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



Bright ideas. Sustainable change.

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 2023 annual leak detection system (LDS) sampling event conducted in November 2023 for the Coldwater Road Landfill site (**Figure 1**). A total of 10,357 gallons of liquid have been removed from the leak detection vaults during 2023, and a total of 7,342 gallons of leachate have been removed from the leachate collection sumps during 2023. Volumes are reported in the Quarterly Status Reports and summarized in **Appendix A**.

2. SAMPLING AND ANALYSIS

During this event samples were collected on November 7, 2023, 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 7, 2023, using a peristaltic pump and tubing for each vault. Duplicate samples were collected from Vault D. Samples were placed directly into laboratory prepared containers, logged onto a chain of custody form, and placed on ice for transport to Merit Laboratories, Inc., in East Lansing, Michigan.

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

Vaults:

- Chromium concentrations were not detected above the reporting limit of 5 µg/L. The results were within the range of the historic results, which ranged from below the reporting limit to 30 µg/L at Vault A (6/20/2011).
- Copper concentrations were not detected above the reporting limit of 5 µg/L. The results were within the range of the historic results, which ranged from below the reporting limit to 140 µg/L at Vault C (6/20/2000).
- Nickel concentrations ranged from below the reporting limit of 5 µg/L in Vault B, Vault E, and Vault F to 18 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 E and Vault F to 12 µg/L in Vault-DUP-110723 (Vault D). The results were within the range of the historic results, which ranged from below the reporting limit to 230 µg/L at Vault C (5/29/2019).
- TOC concentrations ranged from 2.2 mg/L in Vault E and Vault F to 4.6 mg/L in 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. 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 7.45 in Vault A to 7.60 in Vault B. 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 1,340 $\mu\text{S}/\text{cm}$ in Vault B and Vault E to 1,660 $\mu\text{S}/\text{cm}$ 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

Duplicate samples were collected during this sampling event from Vault D and exhibited values consistent with the original results (within acceptable relative percent differences [RPD]).

There were no exceedances of the Shewart control limits (SCL) during this sampling event. The Shewart control charts are included as **Appendix C**.

There were positive (increasing) trends for zinc in Vault D, and for specific conductivity in Vault E. In Vault F there was a negative (decreasing) trend for nickel. The trends were calculated using regression analysis over the last four sampling events per the Post Closure Care Plan, January 2014. The trends were not confirmed by the concentrations of other metals/parameters and do not suggest there was a release from the landfill and will continue to be evaluated during future sampling events.

There was a spike in pH in Vaults A through F during this monitoring event. The spikes were calculated using mean plus one standard deviation of all the sampling events per the Post Closure Care Plan, January 2014. These spikes do not suggest there was a release from the landfill because concentrations of other metals/parameters do not support a release has occurred, including data from the landfill monitoring wells. The pH readings this event were elevated approximately one-half a standard unit (S.U.) compared to the previous event in June 2023 (largest increase was at Vault B from 6.82 to 7.60 S.U.). The measured pH values do not indicate a release from the landfill. The water quality meter utilized for measurement of field parameters calibrated within range (deviation from standard of less than 3 percent) for pH and appeared to be operating within manufacturers specifications during readings.

Given that pH was elevated in all vaults this event, it is possible the pH meter was not functioning properly so if the pH readings continue to be elevated while purging the vaults during the next sampling event, a second meter will be used to confirm the readings. Further evaluation will be conducted if the pH readings remain elevated following the next sampling event. No other trends or spikes were observed during this monitoring event.

The next semiannual sampling event will be completed in June 2024. 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

Project Manager – Ramboll Americas Engineering Solutions, Inc.

Agent for RACER Trust

Date: February 28, 2024

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	6.0	6.0	6.70	--	--	<10	<10	15	160
	13-Nov-98	5.0	12.0	6.50	1990	16.5	<10	<10	20	220
	19-Mar-99	5.7	8.0	6.80	1334	13.6	<10	10	14	60
	6-May-99	5.6	16.0	6.85	3250	26.2	<10	<10	15	20
	23-Jul-99	5.7	3.0	6.30	1470	18.9	<5	9	13	19
	22-Oct-99	5.0	3.0	5.86	1750	12.1	<10	<10	16	30
	14-Mar-00	5.6	<1	7.60	1410	10.7	<10	<10	15	20
	20-Jun-00	7.0	3.0	6.90	1410	18.3	<10	<10	12	20
	13-Sep-00	5.9	5.0	7.50	1650	15.1	<5	<10	14	20
	10-Nov-00	6.4	2.0	7.20	1470	11.8	<10	100	10	150
	12-Mar-01	6.0	1.0	7.43	1530	12.8	<10	<10	7	10
	24-May-01	9.4	10.0	7.56	1380	11.9	<10	<10	10	20
	31-Aug-01	5.3	10.6	7.49	1450	12.5	<5	<10	14	9
	16-Nov-01	5.1	3.0	6.77	1300	12.4	<10	<10	15	50
	8-Mar-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	31-May-02	2.4	54.0	7.23	1470	13.8	<10	<10	<5	40
	5-Sep-02	4.7	6.0	6.60	--	--	<5	<5	14	140
	12-Dec-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	18-Mar-03	6.7	8.0	6.81	1290	12	<5	<5	9	99
	4-Jun-03	2.0	11.0	6.78	1370	11.3	<5	<5	10	<5
	5-Oct-03	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8-Dec-03	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Feb-04	NS	NS	NS	NS	NS	NS	NS	NS	NS
	30-Jun-04	4.5	55.0	6.99	1318	12.5	<5	<5	8	<5
	19-Nov-04	3.4	2.0	6.85	1120	11.4	6	<5	15	14
	19-Nov-04	4.4	4.0	--	--	--	6	<5	18	16
	15-Jun-05	6.0	8.0	6.00	1640	13.4	<5	<5	13	21
	17-Jan-06	5.9	12785	10.01	1630	8.4	<5	<5	13	8
	14-Feb-06	--	--	7.88	1800	8.5	--	--	14	--
	29-Jun-06	NS	NS	NS	NS	NS	NS	NS	NS	NS
	28-Nov-06	4.7	438	7.73	1940	13.2	<5	<4	13	6
	6-Jun-07	4.9	11	6.76	1990	11.7	13	4	20	8
	12-Nov-07	5.9	70	6.76	2030	12.4	4	5	21	11
	24-Jun-08	5.0	371	6.89	2060	13.3	<5	<1	25	5
	17-Nov-08	5.8	23	6.06	2060	9.2	<5	<1	22	<5
	23-Jun-09	5.5	88	7.01	2050	13.6	<5	11	27	36
	17-Nov-09	6	8	7.07	2090	10.3	<5	<4	22	7
	14-Jun-10	6	10	7.05	2070	13.1	8	<4	16	6
	20-Jun-11	6.7	9	7.33	2010	12.2	30	<4	27	39
	14-Jul-11	--	--	--	--	--	<5	--	--	--
	14-Nov-11	7.0	316	6.93	2080	11.5	<5	<4	20	<5
	25-Jun-12	6.0	6	5.75	1870	11.9	<5	4	25	<5
	25-Jun-12	6.0	6	5.75	1872	11.9	<5	6	25	10
	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
	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
	1-Nov-22	8.1	<3	6.55	1219	11.6	<5	5	10	10
	6-Jun-23	1.8	<3	6.82	1310	13.0	<5	<5	11	<5
	7-Nov-23	4.0	<3	7.45	1450	11.4	<5	<5	18	6

See notes on page 6.

TABLE 1
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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 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	4	7	11	
	6-Jun-07	4.7	2.0	6.34	1670	12.1	9	6	13	16	
Duplicate	12-Nov-07	3.8	1.0	6.93	1690	12.6	2	5	16	14	
	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	
	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	
Re-sample	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	
	8-Nov-10	4	3	6.93	1911	12.2	21	<4	11	17	
	1-Dec-10	--	--	6.93	--	12.2	6	--	--	--	
	20-Jun-11	3.4	1	7.03	1496	12.2	28	<4	11	16	
Re-sample	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	
	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	
	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	
	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	
	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	
	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	
	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	
	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	
	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	
	15-Jun-20	6.2	<3	6.93	1165	15.6	<5	<5	<5	<5	
	Duplicate	4-Nov-20	7.4	<3	6.62	1053	12.5	<5	<5	<5	<5
		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
		1-Nov-22	6.3	14	6.56	1283	11.9	<5	<5	<5	<5
		6-Jun-23	<1	<3	6.82	1290	15.0	<5	<5	<5	6
		7-Nov-23	2.4	<3	7.60	1340	11.8	<5	<5	<5	5

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 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
	17-Nov-09	5	20	7.11	1650	11.5	<5	<4	9	6
	14-Jun-10	5	4	7.01	1710	12.4	7	<4	7	7
	8-Nov-10	6	7	7.16	1670	12.7	16	<4	11	<5
	20-Jun-11	5.4	5	7.28	1686	12.9	25	<4	15	22
	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
	6-Nov-17	4.9	3	6.36	1764	11.7	<5	<5	10	<5
	6-Nov-17	4.9	<3	6.36	1761	11.7	<5	<5	10	<5
	11-Jun-18	4.7	5	6.75	1774	12.1	<5	<5	8	<5
	11-Jun-18	5.2	3	6.75	1789	12.1	<5	<5	8	<5
	7-Nov-18	5.3	<3	6.90	1696	4.0	<5	<5	11	<5
	29-May-19	8.0	6	7.17	1668	9.6	<5	<5	8	230
	7-Jun-19	--	--	--	--	--	--	--	--	<5
	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
	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
	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
	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
	7-Jun-22	8.6	<3	6.82	1740	11.7	<5	<5	10	<5
	1-Nov-22	9.6	<3	6.63	1716	11.7	<5	<5	9	<5
	1-Nov-22	9.8	3	6.63	1716	11.7	<5	<5	9	<5
	6-Jun-23	3.0	<3	6.95	1720	13.7	<5	<5	8	7
	6-Jun-23	2.9	<3	6.95	1730	13.7	<5	<5	8	8
	7-Nov-23	4.1	<3	7.52	1660	11.7	<5	<5	8	5

See notes on page 6.

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

Indicator Parameters							Dissolved Metals (ug/L)			
Vault	Sample Date	TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn
EGLE Residential Drinking Water Criteria & RBSLs							100 (A)	1,000 (E)	100 (A)	2,400
Vault D	23-Mar-95	8.9	83.0	7.30	2200	--	13	<20	44	<20
	20-Jun-95	NS	NS	NS	NS	--	NS	NS	NS	NS
	30-Aug-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	28-Nov-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Mar-96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	18-Jun-96	11.0	150.0	6.90	1800	--	<20	<20	<20	20
	20-Aug-96	40.0	<5	7.20	1600	--	<20	<20	<20	40
	11-Nov-96	23.0	9.0	7.00	1700	--	<20	<20	40	70
	19-Feb-97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9-May-97	23.0	76.0	6.69	1580	8.8	<10	<10	58	70
	8-Aug-97	11.0	44.0	6.48	1540	28.5	<10	<10	79	20
	15-Nov-97	12.0	6.0	6.60	1800	11.0	<10	<10	114	30
	9-Feb-98	12.0	52.0	6.50	1655	12.5	<10	<10	66	40
	14-May-98	10.0	40.0	7.00	1700	16.3	<10	30	23	50
	14-Aug-98	11.0	57.0	6.60	--	--	<10	<10	23	40
	13-Nov-98	11.0	22.0	6.70	1790	15.2	<10	<10	20	30
	19-Mar-99	6.3	2.0	7.00	1302	14.8	<10	30	20	40
	6-May-99	12.4	28.0	6.90	1510	25.2	<10	30	15	30
	23-Jul-99	11.0	40.0	7.00	1231	21.0	<5	9	21	19
	22-Oct-99	10.6	13.0	6.76	1384	10.3	<10	<10	23	20
	14-Mar-00	10.7	57.0	7.80	1460	13.0	<10	<10	15	20
	20-Jun-00	10.1	23.0	6.80	1410	18.7	<10	60	21	70
	13-Sep-00	10.7	7.0	7.60	1370	16.1	<5	<10	21	20
	10-Nov-00	7.0	10.0	7.20	1630	12.2	<10	<10	23	20
	12-Mar-01	5.6	33.0	7.84	1710	12.9	<10	<10	11	10
	24-May-01	12.0	16.0	7.48	1760	13.1	<10	10	18	30
	31-Aug-01	9.8	8.0	7.66	1420	12.8	5	<10	24	20
	16-Nov-01	7.4	20.0	7.58	1270	12.9	<10	10	17	50
	8-Mar-02	8.4	3.0	7.18	1430	10.9	<10	10	<5	10
	31-May-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5-Sep-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12-Dec-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	18-Mar-03	8.9	15.0	6.77	1380	11.6	<5	5.0	10.0	19
	4-Jun-03	9.6	5.0	6.91	1430	11.0	<5	<5	8	<5
	5-Oct-03	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8-Dec-03	6.1	4.0	6.92	1330	11.0	8	17	14	63
	27-Feb-04	NS	NS	NS	NS	NS	NS	NS	NS	NS
	30-Jun-04	6.5	5.0	6.96	1050	12.1	<5	<5	30	9
	19-Nov-04	NS	NS	NS	NS	NS	NS	NS	NS	NS
	15-Jun-05	6.0	6.0	5.90	1540	12.9	<5	<5	25	17
	17-Jan-06	6.2	8.0	7.34	1600	7.9	6	14	37	<5
	14-Feb-06	--	--	7.96	1520	9.2	--	5	--	--
	29-Jun-06	5.9	51.0	6.98	1570	13.9	6	<4	26	14
	28-Nov-06	7.2	13.0	7.18	1590	13.1	<5	<4	17	7
	6-Jun-07	6.9	7.0	7.30	1530	14.2	9	5	34	8
	12-Nov-07	7.3	5.0	6.91	1580	12.3	3	5	23	12
	12-Nov-07	6.0	7.0	6.91	1570	12.3	3	5	23	9
	24-Jun-08	4.1	4.0	6.87	1570	15.4	<5	<1	35	<5
	17-Nov-08	5.6	10.0	7.42	1580	8.0	<5	1	17	6
	23-Jun-09	7.0	20.0	7.17	1570	13.7	<5	<1	34	5
	17-Nov-09	6.0	7	7.28	1610	11.5	<5	<4	16	7
	14-Jun-10	7.0	35	7.10	1550	11.9	8	<4	32	11
	14-Jun-10	7.0	1	7.10	1550	11.9	7	<4	33	11
	8-Nov-10	9.0	31	7.41	1555	13.4	19	<4	18	<5
	14-Jul-11	--	--	7.23	--	18.0	<5	<4	40	<5
	14-Nov-11	9.0	5	7.04	1513	11.8	<5	<4	25	<5
	25-Jun-12	5.0	3	5.70	1367	14.5	<5	16	29	15
	5-Dec-12	7.3	3	7.11	1471	10.4	<5	11	33	22
	6-Jun-13	7.5	3	6.76	1534	11.5	<5	5	18	75
	4-Nov-13	7.2	<1	7.03	1565	11.8	<5	4	13	7
	4-Nov-13	7.6	<1	7.03	1562	11.8	<5	<4	13	9
	23-Jun-14	8.0	7	7.10	1592	12.2	<5	4	15	9
	23-Jun-14	7.9	2	7.10	1591	12.2	<5	<4	16	8
	18-Nov-14	6.2	2	7.02	1635	7.6	<5	10	20	11
	18-Nov-14	6.0	<1	7.02	1640	7.6	<5	5	21	12
	25-Jun-15	6.9	3	6.93	1643	11.8	<5	8	23	17
	17-Nov-15	5.7	3	6.84	1729	12.2	<5	<5	17	10
	21-Jun-16	6.9	3	7.04	1656	14.7	<5	6	13	10
	28-Nov-16	5.2	<3	6.91	1659	10.7	<5	6	17	9
	19-Jun-17	7.3	<3	6.83	1655	16.7	<5	<5	15	10
	6-Nov-17	5.9	<3	6.44	1650	11.7	<5	<5	12	6
	11-Jun-18	6.5	<3	6.82	1655	13.6	<5	<5	14	9
	7-Nov-18	6.5	<3	7.00	1619	7.0	<5	<5	35	<5
	29-May-19	9.9	<3	7.37	1583	10.2	<5	<5	13	8
	19-Nov-19	6.7	<3	7.08	1671	10.6	<5	<5	13	8
	16-Jun-20	9.8	<3	7.09	1586	13.8	<5	<5	12	6
	4-Nov-20	9.8	<3	6.66	1406	13.3	<5	<5	12	6
	16-Jun-21	8.8	<3	6.92	1527	20.5	<5	<5	12	6
	4-Nov-21	8.8	<3	7.06	1186	11.2	<5	<5	19	7
	7-Jun-22	9.5	<3	6.72	1450	13.1	<5	<5	11	<5
	1-Nov-22	9.8	<3	6.61	1440	11.8	<5	6	9	7
	7-Jun-23	3.4	<3	6.86	1470	15.3	<5	<5	11	8
	7-Nov-23	4.6	<3	7.49	1550	11.6	<5	<5	13	9
Duplicate	7-Nov-23	4.5	<3	7.49	1550	11.6	<5	<5	13	12

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 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	8
	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
Duplicate	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
	23-Jun-09	3.0	17.0	6.79	1960	14.0	<5	2	<5	14
Duplicate	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	--	--	--
Duplicate	14-Nov-11	4.0	9	6.89	1637	11.7	<5	<4	<5	<5
	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
Duplicate	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
Duplicate	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
Duplicate	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
Duplicate	6-Nov-17	2.5	<3	6.37	1465	11.8	<5	<5	<5	<5
	11-Jun-18	2.6	<3	6.57	1300	14.3	<5	<5	<5	5
	7-Nov-18	3.1	<3	7.20	1274	5.0	<5	<5	<5	<5
Duplicate	29-May-19	5.3	<3	7.16	1339	10.4	<5	<5	<5	<5
	29-May-19	5.1	<3	7.16	1334	10.4	<5	<5	<5	<5
	19-Nov-19	5.0	<3	6.95	1383	10.6	<5	7	<5	5
Duplicate	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
Duplicate	4-Nov-21	5.7	<3	6.89	831	11.6	<5	<5	<5	<5
	7-Jun-22	6.0	<3	6.73	1150	14.0	<5	<5	<5	8
	1-Nov-22	7.8	<3	6.57	1201	11.8	<5	5	<5	5
Duplicate	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
Duplicate	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
Duplicate	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
Duplicate	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
Duplicate	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
Duplicate	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
Duplicate	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
Duplicate	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
Duplicate	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
Duplicate	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
Duplicate	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
Duplicate	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
Duplicate	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5
	7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5

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	<10
	Re-sample	14-Feb-06	--	--	7.90	1710	--	<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	<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
	20-Jun-11	2.5	47	7.03	1642	14.6	23	<4	9	20
	Re-sample	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
	6-Jun-13	2.7	2	6.78	1761	10.8	<5	<4	6	6
	Duplicate	6-Jun-13	2.9	<1	6.78	1759	10.8	<5	<4	6
	4-Nov-13	2.6	1	6.83	1736	11.6	<5	<4	<5	<5
	23-Jun-14	2.6	3	7.15	1710	13.3	<5	<4	<5	<5
	18-Nov-14	2.4	2	7.13	1724	7.4	<5	<4	10	8
	25-Jun-15	2.3	3	7.08	1669	14.0	<5	<5	7	9
	17-Nov-15	2.1	1	6.95	1686	13.5	<5	<5	6	6
	Duplicate	17-Nov-15	2.1	1	6.95	1686	13.5	<5	<5	6
	21-Jun-16	2.4	<3	7.03	1640	14.2	<5	<5	<5	6
	28-Nov-16	1.9	3	6.84	1641	11.1	<5	<5	<5	<5
	Duplicate	28-Nov-16	1.9	<3	6.84	1640	11.1	<5	<5	6
	19-Jun-17	2.4	<3	6.89	1675	11.8	<5	<5	<5	<5
	6-Nov-17	2.2	<3	6.47	1626	11.0	<5	<5	<5	<5
	11-Jun-18	2.2	<3	6.75	1685	13.6	<5	<5	<5	6
	7-Nov-18	2.9	<3	7.20	1637	5.0	<5	<5	<5	<5
	29-May-19	5.3	<3	7.13	1563	11.3	<5	<5	10	<5
	19-Nov-19	4.6	<3	7.20	1593	10.1	<5	<5	14	6
	16-Jun-20	6.6	<3	7.23	1623	13.3	<5	<5	18	<5
	4-Nov-20	5.2	<3	6.72	1347	13.1	<5	<5	12	<5
	16-Jun-21	5.8	<3	6.84	1554	20.2	<5	<5	8	<5
	4-Nov-21	5.8	<3	7.03	1398	10.8	<5	<5	10	<5
	7-Jun-22	6.6	3	6.85	1620	14.4	<5	<5	9	<5
	1-Nov-22	7.8	<3	6.71	1570	11.8	<5	<5	6	<5
	7-Jun-23	<1	<3	7.00	1570	15.1	<5	<5	5	<5
	7-Nov-23	2.2	<3	7.54	1580	11.0	<5	<5	<5	<5

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)



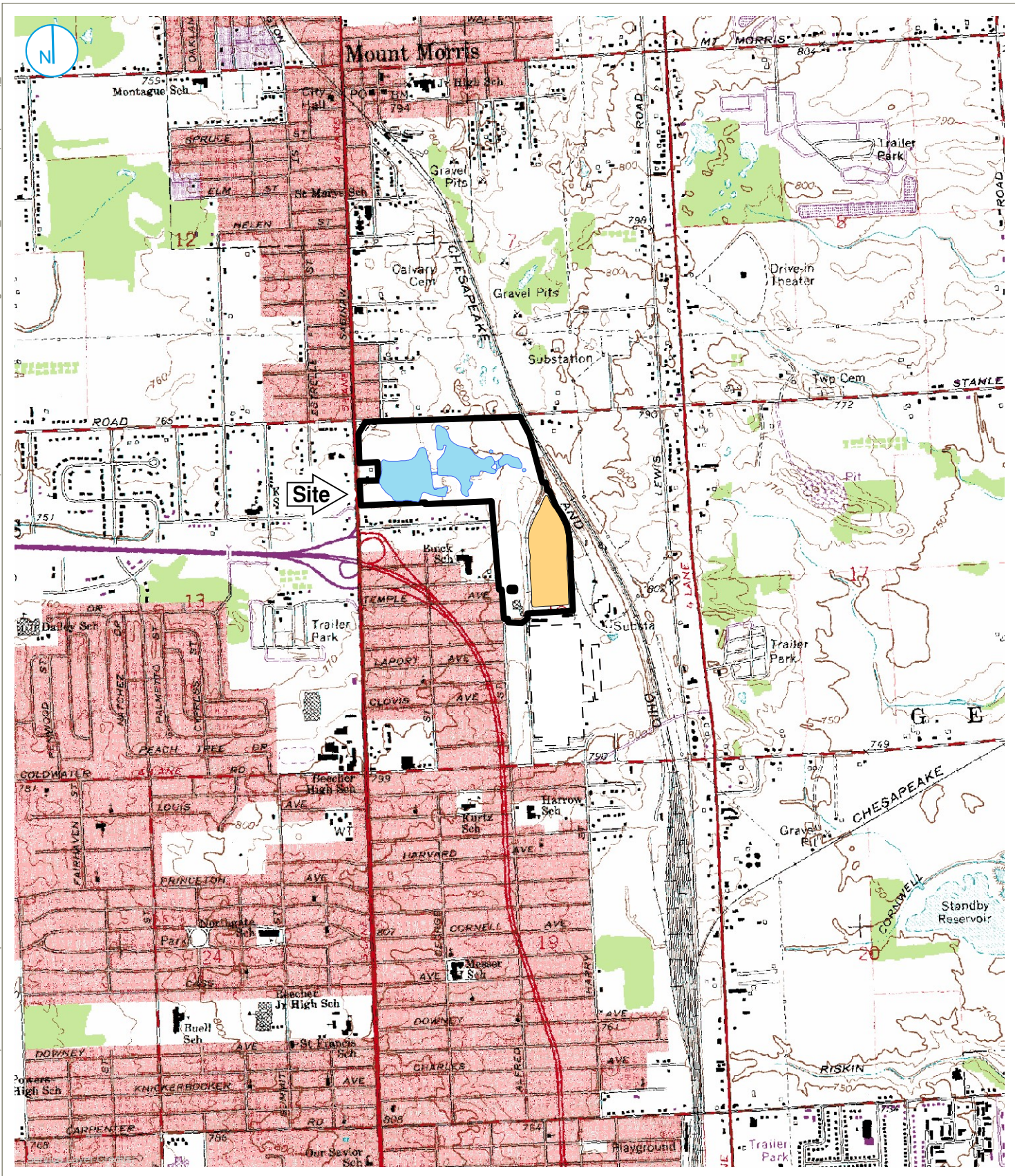
TABLE 2
RACER Trust - Coldwater Road
Vault Field Data
November 7, 2023

Name	Color	Temp	Spc (mS/cm)	pH	Sample Time
Vault A	clear	11.44	0.08	7.45	13:10
Vault B	clear	11.77	0.74	7.60	14:08
Vault C	clear	11.72	0.65	7.32	14:35
Vault D	clear	11.64	0.65	7.49	15:18
Vault E	clear	11.12	0.61	7.50	16:18
Vault F	clear	11.02	0.13	7.54	16:35

Notes:

Duplicate sample Vault-DUP-110723 was collected at Vault D.

