

Intended for

Michigan Department of Environment, Great Lakes, and Energy

Document type

Landfill Leak Detection System Semiannual Report 2024

Date

August 2024

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



Bright ideas. Sustainable change.

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

Project name **RACER Trust Coldwater Road Landfill**
Project no. **15388/1940107203**
Recipient **Nicole Sanabria, Christina Hebert, & EGLE MMD**
Document type **Semiannual Report**
Date **August 30, 2024**
Prepared by **Kevin Schneider**
Checked by **Kevin Schneider**
Approved by **Clifford Yantz**
Description **Landfill Leak Detection System Semiannual Report**

Ramboll
2090 Commonwealth
Boulevard
Ann Arbor, MI 48105
USA

T 734-761-4000
F 734-761-2050
<https://ramboll.com>

CONTENTS

1.	Introduction	2
2.	Sampling and analysis	3
3.	Summary	6

TABLES

Table 1:	Vaults Historical Analytical Results
Table 2:	Landfill Sump and Vault Sampling Log

FIGURES

Figure 1:	Site Location Map
Figure 2:	Site Layout

APPENDICES

Appendix A:	Summary of Volumes Removed
Appendix B:	Analytical Laboratory Reports
Appendix C:	Leak Detection Vault Control Charts

1. INTRODUCTION

On behalf of Revitalizing Auto Communities Environmental Response Trust (RACER), Ramboll Americas Engineering Solutions, Inc. (Ramboll), presents the results of the 2024 semiannual leak detection system (LDS) sampling event conducted in June 2024 for the Coldwater Road Landfill site (**Figure 1**). A total of 8,852 gallons of liquid have been removed from the leak detection vaults through June 30, 2024, and a total of 4,617 gallons of leachate have been removed from the leachate collection sumps through June 30, 2024. Volumes are reported in the Quarterly Status Reports and summarized in **Appendix A**.

2. SAMPLING AND ANALYSIS

During this event samples were collected on June 4, 2024 from the six leak detection vaults (A through F) for laboratory analysis and the six leachate collection sumps (A through F) for laboratory analysis.

The samples were analyzed for total organic carbon (TOC, Method 5310C), total suspended solids (TSS, Method 2540D), specific conductivity (Method 120.1), in addition to dissolved chromium (Cr), dissolved copper (Cu), dissolved nickel (Ni), and dissolved zinc (Zn), all of which were analyzed using 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 B**).

The samples for the leak detection vaults were collected on June 4, 2024, using a peristaltic pump and tubing for each vault. Duplicate samples were collected from Vault C and Sump C. Samples were placed directly into laboratory prepared containers, logged onto a chain of custody form, and placed on ice for transport to Merit Laboratories, Inc., in East Lansing, Michigan.

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

Leak Detection Vaults:

- Chromium concentrations were not detected above the reporting limit of 5 µg/l. The results were within the range of the historic results, which ranged from below the reporting limit to 30 µg/l at Vault A (6/20/2011).
- Copper concentrations were not detected above the reporting limit of 5 µg/l. The results were within the range of the historic results, which ranged from below the reporting limit to 140 µg/l at Vault C (6/20/2000).
- Nickel concentrations ranged from below the reporting limit of 5 µg/l in Vault B and Vault E to 21 µg/l in Vault D. The results were within the range of the historic results, which ranged from below the reporting limit to 125 µg/l at Vault D (11/15/1997).
- Zinc concentrations ranged from below the reporting limit of 5 µg/l in Vault B, Vault C, Vault E, and Vault F to 7 µg/l in Vault D. The results were within the range of the historic results, which ranged from below the reporting limit to 230 µg/l at Vault C (5/29/2019).

- TOC concentrations ranged from 1.2 mg/l in Vault B to 4.6 mg/l in Vault D. The results were similar or less than historic results, which ranged from 1.8 mg/l at Vault F (11/17/2008) and Vault A (6/6/2023 to 140 mg/l at Vault A (3/27/1996).
- TSS concentrations were not detected above the reporting limit of 3 mg/l. The results were within the range of the historic results, which ranged from below the reporting limit to 7,100 mg/l at Vault F (11/11/1996).
- pH ranged from 6.84 in Vault B and Vault E to 6.96 in Vault F. The results were within the range of the historic results, which ranged from 5.47 at Vault F (6/15/2005) to 10.01 at Vault A (1/17/2006).
- Specific conductivity ranged from 997 $\mu\text{s}/\text{cm}$ in Vault B to 1,708 $\mu\text{s}/\text{cm}$ in Vault C and Vault-Dup-06042024 (Vault C). The results were within the range of the historic results, which ranged from 340 $\mu\text{s}/\text{cm}$ at Vault C (8/30/1995) to 3,250 $\mu\text{s}/\text{cm}$ at Vault A (5/6/1999).

Leachate Sumps:

- Chromium concentrations ranged from 25 $\mu\text{g}/\text{l}$ in Sump E to 760 $\mu\text{g}/\text{l}$ in Sump B. The results were similar to historic results, which ranged from below the reporting limit to 1,490 $\mu\text{g}/\text{l}$ at Sump B (6/6/2013).
- Copper concentrations ranged from 40 $\mu\text{g}/\text{l}$ in Sump E to 1,580 $\mu\text{g}/\text{l}$ in Sump C. The results were similar to historic results, which ranged from below the reporting limit in Sump E (5/7/1997) and Sump F (12/12/2003) to 18,000 at Sump C (3/23/1995).
- Nickel concentrations ranged from 15 $\mu\text{g}/\text{l}$ in Sump E to 337 $\mu\text{g}/\text{l}$ in Sump D. The results were similar to historic results, which ranged from below the reporting limit in Sump E (6/14/2010) and Sump F (6/14/2010) to 2,500 $\mu\text{g}/\text{l}$ at Sump C (11/11/1996).
- Zinc concentrations ranged from not detected above the reporting limit of 5 $\mu\text{g}/\text{l}$ in Sump-DUP-06042024 (Sump C), Sump D, and Sump E to 14 $\mu\text{g}/\text{l}$ in Sump B. The results were similar or less than historic results, which ranged from below the reporting limit to 160 $\mu\text{g}/\text{l}$ at Sump F (5/31/2002).
- TOC concentrations ranged from 17 mg/l in Sump E to 77 mg/l in Sump-DUP-06042024 (Sump C). The results were similar to historic results, which ranged from 2.9 mg/l at Sump F (11/10/2000) to 800 mg/L at Sump B (3/23/1995).
- TSS concentrations ranged from not detected above the reporting limit of 3 mg/l in Sump E and Sump F to 13.2 mg/l in Sump A. The results were similar or less than historic results, which ranged from below the reporting limit to 69,000 mg/l at Sump D (8/30/1995).
- pH ranged from 7.95 in Sump B to 10.26 in Sump D. The results were within the range of the historic results, which ranged from 5.60 in Sump E (11/6/1998) to 12.30 Sump D (3/23/1995).

- Specific conductivity ranged from 1,681 $\mu\text{s}/\text{cm}$ in Sump A to 3,890 $\mu\text{s}/\text{cm}$ in Sump-DUP-06042024 (Sump C). The results were similar to historic results, which ranged from 682 $\mu\text{s}/\text{cm}$ at Sump F (4/26/1999) to 19,920 $\mu\text{s}/\text{cm}$ at Sump E (6/5/2015).
- Sump D was the only sump with VOCs detected. Acetone was detected in Sump D at a concentration of 410 $\mu\text{g}/\text{l}$. VOCs (including acetone at higher concentrations) have been detected in Sump D during previous events.

3. SUMMARY

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

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

There were no spikes (calculated using mean plus one standard deviation of all the sampling events per the Post Closure Care Plan, March 2024) in the vaults pH readings as observed during the previous semiannual sampling event in November 2023. The pH readings this event were back in range of historical results.

The next semiannual sampling event will be completed in November 2024. If you have any questions, please feel free to contact Clifford Yantz at (313) 333-0211.

Certification

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

On Behalf of RACER Trust



Clifford S. Yantz
Project Manager – Ramboll Americas Engineering Solutions, Inc.
Agent for RACER Trust

Date: August 30, 2024
cc: file

TABLES



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

Vault	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn
		<i>EGLE Residential Drinking Water Criteria & RBSLs</i>					<i>100 (A)</i>	<i>1,000 (E)</i>	<i>100 (A)</i>	<i>2,400</i>
Vault A	23-Mar-95	4.6	<1	7.50	690	--	<20	<20	<40	180
	20-Jun-95	8.9	2.0	6.80	1900	--	24	21	<30	<20
	30-Aug-95	8.2	2.0	6.90	2000	--	<20	<20	<40	<20
	28-Nov-95	9.1	<1	7.00	1900	--	23	31	43	24
	27-Mar-96	140.0	<10	7.20	2000	--	<20	<20	46	<20
	18-Jun-96	12.0	<10	6.90	2000	--	<20	<20	<20	<20
	20-Aug-96	32.0	<5	7.10	1900	--	<20	<20	<20	30
	11-Nov-96	18.0	5.0	7.10	2000	--	<20	<20	30	60
	19-Feb-97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9-May-97	13.0	17.0	6.67	1940	9.7	<10	<6.7	71	90
	12-Aug-97	6.0	4.0	5.98	1810	12.8	<10	<10	88	60
	15-Nov-97	8.0	12.0	6.50	2000	12.0	<10	10	125	100
	9-Feb-98	6.0	8.0	6.40	1960	11.5	<10	<10	73	60
	14-May-98	12.0	15.0	6.90	1760	17.4	<10	20	13	200
	14-Aug-98	5.0	6.0	6.70	--	--	<10	<10	15	160
	13-Nov-98	5.0	12.0	6.50	1990	16.5	<10	<10	20	220
	19-Mar-99	5.7	8.0	6.80	1334	13.6	<10	10	14	60
	6-May-99	5.6	16.0	6.85	3250	26.2	<10	<10	15	20
	23-Jul-99	5.7	3.0	6.30	1470	18.9	<5	9	13	19
	22-Oct-99	5.0	3.0	5.86	1750	12.1	<10	<10	16	30
	14-Mar-00	5.6	<1	7.60	1410	10.7	<10	<10	15	20
	20-Jun-00	7.0	3.0	6.90	1410	18.3	<10	<10	12	20
	13-Sep-00	5.9	5.0	7.50	1650	15.1	<5	<10	14	20
	10-Nov-00	6.4	2.0	7.20	1470	11.8	<10	100	10	150
	12-Mar-01	6.0	1.0	7.43	1530	12.8	<10	<10	7	10
	24-May-01	9.4	10.0	7.56	1380	11.9	<10	<10	10	20
	31-Aug-01	5.3	10.6	7.49	1450	12.5	<5	<10	14	9
	16-Nov-01	5.1	3.0	6.77	1300	12.4	<10	<10	15	50
	8-Mar-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	31-May-02	2.4	54.0	7.23	1470	13.8	<10	<10	<5	40
	5-Sep-02	4.7	6.0	6.60	--	--	<5	<5	14	140
	12-Dec-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	18-Mar-03	6.7	8.0	6.81	1290	12	<5	<5	9	99
	4-Jun-03	2.0	11.0	6.78	1370	11.3	<5	<5	10	<5
	5-Oct-03	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8-Dec-03	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Feb-04	NS	NS	NS	NS	NS	NS	NS	NS	NS
	30-Jun-04	4.5	55.0	6.99	1318	12.5	<5	<5	8	<5
	19-Nov-04	3.4	2.0	6.85	1120	11.4	6	<5	15	14
	19-Nov-04	4.4	4.0	--	--	--	6	<5	18	16
	15-Jun-05	6.0	8.0	6.00	1640	13.4	<5	<5	13	21
	17-Jan-06	5.9	12785	10.01	1630	8.4	<5	<5	13	8
	14-Feb-06	--	--	7.88	1800	8.5	--	--	14	--
	29-Jun-06	NS	NS	NS	NS	NS	NS	NS	NS	NS
	28-Nov-06	4.7	438	7.73	1940	13.2	<5	<4	13	6
6-Jun-07	4.9	11	6.76	1990	11.7	13	4	20	8	
12-Nov-07	5.9	70	6.76	2030	12.4	4	5	21	11	
24-Jun-08	5.0	371	6.89	2060	13.3	<5	<1	25	5	
17-Nov-08	5.8	23	6.06	2060	9.2	<5	<1	22	<5	
23-Jun-09	5.5	88	7.01	2050	13.6	<5	11	27	36	
17-Nov-09	6	8	7.07	2090	10.3	<5	<4	22	7	
14-Jun-10	6	10	7.05	2070	13.1	8	<4	16	6	
20-Jun-11	6.7	9	7.33	2010	12.2	30	<4	27	39	
14-Jul-11	--	--	--	--	--	<5	--	--	--	
14-Nov-11	7.0	316	6.93	2080	11.5	<5	<4	20	<5	
25-Jun-12	6.0	6	5.75	1870	11.9	<5	<4	25	<5	
25-Jun-12	6.0	6	5.75	1872	11.9	<5	6	25	10	
5-Dec-12	5.8	2	6.76	1820	10.6	<5	<4	24	10	
5-Dec-12	5.8	3	6.76	1814	10.6	<5	<4	24	8	
6-Jun-13	6.1	4	6.71	1882	11.0	<5	<4	22	<5	
4-Nov-13	5.0	<1	6.71	1630	11.2	<5	<4	18	<5	
23-Jun-14	5.0	3	6.82	1579	13.2	<5	<4	18	<5	
18-Nov-14	4.1	2	6.27	1525	6.6	<5	<4	25	20	
25-Jun-15	4.5	2	6.64	1507	11.2	<5	6	21	10	
17-Nov-15	3.6	1	6.64	1423	11.7	<5	<5	20	5	
21-Jun-16	3.8	<3	6.93	1364	12.0	<5	<5	14	<5	
21-Jun-16	3.9	<3	6.93	1362	12.0	<5	<5	13	<5	
28-Nov-16	3.3	<3	6.82	1378	11.4	<5	<5	15	<5	
19-Jun-17	4.2	<3	6.90	1450	11.4	<5	<5	15	<5	
6-Nov-17	3.6	<3	6.16	1363	11.8	<5	<5	17	<5	
11-Jun-18	4.3	<3	6.45	1447	11.0	<5	<5	15	10	
7-Nov-18	4.1	<3	6.50	1451	6.0	<5	<5	16	6	
29-May-19	8.4	<3	7.13	1436	9.1	<5	<5	15	<5	
19-Nov-19	5.8	<3	6.89	1291	10.6	<5	<5	15	<5	
15-Jun-20	7.9	<3	6.84	1378	17.2	<5	<5	11	<5	
4-Nov-20	6.7	<3	6.69	1010	14.4	<5	<5	12	<5	
16-Jun-21	6.6	<3	6.89	1247	12.9	<5	<5	5	<5	
4-Nov-21	6.6	<3	6.94	1187	13.9	<5	<5	11	5	
6-Jun-22	8.1	<3	7.21	1280	13.1	<5	<5	29	27	
1-Nov-22	8.1	<3	6.55	1219	11.6	<5	5	10	10	
6-Jun-23	1.8	<3	6.82	1310	13.0	<5	<5	11	<5	
7-Nov-23	1.8	<4	7.45	1450	11.4	<5	<5	18	6	
4-Jun-24	3.0	<3	6.86	1389	15.6	<5	<5	13	5	

See notes on page 6.



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

Vault	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn
		EGLE Residential Drinking Water Criteria & RBSLs					100 (A)	1,000 (E)	100 (A)	2,400
Vault B	23-Mar-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	20-Jun-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	30-Aug-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	28-Nov-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Mar-96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	18-Jun-96	11.0	<10	6.90	1900	--	<20	<20	<20	<20
	20-Aug-96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11-Nov-96	17.0	66.0	7.00	1600	--	<20	<20	20	40
	19-Feb-97	7.0	4	7.10	1590	8.9	<10	<10	43	20
	7-May-97	7.0	4	6.50	1930	13.8	<10	<10	45	20
	12-Aug-97	5.0	3.0	6.45	663	26.0	<10	<10	26	60
	15-Nov-97	6.0	4.0	6.80	1400	11.0	<10	<10	96	50
	9-Feb-98	7.0	8.0	6.60	1560	12.6	<10	<10	57	20
	14-May-98	6.0	3.0	6.90	1490	11.2	<10	<10	14	30
	14-Aug-98	4.0	7.0	6.60	--	--	<10	<10	10	14
	13-Nov-98	6.0	18.0	6.30	1940	20.6	<10	10	17	80
	19-Mar-99	4.2	6.0	6.50	817	14.2	<10	<10	5	<10
	6-May-99	5.6	4.0	7.00	1330	26.2	<10	10	6	20
	23-Jul-99	5.8	3.0	6.50	1070	16.2	<5	13	10	18
	22-Oct-99	5.0	5.0	6.23	1440	11.0	<10	<10	16	20
	14-Mar-00	6.6	<1	8.00	900	11.0	<10	<10	8	20
	20-Jun-00	7.1	7.0	6.80	1120	17.3	<10	30	9	30
	13-Sep-00	5.4	<1	7.40	1560	15.6	<5	10	8	20
	10-Nov-00	6.8	1.0	7.10	1280	11.6	<5	40	14	90
	12-Mar-01	5.2	5.0	7.36	1460	12.3	<10	<10	7	20
	24-May-01	8.5	10.0	7.58	1280	13.0	<10	20	12	40
	31-Aug-01	3.9	<1.3	7.78	1370	12.9	<5	<10	11	20
	16-Nov-01	5.7	2.0	7.12	1230	13.1	<10	10	8	60
	8-Mar-02	5.4	2.0	6.99	2400	8.5	<10	10	<5	70
	31-May-02	5.1	3.0	7.23	1070	14.2	<10	<10	<5	20
	5-Sep-02	4.8	4.0	6.70	--	--	<5	<5	8	84
	12-Dec-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	18-Mar-03	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4-Jun-03	5.5	3.0	6.98	1530	10.1	<5	<5	7	<5
	5-Oct-03	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8-Dec-03	4.7	2.0	7.12	1490	11.5	<5	6	5	35
	8-Dec-03	4.7	7.0	--	--	--	<5	6	5	35
	27-Feb-04	4.0	12.0	7.42	1380	12.3	<5	5	<5	16
	30-Jun-04	4.1	396.0	6.98	1210	11.8	<5	12	7	<5
	19-Nov-04	NS	NS	NS	NS	NS	NS	NS	NS	NS
	15-Jun-05	6.0	6.0	6.07	1560	12.8	<5	<5	14	20
	1-Dec-05	4.7	<1	6.87	1310	9.1	<5	<5	8	50
	Re-sample	14-Feb-06	--	--	7.70	1520	6.1	--	--	--
	Duplicate	29-Jun-06	2.6	1.0	7.04	1050	13.9	<5	4	8
		28-Nov-06	5.5	4.0	7.46	1380	13.0	<5	4	11
	Duplicate	28-Nov-06	4.7	--	7.17	1340	13.0	5	4	11
		6-Jun-07	4.7	2.0	6.34	1670	12.1	9	6	13
		12-Nov-07	3.8	1.0	6.93	1690	12.6	2	5	16
	24-Jun-08	3.2	6.0	6.95	1880	14.0	<5	2	8	
	17-Nov-08	2.4	<1	6.89	1818	9.6	<5	2	8	
Duplicate	17-Nov-08	1.7	2.0	6.89	1820	9.6	<5	1	8	
	23-Jun-09	3.6	4.0	7.13	1780	13.3	<5	1	6	
	17-Nov-09	3	0	6.99	1970	10.9	<5	<4	9	
	14-Jun-10	3	2	6.90	1810	12.1	8	<4	5	
Re-sample	8-Nov-10	4	3	6.93	1911	12.2	21	<4	11	
	1-Dec-10	--	--	6.93	--	12.2	6	--	--	
Re-sample	20-Jun-11	3.4	1	7.03	1496	12.2	28	<4	11	
	14-Jul-11	--	--	--	--	<5	--	--	--	
	14-Nov-11	3.0	1	6.93	1948	12.0	<5	<4	7	
	25-Jun-12	3.0	4	6.16	1781	12.5	<5	<4	<5	
	5-Dec-12	3.2	5	6.85	1936	10.2	<5	6	9	
	6-Jun-13	3.2	<1	6.66	1455	10.8	<5	<4	6	
	4-Nov-13	3.0	1	6.74	1750	11.8	<5	<4	5	
	23-Jun-14	3.2	1	6.87	1369	12.3	<5	<4	<5	
	18-Nov-14	2.7	3	7.05	1656	7.1	<5	<4	13	
	25-Jun-15	3.0	<1	7.07	1513	13.4	<5	5	11	
	17-Nov-15	2.6	3	6.76	1635	11.7	<5	<5	9	
	21-Jun-16	2.7	<3	6.89	1176	13.7	<5	<5	<5	
	28-Nov-16	2.2	<3	6.78	1654	11.3	<5	<5	<5	
	19-Jun-17	2.5	<3	6.80	1110	11.6	<5	<5	<5	
	6-Nov-17	2.6	<3	6.28	1450	12.0	<5	<5	<5	
	11-Jun-18	2.4	<3	6.51	1064	11.4	<5	<5	5	
	7-Nov-18	2.9	<3	6.60	1463	5.0	<5	<5	5	
Duplicate	7-Nov-18	2.5	<3	6.60	1450	5.0	<5	<5	<5	
	29-May-19	6.0	<3	7.21	1058	9.8	<5	<5	7	
	19-Nov-19	4.8	<3	7.00	1235	9.9	<5	<5	8	
	15-Jun-20	6.2	<3	6.93	1165	15.6	<5	<5	<5	
Duplicate	4-Nov-20	7.4	<3	6.62	1053	12.5	<5	<5	<5	
	4-Nov-20	5.4	<3	6.62	1045	12.5	<5	<5	<5	
	16-Jun-21	6.0	<3	6.88	1046	15.4	<5	<5	<5	
	4-Nov-21	6.7	<3	6.86	1208	12.2	<5	<5	5	
	7-Jun-22	6.6	<3	6.81	1170	10.9	<5	<5	<5	
	1-Nov-22	6.3	14	6.56	1283	11.9	<5	<5	<5	
	6-Jun-23	<1	<3	6.82	1290	15.0	<5	<5	6	
	7-Nov-23	2.4	<3	7.60	1340	11.8	<5	<5	5	
	4-Jun-24	1.2	<3	6.84	997	12.8	<5	<5	<5	

See notes on page 6.



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

Vault	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn
		EGLE Residential Drinking Water Criteria & RBSLs					100 (A)	1,000 (E)	100 (A)	2,400
Vault C	23-Mar-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	20-Jun-95	4.4	<1	7.40	530	--	25	25	<30	NS
	30-Aug-95	3.7	<1	7.40	340	--	<20	<20	<40	74
	28-Nov-95	7.6	<1	7.00	2200	--	29	37	67	36
	27-Mar-96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	18-Jun-96	7.7	<10	6.90	2000	--	<20	<20	<20	<20
	20-Aug-96	8.3	<5	6.90	1900	--	<20	<20	<20	40
	11-Nov-96	16.0	9.0	7.00	2100	--	<20	<20	<20	80
	19-Feb-97	7.0	1.0	7.60	1610	9.0	<10	<10	45	30
	7-May-97	6.0	10.0	6.57	1730	12.5	<10	100	66	20
	8-Aug-97	4.0	13.0	6.34	1610	24.1	<10	<10	79	20
	15-Nov-97	6.0	4.0	6.70	2000	12.0	<10	<10	122	50
	9-Feb-98	8.0	4.0	6.50	1720	12.2	<10	<10	64	50
	14-May-98	6.0	3.0	6.90	1600	12.1	<10	<10	23	40
	14-Aug-98	6.0	5.0	6.80	--	--	<10	<10	23	40
	13-Nov-98	6.0	12.0	6.30	1760	21.4	<10	<10	21	30
	13-Nov-98	6.0	10.0	--	--	--	<10	<10	21	30
	19-Mar-99	6.3	2.0	7.00	1300	15.6	<10	<10	19	20
	6-May-99	6.1	8.0	6.90	1600	26.6	<10	10	20	20
	23-Jul-99	6.5	0.0	6.70	1370	17.3	<5	12	20	20
	22-Oct-99	6.4	5.0	6.57	1160	11.0	<10	<10	18	10
	14-Mar-00	6.5	1.0	7.80	1350	12.6	<10	<10	17	10
	20-Jun-00	6.0	4.0	6.90	1280	18.3	<10	140	19	170
	13-Sep-00	6.1	<1	7.60	1430	14.9	<5	<10	16	20
	10-Nov-00	10.6	4.0	6.80	1210	12.1	<10	<10	17	40
	12-Mar-01	6.3	4.0	7.69	1380	12.1	<10	<10	8	<10
	24-May-01	9.2	8.0	7.54	1410	13.3	<10	<10	17	30
	31-Aug-01	5.4	4.0	7.44	1530	13.1	<5	<10	16	20
	16-Nov-01	6.0	2.0	6.79	1170	13.2	<10	<10	15	60
	8-Mar-02	4.0	1.0	7.09	1680	11.3	<10	10	<5	20
	31-May-02	5.1	7.0	7.17	1280	14.2	<10	<10	14	40
	5-Sep-02	5.0	7.0	6.69	--	--	<5	<5	14	39
	12-Dec-02	4.2	7.0	6.90	1330	12.1	<5	<5	12	53
	18-Mar-03	5.7	4.0	6.80	1260	10.7	<5	<5	10	37
	4-Jun-03	4.4	6.0	6.92	1150	11.0	<5	<5	8	<5
	5-Oct-03	4.4	4.0	6.99	1230	13.6	<5	<5	14	28
	8-Dec-03	3.8	6.0	7.14	1520	11.6	<5	11	14	63
	27-Feb-04	4.6	1.0	7.39	1410	12.1	<5	<5	12	36
	30-Jun-04	3.7	14.0	6.96	1008	12.2	<5	<5	12	8
	19-Nov-04	4.3	4.0	6.90	1090	11.7	<5	<5	20	6
	15-Jun-05	5.0	6.0	6.26	1460	12.5	<5	<5	15	39
	1-Dec-05	5.9	2.0	6.92	1620	11.1	<5	<5	18	15
	29-Jun-06	2.6	5.0	6.90	2260	15.2	5	<4	10	11
	28-Nov-06	11.6	44.0	7.04	1430	13.4	<5	5	15	<5
	6-Jun-07	4.9	6.0	6.54	1510	12.2	9	5	11	6
12-Nov-07	4.3	1.0	6.90	1490	13.2	2	5	16	12	
24-Jun-08	4.2	49.0	6.91	1620	13.4	<5	<1	9	<5	
17-Nov-08	4.4	6.0	6.79	1600	9.4	<5	<1	10	11	
23-Jun-09	4.6	9.0	7.16	1660	13.7	<5	<1	8	6	
17-Nov-09	5	15	7.11	1650	11.5	<5	<4	9	6	
Duplicate	17-Nov-09	5	20	7.11	1650	11.5	<5	<4	9	6
14-Jun-10	5	4	7.01	1710	12.4	7	<4	7	7	
8-Nov-10	6	7	7.16	1670	12.7	16	<4	11	<5	
20-Jun-11	5.4	5	7.28	1686	12.9	25	<4	15	22	
Duplicate	20-Jun-11	5.9	5	7.28	1688	12.9	24	14	21	
Re-sample	14-Jul-11	--	--	--	--	<5	--	--	--	
14-Nov-11	5.0	5	6.97	1699	12.4	<5	<4	10	<5	
25-Jun-12	5.0	7	6.83	1748	13.0	<5	<4	6	<5	
5-Dec-12	5.4	1	6.91	1713	11.1	<5	11	16	9	
6-Jun-13	5.4	22	6.66	1744	12.2	<5	<4	10	6	
4-Nov-13	5.3	1	6.84	1703	11.8	<5	<4	8	<5	
23-Jun-14	5.7	4	7.01	1759	12.3	<5	5	10	<5	
18-Nov-14	4.6	4	7.09	1724	7.4	<5	<4	18	5	
25-Jun-15	5.1	6	6.87	1788	12.4	<5	6	14	8	
17-Nov-15	4.4	0	6.84	1706	12.1	<5	<5	17	<5	
21-Jun-16	5.0	6	6.82	1795	14.5	<5	<5	11	6	
28-Nov-16	4.9	4	6.89	1808	11.1	<5	<5	9	<5	
19-Jun-17	5.0	3	6.88	1805	12.2	<5	<5	11	<5	
Duplicate	6-Nov-17	4.9	3	6.36	1764	11.7	<5	10	<5	
6-Nov-17	4.9	<3	6.36	1761	11.7	<5	<5	10	<5	
11-Jun-18	4.7	5	6.75	1774	12.1	<5	<5	8	<5	
Duplicate	11-Jun-18	5.2	3	6.75	1789	12.1	<5	8	<5	
7-Nov-18	5.3	<3	6.90	1696	4.0	<5	<5	11	<5	
29-May-19	8.0	6	7.17	1668	9.6	<5	<5	8	230	
Re-sample	7-Jun-19	--	--	--	--	--	--	--	<5	
19-Nov-19	6.7	<3	7.08	1635	10.6	<5	<5	9	<5	
Duplicate	19-Nov-19	6.9	<3	7.08	1638	10.6	<5	10	<5	
16-Jun-20	9.7	3	7.13	1747	12.2	<5	<5	8	<5	
Duplicate	16-Jun-20	10.0	3	7.13	1746	12.2	<5	8	<5	
4-Nov-20	7.4	1	6.67	1438	12.7	<5	<5	10	<5	
16-Jun-21	8.2	4	6.96	1771	15.1	<5	<5	8	<5	
Duplicate	16-Jun-21	7.6	3	6.96	1766	15.1	<5	9	<5	
4-Nov-21	7.5	<3	6.96	1649	11.6	<5	<5	8	<5	
Duplicate	4-Nov-21	7.2	<3	6.96	1305	11.6	<5	8	<5	
7-Jun-22	9.0	<3	6.82	1760	11.7	<5	<5	9	5	
Duplicate	7-Jun-22	8.6	<3	6.82	1740	11.7	<5	10	<5	
1-Nov-22	9.6	<3	6.63	1716	11.7	<5	<5	9	<5	
Duplicate	1-Nov-22	9.8	3	6.63	1716	11.7	<5	9	<5	
6-Jun-23	3.0	<3	6.95	1720	13.7	<5	<5	8	7	
Duplicate	6-Jun-23	2.9	<3	6.95	1730	13.7	<5	8	8	
7-Nov-23	4.1	<3	7.52	1660	11.7	<5	<5	8	5	
Duplicate	4-Jun-24	4.2	<3	6.96	1708	15.0	<5	8	<5	
Duplicate	4-Jun-24	4.2	<3	6.96	1708	15.0	<5	7	<5	

See notes on page 6.

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

Vault	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn
		<i>EGLE Residential Drinking Water Criteria & RBSLs</i>					<i>100 (A)</i>	<i>1,000 (E)</i>	<i>100 (A)</i>	<i>2,400</i>
Vault D	23-Mar-95	8.9	83.0	7.30	2200	--	13	<20	44	<20
	20-Jun-95	NS	NS	NS	NS	--	NS	NS	NS	NS
	30-Aug-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	28-Nov-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Mar-96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	18-Jun-96	11.0	150.0	6.90	1800	--	<20	<20	<20	40
	20-Aug-96	40.0	<5	7.20	1600	--	<20	<20	<20	40
	11-Nov-96	23.0	9.0	7.00	1700	--	<20	<20	<20	70
	19-Feb-97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9-May-97	23.0	76.0	6.69	1580	8.8	<10	<10	58	70
	8-Aug-97	11.0	44.0	6.48	1540	28.5	<10	<10	79	20
	15-Nov-97	12.0	6.0	6.60	1800	11.0	<10	<10	114	30
	9-Feb-98	12.0	52.0	6.50	1655	12.5	<10	<10	66	40
	14-May-98	10.0	40.0	7.00	1700	16.3	<10	30	23	50
	14-Aug-98	11.0	57.0	6.60	--	--	<10	<10	23	40
	13-Nov-98	11.0	22.0	6.70	1790	15.2	<10	<10	20	30
	19-Mar-99	6.3	2.0	7.00	1302	14.8	<10	30	20	40
	6-May-99	12.4	28.0	6.90	1510	25.2	<10	30	15	30
	23-Jul-99	11.0	40.0	7.00	1231	21.0	<5	9	21	19
	22-Oct-99	10.6	13.0	6.76	1384	10.3	<10	<10	23	20
	14-Mar-00	10.7	57.0	7.80	1460	13.0	<10	<10	15	20
	20-Jun-00	10.1	23.0	6.80	1410	18.7	<10	60	21	70
	13-Sep-00	10.7	7.0	7.60	1370	16.1	<5	<10	21	20
	10-Nov-00	7.0	10.0	7.20	1630	12.2	<10	<10	23	20
	12-Mar-01	5.6	33.0	7.84	1710	12.9	<10	<10	11	10
	24-May-01	12.0	16.0	7.48	1760	13.1	<10	70	18	30
	31-Aug-01	9.8	8.0	7.66	1420	12.8	5	<10	24	20
	16-Nov-01	7.4	20.0	7.58	1270	12.9	<10	10	17	50
	8-Mar-02	8.4	3.0	7.18	1430	10.9	<10	10	<5	10
	31-May-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5-Sep-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12-Dec-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	18-Mar-03	8.9	15.0	6.77	1380	11.6	<5	5.0	10.0	19
	4-Jun-03	9.6	5.0	6.91	1430	11.0	<5	<5	8	<5
	5-Oct-03	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8-Dec-03	6.1	4.0	6.92	1330	11.0	8	17	14	63
	27-Feb-04	NS	NS	NS	NS	NS	NS	NS	NS	NS
	30-Jun-04	6.5	5.0	6.96	1050	12.1	<5	<5	30	9
	19-Nov-04	NS	NS	NS	NS	NS	NS	NS	NS	NS
	15-Jun-05	6.0	6.0	5.90	1540	12.9	<5	<5	25	17
	17-Jan-06	6.2	8.0	7.34	1600	7.9	6	14	37	<5
	Re-sample	--	--	7.96	1520	9.2	--	5	--	--
29-Jun-06	5.9	51.0	6.98	1570	13.9	6	<4	26	14	
28-Nov-06	7.2	13.0	7.18	1590	13.1	<5	<4	17	7	
6-Jun-07	6.9	7.0	7.30	1530	14.2	9	5	34	8	
Duplicate	12-Nov-07	7.3	5.0	6.91	1580	12.3	3	5	23	12
	12-Nov-07	6.0	7.0	6.91	1570	12.3	3	5	23	9
Duplicate	24-Jun-08	4.1	4.0	6.87	1570	15.4	<5	<1	35	<5
	17-Nov-08	5.6	10.0	7.42	1580	8.0	<5	1	17	6
Duplicate	23-Jun-09	7.0	20.0	7.17	1570	13.7	<5	<1	34	5
	17-Nov-09	6.0	7	7.28	1610	11.5	<5	<4	16	7
Duplicate	14-Jun-10	7.0	35	7.10	1550	11.9	8	<4	32	11
	14-Jun-10	7.0	1	7.10	1550	11.9	7	<4	33	11
Duplicate	8-Nov-10	9.0	31	7.41	1555	13.4	19	<4	18	<5
	14-Jul-11	--	--	7.23	--	18.0	<5	<4	40	<5
Duplicate	14-Nov-11	9.0	5	7.04	1513	11.8	<5	<4	25	<5
	25-Jun-12	5.0	3	5.70	1367	14.5	<5	16	29	15
Duplicate	5-Dec-12	7.3	3	7.11	1471	10.4	<5	11	33	22
	6-Jun-13	7.5	3	6.76	1534	11.5	<5	5	18	75
Duplicate	4-Nov-13	7.2	<1	7.03	1565	11.8	<5	4	13	7
	4-Nov-13	7.6	<1	7.03	1562	11.8	<5	<4	13	9
Duplicate	23-Jun-14	8.0	7	7.10	1592	12.2	<5	4	15	9
	23-Jun-14	7.9	2	7.10	1591	12.2	<5	<4	16	8
Duplicate	18-Nov-14	6.2	2	7.02	1635	7.6	<5	10	20	11
	18-Nov-14	6.0	<1	7.02	1640	7.6	<5	5	21	12
Duplicate	25-Jun-15	6.9	3	6.93	1643	11.8	<5	8	23	17
	17-Nov-15	5.7	3	6.84	1729	12.2	<5	<5	17	10
Duplicate	21-Jun-16	6.9	3	7.04	1656	14.7	<5	6	13	10
	28-Nov-16	5.2	<3	6.91	1659	10.7	<5	6	17	9
Duplicate	19-Jun-17	7.3	<3	6.83	1655	16.7	<5	<5	15	10
	6-Nov-17	5.9	<3	6.44	1650	11.7	<5	<5	12	6
Duplicate	11-Jun-18	6.5	<3	6.82	1655	13.6	<5	<5	14	9
	7-Nov-18	6.5	<3	7.00	1619	7.0	<5	<5	35	<5
Duplicate	29-May-19	9.9	<3	7.37	1583	10.2	<5	<5	13	8
	19-Nov-19	6.7	<3	7.08	1671	10.6	<5	<5	13	8
Duplicate	16-Jun-20	9.8	<3	7.09	1586	13.8	<5	<5	12	6
	4-Nov-20	9.8	<3	6.66	1406	13.3	<5	<5	12	6
Duplicate	16-Jun-21	8.8	<3	6.92	1527	20.5	<5	<5	12	6
	4-Nov-21	8.8	<3	7.06	1186	11.2	<5	<5	19	7
Duplicate	7-Jun-22	9.5	<3	6.72	1450	13.1	<5	<5	11	<5
	1-Nov-22	9.8	<3	6.61	1440	11.8	<5	6	9	7
Duplicate	7-Jun-23	3.4	<3	6.86	1470	15.3	<5	<5	11	8
	7-Nov-23	4.6	<3	7.49	1550	11.6	<5	<5	13	9
Duplicate	7-Nov-23	4.5	<3	7.49	1550	11.6	<5	<5	13	12
	4-Jun-24	4.6	<3	6.94	1462	15.6	<5	<5	21	7

See notes on page 6.



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

Vault	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn
		EGLE Residential Drinking Water Criteria & RBSLs					100 (A)	1,000 (E)	100 (A)	2,400
Vault E	23-Mar-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	20-Jun-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	30-Aug-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	28-Nov-95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Mar-96	110.0	<10	7.20	2000	--	<20	<20	46	<20
	18-Jun-96	9.0	76.0	7.00	2400	--	<20	<20	<20	<20
	4-Oct-96	5.9	19.0	6.90	2000	--	<20	<20	<20	20
	11-Nov-96	12.0	11.0	7.00	1800	--	<20	<20	<20	30
	19-Feb-97	NS	NS	NS	NS	NS	NS	NS	NS	NS
	7-May-97	7.0	2.0	6.33	2120	15.6	<10	<10	35	30
	12-Aug-97	5.0	27.0	6.70	1840	14.9	<10	<10	64	40
	15-Nov-97	5.0	12.0	6.50	2100	11.0	<10	<10	116	40
	9-Feb-98	6.0	4.0	6.60	1950	12.6	<10	<10	54	50
	14-May-98	6.0	32.0	7.10	1850	13.5	<10	<10	7	60
	14-Aug-98	4.0	8.0	6.70	--	--	<10	<10	8	40
	30-Nov-98	3.0	14.0	--	--	--	10	<10	46	60
	19-Mar-99	4.8	20.0	6.50	1302	14.3	<10	20	6	30
	6-May-99	8.2	14.0	6.90	1720	27.4	<10	<10	5	20
	23-Jul-99	4.6	9.0	6.50	1468	21.8	<5	11	6	19
	22-Oct-99	3.5	6.0	6.33	1382	11.0	<10	<10	6	20
	14-Mar-00	5.6	48.0	8.00	1500	13.9	<10	<10	5	10
	20-Jun-00	6.3	22.0	6.90	1430	19.6	<10	30	<5	30
	13-Sep-00	4.1	5.0	7.70	1360	15.7	<5	<10	5	20
	10-Nov-00	4.3	4.0	7.50	1290	11.8	<10	40	5	60
	12-Mar-01	5.4	9.0	7.33	--	12.7	<10	<10	5	10
	24-May-01	8.6	10.0	7.52	1900	13.6	<10	10	6	40
	31-Aug-01	5.7	5.3	7.58	1810	13.2	<5	10	6	70
	16-Nov-01	3.6	<1.0	7.46	1630	12.8	<10	10	6	60
	8-Mar-02	6.0	<1.0	7.01	1570	9.8	<10	10	6	90
	31-May-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5-Sep-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12-Dec-02	NS	NS	NS	NS	NS	NS	NS	NS	NS
	18-Mar-03	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4-Jun-03	5.1	6.0	6.92	1470	11.0	<5	6.0	<5	50
	5-Oct-03	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8-Dec-03	NS	NS	NS	NS	NS	NS	NS	NS	NS
	27-Feb-04	5.4	4.0	7.61	1190	12.1	<5	6	7	43
	30-Jun-04	4.9	390	6.91	1337	12.7	<5	<5	6	43
	19-Nov-04	4.3	3	7.06	1230	11.4	<5	7	22	11
	15-Jun-05	7.0	3	6.77	1790	12.6	<5	<5	12	31
	1-Dec-05	3.7	<1	7.10	1630	10.9	<5	66	<5	73
	29-Jun-06	5.8	8.0	6.94	1790	14.0	5	4	6	13
	28-Nov-06	6.3	134.0	7.51	1680	13.1	5	5	<5	10
	6-Jun-07	4.6	3.0	6.48	1820	12.7	9	7	<5	9
	Duplicate	6-Jun-07	4.8	3.0	--	1820	--	10	5	<5
12-Nov-07	3.9	4.0	6.80	1740	12.0	2	4	11	13	
24-Jun-08	6.0	2.0	6.76	1860	13.9	<5	2	<5	6	
17-Nov-08	4.1	1.0	7.43	1630	10.3	<5	2	<5	19	
23-Jun-09	3.2	10.0	6.79	1950	14.0	<5	2	<5	15	
Duplicate	23-Jun-09	3.0	17.0	6.79	1960	14.0	<5	2	<5	14
17-Nov-09	5.0	9	6.89	1780	11.2	<5	<4	<5	14	
14-Jun-10	4.0	21	6.85	1910	12.5	9	<4	<5	13	
Duplicate	8-Nov-10	5.0	<1	7.02	1714	12.4	24	<4	7	
8-Nov-10	5.0	3	7.02	1715	12.4	20	<4	<5	7	
20-Jun-11	3.4	5	6.91	1711	13.0	29	<4	10	15	
Re-sample	14-Jul-11	--	--	--	--	<5	--	--	--	
14-Nov-11	4.0	9	6.89	1637	11.7	<5	<4	<5	<5	
Duplicate	14-Nov-11	3.0	5	6.89	1635	11.7	<5	<4	<5	
25-Jun-12	3.0	3	6.00	1792	12.9	<5	<4	<5	7	
5-Dec-12	3.4	0	6.77	1776	10.4	<5	<4	6	11	
6-Jun-13	3.3	8	6.54	1397	10.6	<5	6	<5	<5	
4-Nov-13	3.0	2	6.74	1741	12.0	<5	4	12	9	
23-Jun-14	3.3	<1	6.88	1677	11.7	<5	<4	<5	<5	
18-Nov-14	3.0	2	7.08	1747	7.5	<5	<4	10	6	
25-Jun-15	2.9	4	6.88	1456	12.6	<5	<5	7	8	
Duplicate	25-Jun-15	2.9	3	6.88	1460	12.6	<5	7	7	
17-Nov-15	2.7	2	6.80	1435	12.9	<5	<5	5	<5	
21-Jun-16	2.6	<3	6.75	1408	13.9	<5	<5	<5	5	
28-Nov-16	2.3	<3	6.88	1502	11.3	<5	<5	<5	<5	
19-Jun-17	2.6	3	6.79	1431	11.9	<5	<5	<5	<5	
19-Jun-17	2.7	<3	6.79	1430	11.9	<5	<5	<5	<5	
6-Nov-17	2.5	<3	6.37	1465	11.8	<5	<5	<5	<5	
11-Jun-18	2.6	<3	6.57	1300	14.3	<5	<5	<5	5	
7-Nov-18	3.1	<3	7.20	1274	5.0	<5	<5	<5	<5	
29-May-19	5.3	<3	7.16	1339	10.4	<5	<5	<5	<5	
Duplicate	29-May-19	5.1	<3	7.16	1334	10.4	<5	<5	<5	
19-Nov-19	5.0	<3	6.95	1383	10.6	<5	7	<5	5	
16-Jun-20	6.0	<3	6.99	1210	14.5	<5	<5	<5	<5	
4-Nov-20	4.8	<3	6.61	1188	12.2	<5	<5	<5	<5	
16-Jun-21	4.9	<3	6.89	1211	17.7	<5	<5	<5	<5	
4-Nov-21	5.7	<3	6.89	831	11.6	<5	<5	<5	<5	
7-Jun-22	6.0	<3	6.73	1150	14.0	<5	<5	<5	8	
1-Nov-22	7.8	<3	6.57	1201	11.8	<5	5	<5	5	
7-Jun-23	<1	<3	6.86	1270	18.6	<5	<5	<5	<5	
7-Nov-23	2.2	<3	7.50	1340	11.1	<5	<5	<5	<5	
4-Jun-24	1.4	<3	6.84	1176	14.0	<5	<5	<5	<5	

See notes on page 6.

