

OBG

PART OF RAMBOLL

2019 SEMIANNUAL REPORT – FINAL REPORT

**Landfill Leak Detection Systems Report
Coldwater Road Landfill
Flint, Michigan
MID 005 356 860**

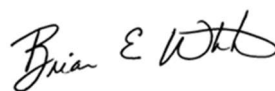
**RACER TRUST
Detroit, Michigan**

AUGUST 2019

**Landfill Leak Detection System
Coldwater Road Landfill
MID 005 356 860**

Flint, Michigan

Prepared for: RACER Trust
Detroit, Michigan



BRIAN E. WHITE, PE
SENIOR VICE PRESIDENT
O'BRIEN & GERE ENGINEERS, INC.

August 29, 2019

Mr. Richard Conforti, P.E.

Environmental Engineer

Michigan Department of Environment, Great Lakes, and Energy

Office of Waste Management and Radiological Protection

P.O. Box 30473

Lansing, Michigan 48909-7973

RE: Landfill Leak Detection System 2019 Semiannual Report
Coldwater Road Landfill, Flint, Michigan
MID 005 356 860

FILE: 15388 /72202/rep

Dear **Mr. Conforti**

On behalf of Revitalizing Auto Communities Environmental Response Trust (RACER), O'Brien & Gere Engineers, Inc., part of Ramboll (OBG) is pleased to present the results of the 2019 semiannual leak detection system (LDS) sampling event conducted in May 2019 for the Coldwater Road Landfill site ([Figure 1](#)).

During this event samples were collected from the six leak detection vaults (A through F) and the six leachate collection sumps (A through F) on May 29, 2019 for laboratory analysis.

The samples were analyzed for total organic carbon (TOC, Method 415.1), total suspended solids (TSS, Method 160.2), specific conductivity (Method 120.1), dissolved chromium (Cr), dissolved copper (Cu), dissolved nickel (Ni), and dissolved zinc (Zn, Method 200.8). Samples collected from Sumps A through F were also analyzed for volatile organic compounds (VOCs, Method 8260). The event also included field measurements for pH, specific conductivity, and temperature.

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

The samples for the leak detection vaults and sumps were collected on May 29, 2019 using a peristaltic pump and tubing for each vault and sump. Duplicate samples were collected from Vault E and Sump E. 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 ([Tables 1](#) and [2](#)). 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 method detection limit of 5 µg/L, which is similar or less than the historic sample results.
- Copper concentrations were not detected above the method detection limit of 5 µg/L, which is similar or less than the historic sample results.
- Nickel concentrations were not detected above the method detection limit of 5 µg/L in Vault B and Vault E. Nickel was detected in Vault A (15 µg/L), Vault C (8 µg/L), Vault D (13 µg/L), and Vault F (10 µg/L). The results were similar or less than historic results, which ranged from below the method detection limit to 125 µg/L at Vault D (11/15/1997).
- Zinc concentrations were not detected above the method detection limit of 5 µg/L in Vault A, Vault C (resample), Vault E, and Vault F. Zinc was detected in Vault B (7 µg/L) and Vault D (8 µg/L). The results were similar or less than historic results, which ranged from below the method detection limit to 220 µg/L at Vault A (11/13/1998) and Vault F (8/30/1995). Zinc was detected at 230 µg/L in Vault C in the original sample, which caused a Shewart control limit exceedance; therefore, EGLE was notified and Vault C was resampled on June 7, 2019. In the resample zinc was not detected above the method detection limit of 5 µg/L. The spike in zinc was not confirmed by the other constituents, in particular chromium and copper were not detected and nickel was detected at 8 µg/L in Vault C, which is typical. Furthermore, zinc was only detected at 8 µg/L in Sump C. Based on these results, the resample result will be reported in the statistical analysis.
- TOC concentrations ranged from 5.3 mg/L in Vault E and Vault F to 9.9 mg/L in Vault D. The results were similar or less than historic results, which ranged from 1.8 mg/L at Vault F (11/17/2008) to 140 mg/L at Vault A (3/27/1996).
- TSS concentrations were not detected above the method detection limit of 3 mg/L in Vault A, Vault B, Vault D, Vault E, and Vault F. TSS was detected in Vault C (6 mg/L). The results were similar or less than historic results, which ranged from below the method detection limit to 7,100 mg/L at Vault F (11/11/1996).
- pH concentrations ranged from 7.13 in Vault A and Vault F to 7.37 in Vault D. 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 1,058 µs/cm in Vault B to 1,668 µs/cm in Vault C. The results were similar or less than historic results, which ranged from 340 µs/cm at Vault C (8/30/1995) to 3,250 µs/cm at Vault A (5/6/1999).

Sumps:

- Chromium concentrations ranged from 33 µg/L in Sump E to 459 µg/L in Sump B. The results were similar or less than historic results, which ranged from below the method detection limit to 1,490 µg/L at Sump B (6/6/2013).
- Copper concentrations ranged from 66 µg/L in Sump F to 983 µg/L in Sump D. The results were similar or less than historic results, which ranged from below the method detection limit in Sump E (5/7/1997) and Sump F (12/12/2003) to 18,000 at Sump C (3/23/1995).
- Nickel concentrations ranged from 25 µg/L in Sump F to 1,130 µg/L in Sump D. The results were similar or less than historic results, which ranged from below the method detection limit in Sump E (6/14/2010) and Sump F (6/14/2010) to 2,500 µg/L at Sump C (11/11/1996).
- Zinc concentrations ranged from not detected above the method detection limit of 5 µg/L in Sump A to 13 µg/L in Sump B. The results were similar or less than historic results, which ranged from below the method detection limit to 160 µg/L at Sump F (5/31/2002).

- TOC concentrations ranged from 23.9 mg/L in Sump E to 192 mg/L in Sump D. The results were similar or less than historic results, which ranged from 2.9 mg/L at Sump F (11/10/2000) to 800 mg/L at Sump B (3/23/1995).
- TSS concentrations ranged from not detected above the method detection limit of 3 mg/L in Sump A, Sump B, Sump C, Sump D, and Sump F to 3 mg/L in Sump E. The results were similar or less than historic results, which ranged from below the method detection limit to 69,000 mg/L at Sump D (8/30/1995).
- pH ranged from 7.88 in Sump C to 10.73 in Sump D. The results were within the range of the historic results, which ranged from 5.60 in Sump E (11/6/1998) to 12.30 Sump D (3/23/1995).
- Specific conductivity ranged from 1,735 $\mu\text{s}/\text{cm}$ in Sump A to 5,430 $\mu\text{s}/\text{cm}$ in Sump D. The results were similar or less than historic results, which ranged from 682 $\mu\text{s}/\text{cm}$ at Sump F (4/26/1999) to 19,920 $\mu\text{s}/\text{cm}$ at Sump E (6/5/2015).
- Sump D was the only sump with VOCs detected. Acetone was detected in Sump D at a concentration of 1,390 $\mu\text{g}/\text{L}$ in the replicate sample. Acrylonitrile was detected at a concentration of 30 $\mu\text{g}/\text{L}$ in the replicate sample, 2-Butanone was detected at 45 $\mu\text{g}/\text{L}$ and 4-Methyl-2-pentanone was detected at 51 $\mu\text{g}/\text{L}$. VOCs have been detected in Sump D during previous events.

A duplicate sample was collected during this sample event from Vault E and Sump E and exhibited values consistent with the original results (within acceptable relative percent differences [RPD]), with the exception of TSS in Sump E, which was detected at 3 mg/L in the original sample and 24 mg/L in the duplicate sample.

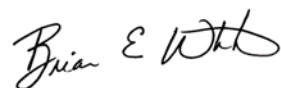
There were no exceedances of the Shewart control limits (SCL) during this sampling event (excluding the original sample results for zinc in Vault C, which was discussed previously). There was a positive (increasing) trend for pH in Vault C and Vault D. The trends were calculated using regression analysis over the last four sampling events per the Post Closure Care Plan, January 2014.

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

The next semiannual sampling event will be completed in November 2019. If you have any questions, please feel free to contact Cliff at (313) 333-0211.

Very truly yours,

O'BRIEN & GERE ENGINEERS, INC.



Brian E. White, PE
Senior Vice President

Very truly yours,

O'BRIEN & GERE ENGINEERS, INC.



Clifford S. Yantz
Senior Hydrogeologist

ENCLOSURES:

- Table 1 – Vaults Historical Analytical Results
- Table 2 – Sumps Historical Analytical Results
- Table 3 – Sumps Volatile Organics Analytical Results
- Table 4 – Sumps Depth to Water



Figure 1 – Site Location Map

Figure 2 – Site Layout

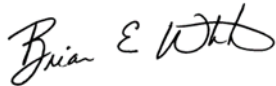
Appendix A – Analytical Laboratory Reports

Appendix B – Leak Detection Vault Control Charts

cc: David Favero – RACER Trust
Kevin Schneider – OBG

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with 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 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



Brian E. White, P.E.
Senior Vice President – O'Brien & Gere Engineers, Inc.
Agent for RACER Trust

Date: August 29, 2019

cc: file



TABLES

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

Vault	Sample Date	Indicator Parameters					Dissolved Metals (µg/L)				
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	
		<i>MDEQ Residential Drinking Water Criteria & RBSLs</i>									
		100 (A)	1,000 (E)	100 (A)	2,400						
	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	
Vault A	18-Jun-96	12.0	<10	6.90	2000	--	<20	<20	<20	<20	
	20-Aug-96	32.0	<5	7.10	1900	--	<20	<20	<20	30	
	11-Nov-96	18.0	5.0	7.10	2000	--	<20	<20	30	60	
	19-Feb-97	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9-May-97	13.0	17.0	6.67	1940	9.7	<10	<10	71	90	
	12-Aug-97	6.0	4.0	5.98	1810	12.8	<10	<10	88	60	
	15-Nov-97	8.0	12.0	6.50	2000	12.0	<10	10	125	100	
	9-Feb-98	6.0	8.0	6.40	1960	11.5	<10	<10	73	60	
	14-May-98	12.0	15.0	6.90	1760	17.4	<10	20	13	200	
	14-Aug-98	5.0	6.0	6.70	--	--	<10	<10	15	160	
	13-Nov-98	5.0	12.0	6.50	1990	16.5	<10	<10	20	220	
	19-Mar-99	5.7	8.0	6.80	1334	13.6	<10	10	14	60	
	6-May-99	5.6	16.0	6.85	3250	26.2	<10	<10	15	20	
	23-Jul-99	5.7	3.0	6.30	1470	18.9	<5	9	13	19	
	22-Oct-99	5.0	3.0	5.86	1750	12.1	<10	<10	16	30	
	14-Mar-00	5.6	<1	7.60	1410	10.7	<10	<10	15	20	
	20-Jun-00	7.0	3.0	6.90	1410	18.3	<10	<10	12	20	
	13-Sep-00	5.9	5.0	7.50	1650	15.1	<5	<10	14	20	
	10-Nov-00	6.4	2.0	7.20	1470	11.8	<10	100	10	150	
	12-Mar-01	6.0	1.0	7.43	1530	12.8	<10	<10	7	10	
24-May-01	9.4	10.0	7.56	1380	11.9	<10	<10	10	20		
31-Aug-01	5.3	10.6	7.49	1450	12.5	<5	<10	14	9		
16-Nov-01	5.1	3.0	6.77	1300	12.4	<10	<10	15	50		
8-Mar-02	NS	NS	NS	NS	NS	NS	NS	NS	NS		
31-May-02	2.4	54.0	7.23	1470	13.8	<10	<10	<5	40		
5-Sep-02	4.7	6.0	6.60	--	--	<5	<5	14	140		
12-Dec-02	NS	NS	NS	NS	NS	NS	NS	NS	NS		
18-Mar-03	6.7	8.0	6.81	1290	12	<5	<5	9	99		
4-Jun-03	2.0	11.0	6.78	1370	11.3	<5	<5	10	<5		
5-Oct-03	NS	NS	NS	NS	NS	NS	NS	NS	NS		
8-Dec-03	NS	NS	NS	NS	NS	NS	NS	NS	NS		
27-Feb-04	NS	NS	NS	NS	NS	NS	NS	NS	NS		
30-Jun-04	4.5	55.0	6.99	1318	12.5	<5	<5	8	<5		
19-Nov-04	3.4	2.0	6.85	1120	11.4	6	<5	15	14		
Duplicate	19-Nov-04	4.4	4.0	--	--	6	<5	18	16		
	15-Jun-05	6.0	8.0	6.00	1640	13.4	<5	13	21		
	17-Jan-06	5.9	12785	10.01	1630	8.4	<5	13	8		
Re-sample	14-Feb-06	--	--	7.88	1800	8.5	--	14	--		
	29-Jun-06	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	
Vault A	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	
Re-sample	14-Jul-11	--	--	--	--	<5	--	--	--	--	
	14-Nov-11	7.0	316	6.93	2080	11.5	<5	<4	20	<5	
	25-Jun-12	6.0	6	5.75	1870	11.9	<5	4	25	<5	
Duplicate	25-Jun-12	6.0	6	5.75	1872	11.9	<5	6	25	10	
	5-Dec-12	5.8	2	6.76	1820	10.6	<5	<4	24	10	
Duplicate	5-Dec-12	5.8	3	6.76	1814	10.6	<5	<4	24	8	
	6-Jun-13	6.1	4	6.71	1882	11.0	<5	<4	22	<5	
	4-Nov-13	5.0	<1	6.71	1630	11.2	<5	<4	18	<5	
	23-Jun-14	5.0	3	6.82	1579	13.2	<5	<4	18	<5	
	18-Nov-14	4.1	2	6.27	1525	6.6	<5	<4	25	20	
	25-Jun-15	4.5	2	6.64	1507	11.2	<5	6	21	10	
	17-Nov-15	3.6	1	6.64	1423	11.7	<5	<5	20	5	
	21-Jun-16	3.8	<3	6.93	1364	12.0	<5	<5	14	<5	
Duplicate	21-Jun-16	3.9	<3	6.93	1362	12.0	<5	<5	13	<5	
	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	

See notes on page 7.

TABLE 1
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Landfill Leak Detection Vaults - Historical Analytical Results
Inorganics and Metals

Vault	Sample Date	Indicator Parameters					Dissolved Metals (µg/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn
		MDEQ Residential Drinking Water Criteria & RBSLs					100 (A)	1,000 (E)	100 (A)	2,400
	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
Vault B	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
	28-Nov-06	5.5	4.0	7.46	1380	13.0	<5	<4	8	11
Duplicate	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
	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
Duplicate	17-Nov-08	1.7	2.0	6.89	1820	9.6	<5	1	8	15
	23-Jun-09	3.6	4.0	7.13	1780	13.3	<5	1	6	17
	17-Nov-09	3	0	6.99	1970	10.9	<5	<4	9	17
Vault B	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
Re-sample	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	--	--	--
	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
Duplicate	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

See notes on page 7.

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

Vault	Sample Date	Indicator Parameters					Dissolved Metals (µg/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn
MDEQ Residential Drinking Water Criteria & RBSLs										
						100 (A)	1,000 (E)	100 (A)		2,400
	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
Vault C	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	<10	19	170
	13-Sep-00	6.1	<1	7.60	1430	14.9	<5	<10	16	20
	10-Nov-00	10.6	4.0	6.80	1210	12.1	<10	<10	17	40
	12-Mar-01	6.3	4.0	7.69	1380	12.1	<10	<10	8	<10
	24-May-01	9.2	8.0	7.54	1410	13.3	<10	<10	17	30
	31-Aug-01	5.4	4.0	7.44	1530	13.1	<5	<10	16	20
	16-Nov-01	6.0	2.0	6.79	1170	13.2	<10	<10	15	60
	8-Mar-02	4.0	1.0	7.09	1680	11.3	<10	10	<5	20
	31-May-02	5.1	7.0	7.17	1280	14.2	<10	<10	14	40
	5-Sep-02	5.0	7.0	6.69	--	--	<5	<5	14	39
	12-Dec-02	4.2	7.0	6.90	1330	12.1	<5	<5	12	53
	18-Mar-03	5.7	4.0	6.80	1260	10.7	<5	<5	10	37
	4-Jun-03	4.4	6.0	6.92	1150	11.0	<5	<5	8	<5
	5-Oct-03	4.4	4.0	6.99	1230	13.6	<5	<5	14	28
	8-Dec-03	3.8	6.0	7.14	1520	11.6	<5	11	14	63
	27-Feb-04	4.6	1.0	7.39	1410	12.1	<5	<5	12	36
	30-Jun-04	3.7	14.0	6.96	1008	12.2	<5	<5	12	8
	19-Nov-04	4.3	4.0	6.90	1090	11.7	<5	<5	20	6
	15-Jun-05	5.0	6.0	6.26	1460	12.5	<5	<5	15	39
	1-Dec-05	5.9	2.0	6.92	1620	11.1	<5	<5	18	15
	29-Jun-06	2.6	5.0	6.90	2260	15.2	5	<4	10	11
	28-Nov-06	11.6	44.0	7.04	1430	13.4	<5	5	15	<5
	6-Jun-07	4.9	6.0	6.54	1510	12.2	9	5	11	6
	12-Nov-07	4.3	1.0	6.90	1490	13.2	2	5	16	12
	24-Jun-08	4.2	49.0	6.91	1620	13.4	<5	<1	9	<5
	17-Nov-08	4.4	6.0	6.79	1600	9.4	<5	<1	10	11
	23-Jun-09	4.6	9.0	7.16	1660	13.7	<5	<1	8	6
	17-Nov-09	5	15	7.11	1650	11.5	<5	<4	9	6
Duplicate	17-Nov-09	5	20	7.11	1650	11.5	<5	<4	9	6
	14-Jun-10	5	4	7.01	1710	12.4	7	<4	7	7
	8-Nov-10	6	7	7.16	1670	12.7	16	<4	11	<5
	20-Jun-11	5.4	5	7.28	1686	12.9	25	<4	15	22
Duplicate	20-Jun-11	5.9	5	7.28	1688	12.9	24	<4	14	21
Re-sample	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
Vault C	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
Duplicate	6-Nov-17	4.9	<3	6.36	1761	11.7	<5	<5	10	<5
	11-Jun-18	4.7	5	6.75	1774	12.1	<5	<5	8	<5
Duplicate	11-Jun-18	5.2	3	6.75	1789	12.1	<5	<5	8	<5
	7-Nov-18	5.3	<3	6.90	1696	4.0	<5	<5	11	<5
	29-May-19	8.0	6	7.17	1668	9.6	<5	<5	8	230
Re-sample	7-Jun-19	--	--	--	--	--	--	--	--	<5

See notes on page 7.