FIGURES



Map Scale: 1:124,000;
Map Center: 83°41'9"W 43°5'51"N

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

0 1,000 2,000 Feet

SITE LOCATION

FIGURE 01

RACER TRUST
Coldwater Road Landfill
Flint, Michigan

A RAMBOLL COMPANY

RAMBOLL



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

0 175 350
Feet

SITE LAYOUT

RACER Trust
Coldwater Road Landfill Facility
Flint, Michigan

FIGURE 02

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY



APPENDIX A SUMMARY OF VOLUMES REMOVED



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

Date 2023	VAULT MONTHLY TOTALS	SUMP MONTHLY TOTALS
JANUARY	127	1
FEBRUARY	--	372
MARCH	1,519	608
APRIL	375	102
MAY	1,458	0
JUNE	788	1,701
JULY	126	196
AUGUST	704	733
SEPTEMBER	--	1,885
OCTOBER	2,320	274
NOVEMBER	1,099	886
DECEMBER	1,841	584
Total Removed Through December 31, 2023	10,357	7,342

Notes

Liquid volumes in gallons.

-- No vault dewatering was conducted during February 2023 and September 2023 due to low volumes removed in January 2023 and August 2023.

APPENDIX B ANALYTICAL LABORATORY REPORTS



Analytical Laboratory Report

Report ID: S55539.01(01)
Generated on 11/20/2023

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

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

Additional Contacts: Kevin Schneider

Report produced by
Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

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

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

Report Summary
Lab Sample ID(s): S55539.01-S55539.07
Project: RACER Coldwater Road
Collected Date(s): 11/07/2023
Submitted Date/Time: 11/08/2023 16:00
Sampled by: Kevin Schneider
P.O. #: 1940006516 TASK 001

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


Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

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

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

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

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.

All accreditations/certifications held by this laboratory are listed on page 3. Not all accreditations/certifications are applicable to this report.

For a specific list of accredited analytes, please feel free to contact the laboratory or visit <https://www.meritlabs.com/certifications>.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Accreditations

Authority	Accreditation ID
Michigan DEQ	#9956
DOD ELAP & ISO/IEC 17025:2017	#69699 PJLA Testing
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
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
S55539.01	Vault-A	Wastewater	11/07/23 13:10
S55539.02	Vault-B	Wastewater	11/07/23 14:08
S55539.03	Vault-C	Wastewater	11/07/23 14:35
S55539.04	Vault-D	Wastewater	11/07/23 15:18
S55539.05	Vault-E	Wastewater	11/07/23 16:18
S55539.06	Vault-F	Wastewater	11/07/23 16:35
S55539.07	Vault-DUP-110723	Wastewater	11/07/23 00:01



Analytical Laboratory Report

Lab Sample ID: S55539.01

Sample Tag: Vault-A

Collected Date/Time: 11/07/2023 13:10

Matrix: Wastewater

COC Reference: 165443

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	4.2	IR
1	125ml Plastic	HNO3	Yes	4.2	IR
1	1L Plastic	None	Yes	4.2	IR
1	250ml Plastic	None	Yes	4.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	11/09/23 10:40	CCM	

Inorganics

Method: E120.1, Run Date: 11/15/23 16:10, Analyst: SSM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,450	1		umhos/cm	1		

Method: SM2540D, Run Date: 11/09/23 17:57, Analyst: MDG

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

Method: SM5310C, Run Date: 11/13/23 15:44, Analyst: PJH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	4.0	1		mg/L	1		

Metals

Method: E200.8, Run Date: 11/09/23 12:06, 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	0.018	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.006	0.005		mg/L	5	7440-66-6	



Analytical Laboratory Report

Lab Sample ID: S55539.02

Sample Tag: Vault-B

Collected Date/Time: 11/07/2023 14:08

Matrix: Wastewater

COC Reference: 165443

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	4.2	IR
1	125ml Plastic	HNO3	Yes	4.2	IR
1	1L Plastic	None	Yes	4.2	IR
1	250ml Plastic	None	Yes	4.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	11/09/23 09:50	CCM	

Inorganics

Method: E120.1, Run Date: 11/15/23 16:12, Analyst: SSM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,340	1		umhos/cm	1		

Method: SM2540D, Run Date: 11/09/23 17:57, Analyst: MDG

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

Method: SM5310C, Run Date: 11/13/23 16:00, Analyst: PJH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	2.4	1		mg/L	1		

Metals

Method: E200.8, Run Date: 11/09/23 11:20, Analyst: CCM

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



Analytical Laboratory Report

Lab Sample ID: S55539.03

Sample Tag: Vault-C

Collected Date/Time: 11/07/2023 14:35

Matrix: Wastewater

COC Reference: 165443

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	4.2	IR
1	125ml Plastic	HNO3	Yes	4.2	IR
1	1L Plastic	None	Yes	4.2	IR
1	250ml Plastic	None	Yes	4.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	11/09/23 09:50	CCM	

Inorganics

Method: E120.1, Run Date: 11/15/23 16:14, Analyst: SSM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,660	1		umhos/cm	1		

Method: SM2540D, Run Date: 11/09/23 17:57, Analyst: MDG

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

Method: SM5310C, Run Date: 11/13/23 16:16, Analyst: PJH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	4.1	1		mg/L	1		

Metals

Method: E200.8, Run Date: 11/09/23 11:23, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.008	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: S55539.04

Sample Tag: Vault-D

Collected Date/Time: 11/07/2023 15:18

Matrix: Wastewater

COC Reference: 165443

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	4.2	IR
1	125ml Plastic	HNO3	Yes	4.2	IR
1	1L Plastic	None	Yes	4.2	IR
1	250ml Plastic	None	Yes	4.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	11/09/23 09:50	CCM	

Inorganics

Method: E120.1, Run Date: 11/15/23 16:16, Analyst: SSM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,550	1		umhos/cm	1		

Method: SM2540D, Run Date: 11/09/23 17:57, Analyst: MDG

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

Method: SM5310C, Run Date: 11/13/23 16:32, Analyst: PJH

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

Metals

Method: E200.8, Run Date: 11/09/23 11:25, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.013	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.009	0.005		mg/L	5	7440-66-6	



Analytical Laboratory Report

Lab Sample ID: S55539.05

Sample Tag: Vault-E

Collected Date/Time: 11/07/2023 16:18

Matrix: Wastewater

COC Reference: 165443

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	4.2	IR
1	125ml Plastic	HNO3	Yes	4.2	IR
1	1L Plastic	None	Yes	4.2	IR
1	250ml Plastic	None	Yes	4.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	11/09/23 09:50	CCM	

Inorganics

Method: E120.1, Run Date: 11/15/23 16:18, Analyst: SSM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,340	1		umhos/cm	1		

Method: SM2540D, Run Date: 11/09/23 17:57, Analyst: MDG

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

Method: SM5310C, Run Date: 11/13/23 16:48, Analyst: PJH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	2.2	1		mg/L	1		

Metals

Method: E200.8, Run Date: 11/09/23 11:26, 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: S55539.06

Sample Tag: Vault-F

Collected Date/Time: 11/07/2023 16:35

Matrix: Wastewater

COC Reference: 165443

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	4.2	IR
1	125ml Plastic	HNO3	Yes	4.2	IR
1	1L Plastic	None	Yes	4.2	IR
1	250ml Plastic	None	Yes	4.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	11/09/23 09:50	CCM	

Inorganics

Method: E120.1, Run Date: 11/15/23 16:19, Analyst: SSM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,580	1		umhos/cm	1		

Method: SM2540D, Run Date: 11/09/23 17:57, Analyst: MDG

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

Method: SM5310C, Run Date: 11/13/23 17:03, Analyst: PJH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	2.2	1		mg/L	1		

Metals

Method: E200.8, Run Date: 11/09/23 11:27, 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: S55539.07

Sample Tag: Vault-DUP-110723

Collected Date/Time: 11/07/2023 00:01

Matrix: Wastewater

COC Reference: 165443

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	4.2	IR
1	125ml Plastic	HNO3	Yes	4.2	IR
1	1L Plastic	None	Yes	4.2	IR
1	250ml Plastic	None	Yes	4.2	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	11/09/23 09:50	CCM	

Inorganics

Method: E120.1, Run Date: 11/15/23 16:22, Analyst: SSM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,550	1		umhos/cm	1		

Method: SM2540D, Run Date: 11/09/23 17:57, Analyst: MDG

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

Method: SM5310C, Run Date: 11/13/23 17:19, Analyst: PJH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	4.5	1		mg/L	1		

Metals

Method: E200.8, Run Date: 11/09/23 11:28, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.013	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.012	0.005		mg/L	5	7440-66-6	

Merit Laboratories Login Checklist

Lab Set ID:S55539

Client:RAMBOLL (Ramboll Americas)

Project: RACER Coldwater Road

Submitted: 11/08/2023 16:00 Login User: PFD

Attention: Clifford Yantz

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

Phone: 313-333-0211

FAX:

Email: Clifford.Yantz@ramboll.com

Selection	Description	Note
Sample Receiving		
01.	☒ Yes ☐ No ☐ N/A	Samples are received at 4C +/- 2C Thermometer # IR 4.2
02.	☒ Yes ☐ No ☐ N/A	Received on ice/ cooling process begun
03.	☐ Yes ☒ No ☐ N/A	Samples shipped
04.	☐ Yes ☒ No ☐ N/A	Samples left in 24 hr. drop box
05.	☐ Yes ☐ No ☒ N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	☒ Yes ☐ No ☐ N/A	COC adequately filled out
07.	☒ Yes ☐ No ☐ N/A	COC signed and relinquished to the lab
08.	☒ Yes ☐ No ☐ N/A	Sample tag on bottles match COC
09.	☐ Yes ☒ No ☐ N/A	Subcontracting needed? Subcontacted to:
Preservation		
10.	☒ Yes ☐ No ☐ N/A	Do sample have correct chemical preservation
11.	☒ Yes ☐ No ☐ N/A	Completed pH checks on preserved samples? (no VOAs)
12.	☐ Yes ☒ No ☐ N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	☒ Yes ☐ No ☐ N/A	All bottles intact
14.	☒ Yes ☐ No ☐ N/A	Appropriate analytical bottles are used
15.	☒ Yes ☐ No ☐ N/A	Merit bottles used
16.	☒ Yes ☐ No ☐ N/A	Sufficient sample volume received
17.	☐ Yes ☒ No ☐ N/A	Samples require laboratory filtration
18.	☒ Yes ☐ No ☐ N/A	Samples submitted within holding time
19.	☐ Yes ☒ No ☐ N/A	Do water VOC or TOX bottles contain headspace

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

Client Review By: _____ Date: _____

Merit Laboratories Bottle Preservation Check

Lab Set ID: S55539 Submitted: 11/08/2023 16:00

Client: RAMBOLL (Ramboll Americas)

Project: RACER Coldwater Road

Attention: Clifford Yantz

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

Initial Preservation Check: 11/08/2023 16:33 PFD

Preservation Recheck (E200.8): N/A

Phone: 313-333-0211

FAX:

Email: Clifford.Yantz@ramboll.com

Sample ID	Bottle / Preservation	pH (Orig)	Add ml	pH (New)	Notes
S55539.01	125ml Plastic HNO3	<2			
S55539.02	125ml Plastic HNO3	<2			
S55539.03	125ml Plastic HNO3	<2			
S55539.04	125ml Plastic HNO3	<2			
S55539.05	125ml Plastic HNO3	<2			
S55539.06	125ml Plastic HNO3	<2			
S55539.07	125ml Plastic HNO3	<2			





Quality Control Report

Report ID: QC-S55539-01
Generated on 11/20/2023

Report to

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

Phone: 313-333-0211 FAX:

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

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

Report Summary

Lab Sample ID(s): S55539.01-S55539.07
Project: RACER Coldwater Road
Submitted Date/Time: 11/08/2023 16:00
Sampled by: Kevin Schneider
P.O. #: 1940006516 TASK 001

QC Report Sections

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

Report Flag Descriptions

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

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

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S55539.01

Sample Tag: Vault-A

Collected Date/Time: 11/07/2023 13:10

Matrix: Wastewater

COC Reference: 165443

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Conductivity	E120.1	11/15/23 16:10	COND2311115-W1	COND2311115-W1	No	BLK/LCS/DUP
TOC	SM5310C	11/13/23 15:44	TOC2311113-W1	TOC2311113-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	11/09/23 17:57	TSS231109B	TSS231109B	No	BLK/LCS/DUP
<i>Metals</i>						
Chromium, Dissolved	E200.8	11/09/23 12:06	MT4-23-1109A	MTD-110923-4	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/09/23 12:06	MT4-23-1109A	MTD-110923-4	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	11/09/23 12:06	MT4-23-1109A	MTD-110923-4	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/09/23 12:06	MT4-23-1109A	MTD-110923-4	No	BLK/LCS/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S55539.02

Sample Tag: Vault-B

Collected Date/Time: 11/07/2023 14:08

Matrix: Wastewater

COC Reference: 165443

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Conductivity	E120.1	11/15/23 16:12	COND2311115-W1	COND2311115-W1	No	BLK/LCS/DUP
TOC	SM5310C	11/13/23 16:00	TOC2311113-W1	TOC2311113-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	11/09/23 17:57	TSS231109B	TSS231109B	No	BLK/LCS/DUP
<i>Metals</i>						
Chromium, Dissolved	E200.8	11/09/23 11:20	MT4-23-1109A	MTD-110923-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/09/23 11:20	MT4-23-1109A	MTD-110923-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	11/09/23 11:20	MT4-23-1109A	MTD-110923-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/09/23 11:20	MT4-23-1109A	MTD-110923-3	No	BLK/LCS/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S55539.03

Sample Tag: Vault-C

Collected Date/Time: 11/07/2023 14:35

Matrix: Wastewater

COC Reference: 165443

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Conductivity	E120.1	11/15/23 16:14	COND2311115-W1	COND2311115-W1	No	BLK/LCS/DUP
TOC	SM5310C	11/13/23 16:16	TOC2311113-W1	TOC2311113-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	11/09/23 17:57	TSS231109B	TSS231109B	No	BLK/LCS/DUP
<i>Metals</i>						
Chromium, Dissolved	E200.8	11/09/23 11:23	MT4-23-1109A	MTD-110923-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/09/23 11:23	MT4-23-1109A	MTD-110923-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	11/09/23 11:23	MT4-23-1109A	MTD-110923-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/09/23 11:23	MT4-23-1109A	MTD-110923-3	No	BLK/LCS/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S55539.04

Sample Tag: Vault-D

Collected Date/Time: 11/07/2023 15:18

Matrix: Wastewater

COC Reference: 165443

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Conductivity	E120.1	11/15/23 16:16	COND2311115-W1	COND2311115-W1	No	BLK/LCS/DUP
TOC	SM5310C	11/13/23 16:32	TOC2311113-W1	TOC2311113-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	11/09/23 17:57	TSS231109B	TSS231109B	No	BLK/LCS/DUP
<i>Metals</i>						
Chromium, Dissolved	E200.8	11/09/23 11:25	MT4-23-1109A	MTD-110923-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/09/23 11:25	MT4-23-1109A	MTD-110923-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	11/09/23 11:25	MT4-23-1109A	MTD-110923-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/09/23 11:25	MT4-23-1109A	MTD-110923-3	No	BLK/LCS/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S55539.05

Sample Tag: Vault-E

Collected Date/Time: 11/07/2023 16:18

Matrix: Wastewater

COC Reference: 165443

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Conductivity	E120.1	11/15/23 16:18	COND2311115-W1	COND2311115-W1	No	BLK/LCS/DUP
TOC	SM5310C	11/13/23 16:48	TOC2311113-W1	TOC2311113-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	11/09/23 17:57	TSS231109B	TSS231109B	No	BLK/LCS/DUP
<i>Metals</i>						
Chromium, Dissolved	E200.8	11/09/23 11:26	MT4-23-1109A	MTD-110923-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/09/23 11:26	MT4-23-1109A	MTD-110923-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	11/09/23 11:26	MT4-23-1109A	MTD-110923-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/09/23 11:26	MT4-23-1109A	MTD-110923-3	No	BLK/LCS/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S55539.06

Sample Tag: Vault-F

Collected Date/Time: 11/07/2023 16:35

Matrix: Wastewater

COC Reference: 165443

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Conductivity	E120.1	11/15/23 16:19	COND2311115-W1	COND2311115-W1	No	BLK/LCS/DUP
TOC	SM5310C	11/13/23 17:03	TOC2311113-W1	TOC2311113-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	11/09/23 17:57	TSS231109B	TSS231109B	No	BLK/LCS/DUP
<i>Metals</i>						
Chromium, Dissolved	E200.8	11/09/23 11:27	MT4-23-1109A	MTD-110923-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/09/23 11:27	MT4-23-1109A	MTD-110923-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	11/09/23 11:27	MT4-23-1109A	MTD-110923-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/09/23 11:27	MT4-23-1109A	MTD-110923-3	No	BLK/LCS/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S55539.07

Sample Tag: Vault-DUP-110723

Collected Date/Time: 11/07/2023 00:01

Matrix: Wastewater

COC Reference: 165443

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Conductivity	E120.1	11/15/23 16:22	COND2311115-W1	COND2311115-W1	No	BLK/LCS/DUP
TOC	SM5310C	11/13/23 17:19	TOC2311113-W1	TOC2311113-W1	No	BLK/LCS/MS/MSD/DU
Total Suspended Solids	SM2540D	11/09/23 17:57	TSS231109B	TSS231109B	No	BLK/LCS/DUP
<i>Metals</i>						
Chromium, Dissolved	E200.8	11/09/23 11:28	MT4-23-1109A	MTD-110923-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	11/09/23 11:28	MT4-23-1109A	MTD-110923-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	11/09/23 11:28	MT4-23-1109A	MTD-110923-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	11/09/23 11:28	MT4-23-1109A	MTD-110923-3	No	BLK/LCS/MS/MSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: COND231115-W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S55539.01	Conductivity	E120.1	11/15/23 16:10	COND231115-W1
S55539.02	Conductivity	E120.1	11/15/23 16:12	COND231115-W1
S55539.03	Conductivity	E120.1	11/15/23 16:14	COND231115-W1
S55539.04	Conductivity	E120.1	11/15/23 16:16	COND231115-W1
S55539.05	Conductivity	E120.1	11/15/23 16:18	COND231115-W1
S55539.06	Conductivity	E120.1	11/15/23 16:19	COND231115-W1
S55539.07	Conductivity	E120.1	11/15/23 16:22	COND231115-W1

Inorganics, Prep Batch ID: TOC231113-W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S55539.01	TOC	SM5310C	11/13/23 15:44	TOC231113-W1
S55539.02	TOC	SM5310C	11/13/23 16:00	TOC231113-W1
S55539.03	TOC	SM5310C	11/13/23 16:16	TOC231113-W1
S55539.04	TOC	SM5310C	11/13/23 16:32	TOC231113-W1
S55539.05	TOC	SM5310C	11/13/23 16:48	TOC231113-W1
S55539.06	TOC	SM5310C	11/13/23 17:03	TOC231113-W1
S55539.07	TOC	SM5310C	11/13/23 17:19	TOC231113-W1

Inorganics, Prep Batch ID: TSS231109B

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S55539.01	Total Suspended Solids	SM2540D	11/09/23 17:57	TSS231109B
S55539.02	Total Suspended Solids	SM2540D	11/09/23 17:57	TSS231109B
S55539.03	Total Suspended Solids	SM2540D	11/09/23 17:57	TSS231109B
S55539.04	Total Suspended Solids	SM2540D	11/09/23 17:57	TSS231109B
S55539.05	Total Suspended Solids	SM2540D	11/09/23 17:57	TSS231109B
S55539.06	Total Suspended Solids	SM2540D	11/09/23 17:57	TSS231109B
S55539.07	Total Suspended Solids	SM2540D	11/09/23 17:57	TSS231109B

Metals, Prep Batch ID: MTD-110923-3

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S55539.02	Chromium, Dissolved	E200.8	11/09/23 11:20	MT4-23-1109A
S55539.02	Copper, Dissolved	E200.8	11/09/23 11:20	MT4-23-1109A
S55539.02	Nickel, Dissolved	E200.8	11/09/23 11:20	MT4-23-1109A
S55539.02	Zinc, Dissolved	E200.8	11/09/23 11:20	MT4-23-1109A
S55539.03	Chromium, Dissolved	E200.8	11/09/23 11:23	MT4-23-1109A
S55539.03	Copper, Dissolved	E200.8	11/09/23 11:23	MT4-23-1109A
S55539.03	Nickel, Dissolved	E200.8	11/09/23 11:23	MT4-23-1109A
S55539.03	Zinc, Dissolved	E200.8	11/09/23 11:23	MT4-23-1109A
S55539.04	Chromium, Dissolved	E200.8	11/09/23 11:25	MT4-23-1109A
S55539.04	Copper, Dissolved	E200.8	11/09/23 11:25	MT4-23-1109A
S55539.04	Nickel, Dissolved	E200.8	11/09/23 11:25	MT4-23-1109A
S55539.04	Zinc, Dissolved	E200.8	11/09/23 11:25	MT4-23-1109A
S55539.05	Chromium, Dissolved	E200.8	11/09/23 11:26	MT4-23-1109A
S55539.05	Copper, Dissolved	E200.8	11/09/23 11:26	MT4-23-1109A
S55539.05	Nickel, Dissolved	E200.8	11/09/23 11:26	MT4-23-1109A
S55539.05	Zinc, Dissolved	E200.8	11/09/23 11:26	MT4-23-1109A
S55539.06	Chromium, Dissolved	E200.8	11/09/23 11:27	MT4-23-1109A

QC Report - Prep Batch Summary

Metals, Prep Batch ID: MTD-110923-3 (continued)

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S55539.06	Copper, Dissolved	E200.8	11/09/23 11:27	MT4-23-1109A
S55539.06	Nickel, Dissolved	E200.8	11/09/23 11:27	MT4-23-1109A
S55539.06	Zinc, Dissolved	E200.8	11/09/23 11:27	MT4-23-1109A
S55539.07	Chromium, Dissolved	E200.8	11/09/23 11:28	MT4-23-1109A
S55539.07	Copper, Dissolved	E200.8	11/09/23 11:28	MT4-23-1109A
S55539.07	Nickel, Dissolved	E200.8	11/09/23 11:28	MT4-23-1109A
S55539.07	Zinc, Dissolved	E200.8	11/09/23 11:28	MT4-23-1109A

