SEMIANNUAL REPORT

Landfill Leak Detection System
Coldwater Road Landfill
Flint, Michigan
MID 005 356 860

Motors Liquidation Company
Detroit, Michigan

August 2010

O'BRIEN & GERE
www.obg.com

Landfill Leak Detection System
Coldwater Road Landfill
Flint, Michigan
MID 005 356 860

Motors Liquidation Company
Detroit, Michigan

SCOTT L. CORMIER, P.E. – VICE PRESIDENT
O'Brien & Gere Engineers, Inc.

O'BRIEN & GERE
www.obg.com

August 25, 2010

Mr. Richard Conforti, P.E.
Environmental Engineer
Michigan Department of Environmental Quality
Waste and Hazardous Material Division
P.O. Box 30241
Lansing, Michigan 48909-7741

RE: Landfill Leak Detection System 2010 Semiannual Report
Coldwater Road Landfill, Flint, Michigan
MID 005 356 860

FILE: 14774 / 45042 #5

Dear Mr. Conforti:

On behalf of Motors Liquidation Company, O'Brien & Gere is pleased to present the results of the 2010 semiannual leak detection system sampling event conducted in June 2010 for the Coldwater Road Landfill site (Figure 1). Samples from six leak detection vaults (A through F) and six leachate collection sumps (A through F) were collected on June 14, 2010 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), and 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 leachate sumps were collected on June 14, 2010 using a peristaltic pump and tubing for each vault and sump. Duplicate samples were collected from vault D and sump D. Samples were placed directly into laboratory prepared containers, logged onto a chain of custody form and placed on ice for transport to Merit Laboratories, Inc., in East Lansing, Michigan.

The laboratory analysis for TOC, TSS, dissolved metals, VOCs and the field parameters continue to show historically consistent concentrations for the vaults and sumps (Tables 1 and 2). A review of the analytical data presented in the attached tables indicates analytical results similar to previous sampling events with the following exceptions:

Vaults:

- TOC concentrations stayed similar or decreased; however, TOC increased in vault D
- TSS concentrations remained similar or increased slightly; however, TSS decreased in vault C
- The sample and duplicate sample from vault D had conflicting results where the sample resulted in an increase in TSS, but the duplicate indicated a decrease in TSS in vault D
- pH and specific conductivity remain similar or decreased slightly; however, specific conductivity slightly increased in vaults C and E

- Chromium concentrations increased
- Copper concentrations were not detected
- Nickel concentrations were not detected or decreased; however, nickel increased in vault D
- Zinc concentrations remain similar or increased; however, zinc decreased in vaults A and E.

Sumps:

- TOC concentrations increased; however, TOC decreased in sump F
- TSS concentrations increased; however, TOC decreased in sump A
- pH remain similar or increased slightly; however, pH decreased in sumps B and F
- Specific conductivity remain similar or decreased; however, specific conductivity increased in sumps B and C
- Chromium concentrations increased; however, chromium decreased in sump F
- Copper concentrations increased; however, copper decreased in sumps D and F
- Nickel concentrations increased; however, copper decreased in sumps E and F
- Zinc concentrations remain similar or decreased slightly; however, zinc increased slightly in sumps C and D.

The duplicate samples collected from this sample event exhibited values consistent with the original results, except as previously noted for vault TSS concentrations.

There were no exceedences of the Shewart control limits; chromium increased slightly in vaults A through F, but was not confirmed by spikes in other constituents. There were no significant trends observed in the data for this sampling event. The Shewart control charts are included as Appendix B. The data from this sampling event does not suggest a release from the landfill.

The next annual sampling event will be completed in November 2010. If you have any questions, please feel free to contact either of us at (248) 477-5701.

Very truly yours,

O'BRIEN & GERE ENGINEERS, INC.

Scott L. Cormier, P.E.
Vice President

Very truly yours,

O'BRIEN & GERE ENGINEERS, INC.

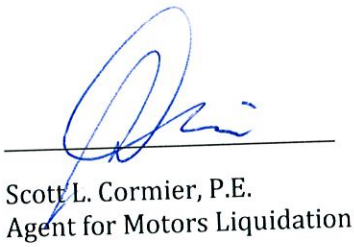
Clifford S. Yantz, P.G.
Technical Associate

Enclosure

cc: David Favero – Motors Liquidation Company

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 Motors Liquidation Company



Scott L. Cormier, P.E.
Agent for Motors Liquidation Company

Vice President – O'Brien & Gere Engineers, Inc.

Title

8/26/10

Date

cc: file

TABLES

Table 1
REALM-Coldwater Road Facility
Landfill Leak Detection Vaults - Historical Analytical Results
Inorganics and Metals

Vault	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	T	Cr	Cu	Ni	Zn
	23-Mar-95	4.6	<1	7.5	690	--	<20	<20	<40	180
	20-Jun-95	8.9	2.0	6.8	1900	--	24	21	<30	<20
	30-Aug-95	8.2	2.0	6.9	2000	--	<20	<20	<40	<20
	28-Nov-95	9.1	<1	7.0	1900	--	23	31	43	24
	27-Mar-96	140.0	<10	7.2	2000	--	<20	<20	46	<20
A	18-Jun-96	12.0	<10	6.9	2000	--	<20	<20	<20	<20
	20-Aug-96	32.0	<5	7.1	1900	--	<20	<20	<20	30
	11-Nov-96	18.0	5.0	7.1	2000	--	<20	<20	30	60
	19-Feb-97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9-May-97	13.0	17.0	6.7	1940	9.7	<10	<10	71	90
	12-Aug-97	6.0	4.0	6.0	1810	12.8	<10	<10	88	60
	15-Nov-97	8.0	12.0	6.5	2000	12.0	<10	10	125	100
	9-Feb-98	6.0	8.0	6.4	1960	11.5	<10	<10	73	60
	14-May-98	12.0	15.0	6.9	1760	17.4	<10	20	13	200
	14-Aug-98	5.0	6.0	6.7	--	--	<10	<10	15	160
	13-Nov-98	5.0	12.0	6.5	1990	16.5	<10	<10	20	220
	19-Mar-99	5.7	8.0	6.8	1334	13.6	<10	10	14	60
	6-May-99	5.6	16.0	6.9	3250	26.2	<10	<10	15	20
	23-Jul-99	5.7	3.0	6.3	1470	18.9	<5	9	13	19
	22-Oct-99	5.0	3.0	5.9	1750	12.1	<10	<10	16	30
	14-Mar-00	5.6	<1	7.6	1410	10.7	<10	<10	15	20
	20-Jun-00	7.0	3.0	6.9	1410	18.3	<10	<10	12	20
	13-Sep-00	5.9	5.0	7.5	1650	15.1	<5	<10	14	20
	10-Nov-00	6.4	2.0	7.2	1470	11.8	<10	100	10	150
	12-Mar-01	6.0	1.0	7.4	1530	12.8	<10	<10	7	10
	24-May-01	9.4	10.0	7.6	1380	11.9	<10	<10	10	20
	31-Aug-01	5.3	10.6	7.5	1450	12.5	<5	<10	14	9
	16-Nov-01	5.1	3.0	6.8	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	7.2	1470	13.8	<10	<10	<5	40
	5-Sep-02	4.7	6.0	6.6	--	--	<5	<5	14	140
	12-Dec-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	18-Mar-03	6.7	8.0	6.8	1290	12	<5	<5	9	99
	4-Jun-03	2.0	11.0	6.8	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	7.0	1318	12.5	<5	<5	8	<5
	19-Nov-04	3.4	2.0	6.9	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	6.0	1640	13.4	<5	<5	13	21
	17-Jan-06	5.9	12785	10.0	1630	8.4	<5	<5	13	8
Re-sample	14-Feb-06	--	--	7.9	1800	8.5	--	--	14	--
	29-Jun-06	NS	NS	NS	NS	NS	NS	NS	NS	NS
	28-Nov-06	4.7	438	7.7	1940	13.2	<5	<4	13	6
	6-Jun-07	4.9	11	6.8	1990	11.7	13	4	20	8
	12-Nov-07	5.9	70	6.8	2030	12.4	4	5	21	11
	24-Jun-08	5.0	371	6.9	2060	13.3	<5	<1	25	5
	17-Nov-08	5.8	23	6.1	2060	9.2	<5	<1	22	<5
	23-Jun-09	5.5	88	7.0	2050	13.6	<5	11	27	36
	17-Nov-09	6	8	7.1	2090	10.3	<5	<4	22	7
	14-Jun-10	**6**	**10**	**7.1**	**2070**	**13.1**	**8**	**<4**	**16**	**6**

See notes on page 6.

Table 1
REALM-Coldwater Road Facility
Landfill Leak Detection Vaults - Historical Analytical Results
Inorganics and Metals

Vault	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	T	Cr	Cu	Ni	Zn
	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
B	18-Jun-96	11.0	<10	6.9	1900	--	<20	<20	<20	<20
	20-Aug-96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11-Nov-96	17.0	66.0	7.0	1600	--	<20	<20	20	40
	19-Feb-97	7.0	4	7.1	1590	8.9	<10	<10	43	20
	7-May-97	7.0	4	6.5	1930	13.8	<10	<10	45	20
	12-Aug-97	5.0	3.0	6.5	663	26.0	<10	<10	26	60
	15-Nov-97	6.0	4.0	6.8	1400	11.0	<10	<10	96	50
	9-Feb-98	7.0	8.0	6.6	1560	12.6	<10	<10	57	20
	14-May-98	6.0	3.0	6.9	1490	11.2	<10	<10	14	30
	14-Aug-98	4.0	7.0	6.6	--	--	<10	<10	10	14
	13-Nov-98	6.0	18.0	6.3	1940	20.6	<10	10	17	80
	19-Mar-99	4.2	6.0	6.5	817	14.2	<10	<10	5	<10
	6-May-99	5.6	4.0	7.0	1330	26.2	<10	10	6	20
	23-Jul-99	5.8	3.0	6.5	1070	16.2	<5	13	10	18
	22-Oct-99	5.0	5.0	6.2	1440	11.0	<10	<10	16	20
	14-Mar-00	6.6	<1	8.0	900	11.0	<10	<10	8	20
	20-Jun-00	7.1	7.0	6.8	1120	17.3	<10	30	9	30
	13-Sep-00	5.4	<1	7.4	1560	15.6	<5	10	8	20
	10-Nov-00	6.8	1.0	7.1	1280	11.6	<5	40	14	90
	12-Mar-01	5.2	5.0	7.4	1460	12.3	<10	<10	7	20
	24-May-01	8.5	10.0	7.6	1280	13.0	<10	20	12	40
	31-Aug-01	3.9	<1.3	7.8	1370	12.9	<5	<10	11	20
	16-Nov-01	5.7	2.0	7.1	1230	13.1	<10	10	8	60
	8-Mar-02	5.4	2.0	7.0	2400	8.5	<10	10	<5	70
	31-May-02	5.1	3.0	7.2	1070	14.2	<10	<10	<5	20
	5-Sep-02	4.8	4.0	6.7	--	--	<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	7.0	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	7.1	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	7.4	1380	12.3	<5	5	<5	16
	30-Jun-04	4.1	396.0	7.0	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	6.1	1560	12.8	<5	<5	14	20
	1-Dec-05	4.7	<1	6.9	1310	9.1	<5	<5	8	50
Re-sample	14-Feb-06	--	--	7.7	1520	6.1	--	<4	--	--
Duplicate	29-Jun-06	2.6	1.0	7.0	1050	13.9	<5	<4	5	8
	28-Nov-06	5.5	4.0	7.5	1380	13.0	<5	<4	8	11
Duplicate	28-Nov-06	4.7	--	7.2	1340	13.0	5	4	7	11
	6-Jun-07	4.7	2.0	6.3	1670	12.1	9	6	13	16
	12-Nov-07	3.8	1.0	6.9	1690	12.6	2	5	16	14
	24-Jun-08	3.2	6.0	7.0	1880	14.0	<5	2	8	9
	17-Nov-08	2.4	<1	6.9	1818	9.6	<5	2	8	15
Duplicate	17-Nov-08	1.7	2.0	6.9	1820	9.6	<5	1	8	15
	23-Jun-09	3.6	4.0	7.1	1780	13.3	<5	1	6	17
	17-Nov-09	3	0	7.0	1970	10.9	<5	<4	9	17
	14-Jun-10	**3**	**2**	**6.9**	**1810**	**12.1**	**8**	**<4**	**5**	**20**

See notes on page 6.

Table 1
REALM-Coldwater Road Facility
Landfill Leak Detection Vaults - Historical Analytical Results
Inorganics and Metals

Vault	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	T	Cr	Cu	Ni	Zn
	23-Mar-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	20-Jun-95	4.4	<1	7.4	530	--	25	25	<30	60
	30-Aug-95	3.7	<1	7.4	340	--	<20	<20	<40	74
	28-Nov-95	7.6	<1	7.0	2200	--	29	37	67	36
	27-Mar-96	NS	NS	NS	NS	NS	NS	NS	NS	NS
C	18-Jun-96	7.7	<10	6.9	2000	--	<20	<20	<20	<20
	20-Aug-96	8.3	<5	6.9	1900	--	<20	<20	<20	40
	11-Nov-96	16.0	9.0	7.0	2100	--	<20	<20	<20	80
	19-Feb-97	7.0	1.0	7.6	1610	9.0	<10	<10	45	30
	7-May-97	6.0	10.0	6.6	1730	12.5	<10	100	66	20
	8-Aug-97	4.0	13.0	6.3	1610	24.1	<10	<10	79	20
	15-Nov-97	6.0	4.0	6.7	2000	12.0	<10	<10	122	50
	9-Feb-98	8.0	4.0	6.5	1720	12.2	<10	<10	64	50
	14-May-98	6.0	3.0	6.9	1600	12.1	<10	<10	23	40
	14-Aug-98	6.0	5.0	6.8	--	--	<10	<10	23	40
	13-Nov-98	6.0	12.0	6.3	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	7.0	1300	15.6	<10	<10	19	20
	6-May-99	6.1	8.0	6.9	1600	26.6	<10	10	20	20
	23-Jul-99	6.5	0.0	6.7	1370	17.3	<5	12	20	20
	22-Oct-99	6.4	5.0	6.6	1160	11.0	<10	<10	18	10
	14-Mar-00	6.5	1.0	7.8	1350	12.6	<10	<10	17	10
	20-Jun-00	6.0	4.0	6.9	1280	18.3	<10	140	19	170
	13-Sep-00	6.1	<1	7.6	1430	14.9	<5	<10	16	20
	10-Nov-00	10.6	4.0	6.8	1210	12.1	<10	<10	17	40
	12-Mar-01	6.3	4.0	7.7	1380	12.1	<10	<10	8	<10
	24-May-01	9.2	8.0	7.5	1410	13.3	<10	<10	17	30
	31-Aug-01	5.4	4.0	7.4	1530	13.1	<5	<10	16	20
	16-Nov-01	6.0	2.0	6.8	1170	13.2	<10	<10	15	60
	8-Mar-02	4.0	1.0	7.1	1680	11.3	<10	10	<5	20
	31-May-02	5.1	7.0	7.2	1280	14.2	<10	<10	14	40
	5-Sep-02	5.0	7.0	6.7	--	--	<5	<5	14	39
	12-Dec-02	4.2	7.0	6.9	1330	12.1	<5	<5	12	53
	18-Mar-03	5.7	4.0	6.8	1260	10.7	<5	<5	10	37
	4-Jun-03	4.4	6.0	6.9	1150	11.0	<5	<5	8	<5
	5-Oct-03	4.4	4.0	7.0	1230	13.6	<5	<5	14	28
	8-Dec-03	3.8	6.0	7.1	1520	11.6	<5	11	14	63
	27-Feb-04	4.6	1.0	7.4	1410	12.1	<5	<5	12	36
	30-Jun-04	3.7	14.0	7.0	1008	12.2	<5	<5	12	8
	19-Nov-04	4.3	4.0	6.9	1090	11.7	<5	<5	20	6
	15-Jun-05	5.0	6.0	6.3	1460	12.5	<5	<5	15	39
	1-Dec-05	5.9	2.0	6.9	1620	11.1	<5	<5	18	15
	29-Jun-06	2.6	5.0	6.9	2260	15.2	5	<4	10	11
	28-Nov-06	11.6	44.0	7.0	1430	13.4	<5	5	15	<5
	6-Jun-07	4.9	6.0	6.5	1510	12.2	9	5	11	6
	12-Nov-07	4.3	1.0	6.9	1490	13.2	2	5	16	12
	24-Jun-08	4.2	49.0	6.9	1620	13.4	<5	<1	9	<5
	17-Nov-08	4.4	6.0	6.8	1600	9.4	<5	<1	10	11
	23-Jun-09	4.6	9.0	7.2	1660	13.7	<5	<1	8	6
	17-Nov-09	5	15	7.1	1650	11.5	<5	<4	9	6
Duplicate	17-Nov-09	5	20	7.1	1650	11.5	<5	<4	9	6
	14-Jun-10	**5**	**4**	**7.0**	**1710**	**12.4**	**7**	**<4**	**7**	**7**

See notes on page 6.

Table 1
REALM-Coldwater Road Facility
Landfill Leak Detection Vaults - Historical Analytical Results
Inorganics and Metals

Vault	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	T	Cr	Cu	Ni	Zn
	23-Mar-95	8.9	83.0	7.3	2200	--	13	<20	44	<20
	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
D	18-Jun-96	11.0	150.0	6.9	1800	--	<20	<20	<20	20
	20-Aug-96	40.0	<5	7.2	1600	--	<20	<20	<20	40
	11-Nov-96	23.0	9.0	7.0	1700	--	<20	<20	40	70
	19-Feb-97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9-May-97	23.0	76.0	6.7	1580	8.8	<10	<10	58	70
	8-Aug-97	11.0	44.0	6.5	1540	28.5	<10	<10	79	20
	15-Nov-97	12.0	6.0	6.6	1800	11.0	<10	<10	114	30
	9-Feb-98	12.0	52.0	6.5	1655	12.5	<10	<10	66	40
	14-May-98	10.0	40.0	7.0	1700	16.3	<10	30	23	50
	14-Aug-98	11.0	57.0	6.6	--	--	<10	<10	23	40
	13-Nov-98	11.0	22.0	6.7	1790	15.2	<10	<10	20	30
	19-Mar-99	6.3	2.0	7.0	1302	14.8	<10	30	20	40
	6-May-99	12.4	28.0	6.9	1510	25.2	<10	30	15	30
	23-Jul-99	11.0	40.0	7.0	1231	21.0	<5	9	21	19
	22-Oct-99	10.6	13.0	6.8	1384	10.3	<10	<10	23	20
	14-Mar-00	10.7	57.0	7.8	1460	13.0	<10	<10	15	20
	20-Jun-00	10.1	23.0	6.8	1410	18.7	<10	60	21	70
	13-Sep-00	10.7	7.0	7.6	1370	16.1	<5	<10	21	20
	10-Nov-00	7.0	10.0	7.2	1630	12.2	<10	<10	23	20
	12-Mar-01	5.6	33.0	7.8	1710	12.9	<10	<10	11	10
	24-May-01	12.0	16.0	7.5	1760	13.1	<10	10	18	30
	31-Aug-01	9.8	8.0	7.7	1420	12.8	5	<10	24	20
	16-Nov-01	7.4	20.0	7.6	1270	12.9	<10	10	17	50
	8-Mar-02	8.4	3.0	7.2	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	6.8	1380	11.6	<5	5.0	10.0	19
	4-Jun-03	9.6	5.0	6.9	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	6.9	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	7.0	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	5.9	1540	12.9	<5	<5	25	17
	17-Jan-06	6.2	8.0	7.3	1600	7.9	6	14	37	<5
Re-sample	14-Feb-06	--	--	8.0	1520	9.2	--	5	--	--
	29-Jun-06	5.9	51.0	7.0	1570	13.9	6	<4	26	14
	28-Nov-06	7.2	13.0	7.2	1590	13.1	<5	<4	17	7
	6-Jun-07	6.9	7.0	7.3	1530	14.2	9	5	34	8
	12-Nov-07	7.3	5.0	6.9	1580	12.3	3	5	23	12
Duplicate	12-Nov-07	6.0	7.0	6.9	1570	12.3	3	5	23	9
	24-Jun-08	4.1	4.0	6.9	1570	15.4	<5	<1	35	<5
	17-Nov-08	5.6	10.0	7.4	1580	8.0	<5	1	17	6
	23-Jun-09	7.0	20.0	7.2	1570	13.7	<5	<1	34	5
	17-Nov-09	6	7	7.3	1610	11.5	<5	<4	16	7
	14-Jun-10	**7**	**35**	**7.1**	**1550**	**11.9**	**8**	**<4**	**32**	**11**
Duplicate	**14-Jun-10**	**7**	**1**	**7.1**	**1550**	**11.9**	**7**	**<4**	**33**	**11**

See notes on page 6.

Table 1
REALM-Coldwater Road Facility
Landfill Leak Detection Vaults - Historical Analytical Results
Inorganics and Metals

Vault	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	T	Cr	Cu	Ni	Zn
	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	7.2	2000	--	<20	<20	46	<20
E	18-Jun-96	9.0	76.0	7.0	2400	--	<20	<20	<20	<20
	10/04/96	5.9	19.0	6.9	2000	--	<20	<20	<20	20
	11-Nov-96	12.0	11.0	7.0	1800	--	<20	<20	<20	30
	19-Feb-97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7-May-97	7.0	2.0	6.3	2120	15.6	<10	<10	35	30
	12-Aug-97	5.0	27.0	6.7	1840	14.9	<10	<10	64	40
	15-Nov-97	5.0	12.0	6.5	2100	11.0	<10	<10	116	40
	9-Feb-98	6.0	4.0	6.6	1950	12.6	<10	<10	54	50
	14-May-98	6.0	32.0	7.1	1850	13.5	<10	<10	7	60
	14-Aug-98	4.0	8.0	6.7	--	--	<10	<10	8	40
	30-Nov-98	3.0	14.0	--	--	--	10	<10	46	60
	19-Mar-99	4.8	20.0	6.5	1302	14.3	<10	20	6	30
	6-May-99	8.2	14.0	6.9	1720	27.4	<10	<10	5	20
	23-Jul-99	4.6	9.0	6.5	1468	21.8	<5	11	6	19
	22-Oct-99	3.5	6.0	6.3	1382	11.0	<10	<10	6	20
	14-Mar-00	5.6	48.0	8.0	1500	13.9	<10	<10	5	10
	20-Jun-00	6.3	22.0	6.9	1430	19.6	<10	30	<5	30
	13-Sep-00	4.1	5.0	7.7	1360	15.7	<5	<10	5	20
	10-Nov-00	4.3	4.0	7.5	1290	11.8	<10	40	5	60
	12-Mar-01	5.4	9.0	7.3	--	12.7	<10	<10	5	10
	24-May-01	8.6	10.0	7.5	1900	13.6	<10	10	6	40
	31-Aug-01	5.7	5.3	7.6	1810	13.2	<5	10	6	70
	16-Nov-01	3.6	<1.0	7.5	1630	12.8	<10	10	6	60
	8-Mar-02	6.0	<1.0	7.0	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	6.9	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	7.6	1190	12.1	<5	6	7	43
	30-Jun-04	4.9	390	6.9	1337	12.7	<5	<5	6	43
	19-Nov-04	4.3	3	7.1	1230	11.4	<5	7	22	11
	15-Jun-05	7.0	3	6.8	1790	12.6	<5	<5	12	31
	1-Dec-05	3.7	<1	7.1	1630	10.9	<5	66	<5	73
	29-Jun-06	5.8	8.0	6.9	1790	14.0	5	4	6	13
	28-Nov-06	6.3	134.0	7.5	1680	13.1	5	5	<5	10
	6-Jun-07	4.6	3.0	6.5	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	6.8	1740	12.0	2	4	11	13
	24-Jun-08	6.0	2.0	6.8	1860	13.9	<5	2	<5	6
	17-Nov-08	4.1	1.0	7.4	1630	10.3	<5	2	<5	19
	23-Jun-09	3.2	10.0	6.8	1950	14.0	<5	2	<5	15
Duplicate	23-Jun-09	3.0	17.0	6.8	1960	14.0	<5	2	<5	14
	17-Nov-09	5	9	6.9	1780	11.2	<5	<4	<5	14
	14-Jun-10	**4**	**21**	**6.9**	**1910**	**12.5**	**9**	**<4**	**<5**	**13**

See notes on page 6.