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

Vault	Sample Date	Indicator Parameters					Dissolved Metals (µg/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn
		<i>MDEQ Residential Drinking Water Criteria & RBSLs</i>					<i>100 (A)</i>	<i>1,000 (E)</i>	<i>100 (A)</i>	<i>2,400</i>
	23-Mar-95	8.9	83.0	7.30	2200		13	<20	44	<20
	20-Jun-95	NS	NS	NS	NS		NS	NS	NS	NS
	30-Aug-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	28-Nov-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Mar-96	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vault D	18-Jun-96	11.0	150.0	6.90	1800	--	<20	<20	<20	20
	20-Aug-96	40.0	<5	7.20	1600	--	<20	<20	<20	40
	11-Nov-96	23.0	9.0	7.00	1700	--	<20	<20	40	70
	19-Feb-97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9-May-97	23.0	76.0	6.69	1580	8.8	<10	<10	58	70
	8-Aug-97	11.0	44.0	6.48	1540	28.5	<10	<10	79	20
	15-Nov-97	12.0	6.0	6.60	1800	11.0	<10	<10	114	30
	9-Feb-98	12.0	52.0	6.50	1655	12.5	<10	<10	66	40
	14-May-98	10.0	40.0	7.00	1700	16.3	<10	30	23	50
	14-Aug-98	11.0	57.0	6.60	--	--	<10	<10	23	40
	13-Nov-98	11.0	22.0	6.70	1790	15.2	<10	<10	20	30
	19-Mar-99	6.3	2.0	7.00	1302	14.8	<10	30	20	40
	6-May-99	12.4	28.0	6.90	1510	25.2	<10	30	15	30
	23-Jul-99	11.0	40.0	7.00	1231	21.0	<5	9	21	19
	22-Oct-99	10.6	13.0	6.76	1384	10.3	<10	<10	23	20
	14-Mar-00	10.7	57.0	7.80	1460	13.0	<10	<10	15	20
	20-Jun-00	10.1	23.0	6.80	1410	18.7	<10	60	21	70
	13-Sep-00	10.7	7.0	7.60	1370	16.1	<5	<10	21	20
	10-Nov-00	7.0	10.0	7.20	1630	12.2	<10	<10	23	20
	12-Mar-01	5.6	33.0	7.84	1710	12.9	<10	<10	11	10
24-May-01	12.0	16.0	7.48	1760	13.1	<10	10	18	30	
31-Aug-01	9.8	8.0	7.66	1420	12.8	5	<10	24	20	
16-Nov-01	7.4	20.0	7.58	1270	12.9	<10	10	17	50	
8-Mar-02	8.4	3.0	7.18	1430	10.9	<10	10	<5	10	
31-May-02	NS	NS	NS	NS	NS	NS	NS	NS	NS	
5-Sep-02	NS	NS	NS	NS	NS	NS	NS	NS	NS	
12-Dec-02	NS	NS	NS	NS	NS	NS	NS	NS	NS	
18-Mar-03	8.9	15.0	6.77	1380	11.6	<5	5.0	10.0	19	
4-Jun-03	9.6	5.0	6.91	1430	11.0	<5	<5	8	<5	
5-Oct-03	NS	NS	NS	NS	NS	NS	NS	NS	NS	
8-Dec-03	6.1	4.0	6.92	1330	11.0	8	17	14	63	
27-Feb-04	NS	NS	NS	NS	NS	NS	NS	NS	NS	
30-Jun-04	6.5	5.0	6.96	1050	12.1	<5	<5	30	9	
19-Nov-04	NS	NS	NS	NS	NS	NS	NS	NS	NS	
15-Jun-05	6.0	6.0	5.90	1540	12.9	<5	<5	25	17	
17-Jan-06	6.2	8.0	7.34	1600	7.9	6	14	37	<5	
Re-sample	14-Feb-06	--	--	7.96	1520	9.2	--	5	--	--
	29-Jun-06	5.9	51.0	6.98	1570	13.9	6	<4	26	14
	28-Nov-06	7.2	13.0	7.18	1590	13.1	<5	<4	17	7
	6-Jun-07	6.9	7.0	7.30	1530	14.2	9	5	34	8
	12-Nov-07	7.3	5.0	6.91	1580	12.3	3	5	23	12
Duplicate	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
Duplicate	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
Vault D	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
Duplicate	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
Duplicate	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
Duplicate	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

See notes on page 7.

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

Vault	Sample Date	Indicator Parameters					Dissolved Metals (µg/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn
		MDEQ Residential Drinking Water Criteria & RBSLs					100 (A)	1,000 (E)	100 (A)	2,400
	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
Vault E	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
	17-Nov-08	4.1	1.0	7.43	1630	10.3	<5	2	<5	19
	23-Jun-09	3.2	10.0	6.79	1950	14.0	<5	2	<5	15
Duplicate	23-Jun-09	3.0	17.0	6.79	1960	14.0	<5	2	<5	14
	17-Nov-09	5.0	9	6.89	1780	11.2	<5	<4	<5	14
	14-Jun-10	4.0	21	6.85	1910	12.5	9	<4	<5	13
	8-Nov-10	5.0	<1	7.02	1714	12.4	24	<4	<5	7
Duplicate	8-Nov-10	5.0	3	7.02	1715	12.4	20	<4	<5	7
	20-Jun-11	3.4	5	6.91	1711	13.0	29	<4	10	15
Re-sample	14-Jul-11	--	--	--	--	--	<5	--	--	--
	14-Nov-11	4.0	9	6.89	1637	11.7	<5	<4	<5	<5
Duplicate	14-Nov-11	3.0	5	6.89	1635	11.7	<5	<4	<5	<5
	25-Jun-12	3.0	3	6.00	1792	12.9	<5	<4	<5	7
	5-Dec-12	3.4	0	6.77	1776	10.4	<5	<4	6	11
	6-Jun-13	3.3	8	6.54	1397	10.6	<5	6	<5	<5
	4-Nov-13	3.0	2	6.74	1741	12.0	<5	4	12	9
Vault E	23-Jun-14	3.3	<1	6.88	1677	11.7	<5	<4	<5	<5
	18-Nov-14	3.0	2	7.08	1747	7.5	<5	<4	10	6
	25-Jun-15	2.9	4	6.88	1456	12.6	<5	<5	7	8
Duplicate	25-Jun-15	2.9	3	6.88	1460	12.6	<5	<5	7	7
	17-Nov-15	2.7	2	6.80	1435	12.9	<5	<5	5	<5
	21-Jun-16	2.6	<3	6.75	1408	13.9	<5	<5	<5	5
	28-Nov-16	2.3	<3	6.88	1502	11.3	<5	<5	<5	<5
	19-Jun-17	2.6	3	6.79	1431	11.9	<5	<5	<5	<5
	19-Jun-17	2.7	<3	6.79	1430	11.9	<5	<5	<5	<5
	6-Nov-17	2.5	<3	6.37	1465	11.8	<5	<5	<5	<5
	11-Jun-18	2.6	<3	6.57	1300	14.3	<5	<5	<5	5
	7-Nov-18	3.1	<3	7.20	1274	5.0	<5	<5	<5	<5
	29-May-19	5.3	<3	7.16	1339	10.4	<5	<5	<5	<5
Duplicate	29-May-19	5.1	<3	7.16	1334	10.4	<5	<5	<5	<5

See notes on page 7.

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

Vault	Sample Date	Indicator Parameters					Dissolved Metals (µg/L)				
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	
		MDEQ Residential Drinking Water Criteria & RBSLs									
							100 (A)	1,000 (E)	100 (A)	2,400	
	23-Mar-95	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	20-Jun-95	8.2	<1	6.80	1400	--	<20	<20	<30	190	
	30-Aug-95	6.1	<1	6.80	1100	NS	<20	<20	<40	220	
	28-Nov-95	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	27-Mar-96	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Vault F	18-Jun-96	6.2	77.0	6.80	1600	--	<20	<20	<20	<20	
	20-Aug-96	4.8	1500.0	7.10	1500	--	<20	20	<20	50	
	11-Nov-96	14.0	7100.0	7.00	1600	--	<20	<20	<20	30	
	19-Feb-97	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9-May-97	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8-Aug-97	3.0	21.0	6.14	1530	20.6	<10	<10	64	20	
	15-Nov-97	7.0	56.0	6.70	1800	13.0	<10	<10	93	130	
	9-Feb-98	5.0	30.0	6.50	1750	13.5	<10	<10	49	160	
	14-May-98	5.0	16.0	7.07	1400	25.4	<10	20	7	130	
	14-Aug-98	3.0	25.0	6.60	--	--	<10	<10	7	40	
	30-Nov-98	4.0	38.0	--	--	--	10	<10	47	30	
	19-Mar-99	4.2	52.0	6.80	982	14.4	<10	20	9	20	
	6-May-99	4.6	50.0	7.00	1460	28.0	<10	10	5	30	
	23-Jul-99	3.7	95.0	6.30	1262	21.2	6	17	6	26	
	22-Oct-99	3.7	12.0	6.29	1116	12.3	<10	<10	6	20	
	14-Mar-00	5.4	81.0	8.00	1250	14.9	<10	<10	6	30	
	20-Jun-00	4.4	66.0	7.10	1310	20.1	<10	40	<5	80	
	13-Sep-00	3.0	11.0	7.40	1440	15.6	<5	<10	6	20	
	10-Nov-00	3.9	41.0	6.80	1040	11.6	<10	60	5	100	
	12-Mar-01	5.5	24.0	7.12	1110	12.3	<10	<10	5	10	
	24-May-01	7.4	16.0	7.44	1470	12.8	<10	60	5	100	
	31-Aug-01	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	16-Nov-01	4.2	68.0	7.26	1110	12.9	<10	40	<5	100	
	8-Mar-02	4.4	11.0	6.92	1290	10.4	<10	10	<5	60	
	31-May-02	2.4	45.0	7.17	1200	14.3	<10	<10	6	20	
	5-Sep-02	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12-Dec-02	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	18-Mar-03	3.7	7.0	6.78	1270	12.4	<5	19	<5	119	
	4-Jun-03	2.5	4.0	6.92	1300	10.9	<5	<5	<5	<5	
	5-Oct-03	3.9	5.0	6.88	1040	13.5	<5	11	5	66	
	8-Dec-03	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	27-Feb-04	3.9	7.0	7.11	1920	12.2	<5	5	<5	30	
	30-Jun-04	3.5	1.0	6.89	1300	12.0	<5	5	<5	10	
	30-Jun-04	3.5	1.0	6.89	1300	12.0	<5	5	<5	10	
	19-Nov-04	3.2	4.0	7.07	1160	11.0	<5	<5	15	8	
	15-Jun-05	4.0	8.0	5.47	1780	12.3	<5	<5	9	17	
	1-Dec-05	3.7	3.0	6.92	1640	10.7	<5	83	<5	62	
Duplicate	7-Dec-05	4.7	5.0	--	1540	--	<5	31	19	<10	
Re-sample	14-Feb-06	--	--	7.90	1710	7.2	--	<4	--	--	
	29-Jun-06	2.9	90.0	6.72	1710	15.3	7	<4	<5	9	
	28-Nov-06	4.4	3.0	7.04	1610	13.9	5	<4	<5	10	
	6-Jun-07	3.9	2.0	6.44	1640	15.5	10	3	<5	8	
	12-Nov-07	2.2	53.0	6.84	1600	12.2	2	3	9	11	
	24-Jun-08	2.3	5.0	6.86	1510	14.5	<5	<1	<5	<5	
Duplicate	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	
Vault F	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	<5	6	
	4-Nov-13	2.6	1	6.83	1736	11.6	<5	<4	<5	<5	
	23-Jun-14	2.6	3	7.15	1710	13.3	<5	<4	<5	<5	
	18-Nov-14	2.4	2	7.13	1724	7.4	<5	<4	10	8	
	25-Jun-15	2.3	3	7.08	1669	14.0	<5	<5	7	9	
	17-Nov-15	2.1	1	6.95	1686	13.5	<5	<5	6	6	
Duplicate	17-Nov-15	2.1	1	6.95	1686	13.5	<5	<5	6	6	
	21-Jun-16	2.4	<3	7.03	1640	14.2	<5	<5	<5	6	
	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	<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	

See notes on page 7.

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

Vault	Sample Date	Indicator Parameters					Dissolved Metals (µg/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn
		<i>MDEQ Residential Drinking Water Criteria & RBSLs</i>					<i>100 (A)</i>	<i>1,000 (E)</i>	<i>100 (A)</i>	<i>2,400</i>

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

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

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

See notes on page 6.

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

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

See notes on page 6.

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

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

See notes on page 6.

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

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

See notes on page 6.

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

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

See notes on page 6.

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

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

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

TABLE 3
RACER Trust - Coldwater Road Landfill Facility
Landfill Leachate Sumps - Analytical Results
Volatile Organic Compounds (µg/L)
Sample ID & Sample Date

Parameter	Sump A	Sump B	Sump C	Sump D	Sump D** Replicate	Sump E	Sump E (DUP-1)	Sump F	Trip Blank- 052919
	29-May-19	29-May-19	29-May-19	29-May-19	29-May-19	29-May-19	29-May-19	29-May-19	29-May-19
Diethyl ether	<10	<10	<10	<10	<100	<10	<10	<10	<10
Acetone	<50	<50	<50	1,222	1,390	<50	<50	<50	<50
Methyl iodide	<1	<1	<1	<1	<10	<1	<1	<1	<1
Carbon Disulfide	<5	<5	<5	<5	<50	<5	<5	<5	<5
tert-Methyl butyl ether (MTBE)	<5	<5	<5	<5	<50	<5	<5	<5	<5
Acrylonitrile	<2	<2	<2	21	30	<2	<2	<2	<2
2-Butanone	<25	<25	<25	45	<250	<25	<25	<25	<25
Dichlorodifluoromethane	<5	<5	<5	<5	<50	<5	<5	<5	<5
Chloromethane	<5	<5	<5	<5	<50	<5	<5	<5	<5
Vinyl chloride	<1	<1	<1	<1	<10	<1	<1	<1	<1
Bromomethane	<5	<5	<5	<5	<50	<5	<5	<5	<5
Chloroethane	<5	<5	<5	<5	<50	<5	<5	<5	<5
Trichlorofluoromethane	<1	<1	<1	<1	<10	<1	<1	<1	<1
1,1-Dichloroethene	<1	<1	<1	<1	<10	<1	<1	<1	<1
Methylene chloride	<5	<5	<5	<5	<50	<5	<5	<5	<5
trans-1,2-Dichloroethene	<1	<1	<1	<1	<10	<1	<1	<1	<1
1,1-Dichloroethane	<1	<1	<1	<1	<10	<1	<1	<1	<1
cis-1,2-Dichloroethene	<1	<1	<1	<1	<10	<1	<1	<1	<1
Tetrahydrofuran	<90	<90	<90	<90	<900	<90	<90	<90	<90
Chloroform	<1	<1	<1	<1	<10	<1	<1	<1	<1
Bromochloromethane	<1	<1	<1	<1	<10	<1	<1	<1	<1
1,1,1-Trichloroethane	<1	<1	<1	<1	<10	<1	<1	<1	<1
4-Methyl-2-pentanone	<50	<50	<50	51	<500	<50	<50	<50	<50
2-Hexanone	<50	<50	<50	<50	<500	<50	<50	<50	<50
Carbon tetrachloride	<1	<1	<1	<1	<10	<1	<1	<1	<1
Benzene	<1	<1	<1	<1	<10	<1	<1	<1	<1
1,2-Dichloroethane	<1	<1	<1	<1	<10	<1	<1	<1	<1
Trichloroethene	<1	<1	<1	<1	<10	<1	<1	<1	<1
1,2-Dichloropropane	<1	<1	<1	<1	<10	<1	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1	<10	<1	<1	<1	<1
Dibromomethane	<5	<5	<5	<5	<50	<5	<5	<5	<5
cis-1,3-Dichloropropene	<1	<1	<1	<1	<10	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<10	<1	<1	<1	<1
trans-1,3-Dichloropropene	<1	<1	<1	<1	<10	<1	<1	<1	<1
1,1,2-Trichloroethane	<1	<1	<1	<1	<10	<1	<1	<1	<1
Tetrachloroethene	<1	<1	<1	<1	<10	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	<1	<1	<1	<1	<10	<1	<1	<1	<1
Dibromochloromethane	<5	<5	<5	<5	<50	<5	<5	<5	<5
1,2-Dibromoethane	<1	<1	<1	<1	<10	<1	<1	<1	<1
Chlorobenzene	<1	<1	<1	<1	<10	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	<1	<1	<1	<1	<10	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<10	<1	<1	<1	<1
p,m-Xylene	<2	<2	<2	<2	<20	<2	<2	<2	<2
o-Xylene	<1	<1	<1	<1	<10	<1	<1	<1	<1
Styrene	<1	<1	<1	<1	<10	<1	<1	<1	<1
Isopropylbenzene	<5	<5	<5	<5	<50	<5	<5	<5	<5
Bromoform	<1	<1	<1	<1	<10	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	<1	<1	<1	<1	<10	<1	<1	<1	<1
1,2,3-Trichloropropane	<1	<1	<1	<1	<10	<1	<1	<1	<1
n-Propylbenzene	<1	<1	<1	<1	<10	<1	<1	<1	<1
Bromobenzene	<1	<1	<1	<1	<10	<1	<1	<1	<1
1,3,5-Trimethylbenzene	<1	<1	<1	<1	<10	<1	<1	<1	<1
tert-Butylbenzene	<1	<1	<1	<1	<10	<1	<1	<1	<1
1,2,4-Trimethylbenzene	<1	<1	<1	<1	<10	<1	<1	<1	<1
sec-Butylbenzene	<1	<1	<1	<1	<10	<1	<1	<1	<1
p-Isopropyltoluene	<5	<5	<5	<5	<50	<5	<5	<5	<5
1,3-Dichlorobenzene	<1	<1	<1	<1	<10	<1	<1	<1	<1
1,4-Dichlorobenzene	<1	<1	<1	<1	<10	<1	<1	<1	<1
1,2-Dichlorobenzene	<1	<1	<1	<1	<10	<1	<1	<1	<1
1,2,3-Trimethylbenzene	<1	<1	<1	<1	<10	<1	<1	<1	<1
n-Butylbenzene	<1	<1	<1	<1	<10	<1	<1	<1	<1
Hexachloroethane	<5	<5	<5	<5	<50	<5	<5	<5	<5
1,2-Dibromo-3-chloropropane	<5	<5	<5	<5	<50	<5	<5	<5	<5
1,2,4-Trichlorobenzene	<5	<5	<5	<5	<50	<5	<5	<5	<5
1,2,3-Trichlorobenzene	<5	<5	<5	<5	<50	<5	<5	<5	<5
Napthalene	<5	<5	<5	<5	<50	<5	<5	<5	<5
2-Methylnapthalene	<5	<5	<5	<5	<50	<5	<5	<5	<5

