23 13:00, Analyst: MDG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Suspended Solids	Not detected	3		mg/L	1		

Method: SM5310C, Run Date: 06/13/23 15:51, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	72.1	1		mg/L	1		

### Metals

Method: E200.8, Run Date: 06/08/23 13:56, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	0.676	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	0.426	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.046	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.020	0.005		mg/L	5	7440-66-6	

### Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/10/23 01:01, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	



# Analytical Laboratory Report

Lab Sample ID: S49455.02 (continued)

Sample Tag: SUMP-B

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/10/23 01:01, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	



# Analytical Laboratory Report

Lab Sample ID: S49455.02 (continued)

Sample Tag: SUMP-B

**Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/10/23 01:01, Analyst: NDK (continued)**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S49455.03

Sample Tag: SUMP-C

Collected Date/Time: 06/06/2023 13:52

Matrix: Wastewater

COC Reference: 156516

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR
2	40ml Glass	H2SO4	Yes	2.9	IR
1	125ml Plastic	HNO3	Yes	2.9	IR
1	1L Plastic	None	Yes	2.9	IR
1	250ml Plastic	None	Yes	2.9	IR

### Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/12/23 10:16	ACK	
Metal Digestion	Completed	SW3015A	06/08/23 11:30	CCM	

### Inorganics

Method: E120.1, Run Date: 06/14/23 12:10, Analyst: MDG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	3,490	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/09/23 13:00, Analyst: MDG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Suspended Solids	4.0	3		mg/L	1		

Method: SM5310C, Run Date: 06/13/23 16:08, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	85.1	1		mg/L	1		

### Metals

Method: E200.8, Run Date: 06/08/23 13:57, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	0.043	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	1.27	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.284	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.006	0.005		mg/L	5	7440-66-6	

### Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/10/23 01:20, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	



# Analytical Laboratory Report

Lab Sample ID: S49455.03 (continued)

Sample Tag: SUMP-C

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/10/23 01:20, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	



# Analytical Laboratory Report

Lab Sample ID: S49455.03 (continued)

Sample Tag: SUMP-C

**Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/10/23 01:20, Analyst: NDK (continued)**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S49455.04

Sample Tag: SUMP-DUP-060623

Collected Date/Time: 06/06/2023 00:01

Matrix: Wastewater

COC Reference: 156516

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR
2	40ml Glass	H2SO4	Yes	2.9	IR
1	125ml Plastic	HNO3	Yes	2.9	IR
1	1L Plastic	None	Yes	2.9	IR
1	250ml Plastic	None	Yes	2.9	IR

### Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/12/23 10:16	ACK	
Metal Digestion	Completed	SW3015A	06/08/23 11:30	CCM	

### Inorganics

Method: E120.1, Run Date: 06/14/23 12:11, Analyst: MDG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	3,490	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/09/23 13:00, Analyst: MDG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Suspended Solids	Not detected	3		mg/L	1		

Method: SM5310C, Run Date: 06/13/23 16:43, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	84.7	1		mg/L	1		

### Metals

Method: E200.8, Run Date: 06/08/23 13:59, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	0.042	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	1.29	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.286	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.006	0.005		mg/L	5	7440-66-6	

### Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/10/23 01:40, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	



# Analytical Laboratory Report

Lab Sample ID: S49455.04 (continued)

Sample Tag: SUMP-DUP-060623

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/10/23 01:40, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	



# Analytical Laboratory Report

Lab Sample ID: S49455.04 (continued)

Sample Tag: SUMP-DUP-060623

**Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/10/23 01:40, Analyst: NDK (continued)**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S49455.05

Sample Tag: SUMP-D

Collected Date/Time: 06/07/2023 10:48

Matrix: Wastewater

COC Reference: 156516

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR
2	40ml Glass	H2SO4	Yes	2.9	IR
1	125ml Plastic	HNO3	Yes	2.9	IR
1	1L Plastic	None	Yes	2.9	IR
1	250ml Plastic	None	Yes	2.9	IR

### Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/12/23 10:16	ACK	
Metal Digestion	Completed	SW3015A	06/08/23 11:30	CCM	

### Inorganics

Method: E120.1, Run Date: 06/14/23 12:12, Analyst: MDG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	4,500	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/13/23 13:45, Analyst: MDG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Suspended Solids	Not detected	3		mg/L	1		

Method: SM5310C, Run Date: 06/13/23 18:36, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	105.5	2		mg/L	2		

### Metals

Method: E200.8, Run Date: 06/08/23 14:00, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	0.057	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	0.669	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.538	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

### Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/12/23 15:17, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	50		ug/L	5	60-29-7	Y
Acetone	450	250		ug/L	5	67-64-1	Y
Methyl iodide	Not detected	5		ug/L	5	74-88-4	Y
Carbon disulfide	Not detected	30		ug/L	5	75-15-0	Y
tert-Methyl butyl ether (MTBE)	Not detected	30		ug/L	5	1634-04-4	Y
Acrylonitrile	Not detected	10		ug/L	5	107-13-1	Y
2-Butanone (MEK)	Not detected	130		ug/L	5	78-93-3	Y
Dichlorodifluoromethane	Not detected	30		ug/L	5	75-71-8	Y
Chloromethane	Not detected	30		ug/L	5	74-87-3	Y
Vinyl chloride	Not detected	5		ug/L	5	75-01-4	Y

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Lab Sample ID: S49455.05 (continued)

Sample Tag: SUMP-D

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/12/23 15:17, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Bromomethane	Not detected	30		ug/L	5	74-83-9	Y
Chloroethane	Not detected	30		ug/L	5	75-00-3	Y
Trichlorofluoromethane	Not detected	5		ug/L	5	75-69-4	Y
1,1-Dichloroethene	Not detected	5		ug/L	5	75-35-4	Y
Methylene chloride	Not detected	30		ug/L	5	75-09-2	Y
trans-1,2-Dichloroethene	Not detected	5		ug/L	5	156-60-5	Y
1,1-Dichloroethane	Not detected	5		ug/L	5	75-34-3	Y
cis-1,2-Dichloroethene	Not detected	5		ug/L	5	156-59-2	Y
Tetrahydrofuran*	Not detected	450		ug/L	5	109-99-9	Y
Chloroform	Not detected	5		ug/L	5	67-66-3	Y
Bromochloromethane	Not detected	5		ug/L	5	74-97-5	Y
1,1,1-Trichloroethane	Not detected	5		ug/L	5	71-55-6	Y
4-Methyl-2-pentanone (MIBK)	Not detected	250		ug/L	5	108-10-1	Y
2-Hexanone	Not detected	250		ug/L	5	591-78-6	Y
Carbon tetrachloride	Not detected	5		ug/L	5	56-23-5	Y
Benzene	Not detected	5		ug/L	5	71-43-2	Y
1,2-Dichloroethane	Not detected	5		ug/L	5	107-06-2	Y
Trichloroethene	Not detected	5		ug/L	5	79-01-6	Y
1,2-Dichloropropane	Not detected	5		ug/L	5	78-87-5	Y
Bromodichloromethane	Not detected	5		ug/L	5	75-27-4	Y
Dibromomethane	Not detected	30		ug/L	5	74-95-3	Y
cis-1,3-Dichloropropene	Not detected	5		ug/L	5	10061-01-5	Y
Toluene	Not detected	5		ug/L	5	108-88-3	Y
trans-1,3-Dichloropropene	Not detected	5		ug/L	5	10061-02-6	Y
1,1,2-Trichloroethane	Not detected	5		ug/L	5	79-00-5	Y
Tetrachloroethene	Not detected	5		ug/L	5	127-18-4	Y
trans-1,4-Dichloro-2-butene	Not detected	5		ug/L	5	110-57-6	Y
Dibromochloromethane	Not detected	30		ug/L	5	124-48-1	Y
1,2-Dibromoethane	Not detected	5		ug/L	5	106-93-4	Y
Chlorobenzene	Not detected	5		ug/L	5	108-90-7	Y
1,1,1,2-Tetrachloroethane	Not detected	5		ug/L	5	630-20-6	Y
Ethylbenzene	Not detected	5		ug/L	5	100-41-4	Y
p,m-Xylene*	Not detected	10		ug/L	5		Y
o-Xylene	Not detected	5		ug/L	5	95-47-6	Y
Styrene	Not detected	5		ug/L	5	100-42-5	Y
Isopropylbenzene	Not detected	30		ug/L	5	98-82-8	Y
Bromoform	Not detected	5		ug/L	5	75-25-2	Y
1,1,2,2-Tetrachloroethane	Not detected	5		ug/L	5	79-34-5	Y
1,2,3-Trichloropropane	Not detected	5		ug/L	5	96-18-4	Y
n-Propylbenzene	Not detected	5		ug/L	5	103-65-1	Y
Bromobenzene	Not detected	5		ug/L	5	108-86-1	Y
1,3,5-Trimethylbenzene	Not detected	5		ug/L	5	108-67-8	Y
tert-Butylbenzene	Not detected	5		ug/L	5	98-06-6	Y
1,2,4-Trimethylbenzene	Not detected	5		ug/L	5	95-63-6	Y
sec-Butylbenzene	Not detected	5		ug/L	5	135-98-8	Y
p-Isopropyltoluene	Not detected	30		ug/L	5	99-87-6	Y
1,3-Dichlorobenzene	Not detected	5		ug/L	5	541-73-1	Y
1,4-Dichlorobenzene	Not detected	5		ug/L	5	106-46-7	Y
1,2-Dichlorobenzene	Not detected	5		ug/L	5	95-50-1	Y

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Lab Sample ID: S49455.05 (continued)

Sample Tag: SUMP-D

**Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/12/23 15:17, Analyst: NDK (continued)**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2,3-Trimethylbenzene	Not detected	5		ug/L	5	526-73-8	Y
n-Butylbenzene	Not detected	5		ug/L	5	104-51-8	Y
Hexachloroethane	Not detected	30		ug/L	5	67-72-1	Y
1,2-Dibromo-3-chloropropane	Not detected	30		ug/L	5	96-12-8	Y
1,2,4-Trichlorobenzene	Not detected	30		ug/L	5	120-82-1	Y
1,2,3-Trichlorobenzene	Not detected	30		ug/L	5	87-61-6	Y
Naphthalene	Not detected	30		ug/L	5	91-20-3	Y
2-Methylnaphthalene	Not detected	30		ug/L	5	91-57-6	Y

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Lab Sample ID: S49455.06

Sample Tag: SUMP-E

Collected Date/Time: 06/07/2023 11:50

Matrix: Wastewater

COC Reference: 156516

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR
2	40ml Glass	H2SO4	Yes	2.9	IR
1	125ml Plastic	HNO3	Yes	2.9	IR
1	1L Plastic	None	Yes	2.9	IR
1	250ml Plastic	None	Yes	2.9	IR

**Extraction / Prep.**

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/12/23 10:16	ACK	
Metal Digestion	Completed	SW3015A	06/08/23 11:30	CCM	

**Inorganics**

**Method: E120.1, Run Date: 06/14/23 12:13, Analyst: MDG**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,720	1		umhos/cm	1		

**Method: SM2540D, Run Date: 06/13/23 13:45, Analyst: MDG**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Suspended Solids	Not detected	3		mg/L	1		

**Method: SM5310C, Run Date: 06/13/23 17:15, Analyst: JKB**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	15.4	1		mg/L	1		

**Metals**

**Method: E200.8, Run Date: 06/08/23 14:01, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	0.022	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	0.052	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.017	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.006	0.005		mg/L	5	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/10/23 02:00, Analyst: NDK**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	



# Analytical Laboratory Report

Lab Sample ID: S49455.06 (continued)

Sample Tag: SUMP-E

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/10/23 02:00, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	



# Analytical Laboratory Report

Lab Sample ID: S49455.06 (continued)

Sample Tag: SUMP-E

**Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/10/23 02:00, Analyst: NDK (continued)**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S49455.07

Sample Tag: SUMP-F

Collected Date/Time: 06/07/2023 12:52

Matrix: Wastewater

COC Reference: 156516

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR
2	40ml Glass	H2SO4	Yes	2.9	IR
1	125ml Plastic	HNO3	Yes	2.9	IR
1	1L Plastic	None	Yes	2.9	IR
1	250ml Plastic	None	Yes	2.9	IR

**Extraction / Prep.**

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/12/23 10:16	ACK	
Metal Digestion	Completed	SW3015A	06/08/23 11:30	CCM	

**Inorganics**

**Method: E120.1, Run Date: 06/14/23 12:14, Analyst: MDG**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	3,810	1		umhos/cm	1		

**Method: SM2540D, Run Date: 06/13/23 13:45, Analyst: MDG**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Suspended Solids	Not detected	3		mg/L	1		

**Method: SM5310C, Run Date: 06/13/23 17:32, Analyst: JKB**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	42.6	1		mg/L	1		

**Metals**

**Method: E200.8, Run Date: 06/08/23 14:03, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	0.021	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	0.243	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.087	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.015	0.005		mg/L	5	7440-66-6	

**Organics - Volatiles**

**Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/10/23 02:19, Analyst: NDK**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	Not detected	50		ug/L	1	67-64-1	
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	Not detected	2		ug/L	1	107-13-1	
2-Butanone (MEK)	Not detected	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	
Bromomethane	Not detected	5		ug/L	1	74-83-9	



# Analytical Laboratory Report

Lab Sample ID: S49455.07 (continued)

Sample Tag: SUMP-F

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/10/23 02:19, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	
n-Butylbenzene	Not detected	1		ug/L	1	104-51-8	



# Analytical Laboratory Report

Lab Sample ID: S49455.07 (continued)

Sample Tag: SUMP-F

**Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/10/23 02:19, Analyst: NDK (continued)**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Hexachloroethane	Not detected	5		ug/L	1	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	5		ug/L	1	96-12-8	
1,2,4-Trichlorobenzene	Not detected	5		ug/L	1	120-82-1	
1,2,3-Trichlorobenzene	Not detected	5		ug/L	1	87-61-6	
Naphthalene	Not detected	5		ug/L	1	91-20-3	
2-Methylnaphthalene	Not detected	5		ug/L	1	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S49455.08

Sample Tag: Trip Blank-060723

Collected Date/Time: 06/07/2023 00:01

Matrix: Water

COC Reference: 156516

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	2.9	IR

### Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/12/23 10:16	ACK	

### Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/10/23 00:22, Analyst: NDK

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



# Analytical Laboratory Report

Lab Sample ID: S49455.08 (continued)

Sample Tag: Trip Blank-060723

**Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/10/23 00:22, Analyst: NDK (continued)**

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

# Merit Laboratories Login Checklist

Lab Set ID:S49455

Client:RAMBOLL (Ramboll Americas)

Project: RACER Coldwater Road

Submitted:06/07/2023 15:10 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. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer # IR 2.9 |
| 02. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun                 |
| 03. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped  |
| 04. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box                        |
| 05. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |

## Chain of Custody

- |     |  |  |
|-----|--|--|
| 06. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out                |
| 07. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab   |
| 08. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC          |
| 09. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontracted to: |

## Preservation

- |     |  |   |
|-----|--|---|
| 10. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation        |
| 11. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs) |
| 12. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab?    |

## Bottle Conditions

- |     |  |   |
|-----|--|---|
| 13. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact                            |
| 14. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used       |
| 15. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used                            |
| 16. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received             |
| 17. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration         |
| 18. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time         |
| 19. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Do water VOC or TOX bottles contain headspace |

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

Client Review By: \_\_\_\_\_ Date: \_\_\_\_\_

# Merit Laboratories Bottle Preservation Check

Lab Set ID: S49455 Submitted: 06/07/2023 15:10

Client: RAMBOLL (Ramboll Americas)

Project: RACER Coldwater Road

Attention: Clifford Yantz

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

Initial Preservation Check: 06/07/2023 16:31 MMC

Preservation Recheck (E200.8): 06/08/2023 08:39 MMC

Phone: 313-333-0211

FAX:

Email: Clifford.Yantz@ramboll.com

Sample ID	Bottle / Preservation	pH (Orig)	Add ml	pH (New)	Notes
S49455.01	125ml Plastic HNO3	<2			
S49455.02	125ml Plastic HNO3	<2			
S49455.03	125ml Plastic HNO3	<2			
S49455.04	125ml Plastic HNO3	<2			
S49455.05	125ml Plastic HNO3	6	0.5	<2	Lot# 2022042218
S49455.06	125ml Plastic HNO3	<2			
S49455.07	125ml Plastic HNO3	<2			



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 156516

**REPORT TO**

**CHAIN OF CUSTODY RECORD**

**INVOICE TO**

CONTACT NAME Clifford Yantz / Kevin Schneider  
 COMPANY Ramboll  
 ADDRESS 2090 Commonwealth Blvd  
 CITY Ann Arbor STATE MI ZIP CODE 48105  
 PHONE NO. CELL NO. 313-333-0211 P.O. NO. 1940006516 Task 001  
 E-MAIL ADDRESS Kevin.Schneider@Ramboll.com QUOTE NO.

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 KSK  
 TURNAROUND TIME REQUIRED  1 DAY  2 DAYS  3 DAYS  STANDARD  OTHER  
 DELIVERABLES REQUIRED  STD  LEVEL II  LEVEL III  LEVEL IV  EDD  OTHER

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

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

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

MERIT LAB NO. <small>FOR LAB USE ONLY</small>	COLLECTION		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives								VOCs	TOC	Dissolved Metals	TSS	specific conductivity	Special Instructions
	DATE	TIME				NONE	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	MeOH	OTHER							
49455.01	6/6/23	1118	SUMP - A	W	8	2	3	1	2										Dissolved Metals were field filtered  Metals ARE: CR, CU, NI, ZN
.02	6/6/23	1255	SUMP - B	W	8	2	3	1	2										
.03	6/6/23	1352	SUMP - C	W	8	2	3	1	2										
.04	6/6/23	-	SUMP-DUP-060623	W	8	2	3	1	2										
.05	6/7/23	1048	SUMP - D	W	8	2	3	1	2										
.06	6/7/23	1150	SUMP - E	W	8	2	3	1	2										
.07	6/7/23	1252	SUMP - F	W	8	2	3	1	2										
.08	6/7/23	-	Trip Blank - 060723	L	1	1													

RELINQUISHED BY: KSK  Sampler DATE 6/7/23 TIME 14:15  
 SIGNATURE/ORGANIZATION  
 RECEIVED BY: [Signature] DATE 6/7/23 TIME 14:15  
 SIGNATURE/ORGANIZATION  
 RELINQUISHED BY: [Signature] DATE 6/7/23 TIME 15:10  
 SIGNATURE/ORGANIZATION  
 RECEIVED BY: [Signature] DATE 6/7/23 TIME 15:10  
 SIGNATURE/ORGANIZATION

RELINQUISHED BY: DATE TIME  
 SIGNATURE/ORGANIZATION  
 RECEIVED BY: DATE TIME  
 SIGNATURE/ORGANIZATION  
 SEAL NO. SEAL INTACT YES  NO  INITIALS  
 SEAL NO. SEAL INTACT YES  NO  INITIALS  
 NOTES: TEMP. ON ARRIVAL 2.9



# Quality Control Report

Report ID: QC-S49455-01  
Generated on 06/15/2023

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): S49455.01-S49455.08  
Project: RACER Coldwater Road  
Submitted Date/Time: 06/07/2023 15:10  
Sampled by: Kevin Schneider  
P.O. #: 1940006516 TASK 001

QC Report Sections

- Cover Page (Page 1)
- Analysis Summary (Pages 2-9)
- Prep Batch Summary (Pages 10-11)
- Surrogates per Lab Sample (Pages 12-19)
- Surrogates per QC Sample (Pages 20-21)
- Batch QC Results (Pages 22-37)

Report Flag Descriptions

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

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

Barbara Ball  
Quality Assurance Manager

## QC Report - Analysis Summary

**Lab Sample ID: S49455.01**

Sample Tag: SUMP-A

Collected Date/Time: 06/06/2023 11:18

Matrix: Wastewater

COC Reference: 156516

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b><i>Inorganics</i></b>						
Conductivity	E120.1	06/14/23 12:07	COND230614-W1	COND230614-W1	No	BLK/LCS/DUP
TOC	SM5310C	06/13/23 15:34	TOC230613-W1	TOC230613-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	06/09/23 13:00	TSS230609	TSS230609	No	BLK/LCS/DUP
<b><i>Metals</i></b>						
Chromium, Dissolved	E200.8	06/08/23 13:55	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/08/23 13:55	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/08/23 13:55	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/08/23 13:55	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
<b><i>Organics - Volatiles</i></b>						
Volatile Organics - DEQ List	SW5030C/8260C	06/10/23 00:42	230609B9	VF230609W3	Yes	BLK/LCS/LCSD

## QC Report - Analysis Summary

**Lab Sample ID: S49455.02**

Sample Tag: SUMP-B

Collected Date/Time: 06/06/2023 12:55

Matrix: Wastewater

COC Reference: 156516

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b><i>Inorganics</i></b>						
Conductivity	E120.1	06/14/23 12:09	COND230614-W1	COND230614-W1	No	BLK/LCS/DUP
TOC	SM5310C	06/13/23 15:51	TOC230613-W1	TOC230613-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	06/09/23 13:00	TSS230609	TSS230609	No	BLK/LCS/DUP
<b><i>Metals</i></b>						
Chromium, Dissolved	E200.8	06/08/23 13:56	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/08/23 13:56	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/08/23 13:56	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/08/23 13:56	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
<b><i>Organics - Volatiles</i></b>						
Volatile Organics - DEQ List	SW5030C/8260C	06/10/23 01:01	230609B9	VF230609W3	Yes	BLK/LCS/LCSD

## QC Report - Analysis Summary

**Lab Sample ID: S49455.03**

Sample Tag: SUMP-C

Collected Date/Time: 06/06/2023 13:52

Matrix: Wastewater

COC Reference: 156516

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b><i>Inorganics</i></b>						
Conductivity	E120.1	06/14/23 12:10	COND230614-W1	COND230614-W1	No	BLK/LCS/DUP
TOC	SM5310C	06/13/23 16:08	TOC230613-W1	TOC230613-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	06/09/23 13:00	TSS230609	TSS230609	No	BLK/LCS/DUP
<b><i>Metals</i></b>						
Chromium, Dissolved	E200.8	06/08/23 13:57	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/08/23 13:57	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/08/23 13:57	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/08/23 13:57	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
<b><i>Organics - Volatiles</i></b>						
Volatile Organics - DEQ List	SW5030C/8260C	06/10/23 01:20	230609B9	VF230609W3	Yes	BLK/LCS/LCSD

## QC Report - Analysis Summary

**Lab Sample ID: S49455.04**

Sample Tag: SUMP-DUP-060623

Collected Date/Time: 06/06/2023 00:01

Matrix: Wastewater

COC Reference: 156516

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b><i>Inorganics</i></b>						
Conductivity	E120.1	06/14/23 12:11	COND230614-W1	COND230614-W1	No	BLK/LCS/DUP
TOC	SM5310C	06/13/23 16:43	TOC230613-W1	TOC230613-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	06/09/23 13:00	TSS230609	TSS230609	No	BLK/LCS/DUP
<b><i>Metals</i></b>						
Chromium, Dissolved	E200.8	06/08/23 13:59	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/08/23 13:59	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/08/23 13:59	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/08/23 13:59	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
<b><i>Organics - Volatiles</i></b>						
Volatile Organics - DEQ List	SW5030C/8260C	06/10/23 01:40	230609B9	VF230609W3	Yes	BLK/LCS/LCSD

## QC Report - Analysis Summary

**Lab Sample ID: S49455.05**

Sample Tag: SUMP-D

Collected Date/Time: 06/07/2023 10:48

Matrix: Wastewater

COC Reference: 156516

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b><i>Inorganics</i></b>						
Conductivity	E120.1	06/14/23 12:12	COND230614-W1	COND230614-W1	No	BLK/LCS/DUP
TOC	SM5310C	06/13/23 18:36	TOC230613-W1	TOC230613-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	06/13/23 13:45	TSS230613A	TSS230613A	No	BLK/LCS/DUP
<b><i>Metals</i></b>						
Chromium, Dissolved	E200.8	06/08/23 14:00	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/08/23 14:00	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/08/23 14:00	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/08/23 14:00	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
<b><i>Organics - Volatiles</i></b>						
Volatile Organics - DEQ List	SW5030C/8260C	06/12/23 15:17	230612A9	VF230612W1	Yes	BLK/LCS/LCSD

## QC Report - Analysis Summary

**Lab Sample ID: S49455.06**

Sample Tag: SUMP-E

Collected Date/Time: 06/07/2023 11:50

Matrix: Wastewater

COC Reference: 156516

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b><i>Inorganics</i></b>						
Conductivity	E120.1	06/14/23 12:13	COND230614-W1	COND230614-W1	No	BLK/LCS/DUP
TOC	SM5310C	06/13/23 17:15	TOC230613-W1	TOC230613-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	06/13/23 13:45	TSS230613A	TSS230613A	No	BLK/LCS/DUP
<b><i>Metals</i></b>						
Chromium, Dissolved	E200.8	06/08/23 14:01	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/08/23 14:01	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/08/23 14:01	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/08/23 14:01	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
<b><i>Organics - Volatiles</i></b>						
Volatile Organics - DEQ List	SW5030C/8260C	06/10/23 02:00	230609B9	VF230609W3	Yes	BLK/LCS/LCSD

## QC Report - Analysis Summary

**Lab Sample ID: S49455.07**

Sample Tag: SUMP-F

Collected Date/Time: 06/07/2023 12:52

Matrix: Wastewater

COC Reference: 156516

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b><i>Inorganics</i></b>						
Conductivity	E120.1	06/14/23 12:14	COND230614-W1	COND230614-W1	No	BLK/LCS/DUP
TOC	SM5310C	06/13/23 17:32	TOC230613-W1	TOC230613-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	06/13/23 13:45	TSS230613A	TSS230613A	No	BLK/LCS/DUP
<b><i>Metals</i></b>						
Chromium, Dissolved	E200.8	06/08/23 14:03	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/08/23 14:03	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/08/23 14:03	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/08/23 14:03	MT4-23-0608A	MTD-060823-2	No	BLK/LCS/MS/MSD
<b><i>Organics - Volatiles</i></b>						
Volatile Organics - DEQ List	SW5030C/8260C	06/10/23 02:19	230609B9	VF230609W3	Yes	BLK/LCS/LCSD

# QC Report - Analysis Summary

Lab Sample ID: S49455.08

Sample Tag: Trip Blank-060723

Collected Date/Time: 06/07/2023 00:01

Matrix: Water

COC Reference: 156516

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b>Organics - Volatiles</b>						
Volatile Organics - DEQ List	SW5030C/8260C	06/10/23 00:22	230609B9	VF230609W3	Yes	BLK/LCS/LCSD

## QC Report - Prep Batch Summary

### Inorganics, Prep Batch ID: COND230614-W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S49455.01	Conductivity	E120.1	06/14/23 12:07	COND230614-W1
S49455.02	Conductivity	E120.1	06/14/23 12:09	COND230614-W1
S49455.03	Conductivity	E120.1	06/14/23 12:10	COND230614-W1
S49455.04	Conductivity	E120.1	06/14/23 12:11	COND230614-W1
S49455.05	Conductivity	E120.1	06/14/23 12:12	COND230614-W1
S49455.06	Conductivity	E120.1	06/14/23 12:13	COND230614-W1
S49455.07	Conductivity	E120.1	06/14/23 12:14	COND230614-W1

### Inorganics, Prep Batch ID: TOC230613-W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S49455.01	TOC	SM5310C	06/13/23 15:34	TOC230613-W1
S49455.02	TOC	SM5310C	06/13/23 15:51	TOC230613-W1
S49455.03	TOC	SM5310C	06/13/23 16:08	TOC230613-W1
S49455.04	TOC	SM5310C	06/13/23 16:43	TOC230613-W1
S49455.05	TOC	SM5310C	06/13/23 18:36	TOC230613-W1
S49455.06	TOC	SM5310C	06/13/23 17:15	TOC230613-W1
S49455.07	TOC	SM5310C	06/13/23 17:32	TOC230613-W1

### Inorganics, Prep Batch ID: TSS230609

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S49455.01	Total Suspended Solids	SM2540D	06/09/23 13:00	TSS230609
S49455.02	Total Suspended Solids	SM2540D	06/09/23 13:00	TSS230609
S49455.03	Total Suspended Solids	SM2540D	06/09/23 13:00	TSS230609
S49455.04	Total Suspended Solids	SM2540D	06/09/23 13:00	TSS230609

### Inorganics, Prep Batch ID: TSS230613A

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S49455.05	Total Suspended Solids	SM2540D	06/13/23 13:45	TSS230613A
S49455.06	Total Suspended Solids	SM2540D	06/13/23 13:45	TSS230613A
S49455.07	Total Suspended Solids	SM2540D	06/13/23 13:45	TSS230613A

