

SEMIANNUAL REPORT

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

Motors Liquidation Company
Detroit, Michigan

August 2009

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REALM Coldwater Road Landfill
Flint, Michigan
MID 005 356 860

*Motors Liquidation Company
Detroit, Michigan*



Scott L. Cormier, P.E.
Vice President

August 2009





August 31, 2009

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
2009 Semiannual Report
Coldwater Road Landfill
MID 005 356 860

File: 4966 / 39196 #5

Dear Mr. Conforti:

On behalf of Motors Liquidation Company, O'Brien & Gere is pleased to present the results of the 2009 semiannual leak detection system sampling event conducted in June 2009 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 23, 2009 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 23, 2009 using a peristaltic pump and tubing for each vault and sump. Duplicate samples were collected from vault E and sump E. Samples were placed directly into laboratory prepared containers, logged onto a chain of custody form and placed on ice for transport to Merit Laboratories, Inc., in East Lansing, Michigan.

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The laboratory analysis for TOC, TSS, dissolved metals, VOCs and the field parameters continue to show historically consistent concentrations for the sumps and vaults (Tables 1 and 2). The TOC concentrations increased in sumps A, B, C, D and F, and decreased in sump E. In sump A, chromium, copper and nickel concentrations increased, while zinc was not detected. In sump B, chromium concentrations increased, while copper, nickel and zinc concentrations decreased. In sump C, chromium, nickel and zinc concentrations decreased, while copper concentrations increased. In sump D, copper and nickel concentrations decreased, while chromium concentrations increased and zinc was not detected. In sump E, copper, and nickel concentrations decreased, while zinc concentrations increased and chromium was not detected. In sump F, the concentrations for chromium and copper increased, while nickel and zinc concentrations decreased.

The TOC concentrations increased in vaults B, C, D, and F and decreased in vaults A and E. In vault A, chromium was not detected, while copper, nickel and zinc concentrations increased. In vault B, chromium was not detected, while copper remained the same, nickel decreased, and zinc increased. In vault C, chromium and copper were not detected, while nickel and zinc concentrations decreased. In vault D, chromium and copper were not detected, while nickel increased and zinc decreased. In vault E, chromium and nickel were not detected, while copper remained the same, and zinc concentrations decreased. In vault F, chromium, copper and nickel were not detected, while zinc decreased.

The duplicate samples collected during this sampling event exhibited values consistent with the original results.

There were no exceedances of the Shewart control limits, no significant spikes, and no consistent trends observed in the data this monitoring event. The Shewart control charts are included as Appendix B.

The next annual sampling event will be completed in November 2009. 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

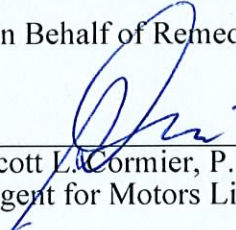
Enclosure

cc: Scott Haeger – Motors Liquidation Company
Marianne Secrest – O'Brien & Gere

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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 Remediation and Liability Management Company, Inc.



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

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

Date

8/31/09

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
A	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
	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

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
B	23-Mar-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	20-Jun-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	30-Aug-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	28-Nov-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Mar-96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	18-Jun-96	11.0	<10	6.9	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	
Duplicate	28-Nov-06	5.5	4.0	7.5	1380	13.0	<5	<4	8	
	28-Nov-06	4.7	--	7.2	1340	13.0	5	4	7	
Duplicate	6-Jun-07	4.7	2.0	6.3	1670	12.1	9	6	13	
	12-Nov-07	3.8	1.0	6.9	1690	12.6	2	5	16	
	24-Jun-08	3.2	6.0	7.0	1880	14.0	<5	2	8	
Duplicate	17-Nov-08	2.4	<1	6.9	1818	9.6	<5	2	8	
	17-Nov-08	1.7	2.0	6.9	1820	9.6	<5	1	8	
	23-Jun-09	3.6	4.0	7.1	1780	13.3	<5	1	6	

See notes on page 6.

Table 1
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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
C	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
	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

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
D	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
	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

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
E	23-Mar-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	20-Jun-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	30-Aug-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	28-Nov-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Mar-96	110.0	<10	7.2	2000	--	<20	<20	46	<20
	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
Duplicate	23-Jun-09	3.2	10.0	6.8	1950	14.0	<5	2	<5	15
	23-Jun-09	3.0	17.0	6.8	1960	14.0	<5	2	<5	14

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
F	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
	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-00	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

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

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

Sump	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)				
		TOC (mg/L)	TSS (mg/L)	pH	SpC	T	Cr	Cu	Ni	Zn	
A	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	
	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		
B	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	
	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		

See notes on page 3.

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

Sump	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)				
		TOC (mg/L)	TSS (mg/L)	pH	SpC	T	Cr	Cu	Ni	Zn	
C	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	
	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	
	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		
D	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	
	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	
	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		
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		

See notes on page 3.

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

Sump	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	T	Cr	Cu	Ni	Zn
E	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
	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	
Duplicate	6-Jun-07	6.9	3	6.4	1630	11.6	12	13	10	23
	6-Jun-07	6.7	4	--	1630	--	11	15	10	20
	12-Nov-07	5.6	3	7.3	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
F	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
	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	
Duplicate	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
	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
	Duplicate 23-Jun-09	14.4	<1	7.8	1500	12.2	43	100	30	9
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 (instrument 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 E	Sump E/Dup-02	Sump F	TB-01
	23-Jun-09	23-Jun-09	23-Jun-09	23-Jun-09	23-Jun-09	23-Jun-09	23-Jun-09	23-Jun-09
Acrolein	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Acrylonitrile	<0.001	<0.001	<0.001	0.031	<0.001	<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	0.003	0.006	<0.001	<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
Ethylbenzene	<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 23, 2009

Sump	DTW
A	19.61
B	12.67
C	16.54
D	19.41
E	20.01
F	20.16

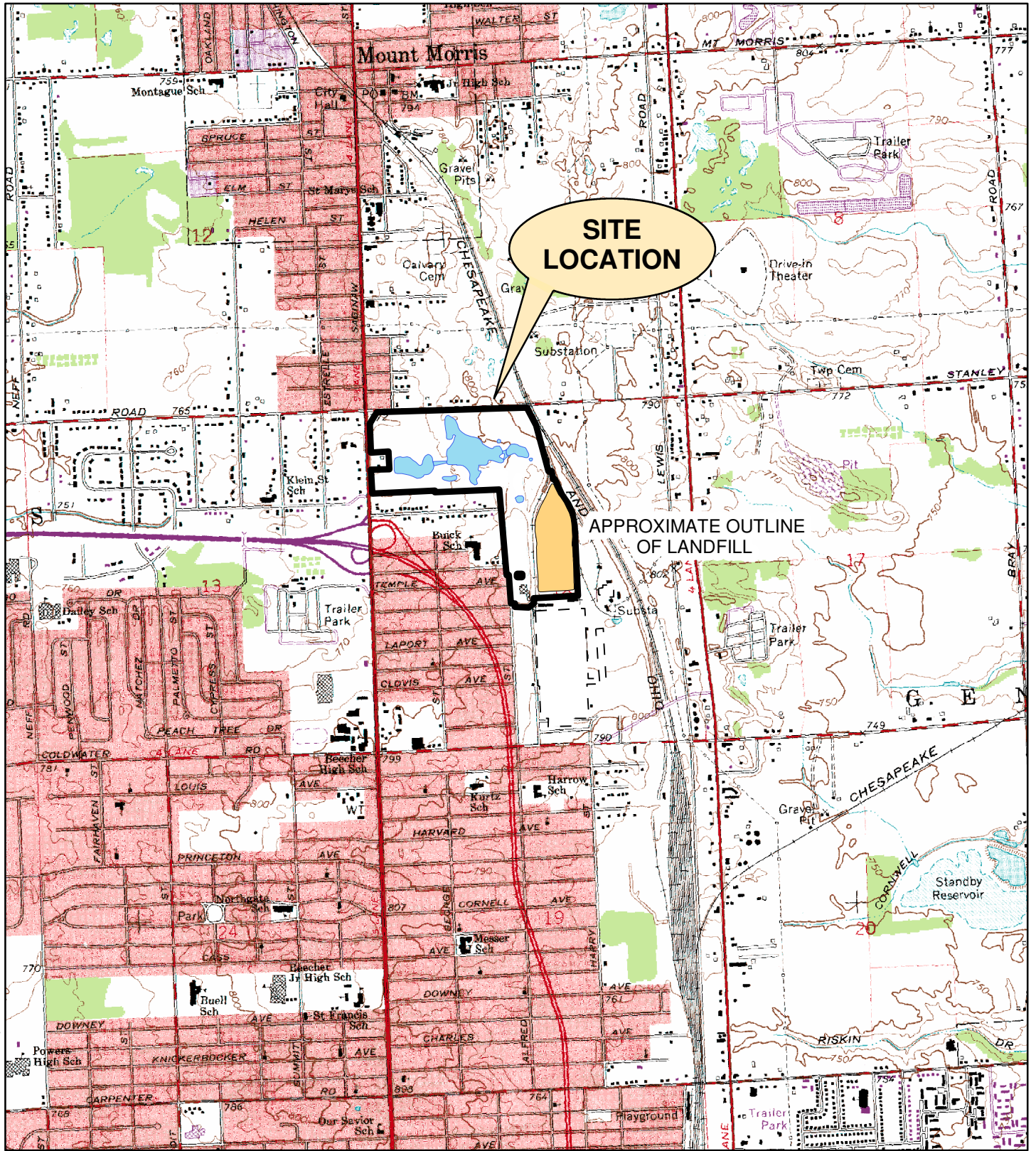
Notes:

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

Figures

I:\078\PROJECTS\4966CW\39196\O&M 2009\DOC\DWG 001.MXD

PLOT DATE: 8/5/2009 jmo



REALM
COLDWATER ROAD FACILITY
FLINT, MICHIGAN

SITE LOCATION MAP



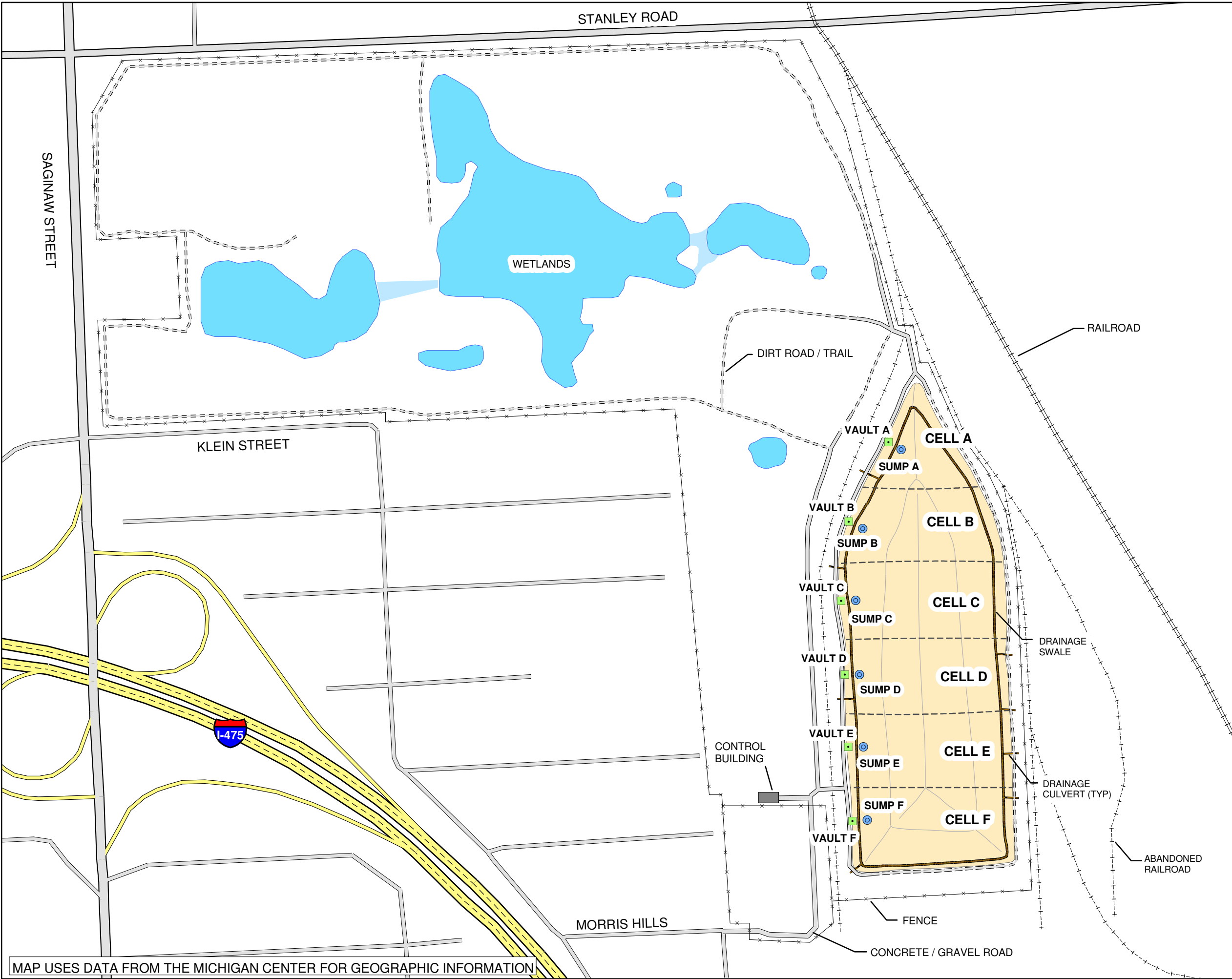




FIGURE 2



LEGEND

-  LEACHATE COLLECTION SUMP
-  ACCESS PORT FOR LEAK DETECTION VAULT

REALM
COLDWATER ROAD
LANDFILL FACILITY
FLINT, MICHIGAN

SITE LAYOUT



AUGUST 2009
4966/36196-008



APPENDIX A

Analytical Laboratory Report



Analytical Laboratory Report

Report ID: S41185.01(01)
Generated on 07/06/2009

Report to

Attention: Clifford Yantz/Marianne Secrest
O'Brien & Gere Engineers, Inc.
33469 West 14 Mile Road Suite 150
Farmington Hills, MI 48331

Phone: 248-477-5701 FAX: 248-661-4057
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): S41185.01-S41185.15
Project: Coldwater Road Landfill SSOW# R006008
Collected Date: 06/18/2009 - 06/23/2009
Submitted Date/Time: 06/24/2009 14:45
Sampled by: Kevin Schneider
P.O. #: 4018541

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

Violetta F. Murshak
Laboratory Director



Analytical Laboratory Report

Sample Summary (15 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S41185.01	Vault A-062309	Wastewater	06/23/2009 08:45
S41185.02	Vault B-062309	Wastewater	06/23/2009 09:25
S41185.03	Vault C-062309	Wastewater	06/23/2009 10:00
S41185.04	Vault D-062309	Wastewater	06/23/2009 10:35
S41185.05	Vault E-062309	Wastewater	06/23/2009 11:10
S41185.06	Dup-01-062309	Wastewater	06/23/2009
S41185.07	Vault F-062309	Wastewater	06/23/2009 11:50
S41185.08	Sump A-062309	Sump Water	06/23/2009 13:10
S41185.09	Sump B-062309	Sump Water	06/23/2009 13:45
S41185.10	Sump C-062309	Sump Water	06/23/2009 14:15
S41185.11	Sump D-062309	Sump Water	06/23/2009 14:50
S41185.12	Sump E-062309	Sump Water	06/23/2009 15:25
S41185.13	DUP-02-062309	Sump Water	06/23/2009
S41185.14	Sump F-062309	Sump Water	06/23/2009 15:50
S41185.15	TB-01-061809	Water Quality	06/18/2009



Analytical Laboratory Report

Lab Sample ID: S41185.01
 Sample Tag: Vault A-062309
 Collected Date/Time: 06/23/2009 08:45
 Matrix: Wastewater
 COC Reference: 04199

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.1	IR
1	125ml Amber	H2SO4	Yes	4.1	IR
1	500ml Plastic	None	Yes	4.1	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/29/09 12:00	SLS		
Inorganics								
Conductivity	2,050	umhos/cm		120.1	06/25/09 15:30	JKB		
TOC	5.5	mg/L	1	5310C	06/29/09 12:00	JKB		
Total Suspended Solids	88	mg/L	1	2540 D	06/30/09 12:00	DJS		
Metals								
Chromium, Dissolved	Not detected	mg/L	0.005	200.8	06/29/09 13:26	SLS	7440-47-3	
Copper, Dissolved	0.011	mg/L	0.001	200.8	06/29/09 13:26	SLS	7440-50-8	
Nickel, Dissolved	0.027	mg/L	0.005	200.8	06/29/09 13:26	SLS	7440-02-0	
Zinc, Dissolved	0.036	mg/L	0.005	200.8	06/29/09 13:26	SLS	7440-66-6	



Analytical Laboratory Report

Lab Sample ID: S41185.02
 Sample Tag: Vault B-062309
 Collected Date/Time: 06/23/2009 09:25
 Matrix: Wastewater
 COC Reference: 04199

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.1	IR
1	125ml Amber	H2SO4	Yes	4.1	IR
1	500ml Plastic	None	Yes	4.1	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/29/09 12:00	SLS		
Inorganics								
Conductivity	1,780	umhos/cm		120.1	06/25/09 15:35	JKB		
TOC	3.6	mg/L	1	5310C	06/29/09 12:30	JKB		
Total Suspended Solids	4	mg/L	1	2540 D	06/30/09 12:00	DJS		
Metals								
Chromium, Dissolved	Not detected	mg/L	0.005	200.8	06/29/09 13:29	SLS	7440-47-3	
Copper, Dissolved	0.001	mg/L	0.001	200.8	06/29/09 13:29	SLS	7440-50-8	
Nickel, Dissolved	0.006	mg/L	0.005	200.8	06/29/09 13:29	SLS	7440-02-0	
Zinc, Dissolved	0.017	mg/L	0.005	200.8	06/29/09 13:29	SLS	7440-66-6	



Analytical Laboratory Report

Lab Sample ID: S41185.03
 Sample Tag: Vault C-062309
 Collected Date/Time: 06/23/2009 10:00
 Matrix: Wastewater
 COC Reference: 04199

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.1	IR
1	125ml Amber	H2SO4	Yes	4.1	IR
1	500ml Plastic	None	Yes	4.1	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/29/09 12:00	SLS		
Inorganics								
Conductivity	1,660	umhos/cm		120.1	06/25/09 15:40	JKB		
TOC	4.6	mg/L	1	5310C	06/29/09 13:00	JKB		
Total Suspended Solids	9	mg/L	1	2540 D	06/30/09 12:00	DJS		
Metals								
Chromium, Dissolved	Not detected	mg/L	0.005	200.8	06/29/09 13:32	SLS	7440-47-3	
Copper, Dissolved	Not detected	mg/L	0.001	200.8	06/29/09 13:32	SLS	7440-50-8	
Nickel, Dissolved	0.008	mg/L	0.005	200.8	06/29/09 13:32	SLS	7440-02-0	
Zinc, Dissolved	0.006	mg/L	0.005	200.8	06/29/09 13:32	SLS	7440-66-6	



Analytical Laboratory Report

Lab Sample ID: S41185.04
 Sample Tag: Vault D-062309
 Collected Date/Time: 06/23/2009 10:35
 Matrix: Wastewater
 COC Reference: 04199

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.1	IR
1	125ml Amber	H2SO4	Yes	4.1	IR
1	500ml Plastic	None	Yes	4.1	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/29/09 12:00	SLS		
Inorganics								
Conductivity	1,570	umhos/cm		120.1	06/25/09 15:45	JKB		
TOC	7.0	mg/L	1	5310C	06/29/09 13:15	JKB		
Total Suspended Solids	20	mg/L	1	2540 D	06/30/09 12:00	DJS		
Metals								
Chromium, Dissolved	Not detected	mg/L	0.005	200.8	06/29/09 13:35	SLS	7440-47-3	
Copper, Dissolved	Not detected	mg/L	0.001	200.8	06/29/09 13:35	SLS	7440-50-8	
Nickel, Dissolved	0.034	mg/L	0.005	200.8	06/29/09 13:35	SLS	7440-02-0	
Zinc, Dissolved	0.005	mg/L	0.005	200.8	06/29/09 13:35	SLS	7440-66-6	



Analytical Laboratory Report

Lab Sample ID: S41185.05
 Sample Tag: Vault E-062309
 Collected Date/Time: 06/23/2009 11:10
 Matrix: Wastewater
 COC Reference: 04199

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.1	IR
1	125ml Amber	H2SO4	Yes	4.1	IR
1	500ml Plastic	None	Yes	4.1	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/29/09 12:00	SLS		
Inorganics								
Conductivity	1,950	umhos/cm		120.1	06/25/09 15:50	JKB		
TOC	3.2	mg/L	1	5310C	06/29/09 13:30	JKB		
Total Suspended Solids	10	mg/L	1	2540 D	06/30/09 12:00	DJS		
Metals								
Chromium, Dissolved	Not detected	mg/L	0.005	200.8	06/29/09 13:37	SLS	7440-47-3	
Copper, Dissolved	0.002	mg/L	0.001	200.8	06/29/09 13:37	SLS	7440-50-8	
Nickel, Dissolved	Not detected	mg/L	0.005	200.8	06/29/09 13:37	SLS	7440-02-0	
Zinc, Dissolved	0.015	mg/L	0.005	200.8	06/29/09 13:37	SLS	7440-66-6	



Analytical Laboratory Report

Lab Sample ID: S41185.06
 Sample Tag: Dup-01-062309
 Collected Date/Time: 06/23/2009 :
 Matrix: Wastewater
 COC Reference: 04199

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.1	IR
1	125ml Amber	H2SO4	Yes	4.1	IR
1	500ml Plastic	None	Yes	4.1	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/29/09 12:00	SLS		
Inorganics								
Conductivity	1,960	umhos/cm		120.1	06/25/09 15:55	JKB		
TOC	3.0	mg/L	1	5310C	06/29/09 13:45	JKB		
Total Suspended Solids	17	mg/L	1	2540 D	06/30/09 12:00	DJS		
Metals								
Chromium, Dissolved	Not detected	mg/L	0.005	200.8	06/29/09 13:40	SLS	7440-47-3	
Copper, Dissolved	0.002	mg/L	0.001	200.8	06/29/09 13:40	SLS	7440-50-8	
Nickel, Dissolved	Not detected	mg/L	0.005	200.8	06/29/09 13:40	SLS	7440-02-0	
Zinc, Dissolved	0.014	mg/L	0.005	200.8	06/29/09 13:40	SLS	7440-66-6	



Analytical Laboratory Report

Lab Sample ID: S41185.07
 Sample Tag: Vault F-062309
 Collected Date/Time: 06/23/2009 11:50
 Matrix: Wastewater
 COC Reference: 04199

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.1	IR
1	125ml Amber	H2SO4	Yes	4.1	IR
1	500ml Plastic	None	Yes	4.1	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/29/09 12:00	SLS		
Inorganics								
Conductivity	1,530	umhos/cm		120.1	06/25/09 16:00	JKB		
TOC	2.9	mg/L	1	5310C	06/29/09 14:00	JKB		
Total Suspended Solids	29	mg/L	1	2540 D	06/30/09 12:00	DJS		
Metals								
Chromium, Dissolved	Not detected	mg/L	0.005	200.8	06/29/09 13:43	SLS	7440-47-3	
Copper, Dissolved	Not detected	mg/L	0.001	200.8	06/29/09 13:43	SLS	7440-50-8	
Nickel, Dissolved	Not detected	mg/L	0.005	200.8	06/29/09 13:43	SLS	7440-02-0	
Zinc, Dissolved	0.010	mg/L	0.005	200.8	06/29/09 13:43	SLS	7440-66-6	



Analytical Laboratory Report

Lab Sample ID: S41185.08
 Sample Tag: Sump A-062309
 Collected Date/Time: 06/23/2009 13:10
 Matrix: Sump Water
 COC Reference: 04199

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.1	IR
1	125ml Amber	H2SO4	Yes	4.1	IR
1	500ml Plastic	None	Yes	4.1	IR
2	40ml Glass	HCL	Yes	4.1	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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Extraction / Prep.