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

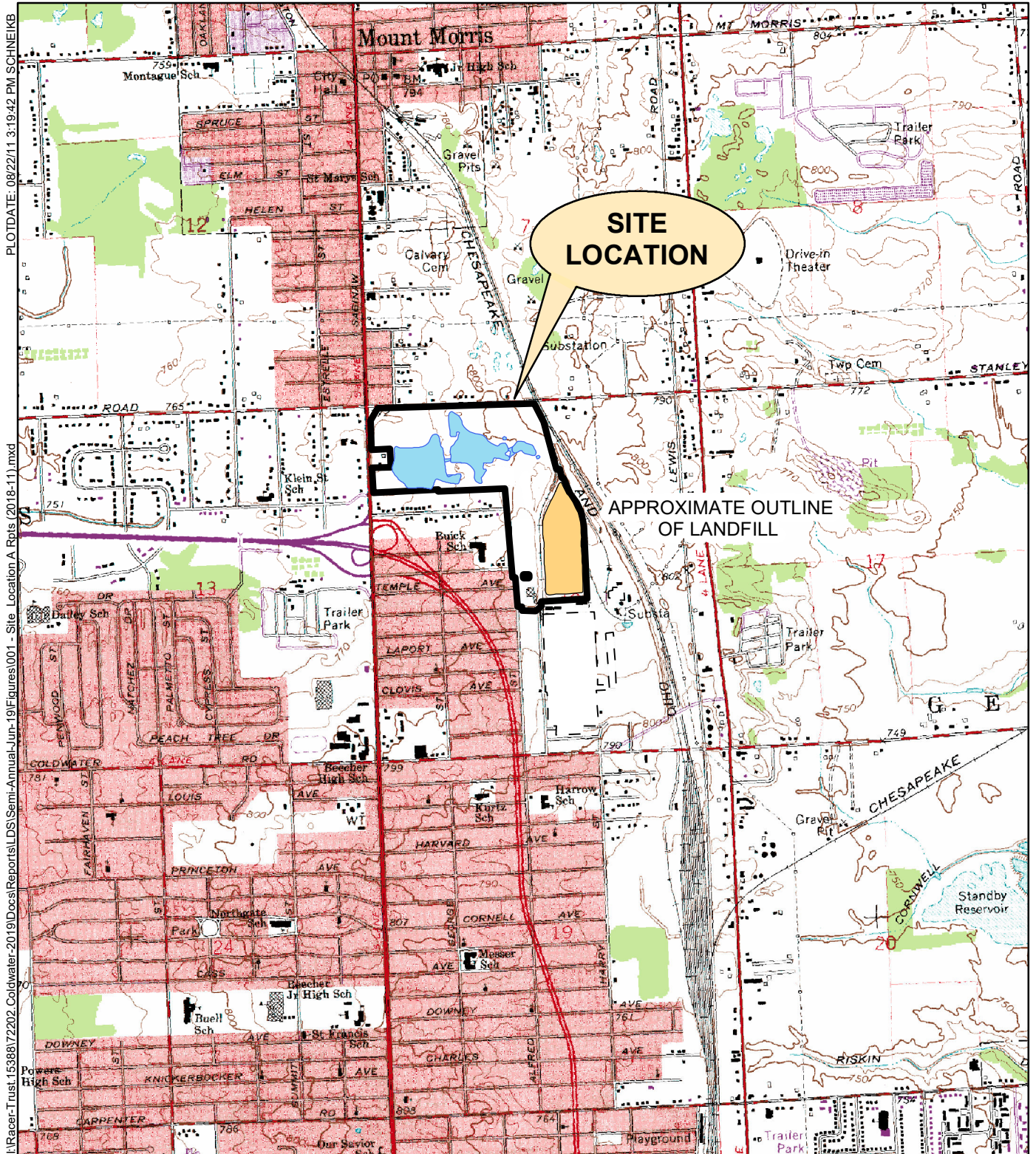
TABLE 4	
RACER Trust - Coldwater Road Landfill Facility	
Leachate Sump Depth to Water	
<i>SUMP</i>	<i>DTW</i>
A	19.70
B	14.49
C	15.51
D	18.75
E	20.29
F	18.95

Notes:

DTW= Depth to Water, measured in feet below top of casing
 Measurements collected May 29, 2019



FIGURES



PLOTDATE: 08/22/11 3:19:42 PM SCHNEIKB
 I:\Racer-Trust_15388\72202_Coldwater-2019\Docs\Reports\LD\Site-Annual-Jun-19\Figures\001 - Site Location A Rpts (2018-11).mxd



**RACER TRUST
 COLDWATER ROAD LANDFILL FACILITY
 FLINT, MICHIGAN**

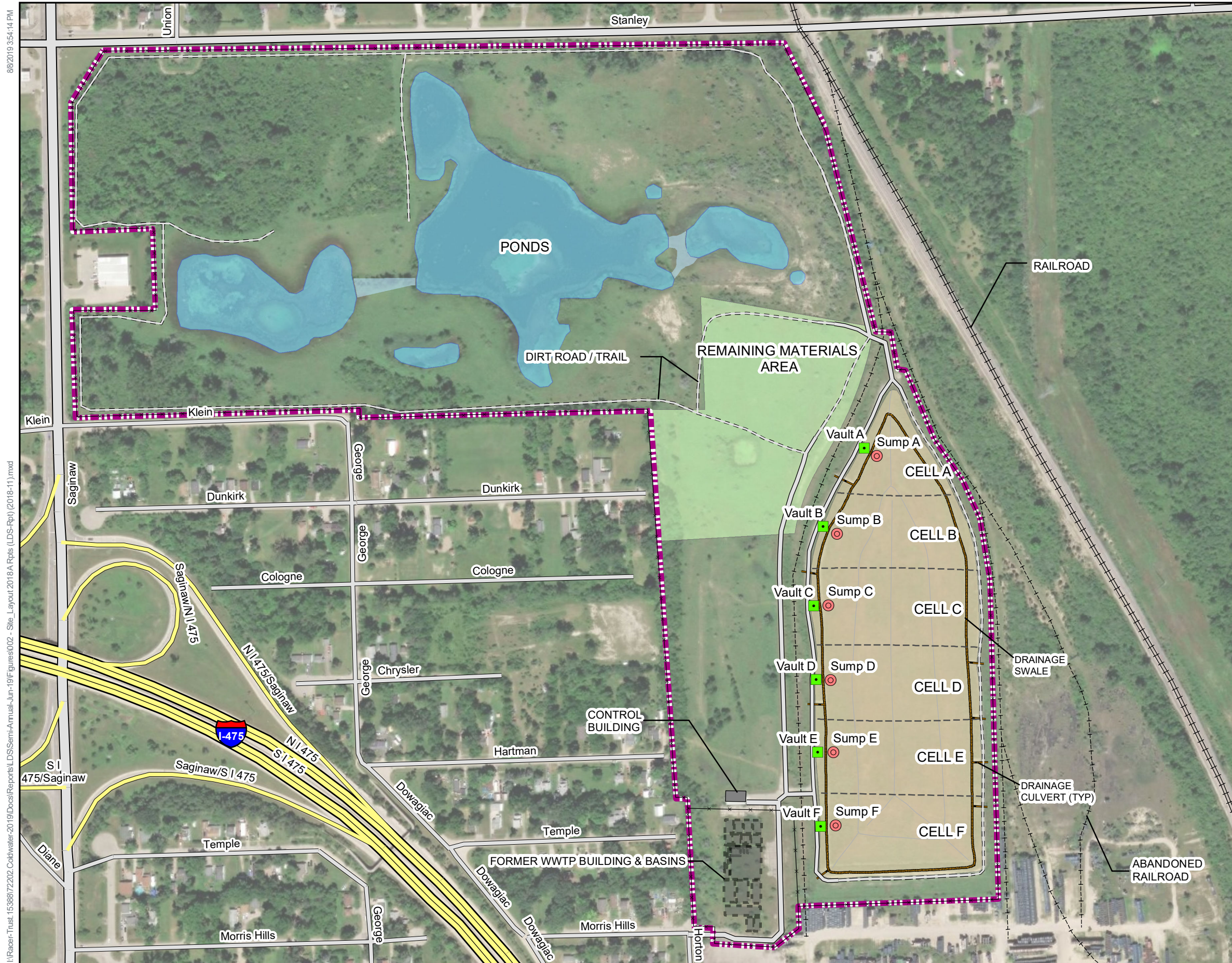
SITE LOCATION MAP






Miles



O'BRIEN & GERE ENGINEERS, INC.

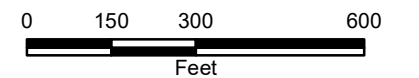


LEGEND

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

**RACER TRUST
COLDWATER ROAD
LANDFILL FACILITY
FLINT, MICHIGAN**

SITE LAYOUT



FILE NO. 72202
DATE AUGUST 2019



O'BRIEN & GERE ENGINEERS, INC.

8/8/2019 3:54:14 PM

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APPENDIX A
Analytical Laboratory
Reports



Analytical Laboratory Report

Report ID: S02589.01(01)
Generated on 06/06/2019

Report to

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

Phone: 248-477-5701 FAX:
Email: Clifford.Yantz@obg.com

Report produced by

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

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

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

Report Summary

Lab Sample ID(s): S02589.01-S02589.15
Project: RACER Coldwater Rd Landfill
Collected Date(s): 05/29/2019
Submitted Date/Time: 05/30/2019 15:30
Sampled by: Kevin Schneider
P.O. #: 11800350

Table of Contents

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

Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

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

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

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

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

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

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

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

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

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

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Certifications

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

Qualifier Descriptions

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

Glossary of Abbreviations

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



Analytical Laboratory Report

Method Summary

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



Analytical Laboratory Report

Sample Summary (15 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S02589.01	SUMP - A	Wastewater	05/29/19 09:50
S02589.02	VAULT - A	Wastewater	05/29/19 10:10
S02589.03	SUMP - B	Wastewater	05/29/19 10:50
S02589.04	VAULT - B	Wastewater	05/29/19 11:20
S02589.05	SUMP - C	Wastewater	05/29/19 12:05
S02589.06	VAULT - C	Wastewater	05/29/19 12:35
S02589.07	SUMP - D	Wastewater	05/29/19 13:30
S02589.08	VAULT - D	Wastewater	05/29/19 14:10
S02589.09	SUMP - E	Wastewater	05/29/19 14:40
S02589.10	VAULT - E	Wastewater	05/29/19 15:10
S02589.11	SUMP - F	Wastewater	05/29/19 15:50
S02589.12	VAULT - F	Wastewater	05/29/19 16:20
S02589.13	DUP - 1	Wastewater	05/29/19 00:01
S02589.14	DUP - 2	Wastewater	05/29/19 00:01
S02589.15	Trip Blank - 052919	Water	05/29/19 00:01



Analytical Laboratory Report

Lab Sample ID: S02589.01

Sample Tag: SUMP - A

Collected Date/Time: 05/29/2019 09:50

Matrix: Wastewater

COC Reference: 117149

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	1L Plastic	None	Yes	4.6	IR
1	125ml Plastic	HNO3	Yes	4.6	IR
2	40ml Glass	H2SO4	Yes	4.6	IR
3	40ml Glass	HCL	Yes	4.6	IR
1	125ml Plastic	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	05/03/19 15:20	JML	
Metal Digestion	Completed	SW3015A	06/04/19 11:00	CCM	

Inorganics

Method: E120.1, Run Date: 06/04/19 11:22, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,735	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/04/19 19:55, Analyst: ASB

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

Method: SM5310C, Run Date: 06/04/19 15:03, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	38.4	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/04/19 12:17, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	0.274	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	0.481	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.042	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/31/19 16:06, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S02589.01 (continued)

Sample Tag: SUMP - A

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/31/19 16:06, Analyst: KAG (continued)

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



Analytical Laboratory Report

Lab Sample ID: S02589.01 (continued)

Sample Tag: SUMP - A

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/31/19 16:06, Analyst: KAG (continued)

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



Analytical Laboratory Report

Lab Sample ID: S02589.02

Sample Tag: VAULT - A

Collected Date/Time: 05/29/2019 10:10

Matrix: Wastewater

COC Reference: 117149

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	1L Plastic	None	Yes	4.6	IR
1	125ml Plastic	HNO3	Yes	4.6	IR
2	40ml Glass	H2SO4	Yes	4.6	IR
1	125ml Plastic	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	06/04/19 11:00	CCM	

Inorganics

Method: E120.1, Run Date: 06/04/19 11:24, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,436	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/04/19 19:55, Analyst: ASB

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

Method: SM5310C, Run Date: 06/04/19 15:25, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	8.4	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/04/19 12:25, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.015	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: S02589.03

Sample Tag: SUMP - B

Collected Date/Time: 05/29/2019 10:50

Matrix: Wastewater

COC Reference: 117149

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	1L Plastic	None	Yes	4.6	IR
1	125ml Plastic	HNO3	Yes	4.6	IR
2	40ml Glass	H2SO4	Yes	4.6	IR
3	40ml Glass	HCL	Yes	4.6	IR
1	125ml Plastic	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	05/03/19 15:20	JML	
Metal Digestion	Completed	SW3015A	06/04/19 11:00	CCM	

Inorganics

Method: E120.1, Run Date: 06/04/19 11:26, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	3,440	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/04/19 19:55, Analyst: ASB

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

Method: SM5310C, Run Date: 06/04/19 15:48, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	75.8	2		mg/L	2		

Metals

Method: E200.8, Run Date: 06/04/19 12:28, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	0.459	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	0.482	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.060	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.013	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/31/19 16:26, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S02589.03 (continued)

Sample Tag: SUMP - B

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/31/19 16:26, Analyst: KAG (continued)

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



Analytical Laboratory Report

Lab Sample ID: S02589.03 (continued)

Sample Tag: SUMP - B

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/31/19 16:26, Analyst: KAG (continued)

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



Analytical Laboratory Report

Lab Sample ID: S02589.04

Sample Tag: VAULT - B

Collected Date/Time: 05/29/2019 11:20

Matrix: Wastewater

COC Reference: 117149

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	1L Plastic	None	Yes	4.6	IR
1	125ml Plastic	HNO3	Yes	4.6	IR
2	40ml Glass	H2SO4	Yes	4.6	IR
1	125ml Plastic	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	06/04/19 11:00	CCM	

Inorganics

Method: E120.1, Run Date: 06/04/19 11:28, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,058	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/04/19 19:55, Analyst: ASB

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

Method: SM5310C, Run Date: 06/04/19 16:10, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	6.0	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/04/19 12:30, 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	0.007	0.005		mg/L	5	7440-66-6	



Analytical Laboratory Report

Lab Sample ID: S02589.05

Sample Tag: SUMP - C

Collected Date/Time: 05/29/2019 12:05

Matrix: Wastewater

COC Reference: 117149

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	1L Plastic	None	Yes	4.6	IR
1	125ml Plastic	HNO3	Yes	4.6	IR
2	40ml Glass	H2SO4	Yes	4.6	IR
3	40ml Glass	HCL	Yes	4.6	IR
1	125ml Plastic	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	05/03/19 15:20	JML	
Metal Digestion	Completed	SW3015A	06/04/19 11:00	CCM	

Inorganics

Method: E120.1, Run Date: 06/04/19 11:30, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	2,240	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/04/19 19:55, Analyst: ASB

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

Method: SM5310C, Run Date: 06/04/19 16:33, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	43.0	4		mg/L	4		

Metals

Method: E200.8, Run Date: 06/04/19 12:33, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	0.105	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	0.690	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.162	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.008	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/31/19 16:45, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S02589.05 (continued)

Sample Tag: SUMP - C

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/31/19 16:45, Analyst: KAG (continued)

