OBG

2017 SEMIANNUAL REPORT – FINAL REPORT

Post-Closure Groundwater Monitoring Report
Coldwater Road Landfill
Flint, Michigan
MID 005 356 860

RACER TRUST
Detroit, Michigan

August 2017

AUGUST 2017| CLIENT # 15388 | PROJECT # 64737

Post-Closure Groundwater Monitoring
Coldwater Road Landfill
MID 005 356 860

Flint, Michigan

Prepared for: RACER Trust
Detroit, Michigan

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

August 28, 2017

Mr. Richard Conforti, P.E.
Environmental Engineer
Michigan Department of Environmental Quality
Office of Waste Management and Radiological Protection
P.O. Box 30473
Lansing, Michigan 48909-7973

RE: Post-Closure Groundwater Monitoring 2017 Semiannual Report
Coldwater Road Landfill, Flint, Michigan
MID 005 356 860

FILE: 15388 /64737/rep

Dear **Mr. Conforti**

On behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, O'Brien & Gere is pleased to present the results of the semiannual groundwater sampling event conducted in June 2017 for the Coldwater Road Landfill site (Figure 1).

The groundwater samples were analyzed for specific conductivity (Method 120.1), chloride (Method 300.0), cyanide (CN, Method 335.4), sulfate (Method 300.0), phenols (Method 420.1), volatile organic compounds (VOCs, Method 8260B), dissolved metals (chromium (Cr), copper (Cu), nickel (Ni), zinc (Zn), iron (Fe), manganese (Mn), and total sodium ([Na], Method 200.8).

The event also included field measurements for pH, specific conductivity, dissolved oxygen, oxidation reduction potential, temperature, and turbidity. Groundwater samples were collected using a bladder or peristaltic pump, and low-flow sampling techniques in accordance with O'Brien & Gere procedures and the site-specific Field Method Guide (Appendix A). The perched monitoring wells were purged dry and the sample was collected once the monitoring wells had recharged. Samples to be analyzed for dissolved metals were field filtered. Groundwater sampling logs are included in Appendix B.

Gauging and sampling were conducted on June 19, 2017 through June 22, 2017. The results are presented in three separate tables: Table 1 - Depth to Groundwater Levels in Monitoring Wells; Table 2 - Post-Closure Monitoring - Historical Analytical Results (Physical Parameters, TOC, TOX, and Metals); Table 3 - Post-Closure Monitoring - Analytical Results (Volatile Organics). Laboratory analytical reports are included in Appendix C.

A site location map (Figure 1) and monitoring well location (*i.e.*, site layout) map (Figure 2) are also included. A groundwater elevation map was completed for the shallow wells (Figure 3) and a groundwater potentiometric surface map was completed for the deeper drift aquifer (Figure 4).

Contours were not plotted for groundwater in the shallow wells because the water level elevations exhibited no pattern and groundwater is discontinuous in the perched zones.

The drift aquifer static water elevations, which were calculated from depth to water measurements collected on June 20, 2017, were consistent with historical data. Groundwater in the drift aquifer flows in a southerly direction as shown on (Figure 4).

Groundwater samples were collected from six monitoring wells screened in perched zones and six monitoring wells screened in the drift aquifer during this sampling event.

A review of the analytical data presented in the attached tables indicates analytical results similar to previous sampling events, a summary of the data is provided below:

- Chromium concentrations were not detected above the method detection limit of 5 µg/L; which is similar or less than the historic sample results.
- Copper concentrations were not detected above the method detection limit of 5 µg/L; which is similar or less than the historic sample results.
- Nickel concentrations were not detected above the method detection limit of 5 µg/L; except in monitoring well B-9 (5 µg/L). The results were similar or less than historic results which ranged from below the method detection limit to 370 µg/L at B-22D (6/21/1995).
- Zinc concentrations were not detected above the method detection limit of 5 µg/L; except in monitoring well B-18A (8 µg/L). The results were similar or less than historic results which ranged from below the method detection limit to 150 µg/L at B-18A (6/21/1995).
- Iron concentrations ranged from below the method detection limit of 20 µg/L in monitoring wells B-18A, B-19Ar, and B-24r to 2,140 µg/L in monitoring well B-20D (Dup-3). The results were similar or less than historic results which ranged from below the method detection limit to 10,600 µg/L at B-24r (6/7/2005).
- Manganese concentrations ranged from 7 µg/L in monitoring well B-2D to 172 µg/L in monitoring well B-9. The results were similar or less than historic results which ranged from below the method detection limit to 1,900 µg/L at B-9 (6/5/2007).
- Sodium concentrations ranged from 15,500 µg/L in monitoring well B-2D to 74,400 µg/L in monitoring well B-24r. The results were comparable to the historic results which ranged from 7,280 µg/L in monitoring well B-2D (6/25/2014) to 114,000 µg/L at B-19Ar (12/9/2004).
- Chloride concentrations ranged from below the method detection limit of 5 mg/L in monitoring wells B-2D, B-20D, B-21D, B-22D, and B-27D to 75 mg/L in monitoring well B-19Ar. The results were similar or less than historic results which ranged from below the method detection limit to 149 mg/L at B-9 (12/9/2004).
- Sulfate concentrations ranged from 17 mg/L in monitoring well B-27D to 770 mg/L in monitoring well B-9. The results were similar or less than historic results which ranged from 15 mg/L in monitoring well B-27D to 1,350 mg/L in monitoring well B-9 (12/9/2004).
- TOC concentrations ranged from 1.4 mg/L in monitoring wells B-21D and B-27D to 3.9 mg/L in monitoring well B-7. The results were similar or less than historic results which ranged from below the method detection limit to 71 mg/L at B-9 (11/13/1996).
- TOX concentrations ranged from below the method detection limit of 30 µg/L in monitoring wells B-2D, B-18A, B-20D, B-21D, B-22D, B-23Dr, and B-27D to 30 µg/L in monitoring well B-19Ar. The results were similar or less than historic results which ranged from below the method detection limit to 230 µg/L at B-7 (11/30/2016).
- pH concentrations ranged from 6.75 in monitoring well B-9 to 7.41 in monitoring well B-23D. The results were within the range of the historic results which ranged from 4.84 in monitoring well B-20D (12/8/2005) to 9.01 in monitoring well B-2D (6/21/1995).

- Specific conductivity ranged from 642 µs/cm in monitoring well B-27D to 2,250 µs/cm in monitoring well B-9. The results were comparable to the historic results which ranged from 434 µs/cm in monitoring well B-2D (6/21/1995) to 3,290 µs/cm in monitoring well B-9 (11/20/2008).
- There was one detection of trichloroethene at 1 µg/L in monitoring well B-20D duplicate sample (Dup-3). The result in the original sample was below the method detection limit of 1 µg/L. No other VOCs were detected during this monitoring event.
- Cyanide and phenols concentrations were not detected above their respective method detection limits in the monitoring wells sampled during the June 2017 sampling event.

The duplicate sample results collected from monitoring well B-20D were comparable to the original sample.

A QA/QC review of the field and analytical data indicates that the data is useable for the intended purpose without deviations from quality assurance standards that would require rejection or further qualification of the data with the exception of the TOX results for monitoring wells B-7, B-9, B-19Ar, B-24r, and B-28 that were qualified as estimated (J) values. Details of the data verification results for the groundwater monitoring data are included in Appendix D.

There were no exceedances of the Shewart control limits (SCL) during this sampling event. There was a spike for specific conductivity in monitoring well B-21D and a positive (increasing) trend for specific conductivity in B-22D. The trend was calculated using regression analysis over the last four sampling events per the Post Closure Care Plan, January 2014.

The spike and positive trend were not confirmed by the concentrations of metals, which were either not detected (for the four primary metals [Cr, Cu, Ni, and Zn] in particular) or stable. The spike and positive trend do not suggest there was a release from the landfill and they will continue to be evaluated during future sampling events. No other trends or spikes were observed during this monitoring event. The Shewart control charts are included as Appendix E.

The next sampling event (semi-annual event) is currently scheduled for November 2017. If you have any questions, please feel free to contact either of us at (248) 477-5701.

Very truly yours,

O'BRIEN & GERE ENGINEERS, INC.

Brian E. White, PE
Senior Vice President

Very truly yours,

O'BRIEN & GERE ENGINEERS, INC.

Clifford S. Yantz
Scientist-3

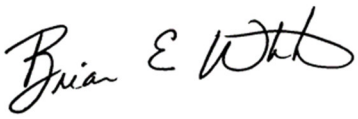
ENCLOSURES:
Table 1 – Depth to Groundwater Levels
Table 2 – Historical Analytical Results
Table 3 – Volatile Organics Results
Figure 1 – Site Location Map
Figure 2 – Site Layout
Figure 3 – Shallow Groundwater Elevation Map
Figure 4 – Drift Aquifer Groundwater Potentiometric Surface Map

Appendix A – Sampling Procedures
Appendix B – Groundwater Sampling Logs
Appendix C – Analytical Laboratory Results
Appendix D – Groundwater Sampling Program QA/QC Summary
Appendix E – Monitoring Well Control Charts

cc: David Favero – RACER Trust
Kevin Schneider – O'Brien & Gere

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

On Behalf of RACER Trust



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Brian E. White, PE
Senior Vice President – O'Brien & Gere Engineers, Inc.

Agent for RACER Trust

Date: August 28, 2017

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cc: file

TABLES

TABLE 1
RACER Trust - Coldwater Road Landfill Facility
Depth to Groundwater Levels in Monitoring Wells
June 20, 2017

Well	*Top of Casing Elev. (ft)**	*Depth to Water(ft)*	*Static Water Elev. (ft)*
B-2D	803.80	53.78	750.02
B-7	813.63	22.89	790.74
B-9	807.45	6.28	801.17
B-18A	810.85	24.05	786.80
B-19AR	811.80	38.74	773.06
B-20D	815.14	70.05	745.09
B-21D	821.07	80.18	740.89
B-22D	822.15	84.28	737.87
B-23DR	812.12	81.05	731.07
B-24R	816.04	14.22	801.82
B-27D	812.70	75.69	737.01
B-28	816.46	5.75	810.71

Notes

Casing elevations were provided by Norwy & Hale Surveyors and are in feet relative to National Geodetic Vertical Datum

NA - Not available

NG - No ground water detected

Top of casing elevations were resurveyed in June 2017.

R - Indicates a replacement well location.

TABLE 2
RACER Trust - Coldwater Road Landfill Facility
Post-Closure Monitoring - Historical Analytical Results
Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

		Indicator Parameters					Dissolved Metals (µg/L)								Inorganics (mg/L)		
Well ID	Sample Date	TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
		MDEQ Residential Drinking Water Criteria & RBSLs					*100 (A)*	*1,000 (E)*	*100 (A)*	*2,400*							
	6/21/1995	5.3	<10	9.01	434	15.0	<20	<20	<30	<20	--	--	--	--	--	--	--
	8/31/1995	6.3	130	8.27	479	14.4	<20	<20	<40	<20	--	--	--	--	--	--	--
	2/9/1996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/19/1996	5.2	<100	7.52	580	12.4	<20	<20	<20	<20	--	--	--	--	--	--	--
B-2D	8/21/1996	7.4	<5	7.69	641	13.9	<20	<20	<20	50	--	--	--	--	--	--	--
	11/13/1996	11.0	<5	7.26	769	7.6	<20	<20	<20	30	--	--	--	--	--	--	--
	5/6/1997	26.0	<100	6.30	1500	7.0	10	<10	28	30	--	--	--	--	--	--	--
	11/6/1997	15.0	<100	6.90	660	9.0	<10	<10	39	<10	280	577	--	12	<0.005	<0.020	79
	5/4/1998	29.0	12	6.68	549	12.4	<10	<10	<5	<10	--	--	--	--	--	--	--
	11/5/1998	52.0	18	4.70	498	8.6	<10	<10	<5	10	<10	17	33,600	--	--	--	--
	12/23/1998	--	--	--	--	--	--	--	--	--	--	--	--	13	<0.005	<0.020	40
	4/26/1999	52.0	<100	8.50	523	14.5	<10	<10	<5	<10	--	--	--	--	--	--	--
	11/5/1999	6.4	<100	7.40	405	12.8	<10	<10	<5	40	70	21	35,100	4	<0.005	<0.020	42
	4/26/2000	5.4	<100	7.96	770	17.4	<10	<10	<5	<10	--	--	--	--	--	--	--
	12/8/2000	5.5	<10	6.68	610	9.7	<10	<10	9	<10	40	--	22,900	7	<0.005	<0.020	81
	5/15/2001	5.5	<100	7.79	890	13.2	<10	<10	<5	<10	--	--	--	--	--	--	--
	10/18/2001	4.1	<100	7.43	1830	9.4	<10	<10	<5	<10	230	--	12,900	2	<0.005	<0.020	32
Duplicate	10/18/2001	3.6	<100	7.39	1780	7.8	<10	<10	<5	<10	210	--	12,700	1	<0.005	<0.020	32
	5/16/2002	4.0	<100	7.19	1000	11.6	<10	<10	<5	<10	--	--	--	--	--	--	--
	11/7/2002	2.6	<30	7.38	490	9.5	<5	<5	<5	<5	140	8	11,900	2	<0.005	<0.020	32
Duplicate	11/7/2002	2.7	<30	--	--	--	<5	<5	<5	<5	140	6	11,200	2	<0.005	<0.020	30
	6/3/2003	4.4	<30	6.91	530	12.9	<5	<5	<5	<5	--	--	--	--	--	--	--
	11/13/2003	2.8	<30	7.97	630	7.7	<5	<5	<5	<5	110	7	--	2	<0.005	<0.010	31
	6/30/2004	4.2	<30	6.28	570	15.8	<5	<5	<5	7	--	--	--	--	--	--	--
	12/10/2004	2.0	<30	6.83	550	10.2	<5	<5	<5	10	760	145	10,700	2	<0.005	<0.010	35
	6/8/2005	2.0	<30	7.95	620	11.5	<5	<5	<5	<5	660	199	10,900	<5	<0.005	<0.010	34
	12/8/2005	3.0	<30	6.89	642	10.2	9	<4	<5	<10	140	120	13,300	--	--	--	--
	6/28/2006	6.3	<30	7.41	671	12.2	<5	<4	<5	8	110	70	15,000	2	<0.005	<0.010	50
Duplicate	6/28/2006	5.1	<30	7.41	682	12.2	<5	<4	<5	8	120	70	15,200	3	<0.005	<0.010	50
	11/30/2006	5.1	43.3	7.21	677	8.4	<5	<4	<5	18	--	--	--	--	--	--	--
	6/8/2007	2.4	69.1	6.78	644	14.1	8	2	1	6	110	104	14,800	4	<0.005	<0.010	44
	11/14/2007	5.2	<30	7.06	783	14.9	1	1	4	9	--	--	--	--	--	--	--
	6/25/2008	5.7	<60	6.90	920	18.4	<5	1	5	7	350	32	26,100	10	<0.005	<0.010	98
	11/20/2008	4.5	<30	6.84	806	9.1	<5	<1	<5	<5	--	--	--	--	--	--	--
	6/25/2009	5.6	<30	6.95	924	23.7	<5	203	<5	113	22	77	29,700	10	<0.005	<0.010	104
	11/16/2009	4	<30	7.17	835	10.2	<5	<4	<5	6	--	--	--	--	--	--	--
	6/16/2010	5	<30	7.09	841	13.9	<5	<4	<5	<5	40	83	19,000	7	<0.005	<0.020	75
	11/10/2010	4	<30	7.17	779	11.3	11	<4	<5	<5	--	--	--	--	--	--	--
	6/21/2011	2.9	<30	6.99	742	19.3	9	<4	<5	<5	250	55	16,900	6	<0.005	<0.010	57
Replicate	6/21/2011	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	--
	11/15/2011	3	16	7.05	751	11.3	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/27/2012	2.2	16	7.00	714	12.7	<5	<4	<5	<5	<20	25	17,300	<5	<0.005	<0.02	43
	12/6/2012	2.6	<40	7.47	714	10.2	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/6/2013	1.6	<10	6.78	742	12.5	<5	<4	<5	26	990	31	24,400	<5	<0.005	<0.02	68
	11/6/2013	2.6	<10	7.34	726	11.8	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/25/2014	2.6	<30	7.27	717	12.8	<5	<5	11	7	<20	26	7,280	<5	<0.005	<0.02	48
	6/24/2015	2.2	<30	7.12	621	12.4	<5	<5	<5	<5	<20	11	15,100	<5	<0.005	<0.02	41
	6/27/2016	2.6	55	6.42	730	17.2	<5	<5	<5	<5	40	<5	16,100	<5	<0.005	<0.02	50
	6/22/2017	**2.3**	**<30**	**7.09**	**691**	**12.5**	**<5**	**<5**	**<5**	**<5**	**20**	**7**	**15,500**	**<5**	**<0.005**	**<0.02**	**44**

See notes on page 16.

TABLE 2
RACER Trust - Coldwater Road Landfill Facility
Post-Closure Monitoring - Historical Analytical Results
Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

		Indicator Parameters					Dissolved Metals (µg/L)							Inorganics (mg/L)			
Well ID	Sample Date	TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
		MDEQ Residential Drinking Water Criteria & RBSLs					*100 (A)*	*1,000 (E)*	*100 (A)*	*2,400*							
	6/21/1995	8.7	23	7.48	1509	13.8	<20	<20	<30	<20	--	--	--	--	--	--	--
	8/31/1995	--	--	--	--	--	<20	<20	<40	<20	--	--	--	--	--	--	--
	2/9/1996	14.0	120	--	--	--	<20	<20	<40	22	--	--	--	--	--	--	--
	6/19/1996	20.0	<100	6.91	1,508	13.2	<20	<20	<20	20	--	--	--	--	--	--	--
B-7	8/21/1996	55.0	26	7.59	1,567	17.1	<20	<20	<20	60	--	--	--	--	--	--	--
	11/13/1996	27.0	<5	7.95	1,960	7.2	<20	<20	<20	50	--	--	--	--	--	--	--
	5/6/1997	16.0	<100	7.20	780	11.0	<10	10	14	10	--	--	--	--	--	--	--
	11/6/1997	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/4/1998	6.0	<5	6.61	1,270	10.7	<10	<10	<5	20	--	--	--	--	--	--	--
	11/5/1998	4.0	<10	4.60	1,240	11.2	<10	<10	8	30	10	424	31,000	--	--	--	--
	12/23/1998	--	--	--	--	--		--	--	--	--	--	--	58	<0.005	<0.020	161
	4/26/1999	3.9	<100	7.50	1,413	14.2	<10	<10	10	<10	--	--	--	--	--	--	--
	11/5/1999	5.1	<100	6.50	1,230	14.2	<10	<10	8	30	260	313	41,800	64	<0.005	<0.020	301
	4/26/2000	4.8	<100	7.58	1,450	10.2	<10	<10	<5	<10	--	--	--	--	--	--	--
Duplicate	4/26/2000	5.9	<100	NS	NS	NS	<10	<10	6	10	--	--	--	--	--	--	--
	12/8/2000	4.2	<10	7.05	1,180	9.5	<10	<10	20	10	50	--	58,900	79	<0.005	<0.020	227
	5/16/2001	5.0	<100	7.30	1,330	13.0	<10	<10	7	<10	--	--	--	--	--	--	--
	10/18/2001	5.3	<100	7.19	1,210	12.5	<10	<10	5	<10	330	--	60,800	81	<0.005	NA	205
	5/16/2002	3.9	<100	7.19	1,850	11.9	<10	<10	<5	10	--	--	--	--	--	--	--
	11/7/2002	NR	NR	7.35	1,120	10.3	<5	<5	5	5	250	<5	65,500	NA	NA	NA	NA
	6/4/2003	3.3	<30	6.90	1,460	12.6	<5	<5	<5	<5	--	--	--	--	--	--	--
	11/13/2003	3.9	<30	6.90	1,590	9.6	<5	<5	<5	5	190	<5	--	85	<0.005	<0.010	279
	6/30/2004	4.3	43	7.13	1,353	16.0	<5	<5	9	7	--	--	--	--	--	--	--
	12/9/2004	4.0	<30	5.32	1,290	10.8	<5	<5	7	14	180	74	71,200	78	<0.005	<0.010	251
	6/8/2005	7.0	86	7.36	1,121	10.9	5	<5	9	13	170	31	81,900	80	<0.005	<0.010	254
	12/7/2005	7.5	<30	8.70	1,430	12.2	10	<4	6	20	150	50	85,300	--	--	--	--
	6/29/2006	4.3	<30	7.19	1,470	11.7	5	<4	9	18	190	150	76,900	73	<0.005	<0.010	270
	11/29/2006	4.4	<30	6.88	1,380	15.3	<5	<4	9	11	--	--	--	--	--	--	--
	6/7/2007	3.9	23.7	6.87	1,400	13.4	11	27	5	14	130	42	87,300	72	<0.005	<0.010	208
	11/14/2007	3.5	<30	6.85	1,350	13.4	14	6	16	20	--	--	--	--	--	--	--
	6/25/2008	3.8	72.9	6.90	1,410	20.7	<5	3	6	<5	350	10	94,800	68	<0.005	<0.010	222
	11/17/2008	4.6	20.5	6.80	1,258	5.5	<5	3	5	17	--	--	--	--	--	--	--
	6/24/2009	4.5	<30	6.90	1,184	20.0	<5	3	<5	14	67	36	84,500	40	<0.005	<0.010	154
	11/17/2009	8	25.3	7.31	1,090	10.3	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/17/2010	5	<30	7.04	1,290	16.3	<5	<4	<5	<5	<20	47	86,000	61	<0.005	<0.020	160
	11/8/2010	8	103	7.16	997	13.9	17	<4	<5	<5	--	--	--	--	--	--	--
	6/22/2011	4.3	25	7.25	910	13.7	10	<4	5	6	220	6	55,200	26	<0.005	<0.010	88
Replicate	6/22/2011	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	--
	11/16/2011	5	28	7.04	974	12.8	<5	6	8	11	--	--	--	--	--	--	--
	6/27/2012	3.7	97	6.77	1,082	15.0	<5	<4	<5	<5	<20	58	64,900	40	<0.005	<0.02	134
	12/6/2012	7.9	<40	7.12	825	8.7	<5	4	<5	9	--	--	--	--	--	--	--
	6/5/2013	4.5	6	7.24	921	14.0	<5	<4	<5	24	30	13	27,500	32	<0.005	<0.02	106
	11/4/2013	8.7	16	7.10	733	11.6	14	6	<5	<5	--	--	--	--	--	--	--
	6/25/2014	--	--	7.10	--	13.3	--	--	--	--	--	--	--	--	--	--	--
	11/18/2014	6.5	28	7.31	896	4.8	<5	6	6	6	--	--	--	--	--	--	--
	6/24/2015	4.2	<30	6.98	1,019	16.3	<5	<5	<5	<5	<20	69	58,900	36	<0.005	<0.02	122
	11/18/2015	3.7	16	7.06	1,231	14.7	<5	<5	7	7	--	--	--	--	--	--	--
	6/23/2016	3.9	77	7.14	852	15.1	<5	<5	<5	<5	30	41	41,700	22	<0.005	<0.02	82
	11/30/2016	5.3	230	7.21	880	13.3	<5	<5	<5	<5	--	--	--	--	--	--	--
	6/21/2017	**3.9**	**12**	**6.78**	**1,092**	**11.0**	**<5**	**<5**	**<5**	**<5**	**40**	**37**	**51,700**	**41**	**<0.005**	**<0.02**	**155**

See notes on page 16.

TABLE 2
RACER Trust - Coldwater Road Landfill Facility
Post-Closure Monitoring - Historical Analytical Results
Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

		Indicator Parameters					Dissolved Metals (µg/L)							Inorganics (mg/L)			
Well ID	Sample Date	TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
		MDEQ Residential Drinking Water Criteria & RBSLs					*100 (A)*	*1,000 (E)*	*100 (A)*	*2,400*							
B-9	6/21/1995	3.5	34	7.68	2,400	14.6	<20	<20	<30	<20	--	--	--	--	--	--	--
	8/31/1995	3.9	<10	7.72	1,829	14.8	37	43	<40	<20	--	--	--	--	--	--	--
	2/9/1996	3.1	<10	7.34	2,860	8.0	<20	<20	<40	<20	--	--	--	--	--	--	--
	6/19/1996	2.1	<100	6.81	2,550	11.5	<20	<20	<20	<20	--	--	--	--	--	--	--
	8/21/1996	2.3	<5	8.04	2,310	16.4	<20	<20	<20	70	--	--	--	--	--	--	--
	11/13/1996	71.0	<5	6.79	3,280	9.2	<20	<20	<20	40	--	--	--	--	--	--	--
	5/6/1997	3.0	<100	6.80	2,600	10.0	<10	<10	51	20	--	--	--	--	--	--	--
	11/6/1997	2.0	<100	6.50	2,800	11.0	<10	<10	183	40	650	741	--	141	<0.005	<0.020	1,178
	5/4/1998	3.0	<5	6.58	2,400	14.5	10	10	18	40	--	--	--	--	--	--	--
	11/5/1998	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--
	12/23/1998	--	--	--	--	--	--	--	--	--	--	--	--	NS	NS	NS	NS
	4/26/1999	4.0	<100	7.69	1,860	12.2	<10	<10	19	20	--	--	--	--	--	--	--
	11/5/1999	2.5	<100	6.75	2,340	15.4	<10	<10	20	30	610	1280	47,100	128	<0.005	<0.020	1,222
	4/26/2000	5.5	<100	7.56	2,780	9.5	<10	<10	12	30	--	--	--	--	--	--	--
	12/8/2000	5.0	<10	7.56	2,400	7.8	<10	<10	46	<10	50	--	69,500	142	<0.005	<0.020	1,246
	5/16/2001	4.8	<100	7.41	1,070	12.6	<10	<10	7	10	--	--	--	--	--	--	--
	10/17/2001	4.0	<100	7.54	2,130	10.8	<10	<10	8	20	940	--	66,000	122	<0.005	NA	1,150
	5/16/2002	1.9	<100	7.19	2,470	11.6	<10	<10	7	10	--	--	--	--	--	--	--
	11/7/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/4/2003	2.2	57	6.78	2,690	10.7	<5	<5	15	13	--	--	--	--	--	--	--
	11/13/2003	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/30/2004	3.8	NS	6.91	2,379	12.7	<5	8	19	28	--	--	--	--	--	--	--
	12/9/2004	3.0	<30	5.88	2,480	11.4	<5	<5	11	19	570	248	55,900	149	<0.005	<0.010	1,350
	6/8/2005	4.0	<30	7.09	2,116	10.3	6	6	12	17	480	701	58,300	128	<0.005	<0.010	1,160
	12/7/2005	5.0	<30	8.58	2,830	11.9	11	5	12	40	320	410	58,500	--	--	--	--
	6/29/2006	1.9	<30	6.82	2,820	12.4	6	6	13	19	390	330	63,600	125	<0.005	<0.010	1,150
	11/30/2006	2.7	36.7	7.15	2,830	12.5	<5	6	<5	14	--	--	--	--	--	--	--
	6/5/2007	2.1	<30	6.70	2,770	11.0	12	6	24	21	320	1,900	67,300	112	<0.005	<0.010	1,120
	11/16/2007	2.0	27.4	6.67	3,000	9.4	2	6	24	18	--	--	--	--	--	--	--
	7/2/2008	1.8	36.4	6.44	3,060	19.7	<5	4	13	19	780	812	64,200	133	<0.005	<0.010	1,280
	11/20/2008	2.2	15.9	6.35	3,290	8.1	<5	<1	13	<5	--	--	--	--	--	--	--
Duplicate	11/20/2008	2.0	127	6.35	3,280	8.1	<5	<1	13	<5	--	--	--	--	--	--	--
	6/25/2009	1.6	<30	6.67	2,700	19.8	<5	<1	<5	<5	59	173	65,300	107	<0.005	<0.010	1,120
	11/16/2009	3	84.1	6.71	3,030	12.7	<5	<4	16	8	--	--	--	--	--	--	--
	6/15/2010	3	27.5	6.69	3,030	13.0	<5	<4	7	6	460	475	70,700	117	<0.005	<0.020	1,230
	11/11/2010	3	37.5	6.37	2,910	12.9	19	4	7	15	--	--	--	--	--	--	--
	6/22/2011	1.9	<30	6.70	2,600	14.0	17	6	21	12	780	661	63,300	99	<0.005	<0.010	972
Replicate	6/22/2011	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	--
	11/16/2011	2	50	7.18	3,060	12.9	<5	<4	7	<5	--	--	--	--	--	--	--
	6/26/2012	2	21	6.53	2,770	14.0	<5	<4	8	<5	60	433	73,700	101	<0.005	<0.02	1,110
	12/5/2012	2.3	19	6.80	3,210	12.0	<5	8	17	23	--	--	--	--	--	--	--
	6/5/2013	2.1	15	7.07	2,660	12.5	<5	<4	6	25	40	173	66,400	106	<0.005	<0.02	1,150
	11/6/2013	2.2	NS	6.36	2,730	13.0	10	8	47	8	--	--	--	--	--	--	--
	6/25/2014	1.9	25	6.82	2,650	11.5	<5	<5	18	8	<20	159	27,100	108	<0.005	<0.02	1,070
	11/19/2014	2.1	29	6.77	2,670	8.12	<5	6	14	12	--	--	--	--	--	--	--
	6/24/2015	2.0	17	6.38	2,480	11.8	<5	<5	<5	<5	<20	89	62,400	87	<0.005	<0.02	1,040
	11/18/2015	2.0	<30	6.68	2,670	13.5	<5	<5	7	<5	--	--	--	--	--	--	--
	6/24/2016	1.9	150	6.68	2,190	12.9	<5	<5	10	<5	20	95	52,800	71	<0.005	<0.02	776
	11/29/2016	1.9	13	6.77	2,780	13.9	<5	<5	8	9	--	--	--	--	--	--	--
	6/20/2017	**1.8**	**12**	**6.75**	**2,250**	**11.5**	**<5**	**<5**	**5**	**<5**	**17**	**172**	**54,600**	**74**	**<0.005**	**<0.02**	**770**

See notes on page 16.

TABLE 2
RACER Trust - Coldwater Road Landfill Facility
Post-Closure Monitoring - Historical Analytical Results
Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

		Indicator Parameters					Dissolved Metals (µg/L)							Inorganics (mg/L)			
Well ID	Sample Date	TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
		MDEQ Residential Drinking Water Criteria & RBSLs					*100 (A)*	*1,000 (E)*	*100 (A)*	*2,400*							
	6/21/1995	4.0	<10	--	--	--	<20	<20	<30	<20	--	--	--	--	--	--	--
	8/31/1995	--	25	--	--	--	<20	<20	<40	<20	--	--	--	--	--	--	--
	2/9/1996	3.0	<10	7.64	776	8.9	<20	<20	<40	<20	--	--	--	--	--	--	--
B-14	6/19/1996	1.7	<100	7.26	704	13.6	<20	<20	<20	<20	--	--	--	--	--	--	--
	8/21/1996	2.6	<5	8.90	748	13.1	<20	<20	<20	60	--	--	--	--	--	--	--
	11/13/1996	76.0	<5	7.80	980	7.2	<20	<20	<20	40	--	--	--	--	--	--	--
	5/6/1997	3.0	<100	7.00	670	10.0	<10	<10	11	<10	--	--	--	--	--	--	--
	11/6/1997	2.0	<100	6.80	670	10.0	<10	<10	43	10	550	67	--	12	<0.005	<0.020	61
	5/4/1998	6.0	<5	6.68	558	13.3	<10	<10	<5	<10	--	--	--	--	--	--	--
	11/5/1998	2.0	<10	6.40	642	9.9	<10	<10	<5	10	<10	<5	13,900	--	--	--	--
	12/23/1998	--	--	--	--	--	--	--	--	--	--	--	--	8	<0.005	<0.020	47
	4/26/1999	4.5	<100	8.00	488	13.3	<10	<10	<5	30	--	--	--	--	--	--	--
	11/5/1999	NS	NS	7.29	609	14.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/26/2000	7.1	<100	7.40	510	14.7	<10	<10	<5	960	--	--	--	--	--	--	--
	12/8/2000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/15/2001	5.0	--	7.81	510	13.2	<10	<10	6	380	--	--	--	--	--	--	--
	10/18/2001	2.1	<100	7.34	750	10.7	<10	<10	8	90	260	--	21,500	6	<0.005	NA	72
	5/16/2002	2.3	NR	7.11	1,790	12.1	<10	<10	<5	60	--	--	--	--	--	--	--
	11/7/2002	NR	NR	7.53	540	9.9	<5	<5	<5	31	170	15	14,400	NA	NA	NA	NA
	6/3/2003	2.4	<30	6.93	710	12.4	<5	<5	<5	54	--	--	--	--	--	--	--
	11/13/2003	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/29/2004	2.8	<30	7.25	693	14.9	<5	<5	<5	26	--	--	--	--	--	--	--
	12/9/2004	5.0	<30	6.64	560	10.5	<5	<5	<5	1,260	160	62	4,390	5	<0.005	<0.010	84
Re-sample	2/10/2005	--	--	--	--	--	--	--	--	160	--	--	--	--	--	--	--
	6/8/2005	4.0	<30	7.56	647	11.4	<5	<5	12	40	110	56	18,500	8	<0.005	<0.010	79
	12/8/2005	4.6	<30	6.11	818	1.6	8	<4	<5	30	210	40	16,000	--	--	--	--
Re-sample	2/14/2006	--	--	8.09	603	9.5	--	--	--	100	--	--	--	--	--	--	--
	6/27/2006	3.5	<30	7.09	767	13.2	<5	<4	<5	1,090	160	90	14,600	6	<0.005	<0.010	93
Re-sample	8/3/2006	--	--	7.46	840	12.4	--	--	--	203	--	--	--	--	--	--	--
	12/1/2006	3.2	<30	7.41	873	12.3	<5	<5	<5	1,440	--	--	--	--	--	--	--
Re-sample	1/30/2007	--	--	8.29	607	10.1	--	--	--	1,850	--	--	--	--	--	--	--
	6/5/2007	1.6	26.1	6.97	849	11.0	9	3	1	355	520	245	15,200	10	<0.005	<0.010	82
	11/15/2007	1.2	16.1	7.06	803	7.8	2	1	4	134	--	--	--	--	--	--	--

See notes on page 16.