Table 1
REALM-Coldwater Road Facility
Landfill Leak Detection Vaults - Historical Analytical Results
Inorganics and Metals

Vault	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	T	Cr	Cu	Ni	Zn
	23-Mar-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	20-Jun-95	8.2	<1	6.8	1400	--	<20	<20	<30	190
	30-Aug-95	6.1	<1	6.8	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
F	18-Jun-96	6.2	77.0	6.8	1600	--	<20	<20	<20	<20
	20-Aug-96	4.8	1500.0	7.1	1500	--	<20	20	<20	50
	11-Nov-96	14.0	7100.0	7.0	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	6.1	1530	20.6	<10	<10	64	20
	15-Nov-97	7.0	56.0	6.7	1800	13.0	<10	<10	93	130
	9-Feb-98	5.0	30.0	6.5	1750	13.5	<10	<10	49	160
	14-May-98	5.0	16.0	7.1	1400	25.4	<10	20	7	130
	14-Aug-98	3.0	25.0	6.6	--	--	<10	<10	7	40
	30-Nov-98	4.0	38.0	--	--	--	10	<10	47	30
	19-Mar-99	4.2	52.0	6.8	982	14.4	<10	20	9	20
	6-May-99	4.6	50.0	7.0	1460	28.0	<10	10	5	30
	23-Jul-99	3.7	95.0	6.3	1262	21.2	6	17	6	26
	22-Oct-99	3.7	12.0	6.3	1116	12.3	<10	<10	6	20
	14-Mar-00	5.4	81.0	8.0	1250	14.9	<10	<10	6	30
	20-Jun-00	4.4	66.0	7.1	1310	20.1	<10	40	<5	80
	13-Sep-00	3.0	11.0	7.4	1440	15.6	<5	<10	6	20
	10-Nov-20	3.9	41.0	6.8	1040	11.6	<10	60	5	100
	12-Mar-01	5.5	24.0	7.1	1110	12.3	<10	<10	5	10
	24-May-01	7.4	16.0	7.4	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	7.3	1110	12.9	<10	40	<5	100
	8-Mar-02	4.4	11.0	6.9	1290	10.4	<10	10	<5	60
	31-May-02	2.4	45.0	7.2	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	6.8	1270	12.4	<5	19	<5	119
	4-Jun-03	2.5	4.0	6.9	1300	10.9	<5	<5	<5	<5
	5-Oct-03	3.9	5.0	6.9	1040	13.5	<5	11	5	66
	8-Dec-03	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1-Dec-05	3.7	3.0	6.9	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	--	--	7.9	1710	7.2	--	<4	--	--
	29-Jun-06	2.9	90.0	6.7	1710	15.3	7	<4	<5	9
	28-Nov-06	4.4	3.0	7.0	1610	13.9	5	<4	<5	10
	6-Jun-07	3.9	2.0	6.4	1640	15.5	10	3	<5	8
	12-Nov-07	2.2	53.0	6.8	1600	12.2	2	3	9	11
	24-Jun-08	2.3	5.0	6.9	1510	14.5	<5	<1	<5	<5
Duplicate	24-Jun-08	2.8	3.0	6.9	1500	14.5	<5	<1	<5	<5
	17-Nov-08	1.8	9.0	7.2	1510	9.5	<5	<1	<5	15
	23-Jun-09	2.9	29.0	7.1	1530	13.1	<5	<1	<5	10
	17-Nov-09	3	16	7.0	1550	11.0	<5	<4	<5	11
	14-Jun-10	**3**	**14**	**7.0**	**1540**	**12.1**	**6**	**<4**	**<5**	**17**

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 (insturment failure or duplicate sample).

Table 2
REALM - Coldwater Road Facility
Landfill Leachate Sumps - Historical Analytical Results
Inorganics and Metals

		Indicator Parameters					Dissolved Metals (ug/L)			
Sump	Sample Date	TOC (mg/L)	TSS (mg/L)	pH	SpC	T	Cr	Cu	Ni	Zn
	23-Mar-95	400.0	22	11.2	4500	--	260	8900	1200	70
	30-Aug-95	290.0	9800	11.3	4000	--	250	7400	830	<20
A	18-Jun-96	170.0	200	9.5	2800	--	50	4300	640	<20
	11-Nov-96	350.0	3000	10.0	4400	--	150	8800	1300	30
	7-May-97	85.0	62	7.9	2200	8.9	20	2450	422	10
	5-Nov-97	110.0	14	8.5	2800	11.0	<1	1050	376	20
	5-May-98	125.0	2	7.9	2280	9.1	40	1380	383	10
`	6-Nov-98	136.0	984	7.5	2750	11.7	40	2950	519	<10
	26-Apr-99	110.0	253	9.5	1334	12.6	40	2380	375	<10
	22-Oct-99	44.7	8	6.6	1750	12.1	20	960	155	30
	20-Jun-00	53.4	16	8.2	1980	13.1	40	1160	187	20
	10-Nov-00	66.7	31	7.7	2130	11.1	30	1050	174	20
	24-May-01	70.0	16	8.6	2470	10.2	40	1030	163	20
	16-Nov-01	69.6	300	7.9	2130	12.3	40	990	160	20
	31-May-02	51.7	48	7.2	2340	15.3	80	880	127	20
	12-Dec-03	55.2	25	7.4	1840	11.2	37	770	121	7
	3-Jun-03	75.5	90	--	--	--	41	1180	156	22
	8-Dec-03	67.0	115	8.8	2210	11.6	74	969	138	31
	30-Jun-04	62.0	6	8.4	2501	12.6	104	1450	161	7
	19-Nov-04	36.9	2.7	8.2	2070	11.4	31	492	70	20
	15-Jun-05	89.0	18.0	9.0	3320	14.7	215	1930	200	<5
	17-Jan-06	83.7	980.0	8.4	3970	6.9	70	1350	155	14
	29-Jun-06	65.4	36.0	8.5	3640	11.7	192	1070	109	7
	28-Nov-06	78.2	258	8.2	3660	12.9	132	1240	126	6
	6-Jun-07	64.4	7	6.9	3350	10.0	95	1280	131	17
	12-Nov-07	71.7	3	7.2	3970	11.8	41	1460	150	22
	24-Jun-08	46.6	2	7.9	3210	12.4	123	1240	118	8
	17-Nov-08	48.5	4	7.3	3670	10.6	65	1190	114	12
	23-Jun-09	61.0	3	7.5	2900	12.8	222	1400	126	<5
	17-Nov-09	69	40	8.4	3570	9.6	71	1040	100	14
	14-Jun-10	**120**	**4**	**9.1**	**2880**	**11.9**	**305**	**1380**	**124**	**<5**
	23-Mar-95	800.0	310	12.1	7100	--	220	14000	1700	91
	30-Aug-95	590.0	7400	11.5	4600	--	220	9300	1100	<20
B	18-Jun-96	36.0	<10	8.6	720	--	100	760	100	<20
	11-Nov-96	340.0	19	10.0	3100	--	180	6100	850	30
	7-May-97	184.0	963	8.5	2340	8.1	150	3910	607	10
	5-Nov-97	53.0	20	7.2	1600	10.0	50	1050	204	10
	5-May-98	241.0	24	9.6	3010	9.2	280	5600	644	10
	6-Nov-98	177.0	438	7.8	2950	12.1	100	2690	558	<10
	26-Apr-99	75.0	10600	10.2	835	8.9	30	500	238	<10
	22-Oct-99	126.0	1604	8.1	1410	11.9	30	750	387	<10
	20-Jun-00	49.2	4	9.1	1880	12.6	160	1180	160	<10
	10-Nov-00	78.2	80	8.6	1460	11.5	70	1170	205	<10
	24-May-01	101.0	502	9.1	2800	10.4	120	1490	225	<10
	16-Nov-01	189.0	13	9.5	3310	12.4	290	3050	426	<10
	31-May-02	65.7	434	7.2	2530	14.7	160	1070	154	<10
	12-Dec-03	118.0	15	8.9	2150	11.4	215	1790	260	27
	3-Jun-03	113.0	44	--	--	--	118	1510	216	<5
	8-Dec-03	87.8	22	7.1	1990	11.5	170	1380	199	45
	30-Jun-04	110	14	8.1	1598	12.5	508	1880	225	7
	19-Nov-04	66.2	2	8.2	2690	11.5	148	1100	163	13
	15-Jun-05	84.0	8	8.8	3200	14.1	324	1050	160	19
	5-Dec-05	35.7	6	7.1	2290	10.5	81	374	56	22
	29-Jun-06	26.6	6	7.7	1650	10.9	156	358	48	23
	28-Nov-06	47.5	6	8.2	2300	12.5	142	526	72	25
Duplicate	28-Nov-06	59.8	--	8.2	2370	12.5	142	522	72	15
	6-Jun-07	32.2	2	6.6	1950	9.8	18	275	46	18
	12-Nov-07	22.6	1	7.9	2060	12.2	28	226	32	24
	24-Jun-08	45.9	6	8.2	2430	11.9	659	877	99	16
	17-Nov-08	41.5	19	6.5	2560	10.6	401	767	91	20
Duplicate	17-Nov-08	39.8	38	6.5	2550	10.6	399	763	91	23
	23-Jun-09	52.3	1	7.4	2250	13.2	685	696	82	17
	17-Nov-09	52	2	8.1	2610	10.6	269	579	73	39
	14-Jun-10	**90**	**3**	**7.9**	**2720**	**12.4**	**908**	**1050**	**118**	**21**

See notes on page 3.

Table 2
REALM - Coldwater Road Facility
Landfill Leachate Sumps - Historical Analytical Results
Inorganics and Metals

		Indicator Parameters					Dissolved Metals (ug/L)			
Sump	Sample Date	TOC (mg/L)	TSS (mg/L)	pH	SpC	T	Cr	Cu	Ni	Zn
	23-Mar-95	750.0	18	11.8	6000	--	21	18000	2400	36
	30-Aug-95	660.0	30000	10.9	4900	--	21	15000	2100	26
C	18-Jun-96	280.0	1200	9.1	2700	--	<20	5100	820	<20
	11-Nov-96	730.0	93	10.0	5200	--	<20	15000	2500	50
	7-May-97	433.0	1200	8.6	4210	10.0	10	10200	2070	40
	5-Nov-97	289.0	83	8.3	3400	10.0	<10	3150	1320	20
	5-May-98	235.0	24	9.8	3520	9.8	60	5640	891	10
	6-Nov-98	418.0	164	7.9	4590	11.9	<10	4660	145	<10
	26-Apr-99	278.0	24	9.5	2520	8.6	<10	1730	1148	<10
	22-Oct-99	351.0	1604	8.2	1210	12.1	<10	1330	1050	<10
	20-Jun-00	156.0	12	8.5	2270	11.9	<10	3370	802	<10
	10-Nov-00	250.0	30	8.4	1920	11.4	<10	620	998	<10
	24-May-01	200.0	120	9.0	3660	10.3	<10	4950	1110	20
	16-Nov-01	269.0	191	8.5	3930	12.1	10	5470	1800	10
	31-May-02	113.0	24	7.2	2530	14.4	<10	2510	612	10
	12-Dec-03	198.0	18	8.1	4100	11.2	12	3020	1060	15
	3-Jun-03	178.0	34	--	--	--	15	4790	1030	8
	8-Dec-03	85.2	742	8.0	2140	11.9	9	607	708	62
	30-Jun-04	96.0	10	8.5	2708	12.0	46	2470	539	5
	19-Nov-04	126	16	8.4	3200	11.6	32	3190	874	13
	15-Jun-05	95	10	7.2	2950	14.3	21	2350	505	16
	5-Dec-05	56.7	12	7.9	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	8.5	3810	11.4	25	3030	847	8
	28-Nov-06	60.3	6	8.0	2340	12.9	43	1380	353	<5
	6-Jun-07	3.9	1	7.0	2650	11.0	44	1570	365	<5
	12-Nov-07	83.7	1	8.2	3660	12.2	44	2080	543	8
	24-Jun-08	65.4	5	7.9	3530	13.0	8	1820	456	22
	17-Nov-08	120.0	10	8.2	4510	10.6	30	2940	939	22
	23-Jun-09	139.0	9	8.2	4240	12.7	25	3600	800	7
	17-Nov-09	90	4	7.9	3940	11.1	22	2280	447	12
Duplicate	17-Nov-09	98	7	7.9	3950	11.1	21	2260	438	12
	14-Jun-10	**120**	**14**	**8.1**	**4580**	**11.9**	**32**	**3200**	**714**	**18**
	23-Mar-95	650.0	45	12.3	8400	--	360	7800	1600	<20
	30-Aug-95	550.0	69000	12.0	6400	--	260	6100	1400	<20
D	18-Jun-96	300.0	230	11.0	3300	--	100	3100	850	<20
	11-Nov-96	660.0	3500	12.0	5700	--	220	7200	1800	30
	7-May-97	331.0	432	9.1	4020	10.2	30	4110	1330	<10
	5-Nov-97	208.0	546	8.8	3400	10.2	20	3000	1020	20
	5-May-98	251.0	<1	10.6	4200	9.7	110	3810	1120	10
	6-Nov-98	193.0	8280	7.9	3940	11.4	10	2530	101	<10
	26-Apr-99	177.0	29600	10.5	1237	8.0	10	770	1013	<10
	22-Oct-99	199.0	10748	8.9	910	10.9	<10	70	735	<10
	20-Jun-00	112.0	16	8.8	1190	11.6	<10	430	656	<10
	10-Nov-00	159.0	100	9.1	2360	11.5	20	760	831	<10
	24-May-01	196.0	124	10.8	3900	10.9	10	1000	1270	<10
	16-Nov-01	64.2	268	8.9	1690	12.0	<10	100	414	<10
	31-May-02	72.3	137	7.2	2020	14.3	<10	210	445	<10
	12-Dec-03	130.0	4	8.8	1430	11.5	11	926	798	<5
	3-Jun-03	80.8	6	--	--	--	7	878	540	<5
	8-Dec-03	48.8	392	8.2	2470	10.9	7	651	423	18
	30-Jun-04	160.0	34	10.2	3601	--	25	1670	1320	<5
	19-Nov-04	157	14	10.4	4320	11.4	34	1550	1680	8
	15-Jun-05	79	8	11.1	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	8.2	5320	10.9	35	1420	1340	<5
	29-Jun-06	87.6	14.0	10.0	4120	12.4	16	714	995	5
	28-Nov-06	128.9	2	10.1	5180	12.9	23	651	1300	<5
	6-Jun-07	157.0	11	9.3	5980	11.0	62	955	1770	<5
	12-Nov-07	115.0	78	10.2	5550	11.7	34	1680	1480	8
Duplicate	12-Nov-07	109.0	28	10.2	5550	11.7	31	1540	1400	3
	24-Jun-08	99.5	7	9.9	6170	11.8	20	990	1640	7
	17-Nov-08	295.0	2	11.1	6220	10.8	62	2460	2090	5
	23-Jun-09	308.0	7	10.9	6210	14.8	88	2170	1990	<5
	17-Nov-09	130	10	9.8	4870	11.6	37	2240	1180	<5
	14-Jun-10	**15**	**12**	**10.0**	**4880**	**12.0**	**62**	**1160**	**1340**	**5**
Duplicate	**14-Jun-10**	**150**	**12**	**10.0**	**4860**	**12.0**	**62**	**1180**	**1340**	**6**

See notes on page 3.

Table 2
REALM - Coldwater Road Facility
Landfill Leachate Sumps - Historical Analytical Results
Inorganics and Metals

		Indicator Parameters					Dissolved Metals (ug/L)			
Sump	Sample Date	TOC (mg/L)	TSS (mg/L)	pH	SpC	T	Cr	Cu	Ni	Zn
	23-Mar-95	250.0	1400	11.7	4000	--	79	1500	850	<20
	30-Aug-95	120.0	37000	9.7	2100	--	25	980	270	<20
E	18-Jun-96	9.6	2000	7.6	1800	--	<20	<20	<20	40
	11-Nov-96	23.0	2200	8.2	1800	--	<20	20	50	<20
	7-May-97	6.0	188	6.8	1560	9.7	<10	<10	30	90
	11/05/97	10.0	3370	7.0	1600	10.0	<10	10	72	30
	5-May-98	10.0	13300	7.0	1750	10.1	<10	20	23	40
	6-Nov-98	5.0	2500	5.6	1500	11.9	<10	60	11	40
	26-Apr-99	8.6	7720	7.7	1428	8.2	<10	30	22	<10
	22-Oct-99	4.7	3485	6.8	1115	10.8	<10	50	10	30
	20-Jun-00	7.0	2	6.8	1410	12.4	<10	20	<10	20
	10-Nov-00	3.2	<1	7.3	1550	11.4	<10	30	7	20
	24-Feb-01	9.0	292	8.0	1660	10.6	<10	20	7	20
	16-Nov-01	4.4	350	7.3	1240	12.2	<10	10	23	30
	31-May-02	10.1	9	7.2	1470	14.6	<10	90	62	30
	12-Dec-03	4.5	310	7.7	1490	11.1	<5	21	12	<5
	3-Jun-03	9.0	1884	--	--	--	<5	20	11	7
	8-Dec-03	22.4	331	7.3	1320	11.4	63	132	53	34
	30-Jun-04	5.8	5	7.8	1061	--	<5	8	13	33
	19-Nov-04	6.2	2	7.6	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	7.3	9460	10.7	142	514	232	<5
	29-Jun-06	11.4	4	8.2	1690	11.6	18	48	34	6
	28-Nov-06	45.6	<1	8.1	2220	12.9	29	728	180	<5
	6-Jun-07	6.9	3	6.4	1630	11.6	12	13	10	23
Duplicate	6-Jun-07	6.7	4	--	1630	--	11	15	10	20
	12-Nov-07	5.6	3	7.3	1570	12.0	5	11	14	19
	24-Jun-08	3.8	3	7.4	1600	11.5	<5	6	6	9
	17-Nov-08	4.9	1	7.3	1660	11.3	24	10	7	13
	23-Jun-09	4.7	<1	6.9	1600	11.6	<5	6	6	14
Duplicate	23-Jun-09	3.5	1	6.9	1580	11.6	<5	6	5	15
	17-Nov-09	5	1	7.4	1520	11.2	<5	4	20	24
	14-Jun-10	**6**	**4**	**7.6**	**1530**	**12.7**	**17**	**8**	**<5**	**17**
	23-Mar-95	300.0	100	11.8	4100	--	61	3200	2200	<20
	30-Aug-95	100.0	250	7.5	1600	--	<20	300	85	<20
F	18-Jun-96	5.4	19	7.4	1400	--	<20	<20	<20	40
	11-Nov-96	7.1	260	7.7	1200	--	<20	<20	30	50
	7-May-97	5.0	138	6.5	1190	9.6	<20	<20	18	80
	5-Nov-97	5.0	14	7.1	1300	11.0	<10	<10	49	40
	5-May-98	6.0	635	7.1	1250	10.5	<10	<10	6	30
	6-Nov-98	4.0	14	6.1	1340	12.3	<10	70	7	50
	26-Apr-99	5.3	38	8.1	682	8.2	<10	40	27	10
	22-Oct-99	3.4	11	6.6	1053	11.3	<10	30	6	20
	20-Jun-00	4.1	2	7.7	1170	11.4	<10	<10	<5	<10
	10-Nov-00	2.9	8	7.3	1340	11.1	<10	<10	30	30
	24-May-01	6.6	40	8.5	1310	10.6	<10	20	<10	20
	16-Nov-01	4.2	323	7.3	1070	12.1	<10	10	8	20
	31-May-02	5.2	150	7.2	1250	14.8	<10	20	<5	160
	12-Dec-03	3.4	7	7.7	1180	11.3	<5	<5	<5	<5
	3-Jun-03	5.9	336	--	--	--	<5	12	<5	21
	8-Dec-03	6.0	35	7.0	1210	11.3	<5	14	15	33
	30-Jun-04	4.7	2	7.7	949	11.1	<5	27	13	20
	19-Nov-04	6.7	3	7.9	1260	11.2	12	8	14	11
	15-Jun-05	13.0	8	6.4	1630	16.7	<5	9	13	55
	17-Jan-06	33.9	3263	7.5	2390	6.6	107	475	124	12
	29-Jun-06	7.0	2	7.6	1280	11.6	16	38	11	29
	28-Nov-06	4.9	<1	8.0	1250	12.9	5	18	9	8
	6-Jun-07	22.1	8	6.8	1710	11.7	11	74	22	10
	12-Nov-07	3.8	1	7.7	1350	11.9	3	16	13	30
	24-Jun-08	4.0	2	8.0	1160	12.3	12	15	6	102
Duplicate	24-Jun-08	3.9	1	8.0	1160	12.3	11	14	6	8
	17-Nov-08	13.6	2	7.6	1740	10.9	29	87	81	11
	23-Jun-09	14.4	<1	7.8	1500	12.2	43	100	30	9
	17-Nov-09	10	0	8.0	1570	10.9	25	46	19	23
	14-Jun-10	**5**	**4**	**7.8**	**1010**	**11.7**	**9**	**15**	**<5**	**12**
Equipment	24-Jun-08	<1	1	--	4	--	<5	<1	<5	<5
Blank	**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 (insturment failure or duplicate sample).

Table 3
GM/REALM - Coldwater Road Facility
Landfill Leachate Sumps - Analytical Results
Volatile Organic Compounds (mg/L)

Parameter	Sample ID and Sample Date							
	Sump A	Sump B	Sump C	Sump D	Sump D (Dup-01)	Sump E	Sump F	TB-01
	14-Jun-10	14-Jun-10	14-Jun-10	14-Jun-10	14-Jun-10	14-Jun-10	14-Jun-10	14-Jun-10
Acrolein	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Acrylonitrile	<0.001	<0.001	<0.001	0.023	0.026	<0.001	<0.001	<0.001
Benzene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Bromodichloromethane	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Bromoform	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Bromomethane	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Carbon tetrachloride	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Chlorobenzene	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001
Chloroethane	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
2-Chloroethylvinyl ether	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Chloroform	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Chloromethane	<0.001	<0.001	<0.001	0.017	0.014	<0.001	<0.001	<0.001
Dibromochloromethane	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethane	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethane	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
trans-1,2-Dichloroethene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloropropane	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
cis-1,3-Dichloropropene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
trans-1,3-Dichloropropene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Ethlybenzene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Methylene chloride	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,2,2-Tetrachloroethane	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Tetrachloroethene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vinyl chloride	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Table 4
REALM - Coldwater Road Facility
Leachate Sump Depth to Water

June 14, 2010

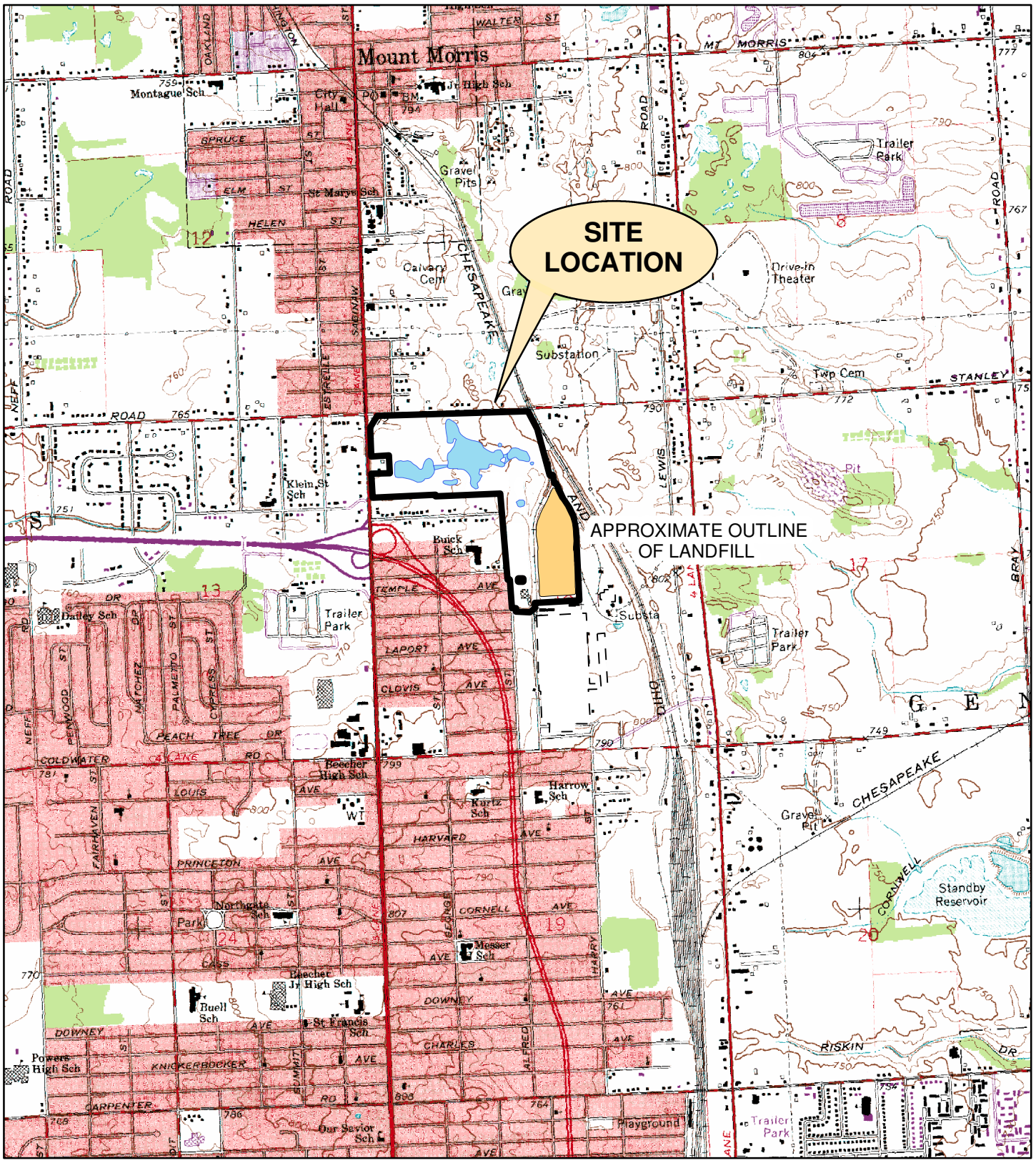
Sump	DTW
A	19.87
B	13.94
C	15.85
D	19.39
E	19.94
F	20.34