Metals, Prep Batch ID: MTD-110923-4

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S55539.01	Chromium, Dissolved	E200.8	11/09/23 12:06	MT4-23-1109A
S55539.01	Copper, Dissolved	E200.8	11/09/23 12:06	MT4-23-1109A
S55539.01	Nickel, Dissolved	E200.8	11/09/23 12:06	MT4-23-1109A
S55539.01	Zinc, Dissolved	E200.8	11/09/23 12:06	MT4-23-1109A

QC Report - Batch QC Results

Inorganics, Prep Batch ID: COND231115-W1

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

Blank (BLK)

Lab Sample ID: COND231115-W1.LRB1

Run in Batch: COND231115-W1, Run Date: 11/15/2023 15:58, Prep Date: 11/15/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Conductivity		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: COND231115-W1.LCS1

Run in Batch: COND231115-W1, Run Date: 11/15/2023 16:04, Prep Date: 11/15/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Conductivity		99.5	90	110

Laboratory Control Sample (LCS)

Lab Sample ID: COND231115-W1.LCS2

Run in Batch: COND231115-W1, Run Date: 11/15/2023 16:06, Prep Date: 11/15/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Conductivity		93.3	90	110

Duplicate (DUP)

Lab Sample ID: COND231115-W1.DP1, Parent Sample ID: S55632.01

Run in Batch: COND231115-W1, Run Date: 11/15/2023 17:01, Prep Date: 11/15/2023, Matrix: Liquid, Dilution: 6

Analyte	Flags	RPD	RPD CL
Conductivity		0.2	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: TOC231113-W1

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

Blank (BLK)

Lab Sample ID: TOC231113-W1.LRB1

Run in Batch: TOC231113-W1, Run Date: 11/13/2023 13:46, Prep Date: 11/13/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
TOC		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: TOC231113-W1.LCS1

Run in Batch: TOC231113-W1, Run Date: 11/13/2023 14:22, Prep Date: 11/13/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
TOC		101.6	90	110

Matrix Spike (MS)

Lab Sample ID: TOC231113-W1.MS1, Parent Sample ID: S55537.01

Run in Batch: TOC231113-W1, Run Date: 11/13/2023 15:13, Prep Date: 11/13/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
TOC		100.5	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: TOC231113-W1.MSD1, Parent Sample ID: TOC231113-W1.MS1

Run in Batch: TOC231113-W1, Run Date: 11/13/2023 15:29, Prep Date: 11/13/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
TOC		100.5	80	120	0	15

Duplicate (DUP)

Lab Sample ID: TOC231113-W1.DP1, Parent Sample ID: S55537.01

Run in Batch: TOC231113-W1, Run Date: 11/13/2023 14:57, Prep Date: 11/13/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	RPD	RPD CL
TOC		1.7	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: TSS231109B

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

Blank (BLK)

Lab Sample ID: TSS231109B.LRB1

Run in Batch: TSS231109B, Run Date: 11/09/2023 17:57, Prep Date: 11/09/2023, Matrix: Liquid, Dilution: 1

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

Laboratory Control Sample (LCS)

Lab Sample ID: TSS231109B.LCS1

Run in Batch: TSS231109B, Run Date: 11/09/2023 17:57, Prep Date: 11/09/2023, Matrix: Liquid, Dilution: 10

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

Duplicate (DUP)

Lab Sample ID: TSS231109B.DP1, Parent Sample ID: S55564.01

Run in Batch: TSS231109B, Run Date: 11/09/2023 17:57, Prep Date: 11/09/2023, Matrix: Liquid, Dilution: 4

Analyte	Flags	RPD	RPD CL
Total Suspended Solids		4.8	10

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-110923-3

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

Blank (BLK)

Lab Sample ID: MT4-23-1109A.019.LRB

Run in Batch: MT4-23-1109A, Run Date: 11/09/2023 11:00, Prep Date: 11/09/2023, Matrix: Liquid, Dilution: 1

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

Laboratory Control Sample (LCS)

Lab Sample ID: MT4-23-1109A.018.LCS

Run in Batch: MT4-23-1109A, Run Date: 11/09/2023 10:53, Prep Date: 11/09/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chromium		104	85	115
Copper		108	85	115
Nickel		103	85	115
Zinc		106	85	115

Matrix Spike (MS)

Lab Sample ID: MT4-23-1109A.035.MS, Parent Sample ID: S55539.07

Run in Batch: MT4-23-1109A, Run Date: 11/09/2023 11:30, Prep Date: 11/09/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Chromium		102	75	125
Copper		96	75	125
Nickel		95	75	125
Zinc		99	75	125

Matrix Spike (MS)

Lab Sample ID: MT4-23-1109A.049.MS, Parent Sample ID: S55525.10

Run in Batch: MT4-23-1109A, Run Date: 11/09/2023 11:50, Prep Date: 11/09/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Chromium		98	75	125
Copper		100	75	125
Nickel		98	75	125
Zinc		94	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-23-1109A.036.MSD, Parent Sample ID: MT4-23-1109A.035.MS

Run in Batch: MT4-23-1109A, Run Date: 11/09/2023 11:32, Prep Date: 11/09/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium		101	75	125	1	20
Copper		97	75	125	1	20
Nickel		96	75	125	1	20
Zinc		98	75	125	0	20

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-110923-3 (continued)

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

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-23-1109A.050.MSD, Parent Sample ID: MT4-23-1109A.049.MS

Run in Batch: MT4-23-1109A, Run Date: 11/09/2023 11:52, Prep Date: 11/09/2023, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium		103	75	125	3	20
Copper		100	75	125	1	20
Nickel		100	75	125	2	20
Zinc		98	75	125	1	20

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-110923-4

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

Blank (BLK)

Lab Sample ID: MT4-23-1109A.054.LRB

Run in Batch: MT4-23-1109A, Run Date: 11/09/2023 12:01, Prep Date: 11/09/2023, Matrix: Liquid, Dilution: 1

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

Laboratory Control Sample (LCS)

Lab Sample ID: MT4-23-1109A.053.LCS

Run in Batch: MT4-23-1109A, Run Date: 11/09/2023 11:58, Prep Date: 11/09/2023, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chromium		101	85	115
Copper		103	85	115
Nickel		99	85	115
Zinc		103	85	115

Matrix Spike (MS)

Lab Sample ID: MT4-23-1109A.065.MS, Parent Sample ID: S55409.01

Run in Batch: MT4-23-1109A, Run Date: 11/09/2023 12:18, Prep Date: 11/09/2023, Matrix: Liquid, Dilution: 25

Analyte	Flags	% Rec	LCL	UCL
Chromium		98	75	125
Copper		92	75	125
Nickel		95	75	125
Zinc		101	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-23-1109A.066.MSD, Parent Sample ID: MT4-23-1109A.065.MS

Run in Batch: MT4-23-1109A, Run Date: 11/09/2023 12:20, Prep Date: 11/09/2023, Matrix: Liquid, Dilution: 25

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium		98	75	125	0	20
Copper		92	75	125	0	20
Nickel		96	75	125	1	20
Zinc		92	75	125	2	20



165443

INVOICE TO

CONTACT NAME		~~same~~	
COMPANY			
ADDRESS			
CITY		STATE	ZIP CODE
PHONE NO.		E-MAIL ADDRESS	

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

Containers & Preservatives

Certifications

☐ OHIO VAP ☐ Drinking Water

☐ DoD ☐ NPDES

Project Locations

☐ Detroit ☐ New York

☐ Other _____

Special Instructions

RELINQUISHED BY: SIGNATURE/ORGANIZATION			DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION			DATE	TIME
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES: TEMP. ON ARRIVAL _____ 4.2	
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS		

Rev. 1.26.22

APPENDIX C

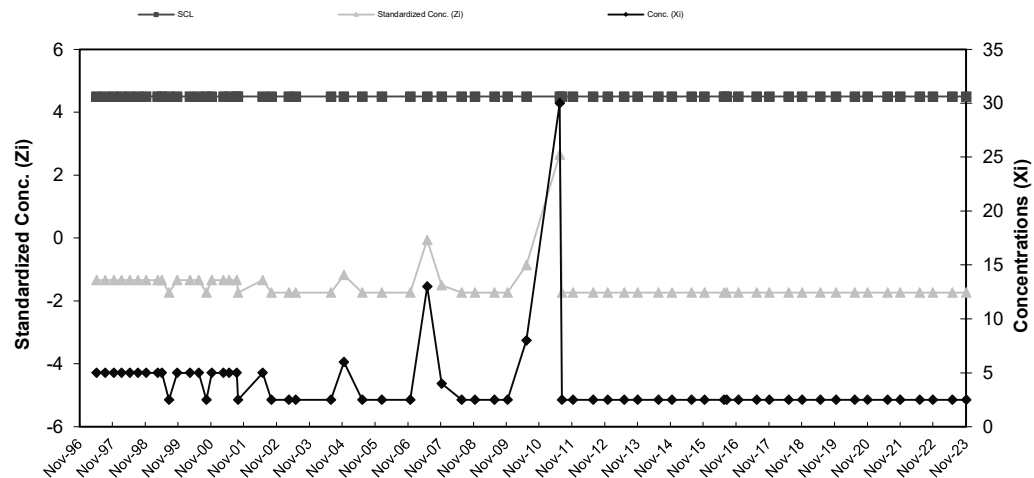
LEAK DETECTION VAULT CONTROL CHARTS

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

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-97	4.5	5	-1.34	46	Nov-11	4.5	2.5	-1.74
10	Aug-97	4.5	5	-1.34	47	Jun-12	4.5	2.5	-1.74
11	Nov-97	4.5	5	-1.34	48	Dec-12	4.5	2.5	-1.74
12	Feb-98	4.5	5	-1.34	49	Jun-13	4.5	2.5	-1.74
13	May-98	4.5	5	-1.34	50	Nov-13	4.5	2.5	-1.74
14	Aug-98	4.5	5	-1.34	51	Jun-14	4.5	2.5	-1.74
15	Nov-98	4.5	5	-1.34	52	Nov-14	4.5	2.5	-1.74
16	Mar-99	4.5	5	-1.34	53	Jun-15	4.5	2.5	-1.74
17	May-99	4.5	5	-1.34	54	Nov-15	4.5	2.5	-1.74
18	Jul-99	4.5	2.5	-1.74	55	Jun-16	4.5	2.5	-1.74
19	Oct-99	4.5	5	-1.34	56	Jul-16	4.5	2.5	-1.74
20	Mar-00	4.5	5	-1.34	57	Nov-16	4.5	2.5	-1.74
21	Jun-00	4.5	5	-1.34	58	Jun-17	4.5	2.5	-1.74
22	Sep-00	4.5	2.5	-1.74	59	Nov-17	4.5	2.5	-1.74
23	Nov-00	4.5	5	-1.34	60	Jun-18	4.5	2.5	-1.74
24	Mar-01	4.5	5	-1.34	61	Nov-18	4.5	2.5	-1.74
25	May-01	4.5	5	-1.34	62	May-19	4.5	2.5	-1.74
26	Aug-01	4.5	2.5	-1.74	63	Nov-19	4.5	2.5	-1.74
27	Aug-01	4.5	5	-1.34	64	Jun-20	4.5	2.5	-1.74
28	May-02	4.5	5	-1.34	65	Nov-20	4.5	2.5	-1.74
29	Sep-02	4.5	2.5	-1.74	66	Jun-21	4.5	2.5	-1.74
30	Mar-03	4.5	2.5	-1.74	67	Nov-21	4.5	2.5	-1.74
31	Jun-03	4.5	2.5	-1.74	68	Jun-22	4.5	2.5	-1.74
32	Jun-04	4.5	2.5	-1.74	69	Nov-22	4.5	2.5	-1.74
33	Nov-04	4.5	6	-1.18	70	Jun-23	4.5	2.5	-1.74
34	Jun-05	4.5	2.5	-1.74	71	Nov-23	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

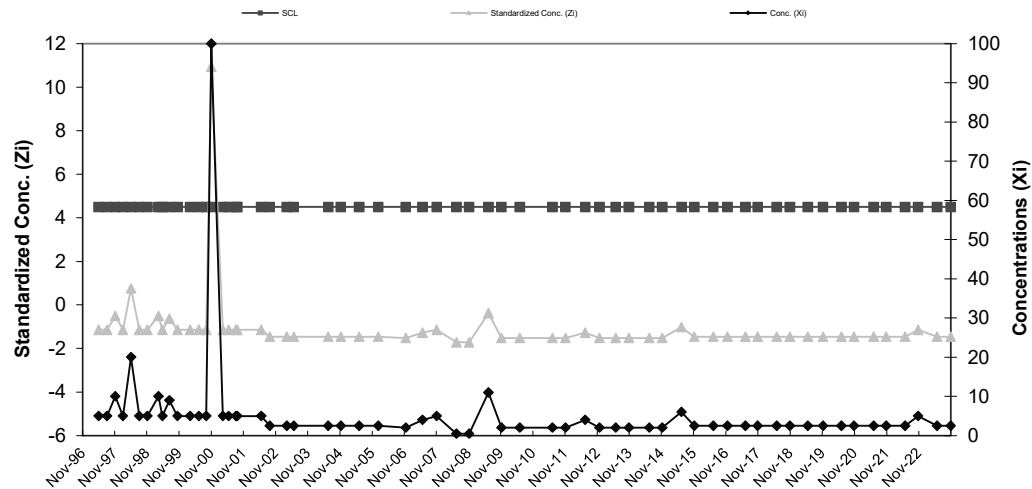


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHAWART CONTROL CHART
Vault A - Copper

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-97	4.5	5	-1.14	45	Nov-11	4.5	2	-1.52
10	Aug-97	4.5	5	-1.14	46	Jun-12	4.5	4	-1.27
11	Nov-97	4.5	10	-0.51	47	Dec-12	4.5	2	-1.52
12	Feb-98	4.5	5	-1.14	48	Jun-13	4.5	2	-1.52
13	May-98	4.5	20	0.76	49	Nov-13	4.5	2	-1.52
14	Aug-98	4.5	5	-1.14	50	Jun-14	4.5	2	-1.52
15	Nov-98	4.5	5	-1.14	51	Nov-14	4.5	2	-1.52
16	Mar-99	4.5	10	-0.51	52	Jun-15	4.5	6	-1.02
17	May-99	4.5	5	-1.14	53	Nov-15	4.5	2.5	-1.46
18	Jul-99	4.5	9	-0.64	54	Jun-16	4.5	2.5	-1.46
19	Oct-99	4.5	5	-1.14	55	Nov-16	4.5	2.5	-1.46
20	Mar-00	4.5	5	-1.14	56	Jun-17	4.5	2.5	-1.46
21	Jun-00	4.5	5	-1.14	57	Nov-17	4.5	2.5	-1.46
22	Sep-00	4.5	5	-1.14	58	Jun-18	4.5	2.5	-1.46
23	Nov-00	4.5	100	10.92	59	Nov-18	4.5	2.5	-1.46
24	Mar-01	4.5	5	-1.14	60	May-19	4.5	2.5	-1.46
25	May-01	4.5	5	-1.14	61	Nov-19	4.5	2.5	-1.46
26	Aug-01	4.5	5	-1.14	62	Jun-20	4.5	2.5	-1.46
27	Aug-01	4.5	5	-1.14	63	Nov-20	4.5	2.5	-1.46
28	May-02	4.5	5	-1.14	64	Jun-21	4.5	2.5	-1.46
29	Sep-02	4.5	2.5	-1.46	65	Nov-21	4.5	2.5	-1.46
30	Mar-03	4.5	2.5	-1.46	66	Jun-22	4.5	2.5	-1.46
31	Jun-03	4.5	2.5	-1.46	67	Nov-22	4.5	5	-1.14
32	Jun-04	4.5	2.5	-1.46	68	Jun-23	4.5	2.5	-1.46
33	Nov-04	4.5	2.5	-1.46	69	Nov-23	4.5	2.5	-1.46
34	Jun-05	4.5	2.5	-1.46					
35	Jan-06	4.5	2.5	-1.46					
36	Nov-06	4.5	2	-1.52					
37	Jun-07	4.5	4	-1.27					
38	Nov-07	4.5	5	-1.14					
39	Jun-08	4.5	0.5	-1.71					
40	Nov-08	4.5	0.5	-1.71					
41	Jun-09	4.5	11	-0.38					
42	Nov-09	4.5	2	-1.52					
43	Jun-10	4.5	2	-1.52					
44	Jun-11	4.5	2	-1.52					

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

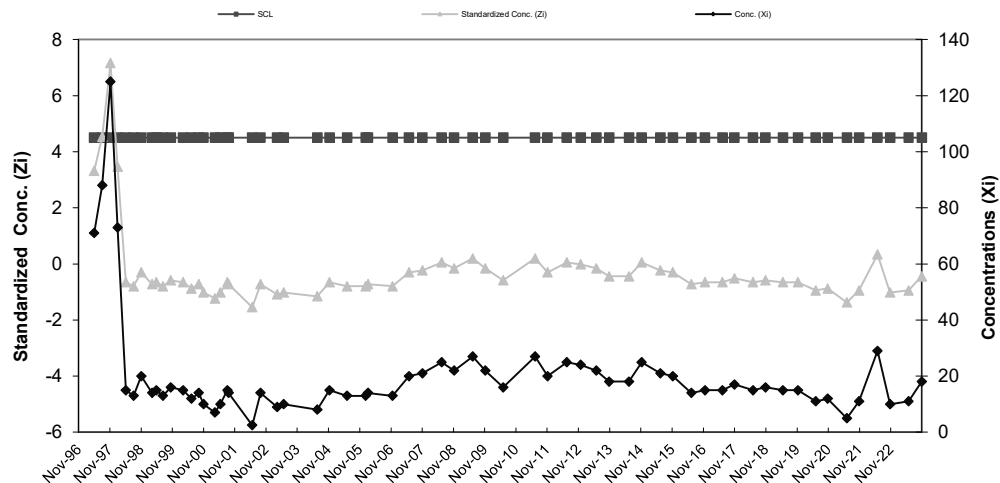


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault A - Nickel

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-97	4.5	71	3.32	46	Nov-11	4.5	20	-0.30
10	Aug-97	4.5	88	4.53	47	Jun-12	4.5	25	0.05
11	Nov-97	4.5	125	7.16	48	Dec-12	4.5	24	-0.02
12	Feb-98	4.5	73	3.47	49	Jun-13	4.5	22	-0.16
13	May-98	4.5	15	-0.66	50	Nov-13	4.5	18	-0.44
14	Aug-98	4.5	13	-0.80	51	Jun-14	4.5	18	-0.44
15	Nov-98	4.5	20	-0.30	52	Nov-14	4.5	25	0.05
16	Mar-99	4.5	14	-0.73	53	Jun-15	4.5	21	-0.23
17	May-99	4.5	15	-0.66	54	Nov-15	4.5	20	-0.30
18	Jul-99	4.5	13	-0.80	55	Jun-16	4.5	14	-0.73
19	Oct-99	4.5	16	-0.59	56	Nov-16	4.5	15	-0.66
20	Mar-00	4.5	15	-0.66	57	Jun-17	4.5	15	-0.66
21	Jun-00	4.5	12	-0.87	58	Nov-17	4.5	17	-0.52
22	Sep-00	4.5	14	-0.73	59	Jun-18	4.5	15	-0.66
23	Nov-00	4.5	10	-1.01	60	Nov-18	4.5	16	-0.59
24	Mar-01	4.5	7	-1.23	61	May-19	4.5	15	-0.66
25	May-01	4.5	10	-1.01	62	Nov-19	4.5	15	-0.66
26	Aug-01	4.5	14	-0.73	63	Jun-20	4.5	11	-0.94
27	Aug-01	4.5	15	-0.66	64	Nov-20	4.5	12	-0.87
28	May-02	4.5	2.5	-1.55	65	Jun-21	4.5	5	-1.37
29	Sep-02	4.5	14	-0.73	66	Nov-21	4.5	11	-0.94
30	Mar-03	4.5	9	-1.08	67	Jun-22	4.5	29	0.34
31	Jun-03	4.5	10	-1.01	68	Nov-22	4.5	10	-1.01
32	Jun-04	4.5	8	-1.16	69	Jun-23	4.5	11	-0.94
33	Nov-04	4.5	15	-0.66	70	Nov-23	4.5	18	-0.44
34	Jun-05	4.5	13	-0.80					
35	Jan-06	4.5	13	-0.80					
36	Feb-06	4.5	14	-0.73					
37	Nov-06	4.5	13	-0.80					
38	Jun-07	4.5	20	-0.30					
39	Nov-07	4.5	21	-0.23					
40	Jun-08	4.5	25	0.05					
41	Nov-08	4.5	22	-0.16					
42	Jun-09	4.5	27	0.20					
43	Nov-09	4.5	22	-0.16					
44	Jun-10	4.5	16	-0.59					
45	Jun-11	4.5	27	0.20					

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

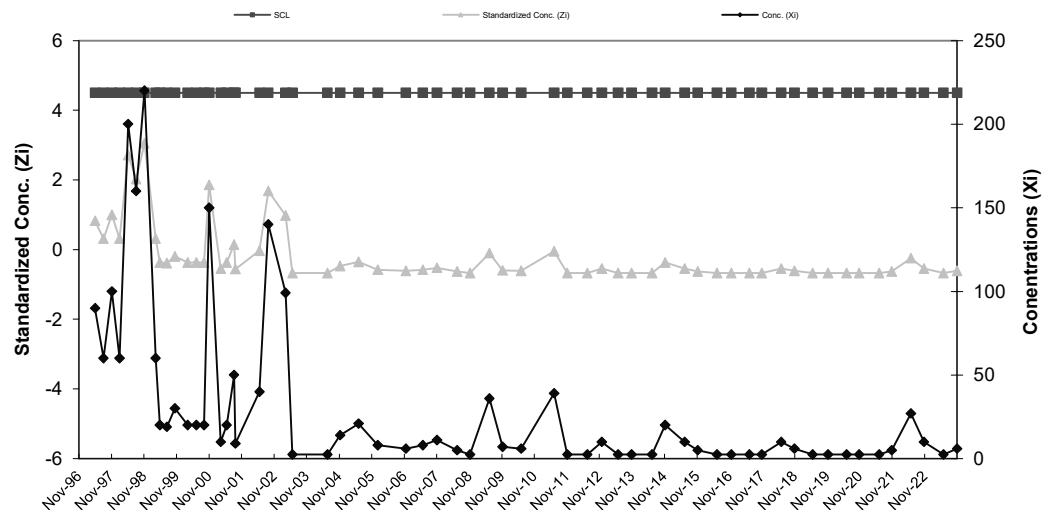


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault A - Zinc

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-97	4.5	90	0.83	45	Nov-11	4.5	2.5	-0.67
10	Aug-97	4.5	60	0.31	46	Jun-12	4.5	2.5	-0.67
11	Nov-97	4.5	100	1.00	47	Dec-12	4.5	10	-0.54
12	Feb-98	4.5	60	0.31	48	Jun-13	4.5	2.5	-0.67
13	May-98	4.5	200	2.71	49	Nov-13	4.5	2.5	-0.67
14	Aug-98	4.5	160	2.02	50	Jun-14	4.5	2.5	-0.67
15	Nov-98	4.5	220	3.05	51	Nov-14	4.5	20	-0.37
16	Mar-99	4.5	60	0.31	52	Jun-15	4.5	10	-0.54
17	May-99	4.5	20	-0.37	53	Nov-15	4.5	5	-0.63
18	Jul-99	4.5	19	-0.39	54	Jun-16	4.5	2.5	-0.67
19	Oct-99	4.5	30	-0.20	55	Nov-16	4.5	2.5	-0.67
20	Mar-00	4.5	20	-0.37	56	Jun-17	4.5	2.5	-0.67
21	Jun-00	4.5	20	-0.37	57	Nov-17	4.5	2.5	-0.67
22	Sep-00	4.5	20	-0.37	58	Jun-18	4.5	10	-0.54
23	Nov-00	4.5	150	1.85	59	Nov-18	4.5	6	-0.61
24	Mar-01	4.5	10	-0.54	60	May-19	4.5	2.5	-0.67
25	May-01	4.5	20	-0.37	61	Nov-19	4.5	2.5	-0.67
26	Aug-01	4.5	9	-0.56	62	Jun-20	4.5	2.5	-0.67
27	Aug-01	4.5	50	0.14	63	Nov-20	4.5	2.5	-0.67
28	May-02	4.5	40	-0.03	64	Jun-21	4.5	2.5	-0.67
29	Sep-02	4.5	140	1.68	65	Nov-21	4.5	5	-0.63
30	Mar-03	4.5	99	0.98	66	Jun-22	4.5	27	-0.25
31	Jun-03	4.5	2.5	-0.67	67	Nov-22	4.5	10	-0.54
32	Jun-04	4.5	2.5	-0.67	68	Jun-23	4.5	2.5	-0.67
33	Nov-04	4.5	14	-0.47	69	Nov-23	4.5	6	-0.61
34	Jun-05	4.5	21	-0.35					
35	Jan-06	4.5	8	-0.58					
36	Nov-06	4.5	6	-0.61					
37	Jun-07	4.5	8	-0.58					
38	Nov-07	4.5	11	-0.53					
39	Jun-08	4.5	5	-0.63					
40	Nov-08	4.5	2.5	-0.67					
41	Jun-09	4.5	36	-0.10					
42	Nov-09	4.5	7	-0.59					
43	Jun-10	4.5	6	-0.61					
44	Jun-11	4.5	39	-0.05					

