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**Landfill Leak Detection System Annual Report 2022**

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



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

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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 2022 annual leak detection system (LDS) sampling event conducted in November 2022 for the Coldwater Road Landfill site (**Figure 1**). A total of 14,382 gallons of liquid have been removed from the leak detection vaults during 2022, and a total of 8,646 gallons of leachate have been removed from the leachate collection sumps during 2022. Volumes are reported in the Quarterly Status Reports and summarized in **Appendix A**.

## 2. SAMPLING AND ANALYSIS

During this event samples were collected on November 1, 2022 from the six leak detection vaults (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). The event also included field measurements for pH, specific conductivity, and temperature.

The analytical results are summarized in two attached tables: Landfill Leak Detection Vaults – Historical Analytical Results, Inorganics and Metals (**Table 1**) and Landfill Sump and Vault Sampling Log (**Table 2**). 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 November 1, 2022, using a peristaltic pump and tubing for each vault. Duplicate samples were collected from Vault 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 in Vault B, Vault C, and Vault F to 6 µg/L in Vault D. 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 10 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 B, Vault C, Vault D, and Vault F to 10 µg/L in Vault A. 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 6.3 mg/L in Vault B to 9.8 mg/L in Vault C duplicate and Vault D. The results were within the range of the historic results, which ranged from 1.8 mg/L at Vault F (11/17/2008) to 140 mg/L at Vault A (3/27/1996).
- TSS concentrations were not detected above the reporting limit of 3 mg/L; except in Vault B which was detected at a concentration of 14 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 6.55 in Vault A to 6.71 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 1,201  $\mu\text{s}/\text{cm}$  in Vault E to 1,716  $\mu\text{s}/\text{cm}$  in Vault C. 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).

### 3. SUMMARY

The relative percent difference (RPD) for the duplicate sample results for Vault C and Vault-Dup-110122 were within acceptable limits.

There were no results that were noteworthy and there were no exceedances of the Shewart control limits (SCL) during this sampling event. No 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 June 2023. If you have any questions, please feel free to contact Clifford Yantz at (313) 333-0211.

#### **Certification**

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

On Behalf of RACER Trust



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

Date: February 24, 2023

cc: file

## **TABLES**



**TABLE 1**  
**RACER Trust - Coldwater Road**  
**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
	Duplicate	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
Re-sample	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
Re-sample	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
Duplicate	25-Jun-12	6.0	6	5.75	1870	11.9	<5	4	25	<5
	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
	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
Duplicate	21-Jun-16	3.8	<3	6.93	1364	12.0	<5	<5	14	<5
	21-Jun-16	3.9	<3	6.93	1362	12.0	<5	<5	13	<5
	28-Nov-16	3.3	<3	6.82	1378	11.4	<5	<5	15	<5
	19-Jun-17	4.2	<3	6.90	1450	11.4	<5	<5	15	<5
	6-Nov-17	3.6	<3	6.16	1363	11.8	<5	<5	17	<5
	11-Jun-18	4.3	<3	6.45	1447	11.0	<5	<5	15	10
	7-Nov-18	4.1	<3	6.50	1451	6.0	<5	<5	16	6
	29-May-19	8.4	<3	7.13	1436	9.1	<5	<5	15	<5
	19-Nov-19	5.8	<3	6.89	1291	10.6	<5	<5	15	<5
	15-Jun-20	7.9	<3	6.84	1378	17.2	<5	<5	11	<5
	4-Nov-20	6.7	<3	6.69	1010	14.4	<5	<5	12	<5
	16-Jun-21	6.6	<3	6.89	1247	12.9	<5	<5	5	<5
	4-Nov-21	6.6	<3	6.94	1187	13.9	<5	<5	11	5
	6-Jun-22	8.1	<3	7.21	1280	13.1	<5	<5	29	27
	<b>1-Nov-22</b>	<b>8.1</b>	<b>&lt;3</b>	<b>6.55</b>	<b>1219</b>	<b>11.6</b>	<b>&lt;5</b>	<b>5</b>	<b>10</b>	<b>10</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>EGLR Residential Drinking Water Criteria &amp; RBSLs</i>						<i>100 (A)</i>	<i>1,000 ( E )</i>	<i>100 (A)</i>	<i>2,400</i>		
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	8
	Duplicate	28-Nov-06	5.5	4.0	7.46	1380	13.0	<5	<4	8	11
28-Nov-06		4.7	--	7.17	1340	13.0	5	7	7	11	
Duplicate	6-Jun-07	4.7	2.0	6.34	1670	12.1	9	6	13	16	
	12-Nov-07	3.8	1.0	6.93	1690	12.6	2	5	16	14	
Duplicate	24-Jun-08	3.2	6.0	6.95	1880	14.0	<5	2	8	9	
	17-Nov-08	2.4	<1	6.89	1818	9.6	<5	2	8	15	
Duplicate	17-Nov-08	1.7	2.0	6.89	1820	9.6	<5	1	8	15	
	23-Jun-09	3.6	4.0	7.13	1780	13.3	<5	1	6	17	
Duplicate	17-Nov-09	3	0	6.99	1970	10.9	<5	<4	9	17	
	14-Jun-10	3	2	6.90	1810	12.1	8	<4	5	20	
Re-sample	8-Nov-10	4	3	6.93	1911	12.2	21	<4	11	17	
	1-Dec-10	--	--	6.93	--	12.2	6	--	--	--	
Re-sample	20-Jun-11	3.4	1	7.03	1496	12.2	28	<4	11	16	
	14-Jul-11	--	--	--	--	--	<5	--	--	--	
Duplicate	14-Nov-11	3.0	1	6.93	1948	12.0	<5	<4	7	9	
	25-Jun-12	3.0	4	6.16	1781	12.5	<5	<4	<5	8	
Duplicate	5-Dec-12	3.2	5	6.85	1936	10.2	<5	6	9	15	
	6-Jun-13	3.2	<1	6.66	1455	10.8	<5	<4	6	7	
Duplicate	4-Nov-13	3.0	1	6.74	1750	11.8	<5	<4	5	14	
	23-Jun-14	3.2	1	6.87	1369	12.3	<5	<4	<5	7	
Duplicate	18-Nov-14	2.7	3	7.05	1656	7.1	<5	<4	13	10	
	25-Jun-15	3.0	<1	7.07	1513	13.4	<5	5	11	12	
Duplicate	17-Nov-15	2.6	3	6.76	1635	11.7	<5	<5	9	10	
	21-Jun-16	2.7	<3	6.89	1176	13.7	<5	<5	<5	6	
Duplicate	28-Nov-16	2.2	<3	6.78	1654	11.3	<5	<5	<5	5	
	19-Jun-17	2.5	<3	6.80	1110	11.6	<5	<5	<5	<5	
Duplicate	6-Nov-17	2.6	<3	6.28	1450	12.0	<5	<5	<5	7	
	11-Jun-18	2.4	<3	6.51	1064	11.4	<5	<5	<5	5	
Duplicate	7-Nov-18	2.9	<3	6.60	1463	5.0	<5	<5	<5	5	
	7-Nov-18	2.5	<3	6.60	1450	5.0	<5	<5	6	<5	
Duplicate	29-May-19	6.0	<3	7.21	1058	9.8	<5	<5	<5	7	
	19-Nov-19	4.8	<3	7.00	1235	9.9	<5	<5	<5	8	
Duplicate	15-Jun-20	6.2	<3	6.93	1165	15.6	<5	<5	<5	<5	
	4-Nov-20	7.4	<3	6.62	1053	12.5	<5	<5	<5	<5	
Duplicate	4-Nov-20	5.4	<3	6.62	1045	12.5	<5	<5	<5	<5	
	16-Jun-21	6.0	<3	6.88	1046	15.4	<5	<5	<5	<5	
Duplicate	4-Nov-21	6.7	<3	6.86	1208	12.2	<5	<5	<5	5	
	7-Jun-22	6.6	<3	6.81	1170	10.9	<5	<5	<5	<5	
Duplicate	1-Nov-22	<b>6.3</b>	<b>14</b>	<b>6.56</b>	<b>1283</b>	<b>11.9</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>EGL Residual 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	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
Duplicate	11-Jun-18	4.7	5	6.75	1774	12.1	<5	<5	8	<5
	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
Re-sample	29-May-19	8.0	6	7.17	1668	9.6	<5	<5	8	230
	7-Jun-19	--	--	--	--	--	--	--	--	<5
Duplicate	19-Nov-19	6.7	<3	7.08	1635	10.6	<5	<5	9	<5
	19-Nov-19	6.9	<3	7.08	1638	10.6	<5	<5	10	<5
Duplicate	16-Jun-20	9.7	3	7.13	1747	12.2	<5	<5	8	<5
	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
Duplicate	16-Jun-21	8.2	4	6.96	1771	15.1	<5	<5	8	<5
	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
	<b>1-Nov-22</b>	<b>9.6</b>	<b>&lt;3</b>	<b>6.63</b>	<b>1716</b>	<b>11.7</b>	<b>&lt;5</b>	<b>&lt;5</b>	<b>9</b>	<b>&lt;5</b>
<b>Duplicate</b>	<b>1-Nov-22</b>	<b>9.8</b>	<b>3</b>	<b>6.63</b>	<b>1716</b>	<b>11.7</b>	<b>&lt;5</b>	<b>&lt;5</b>	<b>9</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**

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
	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
Vault D	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	
Re-sample	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
Duplicate	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
Duplicate	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
Duplicate	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
Duplicate	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
Duplicate	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
	<b>1-Nov-22</b>	<b>9.8</b>	<b>&lt;3</b>	<b>6.61</b>	<b>1440</b>	<b>11.8</b>	<b>&lt;5</b>	<b>6</b>	<b>9</b>	<b>7</b>

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**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>							<i>100 (A)</i>	<i>1,000 ( E )</i>	<i>100 (A)</i>	<i>2,400</i>
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
	23-Jun-09	3.2	10.0	6.79	1950	14.0	<5	2	<5	15
Duplicate	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
	8-Nov-10	5.0	<1	7.02	1714	12.4	24	<4	<5	7
Duplicate	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
	25-Jun-15	2.9	4	6.88	1456	12.6	<5	<5	7	8
Duplicate	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
	29-May-19	5.3	<3	7.16	1339	10.4	<5	<5	<5	<5
Duplicate	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
	<b>1-Nov-22</b>	<b>7.8</b>	<b>&lt;3</b>	<b>6.57</b>	<b>1201</b>	<b>11.8</b>	<b>&lt;5</b>	<b>5</b>	<b>&lt;5</b>	<b>5</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 F	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
	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	<100
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
Duplicate	17-Nov-15	2.1	1	6.95	1686	13.5	<5	<5	6	6
	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
	<b>1-Nov-22</b>	<b>7.8</b>	<b>&lt;3</b>	<b>6.71</b>	<b>1570</b>	<b>11.8</b>	<b>&lt;5</b>	<b>&lt;5</b>	<b>6</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)



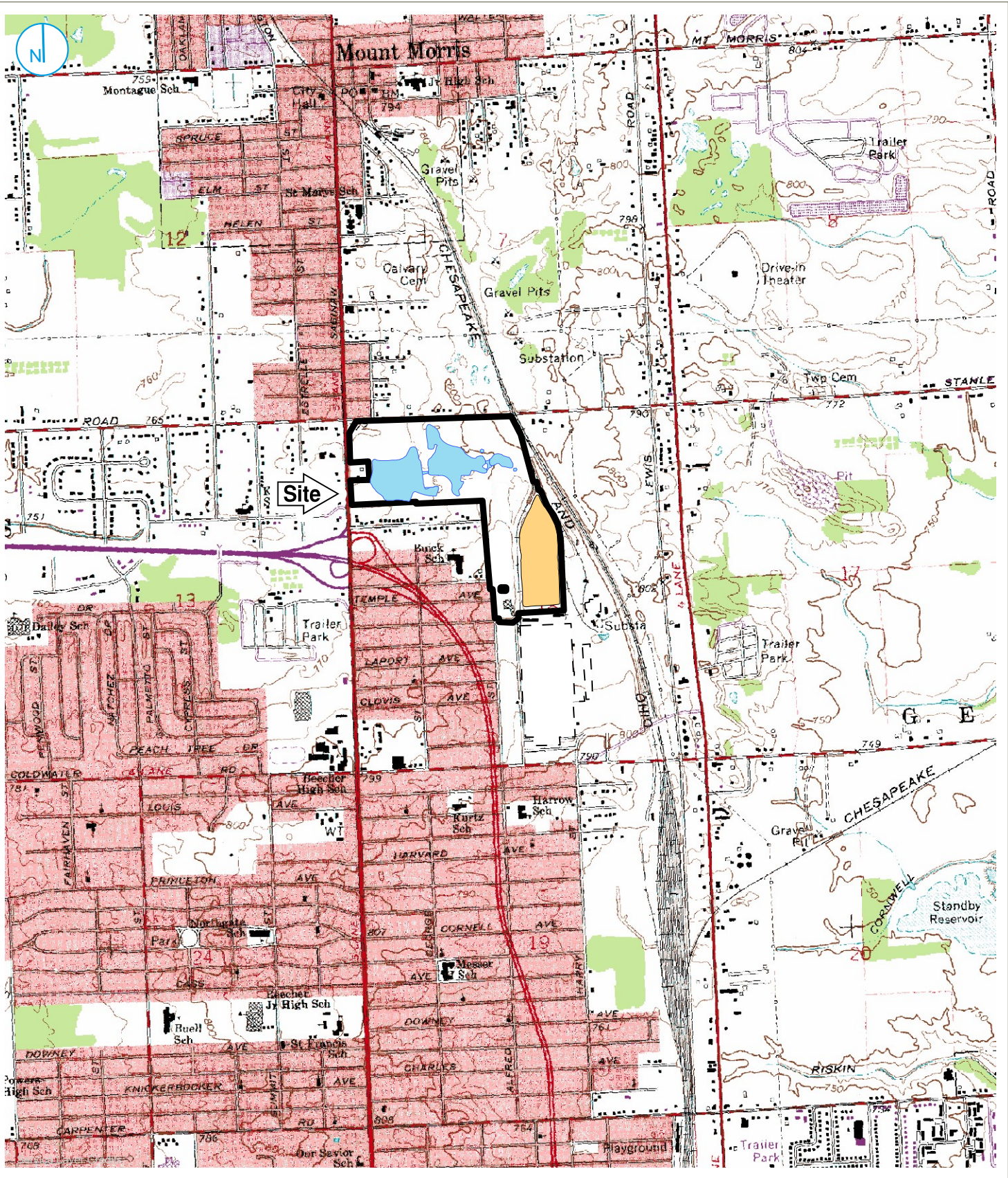
**TABLE 2**  
**RACER Trust - Coldwater Road**  
**Vault Field Data**  
**November 1, 2022**