Notes:

DTW= Depth to Water, measured in feet below top of casing

FIGURES

FIGURE 1



REALM
COLDWATER ROAD FACILITY
FLINT, MICHIGAN

SITE LOCATION MAP

N

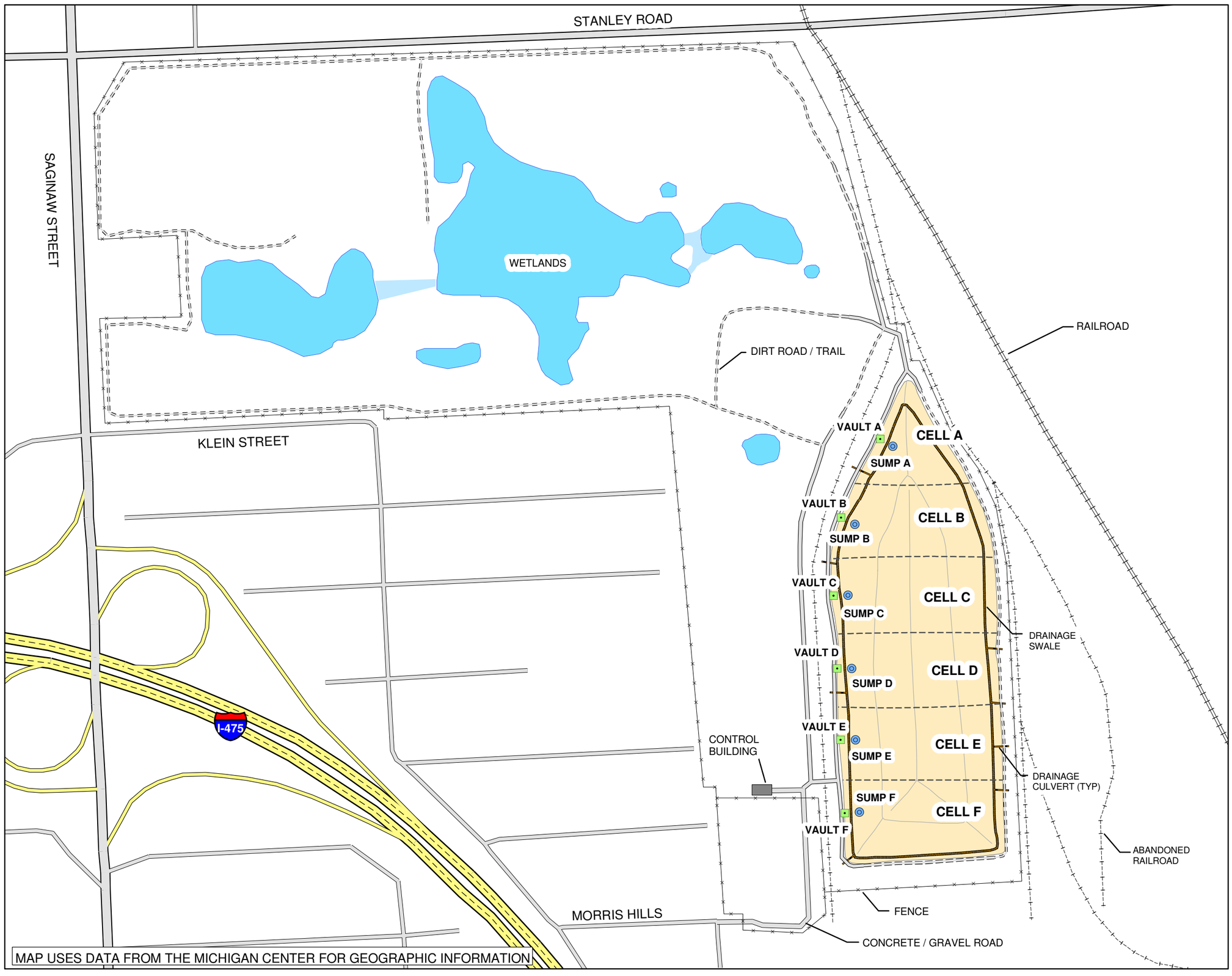
0 1
Miles

JANUARY 2010
4966/39196/001

O'BRIEN & GERE ENGINEERS, INC.

I:\PROJECTS\4966\36196\O&M 2009\DOC\DWG\008.MXD

FIGURE 2



N

LEGEND

- LEACHATE COLLECTION SUMP
- ACCESS PORT FOR LEAK DETECTION VAULT

REALM
COLDWATER ROAD
LANDFILL FACILITY
FLINT, MICHIGAN

SITE LAYOUT

0 150 300 450 600
Feet

JANUARY 2009
4966/36196-008

O'BRIEN & GERE ENGINEERS, INC.

PLOT DATE: 1/11/2010 jmo

APPENDICES

APPENDIX A

Analytical Laboratory Report

Analytical Laboratory Report

Report ID: S44563.01(01)
Generated on 07/02/2010

Report to

Attention: Clifford Yantz
O'Brien & Gere Engineers, Inc.
37000 Grand River Ave.
Suite 260
Farmington, MI 48335

Phone: 248-477-5701 FAX:
Email: YantzCS@obg.com/SecresME@obg.com

Report produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

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

Report Summary

Lab Sample ID(s): S44563.01-S44563.15
Project: Coldwater Road Landfill Semi-Annual Sampling
Collected Date: 06/14/2010
Submitted Date/Time: 06/15/2010 14:15
Sampled by: Kevin Schneider
P.O. #: 10910979

Report Notes

Results relate only to items tested as 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 RL.

Violetta F. Murshak
Laboratory Director

Analytical Laboratory Report

Sample Summary (15 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S44563.01	Sump A	Sump Water	06/14/2010 11:40
S44563.02	Vault A	Wastewater	06/14/2010 12:10
S44563.03	Sump B	Sump Water	06/14/2010 13:30
S44563.04	Vault B	Wastewater	06/14/2010 13:55
S44563.05	Sump C	Sump Water	06/14/2010 14:30
S44563.06	Vault C	Wastewater	06/14/2010 14:55
S44563.07	Sump D	Sump Water	06/14/2010 15:25
S44563.08	Vault D	Wastewater	06/14/2010 15:50
S44563.09	Sump E	Sump Water	06/14/2010 16:25
S44563.10	Vault E	Wastewater	06/14/2010 16:45
S44563.11	Sump F	Sump Water	06/14/2010 17:05
S44563.12	Vault F	Wastewater	06/14/2010 17:30
S44563.13	Dup-01	Sump Water	06/14/2010
S44563.14	Dup-02	Wastewater	06/14/2010 17:30
S44563.15	TB-01	Water	06/14/2010

Analytical Laboratory Report

Lab Sample ID: S44563.01
Sample Tag: Sump A
Collected Date/Time: 06/14/2010 11:40
Matrix: Sump Water
COC Reference: 043459

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	5.0	IR
1	500ml Plastic	None	Yes	5.0	IR
2	40ml Glass	H2SO4	Yes	5.0	IR
2	40ml Glass	HCL	Yes	5.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/22/10 12:00	PER		
Inorganics								
Conductivity	2,880	umhos/cm		120.1	06/17/10 11:21	MJC		
TOC	120	mg/L	10	EPA 415	06/24/10 12:00	TestA		O
Total Suspended Solids	4	mg/L	1	2540 D	06/17/10 14:00	WAR		
Metals								
Chromium, Dissolved	0.305	mg/L	0.005	200.8	06/22/10 12:25	PER	7440-47-3	
Copper, Dissolved	1.38	mg/L	0.004	200.8	06/22/10 12:25	PER	7440-50-8	
Nickel, Dissolved	0.124	mg/L	0.005	200.8	06/22/10 12:25	PER	7440-02-0	
Zinc, Dissolved	Not detected	mg/L	0.005	200.8	06/22/10 12:25	PER	7440-66-6	
Organics - Volatiles								
VOCs, TTO List								
Acrolein	Not detected	ug/L	10	624	06/17/10 17:39	JGH	107-02-8	
Acrylonitrile	Not detected	ug/L	1	624	06/17/10 17:39	JGH	107-13-1	
Benzene	Not detected	ug/L	1	624	06/17/10 17:39	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	624	06/17/10 17:39	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	624	06/17/10 17:39	JGH	75-25-2	
Bromomethane	Not detected	ug/L	1	624	06/17/10 17:39	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	624	06/17/10 17:39	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	624	06/17/10 17:39	JGH	108-90-7	
Chloroethane	Not detected	ug/L	1	624	06/17/10 17:39	JGH	75-00-3	
2-Chloroethylvinyl ether	Not detected	ug/L	1	624	06/17/10 17:39	JGH	110-75-8	
Chloroform	Not detected	ug/L	1	624	06/17/10 17:39	JGH	67-66-3	
Chloromethane	Not detected	ug/L	1	624	06/17/10 17:39	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	624	06/17/10 17:39	JGH	124-48-1	
1,1-Dichloroethane	Not detected	ug/L	1	624	06/17/10 17:39	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	624	06/17/10 17:39	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	624	06/17/10 17:39	JGH	75-35-4	
trans-1,2-Dichloroethene	Not detected	ug/L	1	624	06/17/10 17:39	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	624	06/17/10 17:39	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	624	06/17/10 17:39	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	624	06/17/10 17:39	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	624	06/17/10 17:39	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	624	06/17/10 17:39	JGH	75-09-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	624	06/17/10 17:39	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	624	06/17/10 17:39	JGH	127-18-4	

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

Lab Sample ID: S44563.01 (continued)
Sample Tag: Sump A

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
VOCs, TTO List (continued)								
Toluene	Not detected	ug/L	1	624	06/17/10 17:39	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	624	06/17/10 17:39	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	624	06/17/10 17:39	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	624	06/17/10 17:39	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	624	06/17/10 17:39	JGH	75-01-4	

Analytical Laboratory Report

Lab Sample ID: S44563.02
Sample Tag: Vault A
Collected Date/Time: 06/14/2010 12:10
Matrix: Wastewater
COC Reference: 043459

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	5.0	IR
1	500ml Plastic	None	Yes	5.0	IR
2	40ml Glass	H2SO4	Yes	5.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/22/10 12:00	PER		
Inorganics								
Conductivity	2,070	umhos/cm		120.1	06/17/10 11:25	MJC		
TOC	6	mg/L	1	EPA 415	06/24/10 12:00	TestA		O
Total Suspended Solids	10	mg/L	1	2540 D	06/17/10 14:00	WAR		
Metals								
Chromium, Dissolved	0.008	mg/L	0.005	200.8	06/22/10 12:28	PER	7440-47-3	
Copper, Dissolved	Not detected	mg/L	0.004	200.8	06/22/10 12:28	PER	7440-50-8	
Nickel, Dissolved	0.016	mg/L	0.005	200.8	06/22/10 12:28	PER	7440-02-0	
Zinc, Dissolved	0.006	mg/L	0.005	200.8	06/22/10 12:28	PER	7440-66-6	

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

Analytical Laboratory Report

Lab Sample ID: S44563.03
Sample Tag: Sump B
Collected Date/Time: 06/14/2010 13:30
Matrix: Sump Water
COC Reference: 043459

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	5.0	IR
1	500ml Plastic	None	Yes	5.0	IR
2	40ml Glass	H2SO4	Yes	5.0	IR
2	40ml Glass	HCL	Yes	5.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/22/10 12:00	PER		
Inorganics								
Conductivity	2,720	umhos/cm		120.1	06/17/10 11:26	MJC		
TOC	90	mg/L	4	EPA 415	06/24/10 12:00	TestA		O
Total Suspended Solids	3	mg/L	1	2540 D	06/17/10 14:00	WAR		
Metals								
Chromium, Dissolved	0.908	mg/L	0.005	200.8	06/22/10 12:30	PER	7440-47-3	
Copper, Dissolved	1.05	mg/L	0.004	200.8	06/22/10 12:30	PER	7440-50-8	
Nickel, Dissolved	0.118	mg/L	0.005	200.8	06/22/10 12:30	PER	7440-02-0	
Zinc, Dissolved	0.021	mg/L	0.005	200.8	06/22/10 12:30	PER	7440-66-6	
Organics - Volatiles								
VOCs, TTO List								
Acrolein	Not detected	ug/L	10	624	06/17/10 17:57	JGH	107-02-8	
Acrylonitrile	Not detected	ug/L	1	624	06/17/10 17:57	JGH	107-13-1	
Benzene	Not detected	ug/L	1	624	06/17/10 17:57	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	624	06/17/10 17:57	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	624	06/17/10 17:57	JGH	75-25-2	
Bromomethane	Not detected	ug/L	1	624	06/17/10 17:57	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	624	06/17/10 17:57	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	624	06/17/10 17:57	JGH	108-90-7	
Chloroethane	Not detected	ug/L	1	624	06/17/10 17:57	JGH	75-00-3	
2-Chloroethylvinyl ether	Not detected	ug/L	1	624	06/17/10 17:57	JGH	110-75-8	
Chloroform	Not detected	ug/L	1	624	06/17/10 17:57	JGH	67-66-3	
Chloromethane	Not detected	ug/L	1	624	06/17/10 17:57	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	624	06/17/10 17:57	JGH	124-48-1	
1,1-Dichloroethane	Not detected	ug/L	1	624	06/17/10 17:57	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	624	06/17/10 17:57	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	624	06/17/10 17:57	JGH	75-35-4	
trans-1,2-Dichloroethene	Not detected	ug/L	1	624	06/17/10 17:57	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	624	06/17/10 17:57	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	624	06/17/10 17:57	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	624	06/17/10 17:57	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	624	06/17/10 17:57	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	624	06/17/10 17:57	JGH	75-09-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	624	06/17/10 17:57	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	624	06/17/10 17:57	JGH	127-18-4	

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

Lab Sample ID: S44563.03 (continued)
Sample Tag: Sump B

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
VOCs, TTO List (continued)								
Toluene	Not detected	ug/L	1	624	06/17/10 17:57	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	624	06/17/10 17:57	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	624	06/17/10 17:57	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	624	06/17/10 17:57	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	624	06/17/10 17:57	JGH	75-01-4	

Analytical Laboratory Report

Lab Sample ID: S44563.04
Sample Tag: Vault B
Collected Date/Time: 06/14/2010 13:55
Matrix: Wastewater
COC Reference: 043459

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	5.0	IR
1	500ml Plastic	None	Yes	5.0	IR
2	40ml Glass	H2SO4	Yes	5.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/22/10 12:00	PER		
Inorganics								
Conductivity	1,810	umhos/cm		120.1	06/17/10 11:27	MJC		
TOC	3	mg/L	1	EPA 415	06/24/10 12:00	TestA		O
Total Suspended Solids	2	mg/L	1	2540 D	06/17/10 14:00	WAR		
Metals								
Chromium, Dissolved	0.008	mg/L	0.005	200.8	06/22/10 12:35	PER	7440-47-3	
Copper, Dissolved	Not detected	mg/L	0.004	200.8	06/22/10 12:35	PER	7440-50-8	
Nickel, Dissolved	0.005	mg/L	0.005	200.8	06/22/10 12:35	PER	7440-02-0	
Zinc, Dissolved	0.020	mg/L	0.005	200.8	06/22/10 12:35	PER	7440-66-6	

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

Analytical Laboratory Report

Lab Sample ID: S44563.05
Sample Tag: Sump C
Collected Date/Time: 06/14/2010 14:30
Matrix: Sump Water
COC Reference: 043459

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	5.0	IR
1	500ml Plastic	None	Yes	5.0	IR
2	40ml Glass	H2SO4	Yes	5.0	IR
2	40ml Glass	HCL	Yes	5.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/22/10 12:00	PER		
Inorganics								
Conductivity	4,580	umhos/cm		120.1	06/17/10 11:28	MJC		
TOC	120	mg/L	10	EPA 415	06/24/10 12:00	TestA		O
Total Suspended Solids	14	mg/L	1	2540 D	06/17/10 14:00	WAR		
Metals								
Chromium, Dissolved	0.032	mg/L	0.005	200.8	06/22/10 12:37	PER	7440-47-3	
Copper, Dissolved	3.20	mg/L	0.004	200.8	06/22/10 12:37	PER	7440-50-8	
Nickel, Dissolved	0.714	mg/L	0.005	200.8	06/22/10 12:37	PER	7440-02-0	
Zinc, Dissolved	0.018	mg/L	0.005	200.8	06/22/10 12:37	PER	7440-66-6	
Organics - Volatiles								
VOCs, TTO List								
Acrolein	Not detected	ug/L	10	624	06/17/10 18:15	JGH	107-02-8	
Acrylonitrile	Not detected	ug/L	1	624	06/17/10 18:15	JGH	107-13-1	
Benzene	Not detected	ug/L	1	624	06/17/10 18:15	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	624	06/17/10 18:15	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	624	06/17/10 18:15	JGH	75-25-2	
Bromomethane	Not detected	ug/L	1	624	06/17/10 18:15	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	624	06/17/10 18:15	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	624	06/17/10 18:15	JGH	108-90-7	
Chloroethane	Not detected	ug/L	1	624	06/17/10 18:15	JGH	75-00-3	
2-Chloroethylvinyl ether	Not detected	ug/L	1	624	06/17/10 18:15	JGH	110-75-8	
Chloroform	Not detected	ug/L	1	624	06/17/10 18:15	JGH	67-66-3	
Chloromethane	Not detected	ug/L	1	624	06/17/10 18:15	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	624	06/17/10 18:15	JGH	124-48-1	
1,1-Dichloroethane	Not detected	ug/L	1	624	06/17/10 18:15	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	624	06/17/10 18:15	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	624	06/17/10 18:15	JGH	75-35-4	
trans-1,2-Dichloroethene	Not detected	ug/L	1	624	06/17/10 18:15	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	624	06/17/10 18:15	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	624	06/17/10 18:15	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	624	06/17/10 18:15	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	624	06/17/10 18:15	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	624	06/17/10 18:15	JGH	75-09-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	624	06/17/10 18:15	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	624	06/17/10 18:15	JGH	127-18-4	

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

Lab Sample ID: S44563.05 (continued)
Sample Tag: Sump C

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
VOCs, TTO List (continued)								
Toluene	Not detected	ug/L	1	624	06/17/10 18:15	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	624	06/17/10 18:15	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	624	06/17/10 18:15	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	624	06/17/10 18:15	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	624	06/17/10 18:15	JGH	75-01-4	

Analytical Laboratory Report

Lab Sample ID: S44563.06
Sample Tag: Vault C
Collected Date/Time: 06/14/2010 14:55
Matrix: Wastewater
COC Reference: 043459

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	5.0	IR
1	500ml Plastic	None	Yes	5.0	IR
2	40ml Glass	H2SO4	Yes	5.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/22/10 12:00	PER		
Inorganics								
Conductivity	1,710	umhos/cm		120.1	06/17/10 11:29	MJC		
TOC	5	mg/L	1	EPA 415	06/24/10 12:00	TestA		O
Total Suspended Solids	4	mg/L	1	2540 D	06/17/10 14:00	WAR		
Metals								
Chromium, Dissolved	0.007	mg/L	0.005	200.8	06/22/10 12:39	PER	7440-47-3	
Copper, Dissolved	Not detected	mg/L	0.004	200.8	06/22/10 12:39	PER	7440-50-8	
Nickel, Dissolved	0.007	mg/L	0.005	200.8	06/22/10 12:39	PER	7440-02-0	
Zinc, Dissolved	0.007	mg/L	0.005	200.8	06/22/10 12:39	PER	7440-66-6	

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

Analytical Laboratory Report

Lab Sample ID: S44563.07
Sample Tag: Sump D
Collected Date/Time: 06/14/2010 15:25
Matrix: Sump Water
COC Reference: 043459

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	5.0	IR
1	500ml Plastic	None	Yes	5.0	IR
2	40ml Glass	H2SO4	Yes	5.0	IR
2	40ml Glass	HCL	Yes	5.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/22/10 12:00	PER		
Inorganics								
Conductivity	4,880	umhos/cm		120.1	06/17/10 11:30	MJC		
TOC	15	mg/L	1	EPA 415	06/24/10 12:00	TestA		O
Total Suspended Solids	12	mg/L	1	2540 D	06/17/10 14:00	WAR		
Metals								
Chromium, Dissolved	0.062	mg/L	0.005	200.8	06/22/10 12:41	PER	7440-47-3	
Copper, Dissolved	1.16	mg/L	0.004	200.8	06/22/10 12:41	PER	7440-50-8	
Nickel, Dissolved	1.34	mg/L	0.005	200.8	06/22/10 12:41	PER	7440-02-0	
Zinc, Dissolved	0.005	mg/L	0.005	200.8	06/22/10 12:41	PER	7440-66-6	
Organics - Volatiles								
VOCs, TTO List								
Acrolein	Not detected	ug/L	10	624	06/17/10 18:34	JGH	107-02-8	
Acrylonitrile	23	ug/L	1	624	06/17/10 18:34	JGH	107-13-1	
Benzene	Not detected	ug/L	1	624	06/17/10 18:34	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	624	06/17/10 18:34	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	624	06/17/10 18:34	JGH	75-25-2	
Bromomethane	Not detected	ug/L	1	624	06/17/10 18:34	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	624	06/17/10 18:34	JGH	56-23-5	
Chlorobenzene	1	ug/L	1	624	06/17/10 18:34	JGH	108-90-7	
Chloroethane	Not detected	ug/L	1	624	06/17/10 18:34	JGH	75-00-3	
2-Chloroethylvinyl ether	Not detected	ug/L	1	624	06/17/10 18:34	JGH	110-75-8	
Chloroform	Not detected	ug/L	1	624	06/17/10 18:34	JGH	67-66-3	
Chloromethane	17	ug/L	1	624	06/17/10 18:34	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	624	06/17/10 18:34	JGH	124-48-1	
1,1-Dichloroethane	Not detected	ug/L	1	624	06/17/10 18:34	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	624	06/17/10 18:34	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	624	06/17/10 18:34	JGH	75-35-4	
trans-1,2-Dichloroethene	Not detected	ug/L	1	624	06/17/10 18:34	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	624	06/17/10 18:34	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	624	06/17/10 18:34	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	624	06/17/10 18:34	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	624	06/17/10 18:34	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	624	06/17/10 18:34	JGH	75-09-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	624	06/17/10 18:34	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	624	06/17/10 18:34	JGH	127-18-4	

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

Lab Sample ID: S44563.07 (continued)
Sample Tag: Sump D

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
VOCs, TTO List (continued)								
Toluene	Not detected	ug/L	1	624	06/17/10 18:34	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	624	06/17/10 18:34	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	624	06/17/10 18:34	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	624	06/17/10 18:34	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	624	06/17/10 18:34	JGH	75-01-4	

Analytical Laboratory Report

Lab Sample ID: S44563.08
Sample Tag: Vault D
Collected Date/Time: 06/14/2010 15:50
Matrix: Wastewater
COC Reference: 043459

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	5.0	IR
1	500ml Plastic	None	Yes	5.0	IR
2	40ml Glass	H2SO4	Yes	5.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/22/10 12:00	PER		
Inorganics								
Conductivity	1,550	umhos/cm		120.1	06/17/10 11:32	MJC		
TOC	7	mg/L	1	EPA 415	06/24/10 12:00	TestA		O
Total Suspended Solids	35	mg/L	1	2540 D	06/17/10 14:00	WAR		
Metals								
Chromium, Dissolved	0.008	mg/L	0.005	200.8	06/22/10 12:43	PER	7440-47-3	
Copper, Dissolved	Not detected	mg/L	0.004	200.8	06/22/10 12:43	PER	7440-50-8	
Nickel, Dissolved	0.032	mg/L	0.005	200.8	06/22/10 12:43	PER	7440-02-0	
Zinc, Dissolved	0.011	mg/L	0.005	200.8	06/22/10 12:43	PER	7440-66-6	

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

Analytical Laboratory Report

Lab Sample ID: S44563.09
Sample Tag: Sump E
Collected Date/Time: 06/14/2010 16:25
Matrix: Sump Water
COC Reference: 043459