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

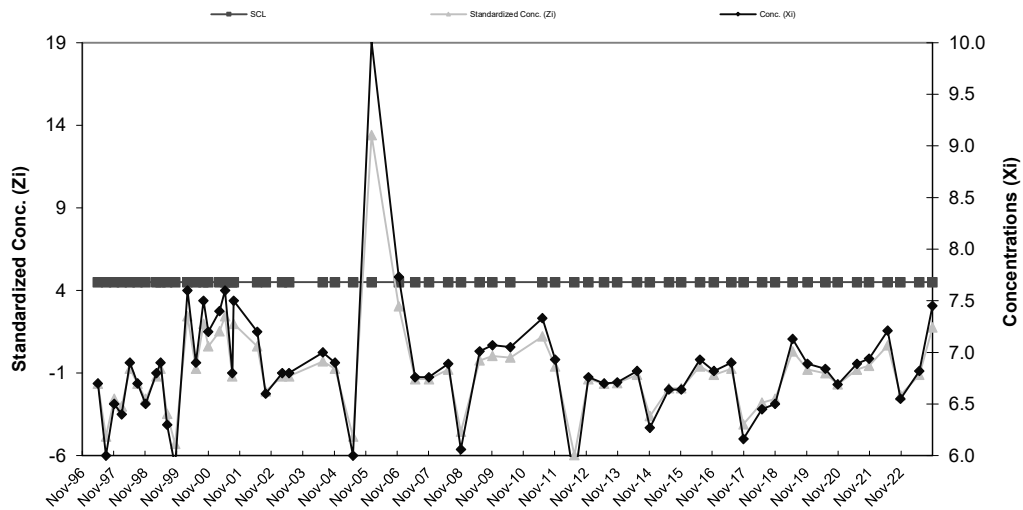


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHewart CONTROL CHART
Vault A - pH

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-97	4.5	6.70	-1.65	45	Nov-11	4.5	6.93	-0.60
10	Aug-97	4.5	6.00	-4.83	46	Jun-12	4.5	5.75	-5.97
11	Nov-97	4.5	6.50	-2.56	47	Dec-12	4.5	6.76	-1.38
12	Feb-98	4.5	6.40	-3.01	48	Jun-13	4.5	6.7	-1.65
13	May-98	4.5	6.90	-0.74	49	Nov-13	4.5	6.71	-1.60
14	Aug-98	4.5	6.70	-1.65	50	Jun-14	4.5	6.82	-1.10
15	Nov-98	4.5	6.50	-2.56	51	Nov-14	4.5	6.27	-3.60
16	Mar-99	4.5	6.80	-1.19	52	Jun-15	4.5	6.64	-1.92
17	May-99	4.5	6.90	-0.74	53	Nov-15	4.5	6.64	-1.92
18	Jul-99	4.5	6.30	-3.47	54	Jun-16	4.5	6.93	-0.60
19	Oct-99	4.5	5.90	-5.28	55	Nov-16	4.5	6.82	-1.10
20	Mar-00	4.5	7.60	2.44	56	Jun-17	4.5	6.9	-0.74
21	Jun-00	4.5	6.90	-0.74	57	Nov-17	4.5	6.16	-4.10
22	Sep-00	4.5	7.50	1.99	58	Jun-18	4.5	6.45	-2.78
23	Nov-00	4.5	7.20	0.63	59	Nov-18	4.5	6.5	-2.56
24	Mar-01	4.5	7.40	1.53	60	May-19	4.5	7.13	0.31
25	May-01	4.5	7.60	2.44	61	Nov-19	4.5	6.89	-0.78
26	Aug-01	4.5	7.50	1.99	62	Jun-20	4.5	6.84	-1.01
27	Aug-01	4.5	6.80	-1.19	63	Nov-20	4.5	6.69	-1.69
28	May-02	4.5	7.20	0.63	64	Jun-21	4.5	6.89	-0.78
29	Sep-02	4.5	6.60	-2.10	65	Nov-21	4.5	6.94	-0.56
30	Mar-03	4.5	6.80	-1.19	66	Jun-22	4.5	7.21	0.67
31	Jun-03	4.5	6.80	-1.19	67	Nov-22	4.5	6.55	-2.33
32	Jun-04	4.5	7.00	-0.28	68	Jun-23	4.5	6.82	-1.10
33	Nov-04	4.5	6.90	-0.74	69	Nov-23	4.5	7.45	1.76
34	Jun-05	4.5	6.00	-4.83					
35	Jan-06	4.5	10.01	13.40					
36	Nov-06	4.5	7.73	3.03					
37	Jun-07	4.5	6.76	-1.38					
38	Nov-07	4.5	6.76	-1.38					
39	Jun-08	4.5	6.89	-0.78					
40	Nov-08	4.5	6.06	-4.56					
41	Jun-09	4.5	7.01	-0.24					
42	Nov-09	4.5	7.07	0.03					
43	Jun-10	4.5	7.05	-0.06					
44	Jun-11	4.5	7.33	1.22					

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

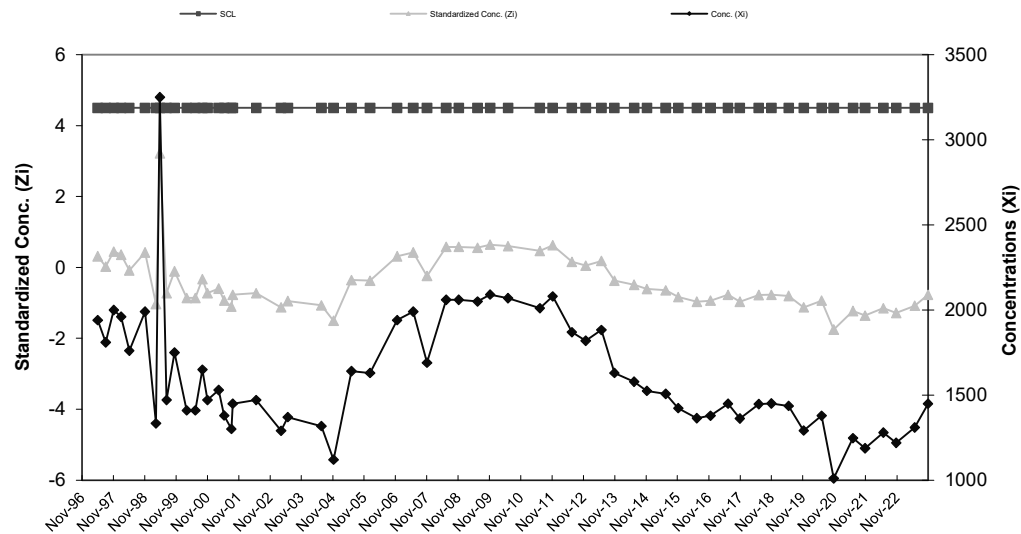


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault A - SpC

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-97	4.5	1940	0.31	43	Nov-11	4.5	2080	0.62
10	Aug-97	4.5	1810	0.02	44	Jun-12	4.5	1870	0.16
11	Nov-97	4.5	2000	0.45	45	Dec-12	4.5	1820	0.05
12	Feb-98	4.5	1960	0.36	46	Jun-13	4.5	1882	0.18
13	May-98	4.5	1760	-0.09	47	Nov-13	4.5	1630	-0.37
14	Nov-98	4.5	1990	0.42	48	Jun-14	4.5	1579	-0.49
15	Mar-99	4.5	1334	-1.03	49	Nov-14	4.5	1525	-0.61
16	May-99	4.5	3250	3.22	50	Jun-15	4.5	1507	-0.65
17	Jul-99	4.5	1470	-0.73	51	Nov-15	4.5	1423	-0.83
18	Oct-99	4.5	1750	-0.11	52	Jun-16	4.5	1364	-0.96
19	Mar-00	4.5	1410	-0.86	53	Nov-16	4.5	1378	-0.93
20	Jun-00	4.5	1410	-0.86	54	Jun-17	4.5	1450	-0.77
21	Sep-00	4.5	1650	-0.33	55	Nov-17	4.5	1363	-0.97
22	Nov-00	4.5	1470	-0.73	56	Jun-18	4.5	1447	-0.78
23	Mar-01	4.5	1530	-0.60	57	Nov-18	4.5	1451	-0.77
24	May-01	4.5	1380	-0.93	58	May-19	4.5	1436	-0.80
25	Aug-01	4.5	1450	-0.77	59	Nov-19	4.5	1291	-1.13
26	Aug-01	4.5	1300	-1.11	60	Jun-20	4.5	1378	-0.93
27	May-02	4.5	1470	-0.73	61	Nov-20	4.5	1010	-1.75
28	Mar-03	4.5	1290	-1.13	62	Jun-21	4.5	1247	-1.22
29	Jun-03	4.5	1370	-0.95	63	Nov-21	4.5	1187	-1.36
30	Jun-04	4.5	1318	-1.07	64	Jun-22	4.5	1280	-1.15
31	Nov-04	4.5	1120	-1.51	65	Nov-22	4.5	1219	-1.29
32	Jun-05	4.5	1640	-0.35	66	Jun-23	4.5	1310	-1.08
33	Jan-06	4.5	1630	-0.37	67	Nov-23	4.5	1450	-0.77
34	Nov-06	4.5	1940	0.31					
35	Jun-07	4.5	1990	0.42					
36	Nov-07	4.5	1690	-0.24					
37	Jun-08	4.5	2060	0.58					
38	Nov-08	4.5	2060	0.58					
39	Jun-09	4.5	2050	0.56					
40	Nov-09	4.5	2090	0.65					
41	Jun-10	4.5	2070	0.60					
42	Jun-11	4.5	2010	0.47					

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

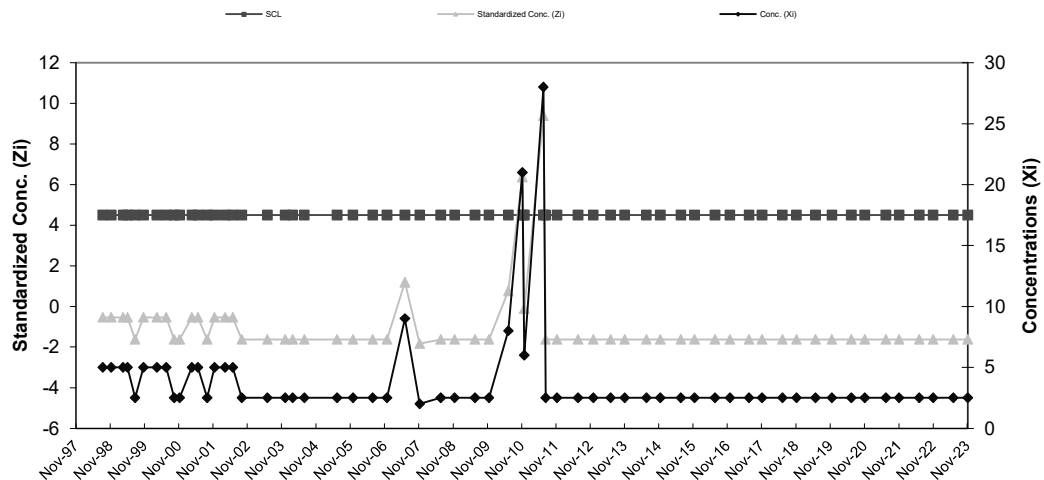


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault B - Chromium**

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-98	4.5	5	-0.54	45	Nov-11	4.5	2.5	-1.62
10	Nov-98	4.5	5	-0.54	46	Jun-12	4.5	2.5	-1.62
11	Mar-99	4.5	5	-0.54	47	Dec-12	4.5	2.5	-1.62
12	May-99	4.5	5	-0.54	48	Jun-13	4.5	2.5	-1.62
13	Jul-99	4.5	2.5	-1.62	49	Nov-13	4.5	2.5	-1.62
14	Oct-99	4.5	5	-0.54	50	Jun-14	4.5	2.5	-1.62
15	Mar-00	4.5	5	-0.54	51	Nov-14	4.5	2.5	-1.62
16	Jun-00	4.5	5	-0.54	52	Jun-15	4.5	2.5	-1.62
17	Sep-00	4.5	2.5	-1.62	53	Nov-15	4.5	2.5	-1.62
18	Nov-00	4.5	2.5	-1.62	54	Jun-16	4.5	2.5	-1.62
19	Mar-01	4.5	5	-0.54	55	Nov-16	4.5	2.5	-1.62
20	May-01	4.5	5	-0.54	56	Jun-17	4.5	2.5	-1.62
21	Aug-01	4.5	2.5	-1.62	57	Nov-17	4.5	2.5	-1.62
22	Nov-01	4.5	5	-0.54	58	Jun-18	4.5	2.5	-1.62
23	Mar-02	4.5	5	-0.54	59	Nov-18	4.5	2.5	-1.62
24	May-02	4.5	5	-0.54	60	May-19	4.5	2.5	-1.62
25	Sep-02	4.5	2.5	-1.62	61	Nov-19	4.5	2.5	-1.62
26	Jun-03	4.5	2.5	-1.62	62	Jun-20	4.5	2.5	-1.62
27	Dec-03	4.5	2.5	-1.62	63	Nov-20	4.5	2.5	-1.62
28	Feb-04	4.5	2.5	-1.62	64	Jun-21	4.5	2.5	-1.62
29	Jun-04	4.5	2.5	-1.62	65	Nov-21	4.5	2.5	-1.62
30	Jun-05	4.5	2.5	-1.62	66	Jun-22	4.5	2.5	-1.62
31	Dec-05	4.5	2.5	-1.62	67	Nov-22	4.5	2.5	-1.62
32	Jun-06	4.5	2.5	-1.62	68	Jun-23	4.5	2.5	-1.62
33	Nov-06	4.5	2.5	-1.62	69	Nov-23	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

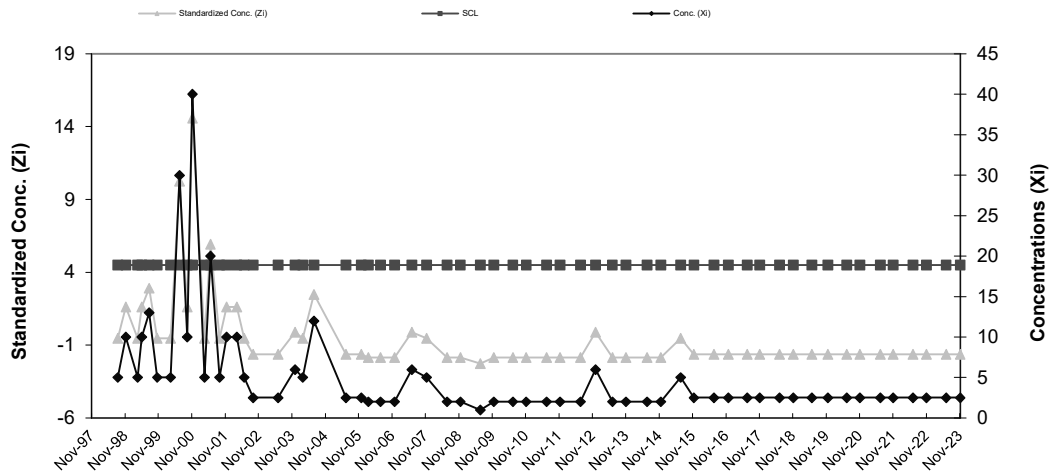


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault B - Copper

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	67	Jun-23	4.5	2.5	-1.62
33	Jun-06	4.5	2	-1.84	68	Nov-23	4.5	2.5	-1.62
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

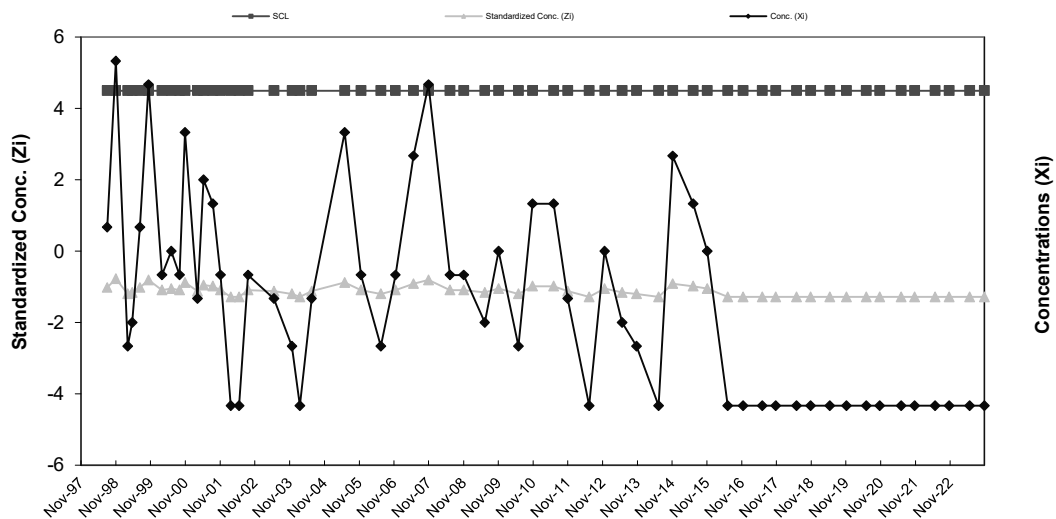


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault B - Nickel**

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	66	Jun-23	4.5	2.5	-1.28
33	Nov-06	4.5	8	-1.09	67	Nov-23	4.5	2.5	-1.28
34	Jun-07	4.5	13	-0.91					
35	Nov-07	4.5	16	-0.81					
36	Jun-08	4.5	8	-1.09					
37	Nov-08	4.5	8	-1.09					
38	Jun-09	4.5	6	-1.16					
39	Nov-09	4.5	9	-1.05					
40	Jun-10	4.5	5	-1.20					
41	Nov-10	4.5	11	-0.98					
42	Jun-11	4.5	11	-0.98					

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

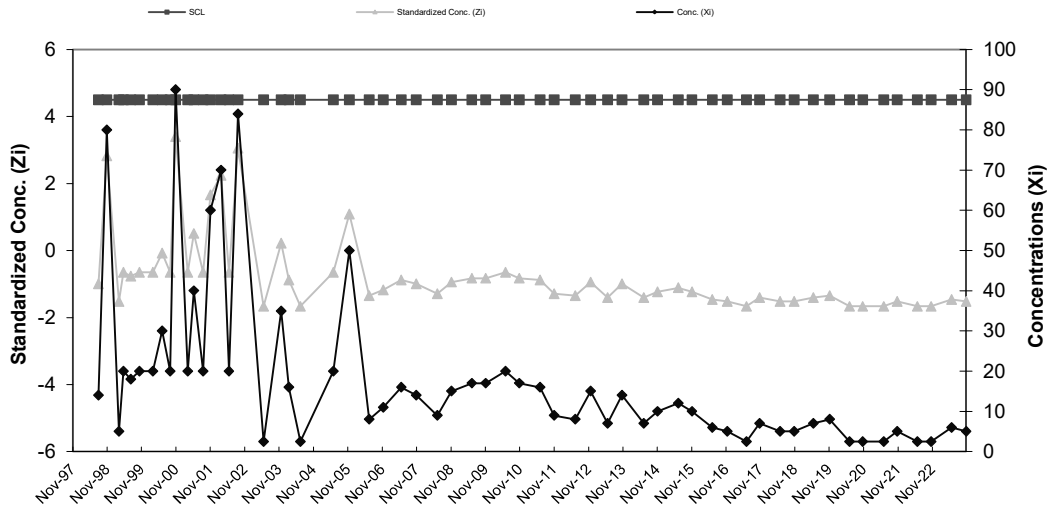


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault B - Zinc**

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-98	4.5	14	-1.00	43	Nov-11	4.5	9	-1.29
10	Nov-98	4.5	80	2.82	44	Jun-12	4.5	8	-1.35
11	Mar-99	4.5	5	-1.52	45	Dec-12	4.5	15	-0.94
12	May-99	4.5	20	-0.65	46	Jun-13	4.5	7	-1.40
13	Jul-99	4.5	18	-0.77	47	Nov-13	4.5	14	-1.00
14	Oct-99	4.5	20	-0.65	48	Jun-14	4.5	7	-1.40
15	Mar-00	4.5	20	-0.65	49	Nov-14	4.5	10	-1.23
16	Jun-00	4.5	30	-0.07	50	Jun-15	4.5	12	-1.11
17	Sep-00	4.5	20	-0.65	51	Nov-15	4.5	10	-1.23
18	Nov-00	4.5	90	3.40	52	Jun-16	4.5	6	-1.46
19	Mar-01	4.5	20	-0.65	53	Nov-16	4.5	5	-1.52
20	May-01	4.5	40	0.51	54	Jun-17	4.5	2.5	-1.66
21	Aug-01	4.5	20	-0.65	55	Nov-17	4.5	7	-1.40
22	Nov-01	4.5	60	1.66	56	Jun-18	4.5	5	-1.52
23	Mar-02	4.5	70	2.24	57	Nov-18	4.5	5	-1.52
24	May-02	4.5	20	-0.65	58	May-19	4.5	7	-1.40
25	Sep-02	4.5	84	3.05	59	Nov-19	4.5	8	-1.35
26	Jun-03	4.5	2.5	-1.66	60	Jun-20	4.5	2.5	-1.66
27	Dec-03	4.5	35	0.22	61	Nov-20	4.5	2.5	-1.66
28	Feb-04	4.5	16	-0.88	62	Jun-21	4.5	2.5	-1.66
29	Jun-04	4.5	2.5	-1.66	63	Nov-21	4.5	5	-1.52
30	Jun-05	4.5	20	-0.65	64	Jun-22	4.5	2.5	-1.66
31	Dec-05	4.5	50	1.09	65	Nov-22	4.5	2.5	-1.66
32	Jun-06	4.5	8	-1.35	66	Jun-23	4.5	6	-1.46
33	Nov-06	4.5	11	-1.17	67	Nov-23	4.5	5	-1.52
34	Jun-07	4.5	16	-0.88					
35	Nov-07	4.5	14	-1.00					
36	Jun-08	4.5	9	-1.29					
37	Nov-08	4.5	15	-0.94					
38	Jun-09	4.5	17	-0.83					
39	Nov-09	4.5	17	-0.83					
40	Jun-10	4.5	20	-0.65					
41	Nov-10	4.5	17	-0.83					
42	Jun-11	4.5	16	-0.88					