Name	Color	Temp	Spc ( $\mu\text{S}/\text{cm}$ )	pH	Sample Time
Vault A	clear	11.57	896.12	6.55	9:26
Vault B	clear	11.88	932.12	6.56	10:12
Vault C	clear	11.70	1224.7	6.63	10:32
Vault D	clear	11.78	1052.1	6.61	11:00
Vault E	clear	11.81	873.01	6.57	11:34
Vault F	clear	11.82	1145.1	6.71	12:00

Notes:

Duplicate sample Vault-DUP-110122 was collected at Vault C.

## FIGURES

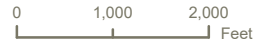


- Wetlands
- Site Buildings
- Landfill-poly
- Former Powerhouse
- Former Plant
- Landfill Property

**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: MONETARY  
I:\Racer-Trust\1088190\GIS\Coldwater\_Road\ProRACER\_Coldwater\_Road\_2022\_Annual\_LDS\_and\_GW\_Figures\ProRACER\_Coldwater\_Road\_2022\_Annual\_LDS\_and\_GW\_Figures.aprx002 - Site\_Layout\_2022\_SA.Rpt (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 2022**

Date 2022	VAULT MONTHLY TOTALS	SUMP MONTHLY TOTALS
JANUARY	2,505	1,256
FEBRUARY	1,235	686
MARCH	752	462
APRIL	2,602	1,077
MAY	1,884	1,529
JUNE	1,904	453
JULY	1,288	1,180
AUGUST	1,256	503
SEPTEMBER	632	503
OCTOBER	--	269
NOVEMBER	324	222
DECEMBER	--	506
<b>Total Removed Through December 31, 2022</b>	<b>14,382</b>	<b>8,646</b>

**Notes**

Liquid volumes in gallons.

-- No vault dewatering was conducted during October 2022 and December 2022 due to low volumes removed in September 2022 and November 2022.

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



# Analytical Laboratory Report

Report ID: S42037.01(01)  
Generated on 11/07/2022

Report to

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

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

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): S42037.01-S42037.07  
Project: RACER Coldwater Road  
Collected Date(s): 11/01/2022  
Submitted Date/Time: 11/01/2022 14:00  
Sampled by: Kevin Schneider  
P.O. #: 1940004462 TASK 001

Table of Contents

- 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
S42037.01	Vault-A	Wastewater	11/01/22 09:26
S42037.02	Vault-B	Wastewater	11/01/22 10:12
S42037.03	Vault-C	Wastewater	11/01/22 10:32
S42037.04	Vault-D	Wastewater	11/01/22 11:00
S42037.05	Vault-E	Wastewater	11/01/22 11:34
S42037.06	Vault-F	Wastewater	11/01/22 12:00
S42037.07	Vault-DUP-110122	Wastewater	11/01/22 00:01



# Analytical Laboratory Report

**Lab Sample ID: S42037.01**

Sample Tag: Vault-A

Collected Date/Time: 11/01/2022 09:26

Matrix: Wastewater

COC Reference: 155465

**Sample Containers**

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	2.8	IR
1	125ml Plastic	HNO3	Yes	2.8	IR
1	1L Plastic	None	Yes	2.8	IR
1	250ml Plastic	None	Yes	2.8	IR

**Extraction / Prep.**

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	11/02/22 13:20	CCM	

**Inorganics**

**Method: E120.1, Run Date: 11/03/22 14:28, Analyst: JKB**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,219	1		umhos/cm	1		

**Method: SM2540D, Run Date: 11/04/22 17:30, Analyst: SSM**

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

**Method: SM5310C, Run Date: 11/01/22 20:29, Analyst: JKB**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	8.1	1		mg/L	1		

**Metals**

**Method: E200.8, Run Date: 11/02/22 14:46, Analyst: CCM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	0.005	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.010	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.010	0.005		mg/L	5	7440-66-6	



# Analytical Laboratory Report

**Lab Sample ID: S42037.02**

Sample Tag: Vault-B

Collected Date/Time: 11/01/2022 10:12

Matrix: Wastewater

COC Reference: 155465

**Sample Containers**

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	2.8	IR
1	125ml Plastic	HNO3	Yes	2.8	IR
1	1L Plastic	None	Yes	2.8	IR
1	250ml Plastic	None	Yes	2.8	IR

**Extraction / Prep.**

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	11/02/22 13:20	CCM	

**Inorganics**

**Method: E120.1, Run Date: 11/03/22 14:30, Analyst: JKB**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,283	1		umhos/cm	1		

**Method: SM2540D, Run Date: 11/04/22 17:30, Analyst: SSM**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Suspended Solids	14	3		mg/L	1		

**Method: SM5310C, Run Date: 11/01/22 20:48, Analyst: JKB**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	6.3	1		mg/L	1		

**Metals**

**Method: E200.8, Run Date: 11/02/22 14:47, 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: S42037.03**

Sample Tag: Vault-C

Collected Date/Time: 11/01/2022 10:32

Matrix: Wastewater

COC Reference: 155465

**Sample Containers**

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	2.8	IR
1	125ml Plastic	HNO3	Yes	2.8	IR
1	1L Plastic	None	Yes	2.8	IR
1	250ml Plastic	None	Yes	2.8	IR

**Extraction / Prep.**

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	11/02/22 13:20	CCM	

**Inorganics**

**Method: E120.1, Run Date: 11/03/22 14:32, Analyst: JKB**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,716	1		umhos/cm	1		

**Method: SM2540D, Run Date: 11/04/22 17:30, Analyst: SSM**

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

**Method: SM5310C, Run Date: 11/01/22 21:07, Analyst: JKB**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	9.6	1		mg/L	1		

**Metals**

**Method: E200.8, Run Date: 11/02/22 14:49, 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	0.009	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: S42037.04

Sample Tag: Vault-D

Collected Date/Time: 11/01/2022 11:00

Matrix: Wastewater

COC Reference: 155465

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	2.8	IR
1	125ml Plastic	HNO3	Yes	2.8	IR
1	1L Plastic	None	Yes	2.8	IR
1	250ml Plastic	None	Yes	2.8	IR

### Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	11/02/22 13:20	CCM	

### Inorganics

Method: E120.1, Run Date: 11/03/22 14:34, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,440	1		umhos/cm	1		

Method: SM2540D, Run Date: 11/04/22 17:30, Analyst: SSM

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

Method: SM5310C, Run Date: 11/01/22 21:27, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	9.8	1		mg/L	1		

### Metals

Method: E200.8, Run Date: 11/02/22 14:50, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	0.006	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.009	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: S42037.05**

Sample Tag: Vault-E

Collected Date/Time: 11/01/2022 11:34

Matrix: Wastewater

COC Reference: 155465

**Sample Containers**

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	2.8	IR
1	125ml Plastic	HNO3	Yes	2.8	IR
1	1L Plastic	None	Yes	2.8	IR
1	250ml Plastic	None	Yes	2.8	IR

**Extraction / Prep.**

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	11/02/22 13:20	CCM	

**Inorganics**

**Method: E120.1, Run Date: 11/03/22 14:36, Analyst: JKB**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,201	1		umhos/cm	1		

**Method: SM2540D, Run Date: 11/04/22 17:30, Analyst: SSM**

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

**Method: SM5310C, Run Date: 11/01/22 21:46, Analyst: JKB**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	7.8	1		mg/L	1		

**Metals**

**Method: E200.8, Run Date: 11/02/22 14:54, Analyst: CCM**

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



# Analytical Laboratory Report

**Lab Sample ID: S42037.06**

Sample Tag: Vault-F

Collected Date/Time: 11/01/2022 12:00

Matrix: Wastewater

COC Reference: 155465

**Sample Containers**

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	2.8	IR
1	125ml Plastic	HNO3	Yes	2.8	IR
1	1L Plastic	None	Yes	2.8	IR
1	250ml Plastic	None	Yes	2.8	IR

**Extraction / Prep.**

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	11/02/22 13:20	CCM	

**Inorganics**

**Method: E120.1, Run Date: 11/03/22 14:38, Analyst: JKB**

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

**Method: SM2540D, Run Date: 11/04/22 17:30, Analyst: SSM**

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

**Method: SM5310C, Run Date: 11/01/22 22:04, Analyst: JKB**

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	7.8	1		mg/L	1		

**Metals**

**Method: E200.8, Run Date: 11/02/22 14:55, 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	0.006	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: S42037.07

Sample Tag: Vault-DUP-110122

Collected Date/Time: 11/01/2022 00:01

Matrix: Wastewater

COC Reference: 155465

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	2.8	IR
1	125ml Plastic	HNO3	Yes	2.8	IR
1	1L Plastic	None	Yes	2.8	IR
1	250ml Plastic	None	Yes	2.8	IR

### Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	11/02/22 13:20	CCM	

### Inorganics

Method: E120.1, Run Date: 11/03/22 14:40, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,716	1		umhos/cm	1		

Method: SM2540D, Run Date: 11/04/22 17:30, Analyst: SSM

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

Method: SM5310C, Run Date: 11/01/22 22:24, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	9.8	1		mg/L	1		

### Metals

Method: E200.8, Run Date: 11/02/22 14:56, 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	0.009	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:S42037

Client:OBG02 (Ramboll Americas)

Project: RACER Coldwater Road

Submitted: 11/01/2022 14:00 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
<b>Sample Receiving</b>		
01.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Samples are received at 4C +/- 2C Thermometer # IR 2.8
02.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Received on ice/ cooling process begun
03.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples shipped
04.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples left in 24 hr. drop box
05.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Are there custody seals/tape or is the drop box locked
<b>Chain of Custody</b>		
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:
<b>Preservation</b>		
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?
<b>Bottle Conditions</b>		
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: S42037 Submitted: 11/01/2022 14:00

Client: OBG02 (Ramboll Americas)

Project: RACER Coldwater Road

Initial Preservation Check: 11/01/2022 14:11 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
S42037.01	125ml Plastic HNO3	<2			
S42037.02	125ml Plastic HNO3	<2			
S42037.03	125ml Plastic HNO3	<2			
S42037.04	125ml Plastic HNO3	<2			
S42037.05	125ml Plastic HNO3	<2			
S42037.06	125ml Plastic HNO3	<2			
S42037.07	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 155465

**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. 313-333-0211 CELL NO. \_\_\_\_\_ P.O. NO. 194662628 TASK 001  
 E-MAIL ADDRESS clifford.yantz@ramboll.com / kevin.schneider@ramboll.com QUOTE NO. \_\_\_\_\_

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

PROJECT NO./NAME RATER Coldwater Road SAMPLER(S) - PLEASE PRINT/SIGN NAME Kevin Schneider  
 TURNAROUND TIME REQUIRED  1 DAY  2 DAYS  3 DAYS  STANDARD  OTHER \_\_\_\_\_  
 DELIVERABLES REQUIRED  STD  LEVEL II  LEVEL III  LEVEL IV  EDD  OTHER \_\_\_\_\_

MATRIX 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

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							Dissolved Metals	TDS	Certifications	Project Locations	Special Instructions
	DATE	TIME				NONE	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	MeOH	OTHER					
42037.01	11/1/22	926	Vault-A	ww	5	2	1	2					X	X	X	X	Dissolved Metals, were field filtered  metals are: Cr, Cu, Ni, Zn
.02		1012	Vault-B										X	X	X	X	
.03		1032	Vault-C										X	X	X	X	
.04		1100	Vault-D										X	X	X	X	
.05		1134	Vault-E										X	X	X	X	
.06		1200	Vault-F										X	X	X	X	
.07		-	Vault-DUP-110122										X	X	X	X	