TABLE 2
RACER Trust - Coldwater Road Landfill Facility
Post-Closure Monitoring - Historical Analytical Results
Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

		Indicator Parameters					Dissolved Metals (µg/L)							Inorganics (mg/L)			
Well ID	Sample Date	TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
		MDEQ Residential Drinking Water Criteria & RBSLs					*100 (A)*	*1,000 (E)*	*100 (A)*	*2,400*							
B-18A	6/21/1995	2.7	<10	7.54	1,048	13.3	<20	<20	<30	150	--	--	--	--	--	--	--
	8/31/1995	3.0	<10	7.91	989	13.2	<20	<20	<40	<20	--	--	--	--	--	--	--
	2/9/1996	2.3	<10	7.42	1,021	9.3	<20	<20	<40	<20	--	--	--	--	--	--	--
	6/19/1996	1.4	<100	7.04	944	13.2	<20	<20	<20	<20	--	--	--	--	--	--	--
	8/21/1996	2.4	<5	7.49	1,041	12.8	<20	<20	<20	60	--	--	--	--	--	--	--
	11/13/1996	19.0	<5	7.22	1,331	6.4	<20	<20	<20	70	--	--	--	--	--	--	--
	5/6/1997	2.0	<100	6.50	900	10.0	<10	<10	13	10	--	--	--	--	--	--	--
	11/6/1997	4.0	<100	6.40	1,100	10.0	<10	<10	62	10	380	62	--	12	<0.005	<0.020	130
	5/4/1998	2.0	<5	6.72	862	11.8	<10	<10	<5	20	--	--	--	--	--	--	--
	11/5/1998	1.0	<10	6.00	1,090	11.8	<10	<10	<5	10	240	128	46,000	--	--	--	--
	12/23/1998	--	--	--	--	--	--	--	--	--	--	--	--	10	<0.005	<0.020	133
	4/26/1999	2.1	<100	8.10	921	14.0	<10	<10	<5	20	--	--	--	--	--	--	--
	11/5/1999	4.3	<100	7.10	832	14.0	<10	<10	<5	60	180	155	39,200	8	<0.005	<0.020	130
	4/26/2000	2.4	<100	7.50	980	10.4	<10	<10	<5	30	--	--	--	--	--	--	--
	12/8/2000	2.6	<10	6.96	990	9.9	<10	<10	15	<10	<10	--	34,500	7	<0.005	<0.020	126
Duplicate	12/8/2000	2.6	<10	--	--	--	<10	<10	13	<10	40	--	35,100	7	<0.005	<0.020	112
	5/16/2001	2.4	<100	7.91	1,160	12.9	<10	<10	<5	10	--	--	--	--	--	--	--
	10/17/2001	2.2	<100	7.09	1,020	12.2	<10	<10	<5	<10	350	--	35,400	7	<0.005	<0.020	132
	5/16/2002	1.5	<100	7.19	2,080	12.2	<10	<10	<5	10	--	--	--	--	--	--	--
	11/7/2002	1.9	<30	7.16	820	10.1	<5	<5	<5	<5	190	26	40,800	10	<0.005	<0.020	134
	6/4/2003	1.6	<30	6.92	790	13.1	<5	<5	<5	5	--	--	--	--	--	--	--
	11/13/2003	1	<30	7.68	1,180	7.1	<5	<5	<5	<5	160	<5	--	10	<0.005	<0.010	129
Duplicate	11/13/2003	--	--	--	--	--	--	--	--	--	--	--	--	11	<0.005	<0.010	130
	6/29/2004	1.2	<30	7.19	863	12.0	<5	<5	7	10	--	--	--	--	--	--	--
	12/9/2004	3	<30	6.19	960	10.5	<5	<5	9	12	900	363	37,900	14	<0.005	<0.010	127
	6/8/2005	2	<30	7.38	819	10.9	<5	<5	6	16	170	80	40,000	11	<0.005	<0.010	120
	12/8/2005	2.6	<30	9.73	1,120	10.1	11	<4	<5	10	390	170	47,000	--	--	--	--
	6/27/2006	1.2	<30	7.09	1,110	13.2	5	4	<5	46	170	50	48,200	13	<0.005	<0.010	125
	11/30/2006	1.4	119	7.18	1,100	11.5	5	<4	<5	9	--	--	--	--	--	--	--
	6/4/2007	1	19.9	7.01	1,070	13.2	9	3	3	14	110	22	51,800	15	<0.005	<0.010	114
	11/14/2007	<1	19	6.91	1,090	13.7	1	2	6	11	--	--	--	--	--	--	--
	6/25/2008	12	34.1	7.10	1,060	20.4	<5	2	<5	11	310	<5	54,800	15	<0.005	<0.010	110
	11/18/2008	<1	<30	6.58	1,088	2.9	<5	<1	<5	<5	--	--	--	--	--	--	--
	6/24/2009	<1	<30	7.25	1,060	26.2	<5	1	<5	15	<20	<5	53,100	16	<0.005	<0.010	111
	11/18/2009	2	<30	6.89	1,070	11.7	<5	<4	<5	45	--	--	--	--	--	--	--
	6/17/2010	1	<30	7.19	1,080	17.5	<5	<4	<5	8	<20	<5	45,500	15	<0.005	<0.020	109
	11/10/2010	2	28	6.91	1,065	9.5	12	<4	<5	<5	--	--	--	--	--	--	--
	6/21/2011	1.2	<30	7.16	1,031	18.8	10	<4	5	12	240	<5	46,100	17	<0.005	<0.010	103
Replicate	6/21/2011	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	--
	11/15/2011	1	28	7.01	1,063	12.0	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/27/2012	1.2	<40	6.99	1,057	14.4	<5	<4	<5	<5	30	26	50,000	18	<0.005	<0.02	103
Duplicate	6/27/2012	1.2	<40	6.99	1,054	14.4	<5	<4	<5	5	40	27	46,500	18	<0.005	<0.02	101
	12/6/2012	1.5	<40	7.03	1,071	9.3	<5	<4	5	9	--	--	--	--	--	--	--
	6/5/2013	1.5	4.7	7.17	1,040	14.6	<5	<4	<5	31	20	12	43,900	19	<0.005	<0.02	110
	11/5/2013	1.4	<10	7.15	1,063	12.1	<5	<4	<5	11	--	--	--	--	--	--	--
	6/24/2014	1.5	<30	7.03	1,048	12.8	<5	<5	6	7	<20	20	20,500	18	<0.005	<0.02	107
	11/19/2014	1.4	16	7.10	1,073	6.27	<5	<4	5	7	--	--	--	--	--	--	--
Duplicate	11/19/2014	1.5	<60	7.10	1,072	6.27	<5	<4	5	7	--	--	--	--	--	--	--
	6/23/2015	1.3	<30	6.95	1,060	15.5	<5	<5	<5	<5	30	10	43,600	18	<0.005	<0.02	110
	11/18/2015	1.4	<30	7.03	1,065	12.2	<5	<5	<5	5	--	--	--	--	--	--	--
	6/23/2016	1.4	55	7.08	1,063	13.8	<5	<5	<5	<5	30	7	42,400	19	<0.005	<0.02	108
	11/30/2016	1.2	<30	7.10	1,059	11.4	<5	<5	<5	7	--	--	--	--	--	--	--
	6/20/2017	**1.5**	**<30**	**6.97**	**1,075**	**12.7**	**<5**	**<5**	**<5**	**8**	**<20**	**27**	**36,300**	**18**	**<0.005**	**<0.02**	**118**

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TABLE 2
RACER Trust - Coldwater Road Landfill Facility
Post-Closure Monitoring - Historical Analytical Results
Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

		Indicator Parameters					Dissolved Metals (µg/L)							Inorganics (mg/L)			
Well ID	Sample Date	TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
		MDEQ Residential Drinking Water Criteria & RBSLs					*100 (A)*	*1,000 (E)*	*100 (A)*	*2,400*							
	6/21/1995	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--
	8/31/1995	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--
	2/9/1996	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--
	6/19/1996	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--
B-19A	8/21/1996	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--
	11/13/1996	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--
	5/6/1997	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--
	11/6/1997	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	WD	WD	WD	WD
	5/4/1998	3.0	<5	6.84	1,480	10.1	<10	<10	<5	30	--	--	--	--	--	--	--
	11/5/1998	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--
	12/23/1998	--	--	--	--	--	--	--	--	--	--	--	--	NS	NS	NS	NS
	4/26/1999	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--
	11/5/1999	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/26/2000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--
	12/8/2000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/16/2001	4.0	<100	7.14	1,050	11.8	<10	<10	<5	<10	--	--	--	--	--	--	--
	10/17/2001	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/16/2002	6.0	<100	7.19	1,740	10.6	<10	<10	<5	10	--	--	--	--	--	--	--
	11/7/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/4/2003	5.8	<30	6.92	1,350	12.9	<5	<5	<5	<5	--	--	--	--	--	--	--
	11/13/2003	3.4	<30	7.59	1,620	10.2	<5	<5	<5	<5	20	<5	--	148	<0.005	<0.010	229
	6/29/2004	3.9	<30	7.17	1,316	14.7	<5	<5	<5	8	--	--	--	--	--	--	--
	12/9/2004	5.0	33	6.24	1,340	9.9	<5	<5	<5	9	240	11	111,000	116	<0.005	<0.010	233
Duplicate	12/9/2004	5.0	<30	--	--	--	<5	<5	<5	7	170	<5	114,000	116	<0.005	<0.010	233
B-19AR	6/7/2005	3.0	<30	7.09	829	12.2	<5	<5	7	<5	1,320	228	15,700	52	<0.005	<0.010	130
Duplicate	12/8/2005	5.5	<30	--	1,390	--	10	<4	<5	20	160	<20	81,400	--	--	--	--
	12/8/2005	5.3	<30	7.13	1,390	12.3	10	<4	<5	<10	150	<20	74,800	--	--	--	--
Re-sample	2/14/2006	--	--	7.95	840	5.9	<5	--	--	--	--	--	--	--	--	--	--
	6/29/2006	2.7	<30	7.58	860	12.0	<5	<4	12	21	240	210	22,400	51	<0.005	<0.010	153
	11/30/2006	6.2	33.7	7.18	1,300	11.4	5	<4	<5	<5	--	--	--	--	--	--	--
	6/7/2007	2	<30	6.97	899	11.4	6	4	4	9	70	21	19,700	58	<0.005	<0.010	136
	11/13/2007	1.5	<30	7.27	1,070	12.1	3	7	26	11	--	--	--	--	--	--	--
	6/25/2008	2.4	38.8	7.13	1,060	17.4	<5	3	<5	16	380	9	18,500	58	<0.005	<0.010	148
	11/18/2008	1.3	<30	7.00	1,052	8.0	<5	1	<5	14	--	--	--	--	--	--	--
	6/24/2009	1.0	<30	7.74	911	17.3	<5	2	<5	<5	36	<5	21,200	60	<0.005	<0.010	147
	11/19/2009	2	<30	7.41	994	10.4	<5	<4	<5	7	--	--	--	--	--	--	--
	6/15/2010	2	<30	7.57	992	16.1	<5	<4	<5	<5	<20	<5	19,800	59	<0.005	<0.020	154
	11/10/2010	2	<30	6.91	1,128	8.7	12	<4	<5	<5	--	--	--	--	--	--	--
	6/22/2011	1.5	<30	7.35	902	17.2	5	<4	5	<5	240	<5	22,400	64	<0.005	<0.010	140
Replicate	6/22/2011	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	--
	11/16/2011	2	26	7.06	1,091	8.4	<5	<4	<5	5	--	--	--	--	--	--	--
	6/27/2012	1.5	<40	7.78	1,005	13.3	<5	<4	<5	<5	<20	<5	23,200	62	<0.005	<0.02	145
	12/6/2012	1.8	<40	7.36	1,129	10.2	<5	<4	5	6	--	--	--	--	--	--	--
	6/5/2013	1.5	39	8.16	777	13.0	<5	<4	<5	25	40	<5	27,700	72	<0.005	<0.02	136
	11/6/2013	1.6	3.6	7.33	1,104	11.6	<5	<4	10	<5	--	--	--	--	--	--	--
	6/23/2014	2.0	23	8.40	817	17.3	<5	<5	5	<5	<20	<5	11,900	74	<0.005	<0.02	136
	11/20/2014	2.1	190	7.37	1,038	6.16	<5	6	6	10	--	--	--	--	--	--	--
	6/23/2015	1.5	<30	6.77	1,165	20.2	<5	6	<5	26	30	50	28,700	72	<0.005	<0.02	132
	11/19/2015	1.4	17	6.90	1,170	10.6	<5	<5	7	7	--	--	--	--	--	--	--
	6/27/2016	1.5	71	8.13	712	18.8	<5	<5	<5	<5	40	<5	26,700	70	<0.005	<0.02	128
	11/30/2016	1.8	12	7.39	1,104	11.2	14	14	20	39	--	--	--	--	--	--	--
Re-sample	1/12/2017	--	--	7.34	--	11.1	<5	<5	6	11	--	--	--	--	--	--	--
	6/21/2017	**2.0**	**30**	**7.29**	**1,064**	**12.1**	**<5**	**<5**	**<5**	**<5**	**<20**	**13**	**28,200**	**75**	**<0.005**	**<0.02**	**131**

See notes on page 16.

TABLE 2
RACER Trust - Coldwater Road Landfill Facility
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Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

		Indicator Parameters					Dissolved Metals (µg/L)							Inorganics (mg/L)			
Well ID	Sample Date	TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
		MDEQ Residential Drinking Water Criteria & RBSLs					*100 (A)*	*1,000 (E)*	*100 (A)*	*2,400*							
B-20D	6/21/1995	2.8	<10	8.27	771	15.1	<20	<20	<30	<20	--	--	--	--	--	--	--
	8/31/1995	4.7	47	8.10	1,204	14.6	<20	20	<40	<20	--	--	--	--	--	--	--
	2/9/1996	21.0	38	7.12	801	9.1	32	28	54	120	--	--	--	--	--	--	--
	6/19/1996	2.4	<100	7.92	745	11.9	<20	<20	<20	<20	--	--	--	--	--	--	--
	8/21/1996	3.0	<5	7.97	750	13.1	<20	<20	<20	40	--	--	--	--	--	--	--
	11/13/1996	16.0	<5	7.69	1,075	6.7	<20	<20	<20	40	--	--	--	--	--	--	--
	5/6/1997	3.0	<100	6.80	640	10.0	<10	<10	15	10	--	--	--	--	--	--	--
	11/6/1997	5.0	<100	6.70	700	10.0	<10	20	41	<10	260	35	--	5	<0.005	<0.020	101
	5/4/1998	4.0	<5	6.77	579	12.2	<10	<10	<5	<10	--	--	--	--	--	--	--
	11/5/1998	3.0	11	6.47	667	13.5	<10	<10	<5	10	<10	18	31,000	--	--	--	--
Duplicate	11/5/1998	5.0	16	6.48	677	13.6	<10	<10	<5	10	170	8	30,300	--	--	--	--
	12/23/1998	--	--	--	--	--	--	--	--	--	--	--	--	3	<0.005	<0.020	92
Duplicate	12/23/1998	--	--	--	--	--	--	--	--	--	--	--	--	3	<0.005	<0.020	89
	4/26/1999	3.2	<100	8.40	506	13.0	<10	<10	<5	10	--	--	--	--	--	--	--
	11/5/1999	5.3	<100	7.45	677	12.5	<10	<10	<5	60	130	60	31,400	33	<0.005	<0.020	105
	4/26/2000	3.2	<100	7.40	760	14.9	<10	<10	<5	<10	--	--	--	--	--	--	--
	12/8/2000	3.2	<10	7.45	780	4.7	<10	<10	15	<10	20	--	19,700	2	<0.005	<0.020	113
	5/15/2001	2.7	<100	6.99	590	13.0	<10	<10	<5	<10	--	--	--	--	--	--	--
	10/18/2001	2.5	<100	7.85	930	10.4	<10	<10	<5	<10	300	--	20,600	2	<0.005	<0.020	105
	5/16/2002	3.2	<100	7.21	780	11.9	<10	<10	<5	10	--	--	--	--	--	--	--
	11/7/2002	1.8	<30	7.59	610	8.7	<5	<5	<5	<5	250	74	20,900	3	<0.005	<0.020	115
	6/3/2003	2.5	<30	7.36	620	12.8	<5	<5	<5	<5	--	--	--	--	--	--	--
	11/13/2003	1.3	<30	7.97	630	7.7	<5	<5	5	<5	200	15	--	5	<0.005	<0.010	127
	6/29/2004	9.4	<30	7.48	666	13.1	<5	<5	11	<5	--	--	--	--	--	--	--
	12/10/2004	2.0	<30	6.59	830	10.8	<5	<5	11	10	2,110	92	16,800	3	<0.005	<0.010	148
	6/7/2005	4.0	<30	7.30	707	11.9	7	<5	5	<5	2,140	66	16,500	<5	<0.005	<0.010	155
	12/8/2005	4.1	<30	4.84	957	11.1	11	<4	26	<10	120	120	20,600	--	--	--	--
	6/28/2006	1.7	<30	7.36	979	12.5	7	<4	<5	5	2,120	60	17,600	2	<0.005	<0.010	169
	11/30/2006	3.4	<30	7.49	980	12.5	6	<4	6	<5	--	--	--	--	--	--	--
	6/8/2007	3.4	30.9	6.72	929	13.4	10	22	19	124	610	160	25,500	4	<0.005	0.074	144
	11/13/2007	2.1	<30	7.19	932	13.5	3	1	13	9	--	--	--	--	--	--	--
	6/25/2008	<1	<60	7.01	946	15.5	<5	2	<5	7	2,400	55	19,500	4	<0.005	<0.010	164
	11/18/2008	1	36.1	6.89	1,006	12.6	<5	4	6	22	--	--	--	--	--	--	--
	6/24/2009	1.1	<30	7.17	1,000	19.4	<5	<1	<5	<5	1,720	56	21,000	3	<0.005	<0.010	180
Duplicate	6/24/2009	<1	<30	7.17	1,010	19.4	<5	<1	<5	<5	1,640	56	20,800	3	<0.005	<0.010	183
	11/18/2009	2	<30	7.02	1,030	12.1	<5	<4	<5	5	--	--	--	--	--	--	--
	6/16/2010	2	<30	7.30	1,020	15.1	<5	<4	<5	<5	1,930	49	19,000	2	<0.005	<0.020	177
	11/9/2010	3	<30	7.02	998	11.7	11	<4	<5	<5	--	--	--	--	--	--	--
	6/22/2011	1.6	<30	7.23	967	15.5	9	<4	<5	13	2,550	54	18,600	<5	<0.005	<0.010	164
Replicate	6/22/2011	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	--
	11/16/2011	2	50	7.02	1,006	9.8	<5	<4	<5	5	--	--	--	--	--	--	--
Duplicate	11/16/2011	2	26	7.02	1,002	9.8	<5	<4	<5	6	--	--	--	--	--	--	--
	6/25/2012	2	15	6.79	1,003	12.8	<5	<4	<5	<5	1,700	53	21,400	<5	<0.005	<0.02	183
	12/6/2012	1.8	<40	7.54	1,008	9.8	<5	<4	<5	7	--	--	--	--	--	--	--
	6/5/2013	1.7	<10	7.00	1,000	11.5	<5	<4	<5	11	1,840	48	19,500	<5	<0.005	<0.02	201
Duplicate	6/5/2013	1.9	<10	7.00	1,000	11.5	<5	<4	<5	<5	1,780	47	17,100	<5	<0.005	<0.02	200
	11/5/2013	1.7	NS	7.22	992	11.8	<5	<4	<5	39	--	--	--	--	--	--	--
	6/23/2014	1.9	<30	7.01	972	13.8	<5	<5	5	<5	1,360	47	8,620	<5	<0.005	<0.02	192
	6/24/2015	1.8	<30	7.13	959	13.7	<5	<5	<5	<5	1,960	48	18,500	<10	<0.005	<0.02	178
Duplicate	6/24/2015	1.7	<30	7.13	958	13.7	<5	<5	<5	<5	1,970	50	18,600	<10	<0.005	<0.02	178
	6/23/2016	1.7	68	7.01	945	17.4	<5	<5	<5	<5	1,880	65	18,500	<5	<0.005	<0.02	161
	6/22/2017	**1.6**	**<30**	**7.11**	**926**	**12.4**	**<5**	**<5**	**<5**	**<5**	**2,080**	**48**	**18,700**	**<5**	**<0.005**	**<0.02**	**144**
Duplicate	**6/22/2017**	**1.6**	**<30**	**7.11**	**926**	**12.4**	**<5**	**<5**	**<5**	**<5**	**2,140**	**49**	**18,300**	**<5**	**<0.005**	**<0.02**	**146**

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TABLE 2
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Post-Closure Monitoring - Historical Analytical Results
Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

		Indicator Parameters					Dissolved Metals (µg/L)								Inorganics (mg/L)		
Well ID	Sample Date	TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
		MDEQ Residential Drinking Water Criteria & RBSLs					*100 (A)*	*1,000 (E)*	*100 (A)*	*2,400*							
B-21D	6/21/1995	4.2	<10	8.27	870	14.5	<20	<20	<30	61	--	--	--	--	--	--	--
	8/31/1995	3.3	19	8.09	684	14.2	<20	21	<40	<20	--	--	--	--	--	--	--
	2/9/1996	4.1	<10	7.70	646	8.6	<20	<20	<40	<20	--	--	--	--	--	--	--
	6/19/1996	5.3	<100	7.58	577	14.1	<20	<20	<20	<20	--	--	--	--	--	--	--
	8/21/1996	2.5	<5	7.93	576	13.8	<20	<20	<20	50	--	--	--	--	--	--	--
	11/13/1996	17.0	<5	7.28	810	8.8	<20	<20	<20	40	--	--	--	--	--	--	--
	5/6/1997	2.0	<100	6.82	530	10.2	<10	<10	8	<10	--	--	--	--	--	--	--
	11/6/1997	3.0	<100	6.70	540	10.0	<10	<10	30	<10	240	27	--	2	<0.005	<0.020	33
	5/4/1998	16.0	<5	6.90	480	11.5	<10	<10	<5	20	--	--	--	--	--	--	--
	11/5/1998	5.0	<10	7.24	565	7.8	<10	<10	<5	10	240	43	26,700	--	--	--	--
	12/23/1998	--	--	--	--	--	--	--	--	--	--	--	--	2	<0.005	<0.020	15
	4/26/1999	11.0	<100	8.24	506	13.0	<10	<10	<5	10	--	--	--	--	--	--	--
	11/5/1999	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/26/2000	2.5	<100	8.20	660	14.1	<10	<10	<5	<10	--	--	--	--	--	--	--
	12/8/2000	4.2	<10	8.44	680	7.1	<10	<10	11	<10	<10	--	29,600	2	<0.005	<0.020	36
	5/15/2001	1.9	<100	7.94	570	13.0	<10	<10	<5	10	--	--	--	--	--	--	--
Duplicate	5/15/2001	1.9	<100	8.32	560	13.0	<10	<10	<5	10	--	--	--	--	--	--	--
	10/18/2001	3.4	<100	7.61	570	13.7	<10	<10	<5	<10	200	--	22,200	1	<0.005	<0.020	41
	5/16/2002	6.1	<100	7.19	630	11.7	<10	<10	<5	<10	--	--	--	--	--	--	--
	11/7/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/3/2003	5.8	<30	7.27	510	13.0	<5	<5	<5	6	--	--	--	--	--	--	--
	11/13/2003	1.0	<30	7.81	710	8.7	<5	<5	<5	9	100	<5	--	4	<0.005	<0.010	48
	6/30/2004	4.0	<30	6.77	570	14.8	<5	<5	<5	7	--	--	--	--	--	--	--
	12/10/2004	2.0	<30	6.40	600	9.9	<5	<5	<5	7	1,330	44	20,100	2	<0.005	<0.010	50
	6/8/2005	3.0	<30	7.70	560	14.2	<5	<5	12	6	1,350	72	21,000	<5	<0.005	<0.010	44
	12/8/2005	4.4	<30	5.49	741	11.4	8	<4	8	<10	1,070	60	21,500	--	--	--	--
	6/28/2006	1.5	<30	7.44	718	12.8	<5	6	5	13	430	60	23,500	2	<0.005	<0.010	53
	11/30/2006	1.8	49.1	7.59	693	11.5	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/8/2007	1.2	<30	6.30	709	13.2	10	2	5	7	1,200	49	21,500	4	<0.005	<0.010	60
	11/14/2007	<1	<30	7.26	738	14.5	2	1	5	8	--	--	--	--	--	--	--
	6/26/2008	1.8	16.8	7.07	738	16.9	<5	1	<5	<5	1,390	40	22,700	3	<0.005	<0.010	60
	11/19/2008	1.1	<30	6.93	739	11.0	<5	<1	5	<5	--	--	--	--	--	--	--
	6/25/2009	<1	<30	6.69	743	16.1	<5	<1	<5	<5	1,210	34	25,100	3	<0.005	<0.010	64
	11/19/2009	2	41.2	7.17	745	10.2	<5	<4	<5	6	--	--	--	--	--	--	--
Duplicate	11/19/2009	2	<30	7.17	739	10.2	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/17/2010	2	<30	7.40	736	13.2	<5	<4	<5	<5	980	34	23,700	3	<0.005	<0.020	58
	11/10/2010	1	<30	7.28	739	11.0	11	<4	<5	<5	--	--	--	--	--	--	--
	6/22/2011	1.4	<30	7.41	718	19.5	10	<4	<5	<5	1,540	33	23,300	<5	<0.005	<0.010	61
Replicate	6/22/2011	--	--	--	--	--	7	--	--	--	--	--	--	--	--	--	--
	11/16/2011	1	7.9	7.16	753	10.6	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/26/2012	1.3	<40	7.26	745	19.5	<5	<4	<5	<5	640	42	25,800	<5	<0.005	<0.02	66
	12/6/2012	1.6	<40	7.57	754	9.1	<5	<4	<5	8	--	--	--	--	--	--	--
	6/5/2013	1.6	<10	7.16	742	13.5	<5	<4	<5	26	990	31	24,400	<5	<0.005	<0.02	68
	11/6/2013	1.5	<10	7.49	760	12.1	<5	<4	<5	14	--	--	--	--	--	--	--
	6/24/2014	1.5	<30	7.43	754	16.5	<5	<5	<5	<5	850	28	11,200	<5	<0.005	<0.02	77
	6/24/2015	1.4	<30	7.19	683	15.2	<5	<5	<5	<5	710	37	24,700	<10	<0.005	<0.02	81
	6/24/2016	1.4	59	6.94	790	15.2	<5	<5	<5	<5	1,290	35	22,600	<5	<0.005	<0.02	91
	6/21/2017	**1.4**	**<30**	**7.21**	**790**	**13.0**	**<5**	**<5**	**<5**	**<5**	**1,210**	**36**	**25,000**	**<5**	**<0.005**	**<0.02**	**90**

See notes on page 16.

TABLE 2
RACER Trust - Coldwater Road Landfill Facility
Post-Closure Monitoring - Historical Analytical Results
Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

		Indicator Parameters					Dissolved Metals (µg/L)								Inorganics (mg/L)		
Well ID	Sample Date	TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
		MDEQ Residential Drinking Water Criteria & RBSLs					*100 (A)*	*1,000 (E)*	*100 (A)*	*2,400*							
B-22D	6/21/1995	2.6	<10	7.71	573	15.5	<20	<20	370	<20	--	--	--	--	--	--	--
	8/31/1995	4.5	47	8.25	739	14.3	<20	<20	<40	47	--	--	--	--	--	--	--
	2/9/1996	6.9	<10	NS	NS	NS	<20	<20	<40	80	--	--	--	--	--	--	--
	6/19/1996	1.8	<100	7.51	600	13.4	<20	<20	<20	20	--	--	--	--	--	--	--
	8/21/1996	1.7	<5	8.08	608	14.2	<20	<20	<20	50	--	--	--	--	--	--	--
	11/13/1996	10.0	<5	7.22	817	7.7	<20	<20	<20	50	--	--	--	--	--	--	--
	5/6/1997	2.0	<100	6.67	550	10.1	<10	<10	<5	<10	--	--	--	--	--	--	--
	11/6/1997	7.0	<100	6.90	550	10.0	<10	<10	29	10	1,360	55	--	2	<0.005	<0.020	32
	5/4/1998	5.0	<5	7.07	501	11.7	<10	<10	<5	<10	--	--	--	--	--	--	--
	11/5/1998	6.0	<10	6.60	559	9.8	<10	<10	<5	10	1,180	47	23,800	--	--	--	--
	12/23/1998	--	--	--	--	--	--	--	--	--	--	--	--	2	<0.005	<0.020	28
	4/26/1999	18.0	<100	8.20	485	13.2	<10	<10	<5	10	--	--	--	--	--	--	--
	11/5/1999	2.6	<100	7.30	474	13.6	<10	<10	<5	20	90	31	27,900	2	<0.005	<0.020	29
	4/26/2000	2.5	<100	8.20	670	14.2	<10	<10	<5	<10	--	--	--	--	--	--	--
	12/8/2000	2.5	<10	7.49	510	5.4	<10	<10	8	<10	<10	--	26,500	2	<0.005	<0.020	31
	5/15/2001	6.7	<100	8.01	690	13.7	<10	<10	6	30	--	--	--	--	--	--	--
	10/18/2001	1.7	<100	7.59	2,610	10.2	<10	<10	<5	<10	200	--	27,800	1	<0.005	<0.020	33
	5/16/2002	3.2	<100	7.06	630	12.1	<10	<10	<5	<10	--	--	--	--	--	--	--
	11/7/2002	1.5	<30	7.39	480	8.8	<5	<5	<5	<5	120	11	25,200	2	<0.005	<0.020	35
	6/3/2003	2.3	<30	6.78	570	13.1	<5	<5	<5	<5	--	--	--	--	--	--	--
	11/14/2003	1.6	<30	8.05	660	9.8	<5	<5	<5	9	6	<5	--	3	<0.005	<0.010	37
	6/30/2004	1.7	<30	6.27	610	15.5	<5	<5	<5	6	--	--	--	--	--	--	--
	12/10/2004	2.0	<30	6.95	600	10.3	<5	<5	<5	6	1,280	37	25,100	2	<0.005	<0.010	42
	6/8/2005	2.0	<30	7.67	531	13.2	6	<5	<5	<5	1,370	38	23,700	<5	<0.005	<0.010	40
	12/8/2005	2.7	<30	5.75	702	11.7	10	<4	46	<10	2,200	250	25,400	--	--	--	--
	6/28/2006	<1	<30	7.48	682	13.0	<5	<4	<5	<5	1,290	30	25,800	2	<0.005	<0.010	42
	11/30/2006	2.2	<30	7.53	684	13.3	<5	<4	<5	7	--	--	--	--	--	--	--
Duplicate	11/30/2006	5.3	<30	7.53	676	13.3	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/8/2007	3.8	<30	6.59	680	14.3	7	2	1	5	1,180	32	28,100	3	<0.005	<0.010	46
Duplicate	6/8/2007	3.1	21.1	6.59	669	14.3	9	2	1	4	1,210	31	28,400	4	<0.005	<0.010	47
	11/14/2007	1.1	<30	7.30	710	14.2	2	2	3	6	--	--	--	--	--	--	--
	6/26/2008	1.7	22.6	7.09	694	19.3	<5	<1	<5	5	1,100	33	25,900	3	<0.005	<0.010	46
Duplicate	6/26/2008	2.6	<30	7.09	710	19.3	<5	<1	<5	7	1,150	34	26,400	3	<0.005	<0.010	46
	11/19/2008	8.9	<30	6.93	699	8.2	<5	<1	8	8	--	--	--	--	--	--	--
	6/25/2009	1.1	<30	6.74	705	16.6	<5	<1	<5	<5	1,340	30	28,500	2	<0.005	<0.010	54
	11/18/2009	2	<30	7.15	710	11.4	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/16/2010	2	<30	7.43	715	15.7	<5	<4	<5	<5	1,100	28	26,000	2	<0.005	<0.020	51
	11/11/2010	2	<30	7.31	704	10.3	11	<4	<5	<5	--	--	--	--	--	--	--
	6/21/2011	1.3	<30	7.35	705	17.0	9	<4	<5	<5	1,460	30	27,300	<5	<0.005	<0.010	50
Replicate	6/21/2011	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	--
	11/14/2011	2	76	7.39	714	10.1	<5	<4	<5	12	--	--	--	--	--	--	--
	6/25/2012	2	<40	6.45	714	12.7	<5	<4	<5	8	1,830	42	30,000	<5	<0.005	<0.02	51
	12/6/2012	1.6	<40	7.58	716	10.1	<5	<4	<5	9	--	--	--	--	--	--	--
	6/3/2013	1.6	46	6.81	701	15.6	<5	<4	<5	<5	1,000	27	28,100	<5	<0.005	<0.02	53
	11/6/2013	1.5	<10	7.52	713	11.4	<5	<4	<5	12	--	--	--	--	--	--	--
	6/24/2014	1.5	<30	7.46	707	14.7	<5	<5	<5	<5	850	26	12,700	<5	<0.005	<0.02	53
	6/23/2015	1.8	<30	7.46	710		<5	<5	<5	8	1,030	27	28,300	<10	<0.005	<0.02	55
	6/22/2016	2.4	100	7.19	716	13.0	<5	<5	<5	<5	920	27	27,100	<5	<0.005	<0.02	54
Duplicate	6/22/2016	2.4	29	7.19	716	13.0	<5	<5	<5	<5	950	28	27,300	<5	<0.005	<0.02	54
	6/21/2017	**1.5**	**<30**	**7.21**	**718**	**13.4**	**<5**	**<5**	**<5**	**<5**	**970**	**30**	**29,000**	**<5**	**<0.005**	**<0.02**	**54**

See notes on page 16.