Metal Digestion	Completed			3015A	06/29/09 12:00	SLS		
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Inorganics

Conductivity	2,900	umhos/cm		120.1	06/25/09 16:05	JKB		
TOC	61.0	mg/L	1	5310C	06/29/09 14:15	JKB		
Total Suspended Solids	3	mg/L	1	2540 D	06/30/09 12:00	DJS		

Metals

Chromium, Dissolved	0.222	mg/L	0.005	200.8	06/29/09 13:58	SLS	7440-47-3	
Copper, Dissolved	1.40	mg/L	0.001	200.8	06/29/09 13:58	SLS	7440-50-8	
Nickel, Dissolved	0.126	mg/L	0.005	200.8	06/29/09 13:58	SLS	7440-02-0	
Zinc, Dissolved	Not detected	mg/L	0.005	200.8	06/29/09 13:58	SLS	7440-66-6	

Organics - Volatiles

VOCs, TTO List

Acrolein	Not detected	ug/L	10	624	07/02/09 18:58	JGH	107-02-8	
Acrylonitrile	Not detected	ug/L	1	624	07/02/09 18:58	JGH	107-13-1	
Benzene	Not detected	ug/L	1	624	07/02/09 18:58	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	624	07/02/09 18:58	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	624	07/02/09 18:58	JGH	75-25-2	
Bromomethane	Not detected	ug/L	1	624	07/02/09 18:58	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	624	07/02/09 18:58	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	624	07/02/09 18:58	JGH	108-90-7	
Chloroethane	Not detected	ug/L	1	624	07/02/09 18:58	JGH	75-00-3	
2-Chloroethylvinyl ether	Not detected	ug/L	1	624	07/02/09 18:58	JGH	110-75-8	
Chloroform	Not detected	ug/L	1	624	07/02/09 18:58	JGH	67-66-3	
Chloromethane	1	ug/L	1	624	07/02/09 18:58	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	624	07/02/09 18:58	JGH	124-48-1	
1,1-Dichloroethane	Not detected	ug/L	1	624	07/02/09 18:58	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	624	07/02/09 18:58	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	624	07/02/09 18:58	JGH	75-35-4	
trans-1,2-Dichloroethene	Not detected	ug/L	1	624	07/02/09 18:58	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	624	07/02/09 18:58	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	624	07/02/09 18:58	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	624	07/02/09 18:58	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	624	07/02/09 18:58	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	624	07/02/09 18:58	JGH	75-09-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	624	07/02/09 18:58	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	624	07/02/09 18:58	JGH	127-18-4	
Toluene	Not detected	ug/L	1	624	07/02/09 18:58	JGH	108-88-3	



Analytical Laboratory Report

Lab Sample ID: S41185.08 (continued)
Sample Tag: Sump A-062309

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
VOCs, TTO List (continued)								
1,1,1-Trichloroethane	Not detected	ug/L	1	624	07/02/09 18:58	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	624	07/02/09 18:58	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	624	07/02/09 18:58	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	624	07/02/09 18:58	JGH	75-01-4	



Analytical Laboratory Report

Lab Sample ID: S41185.09
 Sample Tag: Sump B-062309
 Collected Date/Time: 06/23/2009 13:45
 Matrix: Sump Water
 COC Reference: 04199

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.1	IR
1	125ml Amber	H2SO4	Yes	4.1	IR
1	500ml Plastic	None	Yes	4.1	IR
2	40ml Glass	HCL	Yes	4.1	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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Extraction / Prep.

Metal Digestion	Completed			3015A	06/29/09 12:00	SLS		
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Inorganics

Conductivity	2,250	umhos/cm		120.1	06/25/09 16:10	JKB		
TOC	52.3	mg/L	1	5310C	06/29/09 14:30	JKB		
Total Suspended Solids	1	mg/L	1	2540 D	06/30/09 12:00	DJS		

Metals

Chromium, Dissolved	0.685	mg/L	0.005	200.8	06/29/09 14:01	SLS	7440-47-3	
Copper, Dissolved	0.696	mg/L	0.001	200.8	06/29/09 14:01	SLS	7440-50-8	
Nickel, Dissolved	0.082	mg/L	0.005	200.8	06/29/09 14:01	SLS	7440-02-0	
Zinc, Dissolved	0.017	mg/L	0.005	200.8	06/29/09 14:01	SLS	7440-66-6	

Organics - Volatiles

VOCs, TTO List

Acrolein	Not detected	ug/L	10	624	07/02/09 19:16	JGH	107-02-8	
Acrylonitrile	Not detected	ug/L	1	624	07/02/09 19:16	JGH	107-13-1	
Benzene	Not detected	ug/L	1	624	07/02/09 19:16	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	624	07/02/09 19:16	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	624	07/02/09 19:16	JGH	75-25-2	
Bromomethane	Not detected	ug/L	1	624	07/02/09 19:16	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	624	07/02/09 19:16	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	624	07/02/09 19:16	JGH	108-90-7	
Chloroethane	Not detected	ug/L	1	624	07/02/09 19:16	JGH	75-00-3	
2-Chloroethylvinyl ether	Not detected	ug/L	1	624	07/02/09 19:16	JGH	110-75-8	
Chloroform	Not detected	ug/L	1	624	07/02/09 19:16	JGH	67-66-3	
Chloromethane	Not detected	ug/L	1	624	07/02/09 19:16	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	624	07/02/09 19:16	JGH	124-48-1	
1,1-Dichloroethane	Not detected	ug/L	1	624	07/02/09 19:16	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	624	07/02/09 19:16	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	624	07/02/09 19:16	JGH	75-35-4	
trans-1,2-Dichloroethene	Not detected	ug/L	1	624	07/02/09 19:16	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	624	07/02/09 19:16	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	624	07/02/09 19:16	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	624	07/02/09 19:16	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	624	07/02/09 19:16	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	624	07/02/09 19:16	JGH	75-09-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	624	07/02/09 19:16	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	624	07/02/09 19:16	JGH	127-18-4	
Toluene	Not detected	ug/L	1	624	07/02/09 19:16	JGH	108-88-3	



Analytical Laboratory Report

Lab Sample ID: S41185.09 (continued)
Sample Tag: Sump B-062309

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
VOCs, TTO List (continued)								
1,1,1-Trichloroethane	Not detected	ug/L	1	624	07/02/09 19:16	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	624	07/02/09 19:16	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	624	07/02/09 19:16	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	624	07/02/09 19:16	JGH	75-01-4	



Analytical Laboratory Report

Lab Sample ID: S41185.10
 Sample Tag: Sump C-062309
 Collected Date/Time: 06/23/2009 14:15
 Matrix: Sump Water
 COC Reference: 04199

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.1	IR
1	125ml Amber	H2SO4	Yes	4.1	IR
1	500ml Plastic	None	Yes	4.1	IR
2	40ml Glass	HCL	Yes	4.1	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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Extraction / Prep.

Metal Digestion	Completed			3015A	06/29/09 12:00	SLS		
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Inorganics

Conductivity	4,240	umhos/cm		120.1	06/25/09 16:15	JKB		
TOC	139	mg/L	1	5310C	06/29/09 14:45	JKB		
Total Suspended Solids	9	mg/L	1	2540 D	06/30/09 12:00	DJS		

Metals

Chromium, Dissolved	0.025	mg/L	0.005	200.8	06/29/09 14:04	SLS	7440-47-3	
Copper, Dissolved	3.60	mg/L	0.001	200.8	06/29/09 14:04	SLS	7440-50-8	
Nickel, Dissolved	0.800	mg/L	0.005	200.8	06/29/09 14:04	SLS	7440-02-0	
Zinc, Dissolved	0.007	mg/L	0.005	200.8	06/29/09 14:04	SLS	7440-66-6	

Organics - Volatiles

VOCs, TTO List

Acrolein	Not detected	ug/L	10	624	07/02/09 19:34	JGH	107-02-8	
Acrylonitrile	Not detected	ug/L	1	624	07/02/09 19:34	JGH	107-13-1	
Benzene	Not detected	ug/L	1	624	07/02/09 19:34	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	624	07/02/09 19:34	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	624	07/02/09 19:34	JGH	75-25-2	
Bromomethane	Not detected	ug/L	1	624	07/02/09 19:34	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	624	07/02/09 19:34	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	624	07/02/09 19:34	JGH	108-90-7	
Chloroethane	Not detected	ug/L	1	624	07/02/09 19:34	JGH	75-00-3	
2-Chloroethylvinyl ether	Not detected	ug/L	1	624	07/02/09 19:34	JGH	110-75-8	
Chloroform	Not detected	ug/L	1	624	07/02/09 19:34	JGH	67-66-3	
Chloromethane	3	ug/L	1	624	07/02/09 19:34	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	624	07/02/09 19:34	JGH	124-48-1	
1,1-Dichloroethane	Not detected	ug/L	1	624	07/02/09 19:34	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	624	07/02/09 19:34	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	624	07/02/09 19:34	JGH	75-35-4	
trans-1,2-Dichloroethene	Not detected	ug/L	1	624	07/02/09 19:34	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	624	07/02/09 19:34	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	624	07/02/09 19:34	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	624	07/02/09 19:34	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	624	07/02/09 19:34	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	624	07/02/09 19:34	JGH	75-09-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	624	07/02/09 19:34	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	624	07/02/09 19:34	JGH	127-18-4	
Toluene	Not detected	ug/L	1	624	07/02/09 19:34	JGH	108-88-3	



Analytical Laboratory Report

Lab Sample ID: S41185.10 (continued)
Sample Tag: Sump C-062309

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
VOCs, TTO List (continued)								
1,1,1-Trichloroethane	Not detected	ug/L	1	624	07/02/09 19:34	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	624	07/02/09 19:34	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	624	07/02/09 19:34	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	624	07/02/09 19:34	JGH	75-01-4	



Analytical Laboratory Report

Lab Sample ID: S41185.11
 Sample Tag: Sump D-062309
 Collected Date/Time: 06/23/2009 14:50
 Matrix: Sump Water
 COC Reference: 04199

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.1	IR
1	125ml Amber	H2SO4	Yes	4.1	IR
1	500ml Plastic	None	Yes	4.1	IR
2	40ml Glass	HCL	Yes	4.1	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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Extraction / Prep.

Metal Digestion	Completed			3015A	06/29/09 12:00	SLS		
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Inorganics

Conductivity	6,210	umhos/cm		120.1	06/25/09 16:20	JKB		
TOC	308	mg/L	1	5310C	06/29/09 15:00	JKB		
Total Suspended Solids	7	mg/L	1	2540 D	06/30/09 12:00	DJS		

Metals

Chromium, Dissolved	0.088	mg/L	0.005	200.8	06/29/09 14:06	SLS	7440-47-3	
Copper, Dissolved	2.17	mg/L	0.001	200.8	06/29/09 14:06	SLS	7440-50-8	
Nickel, Dissolved	1.99	mg/L	0.005	200.8	06/29/09 14:06	SLS	7440-02-0	
Zinc, Dissolved	Not detected	mg/L	0.005	200.8	06/29/09 14:06	SLS	7440-66-6	

Organics - Volatiles

VOCs, TTO List

Acrolein	Not detected	ug/L	10	624	07/02/09 19:52	JGH	107-02-8	
Acrylonitrile	31	ug/L	1	624	07/02/09 19:52	JGH	107-13-1	
Benzene	Not detected	ug/L	1	624	07/02/09 19:52	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	624	07/02/09 19:52	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	624	07/02/09 19:52	JGH	75-25-2	
Bromomethane	Not detected	ug/L	1	624	07/02/09 19:52	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	624	07/02/09 19:52	JGH	56-23-5	
Chlorobenzene	1	ug/L	1	624	07/02/09 19:52	JGH	108-90-7	
Chloroethane	Not detected	ug/L	1	624	07/02/09 19:52	JGH	75-00-3	
2-Chloroethylvinyl ether	Not detected	ug/L	1	624	07/02/09 19:52	JGH	110-75-8	
Chloroform	Not detected	ug/L	1	624	07/02/09 19:52	JGH	67-66-3	
Chloromethane	6	ug/L	1	624	07/02/09 19:52	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	624	07/02/09 19:52	JGH	124-48-1	
1,1-Dichloroethane	Not detected	ug/L	1	624	07/02/09 19:52	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	624	07/02/09 19:52	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	624	07/02/09 19:52	JGH	75-35-4	
trans-1,2-Dichloroethene	Not detected	ug/L	1	624	07/02/09 19:52	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	624	07/02/09 19:52	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	624	07/02/09 19:52	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	624	07/02/09 19:52	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	624	07/02/09 19:52	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	624	07/02/09 19:52	JGH	75-09-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	624	07/02/09 19:52	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	624	07/02/09 19:52	JGH	127-18-4	
Toluene	Not detected	ug/L	1	624	07/02/09 19:52	JGH	108-88-3	



Analytical Laboratory Report

Lab Sample ID: S41185.11 (continued)

Sample Tag: Sump D-062309

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
VOCs, TTO List (continued)								
1,1,1-Trichloroethane	Not detected	ug/L	1	624	07/02/09 19:52	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	624	07/02/09 19:52	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	624	07/02/09 19:52	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	624	07/02/09 19:52	JGH	75-01-4	



Analytical Laboratory Report

Lab Sample ID: S41185.12
 Sample Tag: Sump E-062309
 Collected Date/Time: 06/23/2009 15:25
 Matrix: Sump Water
 COC Reference: 04199

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.1	IR
1	125ml Amber	H2SO4	Yes	4.1	IR
1	500ml Plastic	None	Yes	4.1	IR
2	40ml Glass	HCL	Yes	4.1	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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Extraction / Prep.

Metal Digestion	Completed			3015A	06/29/09 12:00	SLS		
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Inorganics

Conductivity	1,600	umhos/cm		120.1	06/25/09 16:25	JKB		
TOC	4.7	mg/L	1	5310C	06/29/09 15:15	JKB		
Total Suspended Solids	<1	mg/L	1	2540 D	06/30/09 12:00	DJS		

Metals

Chromium, Dissolved	Not detected	mg/L	0.005	200.8	06/29/09 14:09	SLS	7440-47-3	
Copper, Dissolved	0.006	mg/L	0.001	200.8	06/29/09 14:09	SLS	7440-50-8	
Nickel, Dissolved	0.006	mg/L	0.005	200.8	06/29/09 14:09	SLS	7440-02-0	
Zinc, Dissolved	0.014	mg/L	0.005	200.8	06/29/09 14:09	SLS	7440-66-6	

Organics - Volatiles

VOCs, TTO List

Acrolein	Not detected	ug/L	10	624	07/02/09 20:11	JGH	107-02-8	
Acrylonitrile	Not detected	ug/L	1	624	07/02/09 20:11	JGH	107-13-1	
Benzene	Not detected	ug/L	1	624	07/02/09 20:11	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	624	07/02/09 20:11	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	624	07/02/09 20:11	JGH	75-25-2	
Bromomethane	Not detected	ug/L	1	624	07/02/09 20:11	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	624	07/02/09 20:11	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	624	07/02/09 20:11	JGH	108-90-7	
Chloroethane	Not detected	ug/L	1	624	07/02/09 20:11	JGH	75-00-3	
2-Chloroethylvinyl ether	Not detected	ug/L	1	624	07/02/09 20:11	JGH	110-75-8	
Chloroform	Not detected	ug/L	1	624	07/02/09 20:11	JGH	67-66-3	
Chloromethane	Not detected	ug/L	1	624	07/02/09 20:11	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	624	07/02/09 20:11	JGH	124-48-1	
1,1-Dichloroethane	Not detected	ug/L	1	624	07/02/09 20:11	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	624	07/02/09 20:11	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	624	07/02/09 20:11	JGH	75-35-4	
trans-1,2-Dichloroethene	Not detected	ug/L	1	624	07/02/09 20:11	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	624	07/02/09 20:11	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	624	07/02/09 20:11	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	624	07/02/09 20:11	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	624	07/02/09 20:11	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	624	07/02/09 20:11	JGH	75-09-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	624	07/02/09 20:11	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	624	07/02/09 20:11	JGH	127-18-4	
Toluene	Not detected	ug/L	1	624	07/02/09 20:11	JGH	108-88-3	



Analytical Laboratory Report

Lab Sample ID: S41185.12 (continued)
Sample Tag: Sump E-062309

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
VOCs, TTO List (continued)								
1,1,1-Trichloroethane	Not detected	ug/L	1	624	07/02/09 20:11	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	624	07/02/09 20:11	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	624	07/02/09 20:11	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	624	07/02/09 20:11	JGH	75-01-4	



Analytical Laboratory Report

Lab Sample ID: S41185.13
 Sample Tag: DUP-02-062309
 Collected Date/Time: 06/23/2009 :
 Matrix: Sump Water
 COC Reference: 04199

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.1	IR
1	125ml Amber	H2SO4	Yes	4.1	IR
1	500ml Plastic	None	Yes	4.1	IR
2	40ml Glass	HCL	Yes	4.1	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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Extraction / Prep.

Metal Digestion	Completed			3015A	06/29/09 12:00	SLS		
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Inorganics

Conductivity	1,580	umhos/cm		120.1	06/25/09 16:30	JKB		
TOC	3.5	mg/L	1	5310C	06/29/09 15:30	JKB		
Total Suspended Solids	1	mg/L	1	2540 D	06/30/09 12:00	DJS		

Metals

Chromium, Dissolved	Not detected	mg/L	0.005	200.8	06/29/09 14:12	SLS	7440-47-3	
Copper, Dissolved	0.006	mg/L	0.001	200.8	06/29/09 14:12	SLS	7440-50-8	
Nickel, Dissolved	0.005	mg/L	0.005	200.8	06/29/09 14:12	SLS	7440-02-0	
Zinc, Dissolved	0.015	mg/L	0.005	200.8	06/29/09 14:12	SLS	7440-66-6	

Organics - Volatiles

VOCs, TTO List

Acrolein	Not detected	ug/L	10	624	07/02/09 20:29	JGH	107-02-8	
Acrylonitrile	Not detected	ug/L	1	624	07/02/09 20:29	JGH	107-13-1	
Benzene	Not detected	ug/L	1	624	07/02/09 20:29	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	624	07/02/09 20:29	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	624	07/02/09 20:29	JGH	75-25-2	
Bromomethane	Not detected	ug/L	1	624	07/02/09 20:29	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	624	07/02/09 20:29	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	624	07/02/09 20:29	JGH	108-90-7	
Chloroethane	Not detected	ug/L	1	624	07/02/09 20:29	JGH	75-00-3	
2-Chloroethylvinyl ether	Not detected	ug/L	1	624	07/02/09 20:29	JGH	110-75-8	
Chloroform	Not detected	ug/L	1	624	07/02/09 20:29	JGH	67-66-3	
Chloromethane	Not detected	ug/L	1	624	07/02/09 20:29	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	624	07/02/09 20:29	JGH	124-48-1	
1,1-Dichloroethane	Not detected	ug/L	1	624	07/02/09 20:29	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	624	07/02/09 20:29	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	624	07/02/09 20:29	JGH	75-35-4	
trans-1,2-Dichloroethene	Not detected	ug/L	1	624	07/02/09 20:29	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	624	07/02/09 20:29	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	624	07/02/09 20:29	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	624	07/02/09 20:29	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	624	07/02/09 20:29	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	624	07/02/09 20:29	JGH	75-09-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	624	07/02/09 20:29	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	624	07/02/09 20:29	JGH	127-18-4	
Toluene	Not detected	ug/L	1	624	07/02/09 20:29	JGH	108-88-3	



Analytical Laboratory Report

Lab Sample ID: S41185.13 (continued)
Sample Tag: DUP-02-062309

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
VOCs, TTO List (continued)								
1,1,1-Trichloroethane	Not detected	ug/L	1	624	07/02/09 20:29	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	624	07/02/09 20:29	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	624	07/02/09 20:29	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	624	07/02/09 20:29	JGH	75-01-4	



Analytical Laboratory Report

Lab Sample ID: S41185.14
 Sample Tag: Sump F-062309
 Collected Date/Time: 06/23/2009 15:50
 Matrix: Sump Water
 COC Reference: 04199

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.1	IR
1	125ml Amber	H2SO4	Yes	4.1	IR
1	500ml Plastic	None	Yes	4.1	IR
2	40ml Glass	HCL	Yes	4.1	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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Extraction / Prep.