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	5.0	IR
1	500ml Plastic	None	Yes	5.0	IR
2	40ml Glass	H2SO4	Yes	5.0	IR
2	40ml Glass	HCL	Yes	5.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/22/10 12:00	PER		
Inorganics								
Conductivity	1,530	umhos/cm		120.1	06/17/10 11:33	MJC		
TOC	6	mg/L	1	EPA 415	06/24/10 12:00	TestA		O
Total Suspended Solids	4	mg/L	1	2540 D	06/17/10 14:00	WAR		
Metals								
Chromium, Dissolved	0.017	mg/L	0.005	200.8	06/22/10 12:45	PER	7440-47-3	
Copper, Dissolved	0.008	mg/L	0.004	200.8	06/22/10 12:45	PER	7440-50-8	
Nickel, Dissolved	Not detected	mg/L	0.005	200.8	06/22/10 12:45	PER	7440-02-0	
Zinc, Dissolved	0.017	mg/L	0.005	200.8	06/22/10 12:45	PER	7440-66-6	
Organics - Volatiles								
VOCs, TTO List								
Acrolein	Not detected	ug/L	10	624	06/17/10 18:52	JGH	107-02-8	
Acrylonitrile	Not detected	ug/L	1	624	06/17/10 18:52	JGH	107-13-1	
Benzene	Not detected	ug/L	1	624	06/17/10 18:52	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	624	06/17/10 18:52	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	624	06/17/10 18:52	JGH	75-25-2	
Bromomethane	Not detected	ug/L	1	624	06/17/10 18:52	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	624	06/17/10 18:52	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	624	06/17/10 18:52	JGH	108-90-7	
Chloroethane	Not detected	ug/L	1	624	06/17/10 18:52	JGH	75-00-3	
2-Chloroethylvinyl ether	Not detected	ug/L	1	624	06/17/10 18:52	JGH	110-75-8	
Chloroform	Not detected	ug/L	1	624	06/17/10 18:52	JGH	67-66-3	
Chloromethane	Not detected	ug/L	1	624	06/17/10 18:52	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	624	06/17/10 18:52	JGH	124-48-1	
1,1-Dichloroethane	Not detected	ug/L	1	624	06/17/10 18:52	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	624	06/17/10 18:52	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	624	06/17/10 18:52	JGH	75-35-4	
trans-1,2-Dichloroethene	Not detected	ug/L	1	624	06/17/10 18:52	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	624	06/17/10 18:52	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	624	06/17/10 18:52	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	624	06/17/10 18:52	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	624	06/17/10 18:52	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	624	06/17/10 18:52	JGH	75-09-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	624	06/17/10 18:52	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	624	06/17/10 18:52	JGH	127-18-4	

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

Lab Sample ID: S44563.09 (continued)
Sample Tag: Sump E

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
VOCs, TTO List (continued)								
Toluene	Not detected	ug/L	1	624	06/17/10 18:52	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	624	06/17/10 18:52	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	624	06/17/10 18:52	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	624	06/17/10 18:52	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	624	06/17/10 18:52	JGH	75-01-4	

Analytical Laboratory Report

Lab Sample ID: S44563.10
Sample Tag: Vault E
Collected Date/Time: 06/14/2010 16:45
Matrix: Wastewater
COC Reference: 043459

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	5.0	IR
1	500ml Plastic	None	Yes	5.0	IR
2	40ml Glass	H2SO4	Yes	5.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/22/10 12:00	PER		
Inorganics								
Conductivity	1,910	umhos/cm		120.1	06/17/10 11:34	MJC		
TOC	4	mg/L	1	EPA 415	06/24/10 12:00	TestA		O
Total Suspended Solids	21	mg/L	1	2540 D	06/17/10 14:00	WAR		
Metals								
Chromium, Dissolved	0.009	mg/L	0.005	200.8	06/22/10 12:47	PER	7440-47-3	
Copper, Dissolved	Not detected	mg/L	0.004	200.8	06/22/10 12:47	PER	7440-50-8	
Nickel, Dissolved	Not detected	mg/L	0.005	200.8	06/22/10 12:47	PER	7440-02-0	
Zinc, Dissolved	0.013	mg/L	0.005	200.8	06/22/10 12:47	PER	7440-66-6	

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

Analytical Laboratory Report

Lab Sample ID: S44563.11
Sample Tag: Sump F
Collected Date/Time: 06/14/2010 17:05
Matrix: Sump Water
COC Reference: 043459

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	5.0	IR
1	500ml Plastic	None	Yes	5.0	IR
2	40ml Glass	H2SO4	Yes	5.0	IR
2	40ml Glass	HCL	Yes	5.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/22/10 12:00	PER		
Inorganics								
Conductivity	1,010	umhos/cm		120.1	06/17/10 11:35	MJC		
TOC	5	mg/L	1	EPA 415	06/24/10 12:00	TestA		O
Total Suspended Solids	4	mg/L	1	2540 D	06/17/10 14:00	WAR		
Metals								
Chromium, Dissolved	0.009	mg/L	0.005	200.8	06/22/10 12:57	PER	7440-47-3	
Copper, Dissolved	0.015	mg/L	0.004	200.8	06/22/10 12:57	PER	7440-50-8	
Nickel, Dissolved	Not detected	mg/L	0.005	200.8	06/22/10 12:57	PER	7440-02-0	
Zinc, Dissolved	0.012	mg/L	0.005	200.8	06/22/10 12:57	PER	7440-66-6	
Organics - Volatiles								
VOCs, TTO List								
Acrolein	Not detected	ug/L	10	624	06/17/10 19:10	JGH	107-02-8	
Acrylonitrile	Not detected	ug/L	1	624	06/17/10 19:10	JGH	107-13-1	
Benzene	Not detected	ug/L	1	624	06/17/10 19:10	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	624	06/17/10 19:10	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	624	06/17/10 19:10	JGH	75-25-2	
Bromomethane	Not detected	ug/L	1	624	06/17/10 19:10	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	624	06/17/10 19:10	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	624	06/17/10 19:10	JGH	108-90-7	
Chloroethane	Not detected	ug/L	1	624	06/17/10 19:10	JGH	75-00-3	
2-Chloroethylvinyl ether	Not detected	ug/L	1	624	06/17/10 19:10	JGH	110-75-8	
Chloroform	Not detected	ug/L	1	624	06/17/10 19:10	JGH	67-66-3	
Chloromethane	Not detected	ug/L	1	624	06/17/10 19:10	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	624	06/17/10 19:10	JGH	124-48-1	
1,1-Dichloroethane	Not detected	ug/L	1	624	06/17/10 19:10	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	624	06/17/10 19:10	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	624	06/17/10 19:10	JGH	75-35-4	
trans-1,2-Dichloroethene	Not detected	ug/L	1	624	06/17/10 19:10	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	624	06/17/10 19:10	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	624	06/17/10 19:10	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	624	06/17/10 19:10	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	624	06/17/10 19:10	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	624	06/17/10 19:10	JGH	75-09-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	624	06/17/10 19:10	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	624	06/17/10 19:10	JGH	127-18-4	

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

Lab Sample ID: S44563.11 (continued)
Sample Tag: Sump F

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
VOCs, TTO List (continued)								
Toluene	Not detected	ug/L	1	624	06/17/10 19:10	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	624	06/17/10 19:10	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	624	06/17/10 19:10	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	624	06/17/10 19:10	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	624	06/17/10 19:10	JGH	75-01-4	

Analytical Laboratory Report

Lab Sample ID: S44563.12
Sample Tag: Vault F
Collected Date/Time: 06/14/2010 17:30
Matrix: Wastewater
COC Reference: 043459

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	5.0	IR
1	500ml Plastic	None	Yes	5.0	IR
2	40ml Glass	H2SO4	Yes	5.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/22/10 12:00	PER		
Inorganics								
Conductivity	1,540	umhos/cm		120.1	06/17/10 11:36	MJC		
TOC	3	mg/L	1	EPA 415	06/24/10 12:00	TestA		O
Total Suspended Solids	14	mg/L	1	2540 D	06/17/10 14:00	WAR		
Metals								
Chromium, Dissolved	0.006	mg/L	0.005	200.8	06/22/10 12:59	PER	7440-47-3	
Copper, Dissolved	Not detected	mg/L	0.004	200.8	06/22/10 12:59	PER	7440-50-8	
Nickel, Dissolved	Not detected	mg/L	0.005	200.8	06/22/10 12:59	PER	7440-02-0	
Zinc, Dissolved	0.017	mg/L	0.005	200.8	06/22/10 12:59	PER	7440-66-6	

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

Analytical Laboratory Report

Lab Sample ID: S44563.13
Sample Tag: Dup-01
Collected Date/Time: 06/14/2010 :
Matrix: Sump Water
COC Reference: 54862

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	5.0	IR
1	500ml Plastic	None	Yes	5.0	IR
2	40ml Glass	H2SO4	Yes	5.0	IR
2	40ml Glass	HCL	Yes	5.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/22/10 12:00	PER		
Inorganics								
Conductivity	4,860	umhos/cm		120.1	06/17/10 11:37	MJC		
TOC	150	mg/L	10	EPA 415	06/24/10 12:00	TestA		O
Total Suspended Solids	12	mg/L	1	2540 D	06/17/10 14:00	WAR		
Metals								
Chromium, Dissolved	0.062	mg/L	0.005	200.8	06/22/10 13:01	PER	7440-47-3	
Copper, Dissolved	1.18	mg/L	0.004	200.8	06/22/10 13:01	PER	7440-50-8	
Nickel, Dissolved	1.34	mg/L	0.005	200.8	06/22/10 13:01	PER	7440-02-0	
Zinc, Dissolved	0.006	mg/L	0.005	200.8	06/22/10 13:01	PER	7440-66-6	
Organics - Volatiles								
VOCs, TTO List								
Acrolein	Not detected	ug/L	10	624	06/17/10 19:28	JGH	107-02-8	
Acrylonitrile	26	ug/L	1	624	06/17/10 19:28	JGH	107-13-1	
Benzene	Not detected	ug/L	1	624	06/17/10 19:28	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	624	06/17/10 19:28	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	624	06/17/10 19:28	JGH	75-25-2	
Bromomethane	Not detected	ug/L	1	624	06/17/10 19:28	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	624	06/17/10 19:28	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	624	06/17/10 19:28	JGH	108-90-7	
Chloroethane	Not detected	ug/L	1	624	06/17/10 19:28	JGH	75-00-3	
2-Chloroethylvinyl ether	Not detected	ug/L	1	624	06/17/10 19:28	JGH	110-75-8	
Chloroform	Not detected	ug/L	1	624	06/17/10 19:28	JGH	67-66-3	
Chloromethane	14	ug/L	1	624	06/17/10 19:28	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	624	06/17/10 19:28	JGH	124-48-1	
1,1-Dichloroethane	Not detected	ug/L	1	624	06/17/10 19:28	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	624	06/17/10 19:28	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	624	06/17/10 19:28	JGH	75-35-4	
trans-1,2-Dichloroethene	Not detected	ug/L	1	624	06/17/10 19:28	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	624	06/17/10 19:28	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	624	06/17/10 19:28	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	624	06/17/10 19:28	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	624	06/17/10 19:28	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	624	06/17/10 19:28	JGH	75-09-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	624	06/17/10 19:28	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	624	06/17/10 19:28	JGH	127-18-4	

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

Lab Sample ID: S44563.13 (continued)
Sample Tag: Dup-01

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
VOCs, TTO List (continued)								
Toluene	Not detected	ug/L	1	624	06/17/10 19:28	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	624	06/17/10 19:28	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	624	06/17/10 19:28	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	624	06/17/10 19:28	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	624	06/17/10 19:28	JGH	75-01-4	

Analytical Laboratory Report

Lab Sample ID: S44563.14
Sample Tag: Dup-02
Collected Date/Time: 06/14/2010 17:30
Matrix: Wastewater
COC Reference: 54862

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	5.0	IR
1	500ml Plastic	None	Yes	5.0	IR
2	40ml Glass	H2SO4	Yes	5.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/22/10 12:00	PER		
Inorganics								
Conductivity	1,550	umhos/cm		120.1	06/17/10 11:38	MJC		
TOC	7	mg/L	1	EPA 415	06/28/10 12:00	TestA		O
Total Suspended Solids	1	mg/L	1	2540 D	06/17/10 14:00	WAR		
Metals								
Chromium, Dissolved	0.007	mg/L	0.005	200.8	06/22/10 13:03	PER	7440-47-3	
Copper, Dissolved	Not detected	mg/L	0.004	200.8	06/22/10 13:03	PER	7440-50-8	
Nickel, Dissolved	0.033	mg/L	0.005	200.8	06/22/10 13:03	PER	7440-02-0	
Zinc, Dissolved	0.011	mg/L	0.005	200.8	06/22/10 13:03	PER	7440-66-6	

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

Analytical Laboratory Report

Lab Sample ID: S44563.15
Sample Tag: TB-01
Collected Date/Time: 06/14/2010 :
Matrix: Water
COC Reference: 54862

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	5.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles								
VOCs, TTO List								
Acrolein	Not detected	ug/L	10	624	06/17/10 19:46	JGH	107-02-8	
Acrylonitrile	Not detected	ug/L	1	624	06/17/10 19:46	JGH	107-13-1	
Benzene	Not detected	ug/L	1	624	06/17/10 19:46	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	624	06/17/10 19:46	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	624	06/17/10 19:46	JGH	75-25-2	
Bromomethane	Not detected	ug/L	1	624	06/17/10 19:46	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	624	06/17/10 19:46	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	624	06/17/10 19:46	JGH	108-90-7	
Chloroethane	Not detected	ug/L	1	624	06/17/10 19:46	JGH	75-00-3	
2-Chloroethylvinyl ether	Not detected	ug/L	1	624	06/17/10 19:46	JGH	110-75-8	
Chloroform	Not detected	ug/L	1	624	06/17/10 19:46	JGH	67-66-3	
Chloromethane	Not detected	ug/L	1	624	06/17/10 19:46	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	624	06/17/10 19:46	JGH	124-48-1	
1,1-Dichloroethane	Not detected	ug/L	1	624	06/17/10 19:46	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	624	06/17/10 19:46	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	624	06/17/10 19:46	JGH	75-35-4	
trans-1,2-Dichloroethene	Not detected	ug/L	1	624	06/17/10 19:46	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	624	06/17/10 19:46	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	624	06/17/10 19:46	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	624	06/17/10 19:46	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	624	06/17/10 19:46	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	624	06/17/10 19:46	JGH	75-09-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	624	06/17/10 19:46	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	624	06/17/10 19:46	JGH	127-18-4	
Toluene	Not detected	ug/L	1	624	06/17/10 19:46	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	624	06/17/10 19:46	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	624	06/17/10 19:46	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	624	06/17/10 19:46	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	624	06/17/10 19:46	JGH	75-01-4	

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-6333
www.meritlabs.com

C.O.C. PAGE # 1 OF 2

043459

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME	Clifford Yantz
COMPANY	O'Brien & Gere
ADDRESS	37000 Grand River Ave Ste 260
CITY	Farmington Hills
STATE	MI
ZIP CODE	48375
PHONE NO.	248-477-5701
FAX NO.	
P.O. NO.	
E-MAIL ADDRESS	clifford.yantz@obg.com
QUOTE NO.	

INVOICE TO

CONTACT NAME	☑ SAME
COMPANY	
ADDRESS	
CITY	
STATE	
ZIP CODE	
PHONE NO.	
FAX NO.	
P.O. NO.	

PROJECT NO./NAME: ~~39190~~ - Coldwater Rd Semi-Annual

SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schneider [signature]

TURNAROUND TIME REQUIRED: ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED: ☒ STANDARD ☐ LEVEL II ☐ LEVEL III ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE O=OIL A=AIR W=WASTE M=MISC

ANALYSIS (ATTACH LIST IF MORE SPACE REQUIRED)

SPECIAL INSTRUCTIONS/NOTES: Metals are: Cu, Cr, Ni, Zn

MERIT LAB NO.	DATE (YEAR 2010)	TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCL	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	TOC	Specific Conductivity	Dissolved Metals	TSS	VOCs
41563.01	6/14	11:40	Sump A	WSW	6	1	2	1	2				X	X	X	X	X
.02	6/14	12:10	Vault A	~~WSW~~	4	1		1	2				X	X	X	X	
.03	6/14	13:30	Sump B	WSW	6	1	2	1	2				X	X	X	X	X
.04	6/14	13:55	Vault B	WW	4	1		1	2				X	X	X	X	
.05	6/14	14:30	Sump C	WSW	6	1	2	1	2				X	X	X	X	X
.06	6/14	14:55	Vault C	WW	4	1		1	2				X	X	X	X	
.07	6/14	15:25	Sump D	WSW	6	1	2	1	2				X	X	X	X	X
.08	6/14	15:50	Vault D	WW	4	1		1	2				X	X	X	X	
.09	6/14	16:25	Sump E	WSW	6	1	2	1	2				X	X	X	X	X
.10	6/14	16:45	Vault E	WW	4	1		1	2				X	X	X	X	
.11	6/14	1705	Sump F	WSW	6	1	2	1	2				X	X	X	X	X
.12	6/14	1730	Vault F	WW	4	1		1	2				X	X	X	X	

	SIGNATURE/ORGANIZATION	DATE	TIME
RELINQUISHED BY:	[signature] OBG	6/15/10	1115
RECEIVED BY:	[signature] Merit	6-15-10	1115
RELINQUISHED BY:			
RECEIVED BY:			

	SIGNATURE/ORGANIZATION	DATE	TIME
RELINQUISHED BY:	[signature]	6-15-10	1415
RECEIVED BY:	Barbara [signature]	6/15/10	14:15

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

NOTES:

TEMP. ON ARRIVAL 5.0

PLEASE NOTE: SIGNING ACKNOWLEDGES ACCEPTANCE OF TERMS & CONDITIONS ON REVERSE SIDE

Merit Laboratories, Inc.
2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-6333
www.meritlabs.com

C.O.C. PAGE # 2 OF 2

54862

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Clifford Yantz
COMPANY: O'Brien & Gere
ADDRESS: 37000 Grand River Ave ste 200
CITY: Farmington Hills | STATE: MI | ZIP CODE: 48335
PHONE NO.: 248-477-5701 | FAX NO. | P.O. NO.
E-MAIL ADDRESS | QUOTE NO.

INVOICE TO

CONTACT NAME | ☒ SAME
COMPANY
ADDRESS
CITY | STATE | ZIP CODE
PHONE NO. | FAX NO. | P.O. NO.

PROJECT NO./NAME: Coldwater Rd Semi-Annual
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schneider

TURNAROUND TIME REQUIRED ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☒ STANDARD ☐ LEVEL II ☐ LEVEL III ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE O=OIL A=AIR W=WASTE M=MISC

ANALYSIS (ATTACH LIST IF MORE SPACE REQUIRED)

SPECIAL INSTRUCTIONS/NOTES: Metals are: Cu, Cr, Ni, Zn

MERIT LAB NO.	2010 DATE	TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCL	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	TOC	Specific Conductivity	Dissolved Metals	TSS	VOCs	SPECIAL INSTRUCTIONS/NOTES
44563.13	6/14		DUP-01	WW	6	1	2	1	2				X	X	X	X	X	
.14	6/14		DUP-02	WW	4	1		1	2				X	X	X	X		
.15	6/14		TB-01	QC	1		1										X	Trip Blank

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

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

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

NOTES: TEMP. ON ARRIVAL 5.0

PLEASE NOTE: SIGNING ACKNOWLEDGES ACCEPTANCE OF TERMS & CONDITIONS ON REVERSE SIDE

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

PROJECT NO. 44563

44563

Lot #: A0F180432

Paula Shaw

Merit Laboratories
2680 E Lansing Drive
Lansing, MI 48823

TESTAMERICA LABORATORIES, INC.

Designee for

Denise D. Heckler
Project Manager
denise.heckler@testamericainc.com

Approved for release.
Amy McCormick
Project Manager
7/2/2010 8:30 AM

July 01, 2010

CASE NARRATIVE

A0F180432

The following report contains the analytical results for fourteen water samples submitted to TestAmerica North Canton by Merit Laboratories from the 44563 Site, project number 44563. The samples were received June 18, 2010, according to documented sample acceptance procedures.

TestAmerica utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. A summary of QC data for these analyses is included at the back of the report.

TestAmerica North Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

All parameters were evaluated to the method detection limit and include qualified results where applicable.

Please refer to the Quality Control Elements Narrative following this case narrative for additional quality control information.

If you have any questions, please call the Project Manager, Denise D. Heckler, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

CASE NARRATIVE (continued)

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 2.4°C.

GENERAL CHEMISTRY

The analytical results met the requirements of the laboratory's QA/QC program.

QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data. Program or agency specific requirements take precedence over the requirements listed in this narrative.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. TestAmerica North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples.

For SW846/RCRA methods, QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

For 600 series/CWA methods, QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE (MS). An MS is prepared and analyzed at a 10% frequency for GC Methods and at a 5% frequency for GC/MS methods.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. Multi peak responders may not be included in the target spike list due to co-elution. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. Comparison of only the failed parameters from the first batch are evaluated. The only exception to the rework requirement is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed in the table.)

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals ICP-MS	Metals ICP Trace
Methylene Chloride, Acetone, 2-Butanone	Phthalate Esters	Copper, Iron, Zinc, Lead, Calcium, Magnesium, Potassium, Sodium, Barium, Chromium, Manganese	Copper, Iron, Zinc, Lead

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.

- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

For certain methods (600 series methods/CWA), a Matrix Spike is required in place of a Matrix Spike/Matrix Spike Duplicate (MS/MSD) or Matrix Spike/Sample Duplicate (MS/DU).

The acceptance criteria do not apply to samples that are diluted.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepared and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be reprepared and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

The acceptance criteria do not apply to samples that are diluted. All other surrogate recoveries will be reported.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide and PCB methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria. The second surrogate must have a recovery of 10% or greater.

EXECUTIVE SUMMARY - Detection Highlights

A0F180432

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
44563.01 06/14/10 11:40 001				
Total Organic Carbon	120	10	mg/L	MCAWW 415.1
44563.02 06/14/10 12:10 002				
Total Organic Carbon	6	1	mg/L	MCAWW 415.1
44563.03 06/14/10 13:30 003				
Total Organic Carbon	90	4	mg/L	MCAWW 415.1
44563.04 06/14/10 13:55 004				
Total Organic Carbon	3	1	mg/L	MCAWW 415.1
44563.05 06/14/10 14:30 005				
Total Organic Carbon	120	10	mg/L	MCAWW 415.1
44563.06 06/14/10 14:55 006				
Total Organic Carbon	5	1	mg/L	MCAWW 415.1
44563.07 06/14/10 15:25 007				
Total Organic Carbon	15	1	mg/L	MCAWW 415.1
44563.08 06/14/10 15:50 008				
Total Organic Carbon	7	1	mg/L	MCAWW 415.1
44563.09 06/14/10 16:25 009				
Total Organic Carbon	6	1	mg/L	MCAWW 415.1

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

A0F180432

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
44563.10 06/14/10 16:45 010				
Total Organic Carbon	4	1	mg/L	MCAWW 415.1
44563.11 06/14/10 17:05 011				
Total Organic Carbon	5	1	mg/L	MCAWW 415.1
44563.12 06/14/10 17:30 012				
Total Organic Carbon	3	1	mg/L	MCAWW 415.1
44563.13 06/14/10 013				
Total Organic Carbon	150	10	mg/L	MCAWW 415.1
44563.14 06/14/10 17:30 014				
Total Organic Carbon	7	1	mg/L	MCAWW 415.1

ANALYTICAL METHODS SUMMARY

A0F180432

PARAMETER	ANALYTICAL METHOD
Total Organic Carbon	MCAWW 415.1

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SAMPLE SUMMARY

A0F180432

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
L24GT	001	44563.01	06/14/10	11:40
L24G2	002	44563.02	06/14/10	12:10
L24G3	003	44563.03	06/14/10	13:30
L24G4	004	44563.04	06/14/10	13:55
L24G5	005	44563.05	06/14/10	14:30
L24G6	006	44563.06	06/14/10	14:55
L24G7	007	44563.07	06/14/10	15:25
L24G9	008	44563.08	06/14/10	15:50
L24HA	009	44563.09	06/14/10	16:25
L24HC	010	44563.10	06/14/10	16:45
L24HD	011	44563.11	06/14/10	17:05
L24HE	012	44563.12	06/14/10	17:30
L24HF	013	44563.13	06/14/10	
L24HG	014	44563.14	06/14/10	17:30

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Merit Laboratories

Client Sample ID: 44563.01

General Chemistry

Lot-Sample #...: A0F180432-001 **Work Order #...:** L24GT **Matrix.....:** WG
Date Sampled...: 06/14/10 11:40 **Date Received..:** 06/18/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon	**120**	**10**	**mg/L**	**MCAWW 415.1**	**06/24/10**	**0175211**

Dilution Factor: 10 MDL.....: 2

Merit Laboratories

Client Sample ID: 44563.02

General Chemistry

Lot-Sample #...: A0F180432-002 **Work Order #...:** L24G2 **Matrix.....:** WG
Date Sampled...: 06/14/10 12:10 **Date Received..:** 06/18/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon	**6**	**1**	**mg/L**	**MCAWW 415.1**	**06/24/10**	**0175211**

Dilution Factor: 1 MDL.....: 0.2

Merit Laboratories

Client Sample ID: 44563.03

General Chemistry

Lot-Sample #...: A0F180432-003 **Work Order #...:** L24G3 **Matrix.....:** WG
Date Sampled...: 06/14/10 13:30 **Date Received..:** 06/18/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon	**90**	**4**	**mg/L**	**MCAWW 415.1**	**06/24/10**	**0175211**

Dilution Factor: 4 MDL.....: 1

Merit Laboratories

Client Sample ID: 44563.04

General Chemistry

Lot-Sample #...: A0F180432-004 **Work Order #...:** L24G4 **Matrix.....:** WG
Date Sampled...: 06/14/10 13:55 **Date Received..:** 06/18/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon	**3**	**1**	**mg/L**	**MCAWW 415.1**	**06/24/10**	**0175211**

Dilution Factor: 1 MDL.....: 0.2

Merit Laboratories

Client Sample ID: 44563.05

General Chemistry

Lot-Sample #...: A0F180432-005 **Work Order #...:** L24G5 **Matrix.....:** WG
Date Sampled...: 06/14/10 14:30 **Date Received..:** 06/18/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon	**120**	**10**	**mg/L**	**MCAWW 415.1**	**06/24/10**	**0175211**