TABLE 2
RACER Trust - Coldwater Road Landfill Facility
Post-Closure Monitoring - Historical Analytical Results
Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

		Indicator Parameters					Dissolved Metals (µg/L)								Inorganics (mg/L)		
Well ID	Sample Date	TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
		MDEQ Residential Drinking Water Criteria & RBSLs					*100 (A)*	*1,000 (E)*	*100 (A)*	*2,400*							
	6/21/1995	3.4	<10	7.27	680	15.1	<20	<20	<30	<20	--	--	--	--	--	--	--
	8/31/1995	3.9	96	8.24	845	15.4	<20	<20	<40	<20	--	--	--	--	--	--	--
	2/9/1996	3.8	34	7.54	751	11.3	<20	<20	<40	<20	--	--	--	--	--	--	--
	6/19/1996	2.2	<100	8.25	632	14.2	<20	<20	<20	<20	--	--	--	--	--	--	--
B-23D	8/21/1996	1.7	<5	8.94	691	14.6	<20	<20	<20	50	--	--	--	--	--	--	--
	11/13/1996	40.0	<5	7.66	977	7.6	<20	<20	<20	40	--	--	--	--	--	--	--
	5/6/1997	2.0	<100	6.80	610	11.0	<10	<10	9	<10	--	--	--	--	--	--	--
	11/6/1997	3.0	<100	6.00	620	10.0	<10	<10	31	<10	160	15	--	2	<0.005	<0.020	25
	5/4/1998	2.0	<5	6.38	558	12.2	<10	<10	<5	<10	--	--	--	--	--	--	--
	11/5/1998	5.0	<10	6.50	639	9.8	<10	<10	<5	70	<10	<5	29,700	--	--	--	--
	12/23/1998	--	--	--	--	--	--	--	--	--	--	--	--	2	<0.005	<0.020	21
	4/26/1999	3.6	<100	8.10	552	13.3	<10	<10	<5	<10	--	--	--	--	--	--	--
Duplicate	4/26/1999	3.0	<100	NS	NS	NS	<10	<10	<5	<10	--	--	--	--	--	--	--
	11/5/1999	3.4	<100	7.40	546	13.3	<10	<10	<5	<10	80	14	34,700	3	<0.005	<0.020	26
Duplicate	11/5/1999	3.1	<100	NS	NS	NS	<10	<10	<5	<10	90	15	33,300	3	<0.005	<0.020	25
	4/26/2000	3.2	<100	7.90	800	13.7	<10	<10	<5	<10	--	--	--	--	--	--	--
	12/8/2000	2.0	<10	6.99	570	7.0	<10	<10	7	<10	60	--	35,400	2	<0.005	<0.020	22
	5/15/2001	3.2	<100	7.88	790	13.1	<10	<10	<5	10	--	--	--	--	--	--	--
	10/17/2001	1.8	<100	7.46	600	11.3	<10	<10	<5	<10	170	--	32,800	2	<0.005	<0.020	23
	5/16/2002	5.4	<100	7.19	1200	11.2	<10	<10	<5	10	--	--	--	--	--	--	--
	11/7/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/3/2003	3.9	<30	6.86	640	12.9	<5	<5	<5	<5	--	--	--	--	--	--	--
Duplicate	6/3/2003	3.7	<30	--	--	--	<5	<5	<5	<5	--	--	--	--	--	--	--
	11/13/2003	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/30/2004	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--	--
	12/10/2004	2.0	<30	6.66	640.0	11.3	<5	<5	11	10	500	65	30,500	2	<0.005	<0.010	25
	6/7/2005	2.0	<30	7.34	594.0	12.2	<5	<5	<5	<5	2,520	49	20,600	25	<0.005	<0.010	60
Duplicate	6/7/2005	2.0	<30	--	--	--	<5	<5	<5	<5	2,580	48	20,600	25	<0.005	<0.010	59
	12/8/2005	3.8	<30	6.22	700.0	6.1	7	<4	<5	<10	370	60	39,200	--	--	--	--
	6/27/2006	1.2	<30	7.12	760.0	13.4	5	<4	<5	5	2,280	50	20,500	26	<0.005	0.010	67
	11/30/2006	2.2	<30	7.56	568.0	11.8	<5	<4	<5	6	--	--	--	--	--	--	--
	6/8/2007	1.1	33.7	6.49	736	13.1	7	1	1	5	1,100	43	23,800	28	<0.005	<0.010	62
	11/16/2007	<1	<30	7.28	780	21.4	2	1	3	8	--	--	--	--	--	--	--
	6/26/2008	2.0	27.2	7.00	753	18.2	<5	1	<5	<5	1,850	44	23,700	22	<0.005	<0.010	54
	11/21/2008	<1	<30	6.74	763	6.0	<5	<1	<5	19	--	--	--	--	--	--	--
	6/25/2009	<1	<30	6.73	776	18.9	<5	<1	<5	<5	1,500	43	23,900	29	<0.005	<0.010	63
	11/18/2009	2	<30	7.22	756	11.9	<5	<4	<5	10	--	--	--	--	--	--	--
	6/16/2010	2	<30	7.36	747	18.2	<5	<4	<5	<5	950	35	23,200	20	<0.005	<0.020	45
	11/11/2010	2	21.5	7.28	743	12.8	11	<4	<5	<5	--	--	--	--	--	--	--
Duplicate	11/11/2010	2	<30	7.28	742	12.8	11	<4	<5	<5	--	--	--	--	--	--	--
	6/21/2011	1.2	<30	7.33	721	18.0	8	<4	<5	<5	1,520	37	22,400	22	<0.005	<0.010	48
Replicate	6/21/2011	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	--
	11/15/2011	1	49	7.19	721	13.1	<5	<4	<5	8	--	--	--	--	--	--	--
	6/26/2012	1	<40	6.78	748	12.7	<5	<4	<5	<5	1,810	42	25,100	25	<0.005	<0.02	50
	12/5/2012	1.6	<40	6.63	755	9.6	<5	<4	<5	7	--	--	--	--	--	--	--
	6/3/2013	1.4	14	7.06	720	15.4	<5	<4	<5	<5	980	32	23,500	20	<0.005	<0.02	44
	11/5/2013	1.4	4	7.32	746	12.6	<5	<4	<5	28	--	--	--	--	--	--	--
	6/25/2014	3.0	<30	7.31	746	13.9	<5	<5	6	5	970	36	10,900	26	<0.005	0.025	51
	6/24/2015	1.9	<30	7.16	747	14.9	<5	<5	<5	<5	1,370	39	24,300	22	<0.005	<0.02	47
	6/22/2016	1.5	60	7.10	788	14.6	<5	<5	<5	<5	1,600	38	23,500	30	<0.005	<0.02	54
	6/21/2017	**1.5**	**<30**	**7.41**	**844**	**12.8**	**<5**	**<5**	**<5**	**<5**	**400**	**45**	**27,300**	**38**	**<0.005**	**<0.02**	**64**

See notes on page 16.

TABLE 2
RACER Trust - Coldwater Road Landfill Facility
Post-Closure Monitoring - Historical Analytical Results
Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

		Indicator Parameters					Dissolved Metals (µg/L)							Inorganics (mg/L)			
Well ID	Sample Date	TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
		MDEQ Residential Drinking Water Criteria & RBSLs					*100 (A)*	*1,000 (E)*	*100 (A)*	*2,400*							
	6/21/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/31/1995	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/9/1996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/19/1996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-24	8/21/1996	5.6	<5	7.80	1,502	12.7	<20	<20	<20	90	--	--	--	--	--	--	--
	11/13/1996	20.0	<5	7.09	2,030	7.8	<20	<20	<20	50	--	--	--	--	--	--	--
	5/6/1997	5.0	<100	6.40	1,700	10.0	<10	<10	31	10	--	--	--	--	--	--	--
	11/6/1997	--	--	--	--	--	--	--	--	--	--	--	--	NS	NS	NS	NS
	5/4/1998	4.0	<5	6.52	1,410	11.6	<10	<10	8	20	--	--	--	--	--	--	--
	11/5/1998	4.0	23	5.50	1,595	10.4	<10	<10	9	20	60	120	27,700	--	--	--	--
	12/23/1998	--	--	--	--	--	--	--	--	--	--	--	--	163	<0.005	<0.020	205
	4/26/1999	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--
	11/5/1999	NS	NS	7.20	1,152	13.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/26/2000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--
	12/8/2000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/15/2001	NS	NS	6.40	1,450	12.9	NS	NS	NS	NS	NS	NS	NS	--	--	--	--
	10/17/2001	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/16/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--
	11/7/2002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/3/2003	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--
	11/13/2003	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/30/2004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--
	12/9/2004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
B-24R	6/7/2005	8.0	<30	7.27	857	10.6	8	<5	<5	<5	10,600	448	27,100	49	<0.005	<0.010	206
B-24R	12/8/2005	6.6	<30	5.16	1,120	11.9	11	<4	<5	10	3,180	210	28,700	--	--	--	--
	6/28/2006	4.7	<30	7.31	1,080	11.9	6	<4	<5	<5	3,760	210	27,700	48	<0.005	<0.010	182
	11/30/2006	4.8	30	7.31	1,100	11.7	6	<4	<5	<5	--	--	--	--	--	--	--
	6/4/2007	4.5	110	7.19	1,080	11.0	9	2	2	19	2,400	194	27,900	47	<0.005	<0.010	184
	11/13/2007	4.1	30.1	7.13	1,130	14.0	3	1	5	7	--	--	--	--	--	--	--
	6/26/2008	4.3	<30	6.99	1,130	19.0	<5	1	<5	8	3,490	175	39,600	46	<0.005	<0.010	189
	11/18/2008	3.8	<30	6.76	1,125	5.3	<5	<1	<5	<5	--	--	--	--	--	--	--
	6/24/2009	5.2	<30	6.62	1,120	17.4	<5	<1	<5	<5	4,000	155	38,400	48	<0.005	<0.010	201
	11/18/2009	5	86.4	7.08	1,140	12.9	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/16/2010	4	22.7	7.02	1,150	16.3	<5	<4	<5	<5	1,880	222	39,500	46	<0.005	<0.020	196
	11/9/2010	5	26.8	6.90	1,136	13.5	11	<4	<5	<5	--	--	--	--	--	--	--
	6/21/2011	3.7	<30	7.11	1,136	17.5	10	<4	6	<5	1,130	255	51,700	45	<0.005	<0.010	206
Duplicate	6/21/2011	3.7	<30	7.11	1,137	17.5	8	<4	6	<5	1,070	255	52,000	45	<0.005	<0.010	206
Replicate	6/21/2011	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	--
Dup. Replicate	6/21/2011	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	--
	11/16/2011	4	24	7.69	1,141	11.1	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/26/2012	3.5	16	6.80	1,219	13.7	<5	<4	<5	<5	1,200	242	72,000	45	<0.005	<0.02	219
B-24R	12/6/2012	4.2	48	6.98	1,204	10.2	<5	<4	<5	6	--	--	--	--	--	--	--
B-24R	6/3/2013	4	4.8	7.19	1,127	11.4	<5	<4	<5	<5	110	130	38,600	45	<0.005	<0.02	227
	11/5/2013	4	5.5	7.16	1,203	12.6	<5	<4	<5	<5	--	--	--	--	--	--	--
Duplicate	11/5/2013	4	<10	7.16	1,203	12.6	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/24/2014	3.7	16	7.10	1,202	13.9	<5	8	8	9	60	238	24,300	45	<0.005	<0.02	243
Duplicate	6/24/2014	3.7	16	7.10	1,201	13.9	<5	<5	7	<5	8	231	25,000	46	<0.005	<0.02	240
	11/19/2014	3.9	21	6.98	1,290	5.44	<5	<4	11	<5	--	--	--	--	--	--	--
	6/24/2015	3.5	<30	7.03	1,235	15.4	<5	<5	7	<5	<20	240	59,600	44	<0.005	<0.02	261
	11/18/2015	3.6	19	7.03	1,234	12.9	<5	<5	5	<5	--	--	--	--	--	--	--
Duplicate	11/18/2015	3.5	18	7.03	1,233	12.9	<5	<5	6	7	--	--	--	--	--	--	--
	6/23/2016	3.2	110	6.88	1,275	15.0	<5	<5	<5	<5	320	210	67,800	45	<0.005	<0.02	245
	11/29/2016	3.4	12	7.19	1,220	10.7	<5	<5	<5	<5	--	--	--	--	--	--	--
	6/20/2017	**3.1**	**14**	**7.10**	**1,307**	**11.4**	**<5**	**<5**	**<5**	**<5**	**<20**	**74**	**74,400**	**48**	**<0.005**	**<0.02**	**246**

See notes on page 16.

TABLE 2
RACER Trust - Coldwater Road Landfill Facility
Post-Closure Monitoring - Historical Analytical Results
Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

		Indicator Parameters					Dissolved Metals (µg/L)							Inorganics (mg/L)			
Well ID	Sample Date	TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
		MDEQ Residential Drinking Water Criteria & RBSLs					*100 (A)*	*1,000 (E)*	*100 (A)*	*2,400*							
B-27D	12/8/2005	3.7	<30	5.14	714	4.8	9	<4	6	<10	240	140	34,200	--	--	--	--
	6/27/2006	1.3	<30	7.11	644	13.5	6	<4	7	6	1,050	110	32,300	--	--	--	--
	11/30/2006	<1	<30	7.49	540	11.7	<5	<4	<5	6	--	--	--	--	--	--	--
	6/8/2007	4	25.7	6.58	628	14.6	9	2	3	36	1,520	58	36,300	4	<0.005	<0.010	23
	11/15/2007	1.9	<30	7.33	649	11.6	2	1	5	32	--	--	--	--	--	--	--
	6/26/2008	1.7	<30	7.05	659	16.3	<5	<1	<5	<5	300	59	33,900	2	<0.005	<0.010	23
	11/21/2008	1.3	<30	6.81	667	6.6	<5	<1	<5	<5	--	--	--	--	--	--	--
	6/25/2009	<1	<30	6.79	651	16.5	<5	1	<5	<5	2,030	52	37,200	2	<0.005	<0.010	20
	11/18/2009	2	<30	7.29	653	11.2	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/15/2010	2	<30	7.41	646	15.7	<5	<4	<5	<5	1,250	36	32,200	2	<0.005	<0.020	19
Duplicate	6/15/2010	2	31.2	7.41	652	15.7	<5	<4	<5	<5	1,220	35	31,700	2	<0.005	<0.020	20
	11/9/2010	2	<30	7.18	651	13.3	10	<4	<5	<5	--	--	--	--	--	--	--
	6/21/2011	1.5	<30	7.47	640	15.6	9	<4	<5	<5	1,370	29	34,600	<5	<0.005	<0.010	19
Replicate	6/21/2011	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	--
	11/15/2011	1	34	7.22	652	12.1	<5	<4	6	8	--	--	--	--	--	--	--
	6/26/2012	1.5	<40	7.17	653	13.0	<5	<4	<5	<5	1,450	28	34,200	<5	<0.005	<0.02	20
	12/5/2012	1.7	<40	6.79	654	11.0	<5	<4	<5	10	--	--	--	--	--	--	--
	6/3/2013	1.5	4.3	8.34	645	12.1	<5	<4	<5	<5	1,670	29	32,500	<5	<0.005	<0.02	21
	11/5/2013	1.8	<10	7.37	640	12.0	<5	<4	<5	28	--	--	--	--	--	--	--
	6/24/2014	1.9	<30	7.40	637	16.0	<5	<5	<5	<5	680	34	15,800	<5	<0.005	<0.02	18
	6/22/2015	1.8	<30	7.20	635	14.2	<5	<5	<5	<5	710	27	34,100	<5	<0.005	<0.02	18
	6/22/2016	1.6	30	7.20	640	14.1	<5	<5	<5	<5	930	20	33,200	<5	<0.005	<0.02	15
	6/20/2017	**1.4**	**<30**	**7.40**	**642**	**14.7**	**<5**	**<5**	**<5**	**<5**	**1,220**	**43**	**35,600**	**<5**	**<0.005**	**<0.02**	**17**

See notes on page 16.

TABLE 2
RACER Trust - Coldwater Road Landfill Facility
Post-Closure Monitoring - Historical Analytical Results
Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

		Indicator Parameters					Dissolved Metals (µg/L)							Inorganics (mg/L)			
Well ID	Sample Date	TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
		MDEQ Residential Drinking Water Criteria & RBSLs					*100 (A)*	*1,000 (E)*	*100 (A)*	*2,400*							
B-28	11/21/2005	--	--	6.21	994	12.3	--	--	--	<5	--	--	--	--	--	--	--
Duplicate	11/21/2005	--	--	6.21	--	12.3	--	--	--	7	--	--	--	--	--	--	--
	6/27/2006	3	<30	7.12	828	13.2	5	<4	<5	18	2,380	210	17,000	--	--	--	--
	12/1/2006	2.4	<30	7.48	812	12.3	<5	<4	<5	5	--	--	--	--	--	--	--
Duplicate	12/1/2006	3.3	<30	7.48	810	12.3	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/5/2007	2.1	<30	6.84	845	10.6	9	2	3	6	1,690	160	25,100	12	<0.005	<0.010	87
	11/15/2007	2.5	15	6.81	816	9.1	3	2	5	11	--	--	--	--	--	--	--
	6/27/2008	1.8	<30	6.87	840	17.6	<5	1	<5	5	370	84	16,300	10	<0.005	<0.010	88
	11/19/2008	1.1	<30	6.75	804	7.0	<5	<1	<5	<5	--	--	--	--	--	--	--
	6/24/2009	1.1	<30	6.96	822	19.5	<5	<1	<5	<5	204	132	14,600	10	<0.005	<0.010	84
	11/18/2009	2	<30	6.94	814	11.6	<5	<4	<5	20	**--**	**--**	**--**	--	--	--	--
	6/16/2010	2	<30	7.02	841	17.6	<5	<4	<5	<5	790	173	19,100	12	<0.005	<0.020	78
	11/10/2010	3	<30	7.05	813	13.3	18	<4	<5	<5	--	--	--	--	--	--	--
	6/21/2011	1.5	<30	7.23	837	14.1	9	<4	5	<5	1,380	130	23,400	12	<0.005	<0.010	80
Replicate	6/21/2011	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--	--
	11/15/2011	2	160	7.17	823	12.5	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/26/2012	2	<40	6.45	849	13.0	<5	<4	<5	<5	1,960	84	29,800	12	<0.005	<0.02	80
Duplicate	12/6/2012	1.6	<40	7.25	823	11.4	<5	<4	<5	<5	--	--	--	--	--	--	--
	12/6/2012	1.7	<40	7.25	823	11.4	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/3/2013	1.5	10	6.88	834	13.1	<5	<4	5	<5	1,310	111	26,000	12	<0.005	<0.02	87
	11/5/2013	1.6	<10	7.26	842	12.9	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/24/2014	1.5	<30	7.03	852	12.2	<5	9	<5	<5	1,490	53	15,400	12	<0.005	<0.02	89
Replicate	7/28/2014	--	--	--	--	--	--	<5	--	--	--	--	--	--	--	--	--
	11/19/2014	1.6	<60	7.05	844	7.48	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/22/2015	1.5	<30	7.04	860	13.4	<5	<5	<5	<5	3,330	53	37,100	11	<0.005	<0.02	92
	11/18/2015	1.6	<30	7.13	849	13.8	<5	<5	<5	6	--	--	--	--	--	--	--
	6/24/2016	1.6	49	7.18	866	15.0	<5	<5	<5	<5	4,960	53	45,800	11	<0.005	<0.02	92
	11/29/2016	1.5	<30	7.27	853	12.6	<5	<5	<5	<5	--	--	--	--	--	--	--
Duplicate	11/29/2016	1.5	16	7.27	860	12.6	<5	<5	<5	<5	--	--	--	--	--	--	--
	6/20/2017	**1.6**	**18**	**7.05**	**863**	**11.4**	**<5**	**<5**	**<5**	**<5**	**80**	**35**	**30,000**	**13**	**<0.005**	**<0.02**	**106**

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TABLE 2
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Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

		Indicator Parameters					Dissolved Metals (µg/L)							Inorganics (mg/L)			
Well ID	Sample Date	TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
		MDEQ Residential Drinking Water Criteria & RBSLs					*100 (A)*	*1,000 (E)*	*100 (A)*	*2,400*							
B-29	11/21/2005	--	--	6.79	1,870	11.7	--	--	--	11	--	--	--	--	--	--	--
	6/27/2006	--	--	7.14	1,480	12.3	6	<4	<5	28	1,480	140	47,300	--	--	--	--
	12/1/2006	--	--	7.31	--	11.4	8	<4	5	9	--	--	--	--	--	--	--
	6/5/2007	2.4	31.1	6.91	1,402	10.3	11	3	3	8	800	118	46,300	70	<0.005	<0.010	218
	11/15/2007	3.2	17.3	6.89	1,370	12.2	4	2	7	14	--	--	--	--	--	--	--
Duplicate	11/15/2007	2.7	16.5	6.89	1,380	12.2	3	2	7	10	--	--	--	--	--	--	--

See notes on page 16.

TABLE 2
RACER Trust - Coldwater Road Landfill Facility
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Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

		Indicator Parameters					Dissolved Metals (µg/L)							Inorganics (mg/L)			
Well ID	Sample Date	TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
		MDEQ Residential Drinking Water Criteria & RBSLs					*100 (A)*	*1,000 (E)*	*100 (A)*	*2,400*							
B-30	11/21/2005	--	--	6.78	1,450	12.1	--	--	--	212	--	--	--	--	--	--	--
	6/27/2006	--	--	7.10	1,330	12.3	6	<4	<5	16	2,690	100	21,300	--	--	--	--
	12/1/2006	--	--	7.27	--	10.6	6	<4	<5	8	--	--	--	--	--	--	--
	6/5/2007	2.7	<30	6.98	1,542	10.9	11	4	4	17	1,260	171	25,000	35	<0.005	<0.010	452
	11/15/2007	2.4	17.4	6.97	1,510	9.3	4	3	7	14	--	--	--	--	--	--	--

See notes on page 16.

TABLE 2
RACER Trust - Coldwater Road Landfill Facility
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Physical Parameters, TOC, TOX, Metals, Chloride, Cyanide, Phenols, and Sulfate

		Indicator Parameters					Dissolved Metals (µg/L)							Inorganics (mg/L)			
Well ID	Sample Date	TOC (mg/L)	TOX (µg/L)	pH	SpC	Temp	Cr	Cu	Ni	Zn	Fe	Mn	Na	Chloride	Cyanide	Phenols	Sulfate
		MDEQ Residential Drinking Water Criteria & RBSLs					*100 (A)*	*1,000 (E)*	*100 (A)*	*2,400*							
Equipment Blank	12/10/2004	<1	<30	--	--	--	<5	<5	<5	11	<20	13	810	<2	<0.005	<0.010	<2
	6/8/2005	<1	<30	--	--	--	<5	<5	<5	<5	<20	<5	120	<5	<0.005	<0.010	<5
	12/8/2005	<1	<30	--	5	--	<5	<4	<5	<10	<100	<20	<1000	--	--	--	--
	6/28/2006	<1	<30	--	12	--	<5	<4	<5	<5	<100	<20	<1000	<1	<0.005	<0.010	<1
	12/1/2006	<1	<30	--	26	--	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/8/2007	<1	26	--	13	--	<5	1	1	13	<20	11	340	<2	<0.005	<0.010	<2
	11/15/2007	<1	<30	--	4	--	<5	1	1	9	--	--	--	--	--	--	--
	6/26/2008	<1	<30	--	3	--	<5	1	<5	<5	100	7	420	<2	<0.005	<0.010	<2
	11/19/2008	<1	<30	--	6	--	<5	1	<5	<5	--	--	--	--	--	--	--
	6/25/2009	<1	<30	--	24	--	<5	<1	<5	<5	110	<5	200	<2	<0.005	<0.010	<2
	11/19/2009	0.7	<30	--	5	--	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/17/2010	0.4	<30	--	4	--	<5	<4	<5	<5	<20	<5	<200	<2	<0.005	<0.020	<2
	11/11/2010	1	<30	--	1.2	--	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/22/2011	0.88	<30	--	3	--	<5	<4	<5	<5	<20	<5	460	<2	<0.005	<0.010	<2
	11/16/2011	<1	4.9	--	1,330	--	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/27/2012	<1	<20	--	3	--	<5	<4	<5	13	50	<5	6350	<2	<0.005	<0.02	<2
	12/6/2012	<1	<40	--	17.0	--	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/6/2013	<1	<10	--	1,370	--	<5	<4	<5	<5	<20	<5	<500	<2	<0.005	<0.02	<2
	11/6/2013	<1	<10	--	2,350	--	<5	<4	<5	<5	--	--	--	--	--	--	--
	6/24/2014	<1	<30	--	1,930	--	<5	<5	<5	<5	<20	<5	<1000	<2.5	<0.005	<0.02	<2.5
	6/24/2015	<1	<30	--	4.09	--	<5	<5	<5	<5	<20	<5	140	<2	<0.005	<0.02	<2
	6/24/2016	<1	6.2	--	2,220	--	<5	<5	<5	<5	<20	<5	<500	<2.5	<0.005	<0.02	<2
	6/22/2017	**<1**	**<30**	**--**	**5,780**	**--**	**<5**	**<5**	**<5**	**<5**	**<20**	**<5**	**<200**	**<5**	**<0.005**	**<0.02**	**<5**

Notes

1) < = Not detected.
2) NS = Not sampled, insufficient liquid encountered.
3) NR = No Result, insufficient sample volume.
4) T = Temperature in degrees Celsius.
5) -- = Not analyzed.
6) Dup = Duplicate sample.

Exceeds MDEQ Residential Drinking Water Criteria

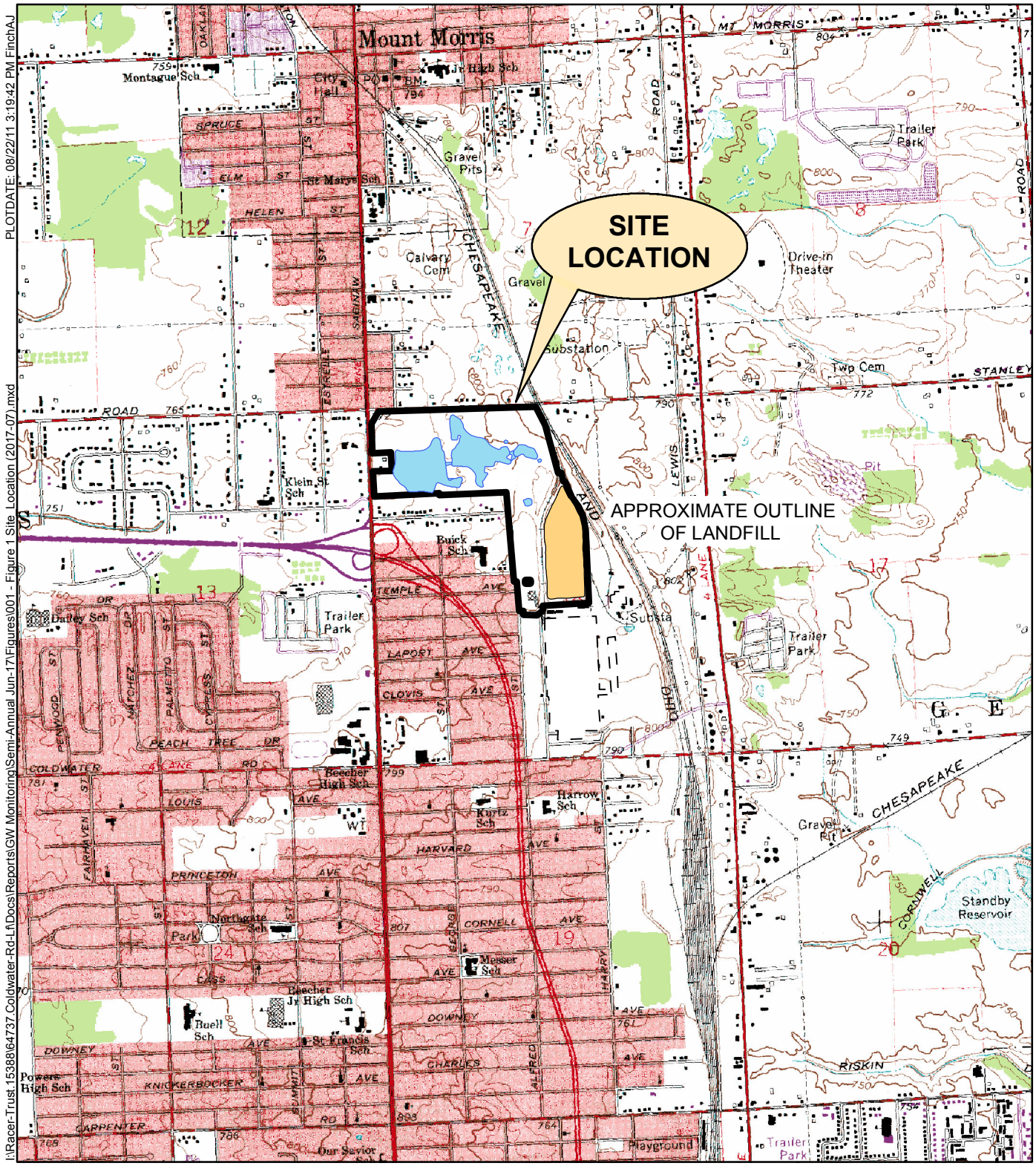
7) A = Criterion is the state of Michigan drinking water standard established pursuant to Section 5 of 1976 PA 399, MCL 325.1005.
8) E = Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended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

TABLE 3
RACER Trust-Coldwater Road Landfill Facility
Post-Closure Monitoring- Analytical Results
Volatile Organics (VOCs)

Well ID	B-2D	B-7	B-9	B-18A	B-19AR	B-20D	B-20D (Dup-3)	B-21D	B-22D	B-23DR	B-24R	B-27D	B-28	Trip Blank-1	Trip Blank-2	Trip Blank-3	Equipment Blank-1
Sample Date	6/22/2017	6/21/2017	6/20/2017	6/20/2017	6/21/2017	6/22/2017	6/22/2017	6/21/2017	6/21/2017	6/21/2017	6/20/2017	6/20/2017	6/20/2017	6/20/2017	6/21/2017	6/22/2017	6/22/2017
Diethyl ether	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acetone	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Methyl iodide	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
tert-Methyl butyl ether (MTBE	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acrylonitrile	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
2-Butanone	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
Dichlorodifluoromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichlorofluoromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
trans-1,2-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrahydrofuran	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90	<90
Chloroform	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Methyl-2-pentanone	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
2-Hexanone	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Carbon tetrachloride	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	<1	<1	<1	<1	<1	<1	**1**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
cis-1,3-Dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-Dichloro-2-butene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dibromoethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
p,m-Xylene	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
o-Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromoform	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	<1	<1	<1	<1	<1	12.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,3-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dibromo-3-chloropropane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2,3-Trichlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Napthalene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-Methylnapthalene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

Notes: EPA Method 8260 used for analysis.
Dup- Duplicate analysis
Analysis in µg/L

FIGURES



RACER TRUST
COLDWATER ROAD LANDFILL FACILITY
FLINT, MICHIGAN

SITE LOCATION MAP

N

0 1

Miles

15388/64737/001
JULY 2017

O'BRIEN & GERE ENGINEERS, INC.

N

LEGEND

- LEACHATE COLLECTION SUMP
- ACCESS PORT FOR LEAK DETECTION VAULT
- MONITORING WELL
- ABANDONED WELL

RACER TRUST
COLDWATER ROAD
LANDFILL FACILITY
FLINT, MICHIGAN

SITE LAYOUT

0 150 300 450 600
Feet

JULY 2017
15388/64737/002

O'BRIEN & GERE ENGINEERS, INC.

N

LEGEND

- MONITORING WELL
- (803.71) GROUNDWATER ELEVATION
- ABANDONED WELL

RACER TRUST
COLDWATER ROAD
LANDFILL FACILITY
FLINT, MICHIGAN

SHALLOW GROUNDWATER ELEVATION MAP JUNE 20, 2017

0 75 150 300 450 600
Feet

JULY 2017
15388/64737-003

O'BRIEN & GERE ENGINEERS, INC.

PLOTDATE: 08/22/11 3:10:39 PM FinchAJ

I:\Racer-Trust.15388\64737.Coldwater-Rd-LfDocs\Reports\GW Monitoring\Semi-Annual Jun-17\Figures\003- Figure 3- GW_Elevations_Perched (2017-07).mxd

N

LEGEND

- ⊕ MONITORING WELL
- (748.45) GROUNDWATER ELEVATION
- GROUNDWATER POTENTIOMETRIC SURFACE ELEVATION

RACER TRUST
COLDWATER ROAD
LANDFILL FACILITY
FLINT, MICHIGAN

DRIFT AQUIFER GROUNDWATER POTENTIOMETRIC SURFACE MAP JUNE 20, 2017

0 125 250 500
Feet

JULY 2017
15388/64737-004

O'BRIEN & GERE ENGINEERS, INC.

APPENDIX A

Sampling Procedures

TABLE OF CONTENTS

1 INTRODUCTION

This procedure is for the collection of groundwater samples for laboratory analysis.

The objective of most groundwater quality monitoring programs is to obtain samples that are representative of existing groundwater conditions, or samples that retain the physical and chemical properties of the groundwater within an aquifer.

One of the most important aspects of groundwater sampling is acquiring samples that are free of suspended silt, sediment, or other fine grained particulates. Fine grain materials may often have a variety of chemical components sorbed to the particle or have the ability to sorb chemicals from the aqueous phase to the particle, which will bias the subsequent analytical results.

Constituents known to have an affinity for fine-grained particulates are: polychlorinated biphenyls (PCBs), semi-volatile organic compounds (SVOCs), and inorganics. Monitoring programs where these constituents are suspected or known to be prevalent must employ sampling methods that minimize particulate presence.

The "Low Stress/Low Flow" purging and sampling method will be utilized to purge the well to allow representative water from the formation to replace the standing water within the sampling zone of the well. Experience has shown that the low stress/low flow technique typically achieves representative groundwater samples with minimal particulate interference.

Lastly, in extreme cases "ultra-low flow" techniques have been employed at select sites where low stress/low flow methods were used, yet particulate-sensitive constituents continue to bias the analytical results, or excessive drawdown is produced using standard low stress/low flow methods due to the presence of low permeability materials within a well's screened zone. Ultra-low flow techniques are conducted at purging rates below 100 ml per minute, and should only be utilized after low stress/low flow methods have been attempted (see Section 2.2 for further discussion on the purging of wells prior to sample collection).

2 PROCEDURAL GUIDELINES

The following describes techniques for groundwater sampling: Low Stress/Low Flow Methods.

Low stress/low flow methods will be employed when it is critical to collect groundwater samples truly representative of the groundwater present, and to minimize the impact of sediment/colloid presence.

2.1 PREPARATORY REQUIREMENTS

Prior to groundwater sampling, an inspection will be performed on each well. The inspection will include:

- Inspecting the concrete pad for cracks
- Inspecting the protective steel cover
- Inspecting the integrity of the PVC well casing (to the extent possible)
- Inspecting the well caps
- Inspecting the well identification markings to confirm they are legible (if illegible, re-mark)
- Inspecting the locks to assess whether they are in good working condition.

Results of the well inspection will be documented on the Groundwater Sampling Log for each well. If the inspection indicates repairs are required, these will be performed prior to the next sampling event. Corrective actions implemented to repair well(s) will also be documented on the Groundwater Sampling Log and/or the field notebook for the facility.

Groundwater purging and sampling data will be recorded on the Groundwater Sampling Log.