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



Analytical Laboratory Report

Lab Sample ID: S02589.05 (continued)

Sample Tag: SUMP - C

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/31/19 16:45, Analyst: KAG (continued)

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



Analytical Laboratory Report

Lab Sample ID: S02589.06

Sample Tag: VAULT - C

Collected Date/Time: 05/29/2019 12:35

Matrix: Wastewater

COC Reference: 117149

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	1L Plastic	None	Yes	4.6	IR
1	125ml Plastic	HNO3	Yes	4.6	IR
2	40ml Glass	H2SO4	Yes	4.6	IR
1	125ml Plastic	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	06/04/19 11:00	CCM	

Inorganics

Method: E120.1, Run Date: 06/04/19 11:34, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,668	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/04/19 19:55, Analyst: ASB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Suspended Solids	6	3		mg/L	1		

Method: SM5310C, Run Date: 06/04/19 16:55, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	8.0	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/04/19 12:35, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.008	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.230	0.005		mg/L	5	7440-66-6	



Analytical Laboratory Report

Lab Sample ID: S02589.07

Sample Tag: SUMP - D

Collected Date/Time: 05/29/2019 13:30

Matrix: Wastewater

COC Reference: 117149

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	1L Plastic	None	Yes	4.6	IR
1	125ml Plastic	HNO3	Yes	4.6	IR
2	40ml Glass	H2SO4	Yes	4.6	IR
3	40ml Glass	HCL	Yes	4.6	IR
1	125ml Plastic	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	05/03/19 15:20	JML	
Metal Digestion	Completed	SW3015A	06/04/19 11:00	CCM	

Inorganics

Method: E120.1, Run Date: 06/04/19 11:36, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	5,430	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/04/19 19:55, Analyst: ASB

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

Method: SM5310C, Run Date: 06/04/19 17:17, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	192	5		mg/L	5		

Metals

Method: E200.8, Run Date: 06/04/19 12:46, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	0.053	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	0.983	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	1.13	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.006	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/31/19 17:05, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	10		ug/L	1	60-29-7	
Acetone	1,222	50		ug/L	1	67-64-1	E
Methyl iodide	Not detected	1		ug/L	1	74-88-4	
Carbon disulfide	Not detected	5		ug/L	1	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	5		ug/L	1	1634-04-4	
Acrylonitrile	21	2		ug/L	1	107-13-1	
2-Butanone (MEK)	45	25		ug/L	1	78-93-3	
Dichlorodifluoromethane	Not detected	5		ug/L	1	75-71-8	
Chloromethane	Not detected	5		ug/L	1	74-87-3	
Vinyl chloride	Not detected	1		ug/L	1	75-01-4	

E-Concentration exceeds calibration range



Analytical Laboratory Report

Lab Sample ID: S02589.07 (continued)

Sample Tag: SUMP - D

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/31/19 17:05, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Bromomethane	Not detected	5		ug/L	1	74-83-9	
Chloroethane	Not detected	5		ug/L	1	75-00-3	
Trichlorofluoromethane	Not detected	1		ug/L	1	75-69-4	
1,1-Dichloroethene	Not detected	1		ug/L	1	75-35-4	
Methylene chloride	Not detected	5		ug/L	1	75-09-2	
trans-1,2-Dichloroethene	Not detected	1		ug/L	1	156-60-5	
1,1-Dichloroethane	Not detected	1		ug/L	1	75-34-3	
cis-1,2-Dichloroethene	Not detected	1		ug/L	1	156-59-2	
Tetrahydrofuran*	Not detected	90		ug/L	1	109-99-9	
Chloroform	Not detected	1		ug/L	1	67-66-3	
Bromochloromethane	Not detected	1		ug/L	1	74-97-5	
1,1,1-Trichloroethane	Not detected	1		ug/L	1	71-55-6	
4-Methyl-2-pentanone (MIBK)	51	50		ug/L	1	108-10-1	
2-Hexanone	Not detected	50		ug/L	1	591-78-6	
Carbon tetrachloride	Not detected	1		ug/L	1	56-23-5	
Benzene	Not detected	1		ug/L	1	71-43-2	
1,2-Dichloroethane	Not detected	1		ug/L	1	107-06-2	
Trichloroethene	Not detected	1		ug/L	1	79-01-6	
1,2-Dichloropropane	Not detected	1		ug/L	1	78-87-5	
Bromodichloromethane	Not detected	1		ug/L	1	75-27-4	
Dibromomethane	Not detected	5		ug/L	1	74-95-3	
cis-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-01-5	
Toluene	Not detected	1		ug/L	1	108-88-3	
trans-1,3-Dichloropropene	Not detected	1		ug/L	1	10061-02-6	
1,1,2-Trichloroethane	Not detected	1		ug/L	1	79-00-5	
Tetrachloroethene	Not detected	1		ug/L	1	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	1		ug/L	1	110-57-6	
Dibromochloromethane	Not detected	5		ug/L	1	124-48-1	
1,2-Dibromoethane	Not detected	1		ug/L	1	106-93-4	
Chlorobenzene	Not detected	1		ug/L	1	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	1		ug/L	1	630-20-6	
Ethylbenzene	Not detected	1		ug/L	1	100-41-4	
p,m-Xylene*	Not detected	2		ug/L	1		
o-Xylene	Not detected	1		ug/L	1	95-47-6	
Styrene	Not detected	1		ug/L	1	100-42-5	
Isopropylbenzene	Not detected	5		ug/L	1	98-82-8	
Bromoform	Not detected	1		ug/L	1	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	1		ug/L	1	79-34-5	
1,2,3-Trichloropropane	Not detected	1		ug/L	1	96-18-4	
n-Propylbenzene	Not detected	1		ug/L	1	103-65-1	
Bromobenzene	Not detected	1		ug/L	1	108-86-1	
1,3,5-Trimethylbenzene	Not detected	1		ug/L	1	108-67-8	
tert-Butylbenzene	Not detected	1		ug/L	1	98-06-6	
1,2,4-Trimethylbenzene	Not detected	1		ug/L	1	95-63-6	
sec-Butylbenzene	Not detected	1		ug/L	1	135-98-8	
p-Isopropyltoluene	Not detected	5		ug/L	1	99-87-6	
1,3-Dichlorobenzene	Not detected	1		ug/L	1	541-73-1	
1,4-Dichlorobenzene	Not detected	1		ug/L	1	106-46-7	
1,2-Dichlorobenzene	Not detected	1		ug/L	1	95-50-1	
1,2,3-Trimethylbenzene	Not detected	1		ug/L	1	526-73-8	



Analytical Laboratory Report

Lab Sample ID: S02589.07 (continued)

Sample Tag: SUMP - D

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/31/19 17:05, Analyst: KAG (continued)

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

Volatile Organics - DEQ List (Replicate 01), Method: SW5030C/8260C, Run Date: 06/05/19 21:47, Analyst: KAG

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	100		ug/L	10	60-29-7	Y
Acetone	1,390	500		ug/L	10	67-64-1	Y
Methyl iodide	Not detected	10		ug/L	10	74-88-4	Y
Carbon disulfide	Not detected	50		ug/L	10	75-15-0	Y
tert-Methyl butyl ether (MTBE)	Not detected	50		ug/L	10	1634-04-4	Y
Acrylonitrile	30	20		ug/L	10	107-13-1	Y
2-Butanone (MEK)	Not detected	250		ug/L	10	78-93-3	Y
Dichlorodifluoromethane	Not detected	50		ug/L	10	75-71-8	Y
Chloromethane	Not detected	50		ug/L	10	74-87-3	Y
Vinyl chloride	Not detected	10		ug/L	10	75-01-4	Y
Bromomethane	Not detected	50		ug/L	10	74-83-9	Y
Chloroethane	Not detected	50		ug/L	10	75-00-3	Y
Trichlorofluoromethane	Not detected	10		ug/L	10	75-69-4	Y
1,1-Dichloroethene	Not detected	10		ug/L	10	75-35-4	Y
Methylene chloride	Not detected	50		ug/L	10	75-09-2	Y
trans-1,2-Dichloroethene	Not detected	10		ug/L	10	156-60-5	Y
1,1-Dichloroethane	Not detected	10		ug/L	10	75-34-3	Y
cis-1,2-Dichloroethene	Not detected	10		ug/L	10	156-59-2	Y
Tetrahydrofuran*	Not detected	900		ug/L	10	109-99-9	Y
Chloroform	Not detected	10		ug/L	10	67-66-3	Y
Bromochloromethane	Not detected	10		ug/L	10	74-97-5	Y
1,1,1-Trichloroethane	Not detected	10		ug/L	10	71-55-6	Y
4-Methyl-2-pentanone (MIBK)	Not detected	500		ug/L	10	108-10-1	Y
2-Hexanone	Not detected	500		ug/L	10	591-78-6	Y
Carbon tetrachloride	Not detected	10		ug/L	10	56-23-5	Y
Benzene	Not detected	10		ug/L	10	71-43-2	Y
1,2-Dichloroethane	Not detected	10		ug/L	10	107-06-2	Y
Trichloroethene	Not detected	10		ug/L	10	79-01-6	Y
1,2-Dichloropropane	Not detected	10		ug/L	10	78-87-5	Y
Bromodichloromethane	Not detected	10		ug/L	10	75-27-4	Y
Dibromomethane	Not detected	50		ug/L	10	74-95-3	Y
cis-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-01-5	Y
Toluene	Not detected	10		ug/L	10	108-88-3	Y
trans-1,3-Dichloropropene	Not detected	10		ug/L	10	10061-02-6	Y
1,1,2-Trichloroethane	Not detected	10		ug/L	10	79-00-5	Y
Tetrachloroethene	Not detected	10		ug/L	10	127-18-4	Y
trans-1,4-Dichloro-2-butene	Not detected	10		ug/L	10	110-57-6	Y
Dibromochloromethane	Not detected	50		ug/L	10	124-48-1	Y
1,2-Dibromoethane	Not detected	10		ug/L	10	106-93-4	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S02589.07 (continued)

Sample Tag: SUMP - D

Volatile Organics - DEQ List (Replicate 01), Method: SW5030C/8260C, Run Date: 06/05/19 21:47, Analyst: KAG (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chlorobenzene	Not detected	10		ug/L	10	108-90-7	Y
1,1,1,2-Tetrachloroethane	Not detected	10		ug/L	10	630-20-6	Y
Ethylbenzene	Not detected	10		ug/L	10	100-41-4	Y
p,m-Xylene*	Not detected	20		ug/L	10		Y
o-Xylene	Not detected	10		ug/L	10	95-47-6	Y
Styrene	Not detected	10		ug/L	10	100-42-5	Y
Isopropylbenzene	Not detected	50		ug/L	10	98-82-8	Y
Bromoform	Not detected	10		ug/L	10	75-25-2	Y
1,1,2,2-Tetrachloroethane	Not detected	10		ug/L	10	79-34-5	Y
1,2,3-Trichloropropane	Not detected	10		ug/L	10	96-18-4	Y
n-Propylbenzene	Not detected	10		ug/L	10	103-65-1	Y
Bromobenzene	Not detected	10		ug/L	10	108-86-1	Y
1,3,5-Trimethylbenzene	Not detected	10		ug/L	10	108-67-8	Y
tert-Butylbenzene	Not detected	10		ug/L	10	98-06-6	Y
1,2,4-Trimethylbenzene	Not detected	10		ug/L	10	95-63-6	Y
sec-Butylbenzene	Not detected	10		ug/L	10	135-98-8	Y
p-Isopropyltoluene	Not detected	50		ug/L	10	99-87-6	Y
1,3-Dichlorobenzene	Not detected	10		ug/L	10	541-73-1	Y
1,4-Dichlorobenzene	Not detected	10		ug/L	10	106-46-7	Y
1,2-Dichlorobenzene	Not detected	10		ug/L	10	95-50-1	Y
1,2,3-Trimethylbenzene	Not detected	10		ug/L	10	526-73-8	Y
n-Butylbenzene	Not detected	10		ug/L	10	104-51-8	Y
Hexachloroethane	Not detected	50		ug/L	10	67-72-1	Y
1,2-Dibromo-3-chloropropane	Not detected	50		ug/L	10	96-12-8	Y
1,2,4-Trichlorobenzene	Not detected	50		ug/L	10	120-82-1	Y
1,2,3-Trichlorobenzene	Not detected	50		ug/L	10	87-61-6	Y
Naphthalene	Not detected	50		ug/L	10	91-20-3	Y
2-Methylnaphthalene	Not detected	50		ug/L	10	91-57-6	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S02589.08

Sample Tag: VAULT - D

Collected Date/Time: 05/29/2019 14:10

Matrix: Wastewater

COC Reference: 117149

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	1L Plastic	None	Yes	4.6	IR
1	125ml Plastic	HNO3	Yes	4.6	IR
2	40ml Glass	H2SO4	Yes	4.6	IR
1	125ml Plastic	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	06/04/19 11:00	CCM	

Inorganics

Method: E120.1, Run Date: 06/04/19 11:38, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,583	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/04/19 19:55, Analyst: ASB

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

Method: SM5310C, Run Date: 06/04/19 18:02, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	9.9	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/04/19 12:38, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.013	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.008	0.005		mg/L	5	7440-66-6	



Analytical Laboratory Report

Lab Sample ID: S02589.09

Sample Tag: SUMP - E

Collected Date/Time: 05/29/2019 14:40

Matrix: Wastewater

COC Reference: 117149

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	1L Plastic	None	Yes	4.6	IR
1	125ml Plastic	HNO3	Yes	4.6	IR
2	40ml Glass	H2SO4	Yes	4.6	IR
3	40ml Glass	HCL	Yes	4.6	IR
1	125ml Plastic	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	05/03/19 15:20	JML	
Metal Digestion	Completed	SW3015A	06/04/19 11:00	CCM	

Inorganics

Method: E120.1, Run Date: 06/04/19 11:40, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,866	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/04/19 19:55, Analyst: ASB

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

Method: SM5310C, Run Date: 06/04/19 18:24, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	23.9	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/04/19 12:41, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	0.033	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	0.177	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.042	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.007	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/31/19 17:24, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S02589.09 (continued)

Sample Tag: SUMP - E

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/31/19 17:24, Analyst: KAG (continued)

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



Analytical Laboratory Report

Lab Sample ID: S02589.09 (continued)

Sample Tag: SUMP - E

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/31/19 17:24, Analyst: KAG (continued)

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



Analytical Laboratory Report

Lab Sample ID: S02589.10

Sample Tag: VAULT - E

Collected Date/Time: 05/29/2019 15:10

Matrix: Wastewater

COC Reference: 117149

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	1L Plastic	None	Yes	4.6	IR
1	125ml Plastic	HNO3	Yes	4.6	IR
2	40ml Glass	H2SO4	Yes	4.6	IR
1	125ml Plastic	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	06/04/19 11:00	CCM	

Inorganics

Method: E120.1, Run Date: 06/04/19 11:42, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,339	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/04/19 19:55, Analyst: ASB

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

Method: SM5310C, Run Date: 06/04/19 18:47, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	5.3	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/04/19 12:43, 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: S02589.11

Sample Tag: SUMP - F

Collected Date/Time: 05/29/2019 15:50

Matrix: Wastewater

COC Reference: 117149

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	1L Plastic	None	Yes	4.6	IR
1	125ml Plastic	HNO3	Yes	4.6	IR
2	40ml Glass	H2SO4	Yes	4.6	IR
3	40ml Glass	HCL	Yes	4.6	IR
1	125ml Plastic	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	05/03/19 15:20	JML	
Metal Digestion	Completed	SW3015A	06/04/19 11:00	CCM	

Inorganics

Method: E120.1, Run Date: 06/04/19 11:44, Analyst: JKB

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

Method: SM2540D, Run Date: 06/04/19 19:55, Analyst: ASB

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

Method: SM5310C, Run Date: 06/04/19 19:10, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	33.7	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/04/19 12:52, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	0.034	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	0.066	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.025	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.012	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/31/19 17:43, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S02589.11 (continued)

Sample Tag: SUMP - F

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/31/19 17:43, Analyst: KAG (continued)

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



Analytical Laboratory Report

Lab Sample ID: S02589.11 (continued)

Sample Tag: SUMP - F

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/31/19 17:43, Analyst: KAG (continued)

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



Analytical Laboratory Report

Lab Sample ID: S02589.12

Sample Tag: VAULT - F

Collected Date/Time: 05/29/2019 16:20

Matrix: Wastewater

COC Reference: 117149

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	1L Plastic	None	Yes	4.6	IR
1	125ml Plastic	HNO3	Yes	4.6	IR
2	40ml Glass	H2SO4	Yes	4.6	IR
1	125ml Plastic	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	06/04/19 11:00	CCM	

Inorganics

Method: E120.1, Run Date: 06/04/19 11:46, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,563	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/04/19 19:55, Analyst: ASB

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

Method: SM5310C, Run Date: 06/04/19 19:32, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	5.3	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/04/19 12:55, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.010	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: S02589.13

Sample Tag: DUP - 1

Collected Date/Time: 05/29/2019 00:01

Matrix: Wastewater

COC Reference: 117150

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	1L Plastic	None	Yes	4.6	IR
1	125ml Plastic	HNO3	Yes	4.6	IR
2	40ml Glass	H2SO4	Yes	4.6	IR
3	40ml Glass	HCL	Yes	4.6	IR
1	125ml Plastic	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	05/03/19 15:20	JML	
Metal Digestion	Completed	SW3015A	06/04/19 11:00	CCM	

Inorganics

Method: E120.1, Run Date: 06/04/19 11:48, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,861	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/04/19 19:55, Analyst: ASB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Suspended Solids	24	3		mg/L	1		

Method: SM5310C, Run Date: 06/04/19 19:55, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	23.9	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/04/19 12:57, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	0.036	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	0.177	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.043	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.007	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/31/19 18:03, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S02589.13 (continued)