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

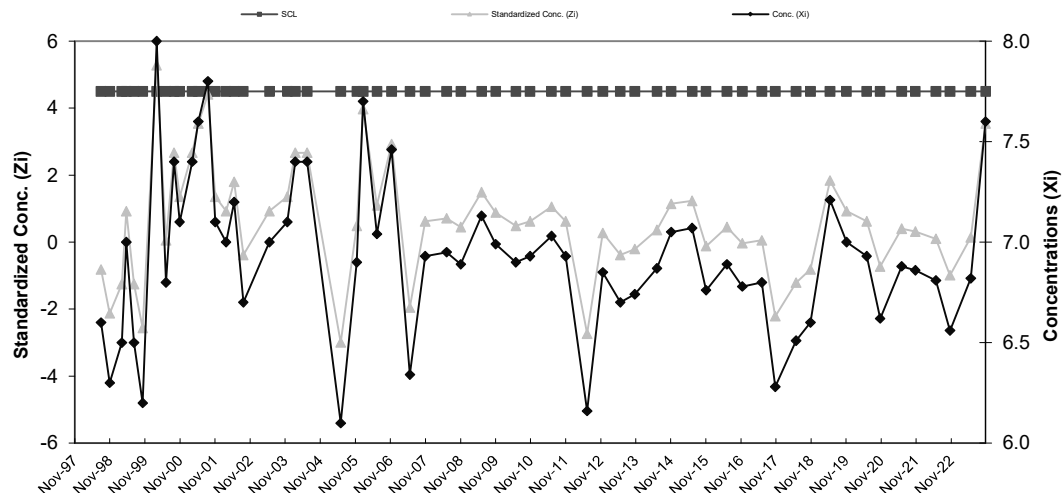


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault B - pH

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-98	4.5	6.60	-0.82	44	Nov-11	4.5	6.93	0.62
10	Nov-98	4.5	6.30	-2.12	45	Jun-12	4.5	6.16	-2.73
11	Mar-99	4.5	6.50	-1.25	46	Dec-12	4.5	6.85	0.27
12	May-99	4.5	7.00	0.93	47	Jun-13	4.5	6.7	-0.38
13	Jul-99	4.5	6.50	-1.25	48	Nov-13	4.5	6.74	-0.21
14	Oct-99	4.5	6.20	-2.56	49	Jun-14	4.5	6.87	0.36
15	Mar-00	4.5	8.00	5.28	50	Nov-14	4.5	7.05	1.14
16	Jun-00	4.5	6.80	0.05	51	Jun-15	4.5	7.07	1.23
17	Sep-00	4.5	7.40	2.67	52	Nov-15	4.5	6.76	-0.12
18	Nov-00	4.5	7.10	1.36	53	Jun-16	4.5	6.89	0.45
19	Mar-01	4.5	7.40	2.67	54	Nov-16	4.5	6.78	-0.03
20	May-01	4.5	7.60	3.54	55	Jun-17	4.5	6.8	0.05
21	Aug-01	4.5	7.80	4.41	56	Nov-17	4.5	6.28	-2.21
22	Nov-01	4.5	7.10	1.36	57	Jun-18	4.5	6.51	-1.21
23	Mar-02	4.5	7.00	0.93	58	Nov-18	4.5	6.6	-0.82
24	May-02	4.5	7.20	1.80	59	May-19	4.5	7.21	1.84
25	Sep-02	4.5	6.70	-0.38	60	Nov-19	4.5	7	0.93
26	Jun-03	4.5	7.00	0.93	61	Jun-20	4.5	6.93	0.62
27	Dec-03	4.5	7.10	1.36	62	Nov-20	4.5	6.62	-0.73
28	Feb-04	4.5	7.40	2.67	63	Jun-21	4.5	6.88	0.40
29	Jun-04	4.5	7.40	2.67	64	Nov-21	4.5	6.86	0.32
30	Jun-05	4.5	6.10	-3.00	65	Jun-22	4.5	6.81	0.10
31	Dec-05	4.5	6.90	0.49	66	Nov-22	4.5	6.56	-0.99
32	Feb-06	4.5	7.70	3.98	67	Jun-23	4.5	6.82	0.14
33	Jun-06	4.5	7.04	1.10	68	Nov-23	4.5	7.6	3.54
34	Nov-06	4.5	7.46	2.93					
35	Jun-07	4.5	6.34	-1.95					
36	Nov-07	4.5	6.93	0.62					
37	Jun-08	4.5	6.95	0.71					
38	Nov-08	4.5	6.89	0.45					
39	Jun-09	4.5	7.13	1.49					
40	Nov-09	4.5	6.99	0.88					
41	Jun-10	4.5	6.90	0.49					
42	Nov-10	4.5	6.93	0.62					
43	Jun-11	4.5	7.03	1.06					

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

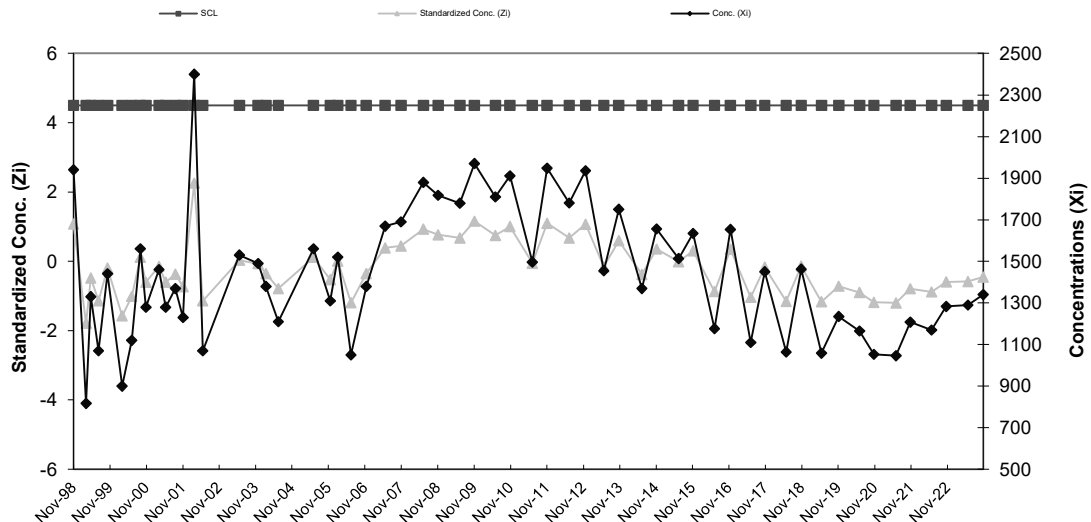


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault B - SpC

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	1940	1.08	42	Nov-11	4.5	1948	1.10
10	Mar-99	4.5	817	-1.79	43	Jun-12	4.5	1781	0.67
11	May-99	4.5	1330	-0.48	44	Dec-12	4.5	1936	1.07
12	Jul-99	4.5	1070	-1.14	45	Jun-13	4.5	1455	-0.16
13	Oct-99	4.5	1440	-0.20	46	Nov-13	4.5	1750	0.60
14	Mar-00	4.5	900	-1.57	47	Jun-14	4.5	1369	-0.38
15	Jun-00	4.5	1120	-1.01	48	Nov-14	4.5	1656	0.36
16	Sep-00	4.5	1560	0.11	49	Jun-15	4.5	1513	-0.01
17	Nov-00	4.5	1280	-0.60	50	Nov-15	4.5	1635	0.30
18	Mar-01	4.5	1460	-0.14	51	Jun-16	4.5	1176	-0.87
19	May-01	4.5	1280	-0.60	52	Nov-16	4.5	1654	0.35
20	Aug-01	4.5	1370	-0.37	53	Jun-17	4.5	1110	-1.04
21	Nov-01	4.5	1230	-0.73	54	Nov-17	4.5	1450	-0.17
22	Mar-02	4.5	2400	2.25	55	Jun-18	4.5	1064	-1.15
23	May-02	4.5	1070	-1.14	56	Nov-18	4.5	1463	-0.14
24	Jun-03	4.5	1530	0.03	57	May-19	4.5	1058	-1.17
25	Dec-03	4.5	1490	-0.07	58	Nov-19	4.5	1235	-0.72
26	Feb-04	4.5	1380	-0.35	59	Jun-20	4.5	1165	-0.90
27	Jun-04	4.5	1210	-0.78	60	Nov-20	4.5	1053	-1.18
28	Jun-05	4.5	1560	0.11	61	Jun-21	4.5	1046	-1.20
29	Dec-05	4.5	1310	-0.53	62	Nov-21	4.5	1208	-0.79
30	Feb-06	4.5	1520	0.01	63	Jun-22	4.5	1170	-0.88
31	Jun-06	4.5	1050	-1.19	64	Nov-22	4.5	1283	-0.60
32	Nov-06	4.5	1380	-0.35	65	Jun-23	4.5	1290	-0.58
33	Jun-07	4.5	1670	0.39	66	Nov-23	4.5	1340	-0.45
34	Nov-07	4.5	1690	0.44					
35	Jun-08	4.5	1880	0.93					
36	Nov-08	4.5	1818	0.77					
37	Jun-09	4.5	1780	0.67					
38	Nov-09	4.5	1970	1.16					
39	Jun-10	4.5	1810	0.75					
40	Nov-10	4.5	1911	1.01					
41	Jun-11	4.5	1496	-0.05					

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

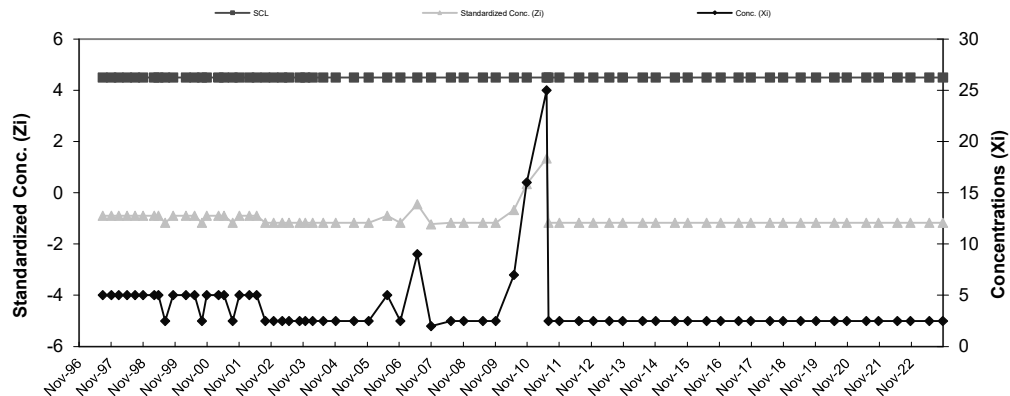


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault C - Chromium

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-97	4.5	5	-0.89	53	Nov-11	4.5	2.5	-1.17
10	Nov-97	4.5	5	-0.89	54	Jun-12	4.5	2.5	-1.17
11	Feb-98	4.5	5	-0.89	55	Dec-12	4.5	2.5	-1.17
12	May-98	4.5	5	-0.89	56	Jun-13	4.5	2.5	-1.17
14	Aug-98	4.5	5	-0.89	57	Nov-13	4.5	2.5	-1.17
15	Nov-98	4.5	5	-0.89	58	Jun-14	4.5	2.5	-1.17
16	Mar-99	4.5	5	-0.89	59	Nov-14	4.5	2.5	-1.17
17	May-99	4.5	5	-0.89	60	Jun-15	4.5	2.5	-1.17
18	Jul-99	4.5	2.5	-1.17	61	Nov-15	4.5	2.5	-1.17
19	Oct-99	4.5	5	-0.89	62	Jun-16	4.5	2.5	-1.17
20	Mar-00	4.5	5	-0.89	63	Nov-16	4.5	2.5	-1.17
21	Jun-00	4.5	5	-0.89	64	Jun-17	4.5	2.5	-1.17
22	Sep-00	4.5	2.5	-1.17	65	Nov-17	4.5	2.5	-1.17
23	Nov-00	4.5	5	-0.89	66	Jun-18	4.5	2.5	-1.17
24	Mar-01	4.5	5	-0.89	67	Nov-18	4.5	2.5	-1.17
25	May-01	4.5	5	-0.89	68	May-19	4.5	2.5	-1.17
26	Aug-01	4.5	2.5	-1.17	69	Nov-19	4.5	2.5	-1.17
27	Nov-01	4.5	5	-0.89	70	Jun-20	4.5	2.5	-1.17
28	Mar-02	4.5	5	-0.89	71	Nov-20	4.5	2.5	-1.17
29	May-02	4.5	5	-0.89	72	Jun-21	4.5	2.5	-1.17
30	Sep-02	4.5	2.5	-1.17	73	Nov-21	4.5	2.5	-1.17
31	Dec-02	4.5	2.5	-1.17	74	Jun-22	4.5	2.5	-1.17
32	Mar-03	4.5	2.5	-1.17	75	Nov-22	4.5	2.5	-1.17
33	Jun-03	4.5	2.5	-1.17	76	Jun-23	4.5	2.5	-1.17
34	Oct-03	4.5	2.5	-1.17	77	Nov-23	4.5	2.5	-1.17
35	Dec-03	4.5	2.5	-1.17					
36	Feb-04	4.5	2.5	-1.17					
37	Jun-04	4.5	2.5	-1.17					
38	Nov-04	4.5	2.5	-1.17					
39	Jun-05	4.5	2.5	-1.17					
40	Dec-05	4.5	2.5	-1.17					
41	Jun-06	4.5	5	-0.89					
42	Nov-06	4.5	2.5	-1.17					
43	Jun-07	4.5	9	-0.45					
44	Nov-07	4.5	2	-1.23					
45	Jun-08	4.5	2.5	-1.17					
46	Nov-08	4.5	2.5	-1.17					
47	Jun-09	4.5	2.5	-1.17					
48	Nov-09	4.5	2.5	-1.17					
49	Jun-10	4.5	7	-0.67					
50	Nov-10	4.5	16	0.33					
51	Jun-11	4.5	25	1.34					
52	Jul-11	4.5	2.5	-1.17					

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

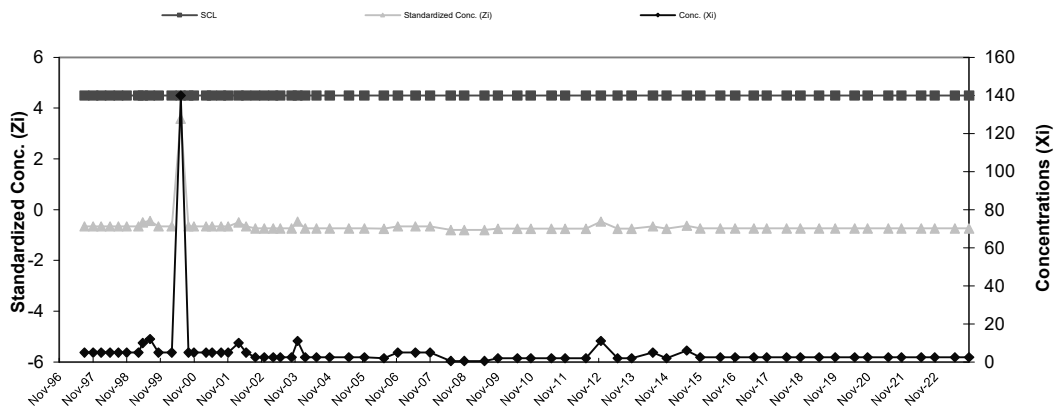


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault C - Copper

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-97	4.5	5	-0.66	52	Nov-11	4.5	2	-0.75
10	Nov-97	4.5	5	-0.66	53	Jun-12	4.5	2	-0.75
11	Feb-98	4.5	5	-0.66	54	Dec-12	4.5	11	-0.47
12	May-98	4.5	5	-0.66	55	Jun-13	4.5	2	-0.75
14	Aug-98	4.5	5	-0.66	56	Nov-13	4.5	2	-0.75
15	Nov-98	4.5	5	-0.66	57	Jun-14	4.5	5	-0.66
16	Mar-99	4.5	5	-0.66	58	Nov-14	4.5	2	-0.75
17	May-99	4.5	10	-0.50	59	Jun-15	4.5	6	-0.63
18	Jul-99	4.5	12	-0.44	60	Nov-15	4.5	2.5	-0.74
19	Oct-99	4.5	5	-0.66	61	Jun-16	4.5	2.5	-0.74
20	Mar-00	4.5	5	-0.66	62	Nov-16	4.5	2.5	-0.74
21	Jun-00	4.5	140	3.59	63	Jun-17	4.5	2.5	-0.74
22	Sep-00	4.5	5	-0.66	64	Nov-17	4.5	2.5	-0.74
23	Nov-00	4.5	5	-0.66	65	Jun-18	4.5	2.5	-0.74
24	Mar-01	4.5	5	-0.66	66	Nov-18	4.5	2.5	-0.74
25	May-01	4.5	5	-0.66	67	May-19	4.5	2.5	-0.74
26	Aug-01	4.5	5	-0.66	68	Nov-19	4.5	2.5	-0.74
27	Nov-01	4.5	5	-0.66	69	Jun-20	4.5	2.5	-0.74
28	Mar-02	4.5	10	-0.50	70	Nov-20	4.5	2.5	-0.74
29	May-02	4.5	5	-0.66	71	Jun-21	4.5	2.5	-0.74
30	Sep-02	4.5	2.5	-0.74	72	Nov-21	4.5	2.5	-0.74
31	Dec-02	4.5	2.5	-0.74	73	Jun-22	4.5	2.5	-0.74
32	Mar-03	4.5	2.5	-0.74	74	Nov-22	4.5	2.5	-0.74
33	Jun-03	4.5	2.5	-0.74	75	Jun-23	4.5	2.5	-0.74
34	Oct-03	4.5	2.5	-0.74	76	Nov-23	4.5	2.5	-0.74
35	Dec-03	4.5	11	-0.47					
36	Feb-04	4.5	2.5	-0.74					
37	Jun-04	4.5	2.5	-0.74					
38	Nov-04	4.5	2.5	-0.74					
39	Jun-05	4.5	2.5	-0.74					
40	Dec-05	4.5	2.5	-0.74					
41	Jun-06	4.5	2	-0.75					
42	Nov-06	4.5	5	-0.66					
43	Jun-07	4.5	5	-0.66					
44	Nov-07	4.5	5	-0.66					
45	Jun-08	4.5	0.5	-0.80					
46	Nov-08	4.5	0.5	-0.80					
47	Jun-09	4.5	0.5	-0.80					
48	Nov-09	4.5	2	-0.75					
49	Jun-10	4.5	2	-0.75					
50	Nov-10	4.5	2	-0.75					
51	Jun-11	4.5	2	-0.75					

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

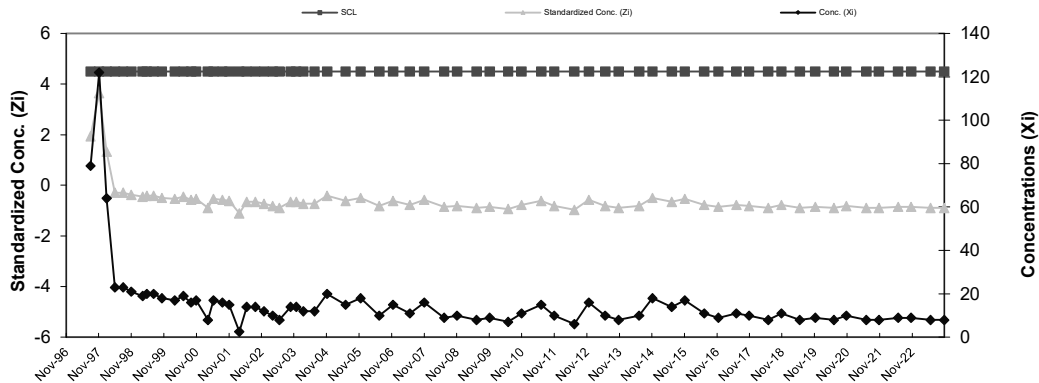


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault C - Nickel

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-97	4.5	79	1.94	52	Nov-11	4.5	10	-0.81
10	Nov-97	4.5	122	3.65	53	Jun-12	4.5	6	-0.97
11	Feb-98	4.5	64	1.34	54	Dec-12	4.5	16	-0.57
12	May-98	4.5	23	-0.29	55	Jun-13	4.5	10	-0.81
14	Aug-98	4.5	23	-0.29	56	Nov-13	4.5	8	-0.89
15	Nov-98	4.5	21	-0.37	57	Jun-14	4.5	10	-0.81
16	Mar-99	4.5	19	-0.45	58	Nov-14	4.5	18	-0.49
17	May-99	4.5	20	-0.41	59	Jun-15	4.5	14	-0.65
18	Jul-99	4.5	20	-0.41	60	Nov-15	4.5	17	-0.53
19	Oct-99	4.5	18	-0.49	61	Jun-16	4.5	11	-0.77
20	Mar-00	4.5	17	-0.53	62	Nov-16	4.5	9	-0.85
21	Jun-00	4.5	19	-0.45	63	Jun-17	4.5	11	-0.77
22	Sep-00	4.5	16	-0.57	64	Nov-17	4.5	10	-0.81
23	Nov-00	4.5	17	-0.53	65	Jun-18	4.5	8	-0.89
24	Mar-01	4.5	8	-0.89	66	Nov-18	4.5	11	-0.77
25	May-01	4.5	17	-0.53	67	May-19	4.5	8	-0.89
26	Aug-01	4.5	16	-0.57	68	Nov-19	4.5	9	-0.85
27	Nov-01	4.5	15	-0.61	69	Jun-20	4.5	8	-0.89
28	Mar-02	4.5	2.5	-1.11	70	Nov-20	4.5	10	-0.81
29	May-02	4.5	14	-0.65	71	Jun-21	4.5	8	-0.89
30	Sep-02	4.5	14	-0.65	72	Nov-21	4.5	8	-0.89
31	Dec-02	4.5	12	-0.73	73	Jun-22	4.5	9	-0.85
32	Mar-03	4.5	10	-0.81	74	Nov-22	4.5	9	-0.85
33	Jun-03	4.5	8	-0.89	75	Jun-23	4.5	8	-0.89
34	Oct-03	4.5	14	-0.65	76	Nov-23	4.5	8	-0.89
35	Dec-03	4.5	14	-0.65					
36	Feb-04	4.5	12	-0.73					
37	Jun-04	4.5	12	-0.73					
38	Nov-04	4.5	20	-0.41					
39	Jun-05	4.5	15	-0.61					
40	Dec-05	4.5	18	-0.49					
41	Jun-06	4.5	10	-0.81					
42	Nov-06	4.5	15	-0.61					
43	Jun-07	4.5	11	-0.77					
44	Nov-07	4.5	16	-0.57					
45	Jun-08	4.5	9	-0.85					
46	Nov-08	4.5	10	-0.81					
47	Jun-09	4.5	8	-0.89					
48	Nov-09	4.5	9	-0.85					
49	Jun-10	4.5	7	-0.93					
50	Nov-10	4.5	11	-0.77					
51	Jun-11	4.5	15	-0.61					