2.2 WELL PURGING AND STABILIZATION MONITORING (LOW STRESS/LOW FLOW METHOD)

The procedure for sampling the monitoring wells is as follows:

1) Sampling equipment will first be decontaminated prior to each use by the following protocol:
   - Scrub equipment thoroughly in a low-sudsing detergent solution (*e.g.*, Alconox). Pump low-sudsing detergent solution through submersible pump for approximately 5 minutes, if utilized
   - Rinse equipment thoroughly with distilled water, and pump distilled water through submersible pump, if utilized
   - Wrap equipment in plastic for handling and/or storage until next use
   - Decontamination of disposable tubing, if used, will not be necessary
2) Calibrate field instrument and document calibration activity. Calibration shall be performed in accordance with manufacturer's recommendations, and noted on the Groundwater Sampling Log
3) An electric water level probe will be used to measure the depth from the top of the casing to the top of water to the nearest 0.01-ft. The measurement will be recorded in a dedicated field notebook and Groundwater Sampling Log
4) Measure the depth from the top of casing to the bottom of the well for the initial sampling event
5) Slowly lower the pump and/or tubing into the well positioning the pump intake at the mid-point of the well screen taking care to minimize disturbing the well
6) During the purging of the well, monitor and record the field indicator parameters (pH, temperature, conductivity, oxidation-reduction (redox) reaction potential (ORP), dissolved oxygen (DO), and turbidity)

approximately every 5 minutes. Stabilization is considered achieved when the final groundwater flow rate is achieved, and three consecutive readings for each parameter are within the following limits:

pH	±0.1 pH units for three consecutive readings;
temperature	±3 percent for three consecutive readings;
conductivity	±3 percent for three consecutive readings;
ORP	±10 millivolts (mV) for three consecutive readings;
DO	±10 percent for three consecutive readings; and
Turbidity	±10 percent for three consecutive readings or a final value of less than 5 nephelometric turbidity units (NTU).

7) Verify that drawdowns of 0.3 ft or less are maintained and make adjustments as necessary. Record drawdown measurements and note adjustments in pumping rates as necessary on the Groundwater Sampling Log. If drawdowns of 0.3 ft or less cannot be maintained utilize ultra-low flow purge techniques. However, if ultra-low flow purging still results in excessive drawdown, the well will be purged "dry" and allowed to recharge, and the sample will be collected as soon as sufficient water is present to obtain the necessary sample volume

8) Obtain a sample for chemical analyses immediately upon stabilization of field parameter measurements. Field filter the sample for dissolved metals using a 0.45-micron filter prior to preserving with acid. Samples are to be collected in the order of volatility as follows: TOC/TOX (or VOCs) and dissolved metals.

If after 2 hours of purging the indicator parameters have not stabilized, as recommended in the USEPA guidance, the purging will be discontinued and the sample will be collected with an explanation of attempts to achieve stabilization.

Either a decontaminated submersible pump or peristaltic pump (for shallow wells only) may be utilized to purge each well. If a submersible pump is utilized in the purging process, then it will be decontaminated prior to and after sampling each well. Sampling equipment must be protected from the ground surface by a clean plastic sheet laid around the work area. Water from purging will not be containerized.

2.3 SAMPLE PRESERVATION

Sample bottles will be labeled with sample identification, collection date and time, filtration/preservative status. Sample bottles will be filled and capped securely and immediately preserved (if required) and stored at 4 degrees Celsius in a cooler.

The cooler and samples will be prepared for shipment or transport by the following procedure:

1) Prepare cooler(s) for shipment.
   - Tape drain(s) of cooler shut
   - Place mailing label with laboratory address on top of cooler(s).
2) Arrange sample containers in a manner to prevent potential sample container breakage.
3) Confirm the bottle labels are completed correctly. Place clear tape over bottle labels to prevent moisture accumulation from causing the label to peel off.
4) Seal sample containers within plastic zip-lock bags to prevent packing material from contacting samples.
5) Place packing material at the bottom of the cooler to act as a cushion for the sample containers.
6) Fill remaining spaces with packing material.

7) Confirm containers are firmly packed in cooler.

8) If ice is required to preserve the samples, cubes should be repackaged in double zip-lock bags, and placed on top of the packing material.

9) Sign COC form (or obtain signature) and indicate the time and date it was relinquished to Federal Express or other carrier, as appropriate.

10) Separate copies of COC forms. Seal proper copies within a large zip-lock bag and tape to inside lid of cooler. Retain copies of forms in-house.

11) Close lid and latch.

12) Tape cooler shut on both ends, making several complete revolutions with strapping tape.

13) Relinquish to Federal Express or other courier service. Retain airbill receipt for project records (Note: Samples will be shipped for "NEXT DAY" delivery).

If samples are delivered directly to the laboratory, or the laboratories in-house courier, by the sampling team, the packaging/shipping requirements may be omitted. COC procedures; however, must be strictly maintained.

2.4 SAMPLE MANAGEMENT AND CHAIN-OF-CUSTODY

COC procedures document the history of sample containers and samples from the time of preparation of sample containers through sample collection, shipment, and analysis. A sample is considered in custody if:

- The sample is in the sampler's physical possession
- The sample is secured by the sampler to prevent tampering
- The sample is secured by the sampler employee in an area that is restricted to authorized personnel.

To maintain a record of sample collection, transfer between personnel, shipment, and receipt by the laboratory, a COC record will be completed for each sample at each sampling location. Each time the samples are transferred, signatures of the person relinquishing and receiving the samples, as well as the date and time, will be documented.

Parallel field notebook/Groundwater Sampling Log and COC records will be maintained. Recorded information will include:

- Sampling Location
- Time and Date
- Sampling Method
- Method of Preservation.

Additionally, the field notebook will also include information on weather conditions, depth to water, total depth of the well, field parameter and instrument calibration records and other useful or pertinent information. The notebook will be kept at the facility or with their designated contractor.

2.5 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) MEASURES

Field QA/QC procedures will consist of collecting one equipment blank (if reusable equipment is used) and one duplicate sample (one additional sample from one of the wells) for each sampling event. The duplicate sample will be assigned a separate sample identification and submitted to the laboratory "blind".

The procedure for collecting an equipment blank will be to pass distilled water through the decontaminated sampling device into a laboratory-supplied sample bottles. An equipment blank sample will not be required if disposable sampling equipment is used.

3 REFERENCES

USEPA Low-Flow (Minimal Drawdown) Groundwater Sampling Procedures (EPA/540/S -95/504).

USEPA (Region 1) Low Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells (EQASOP-GW 001), January 19, 2010.

USEPA RCRA Groundwater Monitoring: Draft Technical Guidance (EPA/530-R-93-001).

MDEQ RRD Operational Memorandum No. 2: Sampling and Analysis.

APPENDIX B

Groundwater Sampling Logs

O'Brien & Gere Engineers, Inc. — **Standard Groundwater Sampling Log**

Date	6/22/17	Weather	cloudy 70's
Site Name	Coldwater Rd	Well #	B-2D
Location	Flint MI	Evacuation Method	Bladder Pump
Project No.	604737	Sampling Method	Low Flow
Personnel	KBS		

Well Information:

Depth of Well *	71.15	ft.
Depth to Water *	53.78	ft.
Length of Water Column	17.37	ft.
Volume of Water in Well	2.83	gal.(s)
3X Volume of Water in Well	8.49	gal.(s)

Water Volume /ft. for:
- X 2" Diameter Well = 0.163 X LWC
- 4" Diameter Well = 0.653 X LWC
- 6" Diameter Well = 1.469 X LWC

Volume removed before sampling: 3 1/2 gal.(s)
Did well go dry? ND

* Measurements taken from: [X] Well Casing [ ] Protective Casing [ ] (Other, Specify)

Instrument Calibration: Calibrated within range

pH	yes
ORP	yes
Conductivity	yes
DO	yes

Water parameters:

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3 percent)	Conductivity mS/cm (±0.005 mS/cm)	Dissolved Oxygen mg/L (±10 percent)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10 percent)
initial	53.90	12.5	0.82	8.01	6.92	82.1	1100
1020 5 min		12.5	0.83	7.35	6.87	87.7	1100
1025 10 min		12.2	0.83	6.55	6.74	94.0	624
1030 15 min		12.0	0.80	5.78	6.79	94.3	300
1035 20 min		12.0	0.77	4.33	6.84	93.5	188
1040 25 min		11.9	0.75	3.84	6.88	92.0	99
1045 30 min		12.1	0.73	3.24	6.93	88.8	67
1050 35 min		12.2	0.72	3.00	6.96	87.4	65
1055 40 min		12.1	0.71	2.67	6.98	86.5	52
1100 45 min		12.2	0.70	2.41	7.01	84.4	54
1105 50 min		12.2	0.69	2.21	7.04	82.3	50
1110 55 min		12.2	0.69	2.07	7.05	80.6	45
1115 60 min		12.5	0.68	1.79	7.06	77.7	38
1120		12.5	0.68	1.72	7.08	76.5	37
Water Sample: Time Collected	1125	12.5	0.68	1.78	7.09	74.2	38

Physical Appearance at Start		Physical Appearance at Sampling	
Color	Brown	Color	Slightly Cloudy
Odor	None	Odor	None
Turbidity (> 100 NTU)	>100	Turbidity (> 100 NTU)	38
Sheen/Free Product	None	Sheen/Free Product	None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	2	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO3	yes
Cyanide	1	125 ml Plastic	NAOH	
Phenols	1	125 ml Plastic	H2SO4	
TOC	2	40 ml Glass	H2SO4	
TOX	1	125 ml Plastic	H2SO4	
Sulfate, Chlorides, SpC	1	500 ml Plasitc	None	

Notes:

O'Brien & Gere Engineers, Inc. — **Standard Groundwater Sampling Log**

Date: 6/20/17 / 6/21/17
Site Name: Coldwater Rd
Location: Flint MI
Project No.: 64737
Personnel: CSY
Weather:
Well #: B-7
Evacuation Method: WHALE PUMP / Peristaltic Pump
Sampling Method: PURGED DRY

Well Information:

Depth of Well *	29.1	ft.
Depth to Water *	22.89	ft.
Length of Water Column	6.21	ft.
Volume of Water in Well	1.01	gal.(s)
3X Volume of Water in Well	3.03	gal.(s)

Water Volume /ft. for:
- X 2" Diameter Well = 0.163 X LWC
- 4" Diameter Well = 0.653 X LWC
- 6" Diameter Well = 1.469 X LWC

Volume removed before sampling: ____ gal.(s)
Did well go dry? yes

* Measurements taken from: [X] Well Casing [ ] Protective Casing [ ] (Other, Specify)

Instrument Calibration: Calibrated within range

pH	Yes
ORP	yes
Conductivity	yes
DO	yes

Water parameters:

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3 percent)	Conductivity mS/cm (±0.005 mS/cm)	Dissolved Oxygen mg/L (±10 percent)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10 percent)
6/20/17 initial	15:40 23.8	11.2	0.98	10.96	6.88	107.9	1100+
5 min	15:45 26.8	11.1	0.82	8.53	6.97	108.5	895
10 min	15:50 27.0	11.0	1.07	3.10	6.78	112.5	275
15 min	~~15:55~~ 15:53 CSY	"Dry"	28.0' CSY				
20 min		Let recover until pumped "dry"		16:10 – only recovered ~ 1.2ft			
25 min							
30 min							
6/21/17 35 min							
8:30 40 min		14.4	1.08	4.12	6.99	267.2	
45 min		12.6	1.08	6.42	7.07	213.21	783
8:55 Final 50 min							
55 min							
60 min							

Water Sample:
Time Collected: 830

Physical Appearance at Start		Physical Appearance at Sampling	
Color		Color	
Odor	No	Odor	No
Turbidity (> 100 NTU)	>100	Turbidity (> 100 NTU)	783
Sheen/Free Product	No	Sheen/Free Product	No

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	2	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO3	yes
Cyanide	1	125 ml Plastic	NAOH	
Phenols	1	125 ml Plastic	H2SO4	
TOC	2	40 ml Glass	H2SO4	
TOX	1	125 ml Plastic	H2SO4	
Sulfate, Chlorides, SpC	1	500 ml Plasitc	None	

Notes:

O'Brien & Gere Engineers, Inc. — **Standard Groundwater Sampling Log**

Date: 6/19/17
Site Name: Cold water Rd
Location: Flint, MI
Project No.: 64737
Personnel: CSV

Weather: Partly Cloudy, Hot (~81°F), light wind from S
Well #: B-9
Evacuation Method: WHALE PUMP
Sampling Method: PURGED DRY

Well Information:

Depth of Well *	24.6	ft.
Depth to Water *	6.28	ft.
Length of Water Column	18.32	ft.
Volume of Water in Well	2.9	gal.(s)
3X Volume of Water in Well	8.9	gal.(s)

Water Volume /ft. for:
- X 2" Diameter Well = 0.163 X LWC
- 4" Diameter Well = 0.653 X LWC
- 6" Diameter Well = 1.469 X LWC

Volume removed before sampling: 4.7 gal.(s)
Did well go dry? Yes

* Measurements taken from: [X] Well Casing [ ] Protective Casing [ ] (Other, Specify)

Instrument Calibration: Calibrated within range

pH	Yes
ORP	Yes
Conductivity	Yes
DO	Yes

Water parameters:

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3 percent)	Conductivity mS/cm (±0.005 mS/cm)	Dissolved Oxygen mg/L (±10 percent)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10 percent)
6/19/17							
initial	24.6 14:50	24.6 initial	1200 ml/min 11.3 initial	2.47 initial	2.47 initial	6.85 initial	37.0 initial	43
5 min	14:55	15.8	11.2	2.47	0.76	6.68	35.1	45
10 min	15:00	20.53	11.6	2.47	0.57	6.70	37.8	211
15 min	15:05		11.7	2.47	0.64	6.75	38.0	86
20 min	15:10	Dry 11.5		2.47	0.64	6.75	37.6	613
25 min	15:15	let recover for 5 minutes then purge dry again						
30 min	21.30	purged down to 24.5						
35 min								
40 min		purged 4.7 gallons						
45 min	6/20/17							
50 min								
55 min	14:18	12.5	2.23	13.00	6.71	37.8		
60 min	14:20	12.1	2.22	12.37	6.70	52.6		
	14:25	12.3	2.20	5.77	6.70	67.4	35

Water Sample:
Time Collected: 14:25

Physical Appearance at Start		Physical Appearance at Sampling	
Color	Clear	Color	Clear
Odor	Musty	Odor	Musty
Turbidity (> 100 NTU)	43	Turbidity (> 100 NTU)	35
Sheen/Free Product	None	Sheen/Free Product	None

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	2	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO3	yes
Cyanide	1	125 ml Plastic	NAOH	
Phenols	1	125 ml Plastic	H2SO4	
TOC	2	40 ml Glass	H2SO4	
TOX	1	125 ml Plastic	H2SO4	
Sulfate, Chlorides, SpC	1	500 ml Plasitc	None	

Notes:

O'Brien & Gere Engineers, Inc. — **Standard Groundwater Sampling Log**

Date: 6-19-2017
Site Name: Coldwater Road
Location: Flint, MI
Project No.: 64737
Personnel: CSY

Weather: Sunny
Well #: B 18A
Evacuation Method: WHALE PUMP / BLADDER PUMP
Sampling Method: PURGE DRY

Well Information:

Depth of Well *	43.5	ft.
Depth to Water *	24.05	ft.
Length of Water Column	~~31.45~~ 19.45	ft.
Volume of Water in Well	3.17	gal.(s)
3X Volume of Water in Well	9.51	gal.(s)

Water Volume /ft. for:
- X 2" Diameter Well = 0.163 X LWC
- 4" Diameter Well = 0.653 X LWC
- 6" Diameter Well = 1.469 X LWC

Volume removed before sampling: 9 gal.(s)
Did well go dry? Yes

* Measurements taken from: [X] Well Casing [ ] Protective Casing [ ] (Other, Specify)

Instrument Calibration: Calibrated within range

pH	yes
ORP	yes
Conductivity	yes
DO	yes

Water parameters:

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3 percent)	Conductivity mS/cm (±0.005 (mS/cm))	Dissolved Oxygen mg/L (±10 percent)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10 percent)
10:40 initial	23.95	15.8	0.101	7.33	7.23	189	8
5 min	39.15	11.2	1.04	0.80	6.76	131.5	39
10 min	40.00	11.4	0.90	1.56	6.87	80.5	54
15 min	41.00	11.4	1.29	1.49	6.90	81.5	62
20 min	41.57	12.7	1.03	1.08	6.97	79.2	62
25 min	end 42.2ft	Removed total of 9 gallons from well and sand pack.					
30 min	13:00 - pumped "Dry" one last time						
35 min	CSY						
40 min							290
45 min	38.95	23.8	1.06	2.93	7.06	128.7	69
50 min	39.50	14.0	1.06	4.73	7.02	128.8	64
55 min							
60 min							

Water Sample:
Time Collected: 1410

Physical Appearance at Start		Physical Appearance at Sampling	
Color	Slightly cloudy	Color	Slightly cloudy
Odor	NONE	Odor	NONE
Turbidity (> 100 NTU)	8	Turbidity (> 100 NTU)	64
Sheen/Free Product	NONE	Sheen/Free Product	NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filter
VOCs	2	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO3	yes
Cyanide	1	125 ml Plastic	NAOH	
Phenols	1	125 ml Plastic	H2SO4	
TOC	2	40 ml Glass	H2SO4	
TOX	1	125 ml Plastic	H2SO4	
Sulfate, Chlorides, SpC	1	500 ml Plasitc	None	

Notes:

O'Brien & Gere Engineers, Inc. — **Standard Groundwater Sampling Log**

Date: 6/20/2017 / 6/21/17
Site Name: Coldwater Road
Location: Flint, MI
Project No.: 64737
Personnel: Clifford Yantz

Weather: Partly cloudy
Well #: B-119AR
Evacuation Method: WHALE PUMP
Sampling Method: PURGED DRY

Well Information:

Depth of Well *	47.15	ft.
Depth to Water *	38.74	ft.
Length of Water Column	8.41	ft.
Volume of Water in Well	1.37	gal.(s)
3X Volume of Water in Well	4.11	gal.(s)

Water Volume /ft. for:
- X 2" Diameter Well = 0.163 X LWC
- 4" Diameter Well = 0.653 X LWC
- 6" Diameter Well = 1.469 X LWC

Volume removed before sampling: ____ gal.(s)
Did well go dry? yes

* Measurements taken from: [X] Well Casing [ ] Protective Casing [ ] (Other, Specify)

Instrument Calibration: Calibrated within range

pH	yes
ORP	yes
Conductivity	yes
DO	yes

Water parameters:

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3 percent)	Conductivity mS/cm (±0.005 (mS/cm))	Dissolved Oxygen mg/L (±10 percent)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10 percent)
6/20/17							
initial	16:40 39.70	11.9	1.02	0.20	7.23	112.8	278
5 min	16:45 41.08	12.0	1.00	0.12	7.04	117.4	181
10 min	16:50 42.70	12.0	1.04	0.13	6.97	113.1	964
15 min	16:55 44.9	12.1	1.01	0.07	7.29	105.3	481
20 min	17:00 46.8	12.1	0.00	0.04	7.29	112.5	325
25 min		Dry @ 17:00					
30 min			Allow to recover until 17:10 only recovered				0.5ft
35 min							
6/21/17 40 min	PTW 44.58'	12.2	1.04	6.87	7.45	181.0	404
9:25 45 min							
50 min		Purged	Dry as we took final readings				
55 min							
60 min							

Water Sample:
Time Collected: 9:20

Physical Appearance at Start		Physical Appearance at Sampling	
Color	light brown	Color	SAME
Odor	None	Odor	
Turbidity (> 100 NTU)	Moderately turbid	Turbidity (> 100 NTU)	
Sheen/Free Product	None	Sheen/Free Product	

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	2	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO3	yes
Cyanide	1	125 ml Plastic	NAOH	
Phenols	1	125 ml Plastic	H2SO4	
TOC	2	40 ml Glass	H2SO4	
TOX	1	125 ml Plastic	H2SO4	
Sulfate, Chlorides, SpC	1	500 ml Plasitc	None	

Notes:

O'Brien & Gere Engineers, Inc. — **Standard Groundwater Sampling Log**

Date: 6/22/17
Site Name: Coldwater Rd
Location: Flint, MI
Project No.: 64737
Personnel: KBS

Weather: cloudy 70's
Well #: B-20D
Evacuation Method: Bladder Pump
Sampling Method: Low flow

Well Information:

Depth of Well * _____ ft.
Depth to Water * 70.05 ft.
Length of Water Column _____ ft.
Volume of Water in Well _____ gal.(s)
3X Volume of Water in Well _____ gal.(s)

Water Volume /ft. for:
X 2" Diameter Well = 0.163 X LWC
4" Diameter Well = 0.653 X LWC
6" Diameter Well = 1.469 X LWC

Volume removed before sampling: 2 gal.(s)
Did well go dry? No

* Measurements taken from: [X] Well Casing [ ] Protective Casing [ ] (Other, Specify) _____

Instrument Calibration: Calibrated within range

pH	Yes
ORP	Yes
Conductivity	Yes
DO	Yes

Water parameters:

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3 percent)	Conductivity mS/cm (±0.005 (mS/cm))	Dissolved Oxygen mg/L (±10 percent)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10 percent)
initial	70.20	13.7	0.88	4.81	6.92	-55.9	316
845 5 min	↓	12.4	0.90	1.32	6.78	-69.5	388
850 10 min	↓	12.0	0.91	0.44	6.87	-88.9	337
855 15 min	70.31	11.9	0.91	0.33	6.96	-89.1	220
900 20 min	|	11.9	0.91	0.33	6.99	-92.6	141
905 25 min	|	12.1	0.91	0.26	7.03	-96.3	85
910 30 min	|	11.9	0.91	0.23	7.05	-97.7	55
915 35 min	|	12.1	0.91	0.20	7.06	-99.4	45
920 40 min	|	12.3	0.91	0.16	7.09	-102.0	45
925 45 min	|	12.3	0.91	0.15	7.10	-103.0	47
930 50 min	|	12.3	0.90	0.15	7.11	-103.8	46
935 55 min	↓	12.4	0.91	0.14	7.11	-104.3	46
940 60 min							

Water Sample:
Time Collected: 940

Physical Appearance at Start		Physical Appearance at Sampling	
Color	light Gray	Color	slightly cloudy
Odor	NONE	Odor	NONE
Turbidity (> 100 NTU)	316	Turbidity (> 100 NTU)	46
Sheen/Free Product	NONE	Sheen/Free Product	NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	2	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO3	yes
Cyanide	1	125 ml Plastic	NAOH	
Phenols	1	125 ml Plastic	H2SO4	
TOC	2	40 ml Glass	H2SO4	
TOX	1	125 ml Plastic	H2SO4	
Sulfate, Chlorides, SpC	1	500 ml Plasitc	None	

Notes:

* DUP-3 collected

O'Brien & Gere Engineers, Inc. — **Standard Groundwater Sampling Log**

Date: 6/21/17
Site Name: Coldwater
Location: Flint, MI
Project No.: 64737
Personnel: KBS

Weather: Mostly cloudy
Well #: B-21D
Evacuation Method: Bladder Pump
Sampling Method: Low Flow

Well Information:

Depth of Well * _____ ft.
Depth to Water * 80.18 ~~TOR~~ ft.
Length of Water Column _____ ft.
Volume of Water in Well _____ gal.(s)
3X Volume of Water in Well _____ gal.(s)

Water Volume /ft. for:
- X 2" Diameter Well = 0.163 X LWC
- ____ 4" Diameter Well = 0.653 X LWC
- ____ 6" Diameter Well = 1.469 X LWC

Volume removed before sampling: 5 gal.(s)
Did well go dry? No

* Measurements taken from: [X] Well Casing [ ] Protective Casing [ ] (Other, Specify) _____

Instrument Calibration: Calibrated within range

pH	yes
ORP	yes
Conductivity	yes
DO	yes

Water parameters:

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3 percent)	Conductivity mS/cm (±0.005 mS/cm)	Dissolved Oxygen mg/L (±10 percent)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10 percent)
1405 initial	80.40	17.4	0.69	8.23	7.37	55.8	1100
1420 5 min		15.5	0.67	0.85	6.98	-22.4	1100
1425 10 min		15.7	0.67	0.74	6.99	-27.6	1100
1430 15 min		14.5	0.67	0.59	7.03	-44.1	1100
1435 20 min		12.8	0.70	0.35	7.04	-66.5	1100
1440 25 min		12.9	0.72	0.30	7.07	-74.9	516
1445 30 min		13.2	0.74	0.27	7.15	-86.4	394
1450 35 min		13.3	0.75	0.26	7.19	-91.9	296
1455 40 min		13.3	0.75	0.26	7.21	-93.5	226
1500 45 min		12.7	0.75	0.24	7.18	-92.1	164
1505 50 min		12.7	0.76	0.25	7.16	-92.2	121
1510 55 min	80.85	12.5	0.77	0.21	7.18	-94.9	120
1515 60 min		12.8	0.77	0.19	7.19	-96.3	90
1520		13.1	0.77	0.20	7.25	-99.8	100

Water Sample:
Time Collected: 1545

OVER ⇒

Physical Appearance at Start		Physical Appearance at Sampling	
Color	light Gray	Color	Slightly cloudy
Odor	NONE	Odor	NONE
Turbidity (> 100 NTU)	1100	Turbidity (> 100 NTU)	YES
Sheen/Free Product	NONE	Sheen/Free Product	NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	2	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO3	yes
Cyanide	1	125 ml Plastic	NAOH	
Phenols	1	125 ml Plastic	H2SO4	
TOC	2	40 ml Glass	H2SO4	
TOX	1	125 ml Plastic	H2SO4	
Sulfate, Chlorides, SpC	1	500 ml Plasitc	None	

Notes:

YSI 36606

B-21D

	DD	Temp	Con	Do	pH	ORP	Turb
1525	80-85	12.5	0.77	0.19	7.20	-96.5	80
1530	↓	13.0	0.77	0.19	7.25	-99.9	80
1535		13.2	0.77	0.18	7.26	-102.7	71
1540		13.0	0.77	0.17	7.26	-101.6	71
1545		13.0	0.77	0.17	7.21	-99.2	65

Collected 1545

Turb 43 during sample collection

O'Brien & Gere Engineers, Inc. — **Standard Groundwater Sampling Log**

Date: 6/21/2017
Site Name: Coldwater Road
Location: Flint, MI
Project No.: 64737
Personnel: Clifford Yantz

Weather: Mostly Sunny
Well #: B-22D
Evacuation Method: Bladder Pump
Sampling Method: Low Flow

Well Information:

Depth of Well *	99.30	ft.
Depth to Water *	84.28	ft.
Length of Water Column	15.02	ft.
Volume of Water in Well	2.44	gal.(s)
3X Volume of Water in Well	7.34	gal.(s)

Water Volume /ft. for:
- X 2" Diameter Well = 0.163 X LWC
- 4" Diameter Well = 0.653 X LWC
- 6" Diameter Well = 1.469 X LWC

Volume removed before sampling: ____ gal.(s)
Did well go dry? No

* Measurements taken from: [X] Well Casing [ ] Protective Casing [ ] (Other, Specify)

Instrument Calibration: Calibrated within range

pH	Yes
ORP	Yes
Conductivity	Yes
DO	Yes

Water parameters:

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3 percent)	Conductivity mS/cm (±0.005 (mS/cm)	Dissolved Oxygen mg/L (±10 percent)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10 percent)
1225 initial	84.65	18.4	0.72	13.69	7.08	-47.9	65
1230 5 min	84.70	19.8	0.72	2.84	7.06	-67.3	68
1235 10 min	84.80	14.2	0.71	0.71	7.10	-83.9	48
1240 15 min	84.80	13.3	0.71	0.50	7.12	-86.3	43
1245 20 min	84.80	14.3	0.71	0.42	7.15	-90.6	38
1250 25 min	84.80	14.7	0.71	0.39	7.27	-98.5	34
1255 30 min	84.80	14.7	0.71	0.36	7.25	-100.1	27
1300 35 min	84.80	14.3	0.71	0.36	7.21	-98.3	25
1305 40 min	84.80	13.6	0.71	0.36	7.21	-99.3	23
1310 45 min	84.80	13.4	0.71	0.33	7.21	-100.3	22
50 min							
55 min							
60 min							

Water Sample:
Time Collected: 13:15

Physical Appearance at Start		Physical Appearance at Sampling	
Color		Color	
Odor	NONE	Odor	NONE
Turbidity (> 100 NTU)	65	Turbidity (> 100 NTU)	22
Sheen/Free Product	NONE	Sheen/Free Product	NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	2	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO3	yes
Cyanide	1	125 ml Plastic	NAOH	
Phenols	1	125 ml Plastic	H2SO4	
TOC	2	40 ml Glass	H2SO4	
TOX	1	125 ml Plastic	H2SO4	
Sulfate, Chlorides, SpC	1	500 ml Plasitc	None	

Notes:

O'Brien & Gere Engineers, Inc. — **Standard Groundwater Sampling Log**

Date: 6/20/2017
Site Name: Coldwater Road
Location: Flint, MI
Project No.:
Personnel: KBS

Weather: Mostly cloudy
Well #: B-23 Dr
Evacuation Method: Bladder Pump
Sampling Method: Low Flow

Well Information:

Depth of Well *	81.05	ft.
Depth to Water *	81.05	ft.
Length of Water Column		ft.
Volume of Water in Well		gal.(s)
3X Volume of Water in Well		gal.(s)

Water Volume /ft. for:
- X 2" Diameter Well = 0.163 X LWC
- 4" Diameter Well = 0.653 X LWC
- 6" Diameter Well = 1.469 X LWC

Volume removed before sampling: ____ gal.(s)
Did well go dry? ____

* Measurements taken from: [X] Well Casing [ ] Protective Casing [ ] (Other, Specify) ____

Instrument Calibration: Calibrated within range

pH	yes
ORP	yes
Conductivity	yes
DO	yes

Water parameters: Pumping Rate 140 ml/min

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3 percent)	Conductivity mS/cm (±0.005 (mS/cm))	Dissolved Oxygen mg/L (±10 percent)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10 percent)
initial		15.6	0.81	4.22	7.31	-57.5	
1530 5 min		14.1	0.83	2.26	7.29	-65.4	266
1535 10 min		14.5	0.83	3.35	7.31	-66.0	444
1530 15 min		14.4	0.82	5.04	7.40	-40.9	589
1535 20 min		14.9	0.81	5.54	7.46	-25.0	535
1540 25 min		14.0	0.81	6.33	7.51	-12.1	452
1545 30 min		13.6	0.81	6.97	7.56	2.3	377
1550 35 min		13.9	0.80	6.91	7.56	15.5	363
1555 40 min		14.1	0.80	6.28	7.54	26.2	1100
1600 45 min							
50 min							
55 min							
60 min							

Water Sample:
Time Collected: ____

Physical Appearance at Start		Physical Appearance at Sampling	
Color	light GRAY	Color	
Odor	None	Odor	
Turbidity (> 100 NTU)	266	Turbidity (> 100 NTU)	
Sheen/Free Product	None	Sheen/Free Product	

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	2	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO3	yes
Cyanide	1	125 ml Plastic	NAOH	
Phenols	1	125 ml Plastic	H2SO4	
TOC	2	40 ml Glass	H2SO4	
TOX	1	125 ml Plastic	H2SO4	
Sulfate, Chlorides, SpC	1	500 ml Plasitc	None	

Notes:

VSI-1607

O'Brien & Gere Engineers, Inc. — **Standard Groundwater Sampling Log**

Date	6/21/17	Weather	Mostly sunny 70s
Site Name	Coldwater Rd	Well #	B-23D
Location	Flint MI	Evacuation Method	Bladder Pump
Project No.	64737	Sampling Method	Low flow
Personnel	KBS		

Well Information:

Depth of Well *	ft.	Water Volume /ft. for:	
Depth to Water *	81.16 ft.	X	2" Diameter Well = 0.163 X LWC
Length of Water Column	ft.		4" Diameter Well = 0.653 X LWC
Volume of Water in Well	gal.(s)		6" Diameter Well = 1.469 X LWC
3X Volume of Water in Well	gal.(s)		

Volume removed before sampling: 7 gal.(s)
Did well go dry? NO

* Measurements taken from: [X] Well Casing [ ] Protective Casing [ ] (Other, Specify)

Instrument Calibration: Calibrated within range

pH	Yes
ORP	Yes
Conductivity	Yes
DO	Yes

Water parameters:

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3 percent)	Conductivity mS/cm (±0.005 (mS/cm)	Dissolved Oxygen mg/L (±10 percent)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10 percent)
initial	81.20	13.0	0.82	8.45	7.41	158.3	270
840 5 min		13.0	0.82	7.74	7.59	155.8	187
845 10 min		12.7	0.81	7.25	7.57	151.1	151
850 15 min		12.9	0.80	7.07	7.58	145.0	135
855 20 min		12.8	0.80	6.90	7.58	139.3	118
900 25 min		12.9	0.80	6.70	7.59	136.1	109
905 30 min		12.5	0.79	6.16	7.58	132.5	96
910 35 min		12.5	0.79	6.74	7.57	130.5	84
915 40 min		12.6	0.78	6.11	7.55	127.9	84
920 45 min		12.5	0.78	5.86	7.54	126.1	81
925 50 min		12.5	0.78	5.53	7.54	124.3	73
930 55 min		12.6	0.79	5.08	7.52	121.2	63
935 60 min		12.5	0.79	4.71	7.50	116.5	56
940		12.6	0.79	4.27	7.48	105.0	49

Water Sample:
Time Collected: 1055

Physical Appearance at Start		Physical Appearance at Sampling	
Color	light Grey	Color	clear
Odor	NONE	Odor	NONE
Turbidity (> 100 NTU)	270	Turbidity (> 100 NTU)	5
Sheen/Free Product	NONE	Sheen/Free Product	NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	2	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO3	yes
Cyanide	1	125 ml Plastic	NAOH	
Phenols	1	125 ml Plastic	H2SO4	
TOC	2	40 ml Glass	H2SO4	
TOX	1	125 ml Plastic	H2SO4	
Sulfate, Chlorides, SpC	1	500 ml Plasitc	None	

Notes:

YSI 36666

B-23D

DD	Temp	Cond	DO	pH	ORP	Turb
945 8/1,20	12.2	0.80	3.90	7.46	88.3	44
950	12.5	0.80	3.57	7.46	71.5	35
955	12.6	0.80	3.29	7.45	45.8	34
1000	12.8	0.81	3.03	7.44	27.8	26
1005	12.7	0.81	2.87	7.44	14.3	29
1010	12.9	0.80	2.54	7.43	0.6	27
1015	12.8	0.82	2.44	7.43	-7.6	24
1020	12.8	0.82	2.34	7.42	-16.2	23
1025	12.7	0.82	2.11	7.42	-21.9	18
1030	12.7	0.82	2.42	7.41	-25.6	15
1035	12.8	0.82	2.34	7.41	-27.0	13
1040	12.8	0.82	2.34	7.41	-27.0	11
1045	12.8	0.82	2.34	7.41	-27.0	5
1000						
10						