RELINQUISHED BY: [Signature] DATE 11/1/22 TIME 11:20  
 RECEIVED BY: [Signature] DATE 11/1/22 TIME 11:20  
 RELINQUISHED BY: [Signature] DATE 11/1/22 TIME 14:00  
 RECEIVED BY: [Signature] DATE 11/1/22 TIME 1400

RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 RECEIVED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 SEAL NO. SEAL INTACT YES  NO  INITIALS \_\_\_\_\_ NOTES: TEMP. ON ARRIVAL 2.8  
 SEAL NO. SEAL INTACT YES  NO  INITIALS \_\_\_\_\_



# Quality Control Report

Report ID: QC-S42037-01  
Generated on 11/18/2022

Report to

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

Phone: 313-333-0211 FAX:

Report Produced by

Merit Laboratories  
2680 East Lansing Drive  
East Lansing, MI 48823

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

Report Summary

Lab Sample ID(s): S42037.01-S42037.07  
Project: RACER Coldwater Road  
Submitted Date/Time: 11/01/2022 14:00  
Sampled by: Kevin Schneider  
P.O. #: 1940004462 TASK 001

QC Report Sections

Cover Page (Page 1)  
Analysis Summary (Pages 2-8)  
Prep Batch Summary (Pages 9-10)  
Batch QC Results (Pages 11-15)

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: S42037.01**

Sample Tag: Vault-A

Collected Date/Time: 11/01/2022 09:26

Matrix: Wastewater

COC Reference: 155465

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b><i>Inorganics</i></b>						
Conductivity	E120.1	11/03/22 14:28	COND221103-W1	COND221103-W1	No	BLK/LCS/DUP
TOC	SM5310C	11/01/22 20:29	TOC221101-W1	TOC221101-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	11/04/22 17:30	TSS221104	TSS221104	No	BLK/LCS/DUP
<b><i>Metals</i></b>						
Chromium, Dissolved	E200.8	11/02/22 14:46	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/02/22 14:46	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	11/02/22 14:46	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/02/22 14:46	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD

## QC Report - Analysis Summary

**Lab Sample ID: S42037.02**

Sample Tag: Vault-B

Collected Date/Time: 11/01/2022 10:12

Matrix: Wastewater

COC Reference: 155465

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b><i>Inorganics</i></b>						
Conductivity	E120.1	11/03/22 14:30	COND221103-W1	COND221103-W1	No	BLK/LCS/DUP
TOC	SM5310C	11/01/22 20:48	TOC221101-W1	TOC221101-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	11/04/22 17:30	TSS221104	TSS221104	No	BLK/LCS/DUP
<b><i>Metals</i></b>						
Chromium, Dissolved	E200.8	11/02/22 14:47	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/02/22 14:47	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	11/02/22 14:47	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/02/22 14:47	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD

## QC Report - Analysis Summary

**Lab Sample ID: S42037.03**

Sample Tag: Vault-C

Collected Date/Time: 11/01/2022 10:32

Matrix: Wastewater

COC Reference: 155465

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b><i>Inorganics</i></b>						
Conductivity	E120.1	11/03/22 14:32	COND221103-W1	COND221103-W1	No	BLK/LCS/DUP
TOC	SM5310C	11/01/22 21:07	TOC221101-W1	TOC221101-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	11/04/22 17:30	TSS221104	TSS221104	No	BLK/LCS/DUP
<b><i>Metals</i></b>						
Chromium, Dissolved	E200.8	11/02/22 14:49	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/02/22 14:49	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	11/02/22 14:49	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/02/22 14:49	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD

# QC Report - Analysis Summary

**Lab Sample ID: S42037.04**

Sample Tag: Vault-D

Collected Date/Time: 11/01/2022 11:00

Matrix: Wastewater

COC Reference: 155465

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b><i>Inorganics</i></b>						
Conductivity	E120.1	11/03/22 14:34	COND221103-W1	COND221103-W1	No	BLK/LCS/DUP
TOC	SM5310C	11/01/22 21:27	TOC221101-W1	TOC221101-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	11/04/22 17:30	TSS221104	TSS221104	No	BLK/LCS/DUP
<b><i>Metals</i></b>						
Chromium, Dissolved	E200.8	11/02/22 14:50	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/02/22 14:50	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	11/02/22 14:50	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/02/22 14:50	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD

## QC Report - Analysis Summary

**Lab Sample ID: S42037.05**

Sample Tag: Vault-E

Collected Date/Time: 11/01/2022 11:34

Matrix: Wastewater

COC Reference: 155465

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b><i>Inorganics</i></b>						
Conductivity	E120.1	11/03/22 14:36	COND221103-W1	COND221103-W1	No	BLK/LCS/DUP
TOC	SM5310C	11/01/22 21:46	TOC221101-W1	TOC221101-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	11/04/22 17:30	TSS221104	TSS221104	No	BLK/LCS/DUP
<b><i>Metals</i></b>						
Chromium, Dissolved	E200.8	11/02/22 14:54	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/02/22 14:54	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	11/02/22 14:54	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/02/22 14:54	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD

## QC Report - Analysis Summary

**Lab Sample ID: S42037.06**

Sample Tag: Vault-F

Collected Date/Time: 11/01/2022 12:00

Matrix: Wastewater

COC Reference: 155465

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b><i>Inorganics</i></b>						
Conductivity	E120.1	11/03/22 14:38	COND221103-W1	COND221103-W1	No	BLK/LCS/DUP
TOC	SM5310C	11/01/22 22:04	TOC221101-W1	TOC221101-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	11/04/22 17:30	TSS221104	TSS221104	No	BLK/LCS/DUP
<b><i>Metals</i></b>						
Chromium, Dissolved	E200.8	11/02/22 14:55	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/02/22 14:55	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	11/02/22 14:55	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/02/22 14:55	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD

## QC Report - Analysis Summary

**Lab Sample ID: S42037.07**

Sample Tag: Vault-DUP-110122

Collected Date/Time: 11/01/2022 00:01

Matrix: Wastewater

COC Reference: 155465

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<b><i>Inorganics</i></b>						
Conductivity	E120.1	11/03/22 14:40	COND221103-W1	COND221103-W1	No	BLK/LCS/DUP
TOC	SM5310C	11/01/22 22:24	TOC221101-W1	TOC221101-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	11/04/22 17:30	TSS221104	TSS221104	No	BLK/LCS/DUP
<b><i>Metals</i></b>						
Chromium, Dissolved	E200.8	11/02/22 14:56	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/02/22 14:56	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	11/02/22 14:56	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/02/22 14:56	MT4-22-1102C	MTD-110222-3	No	BLK/LCS/MS/MSD

## QC Report - Prep Batch Summary

### Inorganics, Prep Batch ID: COND221103-W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S42037.01	Conductivity	E120.1	11/03/22 14:28	COND221103-W1
S42037.02	Conductivity	E120.1	11/03/22 14:30	COND221103-W1
S42037.03	Conductivity	E120.1	11/03/22 14:32	COND221103-W1
S42037.04	Conductivity	E120.1	11/03/22 14:34	COND221103-W1
S42037.05	Conductivity	E120.1	11/03/22 14:36	COND221103-W1
S42037.06	Conductivity	E120.1	11/03/22 14:38	COND221103-W1
S42037.07	Conductivity	E120.1	11/03/22 14:40	COND221103-W1

### Inorganics, Prep Batch ID: TOC221101-W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S42037.01	TOC	SM5310C	11/01/22 20:29	TOC221101-W1
S42037.02	TOC	SM5310C	11/01/22 20:48	TOC221101-W1
S42037.03	TOC	SM5310C	11/01/22 21:07	TOC221101-W1
S42037.04	TOC	SM5310C	11/01/22 21:27	TOC221101-W1
S42037.05	TOC	SM5310C	11/01/22 21:46	TOC221101-W1
S42037.06	TOC	SM5310C	11/01/22 22:04	TOC221101-W1
S42037.07	TOC	SM5310C	11/01/22 22:24	TOC221101-W1

### Inorganics, Prep Batch ID: TSS221104

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S42037.01	Total Suspended Solids	SM2540D	11/04/22 17:30	TSS221104
S42037.02	Total Suspended Solids	SM2540D	11/04/22 17:30	TSS221104
S42037.03	Total Suspended Solids	SM2540D	11/04/22 17:30	TSS221104
S42037.04	Total Suspended Solids	SM2540D	11/04/22 17:30	TSS221104
S42037.05	Total Suspended Solids	SM2540D	11/04/22 17:30	TSS221104
S42037.06	Total Suspended Solids	SM2540D	11/04/22 17:30	TSS221104
S42037.07	Total Suspended Solids	SM2540D	11/04/22 17:30	TSS221104

### Metals, Prep Batch ID: MTD-110222-3

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S42037.01	Chromium, Dissolved	E200.8	11/02/22 14:46	MT4-22-1102C
S42037.01	Copper, Dissolved	E200.8	11/02/22 14:46	MT4-22-1102C
S42037.01	Nickel, Dissolved	E200.8	11/02/22 14:46	MT4-22-1102C
S42037.01	Zinc, Dissolved	E200.8	11/02/22 14:46	MT4-22-1102C
S42037.02	Chromium, Dissolved	E200.8	11/02/22 14:47	MT4-22-1102C
S42037.02	Copper, Dissolved	E200.8	11/02/22 14:47	MT4-22-1102C
S42037.02	Nickel, Dissolved	E200.8	11/02/22 14:47	MT4-22-1102C
S42037.02	Zinc, Dissolved	E200.8	11/02/22 14:47	MT4-22-1102C
S42037.03	Chromium, Dissolved	E200.8	11/02/22 14:49	MT4-22-1102C
S42037.03	Copper, Dissolved	E200.8	11/02/22 14:49	MT4-22-1102C
S42037.03	Nickel, Dissolved	E200.8	11/02/22 14:49	MT4-22-1102C
S42037.03	Zinc, Dissolved	E200.8	11/02/22 14:49	MT4-22-1102C
S42037.04	Chromium, Dissolved	E200.8	11/02/22 14:50	MT4-22-1102C
S42037.04	Copper, Dissolved	E200.8	11/02/22 14:50	MT4-22-1102C
S42037.04	Nickel, Dissolved	E200.8	11/02/22 14:50	MT4-22-1102C
S42037.04	Zinc, Dissolved	E200.8	11/02/22 14:50	MT4-22-1102C
S42037.05	Chromium, Dissolved	E200.8	11/02/22 14:54	MT4-22-1102C

# QC Report - Prep Batch Summary

## Metals, Prep Batch ID: MTD-110222-3 (continued)

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S42037.05	Copper, Dissolved	E200.8	11/02/22 14:54	MT4-22-1102C
S42037.05	Nickel, Dissolved	E200.8	11/02/22 14:54	MT4-22-1102C
S42037.05	Zinc, Dissolved	E200.8	11/02/22 14:54	MT4-22-1102C
S42037.06	Chromium, Dissolved	E200.8	11/02/22 14:55	MT4-22-1102C
S42037.06	Copper, Dissolved	E200.8	11/02/22 14:55	MT4-22-1102C
S42037.06	Nickel, Dissolved	E200.8	11/02/22 14:55	MT4-22-1102C
S42037.06	Zinc, Dissolved	E200.8	11/02/22 14:55	MT4-22-1102C
S42037.07	Chromium, Dissolved	E200.8	11/02/22 14:56	MT4-22-1102C
S42037.07	Copper, Dissolved	E200.8	11/02/22 14:56	MT4-22-1102C
S42037.07	Nickel, Dissolved	E200.8	11/02/22 14:56	MT4-22-1102C
S42037.07	Zinc, Dissolved	E200.8	11/02/22 14:56	MT4-22-1102C

# QC Report - Batch QC Results

## Inorganics, Prep Batch ID: COND221103-W1

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

### Blank (BLK)

Lab Sample ID: COND221103-W1.LRB1

Run in Batch: COND221103-W1, Run Date: 11/03/2022 14:00, Prep Date: 11/03/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Conductivity		ND	1	mg/L

### Laboratory Control Sample (LCS)

Lab Sample ID: COND221103-W1.LCS1

Run in Batch: COND221103-W1, Run Date: 11/03/2022 14:06, Prep Date: 11/03/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Conductivity		98	90	110

### Laboratory Control Sample (LCS)

Lab Sample ID: COND221103-W1.LCS2

Run in Batch: COND221103-W1, Run Date: 11/03/2022 14:08, Prep Date: 11/03/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Conductivity		92	90	110

### Duplicate (DUP)

Lab Sample ID: COND221103-W1.DP1, Parent Sample ID: S41918.01

Run in Batch: COND221103-W1, Run Date: 11/03/2022 14:12, Prep Date: 11/03/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
Conductivity		<1	15

# QC Report - Batch QC Results

## Inorganics, Prep Batch ID: TOC221101-W1

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

### Blank (BLK)

Lab Sample ID: TOC221101-W1.LRB1

Run in Batch: TOC221101-W1, Run Date: 11/01/2022 14:39, Prep Date: 11/01/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
TOC		ND	1	mg/L

### Laboratory Control Sample (LCS)

Lab Sample ID: TOC221101-W1.LCS1

Run in Batch: TOC221101-W1, Run Date: 11/01/2022 15:18, Prep Date: 11/01/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
TOC		98	90	110