Metal Digestion	Completed			3015A	06/29/09 12:00	SLS		
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Inorganics

Conductivity	1,500	umhos/cm		120.1	06/25/09 16:35	JKB		
TOC	14.4	mg/L	1	5310C	06/29/09 15:45	JKB		
Total Suspended Solids	<1	mg/L	1	2540 D	06/30/09 12:00	DJS		

Metals

Chromium, Dissolved	0.043	mg/L	0.005	200.8	06/29/09 14:15	SLS	7440-47-3	
Copper, Dissolved	0.100	mg/L	0.001	200.8	06/29/09 14:15	SLS	7440-50-8	
Nickel, Dissolved	0.030	mg/L	0.005	200.8	06/29/09 14:15	SLS	7440-02-0	
Zinc, Dissolved	0.009	mg/L	0.005	200.8	06/29/09 14:15	SLS	7440-66-6	

Organics - Volatiles

VOCs, TTO List

Acrolein	Not detected	ug/L	10	624	07/02/09 20:47	JGH	107-02-8	
Acrylonitrile	Not detected	ug/L	1	624	07/02/09 20:47	JGH	107-13-1	
Benzene	Not detected	ug/L	1	624	07/02/09 20:47	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	624	07/02/09 20:47	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	624	07/02/09 20:47	JGH	75-25-2	
Bromomethane	Not detected	ug/L	1	624	07/02/09 20:47	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	624	07/02/09 20:47	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	624	07/02/09 20:47	JGH	108-90-7	
Chloroethane	Not detected	ug/L	1	624	07/02/09 20:47	JGH	75-00-3	
2-Chloroethylvinyl ether	Not detected	ug/L	1	624	07/02/09 20:47	JGH	110-75-8	
Chloroform	Not detected	ug/L	1	624	07/02/09 20:47	JGH	67-66-3	
Chloromethane	Not detected	ug/L	1	624	07/02/09 20:47	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	624	07/02/09 20:47	JGH	124-48-1	
1,1-Dichloroethane	Not detected	ug/L	1	624	07/02/09 20:47	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	624	07/02/09 20:47	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	624	07/02/09 20:47	JGH	75-35-4	
trans-1,2-Dichloroethene	Not detected	ug/L	1	624	07/02/09 20:47	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	624	07/02/09 20:47	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	624	07/02/09 20:47	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	624	07/02/09 20:47	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	624	07/02/09 20:47	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	624	07/02/09 20:47	JGH	75-09-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	624	07/02/09 20:47	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	624	07/02/09 20:47	JGH	127-18-4	
Toluene	Not detected	ug/L	1	624	07/02/09 20:47	JGH	108-88-3	



Analytical Laboratory Report

Lab Sample ID: S41185.14 (continued)

Sample Tag: Sump F-062309

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
VOCs, TTO List (continued)								
1,1,1-Trichloroethane	Not detected	ug/L	1	624	07/02/09 20:47	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	624	07/02/09 20:47	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	624	07/02/09 20:47	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	624	07/02/09 20:47	JGH	75-01-4	



Analytical Laboratory Report

Lab Sample ID: S41185.15
 Sample Tag: TB-01-061809
 Collected Date/Time: 06/18/2009 :
 Matrix: Water Quality
 COC Reference: 04199

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	4.1	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles								
VOCs, TTO List								
Acrolein	Not detected	ug/L	10	624	07/02/09 18:22	JGH	107-02-8	
Acrylonitrile	Not detected	ug/L	1	624	07/02/09 18:22	JGH	107-13-1	
Benzene	Not detected	ug/L	1	624	07/02/09 18:22	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	624	07/02/09 18:22	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	624	07/02/09 18:22	JGH	75-25-2	
Bromomethane	Not detected	ug/L	1	624	07/02/09 18:22	JGH	74-83-9	
Carbon tetrachloride	Not detected	ug/L	1	624	07/02/09 18:22	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	624	07/02/09 18:22	JGH	108-90-7	
Chloroethane	Not detected	ug/L	1	624	07/02/09 18:22	JGH	75-00-3	
2-Chloroethylvinyl ether	Not detected	ug/L	1	624	07/02/09 18:22	JGH	110-75-8	
Chloroform	Not detected	ug/L	1	624	07/02/09 18:22	JGH	67-66-3	
Chloromethane	Not detected	ug/L	1	624	07/02/09 18:22	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	1	624	07/02/09 18:22	JGH	124-48-1	
1,1-Dichloroethane	Not detected	ug/L	1	624	07/02/09 18:22	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	624	07/02/09 18:22	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	624	07/02/09 18:22	JGH	75-35-4	
trans-1,2-Dichloroethene	Not detected	ug/L	1	624	07/02/09 18:22	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	624	07/02/09 18:22	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	624	07/02/09 18:22	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	624	07/02/09 18:22	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	624	07/02/09 18:22	JGH	100-41-4	
Methylene chloride	Not detected	ug/L	5	624	07/02/09 18:22	JGH	75-09-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	624	07/02/09 18:22	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	624	07/02/09 18:22	JGH	127-18-4	
Toluene	Not detected	ug/L	1	624	07/02/09 18:22	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	624	07/02/09 18:22	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	624	07/02/09 18:22	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	624	07/02/09 18:22	JGH	79-01-6	
Vinyl chloride	Not detected	ug/L	1	624	07/02/09 18:22	JGH	75-01-4	



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

PAGE 1 OF 1

Required Client Information:

Company: O'Brien & Gere	Report To: Cliff Yantz
Address: 37000 Grand River	Copy To:
Farmington Hills	Invoice To:
MI 48335	P.O.:
Phone: 248-477-5701	Project Name: Calwater Rd Semi-Annual
Fax: 248-477-5962	Project Number: 39196
E-mail:	

Laboratory: Merit
Laboratory Location: East Lansing, MI
Laboratory Contact:
Requested Due Date: TAT: Standard
QA/QC Requirements: Standard

ID # No 04:99

SSOW Ref. Code R006008

41185

Sample Identification:

Valid Matrix Codes:
 WG Groundwater
 WB Borehole Water
 WS Surface Water
 SD Soil
 SP Sediment
 See Back for Additional Codes

Sample ID	Matrix Code	Date Collected	Time Collected	# Containers	Unpreserved	Preservative						Analysis and Method					Remarks/Lab ID			
						HCl	H2SO4	HNO3	NH4OH	Other	TDC	Specific Conductivity	Dissolved Metals	TSS	NO3					
01. Vault A - 062309	ww	6/23/09	845	3	1							X	X	X	X					Metals Are:
02. Vault B - 062309	ww		925	3	1							X	X	X	X					Cu, Cr, Ni, Zn
03. Vault C - 062309	ww		1000	3	1							X	X	X	X					
04. Vault D - 062309	ww		1035	3	1							X	X	X	X					
05. Vault E - 062309	ww		1110	3	1							X	X	X	X					
06. DUP-01 - 062309	ww			3	1							X	X	X	X					
07. Vault F - 062309	ww		1150	3	1							X	X	X	X					
08. SUMP A - 062309	wsW		1310	5	1	2	1	1				X	X	X	X	X				
09. SUMP B - 062309	wsW		1345	5	1	2	1	1				X	X	X	X	X				
10. SUMP C - 062309	wsW		1415	5	1	2	1	1				X	X	X	X	X				
11. SUMP D - 062309	wsW		1450	5	1	2	1	1				X	X	X	X	X				
12. SUMP E - 062309	wsW		1525	5	1	2	1	1				X	X	X	X	X				
13. DUP-02 - 062309	wsW			5	1	2	1	1				X	X	X	X	X				
14. SUMP F - 062309	wsW		1550	5	1	2	1	1				X	X	X	X	X				
15. TB-01 - 061809	ws	6/18/09		1												X				

TOTAL NUMBER OF CONTAINERS

SHIPMENT METHOD	NO. OF COOLERS	RELINQUISHED BY / AFFILIATION	DATE	TIME	RECEIVED BY / AFFILIATION	DATE	TIME
Pick up	1	Kevin Schneider OBG	6/24/09	9:38	Kevin Schneider	6-24-09	9:38
AIRBILL NO		Barbara Kral	6-24-09	1445	Barbara Kral	6-24-09	14:45

Sample Condition

Temp in C	43
Received on Ice	Y-N
Sealed Cooler	Y-N
Samples Intact	Y-N

Additional Comments:

Sampler Name: Kevin Schneider

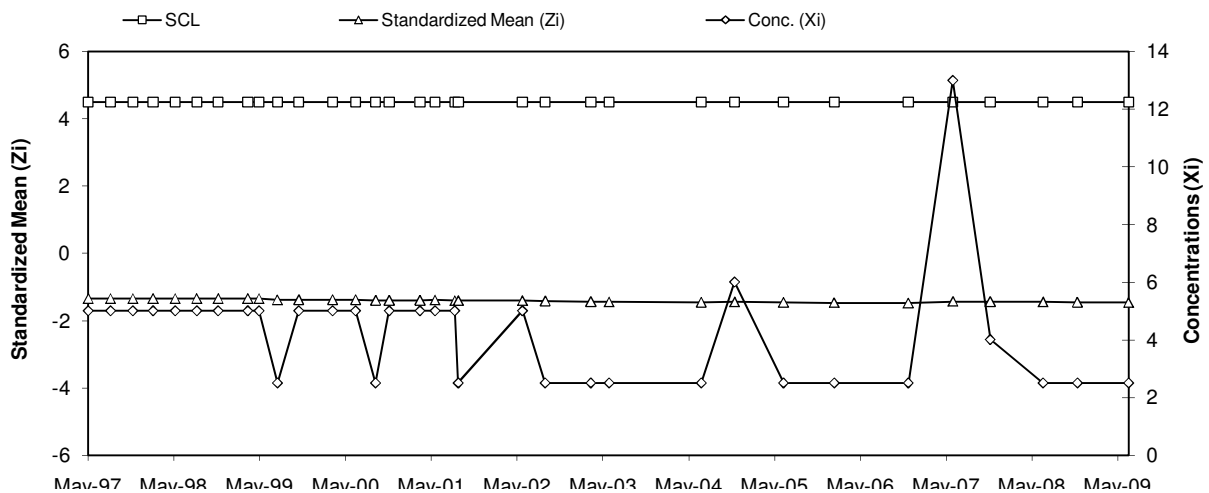
Sampler Signature: *[Signature]* Date: 6/23/09

**Leak Detection Vault
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	13.38	6.25
2	Jun-95	24		
3	Aug-95	10		
4	Nov-95	23		
5	Mar-96	10		
6	Jun-96	10		
7	Aug-96	10		
8	Nov-96	10		

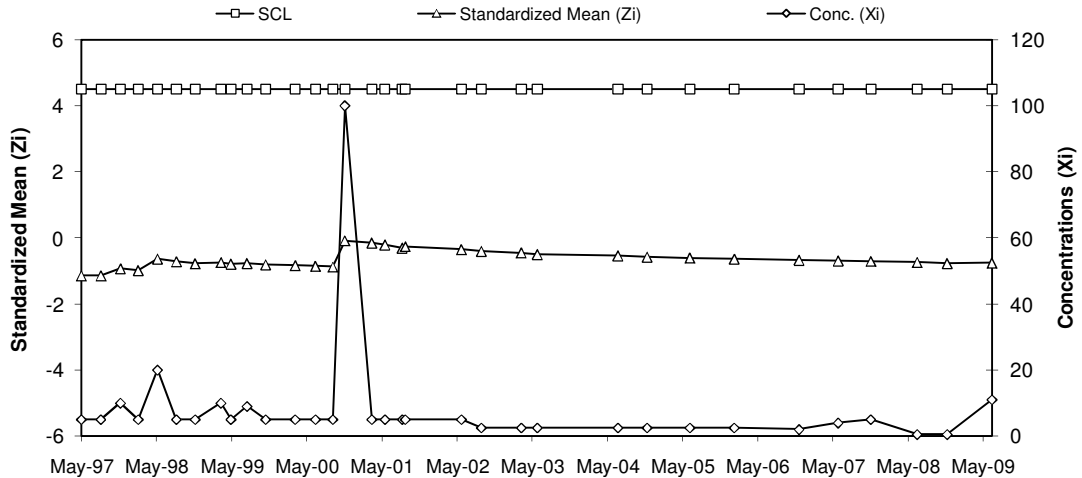
Ti	Date	SCL	Conc. (Xi)	Mean (\bar{X}_i)	Standardized Mean (Zi)
9	May-97	4.5	5	5.00	-1.34
10	Aug-97	4.5	5	5.00	-1.34
11	Nov-97	4.5	5	5.00	-1.34
12	Feb-98	4.5	5	5.00	-1.34
13	May-98	4.5	5	5.00	-1.34
14	Aug-98	4.5	5	5.00	-1.34
15	Nov-98	4.5	5	5.00	-1.34
16	Mar-99	4.5	5	5.00	-1.34
17	May-99	4.5	5	5.00	-1.34
18	Jul-99	4.5	2.5	4.75	-1.38
19	Oct-99	4.5	5	4.77	-1.38
20	Mar-00	4.5	5	4.79	-1.37
21	Jun-00	4.5	5	4.81	-1.37
22	Sep-00	4.5	2.5	4.64	-1.40
23	Nov-00	4.5	5	4.67	-1.39
24	Mar-01	4.5	5	4.69	-1.39
25	May-01	4.5	5	4.71	-1.39
26	Aug-01	4.5	2.5	4.58	-1.41
27	Aug-01	4.5	5	4.61	-1.40
28	May-02	4.5	5	4.63	-1.40
29	Sep-02	4.5	2.5	4.52	-1.42
30	Mar-03	4.5	2.5	4.43	-1.43
31	Jun-03	4.5	2.5	4.35	-1.44
32	Jun-04	4.5	2.5	4.27	-1.46
33	Nov-04	4.5	6	4.34	-1.44
34	Jun-05	4.5	2.5	4.27	-1.46
35	Jan-06	4.5	2.5	4.20	-1.47
36	Nov-06	4.5	2.5	4.14	-1.48
37	Jun-07	4.5	13	4.45	-1.43
38	Nov-07	4.5	4	4.43	-1.43
39	Jun-08	4.5	2.5	4.37	-1.44
40	Nov-08	4.5	2.5	4.31	-1.45
41	Jun-09	4.5	2.5	4.26	-1.46



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	14	7.87
2	Jun-95	21		
3	Aug-95	10		
4	Nov-95	31		
5	Mar-96	10		
6	Jun-96	10		
7	Aug-96	10		
8	Nov-96	10		

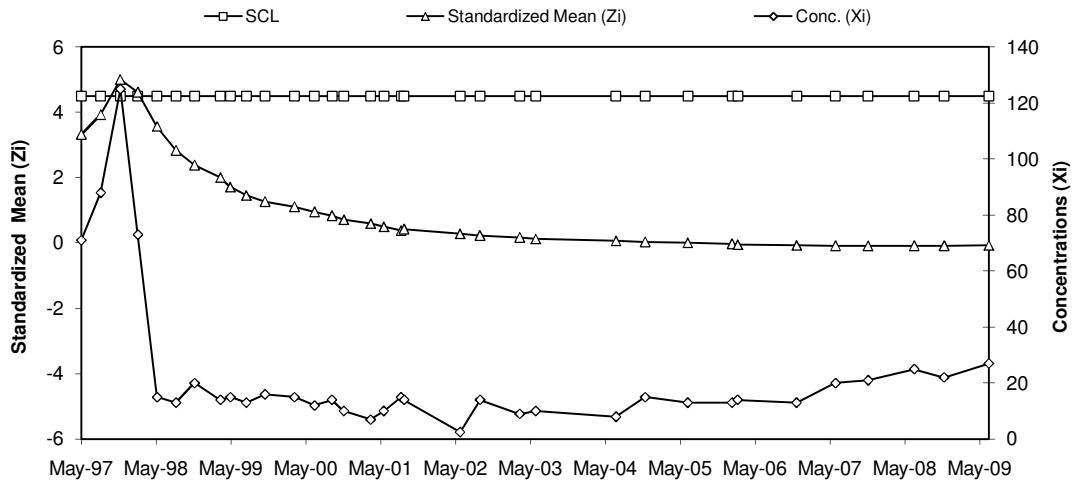
Ti	Date	SCL	Conc. (Xi)	Mean (\bar{X}_i)	Standardized Mean (Zi)
9	May-97	4.5	5	5.00	-1.14
10	Aug-97	4.5	5	5.00	-1.14
11	Nov-97	4.5	10	6.67	-0.93
12	Feb-98	4.5	5	6.25	-0.98
13	May-98	4.5	20	9.00	-0.64
14	Aug-98	4.5	5	8.33	-0.72
15	Nov-98	4.5	5	7.86	-0.78
16	Mar-99	4.5	10	8.13	-0.75
17	May-99	4.5	5	7.78	-0.79
18	Jul-99	4.5	9	7.90	-0.77
19	Oct-99	4.5	5	7.64	-0.81
20	Mar-00	4.5	5	7.42	-0.84
21	Jun-00	4.5	5	7.23	-0.86
22	Sep-00	4.5	5	7.07	-0.88
23	Nov-00	4.5	100	13.27	-0.09
24	Mar-01	4.5	5	12.75	-0.16
25	May-01	4.5	5	12.29	-0.22
26	Aug-01	4.5	5	11.89	-0.27
27	Aug-01	4.5	5	11.53	-0.31
28	May-02	4.5	5	11.20	-0.36
29	Sep-02	4.5	2.5	10.79	-0.41
30	Mar-03	4.5	2.5	10.41	-0.46
31	Jun-03	4.5	2.5	10.07	-0.50
32	Jun-04	4.5	2.5	9.75	-0.54
33	Nov-04	4.5	2.5	9.46	-0.58
34	Jun-05	4.5	2.5	9.19	-0.61
35	Jan-06	4.5	2.5	8.94	-0.64
36	Nov-06	4.5	2	8.70	-0.67
37	Jun-07	4.5	4	8.53	-0.69
38	Nov-07	4.5	5	8.42	-0.71
39	Jun-08	4.5	0.5	8.16	-0.74
40	Nov-08	4.5	0.5	7.92	-0.77
41	Jun-09	4.5	11	8.02	-0.76



**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	24.25	14.07
2	Jun-95	15		
3	Aug-95	20		
4	Nov-95	43		
5	Mar-96	46		
6	Jun-96	10		
7	Aug-96	10		
8	Nov-96	30		

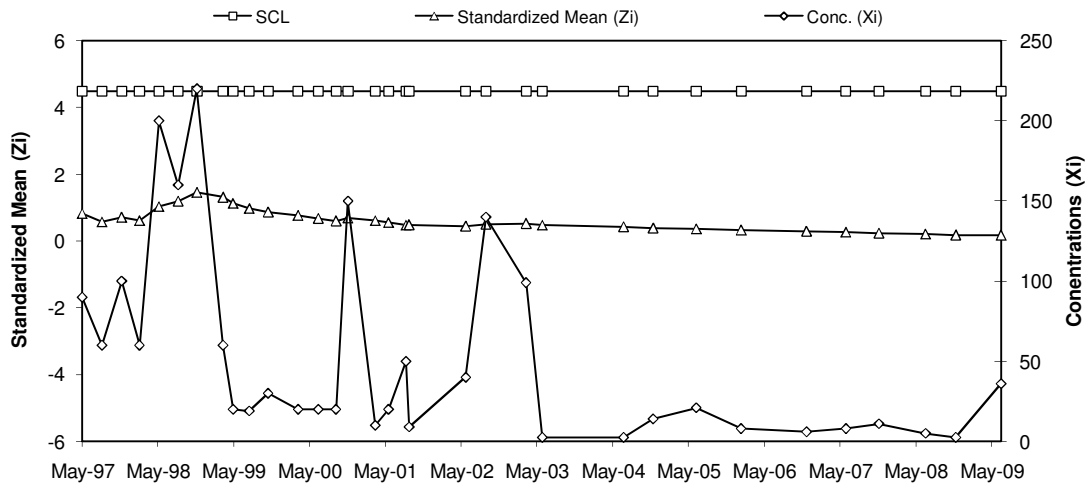
Ti	Date	SCL	Conc. (Xi)	Mean (Xi)	Standardized Mean (Zi)
9	May-97	4.5	71	71.00	3.32
10	Aug-97	4.5	88	79.50	3.93
11	Nov-97	4.5	125	94.67	5.01
12	Feb-98	4.5	73	89.25	4.62
13	May-98	4.5	15	74.40	3.56
14	Aug-98	4.5	13	64.17	2.84
15	Nov-98	4.5	20	57.86	2.39
16	Mar-99	4.5	14	52.38	2.00
17	May-99	4.5	15	48.22	1.70
18	Jul-99	4.5	13	44.70	1.45
19	Oct-99	4.5	16	42.09	1.27
20	Mar-00	4.5	15	39.83	1.11
21	Jun-00	4.5	12	37.69	0.96
22	Sep-00	4.5	14	36.00	0.84
23	Nov-00	4.5	10	34.27	0.71
24	Mar-01	4.5	7	32.56	0.59
25	May-01	4.5	10	31.24	0.50
26	Aug-01	4.5	14	30.28	0.43
27	Aug-01	4.5	15	29.47	0.37
28	May-02	4.5	2.5	28.13	0.28
29	Sep-02	4.5	14	27.45	0.23
30	Mar-03	4.5	9	26.61	0.17
31	Jun-03	4.5	10	25.89	0.12
32	Jun-04	4.5	8	25.15	0.06
33	Nov-04	4.5	15	24.74	0.03
34	Jun-05	4.5	13	24.29	0.00
35	Jan-06	4.5	13	23.87	-0.03
36	Feb-06	4.5	14	23.52	-0.05
37	Nov-06	4.5	13	23.16	-0.08
38	Jun-07	4.5	20	23.05	-0.09
39	Nov-07	4.5	21	22.98	-0.09
40	Jun-08	4.5	25	23.05	-0.09
41	Nov-08	4.5	22	23.02	-0.09
42	Jun-09	4.5	27	23.13	-0.08



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	41.75	58.47
2	Jun-95	10		
3	Aug-95	10		
4	Nov-95	24		
5	Mar-96	10		
6	Jun-96	10		
7	Aug-96	30		
8	Nov-96	60		

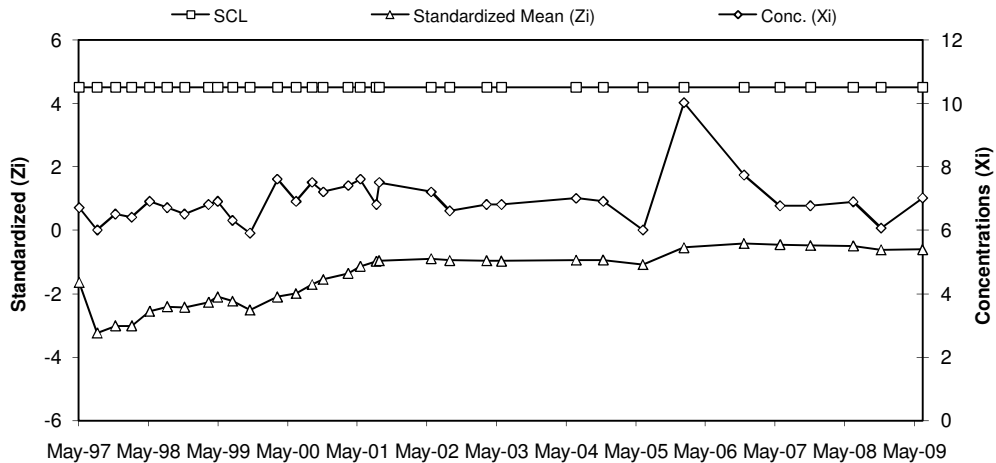
Ti	Date	SCL	Conc. (Xi)	Mean (\bar{X}_i)	Standardized Mean (Zi)
9	May-97	4.5	90	90.00	0.83
10	Aug-97	4.5	60	75.00	0.57
11	Nov-97	4.5	100	83.33	0.71
12	Feb-98	4.5	60	77.50	0.61
13	May-98	4.5	200	102.00	1.03
14	Aug-98	4.5	160	111.67	1.20
15	Nov-98	4.5	220	127.14	1.46
16	Mar-99	4.5	60	118.75	1.32
17	May-99	4.5	20	107.78	1.13
18	Jul-99	4.5	19	98.90	0.98
19	Oct-99	4.5	30	92.64	0.87
20	Mar-00	4.5	20	86.58	0.77
21	Jun-00	4.5	20	81.46	0.68
22	Sep-00	4.5	20	77.07	0.60
23	Nov-00	4.5	150	81.93	0.69
24	Mar-01	4.5	10	77.44	0.61
25	May-01	4.5	20	74.06	0.55
26	Aug-01	4.5	9	70.44	0.49
27	Aug-01	4.5	50	69.37	0.47
28	May-02	4.5	40	67.90	0.45
29	Sep-02	4.5	140	71.33	0.51
30	Mar-03	4.5	99	72.59	0.53
31	Jun-03	4.5	2.5	69.54	0.48
32	Jun-04	4.5	2.5	66.75	0.43
33	Nov-04	4.5	14	64.64	0.39
34	Jun-05	4.5	21	62.96	0.36
35	Jan-06	4.5	8	60.93	0.33
36	Nov-06	4.5	6	58.96	0.29
37	Jun-07	4.5	8	57.21	0.26
38	Nov-07	4.5	11	55.67	0.24
39	Jun-08	4.5	5	54.03	0.21
40	Nov-08	4.5	2.5	52.42	0.18
41	Jun-09	4.5	36	51.92	0.17