### Metals, Prep Batch ID: MTD-060823-2

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S49455.01	Chromium, Dissolved	E200.8	06/08/23 13:55	MT4-23-0608A
S49455.01	Copper, Dissolved	E200.8	06/08/23 13:55	MT4-23-0608A
S49455.01	Nickel, Dissolved	E200.8	06/08/23 13:55	MT4-23-0608A
S49455.01	Zinc, Dissolved	E200.8	06/08/23 13:55	MT4-23-0608A
S49455.02	Chromium, Dissolved	E200.8	06/08/23 13:56	MT4-23-0608A
S49455.02	Copper, Dissolved	E200.8	06/08/23 13:56	MT4-23-0608A
S49455.02	Nickel, Dissolved	E200.8	06/08/23 13:56	MT4-23-0608A
S49455.02	Zinc, Dissolved	E200.8	06/08/23 13:56	MT4-23-0608A
S49455.03	Chromium, Dissolved	E200.8	06/08/23 13:57	MT4-23-0608A
S49455.03	Copper, Dissolved	E200.8	06/08/23 13:57	MT4-23-0608A
S49455.03	Nickel, Dissolved	E200.8	06/08/23 13:57	MT4-23-0608A
S49455.03	Zinc, Dissolved	E200.8	06/08/23 13:57	MT4-23-0608A
S49455.04	Chromium, Dissolved	E200.8	06/08/23 13:59	MT4-23-0608A

## QC Report - Prep Batch Summary

### Metals, Prep Batch ID: MTD-060823-2 (continued)

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S49455.04	Copper, Dissolved	E200.8	06/08/23 13:59	MT4-23-0608A
S49455.04	Nickel, Dissolved	E200.8	06/08/23 13:59	MT4-23-0608A
S49455.04	Zinc, Dissolved	E200.8	06/08/23 13:59	MT4-23-0608A
S49455.05	Chromium, Dissolved	E200.8	06/08/23 14:00	MT4-23-0608A
S49455.05	Copper, Dissolved	E200.8	06/08/23 14:00	MT4-23-0608A
S49455.05	Nickel, Dissolved	E200.8	06/08/23 14:00	MT4-23-0608A
S49455.05	Zinc, Dissolved	E200.8	06/08/23 14:00	MT4-23-0608A
S49455.06	Chromium, Dissolved	E200.8	06/08/23 14:01	MT4-23-0608A
S49455.06	Copper, Dissolved	E200.8	06/08/23 14:01	MT4-23-0608A
S49455.06	Nickel, Dissolved	E200.8	06/08/23 14:01	MT4-23-0608A
S49455.06	Zinc, Dissolved	E200.8	06/08/23 14:01	MT4-23-0608A
S49455.07	Chromium, Dissolved	E200.8	06/08/23 14:03	MT4-23-0608A
S49455.07	Copper, Dissolved	E200.8	06/08/23 14:03	MT4-23-0608A
S49455.07	Nickel, Dissolved	E200.8	06/08/23 14:03	MT4-23-0608A
S49455.07	Zinc, Dissolved	E200.8	06/08/23 14:03	MT4-23-0608A

### Organics - Volatiles, Prep Batch ID: VF230609W3

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S49455.01	Volatile Organics - DEQ List	SW5030C/8260C	06/10/23 00:42	230609B9
S49455.02	Volatile Organics - DEQ List	SW5030C/8260C	06/10/23 01:01	230609B9
S49455.03	Volatile Organics - DEQ List	SW5030C/8260C	06/10/23 01:20	230609B9
S49455.04	Volatile Organics - DEQ List	SW5030C/8260C	06/10/23 01:40	230609B9
S49455.06	Volatile Organics - DEQ List	SW5030C/8260C	06/10/23 02:00	230609B9
S49455.07	Volatile Organics - DEQ List	SW5030C/8260C	06/10/23 02:19	230609B9
S49455.08	Volatile Organics - DEQ List	SW5030C/8260C	06/10/23 00:22	230609B9

### Organics - Volatiles, Prep Batch ID: VF230612W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S49455.05	Volatile Organics - DEQ List	SW5030C/8260C	06/12/23 15:17	230612A9

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S49455.01

Sample Tag: SUMP-A

Collected Date/Time: 06/06/2023 11:18

Matrix: Wastewater

COC Reference: 156516

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230609B9, Run Date: 06/10/2023 00:42, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		101.6	80.0	124.0
1,2-Dichloroethane-D4		82.4	72.0	125.0
Toluene-D8		95.5	89.0	112.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S49455.02

Sample Tag: SUMP-B

Collected Date/Time: 06/06/2023 12:55

Matrix: Wastewater

COC Reference: 156516

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230609B9, Run Date: 06/10/2023 01:01, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		105.4	80.0	124.0
1,2-Dichloroethane-D4		87.1	72.0	125.0
Toluene-D8		97.1	89.0	112.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S49455.03

Sample Tag: SUMP-C

Collected Date/Time: 06/06/2023 13:52

Matrix: Wastewater

COC Reference: 156516

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230609B9, Run Date: 06/10/2023 01:20, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		105.5	80.0	124.0
1,2-Dichloroethane-D4		93.8	72.0	125.0
Toluene-D8		97.3	89.0	112.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S49455.04

Sample Tag: SUMP-DUP-060623

Collected Date/Time: 06/06/2023 00:01

Matrix: Wastewater

COC Reference: 156516

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230609B9, Run Date: 06/10/2023 01:40, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		105.9	80.0	124.0
1,2-Dichloroethane-D4		93.1	72.0	125.0
Toluene-D8		97.2	89.0	112.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S49455.05

Sample Tag: SUMP-D

Collected Date/Time: 06/07/2023 10:48

Matrix: Wastewater

COC Reference: 156516

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230612A9, Run Date: 06/12/2023 15:17, Matrix: WW, Dilution: 5

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		<b>108.1</b>	80.0	124.0
1,2-Dichloroethane-D4		<b>91.6</b>	72.0	125.0
Toluene-D8		<b>98.3</b>	89.0	112.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S49455.06

Sample Tag: SUMP-E

Collected Date/Time: 06/07/2023 11:50

Matrix: Wastewater

COC Reference: 156516

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230609B9, Run Date: 06/10/2023 02:00, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		105.8	80.0	124.0
1,2-Dichloroethane-D4		91.3	72.0	125.0
Toluene-D8		96.9	89.0	112.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S49455.07

Sample Tag: SUMP-F

Collected Date/Time: 06/07/2023 12:52

Matrix: Wastewater

COC Reference: 156516

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230609B9, Run Date: 06/10/2023 02:19, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		104.1	80.0	124.0
1,2-Dichloroethane-D4		86.8	72.0	125.0
Toluene-D8		95.9	89.0	112.0

# QC Report - Surrogates per Lab Sample

Lab Sample ID: S49455.08

Sample Tag: Trip Blank-060723

Collected Date/Time: 06/07/2023 00:01

Matrix: Water

COC Reference: 156516

## Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 230609B9, Run Date: 06/10/2023 00:22, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		107.1	80.0	124.0
1,2-Dichloroethane-D4		93.0	72.0	125.0
Toluene-D8		96.6	89.0	112.0

# QC Report - Surrogates per QC Sample

## Organics - Volatiles, Prep Batch ID: VF230609W3

QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: 230609B9.BLKW09B

Run in Batch: 230609B9, Run Date: 06/10/2023 00:02, Prep Date: 06/09/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		<b>106.0</b>	80.0	124.0
1,2-Dichloroethane-D4		<b>91.2</b>	72.0	125.0
Toluene-D8		<b>96.0</b>	89.0	112.0

### Laboratory Control Sample (LCS)

Lab Sample ID: 230609B9.LCSW09B

Run in Batch: 230609B9, Run Date: 06/09/2023 22:43, Prep Date: 06/09/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		<b>111.1</b>	80.0	124.0
1,2-Dichloroethane-D4		<b>80.6</b>	72.0	125.0
Toluene-D8		<b>96.9</b>	89.0	112.0

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230609B9.LCSDW09B, Parent Sample ID: 230609B9.LCSW09B

Run in Batch: 230609B9, Run Date: 06/09/2023 23:03, Prep Date: 06/09/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		<b>112.2</b>	80.0	124.0
1,2-Dichloroethane-D4		<b>85.5</b>	72.0	125.0
Toluene-D8		<b>97.6</b>	89.0	112.0

# QC Report - Surrogates per QC Sample

## Organics - Volatiles, Prep Batch ID: VF230612W1

QC Types: BLK/LCS/LCSD

### Blank (BLK)

Lab Sample ID: 230612A9.BLKW12A

Run in Batch: 230612A9, Run Date: 06/12/2023 14:09, Prep Date: 06/12/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		<b>107.8</b>	80.0	124.0
1,2-Dichloroethane-D4		<b>90.9</b>	72.0	125.0
Toluene-D8		<b>96.2</b>	89.0	112.0

### Laboratory Control Sample (LCS)

Lab Sample ID: 230612A9.LCSW12A

Run in Batch: 230612A9, Run Date: 06/12/2023 12:51, Prep Date: 06/12/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		<b>113.9</b>	80.0	124.0
1,2-Dichloroethane-D4		<b>79.5</b>	72.0	125.0
Toluene-D8		<b>97.9</b>	89.0	112.0

### Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 230612A9.LCSDW12A, Parent Sample ID: 230612A9.LCSW12A

Run in Batch: 230612A9, Run Date: 06/12/2023 13:11, Prep Date: 06/12/2023, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		<b>114.1</b>	80.0	124.0
1,2-Dichloroethane-D4		<b>80.6</b>	72.0	125.0
Toluene-D8		<b>97.1</b>	89.0	112.0

# QC Report - Batch QC Results

## Inorganics, Prep Batch ID: COND230614-W1

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

### Blank (BLK)

Lab Sample ID: COND230614-W1.LRB1

Run in Batch: COND230614-W1, Run Date: 06/14/2023 11:24, Prep Date: 06/14/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Conductivity		ND	1	mg/L

### Laboratory Control Sample (LCS)

Lab Sample ID: COND230614-W1.LCS1

Run in Batch: COND230614-W1, Run Date: 06/14/2023 11:32, Prep Date: 06/14/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Conductivity		98.7	90	110

### Laboratory Control Sample (LCS)

Lab Sample ID: COND230614-W1.LCS2

Run in Batch: COND230614-W1, Run Date: 06/14/2023 11:35, Prep Date: 06/14/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Conductivity		92.5	90	110

### Duplicate (DUP)

Lab Sample ID: COND230614-W1.DP1, Parent Sample ID: S49369.01

Run in Batch: COND230614-W1, Run Date: 06/14/2023 11:39, Prep Date: 06/14/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
Conductivity		0.3	15

# QC Report - Batch QC Results

## Inorganics, Prep Batch ID: TOC230613-W1

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

### Blank (BLK)

Lab Sample ID: TOC230613-W1.LRB1

Run in Batch: TOC230613-W1, Run Date: 06/13/2023 11:27, Prep Date: 06/13/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
TOC		ND	1	mg/L

### Laboratory Control Sample (LCS)

Lab Sample ID: TOC230613-W1.LCS1

Run in Batch: TOC230613-W1, Run Date: 06/13/2023 12:03, Prep Date: 06/13/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
TOC		96	90	110

### Matrix Spike (MS)

Lab Sample ID: TOC230613-W1.MS1, Parent Sample ID: S49452.02

Run in Batch: TOC230613-W1, Run Date: 06/13/2023 14:16, Prep Date: 06/13/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
TOC		100	80	120

### Matrix Spike Duplicate (MSD)

Lab Sample ID: TOC230613-W1.MSD1, Parent Sample ID: TOC230613-W1.MS1

Run in Batch: TOC230613-W1, Run Date: 06/13/2023 14:31, Prep Date: 06/13/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
TOC		100	80	120	0	15

### Duplicate (DUP)

Lab Sample ID: TOC230613-W1.DP1, Parent Sample ID: S49452.02

Run in Batch: TOC230613-W1, Run Date: 06/13/2023 14:00, Prep Date: 06/13/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
TOC		<1	15

# QC Report - Batch QC Results

## Inorganics, Prep Batch ID: TSS230609

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

### Blank (BLK)

Lab Sample ID: TSS230609.LRB1

Run in Batch: TSS230609, Run Date: 06/09/2023 13:00, Prep Date: 06/09/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Total Suspended Solids		ND	3	mg/L

### Laboratory Control Sample (LCS)

Lab Sample ID: TSS230609.LCS1

Run in Batch: TSS230609, Run Date: 06/09/2023 13:00, Prep Date: 06/09/2023, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL
Total Suspended Solids		98.8	81.9	111

### Duplicate (DUP)

Lab Sample ID: TSS230609.DP1, Parent Sample ID: S49362.01

Run in Batch: TSS230609, Run Date: 06/09/2023 13:00, Prep Date: 06/09/2023, Matrix: Liquid, Dilution: 3.3

Analyte	Flags	RPD	RPD CL
Total Suspended Solids		0.0	10

# QC Report - Batch QC Results

## Inorganics, Prep Batch ID: TSS230613A

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

### Blank (BLK)

Lab Sample ID: TSS230613A.LRB1

Run in Batch: TSS230613A, Run Date: 06/13/2023 13:45, Prep Date: 06/13/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Total Suspended Solids		ND	3	mg/L

### Laboratory Control Sample (LCS)

Lab Sample ID: TSS230613A.LCS1

Run in Batch: TSS230613A, Run Date: 06/13/2023 13:45, Prep Date: 06/13/2023, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL
Total Suspended Solids		98.8	81.9	111

### Duplicate (DUP)

Lab Sample ID: TSS230613A.DP1, Parent Sample ID: S49471.01

Run in Batch: TSS230613A, Run Date: 06/13/2023 13:45, Prep Date: 06/13/2023, Matrix: Liquid, Dilution: 4

Analyte	Flags	RPD	RPD CL
Total Suspended Solids		9.3	10

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-060823-2

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

#### Blank (BLK)

Lab Sample ID: MT4-23-0608A.053.LRB

Run in Batch: MT4-23-0608A, Run Date: 06/08/2023 13:24, Prep Date: 06/08/2023, 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: MT4-23-0608A.052.LCS

Run in Batch: MT4-23-0608A, Run Date: 06/08/2023 13:21, Prep Date: 06/08/2023, Matrix: Liquid, Dilution: 1

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

#### Matrix Spike (MS)

Lab Sample ID: MT4-23-0608A.065.MS, Parent Sample ID: S49396.01

Run in Batch: MT4-23-0608A, Run Date: 06/08/2023 13:42, Prep Date: 06/08/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Chromium		102	75	125
Copper		95	75	125
Nickel		97	75	125
Zinc		101	75	125

#### Matrix Spike (MS)

Lab Sample ID: MT4-23-0608A.079.MS, Parent Sample ID: S49452.07

Run in Batch: MT4-23-0608A, Run Date: 06/08/2023 14:04, Prep Date: 06/08/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Chromium		100	75	125
Copper		93	75	125
Nickel		97	75	125
Zinc		101	75	125

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-23-0608A.066.MSD, Parent Sample ID: MT4-23-0608A.065.MS

Run in Batch: MT4-23-0608A, Run Date: 06/08/2023 13:43, Prep Date: 06/08/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium		104	75	125	2	20
Copper		94	75	125	1	20
Nickel		97	75	125	0	20
Zinc		98	75	125	3	20

# QC Report - Batch QC Results

## Metals, Prep Batch ID: MTD-060823-2 (continued)

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

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-23-0608A.080.MSD, Parent Sample ID: MT4-23-0608A.079.MS

Run in Batch: MT4-23-0608A, Run Date: 06/08/2023 14:06, Prep Date: 06/08/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium		102	75	125	1	20
Copper		94	75	125	1	20
Nickel		99	75	125	2	20
Zinc		102	75	125	1	20

**QC Report - Batch QC Results**

**Organics - Volatiles, Prep Batch ID: VF230609W3**

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

**Blank (BLK)**

Lab Sample ID: 230609B9.BLKW09B

Run in Batch: 230609B9, Run Date: 06/10/2023 00:02, Prep Date: 06/09/2023, Matrix: WW, Dilution: 1

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

**QC Report - Batch QC Results**

**Organics - Volatiles, Prep Batch ID: VF230609W3 (continued)**

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

**Blank (BLK) (continued)**

Lab Sample ID: 230609B9.BLKW09B

Run in Batch: 230609B9, Run Date: 06/10/2023 00:02, Prep Date: 06/09/2023, Matrix: WW, Dilution: 1

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

**Laboratory Control Sample (LCS)**

Lab Sample ID: 230609B9.LCSW09B

Run in Batch: 230609B9, Run Date: 06/09/2023 22:43, Prep Date: 06/09/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		97.2	67.4	121.2
Acetone		95.4	29.9	161.5
Methyl iodide		108.4	68.8	116.4
Carbon disulfide		96.4	63.8	137.4
tert-Methyl butyl ether (MTBE)		107.7	73.2	122.4
Acrylonitrile		90.7	69.9	128.9
2-Butanone (MEK)		103.0	44.0	134.4
Dichlorodifluoromethane		75.1	10.0	222.8
Chloromethane		101.2	23.8	166.5
Vinyl chloride		99.9	43.5	149.1
Bromomethane		96.6	56.8	151.3
Chloroethane		93.0	53.4	149.4
Trichlorofluoromethane		80.3	59.7	151.8
1,1-Dichloroethene		90.8	69.6	139.4
Methylene chloride		96.7	73.3	121.1
trans-1,2-Dichloroethene		94.9	73.6	129.3
1,1-Dichloroethane		96.0	71.5	126.2
cis-1,2-Dichloroethene		100.1	76.6	122.1
Tetrahydrofuran		98.8	59.0	117.9
Chloroform		97.9	78.4	124.0

**QC Report - Batch QC Results**

**Organics - Volatiles, Prep Batch ID: VF230609W3 (continued)**

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

**Laboratory Control Sample (LCS) (continued)**

Lab Sample ID: 230609B9.LCSW09B

Run in Batch: 230609B9, Run Date: 06/09/2023 22:43, Prep Date: 06/09/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane		101.8	78.2	120.8
1,1,1-Trichloroethane		94.8	79.4	130.9
4-Methyl-2-pentanone (MIBK)		104.8	71.6	125.2
2-Hexanone		107.7	55.4	136.9
Carbon tetrachloride		100.3	72.6	133.0
Benzene		105.3	79.9	124.9
1,2-Dichloroethane		97.6	76.0	126.3
Trichloroethene		108.0	79.7	124.2
1,2-Dichloropropane		102.2	78.6	126.4
Bromodichloromethane		104.2	80.4	128.2
Dibromomethane		112.9	76.9	122.1
cis-1,3-Dichloropropene		103.9	79.8	129.9
Toluene		104.9	79.8	124.5
trans-1,3-Dichloropropene		104.5	74.0	131.3
1,1,2-Trichloroethane		104.9	78.7	123.1
Tetrachloroethene		111.4	74.5	124.5
trans-1,4-Dichloro-2-butene		97.0	68.6	135.4
Dibromochloromethane		113.1	74.6	127.2
1,2-Dibromoethane		114.1	70.3	133.7
Chlorobenzene		111.3	79.2	122.7
1,1,1,2-Tetrachloroethane		115.5	80.3	128.2
Ethylbenzene		111.9	79.5	129.1
p,m-Xylene		112.9	79.4	132.2
o-Xylene		111.1	80.2	131.0
Styrene		113.2	69.5	126.7
Isopropylbenzene		115.6	74.4	121.5
Bromoform		118.9	69.4	128.0
1,1,2,2-Tetrachloroethane		111.4	79.8	126.3
1,2,3-Trichloropropane		111.7	78.3	138.8
n-Propylbenzene		113.1	82.0	130.7
Bromobenzene		116.6	78.7	124.6
1,3,5-Trimethylbenzene		116.4	81.3	128.9
tert-Butylbenzene		108.4	80.7	128.9
1,2,4-Trimethylbenzene		117.0	81.4	130.8
sec-Butylbenzene		103.1	77.4	129.8
p-Isopropyltoluene		104.8	79.8	137.5
1,3-Dichlorobenzene		106.6	77.0	131.3
1,4-Dichlorobenzene		105.7	20.7	137.7
1,2-Dichlorobenzene		108.8	10.0	166.2
1,2,3-Trimethylbenzene		105.5	76.3	124.2
n-Butylbenzene		102.5	80.0	133.3
Hexachloroethane		113.9	23.8	138.1
1,2-Dibromo-3-chloropropane		111.3	21.2	189.4
1,2,4-Trichlorobenzene		110.2	27.4	143.4
1,2,3-Trichlorobenzene		112.9	75.4	131.4
Naphthalene		113.5	32.9	135.8

**QC Report - Batch QC Results**

**Organics - Volatiles, Prep Batch ID: VF230609W3 (continued)**

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

**Laboratory Control Sample (LCS) (continued)**

Lab Sample ID: 230609B9.LCSW09B

Run in Batch: 230609B9, Run Date: 06/09/2023 22:43, Prep Date: 06/09/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		102.3	25.5	165.5

**Laboratory Control Sample Duplicate (LCSD)**

Lab Sample ID: 230609B9.LCSDW09B, Parent Sample ID: 230609B9.LCSW09B

Run in Batch: 230609B9, Run Date: 06/09/2023 23:03, Prep Date: 06/09/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		101.2	67.4	121.2	4.1	30.0
Acetone		97.9	29.9	161.5	2.5	30.0
Methyl iodide		107.5	68.8	116.4	0.8	30.0
Carbon disulfide		93.7	63.8	137.4	2.9	30.0
tert-Methyl butyl ether (MTBE)		113.0	73.2	122.4	4.8	30.0
Acrylonitrile		95.5	69.9	128.9	5.2	30.0
2-Butanone (MEK)		103.6	44.0	134.4	0.5	30.0
Dichlorodifluoromethane		70.8	10.0	222.8	5.9	30.0
Chloromethane		97.0	23.8	166.5	4.3	30.0
Vinyl chloride		93.0	43.5	149.1	7.1	30.0
Bromomethane		95.0	56.8	151.3	1.8	30.0
Chloroethane		89.0	53.4	149.4	4.4	30.0
Trichlorofluoromethane		75.3	59.7	151.8	6.5	30.0
1,1-Dichloroethene		86.7	69.6	139.4	4.7	30.0
Methylene chloride		98.3	73.3	121.1	1.6	30.0
trans-1,2-Dichloroethene		94.4	73.6	129.3	0.5	30.0
1,1-Dichloroethane		96.3	71.5	126.2	0.4	30.0
cis-1,2-Dichloroethene		103.2	76.6	122.1	3.1	30.0
Tetrahydrofuran		98.6	59.0	117.9	0.2	30.0
Chloroform		99.2	78.4	124.0	1.3	30.0
Bromochloromethane		107.7	78.2	120.8	5.6	30.0
1,1,1-Trichloroethane		93.0	79.4	130.9	1.9	30.0
4-Methyl-2-pentanone (MIBK)		105.8	71.6	125.2	1.0	30.0
2-Hexanone		105.7	55.4	136.9	1.9	30.0
Carbon tetrachloride		96.0	72.6	133.0	4.4	30.0
Benzene		102.9	79.9	124.9	2.3	30.0
1,2-Dichloroethane		99.0	76.0	126.3	1.4	30.0
Trichloroethene		103.1	79.7	124.2	4.6	30.0
1,2-Dichloropropane		104.3	78.6	126.4	2.1	30.0
Bromodichloromethane		105.4	80.4	128.2	1.2	30.0
Dibromomethane		115.8	76.9	122.1	2.6	30.0
cis-1,3-Dichloropropene		107.1	79.8	129.9	3.0	30.0
Toluene		103.0	79.8	124.5	1.8	30.0
trans-1,3-Dichloropropene		107.4	74.0	131.3	2.7	30.0
1,1,2-Trichloroethane		107.6	78.7	123.1	2.5	30.0
Tetrachloroethene		105.6	74.5	124.5	5.3	30.0
trans-1,4-Dichloro-2-butene		95.0	68.6	135.4	2.1	30.0
Dibromochloromethane		113.2	74.6	127.2	0.1	30.0
1,2-Dibromoethane		113.9	70.3	133.7	0.1	30.0
Chlorobenzene		107.8	79.2	122.7	3.2	30.0

## QC Report - Batch QC Results

### Organics - Volatiles, Prep Batch ID: VF230609W3 (continued)

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

### Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 230609B9.LCSDW09B, Parent Sample ID: 230609B9.LCSW09B

Run in Batch: 230609B9, Run Date: 06/09/2023 23:03, Prep Date: 06/09/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		112.0	80.3	128.2	3.1	30.0
Ethylbenzene		105.9	79.5	129.1	5.5	30.0
p,m-Xylene		106.8	79.4	132.2	5.6	30.0
o-Xylene		106.2	80.2	131.0	4.5	30.0
Styrene		108.7	69.5	126.7	4.1	30.0
Isopropylbenzene		106.4	74.4	121.5	8.3	30.0
Bromoform		117.9	69.4	128.0	0.8	30.0
1,1,2,2-Tetrachloroethane		107.0	79.8	126.3	4.1	30.0
1,2,3-Trichloropropane		108.7	78.3	138.8	2.7	30.0
n-Propylbenzene		105.8	82.0	130.7	6.7	30.0
Bromobenzene		115.8	78.7	124.6	0.6	30.0
1,3,5-Trimethylbenzene		109.8	81.3	128.9	5.8	30.0
tert-Butylbenzene		101.7	80.7	128.9	6.4	30.0
1,2,4-Trimethylbenzene		109.5	81.4	130.8	6.6	30.0
sec-Butylbenzene		95.5	77.4	129.8	7.6	30.0
p-Isopropyltoluene		97.0	79.8	137.5	7.7	30.0
1,3-Dichlorobenzene		102.9	77.0	131.3	3.5	30.0
1,4-Dichlorobenzene		102.4	20.7	137.7	3.2	30.0
1,2-Dichlorobenzene		105.2	10.0	166.2	3.3	30.0
1,2,3-Trimethylbenzene		101.8	76.3	124.2	3.6	30.0
n-Butylbenzene		94.2	80.0	133.3	8.5	30.0
Hexachloroethane		106.8	23.8	138.1	6.4	30.0
1,2-Dibromo-3-chloropropane		106.2	21.2	189.4	4.6	30.0
1,2,4-Trichlorobenzene		108.0	27.4	143.4	2.0	30.0
1,2,3-Trichlorobenzene		109.6	75.4	131.4	3.0	30.0
Naphthalene		108.3	32.9	135.8	4.7	30.0
2-Methylnaphthalene		99.6	25.5	165.5	2.7	30.0

# QC Report - Batch QC Results

**Organics - Volatiles, Prep Batch ID: VF230612W1**

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

**Blank (BLK)**

Lab Sample ID: 230612A9.BLKW12A

Run in Batch: 230612A9, Run Date: 06/12/2023 14:09, Prep Date: 06/12/2023, Matrix: WW, Dilution: 1

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

**QC Report - Batch QC Results**

**Organics - Volatiles, Prep Batch ID: VF230612W1 (continued)**

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

**Blank (BLK) (continued)**

Lab Sample ID: 230612A9.BLKW12A

Run in Batch: 230612A9, Run Date: 06/12/2023 14:09, Prep Date: 06/12/2023, Matrix: WW, Dilution: 1

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

**Laboratory Control Sample (LCS)**

Lab Sample ID: 230612A9.LCSW12A

Run in Batch: 230612A9, Run Date: 06/12/2023 12:51, Prep Date: 06/12/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		92.2	67.4	121.2
Acetone		104.4	29.9	161.5
Methyl iodide		106.7	68.8	116.4
Carbon disulfide		97.9	63.8	137.4
tert-Methyl butyl ether (MTBE)		105.9	73.2	122.4
Acrylonitrile		89.9	69.9	128.9
2-Butanone (MEK)		105.4	44.0	134.4
Dichlorodifluoromethane		80.6	10.0	222.8
Chloromethane		91.4	23.8	166.5
Vinyl chloride		92.7	43.5	149.1
Bromomethane		89.8	56.8	151.3
Chloroethane		88.5	53.4	149.4
Trichlorofluoromethane		78.9	59.7	151.8
1,1-Dichloroethene		92.5	69.6	139.4
Methylene chloride		93.6	73.3	121.1
trans-1,2-Dichloroethene		94.6	73.6	129.3
1,1-Dichloroethane		94.7	71.5	126.2
cis-1,2-Dichloroethene		100.0	76.6	122.1
Tetrahydrofuran		96.6	59.0	117.9
Chloroform		95.7	78.4	124.0