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

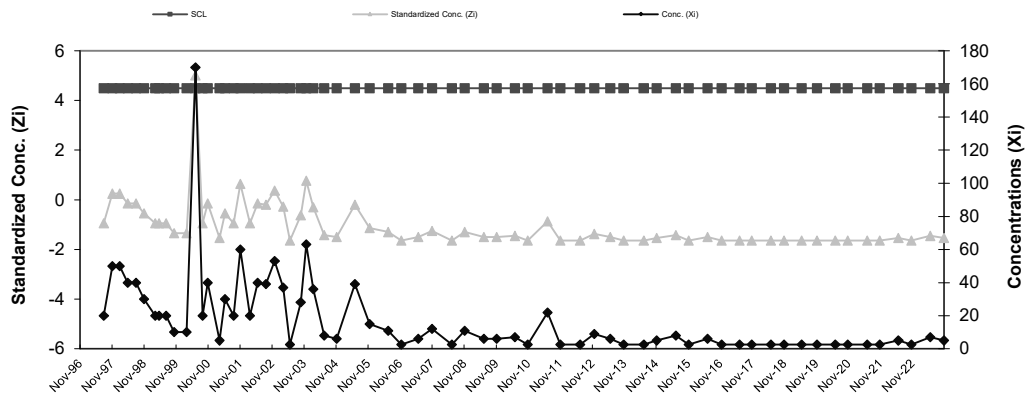


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault C - Zinc

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-97	4.5	20	-0.94	52	Nov-11	4.5	2.5	-1.63
10	Nov-97	4.5	50	0.25	53	Jun-12	4.5	2.5	-1.63
11	Feb-98	4.5	50	0.25	54	Dec-12	4.5	9	-1.38
12	May-98	4.5	40	-0.15	55	Jun-13	4.5	6	-1.50
14	Aug-98	4.5	40	-0.15	56	Nov-13	4.5	2.5	-1.63
15	Nov-98	4.5	30	-0.54	57	Jun-14	4.5	2.5	-1.63
16	Mar-99	4.5	20	-0.94	58	Nov-14	4.5	5	-1.54
17	May-99	4.5	20	-0.94	59	Jun-15	4.5	8	-1.42
18	Jul-99	4.5	20	-0.94	60	Nov-15	4.5	2.5	-1.63
19	Oct-99	4.5	10	-1.34	61	Jun-16	4.5	6	-1.50
20	Mar-00	4.5	10	-1.34	62	Nov-16	4.5	2.5	-1.63
21	Jun-00	4.5	170	5.00	63	Jun-17	4.5	2.5	-1.63
22	Sep-00	4.5	20	-0.94	64	Nov-17	4.5	2.5	-1.63
23	Nov-00	4.5	40	-0.15	65	Jun-18	4.5	2.5	-1.63
24	Mar-01	4.5	5	-1.54	66	Nov-18	4.5	2.5	-1.63
25	May-01	4.5	30	-0.54	67	May-19	4.5	2.5	-1.63
26	Aug-01	4.5	20	-0.94	68	Nov-19	4.5	2.5	-1.63
27	Nov-01	4.5	60	0.64	69	Jun-20	4.5	2.5	-1.63
28	Mar-02	4.5	20	-0.94	70	Nov-20	4.5	2.5	-1.63
29	May-02	4.5	40	-0.15	71	Jun-21	4.5	2.5	-1.63
30	Sep-02	4.5	39	-0.19	72	Nov-21	4.5	2.5	-1.63
31	Dec-02	4.5	53	0.37	73	Jun-22	4.5	5	-1.54
32	Mar-03	4.5	37	-0.27	74	Nov-22	4.5	2.5	-1.63
33	Jun-03	4.5	2.5	-1.63	75	Jun-23	4.5	7	-1.46
34	Oct-03	4.5	28	-0.62	76	Nov-23	4.5	5	-1.54
35	Dec-03	4.5	63	0.76					
36	Feb-04	4.5	36	-0.31					
37	Jun-04	4.5	8	-1.42					
38	Nov-04	4.5	6	-1.50					
39	Jun-05	4.5	39	-0.19					
40	Dec-05	4.5	15	-1.14					
41	Jun-06	4.5	11	-1.30					
42	Nov-06	4.5	2.5	-1.63					
43	Jun-07	4.5	6	-1.50					
44	Nov-07	4.5	12	-1.26					
45	Jun-08	4.5	2.5	-1.63					
46	Nov-08	4.5	11	-1.30					
47	Jun-09	4.5	6	-1.50					
48	Nov-09	4.5	6	-1.50					
49	Jun-10	4.5	7	-1.46					
50	Nov-10	4.5	2.5	-1.63					
51	Jun-11	4.5	22	-0.86					

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

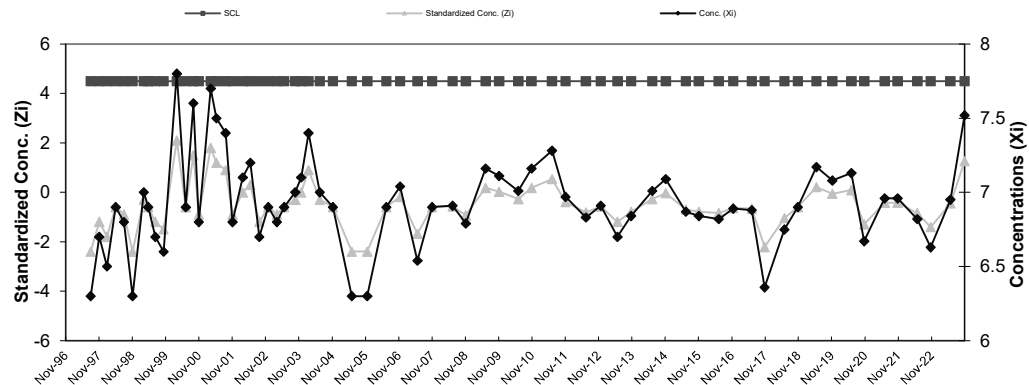


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault C - pH

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-97	4.5	6.3	-2.40	52	Nov-11	4.5	7.0	-0.39
10	Nov-97	4.5	6.7	-1.20	53	Jun-12	4.5	6.83	-0.81
11	Feb-98	4.5	6.5	-1.80	54	Dec-12	4.5	6.91	-0.57
12	May-98	4.5	6.9	-0.60	55	Jun-13	4.5	6.7	-1.20
14	Aug-98	4.5	6.8	-0.90	56	Nov-13	4.5	6.84	-0.78
15	Nov-98	4.5	6.3	-2.40	57	Jun-14	4.5	7.01	-0.27
16	Mar-99	4.5	7	-0.30	58	Nov-14	4.5	7.09	-0.03
17	May-99	4.5	6.9	-0.60	59	Jun-15	4.5	6.87	-0.69
18	Jul-99	4.5	6.7	-1.20	60	Nov-15	4.5	6.84	-0.78
19	Oct-99	4.5	6.6	-1.50	61	Jun-16	4.5	6.82	-0.84
20	Mar-00	4.5	7.8	2.10	62	Nov-16	4.5	6.89	-0.63
21	Jun-00	4.5	6.9	-0.60	63	Jun-17	4.5	6.88	-0.66
22	Sep-00	4.5	7.6	1.50	64	Nov-17	4.5	6.36	-2.22
23	Nov-00	4.5	6.8	-0.90	65	Jun-18	4.5	6.75	-1.05
24	Mar-01	4.5	7.7	1.80	66	Nov-18	4.5	6.9	-0.60
25	May-01	4.5	7.5	1.20	67	May-19	4.5	7.17	0.21
26	Aug-01	4.5	7.4	0.90	68	Nov-19	4.5	7.08	-0.06
27	Nov-01	4.5	6.8	-0.90	69	Jun-20	4.5	7.13	0.09
28	Mar-02	4.5	7.1	0.00	70	Nov-20	4.5	6.67	-1.29
29	May-02	4.5	7.2	0.30	71	Jun-21	4.5	6.96	-0.42
30	Sep-02	4.5	6.7	-1.20	72	Nov-21	4.5	6.96	-0.42
31	Dec-02	4.5	6.9	-0.60	73	Jun-22	4.5	6.82	-0.84
32	Mar-03	4.5	6.8	-0.90	74	Nov-22	4.5	6.63	-1.41
33	Jun-03	4.5	6.9	-0.60	75	Jun-23	4.5	6.95	-0.45
34	Oct-03	4.5	7	-0.30	76	Nov-23	4.5	7.52	1.26
35	Dec-03	4.5	7.1	0.00					
36	Feb-04	4.5	7.4	0.90					
37	Jun-04	4.5	7	-0.30					
38	Nov-04	4.5	6.9	-0.60					
39	Jun-05	4.5	6.3	-2.40					
40	Dec-05	4.5	6.3	-2.40					
41	Jun-06	4.5	6.9	-0.60					
42	Nov-06	4.5	7.0	-0.18					
43	Jun-07	4.5	6.5	-1.68					
44	Nov-07	4.5	6.9	-0.60					
45	Jun-08	4.5	6.9	-0.57					
46	Nov-08	4.5	6.8	-0.93					
47	Jun-09	4.5	7.2	0.18					
48	Nov-09	4.5	7.1	0.03					
49	Jun-10	4.5	7.0	-0.27					
50	Nov-10	4.5	7.2	0.18					
51	Jun-11	4.5	7.3	0.54					

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

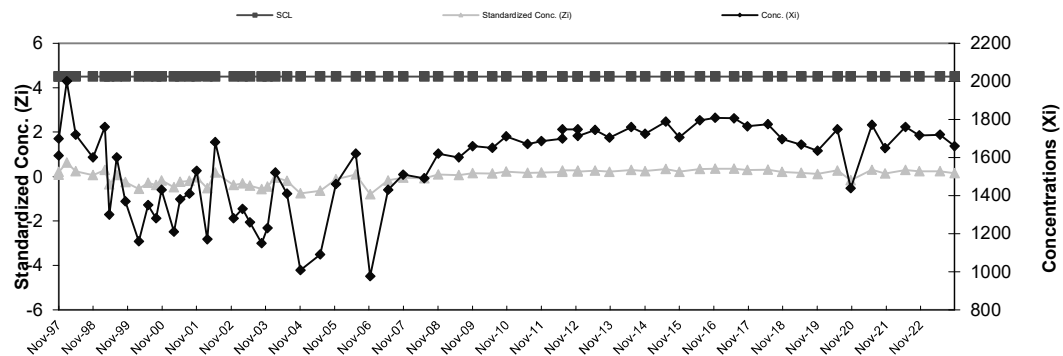


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault C - SpC

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-97	4.5	1610	0.08	52	Nov-11	4.5	1699	0.21
10	Nov-97	4.5	2000	0.63	53	Jun-12	4.5	1748	0.27
11	Feb-98	4.5	1720	0.24	54	Dec-12	4.5	1713	0.23
12	May-98	4.5	1600	0.07	55	Jun-13	4.5	1744	0.27
14	Nov-98	4.5	1760	0.29	56	Nov-13	4.5	1703	0.21
15	Mar-99	4.5	1300	-0.35	57	Jun-14	4.5	1759	0.29
16	May-99	4.5	1600	0.07	58	Nov-14	4.5	1724	0.24
17	Jul-99	4.5	1370	-0.25	59	Jun-15	4.5	1788	0.33
18	Oct-99	4.5	1160	-0.55	60	Nov-15	4.5	1706	0.22
19	Mar-00	4.5	1350	-0.28	61	Jun-16	4.5	1795	0.34
20	Jun-00	4.5	1280	-0.38	62	Nov-16	4.5	1808	0.36
21	Sep-00	4.5	1430	-0.17	63	Jun-17	4.5	1805	0.35
22	Nov-00	4.5	1210	-0.48	64	Nov-17	4.5	1764	0.30
23	Mar-01	4.5	1380	-0.24	65	Jun-18	4.5	1774	0.31
24	May-01	4.5	1410	-0.20	66	Nov-18	4.5	1696	0.20
25	Aug-01	4.5	1530	-0.03	67	May-19	4.5	1668	0.16
26	Nov-01	4.5	1170	-0.53	68	Nov-19	4.5	1635	0.12
27	Mar-02	4.5	1680	0.18	69	Jun-20	4.5	1747	0.27
28	May-02	4.5	1280	-0.38	70	Nov-20	4.5	1438	-0.16
29	Dec-02	4.5	1330	-0.31	71	Jun-21	4.5	1771	0.31
30	Mar-03	4.5	1260	-0.41	72	Nov-21	4.5	1649	0.14
31	Jun-03	4.5	1150	-0.56	73	Jun-22	4.5	1760	0.29
32	Oct-03	4.5	1230	-0.45	74	Nov-22	4.5	1716	0.23
33	Dec-03	4.5	1520	-0.04	75	Jun-23	4.5	1720	0.24
34	Feb-04	4.5	1410	-0.20	76	Nov-23	4.5	1660	0.15
35	Jun-04	4.5	1008	-0.76					
36	Nov-04	4.5	1090	-0.64					
37	Jun-05	4.5	1460	-0.13					
38	Dec-05	4.5	1620	0.10					
39	Jun-06	4.5	977	-0.80					
40	Nov-06	4.5	1430	-0.17					
41	Jun-07	4.5	1510	-0.06					
42	Nov-07	4.5	1490	-0.09					
43	Jun-08	4.5	1620	0.10					
44	Nov-08	4.5	1600	0.07					
45	Jun-09	4.5	1660	0.15					
46	Nov-09	4.5	1650	0.14					
47	Jun-10	4.5	1710	0.22					
50	Nov-10	4.5	1670	0.17					
51	Jun-11	4.5	1686	0.19					
52	Nov-11	4.5	1699	0.21					
53	Jun-12	4.5	1748	0.27					
54	Dec-12	4.5	1713	0.23					

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

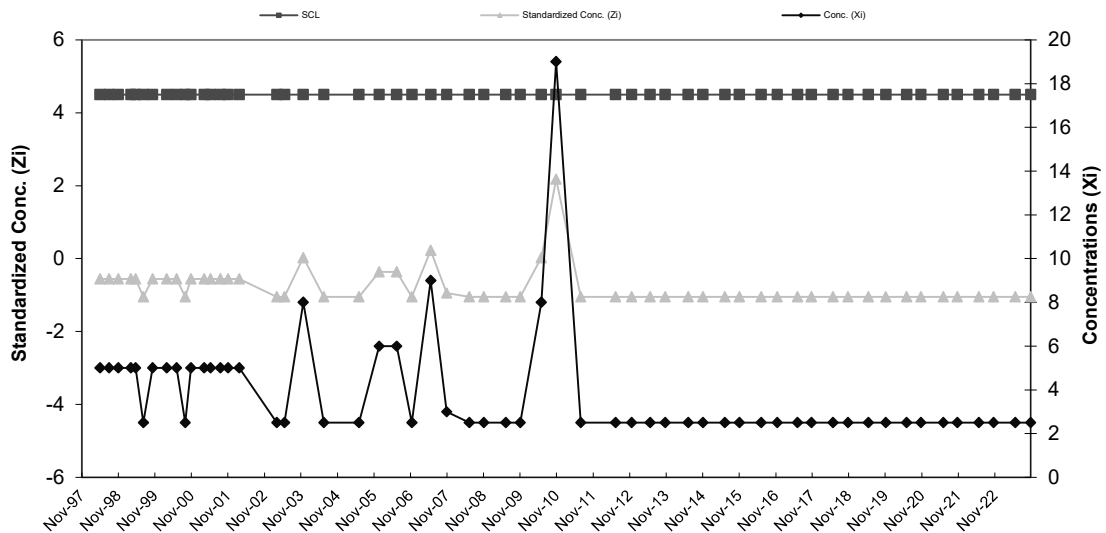


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault D - Chromium**

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.56	41	Jul-11	4.5	2.5	-1.05
10	Aug-98	4.5	5	-0.56	42	Jun-12	4.5	2.5	-1.05
11	Nov-98	4.5	5	-0.56	43	Dec-12	4.5	2.5	-1.05
12	Mar-99	4.5	5	-0.56	44	Jun-13	4.5	2.5	-1.05
13	May-99	4.5	5	-0.56	45	Nov-13	4.5	2.5	-1.05
14	Jul-99	4.5	2.5	-1.05	46	Jun-14	4.5	2.5	-1.05
15	Oct-99	4.5	5	-0.56	47	Nov-14	4.5	2.5	-1.05
16	Mar-00	4.5	5	-0.56	48	Jun-15	4.5	2.5	-1.05
17	Jun-00	4.5	5	-0.56	49	Nov-15	4.5	2.5	-1.05
18	Sep-00	4.5	2.5	-1.05	50	Jun-16	4.5	2.5	-1.05
19	Nov-00	4.5	5	-0.56	51	Nov-16	4.5	2.5	-1.05
20	Mar-01	4.5	5	-0.56	52	Jun-17	4.5	2.5	-1.05
21	May-01	4.5	5	-0.56	53	Nov-17	4.5	2.5	-1.05
22	Aug-01	4.5	5	-0.56	54	Jun-18	4.5	2.5	-1.05
23	Nov-01	4.5	5	-0.56	55	Nov-18	4.5	2.5	-1.05
24	Mar-02	4.5	5	-0.56	56	May-19	4.5	2.5	-1.05
25	Mar-03	4.5	2.5	-1.05	57	Nov-19	4.5	2.5	-1.05
26	Jun-03	4.5	2.5	-1.05	58	Jun-20	4.5	2.5	-1.05
27	Dec-03	4.5	8	0.03	59	Nov-20	4.5	2.5	-1.05
28	Jun-04	4.5	2.5	-1.05	60	Jun-21	4.5	2.5	-1.05
29	Jun-05	4.5	2.5	-1.05	61	Nov-21	4.5	2.5	-1.05
30	Jan-06	4.5	6	-0.36	62	Jun-22	4.5	2.5	-1.05
31	Jun-06	4.5	6	-0.36	63	Nov-22	4.5	2.5	-1.05
32	Nov-06	4.5	2.5	-1.05	64	Jun-23	4.5	2.5	-1.05
33	Jun-07	4.5	9	0.22	65	Nov-23	4.5	2.5	-1.05
34	Nov-07	4.5	3	-0.95					
35	Jun-08	4.5	2.5	-1.05					
36	Nov-08	4.5	2.5	-1.05					
37	Jun-09	4.5	2.5	-1.05					
38	Nov-09	4.5	2.5	-1.05					
39	Jun-10	4.5	8	0.03					
40	Nov-10	4.5	19	2.18					

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

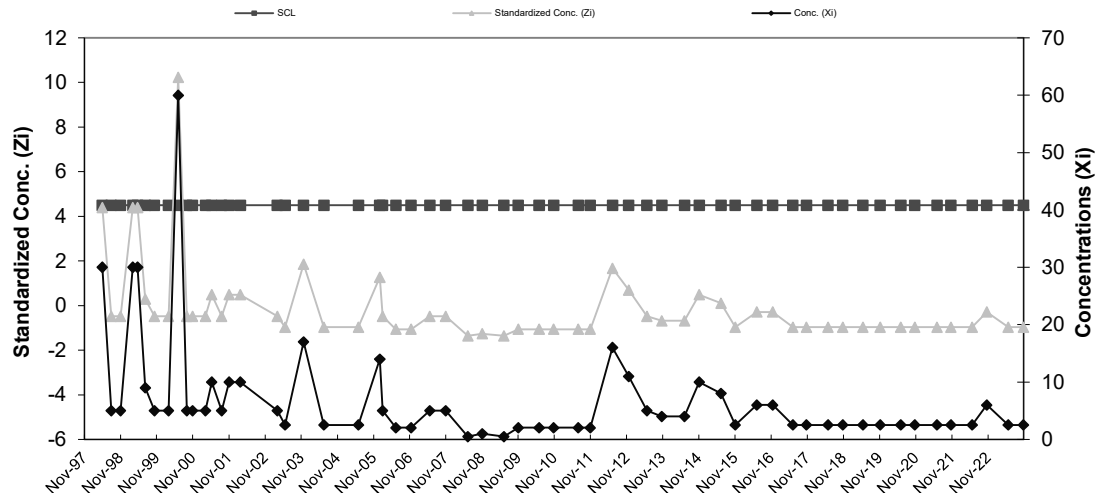


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault D - Copper

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	30	4.39	41	Nov-10	4.5	2	-1.07
10	Aug-98	4.5	5	-0.48	42	Jul-11	4.5	2	-1.07
11	Nov-98	4.5	5	-0.48	43	Nov-11	4.5	2	-1.07
12	Mar-99	4.5	30	4.39	44	Jun-12	4.5	16	1.66
13	May-99	4.5	30	4.39	45	Dec-12	4.5	11	0.69
14	Jul-99	4.5	9	0.30	46	Jun-13	4.5	5	-0.48
15	Oct-99	4.5	5	-0.48	47	Nov-13	4.5	4	-0.68
16	Mar-00	4.5	5	-0.48	48	Jun-14	4.5	4	-0.68
17	Jun-00	4.5	60	10.24	49	Nov-14	4.5	10	0.49
18	Sep-00	4.5	5	-0.48	50	Jun-15	4.5	8	0.10
19	Nov-00	4.5	5	-0.48	51	Nov-15	4.5	2.5	-0.97
20	Mar-01	4.5	5	-0.48	52	Jun-16	4.5	6	-0.29
21	May-01	4.5	10	0.49	53	Nov-16	4.5	6	-0.29
22	Aug-01	4.5	5	-0.48	54	Jun-17	4.5	2.5	-0.97
23	Nov-01	4.5	10	0.49	55	Nov-17	4.5	2.5	-0.97
24	Mar-02	4.5	10	0.49	56	Jun-18	4.5	2.5	-0.97
25	Mar-03	4.5	5	-0.48	57	Nov-18	4.5	2.5	-0.97
26	Jun-03	4.5	2.5	-0.97	58	May-19	4.5	2.5	-0.97
27	Dec-03	4.5	17	1.86	59	Nov-19	4.5	2.5	-0.97
28	Jun-04	4.5	2.5	-0.97	60	Jun-20	4.5	2.5	-0.97
29	Jun-05	4.5	2.5	-0.97	61	Nov-20	4.5	2.5	-0.97
30	Jan-06	4.5	14	1.27	62	Jun-21	4.5	2.5	-0.97
31	Feb-06	4.5	5	-0.48	63	Nov-21	4.5	2.5	-0.97
32	Jun-06	4.5	2	-1.07	64	Jun-22	4.5	2.5	-0.97
33	Nov-06	4.5	2	-1.07	65	Nov-22	4.5	6	-0.29
34	Jun-07	4.5	5	-0.48	66	Jun-23	4.5	2.5	-0.97
35	Nov-07	4.5	5	-0.48	67	Nov-23	4.5	2.5	-0.97
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

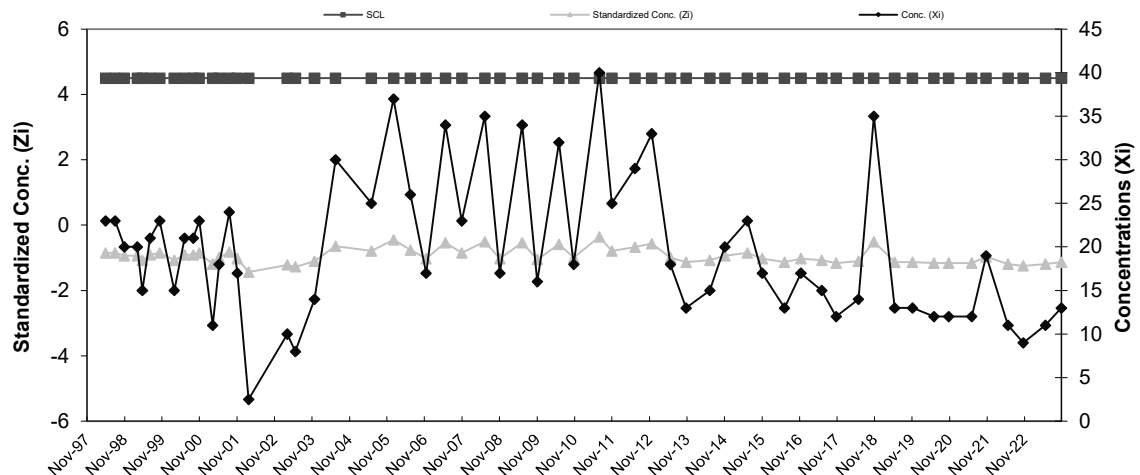


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault D - Nickel**

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	65	Jun-23	4.5	11	-1.19
34	Nov-07	4.5	23	-0.85	66	Nov-23	4.5	13	-1.13
35	Jun-08	4.5	35	-0.50					
36	Nov-08	4.5	17	-1.02					
37	Jun-09	4.5	34	-0.53					
38	Nov-09	4.5	16	-1.05					
39	Jun-10	4.5	32	-0.59					
40	Nov-10	4.5	18	-0.99					