O'Brien & Gere Engineers, Inc. — **Standard Groundwater Sampling Log**

Date: 6/19/2017 / 6/20/17
Site Name: Coldwater Rd
Location: Flint, MI
Project No.: 64737
Personnel: CSY / KBS

Weather: Cloudy, light wind, humid, Hot (85°F) to moderate
Well #: B-24c
Evacuation Method: Whale Pump / Peristaltic Pump
Sampling Method: PURGED DRY

Well Information:

Depth of Well *	30.41	ft.
Depth to Water *	14.22	ft.
Length of Water Column	16.19	ft.
Volume of Water in Well	2.6	gal.(s)
3X Volume of Water in Well	7.9	gal.(s)

Water Volume /ft. for:
- X 2" Diameter Well = 0.163 X LWC
- 4" Diameter Well = 0.653 X LWC
- 6" Diameter Well = 1.469 X LWC

Volume removed before sampling: 8 gal.(s)
Did well go dry? Yes

* Measurements taken from: [X] Well Casing [ ] Protective Casing [ ] (Other, Specify)

Instrument Calibration: Calibrated within range

pH	Yes
ORP	Yes
Conductivity	Yes
DO	Yes

Water parameters:

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3 percent)	Conductivity mS/cm (±0.005 mS/cm)	Dissolved Oxygen mg/L (±10 percent)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10 percent)
6/19/17	14.22						
initial	13:35	14.22	1.20	1.04	6.90	77.3	678
5 min	13:40	11.0	1.19	0.72	6.87	76.0	84
10 min	13:45	11.0	1.19	0.63	6.91	73.0	67
15 min	13:50	11.1	1.22	0.68	6.96	73.6	157
20 min	13:55	11.0	1.30	0.91	7.02	72.1	937
25 min	14:00	10.09	1.24	0.98	7.03	67.3	430
30 min	14:05	11.0	1.19	0.64	7.07	47.0	236
35 min	14:10	11.4	1.15	0.52	7.10	26.6	131
40 min	14:15	"Dry"	29.6'				
45 min							
50 min							
55 min		Purged 8 gallons from well					
60 min							
6/20/17	14.31	12.6	1.24	8.00	7.25	29.3	
Water Sample: Time Collected	16.19 (1055)	12.6	1.24	7.25	7.23	36.7	99

Physical Appearance at Start		Physical Appearance at Sampling	
Color	light Gray	Color	Slightly cloudy
Odor	NONE	Odor	NONE
Turbidity (> 100 NTU)	678	Turbidity (> 100 NTU)	99
Sheen/Free Product	NONE	Sheen/Free Product	NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	2	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO3	yes
Cyanide	1	125 ml Plastic	NAOH	
Phenols	1	125 ml Plastic	H2SO4	
TOC	2	40 ml Glass	H2SO4	
TOX	1	125 ml Plastic	H2SO4	
Sulfate, Chlorides, SpC	1	500 ml Plasitc	None	

Notes:

O'Brien & Gere Engineers, Inc. — **Standard Groundwater Sampling Log**

Date: 6/20/2017
Site Name: 12 RACER / Coldwater Road
Location: Flint MI
Project No.: 64737
Personnel: CSY

Weather: Mostly cloudy
Well #: B 27A
Evacuation Method: Bladder Pump
Sampling Method: Low Flow

Well Information:

Depth of Well *	87.30	ft.
Depth to Water *	75.69	ft.
Length of Water Column	11.61	ft.
Volume of Water in Well	1.89	gal.(s)
3X Volume of Water in Well	6.67	gal.(s)

Water Volume /ft. for:
- X 2" Diameter Well = 0.163 X LWC
- 4" Diameter Well = 0.653 X LWC
- 6" Diameter Well = 1.469 X LWC

Volume removed before sampling: ____ gal.(s)
Did well go dry? No

* Measurements taken from: [X] Well Casing [ ] Protective Casing [ ] (Other, Specify)

Instrument Calibration: Calibrated within range

pH	Yes
ORP	Yes
Conductivity	Yes
DO	Yes

Water parameters:

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3 percent)	Conductivity mS/cm (±0.005 mS/cm)	Dissolved Oxygen mg/L (±10 percent)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10 percent)
905						-5.6	
910 initial	75.98	14.5	0.601	0.65	6.93	-210.2	1100
915 5 min	76.00	13.9	0.603	0.39	7.04	-40.7	1100
920 10 min	76.00	13.9	0.603	0.36	7.06	-47.7	1100
925 15 min		14.0	0.604	0.32	7.13	-57.2	1100
930 20 min		14.4	0.604	0.33	7.19	-62.9	1100
935 25 min		13.9	0.607	0.28	7.23	-67.7	1100
940 30 min		14.4	0.605	0.26	7.21	-69.0	998
945 35 min		14.7	0.606	0.27	7.28	-74.7	1100
950 40 min		14.3	0.606	0.29	7.28	-77.2	1100
955 45 min		14.3	0.606	0.26	7.27	-78.3	1027
1000 50 min		14.6	0.607	0.22	7.32	-83.4	1031
1005 55 min		14.5	0.607	0.21	7.31	-85.1	933
60 min		14.6	0.607	0.20	7.32	-86.1	991

Water Sample:
Time Collected: 1018

OVER =>

Physical Appearance at Start		Physical Appearance at Sampling	
Color	light GRY	Color	Slightly cloudy
Odor	NONE	Odor	NONE
Turbidity (> 100 NTU)	>1100	Turbidity (> 100 NTU)	98
Sheen/Free Product	NONE	Sheen/Free Product	NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	2	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO3	yes
Cyanide	1	125 ml Plastic	NAOH	
Phenols	1	125 ml Plastic	H2SO4	
TOC	2	40 ml Glass	H2SO4	
TOX	1	125 ml Plastic	H2SO4	
Sulfate, Chlorides, SpC	1	500 ml Plasitc	None	

Notes:
127 final turb after sample collector

Time	DTW	T°	Cond	DO	pH	ORP	Turbidity
10:10	—	14.7	0.606	0.18	7.33	-87.2	1100
10:15	—	14.9	0.606	0.18	7.35	-87.9	1100
10:20	—	14.9	0.607	0.17	7.36	-88.9	1100
10:25	—	15.0	0.607	0.17	7.36	-89.6	1100
10:30	—	14.5	0.606	0.18	7.30	-87.0	1100
10:35	—	13.7	0.608	0.20	7.24	-82.9	1100
10:40	—	13.6	0.605	0.20	7.23	-82.6	~~1063~~
10:45	—	13.9	0.608	0.18	7.29	-83.2	1063
10:50	—	13.9	0.608	0.18	7.33	-91.3	871
10:55	—	13.8	0.609	0.18	7.35	-93.4	795
11:00	—	13.7	0.609	0.18	7.34	-93.9	608
11:05	—	13.9	0.607	0.18	7.34	-94.5	471
11:10	—	13.4	0.606	0.19	7.33	-94.3	388
11:15	—	14.0	0.600	0.18	7.30	-93.1	322
11:20		14.0	0.602	0.18	7.36	-97.0	277
11:25	—	14.1	0.580	0.15	7.34	-96.9	250
11:30	—	13.9	0.548	0.18	7.36	-97.5	213
11:35	—	13.9	0.519	0.17	7.34	-97.2	185
11:40	—	13.9	0.516	0.16	7.34	-97.3	169
11:45	—	14.5	0.509	0.16	7.40	-101.3	173
11:50	—	14.3	0.510	0.15	7.40	-101.5	145
11:55	—	14.4	0.509	0.15	7.35	-99.0	126
12:00	—	14.0	0.443	0.15	7.38	-100.4	117
12:05	—	14.5	0.438	0.13	7.35	-99.4	121
12:10	—	14.7	0.417	0.13	7.40	-102.0	98

O'Brien & Gere Engineers, Inc. — **Standard Groundwater Sampling Log**

Date: 6/19/17 - 6/20/17
Site Name: Coldwater Rd
Location: Flint MI
Project No.: 647737
Personnel: LSH / KBS
Weather:
Well #: B-28
Evacuation Method: Whale Pump / Peristaltic Pump
Sampling Method: PURGE DRY

Well Information:

Depth of Well *	34.00	ft.
Depth to Water *	5.75	ft.
Length of Water Column	28.25	ft.
Volume of Water in Well	4.6	gal.(s)
3X Volume of Water in Well	13.8	gal.(s)

Water Volume /ft. for:
- X 2" Diameter Well = 0.163 X LWC
- 4" Diameter Well = 0.653 X LWC
- 6" Diameter Well = 1.469 X LWC

Volume removed before sampling: gal.(s)
Did well go dry? Yes

* Measurements taken from: [X] Well Casing [ ] Protective Casing [ ] (Other, Specify)

Instrument Calibration: Calibrated within range

pH	Yes
ORP	Yes
Conductivity	Yes
DO	Yes

Water parameters:

	Drawdown measured (0.3 feet or less)	Temperature Celsius (±3 percent)	Conductivity mS/cm (±0.005 (mS/cm))	Dissolved Oxygen mg/L (±10 percent)	pH (±0.1 pH units)	ORP mV (±10 millivolts)	Turbidity NTUs (±10 percent)
6/19/17 initial	17:05 (2000 ml/min)	11.3	0.86	0.48	6.99	-60.4	346
5 min	17:10	11.9	0.86	0.70	7.07	-76.4	145
10 min	17:15 (25.1')	12.7	0.85	1.71	7.11	-76.6	100
15 min	17:20	11.4	0.84	0.85	7.05	-72.4	584
20 min	17:25 (30.5')	Wet "Dry"					
25 min		feet recharge ~		5 minutes			
30 min							
35 min							
6/20/17 40 min	6.92	13.3	0.84	6.28	7.27	64.1	74
1218 45 min	8.03	12.9	0.83	3.71	7.23	64.3	48
1223 50 min							
55 min							
60 min							

Water Sample:
Time Collected: 1215

Physical Appearance at Start		Physical Appearance at Sampling	
Color	light Gray	Color	Slightly cloudy
Odor	NONE	Odor	NONE
Turbidity (> 100 NTU)	346	Turbidity (> 100 NTU)	48
Sheen/Free Product	NONE	Sheen/Free Product	NONE

Samples collected:

Analyses	# Bottles	Bottle size/type	Preservative	Field Filtered
VOCs	2	40 ml Glass	HCL	
Dissolved Metals - Cu, Cr, Ni, Zn, Fe, Mn, Na	1	125 ml Plastic	HNO3	yes
Cyanide	1	125 ml Plastic	NAOH	
Phenols	1	125 ml Plastic	H2SO4	
TOC	2	40 ml Glass	H2SO4	
TOX	1	125 ml Plastic	H2SO4	
Sulfate, Chlorides, SpC	1	500 ml Plasitc	None	

Notes:

APPENDIX C

Analytical Results

Analytical Laboratory Report

Report ID: S81947.01(01)
Generated on 07/07/2017

Report to

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

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

Report produced by

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

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

Contacts for report questions:
John Laverty (johnlaverty@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S81947.01-S81947.03
Project: RACER Coldwater Rd Landfill
Collected Date: 06/20/2017
Submitted Date/Time: 06/20/2017 14:45
Sampled by: Kevin Schneider
P.O. #: 11700139

Table of Contents

Maya Murshak
Technical Director

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

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

Qualifier Descriptions

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

Glossary of Abbreviations

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

Method Summary

Method	Version
E120.1	EPA Method 120.1 Revision 1982
E200.8	EPA Method 200.8 Revision 5.4
E300.0	EPA Method 300.0 Revision 2.1
E335.4/SM4500-CN	EPA Method 335.4 Revision 1.0 / Standard Method 4500-CN E 20th Edition
E420.1	EPA Method 420.1 Editorial Revision 1978
N/A	Not Applicable
SM5310C	Standard Method 5310C 20th Edition
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003
SW9020B	SW 846 Method 9020B Revision 2 September 1994

Sample Summary (3 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S81947.01	B-24r	Groundwater	06/20/17 10:55
S81947.02	B-28	Groundwater	06/20/17 12:15
S81947.03	B-27D	Groundwater	06/20/17 12:18

Analytical Laboratory Report

Lab Sample ID: S81947.01
Sample Tag: B-24r
Collected Date/Time: 06/20/2017 10:55
Matrix: Groundwater
COC Reference: 096896

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.0	IR
2	40ml Glass	H2SO4	Yes	3.0	IR
1	250ml Amber	H2SO4	Yes	3.0	IR
1	1L Plastic	None	Yes	3.0	IR
1	125ml Plastic	NaOH	Yes	3.0	IR
3	40ml Glass	HCL	Yes	3.0	IR
1	125ml Amber	H2SO4	Yes	3.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/21/17 10:30	CCM		
Metal Digestion	Completed			SW3015A	06/22/17 10:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	06/22/17 12:00	JML		
Inorganics								
Chloride	48	mg/L	20	E300.0	06/21/17 11:04	JDP	16887-00-6	
Conductivity	1,307	umhos/cm		E120.1	06/28/17 14:10	JKB		
Cyanide, Total	Not detected	mg/L	0.005	E335.4/SM4500-CN	06/20/17 18:28	JDP	57-12-5	
Phenols	Not detected	mg/L	0.02	E420.1	06/23/17 16:00	JKB		
Sulfate	246	mg/L	20	E300.0	06/21/17 11:04	JDP	14808-79-8	
TOC	3.1	mg/L	1	SM5310C	06/26/17 14:59	JKB		
Metals								
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	06/21/17 11:37	CCM	7440-47-3	
Copper, Dissolved	Not detected	mg/L	0.005	E200.8	06/21/17 11:37	CCM	7440-50-8	
Iron, Dissolved	Not detected	mg/L	0.02	E200.8	06/21/17 11:37	CCM	7439-89-6	
Manganese, Dissolved	0.074	mg/L	0.005	E200.8	06/21/17 11:37	CCM	7439-96-5	
Nickel, Dissolved	Not detected	mg/L	0.005	E200.8	06/21/17 11:37	CCM	7440-02-0	
Sodium	74.4	mg/L	0.20	E200.8	06/22/17 12:07	CCM	7440-23-5	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	06/21/17 11:37	CCM	7440-66-6	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	06/21/17 16:00	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	06/21/17 16:00	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:00	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:00	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	06/21/17 16:00	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	06/21/17 16:00	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:00	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:00	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:00	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:00	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	75-35-4	

Lab Sample ID: S81947.01 (continued)
Sample Tag: B-24r

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:00	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	06/21/17 16:00	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	06/21/17 16:00	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	06/21/17 16:00	JML	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:00	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:00	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	06/21/17 16:00	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:00	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	79-34-5	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:00	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:00	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:00	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:00	JML	96-12-8	

Lab Sample ID: S81947.01 (continued)
Sample Tag: B-24r

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:00	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:00	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:00	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:00	JML	91-57-6	
Organics								
TOX*	14.0	ug/L	30.0	SW9020B	07/06/17 10:21	Tes		OJ

O-Analysis performed by outside laboratory. See attached report. J-Estimated value less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S81947.02
Sample Tag: B-28
Collected Date/Time: 06/20/2017 12:15
Matrix: Groundwater
COC Reference: 096896

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.0	IR
2	40ml Glass	H2SO4	Yes	3.0	IR
1	250ml Amber	H2SO4	Yes	3.0	IR
1	1L Plastic	None	Yes	3.0	IR
1	125ml Plastic	NaOH	Yes	3.0	IR
3	40ml Glass	HCL	Yes	3.0	IR
1	125ml Amber	H2SO4	Yes	3.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/21/17 10:30	CCM		
Metal Digestion	Completed			SW3015A	06/22/17 10:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	06/22/17 12:00	JML		
Inorganics								
Chloride	13	mg/L	10	E300.0	06/21/17 11:17	JDP	16887-00-6	
Conductivity	863	umhos/cm		E120.1	06/28/17 14:14	JKB		
Cyanide, Total	Not detected	mg/L	0.005	E335.4/SM4500-CN	06/20/17 18:30	JDP	57-12-5	
Phenols	Not detected	mg/L	0.02	E420.1	06/23/17 16:02	JKB		
Sulfate	106	mg/L	10	E300.0	06/21/17 11:17	JDP	14808-79-8	
TOC	1.6	mg/L	1	SM5310C	06/26/17 15:20	JKB		
Metals								
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	06/21/17 11:38	CCM	7440-47-3	
Copper, Dissolved	Not detected	mg/L	0.005	E200.8	06/21/17 11:38	CCM	7440-50-8	
Iron, Dissolved	0.08	mg/L	0.02	E200.8	06/21/17 11:38	CCM	7439-89-6	
Manganese, Dissolved	0.035	mg/L	0.005	E200.8	06/21/17 11:38	CCM	7439-96-5	
Nickel, Dissolved	Not detected	mg/L	0.005	E200.8	06/21/17 11:38	CCM	7440-02-0	
Sodium	30.0	mg/L	5.0	E200.8	06/22/17 12:05	CCM	7440-23-5	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	06/21/17 11:38	CCM	7440-66-6	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	06/21/17 16:22	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	06/21/17 16:22	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:22	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:22	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	06/21/17 16:22	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	06/21/17 16:22	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:22	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:22	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:22	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:22	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	75-35-4	

Lab Sample ID: S81947.02 (continued)
Sample Tag: B-28

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:22	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	06/21/17 16:22	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	06/21/17 16:22	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	06/21/17 16:22	JML	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:22	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:22	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	06/21/17 16:22	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:22	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	79-34-5	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:22	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:22	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:22	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:22	JML	96-12-8	

Lab Sample ID: S81947.02 (continued)
Sample Tag: B-28

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:22	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:22	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:22	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:22	JML	91-57-6	
Organics								
TOX*	18.0	ug/L	30.0	SW9020B	07/06/17 09:33	Tes		OJ

O-Analysis performed by outside laboratory. See attached report. J-Estimated value less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S81947.03
Sample Tag: B-27D
Collected Date/Time: 06/20/2017 12:18
Matrix: Groundwater
COC Reference: 096896

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	3.0	IR
2	40ml Glass	H2SO4	Yes	3.0	IR
1	250ml Amber	H2SO4	Yes	3.0	IR
1	1L Plastic	None	Yes	3.0	IR
1	125ml Plastic	NaOH	Yes	3.0	IR
3	40ml Glass	HCL	Yes	3.0	IR
1	125ml Amber	H2SO4	Yes	3.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/21/17 10:30	CCM		
Metal Digestion	Completed			SW3015A	06/22/17 10:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	06/22/17 12:00	JML		
Inorganics								
Chloride	Not detected	mg/L	5	E300.0	06/21/17 11:30	JDP	16887-00-6	
Conductivity	642	umhos/cm		E120.1	06/28/17 14:16	JKB		
Cyanide, Total	Not detected	mg/L	0.005	E335.4/SM4500-CN	06/20/17 18:32	JDP	57-12-5	
Phenols	Not detected	mg/L	0.02	E420.1	06/23/17 16:04	JKB		
Sulfate	17	mg/L	5	E300.0	06/21/17 11:30	JDP	14808-79-8	
TOC	1.4	mg/L	1	SM5310C	06/26/17 15:42	JKB		
Metals								
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	06/21/17 11:39	CCM	7440-47-3	
Copper, Dissolved	Not detected	mg/L	0.005	E200.8	06/21/17 11:39	CCM	7440-50-8	
Iron, Dissolved	1.22	mg/L	0.02	E200.8	06/21/17 11:39	CCM	7439-89-6	
Manganese, Dissolved	0.043	mg/L	0.005	E200.8	06/21/17 11:39	CCM	7439-96-5	
Nickel, Dissolved	Not detected	mg/L	0.005	E200.8	06/21/17 11:39	CCM	7440-02-0	
Sodium	35.6	mg/L	5.0	E200.8	06/22/17 12:06	CCM	7440-23-5	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	06/21/17 11:39	CCM	7440-66-6	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	06/21/17 16:44	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	06/21/17 16:44	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:44	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:44	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	06/21/17 16:44	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	06/21/17 16:44	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:44	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:44	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:44	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:44	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	75-35-4	

Lab Sample ID: S81947.03 (continued)
Sample Tag: B-27D

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:44	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	06/21/17 16:44	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	06/21/17 16:44	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	06/21/17 16:44	JML	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:44	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:44	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	06/21/17 16:44	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:44	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	79-34-5	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:44	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/21/17 16:44	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:44	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:44	JML	96-12-8	

Lab Sample ID: S81947.03 (continued)
Sample Tag: B-27D

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:44	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:44	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:44	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	06/21/17 16:44	JML	91-57-6	
Organics								
TOX*	Not detected	ug/L	30.0	SW9020B	07/06/17 10:21	Tes		O

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

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

TestAmerica Job ID: 240-81640-1
Client Project/Site: 81947

For:
Merit Laboratories
2680 E Lansing Drive
East Lansing, Michigan 48823

Attn: Ms. Barb Richardson

Denise D Heckler

Authorized for release by:
7/7/2017 11:59:32 AM

Denise Heckler, Project Manager II
(330)966-9477
denise.heckler@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Definitions/Glossary

Client: Merit Laboratories
Project/Site: 81947

TestAmerica Job ID: 240-81640-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

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
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

Case Narrative

Client: Merit Laboratories
Project/Site: 81947

TestAmerica Job ID: 240-81640-1

Job ID: 240-81640-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative
240-81640-1

Comments
No additional comments.

Receipt
The samples were received on 6/28/2017 10:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.0º C.

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

Method Summary

Client: Merit Laboratories
Project/Site: 81947

TestAmerica Job ID: 240-81640-1

Method	Method Description	Protocol	Laboratory
9020B	Organic Halides, Total (TOX)	SW846	TAL NSH

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Sample Summary

Client: Merit Laboratories
Project/Site: 81947

TestAmerica Job ID: 240-81640-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-81640-1	81947.01	Water	06/20/17 10:55	06/28/17 10:20
240-81640-2	81947.02	Water	06/20/17 12:15	06/28/17 10:20
240-81640-3	81947.03	Water	06/20/17 12:18	06/28/17 10:20

Detection Summary

Client: Merit Laboratories
Project/Site: 81947

TestAmerica Job ID: 240-81640-1

Client Sample ID: 81947.01 — Lab Sample ID: 240-81640-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Halogens, Total Organic	0.014	J	0.030	0.010	mg/L	1		9020B	Total/NA

Client Sample ID: 81947.02 — Lab Sample ID: 240-81640-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Halogens, Total Organic	0.018	J	0.030	0.010	mg/L	1		9020B	Total/NA

Client Sample ID: 81947.03 — Lab Sample ID: 240-81640-3

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Merit Laboratories
Project/Site: 81947

TestAmerica Job ID: 240-81640-1

Client Sample ID: 81947.01
Date Collected: 06/20/17 10:55
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81640-1
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	0.014	J	0.030	0.010	mg/L			07/06/17 10:21	1

Client: Merit Laboratories
Project/Site: 81947

TestAmerica Job ID: 240-81640-1

Client Sample ID: 81947.02
Date Collected: 06/20/17 12:15
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81640-2
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	0.018	J	0.030	0.010	mg/L			07/06/17 09:33	1

Client: Merit Laboratories
Project/Site: 81947

TestAmerica Job ID: 240-81640-1

Client Sample ID: 81947.03
Date Collected: 06/20/17 12:18
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81640-3
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	0.030	U	0.030	0.010	mg/L			07/06/17 10:21	1

Client: Merit Laboratories
Project/Site: 81947

TestAmerica Job ID: 240-81640-1

Method: 9020B - Organic Halides, Total (TOX)

Lab Sample ID: MB 490-442901/3
Matrix: Water
Analysis Batch: 442901

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	0.030	U	0.030	0.010	mg/L			07/01/17 09:18	1

Lab Sample ID: LCS 490-442901/4
Matrix: Water
Analysis Batch: 442901

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
TOX Result 1	0.250	0.251		mg/L		101	90 - 110

Lab Sample ID: MB 490-442919/3
Matrix: Water
Analysis Batch: 442919

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	0.030	U	0.030	0.010	mg/L			06/30/17 14:56	1

Lab Sample ID: LCS 490-442919/6
Matrix: Water
Analysis Batch: 442919

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
TOX Result 1	0.250	0.243		mg/L		97	90 - 110

QC Association Summary

Client: Merit Laboratories
Project/Site: 81947

TestAmerica Job ID: 240-81640-1

General Chemistry

Analysis Batch: 442901

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-81640-2	81947.02	Total/NA	Water	9020B	
MB 490-442901/3	Method Blank	Total/NA	Water	9020B	
LCS 490-442901/4	Lab Control Sample	Total/NA	Water	9020B	

Analysis Batch: 442919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-81640-1	81947.01	Total/NA	Water	9020B	
240-81640-3	81947.03	Total/NA	Water	9020B	
MB 490-442919/3	Method Blank	Total/NA	Water	9020B	
LCS 490-442919/6	Lab Control Sample	Total/NA	Water	9020B	

Lab Chronicle

Client: Merit Laboratories
Project/Site: 81947

TestAmerica Job ID: 240-81640-1

Client Sample ID: 81947.01
Date Collected: 06/20/17 10:55
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81640-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9020B		1	442919	07/06/17 10:21	RN	TAL NSH

Client Sample ID: 81947.02
Date Collected: 06/20/17 12:15
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81640-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9020B		1	442901	07/06/17 09:33	RN	TAL NSH

Client Sample ID: 81947.03
Date Collected: 06/20/17 12:18
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81640-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9020B		1	442919	07/06/17 10:21	RN	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Accreditation/Certification Summary

Client: Merit Laboratories
Project/Site: 81947

TestAmerica Job ID: 240-81640-1

Laboratory: TestAmerica Canton

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

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-18
Connecticut	State Program	1	PH-0590	12-31-17
Florida	NELAP	4	E87225	06-30-18
Illinois	NELAP	5	200004	07-31-17 *
Kansas	NELAP	7	E-10336	01-31-18
Kentucky (UST)	State Program	4	58	02-23-18
Kentucky (WW)	State Program	4	98016	12-31-17
Minnesota	NELAP	5	039-999-348	12-31-17
Minnesota (Petrofund)	State Program	1	3506	07-31-17 *
Nevada	State Program	9	OH-000482008A	07-31-17 *
New Jersey	NELAP	2	OH001	06-30-18
New York	NELAP	2	10975	03-31-18
Ohio VAP	State Program	5	CL0024	09-14-17 *
Oregon	NELAP	10	4062	02-23-18
Pennsylvania	NELAP	3	68-00340	08-31-17 *
Texas	NELAP	6	T104704517-15-5	08-31-17 *
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-17 *
Washington	State Program	10	C971	01-12-18
West Virginia DEP	State Program	3	210	12-31-17
Wisconsin	State Program	5	999518190	08-31-17 *

Laboratory: TestAmerica Nashville

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

Authority	Program	EPA Region	Identification Number	Expiration Date
A2LA	A2LA		NA: NELAP & A2LA	12-31-17
A2LA	ISO/IEC 17025		0453.07	12-31-17
Alaska (UST)	State Program	10	UST-087	09-01-17
Arizona	State Program	9	AZ0473	05-05-18
Arkansas DEQ	State Program	6	88-0737	04-25-18
California	State Program	9	2938	10-31-18
Connecticut	State Program	1	PH-0220	12-31-17
Florida	NELAP	4	E87358	06-30-18
Georgia	State Program	4	E87358(FL)/453.07(A2LA)	12-31-17
Illinois	NELAP	5	200010	12-09-17
Iowa	State Program	7	131	04-01-18
Kansas	NELAP	7	E-10229	10-31-17
Kentucky (UST)	State Program	4	19	06-30-18
Kentucky (WW)	State Program	4	90038	12-31-17
Louisiana	NELAP	6	30613	06-30-18
Maine	State Program	1	TN00032	11-03-17
Maryland	State Program	3	316	03-31-18
Massachusetts	State Program	1	M-TN032	06-30-18
Minnesota	NELAP	5	047-999-345	12-31-17
Mississippi	State Program	4	N/A	06-30-17 *
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-17
New Hampshire	NELAP	1	2963	10-09-17
New Jersey	NELAP	2	TN965	06-30-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Merit Laboratories
Project/Site: 81947

TestAmerica Job ID: 240-81640-1

Laboratory: TestAmerica Nashville (Continued)

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

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	11342	03-31-18
North Carolina (WW/SW)	State Program	4	387	12-31-17
North Dakota	State Program	8	R-146	06-30-17 *
Ohio VAP	State Program	5	CL0033	07-10-17 *
Oklahoma	State Program	6	9412	08-31-17
Oregon	NELAP	10	TN200001	04-27-18
Pennsylvania	NELAP	3	68-00585	06-30-18
Rhode Island	State Program	1	LAO00268	12-30-17
South Carolina	State Program	4	84009 (001)	02-28-18
South Carolina (Do Not Use - DW)	State Program	4	84009 (002)	12-16-17
Tennessee	State Program	4	2008	02-23-20
Texas	NELAP	6	T104704077	08-31-17
USDA	Federal		P330-13-00306	12-01-19
Utah	NELAP	8	TN00032	07-31-17
Virginia	NELAP	3	460152	06-14-18
Washington	State Program	10	C789	07-19-17
West Virginia DEP	State Program	3	219	02-28-18
Wisconsin	State Program	5	998020430	08-31-17
Wyoming (UST)	A2LA	8	453.07	12-31-17

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

20/C2.6

Merit Laboratories, Inc.

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

C.O.C. PAGE # _____ OF _____

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: John Laverty
COMPANY: Merit Laboratories
ADDRESS: 2680 East Lansing Drive
CITY: East Lansing | STATE: MI | ZIP CODE: 48823
PHONE NO.: 517-332-0167 | FAX NO.: 517-332-4034 | P.O. NO.:
E-MAIL ADDRESS: johnlaverty@meritlabs.com | QUOTE NO.:

INVOICE TO

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: S81947 | 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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other _____

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	TOX	Special Instructions
	6/20/17	1055	81947.01	GW	1				X				✓	
	6/20/17	1215	81947.02	GW	1				X				✓	
	6/20/17	1218	81947.03	GW	1				X				✓	
														Subcontracted to Test America

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Sam Smith UPS ☐ Sampler	DATE: 6/20/17	TIME: 1640	
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME	
RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME	
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME	

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME	
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE: 6/21/17	TIME: 1020	
SEAL NO.	SEAL INTACT YES☐ NO☐	INITIALS	NOTES: TEMP. ON ARRIVAL _____
SEAL NO.	SEAL INTACT YES☐ NO☐	INITIALS	

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

Rev. 5.18.12

7/7/2017

TestAmerica Canton Sample Receipt Form/Narrative **Login # : 81640**

Canton Facility

Client Merit Laboratories Site Name _____ Cooler unpacked by:

Cooler Received on 6/28/17 Opened on 6/28/17

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

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

TestAmerica Cooler # _____ 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

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN# IR-8 (CF -0.4 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

IR GUN #36 (CF +0°C) Observed Cooler Temp. 2.0 °C Corrected Cooler Temp. 2.0 °C

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity _____	Yes (No)	
-Were custody seals on the outside of the cooler(s) signed & dated?	Yes No (NA)	
-Were custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes (No)	
3. Shippers' packing slip attached to the cooler(s)?	(Yes) No	– not salvagable
4. Did custody papers accompany the sample(s)?	(Yes) No	
5. Were the custody papers relinquished & signed in the appropriate place?	(Yes) No	
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes (No)	
7. Did all bottles arrive in good condition (Unbroken)?	(Yes) No	
8. Could all bottle labels be reconciled with the COC?	(Yes) No	
9. Were correct bottle(s) used for the test(s) indicated?	(Yes) No	
10. Sufficient quantity received to perform indicated analyses?	(Yes) No	
11. Are these work share samples?	Yes (No)	
If yes, Questions 11-15 have been checked at the originating laboratory.		
11. Were sample(s) at the correct pH upon receipt?	Yes No (NA)	pH Strip Lot# HC697954
12. Were VOAs on the COC?	Yes (No)	
13. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes No (NA)	
14. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes (No)	
15. Was a LL Hg or Me Hg trip blank present? _____	Yes (No)	

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

Concerning _____

16. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by:

17. 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)

18. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

Ref: SOP NC-SC-0005, Sample Receiving

\\tacorp\corp\QA\QA_Facilities\Canton-QA\Document-Management\Work-Instruction\Word Version Work Instructions\WI-NC-099-052317 Cooler Receipt Form.doc djl

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

240-81640 Chain of Custody

COOLER RECEIPT FORM

Cooler Received/Opened On 06-29-2017 @ 09:50

Time Samples Removed From Cooler_____ Time Samples Placed In Storage_____ (2 Hour Window)

1. Tracking # 6840 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 17960357 pH Strip Lot N/A Chlorine Strip Lot N/A

2. Temperature of rep. sample or temp blank when opened: 0.3 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 1 front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) ES

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (initial) ES

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES.NO.NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) ES

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) ES

I certify that I attached a label with the unique LIMS number to each container (initial) ES

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...# ES

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 12/15/15

TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone (330) 497-9396 Fax (330) 497-0772

Chain of Custody Record

240-81640

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Heckler, Denise D	COC No: 240-72927.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: denise.heckler@testamericainc.com	State of Origin: Michigan	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note):	Job #: 240-81640-1
Address: 2960 Foster Creighton Drive,	Due Date Requested: 7/11/2017		
City: Nashville	TAT Requested (days):		
State, Zip: TN, 37204			
Phone: 615-726-0177(Tel) 615-726-3404(Fax)	PO #:		
Email:	WO #:		
Project Name: 81947	Project #: 24005713		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

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)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9020B/ (MOD) Total Organic Halides (TOX)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
81947.01 (240-81640-1)	6/20/17	10:55 Eastern		Water			X	1	
81947.02 (240-81640-2)	6/20/17	12:15 Eastern		Water			X	1	
81947.03 (240-81640-3)	6/20/17	12:18 Eastern		Water			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *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:	Date/Time: 6-28-17 1600	Company ZAO	Received by:	Date/Time: 6-29-17 9:50	Company		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company		

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0r3

Login Sample Receipt Checklist

Client: Merit Laboratories

Job Number: 240-81640-1

Login Number: 81640
List Number: 2
Creator: Stewart, Eric S

List Source: TestAmerica Nashville
List Creation: 06/29/17 12:53 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Merit Laboratories, Inc.