**QC Report - Batch QC Results**

**Organics - Volatiles, Prep Batch ID: VF230612W1 (continued)**

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

**Laboratory Control Sample (LCS) (continued)**

Lab Sample ID: 230612A9.LCSW12A

Run in Batch: 230612A9, Run Date: 06/12/2023 12:51, Prep Date: 06/12/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane		98.0	78.2	120.8
1,1,1-Trichloroethane		95.8	79.4	130.9
4-Methyl-2-pentanone (MIBK)		104.5	71.6	125.2
2-Hexanone		107.6	55.4	136.9
Carbon tetrachloride		100.5	72.6	133.0
Benzene		103.5	79.9	124.9
1,2-Dichloroethane		93.0	76.0	126.3
Trichloroethene		105.8	79.7	124.2
1,2-Dichloropropane		101.4	78.6	126.4
Bromodichloromethane		101.0	80.4	128.2
Dibromomethane		107.3	76.9	122.1
cis-1,3-Dichloropropene		104.7	79.8	129.9
Toluene		105.6	79.8	124.5
trans-1,3-Dichloropropene		104.7	74.0	131.3
1,1,2-Trichloroethane		100.3	78.7	123.1
Tetrachloroethene		112.2	74.5	124.5
trans-1,4-Dichloro-2-butene		99.4	68.6	135.4
Dibromochloromethane		108.4	74.6	127.2
1,2-Dibromoethane		108.5	70.3	133.7
Chlorobenzene		108.6	79.2	122.7
1,1,1,2-Tetrachloroethane		110.4	80.3	128.2
Ethylbenzene		111.5	79.5	129.1
p,m-Xylene		112.2	79.4	132.2
o-Xylene		110.1	80.2	131.0
Styrene		109.7	69.5	126.7
Isopropylbenzene		114.0	74.4	121.5
Bromoform		116.2	69.4	128.0
1,1,1,2,2-Tetrachloroethane		108.5	79.8	126.3
1,2,3-Trichloropropane		107.1	78.3	138.8
n-Propylbenzene		114.9	82.0	130.7
Bromobenzene		113.9	78.7	124.6
1,3,5-Trimethylbenzene		117.8	81.3	128.9
tert-Butylbenzene		109.6	80.7	128.9
1,2,4-Trimethylbenzene		117.5	81.4	130.8
sec-Butylbenzene		101.7	77.4	129.8
p-Isopropyltoluene		103.8	79.8	137.5
1,3-Dichlorobenzene		101.8	77.0	131.3
1,4-Dichlorobenzene		102.0	20.7	137.7
1,2-Dichlorobenzene		101.8	10.0	166.2
1,2,3-Trimethylbenzene		103.9	76.3	124.2
n-Butylbenzene		104.4	80.0	133.3
Hexachloroethane		116.9	23.8	138.1
1,2-Dibromo-3-chloropropane		101.5	21.2	189.4
1,2,4-Trichlorobenzene		101.8	27.4	143.4
1,2,3-Trichlorobenzene		101.6	75.4	131.4
Naphthalene		100.6	32.9	135.8

**QC Report - Batch QC Results**

**Organics - Volatiles, Prep Batch ID: VF230612W1 (continued)**

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

**Laboratory Control Sample (LCS) (continued)**

Lab Sample ID: 230612A9.LCSW12A

Run in Batch: 230612A9, Run Date: 06/12/2023 12:51, Prep Date: 06/12/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		90.8	25.5	165.5

**Laboratory Control Sample Duplicate (LCSD)**

Lab Sample ID: 230612A9.LCSDW12A, Parent Sample ID: 230612A9.LCSW12A

Run in Batch: 230612A9, Run Date: 06/12/2023 13:11, Prep Date: 06/12/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		96.0	67.4	121.2	4.1	30.0
Acetone		105.6	29.9	161.5	1.1	30.0
Methyl iodide		105.8	68.8	116.4	0.9	30.0
Carbon disulfide		93.0	63.8	137.4	5.1	30.0
tert-Methyl butyl ether (MTBE)		109.1	73.2	122.4	2.9	30.0
Acrylonitrile		92.2	69.9	128.9	2.5	30.0
2-Butanone (MEK)		102.2	44.0	134.4	3.1	30.0
Dichlorodifluoromethane		74.2	10.0	222.8	8.2	30.0
Chloromethane		93.2	23.8	166.5	1.9	30.0
Vinyl chloride		91.1	43.5	149.1	1.8	30.0
Bromomethane		89.9	56.8	151.3	0.1	30.0
Chloroethane		87.8	53.4	149.4	0.8	30.0
Trichlorofluoromethane		75.5	59.7	151.8	4.4	30.0
1,1-Dichloroethene		86.6	69.6	139.4	6.6	30.0
Methylene chloride		94.6	73.3	121.1	1.0	30.0
trans-1,2-Dichloroethene		90.6	73.6	129.3	4.3	30.0
1,1-Dichloroethane		92.0	71.5	126.2	2.8	30.0
cis-1,2-Dichloroethene		97.8	76.6	122.1	2.2	30.0
Tetrahydrofuran		96.8	59.0	117.9	0.2	30.0
Chloroform		96.4	78.4	124.0	0.7	30.0
Bromochloromethane		102.3	78.2	120.8	4.3	30.0
1,1,1-Trichloroethane		91.8	79.4	130.9	4.3	30.0
4-Methyl-2-pentanone (MIBK)		105.1	71.6	125.2	0.6	30.0
2-Hexanone		105.6	55.4	136.9	1.8	30.0
Carbon tetrachloride		95.9	72.6	133.0	4.7	30.0
Benzene		98.9	79.9	124.9	4.6	30.0
1,2-Dichloroethane		94.3	76.0	126.3	1.5	30.0
Trichloroethene		100.2	79.7	124.2	5.5	30.0
1,2-Dichloropropane		98.1	78.6	126.4	3.3	30.0
Bromodichloromethane		99.7	80.4	128.2	1.3	30.0
Dibromomethane		108.9	76.9	122.1	1.5	30.0
cis-1,3-Dichloropropene		103.2	79.8	129.9	1.4	30.0
Toluene		99.0	79.8	124.5	6.4	30.0
trans-1,3-Dichloropropene		105.9	74.0	131.3	1.1	30.0
1,1,2-Trichloroethane		101.0	78.7	123.1	0.8	30.0
Tetrachloroethene		105.6	74.5	124.5	6.0	30.0
trans-1,4-Dichloro-2-butene		96.8	68.6	135.4	2.7	30.0
Dibromochloromethane		108.2	74.6	127.2	0.1	30.0
1,2-Dibromoethane		109.4	70.3	133.7	0.8	30.0
Chlorobenzene		105.6	79.2	122.7	2.8	30.0

**QC Report - Batch QC Results**

**Organics - Volatiles, Prep Batch ID: VF230612W1 (continued)**

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

**Laboratory Control Sample Duplicate (LCSD) (continued)**

Lab Sample ID: 230612A9.LCSDW12A, Parent Sample ID: 230612A9.LCSW12A

Run in Batch: 230612A9, Run Date: 06/12/2023 13:11, Prep Date: 06/12/2023, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		110.5	80.3	128.2	0.1	30.0
Ethylbenzene		107.0	79.5	129.1	4.1	30.0
p,m-Xylene		108.0	79.4	132.2	3.8	30.0
o-Xylene		106.0	80.2	131.0	3.8	30.0
Styrene		108.5	69.5	126.7	1.1	30.0
Isopropylbenzene		109.2	74.4	121.5	4.2	30.0
Bromoform		115.3	69.4	128.0	0.8	30.0
1,1,2,2-Tetrachloroethane		108.2	79.8	126.3	0.2	30.0
1,2,3-Trichloropropane		105.7	78.3	138.8	1.4	30.0
n-Propylbenzene		109.2	82.0	130.7	5.1	30.0
Bromobenzene		111.9	78.7	124.6	1.7	30.0
1,3,5-Trimethylbenzene		110.9	81.3	128.9	6.1	30.0
tert-Butylbenzene		104.6	80.7	128.9	4.7	30.0
1,2,4-Trimethylbenzene		113.3	81.4	130.8	3.7	30.0
sec-Butylbenzene		97.2	77.4	129.8	4.6	30.0
p-Isopropyltoluene		99.2	79.8	137.5	4.6	30.0
1,3-Dichlorobenzene		100.2	77.0	131.3	1.6	30.0
1,4-Dichlorobenzene		100.8	20.7	137.7	1.2	30.0
1,2-Dichlorobenzene		104.7	10.0	166.2	2.8	30.0
1,2,3-Trimethylbenzene		102.2	76.3	124.2	1.7	30.0
n-Butylbenzene		98.2	80.0	133.3	6.2	30.0
Hexachloroethane		110.1	23.8	138.1	6.0	30.0
1,2-Dibromo-3-chloropropane		105.1	21.2	189.4	3.5	30.0
1,2,4-Trichlorobenzene		105.3	27.4	143.4	3.4	30.0
1,2,3-Trichlorobenzene		104.7	75.4	131.4	2.9	30.0
Naphthalene		104.3	32.9	135.8	3.6	30.0
2-Methylnaphthalene		97.7	25.5	165.5	7.3	30.0



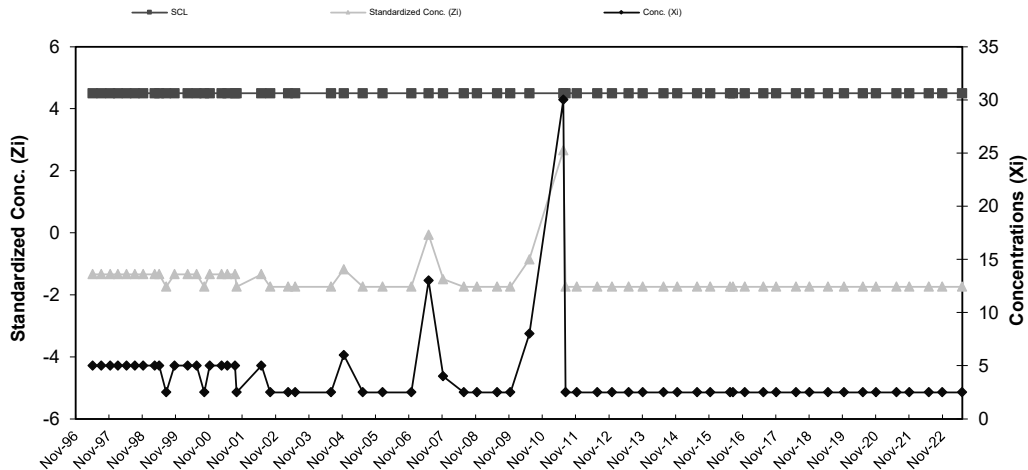
**APPENDIX C**  
**LEAK DETECTION VAULT CONTROL CHARTS**

**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault A - Chromium**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-95	10	13.38	6.25
2	Jun-95	24		
3	Aug-95	10		
4	Nov-95	23		
5	Mar-96	10		
6	Jun-96	10		
7	Aug-96	10		
8	Nov-96	10		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-97	4.5	5	-1.34	46	Nov-11	4.5	2.5	-1.74
10	Aug-97	4.5	5	-1.34	47	Jun-12	4.5	2.5	-1.74
11	Nov-97	4.5	5	-1.34	48	Dec-12	4.5	2.5	-1.74
12	Feb-98	4.5	5	-1.34	49	Jun-13	4.5	2.5	-1.74
13	May-98	4.5	5	-1.34	50	Nov-13	4.5	2.5	-1.74
14	Aug-98	4.5	5	-1.34	51	Jun-14	4.5	2.5	-1.74
15	Nov-98	4.5	5	-1.34	52	Nov-14	4.5	2.5	-1.74
16	Mar-99	4.5	5	-1.34	53	Jun-15	4.5	2.5	-1.74
17	May-99	4.5	5	-1.34	54	Nov-15	4.5	2.5	-1.74
18	Jul-99	4.5	2.5	-1.74	55	Jun-16	4.5	2.5	-1.74
19	Oct-99	4.5	5	-1.34	56	Jul-16	4.5	2.5	-1.74
20	Mar-00	4.5	5	-1.34	57	Nov-16	4.5	2.5	-1.74
21	Jun-00	4.5	5	-1.34	58	Jun-17	4.5	2.5	-1.74
22	Sep-00	4.5	2.5	-1.74	59	Nov-17	4.5	2.5	-1.74
23	Nov-00	4.5	5	-1.34	60	Jun-18	4.5	2.5	-1.74
24	Mar-01	4.5	5	-1.34	61	Nov-18	4.5	2.5	-1.74
25	May-01	4.5	5	-1.34	62	May-19	4.5	2.5	-1.74
26	Aug-01	4.5	2.5	-1.74	63	Nov-19	4.5	2.5	-1.74
27	Aug-01	4.5	5	-1.34	64	Jun-20	4.5	2.5	-1.74
28	May-02	4.5	5	-1.34	65	Nov-20	4.5	2.5	-1.74
29	Sep-02	4.5	2.5	-1.74	66	Jun-21	4.5	2.5	-1.74
30	Mar-03	4.5	2.5	-1.74	67	Nov-21	4.5	2.5	-1.74
31	Jun-03	4.5	2.5	-1.74	68	Jun-22	4.5	2.5	-1.74
32	Jun-04	4.5	2.5	-1.74	69	Nov-22	4.5	2.5	-1.74
33	Nov-04	4.5	6	-1.18	70	Jun-23	4.5	2.5	-1.74
34	Jun-05	4.5	2.5	-1.74					
35	Jan-06	4.5	2.5	-1.74					
36	Nov-06	4.5	2.5	-1.74					
37	Jun-07	4.5	13	-0.06					
38	Nov-07	4.5	4	-1.50					
39	Jun-08	4.5	2.5	-1.74					
40	Nov-08	4.5	2.5	-1.74					
41	Jun-09	4.5	2.5	-1.74					
42	Nov-09	4.5	2.5	-1.74					
43	Jun-10	4.5	8	-0.86					
44	Jun-11	4.5	30	2.66					
45	Jul-11	4.5	2.5	-1.74					

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

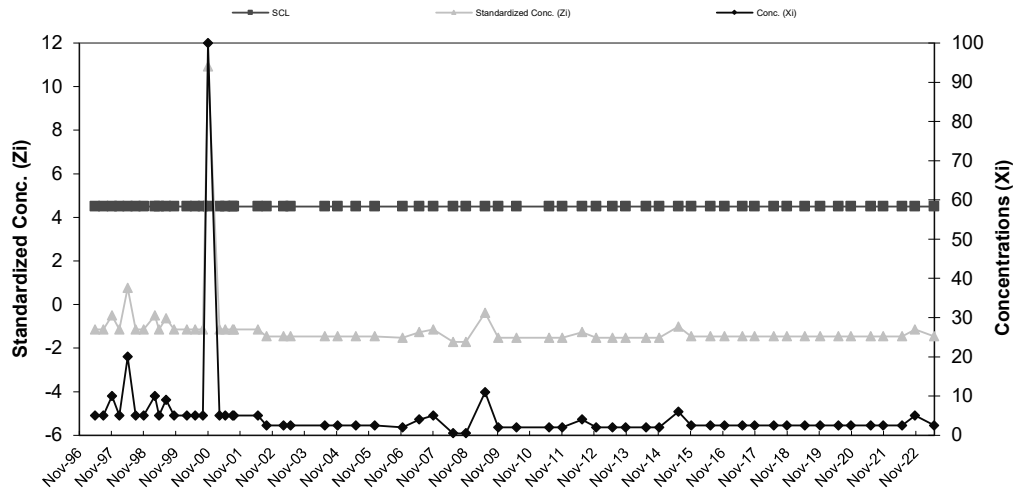


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault A - Copper**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-95	10	14	7.87
2	Jun-95	21		
3	Aug-95	10		
4	Nov-95	31		
5	Mar-96	10		
6	Jun-96	10		
7	Aug-96	10		
8	Nov-96	10		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-97	4.5	5	-1.14	45	Nov-11	4.5	2	-1.52
10	Aug-97	4.5	5	-1.14	46	Jun-12	4.5	4	-1.27
11	Nov-97	4.5	10	-0.51	47	Dec-12	4.5	2	-1.52
12	Feb-98	4.5	5	-1.14	48	Jun-13	4.5	2	-1.52
13	May-98	4.5	20	0.76	49	Nov-13	4.5	2	-1.52
14	Aug-98	4.5	5	-1.14	50	Jun-14	4.5	2	-1.52
15	Nov-98	4.5	5	-1.14	51	Nov-14	4.5	2	-1.52
16	Mar-99	4.5	10	-0.51	52	Jun-15	4.5	6	-1.02
17	May-99	4.5	5	-1.14	53	Nov-15	4.5	2.5	-1.46
18	Jul-99	4.5	9	-0.64	54	Jun-16	4.5	2.5	-1.46
19	Oct-99	4.5	5	-1.14	55	Nov-16	4.5	2.5	-1.46
20	Mar-00	4.5	5	-1.14	56	Jun-17	4.5	2.5	-1.46
21	Jun-00	4.5	5	-1.14	57	Nov-17	4.5	2.5	-1.46
22	Sep-00	4.5	5	-1.14	58	Jun-18	4.5	2.5	-1.46
23	Nov-00	4.5	100	10.92	59	Nov-18	4.5	2.5	-1.46
24	Mar-01	4.5	5	-1.14	60	May-19	4.5	2.5	-1.46
25	May-01	4.5	5	-1.14	61	Nov-19	4.5	2.5	-1.46
26	Aug-01	4.5	5	-1.14	62	Jun-20	4.5	2.5	-1.46
27	Aug-01	4.5	5	-1.14	63	Nov-20	4.5	2.5	-1.46
28	May-02	4.5	5	-1.14	64	Jun-21	4.5	2.5	-1.46
29	Sep-02	4.5	2.5	-1.46	65	Nov-21	4.5	2.5	-1.46
30	Mar-03	4.5	2.5	-1.46	66	Jun-22	4.5	2.5	-1.46
31	Jun-03	4.5	2.5	-1.46	67	Nov-22	4.5	5	-1.14
32	Jun-04	4.5	2.5	-1.46	68	Jun-23	4.5	2.5	-1.46
33	Nov-04	4.5	2.5	-1.46					
34	Jun-05	4.5	2.5	-1.46					
35	Jan-06	4.5	2.5	-1.46					
36	Nov-06	4.5	2	-1.52					
37	Jun-07	4.5	4	-1.27					
38	Nov-07	4.5	5	-1.14					
39	Jun-08	4.5	0.5	-1.71					
40	Nov-08	4.5	0.5	-1.71					
41	Jun-09	4.5	11	-0.38					
42	Nov-09	4.5	2	-1.52					
43	Jun-10	4.5	2	-1.52					
44	Jun-11	4.5	2	-1.52					

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

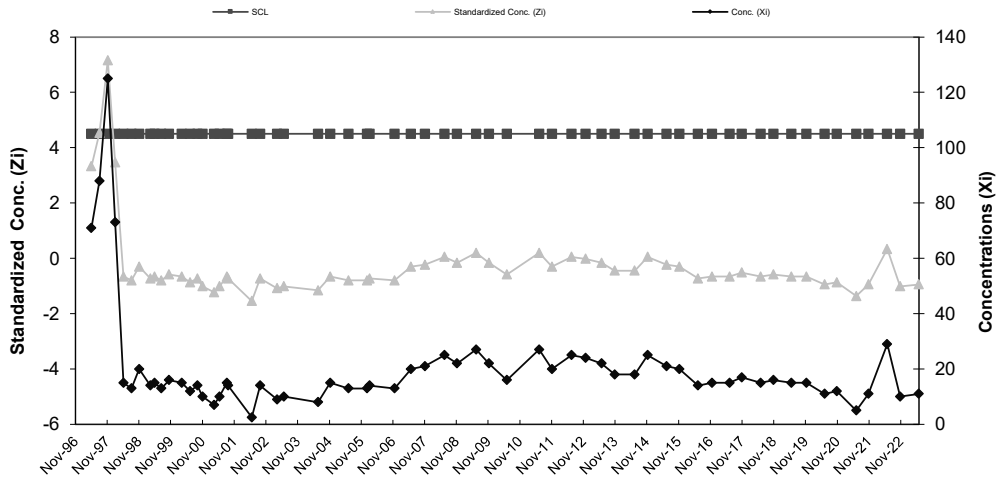


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault A - Nickel**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-95	20	24.25	14.07
2	Jun-95	15		
3	Aug-95	20		
4	Nov-95	43		
5	Mar-96	46		
6	Jun-96	10		
7	Aug-96	10		
8	Nov-96	30		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-97	4.5	71	3.32	46	Nov-11	4.5	20	-0.30
10	Aug-97	4.5	88	4.53	47	Jun-12	4.5	25	0.05
11	Nov-97	4.5	125	7.16	48	Dec-12	4.5	24	-0.02
12	Feb-98	4.5	73	3.47	49	Jun-13	4.5	22	-0.16
13	May-98	4.5	15	-0.66	50	Nov-13	4.5	18	-0.44
14	Aug-98	4.5	13	-0.80	51	Jun-14	4.5	18	-0.44
15	Nov-98	4.5	20	-0.30	52	Nov-14	4.5	25	0.05
16	Mar-99	4.5	14	-0.73	53	Jun-15	4.5	21	-0.23
17	May-99	4.5	15	-0.66	54	Nov-15	4.5	20	-0.30
18	Jul-99	4.5	13	-0.80	55	Jun-16	4.5	14	-0.73
19	Oct-99	4.5	16	-0.59	56	Nov-16	4.5	15	-0.66
20	Mar-00	4.5	15	-0.66	57	Jun-17	4.5	15	-0.66
21	Jun-00	4.5	12	-0.87	58	Nov-17	4.5	17	-0.52
22	Sep-00	4.5	14	-0.73	59	Jun-18	4.5	15	-0.66
23	Nov-00	4.5	10	-1.01	60	Nov-18	4.5	16	-0.59
24	Mar-01	4.5	7	-1.23	61	May-19	4.5	15	-0.66
25	May-01	4.5	10	-1.01	62	Nov-19	4.5	15	-0.66
26	Aug-01	4.5	14	-0.73	63	Jun-20	4.5	11	-0.94
27	Aug-01	4.5	15	-0.66	64	Nov-20	4.5	12	-0.87
28	May-02	4.5	2.5	-1.55	65	Jun-21	4.5	5	-1.37
29	Sep-02	4.5	14	-0.73	66	Nov-21	4.5	11	-0.94
30	Mar-03	4.5	9	-1.08	67	Jun-22	4.5	29	0.34
31	Jun-03	4.5	10	-1.01	68	Nov-22	4.5	10	-1.01
32	Jun-04	4.5	8	-1.16	69	Jun-23	4.5	11	-0.94
33	Nov-04	4.5	15	-0.66					
34	Jun-05	4.5	13	-0.80					
35	Jan-06	4.5	13	-0.80					
36	Feb-06	4.5	14	-0.73					
37	Nov-06	4.5	13	-0.80					
38	Jun-07	4.5	20	-0.30					
39	Nov-07	4.5	21	-0.23					
40	Jun-08	4.5	25	0.05					
41	Nov-08	4.5	22	-0.16					
42	Jun-09	4.5	27	0.20					
43	Nov-09	4.5	22	-0.16					
44	Jun-10	4.5	16	-0.59					
45	Jun-11	4.5	27	0.20					

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

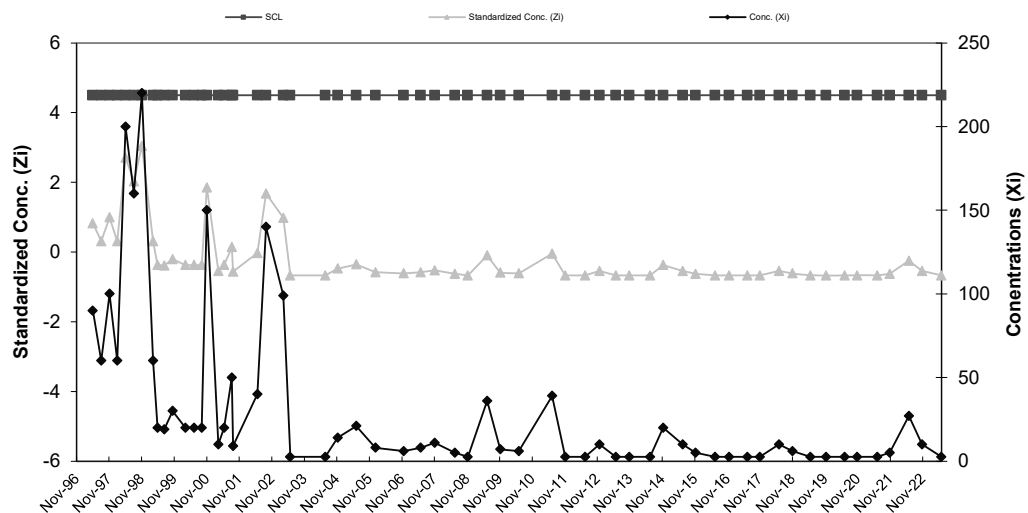


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault A - Zinc**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-95	180	41.75	58.47
2	Jun-95	10		
3	Aug-95	10		
4	Nov-95	24		
5	Mar-96	10		
6	Jun-96	10		
7	Aug-96	30		
8	Nov-96	60		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-97	4.5	90	0.83	45	Nov-11	4.5	2.5	-0.67
10	Aug-97	4.5	60	0.31	46	Jun-12	4.5	2.5	-0.67
11	Nov-97	4.5	100	1.00	47	Dec-12	4.5	10	-0.54
12	Feb-98	4.5	60	0.31	48	Jun-13	4.5	2.5	-0.67
13	May-98	4.5	200	2.71	49	Nov-13	4.5	2.5	-0.67
14	Aug-98	4.5	160	2.02	50	Jun-14	4.5	2.5	-0.67
15	Nov-98	4.5	220	3.05	51	Nov-14	4.5	20	-0.37
16	Mar-99	4.5	60	0.31	52	Jun-15	4.5	10	-0.54
17	May-99	4.5	20	-0.37	53	Nov-15	4.5	5	-0.63
18	Jul-99	4.5	19	-0.39	54	Jun-16	4.5	2.5	-0.67
19	Oct-99	4.5	30	-0.20	55	Nov-16	4.5	2.5	-0.67
20	Mar-00	4.5	20	-0.37	56	Jun-17	4.5	2.5	-0.67
21	Jun-00	4.5	20	-0.37	57	Nov-17	4.5	2.5	-0.67
22	Sep-00	4.5	20	-0.37	58	Jun-18	4.5	10	-0.54
23	Nov-00	4.5	150	1.85	59	Nov-18	4.5	6	-0.61
24	Mar-01	4.5	10	-0.54	60	May-19	4.5	2.5	-0.67
25	May-01	4.5	20	-0.37	61	Nov-19	4.5	2.5	-0.67
26	Aug-01	4.5	9	-0.56	62	Jun-20	4.5	2.5	-0.67
27	Aug-01	4.5	50	0.14	63	Nov-20	4.5	2.5	-0.67
28	May-02	4.5	40	-0.03	64	Jun-21	4.5	2.5	-0.67
29	Sep-02	4.5	140	1.68	65	Nov-21	4.5	5	-0.63
30	Mar-03	4.5	99	0.98	66	Jun-22	4.5	27	-0.25
31	Jun-03	4.5	2.5	-0.67	67	Nov-22	4.5	10	-0.54
32	Jun-04	4.5	2.5	-0.67	68	Jun-23	4.5	2.5	-0.67
33	Nov-04	4.5	14	-0.47					
34	Jun-05	4.5	21	-0.35					
35	Jan-06	4.5	8	-0.58					
36	Nov-06	4.5	6	-0.61					
37	Jun-07	4.5	8	-0.58					
38	Nov-07	4.5	11	-0.53					
39	Jun-08	4.5	5	-0.63					
40	Nov-08	4.5	2.5	-0.67					
41	Jun-09	4.5	36	-0.10					
42	Nov-09	4.5	7	-0.59					
43	Jun-10	4.5	6	-0.61					
44	Jun-11	4.5	39	-0.05					