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

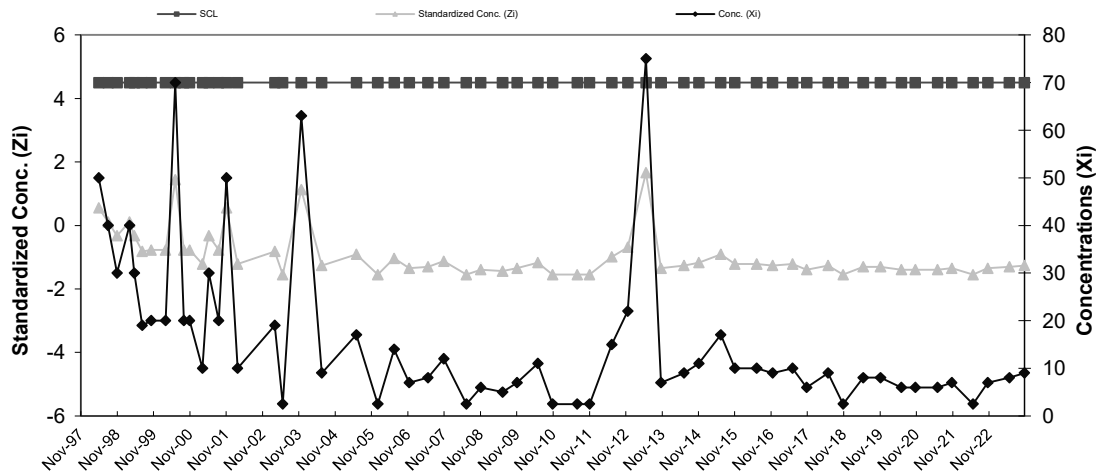


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault D - Zinc

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	50	0.55	42	Nov-11	4.5	2.5	-1.55
10	Aug-98	4.5	40	0.11	43	Jun-12	4.5	15	-1.00
11	Nov-98	4.5	30	-0.33	44	Dec-12	4.5	22	-0.69
12	Mar-99	4.5	40	0.11	45	Jun-13	4.5	75	1.66
13	May-99	4.5	30	-0.33	46	Nov-13	4.5	7	-1.35
14	Jul-99	4.5	19	-0.82	47	Jun-14	4.5	9	-1.26
15	Oct-99	4.5	20	-0.77	48	Nov-14	4.5	11	-1.17
16	Mar-00	4.5	20	-0.77	49	Jun-15	4.5	17	-0.91
17	Jun-00	4.5	70	1.44	50	Nov-15	4.5	10	-1.22
18	Sep-00	4.5	20	-0.77	51	Jun-16	4.5	10	-1.22
19	Nov-00	4.5	20	-0.77	52	Nov-16	4.5	9	-1.26
20	Mar-01	4.5	10	-1.22	53	Jun-17	4.5	10	-1.22
21	May-01	4.5	30	-0.33	54	Nov-17	4.5	6	-1.39
22	Aug-01	4.5	20	-0.77	55	Jun-18	4.5	9	-1.26
23	Nov-01	4.5	50	0.55	56	Nov-18	4.5	2.5	-1.55
24	Mar-02	4.5	10	-1.22	57	May-19	4.5	8	-1.31
25	Mar-03	4.5	19	-0.82	58	Nov-19	4.5	8	-1.31
26	Jun-03	4.5	2.5	-1.55	59	Jun-20	4.5	6	-1.39
27	Dec-03	4.5	63	1.13	60	Nov-20	4.5	6	-1.39
28	Jun-04	4.5	9	-1.26	61	Jun-21	4.5	6	-1.39
29	Jun-05	4.5	17	-0.91	62	Nov-21	4.5	7	-1.35
30	Jan-06	4.5	2.5	-1.55	63	Jun-22	4.5	2.5	-1.55
31	Jun-06	4.5	14	-1.04	64	Nov-22	4.5	7	-1.35
32	Nov-06	4.5	7	-1.35	65	Jun-23	4.5	8	-1.31
33	Jun-07	4.5	8	-1.31	66	Nov-23	4.5	12	-1.26
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

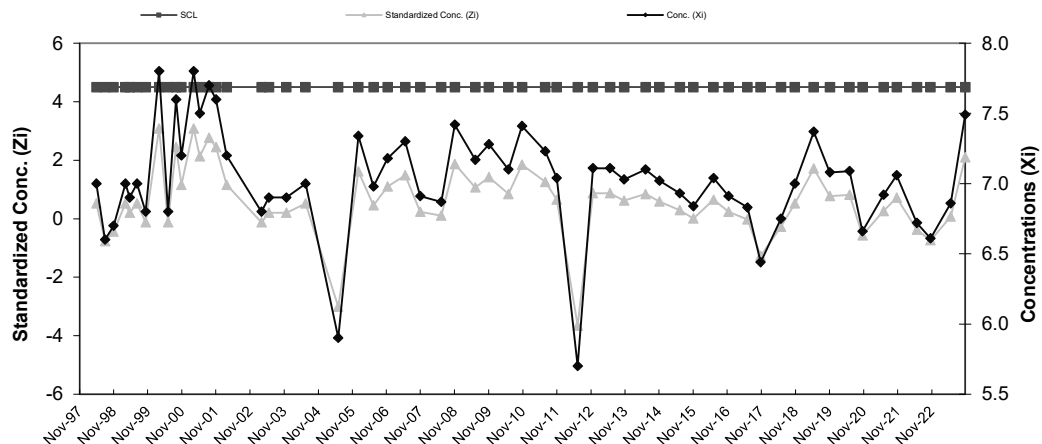


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault D - pH

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	65	Jun-23	4.5	6.86	0.07
33	Jun-07	4.5	7.30	1.49	66	Nov-23	4.5	7.49	2.10
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

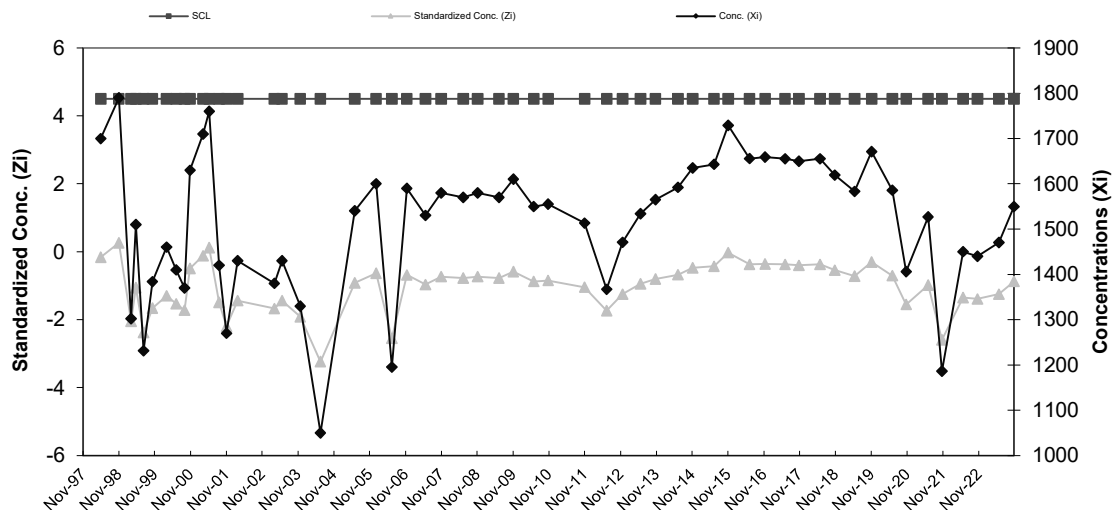


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault D - SpC

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	1700	-0.16	41	Nov-11	4.5	1513	-1.05
11	Nov-98	4.5	1790	0.26	42	Jun-12	4.5	1367	-1.74
12	Mar-99	4.5	1302	-2.05	43	Dec-12	4.5	1471	-1.25
13	May-99	4.5	1510	-1.06	44	Jun-13	4.5	1534	-0.95
14	Jul-99	4.5	1231	-2.38	45	Nov-13	4.5	1565	-0.80
15	Oct-99	4.5	1384	-1.66	46	Jun-14	4.5	1592	-0.67
16	Mar-00	4.5	1460	-1.30	47	Nov-14	4.5	1635	-0.47
17	Jun-00	4.5	1410	-1.54	48	Jun-15	4.5	1643	-0.43
18	Sep-00	4.5	1370	-1.72	49	Nov-15	4.5	1729	-0.03
19	Nov-00	4.5	1630	-0.49	50	Jun-16	4.5	1656	-0.37
20	Mar-01	4.5	1710	-0.12	51	Nov-16	4.5	1659	-0.36
21	May-01	4.5	1760	0.12	52	Jun-17	4.5	1655	-0.38
22	Aug-01	4.5	1420	-1.49	53	Nov-17	4.5	1650	-0.40
23	Nov-01	4.5	1270	-2.20	54	Jun-18	4.5	1655	-0.38
24	Mar-02	4.5	1430	-1.44	55	Nov-18	4.5	1619	-0.55
25	Mar-03	4.5	1380	-1.68	56	May-19	4.5	1583	-0.72
26	Jun-03	4.5	1430	-1.44	57	Nov-19	4.5	1671	-0.30
27	Dec-03	4.5	1330	-1.91	58	Jun-20	4.5	1586	-0.70
28	Jun-04	4.5	1050	-3.24	59	Nov-20	4.5	1406	-1.55
29	Jun-05	4.5	1540	-0.92	60	Jun-21	4.5	1527	-0.98
30	Jan-06	4.5	1600	-0.64	61	Nov-21	4.5	1186	-2.60
31	Jun-06	4.5	1195	-2.55	62	Jun-22	4.5	1450	-1.35
32	Nov-06	4.5	1590	-0.68	63	Nov-22	4.5	1440	-1.39
33	Jun-07	4.5	1530	-0.97	64	Jun-23	4.5	1470	-1.25
34	Nov-07	4.5	1580	-0.73	65	Nov-23	4.5	1550	-0.87
35	Jun-08	4.5	1570	-0.78					
36	Nov-08	4.5	1580	-0.73					
37	Jun-09	4.5	1570	-0.78					
38	Nov-09	4.5	1610	-0.59					
39	Jun-10	4.5	1550	-0.87					
40	Nov-10	4.5	1555	-0.85					

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

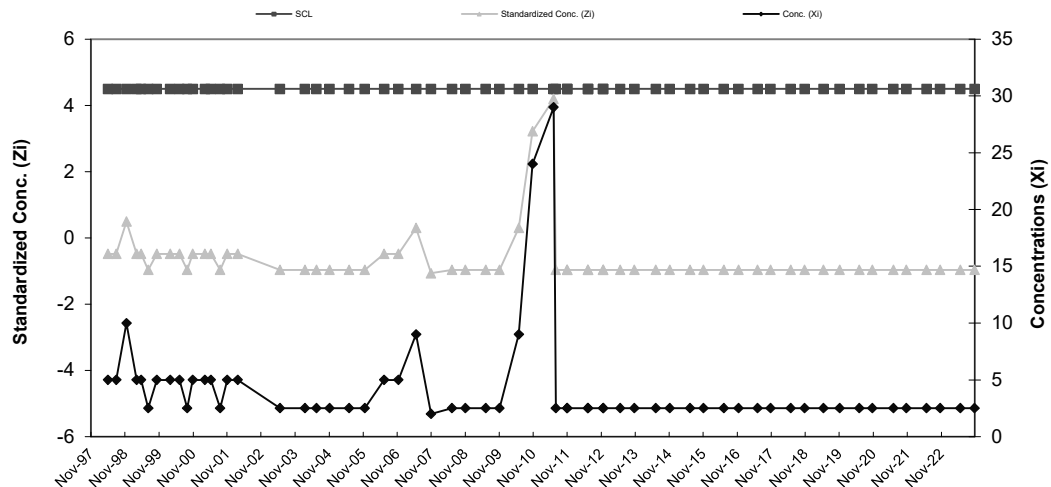


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault E - Chromium

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.48	43	Nov-11	4.5	2.5	-0.97
10	Aug-98	4.5	5	-0.48	44	Jun-12	4.5	2.5	-0.97
11	Nov-98	4.5	10	0.49	45	Dec-12	4.5	2.5	-0.97
12	Mar-99	4.5	5	-0.48	46	Jun-13	4.5	2.5	-0.97
13	May-99	4.5	5	-0.48	47	Nov-13	4.5	2.5	-0.97
14	Jul-99	4.5	2.5	-0.97	48	Jun-14	4.5	2.5	-0.97
15	Oct-99	4.5	5	-0.48	49	Nov-14	4.5	2.5	-0.97
16	Mar-00	4.5	5	-0.48	50	Jun-15	4.5	2.5	-0.97
17	Jun-00	4.5	5	-0.48	51	Nov-15	4.5	2.5	-0.97
18	Sep-00	4.5	2.5	-0.97	52	Jun-16	4.5	2.5	-0.97
19	Nov-00	4.5	5	-0.48	53	Nov-16	4.5	2.5	-0.97
20	Mar-01	4.5	5	-0.48	54	Jun-17	4.5	2.5	-0.97
21	May-01	4.5	5	-0.48	55	Nov-17	4.5	2.5	-0.97
22	Aug-01	4.5	2.5	-0.97	56	Jun-18	4.5	2.5	-0.97
23	Nov-01	4.5	5	-0.48	57	Nov-18	4.5	2.5	-0.97
24	Mar-02	4.5	5	-0.48	58	May-19	4.5	2.5	-0.97
25	Jun-03	4.5	2.5	-0.97	59	Nov-19	4.5	2.5	-0.97
26	Feb-04	4.5	2.5	-0.97	60	Jun-20	4.5	2.5	-0.97
27	Jun-04	4.5	2.5	-0.97	61	Nov-20	4.5	2.5	-0.97
28	Nov-04	4.5	2.5	-0.97	62	Jun-21	4.5	2.5	-0.97
29	Jun-05	4.5	2.5	-0.97	63	Nov-21	4.5	2.5	-0.97
30	Dec-05	4.5	2.5	-0.97	64	Jun-22	4.5	2.5	-0.97
31	Jun-06	4.5	5	-0.48	65	Nov-22	4.5	2.5	-0.97
32	Nov-06	4.5	5	-0.48	66	Jun-23	4.5	2.5	-0.97
33	Jun-07	4.5	9	0.30	67	Nov-23	4.5	2.5	-0.97
34	Nov-07	4.5	2	-1.07					
35	Jun-08	4.5	2.5	-0.97					
36	Nov-08	4.5	2.5	-0.97					
37	Jun-09	4.5	2.5	-0.97					
38	Nov-09	4.5	2.5	-0.97					
39	Jun-10	4.5	9	0.30					
40	Nov-10	4.5	24	3.22					
41	Jun-11	4.5	29	4.19					
42	Jul-11	4.5	2.5	-0.97					
43	Nov-11	4.5	2.5	-0.97					
44	Jun-12	4.5	2.5	-0.97					
45	Dec-12	4.5	2.5	-0.97					

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

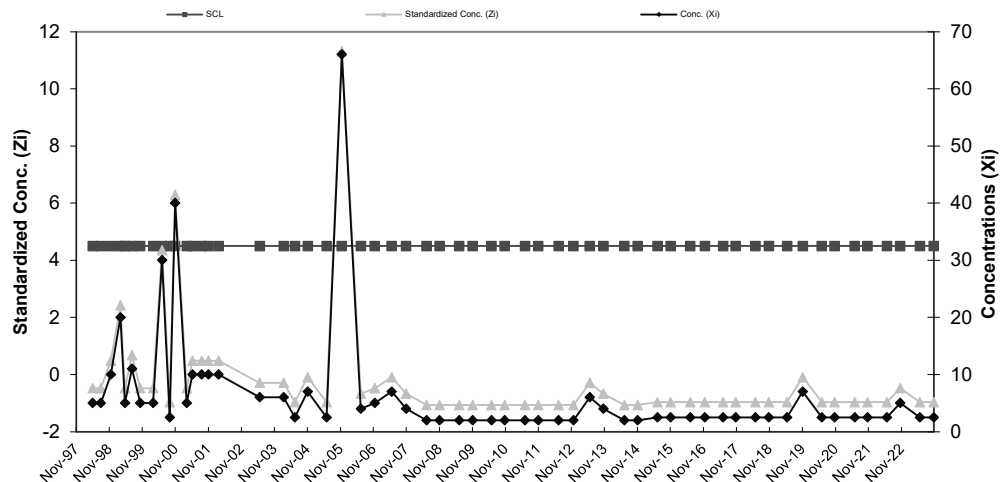


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault E - Copper

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

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

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

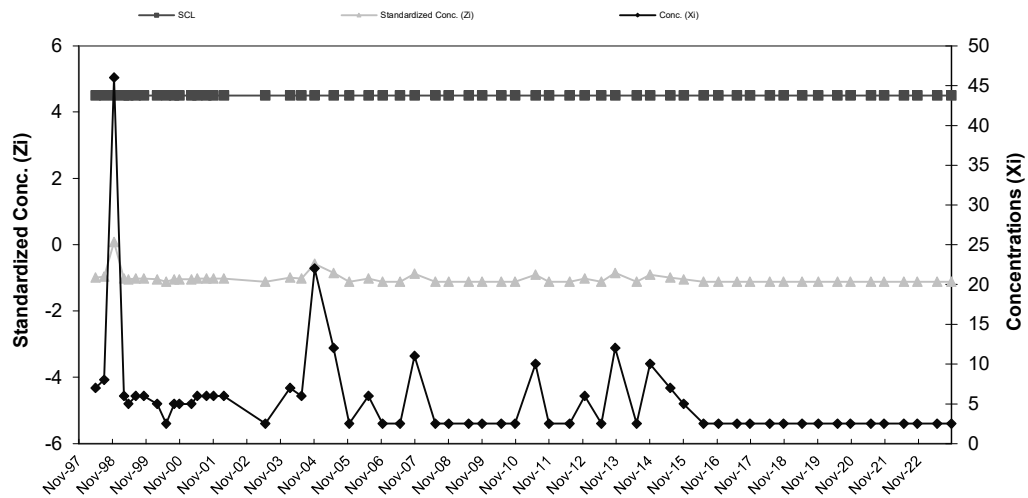


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault E - Nickel

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	7	-0.99	42	Nov-11	4.5	2.5	-1.11
10	Aug-98	4.5	8	-0.96	43	Jun-12	4.5	2.5	-1.11
11	Nov-98	4.5	46	0.08	44	Dec-12	4.5	6	-1.02
12	Mar-99	4.5	6	-1.02	45	Jun-13	4.5	2.5	-1.11
13	May-99	4.5	5	-1.05	46	Nov-13	4.5	12	-0.85
14	Jul-99	4.5	6	-1.02	47	Jun-14	4.5	2.5	-1.11
15	Oct-99	4.5	6	-1.02	48	Nov-14	4.5	10	-0.91
16	Mar-00	4.5	5	-1.05	49	Jun-15	4.5	7	-0.99
17	Jun-00	4.5	2.5	-1.11	50	Nov-15	4.5	5	-1.05
18	Sep-00	4.5	5	-1.05	51	Jun-16	4.5	2.5	-1.11
19	Nov-00	4.5	5	-1.05	52	Nov-16	4.5	2.5	-1.11
20	Mar-01	4.5	5	-1.05	53	Jun-17	4.5	2.5	-1.11
21	May-01	4.5	6	-1.02	54	Nov-17	4.5	2.5	-1.11
22	Aug-01	4.5	6	-1.02	55	Jun-18	4.5	2.5	-1.11
23	Nov-01	4.5	6	-1.02	56	Nov-18	4.5	2.5	-1.11
24	Mar-02	4.5	6	-1.02	57	May-19	4.5	2.5	-1.11
25	Jun-03	4.5	2.5	-1.11	58	Nov-19	4.5	2.5	-1.11
26	Feb-04	4.5	7	-0.99	59	Jun-20	4.5	2.5	-1.11
27	Jun-04	4.5	6	-1.02	60	Nov-20	4.5	2.5	-1.11
28	Nov-04	4.5	22	-0.58	61	Jun-21	4.5	2.5	-1.11
29	Jun-05	4.5	12	-0.85	62	Nov-21	4.5	2.5	-1.11
30	Dec-05	4.5	2.5	-1.11	63	Jun-22	4.5	2.5	-1.11
31	Jun-06	4.5	6	-1.02	64	Nov-22	4.5	2.5	-1.11
32	Nov-06	4.5	2.5	-1.11	65	Jun-23	4.5	2.5	-1.11
33	Jun-07	4.5	2.5	-1.11	66	Nov-23	4.5	2.5	-1.11
34	Nov-07	4.5	11	-0.88					
35	Jun-08	4.5	2.5	-1.11					
36	Nov-08	4.5	2.5	-1.11					
37	Jun-09	4.5	2.5	-1.11					
38	Nov-09	4.5	2.5	-1.11					
39	Jun-10	4.5	2.5	-1.11					
40	Nov-10	4.5	2.5	-1.11					
41	Jun-11	4.5	10	-0.91					

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

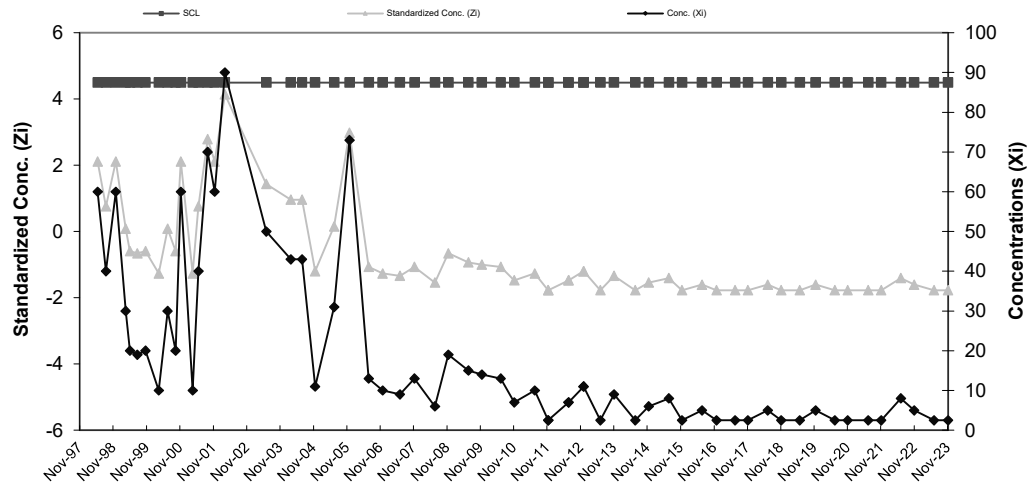


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault E - Zinc

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	60	2.11	42	Nov-11	4.5	2.5	-1.77
10	Aug-98	4.5	40	0.76	43	Jun-12	4.5	7	-1.47
11	Nov-98	4.5	60	2.11	44	Dec-12	4.5	11	-1.20
12	Mar-99	4.5	30	0.08	45	Jun-13	4.5	2.5	-1.77
13	May-99	4.5	20	-0.59	46	Nov-13	4.5	9	-1.34
14	Jul-99	4.5	19	-0.66	47	Jun-14	4.5	2.5	-1.77
15	Oct-99	4.5	20	-0.59	48	Nov-14	4.5	6	-1.54
16	Mar-00	4.5	10	-1.27	49	Jun-15	4.5	8	-1.40
17	Jun-00	4.5	30	0.08	50	Nov-15	4.5	2.5	-1.77
18	Sep-00	4.5	20	-0.59	51	Jun-16	4.5	5	-1.61
19	Nov-00	4.5	60	2.11	52	Nov-16	4.5	2.5	-1.77
20	Mar-01	4.5	10	-1.27	53	Jun-17	4.5	2.5	-1.77
21	May-01	4.5	40	0.76	54	Nov-17	4.5	2.5	-1.77
22	Aug-01	4.5	70	2.79	55	Jun-18	4.5	5	-1.61
23	Nov-01	4.5	60	2.11	56	Nov-18	4.5	2.5	-1.77
24	Mar-02	4.5	90	4.14	57	May-19	4.5	2.5	-1.77
25	Jun-03	4.5	50	1.44	58	Nov-19	4.5	5	-1.61
26	Feb-04	4.5	43	0.96	59	Jun-20	4.5	2.5	-1.77
27	Jun-04	4.5	43	0.96	60	Nov-20	4.5	2.5	-1.77
28	Nov-04	4.5	11	-1.20	61	Jun-21	4.5	2.5	-1.77
29	Jun-05	4.5	31	0.15	62	Nov-21	4.5	2.5	-1.77
30	Dec-05	4.5	73	2.99	63	Jun-22	4.5	8	-1.40
31	Jun-06	4.5	13	-1.06	64	Nov-22	4.5	5	-1.61
32	Nov-06	4.5	10	-1.27	65	Jun-23	4.5	2.5	-1.77
33	Jun-07	4.5	9	-1.34	66	Nov-23	4.5	2.5	-1.77
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