Sample Tag: DUP - 1

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/31/19 18:03, Analyst: KAG (continued)

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



Analytical Laboratory Report

Lab Sample ID: S02589.13 (continued)

Sample Tag: DUP - 1

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/31/19 18:03, Analyst: KAG (continued)

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



Analytical Laboratory Report

Lab Sample ID: S02589.14

Sample Tag: DUP - 2

Collected Date/Time: 05/29/2019 00:01

Matrix: Wastewater

COC Reference: 117150

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	1L Plastic	None	Yes	4.6	IR
1	125ml Plastic	HNO3	Yes	4.6	IR
2	40ml Glass	H2SO4	Yes	4.6	IR
1	125ml Plastic	None	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	06/04/19 11:00	CCM	

Inorganics

Method: E120.1, Run Date: 06/04/19 11:50, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,334	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/04/19 19:55, Analyst: ASB

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

Method: SM5310C, Run Date: 06/04/19 20:17, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC	5.1	1		mg/L	1		

Metals

Method: E200.8, Run Date: 06/04/19 13:00, 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: S02589.15

Sample Tag: Trip Blank - 052919

Collected Date/Time: 05/29/2019 00:01

Matrix: Water

COC Reference: 117150

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	4.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	05/03/19 15:20	JML	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/31/19 14:10, Analyst: KAG

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



Analytical Laboratory Report

Lab Sample ID: S02589.15 (continued)

Sample Tag: Trip Blank - 052919

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 05/31/19 14:10, Analyst: KAG (continued)

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

Merit Laboratories Login Checklist

Lab Set ID:S02589

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

Project: RACER Coldwater Rd Landfill

Submitted:05/30/2019 15:30 Login User: SRS

Attention: Clifford Yantz

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

Phone: 248-477-5701 FAX:

Email: Clifford.Yantz@obg.com

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

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

Client Review By: _____ Date: _____

Merit Laboratories Bottle Preservation Check

Lab Set ID: S02589 Initials: SRS
 Client: OBG02 (O'Brien & Gere Engineers, Inc.)
 Project: RACER Coldwater Rd Landfill
 Submitted: 05/30/2019 15:30 Login User:

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

Phone: 248-477-5701 FAX:
 Email: Clifford.Yantz@obg.com

Lab ID	125 ml Plastic HNO ₃	250 ml Plastic HNO ₃	1 L Plastic HNO ₃	250 ml Plastic H ₂ SO ₄	125 ml Amber H ₂ SO ₄	32 oz Glass HCl	125 ml Plastic NaOH	125 ml Amber PbCO ₃ NaOH	pH					Notes	
									<2	>12	other	ml add	new pH		
S02589.01	X								X						
S02589.02	X								X						
S02589.03	X								X						
S02589.04	X								X						
S02589.05	X								X						
S02589.06	X								X						
S02589.07	X										6	1.0	<2	Lot# 53221	
S02589.08	X								X						
S02589.09	X								X						
S02589.10	X								X						
S02589.11	X								X						
S02589.12	X								X						
S02589.13	X								X						
S02589.14	X								X						



Analytical Laboratory Report

Report ID: S03045.01(01)
Generated on 06/10/2019

Report to

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

Phone: 248-477-5701 FAX:
Email: Clifford.Yantz@obg.com

Report produced by

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

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

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

Report Summary

Lab Sample ID(s): S03045.01
Project: RACER Coldwater Rd
Collected Date(s): 06/07/2019
Submitted Date/Time: 06/07/2019 13:30
Sampled by: Kevin Schneider
P.O. #: 11800350

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Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

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

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

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

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

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

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

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

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

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

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Certifications

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

Qualifier Descriptions

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

Glossary of Abbreviations

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



Analytical Laboratory Report

Method Summary

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



Analytical Laboratory Report

Sample Summary (1 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S03045.01	Vault C Resample	Wastewater	06/07/19 08:58



Analytical Laboratory Report

Lab Sample ID: S03045.01

Sample Tag: Vault C Resample

Collected Date/Time: 06/07/2019 08:58

Matrix: Wastewater

COC Reference: 125038

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	5.0	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	06/10/19 12:10	CCM	

Metals

Method: E200.8, Run Date: 06/10/19 14:11, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

Merit Laboratories Login Checklist

Lab Set ID:S03045

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

Project: RACER Coldwater Rd

Submitted:06/07/2019 13:30 Login User: SRS

Attention: Clifford Yantz

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

Phone: 248-477-5701 FAX:

Email: Clifford.Yantz@obg.com

Selection	Description	Note
Sample Receiving		
01.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Samples are received at 4C +/- 2C Thermometer # IR 5.0
02.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Received on ice/ cooling process begun
03.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples shipped
04.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples left in 24 hr. drop box
05.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Are there custody seals/tape or is the drop box locked
Chain of Custody		
06.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	COC adequately filled out
07.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	COC signed and relinquished to the lab
08.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample tag on bottles match COC
09.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Subcontracting needed? Subcontracted to:
Preservation		
10.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Do sample have correct chemical preservation
11.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Completed pH checks on preserved samples? (no VOAs)
12.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Did any samples need to be preserved in the lab?
Bottle Conditions		
13.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	All bottles intact
14.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Appropriate analytical bottles are used
15.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Merit bottles used
16.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sufficient sample volume received
17.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Samples require laboratory filtration
18.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Samples submitted within holding time
19.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Do water VOC or TOX bottles contain headspace

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

Client Review By: _____ Date: _____

Merit Laboratories Bottle Preservation Check

Lab Set ID: S03045 Initials: SRS

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

Project: RACER Coldwater Rd

Submitted: 06/07/2019 13:30 Login User:

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

Phone: 248-477-5701 FAX:
 Email: Clifford.Yantz@obg.com

Lab ID	125 ml Plastic HNO ₃	250 ml Plastic HNO ₃	1 L Plastic HNO ₃	250 ml Plastic H ₂ SO ₄	125 ml Amber H ₂ SO ₄	32 oz Glass HCl	125 ml Plastic NaOH	125 ml Amber PbCO ₃ NaOH	pH					Notes
									<2	>12	other	ml add	new pH	
S03045.01	X								X					



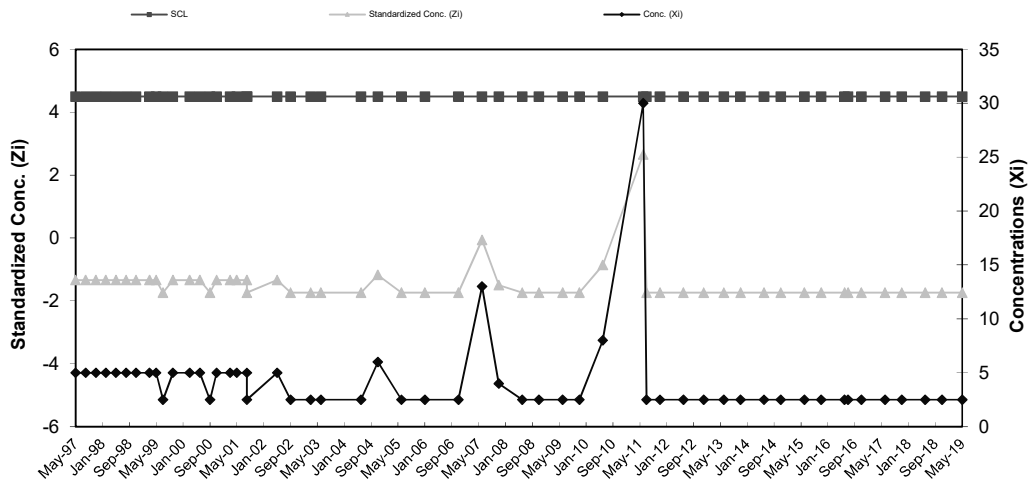
APPENDIX B
Leak Detection Vault
Control Charts

**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					
27	Aug-01	4.5	5	-1.34					
28	May-02	4.5	5	-1.34					
29	Sep-02	4.5	2.5	-1.74					
30	Mar-03	4.5	2.5	-1.74					
31	Jun-03	4.5	2.5	-1.74					
32	Jun-04	4.5	2.5	-1.74					
33	Nov-04	4.5	6	-1.18					
34	Jun-05	4.5	2.5	-1.74					
35	Jan-06	4.5	2.5	-1.74					
36	Nov-06	4.5	2.5	-1.74					
37	Jun-07	4.5	13	-0.06					
38	Nov-07	4.5	4	-1.50					
39	Jun-08	4.5	2.5	-1.74					
40	Nov-08	4.5	2.5	-1.74					
41	Jun-09	4.5	2.5	-1.74					
42	Nov-09	4.5	2.5	-1.74					
43	Jun-10	4.5	8	-0.86					
44	Jun-11	4.5	30	2.66					
45	Jul-11	4.5	2.5	-1.74					

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

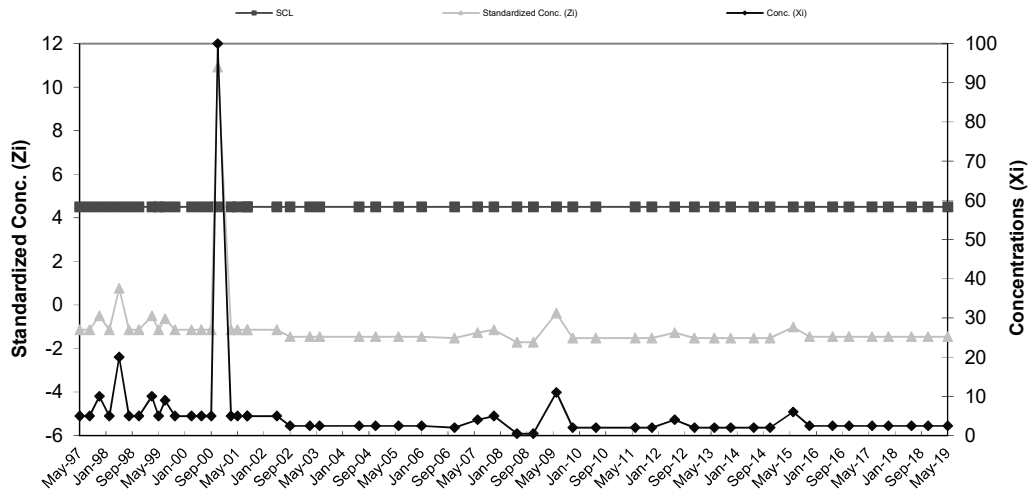


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault A - Copper

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

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

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

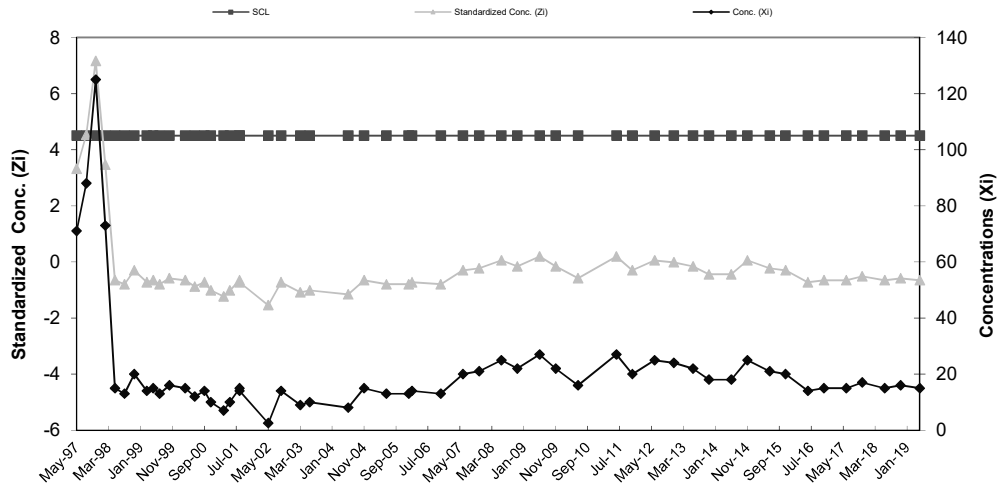


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault A - Nickel**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-95	20	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					
26	Aug-01	4.5	14	-0.73					
27	Aug-01	4.5	15	-0.66					
28	May-02	4.5	2.5	-1.55					
29	Sep-02	4.5	14	-0.73					
30	Mar-03	4.5	9	-1.08					
31	Jun-03	4.5	10	-1.01					
32	Jun-04	4.5	8	-1.16					
33	Nov-04	4.5	15	-0.66					
34	Jun-05	4.5	13	-0.80					
35	Jan-06	4.5	13	-0.80					
36	Feb-06	4.5	14	-0.73					
37	Nov-06	4.5	13	-0.80					
38	Jun-07	4.5	20	-0.30					
39	Nov-07	4.5	21	-0.23					
40	Jun-08	4.5	25	0.05					
41	Nov-08	4.5	22	-0.16					
42	Jun-09	4.5	27	0.20					
43	Nov-09	4.5	22	-0.16					
44	Jun-10	4.5	16	-0.59					
45	Jun-11	4.5	27	0.20					