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

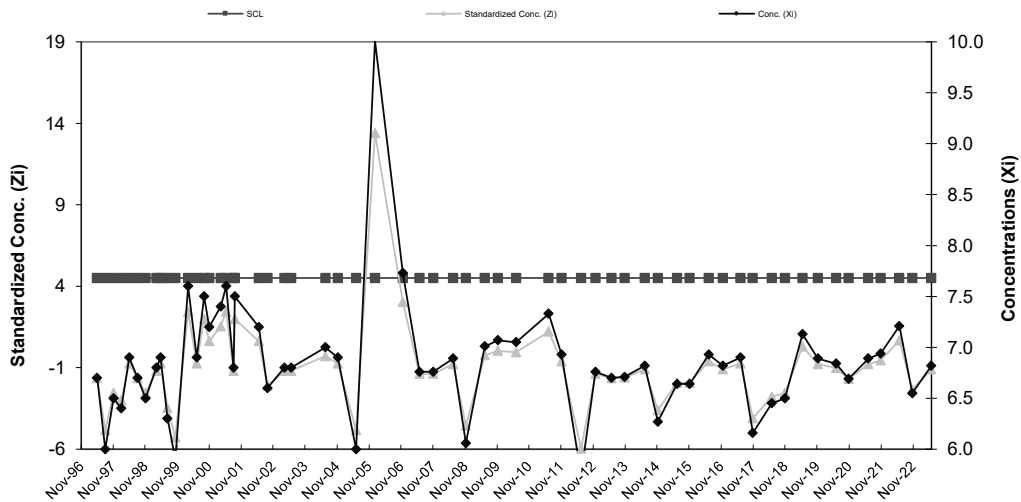


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault A - pH**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-95	7.5	7.06	0.22
2	Jun-95	6.8		
3	Aug-95	6.9		
4	Nov-95	7		
5	Mar-96	7.2		
6	Jun-96	6.9		
7	Aug-96	7.1		
8	Nov-96	7.1		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-97	4.5	6.70	-1.65	45	Nov-11	4.5	6.93	-0.60
10	Aug-97	4.5	6.00	-4.83	46	Jun-12	4.5	5.75	-5.97
11	Nov-97	4.5	6.50	-2.56	47	Dec-12	4.5	6.76	-1.38
12	Feb-98	4.5	6.40	-3.01	48	Jun-13	4.5	6.7	-1.65
13	May-98	4.5	6.90	-0.74	49	Nov-13	4.5	6.71	-1.60
14	Aug-98	4.5	6.70	-1.65	50	Jun-14	4.5	6.82	-1.10
15	Nov-98	4.5	6.50	-2.56	51	Nov-14	4.5	6.27	-3.60
16	Mar-99	4.5	6.80	-1.19	52	Jun-15	4.5	6.64	-1.92
17	May-99	4.5	6.90	-0.74	53	Nov-15	4.5	6.64	-1.92
18	Jul-99	4.5	6.30	-3.47	54	Jun-16	4.5	6.93	-0.60
19	Oct-99	4.5	5.90	-5.28	55	Nov-16	4.5	6.82	-1.10
20	Mar-00	4.5	7.60	2.44	56	Jun-17	4.5	6.9	-0.74
21	Jun-00	4.5	6.90	-0.74	57	Nov-17	4.5	6.16	-4.10
22	Sep-00	4.5	7.50	1.99	58	Jun-18	4.5	6.45	-2.78
23	Nov-00	4.5	7.20	0.63	59	Nov-18	4.5	6.5	-2.56
24	Mar-01	4.5	7.40	1.53	60	May-19	4.5	7.13	0.31
25	May-01	4.5	7.60	2.44	61	Nov-19	4.5	6.89	-0.78
26	Aug-01	4.5	7.50	1.99	62	Jun-20	4.5	6.84	-1.01
27	Aug-01	4.5	6.80	-1.19	63	Nov-20	4.5	6.69	-1.69
28	May-02	4.5	7.20	0.63	64	Jun-21	4.5	6.89	-0.78
29	Sep-02	4.5	6.60	-2.10	65	Nov-21	4.5	6.94	-0.56
30	Mar-03	4.5	6.80	-1.19	66	Jun-22	4.5	7.21	0.67
31	Jun-03	4.5	6.80	-1.19	67	Nov-22	4.5	6.55	-2.33
32	Jun-04	4.5	7.00	-0.28	68	Jun-23	4.5	6.82	-1.10
33	Nov-04	4.5	6.90	-0.74					
34	Jun-05	4.5	6.00	-4.83					
35	Jan-06	4.5	10.01	13.40					
36	Nov-06	4.5	7.73	3.03					
37	Jun-07	4.5	6.76	-1.38					
38	Nov-07	4.5	6.76	-1.38					
39	Jun-08	4.5	6.89	-0.78					
40	Nov-08	4.5	6.06	-4.56					
41	Jun-09	4.5	7.01	-0.24					
42	Nov-09	4.5	7.07	0.03					
43	Jun-10	4.5	7.05	-0.06					
44	Jun-11	4.5	7.33	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 LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault A - SpC**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-95	690	1,798.75	450.73
2	Jun-95	1900		
3	Aug-95	2000		
4	Nov-95	1900		
5	Mar-96	2000		
6	Jun-96	2000		
7	Aug-96	1900		
8	Nov-96	2000		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-97	4.5	1940	0.31	43	Nov-11	4.5	2080	0.62
10	Aug-97	4.5	1810	0.02	44	Jun-12	4.5	1870	0.16
11	Nov-97	4.5	2000	0.45	45	Dec-12	4.5	1820	0.05
12	Feb-98	4.5	1960	0.36	46	Jun-13	4.5	1882	0.18
13	May-98	4.5	1760	-0.09	47	Nov-13	4.5	1630	-0.37
14	Nov-98	4.5	1990	0.42	48	Jun-14	4.5	1579	-0.49
15	Mar-99	4.5	1334	-1.03	49	Nov-14	4.5	1525	-0.61
16	May-99	4.5	3250	3.22	50	Jun-15	4.5	1507	-0.65
17	Jul-99	4.5	1470	-0.73	51	Nov-15	4.5	1423	-0.83
18	Oct-99	4.5	1750	-0.11	52	Jun-16	4.5	1364	-0.96
19	Mar-00	4.5	1410	-0.86	53	Nov-16	4.5	1378	-0.93
20	Jun-00	4.5	1410	-0.86	54	Jun-17	4.5	1450	-0.77
21	Sep-00	4.5	1650	-0.33	55	Nov-17	4.5	1363	-0.97
22	Nov-00	4.5	1470	-0.73	56	Jun-18	4.5	1447	-0.78
23	Mar-01	4.5	1530	-0.60	57	Nov-18	4.5	1451	-0.77
24	May-01	4.5	1380	-0.93	58	May-19	4.5	1436	-0.80
25	Aug-01	4.5	1450	-0.77	59	Nov-19	4.5	1291	-1.13
26	Aug-01	4.5	1300	-1.11	60	Jun-20	4.5	1378	-0.93
27	May-02	4.5	1470	-0.73	61	Nov-20	4.5	1010	-1.75
28	Mar-03	4.5	1290	-1.13	62	Jun-21	4.5	1247	-1.22
29	Jun-03	4.5	1370	-0.95	63	Nov-21	4.5	1187	-1.36
30	Jun-04	4.5	1318	-1.07	64	Jun-22	4.5	1280	-1.15
31	Nov-04	4.5	1120	-1.51	65	Nov-22	4.5	1219	-1.29
32	Jun-05	4.5	1640	-0.35	66	Jun-23	4.5	1310	-1.08
33	Jan-06	4.5	1630	-0.37					
34	Nov-06	4.5	1940	0.31					
35	Jun-07	4.5	1990	0.42					
36	Nov-07	4.5	1690	-0.24					
37	Jun-08	4.5	2060	0.58					
38	Nov-08	4.5	2060	0.58					
39	Jun-09	4.5	2050	0.56					
40	Nov-09	4.5	2090	0.65					
41	Jun-10	4.5	2070	0.60					
42	Jun-11	4.5	2010	0.47					

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

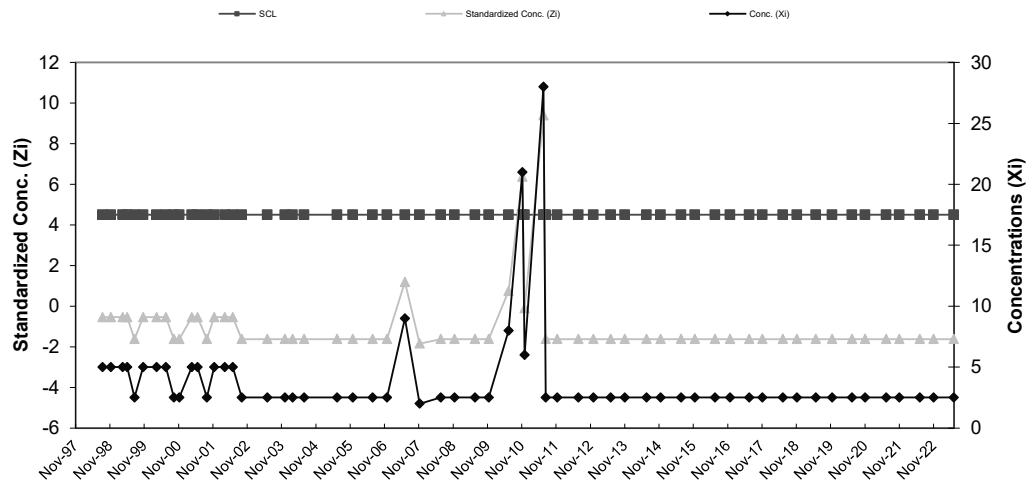


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault B - Chromium**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-96	10	6.25	2.31
2	Nov-96	10		
3	Feb-97	5		
4	May-97	5		
5	Aug-97	5		
6	Nov-97	5		
7	Feb-98	5		
8	May-98	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-98	4.5	5	-0.54	45	Nov-11	4.5	2.5	-1.62
10	Nov-98	4.5	5	-0.54	46	Jun-12	4.5	2.5	-1.62
11	Mar-99	4.5	5	-0.54	47	Dec-12	4.5	2.5	-1.62
12	May-99	4.5	5	-0.54	48	Jun-13	4.5	2.5	-1.62
13	Jul-99	4.5	2.5	-1.62	49	Nov-13	4.5	2.5	-1.62
14	Oct-99	4.5	5	-0.54	50	Jun-14	4.5	2.5	-1.62
15	Mar-00	4.5	5	-0.54	51	Nov-14	4.5	2.5	-1.62
16	Jun-00	4.5	5	-0.54	52	Jun-15	4.5	2.5	-1.62
17	Sep-00	4.5	2.5	-1.62	53	Nov-15	4.5	2.5	-1.62
18	Nov-00	4.5	2.5	-1.62	54	Jun-16	4.5	2.5	-1.62
19	Mar-01	4.5	5	-0.54	55	Nov-16	4.5	2.5	-1.62
20	May-01	4.5	5	-0.54	56	Jun-17	4.5	2.5	-1.62
21	Aug-01	4.5	2.5	-1.62	57	Nov-17	4.5	2.5	-1.62
22	Nov-01	4.5	5	-0.54	58	Jun-18	4.5	2.5	-1.62
23	Mar-02	4.5	5	-0.54	59	Nov-18	4.5	2.5	-1.62
24	May-02	4.5	5	-0.54	60	May-19	4.5	2.5	-1.62
25	Sep-02	4.5	2.5	-1.62	61	Nov-19	4.5	2.5	-1.62
26	Jun-03	4.5	2.5	-1.62	62	Jun-20	4.5	2.5	-1.62
27	Dec-03	4.5	2.5	-1.62	63	Nov-20	4.5	2.5	-1.62
28	Feb-04	4.5	2.5	-1.62	64	Jun-21	4.5	2.5	-1.62
29	Jun-04	4.5	2.5	-1.62	65	Nov-21	4.5	2.5	-1.62
30	Jun-05	4.5	2.5	-1.62	66	Jun-22	4.5	2.5	-1.62
31	Dec-05	4.5	2.5	-1.62	67	Nov-22	4.5	2.5	-1.62
32	Jun-06	4.5	2.5	-1.62	68	Jun-23	4.5	2.5	-1.62
33	Nov-06	4.5	2.5	-1.62					
34	Jun-07	4.5	9	1.19					
35	Nov-07	4.5	2	-1.84					
36	Jun-08	4.5	2.5	-1.62					
37	Nov-08	4.5	2.5	-1.62					
38	Jun-09	4.5	2.5	-1.62					
39	Nov-09	4.5	2.5	-1.62					
40	Jun-10	4.5	8	0.76					
41	Nov-10	4.5	21	6.37					
42	Dec-10	4.5	6	-0.11					
43	Jun-11	4.5	28	9.40					
44	Jul-11	4.5	2.5	-1.62					

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

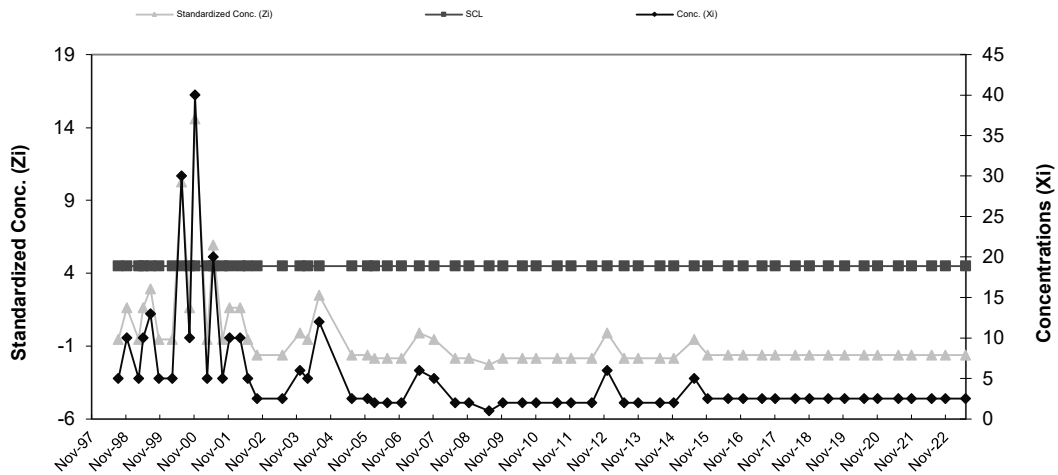


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault B - Copper**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-96	10	<b>6.25</b>	<b>2.31</b>
2	Nov-96	10		
3	Feb-97	5		
4	May-97	5		
5	Aug-97	5		
6	Nov-97	5		
7	Feb-98	5		
8	May-98	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-98	4.5	5	-0.54	44	Nov-11	4.5	2	-1.84
10	Nov-98	4.5	10	1.62	45	Jun-12	4.5	2	-1.84
11	Mar-99	4.5	5	-0.54	46	Dec-12	4.5	6	-0.11
12	May-99	4.5	10	1.62	47	Jun-13	4.5	2	-1.84
13	Jul-99	4.5	13	2.92	48	Nov-13	4.5	2	-1.84
14	Oct-99	4.5	5	-0.54	49	Jun-14	4.5	2	-1.84
15	Mar-00	4.5	5	-0.54	50	Nov-14	4.5	2	-1.84
16	Jun-00	4.5	30	10.26	51	Jun-15	4.5	5	-0.54
17	Sep-00	4.5	10	1.62	52	Nov-15	4.5	2.5	-1.62
18	Nov-00	4.5	40	14.58	53	Jun-16	4.5	2.5	-1.62
19	Mar-01	4.5	5	-0.54	54	Nov-16	4.5	2.5	-1.62
20	May-01	4.5	20	5.94	55	Jun-17	4.5	2.5	-1.62
21	Aug-01	4.5	5	-0.54	56	Nov-17	4.5	2.5	-1.62
22	Nov-01	4.5	10	1.62	57	Jun-18	4.5	2.5	-1.62
23	Mar-02	4.5	10	1.62	58	Nov-18	4.5	2.5	-1.62
24	May-02	4.5	5	-0.54	59	May-19	4.5	2.5	-1.62
25	Sep-02	4.5	2.5	-1.62	60	Nov-19	4.5	2.5	-1.62
26	Jun-03	4.5	2.5	-1.62	61	Jun-20	4.5	2.5	-1.62
27	Dec-03	4.5	6	-0.11	62	Nov-20	4.5	2.5	-1.62
28	Feb-04	4.5	5	-0.54	63	Jun-21	4.5	2.5	-1.62
29	Jun-04	4.5	12	2.48	64	Nov-21	4.5	2.5	-1.62
30	Jun-05	4.5	2.5	-1.62	65	Jun-22	4.5	2.5	-1.62
31	Dec-05	4.5	2.5	-1.62	66	Nov-22	4.5	2.5	-1.62
32	Feb-06	4.5	2	-1.84	67	Jun-23	4.5	2.5	-1.62
33	Jun-06	4.5	2	-1.84					
34	Nov-06	4.5	2	-1.84					
35	Jun-07	4.5	6	-0.11					
36	Nov-07	4.5	5	-0.54					
37	Jun-08	4.5	2	-1.84					
38	Nov-08	4.5	2	-1.84					
39	Jun-09	4.5	1	-2.27					
40	Nov-09	4.5	2	-1.84					
41	Jun-10	4.5	2	-1.84					
42	Nov-10	4.5	2	-1.84					
43	Jun-11	4.5	2	-1.84					

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

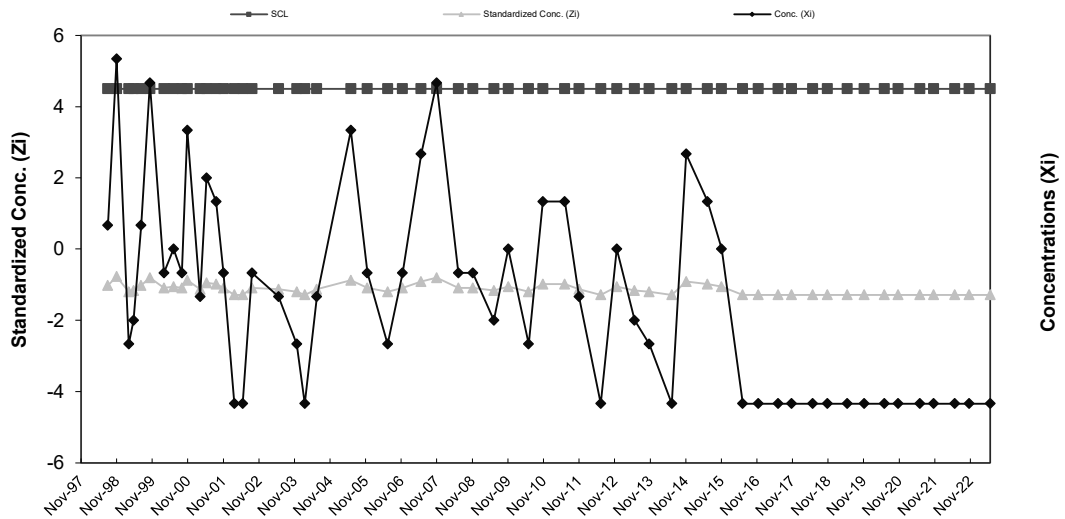


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault B - Nickel**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-96	10	<b>38.88</b>	<b>28.34</b>
2	Nov-96	20		
3	Feb-97	43		
4	May-97	45		
5	Aug-97	26		
6	Nov-97	96		
7	Feb-98	57		
8	May-98	14		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-98	4.5	10	-1.02	43	Nov-11	4.5	7	-1.12
10	Nov-98	4.5	17	-0.77	44	Jun-12	4.5	2.5	-1.28
11	Mar-99	4.5	5	-1.20	45	Dec-12	4.5	9	-1.05
12	May-99	4.5	6	-1.16	46	Jun-13	4.5	6	-1.16
13	Jul-99	4.5	10	-1.02	47	Nov-13	4.5	5	-1.20
14	Oct-99	4.5	16	-0.81	48	Jun-14	4.5	2.5	-1.28
15	Mar-00	4.5	8	-1.09	49	Nov-14	4.5	13	-0.91
16	Jun-00	4.5	9	-1.05	50	Jun-15	4.5	11	-0.98
17	Sep-00	4.5	8	-1.09	51	Nov-15	4.5	9	-1.05
18	Nov-00	4.5	14	-0.88	52	Jun-16	4.5	2.5	-1.28
19	Mar-01	4.5	7	-1.12	53	Nov-16	4.5	2.5	-1.28
20	May-01	4.5	12	-0.95	54	Jun-17	4.5	2.5	-1.28
21	Aug-01	4.5	11	-0.98	55	Nov-17	4.5	2.5	-1.28
22	Nov-01	4.5	8	-1.09	56	Jun-18	4.5	2.5	-1.28
23	Mar-02	4.5	2.5	-1.28	57	Nov-18	4.5	2.5	-1.28
24	May-02	4.5	2.5	-1.28	58	May-19	4.5	2.5	-1.28
25	Sep-02	4.5	8	-1.09	59	Nov-19	4.5	2.5	-1.28
26	Jun-03	4.5	7	-1.12	60	Jun-20	4.5	2.5	-1.28
27	Dec-03	4.5	5	-1.20	61	Nov-20	4.5	2.5	-1.28
28	Feb-04	4.5	2.5	-1.28	62	Jun-21	4.5	2.5	-1.28
29	Jun-04	4.5	7	-1.12	63	Nov-21	4.5	2.5	-1.28
30	Jun-05	4.5	14	-0.88	64	Jun-22	4.5	2.5	-1.28
31	Dec-05	4.5	8	-1.09	65	Nov-22	4.5	2.5	-1.28
32	Jun-06	4.5	5	-1.20	66	Jun-23	4.5	2.5	-1.28
33	Nov-06	4.5	8	-1.09					
34	Jun-07	4.5	13	-0.91					
35	Nov-07	4.5	16	-0.81					
36	Jun-08	4.5	8	-1.09					
37	Nov-08	4.5	8	-1.09					
38	Jun-09	4.5	6	-1.16					
39	Nov-09	4.5	9	-1.05					
40	Jun-10	4.5	5	-1.20					
41	Nov-10	4.5	11	-0.98					
42	Jun-11	4.5	11	-0.98					

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

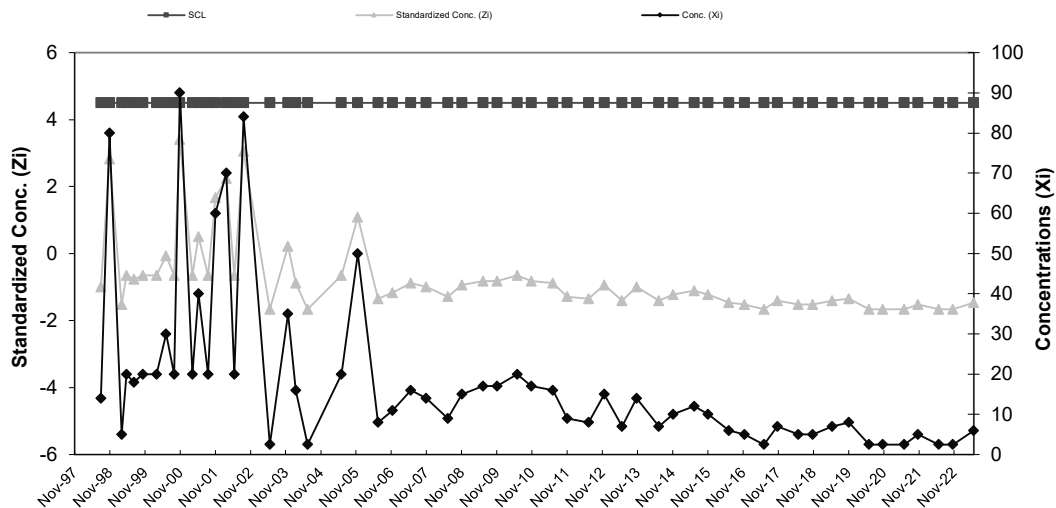


**COLDWATER ROAD LANDFILL FACILITY**  
**RCRA LANDFILL LEAK DETECTION SYSTEM**  
**SHEWART CONTROL CHART**  
**Vault B - Zinc**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-96	10	31.25	17.27
2	Nov-96	40		
3	Feb-97	20		
4	May-97	20		
5	Aug-97	60		
6	Nov-97	50		
7	Feb-98	20		
8	May-98	30		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-98	4.5	14	-1.00	43	Nov-11	4.5	9	-1.29
10	Nov-98	4.5	80	2.82	44	Jun-12	4.5	8	-1.35
11	Mar-99	4.5	5	-1.52	45	Dec-12	4.5	15	-0.94
12	May-99	4.5	20	-0.65	46	Jun-13	4.5	7	-1.40
13	Jul-99	4.5	18	-0.77	47	Nov-13	4.5	14	-1.00
14	Oct-99	4.5	20	-0.65	48	Jun-14	4.5	7	-1.40
15	Mar-00	4.5	20	-0.65	49	Nov-14	4.5	10	-1.23
16	Jun-00	4.5	30	-0.07	50	Jun-15	4.5	12	-1.11
17	Sep-00	4.5	20	-0.65	51	Nov-15	4.5	10	-1.23
18	Nov-00	4.5	90	3.40	52	Jun-16	4.5	6	-1.46
19	Mar-01	4.5	20	-0.65	53	Nov-16	4.5	5	-1.52
20	May-01	4.5	40	0.51	54	Jun-17	4.5	2.5	-1.66
21	Aug-01	4.5	20	-0.65	55	Nov-17	4.5	7	-1.40
22	Nov-01	4.5	60	1.66	56	Jun-18	4.5	5	-1.52
23	Mar-02	4.5	70	2.24	57	Nov-18	4.5	5	-1.52
24	May-02	4.5	20	-0.65	58	May-19	4.5	7	-1.40
25	Sep-02	4.5	84	3.05	59	Nov-19	4.5	8	-1.35
26	Jun-03	4.5	2.5	-1.66	60	Jun-20	4.5	2.5	-1.66
27	Dec-03	4.5	35	0.22	61	Nov-20	4.5	2.5	-1.66
28	Feb-04	4.5	16	-0.88	62	Jun-21	4.5	2.5	-1.66
29	Jun-04	4.5	2.5	-1.66	63	Nov-21	4.5	5	-1.52
30	Jun-05	4.5	20	-0.65	64	Jun-22	4.5	2.5	-1.66
31	Dec-05	4.5	50	1.09	65	Nov-22	4.5	2.5	-1.66
32	Jun-06	4.5	8	-1.35	66	Jun-23	4.5	6	-1.46
33	Nov-06	4.5	11	-1.17					
34	Jun-07	4.5	16	-0.88					
35	Nov-07	4.5	14	-1.00					
36	Jun-08	4.5	9	-1.29					
37	Nov-08	4.5	15	-0.94					
38	Jun-09	4.5	17	-0.83					
39	Nov-09	4.5	17	-0.83					
40	Jun-10	4.5	20	-0.65					
41	Nov-10	4.5	17	-0.83					
42	Jun-11	4.5	16	-0.88					

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

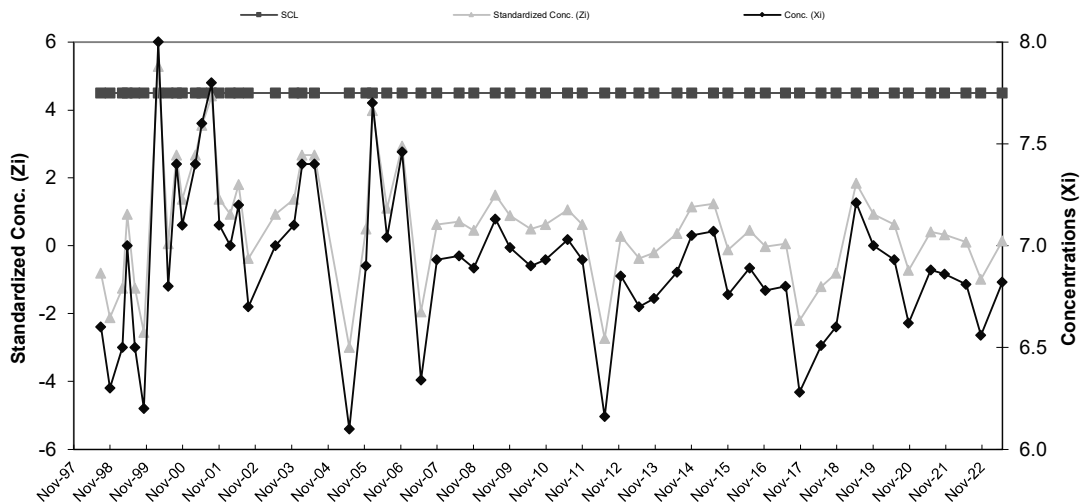


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault B - pH**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-96	6.9	6.79	0.23
2	Nov-96	7		
3	Feb-97	7.1		
4	May-97	6.5		
5	Aug-97	6.5		
6	Nov-97	6.8		
7	Feb-98	6.6		
8	May-98	6.9		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-98	4.5	6.60	-0.82	44	Nov-11	4.5	6.93	0.62
10	Nov-98	4.5	6.30	-2.12	45	Jun-12	4.5	6.16	-2.73
11	Mar-99	4.5	6.50	-1.25	46	Dec-12	4.5	6.85	0.27
12	May-99	4.5	7.00	0.93	47	Jun-13	4.5	6.7	-0.38
13	Jul-99	4.5	6.50	-1.25	48	Nov-13	4.5	6.74	-0.21
14	Oct-99	4.5	6.20	-2.56	49	Jun-14	4.5	6.87	0.36
15	Mar-00	4.5	8.00	5.28	50	Nov-14	4.5	7.05	1.14
16	Jun-00	4.5	6.80	0.05	51	Jun-15	4.5	7.07	1.23
17	Sep-00	4.5	7.40	2.67	52	Nov-15	4.5	6.76	-0.12
18	Nov-00	4.5	7.10	1.36	53	Jun-16	4.5	6.89	0.45
19	Mar-01	4.5	7.40	2.67	54	Nov-16	4.5	6.78	-0.03
20	May-01	4.5	7.60	3.54	55	Jun-17	4.5	6.8	0.05
21	Aug-01	4.5	7.80	4.41	56	Nov-17	4.5	6.28	-2.21
22	Nov-01	4.5	7.10	1.36	57	Jun-18	4.5	6.51	-1.21
23	Mar-02	4.5	7.00	0.93	58	Nov-18	4.5	6.6	-0.82
24	May-02	4.5	7.20	1.80	59	May-19	4.5	7.21	1.84
25	Sep-02	4.5	6.70	-0.38	60	Nov-19	4.5	7	0.93
26	Jun-03	4.5	7.00	0.93	61	Jun-20	4.5	6.93	0.62
27	Dec-03	4.5	7.10	1.36	62	Nov-20	4.5	6.62	-0.73
28	Feb-04	4.5	7.40	2.67	63	Jun-21	4.5	6.88	0.40
29	Jun-04	4.5	7.40	2.67	64	Nov-21	4.5	6.86	0.32
30	Jun-05	4.5	6.10	-3.00	65	Jun-22	4.5	6.81	0.10
31	Dec-05	4.5	6.90	0.49	66	Nov-22	4.5	6.56	-0.99
32	Feb-06	4.5	7.70	3.98	67	Jun-23	4.5	6.82	0.14
33	Jun-06	4.5	7.04	1.10					
34	Nov-06	4.5	7.46	2.93					
35	Jun-07	4.5	6.34	-1.95					
36	Nov-07	4.5	6.93	0.62					
37	Jun-08	4.5	6.95	0.71					
38	Nov-08	4.5	6.89	0.45					
39	Jun-09	4.5	7.13	1.49					
40	Nov-09	4.5	6.99	0.88					
41	Jun-10	4.5	6.90	0.49					
42	Nov-10	4.5	6.93	0.62					
43	Jun-11	4.5	7.03	1.06					