Dilution Factor: 10 MDL.....: 2

Merit Laboratories

Client Sample ID: 44563.06

General Chemistry

Lot-Sample #...: A0F180432-006 **Work Order #...:** L24G6 **Matrix.....:** WG
Date Sampled...: 06/14/10 14:55 **Date Received..:** 06/18/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon	**5**	**1**	**mg/L**	**MCAWW 415.1**	**06/24/10**	**0175211**

Dilution Factor: 1 MDL.....: 0.2

Merit Laboratories

Client Sample ID: 44563.07

General Chemistry

Lot-Sample #...: A0F180432-007 **Work Order #...:** L24G7 **Matrix.....:** WG
Date Sampled...: 06/14/10 15:25 **Date Received..:** 06/18/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon	**15**	**1**	**mg/L**	**MCAWW 415.1**	**06/24/10**	**0175211**

Dilution Factor: 1 MDL.....: 0.2

Merit Laboratories

Client Sample ID: 44563.08

General Chemistry

Lot-Sample #...: A0F180432-008 **Work Order #...:** L24G9 **Matrix.....:** WG
Date Sampled...: 06/14/10 15:50 **Date Received..:** 06/18/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon	**7**	**1**	**mg/L**	**MCAWW 415.1**	**06/24/10**	**0175211**

Dilution Factor: 1 MDL.....: 0.2

Merit Laboratories

Client Sample ID: 44563.09

General Chemistry

Lot-Sample #...: A0F180432-009 **Work Order #...:** L24HA **Matrix.....:** WG
Date Sampled...: 06/14/10 16:25 **Date Received..:** 06/18/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon	**6**	**1**	**mg/L**	**MCAWW 415.1**	**06/24/10**	**0175211**

Dilution Factor: 1 MDL.....: 0.2

Merit Laboratories

Client Sample ID: 44563.10

General Chemistry

Lot-Sample #...: A0F180432-010 **Work Order #...:** L24HC **Matrix.....:** WG
Date Sampled...: 06/14/10 16:45 **Date Received..:** 06/18/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon	**4**	**1**	**mg/L**	**MCAWW 415.1**	**06/24/10**	**0175211**

Dilution Factor: 1 MDL.....: 0.2

Merit Laboratories

Client Sample ID: 44563.11

General Chemistry

Lot-Sample #...: A0F180432-011 **Work Order #...:** L24HD **Matrix.....:** WG
Date Sampled...: 06/14/10 17:05 **Date Received..:** 06/18/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon	**5**	**1**	**mg/L**	**MCAWW 415.1**	**06/24/10**	**0175211**

Dilution Factor: 1 MDL.....: 0.2

Merit Laboratories

Client Sample ID: 44563.12

General Chemistry

Lot-Sample #...: A0F180432-012 **Work Order #...:** L24HE **Matrix.....:** WG
Date Sampled...: 06/14/10 17:30 **Date Received..:** 06/18/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon	**3**	**1**	**mg/L**	**MCAWW 415.1**	**06/24/10**	**0175211**

Dilution Factor: 1 MDL.....: 0.2

Merit Laboratories

Client Sample ID: 44563.13

General Chemistry

Lot-Sample #...: A0F180432-013 **Work Order #...:** L24HF **Matrix.....:** WG
Date Sampled...: 06/14/10 **Date Received..:** 06/18/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon	**150**	**10**	**mg/L**	**MCAWW 415.1**	**06/24/10**	**0175211**

Dilution Factor: 10 MDL.....: 2

Merit Laboratories

Client Sample ID: 44563.14

General Chemistry

Lot-Sample #...: A0F180432-014 **Work Order #...:** L24HG **Matrix.....:** WG
Date Sampled...: 06/14/10 17:30 **Date Received..:** 06/18/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon	**7**	**1**	**mg/L**	**MCAWW 415.1**	**06/28/10**	**0179268**

Dilution Factor: 1 MDL.....: 0.2

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

QUALITY CONTROL SECTION

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A0F180432 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon		Work Order #: L3CXJ1AA		MB Lot-Sample #:	A0F240000-211	
	ND	1	mg/L	MCAWW 415.1	06/23/10	0175211
		Dilution Factor: 1				
Total Organic Carbon		Work Order #: L3G9K1AA		MB Lot-Sample #:	A0F280000-268	
	ND	1	mg/L	MCAWW 415.1	06/28/10	0179268
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: A0F180432 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon		Work Order #: L3CXJ1AC	LCS Lot-Sample#: A0F240000-211		
	96	(88 - 115)	MCAWW 415.1	06/23/10	0175211
		Dilution Factor: 1			
Total Organic Carbon		Work Order #: L3G9K1AC	LCS Lot-Sample#: A0F280000-268		
	99	(88 - 115)	MCAWW 415.1	06/28/10	0179268
		Dilution Factor: 1			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: A0F180432 **Matrix.....:** WATER
Date Sampled...: 06/16/10 08:50 **Date Received..:** 06/17/10

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Organic Carbon		WO#: L20XP1A3-MS/L20XP1A4-MSD				MS Lot-Sample #: A0F160466-001	
	100	(72 - 136)			MCAWW 415.1	06/23/10	0175211
	102	(72 - 136)	2.4	(0-20)	MCAWW 415.1	06/23/10	0175211
		Dilution Factor: 1					
Total Organic Carbon		WO#: L22321C8-MS/L22321C9-MSD				MS Lot-Sample #: A0F170506-001	
	98	(72 - 136)			MCAWW 415.1	06/28/10	0179268
	100	(72 - 136)	1.9	(0-20)	MCAWW 415.1	06/28/10	0179268
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes☐ No☐

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007)

Client	Project Manager	Date	Chain of Custody Number
Merit Labs	Paula Shaw		181609
Address 2680 EastLansing Dr.	Telephone Number (Area Code)/Fax Number	Lab Number	Page 1 of 2
City East Lansing / **State** MI / **Zip Code** 48823	Site Contact	Lab Contact	
Project Name and Location (State) 44563	Carrier/Waybill Number		
Contract/Purchase Order/Quote No. 44563			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: TOC	Special Instructions/ Conditions of Receipt
44563.01	6-14-10	1140		X				2					X	
.02		1210		X									X	
.03		1330		X									X	
.04		~~1330~~ 1335x5											X	
.05		1430		X									X	
.06		1455		X									X	
.07		1525		X									X	
.08		1550		X									X	
.09		1625		X									X	
.10		1645		X									X	
.11		1705		X				1					X	1 Bottle Broke (PS)
.12		1730		X									X	

28 of 32

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	6-17-10	1600	1. Received By	6.18.10	1000
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: *WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy*

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes☐ No☐

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007)

Client	Project Manager	Date	Chain of Custody Number
Merit Labs			182096
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 2 of 2**
City / State / Zip Code	**Site Contact**	**Lab Contact**	
Project Name and Location (State) 44563	**Carrier/Waybill Number**		
Contract/Purchase Order/Quote No. 44563			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: TOC	Special Instructions/ Conditions of Receipt
44563.13	6-14-10	—		X				2					X	
.14	↓	1730		X				↓					X	

Analysis (Attach list if more space is needed)

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other_____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By [signature]	6-17-10	1600	1. Received By [signature]	6-18-10	1000
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

TestAmerica Cooler Receipt Form/Narrative **Lot Number:** 240-30432
North Canton Facility

Client MERIT LABS Project 44563 By: _____
Cooler Received on 6.18.10 Opened on 6.18.10 (Signature)
FedEx ☐ UPS ☑ DHL ☐ FAS ☐ Stetson ☐ Client Drop Off ☐ TestAmerica Courier ☐ Other _____
TestAmerica Cooler # 241-935 Multiple Coolers ☐ Foam Box ☐ Client Cooler ☐ Other _____

1. Were custody seals on the outside of the cooler(s)? Yes ☐ No ☑ Intact? Yes ☐ No ☐ NA ☑
   If YES, Quantity_____ Quantity Unsalvageable_____
   Were custody seals on the outside of cooler(s) signed and dated? Yes ☐ No ☐ NA ☑
   Were custody seals on the bottle(s)? Yes ☐ No ☑
   If YES, are there any exceptions? _____
2. Shippers' packing slip attached to the cooler(s)? Yes ☑ No ☐
3. Did custody papers accompany the sample(s)? Yes ☑ No ☐ Relinquished by client? Yes ☑ No ☐
4. Were the custody papers signed in the appropriate place? Yes ☑ No ☐
5. Packing material used: Bubble Wrap ☑ Foam ☑ None ☐ Other _____
6. Cooler temperature upon receipt 2.4 °C See back of form for multiple coolers/temps ☐
   METHOD: IR ☑ Other ☐ _____
   COOLANT: Wet Ice ☑ Blue Ice ☐ Dry Ice ☐ Water ☐ None ☐
7. Did all bottles arrive in good condition (Unbroken)? Yes ☑ No ☐
8. Could all bottle labels be reconciled with the COC? Yes ☑ No ☐
9. Were sample(s) at the correct pH upon receipt? Yes ☐ No ☐ NA ☑
10. Were correct bottle(s) used for the test(s) indicated? Yes ☑ No ☐
11. Were air bubbles >6 mm in any VOA vials? Yes ☐ No ☐ NA ☑
12. Sufficient quantity received to perform indicated analyses? Yes ☑ No ☐
13. Was a trip blank present in the cooler(s)? Yes ☐ No ☑ Were VOAs on the COC? Yes ☐ No ☑

Contacted PM _____ Date _____ by _____ via Verbal ☐ Voice Mail ☐ Other ☐
Concerning _____

14. CHAIN OF CUSTODY

The following discrepancies occurred:

_____

_____

_____

_____

_____

_____

15. SAMPLE CONDITION

Sample(s)_____ were received after the recommended holding time had expired.
Sample(s)_____ were received in a broken container.
Sample(s)_____ were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in Sample Receiving to meet recommended pH level(s). *Nitric Acid Lot#* 121709-HNO_3; *Sulfuric Acid Lot#* 121709-H_2SO_4; *Sodium Hydroxide Lot#* 100108 -*NaOH; Hydrochloric Acid Lot#* 092006-*HCl; Sodium Hydroxide and Zinc Acetate Lot#* 100108-$(CH_3COO)_2ZN$/*NaOH.* What time was preservative added to sample(s)? _____

Client ID	pH	Date	Initials

TestAmerica Cooler Receipt Form/Narrative
North Canton Facility

Client ID	pH	Date	Initials

Cooler #	Temp. °C	Method	Coolant

Discrepancies Cont'd:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

END OF REPORT

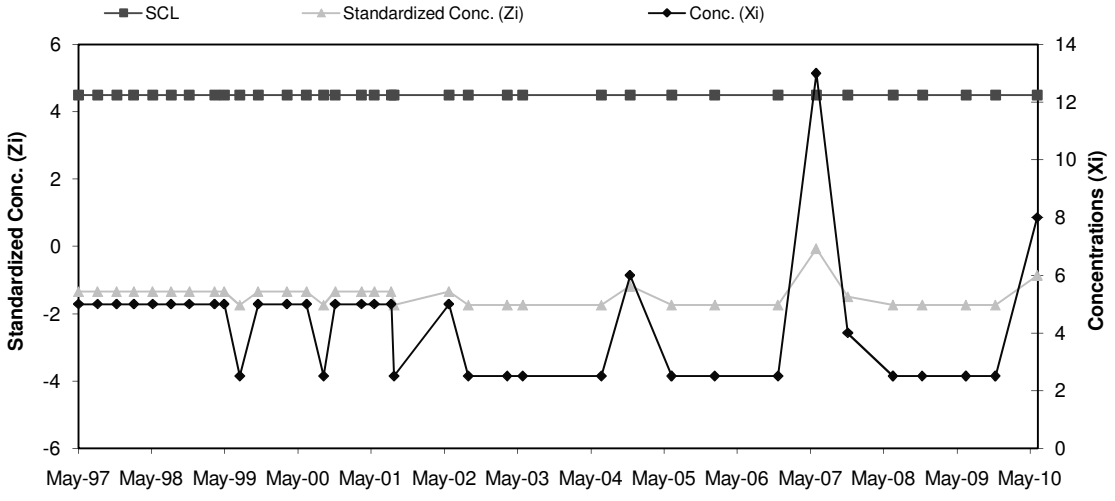
APPENDIX B

Leak DetectionVault Control Charts

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

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

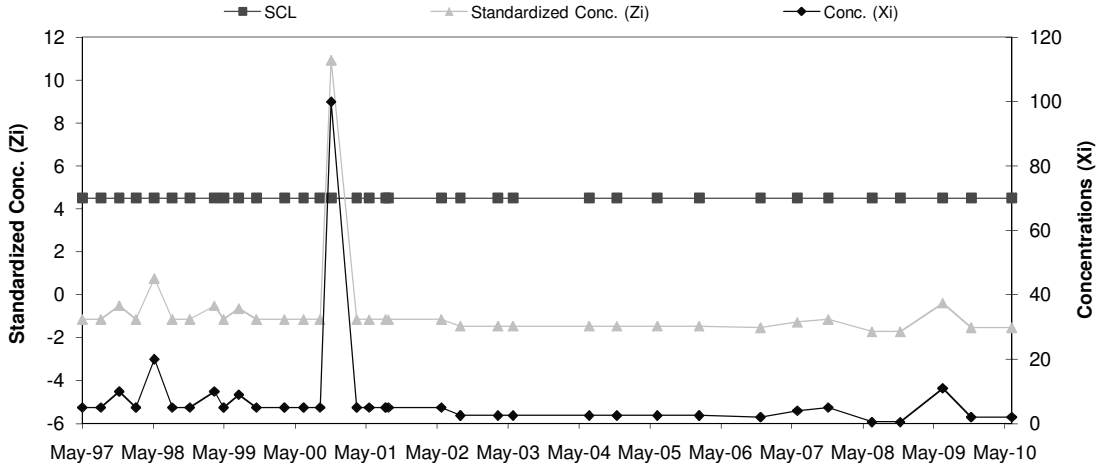
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-97	4.5	5	-1.34
10	Aug-97	4.5	5	-1.34
11	Nov-97	4.5	5	-1.34
12	Feb-98	4.5	5	-1.34
13	May-98	4.5	5	-1.34
14	Aug-98	4.5	5	-1.34
15	Nov-98	4.5	5	-1.34
16	Mar-99	4.5	5	-1.34
17	May-99	4.5	5	-1.34
18	Jul-99	4.5	2.5	-1.74
19	Oct-99	4.5	5	-1.34
20	Mar-00	4.5	5	-1.34
21	Jun-00	4.5	5	-1.34
22	Sep-00	4.5	2.5	-1.74
23	Nov-00	4.5	5	-1.34
24	Mar-01	4.5	5	-1.34
25	May-01	4.5	5	-1.34
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



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

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

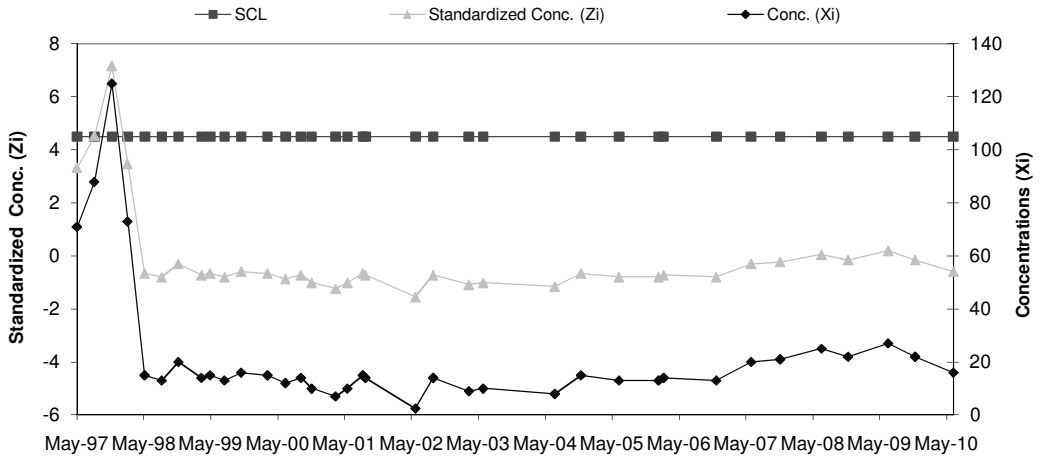
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-97	4.5	5	-1.14
10	Aug-97	4.5	5	-1.14
11	Nov-97	4.5	10	-0.51
12	Feb-98	4.5	5	-1.14
13	May-98	4.5	20	0.76
14	Aug-98	4.5	5	-1.14
15	Nov-98	4.5	5	-1.14
16	Mar-99	4.5	10	-0.51
17	May-99	4.5	5	-1.14
18	Jul-99	4.5	9	-0.64
19	Oct-99	4.5	5	-1.14
20	Mar-00	4.5	5	-1.14
21	Jun-00	4.5	5	-1.14
22	Sep-00	4.5	5	-1.14
23	Nov-00	4.5	100	10.92
24	Mar-01	4.5	5	-1.14
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



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

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

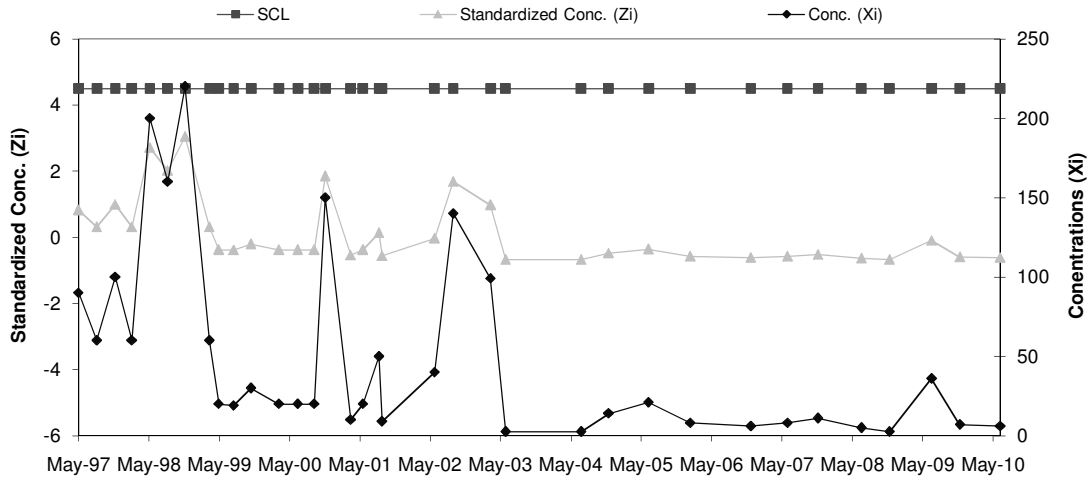
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-97	4.5	71	3.32
10	Aug-97	4.5	88	4.53
11	Nov-97	4.5	125	7.16
12	Feb-98	4.5	73	3.47
13	May-98	4.5	15	-0.66
14	Aug-98	4.5	13	-0.80
15	Nov-98	4.5	20	-0.30
16	Mar-99	4.5	14	-0.73
17	May-99	4.5	15	-0.66
18	Jul-99	4.5	13	-0.80
19	Oct-99	4.5	16	-0.59
20	Mar-00	4.5	15	-0.66
21	Jun-00	4.5	12	-0.87
22	Sep-00	4.5	14	-0.73
23	Nov-00	4.5	10	-1.01
24	Mar-01	4.5	7	-1.23
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



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

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

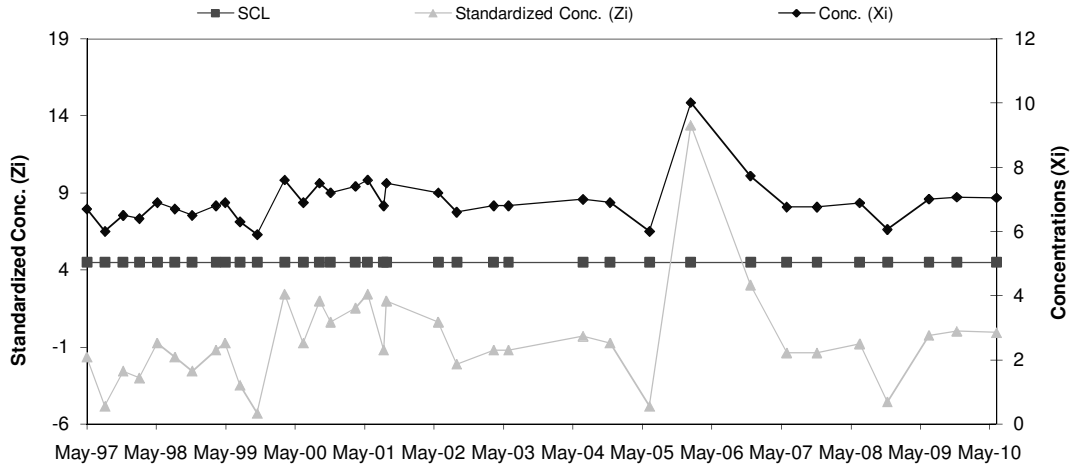
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-97	4.5	90	0.83
10	Aug-97	4.5	60	0.31
11	Nov-97	4.5	100	1.00
12	Feb-98	4.5	60	0.31
13	May-98	4.5	200	2.71
14	Aug-98	4.5	160	2.02
15	Nov-98	4.5	220	3.05
16	Mar-99	4.5	60	0.31
17	May-99	4.5	20	-0.37
18	Jul-99	4.5	19	-0.39
19	Oct-99	4.5	30	-0.20
20	Mar-00	4.5	20	-0.37
21	Jun-00	4.5	20	-0.37
22	Sep-00	4.5	20	-0.37
23	Nov-00	4.5	150	1.85
24	Mar-01	4.5	10	-0.54
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



REALM - COLDWATER ROAD 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		
2	Jun-95	6.8		
3	Aug-95	6.9		
4	Nov-95	7	**7.06**	**0.22**
5	Mar-96	7.2		
6	Jun-96	6.9		
7	Aug-96	7.1		
8	Nov-96	7.1		

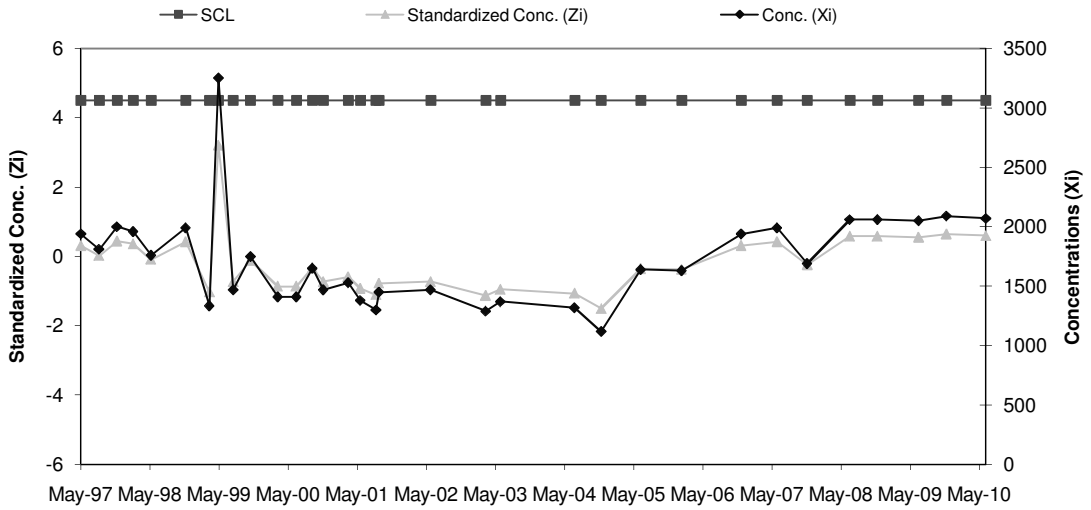
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-97	4.5	6.7	-1.65
10	Aug-97	4.5	6	-4.83
11	Nov-97	4.5	6.5	-2.56
12	Feb-98	4.5	6.4	-3.01
13	May-98	4.5	6.9	-0.74
14	Aug-98	4.5	6.7	-1.65
15	Nov-98	4.5	6.5	-2.56
16	Mar-99	4.5	6.8	-1.19
17	May-99	4.5	6.9	-0.74
18	Jul-99	4.5	6.3	-3.47
19	Oct-99	4.5	5.9	-5.28
20	Mar-00	4.5	7.6	2.44
21	Jun-00	4.5	6.9	-0.74
22	Sep-00	4.5	7.5	1.99
23	Nov-00	4.5	7.2	0.63
24	Mar-01	4.5	7.4	1.53
25	May-01	4.5	7.6	2.44
26	Aug-01	4.5	7.5	1.99
27	Aug-01	4.5	6.8	-1.19
28	May-02	4.5	7.2	0.63
29	Sep-02	4.5	6.6	-2.10
30	Mar-03	4.5	6.8	-1.19
31	Jun-03	4.5	6.8	-1.19
32	Jun-04	4.5	7	-0.28
33	Nov-04	4.5	6.9	-0.74
34	Jun-05	4.5	6	-4.83
35	Jan-06	4.5	10.0	13.40
36	Nov-06	4.5	7.7	3.03
37	Jun-07	4.5	6.8	-1.38
38	Nov-07	4.5	6.8	-1.38
39	Jun-08	4.5	6.9	-0.78
40	Nov-08	4.5	6.1	-4.56
41	Jun-09	4.5	7.0	-0.24
42	Nov-09	4.5	7.1	0.03
43	Jun-10	4.5	7.1	-0.06