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

096896

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Clifford Yantz
COMPANY: O'Brien & Gere
ADDRESS: 37000 Grand River
CITY: Farmington Hills STATE: MI ZIP CODE: 48335
PHONE NO.: 248-477-5201 FAX NO.: P.O. NO.: 1700139
E-MAIL ADDRESS: Clifford.Yantz@OBG.com QUOTE NO.:

INVOICE TO

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

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

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. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs	TOC	TOX	Phenols	Cyanide	Sulfate	Specific Conductivity	Dissolved metals	Chlorides	Sodium	Special Instructions
81947.01	6/20/17	1055	B-24c	GW	11	1	3	2	4	1			X	X	X	X	X	X	X	X	X	X	Dissolved Metals
.02	↓	1215	B-28	↓	↓	↓	↓	↓	↓	↓			X	X	X	X	X	X	X	X	X	X	were field filtered
.03	↓	1218	B-27D	↓	↓	↓	↓	↓	↓	↓			X	X	X	X	X	X	X	X	X	X	METALS ARE:
																							Cu, Cr, Ni, Zn, Fe, Mn
																							Trip Blank for samples
																							wells is Trip Blank-1
																							on COC 097608

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES
Project Locations: ☐ Detroit ☐ New York ☐ Other
Special Instructions

RELINQUISHED BY: SIGNATURE/ORGANIZATION	X Sampler	DATE 6/20/17	TIME 1325
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 6/20/17	TIME 1325
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 6/20/17	TIME 1415
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 6/20/17	TIME 1445

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

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

NOTES: TEMP. ON ARRIVAL 3.0

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

Rev. 5.18.12

Analytical Laboratory Report

Report ID: S81977.01(01)
Generated on 07/06/2017

Report to

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

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

Report produced by

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

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

Contacts for report questions:
John Laverty (johnlaverty@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S81977.01-S81977.06
Project: RACER Coldwater Rd Landfill
Collected Date: 06/20/2017 - 06/21/2017
Submitted Date/Time: 06/21/2017 15:00
Sampled by: Kevin Schneider
P.O. #: 11700139

Table of Contents

Maya Murshak
Technical Director

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

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

Qualifier Descriptions

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

Glossary of Abbreviations

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

Method Summary

Method	Version
E120.1	EPA Method 120.1 Revision 1982
E200.8	EPA Method 200.8 Revision 5.4
E300.0	EPA Method 300.0 Revision 2.1
E335.4/SM4500-CN	EPA Method 335.4 Revision 1.0 / Standard Method 4500-CN E 20th Edition
E420.1	EPA Method 420.1 Editorial Revision 1978
N/A	Not Applicable
SM5310C	Standard Method 5310C 20th Edition
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003
SW9020B	SW 846 Method 9020B Revision 2 September 1994

Sample Summary (6 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S81977.01	B-18A	Groundwater	06/20/17 14:10
S81977.02	B-9	Groundwater	06/20/17 14:25
S81977.03	B-7	Groundwater	06/21/17 08:30
S81977.04	B-19Ar	Groundwater	06/21/17 09:20
S81977.05	B-23Dr	Groundwater	06/21/17 10:55
S81977.06	Trip Blank - 2	Water	06/21/17 00:01

Analytical Laboratory Report

Lab Sample ID: S81977.01
Sample Tag: B-18A
Collected Date/Time: 06/20/2017 14:10
Matrix: Groundwater
COC Reference: 103179

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.8	IR
2	40ml Glass	H2SO4	Yes	4.8	IR
1	250ml Amber	H2SO4	Yes	4.8	IR
1	1L Plastic	None	Yes	4.8	IR
1	125ml Plastic	NaOH	Yes	4.8	IR
3	40ml Glass	HCL	Yes	4.8	IR
1	125ml Amber	H2SO4	Yes	4.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/27/17 13:15	CCM		
Metal Digestion	Completed			SW3015A	06/22/17 10:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	06/23/17 13:45	KAG		
Inorganics								
Chloride	18	mg/L	10	E300.0	06/23/17 13:23	JDP	0.29	
Conductivity	1,075	umhos/cm		E120.1	06/28/17 15:00	JKB		
Cyanide, Total	Not detected	mg/L	0.005	E335.4/SM4500-CN	06/23/17 13:08	JDP	0.002	
Phenols	Not detected	mg/L	0.02	E420.1	06/27/17 14:59	JKB		
Sulfate	118	mg/L	10	E300.0	06/23/17 13:23	JDP	0.53	
TOC	1.5	mg/L	1	SM5310C	06/27/17 14:10	JKB		
Metals								
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:01	CCM	0.00013	
Copper, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:01	CCM	0.00006	
Iron, Dissolved	Not detected	mg/L	0.02	E200.8	06/27/17 14:01	CCM	0.00077	
Manganese, Dissolved	0.027	mg/L	0.005	E200.8	06/27/17 14:01	CCM	0.000060	
Nickel, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:01	CCM	0.000036	
Sodium	36.3	mg/L	5.0	E200.8	06/22/17 12:10	CCM	0.00099	
Zinc, Dissolved	0.008	mg/L	0.005	E200.8	06/27/17 14:01	CCM	0.00014	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	06/22/17 17:41	JML	0.499	
Acetone	Not detected	ug/L	50	SW5030C/8260C	06/22/17 17:41	JML	0.564	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.254	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	06/22/17 17:41	JML	0.241	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	06/22/17 17:41	JML	0.190	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	06/22/17 17:41	JML	0.565	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	06/22/17 17:41	JML	0.264	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 17:41	JML	0.503	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 17:41	JML	0.261	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.306	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 17:41	JML	0.315	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 17:41	JML	0.339	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.327	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.269	

Lab Sample ID: S81977.01 (continued)
Sample Tag: B-18A

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	06/22/17 17:41	JML	0.289	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.198	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.204	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.257	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	06/22/17 17:41	JML	1.267	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.206	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.381	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.283	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	06/22/17 17:41	JML	0.141	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	06/22/17 17:41	JML	0.285	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.195	
Benzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.199	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.156	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.233	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.204	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.227	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 17:41	JML	0.201	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.194	
Toluene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.245	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.250	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.283	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.203	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.199	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 17:41	JML	0.238	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.300	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.168	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.236	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.260	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	06/22/17 17:41	JML	0.413	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.250	
Styrene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.178	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 17:41	JML	0.245	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.216	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.180	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.325	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.228	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.269	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.262	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.179	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.221	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.247	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 17:41	JML	0.208	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.237	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.229	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.280	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.061	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 17:41	JML	0.222	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 17:41	JML	0.214	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 17:41	JML	0.466	

Lab Sample ID: S81977.01 (continued)
Sample Tag: B-18A

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 17:41	JML	0.191	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 17:41	JML	0.202	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 17:41	JML	0.213	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 17:41	JML	0.163	
Organics								
TOX*	Not detected	ug/L	30.0	SW9020B	07/03/17 07:48	TA	15	O

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

Analytical Laboratory Report

Lab Sample ID: S81977.02
Sample Tag: B-9
Collected Date/Time: 06/20/2017 14:25
Matrix: Groundwater
COC Reference: 103179

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.8	IR
2	40ml Glass	H2SO4	Yes	4.8	IR
1	250ml Amber	H2SO4	Yes	4.8	IR
1	1L Plastic	None	Yes	4.8	IR
1	125ml Plastic	NaOH	Yes	4.8	IR
3	40ml Glass	HCL	Yes	4.8	IR
1	125ml Amber	H2SO4	Yes	4.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/27/17 13:15	CCM		
Metal Digestion	Completed			SW3015A	06/22/17 10:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	06/23/17 13:45	KAG		
Inorganics								
Chloride	74	mg/L	10	E300.0	06/23/17 13:10	JDP	0.29	
Conductivity	2,250	umhos/cm		E120.1	06/28/17 15:04	JKB		
Cyanide, Total	Not detected	mg/L	0.005	E335.4/SM4500-CN	06/23/17 13:16	JDP	0.002	
Phenols	Not detected	mg/L	0.02	E420.1	06/27/17 15:03	JKB		
Sulfate	770	mg/L	100	E300.0	06/23/17 13:36	JDP	5.3	
TOC	1.8	mg/L	1	SM5310C	06/27/17 14:52	JKB		
Metals								
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:02	CCM	0.00013	
Copper, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:02	CCM	0.00006	
Iron, Dissolved	0.17	mg/L	0.02	E200.8	06/27/17 14:02	CCM	0.00077	
Manganese, Dissolved	0.172	mg/L	0.005	E200.8	06/27/17 14:02	CCM	0.000060	
Nickel, Dissolved	0.005	mg/L	0.005	E200.8	06/27/17 14:02	CCM	0.000036	
Sodium	54.6	mg/L	5.0	E200.8	06/22/17 12:11	CCM	0.00099	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:02	CCM	0.00014	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	06/22/17 18:03	JML	0.499	
Acetone	Not detected	ug/L	50	SW5030C/8260C	06/22/17 18:03	JML	0.564	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.254	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:03	JML	0.241	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:03	JML	0.190	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	06/22/17 18:03	JML	0.565	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	06/22/17 18:03	JML	0.264	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:03	JML	0.503	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:03	JML	0.261	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.306	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:03	JML	0.315	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:03	JML	0.339	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.327	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.269	

Lab Sample ID: S81977.02 (continued)
Sample Tag: B-9

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:03	JML	0.289	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.198	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.204	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.257	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	06/22/17 18:03	JML	1.267	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.206	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.381	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.283	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	06/22/17 18:03	JML	0.141	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	06/22/17 18:03	JML	0.285	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.195	
Benzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.199	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.156	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.233	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.204	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.227	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:03	JML	0.201	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.194	
Toluene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.245	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.250	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.283	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.203	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.199	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:03	JML	0.238	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.300	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.168	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.236	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.260	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	06/22/17 18:03	JML	0.413	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.250	
Styrene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.178	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:03	JML	0.245	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.216	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.180	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.325	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.228	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.269	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.262	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.179	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.221	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.247	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:03	JML	0.208	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.237	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.229	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.280	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.061	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:03	JML	0.222	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:03	JML	0.214	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:03	JML	0.466	

Lab Sample ID: S81977.02 (continued)
Sample Tag: B-9

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:03	JML	0.191	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:03	JML	0.202	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:03	JML	0.213	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:03	JML	0.163	
Organics								
TOX*	12.0	ug/L	30.0	SW9020B	07/03/17 07:48	TA	15	JO

J-Estimated value less than reporting limit, but greater than MDL O-Analysis performed by outside laboratory. See attached report.

Analytical Laboratory Report

Lab Sample ID: S81977.03
Sample Tag: B-7
Collected Date/Time: 06/21/2017 08:30
Matrix: Groundwater
COC Reference: 103179

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.8	IR
2	40ml Glass	H2SO4	Yes	4.8	IR
1	250ml Amber	H2SO4	Yes	4.8	IR
1	1L Plastic	None	Yes	4.8	IR
1	125ml Plastic	NaOH	Yes	4.8	IR
3	40ml Glass	HCL	Yes	4.8	IR
1	125ml Amber	H2SO4	Yes	4.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/27/17 13:15	CCM		
Metal Digestion	Completed			SW3015A	06/22/17 10:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	06/23/17 13:45	KAG		
Inorganics								
Chloride	41	mg/L	10	E300.0	06/23/17 13:48	JDP	0.29	
Conductivity	1,092	umhos/cm		E120.1	06/28/17 15:06	JKB		
Cyanide, Total	Not detected	mg/L	0.005	E335.4/SM4500-CN	06/23/17 13:18	JDP	0.002	
Phenols	Not detected	mg/L	0.02	E420.1	06/27/17 15:05	JKB		
Sulfate	155	mg/L	10	E300.0	06/23/17 13:48	JDP	0.53	
TOC	3.9	mg/L	1	SM5310C	06/27/17 15:13	JKB		
Metals								
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:04	CCM	0.00013	
Copper, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:04	CCM	0.00006	
Iron, Dissolved	0.04	mg/L	0.02	E200.8	06/27/17 14:04	CCM	0.00077	
Manganese, Dissolved	0.037	mg/L	0.005	E200.8	06/27/17 14:04	CCM	0.000060	
Nickel, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:04	CCM	0.000036	
Sodium	51.7	mg/L	5.0	E200.8	06/22/17 12:12	CCM	0.00099	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:04	CCM	0.00014	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	06/22/17 18:25	JML	0.499	
Acetone	Not detected	ug/L	50	SW5030C/8260C	06/22/17 18:25	JML	0.564	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.254	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:25	JML	0.241	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:25	JML	0.190	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	06/22/17 18:25	JML	0.565	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	06/22/17 18:25	JML	0.264	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:25	JML	0.503	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:25	JML	0.261	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.306	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:25	JML	0.315	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:25	JML	0.339	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.327	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.269	

Lab Sample ID: S81977.03 (continued)
Sample Tag: B-7

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:25	JML	0.289	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.198	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.204	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.257	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	06/22/17 18:25	JML	1.267	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.206	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.381	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.283	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	06/22/17 18:25	JML	0.141	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	06/22/17 18:25	JML	0.285	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.195	
Benzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.199	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.156	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.233	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.204	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.227	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:25	JML	0.201	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.194	
Toluene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.245	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.250	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.283	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.203	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.199	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:25	JML	0.238	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.300	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.168	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.236	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.260	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	06/22/17 18:25	JML	0.413	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.250	
Styrene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.178	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:25	JML	0.245	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.216	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.180	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.325	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.228	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.269	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.262	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.179	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.221	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.247	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:25	JML	0.208	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.237	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.229	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.280	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.061	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:25	JML	0.222	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:25	JML	0.214	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:25	JML	0.466	

Lab Sample ID: S81977.03 (continued)
Sample Tag: B-7

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:25	JML	0.191	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:25	JML	0.202	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:25	JML	0.213	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:25	JML	0.163	
Organics								
TOX*	12.0	ug/L	30.0	SW9020B	07/03/17 07:48	TA	15	JO

J-Estimated value less than reporting limit, but greater than MDL O-Analysis performed by outside laboratory. See attached report.

Analytical Laboratory Report

Lab Sample ID: S81977.04
Sample Tag: B-19Ar
Collected Date/Time: 06/21/2017 09:20
Matrix: Groundwater
COC Reference: 103179

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.8	IR
2	40ml Glass	H2SO4	Yes	4.8	IR
1	250ml Amber	H2SO4	Yes	4.8	IR
1	1L Plastic	None	Yes	4.8	IR
1	125ml Plastic	NaOH	Yes	4.8	IR
3	40ml Glass	HCL	Yes	4.8	IR
1	125ml Amber	H2SO4	Yes	4.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/27/17 13:15	CCM		
Metal Digestion	Completed			SW3015A	06/22/17 10:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	06/23/17 13:45	KAG		
Inorganics								
Chloride	75	mg/L	10	E300.0	06/23/17 14:01	JDP	0.29	
Conductivity	1,064	umhos/cm		E120.1	06/28/17 15:08	JKB		
Cyanide, Total	Not detected	mg/L	0.005	E335.4/SM4500-CN	06/23/17 13:20	JDP	0.002	
Phenols	Not detected	mg/L	0.02	E420.1	06/27/17 15:07	JKB		
Sulfate	131	mg/L	10	E300.0	06/23/17 14:01	JDP	0.53	
TOC	2.0	mg/L	1	SM5310C	06/27/17 15:35	JKB		
Metals								
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:05	CCM	0.00013	
Copper, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:05	CCM	0.00006	
Iron, Dissolved	Not detected	mg/L	0.02	E200.8	06/27/17 14:05	CCM	0.00077	
Manganese, Dissolved	0.013	mg/L	0.005	E200.8	06/27/17 14:05	CCM	0.000060	
Nickel, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:05	CCM	0.000036	
Sodium	28.2	mg/L	5.0	E200.8	06/22/17 12:17	CCM	0.00099	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:05	CCM	0.00014	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	06/22/17 18:47	JML	0.499	
Acetone	Not detected	ug/L	50	SW5030C/8260C	06/22/17 18:47	JML	0.564	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.254	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:47	JML	0.241	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:47	JML	0.190	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	06/22/17 18:47	JML	0.565	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	06/22/17 18:47	JML	0.264	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:47	JML	0.503	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:47	JML	0.261	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.306	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:47	JML	0.315	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:47	JML	0.339	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.327	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.269	

Lab Sample ID: S81977.04 (continued)
Sample Tag: B-19Ar

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:47	JML	0.289	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.198	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.204	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.257	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	06/22/17 18:47	JML	1.267	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.206	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.381	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.283	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	06/22/17 18:47	JML	0.141	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	06/22/17 18:47	JML	0.285	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.195	
Benzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.199	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.156	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.233	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.204	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.227	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:47	JML	0.201	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.194	
Toluene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.245	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.250	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.283	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.203	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.199	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:47	JML	0.238	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.300	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.168	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.236	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.260	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	06/22/17 18:47	JML	0.413	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.250	
Styrene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.178	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:47	JML	0.245	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.216	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.180	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.325	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.228	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.269	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.262	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.179	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.221	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.247	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:47	JML	0.208	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.237	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.229	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.280	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.061	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 18:47	JML	0.222	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:47	JML	0.214	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:47	JML	0.466	

Lab Sample ID: S81977.04 (continued)
Sample Tag: B-19Ar

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:47	JML	0.191	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:47	JML	0.202	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:47	JML	0.213	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 18:47	JML	0.163	
Organics								
TOX*	30.0	ug/L	30.0	SW9020B	07/05/17 08:30	TA	15	O

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

Analytical Laboratory Report

Lab Sample ID: S81977.05
Sample Tag: B-23Dr
Collected Date/Time: 06/21/2017 10:55
Matrix: Groundwater
COC Reference: 103179

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.8	IR
2	40ml Glass	H2SO4	Yes	4.8	IR
1	250ml Amber	H2SO4	Yes	4.8	IR
1	1L Plastic	None	Yes	4.8	IR
1	125ml Plastic	NaOH	Yes	4.8	IR
3	40ml Glass	HCL	Yes	4.8	IR
1	125ml Amber	H2SO4	Yes	4.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/27/17 13:15	CCM		
Metal Digestion	Completed			SW3015A	06/22/17 10:45	CCM		
pH check for VOCs*	<2	STD Units		N/A	06/23/17 13:45	KAG		
Inorganics								
Chloride	38	mg/L	10	E300.0	06/23/17 14:14	JDP	0.29	
Conductivity	844	umhos/cm		E120.1	06/28/17 15:10	JKB		
Cyanide, Total	Not detected	mg/L	0.005	E335.4/SM4500-CN	06/23/17 13:22	JDP	0.002	
Phenols	Not detected	mg/L	0.02	E420.1	06/27/17 15:09	JKB		
Sulfate	64	mg/L	10	E300.0	06/23/17 14:14	JDP	0.53	
TOC	1.5	mg/L	1	SM5310C	06/27/17 15:56	JKB		
Metals								
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:06	CCM	0.00013	
Copper, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:06	CCM	0.00006	
Iron, Dissolved	0.40	mg/L	0.02	E200.8	06/27/17 14:06	CCM	0.00077	
Manganese, Dissolved	0.045	mg/L	0.005	E200.8	06/27/17 14:06	CCM	0.000060	
Nickel, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:06	CCM	0.000036	
Sodium	27.3	mg/L	5.0	E200.8	06/22/17 12:18	CCM	0.00099	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:06	CCM	0.00014	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	06/22/17 19:09	JML	0.499	
Acetone	Not detected	ug/L	50	SW5030C/8260C	06/22/17 19:09	JML	0.564	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.254	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	06/22/17 19:09	JML	0.241	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	06/22/17 19:09	JML	0.190	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	06/22/17 19:09	JML	0.565	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	06/22/17 19:09	JML	0.264	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 19:09	JML	0.503	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 19:09	JML	0.261	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.306	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 19:09	JML	0.315	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 19:09	JML	0.339	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.327	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.269	

Lab Sample ID: S81977.05 (continued)
Sample Tag: B-23Dr

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	06/22/17 19:09	JML	0.289	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.198	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.204	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.257	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	06/22/17 19:09	JML	1.267	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.206	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.381	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.283	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	06/22/17 19:09	JML	0.141	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	06/22/17 19:09	JML	0.285	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.195	
Benzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.199	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.156	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.233	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.204	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.227	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 19:09	JML	0.201	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.194	
Toluene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.245	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.250	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.283	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.203	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.199	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 19:09	JML	0.238	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.300	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.168	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.236	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.260	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	06/22/17 19:09	JML	0.413	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.250	
Styrene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.178	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 19:09	JML	0.245	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.216	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.180	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.325	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.228	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.269	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.262	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.179	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.221	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.247	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 19:09	JML	0.208	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.237	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.229	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.280	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.061	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 19:09	JML	0.222	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 19:09	JML	0.214	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 19:09	JML	0.466	

Lab Sample ID: S81977.05 (continued)
Sample Tag: B-23Dr

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 19:09	JML	0.191	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 19:09	JML	0.202	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 19:09	JML	0.213	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 19:09	JML	0.163	
Organics								
TOX*	Not detected	ug/L	30.0	SW9020B	07/05/17 08:30	TA	15	O

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

Analytical Laboratory Report

Lab Sample ID: S81977.06
Sample Tag: Trip Blank - 2
Collected Date/Time: 06/21/2017 00:01
Matrix: Water
COC Reference: 103179

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	4.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	06/23/17 13:45	KAG		
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	06/22/17 12:41	JML	0.499	
Acetone	Not detected	ug/L	50	SW5030C/8260C	06/22/17 12:41	JML	0.564	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.254	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	06/22/17 12:41	JML	0.241	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	06/22/17 12:41	JML	0.190	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	06/22/17 12:41	JML	0.565	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	06/22/17 12:41	JML	0.264	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 12:41	JML	0.503	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 12:41	JML	0.261	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.306	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 12:41	JML	0.315	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 12:41	JML	0.339	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.327	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.269	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	06/22/17 12:41	JML	0.289	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.198	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.204	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.257	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	06/22/17 12:41	JML	1.267	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.206	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.381	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.283	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	06/22/17 12:41	JML	0.141	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	06/22/17 12:41	JML	0.285	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.195	
Benzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.199	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.156	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.233	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.204	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.227	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 12:41	JML	0.201	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.194	
Toluene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.245	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.250	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.283	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.203	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.199	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 12:41	JML	0.238	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.300	

Lab Sample ID: S81977.06 (continued)
Sample Tag: Trip Blank - 2

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.168	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.236	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.260	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	06/22/17 12:41	JML	0.413	
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.250	
Styrene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.178	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 12:41	JML	0.245	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.216	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.180	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.325	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.228	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.269	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.262	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.179	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.221	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.247	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 12:41	JML	0.208	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.237	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.229	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.280	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.061	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/22/17 12:41	JML	0.222	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 12:41	JML	0.214	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	06/22/17 12:41	JML	0.466	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 12:41	JML	0.191	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 12:41	JML	0.202	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 12:41	JML	0.213	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	06/22/17 12:41	JML	0.163	

Merit Laboratories, Inc.

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

103179

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Clifford Yantz
COMPANY: O'Brien & Gere
ADDRESS: 37000 Grand River
CITY: Farmington Hills STATE: MI ZIP CODE: 48335
PHONE NO.: 248-477-5701 FAX NO.: P.O. NO.: 11700139
E-MAIL ADDRESS: clifford.yantz@obg.com QUOTE NO.:

INVOICE TO

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

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

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs	TOC	TOX	Phenols	Cyanide	Sulfate	Specific conductivity	Dissolved metals	Chlorides	Sodium	Special Instructions
81977.01	6/20/17	1410	B-18A	GW	11	1	3	2	4	1			X	X	X	X	X	X	X	X	X	X	Dissolved metals
.02	6/20/17	1425	B-9										X	X	X	X	X	X	X	X	X	X	were field filtered
.03	6/21/17	830	B-7										X	X	X	X	X	X	X	X	X	X	METALS ARE:
.04		920	B-19Ar										X	X	X	X	X	X	X	X	X	X	Cu, Cr, Ni, Zn, Fe, Mn
.05		1055	B-23Dr										X	X	X	X	X	X	X	X	X	X	
.06		—	Trip Blank-2	QC	1	1							X										

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES
Project Locations: ☐ Detroit ☐ New York ☐ Other
Special Instructions

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☒ Sampler OBG	DATE 6/21/17	TIME 1255
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 6/21/17	TIME 1815
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 6/21/17	TIME 1815
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 6/21/17	TIME 1500

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

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

NOTES: TEMP. ON ARRIVAL 4.8

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

Rev. 5.18.12

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

TestAmerica Job ID: 240-81636-1
Client Project/Site: 81977

For:
Merit Laboratories
2680 E Lansing Drive
East Lansing, Michigan 48823

Attn: Ms. Barb Richardson

Denise D Heckler

Authorized for release by:
7/6/2017 10:48:34 AM

Denise Heckler, Project Manager II
(330)966-9477
denise.heckler@testamericainc.com

Table of Contents

Definitions/Glossary

Client: Merit Laboratories
Project/Site: 81977

TestAmerica Job ID: 240-81636-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

Case Narrative

Client: Merit Laboratories
Project/Site: 81977

TestAmerica Job ID: 240-81636-1

Job ID: 240-81636-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative
240-81636-1

Comments
No additional comments.

Receipt
The samples were received on 6/28/2017 10:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.0º C.

General Chemistry
Method(s) 9020B: Breakthrough exceeded 10% for the following sample:81977.04 (240-81636-4). Sample duplicate results are outside 20% RPD requirement. Insufficient sample volume remaining to perform additional replicates. The data has been reported.

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

Method Summary

Client: Merit Laboratories
Project/Site: 81977

TestAmerica Job ID: 240-81636-1

Method	Method Description	Protocol	Laboratory
9020B	Organic Halides, Total (TOX)	SW846	TAL NSH

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Sample Summary

Client: Merit Laboratories
Project/Site: 81977

TestAmerica Job ID: 240-81636-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-81636-1	81977.01	Water	06/20/17 14:10	06/28/17 10:20
240-81636-2	81977.02	Water	06/20/17 14:25	06/28/17 10:20
240-81636-3	81977.03	Water	06/21/17 08:30	06/28/17 10:20
240-81636-4	81977.04	Water	06/21/17 09:20	06/28/17 10:20
240-81636-5	81977.05	Water	06/21/17 10:55	06/28/17 10:20

Detection Summary

Client: Merit Laboratories
Project/Site: 81977

TestAmerica Job ID: 240-81636-1

Client Sample ID: 81977.01 — Lab Sample ID: 240-81636-1

No Detections.

Client Sample ID: 81977.02 — Lab Sample ID: 240-81636-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Halogens, Total Organic	0.012	J	0.030	0.010	mg/L	1		9020B	Total/NA

Client Sample ID: 81977.03 — Lab Sample ID: 240-81636-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Halogens, Total Organic	0.012	J	0.030	0.010	mg/L	1		9020B	Total/NA

Client Sample ID: 81977.04 — Lab Sample ID: 240-81636-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Halogens, Total Organic	0.030		0.030	0.010	mg/L	1		9020B	Total/NA

Client Sample ID: 81977.05 — Lab Sample ID: 240-81636-5

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Merit Laboratories
Project/Site: 81977

TestAmerica Job ID: 240-81636-1

Client Sample ID: 81977.01
Date Collected: 06/20/17 14:10
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81636-1
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	0.030	U	0.030	0.010	mg/L			07/03/17 07:48	1

Client Sample Results

Client: Merit Laboratories
Project/Site: 81977

TestAmerica Job ID: 240-81636-1

Client Sample ID: 81977.02
Date Collected: 06/20/17 14:25
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81636-2
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	0.012	J	0.030	0.010	mg/L			07/03/17 07:48	1

Client: Merit Laboratories
Project/Site: 81977

TestAmerica Job ID: 240-81636-1

Client Sample ID: 81977.03
Date Collected: 06/21/17 08:30
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81636-3
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	0.012	J	0.030	0.010	mg/L			07/03/17 07:48	1

Client Sample Results

Client: Merit Laboratories
Project/Site: 81977

TestAmerica Job ID: 240-81636-1

Client Sample ID: 81977.04
Date Collected: 06/21/17 09:20
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81636-4
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	0.030		0.030	0.010	mg/L			07/05/17 08:30	1

Client: Merit Laboratories
Project/Site: 81977

TestAmerica Job ID: 240-81636-1

Client Sample ID: 81977.05
Date Collected: 06/21/17 10:55
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81636-5
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	0.030	U	0.030	0.010	mg/L			07/05/17 08:30	1

Method: 9020B - Organic Halides, Total (TOX)

Lab Sample ID: MB 490-441795/3
Matrix: Water
Analysis Batch: 441795

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	0.030	U	0.030	0.010	mg/L			06/29/17 11:25	1

Lab Sample ID: LCS 490-441795/4
Matrix: Water
Analysis Batch: 441795

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
TOX Result 1	0.250	0.237		mg/L		95	90 - 110

Lab Sample ID: MB 490-442919/3
Matrix: Water
Analysis Batch: 442919

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	0.030	U	0.030	0.010	mg/L			06/30/17 14:56	1

Lab Sample ID: LCS 490-442919/6
Matrix: Water
Analysis Batch: 442919

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
TOX Result 1	0.250	0.243		mg/L		97	90 - 110

QC Association Summary

Client: Merit Laboratories
Project/Site: 81977

TestAmerica Job ID: 240-81636-1

General Chemistry

Analysis Batch: 441795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-81636-1	81977.01	Total/NA	Water	9020B	
240-81636-2	81977.02	Total/NA	Water	9020B	
240-81636-3	81977.03	Total/NA	Water	9020B	
MB 490-441795/3	Method Blank	Total/NA	Water	9020B	
LCS 490-441795/4	Lab Control Sample	Total/NA	Water	9020B	

Analysis Batch: 442919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-81636-4	81977.04	Total/NA	Water	9020B	
240-81636-5	81977.05	Total/NA	Water	9020B	
MB 490-442919/3	Method Blank	Total/NA	Water	9020B	
LCS 490-442919/6	Lab Control Sample	Total/NA	Water	9020B	

Lab Chronicle

Client: Merit Laboratories
Project/Site: 81977

TestAmerica Job ID: 240-81636-1

Client Sample ID: 81977.01
Date Collected: 06/20/17 14:10
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81636-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9020B		1	441795	07/03/17 07:48	RN	TAL NSH

Client Sample ID: 81977.02
Date Collected: 06/20/17 14:25
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81636-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9020B		1	441795	07/03/17 07:48	RN	TAL NSH

Client Sample ID: 81977.03
Date Collected: 06/21/17 08:30
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81636-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9020B		1	441795	07/03/17 07:48	RN	TAL NSH

Client Sample ID: 81977.04
Date Collected: 06/21/17 09:20
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81636-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9020B		1	442919	07/05/17 08:30	RN	TAL NSH

Client Sample ID: 81977.05
Date Collected: 06/21/17 10:55
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81636-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9020B		1	442919	07/05/17 08:30	RN	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Accreditation/Certification Summary

Client: Merit Laboratories
Project/Site: 81977

TestAmerica Job ID: 240-81636-1

Laboratory: TestAmerica Canton

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

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-18
Connecticut	State Program	1	PH-0590	12-31-17
Florida	NELAP	4	E87225	06-30-18
Illinois	NELAP	5	200004	07-31-17 *
Kansas	NELAP	7	E-10336	01-31-18
Kentucky (UST)	State Program	4	58	02-23-18
Kentucky (WW)	State Program	4	98016	12-31-17
Minnesota	NELAP	5	039-999-348	12-31-17
Minnesota (Petrofund)	State Program	1	3506	07-31-17 *
Nevada	State Program	9	OH-000482008A	07-31-17 *
New Jersey	NELAP	2	OH001	06-30-18
New York	NELAP	2	10975	03-31-18
Ohio VAP	State Program	5	CL0024	09-14-17 *
Oregon	NELAP	10	4062	02-23-18
Pennsylvania	NELAP	3	68-00340	08-31-17 *
Texas	NELAP	6	T104704517-15-5	08-31-17 *
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-17 *
Washington	State Program	10	C971	01-12-18
West Virginia DEP	State Program	3	210	12-31-17
Wisconsin	State Program	5	999518190	08-31-17 *

Laboratory: TestAmerica Nashville

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

Authority	Program	EPA Region	Identification Number	Expiration Date
A2LA	A2LA		NA: NELAP & A2LA	12-31-17
A2LA	ISO/IEC 17025		0453.07	12-31-17
Alaska (UST)	State Program	10	UST-087	09-01-17
Arizona	State Program	9	AZ0473	05-05-18
Arkansas DEQ	State Program	6	88-0737	04-25-18
California	State Program	9	2938	10-31-18
Connecticut	State Program	1	PH-0220	12-31-17
Florida	NELAP	4	E87358	06-30-18
Georgia	State Program	4	E87358(FL)/453.07(A2LA)	12-31-17
Illinois	NELAP	5	200010	12-09-17
Iowa	State Program	7	131	04-01-18
Kansas	NELAP	7	E-10229	10-31-17
Kentucky (UST)	State Program	4	19	06-30-18
Kentucky (WW)	State Program	4	90038	12-31-17
Louisiana	NELAP	6	30613	06-30-18
Maine	State Program	1	TN00032	11-03-17
Maryland	State Program	3	316	03-31-18
Massachusetts	State Program	1	M-TN032	06-30-18
Minnesota	NELAP	5	047-999-345	12-31-17
Mississippi	State Program	4	N/A	06-30-17 *
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-17
New Hampshire	NELAP	1	2963	10-09-17
New Jersey	NELAP	2	TN965	06-30-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Merit Laboratories
Project/Site: 81977

TestAmerica Job ID: 240-81636-1

Laboratory: TestAmerica Nashville (Continued)

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

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	11342	03-31-18
North Carolina (WW/SW)	State Program	4	387	12-31-17
North Dakota	State Program	8	R-146	06-30-17 *
Ohio VAP	State Program	5	CL0033	07-10-17 *
Oklahoma	State Program	6	9412	08-31-17
Oregon	NELAP	10	TN200001	04-27-18
Pennsylvania	NELAP	3	68-00585	06-30-18
Rhode Island	State Program	1	LAO00268	12-30-17
South Carolina	State Program	4	84009 (001)	02-28-18
South Carolina (Do Not Use - DW)	State Program	4	84009 (002)	12-16-17
Tennessee	State Program	4	2008	02-23-20
Texas	NELAP	6	T104704077	08-31-17
USDA	Federal		P330-13-00306	12-01-19
Utah	NELAP	8	TN00032	07-31-17
Virginia	NELAP	3	460152	06-14-18
Washington	State Program	10	C789	07-19-17
West Virginia DEP	State Program	3	219	02-28-18
Wisconsin	State Program	5	998020430	08-31-17
Wyoming (UST)	A2LA	8	453.07	12-31-17

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

2.0 | C2.0

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

C.O.C. PAGE # _____ OF _____

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: John Laverty
COMPANY: Merit Laboratories
ADDRESS: 2680 East Lansing Drive
CITY: East Lansing STATE: MI ZIP CODE: 48823
PHONE NO.: 517-332-0167 FAX NO.: 517-332-4034 P.O. NO.:
E-MAIL ADDRESS: johnlaverty@meritlabs.com QUOTE NO.:

INVOICE TO

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: S81977 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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other _____

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	TOX
	6/20/17	1410	81977.01	GW	1				X				✓
	6/20/17	1425	81977.02	GW	1				X				✓
	6/21/17	0830	81977.03	GW	1				X				✓
	6/21/17	0920	81977.04	GW	1				X				✓
	6/21/17	1055	81977.05	GW	1				X				✓

240-81636 Chain of Custody

Subcontracted to Test America

RELINQUISHED BY: SIGNATURE/ORGANIZATION: M Calcote ☐ Sampler DATE: 6/26/17 TIME: 1640
RECEIVED BY: SIGNATURE/ORGANIZATION: CPS DATE: TIME:
RELINQUISHED BY: SIGNATURE/ORGANIZATION: DATE: TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: DATE: TIME:

RELINQUISHED BY: SIGNATURE/ORGANIZATION: DATE: TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: DATE: 6/28/17 TIME: 1020

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

7/6/2017

TestAmerica Canton Sample Receipt Form/Narrative **Login # : 816436**
Canton Facility

Client Merit Laboratories Site Name _____ Cooler unpacked by:

Cooler Received on 6/28/17 Opened on 6/28/17

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

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

TestAmerica Cooler # _____ 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

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN# IR-8 (CF **-0.4** °C) Observed Cooler Temp._____ °C Corrected Cooler Temp._____ °C

IR GUN #36 (CF **+0**°C) Observed Cooler Temp. 2.0 °C Corrected Cooler Temp. 2.0 °C

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity_____	Yes (No)	
-Were custody seals on the outside of the cooler(s) signed & dated?	Yes No (NA)	
-Were custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes (No)	
3. Shippers' packing slip attached to the cooler(s)?	(Yes) No	– not salvagable
4. Did custody papers accompany the sample(s)?	(Yes) No	
5. Were the custody papers relinquished & signed in the appropriate place?	(Yes) No	
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes (No)	
7. Did all bottles arrive in good condition (Unbroken)?	(Yes) No	
8. Could all bottle labels be reconciled with the COC?	(Yes) No	
9. Were correct bottle(s) used for the test(s) indicated?	(Yes) No	
10. Sufficient quantity received to perform indicated analyses?	(Yes) No	
11. Are these work share samples?	Yes (No)	
If yes, Questions 11-15 have been checked at the originating laboratory.		
11. Were sample(s) at the correct pH upon receipt?	Yes No (NA)	pH Strip Lot# **HC697954**
12. Were VOAs on the COC?	Yes (No)	
13. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes No (NA)	
14. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #_____	Yes (No)	
15. Was a LL Hg or Me Hg trip blank present? _____	Yes (No)	

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

Concerning _____

16. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by:

17. 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)

18. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s):_____

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

240-81636 Chain of Custody

COOLER RECEIPT 1

Cooler Received/Opened On 06-29-2017 @ 09:50

Time Samples Removed From Cooler_____ Time Samples Placed In Storage_____ (2 Hour Window)

1. Tracking #_6840_(last 4 digits, FedEx) Courier: _FedEx_

IR Gun ID 17960357 pH Strip Lot N/A Chlorine Strip Lot N/A

2. Temperature of rep. sample or temp blank when opened: 0.3 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 1 Front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) es

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (initial) es

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) es

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) es

I certify that I attached a label with the unique LIMS number to each container (initial) es

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...# es

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 12/15/15

TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone (330) 497-9396 Fax (330) 497-0772

Chain of Custody Record

240-81636

TestAmerica — LEADER IN ENVIRONMENTAL TESTING

7/6/2017

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Heckler, Denise D	No: -72927.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: denise.heckler@testamericainc.com	State: Michigan
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note):	Page 1 of 1
Address: 2960 Foster Creighton Drive, ,	Due Date Requested: 7/11/2017		Job #: 240-81636-1
City: Nashville	TAT Requested (days):		
State, Zip: TN, 37204			
Phone: 615-726-0177(Tel) 615-726-3404(Fax)	PO #:		
Email:	WO #:		
Project Name: 81977	Project #: 24005713		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

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)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9020B/ (MOD) Total Organic Halides (TOX)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
81977.01 (240-81636-1)	6/20/17	14:10 Eastern		Water			X	1	
81977.02 (240-81636-2)	6/20/17	14:25 Eastern		Water			X	1	
81977.03 (240-81636-3)	6/21/17	08:30 Eastern		Water			X	1	
81977.04 (240-81636-4)	6/21/17	09:20 Eastern		Water			X	1	
81977.05 (240-81636-5)	6/21/17	10:55 Eastern		Water			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *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:	Date/Time: 6-28-17 1600	Company 240	Received by:	Date/Time: 6-29-17 9:50	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: 0.3

Login Sample Receipt Checklist

Client: Merit Laboratories

Job Number: 240-81636-1

Login Number: 81636
List Number: 2
Creator: Stewart, Eric S

List Source: TestAmerica Nashville
List Creation: 06/29/17 12:53 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Analytical Laboratory Report

Report ID: S82008.01(01)
Generated on 07/20/2017

Report to

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

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

Report produced by

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

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John Laverty (johnlaverty@meritlabs.com)
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Report Summary

Lab Sample ID(s): S82008.01-S82008.07
Project: RACER Coldwater Rd Landfill
Collected Date: 06/21/2017 - 06/22/2017
Submitted Date/Time: 06/22/2017 16:00
Sampled by: Kevin Schneider
P.O. #: 11700139

Table of Contents

Maya Murshak
Technical Director

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

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

Qualifier Descriptions

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

Glossary of Abbreviations

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

Method Summary

Method	Version
E120.1	EPA Method 120.1 Revision 1982
E200.8	EPA Method 200.8 Revision 5.4
E300.0	EPA Method 300.0 Revision 2.1
E335.4/SM4500-CN	EPA Method 335.4 Revision 1.0 / Standard Method 4500-CN E 20th Edition
E420.1	EPA Method 420.1 Editorial Revision 1978
N/A	Not Applicable
SM5310C	Standard Method 5310C 20th Edition
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003
SW9020B	SW 846 Method 9020B Revision 2 September 1994

Sample Summary (7 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S82008.01	B-22D	Groundwater	06/21/17 13:15
S82008.02	B-21D	Groundwater	06/21/17 15:45
S82008.03	B-20D	Groundwater	06/22/17 09:40
S82008.04	B-2D	Groundwater	06/22/17 11:25
S82008.05	EB-01	Groundwater	06/22/17 11:50
S82008.06	Dup-3	Groundwater	06/22/17 00:01
S82008.07	Trip Blank-3	Water	06/22/17 00:01

Analytical Laboratory Report

Lab Sample ID: S82008.01
Sample Tag: B-22D
Collected Date/Time: 06/21/2017 13:15
Matrix: Groundwater
COC Reference: 103665

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.3	IR
2	40ml Glass	H2SO4	Yes	4.3	IR
1	250ml Amber	H2SO4	Yes	4.3	IR
1	1L Plastic	None	Yes	4.3	IR
1	125ml Plastic	NaOH	Yes	4.3	IR
3	40ml Glass	HCL	Yes	4.3	IR
1	125ml Amber	H2SO4	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/27/17 13:15	CCM		
Metal Digestion	Completed			SW3015A	06/27/17 13:15	CCM		
pH check for VOCs*	<2	STD Units		N/A	06/29/17 10:00	JML		
Inorganics								
Chloride	Not detected	mg/L	5	E300.0	06/25/17 10:42	JDP	16887-00-6	
Conductivity	718	umhos/cm		E120.1	06/28/17 15:14	JKB		
Cyanide, Total	Not detected	mg/L	0.005	E335.4/SM4500-CN	06/25/17 12:23	JDP	57-12-5	
Phenols	Not detected	mg/L	0.02	E420.1	06/29/17 16:38	JKB		
Sulfate	54	mg/L	5	E300.0	06/25/17 10:42	JDP	14808-79-8	
TOC	1.5	mg/L	1	SM5310C	06/27/17 17:29	JKB		
Metals								
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:14	CCM	7440-47-3	
Copper, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:14	CCM	7440-50-8	
Iron, Dissolved	0.97	mg/L	0.02	E200.8	06/27/17 14:14	CCM	7439-89-6	
Manganese, Dissolved	0.030	mg/L	0.005	E200.8	06/27/17 14:14	CCM	7439-96-5	
Nickel, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:14	CCM	7440-02-0	
Sodium	29.0	mg/L	5.0	E200.8	06/27/17 14:55	CCM	7440-23-5	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:14	CCM	7440-66-6	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	06/29/17 02:56	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	06/29/17 02:56	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	06/29/17 02:56	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	06/29/17 02:56	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	06/29/17 02:56	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	06/29/17 02:56	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 02:56	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 02:56	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 02:56	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 02:56	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	75-35-4	

Lab Sample ID: S82008.01 (continued)
Sample Tag: B-22D

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	06/29/17 02:56	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	06/29/17 02:56	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	06/29/17 02:56	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	06/29/17 02:56	JML	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 02:56	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 02:56	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	06/29/17 02:56	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 02:56	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	79-34-5	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 02:56	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 02:56	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 02:56	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 02:56	JML	96-12-8	

Lab Sample ID: S82008.01 (continued)
Sample Tag: B-22D

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 02:56	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 02:56	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 02:56	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 02:56	JML	91-57-6	
Organics								
TOX*	Not detected	ug/L	30.0	SW9020B	07/11/17 07:16	TA		O

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

Analytical Laboratory Report

Lab Sample ID: S82008.02
Sample Tag: B-21D
Collected Date/Time: 06/21/2017 15:45
Matrix: Groundwater
COC Reference: 103665

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.3	IR
2	40ml Glass	H2SO4	Yes	4.3	IR
1	250ml Amber	H2SO4	Yes	4.3	IR
1	1L Plastic	None	Yes	4.3	IR
1	125ml Plastic	NaOH	Yes	4.3	IR
3	40ml Glass	HCL	Yes	4.3	IR
1	125ml Amber	H2SO4	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/27/17 13:15	CCM		
Metal Digestion	Completed			SW3015A	06/27/17 13:15	CCM		
pH check for VOCs*	<2	STD Units		N/A	06/29/17 10:00	JML		
Inorganics								
Chloride	Not detected	mg/L	5	E300.0	06/25/17 11:08	JDP	16887-00-6	
Conductivity	790	umhos/cm		E120.1	06/28/17 15:16	JKB		
Cyanide, Total	Not detected	mg/L	0.005	E335.4/SM4500-CN	06/25/17 12:31	JDP	57-12-5	
Phenols	Not detected	mg/L	0.02	E420.1	06/29/17 16:42	JKB		
Sulfate	90	mg/L	5	E300.0	06/25/17 11:08	JDP	14808-79-8	
TOC	1.4	mg/L	1	SM5310C	06/27/17 17:50	JKB		
Metals								
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:16	CCM	7440-47-3	
Copper, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:16	CCM	7440-50-8	
Iron, Dissolved	1.21	mg/L	0.02	E200.8	06/27/17 14:16	CCM	7439-89-6	
Manganese, Dissolved	0.036	mg/L	0.005	E200.8	06/27/17 14:16	CCM	7439-96-5	
Nickel, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:16	CCM	7440-02-0	
Sodium	25.0	mg/L	5.0	E200.8	06/27/17 14:55	CCM	7440-23-5	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:16	CCM	7440-66-6	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	06/29/17 03:17	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	06/29/17 03:17	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:17	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:17	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	06/29/17 03:17	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	06/29/17 03:17	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:17	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:17	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:17	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:17	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	75-35-4	

Lab Sample ID: S82008.02 (continued)
Sample Tag: B-21D

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:17	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	06/29/17 03:17	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	06/29/17 03:17	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	06/29/17 03:17	JML	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:17	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:17	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	06/29/17 03:17	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:17	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	79-34-5	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:17	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:17	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:17	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:17	JML	96-12-8	

Lab Sample ID: S82008.02 (continued)
Sample Tag: B-21D

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:17	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:17	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:17	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:17	JML	91-57-6	
Organics								
TOX*	Not detected	ug/L	30.0	SW9020B	07/11/17 07:40	TA		O

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

Analytical Laboratory Report

Lab Sample ID: S82008.03
Sample Tag: B-20D
Collected Date/Time: 06/22/2017 09:40
Matrix: Groundwater
COC Reference: 103665

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.3	IR
2	40ml Glass	H2SO4	Yes	4.3	IR
1	250ml Amber	H2SO4	Yes	4.3	IR
1	1L Plastic	None	Yes	4.3	IR
1	125ml Plastic	NaOH	Yes	4.3	IR
3	40ml Glass	HCL	Yes	4.3	IR
1	125ml Amber	H2SO4	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/27/17 13:15	CCM		
Metal Digestion	Completed			SW3015A	06/27/17 13:15	CCM		
pH check for VOCs*	<2	STD Units		N/A	06/29/17 10:00	JML		
Inorganics								
Chloride	Not detected	mg/L	5	E300.0	06/25/17 11:21	JDP	16887-00-6	
Conductivity	926	umhos/cm		E120.1	06/28/17 15:18	JKB		
Cyanide, Total	Not detected	mg/L	0.005	E335.4/SM4500-CN	06/25/17 12:33	JDP	57-12-5	
Phenols	Not detected	mg/L	0.02	E420.1	06/29/17 16:46	JKB		
Sulfate	144	mg/L	5	E300.0	06/25/17 11:21	JDP	14808-79-8	
TOC	1.6	mg/L	1	SM5310C	06/27/17 18:11	JKB		
Metals								
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:17	CCM	7440-47-3	
Copper, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:17	CCM	7440-50-8	
Iron, Dissolved	2.08	mg/L	0.02	E200.8	06/27/17 14:17	CCM	7439-89-6	
Manganese, Dissolved	0.048	mg/L	0.005	E200.8	06/27/17 14:17	CCM	7439-96-5	
Nickel, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:17	CCM	7440-02-0	
Sodium	18.7	mg/L	5.0	E200.8	06/27/17 14:58	CCM	7440-23-5	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:17	CCM	7440-66-6	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	06/29/17 03:38	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	06/29/17 03:38	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:38	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:38	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	06/29/17 03:38	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	06/29/17 03:38	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:38	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:38	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:38	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:38	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	75-35-4	

Lab Sample ID: S82008.03 (continued)
Sample Tag: B-20D

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:38	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	06/29/17 03:38	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	06/29/17 03:38	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	06/29/17 03:38	JML	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:38	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:38	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	06/29/17 03:38	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:38	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	79-34-5	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:38	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:38	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:38	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:38	JML	96-12-8	

Lab Sample ID: S82008.03 (continued)
Sample Tag: B-20D

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:38	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:38	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:38	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:38	JML	91-57-6	
Organics								
TOX*	Not detected	ug/L	30.0	SW9020B	07/11/17 07:16	TA		O

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

Analytical Laboratory Report

Lab Sample ID: S82008.04
Sample Tag: B-2D
Collected Date/Time: 06/22/2017 11:25
Matrix: Groundwater
COC Reference: 103665

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.3	IR
2	40ml Glass	H2SO4	Yes	4.3	IR
1	250ml Amber	H2SO4	Yes	4.3	IR
1	1L Plastic	None	Yes	4.3	IR
1	125ml Plastic	NaOH	Yes	4.3	IR
3	40ml Glass	HCL	Yes	4.3	IR
1	125ml Amber	H2SO4	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/27/17 13:15	CCM		
Metal Digestion	Completed			SW3015A	06/27/17 13:15	CCM		
pH check for VOCs*	<2	STD Units		N/A	06/29/17 10:00	JML		
Inorganics								
Chloride	Not detected	mg/L	5	E300.0	06/25/17 11:34	JDP	16887-00-6	
Conductivity	691	umhos/cm		E120.1	06/28/17 15:20	JKB		
Cyanide, Total	Not detected	mg/L	0.005	E335.4/SM4500-CN	06/25/17 12:35	JDP	57-12-5	
Phenols	Not detected	mg/L	0.02	E420.1	06/29/17 16:48	JKB		
Sulfate	44	mg/L	5	E300.0	06/25/17 11:34	JDP	14808-79-8	
TOC	2.3	mg/L	1	SM5310C	06/27/17 18:32	JKB		
Metals								
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:22	CCM	7440-47-3	
Copper, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:22	CCM	7440-50-8	
Iron, Dissolved	0.02	mg/L	0.02	E200.8	06/27/17 14:22	CCM	7439-89-6	
Manganese, Dissolved	0.007	mg/L	0.005	E200.8	06/27/17 14:22	CCM	7439-96-5	
Nickel, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:22	CCM	7440-02-0	
Sodium	15.5	mg/L	5.0	E200.8	06/27/17 14:59	CCM	7440-23-5	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:22	CCM	7440-66-6	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	06/29/17 03:59	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	06/29/17 03:59	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:59	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:59	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	06/29/17 03:59	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	06/29/17 03:59	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:59	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:59	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:59	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:59	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	75-35-4	

Lab Sample ID: S82008.04 (continued)
Sample Tag: B-2D

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:59	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	06/29/17 03:59	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	06/29/17 03:59	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	06/29/17 03:59	JML	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:59	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:59	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	06/29/17 03:59	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:59	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	79-34-5	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:59	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 03:59	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:59	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:59	JML	96-12-8	

Lab Sample ID: S82008.04 (continued)
Sample Tag: B-2D

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:59	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:59	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:59	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 03:59	JML	91-57-6	
Organics								
TOX*	Not detected	ug/L	30.0	SW9020B	07/11/17 07:40	TA		O

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

Analytical Laboratory Report

Lab Sample ID: S82008.05
Sample Tag: EB-01
Collected Date/Time: 06/22/2017 11:50
Matrix: Groundwater
COC Reference: 103665

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.3	IR
2	40ml Glass	H2SO4	Yes	4.3	IR
1	250ml Amber	H2SO4	Yes	4.3	IR
1	1L Plastic	None	Yes	4.3	IR
1	125ml Plastic	NaOH	Yes	4.3	IR
3	40ml Glass	HCL	Yes	4.3	IR
1	125ml Amber	H2SO4	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/27/17 13:15	CCM		
pH check for VOCs*	<2	STD Units		N/A	06/29/17 10:00	JML		
Inorganics								
Chloride	Not detected	mg/L	5	E300.0	06/25/17 11:46	JDP	16887-00-6	
Conductivity	5.78	umhos/cm		E120.1	06/28/17 15:22	JKB		
Cyanide, Total	Not detected	mg/L	0.005	E335.4/SM4500-CN	06/25/17 12:37	JDP	57-12-5	
Phenols	Not detected	mg/L	0.02	E420.1	06/29/17 16:50	JKB		
Sulfate	Not detected	mg/L	5	E300.0	06/25/17 11:46	JDP	14808-79-8	
TOC	Not detected	mg/L	1	SM5310C	06/27/17 19:16	JKB		
Metals								
Chromium	Not detected	mg/L	0.005	E200.8	06/27/17 14:13	CCM	7440-47-3	
Copper	Not detected	mg/L	0.005	E200.8	06/27/17 14:13	CCM	7440-50-8	
Iron	Not detected	mg/L	0.02	E200.8	06/27/17 14:13	CCM	7439-89-6	
Manganese	Not detected	mg/L	0.005	E200.8	06/27/17 14:13	CCM	7439-96-5	
Nickel	Not detected	mg/L	0.005	E200.8	06/27/17 14:13	CCM	7440-02-0	
Sodium	Not detected	mg/L	0.20	E200.8	06/27/17 14:54	CCM	7440-23-5	
Zinc	Not detected	mg/L	0.005	E200.8	06/27/17 14:13	CCM	7440-66-6	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	06/29/17 04:21	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	06/29/17 04:21	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:21	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:21	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	06/29/17 04:21	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	06/29/17 04:21	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:21	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:21	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:21	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:21	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:21	JML	75-09-2	

Lab Sample ID: S82008.05 (continued)
Sample Tag: EB-01

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	06/29/17 04:21	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	06/29/17 04:21	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	06/29/17 04:21	JML	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:21	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:21	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	06/29/17 04:21	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:21	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	79-34-5	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:21	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:21	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:21	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:21	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:21	JML	120-82-1	

Lab Sample ID: S82008.05 (continued)
Sample Tag: EB-01

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:21	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:21	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:21	JML	91-57-6	
Organics								
TOX*	Not detected	ug/L	30.0	SW9020B	07/11/17 07:16	TA		O

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

Analytical Laboratory Report

Lab Sample ID: S82008.06
Sample Tag: Dup-3
Collected Date/Time: 06/22/2017 00:01
Matrix: Groundwater
COC Reference: 103665

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.3	IR
2	40ml Glass	H2SO4	Yes	4.3	IR
1	250ml Amber	H2SO4	Yes	4.3	IR
1	1L Plastic	None	Yes	4.3	IR
1	125ml Plastic	NaOH	Yes	4.3	IR
3	40ml Glass	HCL	Yes	4.3	IR
1	125ml Amber	H2SO4	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/27/17 13:15	CCM		
Metal Digestion	Completed			SW3015A	06/27/17 13:15	CCM		
pH check for VOCs*	<2	STD Units		N/A	06/29/17 10:00	JML		
Inorganics								
Chloride	Not detected	mg/L	5	E300.0	06/25/17 11:59	JDP	16887-00-6	
Conductivity	926	umhos/cm		E120.1	06/28/17 15:24	JKB		
Cyanide, Total	Not detected	mg/L	0.005	E335.4/SM4500-CN	06/25/17 12:39	JDP	57-12-5	
Phenols	Not detected	mg/L	0.02	E420.1	06/29/17 16:52	JKB		
Sulfate	146	mg/L	5	E300.0	06/25/17 12:38	JDP	14808-79-8	
TOC	1.6	mg/L	1	SM5310C	06/27/17 19:37	JKB		
Metals								
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:19	CCM	7440-47-3	
Copper, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:19	CCM	7440-50-8	
Iron, Dissolved	2.14	mg/L	0.02	E200.8	06/27/17 14:19	CCM	7439-89-6	
Manganese, Dissolved	0.049	mg/L	0.005	E200.8	06/27/17 14:19	CCM	7439-96-5	
Nickel, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:19	CCM	7440-02-0	
Sodium	18.3	mg/L	5.0	E200.8	06/27/17 14:59	CCM	7440-23-5	
Zinc, Dissolved	Not detected	mg/L	0.005	E200.8	06/27/17 14:19	CCM	7440-66-6	
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	06/29/17 04:42	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	06/29/17 04:42	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:42	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:42	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	06/29/17 04:42	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	06/29/17 04:42	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:42	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:42	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:42	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:42	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	75-35-4	

Lab Sample ID: S82008.06 (continued)
Sample Tag: Dup-3

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:42	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	06/29/17 04:42	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	06/29/17 04:42	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	06/29/17 04:42	JML	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	107-06-2	
Trichloroethene	1	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:42	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:42	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	06/29/17 04:42	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:42	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	79-34-5	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:42	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 04:42	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:42	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:42	JML	96-12-8	

Lab Sample ID: S82008.06 (continued)
Sample Tag: Dup-3

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:42	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:42	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:42	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 04:42	JML	91-57-6	
Organics								
TOX*	Not detected	ug/L	30.0	SW9020B	07/11/17 07:40	TA		O

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

Analytical Laboratory Report

Lab Sample ID: S82008.07
Sample Tag: Trip Blank-3
Collected Date/Time: 06/22/2017 00:01
Matrix: Water
COC Reference: 103665

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	06/29/17 10:00	JML		
Organics - Volatiles								
Volatile Organics - DEQ List								
Diethyl ether	Not detected	ug/L	10	SW5030C/8260C	06/29/17 13:09	JML	60-29-7	
Acetone	Not detected	ug/L	50	SW5030C/8260C	06/29/17 13:09	JML	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	06/29/17 13:09	JML	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	06/29/17 13:09	JML	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW5030C/8260C	06/29/17 13:09	JML	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW5030C/8260C	06/29/17 13:09	JML	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 13:09	JML	75-71-8	
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 13:09	JML	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	75-01-4	
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 13:09	JML	74-83-9	
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 13:09	JML	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	06/29/17 13:09	JML	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	156-59-2	
Tetrahydrofuran*	Not detected	ug/L	90	SW5030C/8260C	06/29/17 13:09	JML	109-99-9	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	06/29/17 13:09	JML	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	06/29/17 13:09	JML	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	56-23-5	
Benzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 13:09	JML	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	10061-01-5	
Toluene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 13:09	JML	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	106-93-4	

Lab Sample ID: S82008.07 (continued)
Sample Tag: Trip Blank-3

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	100-41-4	
p,m-Xylene*	Not detected	ug/L	2	SW5030C/8260C	06/29/17 13:09	JML		
o-Xylene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	95-47-6	
Styrene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 13:09	JML	98-82-8	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	79-34-5	
1,2,3-Trichloropropane*	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 13:09	JML	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW5030C/8260C	06/29/17 13:09	JML	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 13:09	JML	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW5030C/8260C	06/29/17 13:09	JML	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 13:09	JML	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 13:09	JML	87-61-6	
Naphthalene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 13:09	JML	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW5030C/8260C	06/29/17 13:09	JML	91-57-6	

Merit Laboratories, Inc.

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

103665

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Clifford Yantz
COMPANY: O'Brien & Gere
ADDRESS: 37000 Grand River
CITY: Farmington Hills | STATE: MI | ZIP CODE: 48335
PHONE NO.: 248-477-5701 | FAX NO.: | P.O. NO.: 11700139
E-MAIL ADDRESS: Clifford.Yantz@OBG.com | QUOTE NO.:

INVOICE TO

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

PROJECT NO./NAME: RACER Coldwater Rd Landfill | SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schneider

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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES
Project Locations: ☐ Detroit ☐ New York ☐ Other
Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs	TOC	TOX	Phenols	Cyanide	Sulfate	specific conductivity	Dissolved Metals	Chlorides	Sodium	Special Instructions
82008.01	6/21/17	1315	B-22D	GW	11	1	3	2	4	1			X	X	X	X	X	X	X	X	X	X	Dissolved Metals
.02	6/21/17	1545	B-21D	GW	11	1	3	2	4	1			X	X	X	X	X	X	X	X	X	X	were field filtered
.03	6/22/17	940	B-20D	GW	11	1	3	2	4	1			X	X	X	X	X	X	X	X	X	X	METALS ARE:
.04	6/22/17	1125	B-2D	GW	11	1	3	2	4	1			X	X	X	X	X	X	X	X	X	X	Cu, Cr, Ni, Zn, Fe, Mn
.05	6/22/17	1150	EB-01	QC	10	1	3	1	4	1			X	X	X	X	X	X	X	X	X	X	-Equipment Blank
.06	6/22/17	—	DUP-3	GW	11	1	3	2	4	1			X	X	X	X	X	X	X	X	X	X	Equipment Blank
.07	6/22/17	—	TripBlank-3	QC	1		1						X										was not field filtered

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
	OBG ☒ Sampler	6/22/17	1220
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
		6/22/17	1520
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
		6/22/17	1600
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
		6/22/17	1600

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

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

NOTES: TEMP. ON ARRIVAL 4.3

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

Rev. 5.18.12

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

TestAmerica Job ID: 240-81641-1
Client Project/Site: 82008

For:
Merit Laboratories
2680 E Lansing Drive
East Lansing, Michigan 48823

Attn: Ms. Barb Richardson

Denise D Heckler

Authorized for release by:
7/12/2017 12:53:39 PM

Denise Heckler, Project Manager II
(330)966-9477
denise.heckler@testamericainc.com

Table of Contents

Definitions/Glossary

Client: Merit Laboratories
Project/Site: 82008

TestAmerica Job ID: 240-81641-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

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
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

Case Narrative

Client: Merit Laboratories
Project/Site: 82008

TestAmerica Job ID: 240-81641-1

Job ID: 240-81641-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative
240-81641-1

Comments
No additional comments.

Receipt
The samples were received on 6/28/2017 10:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.0º C.

General Chemistry
Method(s) 9020B: Insufficient sample volume was available to perform a matrix spike (MS) associated with analytical batch 490-443936.

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

Method Summary

Client: Merit Laboratories
Project/Site: 82008

TestAmerica Job ID: 240-81641-1

Method	Method Description	Protocol	Laboratory
9020B	Organic Halides, Total (TOX)	SW846	TAL NSH

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Sample Summary

Client: Merit Laboratories
Project/Site: 82008

TestAmerica Job ID: 240-81641-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-81641-1	82008.01	Water	06/21/17 13:15	06/28/17 10:20
240-81641-2	82008.02	Water	06/21/17 15:45	06/28/17 10:20
240-81641-3	82008.03	Water	06/22/17 09:40	06/28/17 10:20
240-81641-4	82008.04	Water	06/22/17 11:25	06/28/17 10:20
240-81641-5	82008.05	Water	06/22/17 11:50	06/28/17 10:20
240-81641-6	82008.06	Water	06/22/17 00:01	06/28/17 10:20

Detection Summary

Client: Merit Laboratories
Project/Site: 82008

TestAmerica Job ID: 240-81641-1

Client Sample ID: 82008.01 — Lab Sample ID: 240-81641-1

No Detections.

Client Sample ID: 82008.02 — Lab Sample ID: 240-81641-2

No Detections.

Client Sample ID: 82008.03 — Lab Sample ID: 240-81641-3

No Detections.

Client Sample ID: 82008.04 — Lab Sample ID: 240-81641-4

No Detections.

Client Sample ID: 82008.05 — Lab Sample ID: 240-81641-5

No Detections.

Client Sample ID: 82008.06 — Lab Sample ID: 240-81641-6

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Merit Laboratories
Project/Site: 82008

TestAmerica Job ID: 240-81641-1

Client Sample ID: 82008.01
Date Collected: 06/21/17 13:15
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81641-1
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	0.030	U	0.030	0.010	mg/L			07/11/17 07:16	1

Client: Merit Laboratories
Project/Site: 82008

TestAmerica Job ID: 240-81641-1

Client Sample ID: 82008.02
Date Collected: 06/21/17 15:45
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81641-2
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	0.030	U	0.030	0.010	mg/L			07/11/17 07:40	1

Client: Merit Laboratories
Project/Site: 82008

TestAmerica Job ID: 240-81641-1

Client Sample ID: 82008.03
Date Collected: 06/22/17 09:40
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81641-3
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	0.030	U	0.030	0.010	mg/L			07/11/17 07:16	1

Client: Merit Laboratories
Project/Site: 82008

TestAmerica Job ID: 240-81641-1

Client Sample ID: 82008.04
Date Collected: 06/22/17 11:25
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81641-4
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	0.030	U	0.030	0.010	mg/L			07/11/17 07:40	1

Client: Merit Laboratories
Project/Site: 82008

TestAmerica Job ID: 240-81641-1

Client Sample ID: 82008.05
Date Collected: 06/22/17 11:50
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81641-5
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	0.030	U	0.030	0.010	mg/L			07/11/17 07:16	1

Client: Merit Laboratories
Project/Site: 82008

TestAmerica Job ID: 240-81641-1

Client Sample ID: 82008.06
Date Collected: 06/22/17 00:01
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81641-6
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	0.030	U	0.030	0.010	mg/L			07/11/17 07:40	1

Method: 9020B - Organic Halides, Total (TOX)

Lab Sample ID: MB 490-443456/3
Matrix: Water
Analysis Batch: 443456

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	0.030	U	0.030	0.010	mg/L			07/07/17 10:30	1

Lab Sample ID: LCS 490-443456/4
Matrix: Water
Analysis Batch: 443456

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
TOX Result 1	0.250	0.235		mg/L		94	90 - 110

Lab Sample ID: LCSD 490-443456/5
Matrix: Water
Analysis Batch: 443456

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
TOX Result 1	0.250	0.253		mg/L		101	90 - 110	7	20

Lab Sample ID: MB 490-443936/3
Matrix: Water
Analysis Batch: 443936

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Total Organic	0.030	U	0.030	0.010	mg/L			07/06/17 11:08	1

Lab Sample ID: LCS 490-443936/4
Matrix: Water
Analysis Batch: 443936

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
TOX Result 1	0.250	0.245		mg/L		98	90 - 110

Lab Sample ID: LCSD 490-443936/7
Matrix: Water
Analysis Batch: 443936

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
TOX Result 1	0.250	0.233		mg/L		93	90 - 110	5	20

QC Association Summary

Client: Merit Laboratories
Project/Site: 82008

TestAmerica Job ID: 240-81641-1

General Chemistry

Analysis Batch: 443456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-81641-1	82008.01	Total/NA	Water	9020B	
240-81641-3	82008.03	Total/NA	Water	9020B	
240-81641-5	82008.05	Total/NA	Water	9020B	
MB 490-443456/3	Method Blank	Total/NA	Water	9020B	
LCS 490-443456/4	Lab Control Sample	Total/NA	Water	9020B	
LCSD 490-443456/5	Lab Control Sample Dup	Total/NA	Water	9020B	

Analysis Batch: 443936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-81641-2	82008.02	Total/NA	Water	9020B	
240-81641-4	82008.04	Total/NA	Water	9020B	
240-81641-6	82008.06	Total/NA	Water	9020B	
MB 490-443936/3	Method Blank	Total/NA	Water	9020B	
LCS 490-443936/4	Lab Control Sample	Total/NA	Water	9020B	
LCSD 490-443936/7	Lab Control Sample Dup	Total/NA	Water	9020B	

Lab Chronicle

Client: Merit Laboratories
Project/Site: 82008

TestAmerica Job ID: 240-81641-1

Client Sample ID: 82008.01
Date Collected: 06/21/17 13:15
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81641-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9020B		1	443456	07/11/17 07:16	RN	TAL NSH

Client Sample ID: 82008.02
Date Collected: 06/21/17 15:45
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81641-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9020B		1	443936	07/11/17 07:40	RN	TAL NSH

Client Sample ID: 82008.03
Date Collected: 06/22/17 09:40
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81641-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9020B		1	443456	07/11/17 07:16	RN	TAL NSH

Client Sample ID: 82008.04
Date Collected: 06/22/17 11:25
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81641-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9020B		1	443936	07/11/17 07:40	RN	TAL NSH

Client Sample ID: 82008.05
Date Collected: 06/22/17 11:50
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81641-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9020B		1	443456	07/11/17 07:16	RN	TAL NSH

Client Sample ID: 82008.06
Date Collected: 06/22/17 00:01
Date Received: 06/28/17 10:20

Lab Sample ID: 240-81641-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9020B		1	443936	07/11/17 07:40	RN	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Accreditation/Certification Summary