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

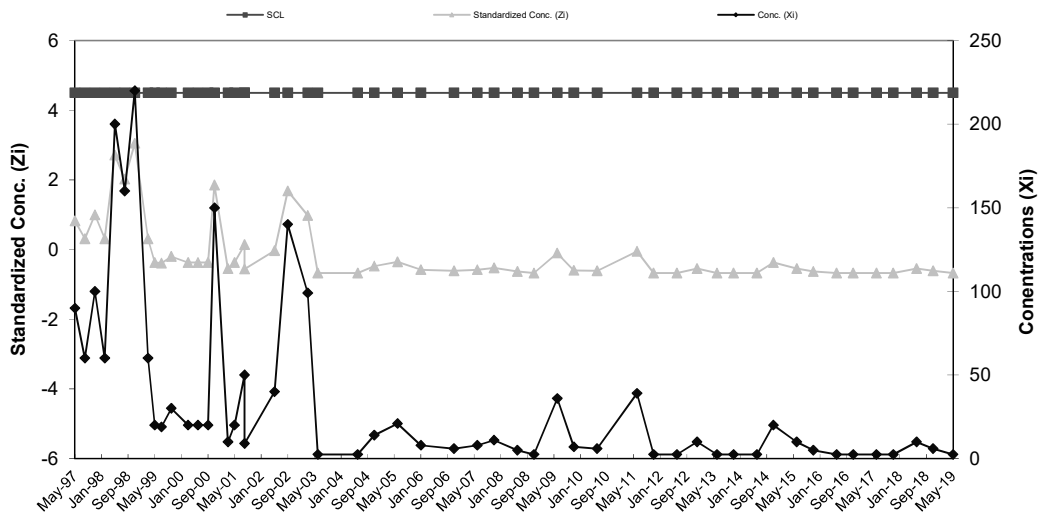


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault A - Zinc**

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

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

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

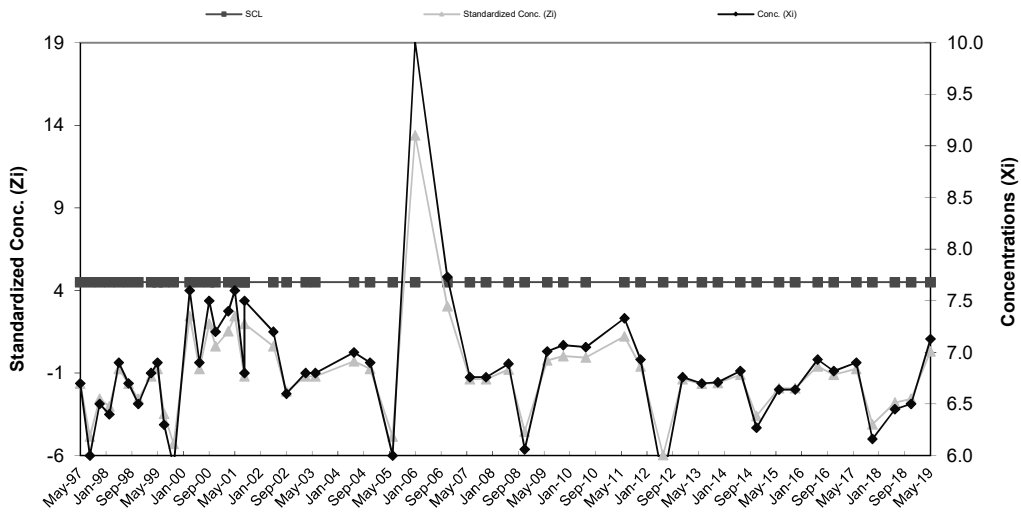


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault A - pH**

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

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

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

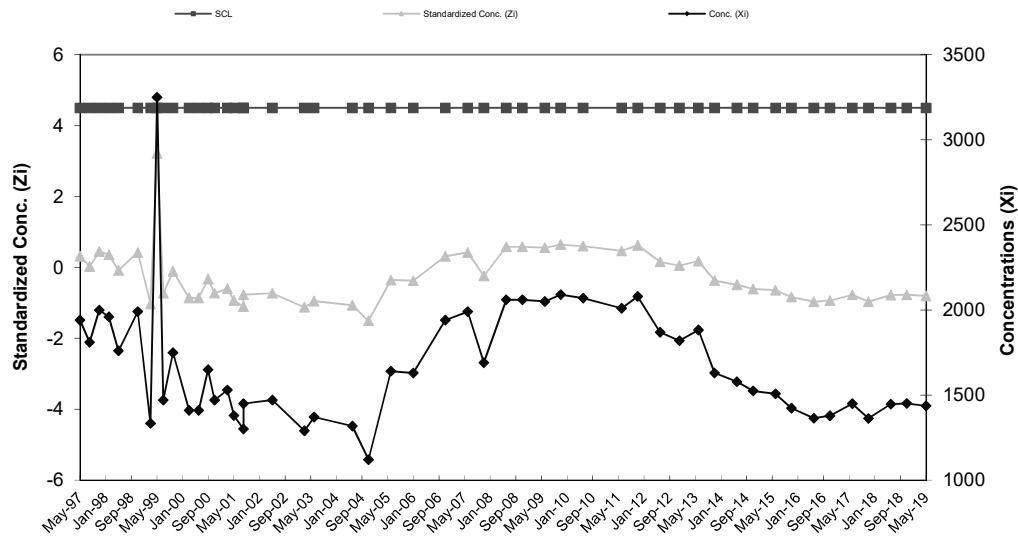


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault A - SpC**

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

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

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

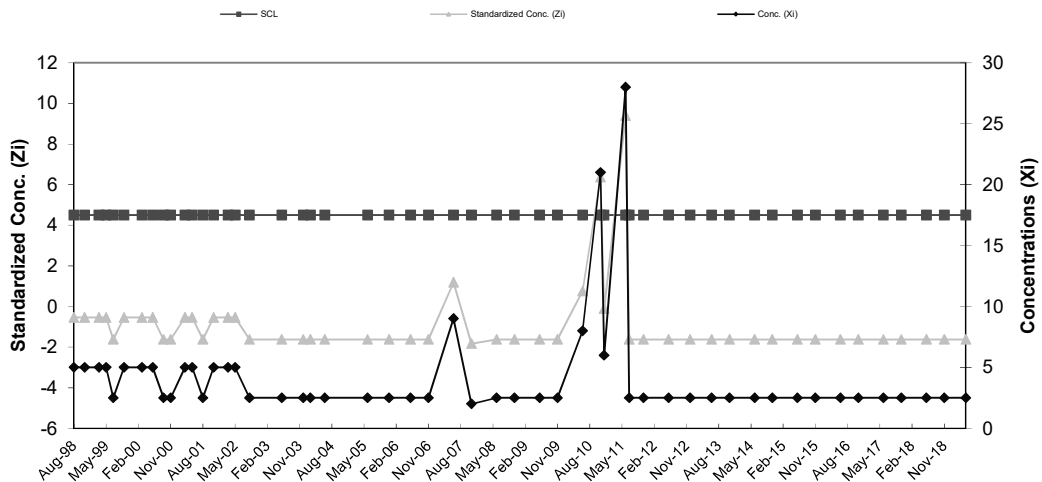


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault B - Chromium**

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

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

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

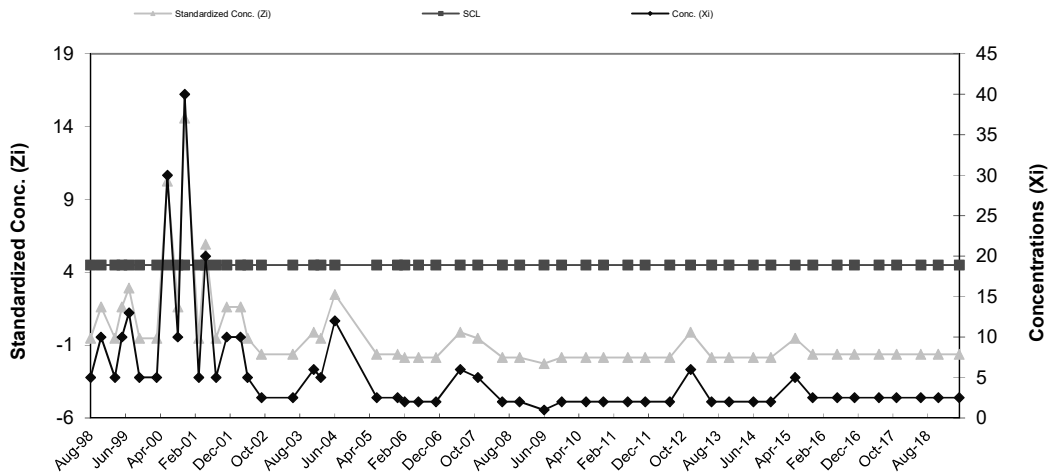


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault B - Copper**

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

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

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

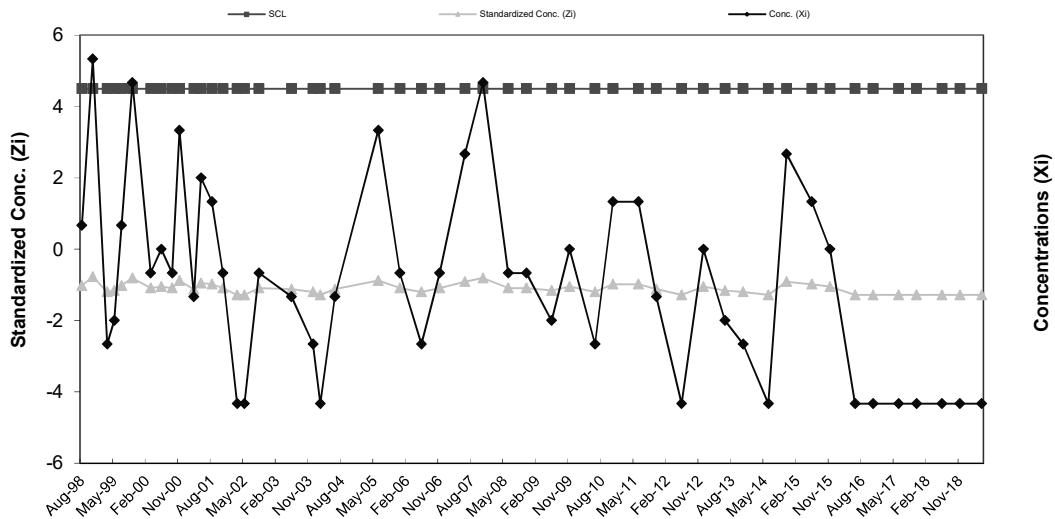


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault B - Nickel**

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

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

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

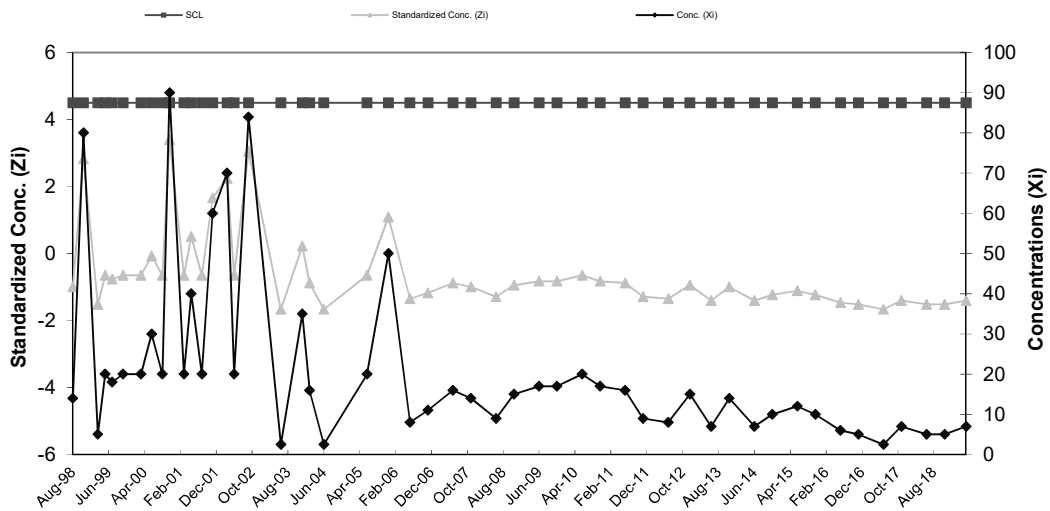


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault B - Zinc**

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

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

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

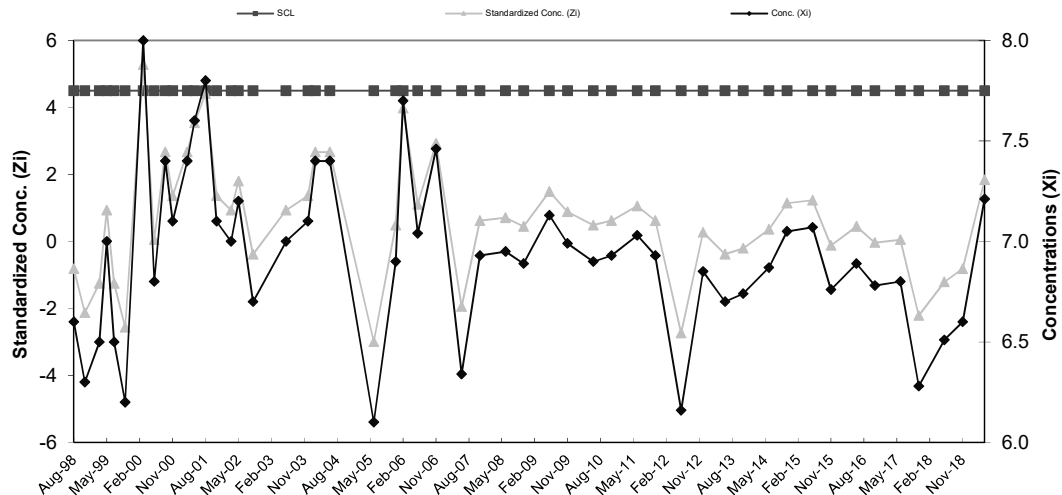


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault B - pH**

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

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

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

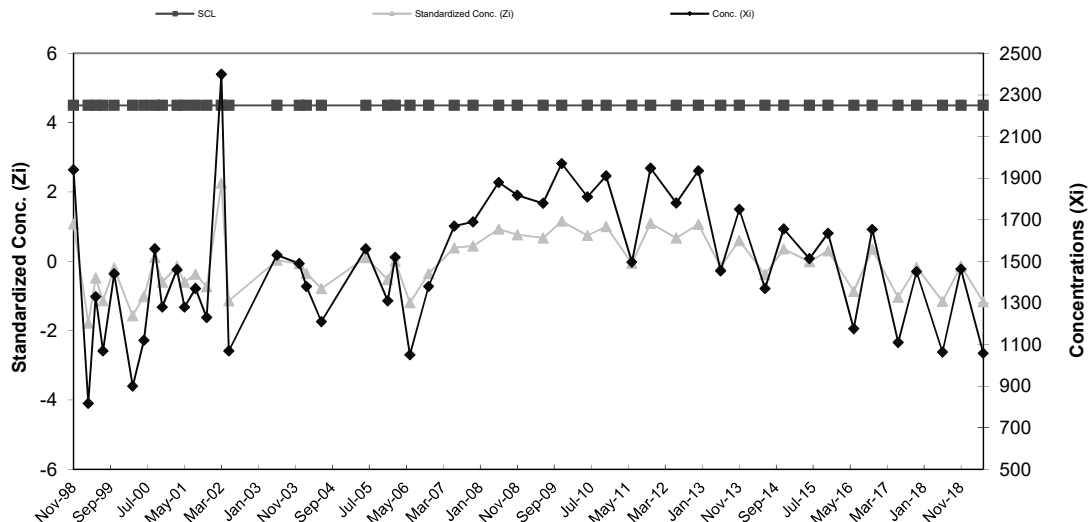


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault B - SpC**

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

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

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

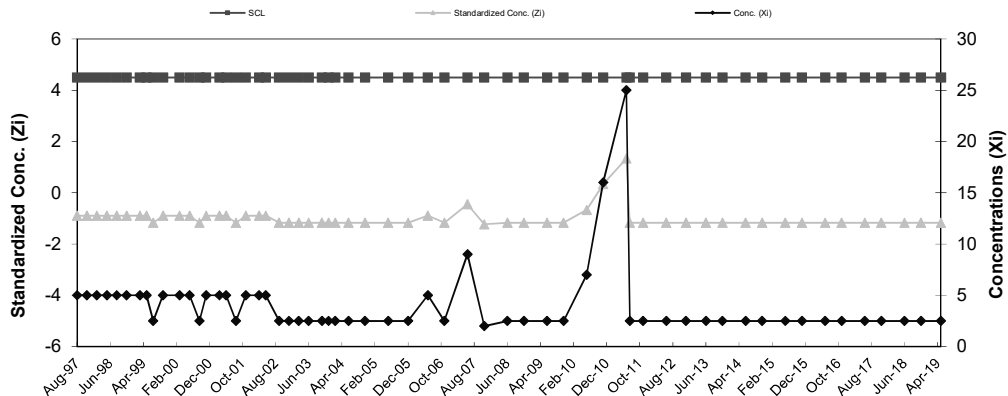


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault C - Chromium**

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

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

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

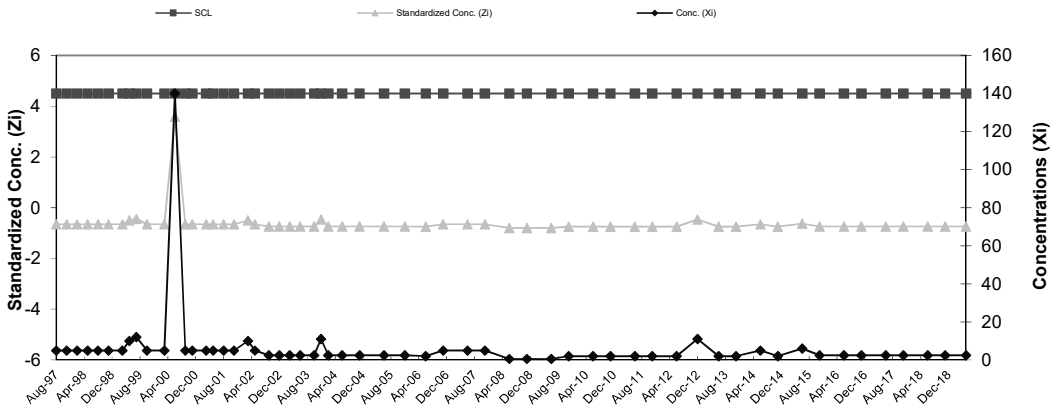


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault C - Copper

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

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

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

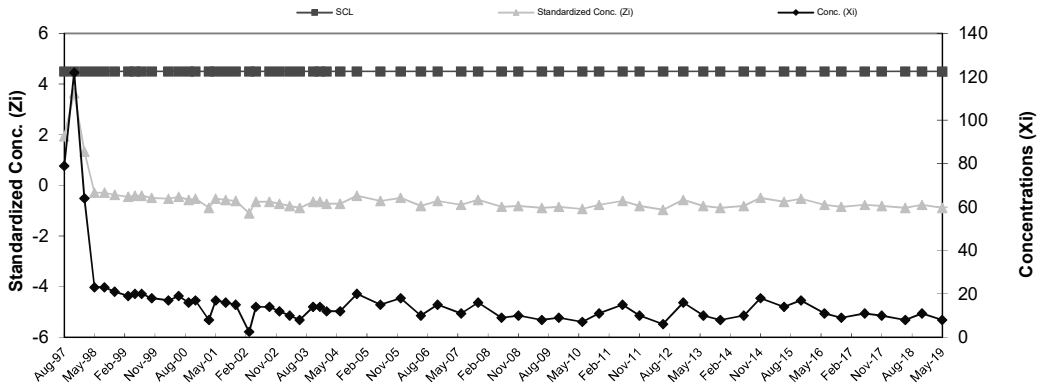


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault C - Nickel**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	15	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					
27	Nov-01	4.5	15	-0.61					
28	Mar-02	4.5	2.5	-1.11					
29	May-02	4.5	14	-0.65					
30	Sep-02	4.5	14	-0.65					
31	Dec-02	4.5	12	-0.73					
32	Mar-03	4.5	10	-0.81					
33	Jun-03	4.5	8	-0.89					
34	Oct-03	4.5	14	-0.65					
35	Dec-03	4.5	14	-0.65					
36	Feb-04	4.5	12	-0.73					
37	Jun-04	4.5	12	-0.73					
38	Nov-04	4.5	20	-0.41					
39	Jun-05	4.5	15	-0.61					
40	Dec-05	4.5	18	-0.49					
41	Jun-06	4.5	10	-0.81					
42	Nov-06	4.5	15	-0.61					
43	Jun-07	4.5	11	-0.77					
44	Nov-07	4.5	16	-0.57					
45	Jun-08	4.5	9	-0.85					
46	Nov-08	4.5	10	-0.81					
47	Jun-09	4.5	8	-0.89					
48	Nov-09	4.5	9	-0.85					
49	Jun-10	4.5	7	-0.93					
50	Nov-10	4.5	11	-0.77					
51	Jun-11	4.5	15	-0.61					