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

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

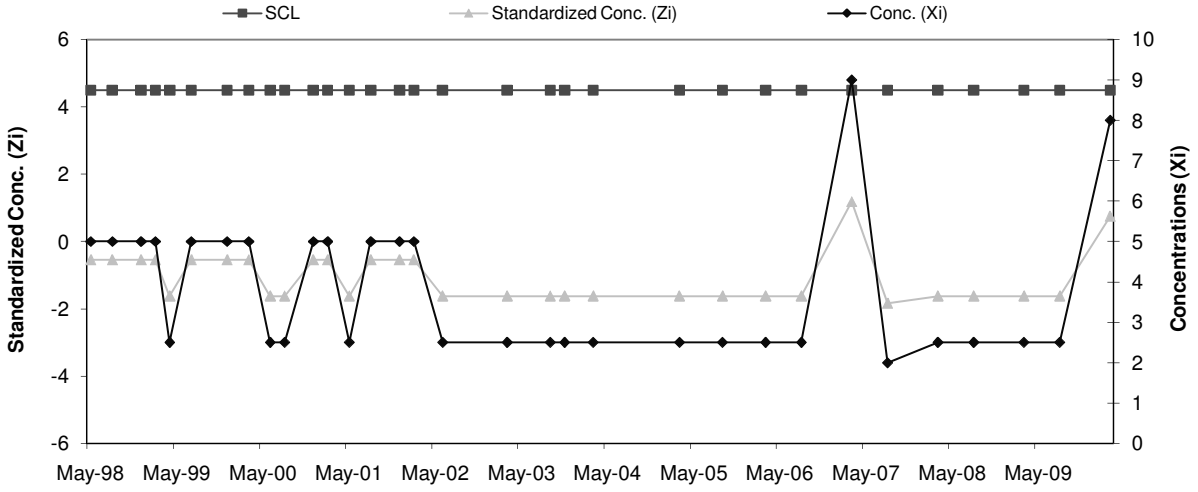
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-97	4.5	1940	0.31
10	Aug-97	4.5	1810	0.02
11	Nov-97	4.5	2000	0.45
12	Feb-98	4.5	1960	0.36
13	May-98	4.5	1760	-0.09
14	Nov-98	4.5	1990	0.42
15	Mar-99	4.5	1334	-1.03
16	May-99	4.5	3250	3.22
17	Jul-99	4.5	1470	-0.73
18	Oct-99	4.5	1750	-0.11
19	Mar-00	4.5	1410	-0.86
20	Jun-00	4.5	1410	-0.86
21	Sep-00	4.5	1650	-0.33
22	Nov-00	4.5	1470	-0.73
23	Mar-01	4.5	1530	-0.60
24	May-01	4.5	1380	-0.93
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



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

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

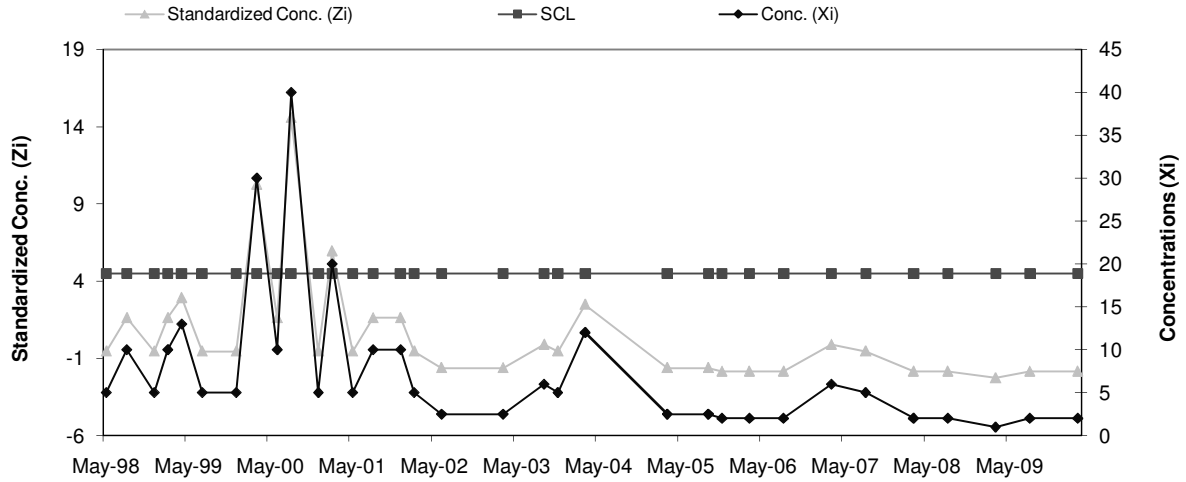
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-98	4.5	5	-0.54
10	Nov-98	4.5	5	-0.54
11	Mar-99	4.5	5	-0.54
12	May-99	4.5	5	-0.54
13	Jul-99	4.5	2.5	-1.62
14	Oct-99	4.5	5	-0.54
15	Mar-00	4.5	5	-0.54
16	Jun-00	4.5	5	-0.54
17	Sep-00	4.5	2.5	-1.62
18	Nov-00	4.5	2.5	-1.62
19	Mar-01	4.5	5	-0.54
20	May-01	4.5	5	-0.54
21	Aug-01	4.5	2.5	-1.62
22	Nov-01	4.5	5	-0.54
23	Mar-02	4.5	5	-0.54
24	May-02	4.5	5	-0.54
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



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

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

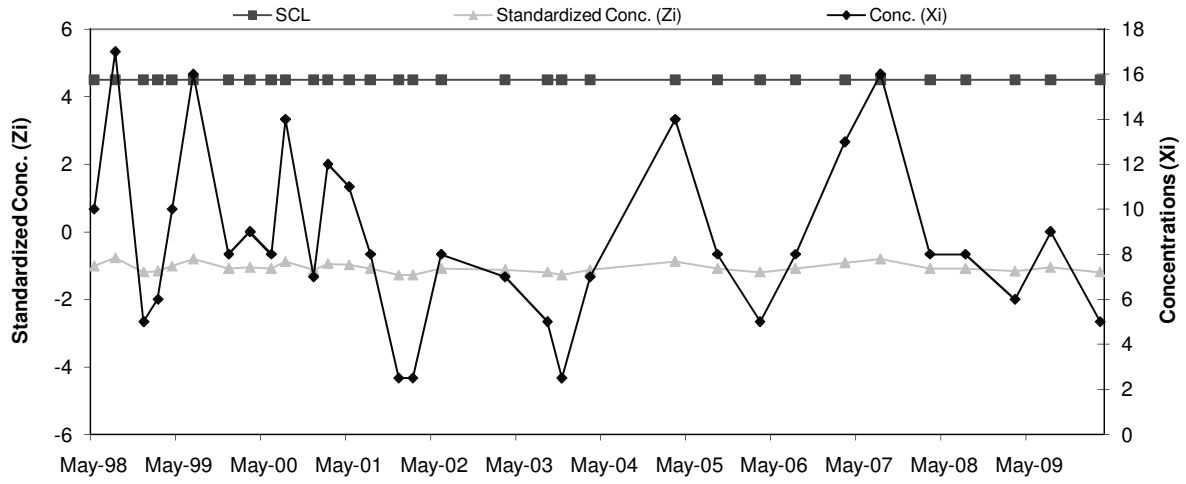
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-98	4.5	5	-0.54
10	Nov-98	4.5	10	1.62
11	Mar-99	4.5	5	-0.54
12	May-99	4.5	10	1.62
13	Jul-99	4.5	13	2.92
14	Oct-99	4.5	5	-0.54
15	Mar-00	4.5	5	-0.54
16	Jun-00	4.5	30	10.26
17	Sep-00	4.5	10	1.62
18	Nov-00	4.5	40	14.58
19	Mar-01	4.5	5	-0.54
20	May-01	4.5	20	5.94
21	Aug-01	4.5	5	-0.54
22	Nov-01	4.5	10	1.62
23	Mar-02	4.5	10	1.62
24	May-02	4.5	5	-0.54
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



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

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

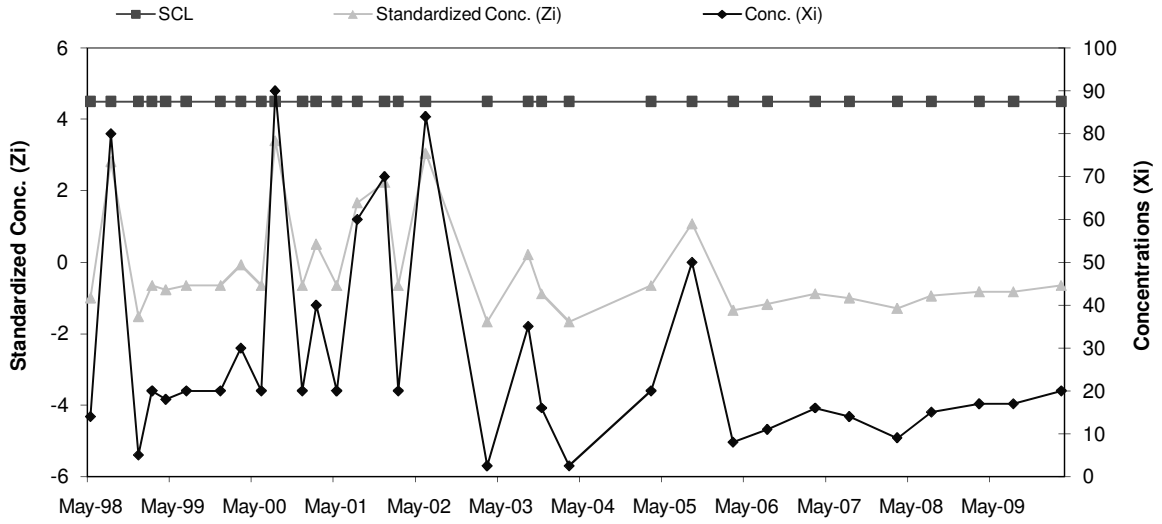
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-98	4.5	10	-1.02
10	Nov-98	4.5	17	-0.77
11	Mar-99	4.5	5	-1.20
12	May-99	4.5	6	-1.16
13	Jul-99	4.5	10	-1.02
14	Oct-99	4.5	16	-0.81
15	Mar-00	4.5	8	-1.09
16	Jun-00	4.5	9	-1.05
17	Sep-00	4.5	8	-1.09
18	Nov-00	4.5	14	-0.88
19	Mar-01	4.5	7	-1.12
20	May-01	4.5	12	-0.95
21	Aug-01	4.5	11	-0.98
22	Nov-01	4.5	8	-1.09
23	Mar-02	4.5	2.5	-1.28
24	May-02	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



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

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

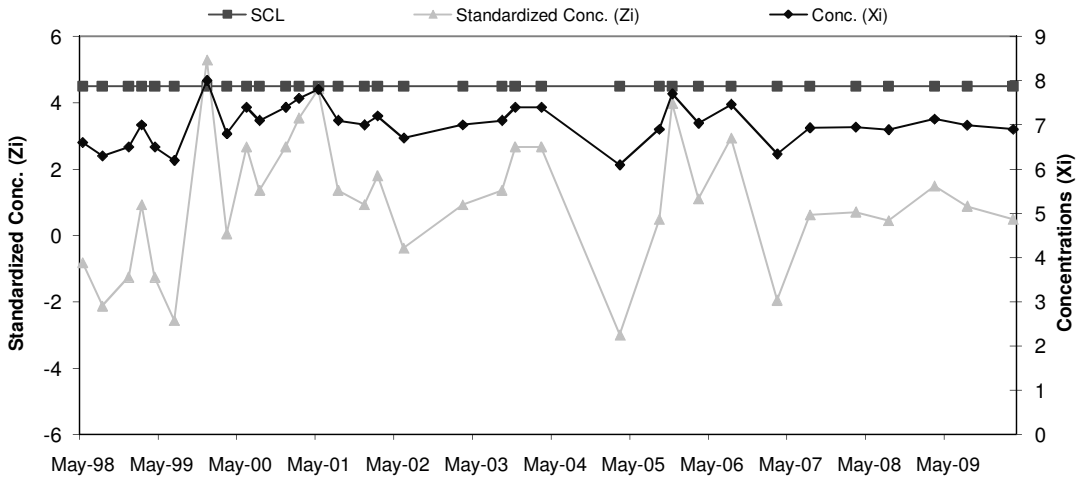
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-98	4.5	14	-1.00
10	Nov-98	4.5	80	2.82
11	Mar-99	4.5	5	-1.52
12	May-99	4.5	20	-0.65
13	Jul-99	4.5	18	-0.77
14	Oct-99	4.5	20	-0.65
15	Mar-00	4.5	20	-0.65
16	Jun-00	4.5	30	-0.07
17	Sep-00	4.5	20	-0.65
18	Nov-00	4.5	90	3.40
19	Mar-01	4.5	20	-0.65
20	May-01	4.5	40	0.51
21	Aug-01	4.5	20	-0.65
22	Nov-01	4.5	60	1.66
23	Mar-02	4.5	70	2.24
24	May-02	4.5	20	-0.65
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



REALM - COLDWATER ROAD 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		
2	Nov-96	7		
3	Feb-97	7.1		
4	May-97	6.5	**6.79**	**0.23**
5	Aug-97	6.5		
6	Nov-97	6.8		
7	Feb-98	6.6		
8	May-98	6.9		

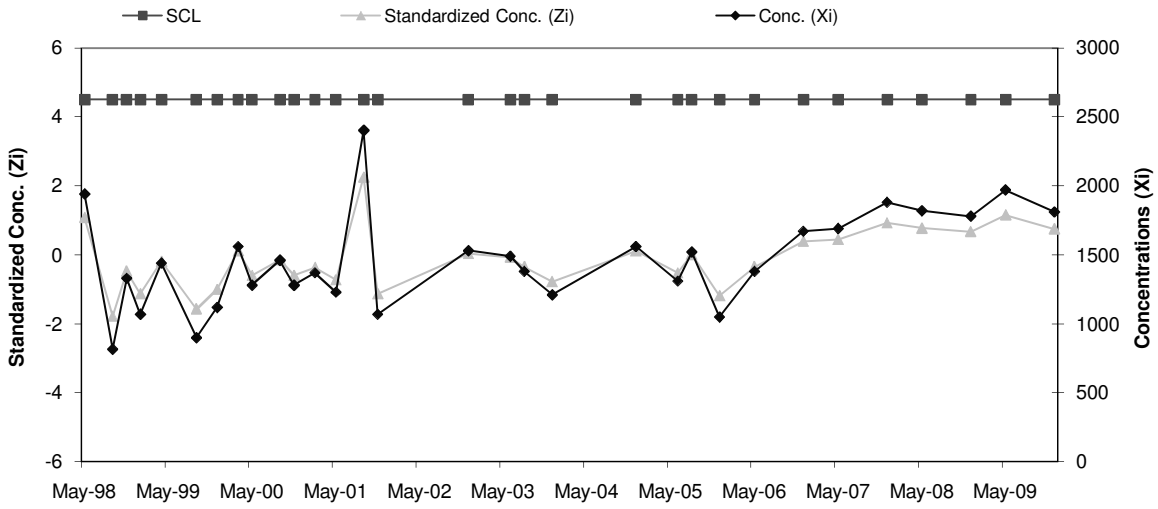
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-98	4.5	6.6	-0.82
10	Nov-98	4.5	6.3	-2.12
11	Mar-99	4.5	6.5	-1.25
12	May-99	4.5	7	0.93
13	Jul-99	4.5	6.5	-1.25
14	Oct-99	4.5	6.2	-2.56
15	Mar-00	4.5	8	5.28
16	Jun-00	4.5	6.8	0.05
17	Sep-00	4.5	7.4	2.67
18	Nov-00	4.5	7.1	1.36
19	Mar-01	4.5	7.4	2.67
20	May-01	4.5	7.6	3.54
21	Aug-01	4.5	7.8	4.41
22	Nov-01	4.5	7.1	1.36
23	Mar-02	4.5	7	0.93
24	May-02	4.5	7.2	1.80
25	Sep-02	4.5	6.7	-0.38
26	Jun-03	4.5	7	0.93
27	Dec-03	4.5	7.1	1.36
28	Feb-04	4.5	7.4	2.67
29	Jun-04	4.5	7.4	2.67
30	Jun-05	4.5	6.1	-3.00
31	Dec-05	4.5	6.9	0.49
32	Feb-06	4.5	7.7	3.98
33	Jun-06	4.5	7.0	1.10
34	Nov-06	4.5	7.5	2.93
35	Jun-07	4.5	6.3	-1.95
36	Nov-07	4.5	6.9	0.62
37	Jun-08	4.5	7.0	0.71
38	Nov-08	4.5	6.9	0.45
39	Jun-09	4.5	7.1	1.49
40	Nov-09	4.5	7.0	0.88
41	Jun-10	4.5	6.9	0.49



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

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

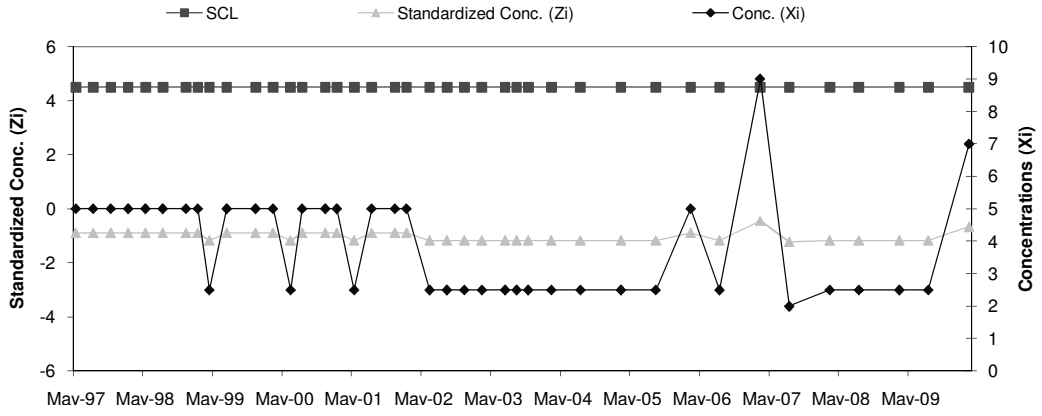
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	1940	1.08
10	Mar-99	4.5	817	-1.79
11	May-99	4.5	1330	-0.48
12	Jul-99	4.5	1070	-1.14
13	Oct-99	4.5	1440	-0.20
14	Mar-00	4.5	900	-1.57
15	Jun-00	4.5	1120	-1.01
16	Sep-00	4.5	1560	0.11
17	Nov-00	4.5	1280	-0.60
18	Mar-01	4.5	1460	-0.14
19	May-01	4.5	1280	-0.60
20	Aug-01	4.5	1370	-0.37
21	Nov-01	4.5	1230	-0.73
22	Mar-02	4.5	2400	2.25
23	May-02	4.5	1070	-1.14
24	Jun-03	4.5	1530	0.03
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



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

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

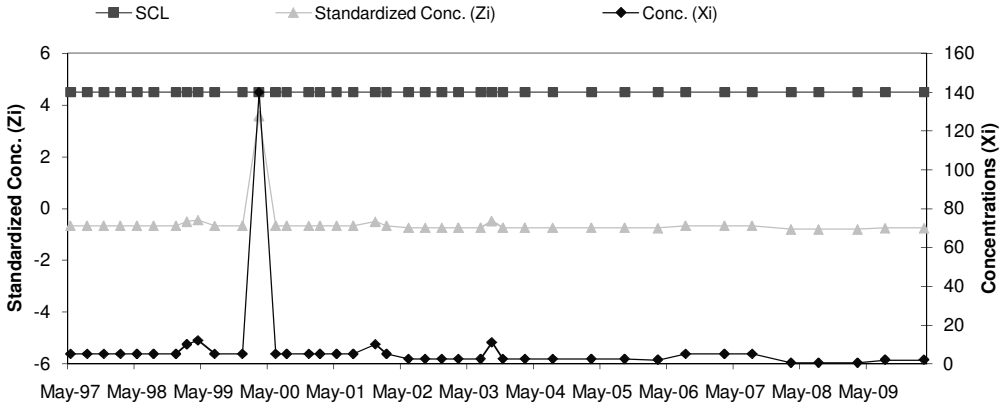
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-97	4.5	5	-0.89
10	Nov-97	4.5	5	-0.89
11	Feb-98	4.5	5	-0.89
12	May-98	4.5	5	-0.89
14	Aug-98	4.5	5	-0.89
15	Nov-98	4.5	5	-0.89
16	Mar-99	4.5	5	-0.89
17	May-99	4.5	5	-0.89
18	Jul-99	4.5	2.5	-1.17
19	Oct-99	4.5	5	-0.89
20	Mar-00	4.5	5	-0.89
21	Jun-00	4.5	5	-0.89
22	Sep-00	4.5	2.5	-1.17
23	Nov-00	4.5	5	-0.89
24	Mar-01	4.5	5	-0.89
25	May-01	4.5	5	-0.89
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



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

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-97	4.5	5	-0.66
10	Nov-97	4.5	5	-0.66
11	Feb-98	4.5	5	-0.66
12	May-98	4.5	5	-0.66
14	Aug-98	4.5	5	-0.66
15	Nov-98	4.5	5	-0.66
16	Mar-99	4.5	5	-0.66
17	May-99	4.5	10	-0.50
18	Jul-99	4.5	12	-0.44
19	Oct-99	4.5	5	-0.66
20	Mar-00	4.5	5	-0.66
21	Jun-00	4.5	140	3.59
22	Sep-00	4.5	5	-0.66
23	Nov-00	4.5	5	-0.66
24	Mar-01	4.5	5	-0.66
25	May-01	4.5	5	-0.66
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

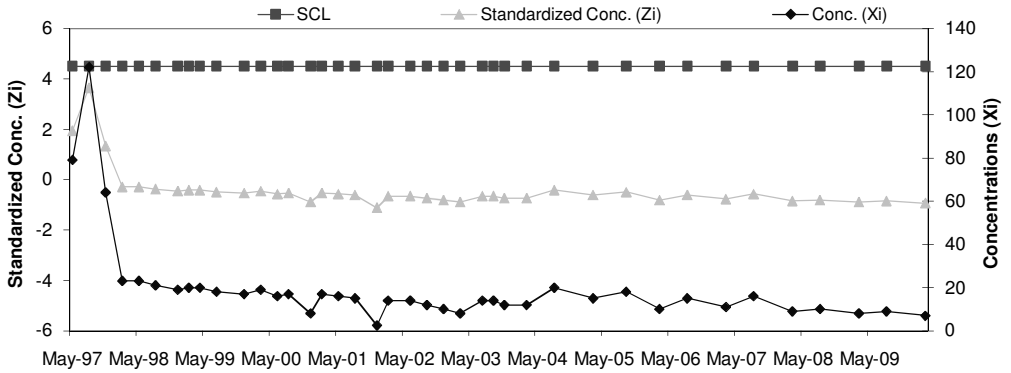


REALM - COLDWATER ROAD FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault C - Nickel

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-97	4.5	79	1.94
10	Nov-97	4.5	122	3.65
11	Feb-98	4.5	64	1.34
12	May-98	4.5	23	-0.29
14	Aug-98	4.5	23	-0.29
15	Nov-98	4.5	21	-0.37
16	Mar-99	4.5	19	-0.45
17	May-99	4.5	20	-0.41
18	Jul-99	4.5	20	-0.41
19	Oct-99	4.5	18	-0.49
20	Mar-00	4.5	17	-0.53
21	Jun-00	4.5	19	-0.45
22	Sep-00	4.5	16	-0.57
23	Nov-00	4.5	17	-0.53
24	Mar-01	4.5	8	-0.89
25	May-01	4.5	17	-0.53
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