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

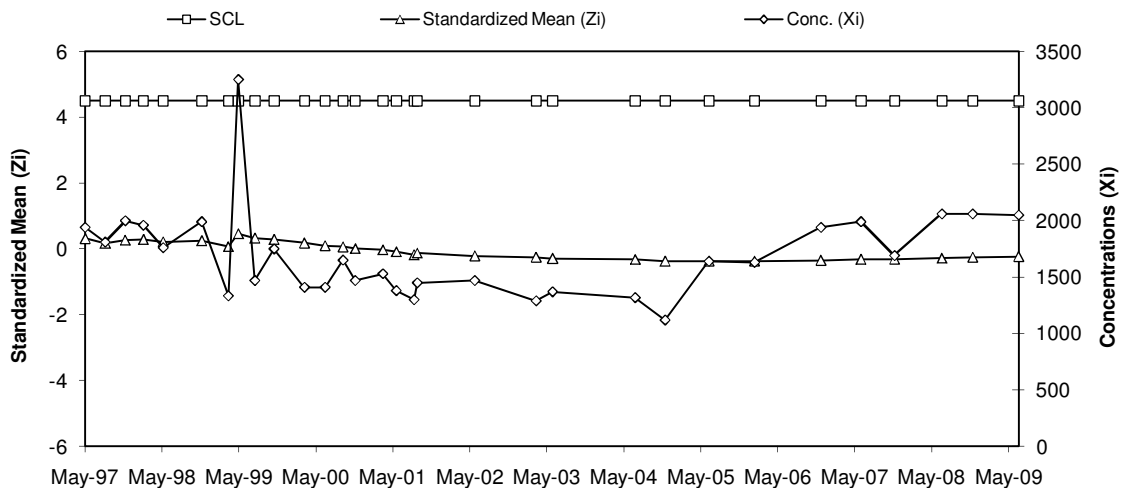
Ti	Date	SCL	Conc. (Xi)	Mean (Xi)	Standardized Mean (Zi)
9	May-97	4.5	6.7	6.70	-1.65
10	Aug-97	4.5	6	6.35	-3.24
11	Nov-97	4.5	6.5	6.40	-3.01
12	Feb-98	4.5	6.4	6.40	-3.01
13	May-98	4.5	6.9	6.50	-2.56
14	Aug-98	4.5	6.7	6.53	-2.41
15	Nov-98	4.5	6.5	6.53	-2.43
16	Mar-99	4.5	6.8	6.56	-2.27
17	May-99	4.5	6.9	6.60	-2.10
18	Jul-99	4.5	6.3	6.57	-2.24
19	Oct-99	4.5	5.9	6.51	-2.52
20	Mar-00	4.5	7.6	6.60	-2.10
21	Jun-00	4.5	6.9	6.62	-2.00
22	Sep-00	4.5	7.5	6.69	-1.71
23	Nov-00	4.5	7.2	6.72	-1.56
24	Mar-01	4.5	7.4	6.76	-1.36
25	May-01	4.5	7.6	6.81	-1.14
26	Aug-01	4.5	7.5	6.85	-0.97
27	Aug-01	4.5	6.8	6.85	-0.98
28	May-02	4.5	7.2	6.87	-0.90
29	Sep-02	4.5	6.6	6.85	-0.96
30	Mar-03	4.5	6.8	6.85	-0.97
31	Jun-03	4.5	6.8	6.85	-0.98
32	Jun-04	4.5	7	6.85	-0.95
33	Nov-04	4.5	6.9	6.86	-0.94
34	Jun-05	4.5	6	6.82	-1.09
35	Jan-06	4.5	10.0	6.94	-0.55
36	Nov-06	4.5	7.7	6.97	-0.42
37	Jun-07	4.5	6.8	6.96	-0.46
38	Nov-07	4.5	6.8	6.96	-0.49
39	Jun-08	4.5	6.9	6.95	-0.50
40	Nov-08	4.5	6.1	6.93	-0.62
41	Jun-09	4.5	7.0	6.93	-0.61



**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	1,798.75	450.73
2	Jun-95	1900		
3	Aug-95	2000		
4	Nov-95	1900		
5	Mar-96	2000		
6	Jun-96	2000		
7	Aug-96	1900		
8	Nov-96	2000		

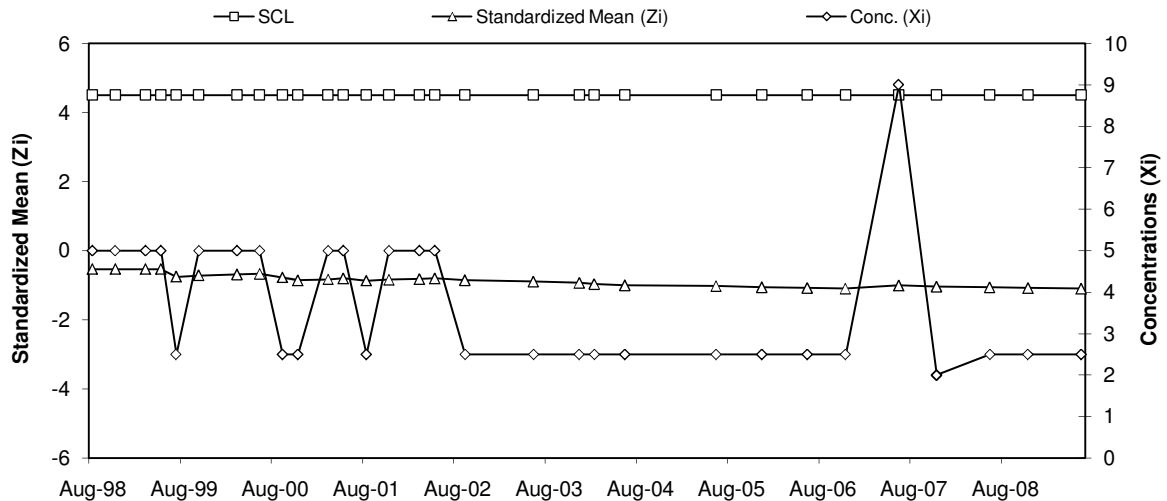
Ti	Date	SCL	Conc. (Xi)	Mean (Xi)	Standardized Mean (Zi)
9	May-97	4.5	1940	1,940.00	0.31
10	Aug-97	4.5	1810	1,875.00	0.17
11	Nov-97	4.5	2000	1,916.67	0.26
12	Feb-98	4.5	1960	1,927.50	0.29
13	May-98	4.5	1760	1,894.00	0.21
14	Nov-98	4.5	1990	1,910.00	0.25
15	Mar-99	4.5	1334	1,827.71	0.06
16	May-99	4.5	3250	2,005.50	0.46
17	Jul-99	4.5	1470	1,946.00	0.33
18	Oct-99	4.5	1750	1,926.40	0.28
19	Mar-00	4.5	1410	1,879.45	0.18
20	Jun-00	4.5	1410	1,840.33	0.09
21	Sep-00	4.5	1650	1,825.69	0.06
22	Nov-00	4.5	1470	1,800.29	0.00
23	Mar-01	4.5	1530	1,782.27	-0.04
24	May-01	4.5	1380	1,757.13	-0.09
25	Aug-01	4.5	1450	1,739.06	-0.13
26	Aug-01	4.5	1300	1,714.67	-0.19
27	May-02	4.5	1470	1,701.79	-0.22
28	Mar-03	4.5	1290	1,681.20	-0.26
29	Jun-03	4.5	1370	1,666.38	-0.29
30	Jun-04	4.5	1318	1,650.55	-0.33
31	Nov-04	4.5	1120	1,627.48	-0.38
32	Jun-05	4.5	1640	1,628.00	-0.38
33	Jan-06	4.5	1630	1,628.08	-0.38
34	Nov-06	4.5	1940	1,640.08	-0.35
35	Jun-07	4.5	1990	1,653.04	-0.32
36	Nov-07	4.5	1690	1,654.36	-0.32
37	Jun-08	4.5	2060	1,668.34	-0.29
38	Nov-08	4.5	2060	1,681.40	-0.26
39	Jun-09	4.5	2050	1,693.29	-0.23



**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	6.25	2.31
2	Nov-96	10		
3	Feb-97	5		
4	May-97	5		
5	Aug-97	5		
6	Nov-97	5		
7	Feb-98	5		
8	May-98	5		

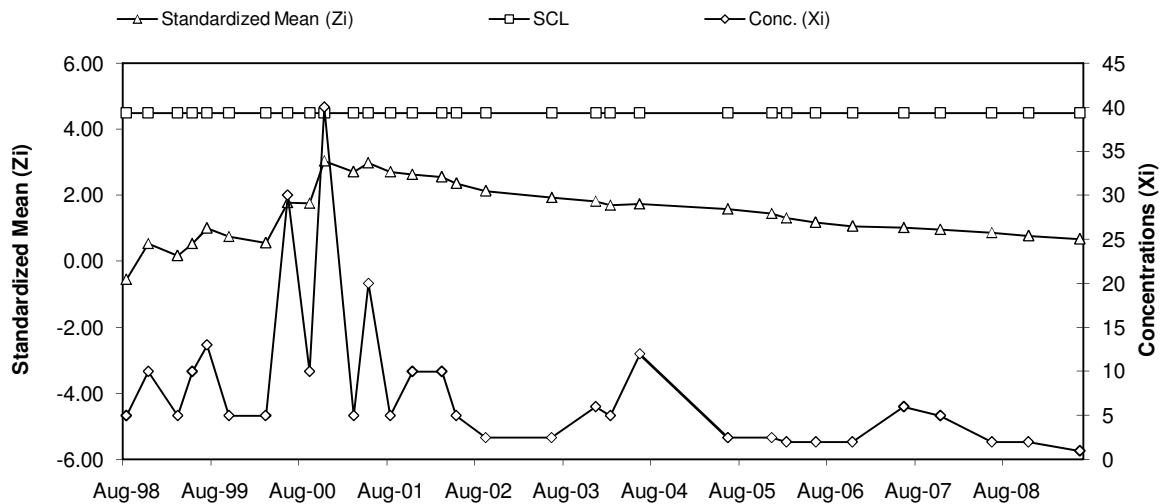
Ti	Date	SCL	Conc. (Xi)	Mean (\bar{X}_i)	Standardized Mean (Zi)
9	Aug-98	4.5	5	5.00	-0.54
10	Nov-98	4.5	5	5.00	-0.54
11	Mar-99	4.5	5	5.00	-0.54
12	May-99	4.5	5	5.00	-0.54
13	Jul-99	4.5	2.5	4.50	-0.76
14	Oct-99	4.5	5	4.58	-0.72
15	Mar-00	4.5	5	4.64	-0.69
16	Jun-00	4.5	5	4.69	-0.68
17	Sep-00	4.5	2.5	4.44	-0.78
18	Nov-00	4.5	2.5	4.25	-0.86
19	Mar-01	4.5	5	4.32	-0.83
20	May-01	4.5	5	4.38	-0.81
21	Aug-01	4.5	2.5	4.23	-0.87
22	Nov-01	4.5	5	4.29	-0.85
23	Mar-02	4.5	5	4.33	-0.83
24	May-02	4.5	5	4.38	-0.81
25	Sep-02	4.5	2.5	4.26	-0.86
26	Jun-03	4.5	2.5	4.17	-0.90
27	Dec-03	4.5	2.5	4.08	-0.94
28	Feb-04	4.5	2.5	4.00	-0.97
29	Jun-04	4.5	2.5	3.93	-1.00
30	Jun-05	4.5	2.5	3.86	-1.03
31	Dec-05	4.5	2.5	3.80	-1.06
32	Jun-06	4.5	2.5	3.75	-1.08
33	Nov-06	4.5	2.5	3.70	-1.10
34	Jun-07	4.5	9	3.90	-1.01
35	Nov-07	4.5	2	3.83	-1.04
36	Jun-08	4.5	2.5	3.79	-1.06
37	Nov-08	4.5	2.5	3.74	-1.08
38	Jun-09	4.5	2.5	3.70	-1.10



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	6.25	2.31
2	Nov-96	10		
3	Feb-97	5		
4	May-97	5		
5	Aug-97	5		
6	Nov-97	5		
7	Feb-98	5		
8	May-98	5		

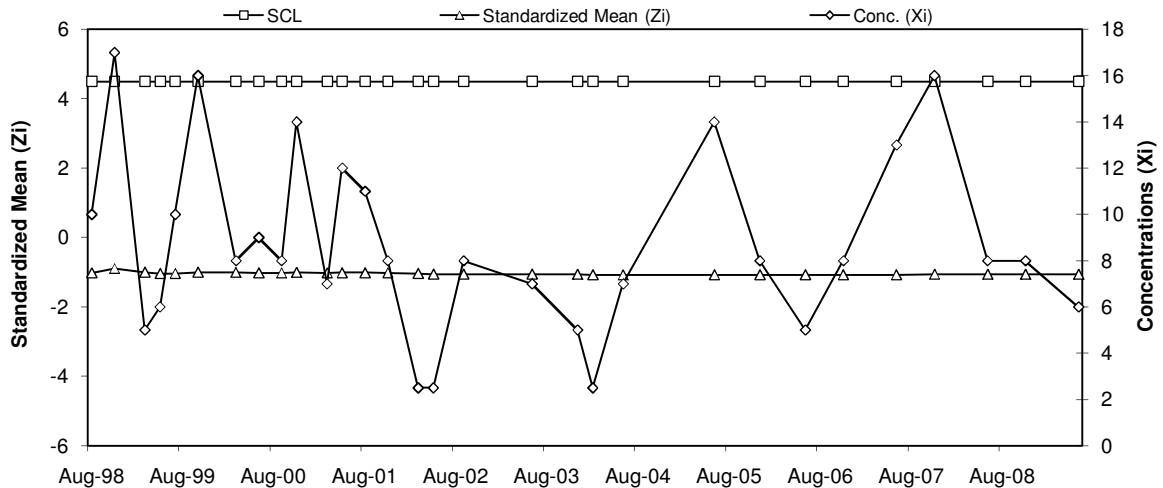
Ti	Date	SCL	Conc. (Xi)	Mean (\bar{X}_i)	Standardized Mean (Zi)
9	Aug-98	4.5	5	5.00	-0.54
10	Nov-98	4.5	10	7.50	0.54
11	Mar-99	4.5	5	6.67	0.18
12	May-99	4.5	10	7.50	0.54
13	Jul-99	4.5	13	8.60	1.02
14	Oct-99	4.5	5	8.00	0.76
15	Mar-00	4.5	5	7.57	0.57
16	Jun-00	4.5	30	10.38	1.78
17	Sep-00	4.5	10	10.33	1.76
18	Nov-00	4.5	40	13.30	3.05
19	Mar-01	4.5	5	12.55	2.72
20	May-01	4.5	20	13.17	2.99
21	Aug-01	4.5	5	12.54	2.72
22	Nov-01	4.5	10	12.36	2.64
23	Mar-02	4.5	10	12.20	2.57
24	May-02	4.5	5	11.75	2.38
25	Sep-02	4.5	2.5	11.21	2.14
26	Jun-03	4.5	2.5	10.72	1.93
27	Dec-03	4.5	6	10.47	1.82
28	Feb-04	4.5	5	10.20	1.71
29	Jun-04	4.5	12	10.29	1.74
30	Jun-05	4.5	2.5	9.93	1.59
31	Dec-05	4.5	2.5	9.61	1.45
32	Feb-06	4.5	2	9.29	1.31
33	Jun-06	4.5	2	9.00	1.19
34	Nov-06	4.5	2	8.73	1.07
35	Jun-07	4.5	6	8.63	1.03
36	Nov-07	4.5	5	8.50	0.97
37	Jun-08	4.5	2	8.28	0.88
38	Nov-08	4.5	2	8.07	0.78
39	Jun-09	4.5	1	7.84	0.69



**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	38.88	28.34
2	Nov-96	20		
3	Feb-97	43		
4	May-97	45		
5	Aug-97	26		
6	Nov-97	96		
7	Feb-98	57		
8	May-98	14		

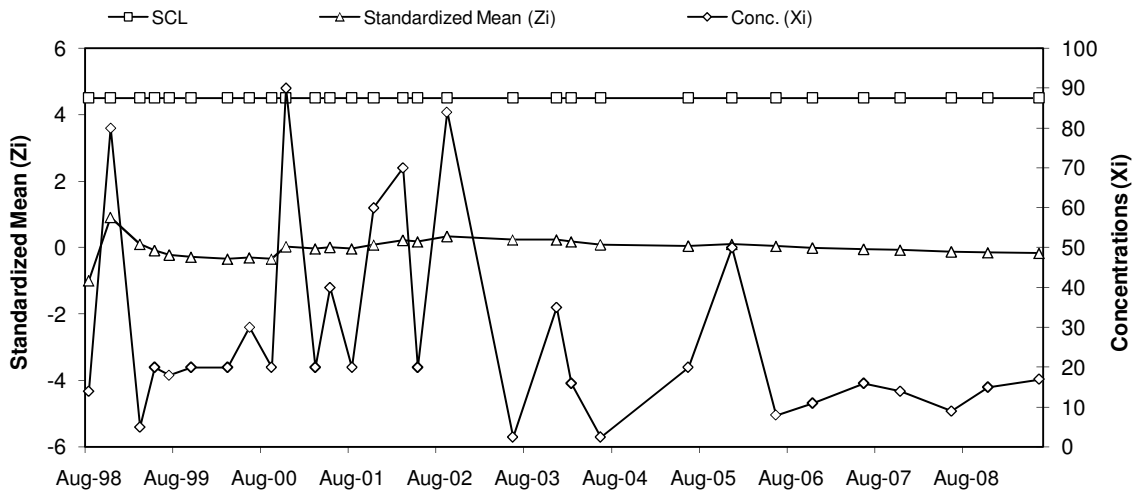
Ti	Date	SCL	Conc. (Xi)	Mean (Xi)	Standardized Mean (Zi)
9	Aug-98	4.5	10	10.00	-1.02
10	Nov-98	4.5	17	13.50	-0.90
11	Mar-99	4.5	5	10.67	-1.00
12	May-99	4.5	6	9.50	-1.04
13	Jul-99	4.5	10	9.60	-1.03
14	Oct-99	4.5	16	10.67	-1.00
15	Mar-00	4.5	8	10.29	-1.01
16	Jun-00	4.5	9	10.13	-1.01
17	Sep-00	4.5	8	9.89	-1.02
18	Nov-00	4.5	14	10.30	-1.01
19	Mar-01	4.5	7	10.00	-1.02
20	May-01	4.5	12	10.17	-1.01
21	Aug-01	4.5	11	10.23	-1.01
22	Nov-01	4.5	8	10.07	-1.02
23	Mar-02	4.5	2.5	9.57	-1.03
24	May-02	4.5	2.5	9.13	-1.05
25	Sep-02	4.5	8	9.06	-1.05
26	Jun-03	4.5	7	8.94	-1.06
27	Dec-03	4.5	5	8.74	-1.06
28	Feb-04	4.5	2.5	8.43	-1.07
29	Jun-04	4.5	7	8.36	-1.08
30	Jun-05	4.5	14	8.61	-1.07
31	Dec-05	4.5	8	8.59	-1.07
32	Jun-06	4.5	5	8.44	-1.07
33	Nov-06	4.5	8	8.42	-1.07
34	Jun-07	4.5	13	8.60	-1.07
35	Nov-07	4.5	16	8.87	-1.06
36	Jun-08	4.5	8	8.84	-1.06
37	Nov-08	4.5	8	8.81	-1.06
38	Jun-09	4.5	6	8.72	-1.06



**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	31.25	17.27
2	Nov-96	40		
3	Feb-97	20		
4	May-97	20		
5	Aug-97	60		
6	Nov-97	50		
7	Feb-98	20		
8	May-98	30		

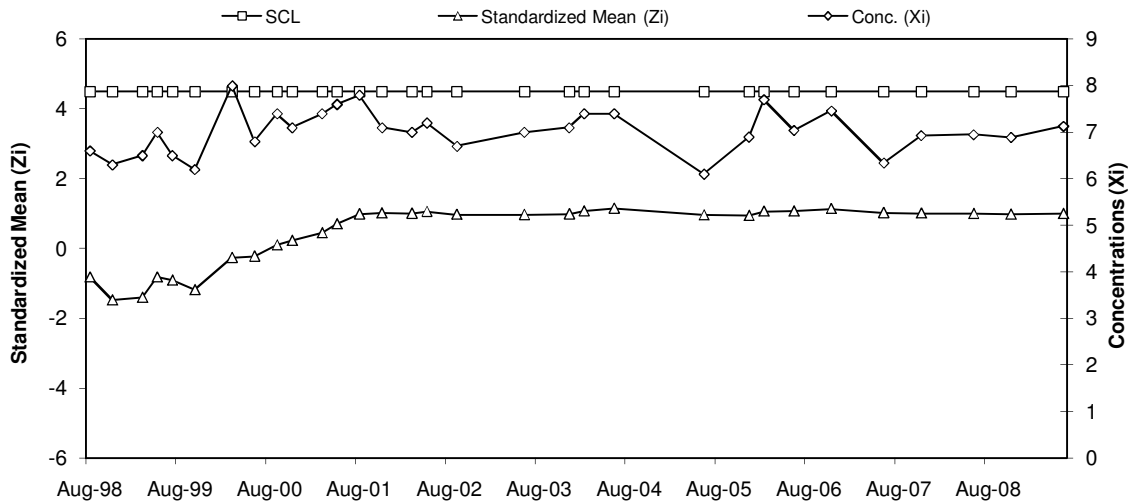
Ti	Date	SCL	Conc. (Xi)	Mean (\bar{X}_i)	Standardized Mean (Zi)
9	Aug-98	4.5	14	14.00	-1.00
10	Nov-98	4.5	80	47.00	0.91
11	Mar-99	4.5	5	33.00	0.10
12	May-99	4.5	20	29.75	-0.09
13	Jul-99	4.5	18	27.40	-0.22
14	Oct-99	4.5	20	26.17	-0.29
15	Mar-00	4.5	20	25.29	-0.35
16	Jun-00	4.5	30	25.88	-0.31
17	Sep-00	4.5	20	25.22	-0.35
18	Nov-00	4.5	90	31.70	0.03
19	Mar-01	4.5	20	30.64	-0.04
20	May-01	4.5	40	31.42	0.01
21	Aug-01	4.5	20	30.54	-0.04
22	Nov-01	4.5	60	32.64	0.08
23	Mar-02	4.5	70	35.13	0.22
24	May-02	4.5	20	34.19	0.17
25	Sep-02	4.5	84	37.12	0.34
26	Jun-03	4.5	2.5	35.19	0.23
27	Dec-03	4.5	35	35.18	0.23
28	Feb-04	4.5	16	34.23	0.17
29	Jun-04	4.5	2.5	32.71	0.08
30	Jun-05	4.5	20	32.14	0.05
31	Dec-05	4.5	50	32.91	0.10
32	Jun-06	4.5	8	31.88	0.04
33	Nov-06	4.5	11	31.04	-0.01
34	Jun-07	4.5	16	30.46	-0.05
35	Nov-07	4.5	14	29.85	-0.08
36	Jun-08	4.5	9	29.11	-0.12
37	Nov-08	4.5	15	28.62	-0.15
38	Jun-09	4.5	17	28.23	-0.17



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

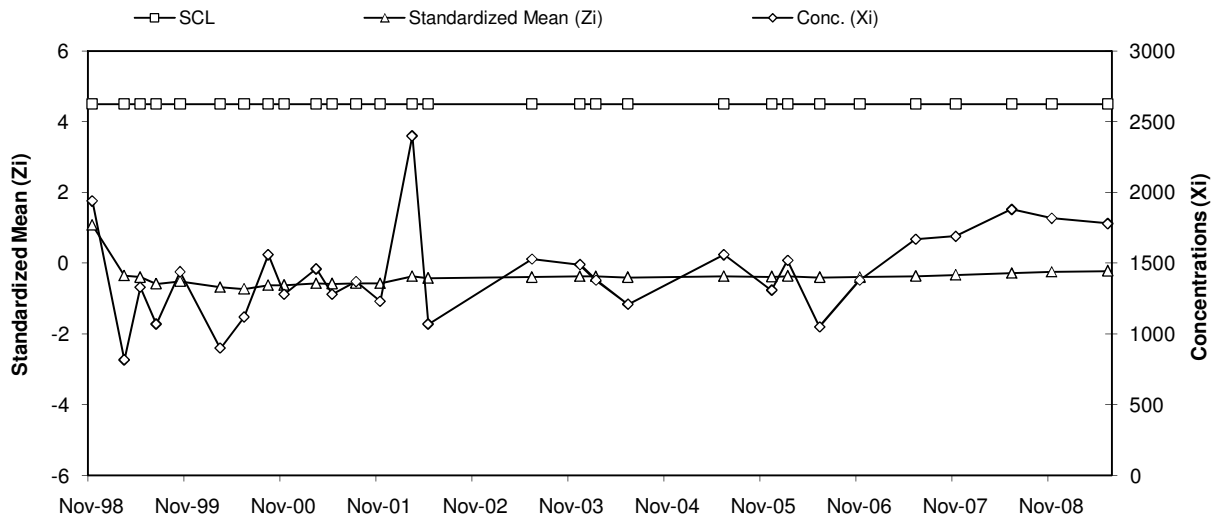
Ti	Date	SCL	Conc. (Xi)	Mean (Xi)	Standardized Mean (Zi)
9	Aug-98	4.5	6.6	6.60	-0.82
10	Nov-98	4.5	6.3	6.45	-1.47
11	Mar-99	4.5	6.5	6.47	-1.40
12	May-99	4.5	7	6.60	-0.82
13	Jul-99	4.5	6.5	6.58	-0.90
14	Oct-99	4.5	6.2	6.52	-1.18
15	Mar-00	4.5	8	6.73	-0.26
16	Jun-00	4.5	6.8	6.74	-0.22
17	Sep-00	4.5	7.4	6.81	0.10
18	Nov-00	4.5	7.1	6.84	0.23
19	Mar-01	4.5	7.4	6.89	0.45
20	May-01	4.5	7.6	6.95	0.71
21	Aug-01	4.5	7.8	7.02	0.99
22	Nov-01	4.5	7.1	7.02	1.02
23	Mar-02	4.5	7	7.02	1.01
24	May-02	4.5	7.2	7.03	1.06
25	Sep-02	4.5	6.7	7.01	0.98
26	Jun-03	4.5	7	7.01	0.97
27	Dec-03	4.5	7.1	7.02	0.99
28	Feb-04	4.5	7.4	7.04	1.08
29	Jun-04	4.5	7.4	7.05	1.15
30	Jun-05	4.5	6.1	7.01	0.97
31	Dec-05	4.5	6.9	7.00	0.94
32	Feb-06	4.5	7.7	7.03	1.07
33	Jun-06	4.5	7.0	7.03	1.07
34	Nov-06	4.5	7.5	7.05	1.14
35	Jun-07	4.5	6.3	7.02	1.03
36	Nov-07	4.5	6.9	7.02	1.01
37	Jun-08	4.5	7.0	7.02	1.00
38	Nov-08	4.5	6.9	7.01	0.99
39	Jun-09	4.5	7.1	7.02	1.00