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

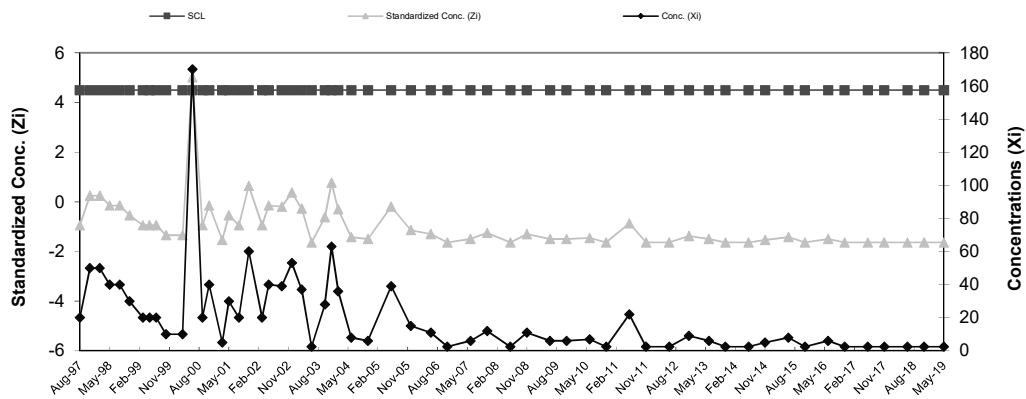


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault C - Zinc**

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

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

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

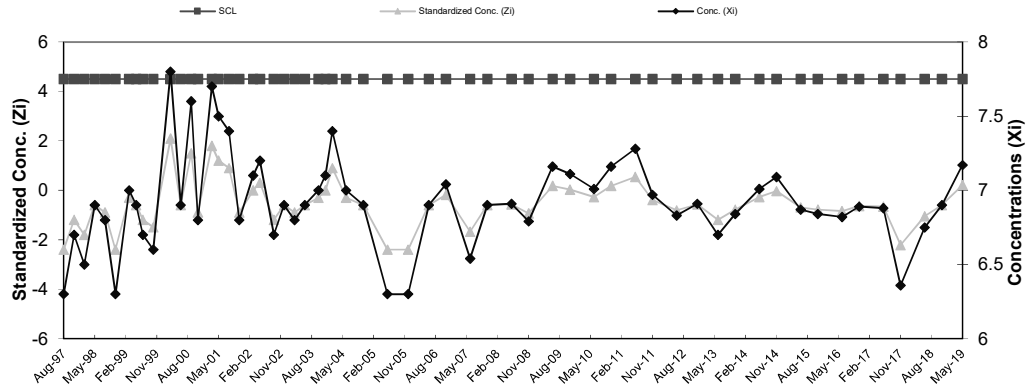


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault C - pH**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	7.4	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					
27	Nov-01	4.5	6.8	-0.90					
28	Mar-02	4.5	7.1	0.00					
29	May-02	4.5	7.2	0.30					
30	Sep-02	4.5	6.7	-1.20					
31	Dec-02	4.5	6.9	-0.60					
32	Mar-03	4.5	6.8	-0.90					
33	Jun-03	4.5	6.9	-0.60					
34	Oct-03	4.5	7	-0.30					
35	Dec-03	4.5	7.1	0.00					
36	Feb-04	4.5	7.4	0.90					
37	Jun-04	4.5	7	-0.30					
38	Nov-04	4.5	6.9	-0.60					
39	Jun-05	4.5	6.3	-2.40					
40	Dec-05	4.5	6.3	-2.40					
41	Jun-06	4.5	6.9	-0.60					
42	Nov-06	4.5	7.0	-0.18					
43	Jun-07	4.5	6.5	-1.68					
44	Nov-07	4.5	6.9	-0.60					
45	Jun-08	4.5	6.9	-0.57					
46	Nov-08	4.5	6.8	-0.93					
47	Jun-09	4.5	7.2	0.18					
48	Nov-09	4.5	7.1	0.03					
49	Jun-10	4.5	7.0	-0.27					
50	Nov-10	4.5	7.2	0.18					
51	Jun-11	4.5	7.3	0.54					

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

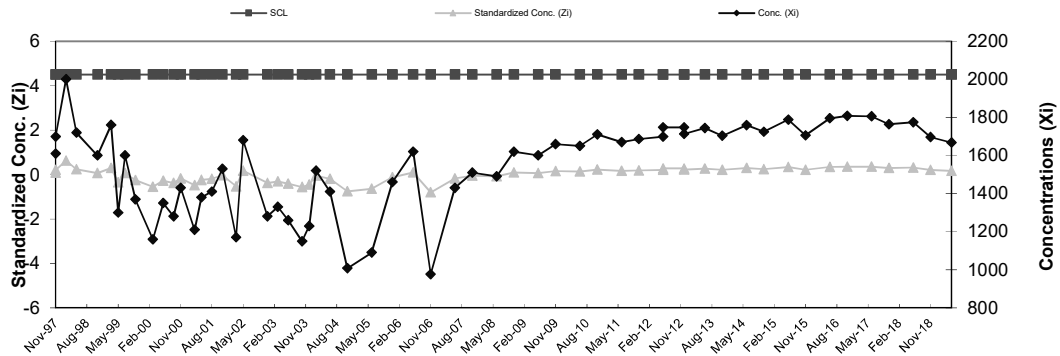


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault C - SpC**

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

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

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

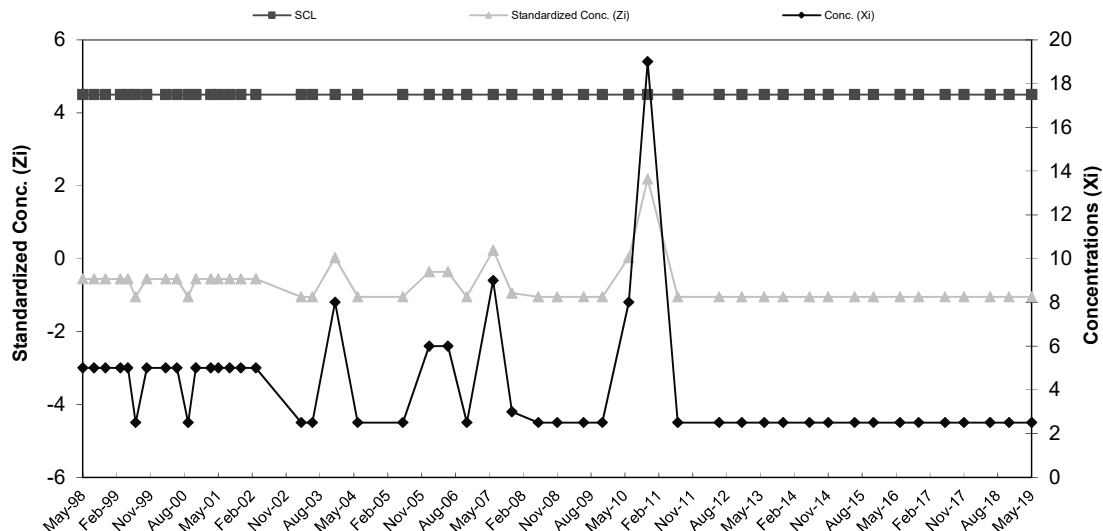


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault D - Chromium**

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

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

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

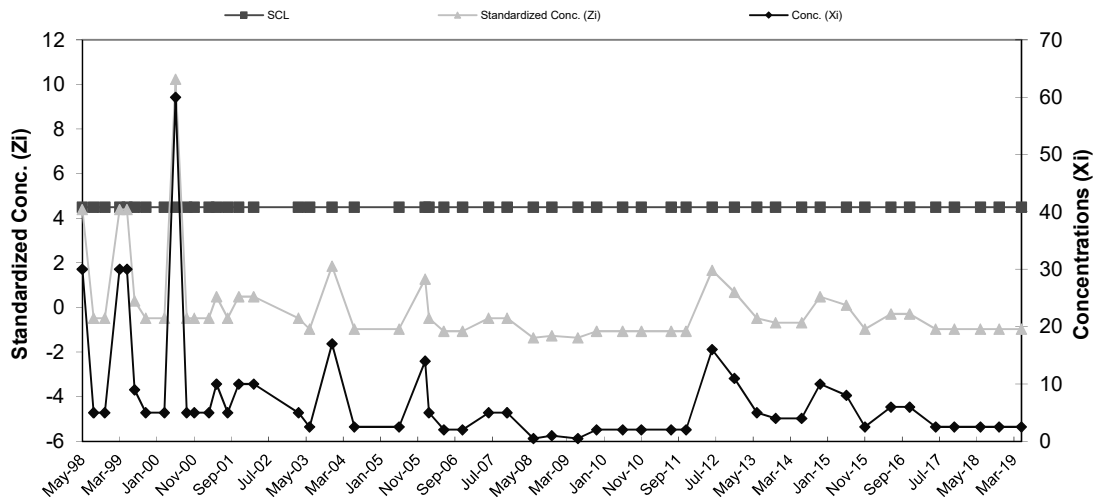


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault D - Copper**

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

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

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

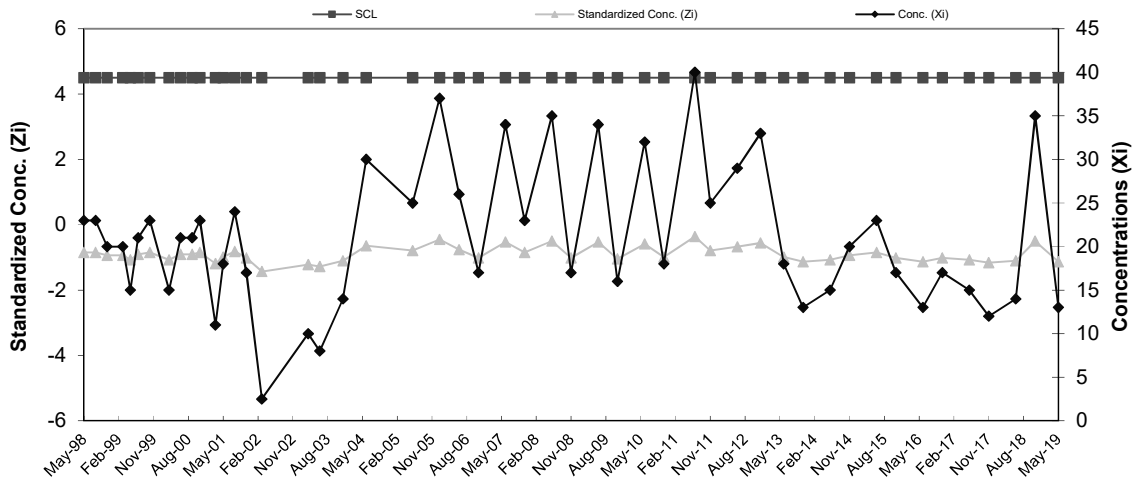


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault D - Nickel**

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

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

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

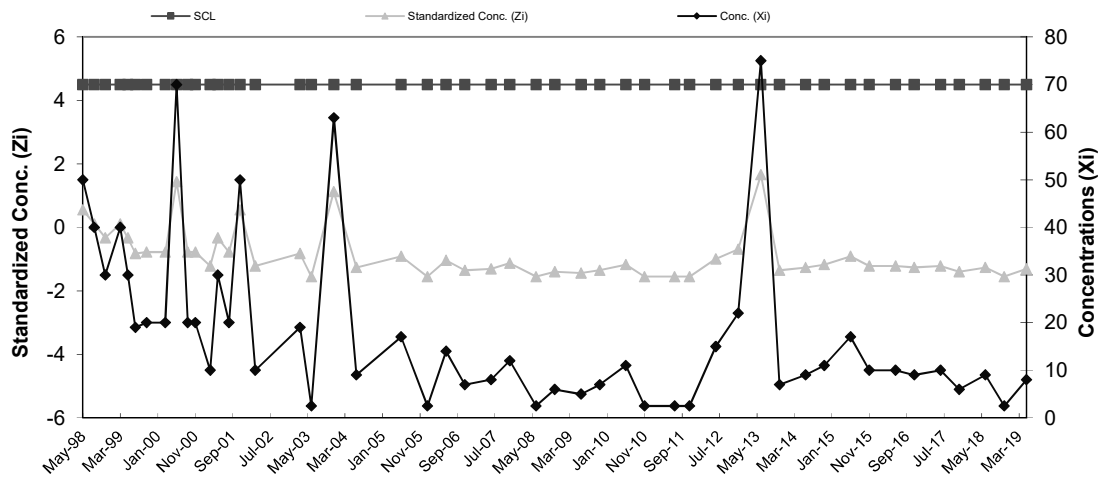


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault D - Zinc**

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

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

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

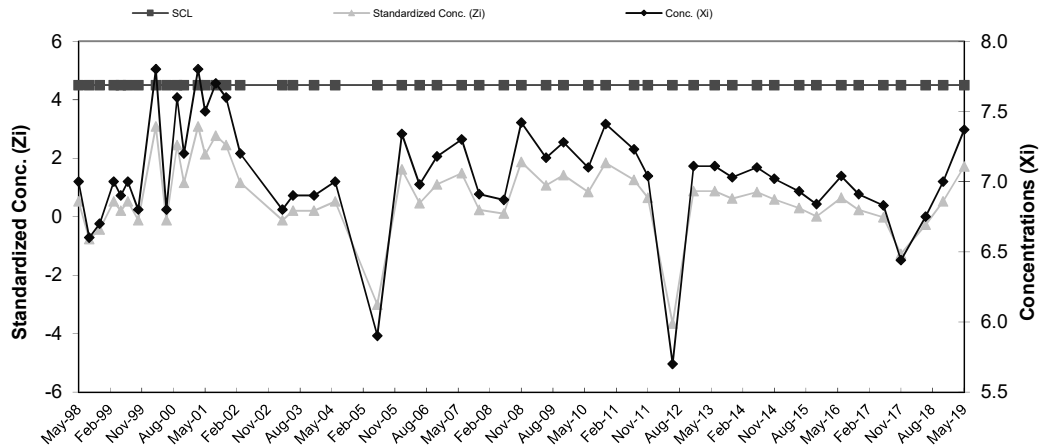


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault D - pH**

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

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

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

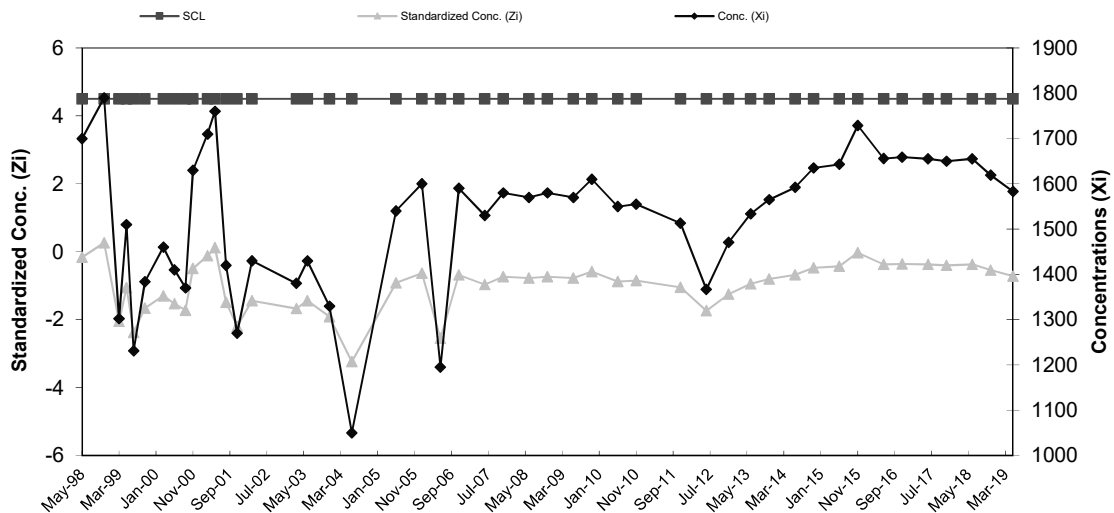


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault D - SpC**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-95	2200	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					
27	Dec-03	4.5	1330	-1.91					
28	Jun-04	4.5	1050	-3.24					
29	Jun-05	4.5	1540	-0.92					
30	Jan-06	4.5	1600	-0.64					
31	Jun-06	4.5	1195	-2.55					
32	Nov-06	4.5	1590	-0.68					
33	Jun-07	4.5	1530	-0.97					
34	Nov-07	4.5	1580	-0.73					
35	Jun-08	4.5	1570	-0.78					
36	Nov-08	4.5	1580	-0.73					
37	Jun-09	4.5	1570	-0.78					
38	Nov-09	4.5	1610	-0.59					
39	Jun-10	4.5	1550	-0.87					
40	Nov-10	4.5	1555	-0.85					