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

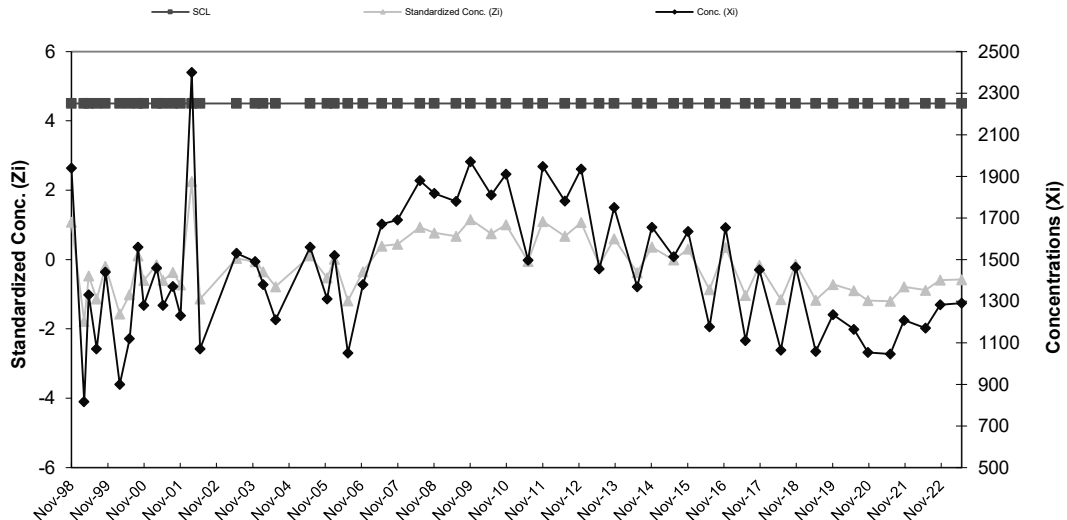


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault B - SpC**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-96	1900	1,516.63	391.89
2	Nov-96	1600		
3	Feb-97	1590		
4	May-97	1930		
5	Aug-97	663		
6	Nov-97	1400		
7	Feb-98	1560		
8	May-98	1490		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	1940	1.08	42	Nov-11	4.5	1948	1.10
10	Mar-99	4.5	817	-1.79	43	Jun-12	4.5	1781	0.67
11	May-99	4.5	1330	-0.48	44	Dec-12	4.5	1936	1.07
12	Jul-99	4.5	1070	-1.14	45	Jun-13	4.5	1455	-0.16
13	Oct-99	4.5	1440	-0.20	46	Nov-13	4.5	1750	0.60
14	Mar-00	4.5	900	-1.57	47	Jun-14	4.5	1369	-0.38
15	Jun-00	4.5	1120	-1.01	48	Nov-14	4.5	1656	0.36
16	Sep-00	4.5	1560	0.11	49	Jun-15	4.5	1513	-0.01
17	Nov-00	4.5	1280	-0.60	50	Nov-15	4.5	1635	0.30
18	Mar-01	4.5	1460	-0.14	51	Jun-16	4.5	1176	-0.87
19	May-01	4.5	1280	-0.60	52	Nov-16	4.5	1654	0.35
20	Aug-01	4.5	1370	-0.37	53	Jun-17	4.5	1110	-1.04
21	Nov-01	4.5	1230	-0.73	54	Nov-17	4.5	1450	-0.17
22	Mar-02	4.5	2400	2.25	55	Jun-18	4.5	1064	-1.15
23	May-02	4.5	1070	-1.14	56	Nov-18	4.5	1463	-0.14
24	Jun-03	4.5	1530	0.03	57	May-19	4.5	1058	-1.17
25	Dec-03	4.5	1490	-0.07	58	Nov-19	4.5	1235	-0.72
26	Feb-04	4.5	1380	-0.35	59	Jun-20	4.5	1165	-0.90
27	Jun-04	4.5	1210	-0.78	60	Nov-20	4.5	1053	-1.18
28	Jun-05	4.5	1560	0.11	61	Jun-21	4.5	1046	-1.20
29	Dec-05	4.5	1310	-0.53	62	Nov-21	4.5	1208	-0.79
30	Feb-06	4.5	1520	0.01	63	Jun-22	4.5	1170	-0.88
31	Jun-06	4.5	1050	-1.19	64	Nov-22	4.5	1283	-0.60
32	Nov-06	4.5	1380	-0.35	65	Jun-23	4.5	1290	-0.58
33	Jun-07	4.5	1670	0.39					
34	Nov-07	4.5	1690	0.44					
35	Jun-08	4.5	1880	0.93					
36	Nov-08	4.5	1818	0.77					
37	Jun-09	4.5	1780	0.67					
38	Nov-09	4.5	1970	1.16					
39	Jun-10	4.5	1810	0.75					
40	Nov-10	4.5	1911	1.01					
41	Jun-11	4.5	1496	-0.05					

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

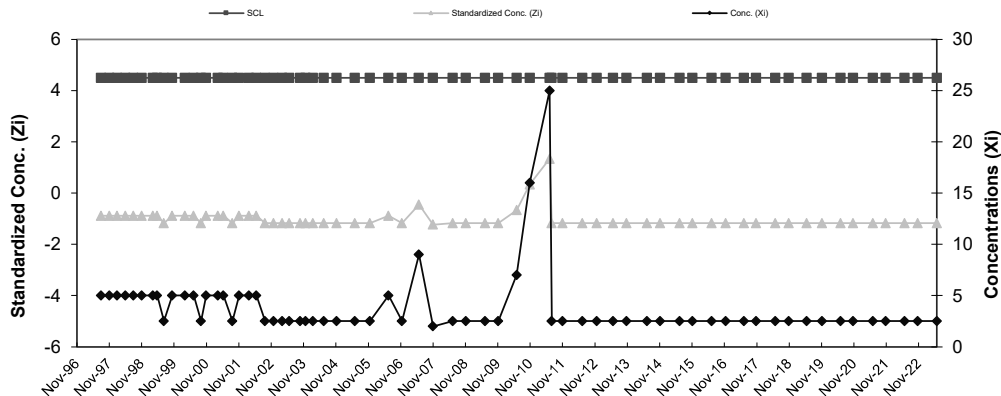


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault C - Chromium**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	25	13.00	8.98
2	Aug-95	10		
3	Nov-95	29		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	Feb-97	5		
8	May-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-97	4.5	5	-0.89	53	Nov-11	4.5	2.5	-1.17
10	Nov-97	4.5	5	-0.89	54	Jun-12	4.5	2.5	-1.17
11	Feb-98	4.5	5	-0.89	55	Dec-12	4.5	2.5	-1.17
12	May-98	4.5	5	-0.89	56	Jun-13	4.5	2.5	-1.17
14	Aug-98	4.5	5	-0.89	57	Nov-13	4.5	2.5	-1.17
15	Nov-98	4.5	5	-0.89	58	Jun-14	4.5	2.5	-1.17
16	Mar-99	4.5	5	-0.89	59	Nov-14	4.5	2.5	-1.17
17	May-99	4.5	5	-0.89	60	Jun-15	4.5	2.5	-1.17
18	Jul-99	4.5	2.5	-1.17	61	Nov-15	4.5	2.5	-1.17
19	Oct-99	4.5	5	-0.89	62	Jun-16	4.5	2.5	-1.17
20	Mar-00	4.5	5	-0.89	63	Nov-16	4.5	2.5	-1.17
21	Jun-00	4.5	5	-0.89	64	Jun-17	4.5	2.5	-1.17
22	Sep-00	4.5	2.5	-1.17	65	Nov-17	4.5	2.5	-1.17
23	Nov-00	4.5	5	-0.89	66	Jun-18	4.5	2.5	-1.17
24	Mar-01	4.5	5	-0.89	67	Nov-18	4.5	2.5	-1.17
25	May-01	4.5	5	-0.89	68	May-19	4.5	2.5	-1.17
26	Aug-01	4.5	2.5	-1.17	69	Nov-19	4.5	2.5	-1.17
27	Nov-01	4.5	5	-0.89	70	Jun-20	4.5	2.5	-1.17
28	Mar-02	4.5	5	-0.89	71	Nov-20	4.5	2.5	-1.17
29	May-02	4.5	5	-0.89	72	Jun-21	4.5	2.5	-1.17
30	Sep-02	4.5	2.5	-1.17	73	Nov-21	4.5	2.5	-1.17
31	Dec-02	4.5	2.5	-1.17	74	Jun-22	4.5	2.5	-1.17
32	Mar-03	4.5	2.5	-1.17	75	Nov-22	4.5	2.5	-1.17
33	Jun-03	4.5	2.5	-1.17	76	Jun-23	4.5	2.5	-1.17
34	Oct-03	4.5	2.5	-1.17					
35	Dec-03	4.5	2.5	-1.17					
36	Feb-04	4.5	2.5	-1.17					
37	Jun-04	4.5	2.5	-1.17					
38	Nov-04	4.5	2.5	-1.17					
39	Jun-05	4.5	2.5	-1.17					
40	Dec-05	4.5	2.5	-1.17					
41	Jun-06	4.5	5	-0.89					
42	Nov-06	4.5	2.5	-1.17					
43	Jun-07	4.5	9	-0.45					
44	Nov-07	4.5	2	-1.23					
45	Jun-08	4.5	2.5	-1.17					
46	Nov-08	4.5	2.5	-1.17					
47	Jun-09	4.5	2.5	-1.17					
48	Nov-09	4.5	2.5	-1.17					
49	Jun-10	4.5	7	-0.67					
50	Nov-10	4.5	16	0.33					
51	Jun-11	4.5	25	1.34					
52	Jul-11	4.5	2.5	-1.17					

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

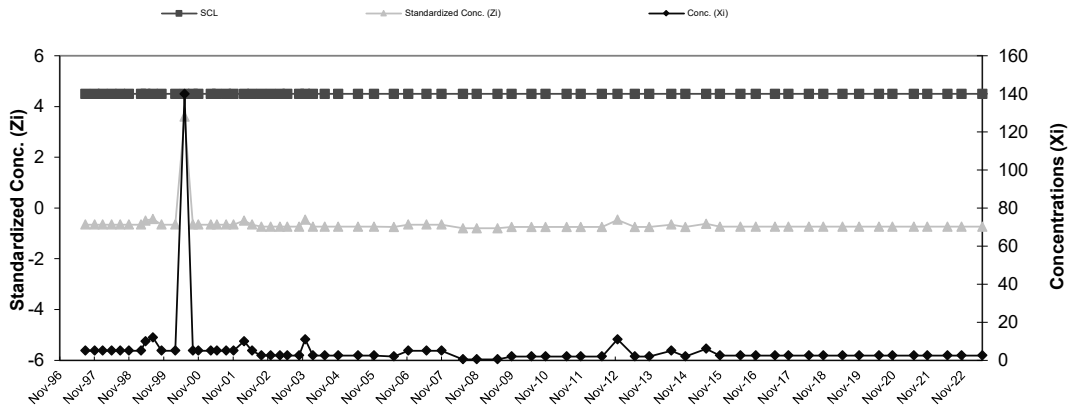


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault C - Copper**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	25	25.88	31.76
2	Aug-95	10		
3	Nov-95	37		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	Feb-97	5		
8	May-97	100		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-97	4.5	5	-0.66	52	Nov-11	4.5	2	-0.75
10	Nov-97	4.5	5	-0.66	53	Jun-12	4.5	2	-0.75
11	Feb-98	4.5	5	-0.66	54	Dec-12	4.5	11	-0.47
12	May-98	4.5	5	-0.66	55	Jun-13	4.5	2	-0.75
14	Aug-98	4.5	5	-0.66	56	Nov-13	4.5	2	-0.75
15	Nov-98	4.5	5	-0.66	57	Jun-14	4.5	5	-0.66
16	Mar-99	4.5	5	-0.66	58	Nov-14	4.5	2	-0.75
17	May-99	4.5	10	-0.50	59	Jun-15	4.5	6	-0.63
18	Jul-99	4.5	12	-0.44	60	Nov-15	4.5	2.5	-0.74
19	Oct-99	4.5	5	-0.66	61	Jun-16	4.5	2.5	-0.74
20	Mar-00	4.5	5	-0.66	62	Nov-16	4.5	2.5	-0.74
21	Jun-00	4.5	140	3.59	63	Jun-17	4.5	2.5	-0.74
22	Sep-00	4.5	5	-0.66	64	Nov-17	4.5	2.5	-0.74
23	Nov-00	4.5	5	-0.66	65	Jun-18	4.5	2.5	-0.74
24	Mar-01	4.5	5	-0.66	66	Nov-18	4.5	2.5	-0.74
25	May-01	4.5	5	-0.66	67	May-19	4.5	2.5	-0.74
26	Aug-01	4.5	5	-0.66	68	Nov-19	4.5	2.5	-0.74
27	Nov-01	4.5	5	-0.66	69	Jun-20	4.5	2.5	-0.74
28	Mar-02	4.5	10	-0.50	70	Nov-20	4.5	2.5	-0.74
29	May-02	4.5	5	-0.66	71	Jun-21	4.5	2.5	-0.74
30	Sep-02	4.5	2.5	-0.74	72	Nov-21	4.5	2.5	-0.74
31	Dec-02	4.5	2.5	-0.74	73	Jun-22	4.5	2.5	-0.74
32	Mar-03	4.5	2.5	-0.74	74	Nov-22	4.5	2.5	-0.74
33	Jun-03	4.5	2.5	-0.74	75	Jun-23	4.5	2.5	-0.74
34	Oct-03	4.5	2.5	-0.74					
35	Dec-03	4.5	11	-0.47					
36	Feb-04	4.5	2.5	-0.74					
37	Jun-04	4.5	2.5	-0.74					
38	Nov-04	4.5	2.5	-0.74					
39	Jun-05	4.5	2.5	-0.74					
40	Dec-05	4.5	2.5	-0.74					
41	Jun-06	4.5	2	-0.75					
42	Nov-06	4.5	5	-0.66					
43	Jun-07	4.5	5	-0.66					
44	Nov-07	4.5	5	-0.66					
45	Jun-08	4.5	0.5	-0.80					
46	Nov-08	4.5	0.5	-0.80					
47	Jun-09	4.5	0.5	-0.80					
48	Nov-09	4.5	2	-0.75					
49	Jun-10	4.5	2	-0.75					
50	Nov-10	4.5	2	-0.75					
51	Jun-11	4.5	2	-0.75					

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

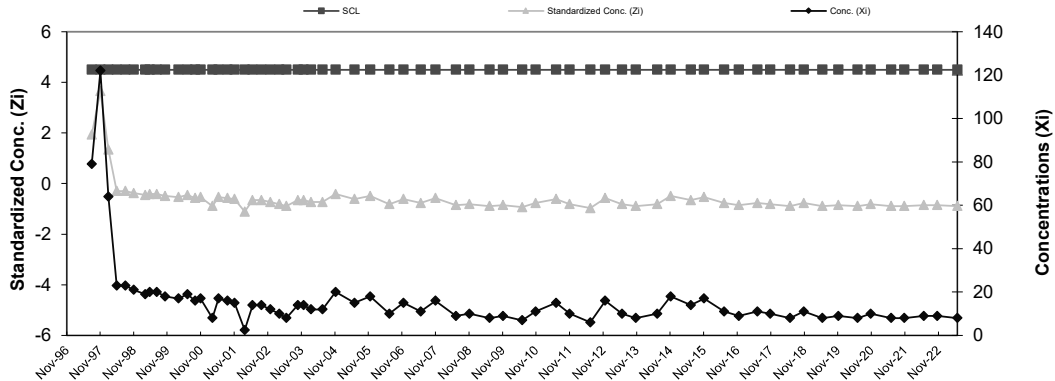


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault C - Nickel**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	15	30.38	25.11
2	Aug-95	20		
3	Nov-95	67		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	Feb-97	45		
8	May-97	66		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-97	4.5	79	1.94	52	Nov-11	4.5	10	-0.81
10	Nov-97	4.5	122	3.65	53	Jun-12	4.5	6	-0.97
11	Feb-98	4.5	64	1.34	54	Dec-12	4.5	16	-0.57
12	May-98	4.5	23	-0.29	55	Jun-13	4.5	10	-0.81
14	Aug-98	4.5	23	-0.29	56	Nov-13	4.5	8	-0.89
15	Nov-98	4.5	21	-0.37	57	Jun-14	4.5	10	-0.81
16	Mar-99	4.5	19	-0.45	58	Nov-14	4.5	18	-0.49
17	May-99	4.5	20	-0.41	59	Jun-15	4.5	14	-0.65
18	Jul-99	4.5	20	-0.41	60	Nov-15	4.5	17	-0.53
19	Oct-99	4.5	18	-0.49	61	Jun-16	4.5	11	-0.77
20	Mar-00	4.5	17	-0.53	62	Nov-16	4.5	9	-0.85
21	Jun-00	4.5	19	-0.45	63	Jun-17	4.5	11	-0.77
22	Sep-00	4.5	16	-0.57	64	Nov-17	4.5	10	-0.81
23	Nov-00	4.5	17	-0.53	65	Jun-18	4.5	8	-0.89
24	Mar-01	4.5	8	-0.89	66	Nov-18	4.5	11	-0.77
25	May-01	4.5	17	-0.53	67	May-19	4.5	8	-0.89
26	Aug-01	4.5	16	-0.57	68	Nov-19	4.5	9	-0.85
27	Nov-01	4.5	15	-0.61	69	Jun-20	4.5	8	-0.89
28	Mar-02	4.5	2.5	-1.11	70	Nov-20	4.5	10	-0.81
29	May-02	4.5	14	-0.65	71	Jun-21	4.5	8	-0.89
30	Sep-02	4.5	14	-0.65	72	Nov-21	4.5	8	-0.89
31	Dec-02	4.5	12	-0.73	73	Jun-22	4.5	9	-0.85
32	Mar-03	4.5	10	-0.81	74	Nov-22	4.5	9	-0.85
33	Jun-03	4.5	8	-0.89	75	Jun-23	4.5	8	-0.89
34	Oct-03	4.5	14	-0.65					
35	Dec-03	4.5	14	-0.65					
36	Feb-04	4.5	12	-0.73					
37	Jun-04	4.5	12	-0.73					
38	Nov-04	4.5	20	-0.41					
39	Jun-05	4.5	15	-0.61					
40	Dec-05	4.5	18	-0.49					
41	Jun-06	4.5	10	-0.81					
42	Nov-06	4.5	15	-0.61					
43	Jun-07	4.5	11	-0.77					
44	Nov-07	4.5	16	-0.57					
45	Jun-08	4.5	9	-0.85					
46	Nov-08	4.5	10	-0.81					
47	Jun-09	4.5	8	-0.89					
48	Nov-09	4.5	9	-0.85					
49	Jun-10	4.5	7	-0.93					
50	Nov-10	4.5	11	-0.77					
51	Jun-11	4.5	15	-0.61					

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

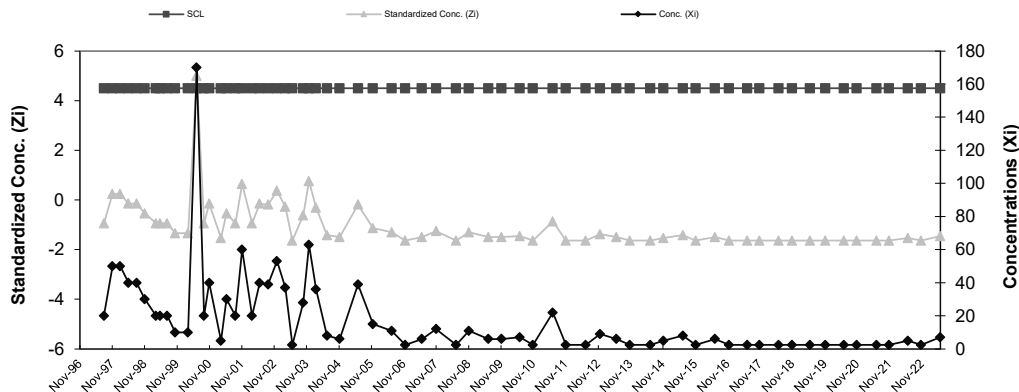


**COLDWATER ROAD LANDFILL FACILITY**  
**RCRA LANDFILL LEAK DETECTION SYSTEM**  
**SHEWART CONTROL CHART**  
**Vault C - Zinc**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	60	43.75	25.24
2	Aug-95	74		
3	Nov-95	36		
4	Jun-96	10		
5	Aug-96	40		
6	Nov-96	80		
7	Feb-97	30		
8	May-97	20		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-97	4.5	20	-0.94	52	Nov-11	4.5	2.5	-1.63
10	Nov-97	4.5	50	0.25	53	Jun-12	4.5	2.5	-1.63
11	Feb-98	4.5	50	0.25	54	Dec-12	4.5	9	-1.38
12	May-98	4.5	40	-0.15	55	Jun-13	4.5	6	-1.50
14	Aug-98	4.5	40	-0.15	56	Nov-13	4.5	2.5	-1.63
15	Nov-98	4.5	30	-0.54	57	Jun-14	4.5	2.5	-1.63
16	Mar-99	4.5	20	-0.94	58	Nov-14	4.5	5	-1.54
17	May-99	4.5	20	-0.94	59	Jun-15	4.5	8	-1.42
18	Jul-99	4.5	20	-0.94	60	Nov-15	4.5	2.5	-1.63
19	Oct-99	4.5	10	-1.34	61	Jun-16	4.5	6	-1.50
20	Mar-00	4.5	10	-1.34	62	Nov-16	4.5	2.5	-1.63
21	Jun-00	4.5	170	5.00	63	Jun-17	4.5	2.5	-1.63
22	Sep-00	4.5	20	-0.94	64	Nov-17	4.5	2.5	-1.63
23	Nov-00	4.5	40	-0.15	65	Jun-18	4.5	2.5	-1.63
24	Mar-01	4.5	5	-1.54	66	Nov-18	4.5	2.5	-1.63
25	May-01	4.5	30	-0.54	67	May-19	4.5	2.5	-1.63
26	Aug-01	4.5	20	-0.94	68	Nov-19	4.5	2.5	-1.63
27	Nov-01	4.5	60	0.64	69	Jun-20	4.5	2.5	-1.63
28	Mar-02	4.5	20	-0.94	70	Nov-20	4.5	2.5	-1.63
29	May-02	4.5	40	-0.15	71	Jun-21	4.5	2.5	-1.63
30	Sep-02	4.5	39	-0.19	72	Nov-21	4.5	2.5	-1.63
31	Dec-02	4.5	53	0.37	73	Jun-22	4.5	5	-1.54
32	Mar-03	4.5	37	-0.27	74	Nov-22	4.5	2.5	-1.63
33	Jun-03	4.5	2.5	-1.63	75	Jun-23	4.5	7	-1.46
34	Oct-03	4.5	28	-0.62					
35	Dec-03	4.5	63	0.76					
36	Feb-04	4.5	36	-0.31					
37	Jun-04	4.5	8	-1.42					
38	Nov-04	4.5	6	-1.50					
39	Jun-05	4.5	39	-0.19					
40	Dec-05	4.5	15	-1.14					
41	Jun-06	4.5	11	-1.30					
42	Nov-06	4.5	2.5	-1.63					
43	Jun-07	4.5	6	-1.50					
44	Nov-07	4.5	12	-1.26					
45	Jun-08	4.5	2.5	-1.63					
46	Nov-08	4.5	11	-1.30					
47	Jun-09	4.5	6	-1.50					
48	Nov-09	4.5	6	-1.50					
49	Jun-10	4.5	7	-1.46					
50	Nov-10	4.5	2.5	-1.63					
51	Jun-11	4.5	22	-0.86					

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

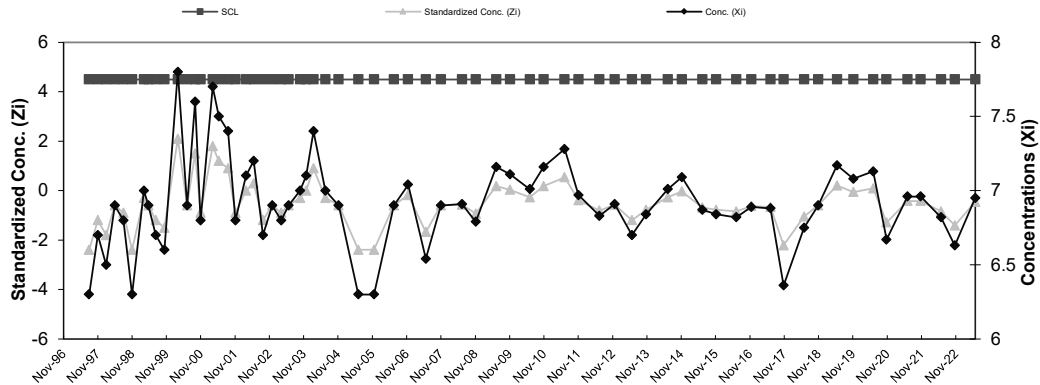


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault C - pH**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	7.4	7.10	0.33
2	Aug-95	7.4		
3	Nov-95	7		
4	Jun-96	6.9		
5	Aug-96	6.9		
6	Nov-96	7		
7	Feb-97	7.6		
8	May-97	6.6		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-97	4.5	6.3	-2.40	52	Nov-11	4.5	7.0	-0.39
10	Nov-97	4.5	6.7	-1.20	53	Jun-12	4.5	6.83	-0.81
11	Feb-98	4.5	6.5	-1.80	54	Dec-12	4.5	6.91	-0.57
12	May-98	4.5	6.9	-0.60	55	Jun-13	4.5	6.7	-1.20
14	Aug-98	4.5	6.8	-0.90	56	Nov-13	4.5	6.84	-0.78
15	Nov-98	4.5	6.3	-2.40	57	Jun-14	4.5	7.01	-0.27
16	Mar-99	4.5	7	-0.30	58	Nov-14	4.5	7.09	-0.03
17	May-99	4.5	6.9	-0.60	59	Jun-15	4.5	6.87	-0.69
18	Jul-99	4.5	6.7	-1.20	60	Nov-15	4.5	6.84	-0.78
19	Oct-99	4.5	6.6	-1.50	61	Jun-16	4.5	6.82	-0.84
20	Mar-00	4.5	7.8	2.10	62	Nov-16	4.5	6.89	-0.63
21	Jun-00	4.5	6.9	-0.60	63	Jun-17	4.5	6.88	-0.66
22	Sep-00	4.5	7.6	1.50	64	Nov-17	4.5	6.36	-2.22
23	Nov-00	4.5	6.8	-0.90	65	Jun-18	4.5	6.75	-1.05
24	Mar-01	4.5	7.7	1.80	66	Nov-18	4.5	6.9	-0.60
25	May-01	4.5	7.5	1.20	67	May-19	4.5	7.17	0.21
26	Aug-01	4.5	7.4	0.90	68	Nov-19	4.5	7.08	-0.06
27	Nov-01	4.5	6.8	-0.90	69	Jun-20	4.5	7.13	0.09
28	Mar-02	4.5	7.1	0.00	70	Nov-20	4.5	6.67	-1.29
29	May-02	4.5	7.2	0.30	71	Jun-21	4.5	6.96	-0.42
30	Sep-02	4.5	6.7	-1.20	72	Nov-21	4.5	6.96	-0.42
31	Dec-02	4.5	6.9	-0.60	73	Jun-22	4.5	6.82	-0.84
32	Mar-03	4.5	6.8	-0.90	74	Nov-22	4.5	6.63	-1.41
33	Jun-03	4.5	6.9	-0.60	75	Jun-23	4.5	6.95	-0.45
34	Oct-03	4.5	7	-0.30					
35	Dec-03	4.5	7.1	0.00					
36	Feb-04	4.5	7.4	0.90					
37	Jun-04	4.5	7	-0.30					
38	Nov-04	4.5	6.9	-0.60					
39	Jun-05	4.5	6.3	-2.40					
40	Dec-05	4.5	6.3	-2.40					
41	Jun-06	4.5	6.9	-0.60					
42	Nov-06	4.5	7.0	-0.18					
43	Jun-07	4.5	6.5	-1.68					
44	Nov-07	4.5	6.9	-0.60					
45	Jun-08	4.5	6.9	-0.57					
46	Nov-08	4.5	6.8	-0.93					
47	Jun-09	4.5	7.2	0.18					
48	Nov-09	4.5	7.1	0.03					
49	Jun-10	4.5	7.0	-0.27					
50	Nov-10	4.5	7.2	0.18					
51	Jun-11	4.5	7.3	0.54					