### Matrix Spike (MS)

Lab Sample ID: TOC221101-W1.MS1, Parent Sample ID: S41919.01

Run in Batch: TOC221101-W1, Run Date: 11/01/2022 16:36, Prep Date: 11/01/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
TOC		96	80	120

### Matrix Spike Duplicate (MSD)

Lab Sample ID: TOC221101-W1.MSD1, Parent Sample ID: TOC221101-W1.MS1

Run in Batch: TOC221101-W1, Run Date: 11/01/2022 16:56, Prep Date: 11/01/2022, Matrix: Liquid, Dilution: 1

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

### Duplicate (DUP)

Lab Sample ID: TOC221101-W1.DP1, Parent Sample ID: S41918.01

Run in Batch: TOC221101-W1, Run Date: 11/01/2022 15:57, Prep Date: 11/01/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
TOC		<1	15

# QC Report - Batch QC Results

## Inorganics, Prep Batch ID: TSS221104

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

### Blank (BLK)

Lab Sample ID: TSS221104.LRB1

Run in Batch: TSS221104, Run Date: 11/04/2022 17:30, Prep Date: 11/04/2022, Matrix: Liquid, Dilution: 1

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

### Laboratory Control Sample (LCS)

Lab Sample ID: TSS221104.LCS1

Run in Batch: TSS221104, Run Date: 11/04/2022 17:30, Prep Date: 11/04/2022, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL
Total Suspended Solids		96.32	78.8	113

### Duplicate (DUP)

Lab Sample ID: TSS221104.DP1, Parent Sample ID: S42031.01

Run in Batch: TSS221104, Run Date: 11/04/2022 17:30, Prep Date: 11/04/2022, Matrix: Liquid, Dilution: 28.6

Analyte	Flags	RPD	RPD CL
Total Suspended Solids		0.867	10

## QC Report - Batch QC Results

### Metals, Prep Batch ID: MTD-110222-3

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

#### Blank (BLK)

Lab Sample ID: MT4-22-1102C.016.LRB

Run in Batch: MT4-22-1102C, Run Date: 11/02/2022 14:37, Prep Date: 11/02/2022, Matrix: Liquid, Dilution: 1

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

#### Laboratory Control Sample (LCS)

Lab Sample ID: MT4-22-1102C.015.LCS

Run in Batch: MT4-22-1102C, Run Date: 11/02/2022 14:36, Prep Date: 11/02/2022, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chromium		103	85	115
Copper		103	85	115
Nickel		101	85	115
Zinc		101	85	115

#### Matrix Spike (MS)

Lab Sample ID: MT4-22-1102C.025.MS, Parent Sample ID: S42037.07

Run in Batch: MT4-22-1102C, Run Date: 11/02/2022 14:58, Prep Date: 11/02/2022, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Chromium		102	75	125
Copper		98	75	125
Nickel		99	75	125
Zinc		105	75	125

#### Matrix Spike (MS)

Lab Sample ID: MT4-22-1102C.048.MS, Parent Sample ID: S42070.10

Run in Batch: MT4-22-1102C, Run Date: 11/02/2022 15:19, Prep Date: 11/02/2022, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Chromium		104	75	125
Copper		101	75	125
Nickel		101	75	125
Zinc		111	75	125

#### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1102C.026.MSD, Parent Sample ID: MT4-22-1102C.025.MS

Run in Batch: MT4-22-1102C, Run Date: 11/02/2022 14:58, Prep Date: 11/02/2022, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium		103	75	125	1	20
Copper		103	75	125	5	20
Nickel		100	75	125	1	20
Zinc		105	75	125	0	20

# QC Report - Batch QC Results

## Metals, Prep Batch ID: MTD-110222-3 (continued)

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

### Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-22-1102C.049.MSD, Parent Sample ID: MT4-22-1102C.048.MS

Run in Batch: MT4-22-1102C, Run Date: 11/02/2022 15:20, Prep Date: 11/02/2022, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium		102	75	125	2	20
Copper		100	75	125	1	20
Nickel		99	75	125	2	20
Zinc		102	75	125	3	20



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 www.meritlabs.com

C.O.C. PAGE # 1 OF 1 155465

**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. 313-333-0211 CELL NO. \_\_\_\_\_ P.O. NO. 194662628 TASK 001  
 E-MAIL ADDRESS clifford.yantz@ramboll.com / kevin.schneider@ramboll.com QUOTE NO. \_\_\_\_\_

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

PROJECT NO./NAME RATER Coldwater Road SAMPLER(S) - PLEASE PRINT/SIGN NAME Kevin Schneider  
 TURNAROUND TIME REQUIRED  1 DAY  2 DAYS  3 DAYS  STANDARD  OTHER \_\_\_\_\_  
 DELIVERABLES REQUIRED  STD  LEVEL II  LEVEL III  LEVEL IV  EDD  OTHER \_\_\_\_\_

MATRIX 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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Matrix	# of Bottles	None	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	MeOH	Other	Certifications				Project Locations		Special Instructions	
									OHIO VAP	Drinking Water	DoD	NPDES	Detroit	New York		
W	5	2	1	2												Dissolved Metals, were field filtered  metals are: Cr, Cu, Ni, Zn
.02									X	X	X	X				
.03									X	X	X	X				
.04									X	X	X	X				
.05									X	X	X	X				
.06									X	X	X	X				
.07									X	X	X	X				

MERIT LAB NO. <small>FOR LAB USE ONLY</small>	COLLECTION		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	MeOH	OTHER
	DATE	TIME										
42037.01	11/1/22	926	Vault-A	W	5	2	1	2				
.02		1012	Vault-B									
.03		1032	Vault-C									
.04		1100	Vault-D									
.05		1134	Vault-E									
.06		1200	Vault-F									
.07			Vault-DUP-110122									

RELINQUISHED BY: [Signature] DATE 11/1/22 TIME 11:20  
 RECEIVED BY: [Signature] DATE 11/1/22 TIME 11:20  
 RELINQUISHED BY: [Signature] DATE 11/1/22 TIME 14:00  
 RECEIVED BY: [Signature] DATE 11/1/22 TIME 1400

RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 RECEIVED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 SEAL NO. SEAL INTACT YES  NO  INITIALS \_\_\_\_\_ NOTES: TEMP. ON ARRIVAL 2.8  
 SEAL NO. SEAL INTACT YES  NO  INITIALS \_\_\_\_\_

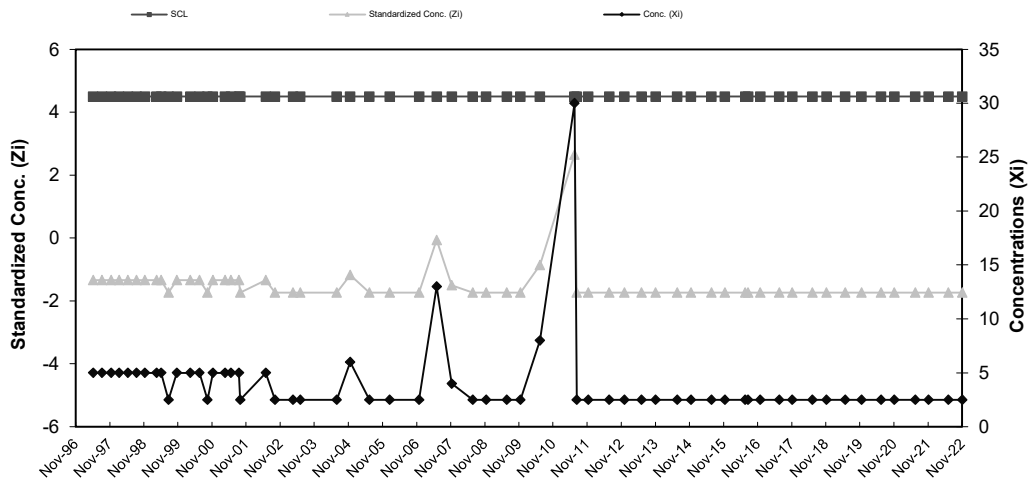
**APPENDIX C**  
**LEAK DETECTION VAULT CONTROL CHARTS**

**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					
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

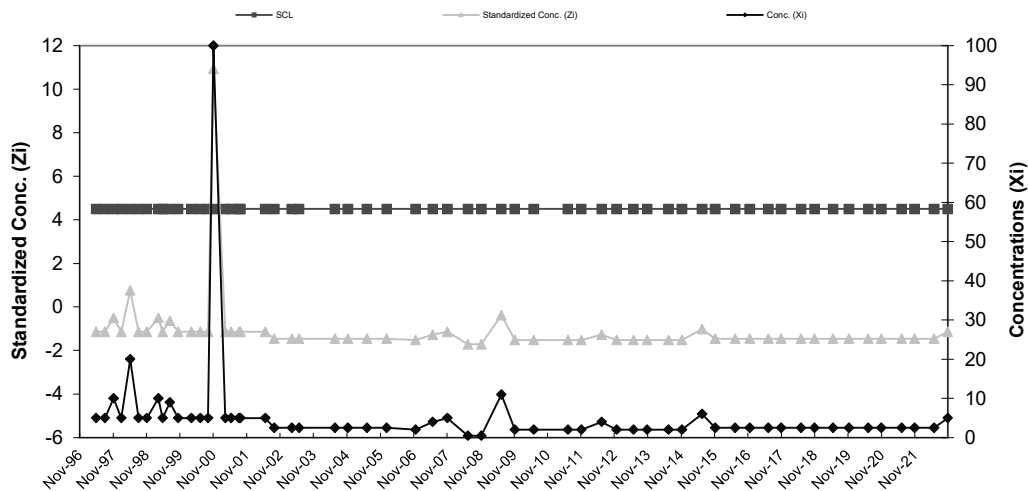


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault A - Copper**

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					
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

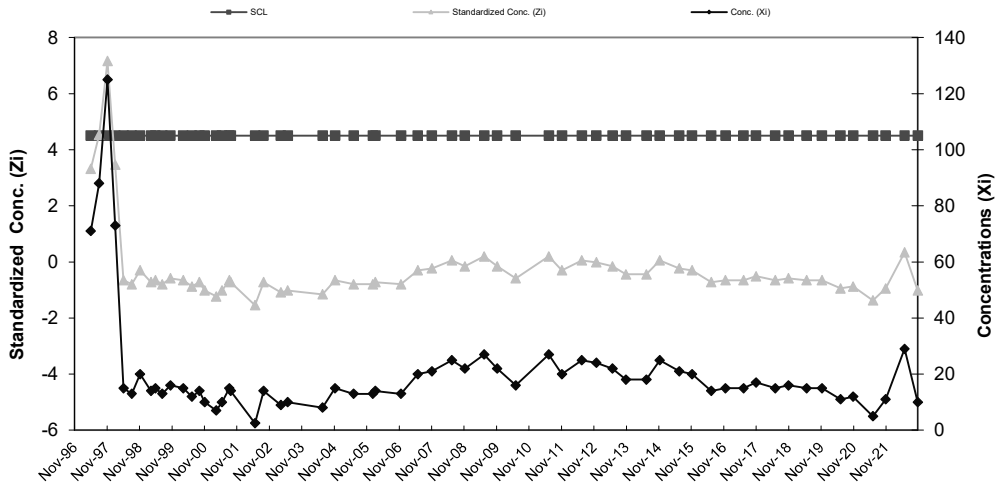


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault A - Nickel**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-95	20	<b>24.25</b>	<b>14.07</b>
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					
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

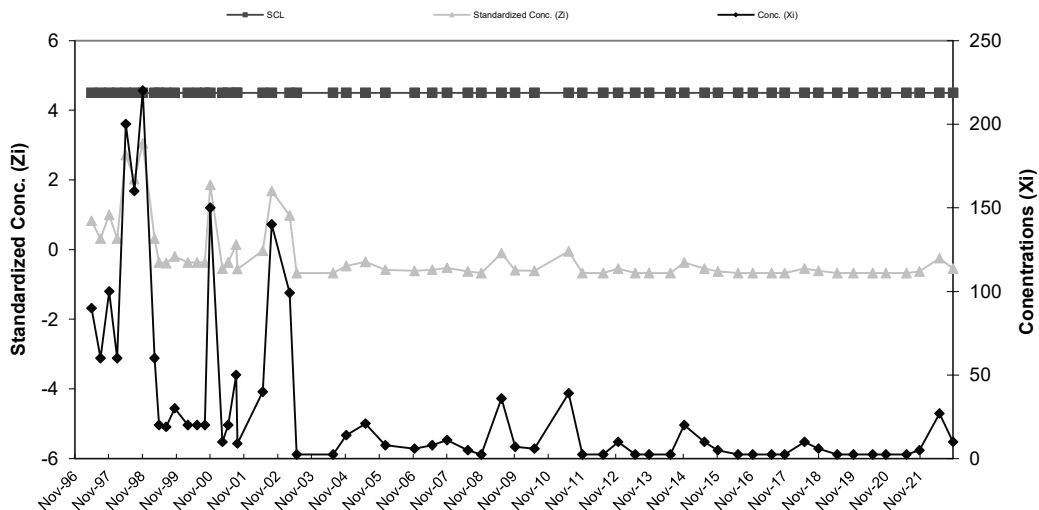


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault A - Zinc**

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					
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