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

Vault	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)				
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	
EGLE Residential Drinking Water Criteria & RBSLs											
							100 (A)	1,000 (E)	100 (A)	2,400	
Vault F	23-Mar-95	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	20-Jun-95	8.2	<1	6.80	1400	--	<20	<20	<30	190	
	30-Aug-95	6.1	<1	6.80	1100	NS	<20	<20	<40	220	
	28-Nov-95	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	27-Mar-96	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	18-Jun-96	6.2	77.0	6.80	1600	--	<20	<20	<20	<20	
	20-Aug-96	4.8	1500.0	7.10	1500	--	<20	20	<20	50	
	11-Nov-96	14.0	7100.0	7.00	1600	--	<20	<20	<20	30	
	19-Feb-97	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9-May-97	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	8-Aug-97	3.0	21.0	6.14	1530	20.6	<10	<10	64	20	
	15-Nov-97	7.0	56.0	6.70	1800	13.0	<10	<10	93	130	
	9-Feb-98	5.0	30.0	6.50	1750	13.5	<10	<10	49	160	
	14-May-98	5.0	16.0	7.07	1400	25.4	<10	20	7	130	
	14-Aug-98	3.0	25.0	6.60	--	--	<10	<10	7	40	
	30-Nov-98	4.0	38.0	--	--	--	10	<10	47	30	
	19-Mar-99	4.2	52.0	6.80	982	14.4	<10	<20	9	20	
	6-May-99	4.6	50.0	7.00	1460	28.0	<10	10	5	30	
	23-Jul-99	3.7	95.0	6.30	1262	21.2	6	17	6	26	
	22-Oct-99	3.7	12.0	6.29	1116	12.3	<10	<10	6	20	
	14-Mar-00	5.4	81.0	8.00	1250	14.9	<10	<10	6	30	
	20-Jun-00	4.4	66.0	7.10	1310	20.1	<10	40	<5	80	
	13-Sep-00	3.0	11.0	7.40	1440	15.6	<5	<10	6	20	
	10-Nov-00	3.9	41.0	6.80	1040	11.6	<10	60	5	100	
	12-Mar-01	5.5	24.0	7.12	1110	12.3	<10	<10	5	10	
	24-May-01	7.4	16.0	7.44	1470	12.8	<10	60	5	100	
	31-Aug-01	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	16-Nov-01	4.2	68.0	7.26	1110	12.9	<10	40	<5	100	
	8-Mar-02	4.4	11.0	6.92	1290	10.4	<10	10	<5	60	
	31-May-02	2.4	45.0	7.17	1200	14.3	<10	<10	6	20	
	5-Sep-02	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12-Dec-02	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	18-Mar-03	3.7	7.0	6.78	1270	12.4	<5	19	<5	119	
	4-Jun-03	2.5	4.0	6.92	1300	10.9	<5	<5	<5	<5	
	5-Oct-03	3.9	5.0	6.88	1040	13.5	<5	11	5	66	
	8-Dec-03	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	27-Feb-04	3.9	7.0	7.11	1920	12.2	<5	5	<5	30	
	30-Jun-04	3.5	1.0	6.89	1300	12.0	<5	5	<5	10	
	30-Jun-04	3.5	1.0	6.89	1300	12.0	<5	5	<5	10	
	19-Nov-04	3.2	4.0	7.07	1160	11.0	<5	<5	15	8	
	15-Jun-05	4.0	8.0	5.47	1780	12.3	<5	<5	9	17	
	1-Dec-05	3.7	3.0	6.92	1640	10.7	<5	83	<5	62	
	Duplicate	7-Dec-05	4.7	5.0	--	1540	--	<5	31	19	<10
	Re-sample	14-Feb-06	--	--	7.90	1710	7.2	<4	--	--	--
		29-Jun-06	2.9	90.0	6.72	1710	15.3	7	<4	<5	9
		28-Nov-06	4.4	3.0	7.04	1610	13.9	5	<4	<5	10
		6-Jun-07	3.9	2.0	6.44	1640	15.5	10	3	<5	8
		12-Nov-07	2.2	53.0	6.84	1600	12.2	2	3	9	11
Duplicate	24-Jun-08	2.3	5.0	6.86	1510	14.5	<5	<1	<5	<5	
	24-Jun-08	2.8	3.0	6.86	1500	14.5	<5	<1	<5	<5	
	17-Nov-08	1.8	9.0	7.20	1510	9.5	<5	<1	<5	15	
	23-Jun-09	2.9	29.0	7.08	1530	13.1	<5	<1	<5	10	
	17-Nov-09	3	16	7.03	1550	11.0	<5	<4	<5	11	
	14-Jun-10	3	14	7.02	1540	12.1	6	<4	<5	17	
	8-Nov-10	3	2	7.00	1590	12.3	16	<4	<5	14	
Re-sample	20-Jun-11	2.5	47	7.03	1642	14.6	23	<4	9	20	
	14-Jul-11	--	--	--	--	--	<5	--	--	--	
	14-Nov-11	2.0	29	6.93	1651	11.4	<5	<4	<5	<5	
	25-Jun-12	--	--	--	--	--	--	--	--	--	
	5-Dec-12	2.8	7	6.69	1729	9.9	<5	<4	6	12	
Duplicate	6-Jun-13	2.7	2	6.78	1761	10.8	<5	<4	6	6	
	6-Jun-13	2.9	<1	6.78	1759	10.8	<5	<4	<5	6	
	4-Nov-13	2.6	1	6.83	1736	11.6	<5	<4	<5	<5	
	23-Jun-14	2.6	3	7.15	1710	13.3	<5	<4	<5	<5	
	18-Nov-14	2.4	2	7.13	1724	7.4	<5	<4	10	8	
	25-Jun-15	2.3	3	7.08	1669	14.0	<5	<5	7	9	
Duplicate	17-Nov-15	2.1	1	6.95	1686	13.5	<5	<5	6	6	
	17-Nov-15	2.1	1	6.95	1686	13.5	<5	<5	6	6	
	21-Jun-16	2.4	<3	7.03	1640	14.2	<5	<5	<5	6	
Duplicate	28-Nov-16	1.9	3	6.84	1641	11.1	<5	<5	<5	<5	
	28-Nov-16	1.9	<3	6.84	1640	11.1	<5	<5	<5	6	
	19-Jun-17	2.4	<3	6.89	1675	11.8	<5	<5	<5	<5	
	6-Nov-17	2.2	<3	6.47	1626	11.0	<5	<5	<5	<5	
	11-Jun-18	2.2	<3	6.75	1685	13.6	<5	<5	<5	6	
	7-Nov-18	2.9	<3	7.20	1637	5.0	<5	<5	<5	<5	
	29-May-19	5.3	<3	7.13	1563	11.3	<5	<5	10	<5	
	19-Nov-19	4.6	<3	7.20	1593	10.1	<5	<5	14	6	
	16-Jun-20	6.6	<3	7.23	1623	13.3	<5	<5	18	<5	
	4-Nov-20	5.2	<3	6.72	1347	13.1	<5	<5	12	<5	
	16-Jun-21	5.8	<3	6.84	1554	20.2	<5	<5	8	<5	
	4-Nov-21	5.8	<3	7.03	1398	10.8	<5	<5	10	<5	
	7-Jun-22	6.6	3	6.85	1620	14.4	<5	<5	9	<5	
	1-Nov-22	7.8	<3	6.71	1570	11.8	<5	<5	6	<5	
	7-Jun-23	<1	<3	7.00	1570	15.1	<5	<5	5	<5	
	7-Nov-23	2.2	<3	7.54	1580	11.0	<5	<5	<5	<5	
	4-Jun-24	1.7	<3	6.94	1570	16.8	<5	<5	7	<5	

Notes

"<" - Not detected above specified detection limit.
 "NS" - Not sampled - no liquid.
 "SpC" - Specific conductivity in micro siemens (uS).
 "Temp" - Temperature in degrees celsius.
 "--" - Physical parameter not measured (instrument failure or duplicate sample).
 Exceedances of EGLE Residential Drinking Water Criteria highlighted in yellow.

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



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

Sump	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)				
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	
<i>EGLE Residential Drinking Water Criteria & RBSLs</i>											
							100 (A)	1,000 (E)	100 (A)	2,400	
Sump A	18-Jun-96	170.0	200	9.50	2800	--	50	4300	640	<20	
	11-Nov-96	350.0	3000	10.00	4400	--	150	8800	1300	30	
	7-May-97	85.0	62	7.86	2200	8.9	20	2450	422	10	
	5-Nov-97	110.0	14	8.50	2800	11.0	<1	1050	376	20	
	5-May-98	125.0	2	7.90	2280	9.1	40	1380	383	10	
	6-Nov-98	136.0	984	7.54	2750	11.7	40	2950	519	<10	
	26-Apr-99	110.0	253	9.49	1334	12.6	40	2380	375	<10	
	22-Oct-99	44.7	8	6.60	1750	12.1	20	960	155	30	
	20-Jun-00	53.4	16	8.20	1980	13.1	40	1160	187	20	
	10-Nov-00	66.7	31	7.70	2130	11.1	30	1050	174	20	
	24-May-01	70.0	16	8.59	2470	10.2	40	1030	163	20	
	16-Nov-01	69.6	300	7.87	2130	12.3	40	990	160	20	
	31-May-02	51.7	48	7.17	2340	15.3	80	880	127	20	
	12-Dec-03	55.2	25	7.40	1840	11.2	37	770	121	7	
	3-Jun-03	75.5	90	--	--	--	41	1180	156	22	
	8-Dec-03	67.0	115	8.75	2210	11.6	74	969	138	31	
	30-Jun-04	62.0	6	8.37	2501	12.6	104	1450	161	7	
	19-Nov-04	36.9	2.7	8.19	2070	11.4	31	492	70	20	
	15-Jun-05	89.0	18.0	8.95	3320	14.7	215	1930	200	<5	
	17-Jan-06	83.7	980.0	8.40	3970	6.9	70	1350	155	14	
	29-Jun-06	65.4	36.0	8.48	3640	11.7	192	1070	109	7	
	28-Nov-06	78.2	258	8.15	3660	12.9	132	1240	126	6	
	6-Jun-07	64.4	7	6.94	3350	10.0	95	1280	131	17	
	12-Nov-07	71.7	3	7.19	3970	11.8	41	1460	150	22	
	24-Jun-08	46.6	2	7.89	3210	12.4	123	1240	118	8	
	17-Nov-08	48.5	4	7.26	3670	10.6	65	1190	114	12	
	23-Jun-09	61.0	3	7.53	2900	12.8	222	1400	126	<5	
	17-Nov-09	69	40	8.42	3570	9.6	71	1040	100	14	
	14-Jun-10	120	4	9.09	2880	11.9	305	1380	124	<5	
	8-Nov-10	71	10	8.34	3560	10.9	113	1110	1030	23	
	20-Jun-11	52.4	3	9.18	2380	11.1	330	965	91	<5	
	14-Nov-11	62.0	1	8.09	3420	11.4	116	1000	94	6	
	25-Jun-12	53.0	3	7.40	3070	12.0	180	863	83	32	
	Duplicate	25-Jun-12	52.0	3	7.40	3070	12.0	183	882	86	5
	Duplicate	5-Dec-12	63.5	4	7.86	3640	9.2	115	1050	97	10
	Duplicate	5-Dec-12	63.5	4	7.86	3630	9.2	104	990	88	10
		6-Jun-13	50.2	5	9.11	2210	11.2	323	936	87	<5
		4-Nov-13	58.9	<1	7.96	3100	10.9	129	819	73	8
		23-Jun-14	49.2	58	8.84	2290	12.3	196	860	82	<5
		25-Jun-15	36.6	3	7.60	1831	11.5	452	437	42	27
Duplicate	21-Jun-16	39.8	<3	8.46	1866	12.0	317	645	55	<5	
Duplicate	21-Jun-16	39.9	<3	8.46	1867	12.0	315	659	54	<5	
Duplicate	19-Jun-17	40.1	<3	9.43	1716	12.9	317	554	52	<5	
	11-Jun-18	35.1	50	7.93	1894	11.0	288	435	43	<5	
	29-May-19	38.4	<3	7.90	1735	8.8	274	481	42	<5	
	15-Jun-20	22.6	<3	8.83	1000	14.9	409	134	14	<5	
	16-Jun-21	36.5	<3	8.09	1920	17.9	252	385	35	<5	
	6-Jun-22	30.2	<3	8.07	1670	11.7	209	331	34	<5	
	6-Jun-23	28.9	<3	7.83	1850	12.7	170	320	31	5	
	4-Jun-24	29.0	13.2	8.04	1681	15.8	237	310	33	5	

See notes on page 6.



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

Sump	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn
<i>EGLE Residential Drinking Water Criteria & RBSLs</i>										
							100 (A)	1,000 (E)	100 (A)	2,400
Sump B	23-Mar-95	800.0	310	12.10	7100	--	220	14000	1700	91
	30-Aug-95	590.0	7400	11.50	4600	--	220	9300	1100	<20
	18-Jun-96	36.0	<10	8.60	720	--	100	760	100	<20
	11-Nov-96	340.0	19	10.00	3100	--	180	6100	850	30
	7-May-97	184.0	963	8.49	2340	8.1	150	3910	607	10
	5-Nov-97	53.0	20	7.20	1600	10.0	50	1050	204	10
	5-May-98	241.0	24	9.60	3010	9.2	280	5600	644	10
	6-Nov-98	177.0	438	7.80	2950	12.1	100	2690	558	<10
	26-Apr-99	75.0	10600	10.20	835	8.9	30	500	238	<10
	22-Oct-99	126.0	1604	8.10	1410	11.9	30	750	387	<10
	20-Jun-00	49.2	4	9.10	1880	12.6	160	1180	160	<10
	10-Nov-00	78.2	80	8.60	1460	11.5	70	1170	205	<10
	24-May-01	101.0	502	9.08	2800	10.4	120	1490	225	<10
	16-Nov-01	189.0	13	9.50	3310	12.4	290	3050	426	<10
	31-May-02	65.7	434	7.23	2530	14.7	160	1070	154	<10
	12-Dec-03	118.0	15	8.90	2150	11.4	215	1790	260	27
	3-Jun-03	113.0	44	--	--	--	118	1510	216	<5
	8-Dec-03	87.8	22	7.13	1990	11.5	170	1380	199	45
	30-Jun-04	110	14	8.10	1598	12.5	508	1880	225	7
	19-Nov-04	66.2	2	8.23	2690	11.5	148	1100	163	13
15-Jun-05	84.0	8	8.80	3200	14.1	324	1050	160	19	
5-Dec-05	35.7	6	7.10	2290	10.5	81	374	56	22	
29-Jun-06	26.6	6	7.74	1650	10.9	156	358	48	23	
28-Nov-06	47.5	6	8.17	2300	12.5	142	526	72	25	
Duplicate	28-Nov-06	59.8	--	8.19	2370	12.5	142	522	72	15
	6-Jun-07	32.2	2	6.59	1950	9.8	18	275	46	18
	12-Nov-07	22.6	1	7.91	2060	12.2	28	226	32	24
Duplicate	24-Jun-08	45.9	6	8.19	2430	11.9	659	877	99	16
	17-Nov-08	41.5	19	6.48	2560	10.6	401	767	91	20
	17-Nov-08	39.8	38	6.48	2550	10.6	399	763	91	23
	23-Jun-09	52.3	1	7.44	2250	13.2	685	696	82	17
	17-Nov-09	52	2	8.06	2610	10.6	269	579	73	39
	14-Jun-10	90	3	7.90	2720	12.4	908	1050	118	21
	8-Nov-10	78	1	8.08	3450	12.1	163	669	76	8
	20-Jun-11	75.5	5	8.10	2520	11.9	1070	867	97	7
	14-Nov-11	83.0	3	8.09	3390	11.6	628	914	111	8
	25-Jun-12	82.0	5	7.46	3240	12.4	657	1000	124	13
5-Dec-12	89.0	3	8.18	3830	9.5	352	904	111	17	
6-Jun-13	77.4	3	8.98	2150	10.2	1490	1060	104	<5	
4-Nov-13	79.0	2	8.04	3590	10.8	516	749	87	11	
23-Jun-14	64.8	1	7.90	2520	12.1	735	563	65	11	
25-Jun-15	79.1	2	7.68	3430	11.9	349	689	93	12	
21-Jun-16	86.0	4	6.70	3260	12.4	935	796	77	20	
19-Jun-17	69.6	<3	8.10	2680	13.9	649	526	65	12	
11-Jun-18	53.2	59	7.67	2360	10.6	571	425	48	12	
29-May-19	75.8	<3	8.10	3440	8.9	459	482	60	13	
15-Jun-20	71.4	<3	7.88	3340	15.8	498	436	48	15	
16-Jun-21	78.4	<3	8.05	3850	14.4	609	477	56	12	
7-Jun-22	71.0	<3	7.95	4090	11.3	520	445	49	19	
6-Jun-23	72.1	<3	7.88	3300	15.8	676	426	46	20	
4-Jun-24		57.0	4	7.95	2910	15.0	760	332	41	14

See notes on page 6.



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

Sump	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn
<i>EGLE Residential Drinking Water Criteria & RBSLs</i>										
							100 (A)	1,000 (E)	100 (A)	2,400
Sump C	23-Mar-95	750.0	18	11.80	6000	--	21	18000	2400	36
	30-Aug-95	660.0	30000	10.90	4900	--	21	15000	2100	26
	18-Jun-96	280.0	1200	9.10	2700	--	<20	5100	820	<20
	11-Nov-96	730.0	93	10.00	5200	--	<20	15000	2500	50
	7-May-97	433.0	1200	8.58	4210	10.0	10	10200	2070	40
	5-Nov-97	289.0	83	8.30	3400	10.0	<10	3150	1320	20
	5-May-98	235.0	24	9.80	3520	9.8	60	5640	891	10
	6-Nov-98	418.0	164	7.90	4590	11.9	<10	4660	145	<10
	26-Apr-99	278.0	24	9.50	2520	8.6	<10	1730	1148	<10
	22-Oct-99	351.0	1604	8.20	1210	12.1	<10	1330	1050	<10
	20-Jun-00	156.0	12	8.50	2270	11.9	<10	3370	802	<10
	10-Nov-00	250.0	30	8.40	1920	11.4	<10	620	998	<10
	24-May-01	200.0	120	9.01	3660	10.3	<10	4950	1110	20
	16-Nov-01	269.0	191	8.54	3930	12.1	10	5470	1800	10
	31-May-02	113.0	24	7.23	2530	14.4	<10	2510	612	10
	12-Dec-03	198.0	18	8.10	4100	11.2	12	3020	1060	15
	3-Jun-03	178.0	34	--	--	--	15	4790	1030	8
	8-Dec-03	85.2	742	7.96	2140	11.9	9	607	708	62
	30-Jun-04	96.0	10	8.45	2708	12.0	46	2470	539	5
	19-Nov-04	126	16	8.38	3200	11.6	32	3190	874	13
15-Jun-05	95	10	7.20	2950	14.3	21	2350	505	16	
Duplicate	5-Dec-05	56.7	12	7.90	2830	10.9	30	1570	363	12
	7-Dec-05	62.0	2	--	2860	--	28	1700	364	<10
	29-Jun-06	145.7	20	8.52	3810	11.4	25	3030	847	8
	28-Nov-06	60.3	6	7.96	2340	12.9	43	1380	353	<5
	6-Jun-07	3.9	1	6.97	2650	11.0	44	1570	365	<5
	12-Nov-07	83.7	1	8.22	3660	12.2	44	2080	543	8
	24-Jun-08	65.4	5	7.89	3530	13.0	8	1820	456	22
	17-Nov-08	120.0	10	8.19	4510	10.6	30	2940	939	22
	23-Jun-09	139.0	9	8.16	4240	12.7	25	3600	800	7
	17-Nov-09	90	4	7.91	3940	11.1	22	2280	447	12
Duplicate	17-Nov-09	98	7	7.91	3950	11.1	21	2260	438	12
	14-Jun-10	120	14	8.06	4580	11.9	32	3200	714	18
	8-Nov-10	130	4	7.82	4910	12.1	55	3170	555	10
Duplicate	20-Jun-11	112	5	9.24	4560	12.1	133	2670	639	<5
	20-Jun-11	112	7	9.24	4570	12.1	129	2580	623	<5
Duplicate	14-Nov-11	134	8	8.25	5320	11.9	28	3830	761	6
	25-Jun-12	114	8	8.06	5380	12.2	29	3820	611	16
	5-Dec-12	121.7	6	8.30	5430	10.4	24	4130	580	8
	6-Jun-13	111.0	5	7.83	4950	10.9	25	3390	504	7
	4-Nov-13	132.0	1	8.16	5150	11.3	38	3410	539	7
	23-Jun-14	118.0	3	8.01	5040	11.2	17	3010	461	8
	25-Jun-15	122.0	3	7.93	4050	11.2	29	2870	539	14
	21-Jun-16	203.0	6	8.23	5170	12.2	37	4230	844	8
	19-Jun-17	108.0	3	8.06	4810	13.3	25	1880	505	8
	11-Jun-18	56.6	91	7.80	3150	11.3	80	1010	232	7
Duplicate	11-Jun-18	51.4	26	7.80	3170	11.3	83	1030	235	9
	29-May-19	43.0	<3	7.88	2240	9.5	105	690	162	8
Duplicate	16-Jun-20	14.8	<3	8.34	1316	12.3	143	155	27	<5
	16-Jun-20	15.6	<3	8.34	1312	12.3	142	159	27	5
Duplicate	16-Jun-21	108	<3	7.98	4860	19.4	17	2080	460	10
	16-Jun-21	107	<3	7.98	4890	19.4	17	2040	453	9
Duplicate	7-Jun-22	101	7	7.84	4230	11.9	46	1650	349	5
	7-Jun-22	105	8	7.84	4250	11.9	47	1660	349	<5
Duplicate	6-Jun-23	85.1	4.0	7.92	3490	19.02	43	1270	284	6
	6-Jun-23	84.7	<3	7.92	3490	19.02	42	1290	286	6
Duplicate	4-Jun-24	75.0	5.7	8.37	3880	23.1	91	1580	287	5
	4-Jun-24	77.0	6.5	8.37	3890	23.1	89	1550	287	<5

See notes on page 6.



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

Sump	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)				
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	
			<i>EGLE Residential Drinking Water Criteria & RBSLs</i>					100 (A)	1,000 (E)	100 (A)	2,400
Sump D	23-Mar-95	650.0	45	12.30	8400	--	360	7800	1600	<20	
	30-Aug-95	550.0	69000	12.00	6400	--	260	6100	1400	<20	
	18-Jun-96	300.0	230	11.00	3300	--	100	3100	850	<20	
	11-Nov-96	660.0	3500	12.00	5700	--	220	7200	1800	30	
	7-May-97	331.0	432	9.14	4020	10.2	30	4110	1330	<10	
	5-Nov-97	208.0	546	8.80	3400	10.2	20	3000	1020	20	
	5-May-98	251.0	<1	10.60	4200	9.7	110	3810	1120	10	
	6-Nov-98	193.0	8280	7.90	3940	11.4	10	2530	101	<10	
	26-Apr-99	177.0	29600	10.50	1237	8.0	10	770	1013	<10	
	22-Oct-99	199.0	10748	8.90	910	10.9	<10	70	735	<10	
	20-Jun-00	112.0	16	8.80	1190	11.6	<10	430	656	<10	
	10-Nov-00	159.0	100	9.10	2360	11.5	20	760	831	<10	
	24-May-01	196.0	124	10.80	3900	10.9	10	1000	1270	<10	
	16-Nov-01	64.2	268	8.87	1690	12.0	<10	100	414	<10	
	31-May-02	72.3	137	7.23	2020	14.3	<10	210	445	<10	
	3-Jun-03	80.8	6	--	--	--	7	878	540	<5	
	8-Dec-03	48.8	392	8.18	2470	10.9	7	651	423	18	
	12-Dec-03	130.0	4	8.80	1430	11.5	11	926	798	<5	
	30-Jun-04	160.0	34	10.20	3601	--	25	1670	1320	<5	
	19-Nov-04	157	14	10.39	4320	11.4	34	1550	1680	8	
15-Jun-05	79	8	11.10	3160	12.2	14	737	822	<5		
Duplicate	15-Jun-05	76.0	26.0	--	--	--	12	724	812	<5	
	5-Dec-05	123.0	6.0	8.20	5320	10.9	35	1420	1340	<5	
	29-Jun-06	87.6	14.0	9.97	4120	12.4	16	714	995	5	
	28-Nov-06	128.9	2	10.10	5180	12.9	23	651	1300	<5	
	6-Jun-07	157.0	11	9.25	5980	11.0	62	955	1770	<5	
	12-Nov-07	115.0	78	10.20	5550	11.7	34	1680	1480	8	
Duplicate	12-Nov-07	109.0	28	10.23	5550	11.7	31	1540	1400	3	
	24-Jun-08	99.5	7	9.92	6170	11.8	20	990	1640	7	
	17-Nov-08	295.0	2	11.11	6220	10.8	62	2460	2090	5	
	23-Jun-09	308.0	7	10.91	6210	14.8	88	2170	1990	<5	
	17-Nov-09	130	10	9.78	4870	11.6	37	2240	1180	<5	
	14-Jun-10	15	12	10.01	4880	12.0	62	1160	1340	5	
Duplicate	14-Jun-10	150	12	10.01	4860	12.0	62	1180	1340	6	
	8-Nov-10	170	2	10.11	5830	12.6	119	1220	1520	<5	
	20-Jun-11	99.5	9	11.72	3470	12.0	97	645	413	<5	
	14-Nov-11	332.0	4	10.49	6440	11.6	92	3350	2200	<5	
	25-Jun-12	282.0	10	10.11	6220	12.4	126	1730	2190	<5	
	5-Dec-12	181.7	8	9.95	6070	8.8	81	1360	1610	5	
	6-Jun-13	227.0	4	10.46	5570	10.7	66	1710	1440	5	
	4-Nov-13	204.0	3	10.11	5740	11.4	78	2190	1400	6	
Duplicate	4-Nov-13	208.0	2	10.11	5760	11.4	75	2140	1370	<5	
	23-Jun-14	149.0	4	10.01	6350	12.6	37	890	1340	7	
Duplicate	23-Jun-14	150.0	4	10.01	6360	12.6	37	916	1360	9	
	25-Jun-15	131.0	8	9.83	6060	11.6	52	1310	1500	11	
	21-Jun-16	334.0	6	11.49	6380	13.3	140	3410	1460	9	
	19-Jun-17	268.0	<3	10.75	5830	13.9	61	1220	1460	5	
	11-Jun-18	256.0	<3	10.69	6140	12.0	67	1250	1350	<5	
	29-May-19	192.0	<3	10.73	5430	9.5	53	983	1130	6	
	16-Jun-20	280.0	<3	12.44	5840	12.5	140	1380	946	<5	
	16-Jun-21	237	4	11.98	5200	21.8	174	1420	893	6	
	7-Jun-22	170	6	12.22	4310	13.2	355	825	510	<5	
	7-Jun-23	106	<3	10.23	4500	16.6	57	669	538	<5	
	4-Jun-24	72.0	4	10.26	3510	24.7	402	687	337	<5	

See notes on page 6.



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

Sump	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn
<i>EGLE Residential Drinking Water Criteria & RBSLs</i>										
							100 (A)	1,000 (E)	100 (A)	2,400
Sump E	23-Mar-95	250.0	1400	11.70	4000	--	79	1500	850	<20
	30-Aug-95	120.0	37000	9.70	2100	--	25	980	270	<20
	18-Jun-96	9.6	2000	7.60	1800	--	<20	<20	<20	40
	11-Nov-96	23.0	2200	8.20	1800	--	<20	20	50	<20
	7-May-97	6.0	188	6.76	1560	9.7	<10	<10	30	90
	11/05/97	10.0	3370	7.00	1600	10.0	<10	10	72	30
	5-May-98	10.0	13300	7.00	1750	10.1	<10	20	23	40
	6-Nov-98	5.0	2500	5.60	1500	11.9	<10	60	11	40
	26-Apr-99	8.6	7720	7.70	1428	8.2	<10	30	22	<10
	22-Oct-99	4.7	3485	6.80	1115	10.8	<10	50	10	30
	20-Jun-00	7.0	2	6.80	1410	12.4	<10	20	<10	20
	10-Nov-00	3.2	<1	7.30	1550	11.4	<10	30	7	20
	24-Feb-01	9.0	292	7.98	1660	10.6	<10	20	7	20
	16-Nov-01	4.4	350	7.26	1240	12.2	<10	10	23	30
	31-May-02	10.1	9	7.24	1470	14.6	<10	90	62	30
	12-Dec-03	4.5	310	7.70	1490	11.1	<5	21	12	<5
	3-Jun-03	9.0	1884	--	--	--	<5	20	11	7
	8-Dec-03	22.4	331	7.25	1320	11.4	63	132	53	34
	30-Jun-04	5.8	5	7.83	1061	--	<5	8	13	33
	19-Nov-04	6.2	2	7.62	1380	11.8	19	14	16	16
	15-Jun-05	230.0	10	--	19920	16.6	285	1220	337	5
	5-Dec-05	257.0	396	7.30	9460	10.7	142	514	232	<5
	29-Jun-06	11.4	4	8.23	1690	11.6	18	48	34	6
28-Nov-06	45.6	<1	8.11	2220	12.9	29	728	180	<5	
Duplicate	6-Jun-07	6.9	3	6.41	1630	11.6	12	13	10	23
	6-Jun-07	6.7	4	--	1630	--	11	15	10	20
12-Nov-07	5.6	3	7.34	1570	12.0	5	11	14	19	
24-Jun-08	3.8	3	7.35	1600	11.5	<5	6	6	9	
17-Nov-08	4.9	1	7.34	1660	11.3	24	10	7	13	
Duplicate	23-Jun-09	4.7	<1	6.93	1600	11.6	<5	6	6	14
	23-Jun-09	3.5	1	6.93	1580	11.6	<5	6	5	15
17-Nov-09	5	1	7.44	1520	11.2	<5	4	20	24	
14-Jun-10	6	4	7.55	1530	12.7	17	8	<5	17	
Duplicate	8-Nov-10	6	2	7.44	1647	12.5	18	10	9	101
	8-Nov-10	6	3	7.44	1647	12.5	16	10	9	108
20-Jun-11	7.6	<1	8.81	1760	12.2	7	20	15	12	
Duplicate	14-Nov-11	15.0	<1	7.81	1856	11.7	5	67	25	10
	14-Nov-11	15.0	2	7.81	1864	11.7	<5	69	24	10
25-Jun-12	12.0	4	7.58	2150	13.1	7	40	14	5	
5-Dec-12	26.5	3	8.01	2670	10.0	9	124	51	11	
6-Jun-13	17.2	<1	6.72	2190	9.8	5	60	32	6	
4-Nov-13	14.3	<1	7.92	2020	11.5	10	45	21	<5	
23-Jun-14	29.1	3	8.01	2250	15.2	45	271	44	6	
Duplicate	25-Jun-15	21.7	3	7.70	2220	11.6	15	151	34	8
	25-Jun-15	21.9	3	7.69	2230	11.6	14	143	33	7
21-Jun-16	19.1	3	7.30	2340	13.1	6	86	21	9	
Duplicate	19-Jun-17	13.7	184	--	1750	--	<5	31	24	<5
	19-Jun-17	13.8	132	--	1750	--	<5	32	19	8
11-Jun-18	23.1	20	8.02	1686	11.7	160	164	35	<5	
Duplicate	29-May-19	23.9	3	8.08	1866	9.4	33	177	42	7
	29-May-19	23.9	24	8.08	1861	9.4	36	177	43	7
16-Jun-20	22.8	<3	8.08	1522	14.7	52	138	30	6	
16-Jun-21	17.1	<3	8.63	1703	17.1	9	77	20	5	
7-Jun-22	17.7	<3	8.09	1590	14.1	18	61	17	<5	
7-Jun-23	15.4	<3	8.18	1720	20.9	22	52	17	6	
	4-Jun-24	17.0	<3	8.55	1763	24.9	25	40	15	<5

See notes on page 6.



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

Sump	Sample Date	Indicator Parameters					Dissolved Metals (ug/L)			
		TOC (mg/L)	TSS (mg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn
EGLE Residential Drinking Water Criteria & RBSLs										
							100 (A)	1,000 (E)	100 (A)	2,400
Sump F	23-Mar-95	300.0	100	11.80	4100	--	61	3200	2200	<20
	30-Aug-95	100.0	250	7.50	1600	--	<20	300	85	<20
	18-Jun-96	5.4	19	7.40	1400	--	<20	<20	<20	40
	11-Nov-96	7.1	260	7.70	1200	--	<20	<20	30	50
	7-May-97	5.0	138	6.54	1190	9.6	<20	<20	18	80
	5-Nov-97	5.0	14	7.10	1300	11.0	<10	<10	49	40
	5-May-98	6.0	635	7.12	1250	10.5	<10	<10	6	30
	6-Nov-98	4.0	14	6.11	1340	12.3	<10	70	7	50
	26-Apr-99	5.3	38	8.10	682	8.2	<10	40	27	10
	22-Oct-99	3.4	11	6.60	1053	11.3	<10	30	6	20
	20-Jun-00	4.1	2	7.70	1170	11.4	<10	<10	<5	<10
	10-Nov-00	2.9	8	7.30	1340	11.1	<10	<10	30	30
	24-May-01	6.6	40	8.50	1310	10.6	<10	20	<10	20
	16-Nov-01	4.2	323	7.30	1070	12.1	<10	10	8	20
	31-May-02	5.2	150	7.23	1250	14.8	<10	20	<5	160
	12-Dec-03	3.4	7	7.70	1180	11.3	<5	<5	<5	<5
	3-Jun-03	5.9	336	--	--	--	<5	12	<5	21
	8-Dec-03	6.0	35	7.04	1210	11.3	<5	14	15	33
	30-Jun-04	4.7	2	7.72	949	11.1	<5	27	13	20
	19-Nov-04	6.7	3	7.86	1260	11.2	12	8	14	11
	15-Jun-05	13.0	8	6.37	1630	16.7	<5	9	13	55
	17-Jan-06	33.9	3263	7.50	2390	6.6	107	475	124	12
	29-Jun-06	7.0	2	7.64	1280	11.6	16	38	11	29
28-Nov-06	4.9	<1	7.99	1250	12.9	5	18	9	8	
6-Jun-07	22.1	8	6.75	1710	11.7	11	74	22	10	
12-Nov-07	3.8	1	7.74	1350	11.9	3	16	13	30	
24-Jun-08	4.0	2	7.97	1160	12.3	12	15	6	102	
Duplicate	24-Jun-08	3.9	1	7.97	1160	12.3	11	14	6	8
	17-Nov-08	13.6	2	7.60	1740	10.9	29	87	81	11
	23-Jun-09	14.4	<1	7.76	1500	12.2	43	100	30	9
	17-Nov-09	10	0	7.96	1570	10.9	25	46	19	23
	14-Jun-10	5	4	7.81	1010	11.7	9	15	<5	12
	8-Nov-10	9	<1	8.19	1260	12.1	17	19	8	6
	20-Jun-11	9	<1	7.86	1360	12.8	16	25	11	13
	14-Nov-11	38	2	8.13	3170	11.5	56	204	105	10
	25-Jun-12	40	4	7.68	3290	14.1	48	335	108	17
	5-Dec-12	44.3	5	8.37	3530	10.0	13	264	104	13
Duplicate	6-Jun-13	41.9	2	7.98	3580	10.0	16	250	86	24
	6-Jun-13	41.4	1	7.98	3580	10.0	15	238	85	28
	4-Nov-13	37.6	1	8.21	3770	11.2	23	124	55	37
	23-Jun-14	36.6	3	8.19	3800	11.5	17	117	46	29
	25-Jun-15	45.2	3	7.98	3930	12.2	44	372	94	33
	21-Jun-16	44.0	3	7.39	4020	12.4	17	248	69	34
	19-Jun-17	40.4	<3	8.51	3700	13.2	15	218	71	17
	11-Jun-18	32.2	<3	8.03	3840	11.3	24	86	31	16
	29-May-19	33.7	<3	8.18	3810	9.7	34	66	25	12
	16-Jun-20	35.6	<3	8.16	3830	14.8	38	51	22	11
	16-Jun-21	32	<3	8.27	4150	16.4	43	49	22	9
	7-Jun-22	34.0	<3	8.03	3680	13.0	11	110	48	13
	7-Jun-23	42.6	<3	8.29	3810	14.8	21	243	87	15
	4-Jun-24	35.0	<3	8.41	3780	16.5	27	161	60	13
Equipment Blank	24-Jun-08	<1	1	--	4	--	<5	<1	<5	<5
	17-Nov-08	1	2	--	4	--	<5	5	<5	23

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



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

Parameter	Sample ID & Sample Date							
	Sump A 6/4/2024	Sump B 6/4/2024	Sump C 6/4/2024	Sump C (SUMP-DUP- 06042024) 6/4/2024	Sump D** 6/4/2024	Sump E 6/4/2024	Sump F 6/4/2024	Trip Blank- 060723 6/4/2024
Diethyl ether	<10	<10	<10	<10	<50	<10	<10	<10
Acetone	<50	<50	<50	<50	410	<50	<50	<50
Methyl iodide	<1	<1	<1	<1	<5	<1	<1	<1
Carbon disulfide	<5	<5	<5	<5	<30	<5	<5	<5
tert-Methyl butyl ether (MTBE)	<5	<5	<5	<5	<30	<5	<5	<5
Acrylonitrile	<2	<2	<2	<2	<10	<2	<2	<2
2-Butanone (MEK)	<25	<25	<25	<25	<130	<25	<25	<25
Dichlorodifluoromethane	<5	<5	<5	<5	<30	<5	<5	<5
Chloromethane	<5	<5	<5	<5	<30	<5	<5	<5
Vinyl chloride	<1	<1	<1	<1	<5	<1	<1	<1
Bromomethane	<5	<5	<5	<5	<30	<5	<5	<5
Chloroethane	<5	<5	<5	<5	<30	<5	<5	<5
Trichlorofluoromethane	<1	<1	<1	<1	<5	<1	<1	<1
1,1-Dichloroethene	<1	<1	<1	<1	<5	<1	<1	<1
Methylene chloride	<5	<5	<5	<5	<30	<5	<5	<5
trans-1,2-Dichloroethene	<1	<1	<1	<1	<5	<1	<1	<1
1,1-Dichloroethane	<1	<1	<1	<1	<5	<1	<1	<1
cis-1,2-Dichloroethene	<1	<1	<1	<1	<5	<1	<1	<1
Tetrahydrofuran*	<90	<90	<90	<90	<450	<90	<90	<90
Chloroform	<1	<1	<1	<1	<5	<1	<1	<1
Bromochloromethane	<1	<1	<1	<1	<5	<1	<1	<1
1,1,1-Trichloroethane	<1	<1	<1	<1	<5	<1	<1	<1
4-Methyl-2-pentanone (MIBK)	<50	<50	<50	<50	<250	<50	<50	<50
2-Hexanone	<50	<50	<50	<50	<250	<50	<50	<50
Carbon tetrachloride	<1	<1	<1	<1	<5	<1	<1	<1
Benzene	<1	<1	<1	<1	<5	<1	<1	<1
1,2-Dichloroethane	<1	<1	<1	<1	<5	<1	<1	<1
Trichloroethene	<1	<1	<1	<1	<5	<1	<1	<1
1,2-Dichloropropane	<1	<1	<1	<1	<5	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1	<5	<1	<1	<1
Dibromomethane	<5	<5	<5	<5	<30	<5	<5	<5
cis-1,3-Dichloropropene	<1	<1	<1	<1	<5	<1	<1	<1
Toluene	<1	<1	<1	<1	<5	<1	<1	<1
trans-1,3-Dichloropropene	<1	<1	<1	<1	<5	<1	<1	<1
1,1,2-Trichloroethane	<1	<1	<1	<1	<5	<1	<1	<1
Tetrachloroethene	<1	<1	<1	<1	<5	<1	<1	<1
trans-1,4-Dichloro-2-butene	<1	<1	<1	<1	<5	<1	<1	<1
Dibromochloromethane	<5	<5	<5	<5	<30	<5	<5	<5
1,2-Dibromoethane	<1	<1	<1	<1	<5	<1	<1	<1
Chlorobenzene	<1	<1	<1	<1	<5	<1	<1	<1
1,1,1,2-Tetrachloroethane	<1	<1	<1	<1	<5	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<5	<1	<1	<1
p,m-Xylene*	<2	<2	<2	<2	<10	<2	<2	<2
o-Xylene	<1	<1	<1	<1	<5	<1	<1	<1
Styrene	<1	<1	<1	<1	<5	<1	<1	<1
Isopropylbenzene	<5	<5	<5	<5	<30	<5	<5	<5
Bromoform	<1	<1	<1	<1	<5	<1	<1	<1
1,1,1,2-Tetrachloroethane	<1	<1	<1	<1	<5	<1	<1	<1
1,2,3-Trichloropropane	<1	<1	<1	<1	<5	<1	<1	<1
n-Propylbenzene	<1	<1	<1	<1	<5	<1	<1	<1
Bromobenzene	<1	<1	<1	<1	<5	<1	<1	<1
1,3,5-Trimethylbenzene	<1	<1	<1	<1	<5	<1	<1	<1
tert-Butylbenzene	<1	<1	<1	<1	<5	<1	<1	<1
1,2,4-Trimethylbenzene	<1	<1	<1	<1	<5	<1	<1	<1
sec-Butylbenzene	<1	<1	<1	<1	<5	<1	<1	<1
p-Isopropyltoluene	<5	<5	<5	<5	<30	<5	<5	<5
1,3-Dichlorobenzene	<1	<1	<1	<1	<5	<1	<1	<1
1,4-Dichlorobenzene	<1	<1	<1	<1	<5	<1	<1	<1
1,2-Dichlorobenzene	<1	<1	<1	<1	<5	<1	<1	<1
1,2,3-Trimethylbenzene	<1	<1	<1	<1	<5	<1	<1	<1
n-Butylbenzene	<1	<1	<1	<1	<5	<1	<1	<1
Hexachloroethane	<5	<5	<5	<5	<30	<5	<5	<5
1,2-Dibromo-3-chloropropane	<5	<5	<5	<5	<30	<5	<5	<5
1,2,4-Trichlorobenzene	<5	<5	<5	<5	<30	<5	<5	<5
1,2,3-Trichlorobenzene	<5	<5	<5	<5	<30	<5	<5	<5
Naphthalene	<5	<5	<5	<5	<30	<5	<5	<5
2-Methylnaphthalene	<5	<5	<5	<5	<30	<5	<5	<5

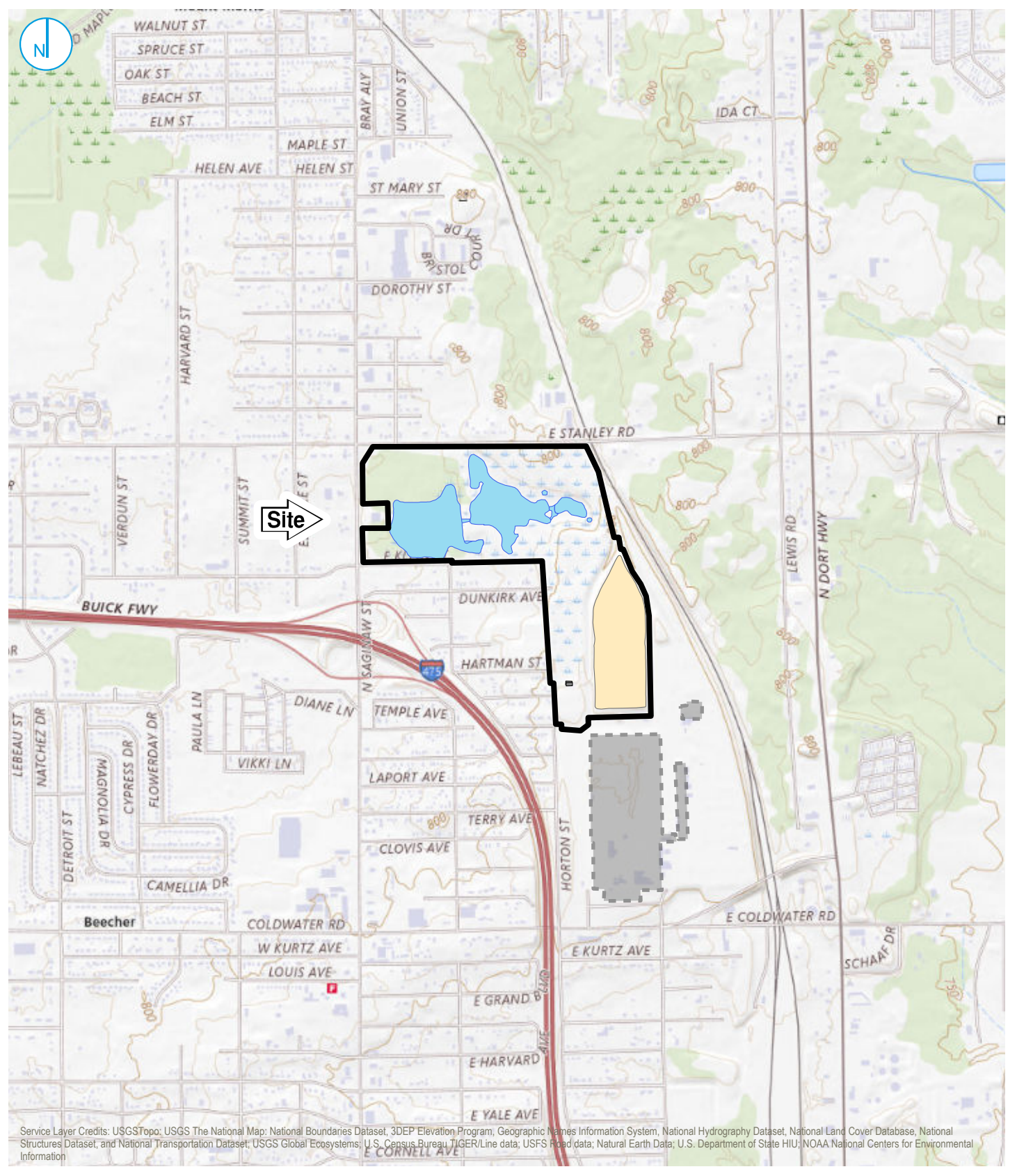
Notes: ** Elevated reporting limit due to high target concentration.

EPA Method 8260 used for analysis.

Dup- Duplicate analysis

Analysis in µg/L

FIGURES



Service Layer Credits: USGSTopo; USGS The National Map; National Boundaries Dataset; 3DEP Elevation Program; Geographic Names Information System; National Hydrography Dataset; National Land Cover Database; National Structures Dataset; and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road data; Natural Earth Data; U.S. Department of State HIU; NOAA National Centers for Environmental Information

Map Scale: 1:24,000 | Map Center: 83°41'17"W 43°6'2"N



KEY MAP (not to scale)

- PROPERTY BOUNDARY
- LANDFILL
- FORMER BUILDING
- FORMER POWERHOUSE
- SITE BUILDINGS
- WETLANDS



SITE LOCATION

FIGURE 1

RACER TRUST
COLDWATER ROAD
FLINT, MICHIGAN

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY



PROJECT: 1940103462 | DATED: 2/7/2023 | DESIGNER: MONETANT
I:\Racer-Trust\1088190\GIS\Coldwater_Road\ProRACER_Coldwater_Road_2022_Annual_LDS_and_GW_Figures\prx002 - Site_Layout 2022 SA Rpts (LDS-Rpt)_02032023



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

0 175 350 Feet

SITE LAYOUT

RACER Trust
Coldwater Road Landfill Facility
Flint, Michigan

FIGURE 02

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY



APPENDIX A
SUMMARY OF VOLUMES REMOVED



Appendix A
RACER Trust - Coldwater Road
Liquid Volumes Removed from Vaults and Sumps in 2024

Date 2024	VAULT MONTHLY TOTALS	SUMP MONTHLY TOTALS
JANUARY	1,360	628
FEBRUARY	1,599	2,198
MARCH	848	337
APRIL	2,131	692
MAY	1,470	606
JUNE	1,444	156
JULY	--	--
AUGUST	--	--
SEPTEMBER	--	--
OCTOBER	--	--
NOVEMBER	--	--
DECEMBER	--	--
Total Removed Through June 30, 2024	8,852	4,617

Notes

Liquid volumes in gallons.
-- No Data.