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

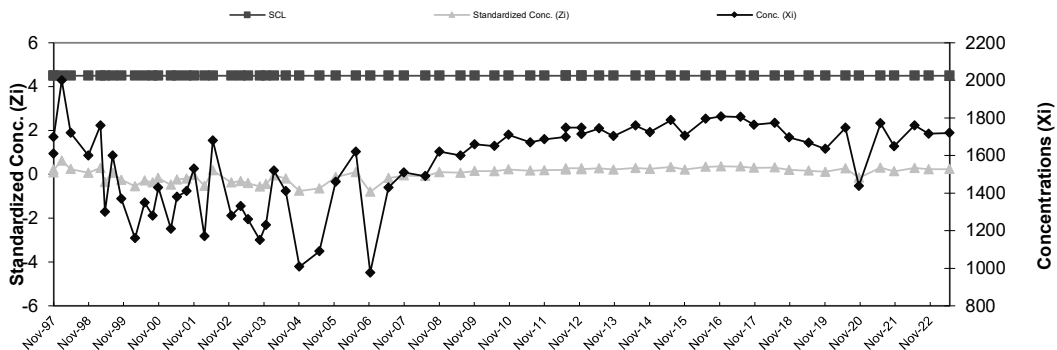


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault C - SpC**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	530	1,551.25	716.19
2	Aug-95	340		
3	Nov-95	2200		
4	Jun-96	2000		
5	Aug-96	1900		
6	Nov-96	2100		
7	Feb-97	1610		
8	May-97	1730		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-97	4.5	1610	0.08	52	Nov-11	4.5	1699	0.21
10	Nov-97	4.5	2000	0.63	53	Jun-12	4.5	1748	0.27
11	Feb-98	4.5	1720	0.24	54	Dec-12	4.5	1713	0.23
12	May-98	4.5	1600	0.07	55	Jun-13	4.5	1744	0.27
14	Nov-98	4.5	1760	0.29	56	Nov-13	4.5	1703	0.21
15	Mar-99	4.5	1300	-0.35	57	Jun-14	4.5	1759	0.29
16	May-99	4.5	1600	0.07	58	Nov-14	4.5	1724	0.24
17	Jul-99	4.5	1370	-0.25	59	Jun-15	4.5	1788	0.33
18	Oct-99	4.5	1160	-0.55	60	Nov-15	4.5	1706	0.22
19	Mar-00	4.5	1350	-0.28	61	Jun-16	4.5	1795	0.34
20	Jun-00	4.5	1280	-0.38	62	Nov-16	4.5	1808	0.36
21	Sep-00	4.5	1430	-0.17	63	Jun-17	4.5	1805	0.35
22	Nov-00	4.5	1210	-0.48	64	Nov-17	4.5	1764	0.30
23	Mar-01	4.5	1380	-0.24	65	Jun-18	4.5	1774	0.31
24	May-01	4.5	1410	-0.20	66	Nov-18	4.5	1696	0.20
25	Aug-01	4.5	1530	-0.03	67	May-19	4.5	1668	0.16
26	Nov-01	4.5	1170	-0.53	68	Nov-19	4.5	1635	0.12
27	Mar-02	4.5	1680	0.18	69	Jun-20	4.5	1747	0.27
28	May-02	4.5	1280	-0.38	70	Nov-20	4.5	1438	-0.16
29	Dec-02	4.5	1330	-0.31	71	Jun-21	4.5	1771	0.31
30	Mar-03	4.5	1260	-0.41	72	Nov-21	4.5	1649	0.14
31	Jun-03	4.5	1150	-0.56	73	Jun-22	4.5	1760	0.29
32	Oct-03	4.5	1230	-0.45	74	Nov-22	4.5	1716	0.23
33	Dec-03	4.5	1520	-0.04	75	Jun-23	4.5	1720	0.24
34	Feb-04	4.5	1410	-0.20					
35	Jun-04	4.5	1008	-0.76					
36	Nov-04	4.5	1090	-0.64					
37	Jun-05	4.5	1460	-0.13					
38	Dec-05	4.5	1620	0.10					
39	Jun-06	4.5	977	-0.80					
40	Nov-06	4.5	1430	-0.17					
41	Jun-07	4.5	1510	-0.06					
42	Nov-07	4.5	1490	-0.09					
43	Jun-08	4.5	1620	0.10					
44	Nov-08	4.5	1600	0.07					
45	Jun-09	4.5	1660	0.15					
46	Nov-09	4.5	1650	0.14					
47	Jun-10	4.5	1710	0.22					
50	Nov-10	4.5	1670	0.17					
51	Jun-11	4.5	1686	0.19					
52	Nov-11	4.5	1699	0.21					
53	Jun-12	4.5	1748	0.27					
54	Dec-12	4.5	1713	0.23					

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

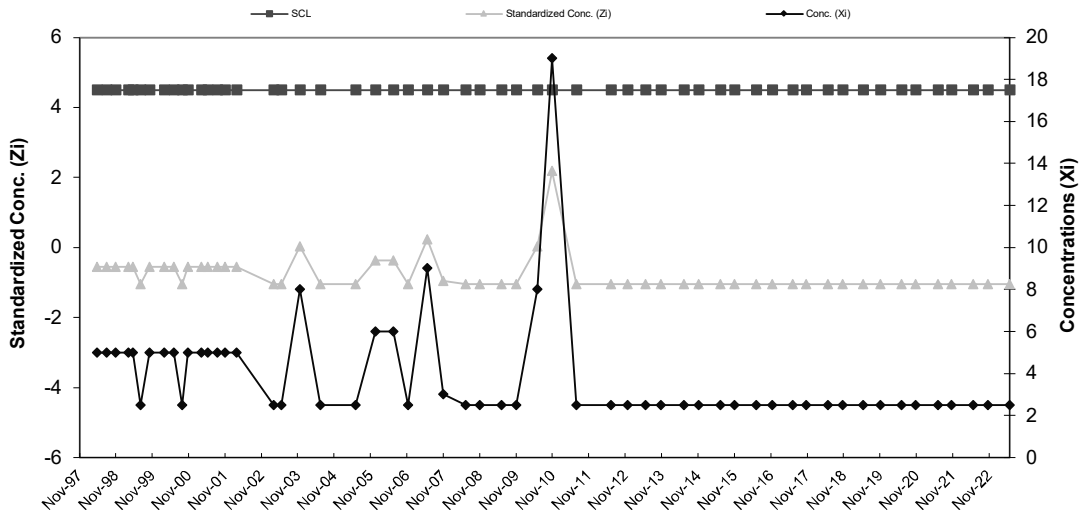


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault D - Chromium**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-95	13	7.86	5.11
2	Jun-96	10		
3	Aug-96	10		
4	Nov-96	10		
5	May-97	5		
6	Aug-97	5		
7	Nov-97	5		
8	Feb-98	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.56	41	Jul-11	4.5	2.5	-1.05
10	Aug-98	4.5	5	-0.56	42	Jun-12	4.5	2.5	-1.05
11	Nov-98	4.5	5	-0.56	43	Dec-12	4.5	2.5	-1.05
12	Mar-99	4.5	5	-0.56	44	Jun-13	4.5	2.5	-1.05
13	May-99	4.5	5	-0.56	45	Nov-13	4.5	2.5	-1.05
14	Jul-99	4.5	2.5	-1.05	46	Jun-14	4.5	2.5	-1.05
15	Oct-99	4.5	5	-0.56	47	Nov-14	4.5	2.5	-1.05
16	Mar-00	4.5	5	-0.56	48	Jun-15	4.5	2.5	-1.05
17	Jun-00	4.5	5	-0.56	49	Nov-15	4.5	2.5	-1.05
18	Sep-00	4.5	2.5	-1.05	50	Jun-16	4.5	2.5	-1.05
19	Nov-00	4.5	5	-0.56	51	Nov-16	4.5	2.5	-1.05
20	Mar-01	4.5	5	-0.56	52	Jun-17	4.5	2.5	-1.05
21	May-01	4.5	5	-0.56	53	Nov-17	4.5	2.5	-1.05
22	Aug-01	4.5	5	-0.56	54	Jun-18	4.5	2.5	-1.05
23	Nov-01	4.5	5	-0.56	55	Nov-18	4.5	2.5	-1.05
24	Mar-02	4.5	5	-0.56	56	May-19	4.5	2.5	-1.05
25	Mar-03	4.5	2.5	-1.05	57	Nov-19	4.5	2.5	-1.05
26	Jun-03	4.5	2.5	-1.05	58	Jun-20	4.5	2.5	-1.05
27	Dec-03	4.5	8	0.03	59	Nov-20	4.5	2.5	-1.05
28	Jun-04	4.5	2.5	-1.05	60	Jun-21	4.5	2.5	-1.05
29	Jun-05	4.5	2.5	-1.05	61	Nov-21	4.5	2.5	-1.05
30	Jan-06	4.5	6	-0.36	62	Jun-22	4.5	2.5	-1.05
31	Jun-06	4.5	6	-0.36	63	Nov-22	4.5	2.5	-1.05
32	Nov-06	4.5	2.5	-1.05	64	Jun-23	4.5	2.5	-1.05
33	Jun-07	4.5	9	0.22					
34	Nov-07	4.5	3	-0.95					
35	Jun-08	4.5	2.5	-1.05					
36	Nov-08	4.5	2.5	-1.05					
37	Jun-09	4.5	2.5	-1.05					
38	Nov-09	4.5	2.5	-1.05					
39	Jun-10	4.5	8	0.03					
40	Nov-10	4.5	19	2.18					

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

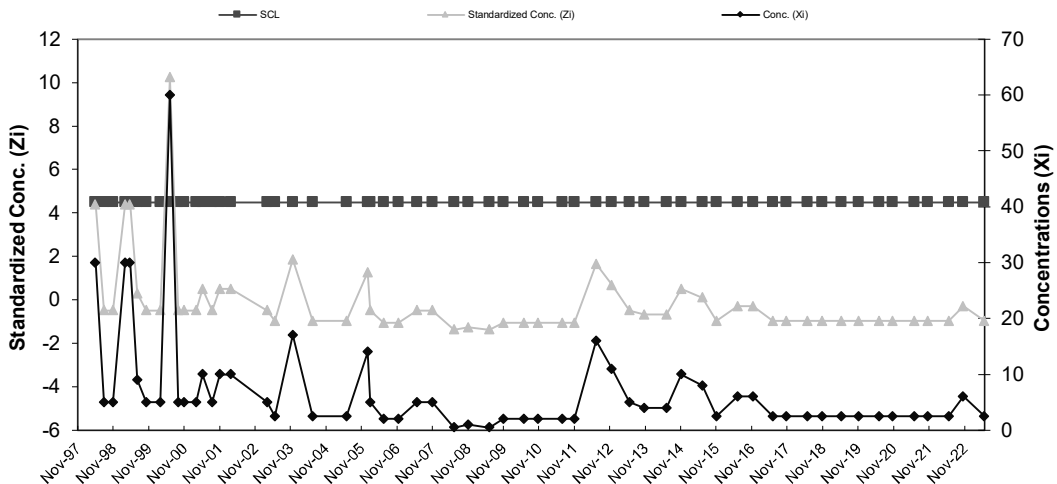


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault D - Copper**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-95	10	7.48	5.13
2	Jun-96	10		
3	Aug-96	10		
4	Nov-96	10		
5	May-97	5		
6	Aug-97	5		
7	Nov-97	5		
8	Feb-98	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	30	4.39	41	Nov-10	4.5	2	-1.07
10	Aug-98	4.5	5	-0.48	42	Jul-11	4.5	2	-1.07
11	Nov-98	4.5	5	-0.48	43	Nov-11	4.5	2	-1.07
12	Mar-99	4.5	30	4.39	44	Jun-12	4.5	16	1.66
13	May-99	4.5	30	4.39	45	Dec-12	4.5	11	0.69
14	Jul-99	4.5	9	0.30	46	Jun-13	4.5	5	-0.48
15	Oct-99	4.5	5	-0.48	47	Nov-13	4.5	4	-0.68
16	Mar-00	4.5	5	-0.48	48	Jun-14	4.5	4	-0.68
17	Jun-00	4.5	60	10.24	49	Nov-14	4.5	10	0.49
18	Sep-00	4.5	5	-0.48	50	Jun-15	4.5	8	0.10
19	Nov-00	4.5	5	-0.48	51	Nov-15	4.5	2.5	-0.97
20	Mar-01	4.5	5	-0.48	52	Jun-16	4.5	6	-0.29
21	May-01	4.5	10	0.49	53	Nov-16	4.5	6	-0.29
22	Aug-01	4.5	5	-0.48	54	Jun-17	4.5	2.5	-0.97
23	Nov-01	4.5	10	0.49	55	Nov-17	4.5	2.5	-0.97
24	Mar-02	4.5	10	0.49	56	Jun-18	4.5	2.5	-0.97
25	Mar-03	4.5	5	-0.48	57	Nov-18	4.5	2.5	-0.97
26	Jun-03	4.5	2.5	-0.97	58	May-19	4.5	2.5	-0.97
27	Dec-03	4.5	17	1.86	59	Nov-19	4.5	2.5	-0.97
28	Jun-04	4.5	2.5	-0.97	60	Jun-20	4.5	2.5	-0.97
29	Jun-05	4.5	2.5	-0.97	61	Nov-20	4.5	2.5	-0.97
30	Jan-06	4.5	14	1.27	62	Jun-21	4.5	2.5	-0.97
31	Feb-06	4.5	5	-0.48	63	Nov-21	4.5	2.5	-0.97
32	Jun-06	4.5	2	-1.07	64	Jun-22	4.5	2.5	-0.97
33	Nov-06	4.5	2	-1.07	65	Nov-22	4.5	6	-0.29
34	Jun-07	4.5	5	-0.48	66	Jun-23	4.5	2.5	-0.97
35	Nov-07	4.5	5	-0.48					
36	Jun-08	4.5	0.5	-1.36					
37	Nov-08	4.5	1	-1.26					
38	Jun-09	4.5	0.5	-1.36					
39	Nov-09	4.5	2	-1.07					
40	Jun-10	4.5	2	-1.07					

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

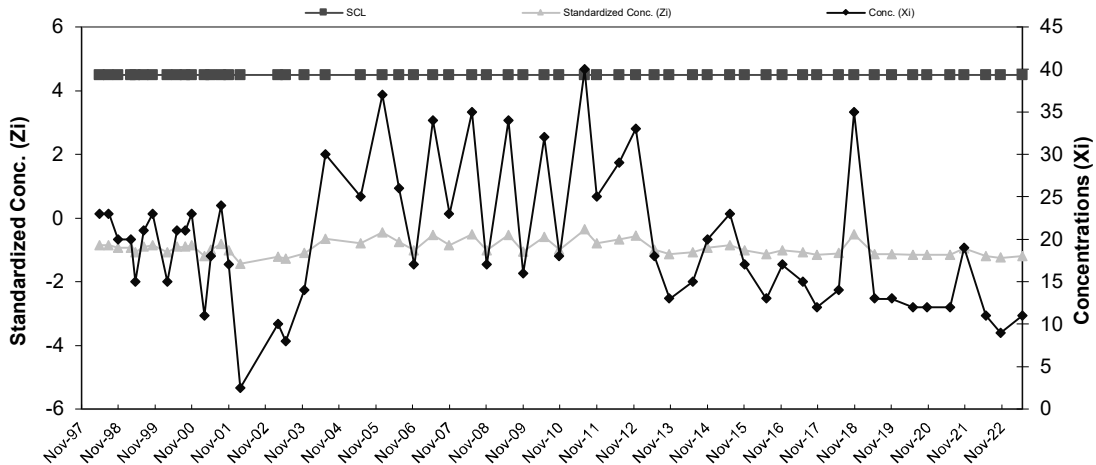


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault D - Nickel**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-95	44	<b>52.63</b>	<b>35.01</b>
2	Jun-96	10		
3	Aug-96	10		
4	Nov-96	40		
5	May-97	58		
6	Aug-97	79		
7	Nov-97	114		
8	Feb-98	66		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	23	-0.85	41	Jul-11	4.5	40	-0.36
10	Aug-98	4.5	23	-0.85	42	Nov-11	4.5	25	-0.79
11	Nov-98	4.5	20	-0.93	43	Jun-12	4.5	29	-0.67
12	Mar-99	4.5	20	-0.93	44	Dec-12	4.5	33	-0.56
13	May-99	4.5	15	-1.07	45	Jun-13	4.5	18	-0.99
14	Jul-99	4.5	21	-0.90	46	Nov-13	4.5	13	-1.13
15	Oct-99	4.5	23	-0.85	47	Jun-14	4.5	15	-1.07
16	Mar-00	4.5	15	-1.07	48	Nov-14	4.5	20	-0.93
17	Jun-00	4.5	21	-0.90	49	Jun-15	4.5	23	-0.85
18	Sep-00	4.5	21	-0.90	50	Nov-15	4.5	17	-1.02
19	Nov-00	4.5	23	-0.85	51	Jun-16	4.5	13	-1.13
20	Mar-01	4.5	11	-1.19	52	Nov-16	4.5	17	-1.02
21	May-01	4.5	18	-0.99	53	Jun-17	4.5	15	-1.07
22	Aug-01	4.5	24	-0.82	54	Nov-17	4.5	12	-1.16
23	Nov-01	4.5	17	-1.02	55	Jun-18	4.5	14	-1.10
24	Mar-02	4.5	2.5	-1.43	56	Nov-18	4.5	35	-0.50
25	Mar-03	4.5	10	-1.22	57	May-19	4.5	13	-1.13
26	Jun-03	4.5	8	-1.27	58	Nov-19	4.5	13	-1.13
27	Dec-03	4.5	14	-1.10	59	Jun-20	4.5	12	-1.16
28	Jun-04	4.5	30	-0.65	60	Nov-20	4.5	12	-1.16
29	Jun-05	4.5	25	-0.79	61	Jun-21	4.5	12	-1.16
30	Jan-06	4.5	37	-0.45	62	Nov-21	4.5	19	-0.96
31	Jun-06	4.5	26	-0.76	63	Jun-22	4.5	11	-1.19
32	Nov-06	4.5	17	-1.02	64	Nov-22	4.5	9	-1.25
33	Jun-07	4.5	34	-0.53	65	Jun-23	4.5	11	-1.19
34	Nov-07	4.5	23	-0.85					
35	Jun-08	4.5	35	-0.50					
36	Nov-08	4.5	17	-1.02					
37	Jun-09	4.5	34	-0.53					
38	Nov-09	4.5	16	-1.05					
39	Jun-10	4.5	32	-0.59					
40	Nov-10	4.5	18	-0.99					

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

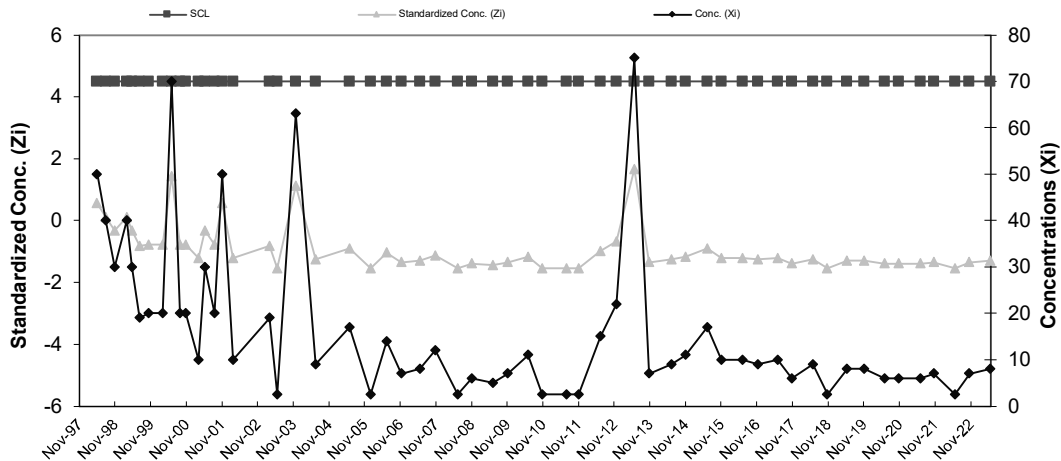


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault D - Zinc**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-95	20	37.49	22.59
2	Jun-96	10		
3	Aug-96	40		
4	Nov-96	70		
5	May-97	70		
6	Aug-97	20		
7	Nov-97	30		
8	Feb-98	40		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	50	0.55	42	Nov-11	4.5	2.5	-1.55
10	Aug-98	4.5	40	0.11	43	Jun-12	4.5	15	-1.00
11	Nov-98	4.5	30	-0.33	44	Dec-12	4.5	22	-0.69
12	Mar-99	4.5	40	0.11	45	Jun-13	4.5	75	1.66
13	May-99	4.5	30	-0.33	46	Nov-13	4.5	7	-1.35
14	Jul-99	4.5	19	-0.82	47	Jun-14	4.5	9	-1.26
15	Oct-99	4.5	20	-0.77	48	Nov-14	4.5	11	-1.17
16	Mar-00	4.5	20	-0.77	49	Jun-15	4.5	17	-0.91
17	Jun-00	4.5	70	1.44	50	Nov-15	4.5	10	-1.22
18	Sep-00	4.5	20	-0.77	51	Jun-16	4.5	10	-1.22
19	Nov-00	4.5	20	-0.77	52	Nov-16	4.5	9	-1.26
20	Mar-01	4.5	10	-1.22	53	Jun-17	4.5	10	-1.22
21	May-01	4.5	30	-0.33	54	Nov-17	4.5	6	-1.39
22	Aug-01	4.5	20	-0.77	55	Jun-18	4.5	9	-1.26
23	Nov-01	4.5	50	0.55	56	Nov-18	4.5	2.5	-1.55
24	Mar-02	4.5	10	-1.22	57	May-19	4.5	8	-1.31
25	Mar-03	4.5	19	-0.82	58	Nov-19	4.5	8	-1.31
26	Jun-03	4.5	2.5	-1.55	59	Jun-20	4.5	6	-1.39
27	Dec-03	4.5	63	1.13	60	Nov-20	4.5	6	-1.39
28	Jun-04	4.5	9	-1.26	61	Jun-21	4.5	6	-1.39
29	Jun-05	4.5	17	-0.91	62	Nov-21	4.5	7	-1.35
30	Jan-06	4.5	2.5	-1.55	63	Jun-22	4.5	2.5	-1.55
31	Jun-06	4.5	14	-1.04	64	Nov-22	4.5	7	-1.35
32	Nov-06	4.5	7	-1.35	65	Jun-23	4.5	8	-1.31
33	Jun-07	4.5	8	-1.31					
34	Nov-07	4.5	12	-1.13					
35	Jun-08	4.5	2.5	-1.55					
36	Nov-08	4.5	6	-1.39					
37	Jun-09	4.5	5	-1.44					
38	Nov-09	4.5	7	-1.35					
39	Jun-10	4.5	11	-1.17					
40	Nov-10	4.5	2.5	-1.55					
41	Jul-11	4.5	2.5	-1.55					

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

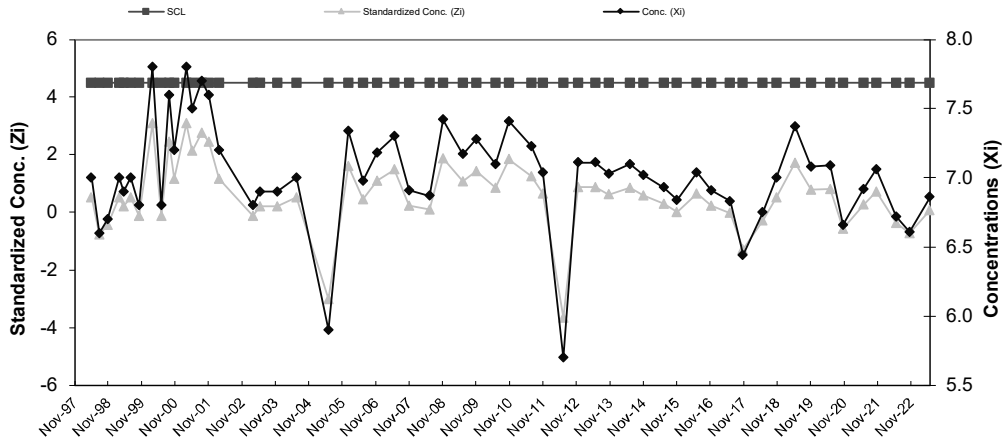


**COLDWATER ROAD LANDFILL FACILITY**  
**RCRA LANDFILL LEAK DETECTION SYSTEM**  
**SHEWART CONTROL CHART**  
**Vault D - pH**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-95	7.3	<b>6.84</b>	<b>0.31</b>
2	Jun-96	6.9		
3	Aug-96	7.2		
4	Nov-96	7		
5	May-97	6.7		
6	Aug-97	6.5		
7	Nov-97	6.6		
8	Feb-98	6.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	7.00	0.52	42	Nov-11	4.5	7.0	0.65
10	Aug-98	4.5	6.60	-0.76	43	Jun-12	4.5	5.7	-3.65
11	Nov-98	4.5	6.70	-0.44	44	Dec-12	4.5	7.11	0.88
12	Mar-99	4.5	7.00	0.52	45	Jun-13	4.5	7.11	0.88
13	May-99	4.5	6.90	0.20	46	Nov-13	4.5	7.03	0.62
14	Jul-99	4.5	7.00	0.52	47	Jun-14	4.5	7.1	0.84
15	Oct-99	4.5	6.80	-0.12	48	Nov-14	4.5	7.02	0.59
16	Mar-00	4.5	7.80	3.09	49	Jun-15	4.5	6.93	0.30
17	Jun-00	4.5	6.80	-0.12	50	Nov-15	4.5	6.84	0.01
18	Sep-00	4.5	7.60	2.45	51	Jun-16	4.5	7.04	0.65
19	Nov-00	4.5	7.20	1.16	52	Nov-16	4.5	6.91	0.23
20	Mar-01	4.5	7.80	3.09	53	Jun-17	4.5	6.83	-0.02
21	May-01	4.5	7.50	2.13	54	Nov-17	4.5	6.44	-1.28
22	Aug-01	4.5	7.70	2.77	55	Jun-18	4.5	6.75	-0.28
23	Nov-01	4.5	7.60	2.45	56	Nov-18	4.5	7	0.52
24	Mar-02	4.5	7.20	1.16	57	May-19	4.5	7.37	1.71
25	Mar-03	4.5	6.80	-0.12	58	Nov-19	4.5	7.08	0.78
26	Jun-03	4.5	6.90	0.20	59	Jun-20	4.5	7.09	0.81
27	Dec-03	4.5	6.90	0.20	60	Nov-20	4.5	6.66	-0.57
28	Jun-04	4.5	7.00	0.52	61	Jun-21	4.5	6.92	0.26
29	Jun-05	4.5	5.90	-3.01	62	Nov-21	4.5	7.06	0.71
30	Jan-06	4.5	7.34	1.61	63	Jun-22	4.5	6.72	-0.38
31	Jun-06	4.5	6.98	0.46	64	Nov-22	4.5	6.61	-0.73
32	Nov-06	4.5	7.18	1.10	65	Jun-23	4.5	6.86	0.07
33	Jun-07	4.5	7.30	1.49					
34	Nov-07	4.5	6.91	0.23					
35	Jun-08	4.5	6.87	0.10					
36	Nov-08	4.5	7.42	1.87					
37	Jun-09	4.5	7.17	1.07					
38	Nov-09	4.5	7.28	1.42					
39	Jun-10	4.5	7.10	0.84					
40	Nov-10	4.5	7.41	1.84					
41	Jul-11	4.5	7.23	1.26					