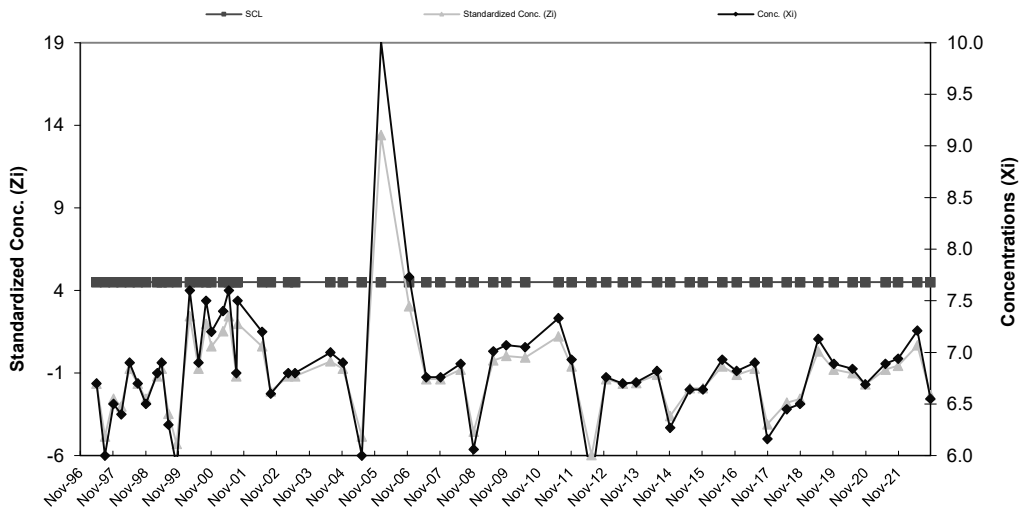


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault A - pH**

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					
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

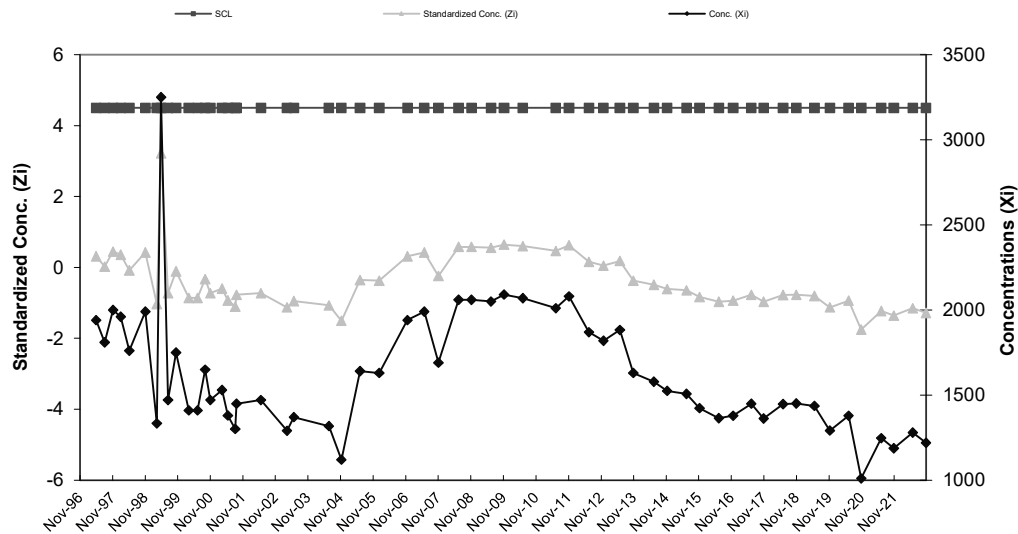


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault A - SpC**

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					
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

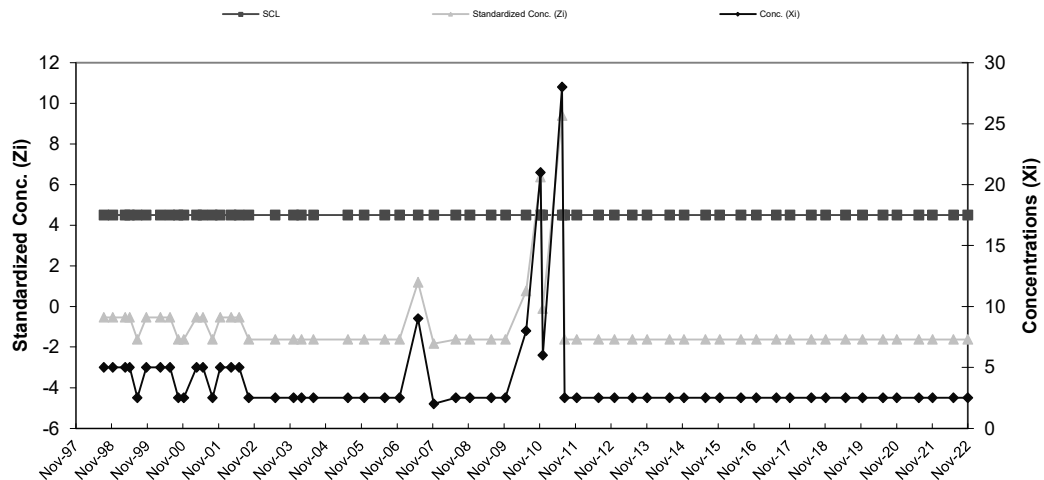


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault B - Chromium**

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					
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

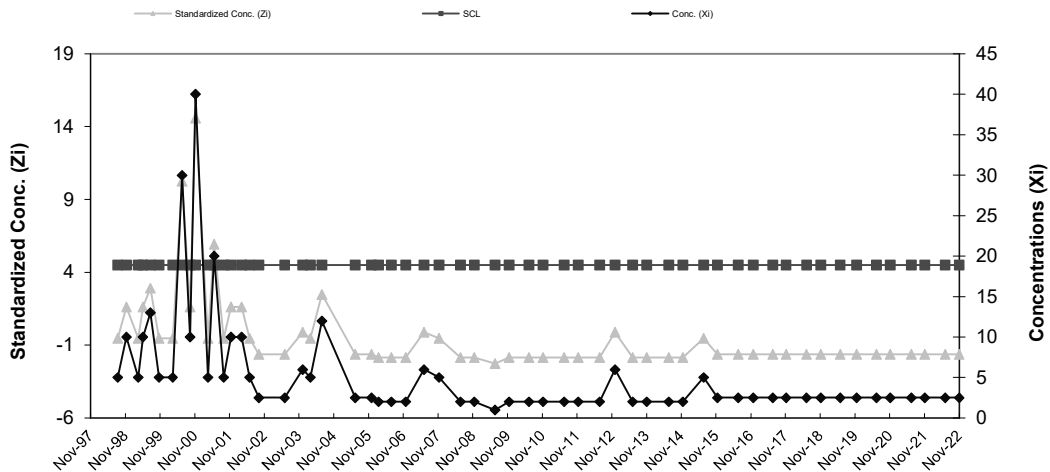


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault B - Copper**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-96	10	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	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					
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

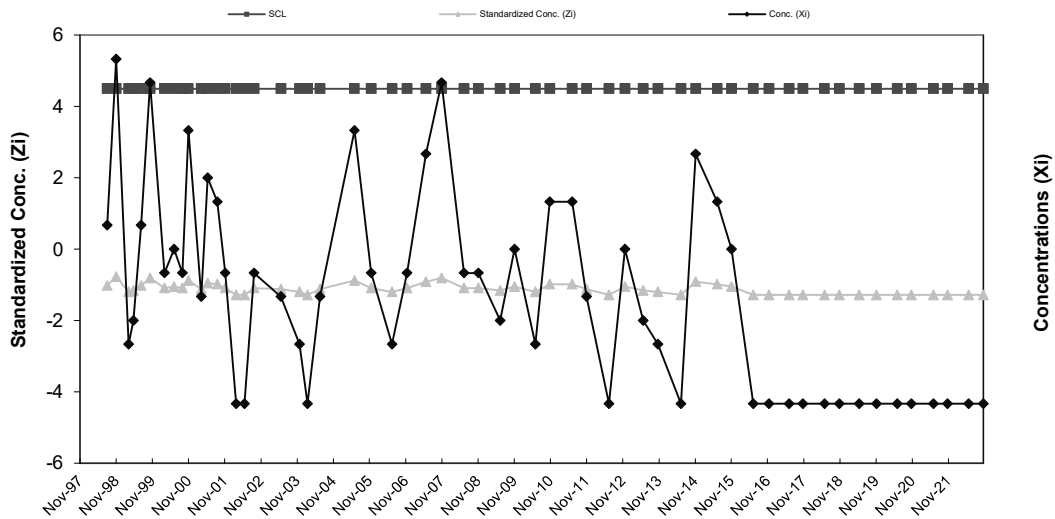


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault B - Nickel**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-96	10	38.88	28.34
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					
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

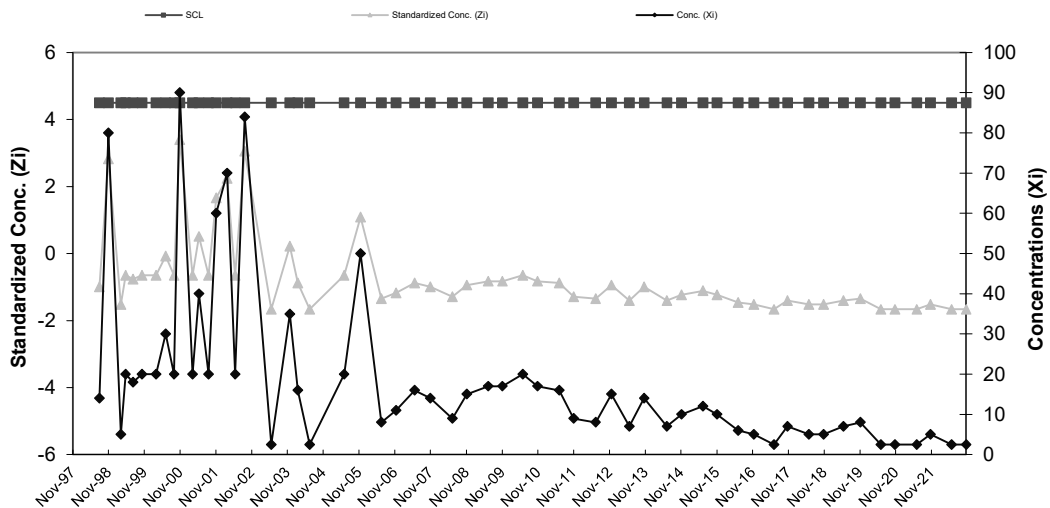


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault B - Zinc**

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					
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

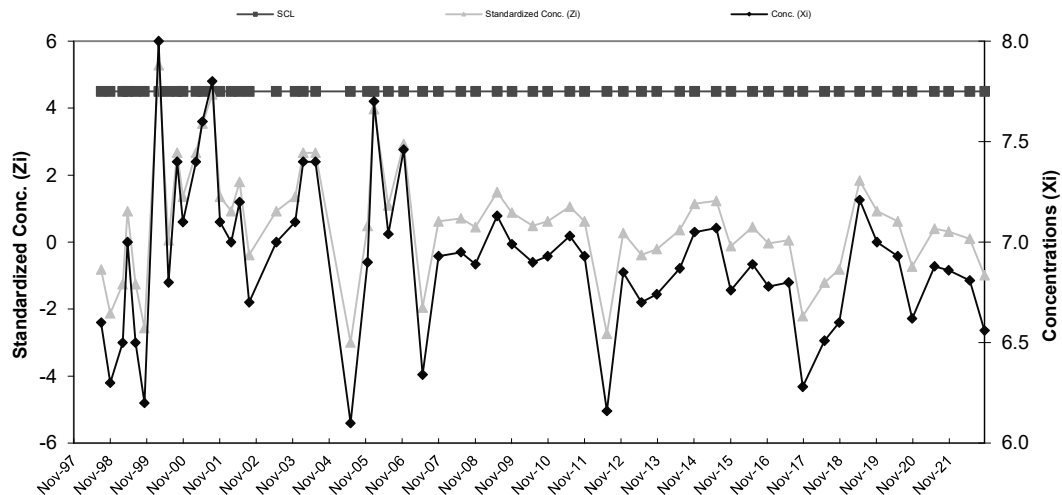


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault B - pH**

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					
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