**APPENDIX B
ANALYTICAL LABORATORY REPORTS**



Analytical Laboratory Report

Report ID: S62824.01(01)
Generated on 06/24/2024

Report to

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

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

Additional Contacts: Kevin Schneider

Report produced by

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

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

Contacts for report questions:

John Lavery (johnlavery@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S62824.01-S62824.07
Project: RACER Coldwater Road
Collected Date(s): 06/04/2024
Submitted Date/Time: 06/05/2024 13:05
Sampled by: Kevin Schneider
P.O. #: 1940008845 TASK 001

Table of Contents

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

Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

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

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

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

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile, and 2-chloroethylvinyl ether need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

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

Starred (*) analytes are not NY NELAP accredited.

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

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

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

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the

FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

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

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

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Accreditations (For Reference Only)

Authority	Accreditation ID
Michigan DEQ	#9956
DOD ELAP & ISO/IEC 17025:2017	#69699 PJLA Testing
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

Qualifier Descriptions

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

Glossary of Abbreviations

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



Analytical Laboratory Report

Method Summary

Method	Version
E120.1	EPA Method 120.1 Revision 1982
E200.8	EPA Method 200.8 Revision 5.4
SM2540D	Standard Method 2540 D 2015
SW3015A	SW 846 Method 3015A Revision 1 February 2007



Analytical Laboratory Report

Sample Summary (7 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S62824.01	Vault-A-06042024	Wastewater	06/04/24 10:30
S62824.02	Vault-B-06042024	Wastewater	06/04/24 11:45
S62824.03	Vault-C-06042024	Wastewater	06/04/24 12:55
S62824.04	Vault-D-06042024	Wastewater	06/04/24 14:05
S62824.05	Vault-E-06042024	Wastewater	06/04/24 15:05
S62824.06	Vault-F-06042024	Wastewater	06/04/24 15:50
S62824.07	Vault-DUP-06042024	Wastewater	06/04/24 00:01



Analytical Laboratory Report

Lab Sample ID: S62824.01

Sample Tag: Vault-A-06042024

Collected Date/Time: 06/04/2024 10:30

Matrix: Wastewater

COC Reference: 171590

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	2.6	IR
1	125ml Plastic	HNO3	Yes	2.6	IR
1	1L Plastic	None	Yes	2.6	IR
1	250ml Plastic	None	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	06/07/24 10:50	CCM	

Inorganics

Method: , Run Date: 06/18/24 20:33, Analyst: EF

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC*	Completed				1		O

Method: E120.1, Run Date: 06/07/24 13:22, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,389	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/05/24 17:20, Analyst: SRH

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

Metals

Method: E200.8, Run Date: 06/07/24 12:38, Analyst: CCM

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

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



Analytical Laboratory Report

Lab Sample ID: S62824.02

Sample Tag: Vault-B-06042024

Collected Date/Time: 06/04/2024 11:45

Matrix: Wastewater

COC Reference: 171590

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	2.6	IR
1	125ml Plastic	HNO3	Yes	2.6	IR
1	1L Plastic	None	Yes	2.6	IR
1	250ml Plastic	None	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	06/07/24 10:50	CCM	

Inorganics

Method: , Run Date: 06/19/24 02:07, Analyst: EF

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC*	Completed				1		O

Method: E120.1, Run Date: 06/07/24 13:24, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	997	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/10/24 16:41, Analyst: SRH

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

Metals

Method: E200.8, Run Date: 06/07/24 12:40, Analyst: CCM

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

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



Analytical Laboratory Report

Lab Sample ID: S62824.03

Sample Tag: Vault-C-06042024

Collected Date/Time: 06/04/2024 12:55

Matrix: Wastewater

COC Reference: 171590

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	2.6	IR
1	125ml Plastic	HNO3	Yes	2.6	IR
1	1L Plastic	None	Yes	2.6	IR
1	250ml Plastic	None	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	06/07/24 10:50	CCM	

Inorganics

Method: , Run Date: 06/19/24 08:54, Analyst: EF

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC*	Completed				1		O

Method: E120.1, Run Date: 06/07/24 13:26, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,708	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/10/24 16:41, Analyst: SRH

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

Metals

Method: E200.8, Run Date: 06/07/24 12:42, Analyst: CCM

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

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



Analytical Laboratory Report

Lab Sample ID: S62824.04

Sample Tag: Vault-D-06042024

Collected Date/Time: 06/04/2024 14:05

Matrix: Wastewater

COC Reference: 171590

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	2.6	IR
1	125ml Plastic	HNO3	Yes	2.6	IR
1	1L Plastic	None	Yes	2.6	IR
1	250ml Plastic	None	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	06/07/24 10:50	CCM	

Inorganics

Method: , Run Date: 06/19/24 13:18, Analyst: EF

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC*	Completed				1		O

Method: E120.1, Run Date: 06/07/24 13:28, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,462	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/10/24 16:41, Analyst: SRH

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

Metals

Method: E200.8, Run Date: 06/07/24 12:43, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.021	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.007	0.005		mg/L	5	7440-66-6	

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



Analytical Laboratory Report

Lab Sample ID: S62824.05

Sample Tag: Vault-E-06042024

Collected Date/Time: 06/04/2024 15:05

Matrix: Wastewater

COC Reference: 171590

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	2.6	IR
1	125ml Plastic	HNO3	Yes	2.6	IR
1	1L Plastic	None	Yes	2.6	IR
1	250ml Plastic	None	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	06/07/24 10:50	CCM	

Inorganics

Method: , Run Date: 06/19/24 14:30, Analyst: EF

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC*	Completed				1		O

Method: E120.1, Run Date: 06/07/24 13:30, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,176	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/10/24 16:41, Analyst: SRH

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

Metals

Method: E200.8, Run Date: 06/07/24 12:54, Analyst: CCM

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

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



Analytical Laboratory Report

Lab Sample ID: S62824.06

Sample Tag: Vault-F-06042024

Collected Date/Time: 06/04/2024 15:50

Matrix: Wastewater

COC Reference: 171590

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	2.6	IR
1	125ml Plastic	HNO3	Yes	2.6	IR
1	1L Plastic	None	Yes	2.6	IR
1	250ml Plastic	None	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	06/07/24 10:50	CCM	

Inorganics

Method: , Run Date: 06/19/24 15:18, Analyst: EF

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC*	Completed				1		O

Method: E120.1, Run Date: 06/07/24 13:32, Analyst: JKB

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

Method: SM2540D, Run Date: 06/10/24 16:41, Analyst: SRH

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

Metals

Method: E200.8, Run Date: 06/07/24 13:01, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.007	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

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



Analytical Laboratory Report

Lab Sample ID: S62824.07

Sample Tag: Vault-DUP-06042024

Collected Date/Time: 06/04/2024 00:01

Matrix: Wastewater

COC Reference: 171590

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	H2SO4	Yes	2.6	IR
1	125ml Plastic	HNO3	Yes	2.6	IR
1	1L Plastic	None	Yes	2.6	IR
1	250ml Plastic	None	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Metal Digestion	Completed	SW3015A	06/07/24 10:50	CCM	

Inorganics

Method: , Run Date: 06/20/24 01:19, Analyst: EF

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC*	Completed				1		O

Method: E120.1, Run Date: 06/07/24 13:34, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,708	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/10/24 16:41, Analyst: SRH

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

Metals

Method: E200.8, Run Date: 06/07/24 13:03, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	Not detected	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	Not detected	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.007	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

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

Merit Laboratories Login Checklist

Lab Set ID:S62824

Client:RAMBOLL (Ramboll Americas)

Project: RACER Coldwater Road

Submitted:06/05/2024 13:05 Login User: PFD

Attention: Clifford Yantz

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

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

Selection	Description	Note
-----------	-------------	------

Sample Receiving

- | | | |
|-----|--|--|
| 01. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer # IR 2.6 |
| 02. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun |
| 03. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped |
| 04. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box |
| 05. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |

Chain of Custody

- | | | |
|-----|--|---|
| 06. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out |
| 07. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab |
| 08. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC |
| 09. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontracted to: Eurofins |

Preservation

- | | | |
|-----|--|---|
| 10. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation |
| 11. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs) |
| 12. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab? |

Bottle Conditions

- | | | |
|-----|--|---|
| 13. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact |
| 14. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used |
| 15. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used |
| 16. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received |
| 17. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration |
| 18. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time |
| 19. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Do water VOC or TOX bottles contain headspace |

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

Client Review By: _____ Date: _____

Merit Laboratories Bottle Preservation Check

Lab Set ID: S62824 Submitted: 06/05/2024 13:05

Client: RAMBOLL (Ramboll Americas)

Project: RACER Coldwater Road

Initial Preservation Check: 06/05/2024 14:44 PFD

Preservation Recheck (E200.8): N/A

Attention: Clifford Yantz

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

Phone: 313-333-0211

FAX:

Email: Clifford.Yantz@ramboll.com

Sample ID	Bottle / Preservation	pH (Orig)	Add ml	pH (New)	Notes
S62824.01	125ml Plastic HNO3	<2			
S62824.02	125ml Plastic HNO3	<2			
S62824.03	125ml Plastic HNO3	<2			
S62824.04	125ml Plastic HNO3	<2			
S62824.05	125ml Plastic HNO3	<2			
S62824.06	125ml Plastic HNO3	<2			
S62824.07	125ml Plastic HNO3	<2			



2680 East Lansing Dr., East Lansing, MI 48823
 Phone (517) 332-0167 Fax (517) 332-4034
 www.meritlabs.com

C.O.C. PAGE # 1 OF 1 171590

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME Clifford Yantze / Kevin Schneider
 COMPANY Ramboll
 ADDRESS 2090 Commonwealth Blvd
 CITY Ann Arbor STATE MI ZIP CODE 48105
 PHONE NO. _____ CELL NO. 313-373-0211 P.O. NO. 194008845 Task
 E-MAIL ADDRESS Kevin.Schneider@Ramboll.com QUOTE NO. 001
clifford.yantze@Ramboll.com

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

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

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

MERIT LAB NO. <small>FOR LAB USE ONLY</small>	COLLECTION		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives							TOL	Dissolved Metals	specific conductivity	TSS	Certifications	Project Locations	Special Instructions
	DATE	TIME				NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER							
<u>62824.01</u>	<u>6/4/24</u>	<u>1030</u>	<u>Vault-A-06042024</u>	<u>ww</u>	<u>5</u>	<u>2</u>		<u>1</u>	<u>2</u>									<u>Dissolved metals were field filtered</u> <u>Metals ARE: Cr, Cu, Ni, Zn</u>	
<u>.02</u>		<u>1145</u>	<u>Vault-B-06042024</u>	<u>ww</u>	<u>5</u>	<u>2</u>		<u>1</u>	<u>2</u>										
<u>.03</u>		<u>1255</u>	<u>Vault-C-06042024</u>	<u>ww</u>	<u>5</u>	<u>2</u>		<u>1</u>	<u>2</u>										
<u>.04</u>		<u>1405</u>	<u>Vault-D-06042024</u>	<u>ww</u>	<u>5</u>	<u>2</u>		<u>1</u>	<u>2</u>										
<u>.05</u>		<u>1505</u>	<u>Vault-E-06042024</u>	<u>ww</u>	<u>5</u>	<u>2</u>		<u>1</u>	<u>2</u>										
<u>.06</u>		<u>1550</u>	<u>Vault-F-06042024</u>	<u>ww</u>	<u>5</u>	<u>2</u>		<u>1</u>	<u>2</u>										
<u>.07</u>		<u>-</u>	<u>Vault-DUP-06042024</u>	<u>ww</u>	<u>5</u>	<u>2</u>		<u>1</u>	<u>2</u>										

RELINQUISHED BY: KSK Sampler DATE 6/5/24 TIME 11:27
 RECEIVED BY: [Signature] DATE 6/5/24 TIME 12:33
 RELINQUISHED BY: [Signature] DATE 6/5/24 TIME 12:33
 RECEIVED BY: [Signature] DATE 6/5/24 TIME 1305

RELINQUISHED BY: _____ DATE _____ TIME _____
 RECEIVED BY: _____ DATE _____ TIME _____
 SEAL NO. _____ SEAL INTACT YES NO INITIALS _____
 SEAL NO. _____ SEAL INTACT YES NO INITIALS _____
 NOTES: _____ TEMP. ON ARRIVAL 2.6

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE



Quality Control Report

Report ID: QC-S62824-01
Generated on 06/25/2024

Report to

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

Phone: 313-333-0211 FAX:

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

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

Report Summary

Lab Sample ID(s): S62824.01-S62824.07
Project: RACER Coldwater Road
Submitted Date/Time: 06/05/2024 13:05
Sampled by: Kevin Schneider
P.O. #: 1940008845 TASK 001

QC Report Sections

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

Report Flag Descriptions

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

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

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S62824.01

Sample Tag: Vault-A-06042024

Collected Date/Time: 06/04/2024 10:30

Matrix: Wastewater

COC Reference: 171590

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Conductivity	E120.1	06/07/24 13:22	COND240607-W1	COND240607-W1	No	BLK/LCS/DUP
Total Suspended Solids	SM2540D	06/05/24 17:20	TSS240605A	TSS240605A	No	BLK/LCS/DUP
Metals						
Chromium, Dissolved	E200.8	06/07/24 12:38	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/07/24 12:38	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/07/24 12:38	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/07/24 12:38	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S62824.02

Sample Tag: Vault-B-06042024

Collected Date/Time: 06/04/2024 11:45

Matrix: Wastewater

COC Reference: 171590

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Conductivity	E120.1	06/07/24 13:24	COND240607-W1	COND240607-W1	No	BLK/LCS/DUP
Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A	TSS240610A	No	BLK/LCS/DUP
Metals						
Chromium, Dissolved	E200.8	06/07/24 12:40	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/07/24 12:40	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/07/24 12:40	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/07/24 12:40	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S62824.03

Sample Tag: Vault-C-06042024

Collected Date/Time: 06/04/2024 12:55

Matrix: Wastewater

COC Reference: 171590

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Conductivity	E120.1	06/07/24 13:26	COND240607-W1	COND240607-W1	No	BLK/LCS/DUP
Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A	TSS240610A	No	BLK/LCS/DUP
Metals						
Chromium, Dissolved	E200.8	06/07/24 12:42	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/07/24 12:42	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/07/24 12:42	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/07/24 12:42	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S62824.04

Sample Tag: Vault-D-06042024

Collected Date/Time: 06/04/2024 14:05

Matrix: Wastewater

COC Reference: 171590

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Conductivity	E120.1	06/07/24 13:28	COND240607-W1	COND240607-W1	No	BLK/LCS/DUP
Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A	TSS240610A	No	BLK/LCS/DUP
<i>Metals</i>						
Chromium, Dissolved	E200.8	06/07/24 12:43	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/07/24 12:43	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/07/24 12:43	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/07/24 12:43	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S62824.05

Sample Tag: Vault-E-06042024

Collected Date/Time: 06/04/2024 15:05

Matrix: Wastewater

COC Reference: 171590

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Conductivity	E120.1	06/07/24 13:30	COND240607-W1	COND240607-W1	No	BLK/LCS/DUP
Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A	TSS240610A	No	BLK/LCS/DUP
<i>Metals</i>						
Chromium, Dissolved	E200.8	06/07/24 12:54	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/07/24 12:54	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/07/24 12:54	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/07/24 12:54	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S62824.06

Sample Tag: Vault-F-06042024

Collected Date/Time: 06/04/2024 15:50

Matrix: Wastewater

COC Reference: 171590

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Conductivity	E120.1	06/07/24 13:32	COND240607-W1	COND240607-W1	No	BLK/LCS/DUP
Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A	TSS240610A	No	BLK/LCS/DUP
<i>Metals</i>						
Chromium, Dissolved	E200.8	06/07/24 13:01	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/07/24 13:01	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/07/24 13:01	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/07/24 13:01	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S62824.07

Sample Tag: Vault-DUP-06042024

Collected Date/Time: 06/04/2024 00:01

Matrix: Wastewater

COC Reference: 171590

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Conductivity	E120.1	06/07/24 13:34	COND240607-W1	COND240607-W1	No	BLK/LCS/DUP
Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A	TSS240610A	No	BLK/LCS/DUP
Metals						
Chromium, Dissolved	E200.8	06/07/24 13:03	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/07/24 13:03	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/07/24 13:03	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/07/24 13:03	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: COND240607-W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S62824.01	Conductivity	E120.1	06/07/24 13:22	COND240607-W1
S62824.02	Conductivity	E120.1	06/07/24 13:24	COND240607-W1
S62824.03	Conductivity	E120.1	06/07/24 13:26	COND240607-W1
S62824.04	Conductivity	E120.1	06/07/24 13:28	COND240607-W1
S62824.05	Conductivity	E120.1	06/07/24 13:30	COND240607-W1
S62824.06	Conductivity	E120.1	06/07/24 13:32	COND240607-W1
S62824.07	Conductivity	E120.1	06/07/24 13:34	COND240607-W1

Inorganics, Prep Batch ID: TSS240605A

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S62824.01	Total Suspended Solids	SM2540D	06/05/24 17:20	TSS240605A

Inorganics, Prep Batch ID: TSS240610A

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S62824.02	Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A
S62824.03	Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A
S62824.04	Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A
S62824.05	Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A
S62824.06	Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A
S62824.07	Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A

Metals, Prep Batch ID: MTD-060724-3

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S62824.01	Chromium, Dissolved	E200.8	06/07/24 12:38	MT4-24-0607A
S62824.01	Copper, Dissolved	E200.8	06/07/24 12:38	MT4-24-0607A
S62824.01	Nickel, Dissolved	E200.8	06/07/24 12:38	MT4-24-0607A
S62824.01	Zinc, Dissolved	E200.8	06/07/24 12:38	MT4-24-0607A
S62824.02	Chromium, Dissolved	E200.8	06/07/24 12:40	MT4-24-0607A
S62824.02	Copper, Dissolved	E200.8	06/07/24 12:40	MT4-24-0607A
S62824.02	Nickel, Dissolved	E200.8	06/07/24 12:40	MT4-24-0607A
S62824.02	Zinc, Dissolved	E200.8	06/07/24 12:40	MT4-24-0607A
S62824.03	Chromium, Dissolved	E200.8	06/07/24 12:42	MT4-24-0607A
S62824.03	Copper, Dissolved	E200.8	06/07/24 12:42	MT4-24-0607A
S62824.03	Nickel, Dissolved	E200.8	06/07/24 12:42	MT4-24-0607A
S62824.03	Zinc, Dissolved	E200.8	06/07/24 12:42	MT4-24-0607A
S62824.04	Chromium, Dissolved	E200.8	06/07/24 12:43	MT4-24-0607A
S62824.04	Copper, Dissolved	E200.8	06/07/24 12:43	MT4-24-0607A
S62824.04	Nickel, Dissolved	E200.8	06/07/24 12:43	MT4-24-0607A
S62824.04	Zinc, Dissolved	E200.8	06/07/24 12:43	MT4-24-0607A
S62824.05	Chromium, Dissolved	E200.8	06/07/24 12:54	MT4-24-0607A
S62824.05	Copper, Dissolved	E200.8	06/07/24 12:54	MT4-24-0607A
S62824.05	Nickel, Dissolved	E200.8	06/07/24 12:54	MT4-24-0607A
S62824.05	Zinc, Dissolved	E200.8	06/07/24 12:54	MT4-24-0607A
S62824.06	Chromium, Dissolved	E200.8	06/07/24 13:01	MT4-24-0607A
S62824.06	Copper, Dissolved	E200.8	06/07/24 13:01	MT4-24-0607A
S62824.06	Nickel, Dissolved	E200.8	06/07/24 13:01	MT4-24-0607A
S62824.06	Zinc, Dissolved	E200.8	06/07/24 13:01	MT4-24-0607A

QC Report - Prep Batch Summary

Metals, Prep Batch ID: MTD-060724-3 (continued)

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S62824.07	Chromium, Dissolved	E200.8	06/07/24 13:03	MT4-24-0607A
S62824.07	Copper, Dissolved	E200.8	06/07/24 13:03	MT4-24-0607A
S62824.07	Nickel, Dissolved	E200.8	06/07/24 13:03	MT4-24-0607A
S62824.07	Zinc, Dissolved	E200.8	06/07/24 13:03	MT4-24-0607A

QC Report - Batch QC Results

Inorganics, Prep Batch ID: COND240607-W1

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

Blank (BLK)

Lab Sample ID: COND240607-W1.LRB1

Run in Batch: COND240607-W1, Run Date: 06/07/2024 13:00, Prep Date: 06/07/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Conductivity		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: COND240607-W1.LCS1

Run in Batch: COND240607-W1, Run Date: 06/07/2024 13:06, Prep Date: 06/07/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Conductivity		97	90	110

Laboratory Control Sample (LCS)

Lab Sample ID: COND240607-W1.LCS2

Run in Batch: COND240607-W1, Run Date: 06/07/2024 13:08, Prep Date: 06/07/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Conductivity		92	90	110

Duplicate (DUP)

Lab Sample ID: COND240607-W1.DP1, Parent Sample ID: S62653.01

Run in Batch: COND240607-W1, Run Date: 06/07/2024 13:12, Prep Date: 06/07/2024, Matrix: Liquid, Dilution: 6

Analyte	Flags	RPD	RPD CL
Conductivity		0	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: TSS240605A

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

Blank (BLK)

Lab Sample ID: TSS240605A.LRB1

Run in Batch: TSS240605A, Run Date: 06/05/2024 17:20, Prep Date: 06/05/2024, Matrix: Liquid, Dilution: 1

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

Laboratory Control Sample (LCS)

Lab Sample ID: TSS240605A.LCS1

Run in Batch: TSS240605A, Run Date: 06/05/2024 17:20, Prep Date: 06/05/2024, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL
Total Suspended Solids		93.8	82.6	111

Duplicate (DUP)

Lab Sample ID: TSS240605A.DP1, Parent Sample ID: S62770.01

Run in Batch: TSS240605A, Run Date: 06/05/2024 17:20, Prep Date: 06/05/2024, Matrix: Liquid, Dilution: 5

Analyte	Flags	RPD	RPD CL
Total Suspended Solids	*	17.8	10

QC Report - Batch QC Results

Inorganics, Prep Batch ID: TSS240610A

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

Blank (BLK)

Lab Sample ID: TSS240610A.LRB1

Run in Batch: TSS240610A, Run Date: 06/10/2024 16:41, Prep Date: 06/10/2024, Matrix: Liquid, Dilution: 1

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

Laboratory Control Sample (LCS)

Lab Sample ID: TSS240610A.LCS1

Run in Batch: TSS240610A, Run Date: 06/10/2024 16:41, Prep Date: 06/10/2024, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL
Total Suspended Solids		103.3	82.6	111

Duplicate (DUP)

Lab Sample ID: TSS240610A.DP1, Parent Sample ID: S62912.01

Run in Batch: TSS240610A, Run Date: 06/10/2024 16:41, Prep Date: 06/10/2024, Matrix: Liquid, Dilution: 10

Analyte	Flags	RPD	RPD CL
Total Suspended Solids		0.0	10

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-060724-3

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

Blank (BLK)

Lab Sample ID: MT4-24-0607A.068.LRB

Run in Batch: MT4-24-0607A, Run Date: 06/07/2024 12:22, Prep Date: 06/07/2024, Matrix: Liquid, Dilution: 1

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

Laboratory Control Sample (LCS)

Lab Sample ID: MT4-24-0607A.067.LCS

Run in Batch: MT4-24-0607A, Run Date: 06/07/2024 12:18, Prep Date: 06/07/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chromium		105	85	115
Copper		103	85	115
Nickel		105	85	115
Zinc		106	85	115

Matrix Spike (MS)

Lab Sample ID: MT4-24-0607A.089.MS, Parent Sample ID: S62861.01

Run in Batch: MT4-24-0607A, Run Date: 06/07/2024 12:45, Prep Date: 06/07/2024, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Chromium		103	75	125
Copper		98	75	125
Nickel		116	75	125
Zinc		101	75	125

Matrix Spike (MS)

Lab Sample ID: MT4-24-0607A.112.MS, Parent Sample ID: S62824.07

Run in Batch: MT4-24-0607A, Run Date: 06/07/2024 13:25, Prep Date: 06/07/2024, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Chromium		104	75	125
Copper		97	75	125
Nickel		100	75	125
Zinc		102	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-24-0607A.090.MSD, Parent Sample ID: MT4-24-0607A.089.MS

Run in Batch: MT4-24-0607A, Run Date: 06/07/2024 12:46, Prep Date: 06/07/2024, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium		107	75	125	4	20
Copper		101	75	125	2	20
Nickel		120	75	125	1	20
Zinc		104	75	125	2	20

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-060724-3 (continued)

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

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-24-0607A.113.MSD, Parent Sample ID: MT4-24-0607A.112.MS

Run in Batch: MT4-24-0607A, Run Date: 06/07/2024 13:26, Prep Date: 06/07/2024, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium		100	75	125	4	20
Copper		96	75	125	2	20
Nickel		98	75	125	2	20
Zinc		100	75	125	2	20



2680 East Lansing Dr., East Lansing, MI 48823
 Phone (517) 332-0167 Fax (517) 332-4034
 www.meritlabs.com

C.O.C. PAGE # 1 OF 1 171590

REPORT TO **CHAIN OF CUSTODY RECORD** **INVOICE TO**

CONTACT NAME: Clifford Yantz / Kevin Schneider
 COMPANY: Ramboll
 ADDRESS: 2090 Commonwealth Blvd
 CITY: Ann Arbor STATE: MI ZIP CODE: 48105
 PHONE NO.: _____ CELL NO.: 313-373-0211 P.O. NO.: 194008845 Task
 E-MAIL ADDRESS: Kevin.Schneider@Ramboll.com QUOTE NO.: 001
Clifford.Yantz@Ramboll.com

CONTACT NAME: SAME
 COMPANY: _____
 ADDRESS: _____
 CITY: _____ STATE: _____ ZIP CODE: _____
 PHONE NO.: _____ E-MAIL ADDRESS: _____

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

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

MERIT LAB NO. <small>FOR LAB USE ONLY</small>	COLLECTION		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives							TOL	Dissolved Metals	specific conductivity	TSS	Certifications	Project Locations	Special Instructions
	DATE	TIME				NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER							
<u>62824.01</u>	<u>6/4/24</u>	<u>1030</u>	<u>Vault-A-06042024</u>	<u>ww</u>	<u>5</u>	<u>2</u>		<u>1</u>	<u>2</u>									<u>Dissolved metals were field filtered</u> <u>Metals ARE: Cr, Cu, Ni, Zn</u>	
<u>.02</u>		<u>1145</u>	<u>Vault-B-06042024</u>	<u>ww</u>	<u>5</u>	<u>2</u>		<u>1</u>	<u>2</u>										
<u>.03</u>		<u>1255</u>	<u>Vault-C-06042024</u>	<u>ww</u>	<u>5</u>	<u>2</u>		<u>1</u>	<u>2</u>										
<u>.04</u>		<u>1405</u>	<u>Vault-D-06042024</u>	<u>ww</u>	<u>5</u>	<u>2</u>		<u>1</u>	<u>2</u>										
<u>.05</u>		<u>1505</u>	<u>Vault-E-06042024</u>	<u>ww</u>	<u>5</u>	<u>2</u>		<u>1</u>	<u>2</u>										
<u>.06</u>		<u>1550</u>	<u>Vault-F-06042024</u>	<u>ww</u>	<u>5</u>	<u>2</u>		<u>1</u>	<u>2</u>										
<u>.07</u>		<u>-</u>	<u>Vault-DUP-06042024</u>	<u>ww</u>	<u>5</u>	<u>2</u>		<u>1</u>	<u>2</u>										

RELINQUISHED BY: KSK Sampler DATE: 6/5/24 TIME: 11:27
 RECEIVED BY: [Signature] DATE: 6/5/24 TIME: 12:33
 RELINQUISHED BY: [Signature] DATE: 6/5/24 TIME: 12:33
 RECEIVED BY: [Signature] DATE: 6/5/24 TIME: 1305

RELINQUISHED BY: _____ DATE: _____ TIME: _____
 RECEIVED BY: _____ DATE: _____ TIME: _____
 SEAL NO. SEAL INTACT YES NO INITIALS _____
 SEAL NO. SEAL INTACT YES NO INITIALS _____
 NOTES: _____ TEMP. ON ARRIVAL: 2.6

 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Lab Results
Merit Laboratories
2680 E Lansing Drive
East Lansing, Michigan 48823

Generated 6/20/2024 5:56:59 PM

JOB DESCRIPTION

Merit Laboratories S62824

JOB NUMBER

190-34584-1

Eurofins Michigan

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization



Generated
6/20/2024 5:56:59 PM

Authorized for release by
Sue Schafer, Project Manager II
Sue.Schafer@et.eurofinsus.com
(810)229-2763



Table of Contents

Cover Page	1
Table of Contents	3
Sample Summary	4
Case Narrative	5
Client Sample Results	6
QC Sample Results	8
Definitions/Glossary	11
QC Association Summary	12
Lab Chronicle	13
Certification Summary	17
Method Summary	18
Chain of Custody	19

Sample Summary

Client: Merit Laboratories
Project/Site: Merit Laboratories S62824

Job ID: 190-34584-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
190-34584-1	S62824.01	Water	06/04/24 10:30	06/07/24 16:08
190-34584-2	S62824.02	Water	06/04/24 11:45	06/07/24 16:08
190-34584-3	S62824.03	Water	06/04/24 12:55	06/07/24 16:08
190-34584-4	S62824.04	Water	06/04/24 14:05	06/07/24 16:08
190-34584-5	S62824.05	Water	06/04/24 15:05	06/07/24 16:08
190-34584-6	S62824.06	Water	06/04/24 15:55	06/07/24 16:08
190-34584-7	S62824.07	Water	06/04/24 00:01	06/07/24 16:08

1

2

3

4

5

6

7

8

9

10

11

12

Case Narrative

Client: Merit Laboratories
Project: Merit Laboratories S62824

Job ID: 190-34584-1

Job ID: 190-34584-1

Eurofins Michigan

Job Narrative 190-34584-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 6/7/2024 4:08 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 7.3°C.

General Chemistry

Method 5310C: Insufficient sample volume was available to perform a matrix spike duplicate (MSD) associated with analytical batch 240-617191.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Michigan

Client Sample Results

Client: Merit Laboratories
Project/Site: Merit Laboratories S62824

Job ID: 190-34584-1

Client Sample ID: S62824.01

Lab Sample ID: 190-34584-1

Date Collected: 06/04/24 10:30

Matrix: Water

Date Received: 06/07/24 16:08

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SM 5310C-2011)	3.0		1.0	mg/L			06/18/24 20:33	1

Client Sample ID: S62824.02

Lab Sample ID: 190-34584-2

Date Collected: 06/04/24 11:45

Matrix: Water

Date Received: 06/07/24 16:08

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SM 5310C-2011)	1.2		1.0	mg/L			06/19/24 02:07	1

Client Sample ID: S62824.03

Lab Sample ID: 190-34584-3

Date Collected: 06/04/24 12:55

Matrix: Water

Date Received: 06/07/24 16:08

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SM 5310C-2011)	4.2		1.0	mg/L			06/19/24 08:54	1

Client Sample ID: S62824.04

Lab Sample ID: 190-34584-4

Date Collected: 06/04/24 14:05

Matrix: Water

Date Received: 06/07/24 16:08

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SM 5310C-2011)	4.6		1.0	mg/L			06/19/24 13:18	1

Client Sample ID: S62824.05

Lab Sample ID: 190-34584-5

Date Collected: 06/04/24 15:05

Matrix: Water

Date Received: 06/07/24 16:08

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SM 5310C-2011)	1.4		1.0	mg/L			06/19/24 14:30	1

Client Sample ID: S62824.06

Lab Sample ID: 190-34584-6

Date Collected: 06/04/24 15:55

Matrix: Water

Date Received: 06/07/24 16:08

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SM 5310C-2011)	1.7		1.0	mg/L			06/19/24 15:18	1

Client Sample Results

Client: Merit Laboratories
Project/Site: Merit Laboratories S62824

Job ID: 190-34584-1

Client Sample ID: S62824.07

Lab Sample ID: 190-34584-7

Date Collected: 06/04/24 00:01

Matrix: Water

Date Received: 06/07/24 16:08

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SM 5310C-2011)	4.1		1.0	mg/L			06/20/24 01:19	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12

QC Sample Results

Client: Merit Laboratories
 Project/Site: Merit Laboratories S62824

Job ID: 190-34584-1

Method: 5310C-2011 - Total Organic Carbon/Persulfate - Ultrav

Lab Sample ID: MB 240-617136/35
Matrix: Water
Analysis Batch: 617136

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	<1.0		1.0	mg/L			06/19/24 07:43	1

Lab Sample ID: MB 240-617136/5
Matrix: Water
Analysis Batch: 617136

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	<1.0		1.0	mg/L			06/18/24 19:45	1

Lab Sample ID: LCS 240-617136/34
Matrix: Water
Analysis Batch: 617136

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	16.3	15.5		mg/L		96	85 - 115
TOC Result 1	16.3	15.2		mg/L		94	85 - 115
TOC Result 2	16.3	15.7		mg/L		97	85 - 115

Lab Sample ID: LCS 240-617136/6
Matrix: Water
Analysis Batch: 617136

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	16.3	15.4		mg/L		95	85 - 115
TOC Result 1	16.3	15.5		mg/L		96	85 - 115
TOC Result 2	16.3	15.5		mg/L		95	85 - 115

Lab Sample ID: 190-34584-1 MS
Matrix: Water
Analysis Batch: 617136

Client Sample ID: S62824.01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	3.0		10.0	12.9		mg/L		99	65 - 134
TOC Result 1	2.9		10.0	12.9		mg/L		100	65 - 134
TOC Result 2	3.1		10.0	13.0		mg/L		100	65 - 134

Lab Sample ID: 190-34584-2 MS
Matrix: Water
Analysis Batch: 617136

Client Sample ID: S62824.02
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	1.2		10.0	11.1		mg/L		99	65 - 134
TOC Result 1	1.1		10.0	11.0		mg/L		100	65 - 134
TOC Result 2	1.2		10.0	11.2		mg/L		100	65 - 134

QC Sample Results

Client: Merit Laboratories
 Project/Site: Merit Laboratories S62824

Job ID: 190-34584-1

Method: 5310C-2011 - Total Organic Carbon/Persulfate - Ultrav (Continued)

Lab Sample ID: 190-34584-3 MS
Matrix: Water
Analysis Batch: 617136

Client Sample ID: S62824.03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	4.2		10.0	14.0		mg/L		98	65 - 134
TOC Result 1	4.0		10.0	13.8		mg/L		98	65 - 134
TOC Result 2	4.2		10.0	14.1		mg/L		99	65 - 134

Lab Sample ID: MB 240-617191/35
Matrix: Water
Analysis Batch: 617191

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	<1.0		1.0	mg/L			06/19/24 07:43	1

Lab Sample ID: MB 240-617191/68
Matrix: Water
Analysis Batch: 617191

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	<1.0		1.0	mg/L			06/19/24 20:54	1

Lab Sample ID: LCS 240-617191/34
Matrix: Water
Analysis Batch: 617191

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	16.3	15.5		mg/L		96	85 - 115
TOC Result 1	16.3	15.2		mg/L		94	85 - 115
TOC Result 2	16.3	15.7		mg/L		97	85 - 115

Lab Sample ID: LCS 240-617191/53
Matrix: Water
Analysis Batch: 617191

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	16.3	16.2		mg/L		100	85 - 115
TOC Result 1	16.3	16.1		mg/L		99	85 - 115
TOC Result 2	16.3	16.4		mg/L		101	85 - 115

Lab Sample ID: LCS 240-617191/67
Matrix: Water
Analysis Batch: 617191

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	16.3	15.7		mg/L		96	85 - 115
TOC Result 1	16.3	15.6		mg/L		96	85 - 115
TOC Result 2	16.3	15.8		mg/L		97	85 - 115

QC Sample Results

Client: Merit Laboratories
Project/Site: Merit Laboratories S62824

Job ID: 190-34584-1

Method: 5310C-2011 - Total Organic Carbon/Persulfate - Ultrav (Continued)

Lab Sample ID: 190-34584-6 MS
Matrix: Water
Analysis Batch: 617191

Client Sample ID: S62824.06
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	1.7		10.0	11.9		mg/L		102	65 - 134
TOC Result 1	1.5		10.0	11.8		mg/L		103	65 - 134
TOC Result 2	1.7		10.0	12.0		mg/L		103	65 - 134

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12

Definitions/Glossary

Client: Merit Laboratories
Project/Site: Merit Laboratories S62824

Job ID: 190-34584-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

Client: Merit Laboratories
Project/Site: Merit Laboratories S62824

Job ID: 190-34584-1

General Chemistry

Analysis Batch: 617136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-34584-1	S62824.01	Total/NA	Water	5310C-2011	
190-34584-2	S62824.02	Total/NA	Water	5310C-2011	
190-34584-3	S62824.03	Total/NA	Water	5310C-2011	
190-34584-4	S62824.04	Total/NA	Water	5310C-2011	
MB 240-617136/35	Method Blank	Total/NA	Water	5310C-2011	
MB 240-617136/5	Method Blank	Total/NA	Water	5310C-2011	
LCS 240-617136/20	Lab Control Sample	Total/NA	Water	5310C-2011	
LCS 240-617136/34	Lab Control Sample	Total/NA	Water	5310C-2011	
LCS 240-617136/6	Lab Control Sample	Total/NA	Water	5310C-2011	
190-34584-1 MS	S62824.01	Total/NA	Water	5310C-2011	
190-34584-2 MS	S62824.02	Total/NA	Water	5310C-2011	
190-34584-3 MS	S62824.03	Total/NA	Water	5310C-2011	

Analysis Batch: 617191

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-34584-5	S62824.05	Total/NA	Water	5310C-2011	
190-34584-6	S62824.06	Total/NA	Water	5310C-2011	
190-34584-7	S62824.07	Total/NA	Water	5310C-2011	
MB 240-617191/35	Method Blank	Total/NA	Water	5310C-2011	
MB 240-617191/68	Method Blank	Total/NA	Water	5310C-2011	
LCS 240-617191/34	Lab Control Sample	Total/NA	Water	5310C-2011	
LCS 240-617191/53	Lab Control Sample	Total/NA	Water	5310C-2011	
LCS 240-617191/67	Lab Control Sample	Total/NA	Water	5310C-2011	
190-34584-6 MS	S62824.06	Total/NA	Water	5310C-2011	

Lab Chronicle

Client: Merit Laboratories
Project/Site: Merit Laboratories S62824

Job ID: 190-34584-1

Client Sample ID: S62824.01

Lab Sample ID: 190-34584-1

Date Collected: 06/04/24 10:30

Matrix: Water

Date Received: 06/07/24 16:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617136	QUY8	EET CLE	06/18/24 20:33

Client Sample ID: S62824.02

Lab Sample ID: 190-34584-2

Date Collected: 06/04/24 11:45

Matrix: Water

Date Received: 06/07/24 16:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617136	QUY8	EET CLE	06/19/24 02:07

Client Sample ID: S62824.03

Lab Sample ID: 190-34584-3

Date Collected: 06/04/24 12:55

Matrix: Water

Date Received: 06/07/24 16:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617136	QUY8	EET CLE	06/19/24 08:54

Client Sample ID: S62824.04

Lab Sample ID: 190-34584-4

Date Collected: 06/04/24 14:05

Matrix: Water

Date Received: 06/07/24 16:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617136	QUY8	EET CLE	06/19/24 13:18

Client Sample ID: S62824.05

Lab Sample ID: 190-34584-5

Date Collected: 06/04/24 15:05

Matrix: Water

Date Received: 06/07/24 16:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617191	QUY8	EET CLE	06/19/24 14:30

Client Sample ID: S62824.06

Lab Sample ID: 190-34584-6

Date Collected: 06/04/24 15:55

Matrix: Water

Date Received: 06/07/24 16:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617191	QUY8	EET CLE	06/19/24 15:18

Client Sample ID: S62824.07

Lab Sample ID: 190-34584-7

Date Collected: 06/04/24 00:01

Matrix: Water

Date Received: 06/07/24 16:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617191	QUY8	EET CLE	06/20/24 01:19

Lab Chronicle

Client: Merit Laboratories
Project/Site: Merit Laboratories S62824

Job ID: 190-34584-1

Client Sample ID: Method Blank

Lab Sample ID: MB 240-617136/35

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617136	QUY8	EET CLE	06/19/24 07:43

Client Sample ID: Method Blank

Lab Sample ID: MB 240-617136/5

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617136	QUY8	EET CLE	06/18/24 19:45

Client Sample ID: Method Blank

Lab Sample ID: MB 240-617191/35

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617191	QUY8	EET CLE	06/19/24 07:43

Client Sample ID: Method Blank

Lab Sample ID: MB 240-617191/68

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617191	QUY8	EET CLE	06/19/24 20:54

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 240-617136/20

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617136	QUY8	EET CLE	06/19/24 01:43

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 240-617136/34

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617136	QUY8	EET CLE	06/19/24 07:19

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 240-617136/6

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617136	QUY8	EET CLE	06/18/24 20:09

Lab Chronicle

Client: Merit Laboratories
Project/Site: Merit Laboratories S62824

Job ID: 190-34584-1

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 240-617191/34

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617191	QUY8	EET CLE	06/19/24 07:19

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 240-617191/53

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617191	QUY8	EET CLE	06/19/24 14:54

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 240-617191/67

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617191	QUY8	EET CLE	06/19/24 20:30

Client Sample ID: S62824.01

Lab Sample ID: 190-34584-1 MS

Date Collected: 06/04/24 10:30

Matrix: Water

Date Received: 06/07/24 16:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617136	QUY8	EET CLE	06/18/24 20:57

Client Sample ID: S62824.02

Lab Sample ID: 190-34584-2 MS

Date Collected: 06/04/24 11:45

Matrix: Water

Date Received: 06/07/24 16:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617136	QUY8	EET CLE	06/19/24 02:31

Client Sample ID: S62824.03

Lab Sample ID: 190-34584-3 MS

Date Collected: 06/04/24 12:55

Matrix: Water

Date Received: 06/07/24 16:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617136	QUY8	EET CLE	06/19/24 09:19

Client Sample ID: S62824.06

Lab Sample ID: 190-34584-6 MS

Date Collected: 06/04/24 15:55

Matrix: Water

Date Received: 06/07/24 16:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617191	QUY8	EET CLE	06/19/24 15:42

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Eurofins Michigan

Lab Chronicle

Client: Merit Laboratories
Project/Site: Merit Laboratories S62824

Job ID: 190-34584-1

Analyst References:

Lab: EET CLE

Batch Type: Analysis

QUY8 = Colin Frimel

1

2

3

4

5

6

7

8

9

10

11

12

Accreditation/Certification Summary

Client: Merit Laboratories
Project/Site: Merit Laboratories S62824

Job ID: 190-34584-1

Laboratory: Eurofins Cleveland

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-28-25
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-27-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Jersey	NELAP	OH001	06-30-24
New York	NELAP	10975	04-02-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-24

Method Summary

Client: Merit Laboratories
Project/Site: Merit Laboratories S62824

Job ID: 190-34584-1

Method	Method Description	Protocol	Laboratory
5310C-2011	Total Organic Carbon/Persulfate - Ultrav	SM	EET CLE

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396





2680 East Lansing Dr., East Lansing, MI 48823
 Phone (517) 332-0167 Fax (517) 332-4034
 www.meritlabs.com

C.O.C. PAGE # 1 OF 1

Tom 7.30

REPORT TO

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME **Project Management Team**
 COMPANY **Merit Laboratories**
 ADDRESS **2680 East Lansing Drive**
 CITY **East Lansing** STATE **MI** ZIP CODE **48823**
 PHONE NO. **517-332-0167** FAX NO. _____ P.O. NO. _____
 E-MAIL ADDRESS **results@meritlabs.com** QUOTE NO. _____

CONTACT NAME **Julie Teague** SAME
 COMPANY **Merit Laboratories**
 ADDRESS **2680 East Lansing Drive**
 CITY **East Lansing** STATE **MI** ZIP CODE **48823**
 PHONE NO. **517-332-0167** E-MAIL ADDRESS **juliet@meritlabs.com**

PROJECT NO./NAME **S62824** SAMPLER(S) - PLEASE PRINT/SIGN NAME _____
 TURNAROUND TIME REQUIRED 1 DAY 2 DAYS 3 DAYS STANDARD OTHER _____
 DELIVERABLES REQUIRED STD LEVEL II LEVEL III LEVEL IV EDD OTHER _____

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

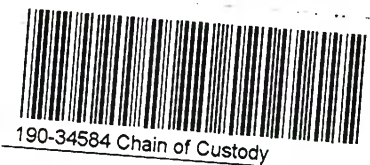
MERIT LAB NO. <small>FOR LAB USE ONLY</small>	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives								TOC
	DATE	TIME				NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER		
	6/4/24	1030	S62824.01	WW	2				2					✓
	6/4/24	1145	S62824.02	WW	2				2					✓
	6/4/24	1255	S62824.03	WW	2				2					✓
	6/4/24	1405	S62824.04	WW	2				2					✓
	6/4/24	1505	S62824.05	WW	2				2					✓
	6/4/24	1550	S62824.06	WW	2				2					✓
	6/4/24	0001	S62824.07	WW	2				2					✓

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
 OHIO VAP Drinking Water
 DoD NPDES

Project Locations
 Detroit New York
 Other _____

Special Instructions
 Method SM5310C



** Subcontracted to
Eurofins

RELINQUISHED BY: _____ DATE _____ TIME _____
 SIGNATURE/ORGANIZATION _____
 RECEIVED BY: _____ DATE **06/06/24** TIME **1320**
 SIGNATURE/ORGANIZATION _____
 RELINQUISHED BY: _____ DATE _____ TIME _____
 SIGNATURE/ORGANIZATION _____
 RECEIVED BY: _____ DATE **6/7/24** TIME _____
 SIGNATURE/ORGANIZATION _____

RELINQUISHED BY: _____ DATE _____ TIME _____
 SIGNATURE/ORGANIZATION _____
 RECEIVED BY: _____ DATE **06/06/24** TIME **1320**
 SIGNATURE/ORGANIZATION _____
 SEAL NO. _____ SEAL INTACT YES NO INITIALS _____
 SEAL NO. _____ SEAL INTACT YES NO INITIALS _____
 NOTES: _____ TEMP. ON ARRIVAL _____

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.17



Eurofins Michigan

10448 Citation Drive Suite 200
 Brighton, MI 48116
 Phone: 810-229-2763 Fax: 810-229-0000

Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler		Lab PM: Schafer Sue		Carrier Tracking No(s):		COC No: 190-39365.1			
Client Contact: Shipping/Receiving		Phone:		E-Mail: Sue.Schafer@et.eurofinsus.com		State of Origin: Michigan		Page: Page 1 of 1			
Company: Eurofins Environment Testing North Centr				Accreditations Required (See note):				Job #: 190-34584-1			
Address: 180 S. Van Buren Avenue, City: Barberton, State, Zip: OH, 44203		Due Date Requested: 6/20/2024		Analysis Requested						Preservation Codes:	
City: Barberton		TAT Requested (days):									
Phone: 330-497-9396(Tel) 330-497-0772(Fax)		PO #:									
Email:		WO #:									
Project Name: Merit Laboratories S62824		Project #: 19001249		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		5310C/ TOC		Total Number of containers	
Site:		SSOW#:									
Sample Identification - Client ID (Lab ID)		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		MATRIX (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)		Special Instructions/Note:	
S62824.01 (190-34584-1)		6/4/24		10:30 Eastern		Water				R003	
S62824.02 (190-34584-2)		6/4/24		11:45 Eastern		Water					
S62824.03 (190-34584-3)		6/4/24		12:55 Eastern		Water					
S62824.04 (190-34584-4)		6/4/24		14:05 Eastern		Water					
S62824.05 (190-34584-5)		6/4/24		15:05 Eastern		Water					
S62824.06 (190-34584-6)		6/4/24		15:55 Eastern		Water					
S62824.07 (190-34584-7)		6/4/24		00:01 Eastern		Water					
<p>Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.</p>											
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)					
Unconfirmed						<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Deliverable Requested: I, II, III, IV Other (specify)				Primary Deliverable Rank: 2		Special Instructions/QC Requirements:					
Empty Kit Relinquished by:			Date:		Time:		Method of Shipment:				
Relinquished by: <i>[Signature]</i>			Date/Time: 6/17/24 1700		Company: <i>[Signature]</i>		Received by: MALISSA LOAR		Date/Time: 6-8 24 800h		Company:
Relinquished by:			Date/Time:		Company:		Received by:		Date/Time:		Company:
Relinquished by:			Date/Time:		Company:		Received by:		Date/Time:		Company:
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Page 20 of 22				Cooler Temperature(s) °C and Other Remarks:			
								6/20/2024			

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12

Eurofins - Cleveland Sample Receipt Form/Narrative Login # _____
 Barberton Facility

Client ESR Mich Site Name _____ Cooler unpacked by MALISSA LOAR

Cooler Received on 12.8.24 Opened on 12.8.24

FedEx: 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other _____

Receipt After-hours Drop-off Date/Time _____ Storage Location _____

Eurofins Cooler # 2 Eurofins Pallet Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1 Cooler temperature upon receipt 18 °C Sec Multiple Cooler Form

IR GUN # _____ °C Observed Cooler Temp _____ °C Corrected Cooler Temp _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity _____ Yes/No

-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA

-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No NA

-Were tamper/custody seals intact and uncompromised? Yes No NA

3 Shippers' packing slip attached to the cooler(s)? Yes No NA

4 Did custody papers accompany the sample(s)? Yes No NA

5 Were the custody papers relinquished & signed in the appropriate place? Yes No NA

6 Was/were the person(s) who collected the samples clearly identified on the COC? Yes No NA

7 Did all bottles arrive in good condition (Unbroken)? Yes No NA

8 Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No NA

9 For each sample, does the COC specify preservatives (Y/N), # of containers (X/N), and sample type of grab/comp (Y/N)? Yes No NA

10 Were correct bottle(s) used for the test(s) indicated? Yes No NA

11 Sufficient quantity received to perform indicated analyses? Yes No NA

12 Are these work share samples and all listed on the COC? Yes No NA

If yes, Questions 13-17 have been checked at the originating laboratory

13 Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC339814

14 Were VOAs on the COC? Yes No NA

15 Were air bubbles >6 mm in any VOA vials? Larger than this. Yes No NA

16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No

17 Was a LL Hg or Me Hg trip blank present? _____ Yes No

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

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES additional next page Samples processed by: _____

19 SAMPLE CONDITION _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container

Sample(s) _____ were received with bubble >6 mm in diameter (Notify PM)

20 SAMPLE PRESERVATION _____ were further preserved in the laboratory

Sample(s) _____ were preserved. _____ Preservative(s) added/Lot number(s) _____

VOA Sample Preservation - Date/Time VOAs Frozen. _____

Tests that are not checked for pH by Receiving
 VOAs
 Oil and Grease
 TOC



Analytical Laboratory Report

Report ID: S62829.01(01)
Generated on 06/20/2024

Report to

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

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

Additional Contacts: Kevin Schneider

Report produced by

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

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

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

Report Summary

Lab Sample ID(s): S62829.01-S62829.08
Project: RACER Coldwater Road
Collected Date(s): 06/04/2024
Submitted Date/Time: 06/05/2024 13:05
Sampled by: Kevin Schneider
P.O. #: 1940008845 TASK 001

Table of Contents

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

Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

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

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

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

When MDL results are provided, then 'Not detected' indicates that parameter was not found at a level equal to or greater than the MDL.