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	1,516.63	391.89
2	Nov-96	1600		
3	Feb-97	1590		
4	May-97	1930		
5	Aug-97	663		
6	Nov-97	1400		
7	Feb-98	1560		
8	May-98	1490		

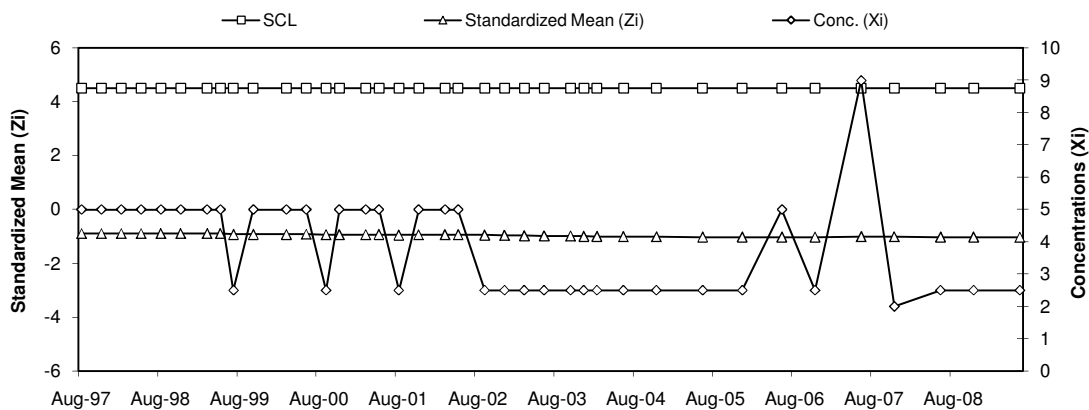
Ti	Date	SCL	Conc. (Xi)	Mean (Xi)	Standardized Mean (Zi)
9	Nov-98	4.5	1940	1,940.00	1.08
10	Mar-99	4.5	817	1,378.50	-0.35
11	May-99	4.5	1330	1,362.33	-0.39
12	Jul-99	4.5	1070	1,289.25	-0.58
13	Oct-99	4.5	1440	1,319.40	-0.50
14	Mar-00	4.5	900	1,249.50	-0.68
15	Jun-00	4.5	1120	1,231.00	-0.73
16	Sep-00	4.5	1560	1,272.13	-0.62
17	Nov-00	4.5	1280	1,273.00	-0.62
18	Mar-01	4.5	1460	1,291.70	-0.57
19	May-01	4.5	1280	1,290.64	-0.58
20	Aug-01	4.5	1370	1,297.25	-0.56
21	Nov-01	4.5	1230	1,292.08	-0.57
22	Mar-02	4.5	2400	1,371.21	-0.37
23	May-02	4.5	1070	1,351.13	-0.42
24	Jun-03	4.5	1530	1,362.31	-0.39
25	Dec-03	4.5	1490	1,369.82	-0.37
26	Feb-04	4.5	1380	1,370.39	-0.37
27	Jun-04	4.5	1210	1,361.95	-0.39
28	Jun-05	4.5	1560	1,371.85	-0.37
29	Dec-05	4.5	1310	1,368.90	-0.38
30	Feb-06	4.5	1520	1,375.77	-0.36
31	Jun-06	4.5	1050	1,361.61	-0.40
32	Nov-06	4.5	1380	1,362.38	-0.39
33	Jun-07	4.5	1670	1,374.68	-0.36
34	Nov-07	4.5	1690	1,386.81	-0.33
35	Jun-08	4.5	1880	1,405.07	-0.28
36	Nov-08	4.5	1818	1,419.82	-0.25
37	Jun-09	4.5	1780	1,432.24	-0.22



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	13.00	8.98
2	Aug-95	10		
3	Nov-95	29		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	Feb-97	5		
8	May-97	5		

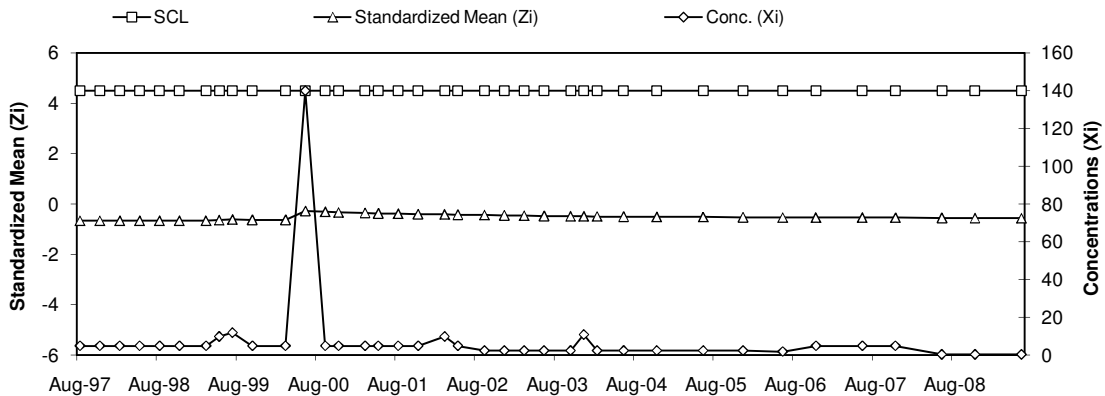
Ti	Date	SCL	Conc. (Xi)	Mean (\bar{X}_i)	Standardized Mean (Zi)
9	Aug-97	4.5	5	5.00	-0.89
10	Nov-97	4.5	5	5.00	-0.89
11	Feb-98	4.5	5	5.00	-0.89
12	May-98	4.5	5	5.00	-0.89
14	Aug-98	4.5	5	5.00	-0.89
15	Nov-98	4.5	5	5.00	-0.89
16	Mar-99	4.5	5	5.00	-0.89
17	May-99	4.5	5	5.00	-0.89
18	Jul-99	4.5	2.5	4.72	-0.92
19	Oct-99	4.5	5	4.75	-0.92
20	Mar-00	4.5	5	4.77	-0.92
21	Jun-00	4.5	5	4.79	-0.91
22	Sep-00	4.5	2.5	4.62	-0.93
23	Nov-00	4.5	5	4.64	-0.93
24	Mar-01	4.5	5	4.67	-0.93
25	May-01	4.5	5	4.69	-0.93
26	Aug-01	4.5	2.5	4.56	-0.94
27	Nov-01	4.5	5	4.58	-0.94
28	Mar-02	4.5	5	4.61	-0.94
29	May-02	4.5	5	4.63	-0.93
30	Sep-02	4.5	2.5	4.52	-0.94
31	Dec-02	4.5	2.5	4.43	-0.95
32	Mar-03	4.5	2.5	4.35	-0.96
33	Jun-03	4.5	2.5	4.27	-0.97
34	Oct-03	4.5	2.5	4.20	-0.98
35	Dec-03	4.5	2.5	4.13	-0.99
36	Feb-04	4.5	2.5	4.07	-0.99
37	Jun-04	4.5	2.5	4.02	-1.00
38	Nov-04	4.5	2.5	3.97	-1.01
39	Jun-05	4.5	2.5	3.92	-1.01
40	Dec-05	4.5	2.5	3.87	-1.02
41	Jun-06	4.5	5	3.91	-1.01
42	Nov-06	4.5	2.5	3.86	-1.02
43	Jun-07	4.5	9	4.01	-1.00
44	Nov-07	4.5	2	3.96	-1.01
45	Jun-08	4.5	2.5	3.92	-1.01
46	Nov-08	4.5	2.5	3.88	-1.02
47	Jun-09	4.5	2.5	3.84	-1.02



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	25.88	31.76
2	Aug-95	10		
3	Nov-95	37		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	Feb-97	5		
8	May-97	100		

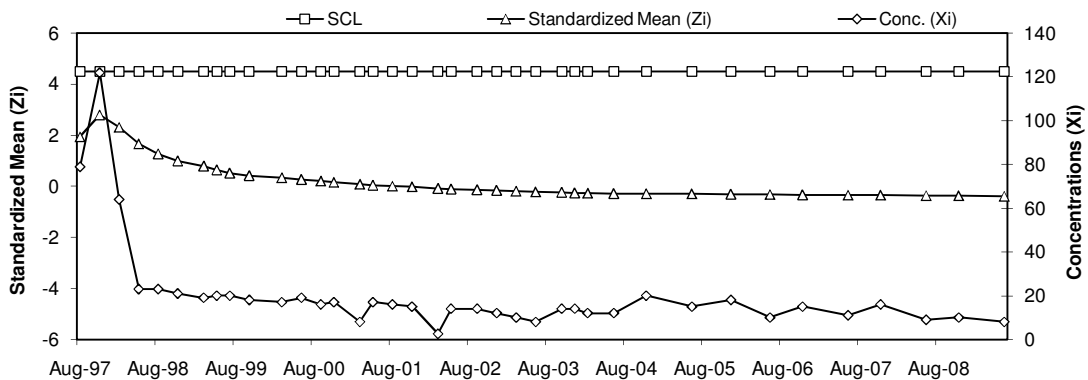
Ti	Date	SCL	Conc. (Xi)	Mean (\bar{X}_i)	Standardized Mean (Zi)
9	Aug-97	4.5	5	5.00	-0.66
10	Nov-97	4.5	5	5.00	-0.66
11	Feb-98	4.5	5	5.00	-0.66
12	May-98	4.5	5	5.00	-0.66
14	Aug-98	4.5	5	5.00	-0.66
15	Nov-98	4.5	5	5.00	-0.66
16	Mar-99	4.5	5	5.00	-0.66
17	May-99	4.5	10	5.63	-0.64
18	Jul-99	4.5	12	6.33	-0.62
19	Oct-99	4.5	5	6.20	-0.62
20	Mar-00	4.5	5	6.09	-0.62
21	Jun-00	4.5	140	17.25	-0.27
22	Sep-00	4.5	5	16.31	-0.30
23	Nov-00	4.5	5	15.50	-0.33
24	Mar-01	4.5	5	14.80	-0.35
25	May-01	4.5	5	14.19	-0.37
26	Aug-01	4.5	5	13.65	-0.38
27	Nov-01	4.5	5	13.17	-0.40
28	Mar-02	4.5	10	13.00	-0.41
29	May-02	4.5	5	12.60	-0.42
30	Sep-02	4.5	2.5	12.12	-0.43
31	Dec-02	4.5	2.5	11.68	-0.45
32	Mar-03	4.5	2.5	11.28	-0.46
33	Jun-03	4.5	2.5	10.92	-0.47
34	Oct-03	4.5	2.5	10.58	-0.48
35	Dec-03	4.5	11	10.60	-0.48
36	Feb-04	4.5	2.5	10.30	-0.49
37	Jun-04	4.5	2.5	10.02	-0.50
38	Nov-04	4.5	2.5	9.76	-0.51
39	Jun-05	4.5	2.5	9.52	-0.51
40	Dec-05	4.5	2.5	9.29	-0.52
41	Jun-06	4.5	2	9.06	-0.53
42	Nov-06	4.5	5	8.94	-0.53
43	Jun-07	4.5	5	8.82	-0.54
44	Nov-07	4.5	5	8.71	-0.54
45	Jun-08	4.5	0.5	8.49	-0.55
46	Nov-08	4.5	0.5	8.27	-0.55
47	Jun-09	4.5	0.5	8.07	-0.56



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	30.38	25.11
2	Aug-95	20		
3	Nov-95	67		
4	Jun-96	10		
5	Aug-96	10		
6	Nov-96	10		
7	Feb-97	45		
8	May-97	66		

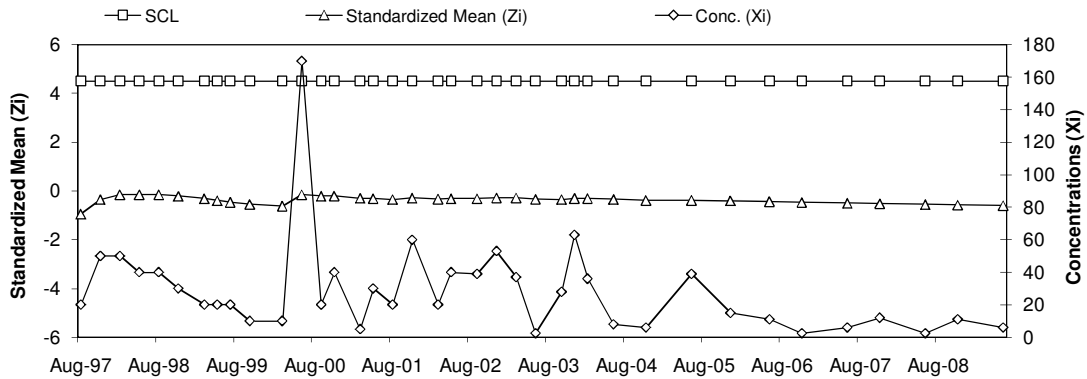
Ti	Date	SCL	Conc. (Xi)	Mean (\bar{X}_i)	Standardized Mean (Zi)
9	Aug-97	4.5	79	79.00	1.94
10	Nov-97	4.5	122	100.50	2.79
11	Feb-98	4.5	64	88.33	2.31
12	May-98	4.5	23	72.00	1.66
14	Aug-98	4.5	23	62.20	1.27
15	Nov-98	4.5	21	55.33	0.99
16	Mar-99	4.5	19	50.14	0.79
17	May-99	4.5	20	46.38	0.64
18	Jul-99	4.5	20	43.44	0.52
19	Oct-99	4.5	18	40.90	0.42
20	Mar-00	4.5	17	38.73	0.33
21	Jun-00	4.5	19	37.08	0.27
22	Sep-00	4.5	16	35.46	0.20
23	Nov-00	4.5	17	34.14	0.15
24	Mar-01	4.5	8	32.40	0.08
25	May-01	4.5	17	31.44	0.04
26	Aug-01	4.5	16	30.53	0.01
27	Nov-01	4.5	15	29.67	-0.03
28	Mar-02	4.5	2.5	28.24	-0.09
29	May-02	4.5	14	27.53	-0.11
30	Sep-02	4.5	14	26.88	-0.14
31	Dec-02	4.5	12	26.20	-0.17
32	Mar-03	4.5	10	25.50	-0.19
33	Jun-03	4.5	8	24.77	-0.22
34	Oct-03	4.5	14	24.34	-0.24
35	Dec-03	4.5	14	23.94	-0.26
36	Feb-04	4.5	12	23.50	-0.27
37	Jun-04	4.5	12	23.09	-0.29
38	Nov-04	4.5	20	22.98	-0.29
39	Jun-05	4.5	15	22.72	-0.30
40	Dec-05	4.5	18	22.56	-0.31
41	Jun-06	4.5	10	22.17	-0.33
42	Nov-06	4.5	15	21.95	-0.34
43	Jun-07	4.5	11	21.63	-0.35
44	Nov-07	4.5	16	21.47	-0.35
45	Jun-08	4.5	9	21.13	-0.37
46	Nov-08	4.5	10	20.82	-0.38
47	Jun-09	4.5	8	20.49	-0.39



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	43.75	25.24
2	Aug-95	74		
3	Nov-95	36		
4	Jun-96	10		
5	Aug-96	40		
6	Nov-96	80		
7	Feb-97	30		
8	May-97	20		

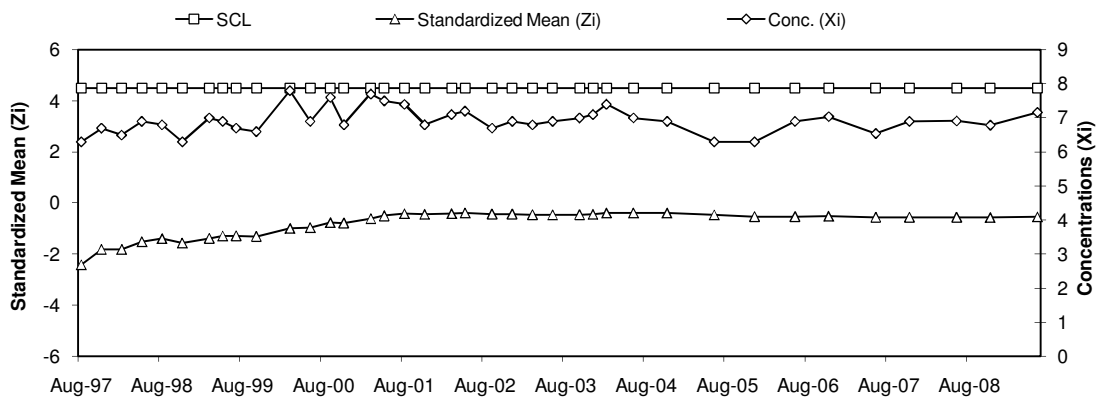
Ti	Date	SCL	Conc. (Xi)	Mean (Xi)	Standardized Mean (Zi)
9	Aug-97	4.5	20	20.00	-0.94
10	Nov-97	4.5	50	35.00	-0.35
11	Feb-98	4.5	50	40.00	-0.15
12	May-98	4.5	40	40.00	-0.15
14	Aug-98	4.5	40	40.00	-0.15
15	Nov-98	4.5	30	38.33	-0.21
16	Mar-99	4.5	20	35.71	-0.32
17	May-99	4.5	20	33.75	-0.40
18	Jul-99	4.5	20	32.22	-0.46
19	Oct-99	4.5	10	30.00	-0.54
20	Mar-00	4.5	10	28.18	-0.62
21	Jun-00	4.5	170	40.00	-0.15
22	Sep-00	4.5	20	38.46	-0.21
23	Nov-00	4.5	40	38.57	-0.21
24	Mar-01	4.5	5	36.33	-0.29
25	May-01	4.5	30	35.94	-0.31
26	Aug-01	4.5	20	35.00	-0.35
27	Nov-01	4.5	60	36.39	-0.29
28	Mar-02	4.5	20	35.53	-0.33
29	May-02	4.5	40	35.75	-0.32
30	Sep-02	4.5	39	35.90	-0.31
31	Dec-02	4.5	53	36.68	-0.28
32	Mar-03	4.5	37	36.70	-0.28
33	Jun-03	4.5	2.5	35.27	-0.34
34	Oct-03	4.5	28	34.98	-0.35
35	Dec-03	4.5	63	36.06	-0.30
36	Feb-04	4.5	36	36.06	-0.30
37	Jun-04	4.5	8	35.05	-0.34
38	Nov-04	4.5	6	34.05	-0.38
39	Jun-05	4.5	39	34.22	-0.38
40	Dec-05	4.5	15	33.60	-0.40
41	Jun-06	4.5	11	32.89	-0.43
42	Nov-06	4.5	2.5	31.97	-0.47
43	Jun-07	4.5	6	31.21	-0.50
44	Nov-07	4.5	12	30.66	-0.52
45	Jun-08	4.5	2.5	29.88	-0.55
46	Nov-08	4.5	11	29.36	-0.57
47	Jun-09	4.5	6	28.75	-0.59



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

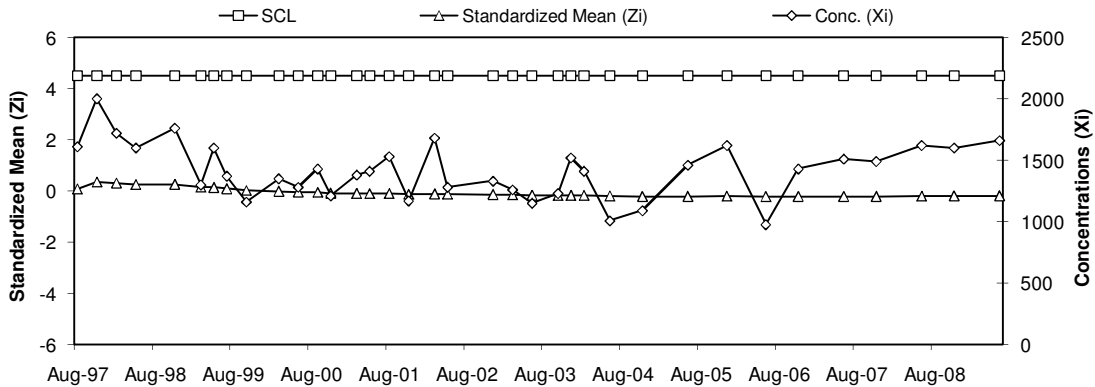
Ti	Date	SCL	Conc. (Xi)	Mean (\bar{X}_i)	Standardized Mean (Zi)
9	Aug-97	4.5	6.3	6.30	-2.40
10	Nov-97	4.5	6.7	6.50	-1.80
11	Feb-98	4.5	6.5	6.50	-1.80
12	May-98	4.5	6.9	6.60	-1.50
14	Aug-98	4.5	6.8	6.64	-1.38
15	Nov-98	4.5	6.3	6.58	-1.55
16	Mar-99	4.5	7	6.64	-1.37
17	May-99	4.5	6.9	6.68	-1.27
18	Jul-99	4.5	6.7	6.68	-1.26
19	Oct-99	4.5	6.6	6.67	-1.29
20	Mar-00	4.5	7.8	6.77	-0.98
21	Jun-00	4.5	6.9	6.78	-0.95
22	Sep-00	4.5	7.6	6.85	-0.76
23	Nov-00	4.5	6.8	6.84	-0.77
24	Mar-01	4.5	7.7	6.90	-0.60
25	May-01	4.5	7.5	6.94	-0.49
26	Aug-01	4.5	7.4	6.96	-0.41
27	Nov-01	4.5	6.8	6.96	-0.43
28	Mar-02	4.5	7.1	6.96	-0.41
29	May-02	4.5	7.2	6.98	-0.37
30	Sep-02	4.5	6.7	6.96	-0.41
31	Dec-02	4.5	6.9	6.96	-0.42
32	Mar-03	4.5	6.8	6.95	-0.44
33	Jun-03	4.5	6.9	6.95	-0.45
34	Oct-03	4.5	7	6.95	-0.44
35	Dec-03	4.5	7.1	6.96	-0.43
36	Feb-04	4.5	7.4	6.97	-0.38
37	Jun-04	4.5	7	6.98	-0.37
38	Nov-04	4.5	6.9	6.97	-0.38
39	Jun-05	4.5	6.3	6.95	-0.45
40	Dec-05	4.5	6.3	6.93	-0.51
41	Jun-06	4.5	6.9	6.93	-0.51
42	Nov-06	4.5	7.0	6.93	-0.50
43	Jun-07	4.5	6.5	6.92	-0.54
44	Nov-07	4.5	6.9	6.92	-0.54
45	Jun-08	4.5	6.9	6.92	-0.54
46	Nov-08	4.5	6.8	6.92	-0.55
47	Jun-09	4.5	7.2	6.92	-0.53