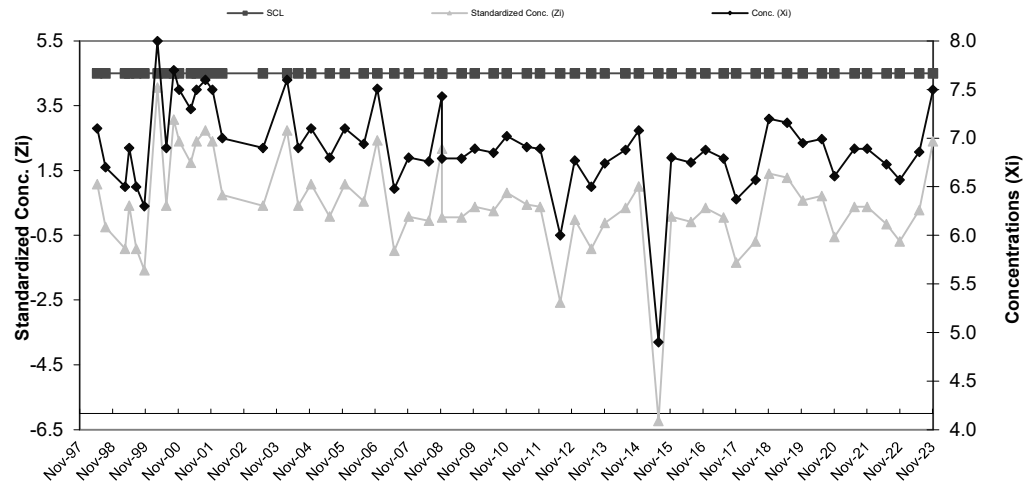


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault E - pH

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	64	Jun-23	4.5	6.86	0.28
33	Nov-07	4.5	6.80	0.08	65	Nov-23	4.5	7.5	2.41
34	Jun-08	4.5	6.76	-0.05					
35	Nov-08	4.5	7.43	2.17					
35	Nov-08	4.5	6.79	0.05					
36	Jun-09	4.5	6.79	0.05					
37	Nov-09	4.5	6.89	0.38					
38	Jun-10	4.5	6.85	0.25					
39	Nov-10	4.5	7.02	0.81					
40	Jun-11	4.5	6.91	0.45					

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

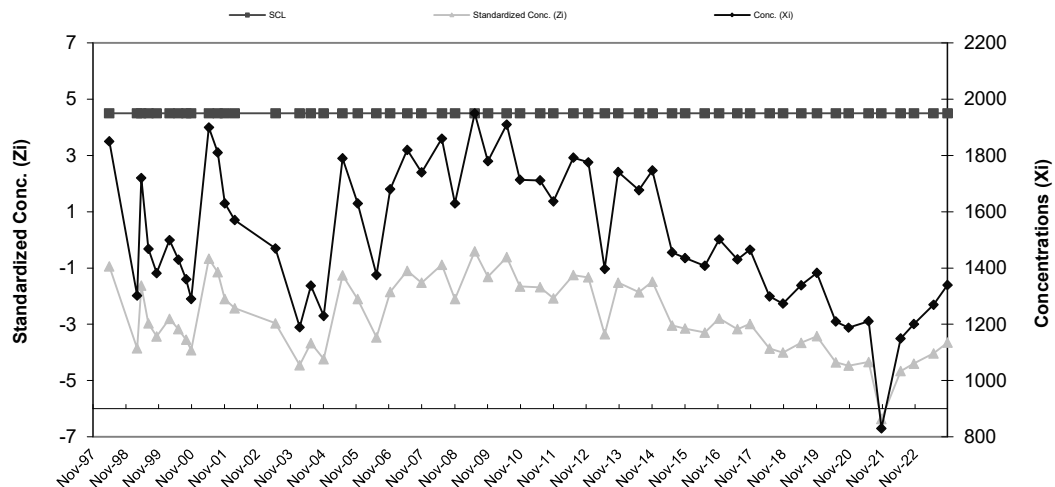


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault E - SpC

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	1850	-0.94	39	Nov-11	4.5	1637	-2.07
10	Mar-99	4.5	1302	-3.86	40	Jun-12	4.5	1792	-1.25
11	May-99	4.5	1720	-1.63	41	Dec-12	4.5	1776	-1.33
12	Jul-99	4.5	1468	-2.97	42	Jun-13	4.5	1397	-3.35
13	Oct-99	4.5	1382	-3.43	43	Nov-13	4.5	1741	-1.52
14	Mar-00	4.5	1500	-2.80	44	Jun-14	4.5	1677	-1.86
15	Jun-00	4.5	1430	-3.17	45	Nov-14	4.5	1747	-1.49
16	Sep-00	4.5	1360	-3.55	46	Jun-15	4.5	1456	-3.04
17	Nov-00	4.5	1290	-3.92	47	Nov-15	4.5	1435	-3.15
18	May-01	4.5	1900	-0.67	48	Jun-16	4.5	1408	-3.29
19	Aug-01	4.5	1810	-1.15	49	Nov-16	4.5	1502	-2.79
20	Nov-01	4.5	1630	-2.11	50	Jun-17	4.5	1431	-3.17
21	Mar-02	4.5	1570	-2.43	51	Nov-17	4.5	1465	-2.99
22	Jun-03	4.5	1470	-2.96	52	Jun-18	4.5	1300	-3.87
23	Feb-04	4.5	1190	-4.45	53	Nov-18	4.5	1274	-4.00
24	Jun-04	4.5	1337	-3.67	54	May-19	4.5	1339	-3.66
25	Nov-04	4.5	1230	-4.24	55	Nov-19	4.5	1383	-3.42
26	Jun-05	4.5	1790	-1.26	56	Jun-20	4.5	1210	-4.35
27	Dec-05	4.5	1630	-2.11	57	Nov-20	4.5	1188	-4.46
28	Jun-06	4.5	1376	-3.46	58	Jun-21	4.5	1211	-4.34
29	Nov-06	4.5	1680	-1.84	59	Nov-21	4.5	831	-6.36
30	Jun-07	4.5	1820	-1.10	60	Jun-22	4.5	1150	-4.66
31	Nov-07	4.5	1740	-1.52	61	Nov-22	4.5	1201	-4.39
32	Jun-08	4.5	1860	-0.89	62	Jun-23	4.5	1270	-4.03
33	Nov-08	4.5	1630	-2.11	63	Nov-23	4.5	1340	-3.65
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

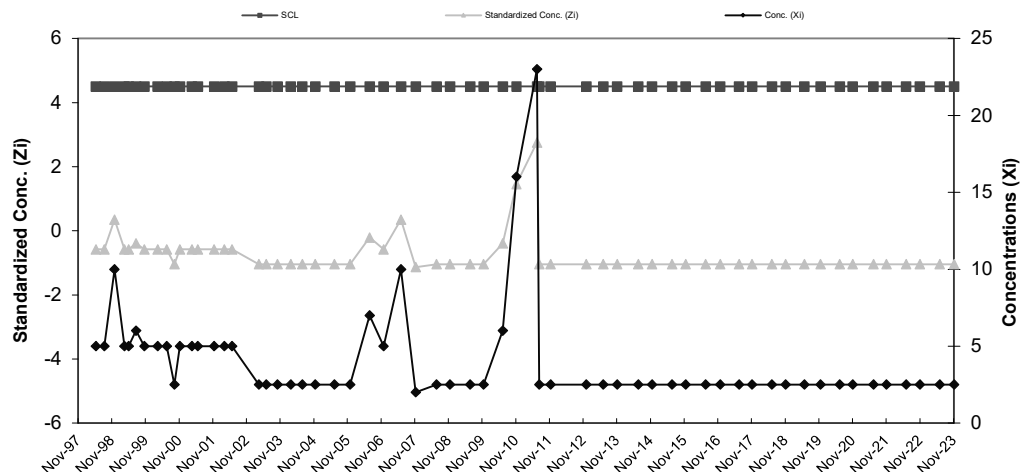


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault F - Chromium

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	67	Jun-23	4.5	2.5	-1.04
33	Jun-06	4.5	7	-0.21	68	Nov-23	4.5	2.5	-1.04
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

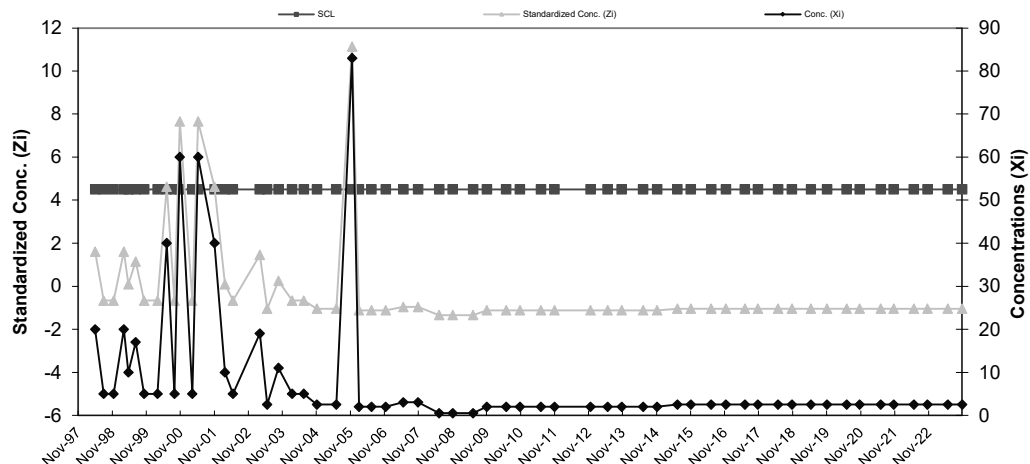


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault F - Copper

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	67	Jun-23	4.5	2.5	-1.04
33	Feb-06	4.5	2	-1.12	68	Nov-23	4.5	2.5	-1.04
34	Jun-06	4.5	2	-1.12					
35	Nov-06	4.5	2	-1.12					
36	Jun-07	4.5	3	-0.97					
37	Nov-07	4.5	3	-0.97					
38	Jun-08	4.5	0.5	-1.34					
39	Nov-08	4.5	0.5	-1.34					
40	Jun-09	4.5	0.5	-1.34					
41	Nov-09	4.5	2	-1.12					
42	Jun-10	4.5	2	-1.12					
43	Nov-10	4.5	2	-1.12					

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

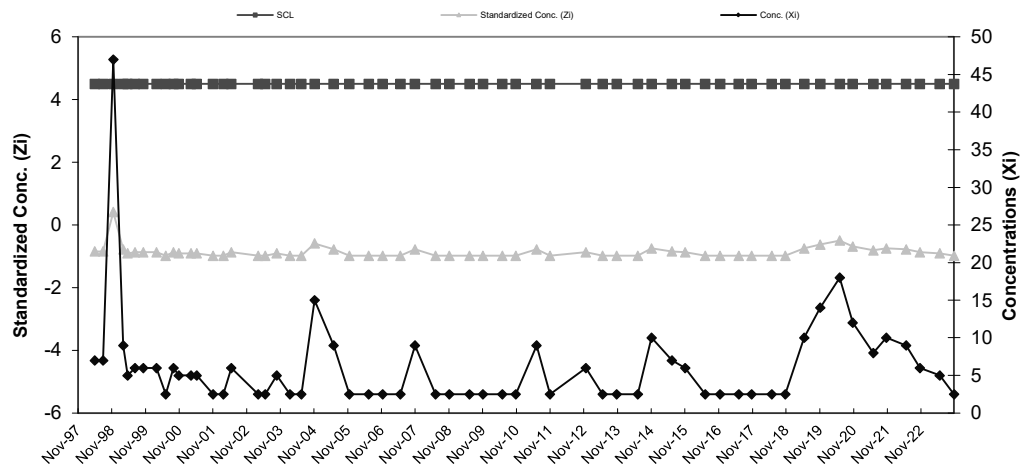


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault F - Nickel

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	7	-0.84	43	Jun-11	4.5	9	-0.78
10	Aug-98	4.5	7	-0.84	44	Nov-11	4.5	2.5	-0.98
11	Nov-98	4.5	47	0.41	45	Dec-12	4.5	6	-0.87
12	Mar-99	4.5	9	-0.78	46	Jun-13	4.5	2.5	-0.98
13	May-99	4.5	5	-0.90	47	Nov-13	4.5	2.5	-0.98
14	Jul-99	4.5	6	-0.87	48	Jun-14	4.5	2.5	-0.98
15	Oct-99	4.5	6	-0.87	49	Nov-14	4.5	10	-0.75
16	Mar-00	4.5	6	-0.87	50	Jun-15	4.5	7	-0.84
17	Jun-00	4.5	2.5	-0.98	51	Nov-15	4.5	6	-0.87
18	Sep-00	4.5	6	-0.87	52	Jun-16	4.5	2.5	-0.98
19	Nov-00	4.5	5	-0.90	53	Nov-16	4.5	2.5	-0.98
20	Mar-01	4.5	5	-0.90	54	Jun-17	4.5	2.5	-0.98
21	May-01	4.5	5	-0.90	55	Nov-17	4.5	2.5	-0.98
22	Nov-01	4.5	2.5	-0.98	56	Jun-18	4.5	2.5	-0.98
23	Mar-02	4.5	2.5	-0.98	57	Nov-18	4.5	2.5	-0.98
24	May-02	4.5	6	-0.87	58	May-19	4.5	10	-0.75
25	Mar-03	4.5	2.5	-0.98	59	Nov-19	4.5	14	-0.62
26	Jun-03	4.5	2.5	-0.98	60	Jun-20	4.5	18	-0.50
27	Oct-03	4.5	5	-0.90	61	Nov-20	4.5	12	-0.68
28	Feb-04	4.5	2.5	-0.98	62	Jun-21	4.5	8	-0.81
29	Jun-04	4.5	2.5	-0.98	63	Nov-21	4.5	10	-0.75
30	Nov-04	4.5	15	-0.59	64	Jun-22	4.5	9	-0.78
31	Jun-05	4.5	9	-0.78	65	Nov-22	4.5	6	-0.87
32	Dec-05	4.5	2.5	-0.98	66	Jun-23	4.5	5	-0.90
33	Jun-06	4.5	2.5	-0.98	67	Nov-23	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

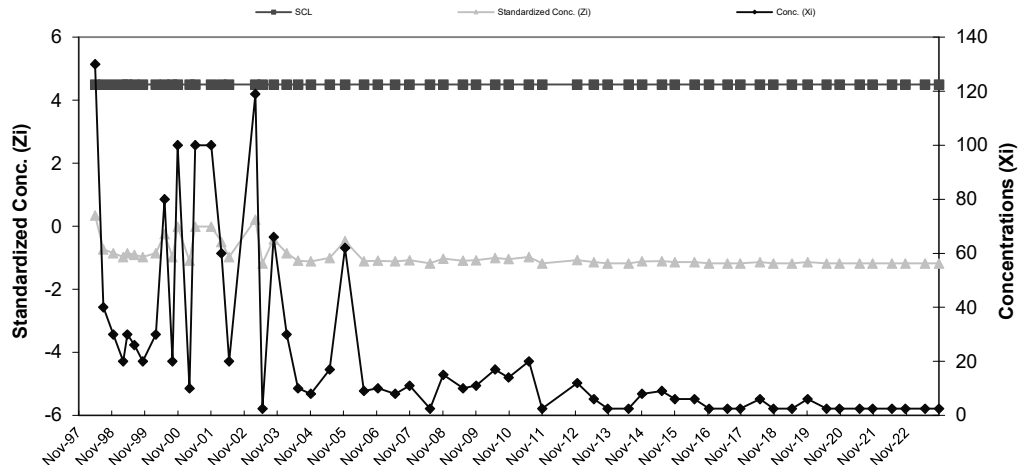


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault F - Zinc

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	130	0.34	43	Jun-11	4.5	20	-0.97
10	Aug-98	4.5	40	-0.73	44	Nov-11	4.5	2.5	-1.18
11	Nov-98	4.5	30	-0.85	45	Dec-12	4.5	12	-1.07
12	Mar-99	4.5	20	-0.97	46	Jun-13	4.5	6	-1.14
13	May-99	4.5	30	-0.85	47	Nov-13	4.5	2.5	-1.18
14	Jul-99	4.5	26	-0.90	48	Jun-14	4.5	2.5	-1.18
15	Oct-99	4.5	20	-0.97	49	Nov-14	4.5	8	-1.12
16	Mar-00	4.5	30	-0.85	50	Jun-15	4.5	9	-1.10
17	Jun-00	4.5	80	-0.25	51	Nov-15	4.5	6	-1.14
18	Sep-00	4.5	20	-0.97	52	Jun-16	4.5	6	-1.14
19	Nov-00	4.5	100	-0.01	53	Nov-16	4.5	2.5	-1.18
20	Mar-01	4.5	10	-1.09	54	Jun-17	4.5	2.5	-1.18
21	May-01	4.5	100	-0.01	55	Nov-17	4.5	2.5	-1.18
22	Nov-01	4.5	100	-0.01	56	Jun-18	4.5	6	-1.14
23	Mar-02	4.5	60	-0.49	57	Nov-18	4.5	2.5	-1.18
24	May-02	4.5	20	-0.97	58	May-19	4.5	2.5	-1.18
25	Mar-03	4.5	119	0.21	59	Nov-19	4.5	6	-1.14
26	Jun-03	4.5	2.5	-1.18	60	Jun-20	4.5	2.5	-1.18
27	Oct-03	4.5	66	-0.42	61	Nov-20	4.5	2.5	-1.18
28	Feb-04	4.5	30	-0.85	62	Jun-21	4.5	2.5	-1.18
29	Jun-04	4.5	10	-1.09	63	Nov-21	4.5	2.5	-1.18
30	Nov-04	4.5	8	-1.12	64	Jun-22	4.5	2.5	-1.18
31	Jun-05	4.5	17	-1.01	65	Nov-22	4.5	2.5	-1.18
32	Dec-05	4.5	62	-0.47	66	Jun-23	4.5	2.5	-1.18
33	Jun-06	4.5	9	-1.10	67	Nov-23	4.5	2.5	-1.18
34	Nov-06	4.5	10	-1.09					
35	Jun-07	4.5	8	-1.12					
36	Nov-07	4.5	11	-1.08					
37	Jun-08	4.5	2.5	-1.18					
38	Nov-08	4.5	15	-1.03					
39	Jun-09	4.5	10	-1.09					
40	Nov-09	4.5	11	-1.08					
41	Jun-10	4.5	17	-1.01					
42	Nov-10	4.5	14	-1.04					

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

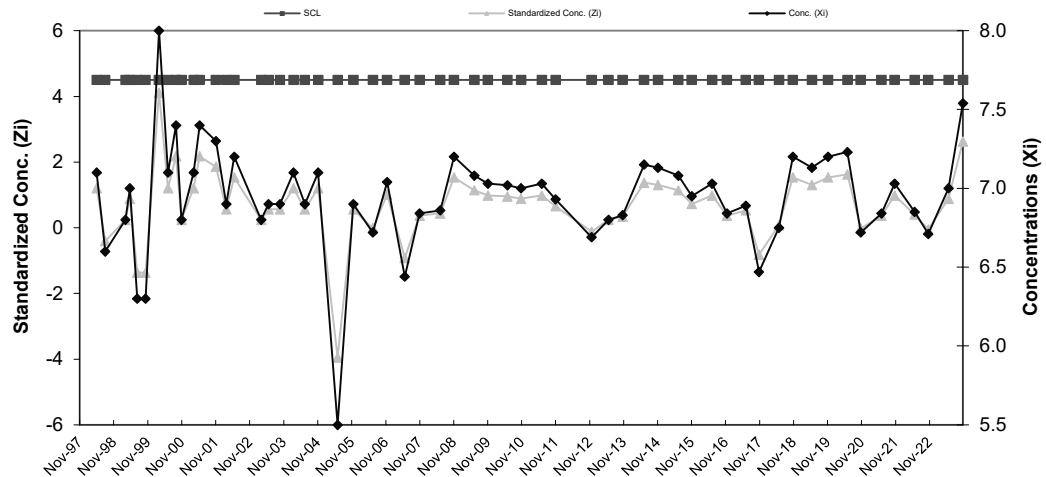


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault F - pH

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	7.10	1.21	42	Jun-11	4.5	7.0	0.98
10	Aug-98	4.5	6.60	-0.40	43	Nov-11	4.5	6.93	0.66
11	Mar-99	4.5	6.80	0.24	44	Dec-12	4.5	6.69	-0.11
12	May-99	4.5	7.00	0.89	45	Jun-13	4.5	6.8	0.24
13	Jul-99	4.5	6.30	-1.37	46	Nov-13	4.5	6.83	0.34
14	Oct-99	4.5	6.30	-1.37	47	Jun-14	4.5	7.15	1.37
15	Mar-00	4.5	8.00	4.11	48	Nov-14	4.5	7.13	1.30
16	Jun-00	4.5	7.10	1.21	49	Jun-15	4.5	7.08	1.14
17	Sep-00	4.5	7.40	2.17	50	Nov-15	4.5	6.95	0.72
18	Nov-00	4.5	6.80	0.24	51	Jun-16	4.5	7.03	0.98
19	Mar-01	4.5	7.10	1.21	52	Nov-16	4.5	6.84	0.37
20	May-01	4.5	7.40	2.17	53	Jun-17	4.5	6.89	0.53
21	Nov-01	4.5	7.30	1.85	54	Nov-17	4.5	6.47	-0.82
22	Mar-02	4.5	6.90	0.56	55	Jun-18	4.5	6.75	0.08
23	May-02	4.5	7.20	1.53	56	Nov-18	4.5	7.2	1.53
24	Mar-03	4.5	6.80	0.24	57	May-19	4.5	7.13	1.30
25	Jun-03	4.5	6.90	0.56	58	Nov-19	4.5	7.2	1.53
26	Oct-03	4.5	6.90	0.56	59	Jun-20	4.5	7.23	1.63
27	Feb-04	4.5	7.10	1.21	60	Nov-20	4.5	6.72	-0.02
28	Jun-04	4.5	6.90	0.56	61	Jun-21	4.5	6.84	0.37
29	Nov-04	4.5	7.10	1.21	62	Nov-21	4.5	7.03	0.98
30	Jun-05	4.5	5.50	-3.94	63	Jun-22	4.5	6.85	0.40
31	Dec-05	4.5	6.90	0.56	64	Nov-22	4.5	6.71	-0.05
32	Jun-06	4.5	6.72	-0.02	65	Jun-23	4.5	7	0.89
33	Nov-06	4.5	7.04	1.01	67	Nov-23	4.5	7.54	2.62
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	64	Jun-23	4.5	1570	0.16
33	Jun-07	4.5	1640	0.48	65	Nov-23	4.5	1580	0.21
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