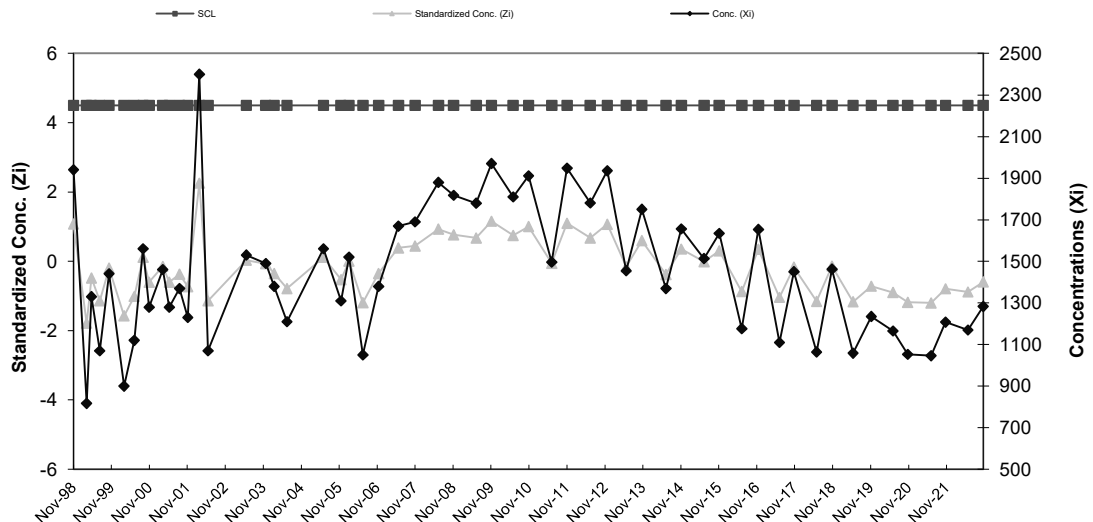


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault B - SpC**

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					
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

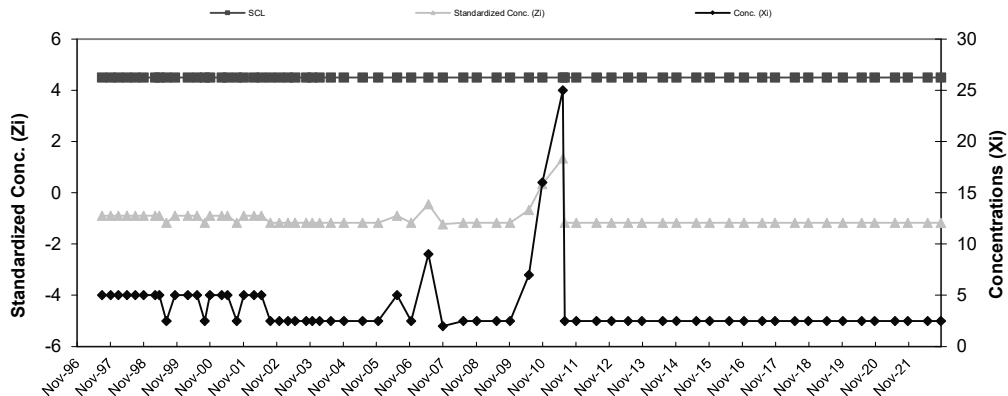


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault C - Chromium**

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					
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

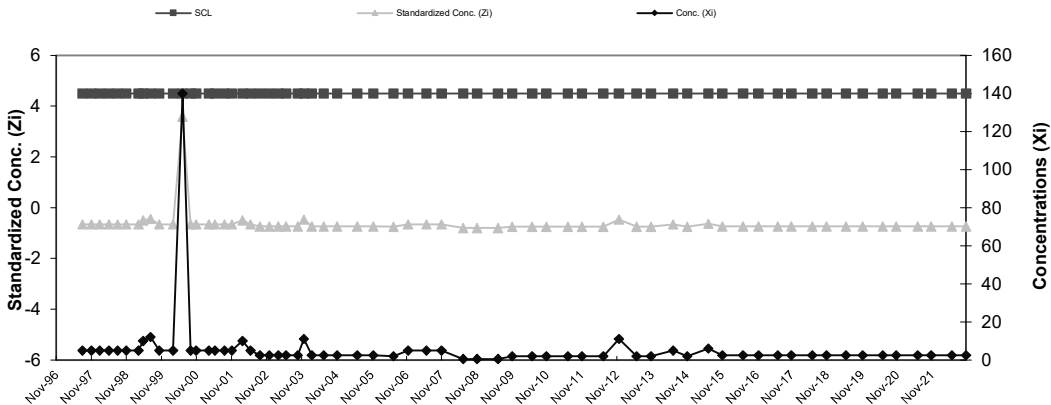


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault C - Copper**

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					
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

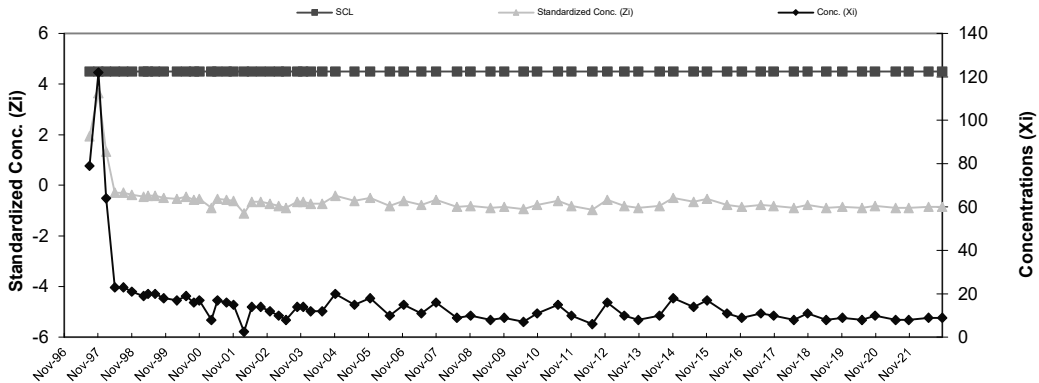


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault C - Nickel**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	15	<b>30.38</b>	<b>25.11</b>
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					
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

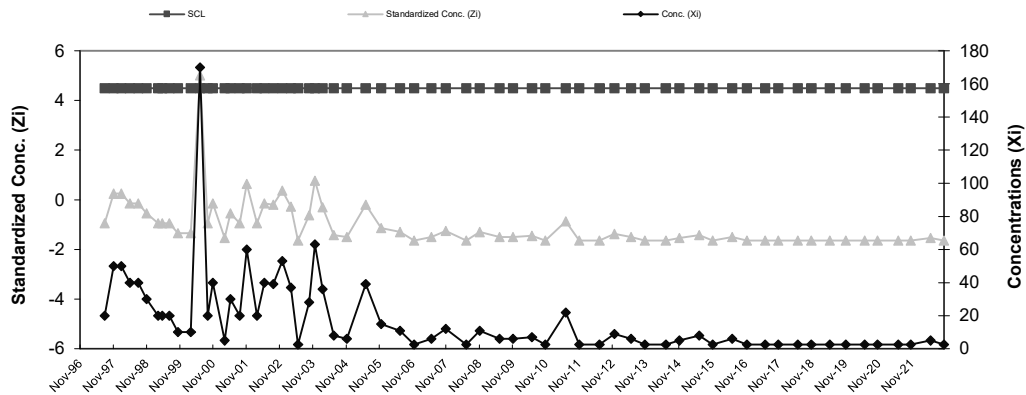


**COLDWATER ROAD LANDFILL FACILITY**  
**RCRA LANDFILL LEAK DETECTION SYSTEM**  
**SHEWART CONTROL CHART**  
**Vault C - Zinc**

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					
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

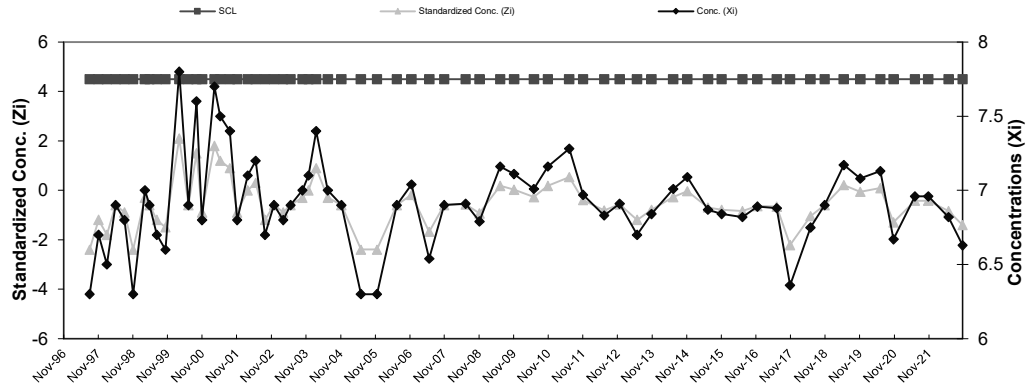


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault C - pH**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	7.4	<b>7.10</b>	<b>0.33</b>
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					
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

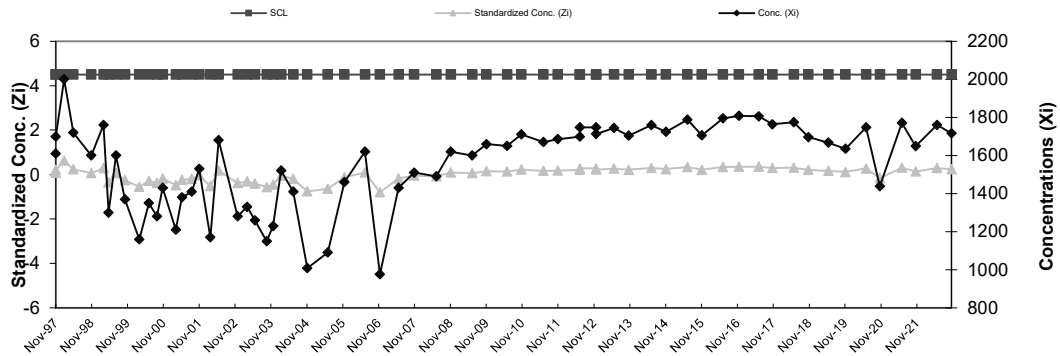


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault C - SpC**

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					
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

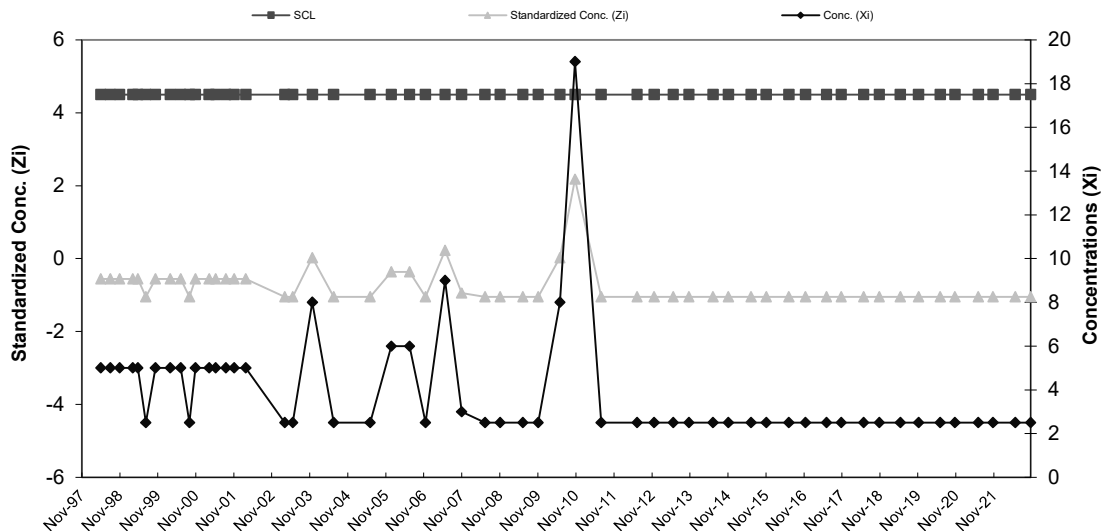


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault D - Chromium**

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					
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

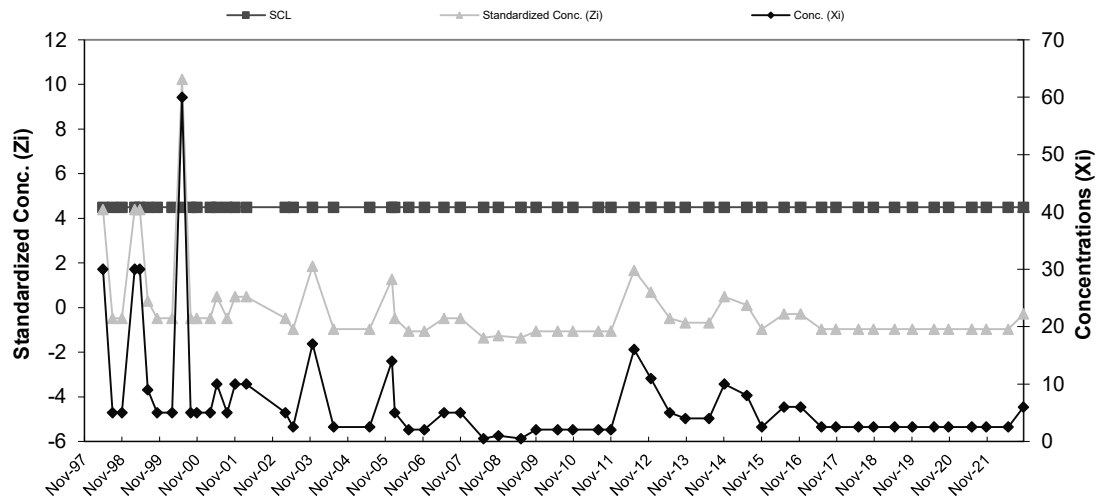


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault D - Copper**

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					
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