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	1,551.25	716.19
2	Aug-95	340		
3	Nov-95	2200		
4	Jun-96	2000		
5	Aug-96	1900		
6	Nov-96	2100		
7	Feb-97	1610		
8	May-97	1730		

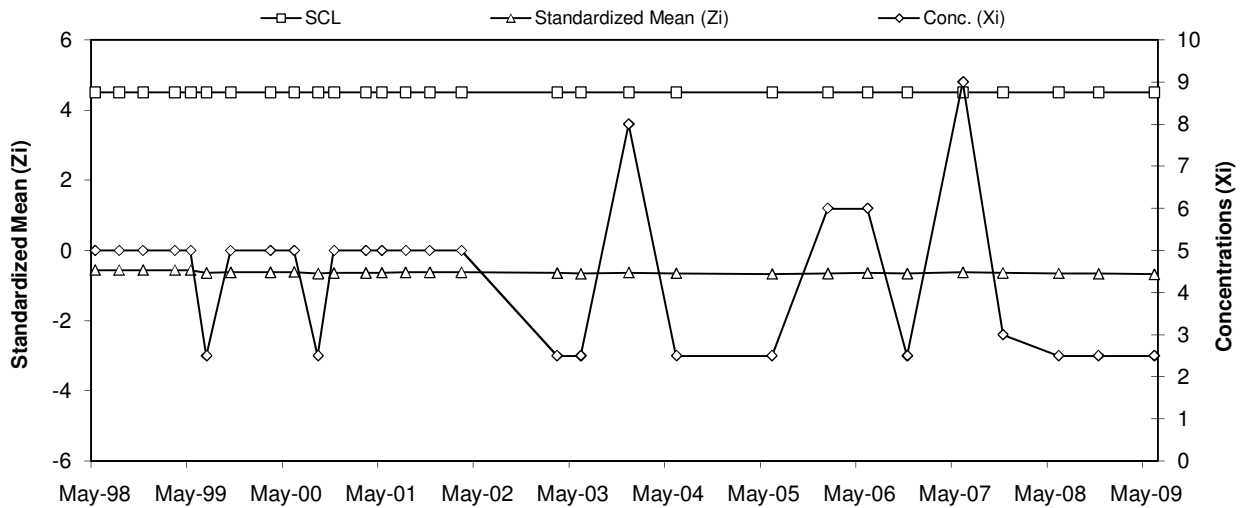
Ti	Date	SCL	Conc. (Xi)	Mean (\bar{X}_i)	Standardized Mean (Zi)
9	Aug-97	4.5	1610	1,610.00	0.08
10	Nov-97	4.5	2000	1,805.00	0.35
11	Feb-98	4.5	1720	1,776.67	0.31
12	May-98	4.5	1600	1,732.50	0.25
14	Nov-98	4.5	1760	1,738.00	0.26
15	Mar-99	4.5	1300	1,665.00	0.16
16	May-99	4.5	1600	1,655.71	0.15
17	Jul-99	4.5	1370	1,620.00	0.10
18	Oct-99	4.5	1160	1,568.89	0.02
19	Mar-00	4.5	1350	1,547.00	-0.01
20	Jun-00	4.5	1280	1,522.73	-0.04
21	Sep-00	4.5	1430	1,515.00	-0.05
22	Nov-00	4.5	1210	1,491.54	-0.08
23	Mar-01	4.5	1380	1,483.57	-0.09
24	May-01	4.5	1410	1,478.67	-0.10
25	Aug-01	4.5	1530	1,481.88	-0.10
26	Nov-01	4.5	1170	1,463.53	-0.12
27	Mar-02	4.5	1680	1,475.56	-0.11
28	May-02	4.5	1280	1,465.26	-0.12
29	Dec-02	4.5	1330	1,458.50	-0.13
30	Mar-03	4.5	1260	1,449.05	-0.14
31	Jun-03	4.5	1150	1,435.45	-0.16
32	Oct-03	4.5	1230	1,426.52	-0.17
33	Dec-03	4.5	1520	1,430.42	-0.17
34	Feb-04	4.5	1410	1,429.60	-0.17
35	Jun-04	4.5	1008	1,413.38	-0.19
36	Nov-04	4.5	1090	1,401.41	-0.21
37	Jun-05	4.5	1460	1,403.50	-0.21
38	Dec-05	4.5	1620	1,410.97	-0.20
39	Jun-06	4.5	977	1,396.50	-0.22
40	Nov-06	4.5	1430	1,397.58	-0.21
41	Jun-07	4.5	1510	1,401.09	-0.21
42	Nov-07	4.5	1490	1,403.79	-0.21
43	Jun-08	4.5	1620	1,410.15	-0.20
44	Nov-08	4.5	1600	1,415.57	-0.19
45	Jun-09	4.5	1660	1,422.36	-0.18



**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		

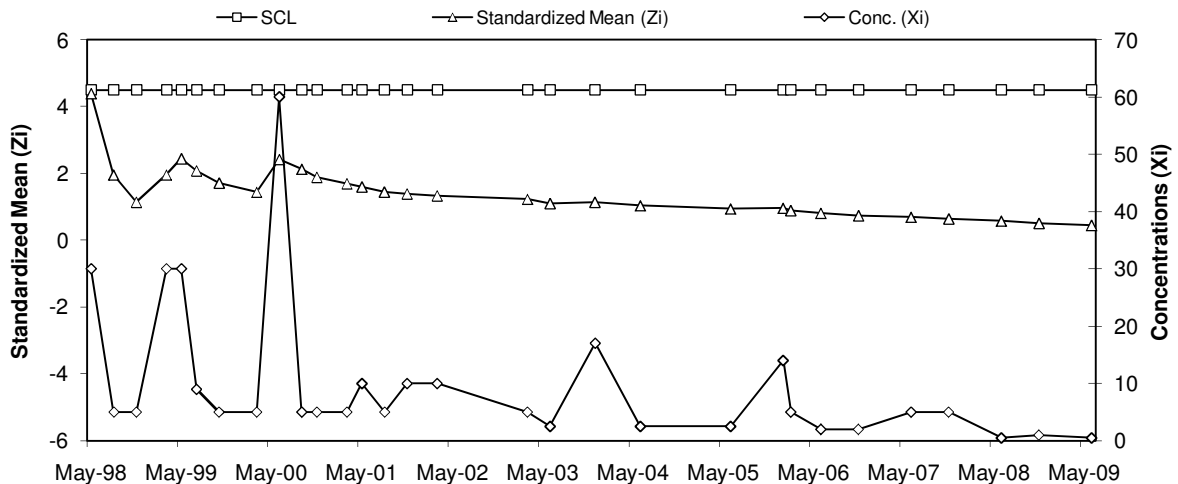
Ti	Date	SCL	Conc. (Xi)	Mean (\bar{X}_i)	Standardized Mean (Zi)
9	May-98	4.5	5	5.00	-0.56
10	Aug-98	4.5	5	5.00	-0.56
11	Nov-98	4.5	5	5.00	-0.56
12	Mar-99	4.5	5	5.00	-0.56
13	May-99	4.5	5	5.00	-0.56
14	Jul-99	4.5	2.5	4.58	-0.64
15	Oct-99	4.5	5	4.64	-0.63
16	Mar-00	4.5	5	4.69	-0.62
17	Jun-00	4.5	5	4.72	-0.61
18	Sep-00	4.5	2.5	4.50	-0.66
19	Nov-00	4.5	5	4.55	-0.65
20	Mar-01	4.5	5	4.58	-0.64
21	May-01	4.5	5	4.62	-0.63
22	Aug-01	4.5	5	4.64	-0.63
23	Nov-01	4.5	5	4.67	-0.62
24	Mar-02	4.5	5	4.69	-0.62
25	Mar-03	4.5	2.5	4.56	-0.65
26	Jun-03	4.5	2.5	4.44	-0.67
27	Dec-03	4.5	8	4.63	-0.63
28	Jun-04	4.5	2.5	4.53	-0.65
29	Jun-05	4.5	2.5	4.43	-0.67
30	Jan-06	4.5	6	4.50	-0.66
31	Jun-06	4.5	6	4.57	-0.64
32	Nov-06	4.5	2.5	4.48	-0.66
33	Jun-07	4.5	9	4.66	-0.63
34	Nov-07	4.5	3	4.60	-0.64
35	Jun-08	4.5	2.5	4.52	-0.65
36	Nov-08	4.5	2.5	4.45	-0.67
37	Jun-09	4.5	2.5	4.38	-0.68



**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	7.48	5.13
2	Jun-96	10		
3	Aug-96	10		
4	Nov-96	10		
5	May-97	5		
6	Aug-97	5		
7	Nov-97	5		
8	Feb-98	5		

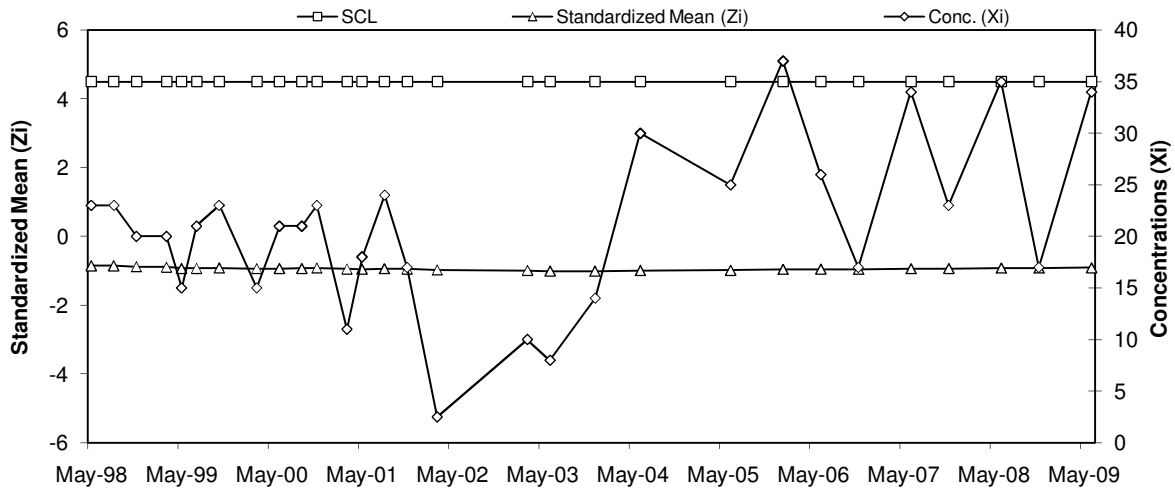
Ti	Date	SCL	Conc. (Xi)	Mean (Xi)	Standardized Mean (Zi)
9	May-98	4.5	30	30.00	4.39
10	Aug-98	4.5	5	17.50	1.95
11	Nov-98	4.5	5	13.33	1.14
12	Mar-99	4.5	30	17.50	1.95
13	May-99	4.5	30	20.00	2.44
14	Jul-99	4.5	9	18.17	2.08
15	Oct-99	4.5	5	16.29	1.72
16	Mar-00	4.5	5	14.88	1.44
17	Jun-00	4.5	60	19.89	2.42
18	Sep-00	4.5	5	18.40	2.13
19	Nov-00	4.5	5	17.18	1.89
20	Mar-01	4.5	5	16.17	1.69
21	May-01	4.5	10	15.69	1.60
22	Aug-01	4.5	5	14.93	1.45
23	Nov-01	4.5	10	14.60	1.39
24	Mar-02	4.5	10	14.31	1.33
25	Mar-03	4.5	5	13.76	1.23
26	Jun-03	4.5	2.5	13.14	1.10
27	Dec-03	4.5	17	13.34	1.14
28	Jun-04	4.5	2.5	12.80	1.04
29	Jun-05	4.5	2.5	12.31	0.94
30	Jan-06	4.5	14	12.39	0.96
31	Feb-06	4.5	5	12.07	0.89
32	Jun-06	4.5	2	11.65	0.81
33	Nov-06	4.5	2	11.26	0.74
34	Jun-07	4.5	5	11.02	0.69
35	Nov-07	4.5	5	10.80	0.65
36	Jun-08	4.5	0.5	10.43	0.57
37	Nov-08	4.5	1	10.10	0.51
38	Jun-09	4.5	0.5	9.78	0.45



**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	52.63	35.01
2	Jun-96	10		
3	Aug-96	10		
4	Nov-96	40		
5	May-97	58		
6	Aug-97	79		
7	Nov-97	114		
8	Feb-98	66		

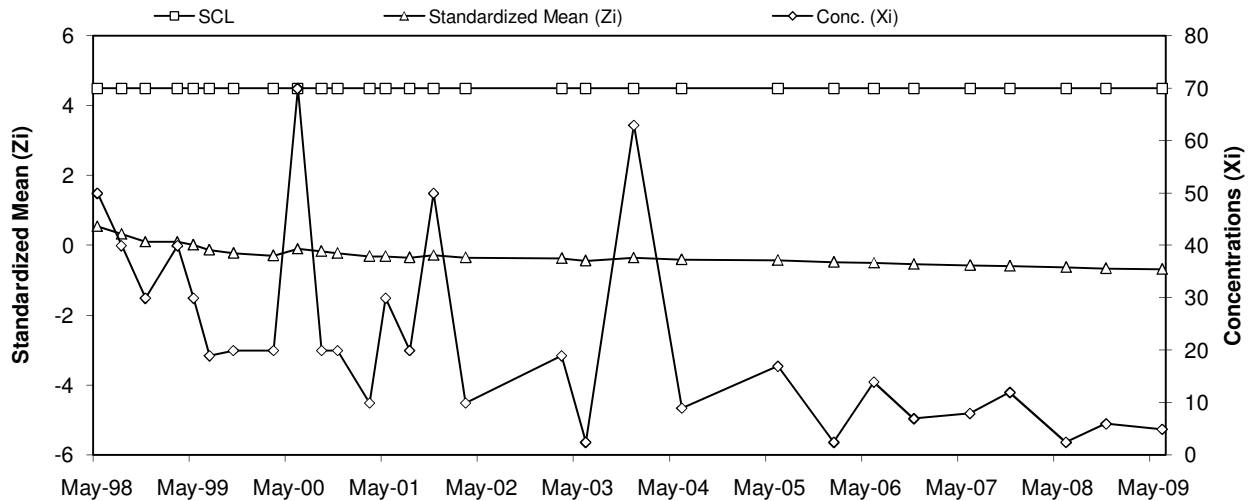
Ti	Date	SCL	Conc. (Xi)	Mean (Xi)	Standardized Mean (Zi)
9	May-98	4.5	23	23.00	-0.85
10	Aug-98	4.5	23	23.00	-0.85
11	Nov-98	4.5	20	22.00	-0.87
12	Mar-99	4.5	20	21.50	-0.89
13	May-99	4.5	15	20.20	-0.93
14	Jul-99	4.5	21	20.33	-0.92
15	Oct-99	4.5	23	20.71	-0.91
16	Mar-00	4.5	15	20.00	-0.93
17	Jun-00	4.5	21	20.11	-0.93
18	Sep-00	4.5	21	20.20	-0.93
19	Nov-00	4.5	23	20.45	-0.92
20	Mar-01	4.5	11	19.67	-0.94
21	May-01	4.5	18	19.54	-0.95
22	Aug-01	4.5	24	19.86	-0.94
23	Nov-01	4.5	17	19.67	-0.94
24	Mar-02	4.5	2.5	18.59	-0.97
25	Mar-03	4.5	10	18.09	-0.99
26	Jun-03	4.5	8	17.53	-1.00
27	Dec-03	4.5	14	17.34	-1.01
28	Jun-04	4.5	30	17.98	-0.99
29	Jun-05	4.5	25	18.31	-0.98
30	Jan-06	4.5	37	19.16	-0.96
31	Jun-06	4.5	26	19.46	-0.95
32	Nov-06	4.5	17	19.35	-0.95
33	Jun-07	4.5	34	19.94	-0.93
34	Nov-07	4.5	23	20.06	-0.93
35	Jun-08	4.5	35	20.61	-0.91
36	Nov-08	4.5	17	20.48	-0.92
37	Jun-09	4.5	34	20.95	-0.90



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	37.49	22.59
2	Jun-96	10		
3	Aug-96	40		
4	Nov-96	70		
5	May-97	70		
6	Aug-97	20		
7	Nov-97	30		
8	Feb-98	40		

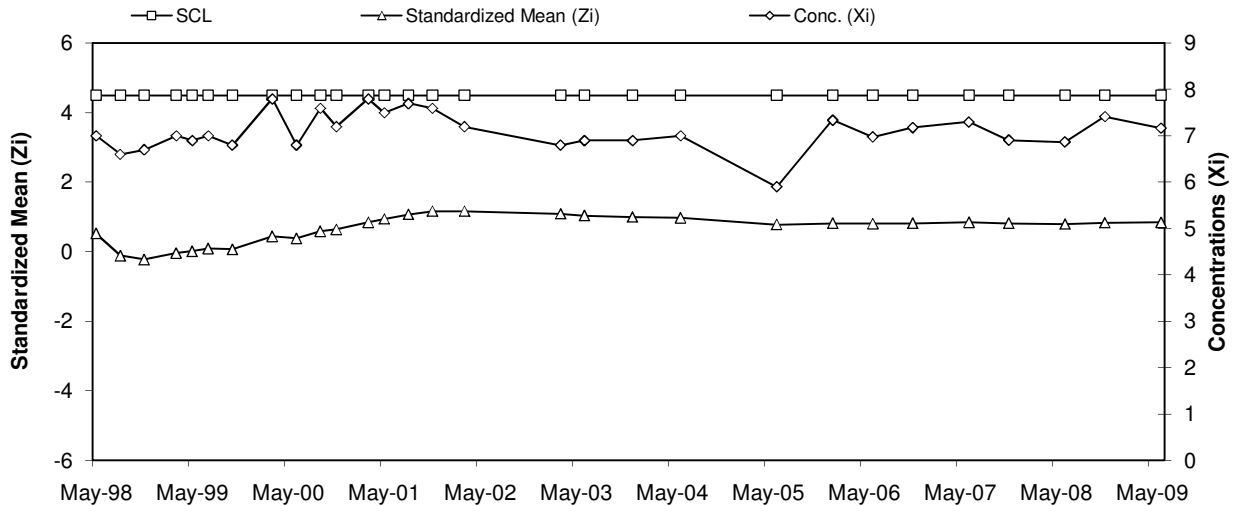
Ti	Date	SCL	Conc. (Xi)	Mean (\bar{X}_i)	Standardized Mean (Zi)
9	May-98	4.5	50	50.00	0.55
10	Aug-98	4.5	40	45.00	0.33
11	Nov-98	4.5	30	40.00	0.11
12	Mar-99	4.5	40	40.00	0.11
13	May-99	4.5	30	38.00	0.02
14	Jul-99	4.5	19	34.83	-0.12
15	Oct-99	4.5	20	32.71	-0.21
16	Mar-00	4.5	20	31.13	-0.28
17	Jun-00	4.5	70	35.44	-0.09
18	Sep-00	4.5	20	33.90	-0.16
19	Nov-00	4.5	20	32.64	-0.21
20	Mar-01	4.5	10	30.75	-0.30
21	May-01	4.5	30	30.69	-0.30
22	Aug-01	4.5	20	29.93	-0.33
23	Nov-01	4.5	50	31.27	-0.28
24	Mar-02	4.5	10	29.94	-0.33
25	Mar-03	4.5	19	29.29	-0.36
26	Jun-03	4.5	2.5	27.81	-0.43
27	Dec-03	4.5	63	29.66	-0.35
28	Jun-04	4.5	9	28.63	-0.39
29	Jun-05	4.5	17	28.07	-0.42
30	Jan-06	4.5	2.5	26.91	-0.47
31	Jun-06	4.5	14	26.35	-0.49
32	Nov-06	4.5	7	25.54	-0.53
33	Jun-07	4.5	8	24.84	-0.56
34	Nov-07	4.5	12	24.35	-0.58
35	Jun-08	4.5	2.5	23.54	-0.62
36	Nov-08	4.5	6	22.91	-0.65
37	Jun-09	4.5	5	22.29	-0.67



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

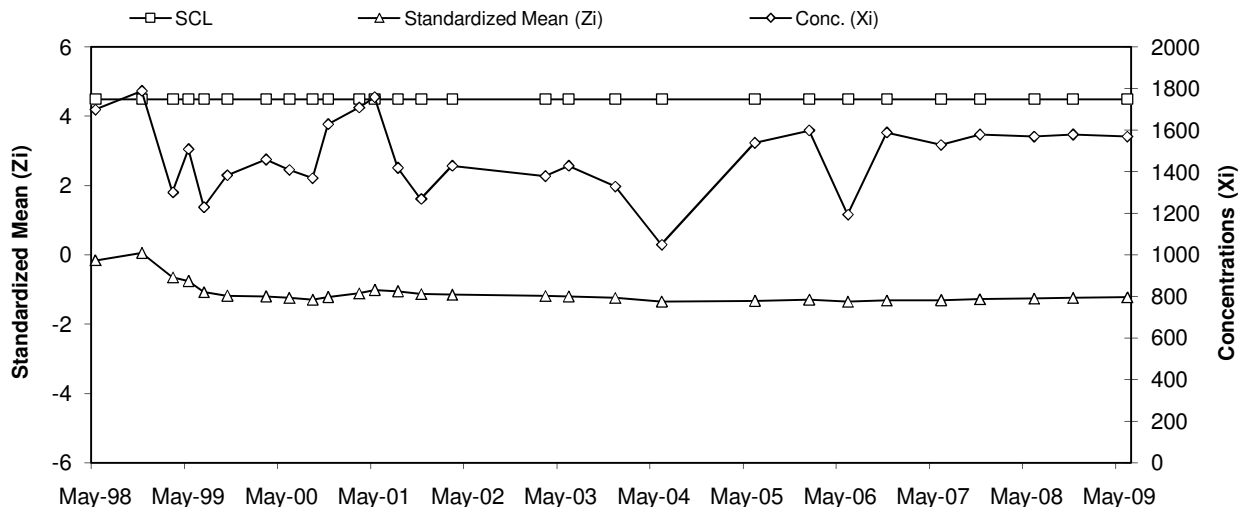
Ti	Date	SCL	Conc. (Xi)	Mean (\bar{X}_i)	Standardized Mean (Zi)
9	May-98	4.5	7	7.00	0.52
10	Aug-98	4.5	6.6	6.80	-0.12
11	Nov-98	4.5	6.7	6.77	-0.23
12	Mar-99	4.5	7	6.83	-0.04
13	May-99	4.5	6.9	6.84	0.01
14	Jul-99	4.5	7	6.87	0.09
15	Oct-99	4.5	6.8	6.86	0.06
16	Mar-00	4.5	7.8	6.98	0.44
17	Jun-00	4.5	6.8	6.96	0.38
18	Sep-00	4.5	7.6	7.02	0.59
19	Nov-00	4.5	7.2	7.04	0.64
20	Mar-01	4.5	7.8	7.10	0.84
21	May-01	4.5	7.5	7.13	0.94
22	Aug-01	4.5	7.7	7.17	1.07
23	Nov-01	4.5	7.6	7.20	1.16
24	Mar-02	4.5	7.2	7.20	1.16
25	Mar-03	4.5	6.8	7.18	1.09
26	Jun-03	4.5	6.9	7.16	1.04
27	Dec-03	4.5	6.9	7.15	1.00
28	Jun-04	4.5	7	7.14	0.97
29	Jun-05	4.5	5.9	7.08	0.78
30	Jan-06	4.5	7.3	7.09	0.82
31	Jun-06	4.5	7.0	7.09	0.80
32	Nov-06	4.5	7.2	7.09	0.82
33	Jun-07	4.5	7.3	7.10	0.84
34	Nov-07	4.5	6.9	7.09	0.82
35	Jun-08	4.5	6.9	7.08	0.79
36	Nov-08	4.5	7.4	7.10	0.83
37	Jun-09	4.5	7.2	7.10	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	1,734.38	211.31
2	Jun-96	1800		
3	Aug-96	1600		
4	Nov-96	1700		
5	May-97	1580		
6	Aug-97	1540		
7	Nov-97	1800		
8	Feb-98	1655		