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile, and 2-chloroethylvinyl ether need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

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

Starred (*) analytes are not NY NELAP accredited.

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

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

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

PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the

FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."

Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Wisconsin PFAs analysis: MDL = LOD; RL = LOQ. LOD and LOQ are adjusted for dilution.

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

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

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Accreditations (For Reference Only)

Authority	Accreditation ID
Michigan DEQ	#9956
DOD ELAP & ISO/IEC 17025:2017	#69699 PJLA Testing
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Pennsylvania DEP	#68-05884
Wisconsin DNR	FID# 399147320

Qualifier Descriptions

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

Glossary of Abbreviations

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



Analytical Laboratory Report

Method Summary

Method	Version
E120.1	EPA Method 120.1 Revision 1982
E200.8	EPA Method 200.8 Revision 5.4
N/A	Not Applicable
SM2540D	Standard Method 2540 D 2015
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003



Analytical Laboratory Report

Sample Summary (8 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S62829.01	SUMP-A-06042024	Wastewater	06/04/24 09:55
S62829.02	SUMP-B-06042024	Wastewater	06/04/24 11:15
S62829.03	SUMP-C-06042024	Wastewater	06/04/24 12:25
S62829.04	SUMP-D-06042024	Wastewater	06/04/24 13:35
S62829.05	SUMP-E-06042024	Wastewater	06/04/24 14:45
S62829.06	SUMP-F-06042024	Wastewater	06/04/24 15:25
S62829.07	SUMP-DUP-06042024	Wastewater	06/04/24 00:01
S62829.08	Trip Blank-06042024	Water	06/04/24 00:01



Analytical Laboratory Report

Lab Sample ID: S62829.01

Sample Tag: SUMP-A-06042024

Collected Date/Time: 06/04/2024 09:55

Matrix: Wastewater

COC Reference: 155562

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.6	IR
2	40ml Glass	H2SO4	Yes	2.6	IR
1	125ml Plastic	HNO3	Yes	2.6	IR
1	1L Plastic	None	Yes	2.6	IR
1	250ml Plastic	None	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/10/24 12:00	BDO	
Metal Digestion	Completed	SW3015A	06/07/24 10:50	CCM	

Inorganics

Method: , Run Date: 06/19/24 10:07, Analyst: EF

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC*	Completed				1		O

Method: E120.1, Run Date: 06/07/24 13:36, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,681	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/10/24 16:41, Analyst: SRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Suspended Solids	13.2	3		mg/L	1		

Metals

Method: E200.8, Run Date: 06/07/24 13:05, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	0.237	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	0.310	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.033	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.005	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/07/24 16:24, Analyst: NDK

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

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



Analytical Laboratory Report

Lab Sample ID: S62829.01 (continued)

Sample Tag: SUMP-A-06042024

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/07/24 16:24, Analyst: NDK (continued)

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



Analytical Laboratory Report

Lab Sample ID: S62829.01 (continued)

Sample Tag: SUMP-A-06042024

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/07/24 16:24, Analyst: NDK (continued)

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



Analytical Laboratory Report

Lab Sample ID: S62829.02

Sample Tag: SUMP-B-06042024

Collected Date/Time: 06/04/2024 11:15

Matrix: Wastewater

COC Reference: 155562

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.6	IR
2	40ml Glass	H2SO4	Yes	2.6	IR
1	125ml Plastic	HNO3	Yes	2.6	IR
1	1L Plastic	None	Yes	2.6	IR
1	250ml Plastic	None	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/10/24 12:00	BDO	
Metal Digestion	Completed	SW3015A	06/07/24 10:50	CCM	

Inorganics

Method: , Run Date: 06/19/24 09:43, Analyst: EF

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC*	Completed				1		O

Method: E120.1, Run Date: 06/07/24 13:38, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	2,910	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/10/24 16:41, Analyst: SRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Suspended Solids	4.00	3		mg/L	1		

Metals

Method: E200.8, Run Date: 06/07/24 13:10, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	0.760	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	0.332	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.041	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.014	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/07/24 17:11, Analyst: NDK

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

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



Analytical Laboratory Report

Lab Sample ID: S62829.02 (continued)

Sample Tag: SUMP-B-06042024

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/07/24 17:11, Analyst: NDK (continued)

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



Analytical Laboratory Report

Lab Sample ID: S62829.02 (continued)

Sample Tag: SUMP-B-06042024

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/07/24 17:11, Analyst: NDK (continued)

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



Analytical Laboratory Report

Lab Sample ID: S62829.03

Sample Tag: SUMP-C-06042024

Collected Date/Time: 06/04/2024 12:25

Matrix: Wastewater

COC Reference: 155562

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.6	IR
2	40ml Glass	H2SO4	Yes	2.6	IR
1	125ml Plastic	HNO3	Yes	2.6	IR
1	1L Plastic	None	Yes	2.6	IR
1	250ml Plastic	None	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/10/24 12:00	BDO	
Metal Digestion	Completed	SW3015A	06/07/24 10:50	CCM	

Inorganics

Method: , Run Date: 06/19/24 10:30, Analyst: EF

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC*	Completed				1		O

Method: E120.1, Run Date: 06/07/24 13:40, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	3,880	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/10/24 16:41, Analyst: SRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Suspended Solids	5.7	4		mg/L	1.5		

Metals

Method: E200.8, Run Date: 06/07/24 13:14, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	0.091	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	1.58	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.287	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.005	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/07/24 17:36, Analyst: NDK

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

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



Analytical Laboratory Report

Lab Sample ID: S62829.03 (continued)

Sample Tag: SUMP-C-06042024

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/07/24 17:36, Analyst: NDK (continued)

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



Analytical Laboratory Report

Lab Sample ID: S62829.03 (continued)

Sample Tag: SUMP-C-06042024

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/07/24 17:36, Analyst: NDK (continued)

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



Analytical Laboratory Report

Lab Sample ID: S62829.04

Sample Tag: SUMP-D-06042024

Collected Date/Time: 06/04/2024 13:35

Matrix: Wastewater

COC Reference: 155562

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.6	IR
2	40ml Glass	H2SO4	Yes	2.6	IR
1	125ml Plastic	HNO3	Yes	2.6	IR
1	1L Plastic	None	Yes	2.6	IR
1	250ml Plastic	None	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/10/24 12:00	BDO	
Metal Digestion	Completed	SW3015A	06/07/24 10:50	CCM	

Inorganics

Method: , Run Date: 06/19/24 10:54, Analyst: EF

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC*	Completed				1		O

Method: E120.1, Run Date: 06/07/24 13:42, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	3,510	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/10/24 16:41, Analyst: SRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Suspended Solids	4.1	3		mg/L	1.3		

Metals

Method: E200.8, Run Date: 06/07/24 13:16, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	0.402	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	0.687	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.337	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/07/24 20:48, Analyst: NDK

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Diethyl ether	Not detected	50		ug/L	5	60-29-7	Y
Acetone	410	250		ug/L	5	67-64-1	Y
Methyl iodide	Not detected	5		ug/L	5	74-88-4	Y
Carbon disulfide	Not detected	30		ug/L	5	75-15-0	Y
tert-Methyl butyl ether (MTBE)	Not detected	30		ug/L	5	1634-04-4	Y
Acrylonitrile	Not detected	10		ug/L	5	107-13-1	Y
2-Butanone (MEK)	Not detected	130		ug/L	5	78-93-3	Y
Dichlorodifluoromethane	Not detected	30		ug/L	5	75-71-8	Y
Chloromethane	Not detected	30		ug/L	5	74-87-3	Y

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

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S62829.04 (continued)

Sample Tag: SUMP-D-06042024

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/07/24 20:48, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Vinyl chloride	Not detected	5		ug/L	5	75-01-4	Y
Bromomethane	Not detected	30		ug/L	5	74-83-9	Y
Chloroethane	Not detected	30		ug/L	5	75-00-3	Y
Trichlorofluoromethane	Not detected	5		ug/L	5	75-69-4	Y
1,1-Dichloroethene	Not detected	5		ug/L	5	75-35-4	Y
Methylene chloride	Not detected	30		ug/L	5	75-09-2	Y
trans-1,2-Dichloroethene	Not detected	5		ug/L	5	156-60-5	Y
1,1-Dichloroethane	Not detected	5		ug/L	5	75-34-3	Y
cis-1,2-Dichloroethene	Not detected	5		ug/L	5	156-59-2	Y
Tetrahydrofuran*	Not detected	450		ug/L	5	109-99-9	Y
Chloroform	Not detected	5		ug/L	5	67-66-3	Y
Bromochloromethane	Not detected	5		ug/L	5	74-97-5	Y
1,1,1-Trichloroethane	Not detected	5		ug/L	5	71-55-6	Y
4-Methyl-2-pentanone (MIBK)	Not detected	250		ug/L	5	108-10-1	Y
2-Hexanone	Not detected	250		ug/L	5	591-78-6	Y
Carbon tetrachloride	Not detected	5		ug/L	5	56-23-5	Y
Benzene	Not detected	5		ug/L	5	71-43-2	Y
1,2-Dichloroethane	Not detected	5		ug/L	5	107-06-2	Y
Trichloroethene	Not detected	5		ug/L	5	79-01-6	Y
1,2-Dichloropropane	Not detected	5		ug/L	5	78-87-5	Y
Bromodichloromethane	Not detected	5		ug/L	5	75-27-4	Y
Dibromomethane	Not detected	30		ug/L	5	74-95-3	Y
cis-1,3-Dichloropropene	Not detected	5		ug/L	5	10061-01-5	Y
Toluene	Not detected	5		ug/L	5	108-88-3	Y
trans-1,3-Dichloropropene	Not detected	5		ug/L	5	10061-02-6	Y
1,1,2-Trichloroethane	Not detected	5		ug/L	5	79-00-5	Y
Tetrachloroethene	Not detected	5		ug/L	5	127-18-4	Y
trans-1,4-Dichloro-2-butene	Not detected	5		ug/L	5	110-57-6	Y
Dibromochloromethane	Not detected	30		ug/L	5	124-48-1	Y
1,2-Dibromoethane	Not detected	5		ug/L	5	106-93-4	Y
Chlorobenzene	Not detected	5		ug/L	5	108-90-7	Y
1,1,1,2-Tetrachloroethane	Not detected	5		ug/L	5	630-20-6	Y
Ethylbenzene	Not detected	5		ug/L	5	100-41-4	Y
p,m-Xylene*	Not detected	10		ug/L	5		Y
o-Xylene	Not detected	5		ug/L	5	95-47-6	Y
Styrene	Not detected	5		ug/L	5	100-42-5	Y
Isopropylbenzene	Not detected	30		ug/L	5	98-82-8	Y
Bromoform	Not detected	5		ug/L	5	75-25-2	Y
1,1,2,2-Tetrachloroethane	Not detected	5		ug/L	5	79-34-5	Y
1,2,3-Trichloropropane	Not detected	5		ug/L	5	96-18-4	Y
n-Propylbenzene	Not detected	5		ug/L	5	103-65-1	Y
Bromobenzene	Not detected	5		ug/L	5	108-86-1	Y
1,3,5-Trimethylbenzene	Not detected	5		ug/L	5	108-67-8	Y
tert-Butylbenzene	Not detected	5		ug/L	5	98-06-6	Y
1,2,4-Trimethylbenzene	Not detected	5		ug/L	5	95-63-6	Y
sec-Butylbenzene	Not detected	5		ug/L	5	135-98-8	Y
p-Isopropyltoluene	Not detected	30		ug/L	5	99-87-6	Y
1,3-Dichlorobenzene	Not detected	5		ug/L	5	541-73-1	Y
1,4-Dichlorobenzene	Not detected	5		ug/L	5	106-46-7	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S62829.04 (continued)

Sample Tag: SUMP-D-06042024

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/07/24 20:48, Analyst: NDK (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
1,2-Dichlorobenzene	Not detected	5		ug/L	5	95-50-1	Y
1,2,3-Trimethylbenzene	Not detected	5		ug/L	5	526-73-8	Y
n-Butylbenzene	Not detected	5		ug/L	5	104-51-8	Y
Hexachloroethane	Not detected	30		ug/L	5	67-72-1	Y
1,2-Dibromo-3-chloropropane	Not detected	30		ug/L	5	96-12-8	Y
1,2,4-Trichlorobenzene	Not detected	30		ug/L	5	120-82-1	Y
1,2,3-Trichlorobenzene	Not detected	30		ug/L	5	87-61-6	Y
Naphthalene	Not detected	30		ug/L	5	91-20-3	Y
2-Methylnaphthalene	Not detected	30		ug/L	5	91-57-6	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S62829.05

Sample Tag: SUMP-E-06042024

Collected Date/Time: 06/04/2024 14:45

Matrix: Wastewater

COC Reference: 155562

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.6	IR
2	40ml Glass	H2SO4	Yes	2.6	IR
1	125ml Plastic	HNO3	Yes	2.6	IR
1	1L Plastic	None	Yes	2.6	IR
1	250ml Plastic	None	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/10/24 12:00	BDO	
Metal Digestion	Completed	SW3015A	06/07/24 10:50	CCM	

Inorganics

Method: , Run Date: 06/19/24 11:19, Analyst: EF

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC*	Completed				1		O

Method: E120.1, Run Date: 06/07/24 13:44, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	1,763	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/10/24 16:41, Analyst: SRH

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

Metals

Method: E200.8, Run Date: 06/07/24 13:19, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	0.025	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	0.040	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.015	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/07/24 18:00, Analyst: NDK

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

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



Analytical Laboratory Report

Lab Sample ID: S62829.05 (continued)

Sample Tag: SUMP-E-06042024

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/07/24 18:00, Analyst: NDK (continued)

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



Analytical Laboratory Report

Lab Sample ID: S62829.05 (continued)

Sample Tag: SUMP-E-06042024

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/07/24 18:00, Analyst: NDK (continued)

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



Analytical Laboratory Report

Lab Sample ID: S62829.06

Sample Tag: SUMP-F-06042024

Collected Date/Time: 06/04/2024 15:25

Matrix: Wastewater

COC Reference: 155562

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.6	IR
2	40ml Glass	H2SO4	Yes	2.6	IR
1	125ml Plastic	HNO3	Yes	2.6	IR
1	1L Plastic	None	Yes	2.6	IR
1	250ml Plastic	None	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/10/24 12:00	BDO	
Metal Digestion	Completed	SW3015A	06/07/24 10:50	CCM	

Inorganics

Method: , Run Date: 06/19/24 11:43, Analyst: EF

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC*	Completed				1		O

Method: E120.1, Run Date: 06/07/24 14:46, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	3,780	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/10/24 16:41, Analyst: SRH

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

Metals

Method: E200.8, Run Date: 06/07/24 13:22, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	0.027	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	0.161	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.060	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	0.013	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/07/24 18:23, Analyst: NDK

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

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



Analytical Laboratory Report

Lab Sample ID: S62829.06 (continued)

Sample Tag: SUMP-F-06042024

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/07/24 18:23, Analyst: NDK (continued)

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



Analytical Laboratory Report

Lab Sample ID: S62829.06 (continued)

Sample Tag: SUMP-F-06042024

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/07/24 18:23, Analyst: NDK (continued)

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



Analytical Laboratory Report

Lab Sample ID: S62829.07

Sample Tag: SUMP-DUP-06042024

Collected Date/Time: 06/04/2024 00:01

Matrix: Wastewater

COC Reference: 155562

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.6	IR
2	40ml Glass	H2SO4	Yes	2.6	IR
1	125ml Plastic	HNO3	Yes	2.6	IR
1	1L Plastic	None	Yes	2.6	IR
1	250ml Plastic	None	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/10/24 12:00	BDO	
Metal Digestion	Completed	SW3015A	06/07/24 10:50	CCM	

Inorganics

Method: , Run Date: 06/19/24 12:07, Analyst: EF

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
TOC*	Completed				1		O

Method: E120.1, Run Date: 06/07/24 14:48, Analyst: JKB

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Conductivity	3,890	1		umhos/cm	1		

Method: SM2540D, Run Date: 06/10/24 16:41, Analyst: SRH

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Suspended Solids	6.5	4		mg/L	1.7		

Metals

Method: E200.8, Run Date: 06/07/24 13:24, Analyst: CCM

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Chromium, Dissolved	0.089	0.005		mg/L	5	7440-47-3	
Copper, Dissolved	1.55	0.005		mg/L	5	7440-50-8	
Nickel, Dissolved	0.287	0.005		mg/L	5	7440-02-0	
Zinc, Dissolved	Not detected	0.005		mg/L	5	7440-66-6	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/07/24 18:47, Analyst: NDK

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

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



Analytical Laboratory Report

Lab Sample ID: S62829.07 (continued)

Sample Tag: SUMP-DUP-06042024

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/07/24 18:47, Analyst: NDK (continued)

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



Analytical Laboratory Report

Lab Sample ID: S62829.07 (continued)

Sample Tag: SUMP-DUP-06042024

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/07/24 18:47, Analyst: NDK (continued)

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



Analytical Laboratory Report

Lab Sample ID: S62829.08

Sample Tag: Trip Blank-06042024

Collected Date/Time: 06/04/2024 00:01

Matrix: Water

COC Reference: 155562

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	2.6	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
pH check for VOCs*	<2	N/A	06/10/24 12:00	BDO	

Organics - Volatiles

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/07/24 14:41, Analyst: NDK

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



Analytical Laboratory Report

Lab Sample ID: S62829.08 (continued)

Sample Tag: Trip Blank-06042024

Volatile Organics - DEQ List, Method: SW5030C/8260C, Run Date: 06/07/24 14:41, Analyst: NDK (continued)

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

Merit Laboratories Login Checklist

Lab Set ID:S62829

Client:RAMBOLL (Ramboll Americas)

Project: RACER Coldwater Road

Submitted:06/05/2024 13:05 Login User: PFD

Attention: Clifford Yantz

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

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

Selection	Description	Note
-----------	-------------	------

Sample Receiving

- | | | |
|-----|--|--|
| 01. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples are received at 4C +/- 2C Thermometer # IR 2.6 |
| 02. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Received on ice/ cooling process begun |
| 03. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples shipped |
| 04. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples left in 24 hr. drop box |
| 05. | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Are there custody seals/tape or is the drop box locked |

Chain of Custody

- | | | |
|-----|--|---|
| 06. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC adequately filled out |
| 07. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | COC signed and relinquished to the lab |
| 08. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sample tag on bottles match COC |
| 09. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Subcontracting needed? Subcontracted to: Eurofins |

Preservation

- | | | |
|-----|--|---|
| 10. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Do sample have correct chemical preservation |
| 11. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Completed pH checks on preserved samples? (no VOAs) |
| 12. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Did any samples need to be preserved in the lab? |

Bottle Conditions

- | | | |
|-----|--|---|
| 13. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | All bottles intact |
| 14. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Appropriate analytical bottles are used |
| 15. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Merit bottles used |
| 16. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Sufficient sample volume received |
| 17. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Samples require laboratory filtration |
| 18. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | Samples submitted within holding time |
| 19. | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | Do water VOC or TOX bottles contain headspace |

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

Client Review By: _____ Date: _____

Merit Laboratories Bottle Preservation Check

Lab Set ID: S62829 Submitted: 06/05/2024 13:05

Client: RAMBOLL (Ramboll Americas)

Project: RACER Coldwater Road

Initial Preservation Check: 06/05/2024 14:53 PFD

Preservation Recheck (E200.8): N/A

Attention: Clifford Yantz

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

Phone: 313-333-0211

FAX:

Email: Clifford.Yantz@ramboll.com

Sample ID	Bottle / Preservation	pH (Orig)	Add ml	pH (New)	Notes
S62829.01	125ml Plastic HNO3	<2			
S62829.02	125ml Plastic HNO3	<2			
S62829.03	125ml Plastic HNO3	<2			
S62829.04	125ml Plastic HNO3	<2			
S62829.05	125ml Plastic HNO3	<2			
S62829.06	125ml Plastic HNO3	<2			
S62829.07	125ml Plastic HNO3	<2			



Quality Control Report

Report ID: QC-S62829-01
Generated on 06/23/2024

Report to

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

Phone: 313-333-0211 FAX:

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

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

Report Summary

Lab Sample ID(s): S62829.01-S62829.08
Project: RACER Coldwater Road
Submitted Date/Time: 06/05/2024 13:05
Sampled by: Kevin Schneider
P.O. #: 1940008845 TASK 001

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-9)
Prep Batch Summary (Pages 10-11)
Surrogates per Lab Sample (Pages 12-19)
Surrogates per QC Sample (Page 20)
Batch QC Results (Pages 21-29)

Report Flag Descriptions

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

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

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S62829.01

Sample Tag: SUMP-A-06042024

Collected Date/Time: 06/04/2024 09:55

Matrix: Wastewater

COC Reference: 155562

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Conductivity	E120.1	06/07/24 13:36	COND240607-W1	COND240607-W1	No	BLK/LCS/DUP
Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A	TSS240610A	No	BLK/LCS/DUP
<i>Metals</i>						
Chromium, Dissolved	E200.8	06/07/24 13:05	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/07/24 13:05	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/07/24 13:05	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/07/24 13:05	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
<i>Organics - Volatiles</i>						
Volatile Organics - DEQ List	SW5030C/8260C	06/07/24 16:24	240607A9	VF240607W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S62829.02

Sample Tag: SUMP-B-06042024

Collected Date/Time: 06/04/2024 11:15

Matrix: Wastewater

COC Reference: 155562

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Conductivity	E120.1	06/07/24 13:38	COND240607-W1	COND240607-W1	No	BLK/LCS/DUP
Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A	TSS240610A	No	BLK/LCS/DUP
<i>Metals</i>						
Chromium, Dissolved	E200.8	06/07/24 13:10	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/07/24 13:10	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/07/24 13:10	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/07/24 13:10	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
<i>Organics - Volatiles</i>						
Volatile Organics - DEQ List	SW5030C/8260C	06/07/24 17:11	240607A9	VF240607W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S62829.03

Sample Tag: SUMP-C-06042024

Collected Date/Time: 06/04/2024 12:25

Matrix: Wastewater

COC Reference: 155562

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Conductivity	E120.1	06/07/24 13:40	COND240607-W1	COND240607-W1	No	BLK/LCS/DUP
Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A	TSS240610A	No	BLK/LCS/DUP
<i>Metals</i>						
Chromium, Dissolved	E200.8	06/07/24 13:14	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/07/24 13:14	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/07/24 13:14	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/07/24 13:14	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
<i>Organics - Volatiles</i>						
Volatile Organics - DEQ List	SW5030C/8260C	06/07/24 17:36	240607A9	VF240607W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S62829.04

Sample Tag: SUMP-D-06042024

Collected Date/Time: 06/04/2024 13:35

Matrix: Wastewater

COC Reference: 155562

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Conductivity	E120.1	06/07/24 13:42	COND240607-W1	COND240607-W1	No	BLK/LCS/DUP
Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A	TSS240610A	No	BLK/LCS/DUP
<i>Metals</i>						
Chromium, Dissolved	E200.8	06/07/24 13:16	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/07/24 13:16	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/07/24 13:16	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/07/24 13:16	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
<i>Organics - Volatiles</i>						
Volatile Organics - DEQ List	SW5030C/8260C	06/07/24 20:48	240607A9	VF240607W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S62829.05

Sample Tag: SUMP-E-06042024

Collected Date/Time: 06/04/2024 14:45

Matrix: Wastewater

COC Reference: 155562

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Conductivity	E120.1	06/07/24 13:44	COND240607-W1	COND240607-W1	No	BLK/LCS/DUP
Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A	TSS240610A	No	BLK/LCS/DUP
<i>Metals</i>						
Chromium, Dissolved	E200.8	06/07/24 13:19	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/07/24 13:19	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/07/24 13:19	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/07/24 13:19	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
<i>Organics - Volatiles</i>						
Volatile Organics - DEQ List	SW5030C/8260C	06/07/24 18:00	240607A9	VF240607W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S62829.06

Sample Tag: SUMP-F-06042024

Collected Date/Time: 06/04/2024 15:25

Matrix: Wastewater

COC Reference: 155562

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Conductivity	E120.1	06/07/24 14:46	COND240607-W1	COND240607-W1	No	BLK/LCS/DUP
Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A	TSS240610A	No	BLK/LCS/DUP
<i>Metals</i>						
Chromium, Dissolved	E200.8	06/07/24 13:22	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/07/24 13:22	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/07/24 13:22	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/07/24 13:22	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
<i>Organics - Volatiles</i>						
Volatile Organics - DEQ List	SW5030C/8260C	06/07/24 18:23	240607A9	VF240607W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S62829.07

Sample Tag: SUMP-DUP-06042024

Collected Date/Time: 06/04/2024 00:01

Matrix: Wastewater

COC Reference: 155562

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
<i>Inorganics</i>						
Conductivity	E120.1	06/07/24 14:48	COND240607-W1	COND240607-W1	No	BLK/LCS/DUP
Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A	TSS240610A	No	BLK/LCS/DUP
<i>Metals</i>						
Chromium, Dissolved	E200.8	06/07/24 13:24	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Copper, Dissolved	E200.8	06/07/24 13:24	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Nickel, Dissolved	E200.8	06/07/24 13:24	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
Zinc, Dissolved	E200.8	06/07/24 13:24	MT4-24-0607A	MTD-060724-3	No	BLK/LCS/MS/MSD
<i>Organics - Volatiles</i>						
Volatile Organics - DEQ List	SW5030C/8260C	06/07/24 18:47	240607A9	VF240607W1	Yes	BLK/LCS/LCSD

QC Report - Analysis Summary

Lab Sample ID: S62829.08

Sample Tag: Trip Blank-06042024

Collected Date/Time: 06/04/2024 00:01

Matrix: Water

COC Reference: 155562

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
Volatile Organics - DEQ List	SW5030C/8260C	06/07/24 14:41	240607A9	VF240607W1	Yes	BLK/LCS/LCSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: COND240607-W1

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S62829.01	Conductivity	E120.1	06/07/24 13:36	COND240607-W1
S62829.02	Conductivity	E120.1	06/07/24 13:38	COND240607-W1
S62829.03	Conductivity	E120.1	06/07/24 13:40	COND240607-W1
S62829.04	Conductivity	E120.1	06/07/24 13:42	COND240607-W1
S62829.05	Conductivity	E120.1	06/07/24 13:44	COND240607-W1
S62829.06	Conductivity	E120.1	06/07/24 14:46	COND240607-W1
S62829.07	Conductivity	E120.1	06/07/24 14:48	COND240607-W1

Inorganics, Prep Batch ID: TSS240610A

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S62829.01	Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A
S62829.02	Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A
S62829.03	Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A
S62829.04	Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A
S62829.05	Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A
S62829.06	Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A
S62829.07	Total Suspended Solids	SM2540D	06/10/24 16:41	TSS240610A

Metals, Prep Batch ID: MTD-060724-3

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

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S62829.01	Chromium, Dissolved	E200.8	06/07/24 13:05	MT4-24-0607A
S62829.01	Copper, Dissolved	E200.8	06/07/24 13:05	MT4-24-0607A
S62829.01	Nickel, Dissolved	E200.8	06/07/24 13:05	MT4-24-0607A
S62829.01	Zinc, Dissolved	E200.8	06/07/24 13:05	MT4-24-0607A
S62829.02	Chromium, Dissolved	E200.8	06/07/24 13:10	MT4-24-0607A
S62829.02	Copper, Dissolved	E200.8	06/07/24 13:10	MT4-24-0607A
S62829.02	Nickel, Dissolved	E200.8	06/07/24 13:10	MT4-24-0607A
S62829.02	Zinc, Dissolved	E200.8	06/07/24 13:10	MT4-24-0607A
S62829.03	Chromium, Dissolved	E200.8	06/07/24 13:14	MT4-24-0607A
S62829.03	Copper, Dissolved	E200.8	06/07/24 13:14	MT4-24-0607A
S62829.03	Nickel, Dissolved	E200.8	06/07/24 13:14	MT4-24-0607A
S62829.03	Zinc, Dissolved	E200.8	06/07/24 13:14	MT4-24-0607A
S62829.04	Chromium, Dissolved	E200.8	06/07/24 13:16	MT4-24-0607A
S62829.04	Copper, Dissolved	E200.8	06/07/24 13:16	MT4-24-0607A
S62829.04	Nickel, Dissolved	E200.8	06/07/24 13:16	MT4-24-0607A
S62829.04	Zinc, Dissolved	E200.8	06/07/24 13:16	MT4-24-0607A
S62829.05	Chromium, Dissolved	E200.8	06/07/24 13:19	MT4-24-0607A
S62829.05	Copper, Dissolved	E200.8	06/07/24 13:19	MT4-24-0607A
S62829.05	Nickel, Dissolved	E200.8	06/07/24 13:19	MT4-24-0607A
S62829.05	Zinc, Dissolved	E200.8	06/07/24 13:19	MT4-24-0607A
S62829.06	Chromium, Dissolved	E200.8	06/07/24 13:22	MT4-24-0607A
S62829.06	Copper, Dissolved	E200.8	06/07/24 13:22	MT4-24-0607A
S62829.06	Nickel, Dissolved	E200.8	06/07/24 13:22	MT4-24-0607A
S62829.06	Zinc, Dissolved	E200.8	06/07/24 13:22	MT4-24-0607A
S62829.07	Chromium, Dissolved	E200.8	06/07/24 13:24	MT4-24-0607A
S62829.07	Copper, Dissolved	E200.8	06/07/24 13:24	MT4-24-0607A
S62829.07	Nickel, Dissolved	E200.8	06/07/24 13:24	MT4-24-0607A
S62829.07	Zinc, Dissolved	E200.8	06/07/24 13:24	MT4-24-0607A

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: VF240607W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S62829.01	Volatile Organics - DEQ List	SW5030C/8260C	06/07/24 16:24	240607A9
S62829.02	Volatile Organics - DEQ List	SW5030C/8260C	06/07/24 17:11	240607A9
S62829.03	Volatile Organics - DEQ List	SW5030C/8260C	06/07/24 17:36	240607A9
S62829.04	Volatile Organics - DEQ List	SW5030C/8260C	06/07/24 20:48	240607A9
S62829.05	Volatile Organics - DEQ List	SW5030C/8260C	06/07/24 18:00	240607A9
S62829.06	Volatile Organics - DEQ List	SW5030C/8260C	06/07/24 18:23	240607A9
S62829.07	Volatile Organics - DEQ List	SW5030C/8260C	06/07/24 18:47	240607A9
S62829.08	Volatile Organics - DEQ List	SW5030C/8260C	06/07/24 14:41	240607A9

QC Report - Surrogates per Lab Sample

Lab Sample ID: S62829.01

Sample Tag: SUMP-A-06042024

Collected Date/Time: 06/04/2024 09:55

Matrix: Wastewater

COC Reference: 155562

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 240607A9, Run Date: 06/07/2024 16:24, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.3	80.0	124.0
1,2-Dichloroethane-D4		94.4	72.0	125.0
Toluene-D8		92.1	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S62829.02

Sample Tag: SUMP-B-06042024

Collected Date/Time: 06/04/2024 11:15

Matrix: Wastewater

COC Reference: 155562

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 240607A9, Run Date: 06/07/2024 17:11, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.4	80.0	124.0
1,2-Dichloroethane-D4		99.9	72.0	125.0
Toluene-D8		93.4	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S62829.03

Sample Tag: SUMP-C-06042024

Collected Date/Time: 06/04/2024 12:25

Matrix: Wastewater

COC Reference: 155562

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 240607A9, Run Date: 06/07/2024 17:36, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		99.7	80.0	124.0
1,2-Dichloroethane-D4		97.5	72.0	125.0
Toluene-D8		92.3	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S62829.04

Sample Tag: SUMP-D-06042024

Collected Date/Time: 06/04/2024 13:35

Matrix: Wastewater

COC Reference: 155562

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 240607A9, Run Date: 06/07/2024 20:48, Matrix: WW, Dilution: 5

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.2	80.0	124.0
1,2-Dichloroethane-D4		94.4	72.0	125.0
Toluene-D8		92.7	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S62829.05

Sample Tag: SUMP-E-06042024

Collected Date/Time: 06/04/2024 14:45

Matrix: Wastewater

COC Reference: 155562

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 240607A9, Run Date: 06/07/2024 18:00, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		99.9	80.0	124.0
1,2-Dichloroethane-D4		90.1	72.0	125.0
Toluene-D8		91.8	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S62829.06

Sample Tag: SUMP-F-06042024

Collected Date/Time: 06/04/2024 15:25

Matrix: Wastewater

COC Reference: 155562

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 240607A9, Run Date: 06/07/2024 18:23, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		99.9	80.0	124.0
1,2-Dichloroethane-D4		95.1	72.0	125.0
Toluene-D8		92.6	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S62829.07

Sample Tag: SUMP-DUP-06042024

Collected Date/Time: 06/04/2024 00:01

Matrix: Wastewater

COC Reference: 155562

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 240607A9, Run Date: 06/07/2024 18:47, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		99.2	80.0	124.0
1,2-Dichloroethane-D4		96.0	72.0	125.0
Toluene-D8		92.9	89.0	112.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S62829.08

Sample Tag: Trip Blank-06042024

Collected Date/Time: 06/04/2024 00:01

Matrix: Water

COC Reference: 155562

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 240607A9, Run Date: 06/07/2024 14:41, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		97.6	80.0	124.0
1,2-Dichloroethane-D4		89.7	72.0	125.0
Toluene-D8		91.0	89.0	112.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF240607W1

QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 240607A9.BLKW07A

Run in Batch: 240607A9, Run Date: 06/07/2024 14:17, Prep Date: 06/07/2024, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		97.8	80.0	124.0
1,2-Dichloroethane-D4		90.9	72.0	125.0
Toluene-D8		92.2	89.0	112.0

Laboratory Control Sample (LCS)

Lab Sample ID: 240607A9.LCSW07A

Run in Batch: 240607A9, Run Date: 06/07/2024 12:41, Prep Date: 06/07/2024, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		99.3	80.0	124.0
1,2-Dichloroethane-D4		90.7	72.0	125.0
Toluene-D8		92.4	89.0	112.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 240607A9.LCSDW07A, Parent Sample ID: 240607A9.LCSW07A

Run in Batch: 240607A9, Run Date: 06/07/2024 13:05, Prep Date: 06/07/2024, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		100.5	80.0	124.0
1,2-Dichloroethane-D4		87.2	72.0	125.0
Toluene-D8		92.4	89.0	112.0

QC Report - Batch QC Results

Inorganics, Prep Batch ID: COND240607-W1

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

Blank (BLK)

Lab Sample ID: COND240607-W1.LRB1

Run in Batch: COND240607-W1, Run Date: 06/07/2024 13:00, Prep Date: 06/07/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Conductivity		ND	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: COND240607-W1.LCS1

Run in Batch: COND240607-W1, Run Date: 06/07/2024 13:06, Prep Date: 06/07/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Conductivity		97	90	110

Laboratory Control Sample (LCS)

Lab Sample ID: COND240607-W1.LCS2

Run in Batch: COND240607-W1, Run Date: 06/07/2024 13:08, Prep Date: 06/07/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Conductivity		92	90	110

Duplicate (DUP)

Lab Sample ID: COND240607-W1.DP1, Parent Sample ID: S62653.01

Run in Batch: COND240607-W1, Run Date: 06/07/2024 13:12, Prep Date: 06/07/2024, Matrix: Liquid, Dilution: 6

Analyte	Flags	RPD	RPD CL
Conductivity		0	15

QC Report - Batch QC Results

Inorganics, Prep Batch ID: TSS240610A

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

Blank (BLK)

Lab Sample ID: TSS240610A.LRB1

Run in Batch: TSS240610A, Run Date: 06/10/2024 16:41, Prep Date: 06/10/2024, Matrix: Liquid, Dilution: 1

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

Laboratory Control Sample (LCS)

Lab Sample ID: TSS240610A.LCS1

Run in Batch: TSS240610A, Run Date: 06/10/2024 16:41, Prep Date: 06/10/2024, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL
Total Suspended Solids		103.3	82.6	111

Duplicate (DUP)

Lab Sample ID: TSS240610A.DP1, Parent Sample ID: S62912.01

Run in Batch: TSS240610A, Run Date: 06/10/2024 16:41, Prep Date: 06/10/2024, Matrix: Liquid, Dilution: 10

Analyte	Flags	RPD	RPD CL
Total Suspended Solids		0.0	10

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-060724-3

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

Blank (BLK)

Lab Sample ID: MT4-24-0607A.068.LRB

Run in Batch: MT4-24-0607A, Run Date: 06/07/2024 12:22, Prep Date: 06/07/2024, Matrix: Liquid, Dilution: 1

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

Laboratory Control Sample (LCS)

Lab Sample ID: MT4-24-0607A.067.LCS

Run in Batch: MT4-24-0607A, Run Date: 06/07/2024 12:18, Prep Date: 06/07/2024, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Chromium		105	85	115
Copper		103	85	115
Nickel		105	85	115
Zinc		106	85	115

Matrix Spike (MS)

Lab Sample ID: MT4-24-0607A.089.MS, Parent Sample ID: S62861.01

Run in Batch: MT4-24-0607A, Run Date: 06/07/2024 12:45, Prep Date: 06/07/2024, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Chromium		103	75	125
Copper		98	75	125
Nickel		116	75	125
Zinc		101	75	125

Matrix Spike (MS)

Lab Sample ID: MT4-24-0607A.112.MS, Parent Sample ID: S62824.07

Run in Batch: MT4-24-0607A, Run Date: 06/07/2024 13:25, Prep Date: 06/07/2024, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Chromium		104	75	125
Copper		97	75	125
Nickel		100	75	125
Zinc		102	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-24-0607A.090.MSD, Parent Sample ID: MT4-24-0607A.089.MS

Run in Batch: MT4-24-0607A, Run Date: 06/07/2024 12:46, Prep Date: 06/07/2024, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium		107	75	125	4	20
Copper		101	75	125	2	20
Nickel		120	75	125	1	20
Zinc		104	75	125	2	20

QC Report - Batch QC Results

Metals, Prep Batch ID: MTD-060724-3 (continued)

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

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT4-24-0607A.113.MSD, Parent Sample ID: MT4-24-0607A.112.MS

Run in Batch: MT4-24-0607A, Run Date: 06/07/2024 13:26, Prep Date: 06/07/2024, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chromium		100	75	125	4	20
Copper		96	75	125	2	20
Nickel		98	75	125	2	20
Zinc		100	75	125	2	20

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF240607W1

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Blank (BLK)

Lab Sample ID: 240607A9.BLKW07A

Run in Batch: 240607A9, Run Date: 06/07/2024 14:17, Prep Date: 06/07/2024, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Diethyl ether		ND	1.00	ug/l
Acetone		ND	10.00	ug/l
Methyl iodide		ND	1.00	ug/l
Carbon disulfide		ND	1.00	ug/l
tert-Methyl butyl ether (MTBE)		ND	1.00	ug/l
Acrylonitrile		ND	1.00	ug/l
2-Butanone (MEK)		ND	10.00	ug/l
Dichlorodifluoromethane		ND	1.00	ug/l
Chloromethane		ND	1.00	ug/l
Vinyl chloride		ND	1.00	ug/l
Bromomethane		ND	1.00	ug/l
Chloroethane		ND	1.00	ug/l
Trichlorofluoromethane		ND	1.00	ug/l
1,1-Dichloroethene		ND	1.00	ug/l
Methylene chloride		ND	1.00	ug/l
trans-1,2-Dichloroethene		ND	1.00	ug/l
1,1-Dichloroethane		ND	1.00	ug/l
cis-1,2-Dichloroethene		ND	1.00	ug/l
Tetrahydrofuran		ND	10.00	ug/l
Chloroform		ND	1.00	ug/l
Bromochloromethane		ND	1.00	ug/l
1,1,1-Trichloroethane		ND	1.00	ug/l
4-Methyl-2-pentanone (MIBK)		ND	10.00	ug/l
2-Hexanone		ND	10.00	ug/l
Carbon tetrachloride		ND	1.00	ug/l
Benzene		ND	1.00	ug/l
1,2-Dichloroethane		ND	1.00	ug/l
Trichloroethene		ND	1.00	ug/l
1,2-Dichloropropane		ND	1.00	ug/l
Bromodichloromethane		ND	1.00	ug/l
Dibromomethane		ND	1.00	ug/l
cis-1,3-Dichloropropene		ND	1.00	ug/l
Toluene		ND	1.00	ug/l
trans-1,3-Dichloropropene		ND	1.00	ug/l
1,1,2-Trichloroethane		ND	1.00	ug/l
Tetrachloroethene		ND	1.00	ug/l
trans-1,4-Dichloro-2-butene		ND	1.00	ug/l
Dibromochloromethane		ND	1.00	ug/l
1,2-Dibromoethane		ND	1.00	ug/l
Chlorobenzene		ND	1.00	ug/l
1,1,1,2-Tetrachloroethane		ND	1.00	ug/l
Ethylbenzene		ND	1.00	ug/l
p,m-Xylene		ND	2.00	ug/l
o-Xylene		ND	1.00	ug/l
Styrene		ND	1.00	ug/l
Isopropylbenzene		ND	1.00	ug/l

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF240607W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Blank (BLK) (continued)