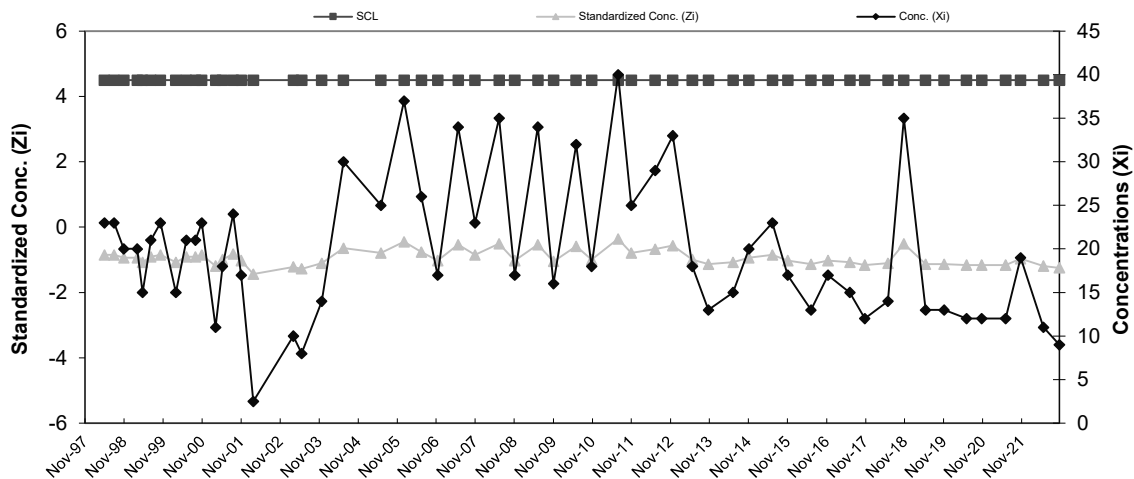


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault D - Nickel**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-95	44	52.63	35.01
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					
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

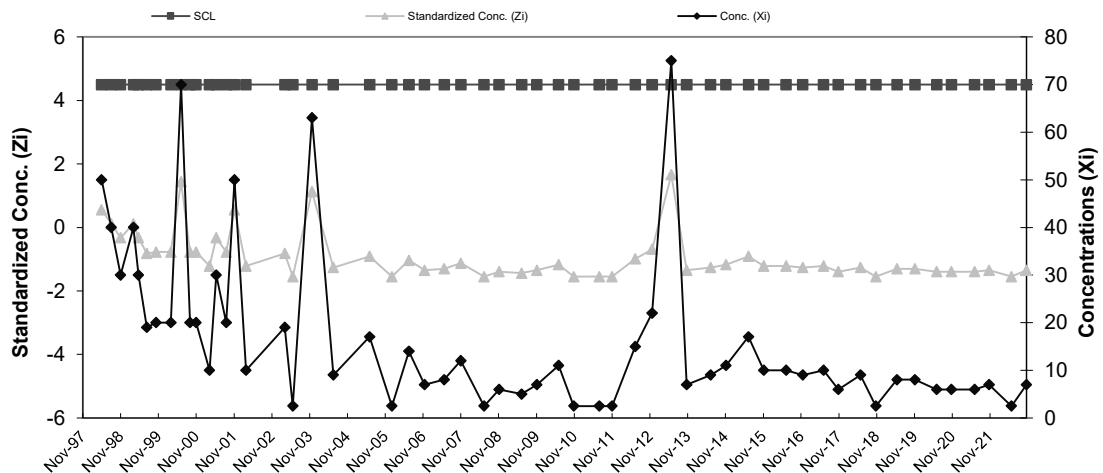


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault D - Zinc**

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					
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

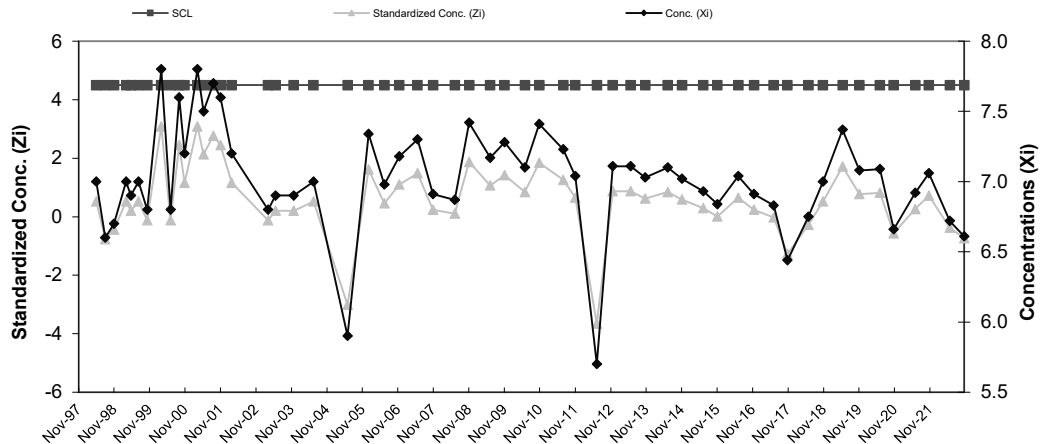


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault D - pH**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-95	7.3	6.84	0.31
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					
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

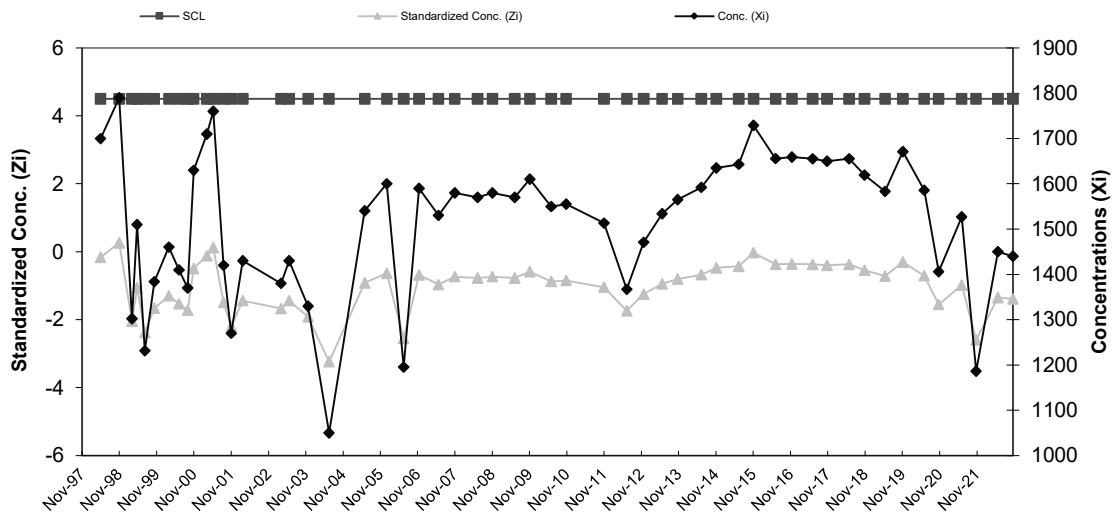


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault D - SpC**

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					
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

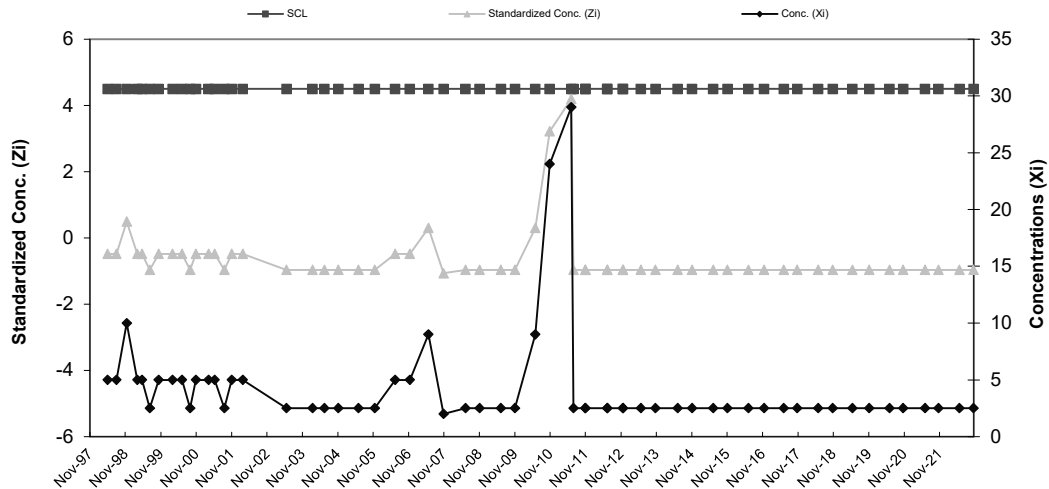


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault E - Chromium**

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					
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

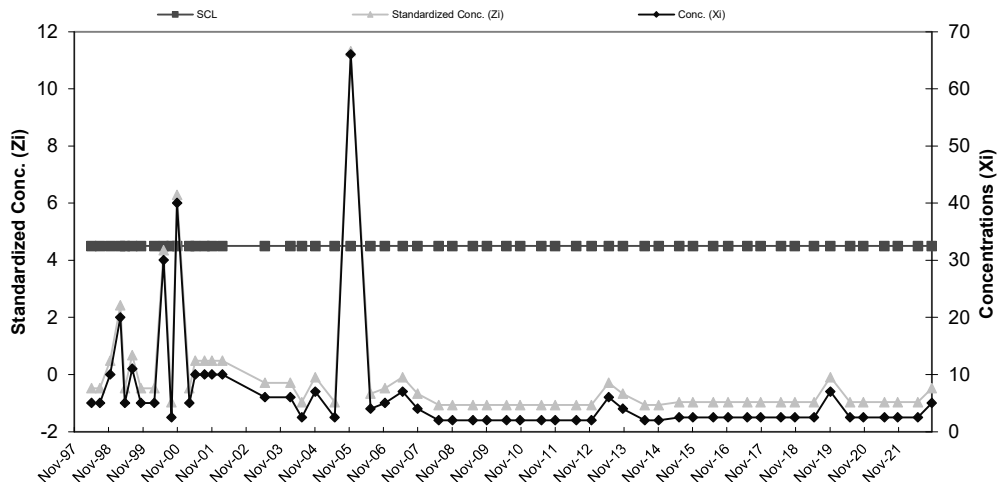


**COLDWATER ROAD LANDFILL FACILITY**  
**RCRA LANDFILL LEAK DETECTION SYSTEM**  
**SHEWART CONTROL CHART**  
**Vault E - Copper**

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					
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

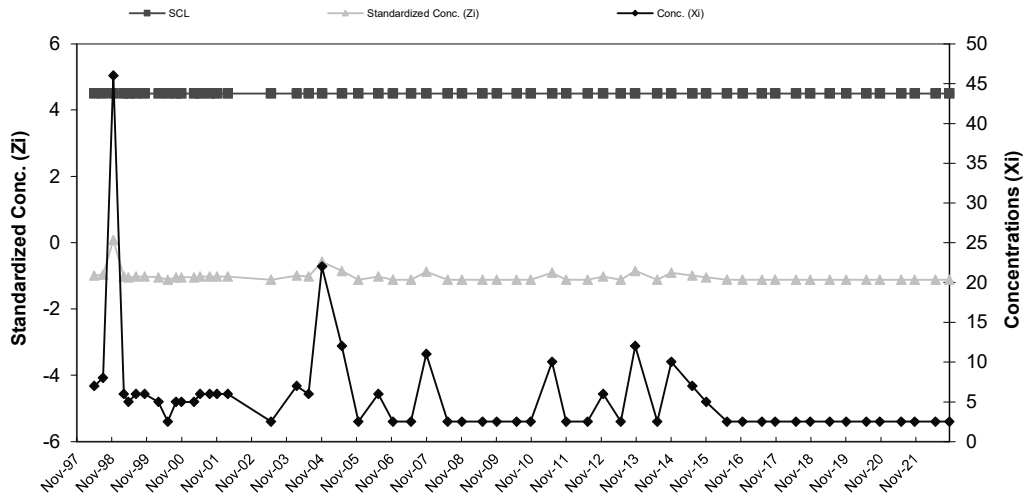


**COLDWATER ROAD LANDFILL FACILITY**  
**RCRA LANDFILL LEAK DETECTION SYSTEM**  
**SHEWART CONTROL CHART**  
**Vault E - Nickel**

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					
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