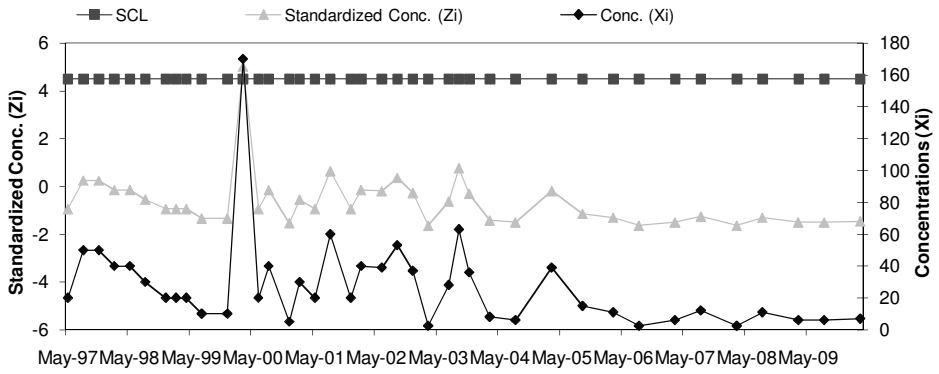
0.00



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

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

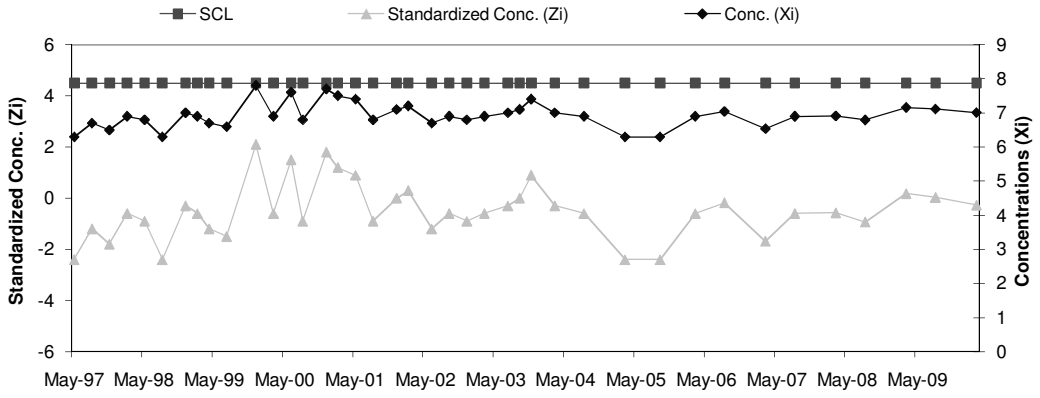
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-97	4.5	20	-0.94
10	Nov-97	4.5	50	0.25
11	Feb-98	4.5	50	0.25
12	May-98	4.5	40	-0.15
14	Aug-98	4.5	40	-0.15
15	Nov-98	4.5	30	-0.54
16	Mar-99	4.5	20	-0.94
17	May-99	4.5	20	-0.94
18	Jul-99	4.5	20	-0.94
19	Oct-99	4.5	10	-1.34
20	Mar-00	4.5	10	-1.34
21	Jun-00	4.5	170	5.00
22	Sep-00	4.5	20	-0.94
23	Nov-00	4.5	40	-0.15
24	Mar-01	4.5	5	-1.54
25	May-01	4.5	30	-0.54
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



REALM - COLDWATER ROAD 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		
2	Aug-95	7.4		
3	Nov-95	7		
4	Jun-96	6.9	**7.10**	**0.33**
5	Aug-96	6.9		
6	Nov-96	7		
7	Feb-97	7.6		
8	May-97	6.6		

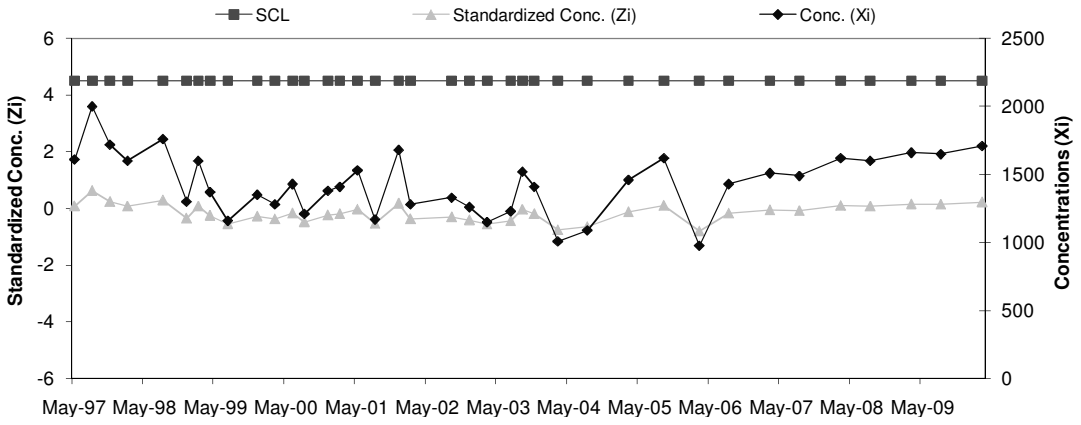
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-97	4.5	6.3	-2.40
10	Nov-97	4.5	6.7	-1.20
11	Feb-98	4.5	6.5	-1.80
12	May-98	4.5	6.9	-0.60
14	Aug-98	4.5	6.8	-0.90
15	Nov-98	4.5	6.3	-2.40
16	Mar-99	4.5	7	-0.30
17	May-99	4.5	6.9	-0.60
18	Jul-99	4.5	6.7	-1.20
19	Oct-99	4.5	6.6	-1.50
20	Mar-00	4.5	7.8	2.10
21	Jun-00	4.5	6.9	-0.60
22	Sep-00	4.5	7.6	1.50
23	Nov-00	4.5	6.8	-0.90
24	Mar-01	4.5	7.7	1.80
25	May-01	4.5	7.5	1.20
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



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

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

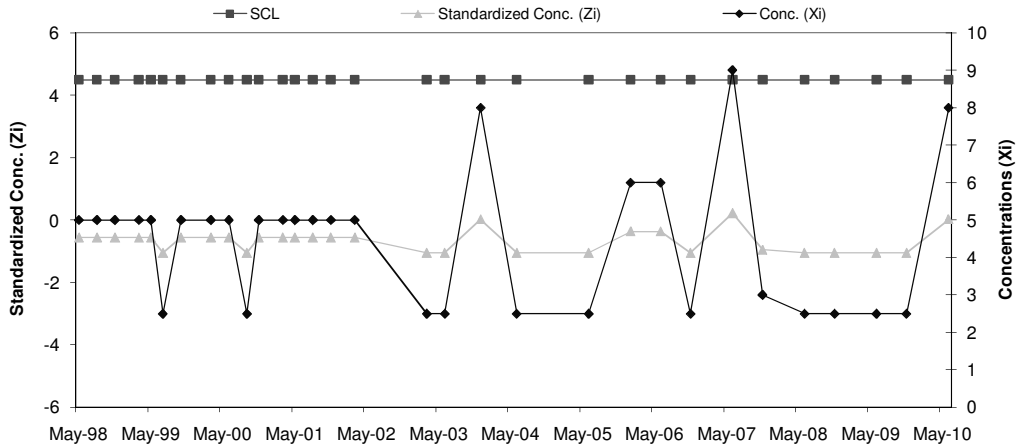
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-97	4.5	1610	0.08
10	Nov-97	4.5	2000	0.63
11	Feb-98	4.5	1720	0.24
12	May-98	4.5	1600	0.07
14	Nov-98	4.5	1760	0.29
15	Mar-99	4.5	1300	-0.35
16	May-99	4.5	1600	0.07
17	Jul-99	4.5	1370	-0.25
18	Oct-99	4.5	1160	-0.55
19	Mar-00	4.5	1350	-0.28
20	Jun-00	4.5	1280	-0.38
21	Sep-00	4.5	1430	-0.17
22	Nov-00	4.5	1210	-0.48
23	Mar-01	4.5	1380	-0.24
24	May-01	4.5	1410	-0.20
25	Aug-01	4.5	1530	-0.03
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



REALM - COLDWATER ROAD 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		

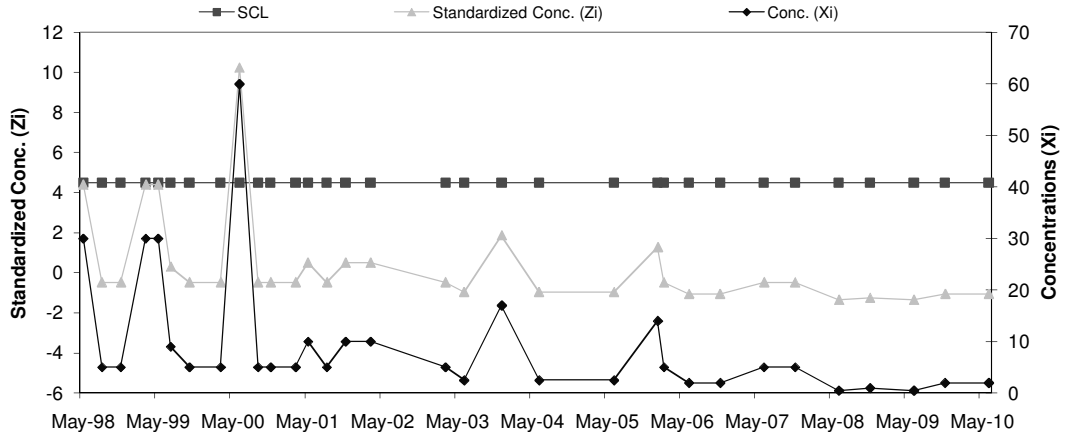
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.56
10	Aug-98	4.5	5	-0.56
11	Nov-98	4.5	5	-0.56
12	Mar-99	4.5	5	-0.56
13	May-99	4.5	5	-0.56
14	Jul-99	4.5	2.5	-1.05
15	Oct-99	4.5	5	-0.56
16	Mar-00	4.5	5	-0.56
17	Jun-00	4.5	5	-0.56
18	Sep-00	4.5	2.5	-1.05
19	Nov-00	4.5	5	-0.56
20	Mar-01	4.5	5	-0.56
21	May-01	4.5	5	-0.56
22	Aug-01	4.5	5	-0.56
23	Nov-01	4.5	5	-0.56
24	Mar-02	4.5	5	-0.56
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



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

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

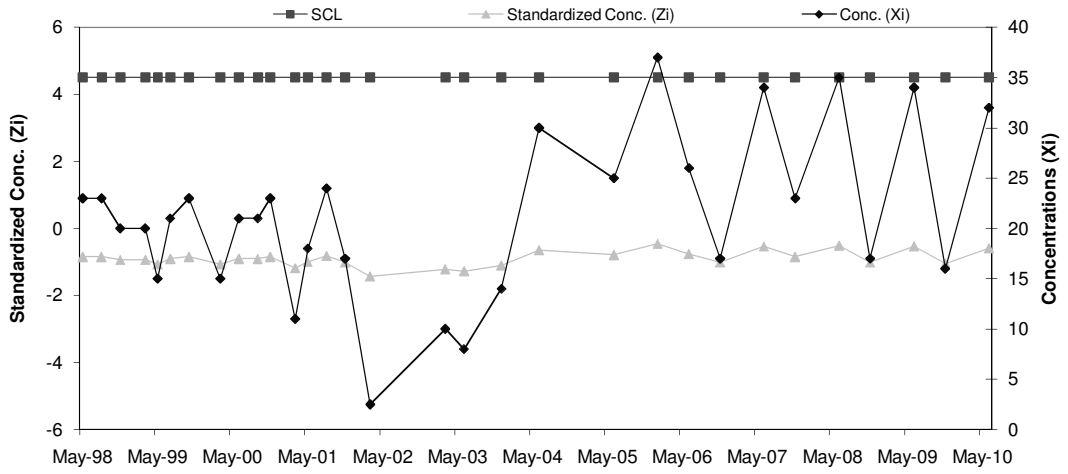
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	30	4.39
10	Aug-98	4.5	5	-0.48
11	Nov-98	4.5	5	-0.48
12	Mar-99	4.5	30	4.39
13	May-99	4.5	30	4.39
14	Jul-99	4.5	9	0.30
15	Oct-99	4.5	5	-0.48
16	Mar-00	4.5	5	-0.48
17	Jun-00	4.5	60	10.24
18	Sep-00	4.5	5	-0.48
19	Nov-00	4.5	5	-0.48
20	Mar-01	4.5	5	-0.48
21	May-01	4.5	10	0.49
22	Aug-01	4.5	5	-0.48
23	Nov-01	4.5	10	0.49
24	Mar-02	4.5	10	0.49
25	Mar-03	4.5	5	-0.48
26	Jun-03	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



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

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

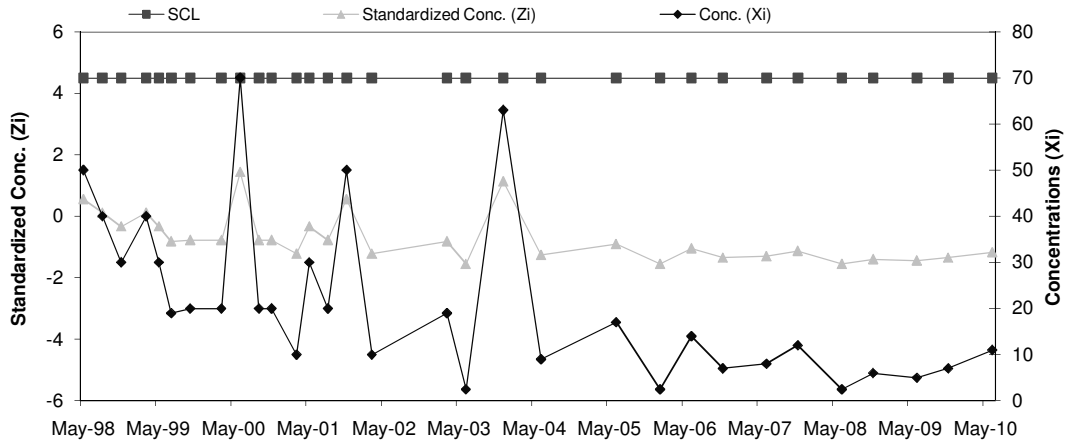
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	23	-0.85
10	Aug-98	4.5	23	-0.85
11	Nov-98	4.5	20	-0.93
12	Mar-99	4.5	20	-0.93
13	May-99	4.5	15	-1.07
14	Jul-99	4.5	21	-0.90
15	Oct-99	4.5	23	-0.85
16	Mar-00	4.5	15	-1.07
17	Jun-00	4.5	21	-0.90
18	Sep-00	4.5	21	-0.90
19	Nov-00	4.5	23	-0.85
20	Mar-01	4.5	11	-1.19
21	May-01	4.5	18	-0.99
22	Aug-01	4.5	24	-0.82
23	Nov-01	4.5	17	-1.02
24	Mar-02	4.5	2.5	-1.43
25	Mar-03	4.5	10	-1.22
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



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

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

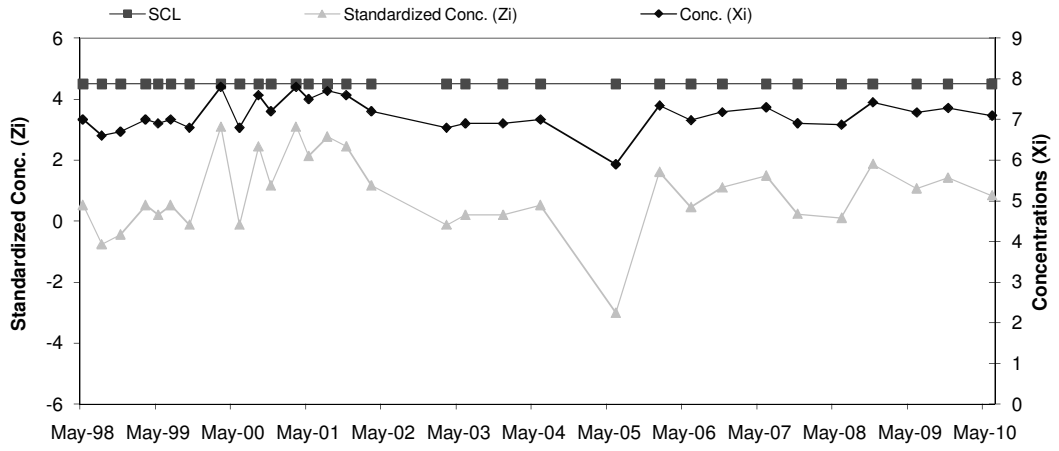
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	50	0.55
10	Aug-98	4.5	40	0.11
11	Nov-98	4.5	30	-0.33
12	Mar-99	4.5	40	0.11
13	May-99	4.5	30	-0.33
14	Jul-99	4.5	19	-0.82
15	Oct-99	4.5	20	-0.77
16	Mar-00	4.5	20	-0.77
17	Jun-00	4.5	70	1.44
18	Sep-00	4.5	20	-0.77
19	Nov-00	4.5	20	-0.77
20	Mar-01	4.5	10	-1.22
21	May-01	4.5	30	-0.33
22	Aug-01	4.5	20	-0.77
23	Nov-01	4.5	50	0.55
24	Mar-02	4.5	10	-1.22
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



REALM - COLDWATER ROAD 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		
2	Jun-96	6.9		
3	Aug-96	7.2		
4	Nov-96	7	**6.84**	**0.31**
5	May-97	6.7		
6	Aug-97	6.5		
7	Nov-97	6.6		
8	Feb-98	6.5		

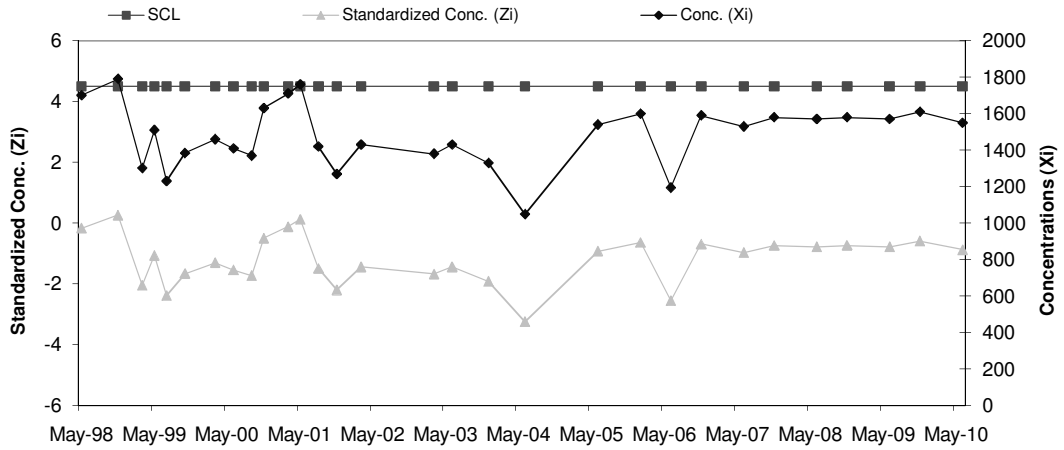
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	7	0.52
10	Aug-98	4.5	6.6	-0.76
11	Nov-98	4.5	6.7	-0.44
12	Mar-99	4.5	7	0.52
13	May-99	4.5	6.9	0.20
14	Jul-99	4.5	7	0.52
15	Oct-99	4.5	6.8	-0.12
16	Mar-00	4.5	7.8	3.09
17	Jun-00	4.5	6.8	-0.12
18	Sep-00	4.5	7.6	2.45
19	Nov-00	4.5	7.2	1.16
20	Mar-01	4.5	7.8	3.09
21	May-01	4.5	7.5	2.13
22	Aug-01	4.5	7.7	2.77
23	Nov-01	4.5	7.6	2.45
24	Mar-02	4.5	7.2	1.16
25	Mar-03	4.5	6.8	-0.12
26	Jun-03	4.5	6.9	0.20
27	Dec-03	4.5	6.9	0.20
28	Jun-04	4.5	7	0.52
29	Jun-05	4.5	5.9	-3.01
30	Jan-06	4.5	7.3	1.61
31	Jun-06	4.5	7.0	0.46
32	Nov-06	4.5	7.2	1.10
33	Jun-07	4.5	7.3	1.49
34	Nov-07	4.5	6.9	0.23
35	Jun-08	4.5	6.9	0.10
36	Nov-08	4.5	7.4	1.87
37	Jun-09	4.5	7.2	1.07
38	Nov-09	4.5	7.3	1.42
39	Jun-10	4.5	7.1	0.84



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

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

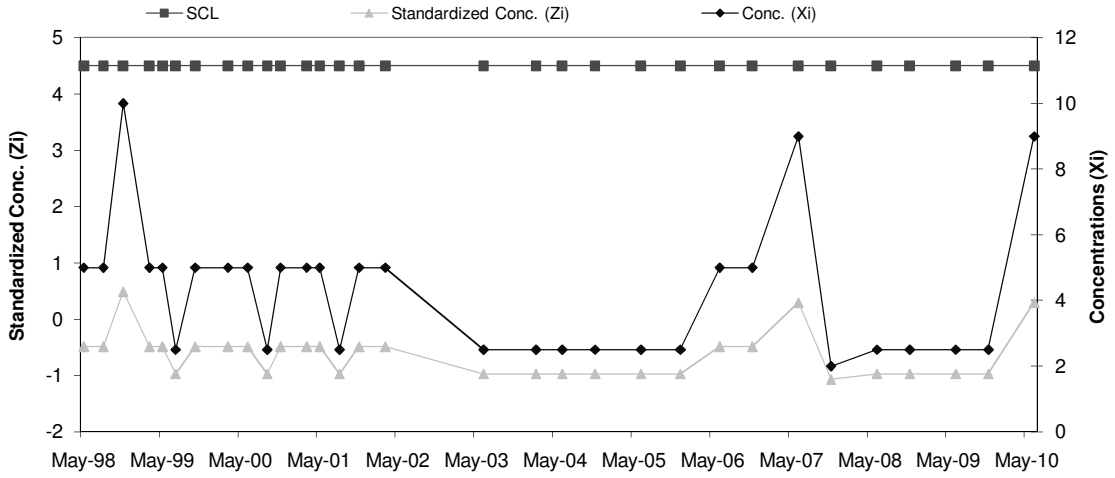
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	1700	-0.16
11	Nov-98	4.5	1790	0.26
12	Mar-99	4.5	1302	-2.05
13	May-99	4.5	1510	-1.06
14	Jul-99	4.5	1231	-2.38
15	Oct-99	4.5	1384	-1.66
16	Mar-00	4.5	1460	-1.30
17	Jun-00	4.5	1410	-1.54
18	Sep-00	4.5	1370	-1.72
19	Nov-00	4.5	1630	-0.49
20	Mar-01	4.5	1710	-0.12
21	May-01	4.5	1760	0.12
22	Aug-01	4.5	1420	-1.49
23	Nov-01	4.5	1270	-2.20
24	Mar-02	4.5	1430	-1.44
25	Mar-03	4.5	1380	-1.68
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



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

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

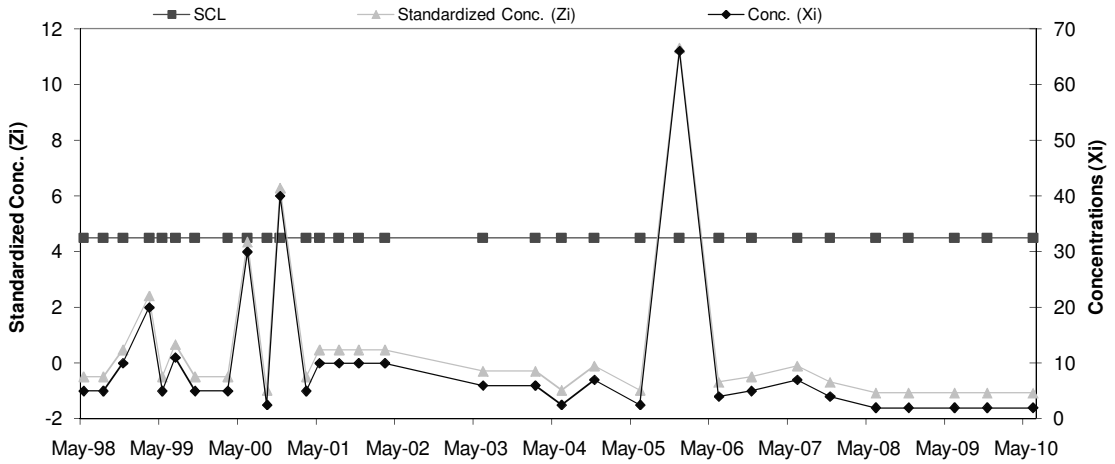
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.48
10	Aug-98	4.5	5	-0.48
11	Nov-98	4.5	10	0.49
12	Mar-99	4.5	5	-0.48
13	May-99	4.5	5	-0.48
14	Jul-99	4.5	2.5	-0.97
15	Oct-99	4.5	5	-0.48
16	Mar-00	4.5	5	-0.48
17	Jun-00	4.5	5	-0.48
18	Sep-00	4.5	2.5	-0.97
19	Nov-00	4.5	5	-0.48
20	Mar-01	4.5	5	-0.48
21	May-01	4.5	5	-0.48
22	Aug-01	4.5	2.5	-0.97
23	Nov-01	4.5	5	-0.48
24	Mar-02	4.5	5	-0.48
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



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

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

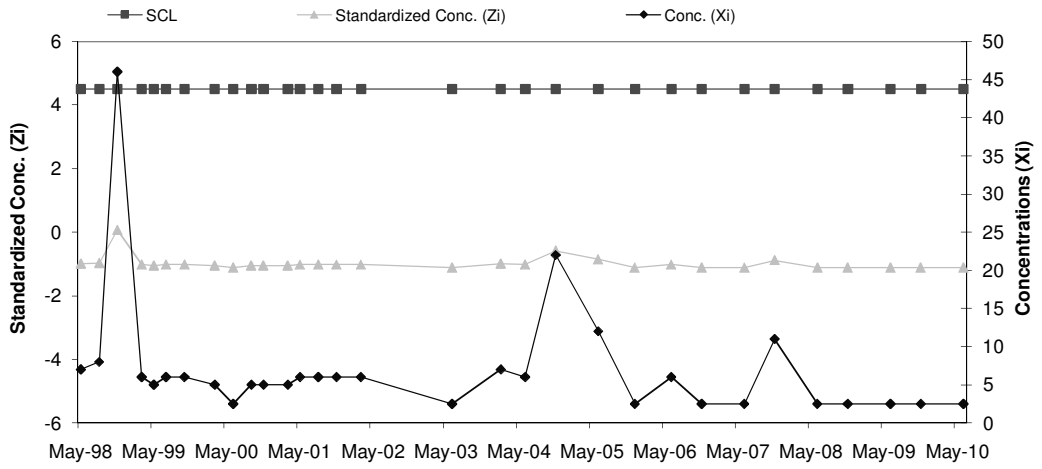
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.48
10	Aug-98	4.5	5	-0.48
11	Nov-98	4.5	10	0.48
12	Mar-99	4.5	20	2.42
13	May-99	4.5	5	-0.48
14	Jul-99	4.5	11	0.68
15	Oct-99	4.5	5	-0.48
16	Mar-00	4.5	5	-0.48
17	Jun-00	4.5	30	4.35
18	Sep-00	4.5	2.5	-0.97
19	Nov-00	4.5	40	6.29
20	Mar-01	4.5	5	-0.48
21	May-01	4.5	10	0.48
22	Aug-01	4.5	10	0.48
23	Nov-01	4.5	10	0.48
24	Mar-02	4.5	10	0.48
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