Lab Sample ID: 240607A9.BLKW07A

Run in Batch: 240607A9, Run Date: 06/07/2024 14:17, Prep Date: 06/07/2024, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bromoform		ND	1.00	ug/l
1,1,2,2-Tetrachloroethane		ND	1.00	ug/l
1,2,3-Trichloropropane		ND	1.00	ug/l
n-Propylbenzene		ND	1.00	ug/l
Bromobenzene		ND	1.00	ug/l
1,3,5-Trimethylbenzene		ND	1.00	ug/l
tert-Butylbenzene		ND	1.00	ug/l
1,2,4-Trimethylbenzene		ND	1.00	ug/l
sec-Butylbenzene		ND	1.00	ug/l
p-Isopropyltoluene		ND	1.00	ug/l
1,3-Dichlorobenzene		ND	1.00	ug/l
1,4-Dichlorobenzene		ND	1.00	ug/l
1,2-Dichlorobenzene		ND	1.00	ug/l
1,2,3-Trimethylbenzene		ND	1.00	ug/l
n-Butylbenzene		ND	1.00	ug/l
Hexachloroethane		ND	1.00	ug/l
1,2-Dibromo-3-chloropropane		ND	1.00	ug/l
1,2,4-Trichlorobenzene		ND	1.00	ug/l
1,2,3-Trichlorobenzene		ND	1.00	ug/l
Naphthalene		ND	1.00	ug/l
2-Methylnaphthalene		ND	1.00	ug/l

Laboratory Control Sample (LCS)

Lab Sample ID: 240607A9.LCSW07A

Run in Batch: 240607A9, Run Date: 06/07/2024 12:41, Prep Date: 06/07/2024, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Diethyl ether		110.7	67.4	121.2
Acetone		88.2	29.9	161.5
Methyl iodide	*	120.5	68.8	116.4
Carbon disulfide		107.9	63.8	137.4
tert-Methyl butyl ether (MTBE)		111.2	73.2	122.4
Acrylonitrile		102.1	69.9	128.9
2-Butanone (MEK)		103.9	44.0	134.4
Dichlorodifluoromethane		107.0	10.0	222.8
Chloromethane		112.3	23.8	166.5
Vinyl chloride		111.7	43.5	149.1
Bromomethane		118.2	56.8	151.3
Chloroethane		113.5	53.4	149.4
Trichlorofluoromethane		110.5	59.7	151.8
1,1-Dichloroethene		103.2	69.6	139.4
Methylene chloride		109.7	73.3	121.1
trans-1,2-Dichloroethene		106.2	73.6	129.3
1,1-Dichloroethane		108.9	71.5	126.2
cis-1,2-Dichloroethene		115.1	76.6	122.1
Tetrahydrofuran		94.5	59.0	117.9
Chloroform		108.1	78.4	124.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF240607W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 240607A9.LCSW07A

Run in Batch: 240607A9, Run Date: 06/07/2024 12:41, Prep Date: 06/07/2024, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Bromochloromethane		120.1	78.2	120.8
1,1,1-Trichloroethane		108.5	79.4	130.9
4-Methyl-2-pentanone (MIBK)		104.2	71.6	125.2
2-Hexanone		103.1	55.4	136.9
Carbon tetrachloride		112.4	72.6	133.0
Benzene		109.9	79.9	124.9
1,2-Dichloroethane		105.0	76.0	126.3
Trichloroethene		113.0	79.7	124.2
1,2-Dichloropropane		110.0	78.6	126.4
Bromodichloromethane		115.6	80.4	128.2
Dibromomethane		121.1	76.9	122.1
cis-1,3-Dichloropropene		118.1	79.8	129.9
Toluene		111.8	79.8	124.5
trans-1,3-Dichloropropene		115.9	74.0	131.3
1,1,2-Trichloroethane		114.1	78.7	123.1
Tetrachloroethene		116.6	74.5	124.5
trans-1,4-Dichloro-2-butene		112.1	68.6	135.4
Dibromochloromethane	*	130.3	74.6	127.2
1,2-Dibromoethane		122.1	70.3	133.7
Chlorobenzene	*	124.2	79.2	122.7
1,1,1,2-Tetrachloroethane		123.4	80.3	128.2
Ethylbenzene		122.0	79.5	129.1
p,m-Xylene		122.3	79.4	132.2
o-Xylene		119.9	80.2	131.0
Styrene	*	126.8	69.5	126.7
Isopropylbenzene	*	123.7	74.4	121.5
Bromoform		125.2	69.4	128.0
1,1,2,2-Tetrachloroethane		119.4	79.8	126.3
1,2,3-Trichloropropane		115.7	78.3	138.8
n-Propylbenzene		119.6	82.0	130.7
Bromobenzene		123.9	78.7	124.6
1,3,5-Trimethylbenzene		127.2	81.3	128.9
tert-Butylbenzene		117.5	80.7	128.9
1,2,4-Trimethylbenzene		126.1	81.4	130.8
sec-Butylbenzene		117.5	77.4	129.8
p-Isopropyltoluene		121.9	79.8	137.5
1,3-Dichlorobenzene		124.2	77.0	131.3
1,4-Dichlorobenzene		124.9	20.7	137.7
1,2-Dichlorobenzene		124.1	10.0	166.2
1,2,3-Trimethylbenzene	*	125.6	76.3	124.2
n-Butylbenzene		123.1	80.0	133.3
Hexachloroethane		130.2	23.8	138.1
1,2-Dibromo-3-chloropropane		114.1	21.2	189.4
1,2,4-Trichlorobenzene		134.9	27.4	143.4
1,2,3-Trichlorobenzene	*	134.8	75.4	131.4
Naphthalene		128.9	32.9	135.8

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF240607W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 240607A9.LCSW07A

Run in Batch: 240607A9, Run Date: 06/07/2024 12:41, Prep Date: 06/07/2024, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
2-Methylnaphthalene		127.5	25.5	165.5

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 240607A9.LCSDW07A, Parent Sample ID: 240607A9.LCSW07A

Run in Batch: 240607A9, Run Date: 06/07/2024 13:05, Prep Date: 06/07/2024, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Diethyl ether		94.3	67.4	121.2	16.0	30.0
Acetone		75.9	29.9	161.5	15.0	30.0
Methyl iodide		102.1	68.8	116.4	16.6	30.0
Carbon disulfide		90.6	63.8	137.4	17.4	30.0
tert-Methyl butyl ether (MTBE)		95.6	73.2	122.4	15.1	30.0
Acrylonitrile		88.1	69.9	128.9	14.7	30.0
2-Butanone (MEK)		89.0	44.0	134.4	15.5	30.0
Dichlorodifluoromethane		89.1	10.0	222.8	18.2	30.0
Chloromethane		97.3	23.8	166.5	14.4	30.0
Vinyl chloride		94.3	43.5	149.1	16.9	30.0
Bromomethane		101.2	56.8	151.3	15.5	30.0
Chloroethane		96.7	53.4	149.4	15.9	30.0
Trichlorofluoromethane		90.6	59.7	151.8	19.8	30.0
1,1-Dichloroethene		86.4	69.6	139.4	17.7	30.0
Methylene chloride		92.7	73.3	121.1	16.8	30.0
trans-1,2-Dichloroethene		89.2	73.6	129.3	17.3	30.0
1,1-Dichloroethane		93.2	71.5	126.2	15.5	30.0
cis-1,2-Dichloroethene		97.6	76.6	122.1	16.5	30.0
Tetrahydrofuran		80.5	59.0	117.9	16.0	30.0
Chloroform		91.7	78.4	124.0	16.4	30.0
Bromochloromethane		99.8	78.2	120.8	18.5	30.0
1,1,1-Trichloroethane		92.2	79.4	130.9	16.3	30.0
4-Methyl-2-pentanone (MIBK)		88.2	71.6	125.2	16.6	30.0
2-Hexanone		89.4	55.4	136.9	14.2	30.0
Carbon tetrachloride		93.9	72.6	133.0	18.0	30.0
Benzene		93.7	79.9	124.9	16.0	30.0
1,2-Dichloroethane		89.8	76.0	126.3	15.6	30.0
Trichloroethene		95.6	79.7	124.2	16.7	30.0
1,2-Dichloropropane		93.1	78.6	126.4	16.7	30.0
Bromodichloromethane		97.8	80.4	128.2	16.6	30.0
Dibromomethane		102.1	76.9	122.1	17.0	30.0
cis-1,3-Dichloropropene		99.7	79.8	129.9	16.9	30.0
Toluene		92.6	79.8	124.5	18.9	30.0
trans-1,3-Dichloropropene		99.1	74.0	131.3	15.7	30.0
1,1,2-Trichloroethane		96.6	78.7	123.1	16.7	30.0
Tetrachloroethene		97.8	74.5	124.5	17.5	30.0
trans-1,4-Dichloro-2-butene		101.4	68.6	135.4	10.0	30.0
Dibromochloromethane		109.6	74.6	127.2	17.2	30.0
1,2-Dibromoethane		104.5	70.3	133.7	15.5	30.0
Chlorobenzene		103.3	79.2	122.7	18.4	30.0

QC Report - Batch QC Results

Organics - Volatiles, Prep Batch ID: VF240607W1 (continued)

Surrogates: Yes, QC Types: BLK/LCS/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 240607A9.LCSDW07A, Parent Sample ID: 240607A9.LCSW07A

Run in Batch: 240607A9, Run Date: 06/07/2024 13:05, Prep Date: 06/07/2024, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		103.7	80.3	128.2	17.3	30.0
Ethylbenzene		102.1	79.5	129.1	17.7	30.0
p,m-Xylene		102.7	79.4	132.2	17.5	30.0
o-Xylene		100.0	80.2	131.0	18.1	30.0
Styrene		106.4	69.5	126.7	17.5	30.0
Isopropylbenzene		102.9	74.4	121.5	18.4	30.0
Bromoform		104.5	69.4	128.0	18.0	30.0
1,1,2,2-Tetrachloroethane		101.4	79.8	126.3	16.3	30.0
1,2,3-Trichloropropane		97.6	78.3	138.8	16.9	30.0
n-Propylbenzene		99.0	82.0	130.7	18.9	30.0
Bromobenzene		103.1	78.7	124.6	18.4	30.0
1,3,5-Trimethylbenzene		104.9	81.3	128.9	19.2	30.0
tert-Butylbenzene		98.0	80.7	128.9	18.1	30.0
1,2,4-Trimethylbenzene		104.6	81.4	130.8	18.7	30.0
sec-Butylbenzene		97.5	77.4	129.8	18.6	30.0
p-Isopropyltoluene		102.4	79.8	137.5	17.4	30.0
1,3-Dichlorobenzene		102.5	77.0	131.3	19.1	30.0
1,4-Dichlorobenzene		104.8	20.7	137.7	17.5	30.0
1,2-Dichlorobenzene		104.2	10.0	166.2	17.4	30.0
1,2,3-Trimethylbenzene		106.1	76.3	124.2	16.8	30.0
n-Butylbenzene		101.9	80.0	133.3	18.8	30.0
Hexachloroethane		107.1	23.8	138.1	19.4	30.0
1,2-Dibromo-3-chloropropane		95.0	21.2	189.4	18.3	30.0
1,2,4-Trichlorobenzene		112.5	27.4	143.4	18.1	30.0
1,2,3-Trichlorobenzene		113.3	75.4	131.4	17.4	30.0
Naphthalene		110.9	32.9	135.8	15.0	30.0
2-Methylnaphthalene		112.2	25.5	165.5	12.8	30.0

 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Lab Results
Merit Laboratories
2680 E Lansing Drive
East Lansing, Michigan 48823

Generated 6/19/2024 6:03:06 PM

JOB DESCRIPTION

Merit Laboratories S62829

JOB NUMBER

190-34583-1

Eurofins Michigan

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization



Generated
6/19/2024 6:03:06 PM

Authorized for release by
Sue Schafer, Project Manager II
Sue.Schafer@et.eurofinsus.com
(810)229-2763



Table of Contents

Cover Page	1
Table of Contents	3
Sample Summary	4
Case Narrative	5
Client Sample Results	6
QC Sample Results	8
Definitions/Glossary	9
QC Association Summary	10
Lab Chronicle	11
Certification Summary	13
Method Summary	14
Chain of Custody	15

Sample Summary

Client: Merit Laboratories
Project/Site: Merit Laboratories S62829

Job ID: 190-34583-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
190-34583-1	S62829.01	Water	06/04/24 09:55	06/07/24 16:00
190-34583-2	S62829.02	Water	06/04/24 11:15	06/07/24 16:00
190-34583-3	S62829.03	Water	06/04/24 12:25	06/07/24 16:00
190-34583-4	S62829.04	Water	06/04/24 13:35	06/07/24 16:00
190-34583-5	S62829.05	Water	06/04/24 14:45	06/07/24 16:00
190-34583-6	S62829.06	Water	06/04/24 15:25	06/07/24 16:00
190-34583-7	S62829.07	Water	06/04/24 00:01	06/07/24 16:00

1

2

3

4

5

6

7

8

9

10

11

12

Case Narrative

Client: Merit Laboratories
Project: Merit Laboratories S62829

Job ID: 190-34583-1

Job ID: 190-34583-1

Eurofins Michigan

Job Narrative 190-34583-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 6/7/2024 4:00 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 7.3°C.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Michigan

Client Sample Results

Client: Merit Laboratories
Project/Site: Merit Laboratories S62829

Job ID: 190-34583-1

Client Sample ID: S62829.01

Lab Sample ID: 190-34583-1

Date Collected: 06/04/24 09:55

Matrix: Water

Date Received: 06/07/24 16:00

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SM 5310C-2011)	29		1.0	mg/L			06/19/24 10:07	1

Client Sample ID: S62829.02

Lab Sample ID: 190-34583-2

Date Collected: 06/04/24 11:15

Matrix: Water

Date Received: 06/07/24 16:00

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SM 5310C-2011)	57		10	mg/L			06/19/24 09:43	10

Client Sample ID: S62829.03

Lab Sample ID: 190-34583-3

Date Collected: 06/04/24 12:25

Matrix: Water

Date Received: 06/07/24 16:00

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SM 5310C-2011)	75		10	mg/L			06/19/24 10:30	10

Client Sample ID: S62829.04

Lab Sample ID: 190-34583-4

Date Collected: 06/04/24 13:35

Matrix: Water

Date Received: 06/07/24 16:00

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SM 5310C-2011)	72		10	mg/L			06/19/24 10:54	10

Client Sample ID: S62829.05

Lab Sample ID: 190-34583-5

Date Collected: 06/04/24 14:45

Matrix: Water

Date Received: 06/07/24 16:00

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SM 5310C-2011)	17		1.0	mg/L			06/19/24 11:19	1

Client Sample ID: S62829.06

Lab Sample ID: 190-34583-6

Date Collected: 06/04/24 15:25

Matrix: Water

Date Received: 06/07/24 16:00

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SM 5310C-2011)	35		1.0	mg/L			06/19/24 11:43	1

Client Sample Results

Client: Merit Laboratories
Project/Site: Merit Laboratories S62829

Job ID: 190-34583-1

Client Sample ID: S62829.07

Lab Sample ID: 190-34583-7

Date Collected: 06/04/24 00:01

Matrix: Water

Date Received: 06/07/24 16:00

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SM 5310C-2011)	77		2.0	mg/L			06/19/24 12:07	2

1

2

3

4

5

6

7

8

9

10

11

12

QC Sample Results

Client: Merit Laboratories
 Project/Site: Merit Laboratories S62829

Job ID: 190-34583-1

Method: 5310C-2011 - Total Organic Carbon/Persulfate - Ultrav

Lab Sample ID: MB 240-617136/35
Matrix: Water
Analysis Batch: 617136

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	<1.0		1.0	mg/L			06/19/24 07:43	1

Lab Sample ID: MB 240-617136/5
Matrix: Water
Analysis Batch: 617136

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	<1.0		1.0	mg/L			06/18/24 19:45	1

Lab Sample ID: LCS 240-617136/34
Matrix: Water
Analysis Batch: 617136

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	16.3	15.5		mg/L		96	85 - 115
TOC Result 1	16.3	15.2		mg/L		94	85 - 115
TOC Result 2	16.3	15.7		mg/L		97	85 - 115

Definitions/Glossary

Client: Merit Laboratories
Project/Site: Merit Laboratories S62829

Job ID: 190-34583-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

Client: Merit Laboratories
Project/Site: Merit Laboratories S62829

Job ID: 190-34583-1

General Chemistry

Analysis Batch: 617136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-34583-1	S62829.01	Total/NA	Water	5310C-2011	
190-34583-2	S62829.02	Total/NA	Water	5310C-2011	
190-34583-3	S62829.03	Total/NA	Water	5310C-2011	
190-34583-4	S62829.04	Total/NA	Water	5310C-2011	
190-34583-5	S62829.05	Total/NA	Water	5310C-2011	
190-34583-6	S62829.06	Total/NA	Water	5310C-2011	
190-34583-7	S62829.07	Total/NA	Water	5310C-2011	
MB 240-617136/35	Method Blank	Total/NA	Water	5310C-2011	
MB 240-617136/5	Method Blank	Total/NA	Water	5310C-2011	
LCS 240-617136/34	Lab Control Sample	Total/NA	Water	5310C-2011	

Lab Chronicle

Client: Merit Laboratories
Project/Site: Merit Laboratories S62829

Job ID: 190-34583-1

Client Sample ID: S62829.01

Lab Sample ID: 190-34583-1

Date Collected: 06/04/24 09:55

Matrix: Water

Date Received: 06/07/24 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617136	QUY8	EET CLE	06/19/24 10:07

Client Sample ID: S62829.02

Lab Sample ID: 190-34583-2

Date Collected: 06/04/24 11:15

Matrix: Water

Date Received: 06/07/24 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		10	617136	QUY8	EET CLE	06/19/24 09:43

Client Sample ID: S62829.03

Lab Sample ID: 190-34583-3

Date Collected: 06/04/24 12:25

Matrix: Water

Date Received: 06/07/24 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		10	617136	QUY8	EET CLE	06/19/24 10:30

Client Sample ID: S62829.04

Lab Sample ID: 190-34583-4

Date Collected: 06/04/24 13:35

Matrix: Water

Date Received: 06/07/24 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		10	617136	QUY8	EET CLE	06/19/24 10:54

Client Sample ID: S62829.05

Lab Sample ID: 190-34583-5

Date Collected: 06/04/24 14:45

Matrix: Water

Date Received: 06/07/24 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617136	QUY8	EET CLE	06/19/24 11:19

Client Sample ID: S62829.06

Lab Sample ID: 190-34583-6

Date Collected: 06/04/24 15:25

Matrix: Water

Date Received: 06/07/24 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617136	QUY8	EET CLE	06/19/24 11:43

Client Sample ID: S62829.07

Lab Sample ID: 190-34583-7

Date Collected: 06/04/24 00:01

Matrix: Water

Date Received: 06/07/24 16:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		2	617136	QUY8	EET CLE	06/19/24 12:07

Lab Chronicle

Client: Merit Laboratories
Project/Site: Merit Laboratories S62829

Job ID: 190-34583-1

Client Sample ID: Method Blank

Lab Sample ID: MB 240-617136/35

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617136	QUY8	EET CLE	06/19/24 07:43

Client Sample ID: Method Blank

Lab Sample ID: MB 240-617136/5

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617136	QUY8	EET CLE	06/18/24 19:45

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 240-617136/34

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	5310C-2011		1	617136	QUY8	EET CLE	06/19/24 07:19

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Analyst References:

Lab: EET CLE

Batch Type: Analysis

QUY8 = Colin Frimel

Accreditation/Certification Summary

Client: Merit Laboratories
Project/Site: Merit Laboratories S62829

Job ID: 190-34583-1

Laboratory: Eurofins Cleveland

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-28-25
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-27-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Jersey	NELAP	OH001	06-30-24
New York	NELAP	10975	04-02-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-24

Method Summary

Client: Merit Laboratories
Project/Site: Merit Laboratories S62829

Job ID: 190-34583-1

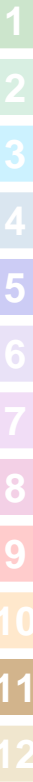
Method	Method Description	Protocol	Laboratory
5310C-2011	Total Organic Carbon/Persulfate - Ultrav	SM	EET CLE

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396





2680 East Lansing Dr., East Lansing, MI 48823
 Phone (517) 332-0167 Fax (517) 332-4034
 www.meritlabs.com

Temp: 7.3°C

C.O.C. PAGE # 1 OF 1

REPORT TO **CHAIN OF CUSTODY RECORD** **INVOICE TO**

CONTACT NAME **Project Management Team**
 COMPANY **Merit Laboratories**
 ADDRESS **2680 East Lansing Drive**
 CITY **East Lansing** STATE **MI** ZIP CODE **48823**
 PHONE NO. **517-332-0167** FAX NO. _____ P.O. NO. _____
 E-MAIL ADDRESS **results@meritlabs.com** QUOTE NO. _____

CONTACT NAME **Julie Teague** SAME
 COMPANY **Merit Laboratories**
 ADDRESS **2680 East Lansing Drive**
 CITY **East Lansing** STATE **MI** ZIP CODE **48823**
 PHONE NO. **517-332-0167** E-MAIL ADDRESS **juliet@meritlabs.com**

PROJECT NO./NAME **S62829** SAMPLER(S) - PLEASE PRINT/SIGN NAME _____
 TURNAROUND TIME REQUIRED 1 DAY 2 DAYS 3 DAYS STANDARD OTHER _____
 DELIVERABLES REQUIRED STD LEVEL II LEVEL III LEVEL IV EDD OTHER _____

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


MERIT LAB NO. <small>FOR LAB USE ONLY</small>	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives							TOC
	DATE	TIME				NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MnOH	OTHER	
	6/4/24	0955	S62829.01	WW	2				2				✓
	6/4/24	1115	S62829.02	WW	2				2				✓
	6/4/24	1225	S62829.03	WW	2				2				✓
	6/4/24	1335	S62829.04	WW	2				2				✓
	6/4/24	1445	S62829.05	WW	2				2				✓
	6/4/24	1525	S62829.06	WW	2				2				✓
	6/4/24	0001	S62829.07	WW	2				2				✓

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
 OHIO VAP Drinking Water
 DoD NPDES

Project Locations
 Detroit New York
 Other _____

Special Instructions
 Method SM5310C



190-34583 Chain of Custody

** Subcontracted to
 Eurofins

RELINQUISHED BY: *[Signature]* Sampler DATE **6/5/24** TIME _____
 RECEIVED BY: *[Signature]* DATE **6/6/24** TIME **1320**
 RELINQUISHED BY: *[Signature]* DATE **6/7/24** TIME _____
 RECEIVED BY: _____ DATE _____ TIME _____

RELINQUISHED BY: *[Signature]* DATE **6/6/24** TIME **1920**
 RECEIVED BY: *[Signature]* DATE **6/7/24** TIME _____
 SEAL NO. SEAL INTACT YES NO INITIALS _____
 SEAL NO. SEAL INTACT YES NO INITIALS _____
 NOTES: TEMP. ON ARRIVAL _____

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12



Eurofins Michigan

10448 Citation Drive Suite 200
 Brighton, MI 48116
 Phone: 810-229-2763 Fax: 810-229-0000

Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler		Lab PM: Schafer Sue		Carrier Tracking No(s):		COC No: 190-39364.1			
Client Contact: Shipping/Receiving		Phone:		E-Mail: Sue.Schafer@et.eurofinsus.com		State of Origin: Michigan		Page: Page 1 of 1			
Company: Eurofins Environment Testing North Centr				Accreditations Required (See note):				Job #: 190-34583-1			
Address: 180 S Van Buren Avenue		Due Date Requested: 6/20/2024		Analysis Requested						Preservation Codes.	
City: Barberton		TAT Requested (days):									
State, Zip: OH, 44203		PO #:		Field Filled Sample (Yes or No)		Perform MS/MSD (Yes or No)		Total Number of Containers		Other R003 Special Instructions/Note:	
Phone: 330-497-9396(Tel) 330-497-0772(Fax)		WO #:									
Email:		Project #: 19001249		5310C/ TOC							
Project Name: Merit Laboratories S62829		SSOW#:									
Site:											
Sample Identification - Client ID (Lab ID)		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)		Preservation Code:	
S62829.01 (190-34583-1)		6/4/24		09:55 Eastern		Water		X		2	
S62829.02 (190-34583-2)		6/4/24		11:15 Eastern		Water		X		2	
S62829.03 (190-34583-3)		6/4/24		12:25 Eastern		Water		X		2	
S62829.04 (190-34583-4)		6/4/24		13:35 Eastern		Water		X		2	
S62829.05 (190-34583-5)		6/4/24		14:45 Eastern		Water		X		2	
S62829.06 (190-34583-6)		6/4/24		15:25 Eastern		Water		X		2	
S62829.07 (190-34583-7)		6/4/24		00:01 Eastern		Water		X		2	
<p>Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC.</p>											
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)					
Unconfirmed						<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Deliverable Requested I, II, III, IV Other (specify)				Primary Deliverable Rank: 2		Special Instructions/QC Requirements:					
Empty Kit Relinquished by:				Date:		Time:		Method of Shipment:			
Relinquished by: <i>[Signature]</i>		Date/Time: 6/7/24 1700		Company: <i>[Signature]</i>		Received by: MALISSA LOAR		Date/Time: 6-8-24 8am		Company:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.		Cooler Temperature(s) °C and Other Remarks:				6/19/2024			



Eurofins - Cleveland Sample Receipt Form/Narrative Login # _____
 Barberjon Facility

Client EDR Mich Site Name _____ Cooler unpacked by: MALISSA LOAR
 Cooler Received on 12.8.24 Opened on 12.8.24

FedEx: 1st Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other _____
 Receipt After-hours Drop-off Date/Time _____ Storage Location _____

Eurofins Cooler # 25 Foam Box Client Cooler Box Other _____
 Packing material used Bubble Wrap Foam Plastic Bag None Other _____
 COOLANT: Wet Ice Blue Ice Dry Ice Water None
 See Multiple Cooler Form
 1 Cooler temperature upon receipt _____ °C
 IR GUN # 18 (CF ~~2~~) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2 Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity Yes No No NA
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No No NA
 -Were tamper/custody seals intact and uncompromised? Yes No No NA
 3 Shippers' packing slip attached to the cooler(s)? Yes No No NA
 4 Did custody papers accompany the sample(s)? Yes No No NA
 5 Were the custody papers relinquished & signed in the appropriate place? Yes No No NA
 6 Was/were the person(s) who collected the samples clearly identified on the COC? Yes No No NA
 7 Did all bottles arrive in good condition (Unbroken)? Yes No No NA
 8 Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No No NA
 9 For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)
 10 Were correct bottle(s) used for the test(s) indicated? Yes No No NA
 11 Sufficient quantity received to perform indicated analyses? Yes No No NA
 12. Are these work share samples and all listed on the COC? Yes No No NA

Tests that are not checked for pH by Receiving:
 VOAs
 Oil and Grease
 TOC

If yes, Questions 13-17 have been checked at the originating laboratory
 13 Were all preserved sample(s) at the correct pH upon receipt? Yes No No NA pH Strip Lot# HCC339814
 14 Were VOAs on the COC? Yes No No NA
 15 Were air bubbles >6 mm in any VOA vials? Yes Larger than this. Yes No No NA
 16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No No NA
 17 Was a LL Hg or Me Hg trip blank present? Yes No No NA
 Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
 Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES additional next page Samples processed by: _____

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

20. SAMPLE PRESERVATION
 Sample(s) _____ were further preserved in the laboratory
 Time preserved _____ Preservative(s) added/Lot number(s) _____
 VOA Sample Preservation - Date/Time VOAs Frozen _____

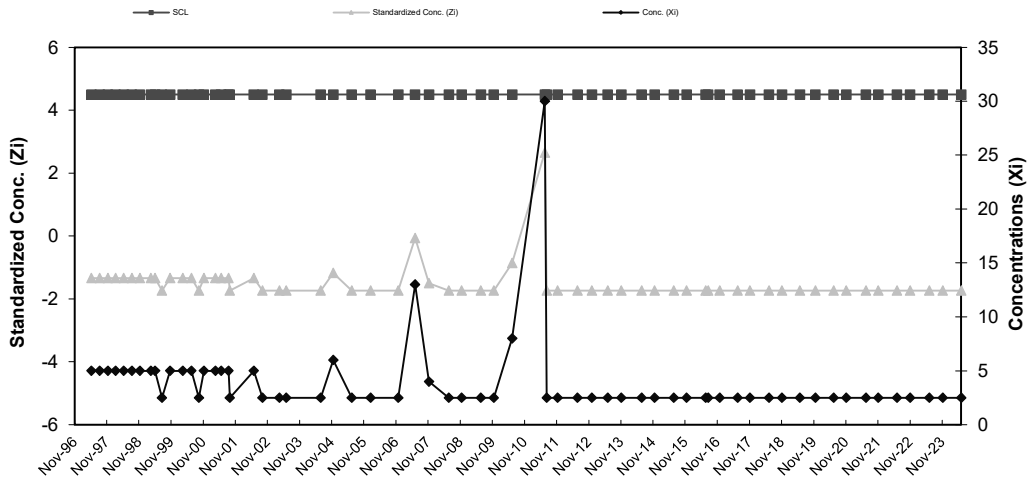
APPENDIX C
LEAK DETECTION VAULT CONTROL CHARTS

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

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-97	4.5	5	-1.34	46	Nov-11	4.5	2.5	-1.74
10	Aug-97	4.5	5	-1.34	47	Jun-12	4.5	2.5	-1.74
11	Nov-97	4.5	5	-1.34	48	Dec-12	4.5	2.5	-1.74
12	Feb-98	4.5	5	-1.34	49	Jun-13	4.5	2.5	-1.74
13	May-98	4.5	5	-1.34	50	Nov-13	4.5	2.5	-1.74
14	Aug-98	4.5	5	-1.34	51	Jun-14	4.5	2.5	-1.74
15	Nov-98	4.5	5	-1.34	52	Nov-14	4.5	2.5	-1.74
16	Mar-99	4.5	5	-1.34	53	Jun-15	4.5	2.5	-1.74
17	May-99	4.5	5	-1.34	54	Nov-15	4.5	2.5	-1.74
18	Jul-99	4.5	2.5	-1.74	55	Jun-16	4.5	2.5	-1.74
19	Oct-99	4.5	5	-1.34	56	Jul-16	4.5	2.5	-1.74
20	Mar-00	4.5	5	-1.34	57	Nov-16	4.5	2.5	-1.74
21	Jun-00	4.5	5	-1.34	58	Jun-17	4.5	2.5	-1.74
22	Sep-00	4.5	2.5	-1.74	59	Nov-17	4.5	2.5	-1.74
23	Nov-00	4.5	5	-1.34	60	Jun-18	4.5	2.5	-1.74
24	Mar-01	4.5	5	-1.34	61	Nov-18	4.5	2.5	-1.74
25	May-01	4.5	5	-1.34	62	May-19	4.5	2.5	-1.74
26	Aug-01	4.5	2.5	-1.74	63	Nov-19	4.5	2.5	-1.74
27	Aug-01	4.5	5	-1.34	64	Jun-20	4.5	2.5	-1.74
28	May-02	4.5	5	-1.34	65	Nov-20	4.5	2.5	-1.74
29	Sep-02	4.5	2.5	-1.74	66	Jun-21	4.5	2.5	-1.74
30	Mar-03	4.5	2.5	-1.74	67	Nov-21	4.5	2.5	-1.74
31	Jun-03	4.5	2.5	-1.74	68	Jun-22	4.5	2.5	-1.74
32	Jun-04	4.5	2.5	-1.74	69	Nov-22	4.5	2.5	-1.74
33	Nov-04	4.5	6	-1.18	70	Jun-23	4.5	2.5	-1.74
34	Jun-05	4.5	2.5	-1.74	71	Nov-23	4.5	2.5	-1.74
35	Jan-06	4.5	2.5	-1.74	72	Jun-24	4.5	2.5	-1.74
36	Nov-06	4.5	2.5	-1.74					
37	Jun-07	4.5	13	-0.06					
38	Nov-07	4.5	4	-1.50					
39	Jun-08	4.5	2.5	-1.74					
40	Nov-08	4.5	2.5	-1.74					
41	Jun-09	4.5	2.5	-1.74					
42	Nov-09	4.5	2.5	-1.74					
43	Jun-10	4.5	8	-0.86					
44	Jun-11	4.5	30	2.66					
45	Jul-11	4.5	2.5	-1.74					

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

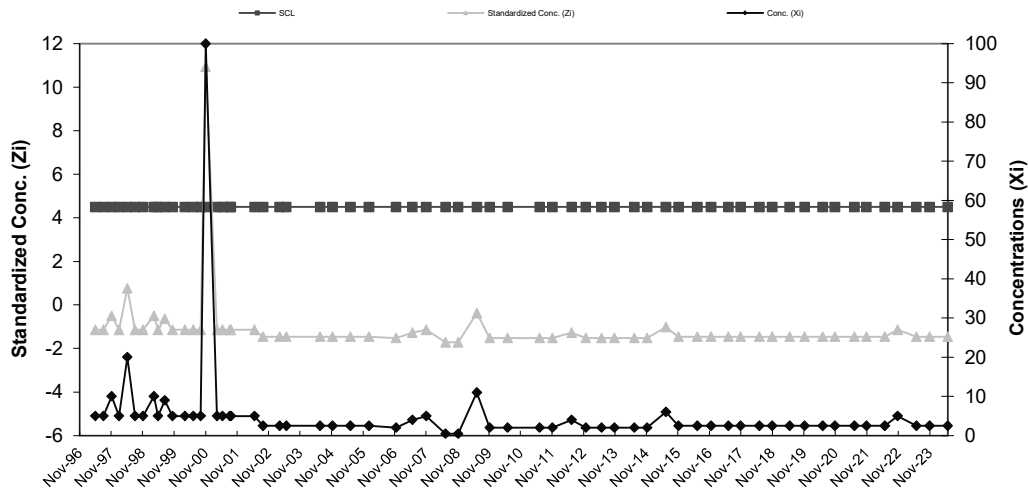


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault A - Copper

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-97	4.5	5	-1.14	45	Nov-11	4.5	2	-1.52
10	Aug-97	4.5	5	-1.14	46	Jun-12	4.5	4	-1.27
11	Nov-97	4.5	10	-0.51	47	Dec-12	4.5	2	-1.52
12	Feb-98	4.5	5	-1.14	48	Jun-13	4.5	2	-1.52
13	May-98	4.5	20	0.76	49	Nov-13	4.5	2	-1.52
14	Aug-98	4.5	5	-1.14	50	Jun-14	4.5	2	-1.52
15	Nov-98	4.5	5	-1.14	51	Nov-14	4.5	2	-1.52
16	Mar-99	4.5	10	-0.51	52	Jun-15	4.5	6	-1.02
17	May-99	4.5	5	-1.14	53	Nov-15	4.5	2.5	-1.46
18	Jul-99	4.5	9	-0.64	54	Jun-16	4.5	2.5	-1.46
19	Oct-99	4.5	5	-1.14	55	Nov-16	4.5	2.5	-1.46
20	Mar-00	4.5	5	-1.14	56	Jun-17	4.5	2.5	-1.46
21	Jun-00	4.5	5	-1.14	57	Nov-17	4.5	2.5	-1.46
22	Sep-00	4.5	5	-1.14	58	Jun-18	4.5	2.5	-1.46
23	Nov-00	4.5	100	10.92	59	Nov-18	4.5	2.5	-1.46
24	Mar-01	4.5	5	-1.14	60	May-19	4.5	2.5	-1.46
25	May-01	4.5	5	-1.14	61	Nov-19	4.5	2.5	-1.46
26	Aug-01	4.5	5	-1.14	62	Jun-20	4.5	2.5	-1.46
27	Aug-01	4.5	5	-1.14	63	Nov-20	4.5	2.5	-1.46
28	May-02	4.5	5	-1.14	64	Jun-21	4.5	2.5	-1.46
29	Sep-02	4.5	2.5	-1.46	65	Nov-21	4.5	2.5	-1.46
30	Mar-03	4.5	2.5	-1.46	66	Jun-22	4.5	2.5	-1.46
31	Jun-03	4.5	2.5	-1.46	67	Nov-22	4.5	5	-1.14
32	Jun-04	4.5	2.5	-1.46	68	Jun-23	4.5	2.5	-1.46
33	Nov-04	4.5	2.5	-1.46	69	Nov-23	4.5	2.5	-1.46
34	Jun-05	4.5	2.5	-1.46	70	Jun-24	4.5	2.5	-1.46
35	Jan-06	4.5	2.5	-1.46					
36	Nov-06	4.5	2	-1.52					
37	Jun-07	4.5	4	-1.27					
38	Nov-07	4.5	5	-1.14					
39	Jun-08	4.5	0.5	-1.71					
40	Nov-08	4.5	0.5	-1.71					
41	Jun-09	4.5	11	-0.38					
42	Nov-09	4.5	2	-1.52					
43	Jun-10	4.5	2	-1.52					
44	Jun-11	4.5	2	-1.52					

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

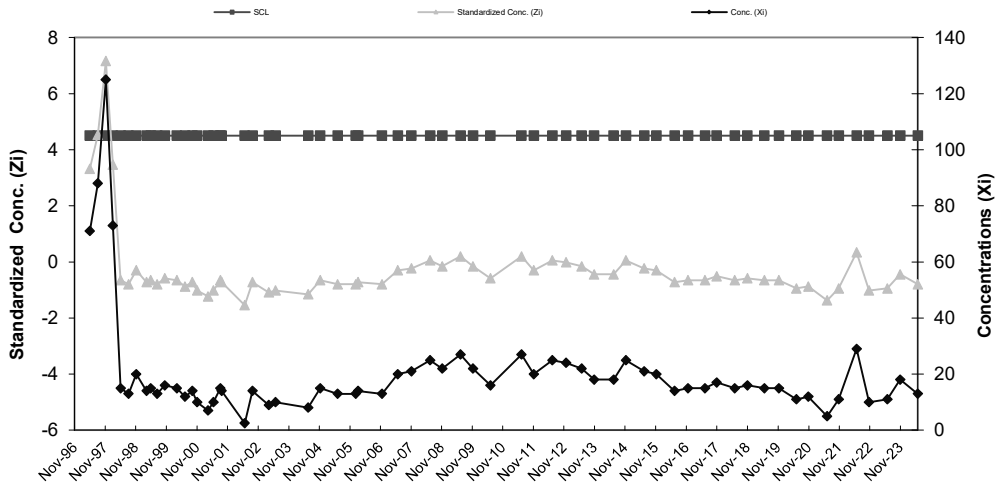


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault A - Nickel**

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

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

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

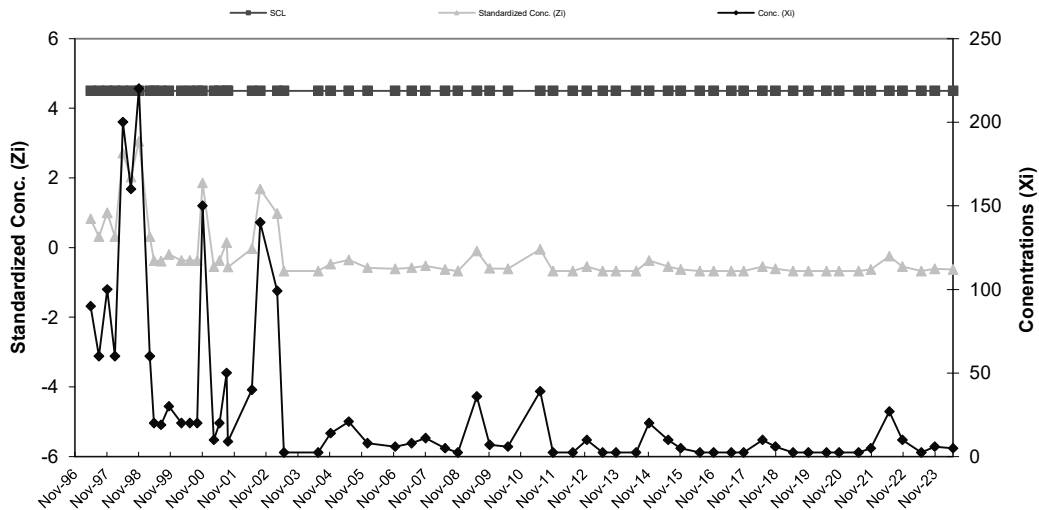


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault A - Zinc

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-97	4.5	90	0.83	45	Nov-11	4.5	2.5	-0.67
10	Aug-97	4.5	60	0.31	46	Jun-12	4.5	2.5	-0.67
11	Nov-97	4.5	100	1.00	47	Dec-12	4.5	10	-0.54
12	Feb-98	4.5	60	0.31	48	Jun-13	4.5	2.5	-0.67
13	May-98	4.5	200	2.71	49	Nov-13	4.5	2.5	-0.67
14	Aug-98	4.5	160	2.02	50	Jun-14	4.5	2.5	-0.67
15	Nov-98	4.5	220	3.05	51	Nov-14	4.5	20	-0.37
16	Mar-99	4.5	60	0.31	52	Jun-15	4.5	10	-0.54
17	May-99	4.5	20	-0.37	53	Nov-15	4.5	5	-0.63
18	Jul-99	4.5	19	-0.39	54	Jun-16	4.5	2.5	-0.67
19	Oct-99	4.5	30	-0.20	55	Nov-16	4.5	2.5	-0.67
20	Mar-00	4.5	20	-0.37	56	Jun-17	4.5	2.5	-0.67
21	Jun-00	4.5	20	-0.37	57	Nov-17	4.5	2.5	-0.67
22	Sep-00	4.5	20	-0.37	58	Jun-18	4.5	10	-0.54
23	Nov-00	4.5	150	1.85	59	Nov-18	4.5	6	-0.61
24	Mar-01	4.5	10	-0.54	60	May-19	4.5	2.5	-0.67
25	May-01	4.5	20	-0.37	61	Nov-19	4.5	2.5	-0.67
26	Aug-01	4.5	9	-0.56	62	Jun-20	4.5	2.5	-0.67
27	Aug-01	4.5	50	0.14	63	Nov-20	4.5	2.5	-0.67
28	May-02	4.5	40	-0.03	64	Jun-21	4.5	2.5	-0.67
29	Sep-02	4.5	140	1.68	65	Nov-21	4.5	5	-0.63
30	Mar-03	4.5	99	0.98	66	Jun-22	4.5	27	-0.25
31	Jun-03	4.5	2.5	-0.67	67	Nov-22	4.5	10	-0.54
32	Jun-04	4.5	2.5	-0.67	68	Jun-23	4.5	2.5	-0.67
33	Nov-04	4.5	14	-0.47	69	Nov-23	4.5	6	-0.61
34	Jun-05	4.5	21	-0.35	70	Jun-24	4.5	5	-0.63
35	Jan-06	4.5	8	-0.58					
36	Nov-06	4.5	6	-0.61					
37	Jun-07	4.5	8	-0.58					
38	Nov-07	4.5	11	-0.53					
39	Jun-08	4.5	5	-0.63					
40	Nov-08	4.5	2.5	-0.67					
41	Jun-09	4.5	36	-0.10					
42	Nov-09	4.5	7	-0.59					
43	Jun-10	4.5	6	-0.61					
44	Jun-11	4.5	39	-0.05					

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

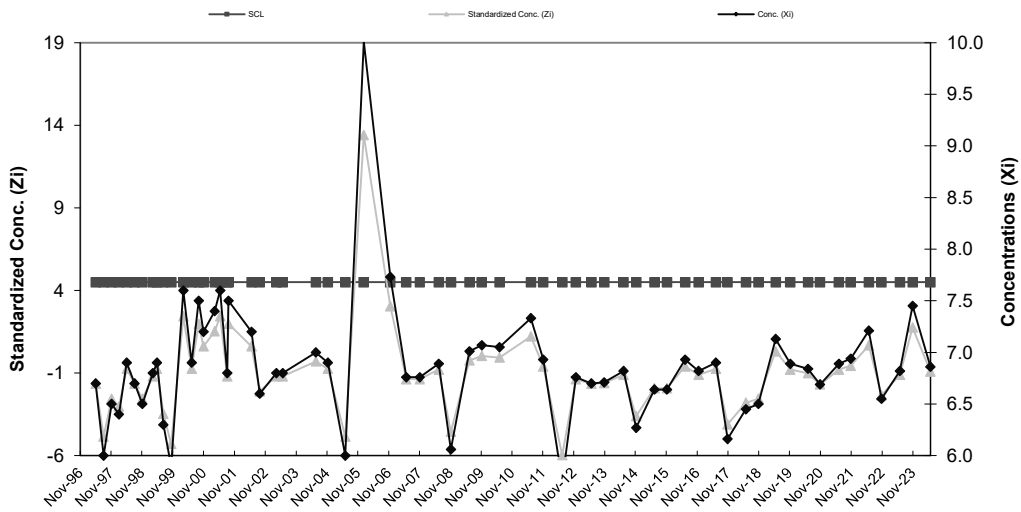


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault A - pH**

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-97	4.5	6.70	-1.65	45	Nov-11	4.5	6.93	-0.60
10	Aug-97	4.5	6.00	-4.83	46	Jun-12	4.5	5.75	-5.97
11	Nov-97	4.5	6.50	-2.56	47	Dec-12	4.5	6.76	-1.38
12	Feb-98	4.5	6.40	-3.01	48	Jun-13	4.5	6.7	-1.65
13	May-98	4.5	6.90	-0.74	49	Nov-13	4.5	6.71	-1.60
14	Aug-98	4.5	6.70	-1.65	50	Jun-14	4.5	6.82	-1.10
15	Nov-98	4.5	6.50	-2.56	51	Nov-14	4.5	6.27	-3.60
16	Mar-99	4.5	6.80	-1.19	52	Jun-15	4.5	6.64	-1.92
17	May-99	4.5	6.90	-0.74	53	Nov-15	4.5	6.64	-1.92
18	Jul-99	4.5	6.30	-3.47	54	Jun-16	4.5	6.93	-0.60
19	Oct-99	4.5	5.90	-5.28	55	Nov-16	4.5	6.82	-1.10
20	Mar-00	4.5	7.60	2.44	56	Jun-17	4.5	6.9	-0.74
21	Jun-00	4.5	6.90	-0.74	57	Nov-17	4.5	6.16	-4.10
22	Sep-00	4.5	7.50	1.99	58	Jun-18	4.5	6.45	-2.78
23	Nov-00	4.5	7.20	0.63	59	Nov-18	4.5	6.5	-2.56
24	Mar-01	4.5	7.40	1.53	60	May-19	4.5	7.13	0.31
25	May-01	4.5	7.60	2.44	61	Nov-19	4.5	6.89	-0.78
26	Aug-01	4.5	7.50	1.99	62	Jun-20	4.5	6.84	-1.01
27	Aug-01	4.5	6.80	-1.19	63	Nov-20	4.5	6.69	-1.69
28	May-02	4.5	7.20	0.63	64	Jun-21	4.5	6.89	-0.78
29	Sep-02	4.5	6.60	-2.10	65	Nov-21	4.5	6.94	-0.56
30	Mar-03	4.5	6.80	-1.19	66	Jun-22	4.5	7.21	0.67
31	Jun-03	4.5	6.80	-1.19	67	Nov-22	4.5	6.55	-2.33
32	Jun-04	4.5	7.00	-0.28	68	Jun-23	4.5	6.82	-1.10
33	Nov-04	4.5	6.90	-0.74	69	Nov-23	4.5	7.45	1.76
34	Jun-05	4.5	6.00	-4.83	70	Jun-24	4.5	6.86	-0.92
35	Jan-06	4.5	10.01	13.40					
36	Nov-06	4.5	7.73	3.03					
37	Jun-07	4.5	6.76	-1.38					
38	Nov-07	4.5	6.76	-1.38					
39	Jun-08	4.5	6.89	-0.78					
40	Nov-08	4.5	6.06	-4.56					
41	Jun-09	4.5	7.01	-0.24					
42	Nov-09	4.5	7.07	0.03					
43	Jun-10	4.5	7.05	-0.06					
44	Jun-11	4.5	7.33	1.22					