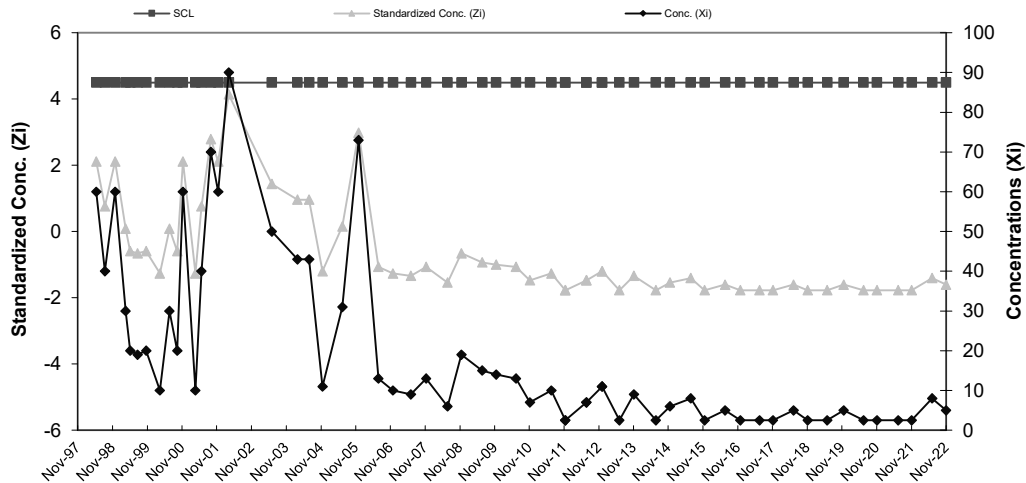


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault E - Zinc**

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					
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

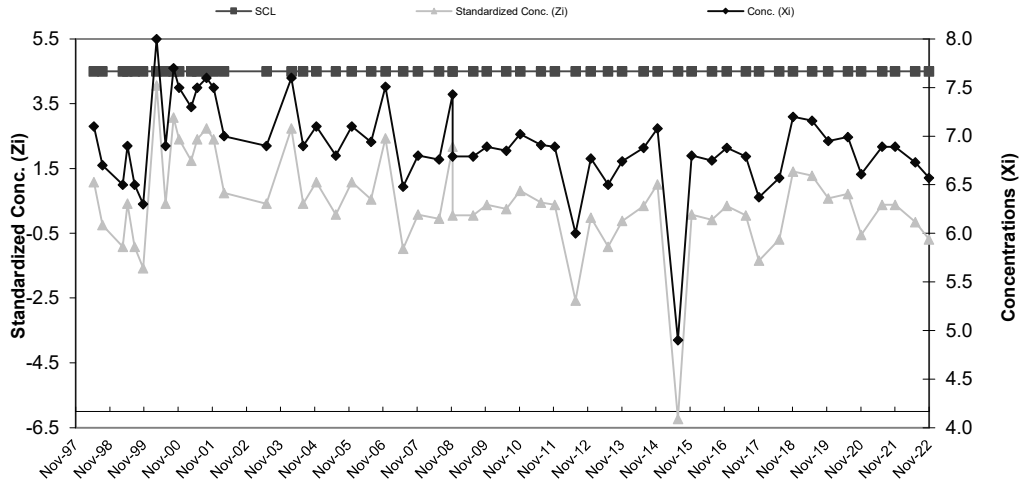


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault E - pH**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-96	7.2	6.78	0.30
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					
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

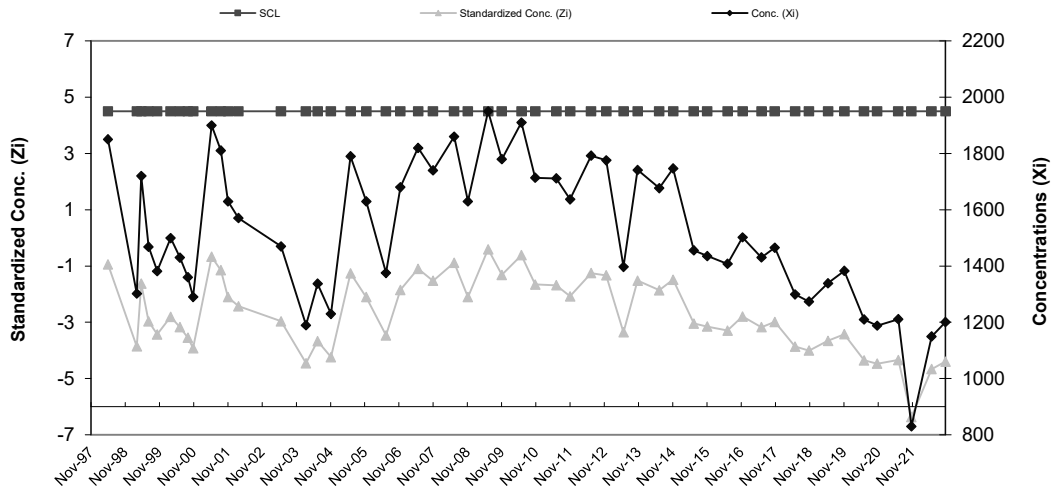


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault E - SpC**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-96	2000	<b>2,026.25</b>	<b>187.84</b>
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					
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

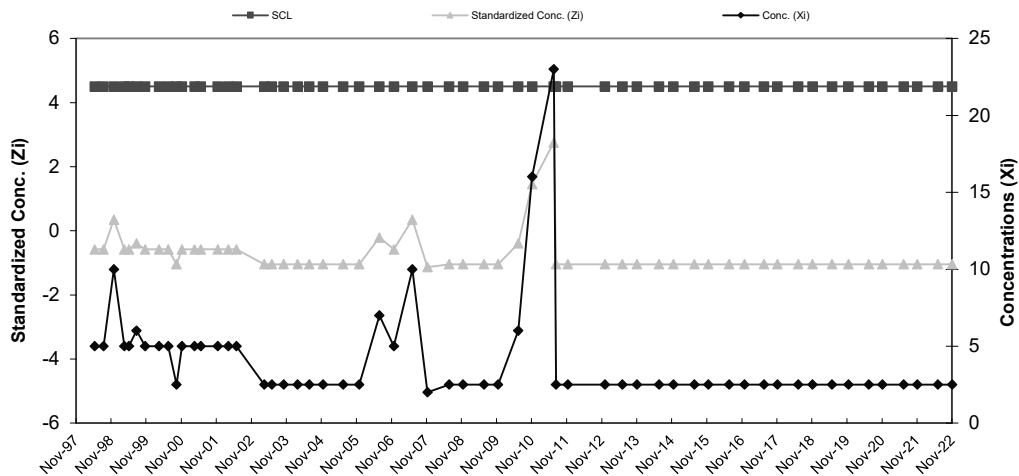


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault F - Chromium**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	8.13	5.40
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					
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

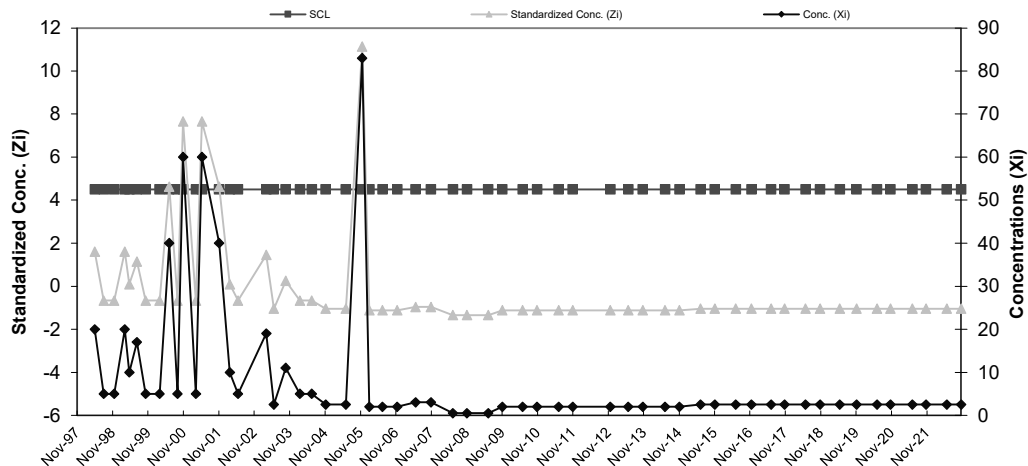


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault F - Copper**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	9.38	6.61
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					
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

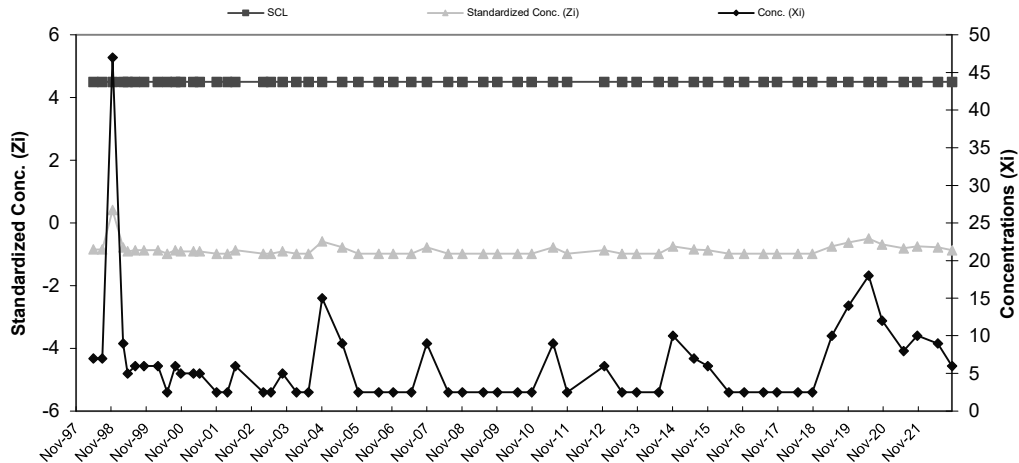


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault F - Nickel**

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					
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

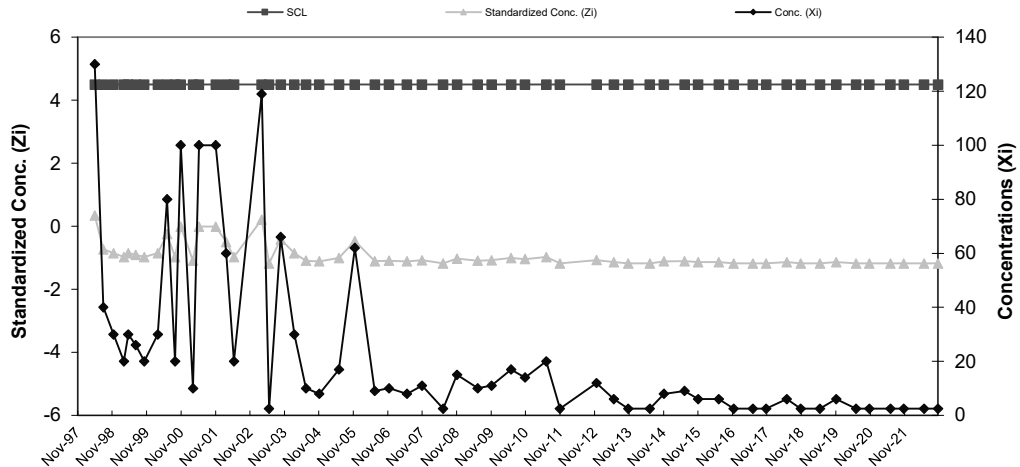


**COLDWATER ROAD LANDFILL FACILITY**  
**RCRA LANDFILL LEAK DETECTION SYSTEM**  
**SHEWART CONTROL CHART**  
**Vault F - Zinc**

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					
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

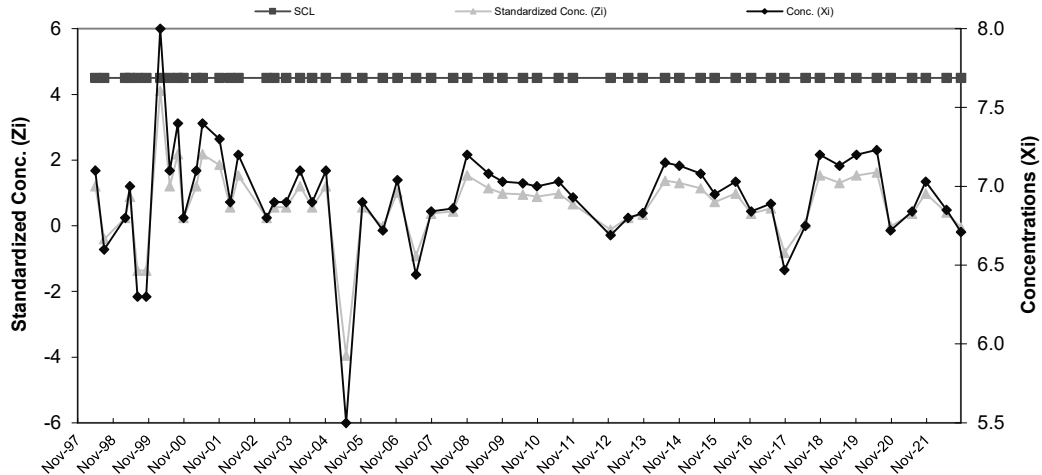


**COLDWATER ROAD LANDFILL FACILITY  
RCRA LANDFILL LEAK DETECTION SYSTEM  
SHEWART CONTROL CHART  
Vault F - pH**

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					
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	1,535.00	218.31
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					
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