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

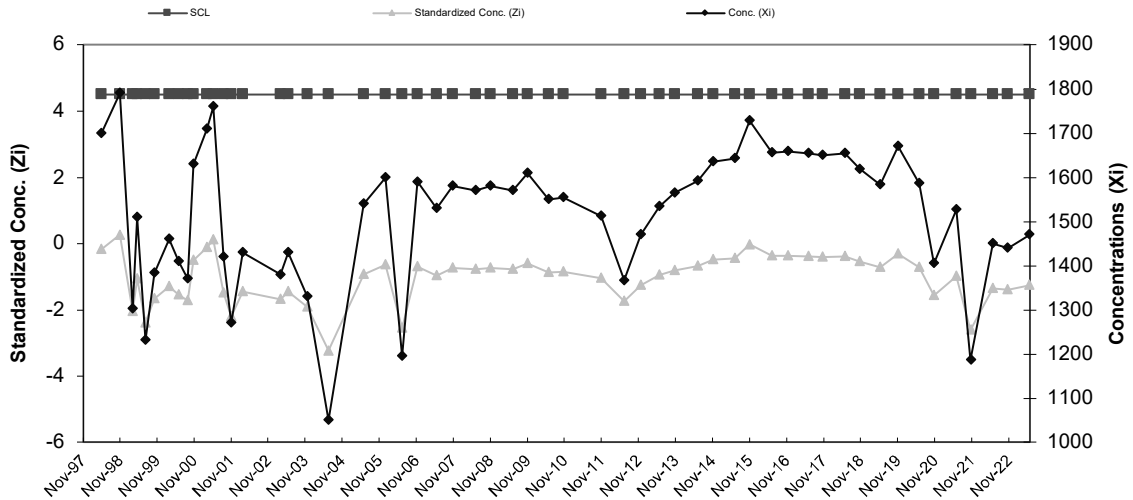


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault D - SpC**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-95	2200	<b>1,734.38</b>	<b>211.31</b>
2	Jun-96	1800		
3	Aug-96	1600		
4	Nov-96	1700		
5	May-97	1580		
6	Aug-97	1540		
7	Nov-97	1800		
8	Feb-98	1655		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	1700	-0.16	41	Nov-11	4.5	1513	-1.05
11	Nov-98	4.5	1790	0.26	42	Jun-12	4.5	1367	-1.74
12	Mar-99	4.5	1302	-2.05	43	Dec-12	4.5	1471	-1.25
13	May-99	4.5	1510	-1.06	44	Jun-13	4.5	1534	-0.95
14	Jul-99	4.5	1231	-2.38	45	Nov-13	4.5	1565	-0.80
15	Oct-99	4.5	1384	-1.66	46	Jun-14	4.5	1592	-0.67
16	Mar-00	4.5	1460	-1.30	47	Nov-14	4.5	1635	-0.47
17	Jun-00	4.5	1410	-1.54	48	Jun-15	4.5	1643	-0.43
18	Sep-00	4.5	1370	-1.72	49	Nov-15	4.5	1729	-0.03
19	Nov-00	4.5	1630	-0.49	50	Jun-16	4.5	1656	-0.37
20	Mar-01	4.5	1710	-0.12	51	Nov-16	4.5	1659	-0.36
21	May-01	4.5	1760	0.12	52	Jun-17	4.5	1655	-0.38
22	Aug-01	4.5	1420	-1.49	53	Nov-17	4.5	1650	-0.40
23	Nov-01	4.5	1270	-2.20	54	Jun-18	4.5	1655	-0.38
24	Mar-02	4.5	1430	-1.44	55	Nov-18	4.5	1619	-0.55
25	Mar-03	4.5	1380	-1.68	56	May-19	4.5	1583	-0.72
26	Jun-03	4.5	1430	-1.44	57	Nov-19	4.5	1671	-0.30
27	Dec-03	4.5	1330	-1.91	58	Jun-20	4.5	1586	-0.70
28	Jun-04	4.5	1050	-3.24	59	Nov-20	4.5	1406	-1.55
29	Jun-05	4.5	1540	-0.92	60	Jun-21	4.5	1527	-0.98
30	Jan-06	4.5	1600	-0.64	61	Nov-21	4.5	1186	-2.60
31	Jun-06	4.5	1195	-2.55	62	Jun-22	4.5	1450	-1.35
32	Nov-06	4.5	1590	-0.68	63	Nov-22	4.5	1440	-1.39
33	Jun-07	4.5	1530	-0.97	64	Jun-23	4.5	1470	-1.25
34	Nov-07	4.5	1580	-0.73					
35	Jun-08	4.5	1570	-0.78					
36	Nov-08	4.5	1580	-0.73					
37	Jun-09	4.5	1570	-0.78					
38	Nov-09	4.5	1610	-0.59					
39	Jun-10	4.5	1550	-0.87					
40	Nov-10	4.5	1555	-0.85					

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

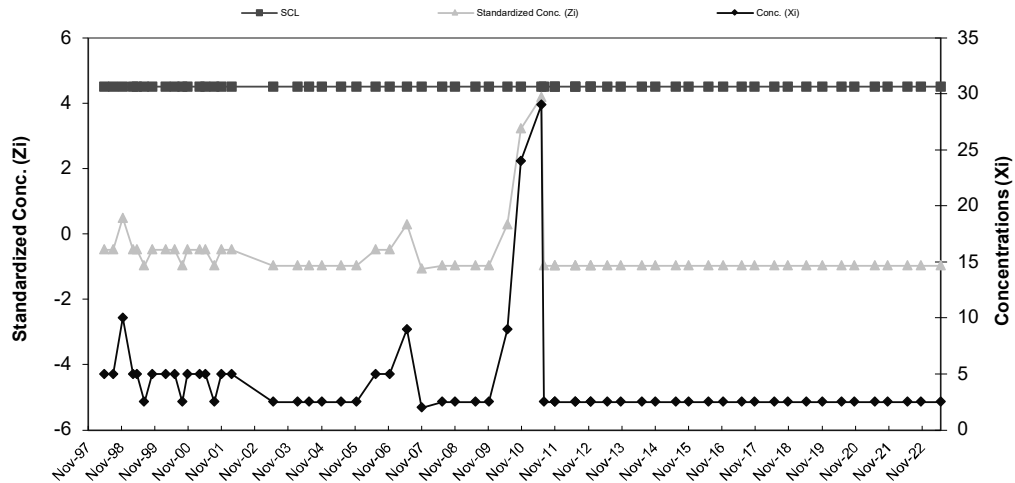


**COLDWATER ROAD LANDFILL FACILITY**  
**RCRA LANDFILL LEAK DETECTION SYSTEM**  
**SHEWART CONTROL CHART**  
**Vault E - Chromium**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-96	10	7.48	5.13
2	Jun-96	10		
3	Oct-96	10		
4	Nov-96	10		
5	May-97	5		
6	Aug-97	5		
7	Nov-97	5		
8	Feb-98	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.48	43	Nov-11	4.5	2.5	-0.97
10	Aug-98	4.5	5	-0.48	44	Jun-12	4.5	2.5	-0.97
11	Nov-98	4.5	10	0.49	45	Dec-12	4.5	2.5	-0.97
12	Mar-99	4.5	5	-0.48	46	Jun-13	4.5	2.5	-0.97
13	May-99	4.5	5	-0.48	47	Nov-13	4.5	2.5	-0.97
14	Jul-99	4.5	2.5	-0.97	48	Jun-14	4.5	2.5	-0.97
15	Oct-99	4.5	5	-0.48	49	Nov-14	4.5	2.5	-0.97
16	Mar-00	4.5	5	-0.48	50	Jun-15	4.5	2.5	-0.97
17	Jun-00	4.5	5	-0.48	51	Nov-15	4.5	2.5	-0.97
18	Sep-00	4.5	2.5	-0.97	52	Jun-16	4.5	2.5	-0.97
19	Nov-00	4.5	5	-0.48	53	Nov-16	4.5	2.5	-0.97
20	Mar-01	4.5	5	-0.48	54	Jun-17	4.5	2.5	-0.97
21	May-01	4.5	5	-0.48	55	Nov-17	4.5	2.5	-0.97
22	Aug-01	4.5	2.5	-0.97	56	Jun-18	4.5	2.5	-0.97
23	Nov-01	4.5	5	-0.48	57	Nov-18	4.5	2.5	-0.97
24	Mar-02	4.5	5	-0.48	58	May-19	4.5	2.5	-0.97
25	Jun-03	4.5	2.5	-0.97	59	Nov-19	4.5	2.5	-0.97
26	Feb-04	4.5	2.5	-0.97	60	Jun-20	4.5	2.5	-0.97
27	Jun-04	4.5	2.5	-0.97	61	Nov-20	4.5	2.5	-0.97
28	Nov-04	4.5	2.5	-0.97	62	Jun-21	4.5	2.5	-0.97
29	Jun-05	4.5	2.5	-0.97	63	Nov-21	4.5	2.5	-0.97
30	Dec-05	4.5	2.5	-0.97	64	Jun-22	4.5	2.5	-0.97
31	Jun-06	4.5	5	-0.48	65	Nov-22	4.5	2.5	-0.97
32	Nov-06	4.5	5	-0.48	66	Jun-23	4.5	2.5	-0.97
33	Jun-07	4.5	9	0.30					
34	Nov-07	4.5	2	-1.07					
35	Jun-08	4.5	2.5	-0.97					
36	Nov-08	4.5	2.5	-0.97					
37	Jun-09	4.5	2.5	-0.97					
38	Nov-09	4.5	2.5	-0.97					
39	Jun-10	4.5	9	0.30					
40	Nov-10	4.5	24	3.22					
41	Jun-11	4.5	29	4.19					
42	Jul-11	4.5	2.5	-0.97					
43	Nov-11	4.5	2.5	-0.97					
44	Jun-12	4.5	2.5	-0.97					
45	Dec-12	4.5	2.5	-0.97					

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

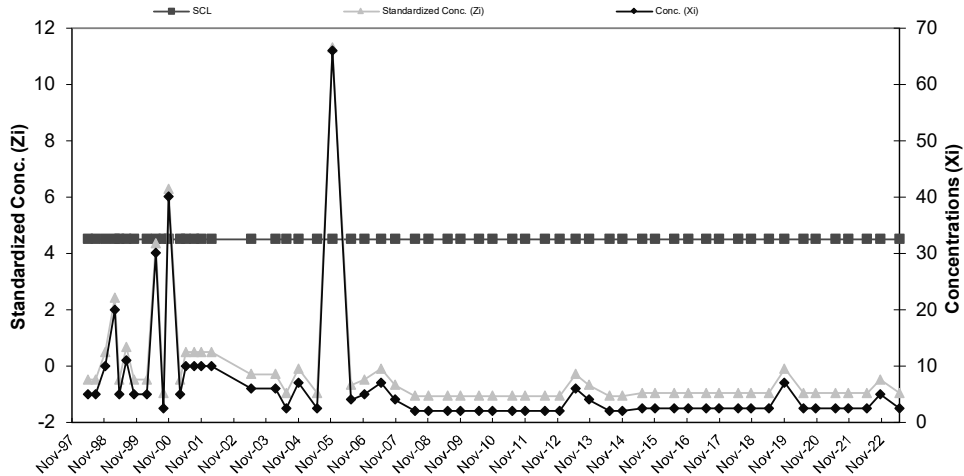


**COLDWATER ROAD LANDFILL FACILITY**  
**RCRA LANDFILL LEAK DETECTION SYSTEM**  
**SHEWART CONTROL CHART**  
**Vault E - Copper**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-96	10	7.50	5.17
2	Jun-96	10		
3	Oct-96	10		
4	Nov-96	10		
5	May-97	5		
6	Aug-97	5		
7	Nov-97	5		
8	Feb-98	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.48	42	Nov-11	4.5	2	-1.06
10	Aug-98	4.5	5	-0.48	43	Jun-12	4.5	2	-1.06
11	Nov-98	4.5	10	0.48	44	Dec-12	4.5	2	-1.06
12	Mar-99	4.5	20	2.42	45	Jun-13	4.5	6	-0.29
13	May-99	4.5	5	-0.48	46	Nov-13	4.5	4	-0.68
14	Jul-99	4.5	11	0.68	47	Jun-14	4.5	2	-1.06
15	Oct-99	4.5	5	-0.48	48	Nov-14	4.5	2	-1.06
16	Mar-00	4.5	5	-0.48	49	Jun-15	4.5	2.5	-0.97
17	Jun-00	4.5	30	4.35	50	Nov-15	4.5	2.5	-0.97
18	Sep-00	4.5	2.5	-0.97	51	Jun-16	4.5	2.5	-0.97
19	Nov-00	4.5	40	6.29	52	Nov-16	4.5	2.5	-0.97
20	Mar-01	4.5	5	-0.48	53	Jun-17	4.5	2.5	-0.97
21	May-01	4.5	10	0.48	54	Nov-17	4.5	2.5	-0.97
22	Aug-01	4.5	10	0.48	55	Jun-18	4.5	2.5	-0.97
23	Nov-01	4.5	10	0.48	56	Nov-18	4.5	2.5	-0.97
24	Mar-02	4.5	10	0.48	57	May-19	4.5	2.5	-0.97
25	Jun-03	4.5	6	-0.29	58	Nov-19	4.5	7	-0.10
26	Feb-04	4.5	6	-0.29	59	Jun-20	4.5	2.5	-0.97
27	Jun-04	4.5	2.5	-0.97	60	Nov-20	4.5	2.5	-0.97
28	Nov-04	4.5	7	-0.10	61	Jun-21	4.5	2.5	-0.97
29	Jun-05	4.5	2.5	-0.97	62	Nov-21	4.5	2.5	-0.97
30	Dec-05	4.5	66	11.32	63	Jun-22	4.5	2.5	-0.97
31	Jun-06	4.5	4	-0.68	64	Nov-22	4.5	5	-0.48
32	Nov-06	4.5	5	-0.48	65	Jun-23	4.5	2.5	-0.97
33	Jun-07	4.5	7	-0.10					
34	Nov-07	4.5	4	-0.68					
35	Jun-08	4.5	2	-1.06					
36	Nov-08	4.5	2	-1.06					
37	Jun-09	4.5	2	-1.06					
38	Nov-09	4.5	2	-1.06					
39	Jun-10	4.5	2	-1.06					
40	Nov-10	4.5	2	-1.06					
41	Jun-11	4.5	2	-1.06					

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

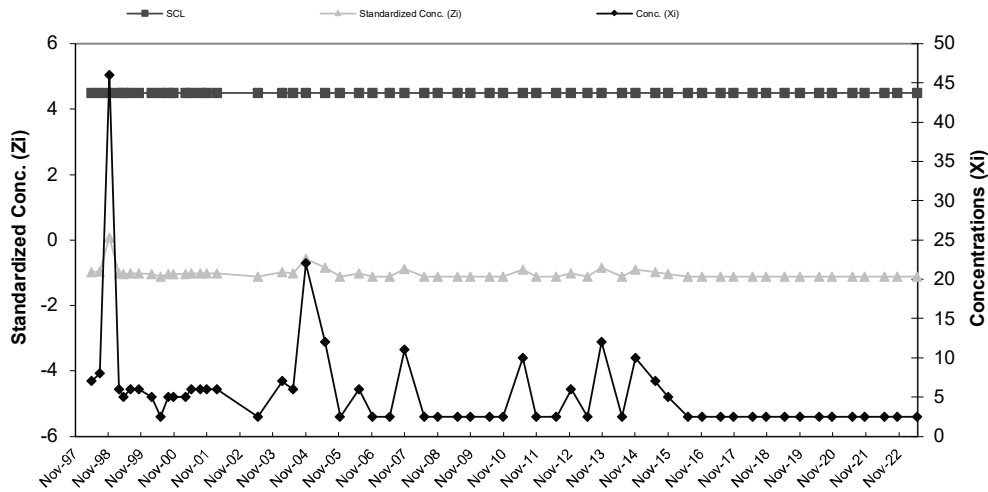


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault E - Nickel**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-96	46	43.13	36.46
2	Jun-96	10		
3	Oct-96	10		
4	Nov-96	10		
5	May-97	35		
6	Aug-97	64		
7	Nov-97	116		
8	Feb-98	54		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	7	-0.99	42	Nov-11	4.5	2.5	-1.11
10	Aug-98	4.5	8	-0.96	43	Jun-12	4.5	2.5	-1.11
11	Nov-98	4.5	46	0.08	44	Dec-12	4.5	6	-1.02
12	Mar-99	4.5	6	-1.02	45	Jun-13	4.5	2.5	-1.11
13	May-99	4.5	5	-1.05	46	Nov-13	4.5	12	-0.85
14	Jul-99	4.5	6	-1.02	47	Jun-14	4.5	2.5	-1.11
15	Oct-99	4.5	6	-1.02	48	Nov-14	4.5	10	-0.91
16	Mar-00	4.5	5	-1.05	49	Jun-15	4.5	7	-0.99
17	Jun-00	4.5	2.5	-1.11	50	Nov-15	4.5	5	-1.05
18	Sep-00	4.5	5	-1.05	51	Jun-16	4.5	2.5	-1.11
19	Nov-00	4.5	5	-1.05	52	Nov-16	4.5	2.5	-1.11
20	Mar-01	4.5	5	-1.05	53	Jun-17	4.5	2.5	-1.11
21	May-01	4.5	6	-1.02	54	Nov-17	4.5	2.5	-1.11
22	Aug-01	4.5	6	-1.02	55	Jun-18	4.5	2.5	-1.11
23	Nov-01	4.5	6	-1.02	56	Nov-18	4.5	2.5	-1.11
24	Mar-02	4.5	6	-1.02	57	May-19	4.5	2.5	-1.11
25	Jun-03	4.5	2.5	-1.11	58	Nov-19	4.5	2.5	-1.11
26	Feb-04	4.5	7	-0.99	59	Jun-20	4.5	2.5	-1.11
27	Jun-04	4.5	6	-1.02	60	Nov-20	4.5	2.5	-1.11
28	Nov-04	4.5	22	-0.58	61	Jun-21	4.5	2.5	-1.11
29	Jun-05	4.5	12	-0.85	62	Nov-21	4.5	2.5	-1.11
30	Dec-05	4.5	2.5	-1.11	63	Jun-22	4.5	2.5	-1.11
31	Jun-06	4.5	6	-1.02	64	Nov-22	4.5	2.5	-1.11
32	Nov-06	4.5	2.5	-1.11	65	Jun-23	4.5	2.5	-1.11
33	Jun-07	4.5	2.5	-1.11					
34	Nov-07	4.5	11	-0.88					
35	Jun-08	4.5	2.5	-1.11					
36	Nov-08	4.5	2.5	-1.11					
37	Jun-09	4.5	2.5	-1.11					
38	Nov-09	4.5	2.5	-1.11					
39	Jun-10	4.5	2.5	-1.11					
40	Nov-10	4.5	2.5	-1.11					
41	Jun-11	4.5	10	-0.91					

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

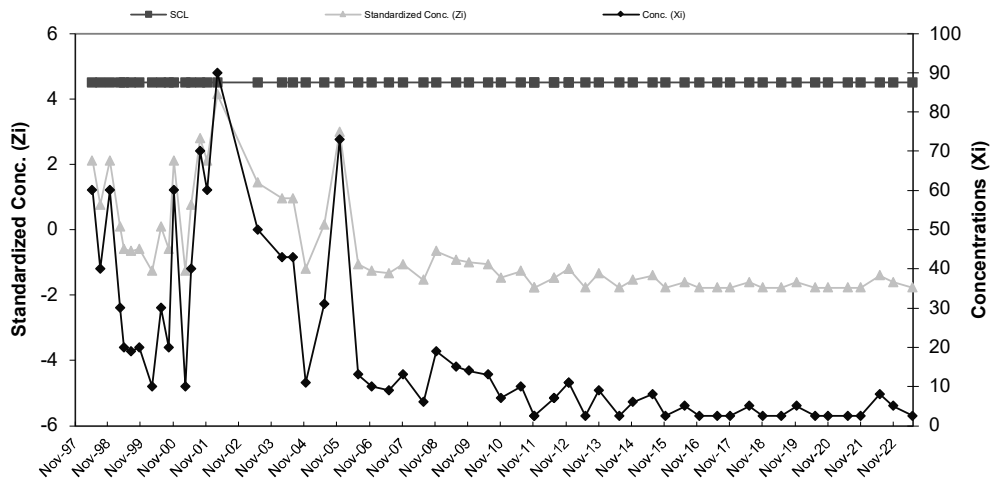


**COLDWATER ROAD LANDFILL FACILITY**  
**RCRA LANDFILL LEAK DETECTION SYSTEM**  
**SHEWART CONTROL CHART**  
**Vault E - Zinc**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-96	10	28.75	14.79
2	Jun-96	10		
3	Oct-96	20		
4	Nov-96	30		
5	May-97	30		
6	Aug-97	40		
7	Nov-97	40		
8	Feb-98	50		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	60	2.11	42	Nov-11	4.5	2.5	-1.77
10	Aug-98	4.5	40	0.76	43	Jun-12	4.5	7	-1.47
11	Nov-98	4.5	60	2.11	44	Dec-12	4.5	11	-1.20
12	Mar-99	4.5	30	0.08	45	Jun-13	4.5	2.5	-1.77
13	May-99	4.5	20	-0.59	46	Nov-13	4.5	9	-1.34
14	Jul-99	4.5	19	-0.66	47	Jun-14	4.5	2.5	-1.77
15	Oct-99	4.5	20	-0.59	48	Nov-14	4.5	6	-1.54
16	Mar-00	4.5	10	-1.27	49	Jun-15	4.5	8	-1.40
17	Jun-00	4.5	30	0.08	50	Nov-15	4.5	2.5	-1.77
18	Sep-00	4.5	20	-0.59	51	Jun-16	4.5	5	-1.61
19	Nov-00	4.5	60	2.11	52	Nov-16	4.5	2.5	-1.77
20	Mar-01	4.5	10	-1.27	53	Jun-17	4.5	2.5	-1.77
21	May-01	4.5	40	0.76	54	Nov-17	4.5	2.5	-1.77
22	Aug-01	4.5	70	2.79	55	Jun-18	4.5	5	-1.61
23	Nov-01	4.5	60	2.11	56	Nov-18	4.5	2.5	-1.77
24	Mar-02	4.5	90	4.14	57	May-19	4.5	2.5	-1.77
25	Jun-03	4.5	50	1.44	58	Nov-19	4.5	5	-1.61
26	Feb-04	4.5	43	0.96	59	Jun-20	4.5	2.5	-1.77
27	Jun-04	4.5	43	0.96	60	Nov-20	4.5	2.5	-1.77
28	Nov-04	4.5	11	-1.20	61	Jun-21	4.5	2.5	-1.77
29	Jun-05	4.5	31	0.15	62	Nov-21	4.5	2.5	-1.77
30	Dec-05	4.5	73	2.99	63	Jun-22	4.5	8	-1.40
31	Jun-06	4.5	13	-1.06	64	Nov-22	4.5	5	-1.61
32	Nov-06	4.5	10	-1.27	65	Jun-23	4.5	2.5	-1.77
33	Jun-07	4.5	9	-1.34					
34	Nov-07	4.5	13	-1.06					
35	Jun-08	4.5	6	-1.54					
36	Nov-08	4.5	19	-0.66					
37	Jun-09	4.5	15	-0.93					
38	Nov-09	4.5	14	-1.00					
39	Jun-10	4.5	13	-1.06					
40	Nov-10	4.5	7	-1.47					
41	Jun-11	4.5	10	-1.27					
42	Nov-11	4.5	2.5	-1.77					
43	Jun-12	4.5	7	-1.47					
44	Dec-12	4.5	11	-1.20					

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

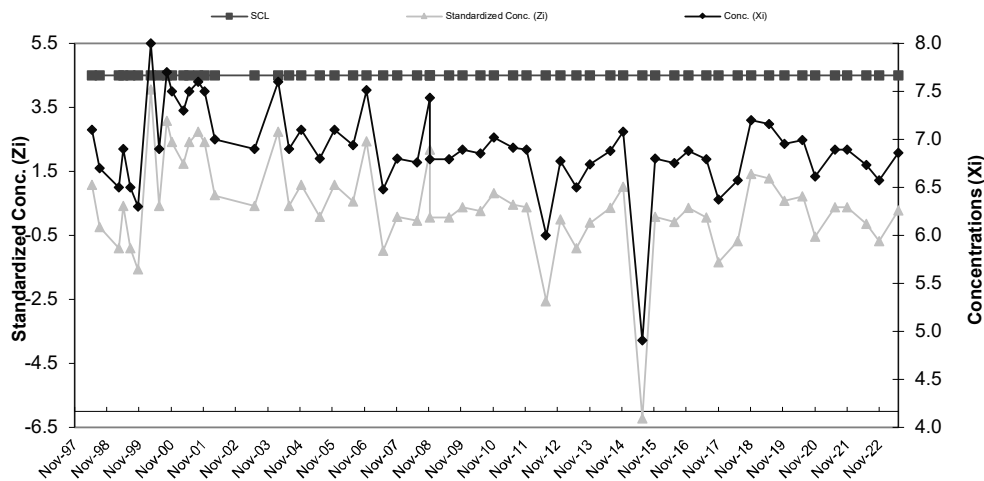


**COLDWATER ROAD LANDFILL FACILITY**  
**RCRA LANDFILL LEAK DETECTION SYSTEM**  
**SHEWART CONTROL CHART**  
**Vault E - pH**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-96	7.2	<b>6.78</b>	<b>0.30</b>
2	Jun-96	7		
3	Oct-96	6.9		
4	Nov-96	7		
5	May-97	6.3		
6	Aug-97	6.7		
7	Nov-97	6.5		
8	Feb-98	6.6		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	7.10	1.08	41	Nov-11	4.5	6.9	0.38
10	Aug-98	4.5	6.70	-0.25	42	Jun-12	4.5	6	-2.57
11	Mar-99	4.5	6.50	-0.91	43	Dec-12	4.5	6.77	-0.02
12	May-99	4.5	6.90	0.42	44	Jun-13	4.5	6.5	-0.91
13	Jul-99	4.5	6.50	-0.91	45	Nov-13	4.5	6.74	-0.12
14	Oct-99	4.5	6.30	-1.58	46	Jun-14	4.5	6.88	0.35
15	Mar-00	4.5	8.00	4.07	47	Nov-14	4.5	7.08	1.01
16	Jun-00	4.5	6.90	0.42	48	Jun-15	4.5	4.9	-6.23
17	Sep-00	4.5	7.70	3.07	49	Nov-15	4.5	6.8	0.08
18	Nov-00	4.5	7.50	2.41	50	Jun-16	4.5	6.75	-0.08
19	Mar-01	4.5	7.30	1.74	51	Nov-16	4.5	6.88	0.35
20	May-01	4.5	7.50	2.41	52	Jun-17	4.5	6.79	0.05
21	Aug-01	4.5	7.60	2.74	53	Nov-17	4.5	6.37	-1.34
22	Nov-01	4.5	7.50	2.41	54	Jun-18	4.5	6.57	-0.68
23	Mar-02	4.5	7.00	0.75	55	Nov-18	4.5	7.2	1.41
24	Jun-03	4.5	6.90	0.42	56	May-19	4.5	7.16	1.28
25	Feb-04	4.5	7.60	2.74	57	Nov-19	4.5	6.95	0.58
26	Jun-04	4.5	6.90	0.42	58	Jun-20	4.5	6.99	0.71
27	Nov-04	4.5	7.10	1.08	59	Nov-20	4.5	6.61	-0.55
28	Jun-05	4.5	6.80	0.08	60	Jun-21	4.5	6.89	0.38
29	Dec-05	4.5	7.10	1.08	61	Nov-21	4.5	6.89	0.38
30	Jun-06	4.5	6.94	0.55	62	Jun-22	4.5	6.73	-0.15
31	Nov-06	4.5	7.51	2.44	63	Nov-22	4.5	6.57	-0.68
32	Jun-07	4.5	6.48	-0.98	64	Jun-23	4.5	6.86	0.28
33	Nov-07	4.5	6.80	0.08					
34	Jun-08	4.5	6.76	-0.05					
35	Nov-08	4.5	7.43	2.17					
35	Nov-08	4.5	6.79	0.05					
36	Jun-09	4.5	6.79	0.05					
37	Nov-09	4.5	6.89	0.38					
38	Jun-10	4.5	6.85	0.25					
39	Nov-10	4.5	7.02	0.81					
40	Jun-11	4.5	6.91	0.45					