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

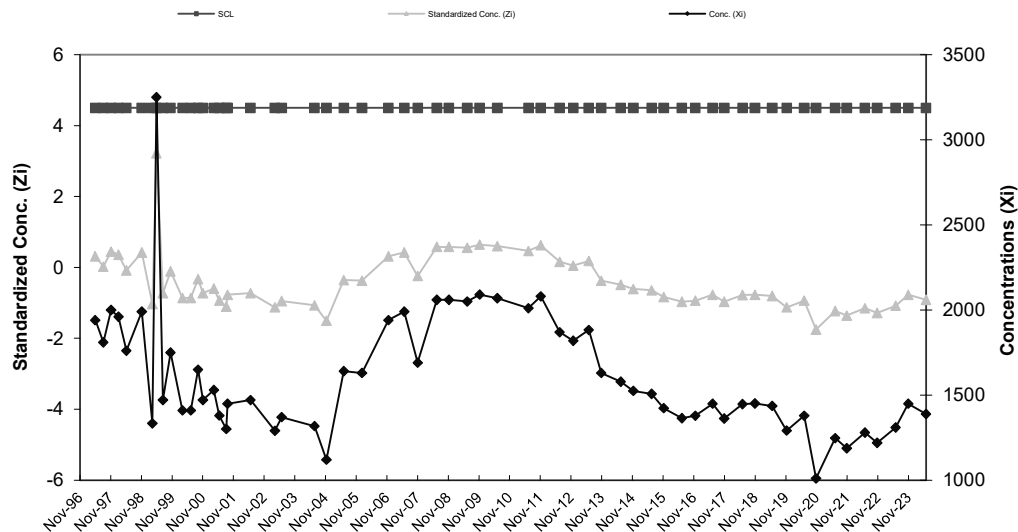


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault A - SpC**

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-97	4.5	1940	0.31	43	Nov-11	4.5	2080	0.62
10	Aug-97	4.5	1810	0.02	44	Jun-12	4.5	1870	0.16
11	Nov-97	4.5	2000	0.45	45	Dec-12	4.5	1820	0.05
12	Feb-98	4.5	1960	0.36	46	Jun-13	4.5	1882	0.18
13	May-98	4.5	1760	-0.09	47	Nov-13	4.5	1630	-0.37
14	Nov-98	4.5	1990	0.42	48	Jun-14	4.5	1579	-0.49
15	Mar-99	4.5	1334	-1.03	49	Nov-14	4.5	1525	-0.61
16	May-99	4.5	3250	3.22	50	Jun-15	4.5	1507	-0.65
17	Jul-99	4.5	1470	-0.73	51	Nov-15	4.5	1423	-0.83
18	Oct-99	4.5	1750	-0.11	52	Jun-16	4.5	1364	-0.96
19	Mar-00	4.5	1410	-0.86	53	Nov-16	4.5	1378	-0.93
20	Jun-00	4.5	1410	-0.86	54	Jun-17	4.5	1450	-0.77
21	Sep-00	4.5	1650	-0.33	55	Nov-17	4.5	1363	-0.97
22	Nov-00	4.5	1470	-0.73	56	Jun-18	4.5	1447	-0.78
23	Mar-01	4.5	1530	-0.60	57	Nov-18	4.5	1451	-0.77
24	May-01	4.5	1380	-0.93	58	May-19	4.5	1436	-0.80
25	Aug-01	4.5	1450	-0.77	59	Nov-19	4.5	1291	-1.13
26	Aug-01	4.5	1300	-1.11	60	Jun-20	4.5	1378	-0.93
27	May-02	4.5	1470	-0.73	61	Nov-20	4.5	1010	-1.75
28	Mar-03	4.5	1290	-1.13	62	Jun-21	4.5	1247	-1.22
29	Jun-03	4.5	1370	-0.95	63	Nov-21	4.5	1187	-1.36
30	Jun-04	4.5	1318	-1.07	64	Jun-22	4.5	1280	-1.15
31	Nov-04	4.5	1120	-1.51	65	Nov-22	4.5	1219	-1.29
32	Jun-05	4.5	1640	-0.35	66	Jun-23	4.5	1310	-1.08
33	Jan-06	4.5	1630	-0.37	67	Nov-23	4.5	1450	-0.77
34	Nov-06	4.5	1940	0.31	68	Jun-24	4.5	1389	-0.91
35	Jun-07	4.5	1990	0.42					
36	Nov-07	4.5	1690	-0.24					
37	Jun-08	4.5	2060	0.58					
38	Nov-08	4.5	2060	0.58					
39	Jun-09	4.5	2050	0.56					
40	Nov-09	4.5	2090	0.65					
41	Jun-10	4.5	2070	0.60					
42	Jun-11	4.5	2010	0.47					

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

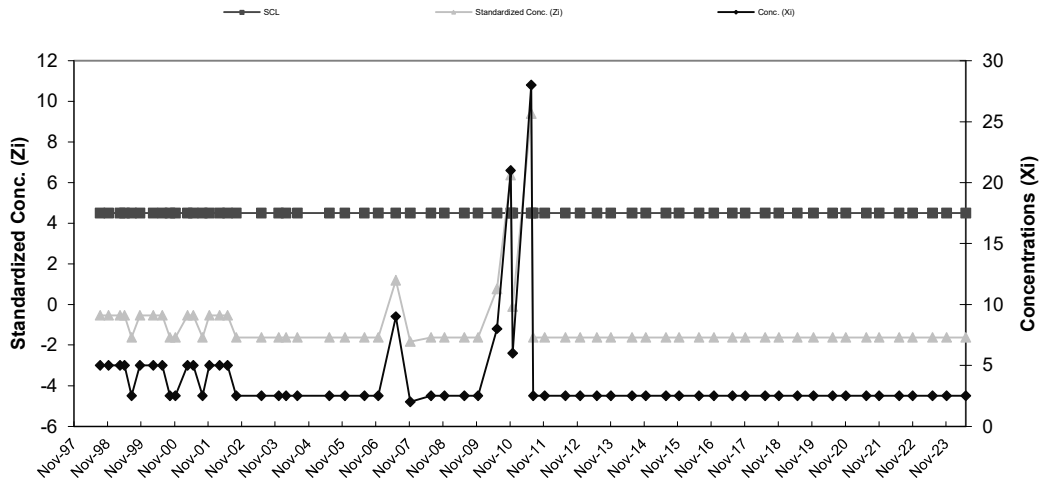


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault B - Chromium**

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-98	4.5	5	-0.54	45	Nov-11	4.5	2.5	-1.62
10	Nov-98	4.5	5	-0.54	46	Jun-12	4.5	2.5	-1.62
11	Mar-99	4.5	5	-0.54	47	Dec-12	4.5	2.5	-1.62
12	May-99	4.5	5	-0.54	48	Jun-13	4.5	2.5	-1.62
13	Jul-99	4.5	2.5	-1.62	49	Nov-13	4.5	2.5	-1.62
14	Oct-99	4.5	5	-0.54	50	Jun-14	4.5	2.5	-1.62
15	Mar-00	4.5	5	-0.54	51	Nov-14	4.5	2.5	-1.62
16	Jun-00	4.5	5	-0.54	52	Jun-15	4.5	2.5	-1.62
17	Sep-00	4.5	2.5	-1.62	53	Nov-15	4.5	2.5	-1.62
18	Nov-00	4.5	2.5	-1.62	54	Jun-16	4.5	2.5	-1.62
19	Mar-01	4.5	5	-0.54	55	Nov-16	4.5	2.5	-1.62
20	May-01	4.5	5	-0.54	56	Jun-17	4.5	2.5	-1.62
21	Aug-01	4.5	2.5	-1.62	57	Nov-17	4.5	2.5	-1.62
22	Nov-01	4.5	5	-0.54	58	Jun-18	4.5	2.5	-1.62
23	Mar-02	4.5	5	-0.54	59	Nov-18	4.5	2.5	-1.62
24	May-02	4.5	5	-0.54	60	May-19	4.5	2.5	-1.62
25	Sep-02	4.5	2.5	-1.62	61	Nov-19	4.5	2.5	-1.62
26	Jun-03	4.5	2.5	-1.62	62	Jun-20	4.5	2.5	-1.62
27	Dec-03	4.5	2.5	-1.62	63	Nov-20	4.5	2.5	-1.62
28	Feb-04	4.5	2.5	-1.62	64	Jun-21	4.5	2.5	-1.62
29	Jun-04	4.5	2.5	-1.62	65	Nov-21	4.5	2.5	-1.62
30	Jun-05	4.5	2.5	-1.62	66	Jun-22	4.5	2.5	-1.62
31	Dec-05	4.5	2.5	-1.62	67	Nov-22	4.5	2.5	-1.62
32	Jun-06	4.5	2.5	-1.62	68	Jun-23	4.5	2.5	-1.62
33	Nov-06	4.5	2.5	-1.62	69	Nov-23	4.5	2.5	-1.62
34	Jun-07	4.5	9	1.19	70	Jun-24	4.5	2.5	-1.62
35	Nov-07	4.5	2	-1.84					
36	Jun-08	4.5	2.5	-1.62					
37	Nov-08	4.5	2.5	-1.62					
38	Jun-09	4.5	2.5	-1.62					
39	Nov-09	4.5	2.5	-1.62					
40	Jun-10	4.5	8	0.76					
41	Nov-10	4.5	21	6.37					
42	Dec-10	4.5	6	-0.11					
43	Jun-11	4.5	28	9.40					
44	Jul-11	4.5	2.5	-1.62					

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

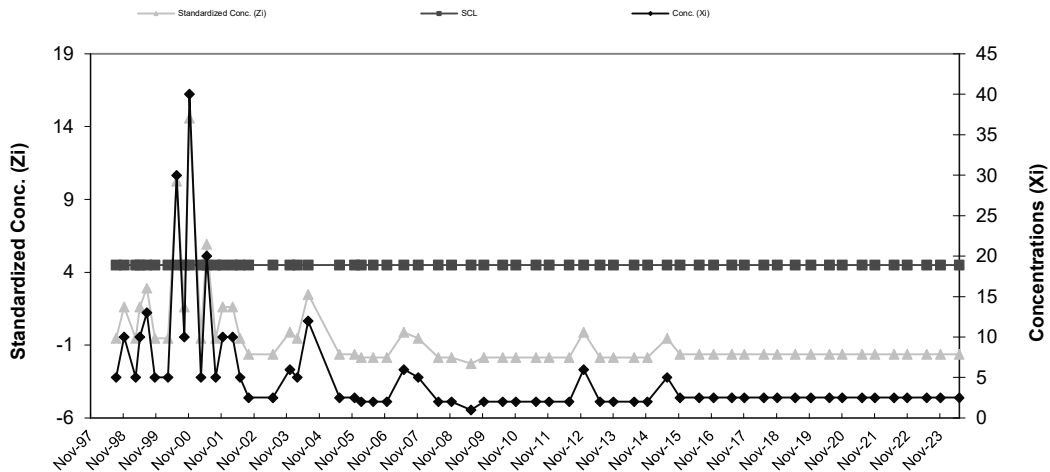


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault B - Copper**

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-98	4.5	5	-0.54	44	Nov-11	4.5	2	-1.84
10	Nov-98	4.5	10	1.62	45	Jun-12	4.5	2	-1.84
11	Mar-99	4.5	5	-0.54	46	Dec-12	4.5	6	-0.11
12	May-99	4.5	10	1.62	47	Jun-13	4.5	2	-1.84
13	Jul-99	4.5	13	2.92	48	Nov-13	4.5	2	-1.84
14	Oct-99	4.5	5	-0.54	49	Jun-14	4.5	2	-1.84
15	Mar-00	4.5	5	-0.54	50	Nov-14	4.5	2	-1.84
16	Jun-00	4.5	30	10.26	51	Jun-15	4.5	5	-0.54
17	Sep-00	4.5	10	1.62	52	Nov-15	4.5	2.5	-1.62
18	Nov-00	4.5	40	14.58	53	Jun-16	4.5	2.5	-1.62
19	Mar-01	4.5	5	-0.54	54	Nov-16	4.5	2.5	-1.62
20	May-01	4.5	20	5.94	55	Jun-17	4.5	2.5	-1.62
21	Aug-01	4.5	5	-0.54	56	Nov-17	4.5	2.5	-1.62
22	Nov-01	4.5	10	1.62	57	Jun-18	4.5	2.5	-1.62
23	Mar-02	4.5	10	1.62	58	Nov-18	4.5	2.5	-1.62
24	May-02	4.5	5	-0.54	59	May-19	4.5	2.5	-1.62
25	Sep-02	4.5	2.5	-1.62	60	Nov-19	4.5	2.5	-1.62
26	Jun-03	4.5	2.5	-1.62	61	Jun-20	4.5	2.5	-1.62
27	Dec-03	4.5	6	-0.11	62	Nov-20	4.5	2.5	-1.62
28	Feb-04	4.5	5	-0.54	63	Jun-21	4.5	2.5	-1.62
29	Jun-04	4.5	12	2.48	64	Nov-21	4.5	2.5	-1.62
30	Jun-05	4.5	2.5	-1.62	65	Jun-22	4.5	2.5	-1.62
31	Dec-05	4.5	2.5	-1.62	66	Nov-22	4.5	2.5	-1.62
32	Feb-06	4.5	2	-1.84	67	Jun-23	4.5	2.5	-1.62
33	Jun-06	4.5	2	-1.84	68	Nov-23	4.5	2.5	-1.62
34	Nov-06	4.5	2	-1.84	69	Jun-24	4.5	2.5	-1.62
35	Jun-07	4.5	6	-0.11					
36	Nov-07	4.5	5	-0.54					
37	Jun-08	4.5	2	-1.84					
38	Nov-08	4.5	2	-1.84					
39	Jun-09	4.5	1	-2.27					
40	Nov-09	4.5	2	-1.84					
41	Jun-10	4.5	2	-1.84					
42	Nov-10	4.5	2	-1.84					
43	Jun-11	4.5	2	-1.84					

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

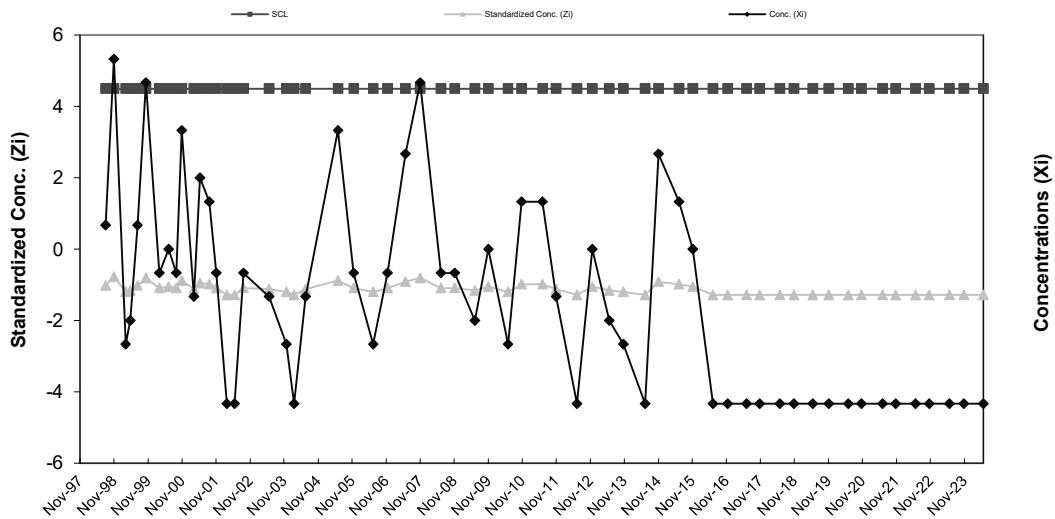


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault B - Nickel**

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-98	4.5	10	-1.02	43	Nov-11	4.5	7	-1.12
10	Nov-98	4.5	17	-0.77	44	Jun-12	4.5	2.5	-1.28
11	Mar-99	4.5	5	-1.20	45	Dec-12	4.5	9	-1.05
12	May-99	4.5	6	-1.16	46	Jun-13	4.5	6	-1.16
13	Jul-99	4.5	10	-1.02	47	Nov-13	4.5	5	-1.20
14	Oct-99	4.5	16	-0.81	48	Jun-14	4.5	2.5	-1.28
15	Mar-00	4.5	8	-1.09	49	Nov-14	4.5	13	-0.91
16	Jun-00	4.5	9	-1.05	50	Jun-15	4.5	11	-0.98
17	Sep-00	4.5	8	-1.09	51	Nov-15	4.5	9	-1.05
18	Nov-00	4.5	14	-0.88	52	Jun-16	4.5	2.5	-1.28
19	Mar-01	4.5	7	-1.12	53	Nov-16	4.5	2.5	-1.28
20	May-01	4.5	12	-0.95	54	Jun-17	4.5	2.5	-1.28
21	Aug-01	4.5	11	-0.98	55	Nov-17	4.5	2.5	-1.28
22	Nov-01	4.5	8	-1.09	56	Jun-18	4.5	2.5	-1.28
23	Mar-02	4.5	2.5	-1.28	57	Nov-18	4.5	2.5	-1.28
24	May-02	4.5	2.5	-1.28	58	May-19	4.5	2.5	-1.28
25	Sep-02	4.5	8	-1.09	59	Nov-19	4.5	2.5	-1.28
26	Jun-03	4.5	7	-1.12	60	Jun-20	4.5	2.5	-1.28
27	Dec-03	4.5	5	-1.20	61	Nov-20	4.5	2.5	-1.28
28	Feb-04	4.5	2.5	-1.28	62	Jun-21	4.5	2.5	-1.28
29	Jun-04	4.5	7	-1.12	63	Nov-21	4.5	2.5	-1.28
30	Jun-05	4.5	14	-0.88	64	Jun-22	4.5	2.5	-1.28
31	Dec-05	4.5	8	-1.09	65	Nov-22	4.5	2.5	-1.28
32	Jun-06	4.5	5	-1.20	66	Jun-23	4.5	2.5	-1.28
33	Nov-06	4.5	8	-1.09	67	Nov-23	4.5	2.5	-1.28
34	Jun-07	4.5	13	-0.91	68	Jun-24	4.5	2.5	-1.28
35	Nov-07	4.5	16	-0.81					
36	Jun-08	4.5	8	-1.09					
37	Nov-08	4.5	8	-1.09					
38	Jun-09	4.5	6	-1.16					
39	Nov-09	4.5	9	-1.05					
40	Jun-10	4.5	5	-1.20					
41	Nov-10	4.5	11	-0.98					
42	Jun-11	4.5	11	-0.98					

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

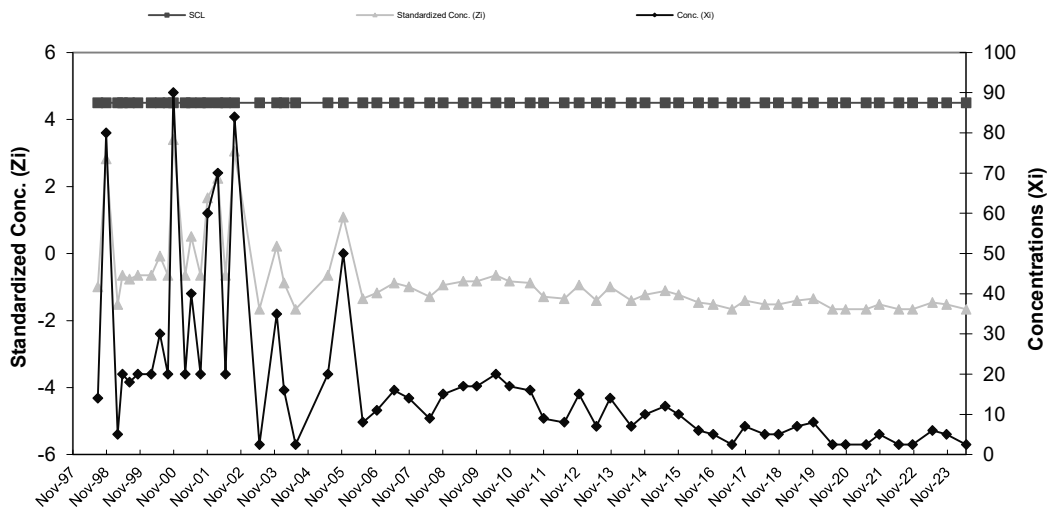


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault B - Zinc**

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-98	4.5	14	-1.00	43	Nov-11	4.5	9	-1.29
10	Nov-98	4.5	80	2.82	44	Jun-12	4.5	8	-1.35
11	Mar-99	4.5	5	-1.52	45	Dec-12	4.5	15	-0.94
12	May-99	4.5	20	-0.65	46	Jun-13	4.5	7	-1.40
13	Jul-99	4.5	18	-0.77	47	Nov-13	4.5	14	-1.00
14	Oct-99	4.5	20	-0.65	48	Jun-14	4.5	7	-1.40
15	Mar-00	4.5	20	-0.65	49	Nov-14	4.5	10	-1.23
16	Jun-00	4.5	30	-0.07	50	Jun-15	4.5	12	-1.11
17	Sep-00	4.5	20	-0.65	51	Nov-15	4.5	10	-1.23
18	Nov-00	4.5	90	3.40	52	Jun-16	4.5	6	-1.46
19	Mar-01	4.5	20	-0.65	53	Nov-16	4.5	5	-1.52
20	May-01	4.5	40	0.51	54	Jun-17	4.5	2.5	-1.66
21	Aug-01	4.5	20	-0.65	55	Nov-17	4.5	7	-1.40
22	Nov-01	4.5	60	1.66	56	Jun-18	4.5	5	-1.52
23	Mar-02	4.5	70	2.24	57	Nov-18	4.5	5	-1.52
24	May-02	4.5	20	-0.65	58	May-19	4.5	7	-1.40
25	Sep-02	4.5	84	3.05	59	Nov-19	4.5	8	-1.35
26	Jun-03	4.5	2.5	-1.66	60	Jun-20	4.5	2.5	-1.66
27	Dec-03	4.5	35	0.22	61	Nov-20	4.5	2.5	-1.66
28	Feb-04	4.5	16	-0.88	62	Jun-21	4.5	2.5	-1.66
29	Jun-04	4.5	2.5	-1.66	63	Nov-21	4.5	5	-1.52
30	Jun-05	4.5	20	-0.65	64	Jun-22	4.5	2.5	-1.66
31	Dec-05	4.5	50	1.09	65	Nov-22	4.5	2.5	-1.66
32	Jun-06	4.5	8	-1.35	66	Jun-23	4.5	6	-1.46
33	Nov-06	4.5	11	-1.17	67	Nov-23	4.5	5	-1.52
34	Jun-07	4.5	16	-0.88	68	Jun-24	4.5	2.5	-1.66
35	Nov-07	4.5	14	-1.00					
36	Jun-08	4.5	9	-1.29					
37	Nov-08	4.5	15	-0.94					
38	Jun-09	4.5	17	-0.83					
39	Nov-09	4.5	17	-0.83					
40	Jun-10	4.5	20	-0.65					
41	Nov-10	4.5	17	-0.83					
42	Jun-11	4.5	16	-0.88					

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

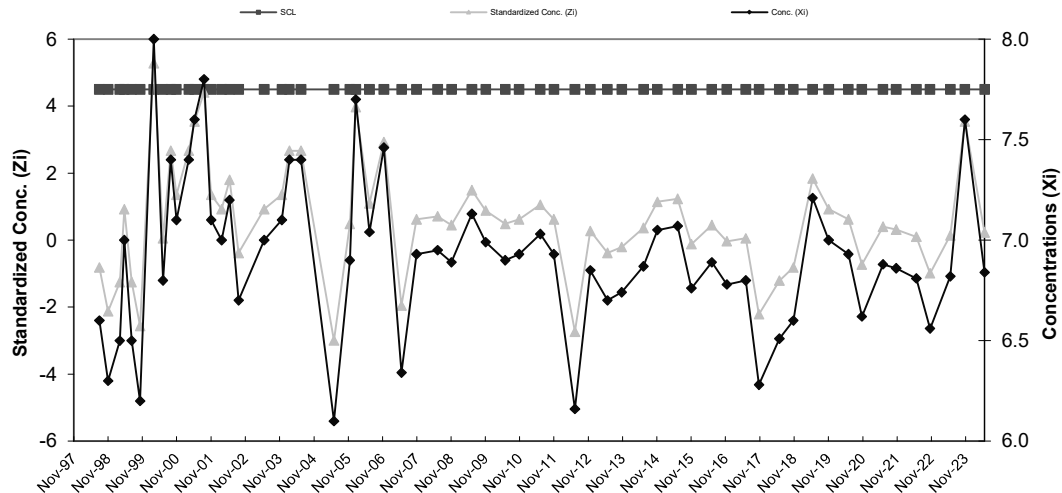


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault B - pH**

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-98	4.5	6.60	-0.82	44	Nov-11	4.5	6.93	0.62
10	Nov-98	4.5	6.30	-2.12	45	Jun-12	4.5	6.16	-2.73
11	Mar-99	4.5	6.50	-1.25	46	Dec-12	4.5	6.85	0.27
12	May-99	4.5	7.00	0.93	47	Jun-13	4.5	6.7	-0.38
13	Jul-99	4.5	6.50	-1.25	48	Nov-13	4.5	6.74	-0.21
14	Oct-99	4.5	6.20	-2.56	49	Jun-14	4.5	6.87	0.36
15	Mar-00	4.5	8.00	5.28	50	Nov-14	4.5	7.05	1.14
16	Jun-00	4.5	6.80	0.05	51	Jun-15	4.5	7.07	1.23
17	Sep-00	4.5	7.40	2.67	52	Nov-15	4.5	6.76	-0.12
18	Nov-00	4.5	7.10	1.36	53	Jun-16	4.5	6.89	0.45
19	Mar-01	4.5	7.40	2.67	54	Nov-16	4.5	6.78	-0.03
20	May-01	4.5	7.60	3.54	55	Jun-17	4.5	6.8	0.05
21	Aug-01	4.5	7.80	4.41	56	Nov-17	4.5	6.28	-2.21
22	Nov-01	4.5	7.10	1.36	57	Jun-18	4.5	6.51	-1.21
23	Mar-02	4.5	7.00	0.93	58	Nov-18	4.5	6.6	-0.82
24	May-02	4.5	7.20	1.80	59	May-19	4.5	7.21	1.84
25	Sep-02	4.5	6.70	-0.38	60	Nov-19	4.5	7	0.93
26	Jun-03	4.5	7.00	0.93	61	Jun-20	4.5	6.93	0.62
27	Dec-03	4.5	7.10	1.36	62	Nov-20	4.5	6.62	-0.73
28	Feb-04	4.5	7.40	2.67	63	Jun-21	4.5	6.88	0.40
29	Jun-04	4.5	7.40	2.67	64	Nov-21	4.5	6.86	0.32
30	Jun-05	4.5	6.10	-3.00	65	Jun-22	4.5	6.81	0.10
31	Dec-05	4.5	6.90	0.49	66	Nov-22	4.5	6.56	-0.99
32	Feb-06	4.5	7.70	3.98	67	Jun-23	4.5	6.82	0.14
33	Jun-06	4.5	7.04	1.10	68	Nov-23	4.5	7.6	3.54
34	Nov-06	4.5	7.46	2.93	69	Jun-24	4.5	6.84	0.23
35	Jun-07	4.5	6.34	-1.95					
36	Nov-07	4.5	6.93	0.62					
37	Jun-08	4.5	6.95	0.71					
38	Nov-08	4.5	6.89	0.45					
39	Jun-09	4.5	7.13	1.49					
40	Nov-09	4.5	6.99	0.88					
41	Jun-10	4.5	6.90	0.49					
42	Nov-10	4.5	6.93	0.62					
43	Jun-11	4.5	7.03	1.06					

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

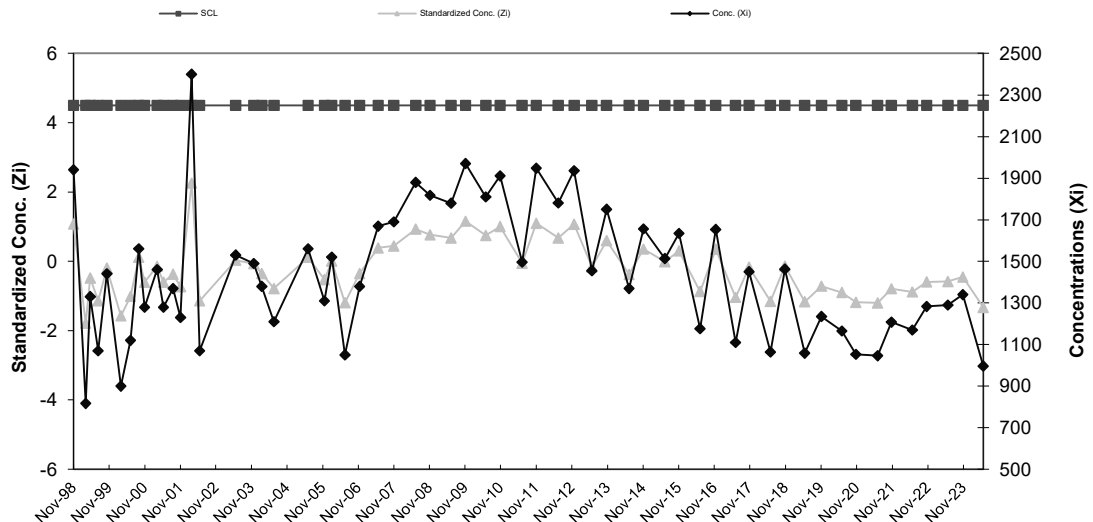


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault B - SpC**

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	1940	1.08	42	Nov-11	4.5	1948	1.10
10	Mar-99	4.5	817	-1.79	43	Jun-12	4.5	1781	0.67
11	May-99	4.5	1330	-0.48	44	Dec-12	4.5	1936	1.07
12	Jul-99	4.5	1070	-1.14	45	Jun-13	4.5	1455	-0.16
13	Oct-99	4.5	1440	-0.20	46	Nov-13	4.5	1750	0.60
14	Mar-00	4.5	900	-1.57	47	Jun-14	4.5	1369	-0.38
15	Jun-00	4.5	1120	-1.01	48	Nov-14	4.5	1656	0.36
16	Sep-00	4.5	1560	0.11	49	Jun-15	4.5	1513	-0.01
17	Nov-00	4.5	1280	-0.60	50	Nov-15	4.5	1635	0.30
18	Mar-01	4.5	1460	-0.14	51	Jun-16	4.5	1176	-0.87
19	May-01	4.5	1280	-0.60	52	Nov-16	4.5	1654	0.35
20	Aug-01	4.5	1370	-0.37	53	Jun-17	4.5	1110	-1.04
21	Nov-01	4.5	1230	-0.73	54	Nov-17	4.5	1450	-0.17
22	Mar-02	4.5	2400	2.25	55	Jun-18	4.5	1064	-1.15
23	May-02	4.5	1070	-1.14	56	Nov-18	4.5	1463	-0.14
24	Jun-03	4.5	1530	0.03	57	May-19	4.5	1058	-1.17
25	Dec-03	4.5	1490	-0.07	58	Nov-19	4.5	1235	-0.72
26	Feb-04	4.5	1380	-0.35	59	Jun-20	4.5	1165	-0.90
27	Jun-04	4.5	1210	-0.78	60	Nov-20	4.5	1053	-1.18
28	Jun-05	4.5	1560	0.11	61	Jun-21	4.5	1046	-1.20
29	Dec-05	4.5	1310	-0.53	62	Nov-21	4.5	1208	-0.79
30	Feb-06	4.5	1520	0.01	63	Jun-22	4.5	1170	-0.88
31	Jun-06	4.5	1050	-1.19	64	Nov-22	4.5	1283	-0.60
32	Nov-06	4.5	1380	-0.35	65	Jun-23	4.5	1290	-0.58
33	Jun-07	4.5	1670	0.39	66	Nov-23	4.5	1340	-0.45
34	Nov-07	4.5	1690	0.44	67	Jun-24	4.5	997	-1.33
35	Jun-08	4.5	1880	0.93					
36	Nov-08	4.5	1818	0.77					
37	Jun-09	4.5	1780	0.67					
38	Nov-09	4.5	1970	1.16					
39	Jun-10	4.5	1810	0.75					
40	Nov-10	4.5	1911	1.01					
41	Jun-11	4.5	1496	-0.05					

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

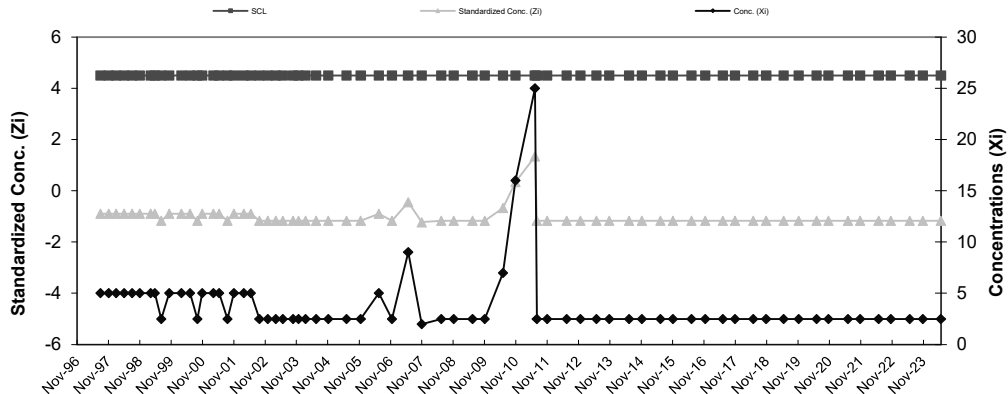


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault C - Chromium**

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-97	4.5	5	-0.89	53	Nov-11	4.5	2.5	-1.17
10	Nov-97	4.5	5	-0.89	54	Jun-12	4.5	2.5	-1.17
11	Feb-98	4.5	5	-0.89	55	Dec-12	4.5	2.5	-1.17
12	May-98	4.5	5	-0.89	56	Jun-13	4.5	2.5	-1.17
14	Aug-98	4.5	5	-0.89	57	Nov-13	4.5	2.5	-1.17
15	Nov-98	4.5	5	-0.89	58	Jun-14	4.5	2.5	-1.17
16	Mar-99	4.5	5	-0.89	59	Nov-14	4.5	2.5	-1.17
17	May-99	4.5	5	-0.89	60	Jun-15	4.5	2.5	-1.17
18	Jul-99	4.5	2.5	-1.17	61	Nov-15	4.5	2.5	-1.17
19	Oct-99	4.5	5	-0.89	62	Jun-16	4.5	2.5	-1.17
20	Mar-00	4.5	5	-0.89	63	Nov-16	4.5	2.5	-1.17
21	Jun-00	4.5	5	-0.89	64	Jun-17	4.5	2.5	-1.17
22	Sep-00	4.5	2.5	-1.17	65	Nov-17	4.5	2.5	-1.17
23	Nov-00	4.5	5	-0.89	66	Jun-18	4.5	2.5	-1.17
24	Mar-01	4.5	5	-0.89	67	Nov-18	4.5	2.5	-1.17
25	May-01	4.5	5	-0.89	68	May-19	4.5	2.5	-1.17
26	Aug-01	4.5	2.5	-1.17	69	Nov-19	4.5	2.5	-1.17
27	Nov-01	4.5	5	-0.89	70	Jun-20	4.5	2.5	-1.17
28	Mar-02	4.5	5	-0.89	71	Nov-20	4.5	2.5	-1.17
29	May-02	4.5	5	-0.89	72	Jun-21	4.5	2.5	-1.17
30	Sep-02	4.5	2.5	-1.17	73	Nov-21	4.5	2.5	-1.17
31	Dec-02	4.5	2.5	-1.17	74	Jun-22	4.5	2.5	-1.17
32	Mar-03	4.5	2.5	-1.17	75	Nov-22	4.5	2.5	-1.17
33	Jun-03	4.5	2.5	-1.17	76	Jun-23	4.5	2.5	-1.17
34	Oct-03	4.5	2.5	-1.17	77	Nov-23	4.5	2.5	-1.17
35	Dec-03	4.5	2.5	-1.17	78	Jun-24	4.5	2.5	-1.17
36	Feb-04	4.5	2.5	-1.17					
37	Jun-04	4.5	2.5	-1.17					
38	Nov-04	4.5	2.5	-1.17					
39	Jun-05	4.5	2.5	-1.17					
40	Dec-05	4.5	2.5	-1.17					
41	Jun-06	4.5	5	-0.89					
42	Nov-06	4.5	2.5	-1.17					
43	Jun-07	4.5	9	-0.45					
44	Nov-07	4.5	2	-1.23					
45	Jun-08	4.5	2.5	-1.17					
46	Nov-08	4.5	2.5	-1.17					
47	Jun-09	4.5	2.5	-1.17					
48	Nov-09	4.5	2.5	-1.17					
49	Jun-10	4.5	7	-0.67					
50	Nov-10	4.5	16	0.33					
51	Jun-11	4.5	25	1.34					
52	Jul-11	4.5	2.5	-1.17					

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

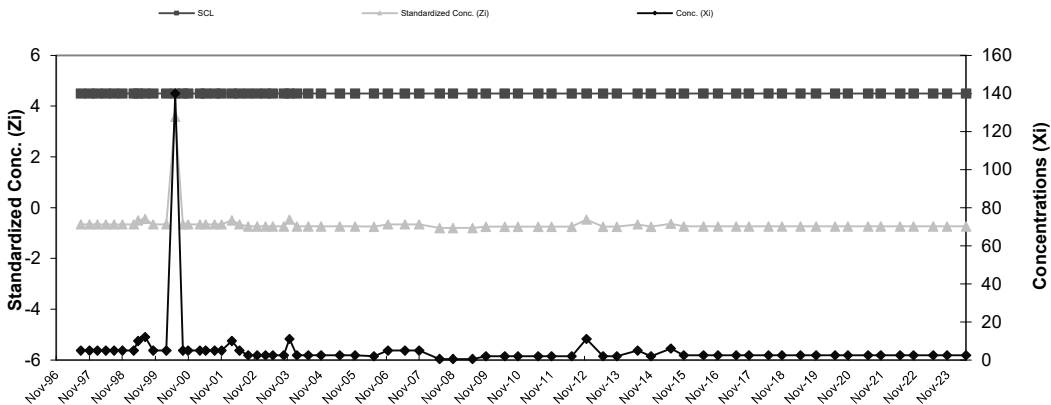


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault C - Copper

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-97	4.5	5	-0.66	52	Nov-11	4.5	2	-0.75
10	Nov-97	4.5	5	-0.66	53	Jun-12	4.5	2	-0.75
11	Feb-98	4.5	5	-0.66	54	Dec-12	4.5	11	-0.47
12	May-98	4.5	5	-0.66	55	Jun-13	4.5	2	-0.75
14	Aug-98	4.5	5	-0.66	56	Nov-13	4.5	2	-0.75
15	Nov-98	4.5	5	-0.66	57	Jun-14	4.5	5	-0.66
16	Mar-99	4.5	5	-0.66	58	Nov-14	4.5	2	-0.75
17	May-99	4.5	10	-0.50	59	Jun-15	4.5	6	-0.63
18	Jul-99	4.5	12	-0.44	60	Nov-15	4.5	2.5	-0.74
19	Oct-99	4.5	5	-0.66	61	Jun-16	4.5	2.5	-0.74
20	Mar-00	4.5	5	-0.66	62	Nov-16	4.5	2.5	-0.74
21	Jun-00	4.5	140	3.59	63	Jun-17	4.5	2.5	-0.74
22	Sep-00	4.5	5	-0.66	64	Nov-17	4.5	2.5	-0.74
23	Nov-00	4.5	5	-0.66	65	Jun-18	4.5	2.5	-0.74
24	Mar-01	4.5	5	-0.66	66	Nov-18	4.5	2.5	-0.74
25	May-01	4.5	5	-0.66	67	May-19	4.5	2.5	-0.74
26	Aug-01	4.5	5	-0.66	68	Nov-19	4.5	2.5	-0.74
27	Nov-01	4.5	5	-0.66	69	Jun-20	4.5	2.5	-0.74
28	Mar-02	4.5	10	-0.50	70	Nov-20	4.5	2.5	-0.74
29	May-02	4.5	5	-0.66	71	Jun-21	4.5	2.5	-0.74
30	Sep-02	4.5	2.5	-0.74	72	Nov-21	4.5	2.5	-0.74
31	Dec-02	4.5	2.5	-0.74	73	Jun-22	4.5	2.5	-0.74
32	Mar-03	4.5	2.5	-0.74	74	Nov-22	4.5	2.5	-0.74
33	Jun-03	4.5	2.5	-0.74	75	Jun-23	4.5	2.5	-0.74
34	Oct-03	4.5	2.5	-0.74	76	Nov-23	4.5	2.5	-0.74
35	Dec-03	4.5	11	-0.47	77	Jun-24	4.5	2.5	-0.74
36	Feb-04	4.5	2.5	-0.74					
37	Jun-04	4.5	2.5	-0.74					
38	Nov-04	4.5	2.5	-0.74					
39	Jun-05	4.5	2.5	-0.74					
40	Dec-05	4.5	2.5	-0.74					
41	Jun-06	4.5	2	-0.75					
42	Nov-06	4.5	5	-0.66					
43	Jun-07	4.5	5	-0.66					
44	Nov-07	4.5	5	-0.66					
45	Jun-08	4.5	0.5	-0.80					
46	Nov-08	4.5	0.5	-0.80					
47	Jun-09	4.5	0.5	-0.80					
48	Nov-09	4.5	2	-0.75					
49	Jun-10	4.5	2	-0.75					
50	Nov-10	4.5	2	-0.75					
51	Jun-11	4.5	2	-0.75					

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

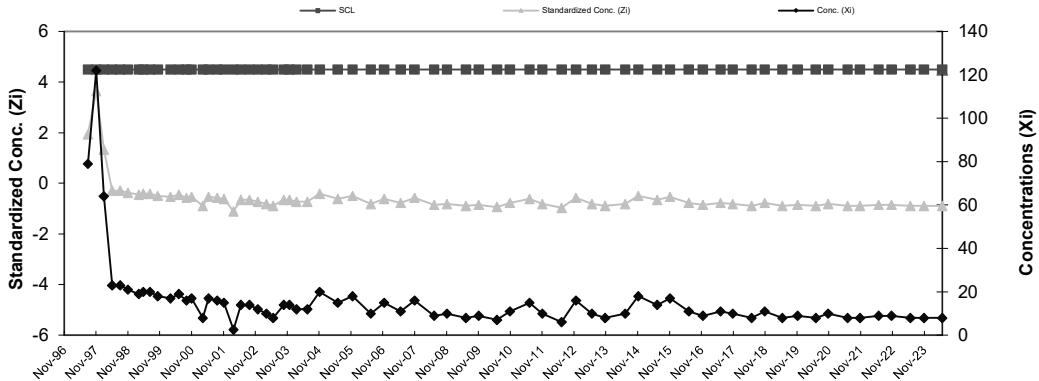


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault C - Nickel**

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-97	4.5	79	1.94	52	Nov-11	4.5	10	-0.81
10	Nov-97	4.5	122	3.65	53	Jun-12	4.5	6	-0.97
11	Feb-98	4.5	64	1.34	54	Dec-12	4.5	16	-0.57
12	May-98	4.5	23	-0.29	55	Jun-13	4.5	10	-0.81
14	Aug-98	4.5	23	-0.29	56	Nov-13	4.5	8	-0.89
15	Nov-98	4.5	21	-0.37	57	Jun-14	4.5	10	-0.81
16	Mar-99	4.5	19	-0.45	58	Nov-14	4.5	18	-0.49
17	May-99	4.5	20	-0.41	59	Jun-15	4.5	14	-0.65
18	Jul-99	4.5	20	-0.41	60	Nov-15	4.5	17	-0.53
19	Oct-99	4.5	18	-0.49	61	Jun-16	4.5	11	-0.77
20	Mar-00	4.5	17	-0.53	62	Nov-16	4.5	9	-0.85
21	Jun-00	4.5	19	-0.45	63	Jun-17	4.5	11	-0.77
22	Sep-00	4.5	16	-0.57	64	Nov-17	4.5	10	-0.81
23	Nov-00	4.5	17	-0.53	65	Jun-18	4.5	8	-0.89
24	Mar-01	4.5	8	-0.89	66	Nov-18	4.5	11	-0.77
25	May-01	4.5	17	-0.53	67	May-19	4.5	8	-0.89
26	Aug-01	4.5	16	-0.57	68	Nov-19	4.5	9	-0.85
27	Nov-01	4.5	15	-0.61	69	Jun-20	4.5	8	-0.89
28	Mar-02	4.5	2.5	-1.11	70	Nov-20	4.5	10	-0.81
29	May-02	4.5	14	-0.65	71	Jun-21	4.5	8	-0.89
30	Sep-02	4.5	14	-0.65	72	Nov-21	4.5	8	-0.89
31	Dec-02	4.5	12	-0.73	73	Jun-22	4.5	9	-0.85
32	Mar-03	4.5	10	-0.81	74	Nov-22	4.5	9	-0.85
33	Jun-03	4.5	8	-0.89	75	Jun-23	4.5	8	-0.89
34	Oct-03	4.5	14	-0.65	76	Nov-23	4.5	8	-0.89
35	Dec-03	4.5	14	-0.65	77	Jun-24	4.5	8	-0.89
36	Feb-04	4.5	12	-0.73					
37	Jun-04	4.5	12	-0.73					
38	Nov-04	4.5	20	-0.41					
39	Jun-05	4.5	15	-0.61					
40	Dec-05	4.5	18	-0.49					
41	Jun-06	4.5	10	-0.81					
42	Nov-06	4.5	15	-0.61					
43	Jun-07	4.5	11	-0.77					
44	Nov-07	4.5	16	-0.57					
45	Jun-08	4.5	9	-0.85					
46	Nov-08	4.5	10	-0.81					
47	Jun-09	4.5	8	-0.89					
48	Nov-09	4.5	9	-0.85					
49	Jun-10	4.5	7	-0.93					
50	Nov-10	4.5	11	-0.77					
51	Jun-11	4.5	15	-0.61					