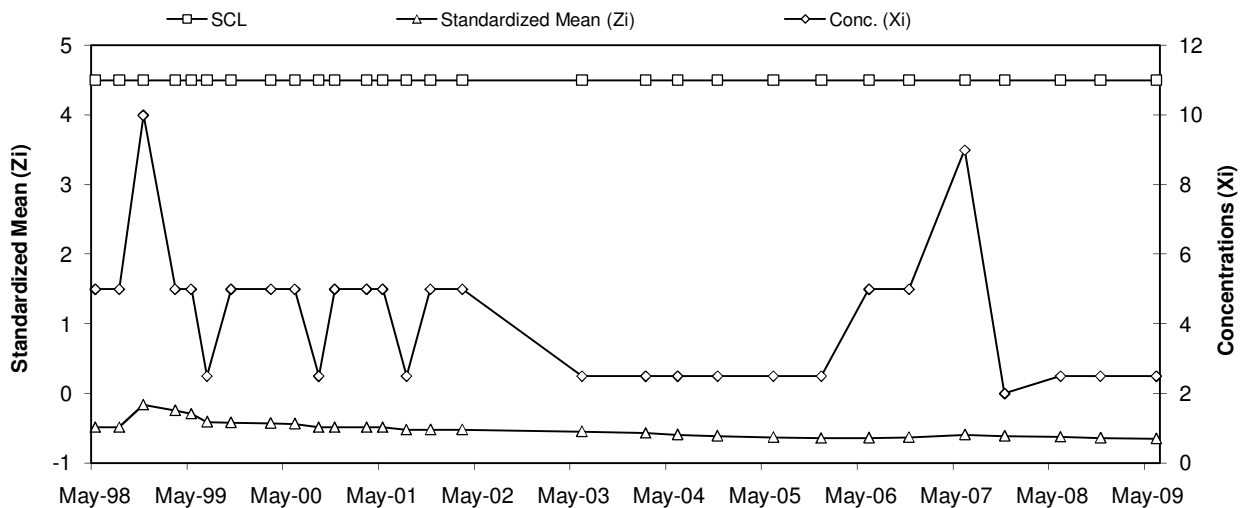
Ti	Date	SCL	Conc. (Xi)	Mean (Xi)	Standardized Mean (Zi)
9	May-98	4.5	1700	1,700.00	-0.16
11	Nov-98	4.5	1790	1,745.00	0.05
12	Mar-99	4.5	1302	1,597.33	-0.65
13	May-99	4.5	1510	1,575.50	-0.75
14	Jul-99	4.5	1231	1,506.60	-1.08
15	Oct-99	4.5	1384	1,486.17	-1.17
16	Mar-00	4.5	1460	1,482.43	-1.19
17	Jun-00	4.5	1410	1,473.38	-1.24
18	Sep-00	4.5	1370	1,461.89	-1.29
19	Nov-00	4.5	1630	1,478.70	-1.21
20	Mar-01	4.5	1710	1,499.73	-1.11
21	May-01	4.5	1760	1,521.42	-1.01
22	Aug-01	4.5	1420	1,513.62	-1.04
23	Nov-01	4.5	1270	1,496.21	-1.13
24	Mar-02	4.5	1430	1,491.80	-1.15
25	Mar-03	4.5	1380	1,484.81	-1.18
26	Jun-03	4.5	1430	1,481.59	-1.20
27	Dec-03	4.5	1330	1,473.17	-1.24
28	Jun-04	4.5	1050	1,450.89	-1.34
29	Jun-05	4.5	1540	1,455.35	-1.32
30	Jan-06	4.5	1600	1,462.24	-1.29
31	Jun-06	4.5	1195	1,450.09	-1.35
32	Nov-06	4.5	1590	1,456.17	-1.32
33	Jun-07	4.5	1530	1,459.25	-1.30
34	Nov-07	4.5	1580	1,464.08	-1.28
35	Jun-08	4.5	1570	1,468.15	-1.26
36	Nov-08	4.5	1580	1,472.30	-1.24
37	Jun-09	4.5	1570	1,475.79	-1.22



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	7.48	5.13
2	Jun-96	10		
3	Oct-96	10		
4	Nov-96	10		
5	May-97	5		
6	Aug-97	5		
7	Nov-97	5		
8	Feb-98	5		

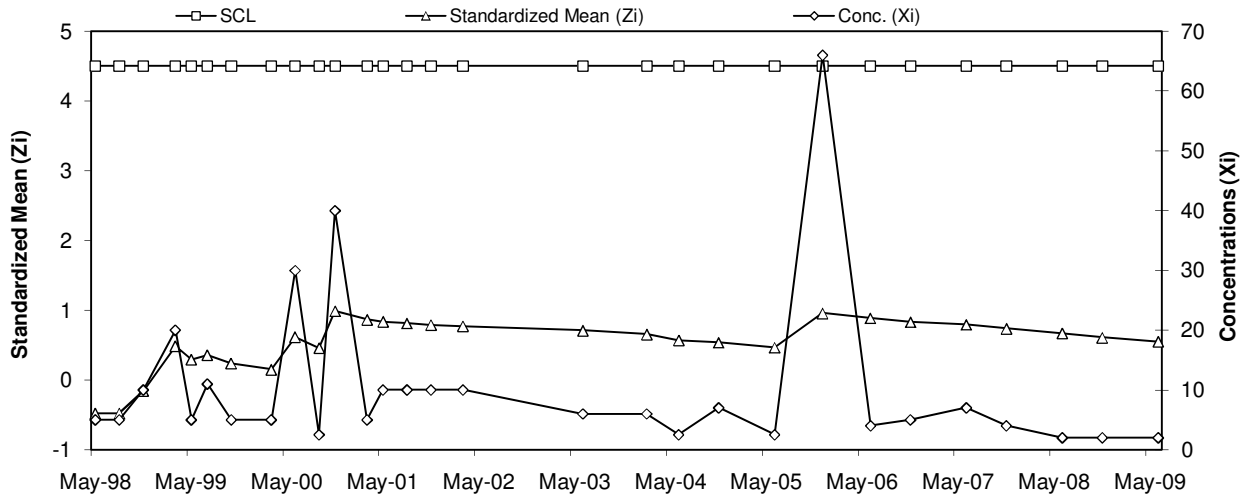
Ti	Date	SCL	Conc. (Xi)	Mean (\bar{X}_i)	Standardized Mean (Zi)
9	May-98	4.5	5	5.00	-0.48
10	Aug-98	4.5	5	5.00	-0.48
11	Nov-98	4.5	10	6.67	-0.16
12	Mar-99	4.5	5	6.25	-0.24
13	May-99	4.5	5	6.00	-0.29
14	Jul-99	4.5	2.5	5.42	-0.40
15	Oct-99	4.5	5	5.36	-0.41
16	Mar-00	4.5	5	5.31	-0.42
17	Jun-00	4.5	5	5.28	-0.43
18	Sep-00	4.5	2.5	5.00	-0.48
19	Nov-00	4.5	5	5.00	-0.48
20	Mar-01	4.5	5	5.00	-0.48
21	May-01	4.5	5	5.00	-0.48
22	Aug-01	4.5	2.5	4.82	-0.52
23	Nov-01	4.5	5	4.83	-0.52
24	Mar-02	4.5	5	4.84	-0.51
25	Jun-03	4.5	2.5	4.71	-0.54
26	Feb-04	4.5	2.5	4.58	-0.56
27	Jun-04	4.5	2.5	4.47	-0.59
28	Nov-04	4.5	2.5	4.38	-0.61
29	Jun-05	4.5	2.5	4.29	-0.62
30	Dec-05	4.5	2.5	4.20	-0.64
31	Jun-06	4.5	5	4.24	-0.63
32	Nov-06	4.5	5	4.27	-0.63
33	Jun-07	4.5	9	4.46	-0.59
34	Nov-07	4.5	2	4.37	-0.61
35	Jun-08	4.5	2.5	4.30	-0.62
36	Nov-08	4.5	2.5	4.23	-0.63
37	Jun-09	4.5	2.5	4.17	-0.64



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	7.50	5.17
2	Jun-96	10		
3	Oct-96	10		
4	Nov-96	10		
5	May-97	5		
6	Aug-97	5		
7	Nov-97	5		
8	Feb-98	5		

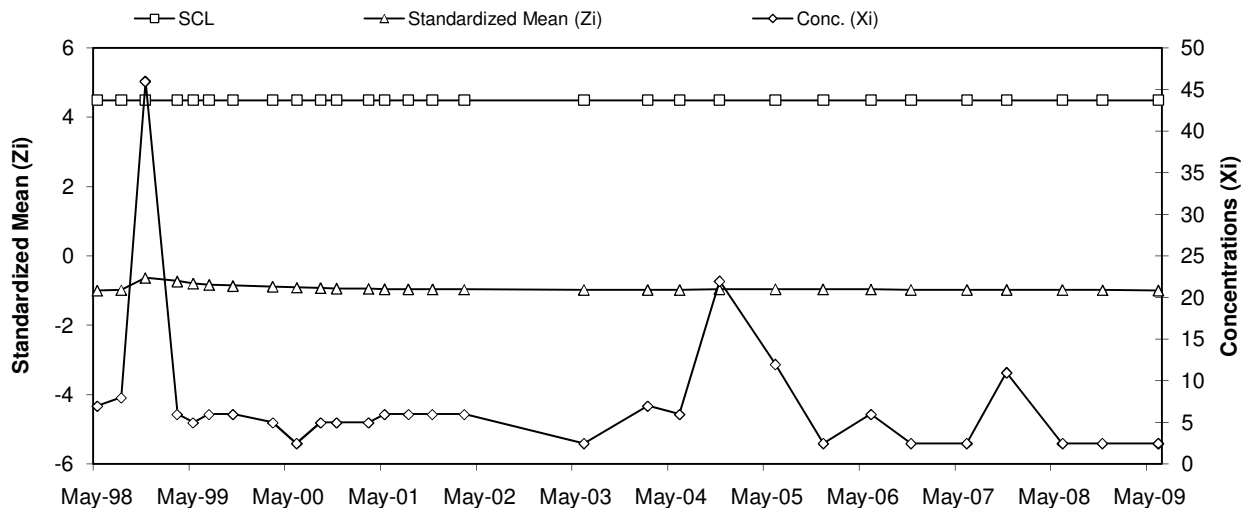
Ti	Date	SCL	Conc. (Xi)	Mean (Xi)	Standardized Mean (Zi)
9	May-98	4.5	5	5.00	-0.48
10	Aug-98	4.5	5	5.00	-0.48
11	Nov-98	4.5	10	6.67	-0.16
12	Mar-99	4.5	20	10.00	0.48
13	May-99	4.5	5	9.00	0.29
14	Jul-99	4.5	11	9.33	0.35
15	Oct-99	4.5	5	8.71	0.23
16	Mar-00	4.5	5	8.25	0.15
17	Jun-00	4.5	30	10.67	0.61
18	Sep-00	4.5	2.5	9.85	0.45
19	Nov-00	4.5	40	12.59	0.98
20	Mar-01	4.5	5	11.96	0.86
21	May-01	4.5	10	11.81	0.83
22	Aug-01	4.5	10	11.68	0.81
23	Nov-01	4.5	10	11.57	0.79
24	Mar-02	4.5	10	11.47	0.77
25	Jun-03	4.5	6	11.15	0.71
26	Feb-04	4.5	6	10.86	0.65
27	Jun-04	4.5	2.5	10.42	0.57
28	Nov-04	4.5	7	10.25	0.53
29	Jun-05	4.5	2.5	9.88	0.46
30	Dec-05	4.5	66	12.43	0.95
31	Jun-06	4.5	4	12.07	0.88
32	Nov-06	4.5	5	11.77	0.83
33	Jun-07	4.5	7	11.58	0.79
34	Nov-07	4.5	4	11.29	0.73
35	Jun-08	4.5	2	10.94	0.67
36	Nov-08	4.5	2	10.63	0.60
37	Jun-09	4.5	2	10.33	0.55



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	43.13	36.46
2	Jun-96	10		
3	Oct-96	10		
4	Nov-96	10		
5	May-97	35		
6	Aug-97	64		
7	Nov-97	116		
8	Feb-98	54		

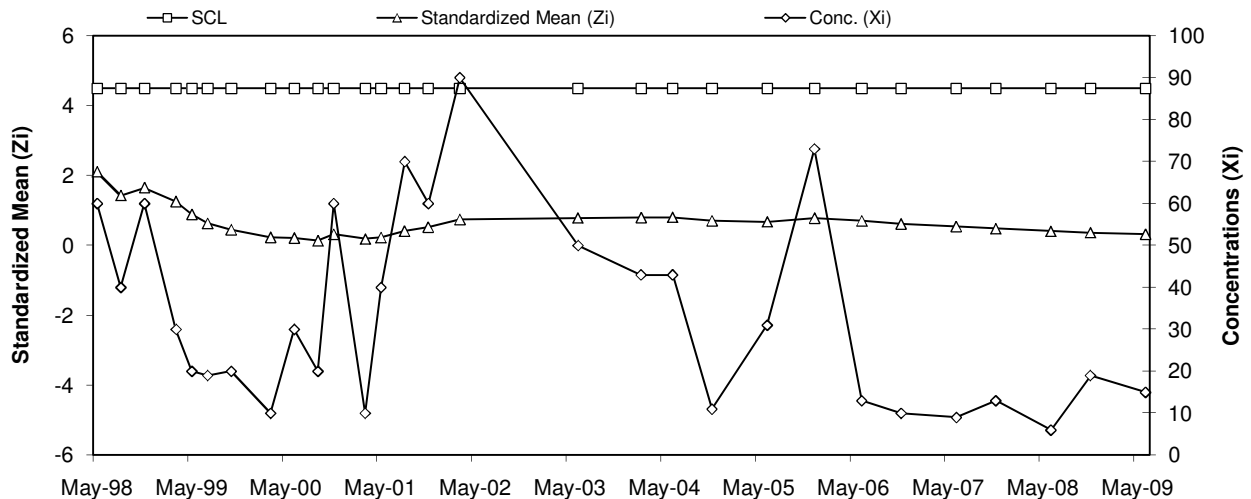
Ti	Date	SCL	Conc. (Xi)	Mean (\bar{X}_i)	Standardized Mean (Zi)
9	May-98	4.5	7	7.00	-0.99
10	Aug-98	4.5	8	7.50	-0.98
11	Nov-98	4.5	46	20.33	-0.63
12	Mar-99	4.5	6	16.75	-0.72
13	May-99	4.5	5	14.40	-0.79
14	Jul-99	4.5	6	13.00	-0.83
15	Oct-99	4.5	6	12.00	-0.85
16	Mar-00	4.5	5	11.13	-0.88
17	Jun-00	4.5	2.5	10.17	-0.90
18	Sep-00	4.5	5	9.65	-0.92
19	Nov-00	4.5	5	9.23	-0.93
20	Mar-01	4.5	5	8.88	-0.94
21	May-01	4.5	6	8.65	-0.95
22	Aug-01	4.5	6	8.46	-0.95
23	Nov-01	4.5	6	8.30	-0.96
24	Mar-02	4.5	6	8.16	-0.96
25	Jun-03	4.5	2.5	7.82	-0.97
26	Feb-04	4.5	7	7.78	-0.97
27	Jun-04	4.5	6	7.68	-0.97
28	Nov-04	4.5	22	8.40	-0.95
29	Jun-05	4.5	12	8.57	-0.95
30	Dec-05	4.5	2.5	8.30	-0.96
31	Jun-06	4.5	6	8.20	-0.96
32	Nov-06	4.5	2.5	7.96	-0.96
33	Jun-07	4.5	2.5	7.74	-0.97
34	Nov-07	4.5	11	7.87	-0.97
35	Jun-08	4.5	2.5	7.67	-0.97
36	Nov-08	4.5	2.5	7.48	-0.98
37	Jun-09	4.5	2.5	7.31	-0.98



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	28.75	14.79
2	Jun-96	10		
3	Oct-96	20		
4	Nov-96	30		
5	May-97	30		
6	Aug-97	40		
7	Nov-97	40		
8	Feb-98	50		

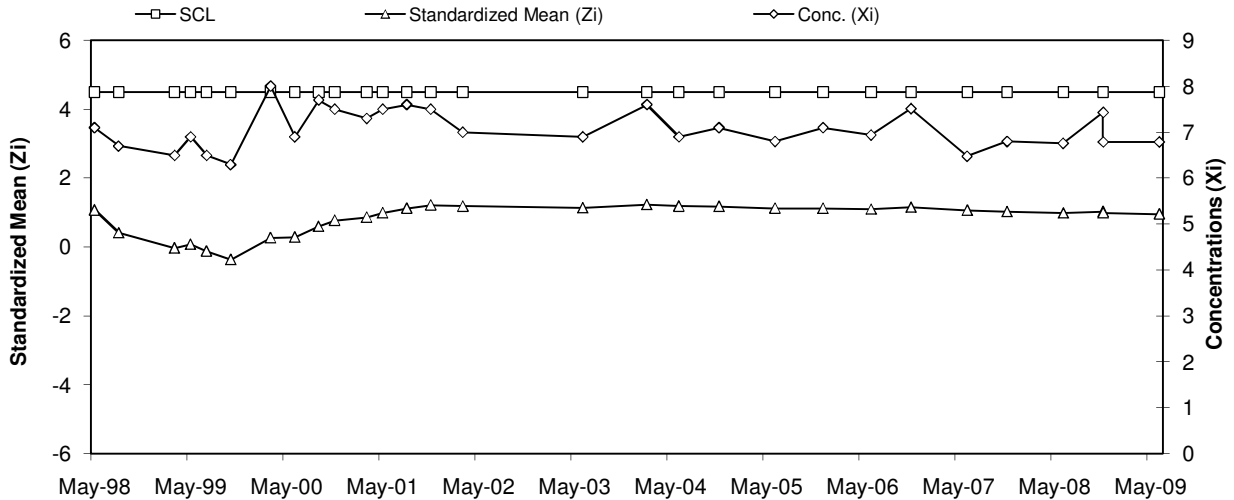
Ti	Date	SCL	Conc. (Xi)	Mean (Xi)	Standardized Mean (Zi)
9	May-98	4.5	60	60.00	2.11
10	Aug-98	4.5	40	50.00	1.44
11	Nov-98	4.5	60	53.33	1.66
12	Mar-99	4.5	30	47.50	1.27
13	May-99	4.5	20	42.00	0.90
14	Jul-99	4.5	19	38.17	0.64
15	Oct-99	4.5	20	35.57	0.46
16	Mar-00	4.5	10	32.38	0.25
17	Jun-00	4.5	30	32.11	0.23
18	Sep-00	4.5	20	30.90	0.15
19	Nov-00	4.5	60	33.55	0.32
20	Mar-01	4.5	10	31.58	0.19
21	May-01	4.5	40	32.23	0.24
22	Aug-01	4.5	70	34.93	0.42
23	Nov-01	4.5	60	36.60	0.53
24	Mar-02	4.5	90	39.94	0.76
25	Jun-03	4.5	50	40.53	0.80
26	Feb-04	4.5	43	40.67	0.81
27	Jun-04	4.5	43	40.79	0.81
28	Nov-04	4.5	11	39.30	0.71
29	Jun-05	4.5	31	38.90	0.69
30	Dec-05	4.5	73	40.45	0.79
31	Jun-06	4.5	13	39.26	0.71
32	Nov-06	4.5	10	38.04	0.63
33	Jun-07	4.5	9	36.88	0.55
34	Nov-07	4.5	13	35.96	0.49
35	Jun-08	4.5	6	34.85	0.41
36	Nov-08	4.5	19	34.29	0.37
37	Jun-09	4.5	15	33.62	0.33



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

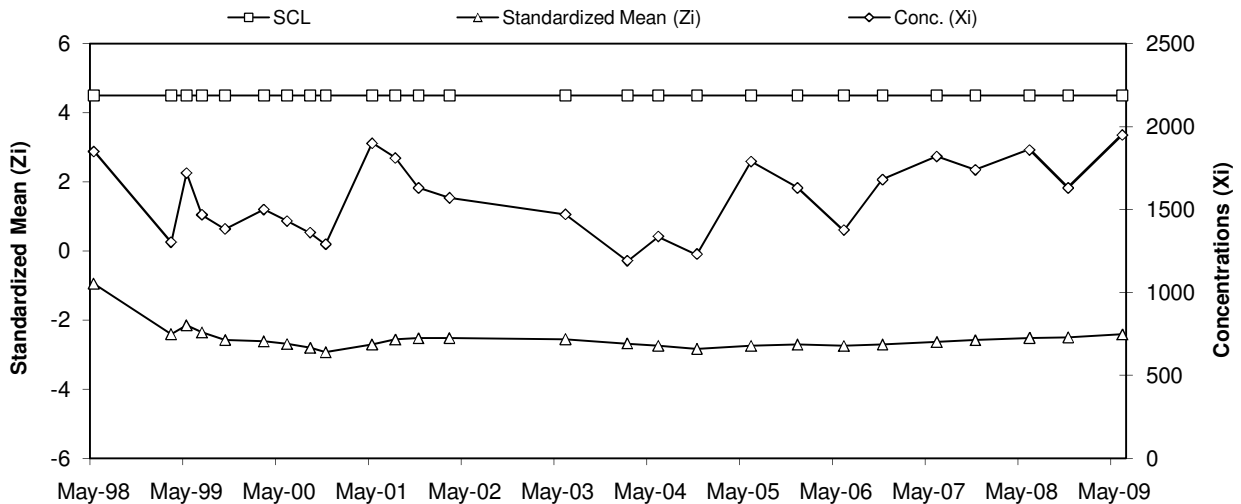
Ti	Date	SCL	Conc. (Xi)	Mean (Xi)	Standardized Mean (Zi)
9	May-98	4.5	7.1	7.10	1.08
10	Aug-98	4.5	6.7	6.90	0.42
11	Mar-99	4.5	6.5	6.77	-0.03
12	May-99	4.5	6.9	6.80	0.08
13	Jul-99	4.5	6.5	6.74	-0.12
14	Oct-99	4.5	6.3	6.67	-0.36
15	Mar-00	4.5	8	6.86	0.27
16	Jun-00	4.5	6.9	6.86	0.29
17	Sep-00	4.5	7.7	6.96	0.60
18	Nov-00	4.5	7.5	7.01	0.78
19	Mar-01	4.5	7.3	7.04	0.87
20	May-01	4.5	7.5	7.08	1.00
21	Aug-01	4.5	7.6	7.12	1.13
22	Nov-01	4.5	7.5	7.14	1.22
23	Mar-02	4.5	7	7.13	1.19
24	Jun-03	4.5	6.9	7.12	1.14
25	Feb-04	4.5	7.6	7.15	1.24
26	Jun-04	4.5	6.9	7.13	1.19
27	Nov-04	4.5	7.1	7.13	1.18
28	Jun-05	4.5	6.8	7.12	1.13
29	Dec-05	4.5	7.1	7.11	1.13
30	Jun-06	4.5	6.9	7.11	1.10
31	Nov-06	4.5	7.5	7.12	1.16
32	Jun-07	4.5	6.5	7.10	1.07
33	Nov-07	4.5	6.8	7.09	1.03
34	Jun-08	4.5	6.8	7.07	0.99
35	Nov-08	4.5	7.4	7.09	1.03
35	Nov-08	4.5	6.8	7.08	1.00
36	Jun-09	4.5	6.8	7.07	0.96