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

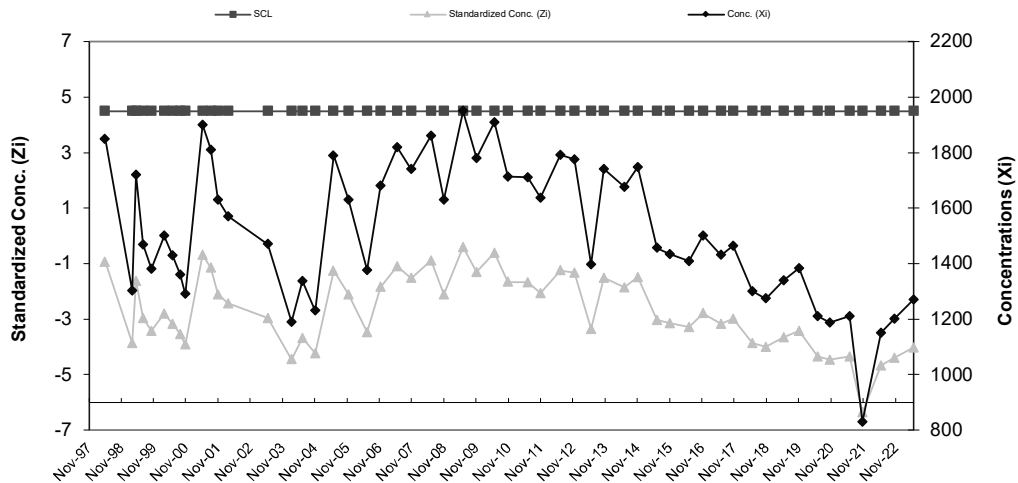


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault E - SpC**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-96	2000	2,026.25	187.84
2	Jun-96	2400		
3	Oct-96	2000		
4	Nov-96	1800		
5	May-97	2120		
6	Aug-97	1840		
7	Nov-97	2100		
8	Feb-98	1950		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	1850	-0.94	39	Nov-11	4.5	1637	-2.07
10	Mar-99	4.5	1302	-3.86	40	Jun-12	4.5	1792	-1.25
11	May-99	4.5	1720	-1.63	41	Dec-12	4.5	1776	-1.33
12	Jul-99	4.5	1468	-2.97	42	Jun-13	4.5	1397	-3.35
13	Oct-99	4.5	1382	-3.43	43	Nov-13	4.5	1741	-1.52
14	Mar-00	4.5	1500	-2.80	44	Jun-14	4.5	1677	-1.86
15	Jun-00	4.5	1430	-3.17	45	Nov-14	4.5	1747	-1.49
16	Sep-00	4.5	1360	-3.55	46	Jun-15	4.5	1456	-3.04
17	Nov-00	4.5	1290	-3.92	47	Nov-15	4.5	1435	-3.15
18	May-01	4.5	1900	-0.67	48	Jun-16	4.5	1408	-3.29
19	Aug-01	4.5	1810	-1.15	49	Nov-16	4.5	1502	-2.79
20	Nov-01	4.5	1630	-2.11	50	Jun-17	4.5	1431	-3.17
21	Mar-02	4.5	1570	-2.43	51	Nov-17	4.5	1465	-2.99
22	Jun-03	4.5	1470	-2.96	52	Jun-18	4.5	1300	-3.87
23	Feb-04	4.5	1190	-4.45	53	Nov-18	4.5	1274	-4.00
24	Jun-04	4.5	1337	-3.67	54	May-19	4.5	1339	-3.66
25	Nov-04	4.5	1230	-4.24	55	Nov-19	4.5	1383	-3.42
26	Jun-05	4.5	1790	-1.26	56	Jun-20	4.5	1210	-4.35
27	Dec-05	4.5	1630	-2.11	57	Nov-20	4.5	1188	-4.46
28	Jun-06	4.5	1376	-3.46	58	Jun-21	4.5	1211	-4.34
29	Nov-06	4.5	1680	-1.84	59	Nov-21	4.5	831	-6.36
30	Jun-07	4.5	1820	-1.10	60	Jun-22	4.5	1150	-4.66
31	Nov-07	4.5	1740	-1.52	61	Nov-22	4.5	1201	-4.39
32	Jun-08	4.5	1860	-0.89	62	Jun-23	4.5	1270	-4.03
33	Nov-08	4.5	1630	-2.11					
34	Jun-09	4.5	1950	-0.41					
35	Nov-09	4.5	1780	-1.31					
36	Jun-10	4.5	1910	-0.62					
37	Nov-10	4.5	1714	-1.66					
38	Jun-11	4.5	1711	-1.68					

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

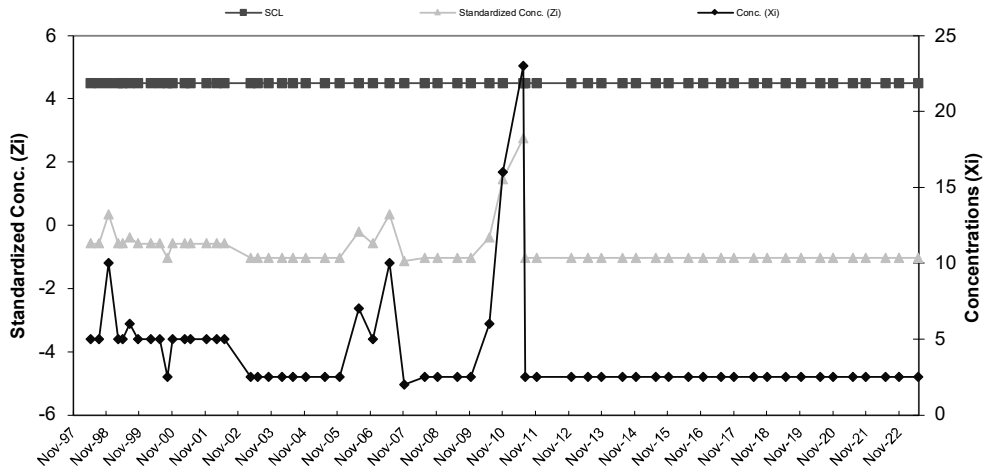


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault F - Chromium**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	<b>8.13</b>	<b>5.40</b>
2	Aug-95	10		
3	Jun-96	10		
4	Aug-96	10		
5	Nov-96	10		
6	Aug-97	5		
7	Nov-97	5		
8	Feb-98	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.58	44	Jul-11	4.5	2.5	-1.04
10	Aug-98	4.5	5	-0.58	45	Nov-11	4.5	2.5	-1.04
11	Nov-98	4.5	10	0.35	46	Dec-12	4.5	2.5	-1.04
12	Mar-99	4.5	5	-0.58	47	Jun-13	4.5	2.5	-1.04
13	May-99	4.5	5	-0.58	48	Nov-13	4.5	2.5	-1.04
14	Jul-99	4.5	6	-0.39	49	Jun-14	4.5	2.5	-1.04
15	Oct-99	4.5	5	-0.58	50	Nov-14	4.5	2.5	-1.04
16	Mar-00	4.5	5	-0.58	51	Jun-15	4.5	2.5	-1.04
17	Jun-00	4.5	5	-0.58	52	Nov-15	4.5	2.5	-1.04
18	Sep-00	4.5	2.5	-1.04	53	Jun-16	4.5	2.5	-1.04
19	Nov-00	4.5	5	-0.58	54	Nov-16	4.5	2.5	-1.04
20	Mar-01	4.5	5	-0.58	55	Jun-17	4.5	2.5	-1.04
21	May-01	4.5	5	-0.58	56	Nov-17	4.5	2.5	-1.04
22	Nov-01	4.5	5	-0.58	57	Jun-18	4.5	2.5	-1.04
23	Mar-02	4.5	5	-0.58	58	Nov-18	4.5	2.5	-1.04
24	May-02	4.5	5	-0.58	59	May-19	4.5	2.5	-1.04
25	Mar-03	4.5	2.5	-1.04	60	Nov-19	4.5	2.5	-1.04
26	Jun-03	4.5	2.5	-1.04	61	Jun-20	4.5	2.5	-1.04
27	Oct-03	4.5	2.5	-1.04	62	Nov-20	4.5	2.5	-1.04
28	Feb-04	4.5	2.5	-1.04	63	Jun-21	4.5	2.5	-1.04
29	Jun-04	4.5	2.5	-1.04	64	Nov-21	4.5	2.5	-1.04
30	Nov-04	4.5	2.5	-1.04	65	Jun-22	4.5	2.5	-1.04
31	Jun-05	4.5	2.5	-1.04	66	Nov-22	4.5	2.5	-1.04
32	Dec-05	4.5	2.5	-1.04	67	Jun-23	4.5	2.5	-1.04
33	Jun-06	4.5	7	-0.21					
34	Nov-06	4.5	5	-0.58					
35	Jun-07	4.5	10	0.35					
36	Nov-07	4.5	2	-1.14					
37	Jun-08	4.5	2.5	-1.04					
38	Nov-08	4.5	2.5	-1.04					
39	Jun-09	4.5	2.5	-1.04					
40	Nov-09	4.5	2.5	-1.04					
41	Jun-10	4.5	6	-0.39					
42	Nov-10	4.5	16	1.46					
43	Jun-11	4.5	23	2.75					

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

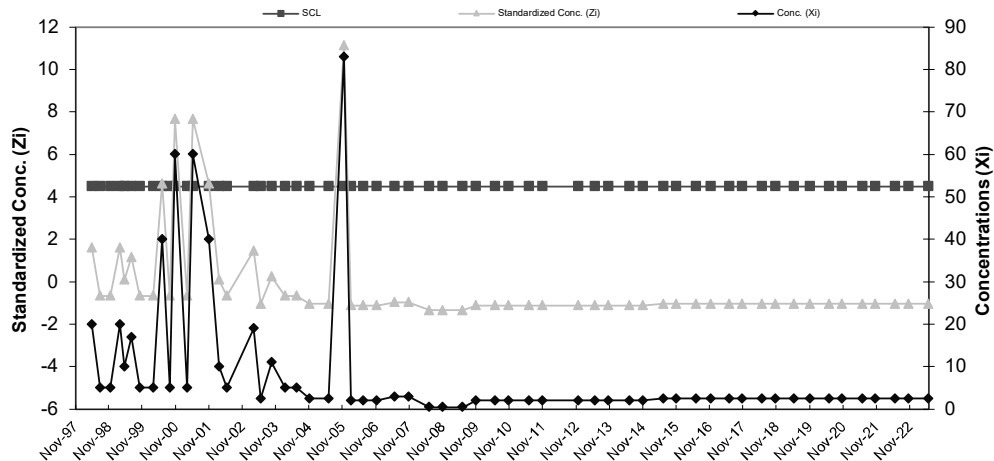


**COLDWATER ROAD LANDFILL FACILITY**  
**RCRA LANDFILL LEAK DETECTION SYSTEM**  
**SHEWART CONTROL CHART**  
**Vault F - Copper**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	<b>9.38</b>	<b>6.61</b>
2	Aug-95	10		
3	Jun-96	10		
4	Aug-96	20		
5	Nov-96	10		
6	Aug-97	5		
7	Nov-97	5		
8	Feb-98	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	20	1.61	44	Jun-11	4.5	2	-1.12
10	Aug-98	4.5	5	-0.66	45	Nov-11	4.5	2	-1.12
11	Nov-98	4.5	5	-0.66	46	Dec-12	4.5	2	-1.12
12	Mar-99	4.5	20	1.61	47	Jun-13	4.5	2	-1.12
13	May-99	4.5	10	0.09	48	Nov-13	4.5	2	-1.12
14	Jul-99	4.5	17	1.15	49	Jun-14	4.5	2	-1.12
15	Oct-99	4.5	5	-0.66	50	Nov-14	4.5	2	-1.12
16	Mar-00	4.5	5	-0.66	51	Jun-15	4.5	2.5	-1.04
17	Jun-00	4.5	40	4.63	52	Nov-15	4.5	2.5	-1.04
18	Sep-00	4.5	5	-0.66	53	Jun-16	4.5	2.5	-1.04
19	Nov-00	4.5	60	7.66	54	Nov-16	4.5	2.5	-1.04
20	Mar-01	4.5	5	-0.66	55	Jun-17	4.5	2.5	-1.04
21	May-01	4.5	60	7.66	56	Nov-17	4.5	2.5	-1.04
22	Nov-01	4.5	40	4.63	57	Jun-18	4.5	2.5	-1.04
23	Mar-02	4.5	10	0.09	58	Nov-18	4.5	2.5	-1.04
24	May-02	4.5	5	-0.66	59	May-19	4.5	2.5	-1.04
25	Mar-03	4.5	19	1.46	60	Nov-19	4.5	2.5	-1.04
26	Jun-03	4.5	2.5	-1.04	61	Jun-20	4.5	2.5	-1.04
27	Oct-03	4.5	11	0.25	62	Nov-20	4.5	2.5	-1.04
28	Feb-04	4.5	5	-0.66	63	Jun-21	4.5	2.5	-1.04
29	Jun-04	4.5	5	-0.66	64	Nov-21	4.5	2.5	-1.04
30	Nov-04	4.5	2.5	-1.04	65	Jun-22	4.5	2.5	-1.04
31	Jun-05	4.5	2.5	-1.04	66	Nov-22	4.5	2.5	-1.04
32	Dec-05	4.5	83	11.14	67	Jun-23	4.5	2.5	-1.04
33	Feb-06	4.5	2	-1.12					
34	Jun-06	4.5	2	-1.12					
35	Nov-06	4.5	2	-1.12					
36	Jun-07	4.5	3	-0.97					
37	Nov-07	4.5	3	-0.97					
38	Jun-08	4.5	0.5	-1.34					
39	Nov-08	4.5	0.5	-1.34					
40	Jun-09	4.5	0.5	-1.34					
41	Nov-09	4.5	2	-1.12					
42	Jun-10	4.5	2	-1.12					
43	Nov-10	4.5	2	-1.12					

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

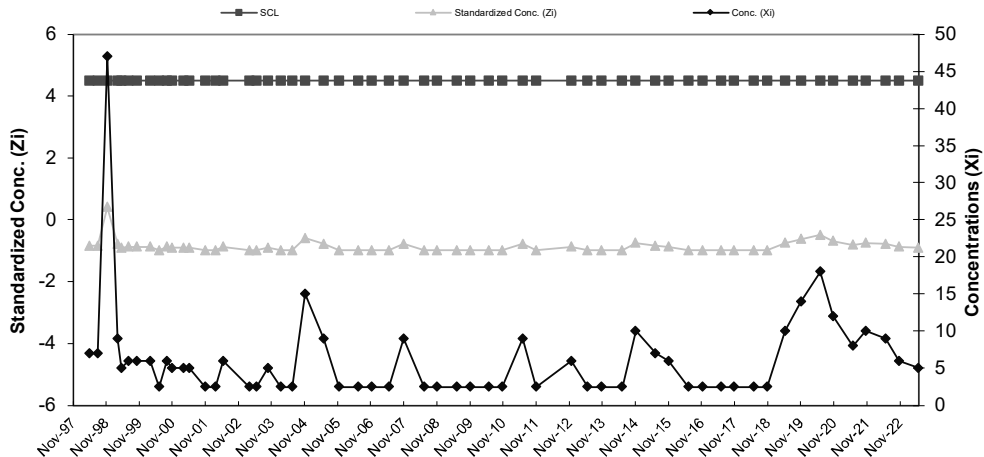


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault F - Nickel**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	15	33.88	31.96
2	Aug-95	20		
3	Jun-96	10		
4	Aug-96	10		
5	Nov-96	10		
6	Aug-97	64		
7	Nov-97	93		
8	Feb-98	49		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	7	-0.84	43	Jun-11	4.5	9	-0.78
10	Aug-98	4.5	7	-0.84	44	Nov-11	4.5	2.5	-0.98
11	Nov-98	4.5	47	0.41	45	Dec-12	4.5	6	-0.87
12	Mar-99	4.5	9	-0.78	46	Jun-13	4.5	2.5	-0.98
13	May-99	4.5	5	-0.90	47	Nov-13	4.5	2.5	-0.98
14	Jul-99	4.5	6	-0.87	48	Jun-14	4.5	2.5	-0.98
15	Oct-99	4.5	6	-0.87	49	Nov-14	4.5	10	-0.75
16	Mar-00	4.5	6	-0.87	50	Jun-15	4.5	7	-0.84
17	Jun-00	4.5	2.5	-0.98	51	Nov-15	4.5	6	-0.87
18	Sep-00	4.5	6	-0.87	52	Jun-16	4.5	2.5	-0.98
19	Nov-00	4.5	5	-0.90	53	Nov-16	4.5	2.5	-0.98
20	Mar-01	4.5	5	-0.90	54	Jun-17	4.5	2.5	-0.98
21	May-01	4.5	5	-0.90	55	Nov-17	4.5	2.5	-0.98
22	Nov-01	4.5	2.5	-0.98	56	Jun-18	4.5	2.5	-0.98
23	Mar-02	4.5	2.5	-0.98	57	Nov-18	4.5	2.5	-0.98
24	May-02	4.5	6	-0.87	58	May-19	4.5	10	-0.75
25	Mar-03	4.5	2.5	-0.98	59	Nov-19	4.5	14	-0.62
26	Jun-03	4.5	2.5	-0.98	60	Jun-20	4.5	18	-0.50
27	Oct-03	4.5	5	-0.90	61	Nov-20	4.5	12	-0.68
28	Feb-04	4.5	2.5	-0.98	62	Jun-21	4.5	8	-0.81
29	Jun-04	4.5	2.5	-0.98	63	Nov-21	4.5	10	-0.75
30	Nov-04	4.5	15	-0.59	64	Jun-22	4.5	9	-0.78
31	Jun-05	4.5	9	-0.78	65	Nov-22	4.5	6	-0.87
32	Dec-05	4.5	2.5	-0.98	66	Jun-23	4.5	5	-0.90
33	Jun-06	4.5	2.5	-0.98					
34	Nov-06	4.5	2.5	-0.98					
35	Jun-07	4.5	2.5	-0.98					
36	Nov-07	4.5	9	-0.78					
37	Jun-08	4.5	2.5	-0.98					
38	Nov-08	4.5	2.5	-0.98					
39	Jun-09	4.5	2.5	-0.98					
40	Nov-09	4.5	2.5	-0.98					
41	Jun-10	4.5	2.5	-0.98					
42	Nov-10	4.5	2.5	-0.98					

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

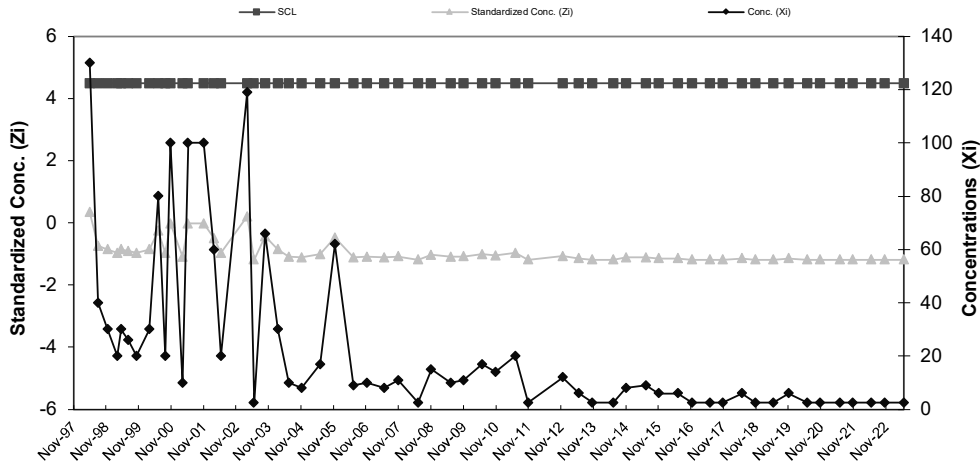


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault F - Zinc**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	190	<b>101.24</b>	<b>83.60</b>
2	Aug-95	220		
3	Jun-96	10		
4	Aug-96	50		
5	Nov-96	30		
6	Aug-97	20		
7	Nov-97	130		
8	Feb-98	160		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	130	0.34	43	Jun-11	4.5	20	-0.97
10	Aug-98	4.5	40	-0.73	44	Nov-11	4.5	2.5	-1.18
11	Nov-98	4.5	30	-0.85	45	Dec-12	4.5	12	-1.07
12	Mar-99	4.5	20	-0.97	46	Jun-13	4.5	6	-1.14
13	May-99	4.5	30	-0.85	47	Nov-13	4.5	2.5	-1.18
14	Jul-99	4.5	26	-0.90	48	Jun-14	4.5	2.5	-1.18
15	Oct-99	4.5	20	-0.97	49	Nov-14	4.5	8	-1.12
16	Mar-00	4.5	30	-0.85	50	Jun-15	4.5	9	-1.10
17	Jun-00	4.5	80	-0.25	51	Nov-15	4.5	6	-1.14
18	Sep-00	4.5	20	-0.97	52	Jun-16	4.5	6	-1.14
19	Nov-00	4.5	100	-0.01	53	Nov-16	4.5	2.5	-1.18
20	Mar-01	4.5	10	-1.09	54	Jun-17	4.5	2.5	-1.18
21	May-01	4.5	100	-0.01	55	Nov-17	4.5	2.5	-1.18
22	Nov-01	4.5	100	-0.01	56	Jun-18	4.5	6	-1.14
23	Mar-02	4.5	60	-0.49	57	Nov-18	4.5	2.5	-1.18
24	May-02	4.5	20	-0.97	58	May-19	4.5	2.5	-1.18
25	Mar-03	4.5	119	0.21	59	Nov-19	4.5	6	-1.14
26	Jun-03	4.5	2.5	-1.18	60	Jun-20	4.5	2.5	-1.18
27	Oct-03	4.5	66	-0.42	61	Nov-20	4.5	2.5	-1.18
28	Feb-04	4.5	30	-0.85	62	Jun-21	4.5	2.5	-1.18
29	Jun-04	4.5	10	-1.09	63	Nov-21	4.5	2.5	-1.18
30	Nov-04	4.5	8	-1.12	64	Jun-22	4.5	2.5	-1.18
31	Jun-05	4.5	17	-1.01	65	Nov-22	4.5	2.5	-1.18
32	Dec-05	4.5	62	-0.47	66	Jun-23	4.5	2.5	-1.18
33	Jun-06	4.5	9	-1.10					
34	Nov-06	4.5	10	-1.09					
35	Jun-07	4.5	8	-1.12					
36	Nov-07	4.5	11	-1.08					
37	Jun-08	4.5	2.5	-1.18					
38	Nov-08	4.5	15	-1.03					
39	Jun-09	4.5	10	-1.09					
40	Nov-09	4.5	11	-1.08					
41	Jun-10	4.5	17	-1.01					
42	Nov-10	4.5	14	-1.04					

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

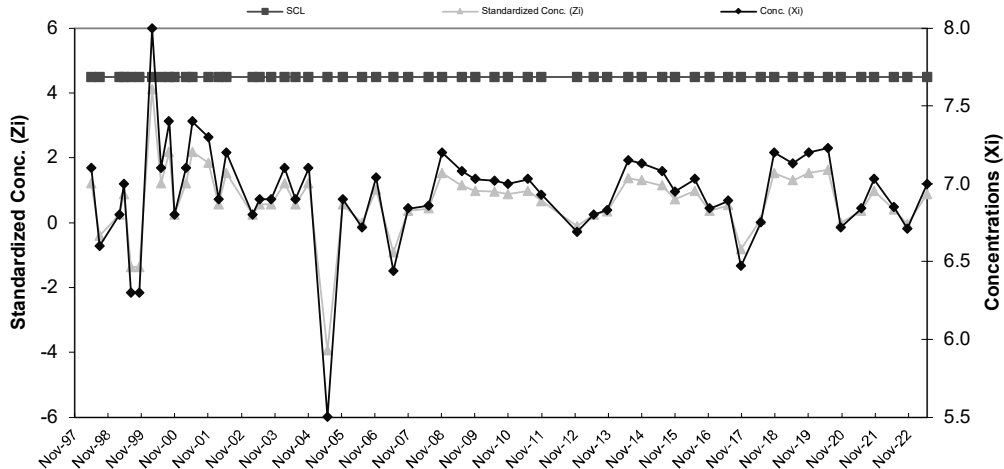


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault F - pH**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	6.8	6.73	0.31
2	Aug-95	6.8		
3	Jun-96	6.8		
4	Aug-96	7.1		
5	Nov-96	7		
6	Aug-97	6.1		
7	Nov-97	6.7		
8	Feb-98	6.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	7.10	1.21	42	Jun-11	4.5	7.0	0.98
10	Aug-98	4.5	6.60	-0.40	43	Nov-11	4.5	6.93	0.66
11	Mar-99	4.5	6.80	0.24	44	Dec-12	4.5	6.69	-0.11
12	May-99	4.5	7.00	0.89	45	Jun-13	4.5	6.8	0.24
13	Jul-99	4.5	6.30	-1.37	46	Nov-13	4.5	6.83	0.34
14	Oct-99	4.5	6.30	-1.37	47	Jun-14	4.5	7.15	1.37
15	Mar-00	4.5	8.00	4.11	48	Nov-14	4.5	7.13	1.30
16	Jun-00	4.5	7.10	1.21	49	Jun-15	4.5	7.08	1.14
17	Sep-00	4.5	7.40	2.17	50	Nov-15	4.5	6.95	0.72
18	Nov-00	4.5	6.80	0.24	51	Jun-16	4.5	7.03	0.98
19	Mar-01	4.5	7.10	1.21	52	Nov-16	4.5	6.84	0.37
20	May-01	4.5	7.40	2.17	53	Jun-17	4.5	6.89	0.53
21	Nov-01	4.5	7.30	1.85	54	Nov-17	4.5	6.47	-0.82
22	Mar-02	4.5	6.90	0.56	55	Jun-18	4.5	6.75	0.08
23	May-02	4.5	7.20	1.53	56	Nov-18	4.5	7.2	1.53
24	Mar-03	4.5	6.80	0.24	57	May-19	4.5	7.13	1.30
25	Jun-03	4.5	6.90	0.56	58	Nov-19	4.5	7.2	1.53
26	Oct-03	4.5	6.90	0.56	59	Jun-20	4.5	7.23	1.63
27	Feb-04	4.5	7.10	1.21	60	Nov-20	4.5	6.72	-0.02
28	Jun-04	4.5	6.90	0.56	61	Jun-21	4.5	6.84	0.37
29	Nov-04	4.5	7.10	1.21	62	Nov-21	4.5	7.03	0.98
30	Jun-05	4.5	5.50	-3.94	63	Jun-22	4.5	6.85	0.40
31	Dec-05	4.5	6.90	0.56	64	Nov-22	4.5	6.71	-0.05
32	Jun-06	4.5	6.72	-0.02	65	Jun-23	4.5	7	0.89
33	Nov-06	4.5	7.04	1.01					
34	Jun-07	4.5	6.44	-0.92					
35	Nov-07	4.5	6.84	0.37					
36	Jun-08	4.5	6.86	0.43					
37	Nov-08	4.5	7.20	1.53					
38	Jun-09	4.5	7.08	1.14					
39	Nov-09	4.5	7.03	0.98					
40	Jun-10	4.5	7.02	0.95					
41	Nov-10	4.5	7.00	0.89					

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



**COLDWATER ROAD LANDFILL FACILITY**  
**RCRA LANDFILL LEAK DETECTION SYSTEM**  
**SHEWART CONTROL CHART**  
**Vault F - SpC**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	1400	<b>1,535.00</b>	<b>218.31</b>
2	Aug-95	1100		
3	Jun-96	1600		
4	Aug-96	1500		
5	Nov-96	1600		
6	Aug-97	1530		
7	Nov-97	1800		
8	Feb-98	1750		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	1400	-0.62	41	Jun-11	4.5	1642	0.49
10	Mar-99	4.5	982	-2.53	42	Nov-11	4.5	1651	0.53
11	May-99	4.5	1460	-0.34	43	Dec-12	4.5	1729	0.89
12	Jul-99	4.5	1262	-1.25	44	Jun-13	4.5	1759	1.03
13	Oct-99	4.5	1116	-1.92	45	Nov-13	4.5	1736	0.92
14	Mar-00	4.5	1250	-1.31	46	Jun-14	4.5	1710	0.80
15	Jun-00	4.5	1310	-1.03	47	Nov-14	4.5	1724	0.87
16	Sep-00	4.5	1440	-0.44	48	Jun-15	4.5	1669	0.61
17	Nov-00	4.5	1040	-2.27	49	Nov-15	4.5	1686	0.69
18	Mar-01	4.5	1110	-1.95	50	Jun-16	4.5	1640	0.48
19	May-01	4.5	1470	-0.30	51	Nov-16	4.5	1641	0.49
20	Nov-01	4.5	1110	-1.95	52	Jun-17	4.5	1675	0.64
21	Mar-02	4.5	1290	-1.12	53	Nov-17	4.5	1626	0.42
22	May-02	4.5	1200	-1.53	54	Jun-18	4.5	1685	0.69
23	Mar-03	4.5	1270	-1.21	55	Nov-18	4.5	1637	0.47
24	Jun-03	4.5	1300	-1.08	56	May-19	4.5	1563	0.13
25	Oct-03	4.5	1040	-2.27	57	Nov-19	4.5	1593	0.27
26	Feb-04	4.5	1920	1.76	58	Jun-20	4.5	1623	0.40
27	Jun-04	4.5	1300	-1.08	59	Nov-20	4.5	1347	-0.86
28	Nov-04	4.5	1160	-1.72	60	Jun-21	4.5	1554	0.09
29	Jun-05	4.5	1780	1.12	61	Nov-21	4.5	1398	-0.63
30	Dec-05	4.5	1640	0.48	62	Jun-22	4.5	1620	0.39
31	Jun-06	4.5	1355	-0.82	63	Nov-22	4.5	1570	0.16
32	Nov-06	4.5	1610	0.34	64	Jun-23	4.5	1570	0.16
33	Jun-07	4.5	1640	0.48					
34	Nov-07	4.5	1600	0.30					
35	Jun-08	4.5	1510	-0.11					
36	Nov-08	4.5	1510	-0.11					
37	Jun-09	4.5	1530	-0.02					
38	Nov-09	4.5	1550	0.07					
39	Jun-10	4.5	1540	0.02					
40	Nov-10	4.5	1590	0.25					

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