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

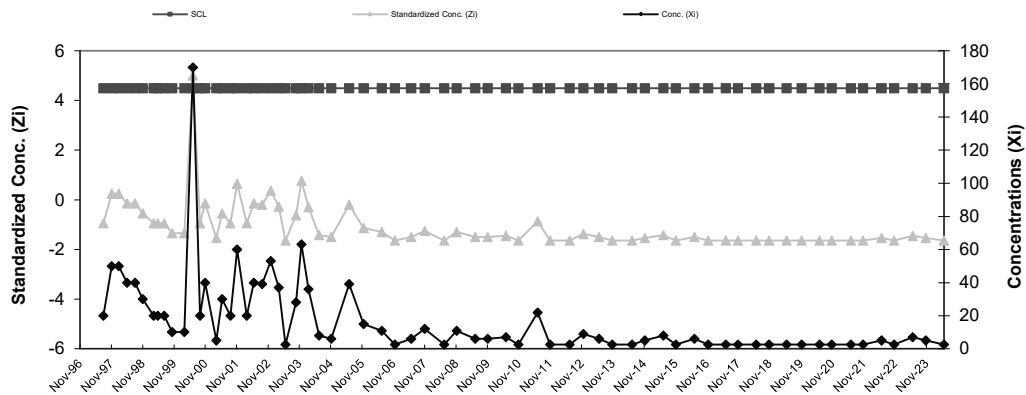


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault C - Zinc**

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-97	4.5	20	-0.94	52	Nov-11	4.5	2.5	-1.63
10	Nov-97	4.5	50	0.25	53	Jun-12	4.5	2.5	-1.63
11	Feb-98	4.5	50	0.25	54	Dec-12	4.5	9	-1.38
12	May-98	4.5	40	-0.15	55	Jun-13	4.5	6	-1.50
14	Aug-98	4.5	40	-0.15	56	Nov-13	4.5	2.5	-1.63
15	Nov-98	4.5	30	-0.54	57	Jun-14	4.5	2.5	-1.63
16	Mar-99	4.5	20	-0.94	58	Nov-14	4.5	5	-1.54
17	May-99	4.5	20	-0.94	59	Jun-15	4.5	8	-1.42
18	Jul-99	4.5	20	-0.94	60	Nov-15	4.5	2.5	-1.63
19	Oct-99	4.5	10	-1.34	61	Jun-16	4.5	6	-1.50
20	Mar-00	4.5	10	-1.34	62	Nov-16	4.5	2.5	-1.63
21	Jun-00	4.5	170	5.00	63	Jun-17	4.5	2.5	-1.63
22	Sep-00	4.5	20	-0.94	64	Nov-17	4.5	2.5	-1.63
23	Nov-00	4.5	40	-0.15	65	Jun-18	4.5	2.5	-1.63
24	Mar-01	4.5	5	-1.54	66	Nov-18	4.5	2.5	-1.63
25	May-01	4.5	30	-0.54	67	May-19	4.5	2.5	-1.63
26	Aug-01	4.5	20	-0.94	68	Nov-19	4.5	2.5	-1.63
27	Nov-01	4.5	60	0.64	69	Jun-20	4.5	2.5	-1.63
28	Mar-02	4.5	20	-0.94	70	Nov-20	4.5	2.5	-1.63
29	May-02	4.5	40	-0.15	71	Jun-21	4.5	2.5	-1.63
30	Sep-02	4.5	39	-0.19	72	Nov-21	4.5	2.5	-1.63
31	Dec-02	4.5	53	0.37	73	Jun-22	4.5	5	-1.54
32	Mar-03	4.5	37	-0.27	74	Nov-22	4.5	2.5	-1.63
33	Jun-03	4.5	2.5	-1.63	75	Jun-23	4.5	7	-1.46
34	Oct-03	4.5	28	-0.62	76	Nov-23	4.5	5	-1.54
35	Dec-03	4.5	63	0.76	77	Jun-24	4.5	2.5	-1.63
36	Feb-04	4.5	36	-0.31					
37	Jun-04	4.5	8	-1.42					
38	Nov-04	4.5	6	-1.50					
39	Jun-05	4.5	39	-0.19					
40	Dec-05	4.5	15	-1.14					
41	Jun-06	4.5	11	-1.30					
42	Nov-06	4.5	2.5	-1.63					
43	Jun-07	4.5	6	-1.50					
44	Nov-07	4.5	12	-1.26					
45	Jun-08	4.5	2.5	-1.63					
46	Nov-08	4.5	11	-1.30					
47	Jun-09	4.5	6	-1.50					
48	Nov-09	4.5	6	-1.50					
49	Jun-10	4.5	7	-1.46					
50	Nov-10	4.5	2.5	-1.63					
51	Jun-11	4.5	22	-0.86					

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

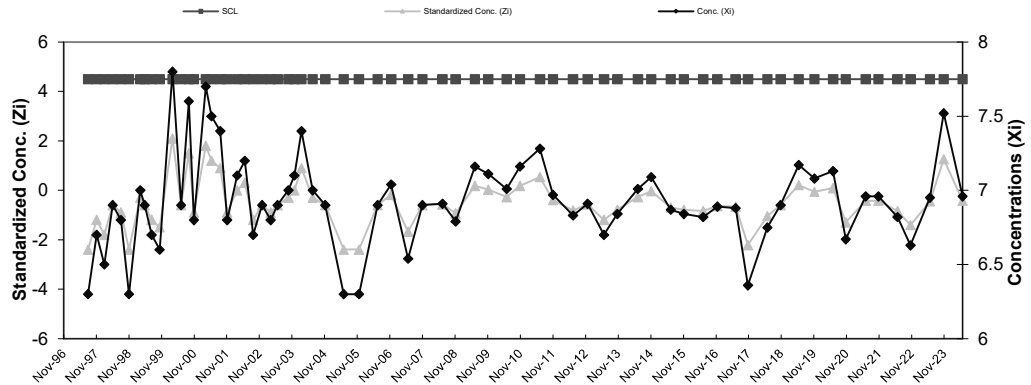


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault C - pH**

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-97	4.5	6.3	-2.40	52	Nov-11	4.5	7.0	-0.39
10	Nov-97	4.5	6.7	-1.20	53	Jun-12	4.5	6.83	-0.81
11	Feb-98	4.5	6.5	-1.80	54	Dec-12	4.5	6.91	-0.57
12	May-98	4.5	6.9	-0.60	55	Jun-13	4.5	6.7	-1.20
14	Aug-98	4.5	6.8	-0.90	56	Nov-13	4.5	6.84	-0.78
15	Nov-98	4.5	6.3	-2.40	57	Jun-14	4.5	7.01	-0.27
16	Mar-99	4.5	7	-0.30	58	Nov-14	4.5	7.09	-0.03
17	May-99	4.5	6.9	-0.60	59	Jun-15	4.5	6.87	-0.69
18	Jul-99	4.5	6.7	-1.20	60	Nov-15	4.5	6.84	-0.78
19	Oct-99	4.5	6.6	-1.50	61	Jun-16	4.5	6.82	-0.84
20	Mar-00	4.5	7.8	2.10	62	Nov-16	4.5	6.89	-0.63
21	Jun-00	4.5	6.9	-0.60	63	Jun-17	4.5	6.88	-0.66
22	Sep-00	4.5	7.6	1.50	64	Nov-17	4.5	6.36	-2.22
23	Nov-00	4.5	6.8	-0.90	65	Jun-18	4.5	6.75	-1.05
24	Mar-01	4.5	7.7	1.80	66	Nov-18	4.5	6.9	-0.60
25	May-01	4.5	7.5	1.20	67	May-19	4.5	7.17	0.21
26	Aug-01	4.5	7.4	0.90	68	Nov-19	4.5	7.08	-0.06
27	Nov-01	4.5	6.8	-0.90	69	Jun-20	4.5	7.13	0.09
28	Mar-02	4.5	7.1	0.00	70	Nov-20	4.5	6.67	-1.29
29	May-02	4.5	7.2	0.30	71	Jun-21	4.5	6.96	-0.42
30	Sep-02	4.5	6.7	-1.20	72	Nov-21	4.5	6.96	-0.42
31	Dec-02	4.5	6.9	-0.60	73	Jun-22	4.5	6.82	-0.84
32	Mar-03	4.5	6.8	-0.90	74	Nov-22	4.5	6.63	-1.41
33	Jun-03	4.5	6.9	-0.60	75	Jun-23	4.5	6.95	-0.45
34	Oct-03	4.5	7	-0.30	76	Nov-23	4.5	7.52	1.26
35	Dec-03	4.5	7.1	0.00	77	Jun-24	4.5	6.96	-0.42
36	Feb-04	4.5	7.4	0.90					
37	Jun-04	4.5	7	-0.30					
38	Nov-04	4.5	6.9	-0.60					
39	Jun-05	4.5	6.3	-2.40					
40	Dec-05	4.5	6.3	-2.40					
41	Jun-06	4.5	6.9	-0.60					
42	Nov-06	4.5	7.0	-0.18					
43	Jun-07	4.5	6.5	-1.68					
44	Nov-07	4.5	6.9	-0.60					
45	Jun-08	4.5	6.9	-0.57					
46	Nov-08	4.5	6.8	-0.93					
47	Jun-09	4.5	7.2	0.18					
48	Nov-09	4.5	7.1	0.03					
49	Jun-10	4.5	7.0	-0.27					
50	Nov-10	4.5	7.2	0.18					
51	Jun-11	4.5	7.3	0.54					

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

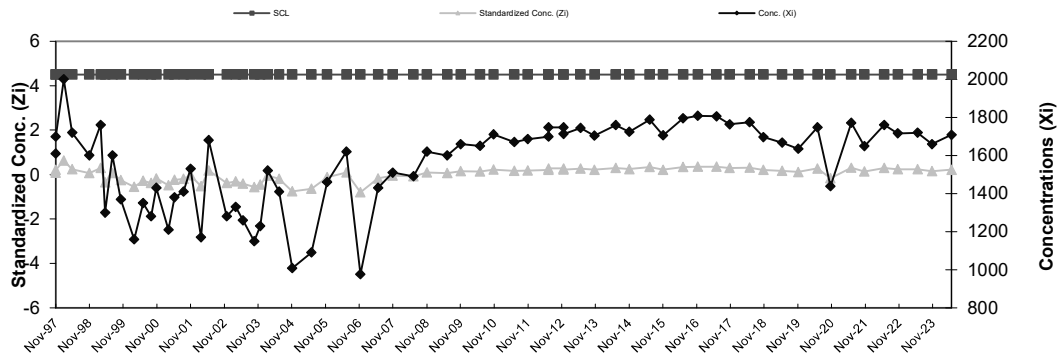


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault C - SpC

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Aug-97	4.5	1610	0.08	52	Nov-11	4.5	1699	0.21
10	Nov-97	4.5	2000	0.63	53	Jun-12	4.5	1748	0.27
11	Feb-98	4.5	1720	0.24	54	Dec-12	4.5	1713	0.23
12	May-98	4.5	1600	0.07	55	Jun-13	4.5	1744	0.27
14	Nov-98	4.5	1760	0.29	56	Nov-13	4.5	1703	0.21
15	Mar-99	4.5	1300	-0.35	57	Jun-14	4.5	1759	0.29
16	May-99	4.5	1600	0.07	58	Nov-14	4.5	1724	0.24
17	Jul-99	4.5	1370	-0.25	59	Jun-15	4.5	1788	0.33
18	Oct-99	4.5	1160	-0.55	60	Nov-15	4.5	1706	0.22
19	Mar-00	4.5	1350	-0.28	61	Jun-16	4.5	1795	0.34
20	Jun-00	4.5	1280	-0.38	62	Nov-16	4.5	1808	0.36
21	Sep-00	4.5	1430	-0.17	63	Jun-17	4.5	1805	0.35
22	Nov-00	4.5	1210	-0.48	64	Nov-17	4.5	1764	0.30
23	Mar-01	4.5	1380	-0.24	65	Jun-18	4.5	1774	0.31
24	May-01	4.5	1410	-0.20	66	Nov-18	4.5	1696	0.20
25	Aug-01	4.5	1530	-0.03	67	May-19	4.5	1668	0.16
26	Nov-01	4.5	1170	-0.53	68	Nov-19	4.5	1635	0.12
27	Mar-02	4.5	1680	0.18	69	Jun-20	4.5	1747	0.27
28	May-02	4.5	1280	-0.38	70	Nov-20	4.5	1438	-0.16
29	Dec-02	4.5	1330	-0.31	71	Jun-21	4.5	1771	0.31
30	Mar-03	4.5	1260	-0.41	72	Nov-21	4.5	1649	0.14
31	Jun-03	4.5	1150	-0.56	73	Jun-22	4.5	1760	0.29
32	Oct-03	4.5	1230	-0.45	74	Nov-22	4.5	1716	0.23
33	Dec-03	4.5	1520	-0.04	75	Jun-23	4.5	1720	0.24
34	Feb-04	4.5	1410	-0.20	76	Nov-23	4.5	1660	0.15
35	Jun-04	4.5	1008	-0.76	77	Jun-24	4.5	1708	0.22
36	Nov-04	4.5	1090	-0.64					
37	Jun-05	4.5	1460	-0.13					
38	Dec-05	4.5	1620	0.10					
39	Jun-06	4.5	977	-0.80					
40	Nov-06	4.5	1430	-0.17					
41	Jun-07	4.5	1510	-0.06					
42	Nov-07	4.5	1490	-0.09					
43	Jun-08	4.5	1620	0.10					
44	Nov-08	4.5	1600	0.07					
45	Jun-09	4.5	1660	0.15					
46	Nov-09	4.5	1650	0.14					
47	Jun-10	4.5	1710	0.22					
50	Nov-10	4.5	1670	0.17					
51	Jun-11	4.5	1686	0.19					
52	Nov-11	4.5	1699	0.21					
53	Jun-12	4.5	1748	0.27					
54	Dec-12	4.5	1713	0.23					

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

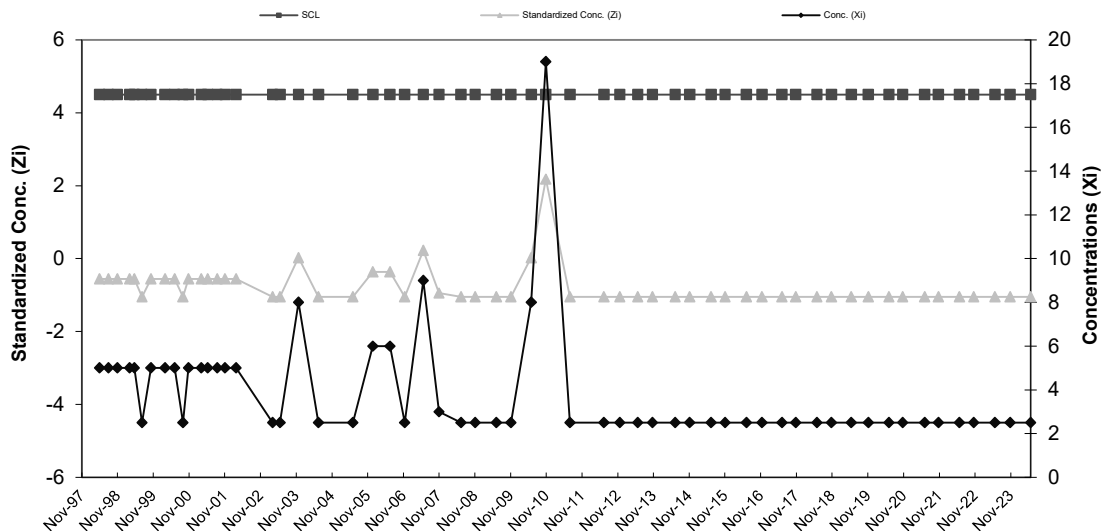


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault D - Chromium**

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.56	41	Jul-11	4.5	2.5	-1.05
10	Aug-98	4.5	5	-0.56	42	Jun-12	4.5	2.5	-1.05
11	Nov-98	4.5	5	-0.56	43	Dec-12	4.5	2.5	-1.05
12	Mar-99	4.5	5	-0.56	44	Jun-13	4.5	2.5	-1.05
13	May-99	4.5	5	-0.56	45	Nov-13	4.5	2.5	-1.05
14	Jul-99	4.5	2.5	-1.05	46	Jun-14	4.5	2.5	-1.05
15	Oct-99	4.5	5	-0.56	47	Nov-14	4.5	2.5	-1.05
16	Mar-00	4.5	5	-0.56	48	Jun-15	4.5	2.5	-1.05
17	Jun-00	4.5	5	-0.56	49	Nov-15	4.5	2.5	-1.05
18	Sep-00	4.5	2.5	-1.05	50	Jun-16	4.5	2.5	-1.05
19	Nov-00	4.5	5	-0.56	51	Nov-16	4.5	2.5	-1.05
20	Mar-01	4.5	5	-0.56	52	Jun-17	4.5	2.5	-1.05
21	May-01	4.5	5	-0.56	53	Nov-17	4.5	2.5	-1.05
22	Aug-01	4.5	5	-0.56	54	Jun-18	4.5	2.5	-1.05
23	Nov-01	4.5	5	-0.56	55	Nov-18	4.5	2.5	-1.05
24	Mar-02	4.5	5	-0.56	56	May-19	4.5	2.5	-1.05
25	Mar-03	4.5	2.5	-1.05	57	Nov-19	4.5	2.5	-1.05
26	Jun-03	4.5	2.5	-1.05	58	Jun-20	4.5	2.5	-1.05
27	Dec-03	4.5	8	0.03	59	Nov-20	4.5	2.5	-1.05
28	Jun-04	4.5	2.5	-1.05	60	Jun-21	4.5	2.5	-1.05
29	Jun-05	4.5	2.5	-1.05	61	Nov-21	4.5	2.5	-1.05
30	Jan-06	4.5	6	-0.36	62	Jun-22	4.5	2.5	-1.05
31	Jun-06	4.5	6	-0.36	63	Nov-22	4.5	2.5	-1.05
32	Nov-06	4.5	2.5	-1.05	64	Jun-23	4.5	2.5	-1.05
33	Jun-07	4.5	9	0.22	65	Nov-23	4.5	2.5	-1.05
34	Nov-07	4.5	3	-0.95	66	Jun-24	4.5	2.5	-1.05
35	Jun-08	4.5	2.5	-1.05					
36	Nov-08	4.5	2.5	-1.05					
37	Jun-09	4.5	2.5	-1.05					
38	Nov-09	4.5	2.5	-1.05					
39	Jun-10	4.5	8	0.03					
40	Nov-10	4.5	19	2.18					

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

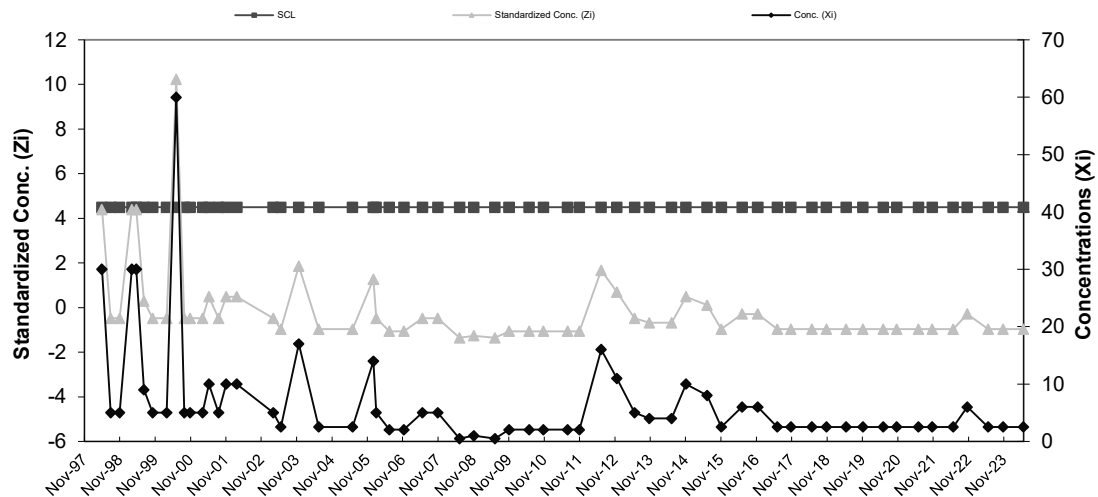


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault D - Copper**

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	30	4.39	41	Nov-10	4.5	2	-1.07
10	Aug-98	4.5	5	-0.48	42	Jul-11	4.5	2	-1.07
11	Nov-98	4.5	5	-0.48	43	Nov-11	4.5	2	-1.07
12	Mar-99	4.5	30	4.39	44	Jun-12	4.5	16	1.66
13	May-99	4.5	30	4.39	45	Dec-12	4.5	11	0.69
14	Jul-99	4.5	9	0.30	46	Jun-13	4.5	5	-0.48
15	Oct-99	4.5	5	-0.48	47	Nov-13	4.5	4	-0.68
16	Mar-00	4.5	5	-0.48	48	Jun-14	4.5	4	-0.68
17	Jun-00	4.5	60	10.24	49	Nov-14	4.5	10	0.49
18	Sep-00	4.5	5	-0.48	50	Jun-15	4.5	8	0.10
19	Nov-00	4.5	5	-0.48	51	Nov-15	4.5	2.5	-0.97
20	Mar-01	4.5	5	-0.48	52	Jun-16	4.5	6	-0.29
21	May-01	4.5	10	0.49	53	Nov-16	4.5	6	-0.29
22	Aug-01	4.5	5	-0.48	54	Jun-17	4.5	2.5	-0.97
23	Nov-01	4.5	10	0.49	55	Nov-17	4.5	2.5	-0.97
24	Mar-02	4.5	10	0.49	56	Jun-18	4.5	2.5	-0.97
25	Mar-03	4.5	5	-0.48	57	Nov-18	4.5	2.5	-0.97
26	Jun-03	4.5	2.5	-0.97	58	May-19	4.5	2.5	-0.97
27	Dec-03	4.5	17	1.86	59	Nov-19	4.5	2.5	-0.97
28	Jun-04	4.5	2.5	-0.97	60	Jun-20	4.5	2.5	-0.97
29	Jun-05	4.5	2.5	-0.97	61	Nov-20	4.5	2.5	-0.97
30	Jan-06	4.5	14	1.27	62	Jun-21	4.5	2.5	-0.97
31	Feb-06	4.5	5	-0.48	63	Nov-21	4.5	2.5	-0.97
32	Jun-06	4.5	2	-1.07	64	Jun-22	4.5	2.5	-0.97
33	Nov-06	4.5	2	-1.07	65	Nov-22	4.5	6	-0.29
34	Jun-07	4.5	5	-0.48	66	Jun-23	4.5	2.5	-0.97
35	Nov-07	4.5	5	-0.48	67	Nov-23	4.5	2.5	-0.97
36	Jun-08	4.5	0.5	-1.36	68	Jun-24	4.5	2.5	-0.97
37	Nov-08	4.5	1	-1.26					
38	Jun-09	4.5	0.5	-1.36					
39	Nov-09	4.5	2	-1.07					
40	Jun-10	4.5	2	-1.07					

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

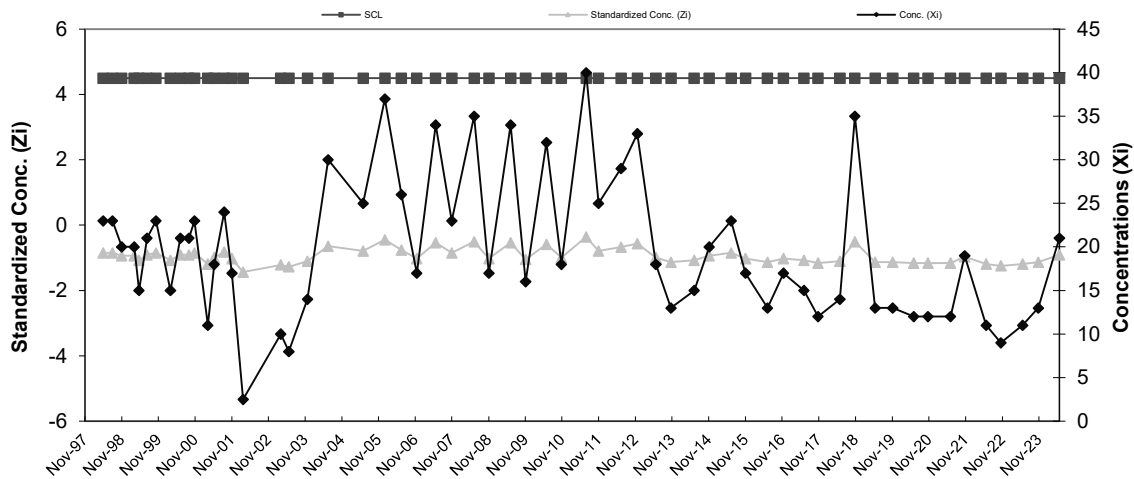


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault D - Nickel**

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	23	-0.85	41	Jul-11	4.5	40	-0.36
10	Aug-98	4.5	23	-0.85	42	Nov-11	4.5	25	-0.79
11	Nov-98	4.5	20	-0.93	43	Jun-12	4.5	29	-0.67
12	Mar-99	4.5	20	-0.93	44	Dec-12	4.5	33	-0.56
13	May-99	4.5	15	-1.07	45	Jun-13	4.5	18	-0.99
14	Jul-99	4.5	21	-0.90	46	Nov-13	4.5	13	-1.13
15	Oct-99	4.5	23	-0.85	47	Jun-14	4.5	15	-1.07
16	Mar-00	4.5	15	-1.07	48	Nov-14	4.5	20	-0.93
17	Jun-00	4.5	21	-0.90	49	Jun-15	4.5	23	-0.85
18	Sep-00	4.5	21	-0.90	50	Nov-15	4.5	17	-1.02
19	Nov-00	4.5	23	-0.85	51	Jun-16	4.5	13	-1.13
20	Mar-01	4.5	11	-1.19	52	Nov-16	4.5	17	-1.02
21	May-01	4.5	18	-0.99	53	Jun-17	4.5	15	-1.07
22	Aug-01	4.5	24	-0.82	54	Nov-17	4.5	12	-1.16
23	Nov-01	4.5	17	-1.02	55	Jun-18	4.5	14	-1.10
24	Mar-02	4.5	2.5	-1.43	56	Nov-18	4.5	35	-0.50
25	Mar-03	4.5	10	-1.22	57	May-19	4.5	13	-1.13
26	Jun-03	4.5	8	-1.27	58	Nov-19	4.5	13	-1.13
27	Dec-03	4.5	14	-1.10	59	Jun-20	4.5	12	-1.16
28	Jun-04	4.5	30	-0.65	60	Nov-20	4.5	12	-1.16
29	Jun-05	4.5	25	-0.79	61	Jun-21	4.5	12	-1.16
30	Jan-06	4.5	37	-0.45	62	Nov-21	4.5	19	-0.96
31	Jun-06	4.5	26	-0.76	63	Jun-22	4.5	11	-1.19
32	Nov-06	4.5	17	-1.02	64	Nov-22	4.5	9	-1.25
33	Jun-07	4.5	34	-0.53	65	Jun-23	4.5	11	-1.19
34	Nov-07	4.5	23	-0.85	66	Nov-23	4.5	13	-1.13
35	Jun-08	4.5	35	-0.50	67	Jun-24	4.5	21	-0.90
36	Nov-08	4.5	17	-1.02					
37	Jun-09	4.5	34	-0.53					
38	Nov-09	4.5	16	-1.05					
39	Jun-10	4.5	32	-0.59					
40	Nov-10	4.5	18	-0.99					

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

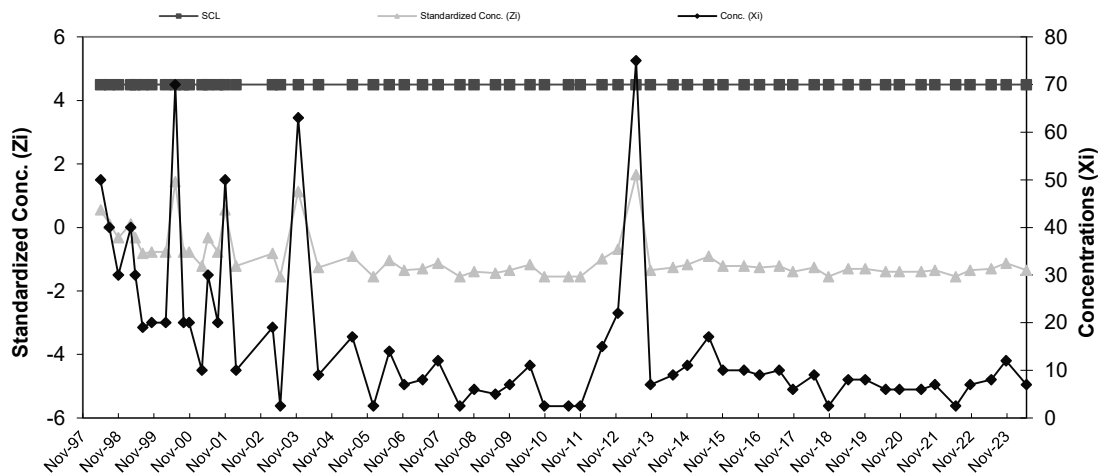


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault D - Zinc**

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	50	0.55	42	Nov-11	4.5	2.5	-1.55
10	Aug-98	4.5	40	0.11	43	Jun-12	4.5	15	-1.00
11	Nov-98	4.5	30	-0.33	44	Dec-12	4.5	22	-0.69
12	Mar-99	4.5	40	0.11	45	Jun-13	4.5	75	1.66
13	May-99	4.5	30	-0.33	46	Nov-13	4.5	7	-1.35
14	Jul-99	4.5	19	-0.82	47	Jun-14	4.5	9	-1.26
15	Oct-99	4.5	20	-0.77	48	Nov-14	4.5	11	-1.17
16	Mar-00	4.5	20	-0.77	49	Jun-15	4.5	17	-0.91
17	Jun-00	4.5	70	1.44	50	Nov-15	4.5	10	-1.22
18	Sep-00	4.5	20	-0.77	51	Jun-16	4.5	10	-1.22
19	Nov-00	4.5	20	-0.77	52	Nov-16	4.5	9	-1.26
20	Mar-01	4.5	10	-1.22	53	Jun-17	4.5	10	-1.22
21	May-01	4.5	30	-0.33	54	Nov-17	4.5	6	-1.39
22	Aug-01	4.5	20	-0.77	55	Jun-18	4.5	9	-1.26
23	Nov-01	4.5	50	0.55	56	Nov-18	4.5	2.5	-1.55
24	Mar-02	4.5	10	-1.22	57	May-19	4.5	8	-1.31
25	Mar-03	4.5	19	-0.82	58	Nov-19	4.5	8	-1.31
26	Jun-03	4.5	2.5	-1.55	59	Jun-20	4.5	6	-1.39
27	Dec-03	4.5	63	1.13	60	Nov-20	4.5	6	-1.39
28	Jun-04	4.5	9	-1.26	61	Jun-21	4.5	6	-1.39
29	Jun-05	4.5	17	-0.91	62	Nov-21	4.5	7	-1.35
30	Jan-06	4.5	2.5	-1.55	63	Jun-22	4.5	2.5	-1.55
31	Jun-06	4.5	14	-1.04	64	Nov-22	4.5	7	-1.35
32	Nov-06	4.5	7	-1.35	65	Jun-23	4.5	8	-1.31
33	Jun-07	4.5	8	-1.31	66	Nov-23	4.5	12	-1.13
34	Nov-07	4.5	12	-1.13	67	Jun-24	4.5	7	-1.35
35	Jun-08	4.5	2.5	-1.55					
36	Nov-08	4.5	6	-1.39					
37	Jun-09	4.5	5	-1.44					
38	Nov-09	4.5	7	-1.35					
39	Jun-10	4.5	11	-1.17					
40	Nov-10	4.5	2.5	-1.55					
41	Jul-11	4.5	2.5	-1.55					

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

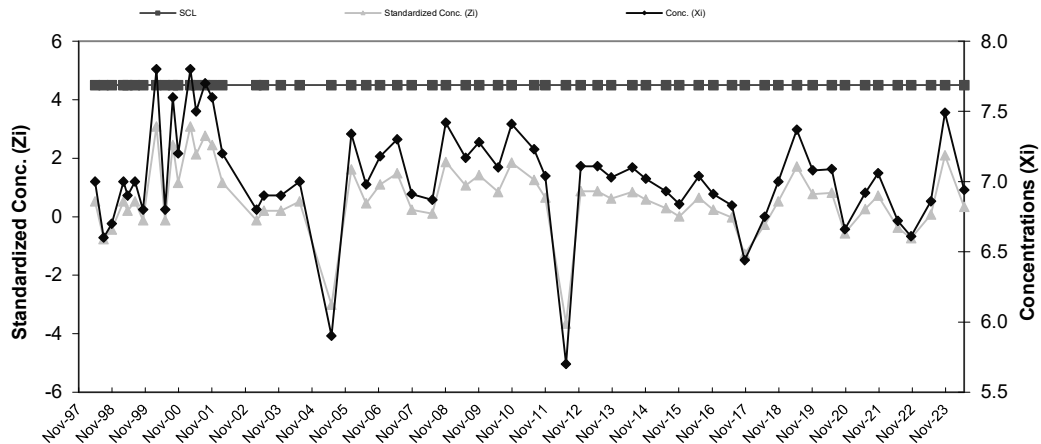


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault D - pH

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	7.00	0.52	42	Nov-11	4.5	7.0	0.65
10	Aug-98	4.5	6.60	-0.76	43	Jun-12	4.5	5.7	-3.65
11	Nov-98	4.5	6.70	-0.44	44	Dec-12	4.5	7.11	0.88
12	Mar-99	4.5	7.00	0.52	45	Jun-13	4.5	7.11	0.88
13	May-99	4.5	6.90	0.20	46	Nov-13	4.5	7.03	0.62
14	Jul-99	4.5	7.00	0.52	47	Jun-14	4.5	7.1	0.84
15	Oct-99	4.5	6.80	-0.12	48	Nov-14	4.5	7.02	0.59
16	Mar-00	4.5	7.80	3.09	49	Jun-15	4.5	6.93	0.30
17	Jun-00	4.5	6.80	-0.12	50	Nov-15	4.5	6.84	0.01
18	Sep-00	4.5	7.60	2.45	51	Jun-16	4.5	7.04	0.65
19	Nov-00	4.5	7.20	1.16	52	Nov-16	4.5	6.91	0.23
20	Mar-01	4.5	7.80	3.09	53	Jun-17	4.5	6.83	-0.02
21	May-01	4.5	7.50	2.13	54	Nov-17	4.5	6.44	-1.28
22	Aug-01	4.5	7.70	2.77	55	Jun-18	4.5	6.75	-0.28
23	Nov-01	4.5	7.60	2.45	56	Nov-18	4.5	7	0.52
24	Mar-02	4.5	7.20	1.16	57	May-19	4.5	7.37	1.71
25	Mar-03	4.5	6.80	-0.12	58	Nov-19	4.5	7.08	0.78
26	Jun-03	4.5	6.90	0.20	59	Jun-20	4.5	7.09	0.81
27	Dec-03	4.5	6.90	0.20	60	Nov-20	4.5	6.66	-0.57
28	Jun-04	4.5	7.00	0.52	61	Jun-21	4.5	6.92	0.26
29	Jun-05	4.5	5.90	-3.01	62	Nov-21	4.5	7.06	0.71
30	Jan-06	4.5	7.34	1.61	63	Jun-22	4.5	6.72	-0.38
31	Jun-06	4.5	6.98	0.46	64	Nov-22	4.5	6.61	-0.73
32	Nov-06	4.5	7.18	1.10	65	Jun-23	4.5	6.86	0.07
33	Jun-07	4.5	7.30	1.49	66	Nov-23	4.5	7.49	2.10
34	Nov-07	4.5	6.91	0.23	67	Jun-24	4.5	6.94	0.33
35	Jun-08	4.5	6.87	0.10					
36	Nov-08	4.5	7.42	1.87					
37	Jun-09	4.5	7.17	1.07					
38	Nov-09	4.5	7.28	1.42					
39	Jun-10	4.5	7.10	0.84					
40	Nov-10	4.5	7.41	1.84					
41	Jul-11	4.5	7.23	1.26					

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

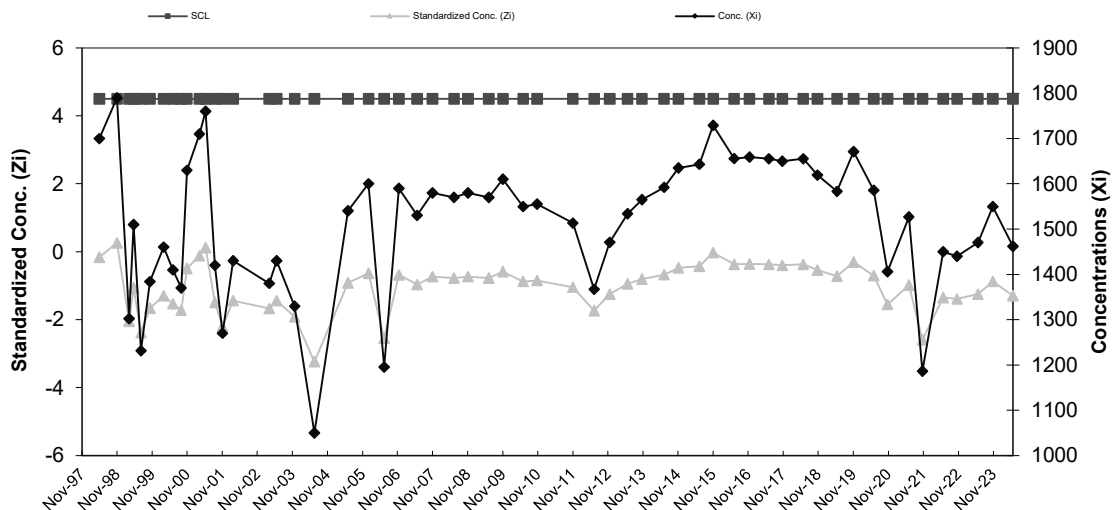


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault D - SpC**

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	1700	-0.16	41	Nov-11	4.5	1513	-1.05
11	Nov-98	4.5	1790	0.26	42	Jun-12	4.5	1367	-1.74
12	Mar-99	4.5	1302	-2.05	43	Dec-12	4.5	1471	-1.25
13	May-99	4.5	1510	-1.06	44	Jun-13	4.5	1534	-0.95
14	Jul-99	4.5	1231	-2.38	45	Nov-13	4.5	1565	-0.80
15	Oct-99	4.5	1384	-1.66	46	Jun-14	4.5	1592	-0.67
16	Mar-00	4.5	1460	-1.30	47	Nov-14	4.5	1635	-0.47
17	Jun-00	4.5	1410	-1.54	48	Jun-15	4.5	1643	-0.43
18	Sep-00	4.5	1370	-1.72	49	Nov-15	4.5	1729	-0.03
19	Nov-00	4.5	1630	-0.49	50	Jun-16	4.5	1656	-0.37
20	Mar-01	4.5	1710	-0.12	51	Nov-16	4.5	1659	-0.36
21	May-01	4.5	1760	0.12	52	Jun-17	4.5	1655	-0.38
22	Aug-01	4.5	1420	-1.49	53	Nov-17	4.5	1650	-0.40
23	Nov-01	4.5	1270	-2.20	54	Jun-18	4.5	1655	-0.38
24	Mar-02	4.5	1430	-1.44	55	Nov-18	4.5	1619	-0.55
25	Mar-03	4.5	1380	-1.68	56	May-19	4.5	1583	-0.72
26	Jun-03	4.5	1430	-1.44	57	Nov-19	4.5	1671	-0.30
27	Dec-03	4.5	1330	-1.91	58	Jun-20	4.5	1586	-0.70
28	Jun-04	4.5	1050	-3.24	59	Nov-20	4.5	1406	-1.55
29	Jun-05	4.5	1540	-0.92	60	Jun-21	4.5	1527	-0.98
30	Jan-06	4.5	1600	-0.64	61	Nov-21	4.5	1186	-2.60
31	Jun-06	4.5	1195	-2.55	62	Jun-22	4.5	1450	-1.35
32	Nov-06	4.5	1590	-0.68	63	Nov-22	4.5	1440	-1.39
33	Jun-07	4.5	1530	-0.97	64	Jun-23	4.5	1470	-1.25
34	Nov-07	4.5	1580	-0.73	65	Nov-23	4.5	1550	-0.87
35	Jun-08	4.5	1570	-0.78	66	Jun-24	4.5	1462	-1.29
36	Nov-08	4.5	1580	-0.73					
37	Jun-09	4.5	1570	-0.78					
38	Nov-09	4.5	1610	-0.59					
39	Jun-10	4.5	1550	-0.87					
40	Nov-10	4.5	1555	-0.85					

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

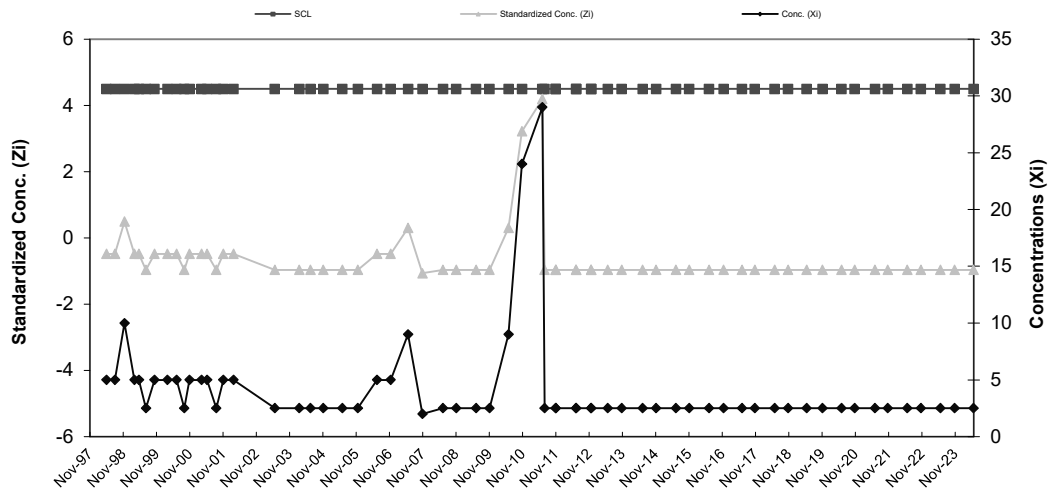


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault E - Chromium

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.48	43	Nov-11	4.5	2.5	-0.97
10	Aug-98	4.5	5	-0.48	44	Jun-12	4.5	2.5	-0.97
11	Nov-98	4.5	10	-0.49	45	Dec-12	4.5	2.5	-0.97
12	Mar-99	4.5	5	-0.48	46	Jun-13	4.5	2.5	-0.97
13	May-99	4.5	5	-0.48	47	Nov-13	4.5	2.5	-0.97
14	Jul-99	4.5	2.5	-0.97	48	Jun-14	4.5	2.5	-0.97
15	Oct-99	4.5	5	-0.48	49	Nov-14	4.5	2.5	-0.97
16	Mar-00	4.5	5	-0.48	50	Jun-15	4.5	2.5	-0.97
17	Jun-00	4.5	5	-0.48	51	Nov-15	4.5	2.5	-0.97
18	Sep-00	4.5	2.5	-0.97	52	Jun-16	4.5	2.5	-0.97
19	Nov-00	4.5	5	-0.48	53	Nov-16	4.5	2.5	-0.97
20	Mar-01	4.5	5	-0.48	54	Jun-17	4.5	2.5	-0.97
21	May-01	4.5	5	-0.48	55	Nov-17	4.5	2.5	-0.97
22	Aug-01	4.5	2.5	-0.97	56	Jun-18	4.5	2.5	-0.97
23	Nov-01	4.5	5	-0.48	57	Nov-18	4.5	2.5	-0.97
24	Mar-02	4.5	5	-0.48	58	May-19	4.5	2.5	-0.97
25	Jun-03	4.5	2.5	-0.97	59	Nov-19	4.5	2.5	-0.97
26	Feb-04	4.5	2.5	-0.97	60	Jun-20	4.5	2.5	-0.97
27	Jun-04	4.5	2.5	-0.97	61	Nov-20	4.5	2.5	-0.97
28	Nov-04	4.5	2.5	-0.97	62	Jun-21	4.5	2.5	-0.97
29	Jun-05	4.5	2.5	-0.97	63	Nov-21	4.5	2.5	-0.97
30	Dec-05	4.5	2.5	-0.97	64	Jun-22	4.5	2.5	-0.97
31	Jun-06	4.5	5	-0.48	65	Nov-22	4.5	2.5	-0.97
32	Nov-06	4.5	5	-0.48	66	Jun-23	4.5	2.5	-0.97
33	Jun-07	4.5	9	0.30	67	Nov-23	4.5	2.5	-0.97
34	Nov-07	4.5	2	-1.07	68	Jun-24	4.5	2.5	-0.97
35	Jun-08	4.5	2.5	-0.97					
36	Nov-08	4.5	2.5	-0.97					
37	Jun-09	4.5	2.5	-0.97					
38	Nov-09	4.5	2.5	-0.97					
39	Jun-10	4.5	9	0.30					
40	Nov-10	4.5	24	3.22					
41	Jun-11	4.5	29	4.19					
42	Jul-11	4.5	2.5	-0.97					
43	Nov-11	4.5	2.5	-0.97					
44	Jun-12	4.5	2.5	-0.97					
45	Dec-12	4.5	2.5	-0.97					