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

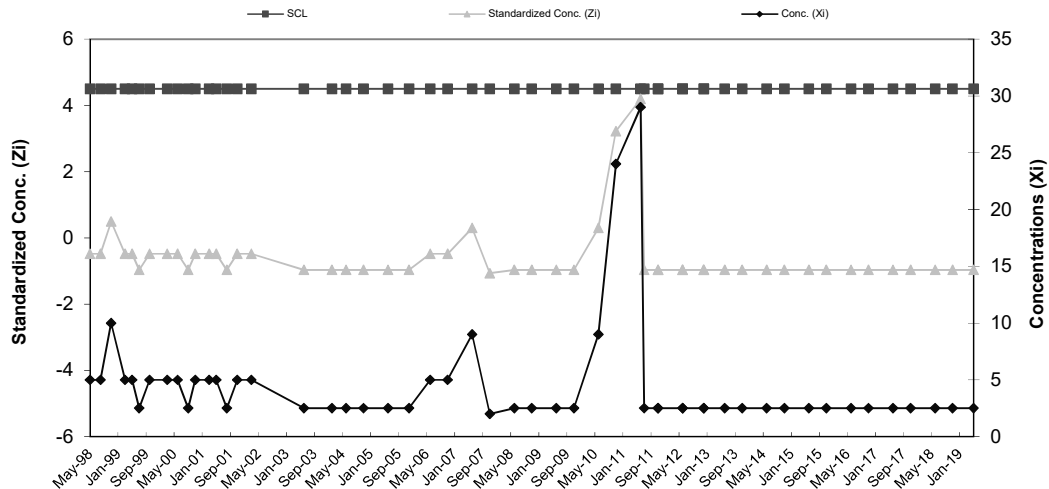


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault E - Chromium

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

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

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

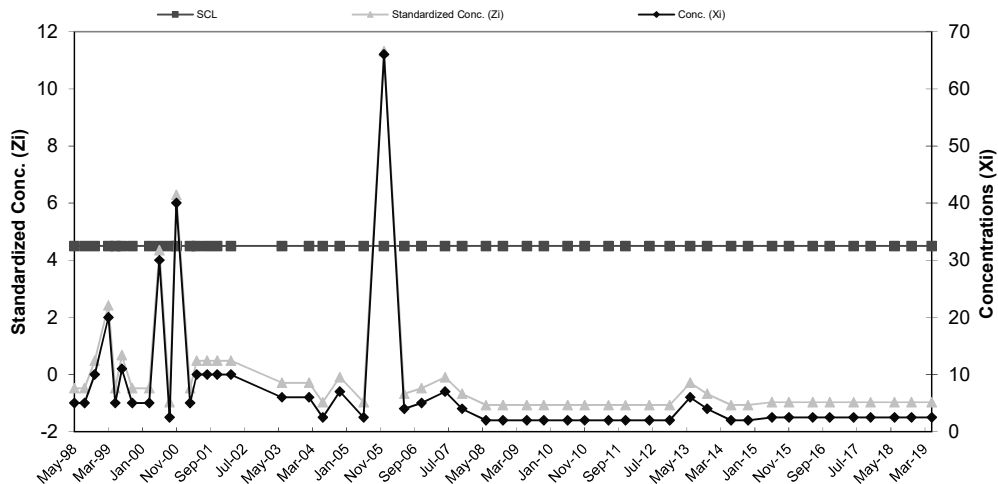


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault E - Copper**

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

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

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

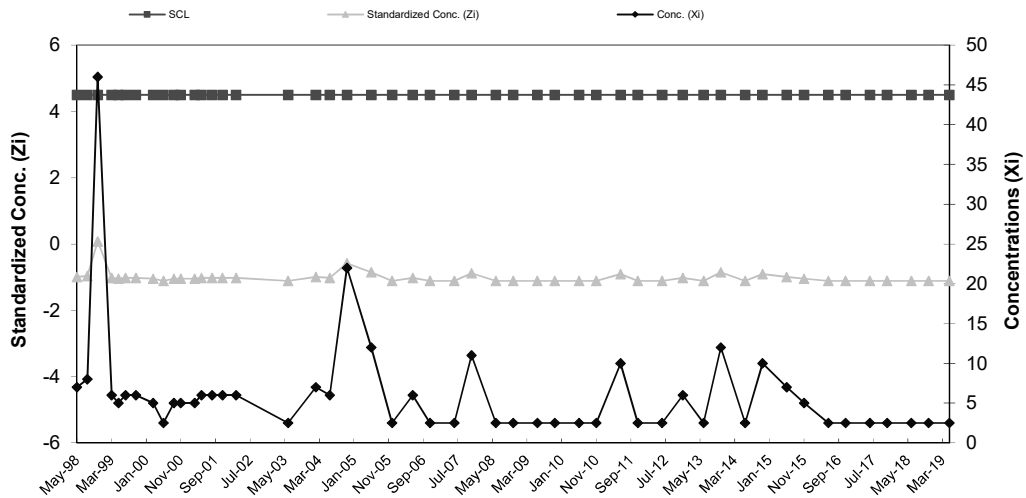


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault E - Nickel**

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

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

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

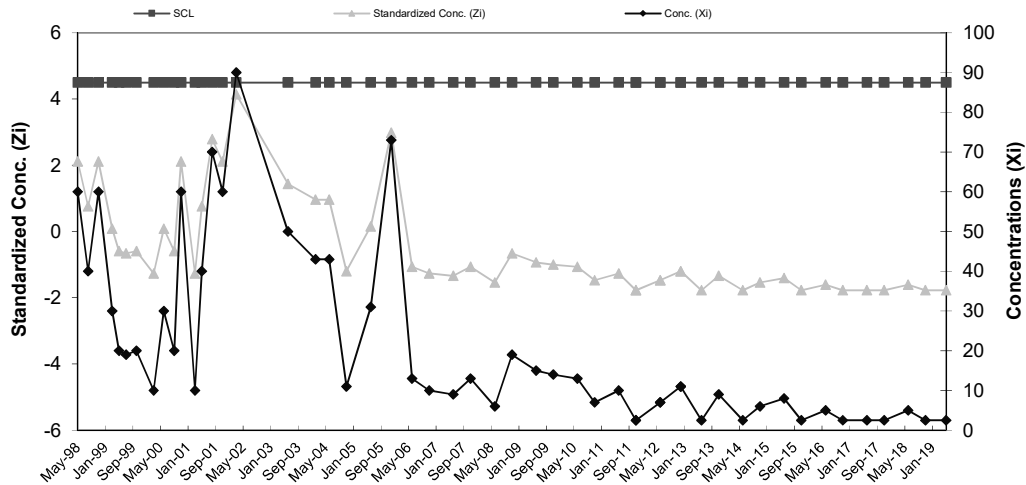


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault E - Zinc**

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

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

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

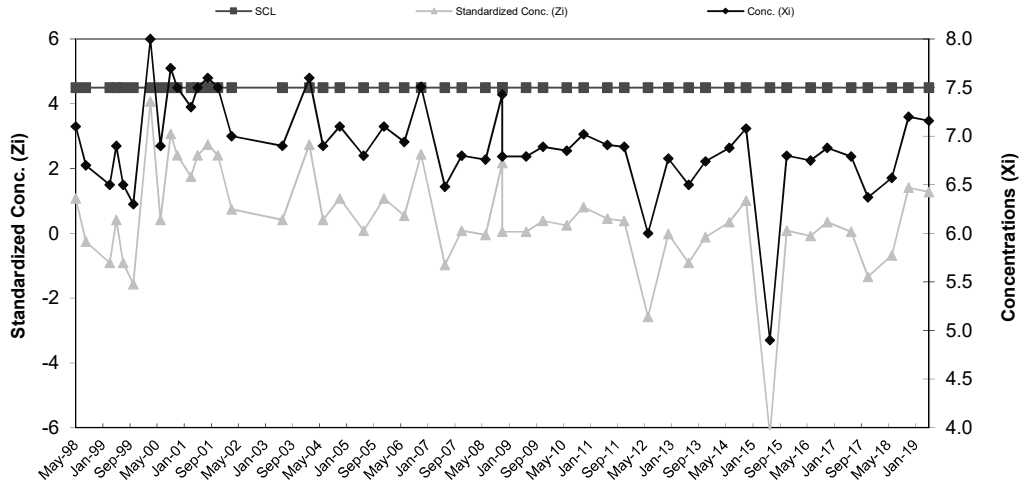


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault E - pH**

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

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

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

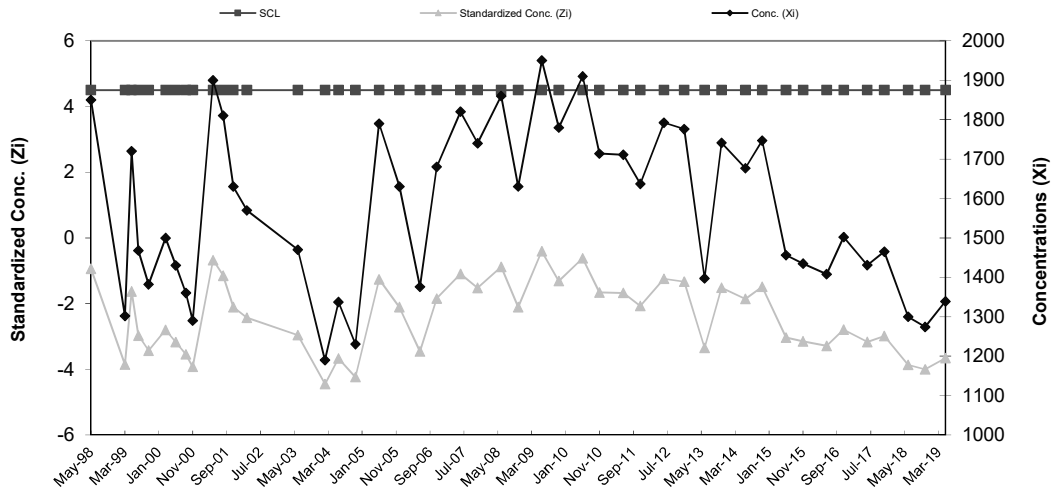


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault E - SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Mar-96	2000	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					
26	Jun-05	4.5	1790	-1.26					
27	Dec-05	4.5	1630	-2.11					
28	Jun-06	4.5	1376	-3.46					
29	Nov-06	4.5	1680	-1.84					
30	Jun-07	4.5	1820	-1.10					
31	Nov-07	4.5	1740	-1.52					
32	Jun-08	4.5	1860	-0.89					
33	Nov-08	4.5	1630	-2.11					
34	Jun-09	4.5	1950	-0.41					
35	Nov-09	4.5	1780	-1.31					
36	Jun-10	4.5	1910	-0.62					
37	Nov-10	4.5	1714	-1.66					
38	Jun-11	4.5	1711	-1.68					

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

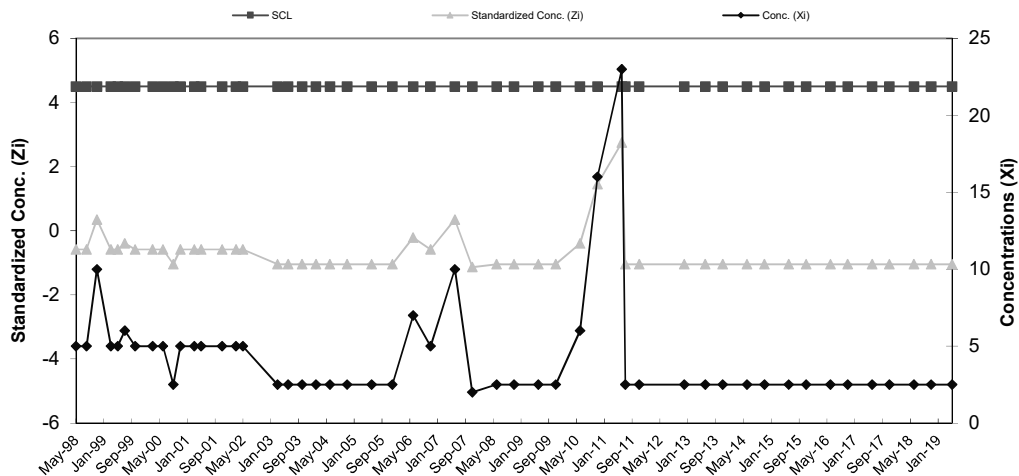


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault F - Chromium

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

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

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

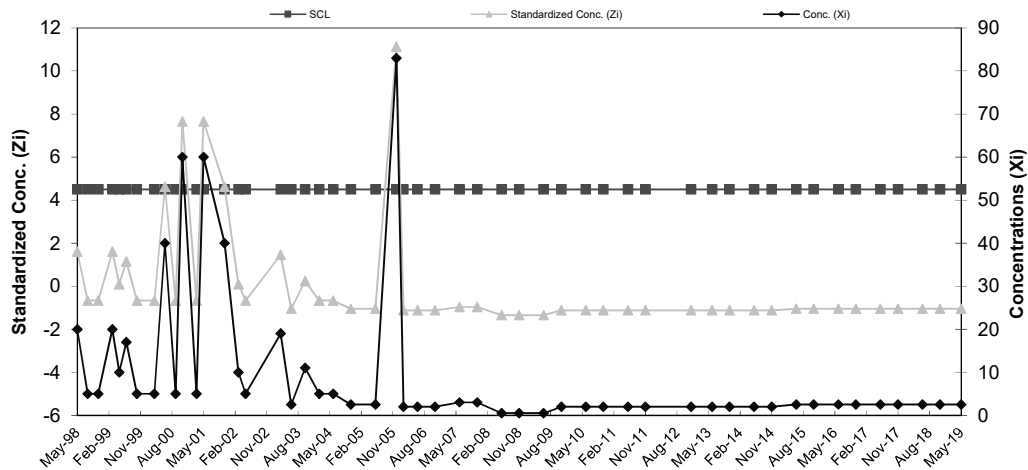


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault F - Copper**

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

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

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

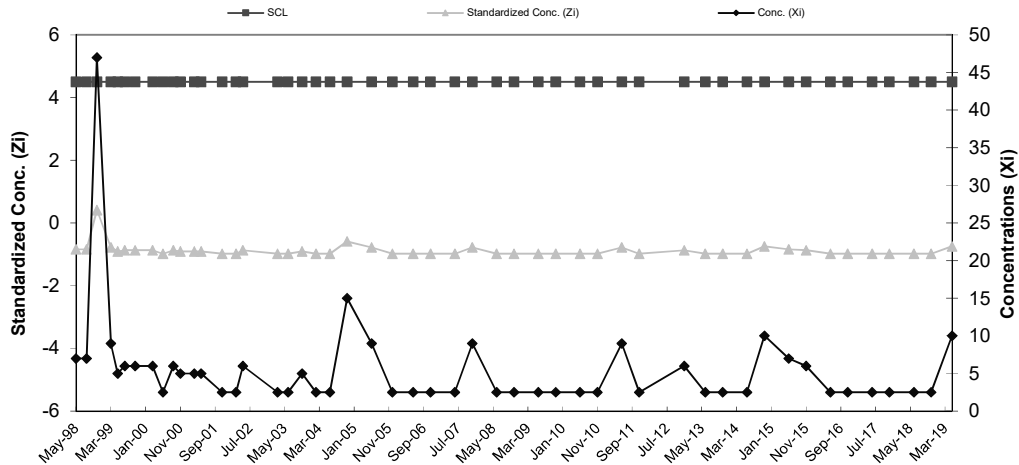


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault F - Nickel

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

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

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

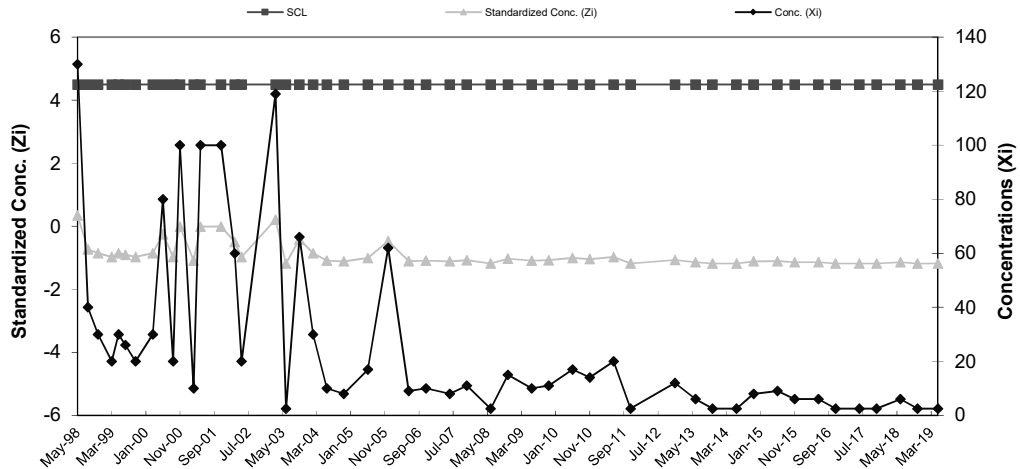


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault F - Zinc**

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	190	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					
26	Jun-03	4.5	2.5	-1.18					
27	Oct-03	4.5	66	-0.42					
28	Feb-04	4.5	30	-0.85					
29	Jun-04	4.5	10	-1.09					
30	Nov-04	4.5	8	-1.12					
31	Jun-05	4.5	17	-1.01					
32	Dec-05	4.5	62	-0.47					
33	Jun-06	4.5	9	-1.10					
34	Nov-06	4.5	10	-1.09					
35	Jun-07	4.5	8	-1.12					
36	Nov-07	4.5	11	-1.08					
37	Jun-08	4.5	2.5	-1.18					
38	Nov-08	4.5	15	-1.03					
39	Jun-09	4.5	10	-1.09					
40	Nov-09	4.5	11	-1.08					
41	Jun-10	4.5	17	-1.01					
42	Nov-10	4.5	14	-1.04					

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

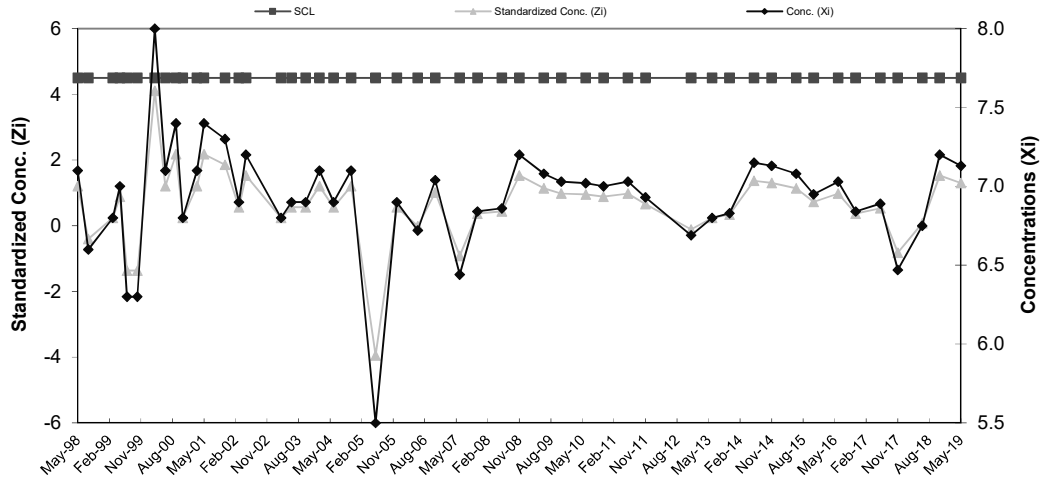


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault F - pH

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

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

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



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

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

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

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