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

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

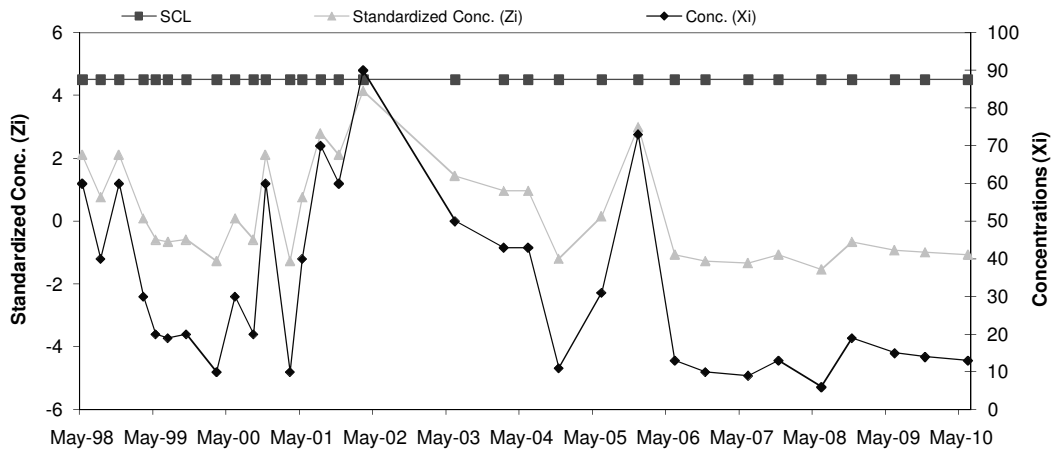
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	7	-0.99
10	Aug-98	4.5	8	-0.96
11	Nov-98	4.5	46	0.08
12	Mar-99	4.5	6	-1.02
13	May-99	4.5	5	-1.05
14	Jul-99	4.5	6	-1.02
15	Oct-99	4.5	6	-1.02
16	Mar-00	4.5	5	-1.05
17	Jun-00	4.5	2.5	-1.11
18	Sep-00	4.5	5	-1.05
19	Nov-00	4.5	5	-1.05
20	Mar-01	4.5	5	-1.05
21	May-01	4.5	6	-1.02
22	Aug-01	4.5	6	-1.02
23	Nov-01	4.5	6	-1.02
24	Mar-02	4.5	6	-1.02
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



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

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

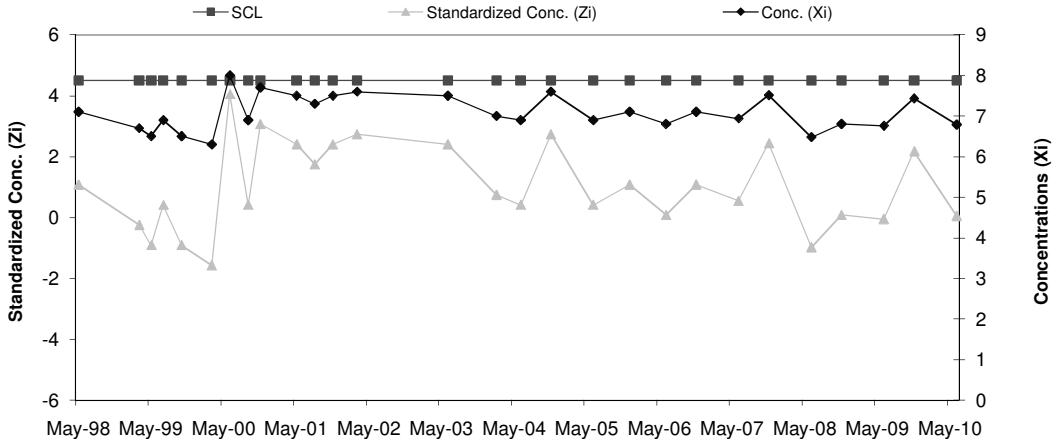
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	60	2.11
10	Aug-98	4.5	40	0.76
11	Nov-98	4.5	60	2.11
12	Mar-99	4.5	30	0.08
13	May-99	4.5	20	-0.59
14	Jul-99	4.5	19	-0.66
15	Oct-99	4.5	20	-0.59
16	Mar-00	4.5	10	-1.27
17	Jun-00	4.5	30	0.08
18	Sep-00	4.5	20	-0.59
19	Nov-00	4.5	60	2.11
20	Mar-01	4.5	10	-1.27
21	May-01	4.5	40	0.76
22	Aug-01	4.5	70	2.79
23	Nov-01	4.5	60	2.11
24	Mar-02	4.5	90	4.14
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



REALM - COLDWATER ROAD 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		
2	Jun-96	7		
3	Oct-96	6.9		
4	Nov-96	7	**6.78**	**0.30**
5	May-97	6.3		
6	Aug-97	6.7		
7	Nov-97	6.5		
8	Feb-98	6.6		

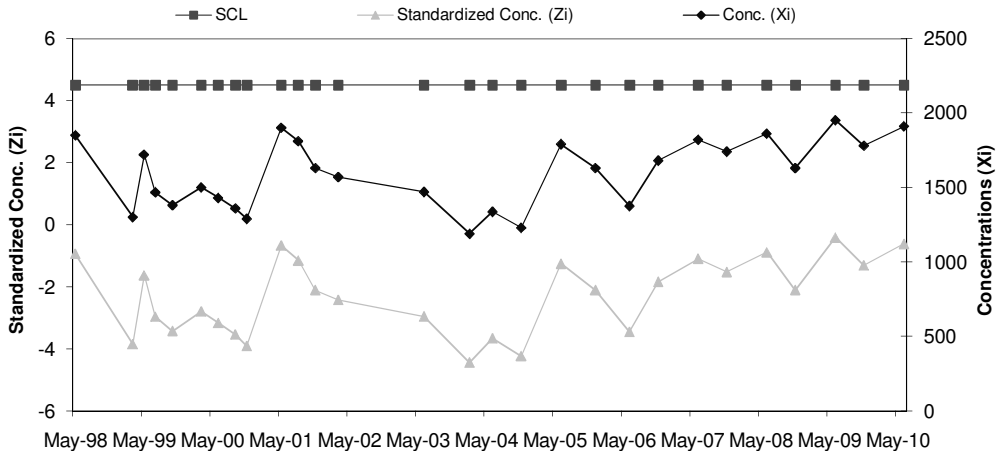
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	7.1	1.08
10	Aug-98	4.5	6.7	-0.25
11	Mar-99	4.5	6.5	-0.91
12	May-99	4.5	6.9	0.42
13	Jul-99	4.5	6.5	-0.91
14	Oct-99	4.5	6.3	-1.58
15	Mar-00	4.5	8	4.07
16	Jun-00	4.5	6.9	0.42
17	Sep-00	4.5	7.7	3.07
18	Nov-00	4.5	7.5	2.41
19	Mar-01	4.5	7.3	1.74
20	May-01	4.5	7.5	2.41
21	Aug-01	4.5	7.6	2.74
22	Nov-01	4.5	7.5	2.41
23	Mar-02	4.5	7	0.75
24	Jun-03	4.5	6.9	0.42
25	Feb-04	4.5	7.6	2.74
26	Jun-04	4.5	6.9	0.42
27	Nov-04	4.5	7.1	1.08
28	Jun-05	4.5	6.8	0.08
29	Dec-05	4.5	7.1	1.08
30	Jun-06	4.5	6.9	0.55
31	Nov-06	4.5	7.5	2.44
32	Jun-07	4.5	6.5	-0.98
33	Nov-07	4.5	6.8	0.08
34	Jun-08	4.5	6.8	-0.05
35	Nov-08	4.5	7.4	2.17
35	Nov-08	4.5	6.8	0.05
36	Jun-09	4.5	6.8	0.05
37	Nov-09	4.5	6.9	0.38
38	Jun-10	4.5	6.9	0.25



REALM - COLDWATER ROAD 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	Jun-96	2400		
3	Oct-96	2000		
4	Nov-96	1800	**2,026.25**	**187.84**
5	May-97	2120		
6	Aug-97	1840		
7	Nov-97	2100		
8	Feb-98	1950		

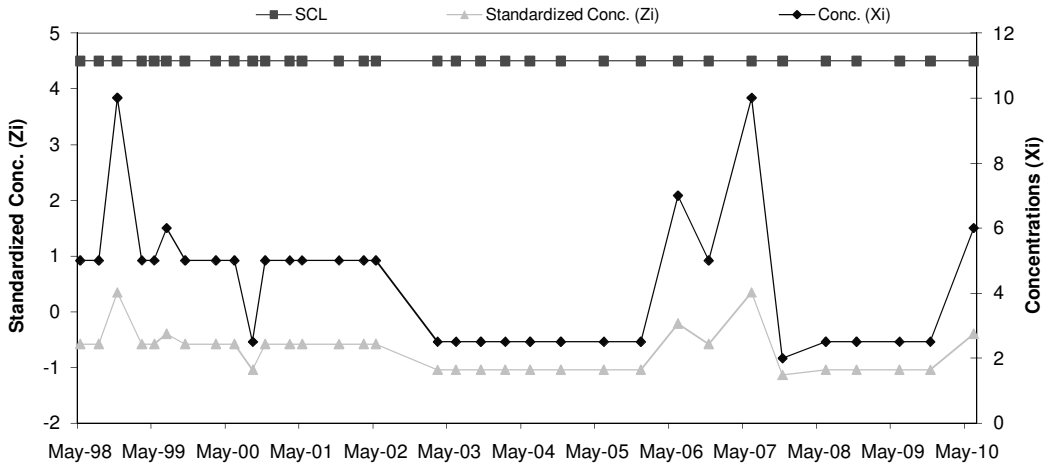
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	1850	-0.94
10	Mar-99	4.5	1302	-3.86
11	May-99	4.5	1720	-1.63
12	Jul-99	4.5	1468	-2.97
13	Oct-99	4.5	1382	-3.43
14	Mar-00	4.5	1500	-2.80
15	Jun-00	4.5	1430	-3.17
16	Sep-00	4.5	1360	-3.55
17	Nov-00	4.5	1290	-3.92
18	May-01	4.5	1900	-0.67
19	Aug-01	4.5	1810	-1.15
20	Nov-01	4.5	1630	-2.11
21	Mar-02	4.5	1570	-2.43
22	Jun-03	4.5	1470	-2.96
23	Feb-04	4.5	1190	-4.45
24	Jun-04	4.5	1337	-3.67
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



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

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

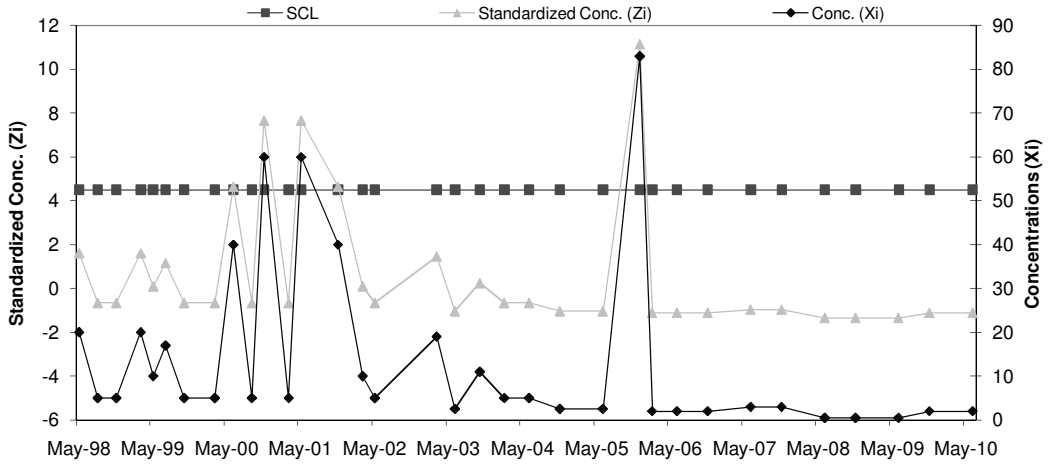
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.58
10	Aug-98	4.5	5	-0.58
11	Nov-98	4.5	10	0.35
12	Mar-99	4.5	5	-0.58
13	May-99	4.5	5	-0.58
14	Jul-99	4.5	6	-0.39
15	Oct-99	4.5	5	-0.58
16	Mar-00	4.5	5	-0.58
17	Jun-00	4.5	5	-0.58
18	Sep-00	4.5	2.5	-1.04
19	Nov-00	4.5	5	-0.58
20	Mar-01	4.5	5	-0.58
21	May-01	4.5	5	-0.58
22	Nov-01	4.5	5	-0.58
23	Mar-02	4.5	5	-0.58
24	May-02	4.5	5	-0.58
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



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

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

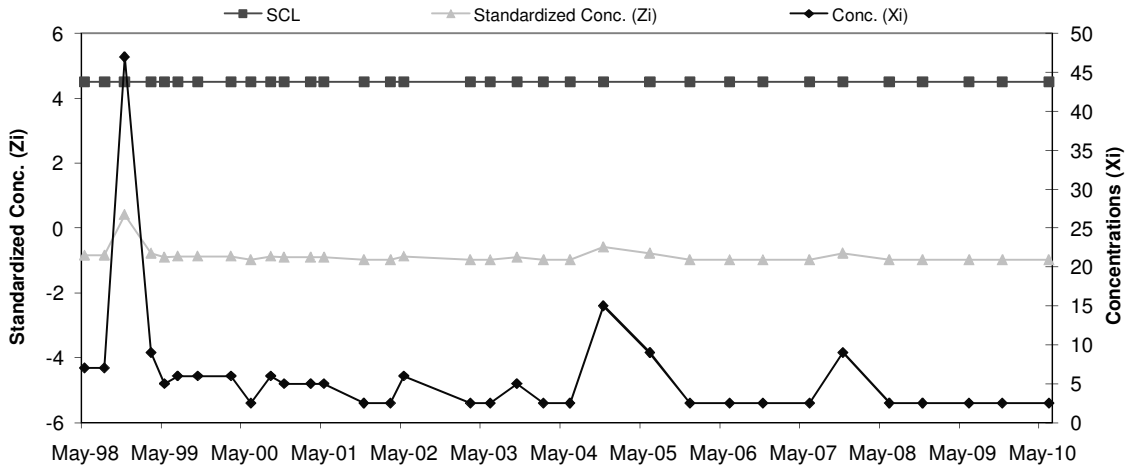
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	20	1.61
10	Aug-98	4.5	5	-0.66
11	Nov-98	4.5	5	-0.66
12	Mar-99	4.5	20	1.61
13	May-99	4.5	10	0.09
14	Jul-99	4.5	17	1.15
15	Oct-99	4.5	5	-0.66
16	Mar-00	4.5	5	-0.66
17	Jun-00	4.5	40	4.63
18	Sep-00	4.5	5	-0.66
19	Nov-00	4.5	60	7.66
20	Mar-01	4.5	5	-0.66
21	May-01	4.5	60	7.66
22	Nov-01	4.5	40	4.63
23	Mar-02	4.5	10	0.09
24	May-02	4.5	5	-0.66
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



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

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

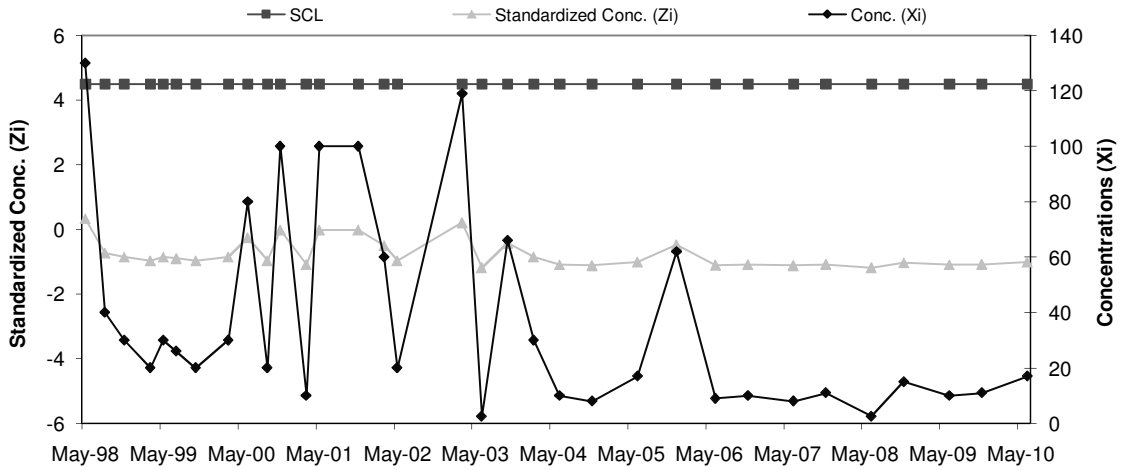
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	7	-0.84
10	Aug-98	4.5	7	-0.84
11	Nov-98	4.5	47	0.41
12	Mar-99	4.5	9	-0.78
13	May-99	4.5	5	-0.90
14	Jul-99	4.5	6	-0.87
15	Oct-99	4.5	6	-0.87
16	Mar-00	4.5	6	-0.87
17	Jun-00	4.5	2.5	-0.98
18	Sep-00	4.5	6	-0.87
19	Nov-00	4.5	5	-0.90
20	Mar-01	4.5	5	-0.90
21	May-01	4.5	5	-0.90
22	Nov-01	4.5	2.5	-0.98
23	Mar-02	4.5	2.5	-0.98
24	May-02	4.5	6	-0.87
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



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

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

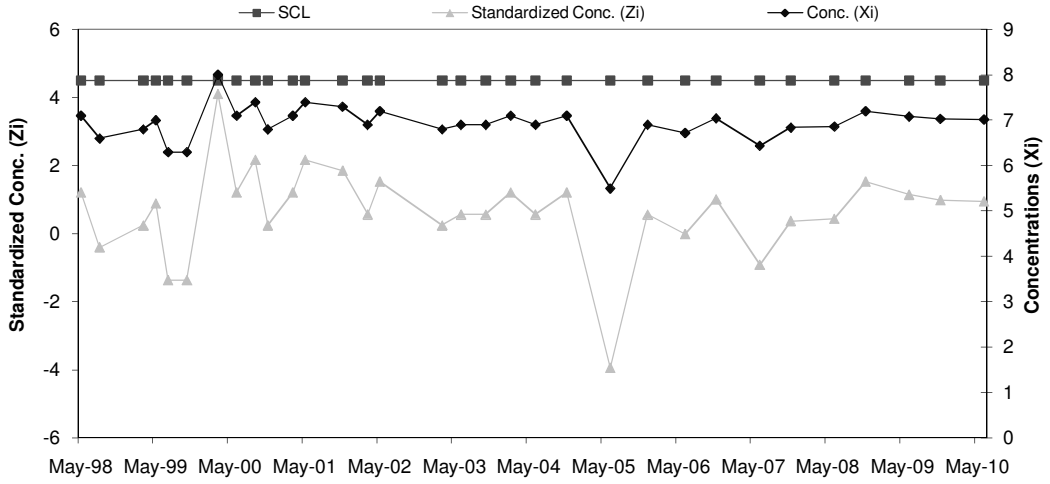
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	130	0.34
10	Aug-98	4.5	40	-0.73
11	Nov-98	4.5	30	-0.85
12	Mar-99	4.5	20	-0.97
13	May-99	4.5	30	-0.85
14	Jul-99	4.5	26	-0.90
15	Oct-99	4.5	20	-0.97
16	Mar-00	4.5	30	-0.85
17	Jun-00	4.5	80	-0.25
18	Sep-00	4.5	20	-0.97
19	Nov-00	4.5	100	-0.01
20	Mar-01	4.5	10	-1.09
21	May-01	4.5	100	-0.01
22	Nov-01	4.5	100	-0.01
23	Mar-02	4.5	60	-0.49
24	May-02	4.5	20	-0.97
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



REALM - COLDWATER ROAD 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		
2	Aug-95	6.8		
3	Jun-96	6.8		
4	Aug-96	7.1	**6.73**	**0.31**
5	Nov-96	7		
6	Aug-97	6.1		
7	Nov-97	6.7		
8	Feb-98	6.5		

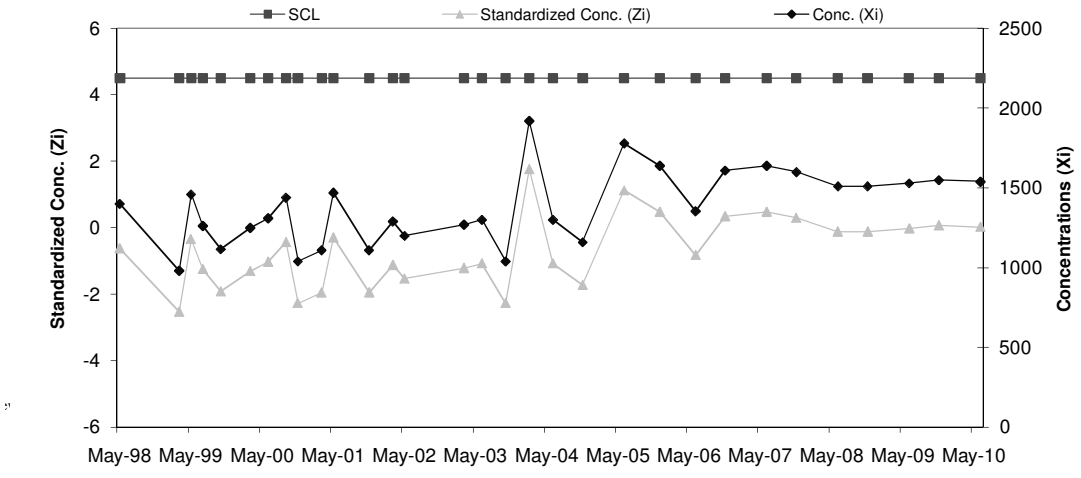
Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	7.1	1.21
10	Aug-98	4.5	6.6	-0.40
11	Mar-99	4.5	6.8	0.24
12	May-99	4.5	7	0.89
13	Jul-99	4.5	6.3	-1.37
14	Oct-99	4.5	6.3	-1.37
15	Mar-00	4.5	8	4.11
16	Jun-00	4.5	7.1	1.21
17	Sep-00	4.5	7.4	2.17
18	Nov-00	4.5	6.8	0.24
19	Mar-01	4.5	7.1	1.21
20	May-01	4.5	7.4	2.17
21	Nov-01	4.5	7.3	1.85
22	Mar-02	4.5	6.9	0.56
23	May-02	4.5	7.2	1.53
24	Mar-03	4.5	6.8	0.24
25	Jun-03	4.5	6.9	0.56
26	Oct-03	4.5	6.9	0.56
27	Feb-04	4.5	7.1	1.21
28	Jun-04	4.5	6.9	0.56
29	Nov-04	4.5	7.1	1.21
30	Jun-05	4.5	5.5	-3.94
31	Dec-05	4.5	6.9	0.56
32	Jun-06	4.5	6.7	-0.02
33	Nov-06	4.5	7.0	1.01
34	Jun-07	4.5	6.4	-0.92
35	Nov-07	4.5	6.8	0.37
36	Jun-08	4.5	6.9	0.43
37	Nov-08	4.5	7.2	1.53
38	Jun-09	4.5	7.1	1.14
39	Nov-09	4.5	7.0	0.98
40	Jun-10	4.5	7.0	0.95



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

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	1400	-0.62
10	Mar-99	4.5	982	-2.53
11	May-99	4.5	1460	-0.34
12	Jul-99	4.5	1262	-1.25
13	Oct-99	4.5	1116	-1.92
14	Mar-00	4.5	1250	-1.31
15	Jun-00	4.5	1310	-1.03
16	Sep-00	4.5	1440	-0.44
17	Nov-00	4.5	1040	-2.27
18	Mar-01	4.5	1110	-1.95
19	May-01	4.5	1470	-0.30
20	Nov-01	4.5	1110	-1.95
21	Mar-02	4.5	1290	-1.12
22	May-02	4.5	1200	-1.53
23	Mar-03	4.5	1270	-1.21
24	Jun-03	4.5	1300	-1.08
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



360° Engineering and Project Delivery Solutions

All materials printed on recycled paper. 

O'BRIEN & GERE
www.obg.com