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

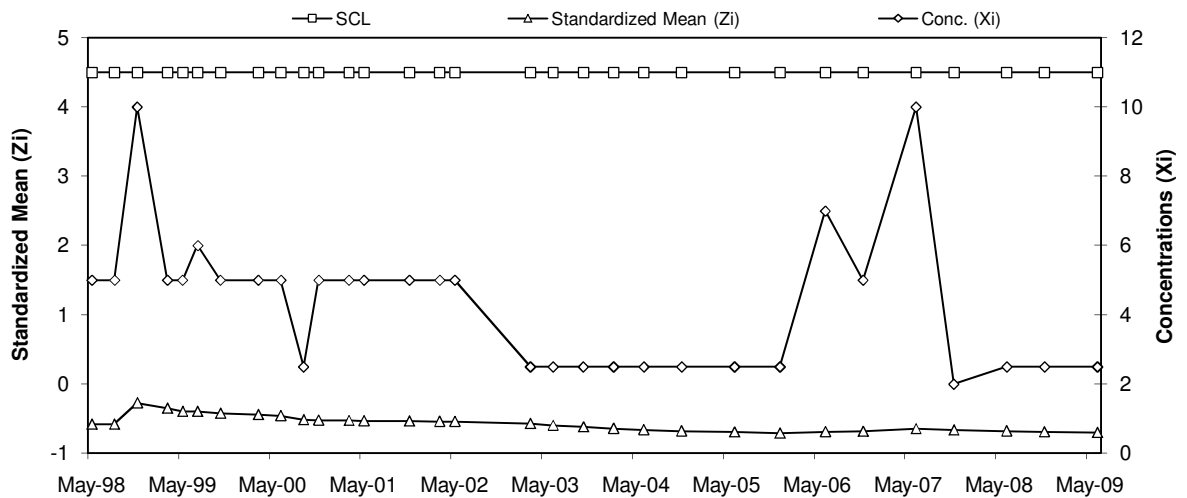
Ti	Date	SCL	Conc. (Xi)	Mean (Xi)	Standardized Mean (Zi)
9	May-98	4.5	1850	1,850.00	-0.94
10	Mar-99	4.5	1302	1,576.00	-2.40
11	May-99	4.5	1720	1,624.00	-2.14
12	Jul-99	4.5	1468	1,585.00	-2.35
13	Oct-99	4.5	1382	1,544.40	-2.57
14	Mar-00	4.5	1500	1,537.00	-2.60
15	Jun-00	4.5	1430	1,521.71	-2.69
16	Sep-00	4.5	1360	1,501.50	-2.79
17	Nov-00	4.5	1290	1,478.00	-2.92
18	May-01	4.5	1900	1,520.20	-2.69
19	Aug-01	4.5	1810	1,546.55	-2.55
20	Nov-01	4.5	1630	1,553.50	-2.52
21	Mar-02	4.5	1570	1,554.77	-2.51
22	Jun-03	4.5	1470	1,548.71	-2.54
23	Feb-04	4.5	1190	1,524.80	-2.67
24	Jun-04	4.5	1337	1,513.06	-2.73
25	Nov-04	4.5	1230	1,496.41	-2.82
26	Jun-05	4.5	1790	1,512.72	-2.73
27	Dec-05	4.5	1630	1,518.89	-2.70
28	Jun-06	4.5	1376	1,511.75	-2.74
29	Nov-06	4.5	1680	1,519.76	-2.70
30	Jun-07	4.5	1820	1,533.41	-2.62
31	Nov-07	4.5	1740	1,542.39	-2.58
32	Jun-08	4.5	1860	1,555.63	-2.51
33	Nov-08	4.5	1630	1,558.60	-2.49
34	Jun-09	4.5	1950	1,573.65	-2.41



**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	8.13	5.40
2	Aug-95	10		
3	Jun-96	10		
4	Aug-96	10		
5	Nov-96	10		
6	Aug-97	5		
7	Nov-97	5		
8	Feb-98	5		

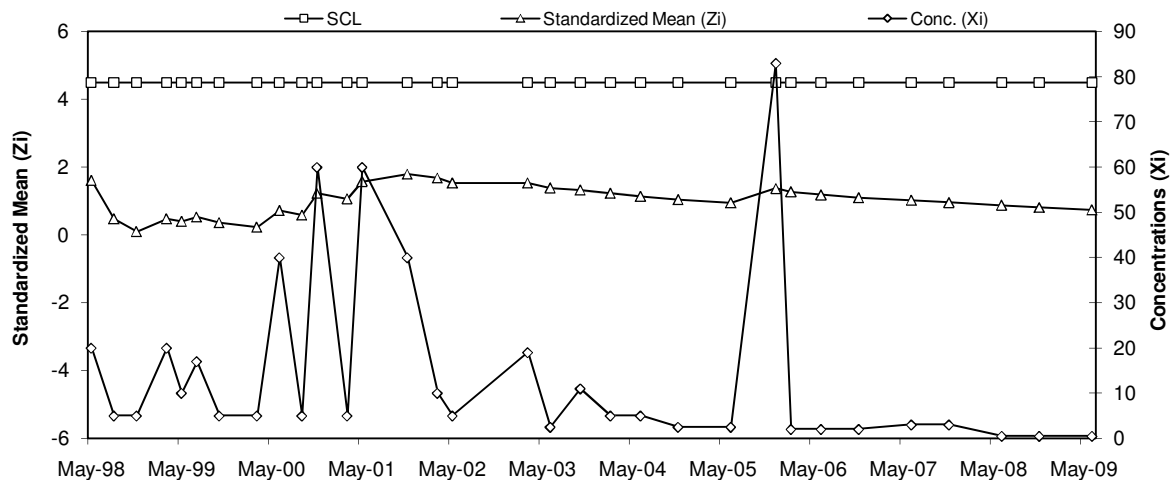
Ti	Date	SCL	Conc. (Xi)	Mean (Xi)	Standardized Mean (Zi)
9	May-98	4.5	5	5.00	-0.58
10	Aug-98	4.5	5	5.00	-0.58
11	Nov-98	4.5	10	6.67	-0.27
12	Mar-99	4.5	5	6.25	-0.35
13	May-99	4.5	5	6.00	-0.39
14	Jul-99	4.5	6	6.00	-0.39
15	Oct-99	4.5	5	5.86	-0.42
16	Mar-00	4.5	5	5.75	-0.44
17	Jun-00	4.5	5	5.67	-0.46
18	Sep-00	4.5	2.5	5.35	-0.51
19	Nov-00	4.5	5	5.32	-0.52
20	Mar-01	4.5	5	5.29	-0.53
21	May-01	4.5	5	5.27	-0.53
22	Nov-01	4.5	5	5.25	-0.53
23	Mar-02	4.5	5	5.23	-0.54
24	May-02	4.5	5	5.22	-0.54
25	Mar-03	4.5	2.5	5.06	-0.57
26	Jun-03	4.5	2.5	4.92	-0.60
27	Oct-03	4.5	2.5	4.79	-0.62
28	Feb-04	4.5	2.5	4.68	-0.64
29	Jun-04	4.5	2.5	4.57	-0.66
30	Nov-04	4.5	2.5	4.48	-0.68
31	Jun-05	4.5	2.5	4.39	-0.69
32	Dec-05	4.5	2.5	4.31	-0.71
33	Jun-06	4.5	7	4.42	-0.69
34	Nov-06	4.5	5	4.44	-0.68
35	Jun-07	4.5	10	4.65	-0.64
36	Nov-07	4.5	2	4.55	-0.66
37	Jun-08	4.5	2.5	4.48	-0.68
38	Nov-08	4.5	2.5	4.42	-0.69
39	Jun-09	4.5	2.5	4.35	-0.70



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	9.38	6.61
2	Aug-95	10		
3	Jun-96	10		
4	Aug-96	20		
5	Nov-96	10		
6	Aug-97	5		
7	Nov-97	5		
8	Feb-98	5		

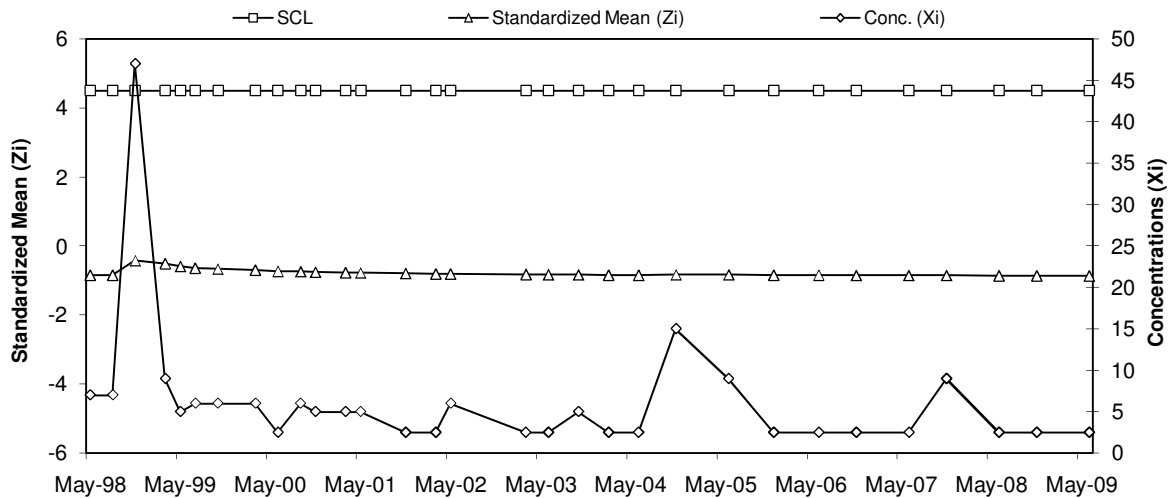
Ti	Date	SCL	Conc. (Xi)	Mean (Xi)	Standardized Mean (Zi)
9	May-98	4.5	20	20.00	1.61
10	Aug-98	4.5	5	12.50	0.47
11	Nov-98	4.5	5	10.00	0.09
12	Mar-99	4.5	20	12.50	0.47
13	May-99	4.5	10	12.00	0.40
14	Jul-99	4.5	17	12.83	0.52
15	Oct-99	4.5	5	11.71	0.35
16	Mar-00	4.5	5	10.88	0.23
17	Jun-00	4.5	40	14.11	0.72
18	Sep-00	4.5	5	13.20	0.58
19	Nov-00	4.5	60	17.45	1.22
20	Mar-01	4.5	5	16.42	1.06
21	May-01	4.5	60	19.77	1.57
22	Nov-01	4.5	40	21.21	1.79
23	Mar-02	4.5	10	20.47	1.68
24	May-02	4.5	5	19.50	1.53
25	Mar-03	4.5	19	19.47	1.53
26	Jun-03	4.5	2.5	18.53	1.38
27	Oct-03	4.5	11	18.13	1.32
28	Feb-04	4.5	5	17.48	1.22
29	Jun-04	4.5	5	16.88	1.13
30	Nov-04	4.5	2.5	16.23	1.04
31	Jun-05	4.5	2.5	15.63	0.95
32	Dec-05	4.5	83	18.44	1.37
33	Feb-06	4.5	2	17.78	1.27
34	Jun-06	4.5	2	17.17	1.18
35	Nov-06	4.5	2	16.61	1.09
36	Jun-07	4.5	3	16.13	1.02
37	Nov-07	4.5	3	15.67	0.95
38	Jun-08	4.5	0.5	15.17	0.88
39	Nov-08	4.5	0.5	14.69	0.80
40	Jun-09	4.5	0.5	14.25	0.74



**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	33.88	31.96
2	Aug-95	20		
3	Jun-96	10		
4	Aug-96	10		
5	Nov-96	10		
6	Aug-97	64		
7	Nov-97	93		
8	Feb-98	49		

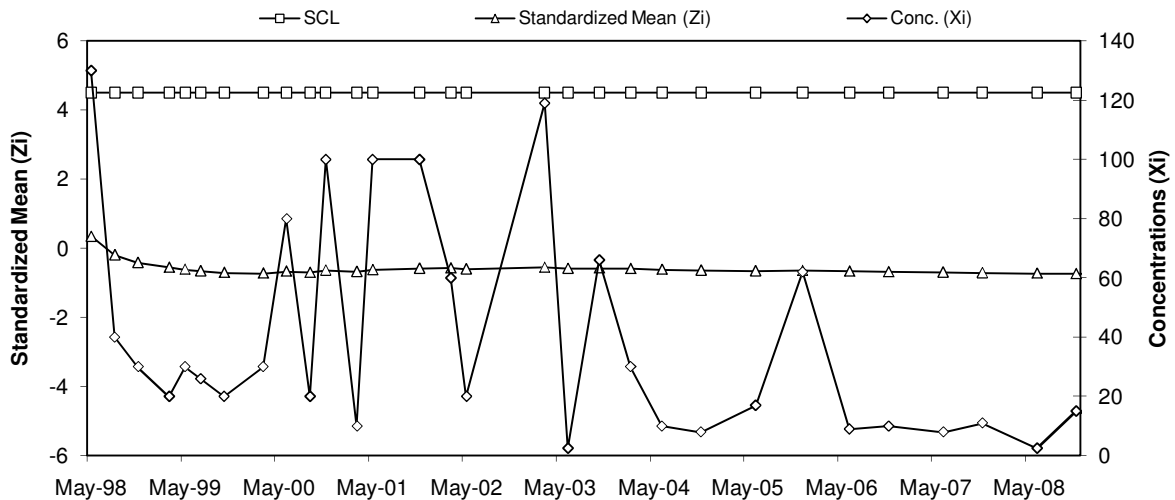
Ti	Date	SCL	Conc. (Xi)	Mean (Xi)	Standardized Mean (Zi)
9	May-98	4.5	7	7.00	-0.84
10	Aug-98	4.5	7	7.00	-0.84
11	Nov-98	4.5	47	20.33	-0.42
12	Mar-99	4.5	9	17.50	-0.51
13	May-99	4.5	5	15.00	-0.59
14	Jul-99	4.5	6	13.50	-0.64
15	Oct-99	4.5	6	12.43	-0.67
16	Mar-00	4.5	6	11.63	-0.70
17	Jun-00	4.5	2.5	10.61	-0.73
18	Sep-00	4.5	6	10.15	-0.74
19	Nov-00	4.5	5	9.68	-0.76
20	Mar-01	4.5	5	9.29	-0.77
21	May-01	4.5	5	8.96	-0.78
22	Nov-01	4.5	2.5	8.50	-0.79
23	Mar-02	4.5	2.5	8.10	-0.81
24	May-02	4.5	6	7.97	-0.81
25	Mar-03	4.5	2.5	7.65	-0.82
26	Jun-03	4.5	2.5	7.36	-0.83
27	Oct-03	4.5	5	7.24	-0.83
28	Feb-04	4.5	2.5	7.00	-0.84
29	Jun-04	4.5	2.5	6.79	-0.85
30	Nov-04	4.5	15	7.16	-0.84
31	Jun-05	4.5	9	7.24	-0.83
32	Dec-05	4.5	2.5	7.04	-0.84
33	Jun-06	4.5	2.5	6.86	-0.85
34	Nov-06	4.5	2.5	6.69	-0.85
35	Jun-07	4.5	2.5	6.54	-0.86
36	Nov-07	4.5	9	6.63	-0.85
37	Jun-08	4.5	2.5	6.48	-0.86
38	Nov-08	4.5	2.5	6.35	-0.86
39	Jun-09	4.5	2.5	6.23	-0.87



**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	101.24	83.60
2	Aug-95	220		
3	Jun-96	10		
4	Aug-96	50		
5	Nov-96	30		
6	Aug-97	20		
7	Nov-97	130		
8	Feb-98	160		

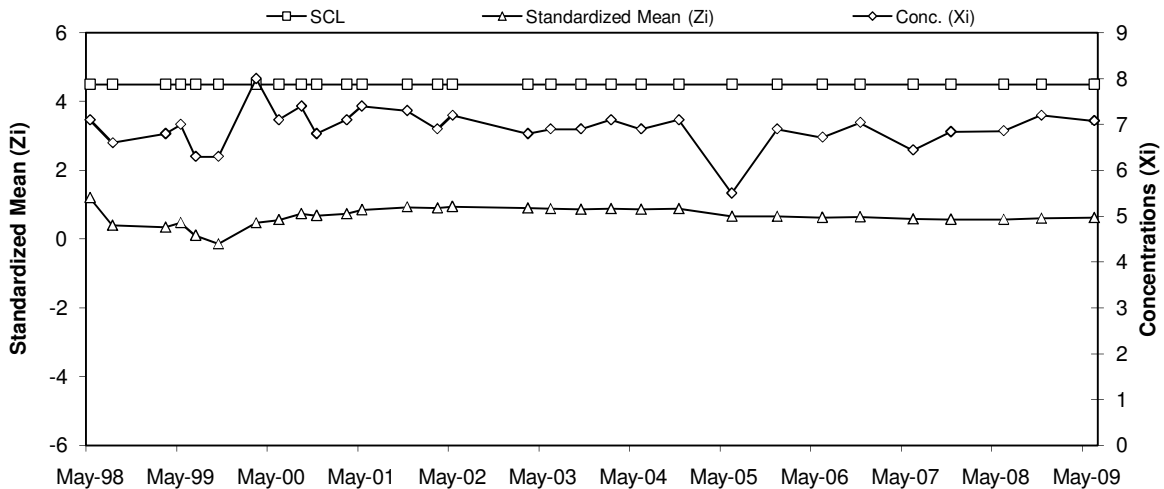
Ti	Date	SCL	Conc. (Xi)	Mean (Xi)	Standardized Mean (Zi)
9	May-98	4.5	130	130.00	0.34
10	Aug-98	4.5	40	85.00	-0.19
11	Nov-98	4.5	30	66.67	-0.41
12	Mar-99	4.5	20	55.00	-0.55
13	May-99	4.5	30	50.00	-0.61
14	Jul-99	4.5	26	46.00	-0.66
15	Oct-99	4.5	20	42.29	-0.71
16	Mar-00	4.5	30	40.75	-0.72
17	Jun-00	4.5	80	45.11	-0.67
18	Sep-00	4.5	20	42.60	-0.70
19	Nov-00	4.5	100	47.82	-0.64
20	Mar-01	4.5	10	44.67	-0.68
21	May-01	4.5	100	48.92	-0.63
22	Nov-01	4.5	100	52.57	-0.58
23	Mar-02	4.5	60	53.07	-0.58
24	May-02	4.5	20	51.00	-0.60
25	Mar-03	4.5	119	55.00	-0.55
26	Jun-03	4.5	2.5	52.08	-0.59
27	Oct-03	4.5	66	52.82	-0.58
28	Feb-04	4.5	30	51.68	-0.59
29	Jun-04	4.5	10	49.69	-0.62
30	Nov-04	4.5	8	47.80	-0.64
31	Jun-05	4.5	17	46.46	-0.66
32	Dec-05	4.5	62	47.10	-0.65
33	Jun-06	4.5	9	45.58	-0.67
34	Nov-06	4.5	10	44.21	-0.68
35	Jun-07	4.5	8	42.87	-0.70
36	Nov-07	4.5	11	41.73	-0.71
37	Jun-08	4.5	2.5	40.38	-0.73
38	Nov-08	4.5	15	39.53	-0.74
39	Jun-09	4.5	10	38.58	-0.75



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

Ti	Date	SCL	Conc. (Xi)	Mean (Xi)	Standardized Mean (Zi)
9	May-98	4.5	7.1	7.10	1.21
10	Aug-98	4.5	6.6	6.85	0.40
11	Mar-99	4.5	6.8	6.83	0.35
12	May-99	4.5	7	6.88	0.48
13	Jul-99	4.5	6.3	6.76	0.11
14	Oct-99	4.5	6.3	6.68	-0.13
15	Mar-00	4.5	8	6.87	0.47
16	Jun-00	4.5	7.1	6.90	0.56
17	Sep-00	4.5	7.4	6.96	0.74
18	Nov-00	4.5	6.8	6.94	0.69
19	Mar-01	4.5	7.1	6.95	0.74
20	May-01	4.5	7.4	6.99	0.86
21	Nov-01	4.5	7.3	7.02	0.94
22	Mar-02	4.5	6.9	7.01	0.91
23	May-02	4.5	7.2	7.02	0.95
24	Mar-03	4.5	6.8	7.01	0.91
25	Jun-03	4.5	6.9	7.00	0.89
26	Oct-03	4.5	6.9	6.99	0.87
27	Feb-04	4.5	7.1	7.00	0.89
28	Jun-04	4.5	6.9	7.00	0.87
29	Nov-04	4.5	7.1	7.00	0.89
30	Jun-05	4.5	5.5	6.93	0.67
31	Dec-05	4.5	6.9	6.93	0.66
32	Jun-06	4.5	6.7	6.92	0.63
33	Nov-06	4.5	7.0	6.93	0.65
34	Jun-07	4.5	6.4	6.91	0.59
35	Nov-07	4.5	6.8	6.91	0.58
36	Jun-08	4.5	6.9	6.90	0.58
37	Nov-08	4.5	7.2	6.91	0.61
38	Jun-09	4.5	7.1	6.92	0.63



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	1,535.00	218.31
2	Aug-95	1100		
3	Jun-96	1600		
4	Aug-96	1500		
5	Nov-96	1600		
6	Aug-97	1530		
7	Nov-97	1800		
8	Feb-98	1750		

Ti	Date	SCL	Conc. (Xi)	Mean (Xi)	Standardized Mean (Zi)
9	May-98	4.5	1400	1,400.00	-0.62
10	Mar-99	4.5	982	1,191.00	-1.58
11	May-99	4.5	1460	1,280.67	-1.17
12	Jul-99	4.5	1262	1,276.00	-1.19
13	Oct-99	4.5	1116	1,244.00	-1.33
14	Mar-00	4.5	1250	1,245.00	-1.33
15	Jun-00	4.5	1310	1,254.29	-1.29
16	Sep-00	4.5	1440	1,277.50	-1.18
17	Nov-00	4.5	1040	1,251.11	-1.30
18	Mar-01	4.5	1110	1,237.00	-1.37
19	May-01	4.5	1470	1,258.18	-1.27
20	Nov-01	4.5	1110	1,245.83	-1.32
21	Mar-02	4.5	1290	1,249.23	-1.31
22	May-02	4.5	1200	1,245.71	-1.33
23	Mar-03	4.5	1270	1,247.33	-1.32
24	Jun-03	4.5	1300	1,250.63	-1.30
25	Oct-03	4.5	1040	1,238.24	-1.36
26	Feb-04	4.5	1920	1,276.11	-1.19
27	Jun-04	4.5	1300	1,277.37	-1.18
28	Nov-04	4.5	1160	1,271.50	-1.21
29	Jun-05	4.5	1780	1,295.71	-1.10
30	Dec-05	4.5	1640	1,311.36	-1.02
31	Jun-06	4.5	1355	1,313.26	-1.02
32	Nov-06	4.5	1610	1,325.63	-0.96
33	Jun-07	4.5	1640	1,338.20	-0.90
34	Nov-07	4.5	1600	1,348.27	-0.86
35	Jun-08	4.5	1510	1,354.26	-0.83
36	Nov-08	4.5	1510	1,359.82	-0.80
37	Jun-09	4.5	1530	1,365.69	-0.78