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

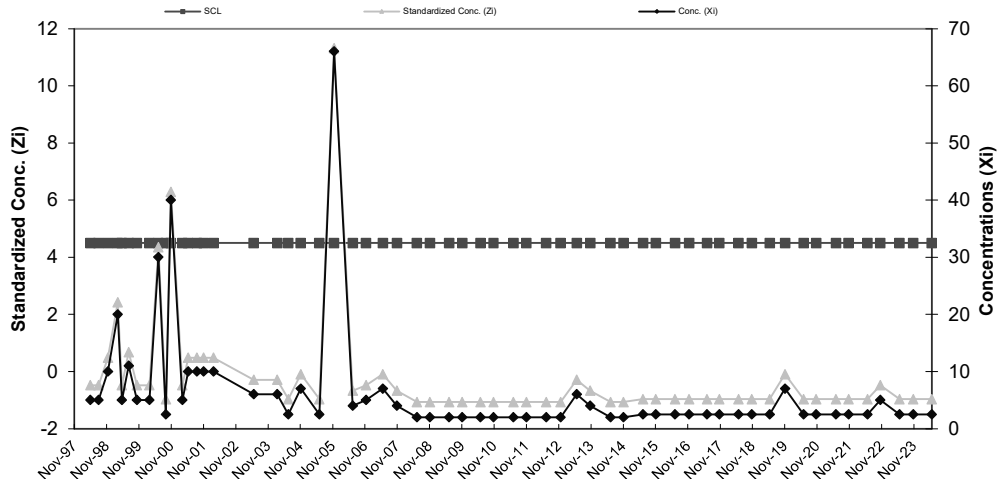


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault E - Copper

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.48	42	Nov-11	4.5	2	-1.06
10	Aug-98	4.5	5	-0.48	43	Jun-12	4.5	2	-1.06
11	Nov-98	4.5	10	0.48	44	Dec-12	4.5	2	-1.06
12	Mar-99	4.5	20	2.42	45	Jun-13	4.5	6	-0.29
13	May-99	4.5	5	-0.48	46	Nov-13	4.5	4	-0.68
14	Jul-99	4.5	11	0.68	47	Jun-14	4.5	2	-1.06
15	Oct-99	4.5	5	-0.48	48	Nov-14	4.5	2	-1.06
16	Mar-00	4.5	5	-0.48	49	Jun-15	4.5	2.5	-0.97
17	Jun-00	4.5	30	4.35	50	Nov-15	4.5	2.5	-0.97
18	Sep-00	4.5	2.5	-0.97	51	Jun-16	4.5	2.5	-0.97
19	Nov-00	4.5	40	6.29	52	Nov-16	4.5	2.5	-0.97
20	Mar-01	4.5	5	-0.48	53	Jun-17	4.5	2.5	-0.97
21	May-01	4.5	10	0.48	54	Nov-17	4.5	2.5	-0.97
22	Aug-01	4.5	10	0.48	55	Jun-18	4.5	2.5	-0.97
23	Nov-01	4.5	10	0.48	56	Nov-18	4.5	2.5	-0.97
24	Mar-02	4.5	10	0.48	57	May-19	4.5	2.5	-0.97
25	Jun-03	4.5	6	-0.29	58	Nov-19	4.5	7	-0.10
26	Feb-04	4.5	6	-0.29	59	Jun-20	4.5	2.5	-0.97
27	Jun-04	4.5	2.5	-0.97	60	Nov-20	4.5	2.5	-0.97
28	Nov-04	4.5	7	-0.10	61	Jun-21	4.5	2.5	-0.97
29	Jun-05	4.5	2.5	-0.97	62	Nov-21	4.5	2.5	-0.97
30	Dec-05	4.5	66	11.32	63	Jun-22	4.5	2.5	-0.97
31	Jun-06	4.5	4	-0.68	64	Nov-22	4.5	5	-0.48
32	Nov-06	4.5	5	-0.48	65	Jun-23	4.5	2.5	-0.97
33	Jun-07	4.5	7	-0.10	66	Nov-23	4.5	2.5	-0.97
34	Nov-07	4.5	4	-0.68	67	Jun-24	4.5	2.5	-0.97
35	Jun-08	4.5	2	-1.06					
36	Nov-08	4.5	2	-1.06					
37	Jun-09	4.5	2	-1.06					
38	Nov-09	4.5	2	-1.06					
39	Jun-10	4.5	2	-1.06					
40	Nov-10	4.5	2	-1.06					
41	Jun-11	4.5	2	-1.06					

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

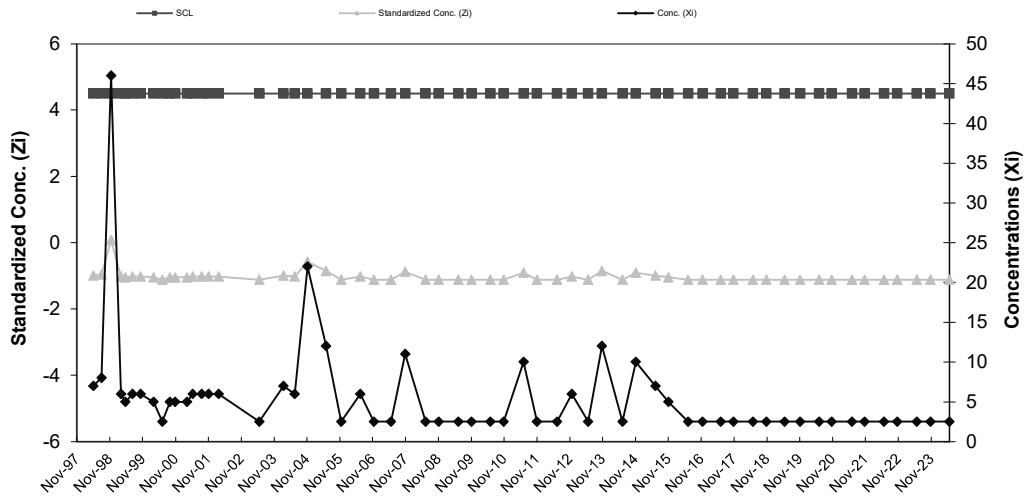


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault E - Nickel

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	7	-0.99	42	Nov-11	4.5	2.5	-1.11
10	Aug-98	4.5	8	-0.96	43	Jun-12	4.5	2.5	-1.11
11	Nov-98	4.5	46	0.08	44	Dec-12	4.5	6	-1.02
12	Mar-99	4.5	6	-1.02	45	Jun-13	4.5	2.5	-1.11
13	May-99	4.5	5	-1.05	46	Nov-13	4.5	12	-0.85
14	Jul-99	4.5	6	-1.02	47	Jun-14	4.5	2.5	-1.11
15	Oct-99	4.5	6	-1.02	48	Nov-14	4.5	10	-0.91
16	Mar-00	4.5	5	-1.05	49	Jun-15	4.5	7	-0.99
17	Jun-00	4.5	2.5	-1.11	50	Nov-15	4.5	5	-1.05
18	Sep-00	4.5	5	-1.05	51	Jun-16	4.5	2.5	-1.11
19	Nov-00	4.5	5	-1.05	52	Nov-16	4.5	2.5	-1.11
20	Mar-01	4.5	5	-1.05	53	Jun-17	4.5	2.5	-1.11
21	May-01	4.5	6	-1.02	54	Nov-17	4.5	2.5	-1.11
22	Aug-01	4.5	6	-1.02	55	Jun-18	4.5	2.5	-1.11
23	Nov-01	4.5	6	-1.02	56	Nov-18	4.5	2.5	-1.11
24	Mar-02	4.5	6	-1.02	57	May-19	4.5	2.5	-1.11
25	Jun-03	4.5	2.5	-1.11	58	Nov-19	4.5	2.5	-1.11
26	Feb-04	4.5	7	-0.99	59	Jun-20	4.5	2.5	-1.11
27	Jun-04	4.5	6	-1.02	60	Nov-20	4.5	2.5	-1.11
28	Nov-04	4.5	22	-0.58	61	Jun-21	4.5	2.5	-1.11
29	Jun-05	4.5	12	-0.85	62	Nov-21	4.5	2.5	-1.11
30	Dec-05	4.5	2.5	-1.11	63	Jun-22	4.5	2.5	-1.11
31	Jun-06	4.5	6	-1.02	64	Nov-22	4.5	2.5	-1.11
32	Nov-06	4.5	2.5	-1.11	65	Jun-23	4.5	2.5	-1.11
33	Jun-07	4.5	2.5	-1.11	66	Nov-23	4.5	2.5	-1.11
34	Nov-07	4.5	11	-0.88	67	Jun-24	4.5	2.5	-1.11
35	Jun-08	4.5	2.5	-1.11					
36	Nov-08	4.5	2.5	-1.11					
37	Jun-09	4.5	2.5	-1.11					
38	Nov-09	4.5	2.5	-1.11					
39	Jun-10	4.5	2.5	-1.11					
40	Nov-10	4.5	2.5	-1.11					
41	Jun-11	4.5	10	-0.91					

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

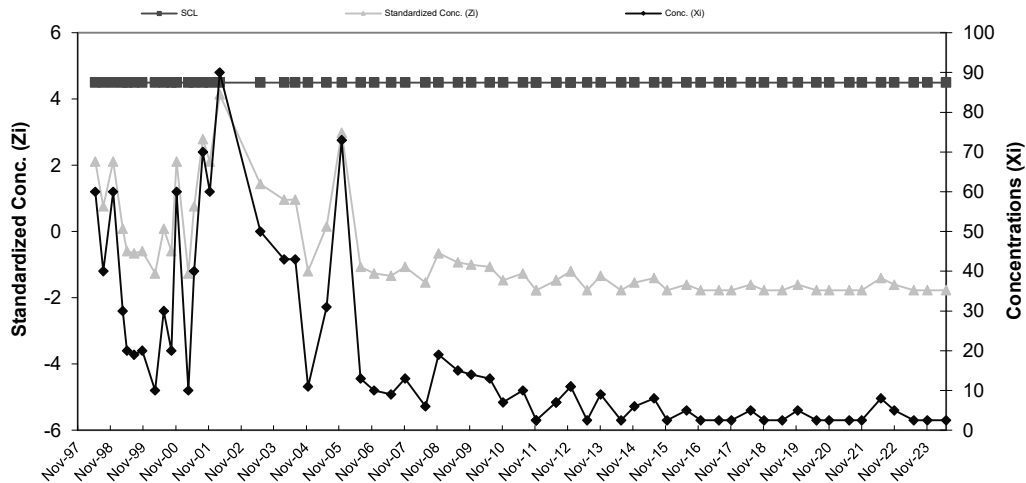


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault E - Zinc**

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	60	2.11	42	Nov-11	4.5	2.5	-1.77
10	Aug-98	4.5	40	0.76	43	Jun-12	4.5	7	-1.47
11	Nov-98	4.5	60	2.11	44	Dec-12	4.5	11	-1.20
12	Mar-99	4.5	30	0.08	45	Jun-13	4.5	2.5	-1.77
13	May-99	4.5	20	-0.59	46	Nov-13	4.5	9	-1.34
14	Jul-99	4.5	19	-0.66	47	Jun-14	4.5	2.5	-1.77
15	Oct-99	4.5	20	-0.59	48	Nov-14	4.5	6	-1.54
16	Mar-00	4.5	10	-1.27	49	Jun-15	4.5	8	-1.40
17	Jun-00	4.5	30	0.08	50	Nov-15	4.5	2.5	-1.77
18	Sep-00	4.5	20	-0.59	51	Jun-16	4.5	5	-1.61
19	Nov-00	4.5	60	2.11	52	Nov-16	4.5	2.5	-1.77
20	Mar-01	4.5	10	-1.27	53	Jun-17	4.5	2.5	-1.77
21	May-01	4.5	40	0.76	54	Nov-17	4.5	2.5	-1.77
22	Aug-01	4.5	70	2.79	55	Jun-18	4.5	5	-1.61
23	Nov-01	4.5	60	2.11	56	Nov-18	4.5	2.5	-1.77
24	Mar-02	4.5	90	4.14	57	May-19	4.5	2.5	-1.77
25	Jun-03	4.5	50	1.44	58	Nov-19	4.5	5	-1.61
26	Feb-04	4.5	43	0.96	59	Jun-20	4.5	2.5	-1.77
27	Jun-04	4.5	43	0.96	60	Nov-20	4.5	2.5	-1.77
28	Nov-04	4.5	11	-1.20	61	Jun-21	4.5	2.5	-1.77
29	Jun-05	4.5	31	0.15	62	Nov-21	4.5	2.5	-1.77
30	Dec-05	4.5	73	2.99	63	Jun-22	4.5	8	-1.40
31	Jun-06	4.5	13	-1.06	64	Nov-22	4.5	5	-1.61
32	Nov-06	4.5	10	-1.27	65	Jun-23	4.5	2.5	-1.77
33	Jun-07	4.5	9	-1.34	66	Nov-23	4.5	2.5	-1.77
34	Nov-07	4.5	13	-1.06	67	Jun-24	4.5	2.5	-1.77
35	Jun-08	4.5	6	-1.54					
36	Nov-08	4.5	19	-0.66					
37	Jun-09	4.5	15	-0.93					
38	Nov-09	4.5	14	-1.00					
39	Jun-10	4.5	13	-1.06					
40	Nov-10	4.5	7	-1.47					
41	Jun-11	4.5	10	-1.27					
42	Nov-11	4.5	2.5	-1.77					
43	Jun-12	4.5	7	-1.47					
44	Dec-12	4.5	11	-1.20					

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

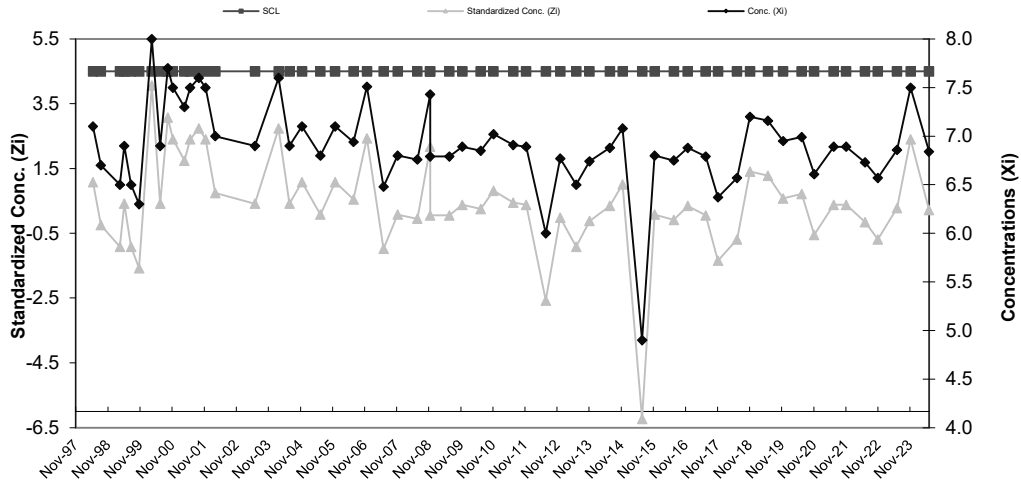


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault E - pH

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	7.10	1.08	41	Nov-11	4.5	6.9	0.38
10	Aug-98	4.5	6.70	-0.25	42	Jun-12	4.5	6	-2.57
11	Mar-99	4.5	6.50	-0.91	43	Dec-12	4.5	6.77	-0.02
12	May-99	4.5	6.90	0.42	44	Jun-13	4.5	6.5	-0.91
13	Jul-99	4.5	6.50	-0.91	45	Nov-13	4.5	6.74	-0.12
14	Oct-99	4.5	6.30	-1.58	46	Jun-14	4.5	6.88	0.35
15	Mar-00	4.5	8.00	4.07	47	Nov-14	4.5	7.08	1.01
16	Jun-00	4.5	6.90	0.42	48	Jun-15	4.5	4.9	-6.23
17	Sep-00	4.5	7.70	3.07	49	Nov-15	4.5	6.8	0.08
18	Nov-00	4.5	7.50	2.41	50	Jun-16	4.5	6.75	-0.08
19	Mar-01	4.5	7.30	1.74	51	Nov-16	4.5	6.88	0.35
20	May-01	4.5	7.50	2.41	52	Jun-17	4.5	6.79	0.05
21	Aug-01	4.5	7.60	2.74	53	Nov-17	4.5	6.37	-1.34
22	Nov-01	4.5	7.50	2.41	54	Jun-18	4.5	6.57	-0.68
23	Mar-02	4.5	7.00	0.75	55	Nov-18	4.5	7.2	1.41
24	Jun-03	4.5	6.90	0.42	56	May-19	4.5	7.16	1.28
25	Feb-04	4.5	7.60	2.74	57	Nov-19	4.5	6.95	0.58
26	Jun-04	4.5	6.90	0.42	58	Jun-20	4.5	6.99	0.71
27	Nov-04	4.5	7.10	1.08	59	Nov-20	4.5	6.61	-0.55
28	Jun-05	4.5	6.80	0.08	60	Jun-21	4.5	6.89	0.38
29	Dec-05	4.5	7.10	1.08	61	Nov-21	4.5	6.89	0.38
30	Jun-06	4.5	6.94	0.55	62	Jun-22	4.5	6.73	-0.15
31	Nov-06	4.5	7.51	2.44	63	Nov-22	4.5	6.57	-0.68
32	Jun-07	4.5	6.48	-0.98	64	Jun-23	4.5	6.86	0.28
33	Nov-07	4.5	6.80	0.08	65	Nov-23	4.5	7.5	2.41
34	Jun-08	4.5	6.76	-0.05	66	Jun-24	4.5	6.84	0.22
35	Nov-08	4.5	7.43	2.17					
35	Nov-08	4.5	6.79	0.05					
36	Jun-09	4.5	6.79	0.05					
37	Nov-09	4.5	6.89	0.38					
38	Jun-10	4.5	6.85	0.25					
39	Nov-10	4.5	7.02	0.81					
40	Jun-11	4.5	6.91	0.45					

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

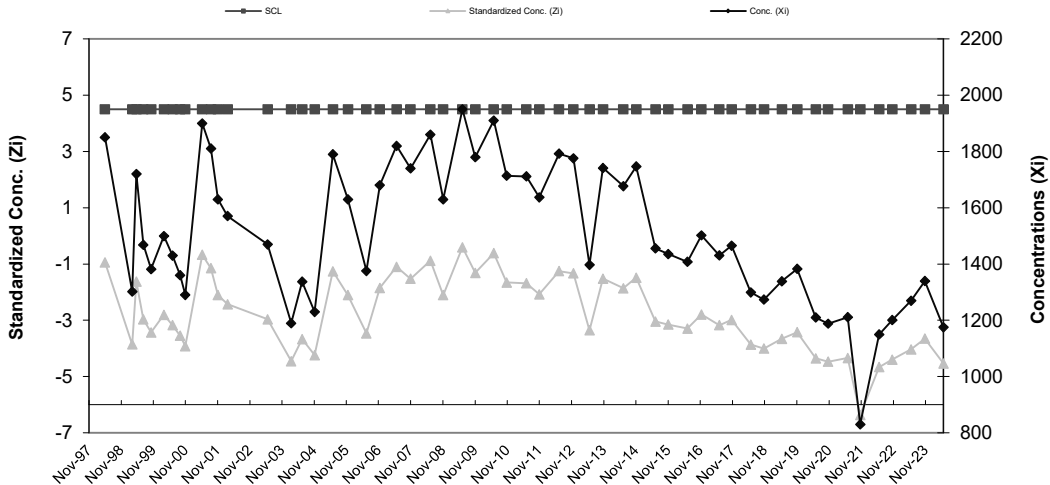


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault E - SpC

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	1850	-0.94	39	Nov-11	4.5	1637	-2.07
10	Mar-99	4.5	1302	-3.86	40	Jun-12	4.5	1792	-1.25
11	May-99	4.5	1720	-1.63	41	Dec-12	4.5	1776	-1.33
12	Jul-99	4.5	1468	-2.97	42	Jun-13	4.5	1397	-3.35
13	Oct-99	4.5	1382	-3.43	43	Nov-13	4.5	1741	-1.52
14	Mar-00	4.5	1500	-2.80	44	Jun-14	4.5	1677	-1.86
15	Jun-00	4.5	1430	-3.17	45	Nov-14	4.5	1747	-1.49
16	Sep-00	4.5	1360	-3.55	46	Jun-15	4.5	1456	-3.04
17	Nov-00	4.5	1290	-3.92	47	Nov-15	4.5	1435	-3.15
18	May-01	4.5	1900	-0.67	48	Jun-16	4.5	1408	-3.29
19	Aug-01	4.5	1810	-1.15	49	Nov-16	4.5	1502	-2.79
20	Nov-01	4.5	1630	-2.11	50	Jun-17	4.5	1431	-3.17
21	Mar-02	4.5	1570	-2.43	51	Nov-17	4.5	1465	-2.99
22	Jun-03	4.5	1470	-2.96	52	Jun-18	4.5	1300	-3.87
23	Feb-04	4.5	1190	-4.45	53	Nov-18	4.5	1274	-4.00
24	Jun-04	4.5	1337	-3.67	54	May-19	4.5	1339	-3.66
25	Nov-04	4.5	1230	-4.24	55	Nov-19	4.5	1383	-3.42
26	Jun-05	4.5	1790	-1.26	56	Jun-20	4.5	1210	-4.35
27	Dec-05	4.5	1630	-2.11	57	Nov-20	4.5	1188	-4.46
28	Jun-06	4.5	1376	-3.46	58	Jun-21	4.5	1211	-4.34
29	Nov-06	4.5	1680	-1.84	59	Nov-21	4.5	831	-6.36
30	Jun-07	4.5	1820	-1.10	60	Jun-22	4.5	1150	-4.66
31	Nov-07	4.5	1740	-1.52	61	Nov-22	4.5	1201	-4.39
32	Jun-08	4.5	1860	-0.89	62	Jun-23	4.5	1270	-4.03
33	Nov-08	4.5	1630	-2.11	63	Nov-23	4.5	1340	-3.65
34	Jun-09	4.5	1950	-0.41	64	Jun-24	4.5	1176	-4.53
35	Nov-09	4.5	1780	-1.31					
36	Jun-10	4.5	1910	-0.62					
37	Nov-10	4.5	1714	-1.66					
38	Jun-11	4.5	1711	-1.68					

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

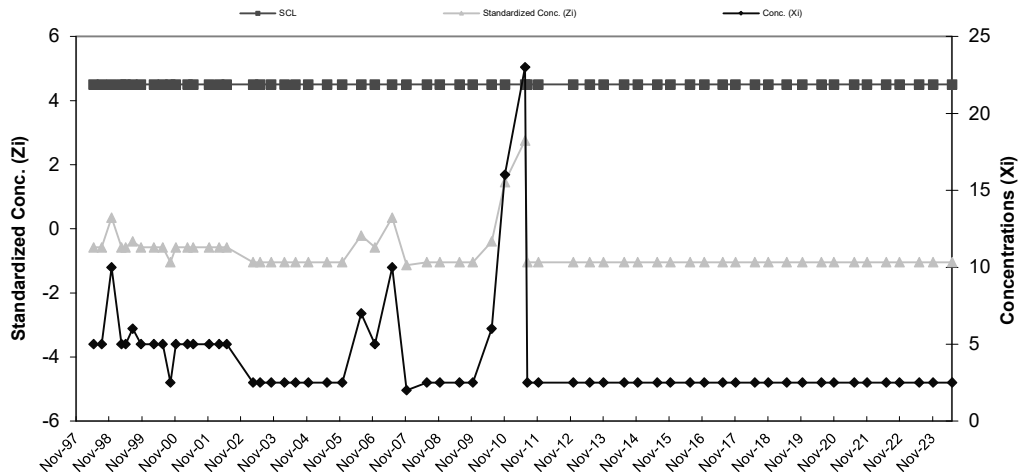


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault F - Chromium

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.58	44	Jul-11	4.5	2.5	-1.04
10	Aug-98	4.5	5	-0.58	45	Nov-11	4.5	2.5	-1.04
11	Nov-98	4.5	10	0.35	46	Dec-12	4.5	2.5	-1.04
12	Mar-99	4.5	5	-0.58	47	Jun-13	4.5	2.5	-1.04
13	May-99	4.5	5	-0.58	48	Nov-13	4.5	2.5	-1.04
14	Jul-99	4.5	6	-0.39	49	Jun-14	4.5	2.5	-1.04
15	Oct-99	4.5	5	-0.58	50	Nov-14	4.5	2.5	-1.04
16	Mar-00	4.5	5	-0.58	51	Jun-15	4.5	2.5	-1.04
17	Jun-00	4.5	5	-0.58	52	Nov-15	4.5	2.5	-1.04
18	Sep-00	4.5	2.5	-1.04	53	Jun-16	4.5	2.5	-1.04
19	Nov-00	4.5	5	-0.58	54	Nov-16	4.5	2.5	-1.04
20	Mar-01	4.5	5	-0.58	55	Jun-17	4.5	2.5	-1.04
21	May-01	4.5	5	-0.58	56	Nov-17	4.5	2.5	-1.04
22	Nov-01	4.5	5	-0.58	57	Jun-18	4.5	2.5	-1.04
23	Mar-02	4.5	5	-0.58	58	Nov-18	4.5	2.5	-1.04
24	May-02	4.5	5	-0.58	59	May-19	4.5	2.5	-1.04
25	Mar-03	4.5	2.5	-1.04	60	Nov-19	4.5	2.5	-1.04
26	Jun-03	4.5	2.5	-1.04	61	Jun-20	4.5	2.5	-1.04
27	Oct-03	4.5	2.5	-1.04	62	Nov-20	4.5	2.5	-1.04
28	Feb-04	4.5	2.5	-1.04	63	Jun-21	4.5	2.5	-1.04
29	Jun-04	4.5	2.5	-1.04	64	Nov-21	4.5	2.5	-1.04
30	Nov-04	4.5	2.5	-1.04	65	Jun-22	4.5	2.5	-1.04
31	Jun-05	4.5	2.5	-1.04	66	Nov-22	4.5	2.5	-1.04
32	Dec-05	4.5	2.5	-1.04	67	Jun-23	4.5	2.5	-1.04
33	Jun-06	4.5	7	-0.21	68	Nov-23	4.5	2.5	-1.04
34	Nov-06	4.5	5	-0.58	69	Jun-24	4.5	2.5	-1.04
35	Jun-07	4.5	10	0.35					
36	Nov-07	4.5	2	-1.14					
37	Jun-08	4.5	2.5	-1.04					
38	Nov-08	4.5	2.5	-1.04					
39	Jun-09	4.5	2.5	-1.04					
40	Nov-09	4.5	2.5	-1.04					
41	Jun-10	4.5	6	-0.39					
42	Nov-10	4.5	16	1.46					
43	Jun-11	4.5	23	2.75					

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

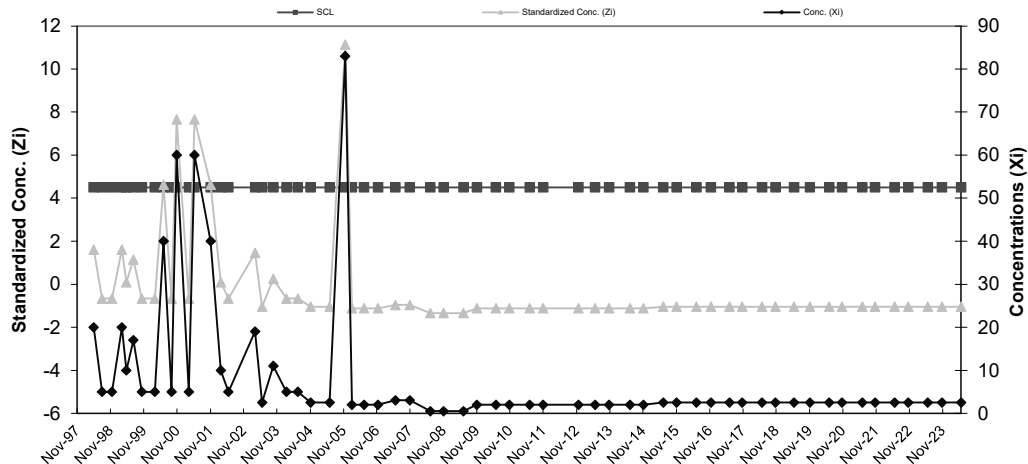


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault F - Copper**

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	20	1.61	44	Jun-11	4.5	2	-1.12
10	Aug-98	4.5	5	-0.66	45	Nov-11	4.5	2	-1.12
11	Nov-98	4.5	5	-0.66	46	Dec-12	4.5	2	-1.12
12	Mar-99	4.5	20	1.61	47	Jun-13	4.5	2	-1.12
13	May-99	4.5	10	0.09	48	Nov-13	4.5	2	-1.12
14	Jul-99	4.5	17	1.15	49	Jun-14	4.5	2	-1.12
15	Oct-99	4.5	5	-0.66	50	Nov-14	4.5	2	-1.12
16	Mar-00	4.5	5	-0.66	51	Jun-15	4.5	2.5	-1.04
17	Jun-00	4.5	40	4.63	52	Nov-15	4.5	2.5	-1.04
18	Sep-00	4.5	5	-0.66	53	Jun-16	4.5	2.5	-1.04
19	Nov-00	4.5	60	7.66	54	Nov-16	4.5	2.5	-1.04
20	Mar-01	4.5	5	-0.66	55	Jun-17	4.5	2.5	-1.04
21	May-01	4.5	60	7.66	56	Nov-17	4.5	2.5	-1.04
22	Nov-01	4.5	40	4.63	57	Jun-18	4.5	2.5	-1.04
23	Mar-02	4.5	10	0.09	58	Nov-18	4.5	2.5	-1.04
24	May-02	4.5	5	-0.66	59	May-19	4.5	2.5	-1.04
25	Mar-03	4.5	19	1.46	60	Nov-19	4.5	2.5	-1.04
26	Jun-03	4.5	2.5	-1.04	61	Jun-20	4.5	2.5	-1.04
27	Oct-03	4.5	11	0.25	62	Nov-20	4.5	2.5	-1.04
28	Feb-04	4.5	5	-0.66	63	Jun-21	4.5	2.5	-1.04
29	Jun-04	4.5	5	-0.66	64	Nov-21	4.5	2.5	-1.04
30	Nov-04	4.5	2.5	-1.04	65	Jun-22	4.5	2.5	-1.04
31	Jun-05	4.5	2.5	-1.04	66	Nov-22	4.5	2.5	-1.04
32	Dec-05	4.5	83	11.14	67	Jun-23	4.5	2.5	-1.04
33	Feb-06	4.5	2	-1.12	68	Nov-23	4.5	2.5	-1.04
34	Jun-06	4.5	2	-1.12	69	Jun-24	4.5	2.5	-1.04
35	Nov-06	4.5	2	-1.12					
36	Jun-07	4.5	3	-0.97					
37	Nov-07	4.5	3	-0.97					
38	Jun-08	4.5	0.5	-1.34					
39	Nov-08	4.5	0.5	-1.34					
40	Jun-09	4.5	0.5	-1.34					
41	Nov-09	4.5	2	-1.12					
42	Jun-10	4.5	2	-1.12					
43	Nov-10	4.5	2	-1.12					

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

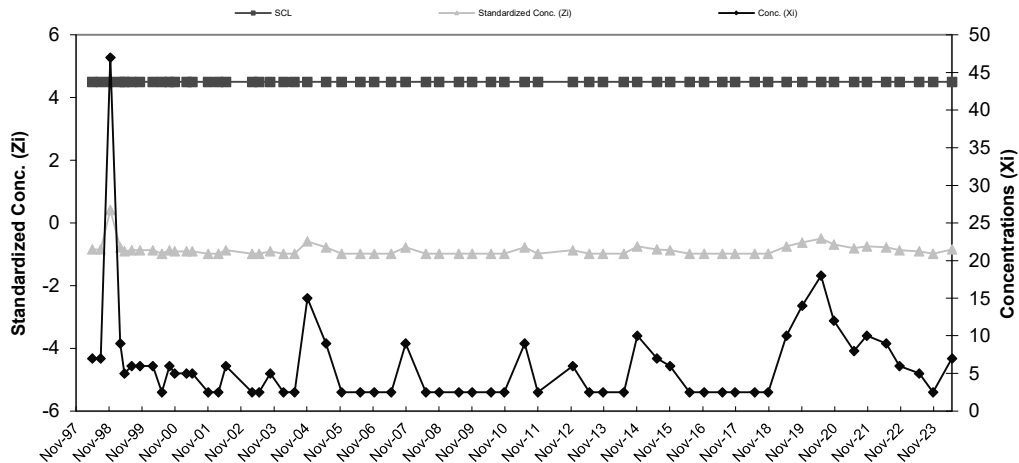


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault F - Nickel**

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	7	-0.84	43	Jun-11	4.5	9	-0.78
10	Aug-98	4.5	7	-0.84	44	Nov-11	4.5	2.5	-0.98
11	Nov-98	4.5	47	0.41	45	Dec-12	4.5	6	-0.87
12	Mar-99	4.5	9	-0.78	46	Jun-13	4.5	2.5	-0.98
13	May-99	4.5	5	-0.90	47	Nov-13	4.5	2.5	-0.98
14	Jul-99	4.5	6	-0.87	48	Jun-14	4.5	2.5	-0.98
15	Oct-99	4.5	6	-0.87	49	Nov-14	4.5	10	-0.75
16	Mar-00	4.5	6	-0.87	50	Jun-15	4.5	7	-0.84
17	Jun-00	4.5	2.5	-0.98	51	Nov-15	4.5	6	-0.87
18	Sep-00	4.5	6	-0.87	52	Jun-16	4.5	2.5	-0.98
19	Nov-00	4.5	5	-0.90	53	Nov-16	4.5	2.5	-0.98
20	Mar-01	4.5	5	-0.90	54	Jun-17	4.5	2.5	-0.98
21	May-01	4.5	5	-0.90	55	Nov-17	4.5	2.5	-0.98
22	Nov-01	4.5	2.5	-0.98	56	Jun-18	4.5	2.5	-0.98
23	Mar-02	4.5	2.5	-0.98	57	Nov-18	4.5	2.5	-0.98
24	May-02	4.5	6	-0.87	58	May-19	4.5	10	-0.75
25	Mar-03	4.5	2.5	-0.98	59	Nov-19	4.5	14	-0.62
26	Jun-03	4.5	2.5	-0.98	60	Jun-20	4.5	18	-0.50
27	Oct-03	4.5	5	-0.90	61	Nov-20	4.5	12	-0.68
28	Feb-04	4.5	2.5	-0.98	62	Jun-21	4.5	8	-0.81
29	Jun-04	4.5	2.5	-0.98	63	Nov-21	4.5	10	-0.75
30	Nov-04	4.5	15	-0.59	64	Jun-22	4.5	9	-0.78
31	Jun-05	4.5	9	-0.78	65	Nov-22	4.5	6	-0.87
32	Dec-05	4.5	2.5	-0.98	66	Jun-23	4.5	5	-0.90
33	Jun-06	4.5	2.5	-0.98	67	Nov-23	4.5	2.5	-0.98
34	Nov-06	4.5	2.5	-0.98	68	Jun-24	4.5	7	-0.84
35	Jun-07	4.5	2.5	-0.98					
36	Nov-07	4.5	9	-0.78					
37	Jun-08	4.5	2.5	-0.98					
38	Nov-08	4.5	2.5	-0.98					
39	Jun-09	4.5	2.5	-0.98					
40	Nov-09	4.5	2.5	-0.98					
41	Jun-10	4.5	2.5	-0.98					
42	Nov-10	4.5	2.5	-0.98					

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

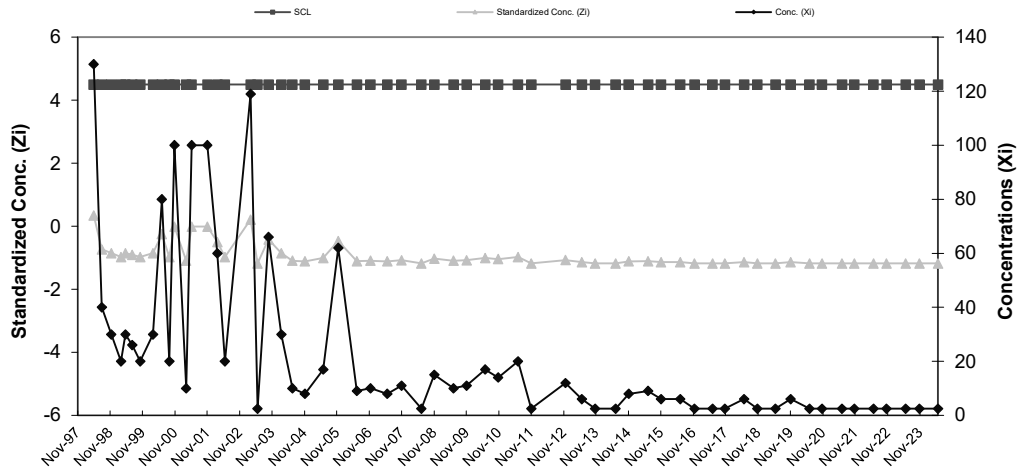


COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault F - Zinc

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	130	0.34	43	Jun-11	4.5	20	-0.97
10	Aug-98	4.5	40	-0.73	44	Nov-11	4.5	2.5	-1.18
11	Nov-98	4.5	30	-0.85	45	Dec-12	4.5	12	-1.07
12	Mar-99	4.5	20	-0.97	46	Jun-13	4.5	6	-1.14
13	May-99	4.5	30	-0.85	47	Nov-13	4.5	2.5	-1.18
14	Jul-99	4.5	26	-0.90	48	Jun-14	4.5	2.5	-1.18
15	Oct-99	4.5	20	-0.97	49	Nov-14	4.5	8	-1.12
16	Mar-00	4.5	30	-0.85	50	Jun-15	4.5	9	-1.10
17	Jun-00	4.5	80	-0.25	51	Nov-15	4.5	6	-1.14
18	Sep-00	4.5	20	-0.97	52	Jun-16	4.5	6	-1.14
19	Nov-00	4.5	100	-0.01	53	Nov-16	4.5	2.5	-1.18
20	Mar-01	4.5	10	-1.09	54	Jun-17	4.5	2.5	-1.18
21	May-01	4.5	100	-0.01	55	Nov-17	4.5	2.5	-1.18
22	Nov-01	4.5	100	-0.01	56	Jun-18	4.5	6	-1.14
23	Mar-02	4.5	60	-0.49	57	Nov-18	4.5	2.5	-1.18
24	May-02	4.5	20	-0.97	58	May-19	4.5	2.5	-1.18
25	Mar-03	4.5	119	0.21	59	Nov-19	4.5	6	-1.14
26	Jun-03	4.5	2.5	-1.18	60	Jun-20	4.5	2.5	-1.18
27	Oct-03	4.5	66	-0.42	61	Nov-20	4.5	2.5	-1.18
28	Feb-04	4.5	30	-0.85	62	Jun-21	4.5	2.5	-1.18
29	Jun-04	4.5	10	-1.09	63	Nov-21	4.5	2.5	-1.18
30	Nov-04	4.5	8	-1.12	64	Jun-22	4.5	2.5	-1.18
31	Jun-05	4.5	17	-1.01	65	Nov-22	4.5	2.5	-1.18
32	Dec-05	4.5	62	-0.47	66	Jun-23	4.5	2.5	-1.18
33	Jun-06	4.5	9	-1.10	67	Nov-23	4.5	2.5	-1.18
34	Nov-06	4.5	10	-1.09	68	Jun-24	4.5	2.5	-1.18
35	Jun-07	4.5	8	-1.12					
36	Nov-07	4.5	11	-1.08					
37	Jun-08	4.5	2.5	-1.18					
38	Nov-08	4.5	15	-1.03					
39	Jun-09	4.5	10	-1.09					
40	Nov-09	4.5	11	-1.08					
41	Jun-10	4.5	17	-1.01					
42	Nov-10	4.5	14	-1.04					

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

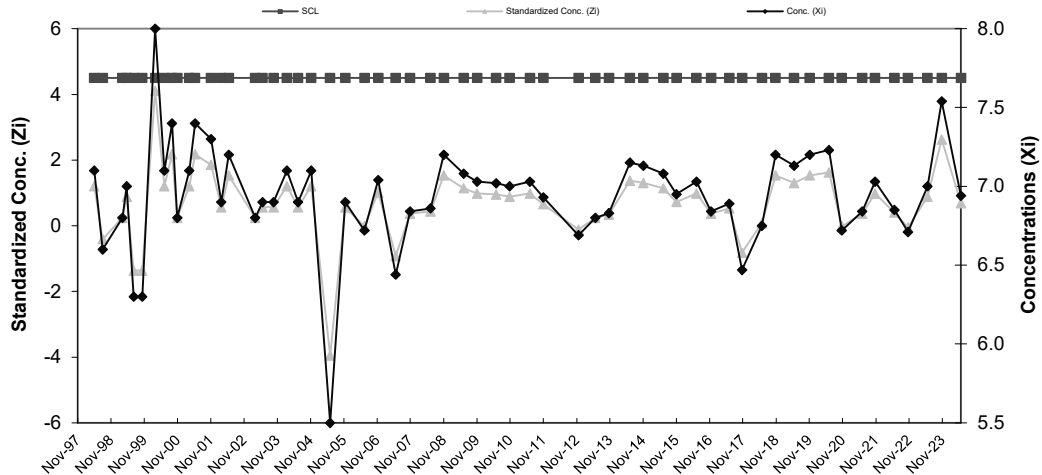


**COLDWATER ROAD LANDFILL FACILITY
RCRA LANDFILL LEAK DETECTION SYSTEM
SHEWART CONTROL CHART
Vault F - pH**

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	7.10	1.21	42	Jun-11	4.5	7.0	0.98
10	Aug-98	4.5	6.60	-0.40	43	Nov-11	4.5	6.93	0.66
11	Mar-99	4.5	6.80	0.24	44	Dec-12	4.5	6.69	-0.11
12	May-99	4.5	7.00	0.89	45	Jun-13	4.5	6.8	0.24
13	Jul-99	4.5	6.30	-1.37	46	Nov-13	4.5	6.83	0.34
14	Oct-99	4.5	6.30	-1.37	47	Jun-14	4.5	7.15	1.37
15	Mar-00	4.5	8.00	4.11	48	Nov-14	4.5	7.13	1.30
16	Jun-00	4.5	7.10	1.21	49	Jun-15	4.5	7.08	1.14
17	Sep-00	4.5	7.40	2.17	50	Nov-15	4.5	6.95	0.72
18	Nov-00	4.5	6.80	0.24	51	Jun-16	4.5	7.03	0.98
19	Mar-01	4.5	7.10	1.21	52	Nov-16	4.5	6.84	0.37
20	May-01	4.5	7.40	2.17	53	Jun-17	4.5	6.89	0.53
21	Nov-01	4.5	7.30	1.85	54	Nov-17	4.5	6.47	-0.82
22	Mar-02	4.5	6.90	0.56	55	Jun-18	4.5	6.75	0.08
23	May-02	4.5	7.20	1.53	56	Nov-18	4.5	7.2	1.53
24	Mar-03	4.5	6.80	0.24	57	May-19	4.5	7.13	1.30
25	Jun-03	4.5	6.90	0.56	58	Nov-19	4.5	7.2	1.53
26	Oct-03	4.5	6.90	0.56	59	Jun-20	4.5	7.23	1.63
27	Feb-04	4.5	7.10	1.21	60	Nov-20	4.5	6.72	-0.02
28	Jun-04	4.5	6.90	0.56	61	Jun-21	4.5	6.84	0.37
29	Nov-04	4.5	7.10	1.21	62	Nov-21	4.5	7.03	0.98
30	Jun-05	4.5	5.50	-3.94	63	Jun-22	4.5	6.85	0.40
31	Dec-05	4.5	6.90	0.56	64	Nov-22	4.5	6.71	-0.05
32	Jun-06	4.5	6.72	-0.02	65	Jun-23	4.5	7	0.89
33	Nov-06	4.5	7.04	1.01	67	Nov-23	4.5	7.54	2.62
34	Jun-07	4.5	6.44	-0.92	68	Jun-24	4.5	6.94	0.69
35	Nov-07	4.5	6.84	0.37					
36	Jun-08	4.5	6.86	0.43					
37	Nov-08	4.5	7.20	1.53					
38	Jun-09	4.5	7.08	1.14					
39	Nov-09	4.5	7.03	0.98					
40	Jun-10	4.5	7.02	0.95					
41	Nov-10	4.5	7.00	0.89					

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



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

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	1400	-0.62	41	Jun-11	4.5	1642	0.49
10	Mar-99	4.5	982	-2.53	42	Nov-11	4.5	1651	0.53
11	May-99	4.5	1460	-0.34	43	Dec-12	4.5	1729	0.89
12	Jul-99	4.5	1262	-1.25	44	Jun-13	4.5	1759	1.03
13	Oct-99	4.5	1116	-1.92	45	Nov-13	4.5	1736	0.92
14	Mar-00	4.5	1250	-1.31	46	Jun-14	4.5	1710	0.80
15	Jun-00	4.5	1310	-1.03	47	Nov-14	4.5	1724	0.87
16	Sep-00	4.5	1440	-0.44	48	Jun-15	4.5	1669	0.61
17	Nov-00	4.5	1040	-2.27	49	Nov-15	4.5	1686	0.69
18	Mar-01	4.5	1110	-1.95	50	Jun-16	4.5	1640	0.48
19	May-01	4.5	1470	-0.30	51	Nov-16	4.5	1641	0.49
20	Nov-01	4.5	1110	-1.95	52	Jun-17	4.5	1675	0.64
21	Mar-02	4.5	1290	-1.12	53	Nov-17	4.5	1626	0.42
22	May-02	4.5	1200	-1.53	54	Jun-18	4.5	1685	0.69
23	Mar-03	4.5	1270	-1.21	55	Nov-18	4.5	1637	0.47
24	Jun-03	4.5	1300	-1.08	56	May-19	4.5	1563	0.13
25	Oct-03	4.5	1040	-2.27	57	Nov-19	4.5	1593	0.27
26	Feb-04	4.5	1920	1.76	58	Jun-20	4.5	1623	0.40
27	Jun-04	4.5	1300	-1.08	59	Nov-20	4.5	1347	-0.86
28	Nov-04	4.5	1160	-1.72	60	Jun-21	4.5	1554	0.09
29	Jun-05	4.5	1780	1.12	61	Nov-21	4.5	1398	-0.63
30	Dec-05	4.5	1640	0.48	62	Jun-22	4.5	1620	0.39
31	Jun-06	4.5	1355	-0.82	63	Nov-22	4.5	1570	0.16
32	Nov-06	4.5	1610	0.34	64	Jun-23	4.5	1570	0.16
33	Jun-07	4.5	1640	0.48	65	Nov-23	4.5	1580	0.21
34	Nov-07	4.5	1600	0.30	66	Jun-24	4.5	1570	0.16
35	Jun-08	4.5	1510	-0.11					
36	Nov-08	4.5	1510	-0.11					
37	Jun-09	4.5	1530	-0.02					
38	Nov-09	4.5	1550	0.07					
39	Jun-10	4.5	1540	0.02					
40	Nov-10	4.5	1590	0.25					

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