Client: Merit Laboratories
Project/Site: 82008

TestAmerica Job ID: 240-81641-1

Laboratory: TestAmerica Canton

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

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-18
Connecticut	State Program	1	PH-0590	12-31-17
Florida	NELAP	4	E87225	06-30-18
Illinois	NELAP	5	200004	07-31-17 *
Kansas	NELAP	7	E-10336	01-31-18
Kentucky (UST)	State Program	4	58	02-23-18
Kentucky (WW)	State Program	4	98016	12-31-17
Minnesota	NELAP	5	039-999-348	12-31-17
Minnesota (Petrofund)	State Program	1	3506	07-31-17 *
Nevada	State Program	9	OH-000482008A	07-31-17 *
New Jersey	NELAP	2	OH001	06-30-18
New York	NELAP	2	10975	03-31-18
Ohio VAP	State Program	5	CL0024	09-14-17 *
Oregon	NELAP	10	4062	02-23-18
Pennsylvania	NELAP	3	68-00340	08-31-17 *
Texas	NELAP	6	T104704517-15-5	08-31-17 *
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-17 *
Washington	State Program	10	C971	01-12-18
West Virginia DEP	State Program	3	210	12-31-17
Wisconsin	State Program	5	999518190	08-31-17 *

Laboratory: TestAmerica Nashville

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

Authority	Program	EPA Region	Identification Number	Expiration Date
A2LA	A2LA		NA: NELAP & A2LA	12-31-17
A2LA	ISO/IEC 17025		0453.07	12-31-17
Alaska (UST)	State Program	10	UST-087	09-01-17
Arizona	State Program	9	AZ0473	05-05-18
Arkansas DEQ	State Program	6	88-0737	04-25-18
California	State Program	9	2938	10-31-18
Connecticut	State Program	1	PH-0220	12-31-17
Florida	NELAP	4	E87358	06-30-18
Georgia	State Program	4	E87358(FL)/453.07(A2LA)	12-31-17
Illinois	NELAP	5	200010	12-09-17
Iowa	State Program	7	131	04-01-18
Kansas	NELAP	7	E-10229	10-31-17
Kentucky (UST)	State Program	4	19	06-30-18
Kentucky (WW)	State Program	4	90038	12-31-17
Louisiana	NELAP	6	30613	06-30-18
Maine	State Program	1	TN00032	11-03-17
Maryland	State Program	3	316	03-31-18
Massachusetts	State Program	1	M-TN032	06-30-18
Minnesota	NELAP	5	047-999-345	12-31-17
Mississippi	State Program	4	N/A	06-30-18
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-17
New Hampshire	NELAP	1	2963	10-09-17
New Jersey	NELAP	2	TN965	06-30-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Merit Laboratories
Project/Site: 82008

TestAmerica Job ID: 240-81641-1

Laboratory: TestAmerica Nashville (Continued)

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

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	11342	03-31-18
North Carolina (WW/SW)	State Program	4	387	12-31-17
North Dakota	State Program	8	R-146	06-30-17 *
Ohio VAP	State Program	5	CL0033	07-06-19
Oklahoma	State Program	6	9412	08-31-17
Oregon	NELAP	10	TN200001	04-27-18
Pennsylvania	NELAP	3	68-00585	06-30-18
Rhode Island	State Program	1	LAO00268	12-30-17
South Carolina	State Program	4	84009 (001)	02-28-18
South Carolina (Do Not Use - DW)	State Program	4	84009 (002)	12-16-17
Tennessee	State Program	4	2008	02-23-20
Texas	NELAP	6	T104704077	08-31-17
USDA	Federal		P330-13-00306	12-01-19
Utah	NELAP	8	TN00032	07-31-17
Virginia	NELAP	3	460152	06-14-18
Washington	State Program	10	C789	07-19-17
West Virginia DEP	State Program	3	219	02-28-18
Wisconsin	State Program	5	998020430	08-31-17
Wyoming (UST)	A2LA	8	453.07	12-31-17

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

20/C2,0

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

C.O.C. PAGE # _____ OF _____

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: John Laverty
COMPANY: Merit Laboratories
ADDRESS: 2680 East Lansing Drive
CITY: East Lansing STATE: MI ZIP CODE: 48823
PHONE NO.: 517-332-0167 FAX NO.: 517-332-4034 P.O. NO.:
E-MAIL ADDRESS: johnlaverty@meritlabs.com QUOTE NO.:

INVOICE TO

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: S82008 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

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other _____

Special Instructions

MERIT LAB NO. FOR LAB USE ONLY	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	TOX
	6/21/17	1315	82008.01	GW	1				X				✓
	6/21/17	1545	82008.02	GW	1				X				✓
	6/22/17	0940	82008.03	GW	1				X				✓
	6/22/17	1125	82008.04	GW	1				X				✓
	6/22/17	1150	82008.05	GW	1				X				✓
	6/22/17	0001	82008.06	GW	1				X				✓

240-81641 Chain of Custody

Subcontracted to Test America

RELINQUISHED BY: SIGNATURE/ORGANIZATION: John Smith UPS	☐ Sampler	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE: 6/26/17	TIME: 1640
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION: Zach		DATE: 6/28/17	TIME: 1020
SEAL NO.	SEAL INTACT YES☐ NO☐	INITIALS	NOTES: TEMP. ON ARRIVAL _____
SEAL NO.	SEAL INTACT YES☐ NO☐	INITIALS	

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

Rev. 5.18.12

TestAmerica Canton Sample Receipt Form/Narrative **Login # : 81641**
Canton Facility

Client Merit Laboratories Site Name _____ Cooler unpacked by:

Cooler Received on 6/28/17 Opened on 6/28/17

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

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

TestAmerica Cooler # _____ 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

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN# IR-8 (CF -0.4 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

IR GUN #36 (CF +0°C) Observed Cooler Temp. 2.0 °C Corrected Cooler Temp. 2.0 °C

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity _____	Yes (No)	
-Were custody seals on the outside of the cooler(s) signed & dated?	Yes No (NA)	
-Were custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes (No)	
3. Shippers' packing slip attached to the cooler(s)?	(Yes) No	– not salvagable
4. Did custody papers accompany the sample(s)?	(Yes) No	
5. Were the custody papers relinquished & signed in the appropriate place?	(Yes) No	
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes (No)	
7. Did all bottles arrive in good condition (Unbroken)?	(Yes) No	
8. Could all bottle labels be reconciled with the COC?	(Yes) No	
9. Were correct bottle(s) used for the test(s) indicated?	(Yes) No	
10. Sufficient quantity received to perform indicated analyses?	(Yes) No	
11. Are these work share samples?	Yes (No)	
If yes, Questions 11-15 have been checked at the originating laboratory.		
11. Were sample(s) at the correct pH upon receipt?	Yes No (NA)	pH Strip Lot# HC697954
12. Were VOAs on the COC?	Yes (No)	
13. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes No (NA)	
14. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes (No)	
15. Was a LL Hg or Me Hg trip blank present? _____	Yes (No)	

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

Concerning _____

16. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by:

17. 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)

18. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

240-81641 Chain of Custody

COOLER RECEIPT FORM

Cooler Received/Opened On 06-29-2017 @ 09:50

Time Samples Removed From Cooler_____ Time Samples Placed In Storage_____ (2 Hour Window)

1. Tracking # 6840 (last 4 digits, FedEx) Courier: _FedEx_

IR Gun ID 17960357 pH Strip Lot N/A Chlorine Strip Lot N/A

2. Temperature of rep. sample or temp blank when opened: 0.3 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? (YES)...NO...NA

If yes, how many and where: 1 front

5. Were the seals intact, signed, and dated correctly? (YES)...NO...NA

6. Were custody papers inside cooler? (YES)...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) es

7. Were custody seals on containers: YES (NO) and Intact YES...NO...(NA)

Were these signed and dated correctly? YES...NO...(NA)

8. Packing mat'l used? (Bubblewrap) (Plastic bag) Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: (Ice) Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? (YES)...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? (YES)...NO...NA

12. Did all container labels and tags agree with custody papers? (YES)...NO...NA

13a. Were VOA vials received? YES...(NO)...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...(NA)

14. Was there a Trip Blank in this cooler? YES...(NO)...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (initial) es

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES (NO) NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...(NA)

16. Was residual chlorine present? YES...NO...(NA)

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) es

17. Were custody papers properly filled out (ink, signed, etc)? (YES)...NO...NA

18. Did you sign the custody papers in the appropriate place? (YES)...NO...NA

19. Were correct containers used for the analysis requested? (YES)...NO...NA

20. Was sufficient amount of sample sent in each container? (YES)...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) es

I certify that I attached a label with the unique LIMS number to each container (initial) es

21. Were there Non-Conformance issues at login? YES...(NO) Was a NCM generated? YES...(NO)...# es

BIS = Broken in shipment

TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone (330) 497-9396 Fax (330) 497-0772

Chain of Custody Record

240-81641

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

7/12/2017

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Heckler, Denise D	COC No: 240-72927.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: denise.heckler@testamericainc.com	State of Origin: Michigan	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note):	Job #: 240-81641-1
Address: 2960 Foster Creighton Drive, ,	Due Date Requested: 7/11/2017		
City: Nashville	TAT Requested (days):		
State, Zip: TN, 37204			
Phone: 615-726-0177(Tel) 615-726-3404(Fax)	PO #:		
Email:	WO #:		
Project Name: 82008	Project #: 24005713		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

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)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9020B/ (MOD) Total Organic Halides (TOX)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
82008.01 (240-81641-1)	6/21/17	13:15 Eastern		Water			X	1	
82008.02 (240-81641-2)	6/21/17	15:45 Eastern		Water			X	1	
82008.03 (240-81641-3)	6/22/17	09:40 Eastern		Water			X	1	
82008.04 (240-81641-4)	6/22/17	11:25 Eastern		Water			X	1	
82008.05 (240-81641-5)	6/22/17	11:50 Eastern		Water			X	1	
82008.06 (240-81641-6)	6/22/17	00:01 Eastern		Water			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *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:	Date/Time: 6-28-17 1600	Company ZYO	Received by:	Date/Time: 6-29-17 9:50	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: 0.3

Login Sample Receipt Checklist

Client: Merit Laboratories

Job Number: 240-81641-1

Login Number: 81641
List Number: 2
Creator: Stewart, Eric S

List Source: TestAmerica Nashville
List Creation: 06/29/17 12:53 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX D

Groundwater Sampling Program QA/QC Summary

APPENDIX D
QUALITY ASSURANCE/QUALITY CONTROL SUMMARY

Data verification was independently performed by O'Brien & Gere Engineers, Inc. to assess the groundwater monitoring data quality for samples collected during the 2017 semiannual groundwater sampling event conducted in June 2017. Data verification was utilized to confirm the quality of the field and laboratory (Merit Laboratories, Inc. (Merit) of East Lansing, Michigan) data. The data verification included review of: (1) laboratory documentation, (2) chain-of-custody (COC) documentation, (3) target analyte results, (4) laboratory data qualifiers, if any, (5) laboratory reporting (quantitation) limits, (6) laboratory blank analysis, and (7) quality control samples, including duplicate samples.

The results of the data verification indicated the following:

- Laboratory documentation was complete.
- Chain-of-custody (COC) documentation was complete.
- Target analyte results were reported in accordance with the project requirements.
- Laboratory blank analysis did not indicate evidence of artifacts from the sampling or analytical process (above reporting limit [RL]).
- Laboratory quantitation (or reporting) limits (RLs) were within the project required limits for undiluted samples.
- No elevated RLs were reported due to matrix interference or sample dilution.
- No breakthroughs exceeding 10% for TOX samples were reported, except for B-19Ar, and insufficient sample volume remained to perform additional replicates; therefore, the data was reported, but should be considered an estimated (J) value due to the QC excursion.
- The relative percent difference (RPD) for the duplicate sample results for B-20D and Dup-3 (B-20D) were within acceptable limits.

Furthermore, the instrument utilized for measurement of field parameters calibrated within range (deviation from standard of less than 3 percent) for pH, oxidation reduction potential (ORP), specific conductivity (conductivity) and dissolved oxygen (DO); therefore, operated within manufacturers specifications during sample collection.

The data verification indicates that the overall usability of the groundwater monitoring data is acceptable for the intended use without further qualification or rejection of the data with the exception of the qualification of the results for TOX in B-7, B-9, B-24r, and B-28 as estimated (J) values because the results were less than the reporting limit, but greater than the method detection limit.

APPENDIX E

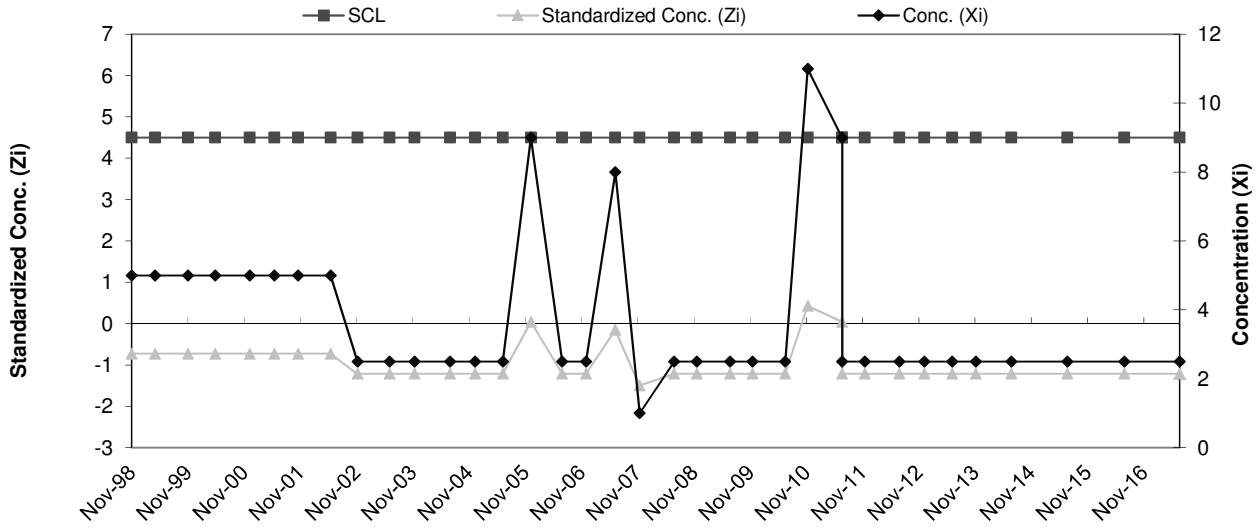
Monitoring Well Control Charts

COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-2d Cr

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	10		
3	Jun-96	10		
4	Aug-96	10	**8.78**	**5.19**
5	Nov-96	10		
6	May-97	10		
7	Nov-97	5		
8	May-98	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	5	-0.73	36	Nov-11	4.50	2.5	-1.21
10	Apr-99	4.5	5	-0.73	37	Jun-12	4.50	2.5	-1.21
11	Nov-99	4.5	5	-0.73	38	Dec-12	4.50	2.5	-1.21
12	Apr-00	4.5	5	-0.73	39	Jun-13	4.50	2.5	-1.21
13	Dec-00	4.5	5	-0.73	40	Nov-13	4.50	2.5	-1.21
14	May-01	4.5	5	-0.73	41	Jun-14	4.50	2.5	-1.21
15	Oct-01	4.5	5	-0.73	42	Jun-15	4.50	2.5	-1.21
16	May-02	4.5	5	-0.73	43	Jun-16	4.50	2.5	-1.21
17	Nov-02	4.5	2.5	-1.21	44	Jun-17	4.50	2.5	-1.21
18	Jun-03	4.5	2.5	-1.21					
19	Nov-03	4.5	2.5	-1.21					
20	Jun-04	4.5	2.5	-1.21					
21	Dec-04	4.5	2.5	-1.21					
22	Jun-05	4.5	2.5	-1.21					
23	Dec-05	4.5	9	0.04					
24	Jun-06	4.5	2.5	-1.21					
25	Nov-06	4.5	2.5	-1.21					
26	Jun-07	4.5	8	-0.15					
27	Nov-07	4.5	1	-1.50					
28	Jun-08	4.5	2.5	-1.21					
29	Nov-08	4.5	2.5	-1.21					
30	Jun-09	4.5	2.5	-1.21					
31	Nov-09	4.5	2.5	-1.21					
32	Jun-10	4.5	2.5	-1.21					
33	Nov-10	4.5	11	0.43					
34	Jun-11	4.5	9	0.04					
35	Jun-11	4.5	2.5	-1.21					

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

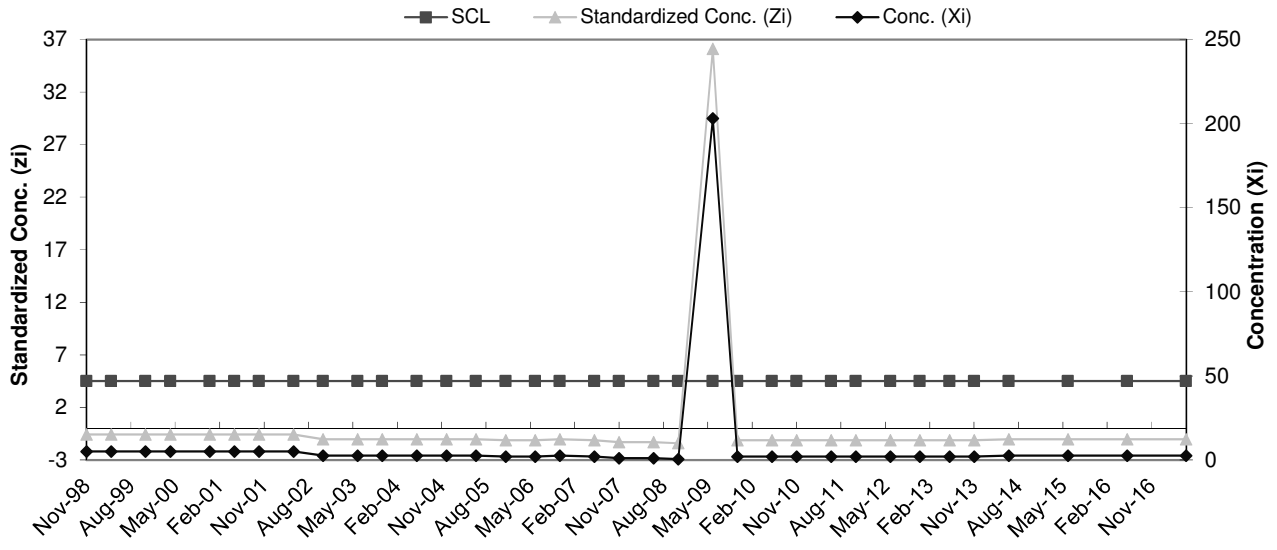


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-2d Cu

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

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	5	-0.58	35	Nov-11	4.5	2	-1.14
10	Apr-99	4.5	5	-0.58	36	Jun-12	4.5	2	-1.14
11	Nov-99	4.5	5	-0.58	37	Dec-12	4.5	2	-1.14
12	Apr-00	4.5	5	-0.58	38	Jun-13	4.5	2	-1.14
13	Dec-00	4.5	5	-0.58	39	Nov-13	4.5	2	-1.14
14	May-01	4.5	5	-0.58	40	Jun-14	4.5	2.5	-1.04
15	Oct-01	4.5	5	-0.58	41	Jun-15	4.5	2.5	-1.04
16	May-02	4.5	5	-0.58	42	Jun-16	4.5	2.5	-1.04
17	Nov-02	4.5	2.5	-1.04	43	Jun-17	4.5	2.5	-1.04
18	Jun-03	4.5	2.5	-1.04					
19	Nov-03	4.5	2.5	-1.04					
20	Jun-04	4.5	2.5	-1.04					
21	Dec-04	4.5	2.5	-1.04					
22	Jun-05	4.5	2.5	-1.04					
23	Dec-05	4.5	2	-1.14					
24	Jun-06	4.5	2	-1.14					
25	Nov-06	4.5	2.5	-1.04					
26	Jun-07	4.5	2	-1.14					
27	Nov-07	4.5	1	-1.32					
28	Jun-08	4.5	1	-1.32					
29	Nov-08	4.5	0.5	-1.41					
30	Jun-09	4.5	203	36.09					
31	Nov-09	4.5	2	-1.14					
32	Jun-10	4.5	2	-1.14					
33	Nov-10	4.5	2	-1.14					
34	Jun-11	4.5	2	-1.14					

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

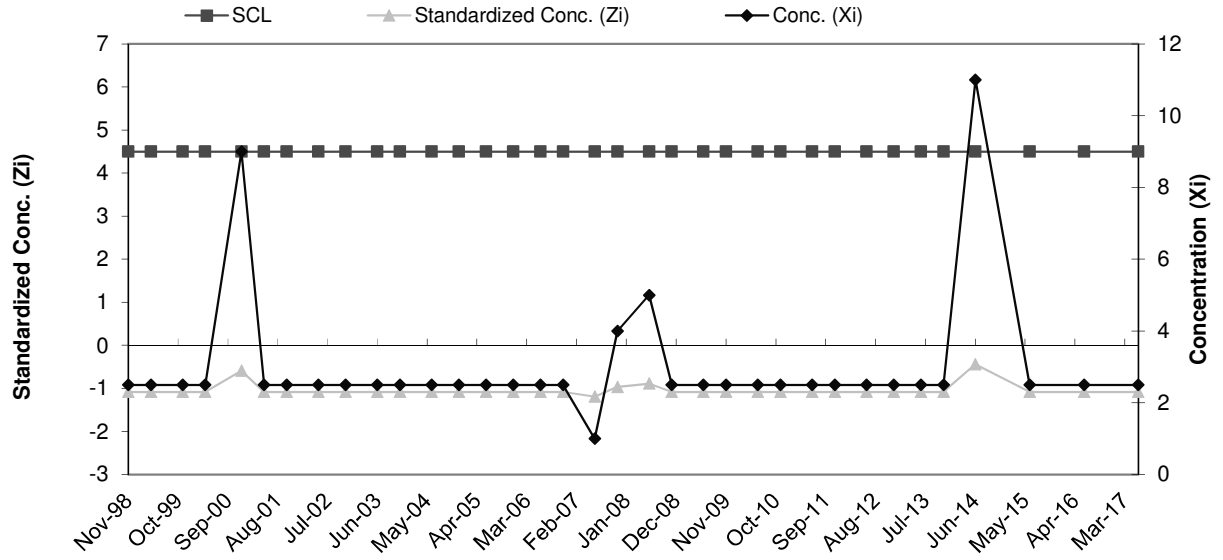


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-2d Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	15		
2	Aug-95	20		
3	Jun-96	10		
4	Aug-96	10	**16.83**	**13.28**
5	Nov-96	10		
6	May-97	28		
7	Nov-97	39		
8	May-98	2.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	2.5	-1.08	35	Nov-11	4.5	2.5	-1.08
10	Apr-99	4.5	2.5	-1.08	36	Jun-12	4.5	2.5	-1.08
11	Nov-99	4.5	2.5	-1.08	37	Dec-12	4.5	2.5	-1.08
12	Apr-00	4.5	2.5	-1.08	38	Jun-13	4.5	2.5	-1.08
13	Dec-00	4.5	9	-0.59	39	Nov-13	4.5	2.5	-1.08
14	May-01	4.5	2.5	-1.08	40	Jun-14	4.5	11	-0.44
15	Oct-01	4.5	2.5	-1.08	41	Jun-15	4.5	2.5	-1.08
16	May-02	4.5	2.5	-1.08	42	Jun-16	4.5	2.5	-1.08
17	Nov-02	4.5	2.5	-1.08	43	Jun-17	4.5	2.5	-1.08
18	Jun-03	4.5	2.5	-1.08					
19	Nov-03	4.5	2.5	-1.08					
20	Jun-04	4.5	2.5	-1.08					
21	Dec-04	4.5	2.5	-1.08					
22	Jun-05	4.5	2.5	-1.08					
23	Dec-05	4.5	2.5	-1.08					
24	Jun-06	4.5	2.5	-1.08					
25	Nov-06	4.5	2.5	-1.08					
26	Jun-07	4.5	1	-1.19					
27	Nov-07	4.5	4	-0.97					
28	Jun-08	4.5	5	-0.89					
29	Nov-08	4.5	2.5	-1.08					
30	Jun-09	4.5	2.5	-1.08					
31	Nov-09	4.5	2.5	-1.08					
32	Jun-10	4.5	2.5	-1.08					
33	Nov-10	4.5	2.5	-1.08					
34	Jun-11	4.5	2.5	-1.08					

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

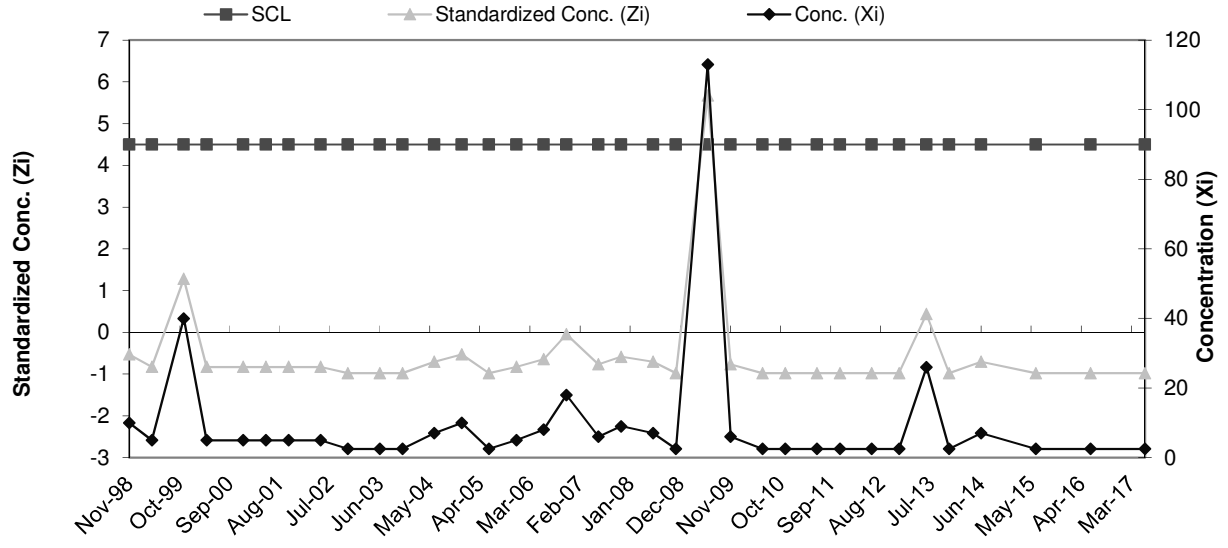


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-2d Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	10		
3	Jun-96	10		
4	Aug-96	50	**18.75**	**16.62**
5	Nov-96	30		
6	May-97	30		
7	Nov-97	5		
8	May-98	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	10	-0.53	35	Nov-11	4.5	2.5	-0.98
10	Apr-99	4.5	5	-0.83	36	Jun-12	4.5	2.5	-0.98
11	Nov-99	4.5	40	1.28	37	Dec-12	4.5	2.5	-0.98
12	Apr-00	4.5	5	-0.83	38	Jun-13	4.5	26	0.44
13	Dec-00	4.5	5	-0.83	39	Nov-13	4.5	2.5	-0.98
14	May-01	4.5	5	-0.83	40	Jun-14	4.5	7	-0.71
15	Oct-01	4.5	5	-0.83	41	Jun-15	4.5	2.5	-0.98
16	May-02	4.5	5	-0.83	42	Jun-16	4.5	2.5	-0.98
17	Nov-02	4.5	2.5	-0.98	43	Jun-17	4.5	2.5	-0.98
18	Jun-03	4.5	2.5	-0.98					
19	Nov-03	4.5	2.5	-0.98					
20	Jun-04	4.5	7	-0.71					
21	Dec-04	4.5	10	-0.53					
22	Jun-05	4.5	2.5	-0.98					
23	Dec-05	4.5	5	-0.83					
24	Jun-06	4.5	8	-0.65					
25	Nov-06	4.5	18	-0.05					
26	Jun-07	4.5	6	-0.77					
27	Nov-07	4.5	9	-0.59					
28	Jun-08	4.5	7	-0.71					
29	Nov-08	4.5	2.5	-0.98					
30	Jun-09	4.5	113	5.67					
31	Nov-09	4.5	6	-0.77					
32	Jun-10	4.5	2.5	-0.98					
33	Nov-10	4.5	2.5	-0.98					
34	Jun-11	4.5	2.5	-0.98					

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

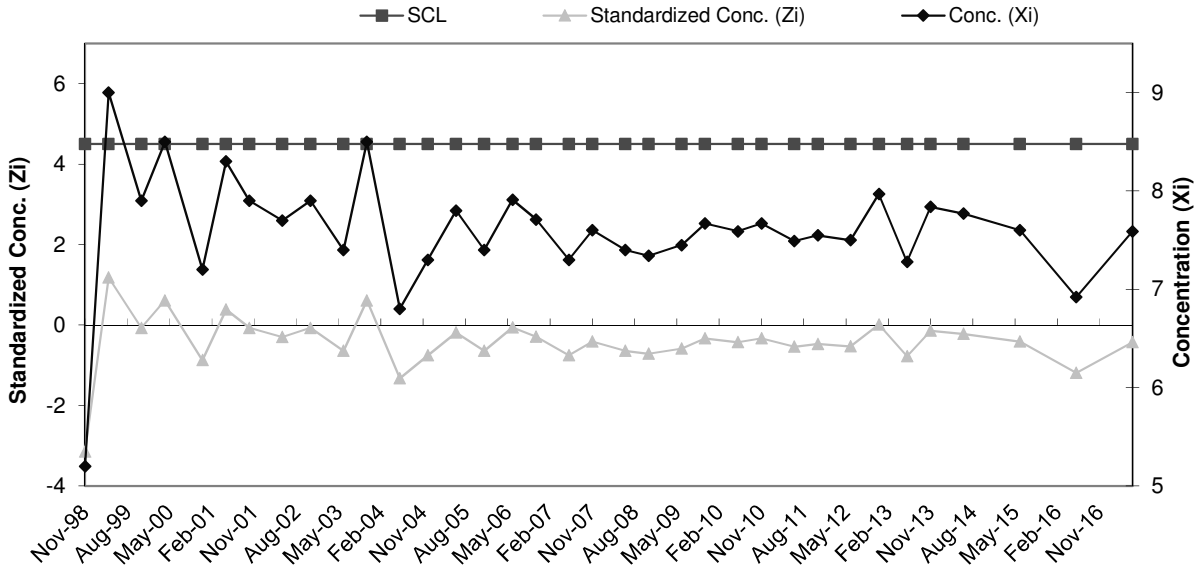


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-2d pH

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	9.0		
2	Aug-95	8.3		
3	Jun-96	7.5		
4	Aug-96	7.7	**7.46**	**0.88**
5	Nov-96	7.3		
6	May-97	6.3		
7	Nov-97	6.9		
8	May-98	6.7		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	4.7	-3.15	35	Nov-11	4.5	7.1	-0.47
10	Apr-99	4.5	8.5	1.18	36	Jun-12	4.5	7.0	-0.53
11	Nov-99	4.5	7.4	-0.07	37	Dec-12	4.5	7.5	0.01
12	Apr-00	4.5	8.0	0.61	38	Jun-13	4.5	6.8	-0.78
13	Dec-00	4.5	6.7	-0.87	39	Nov-13	4.5	7.3	-0.14
14	May-01	4.5	7.8	0.38	40	Jun-14	4.5	7.3	-0.22
15	Oct-01	4.5	7.4	-0.07	41	Jun-15	4.5	7.1	-0.41
16	May-02	4.5	7.2	-0.30	42	Jun-16	4.5	6.4	-1.19
17	Nov-02	4.5	7.4	-0.07	43	Jun-17	4.5	7.1	-0.42
18	Jun-03	4.5	6.9	-0.64					
19	Nov-03	4.5	8.0	0.61					
20	Jun-04	4.5	6.3	-1.32					
21	Dec-04	4.5	6.8	-0.75					
22	Jun-05	4.5	7.3	-0.19					
23	Dec-05	4.5	6.9	-0.64					
24	Jun-06	4.5	7.4	-0.06					
25	Nov-06	4.5	7.2	-0.29					
26	Jun-07	4.5	6.8	-0.75					
27	Nov-07	4.5	7.1	-0.41					
28	Jun-08	4.5	6.9	-0.64					
29	Nov-08	4.5	6.8	-0.71					
30	Jun-09	4.5	7.0	-0.58					
31	Nov-09	4.5	7.2	-0.33					
32	Jun-10	4.5	7.1	-0.42					
33	Nov-10	4.5	7.2	-0.33					
34	Jun-11	4.5	7.0	-0.54					

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

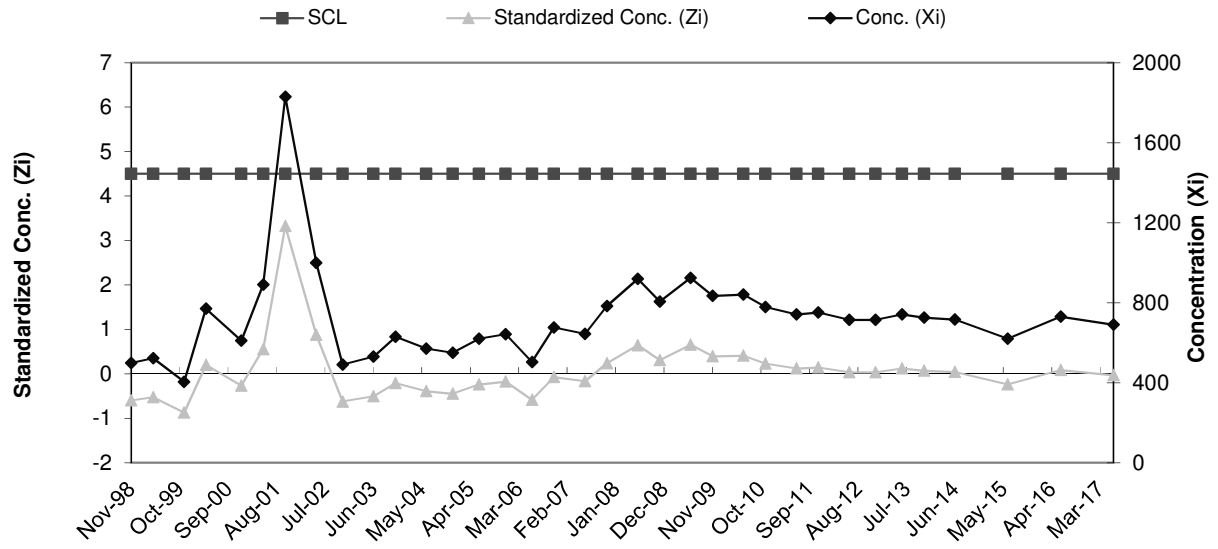


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-2d SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	434.0	701.50	339.46
2	Aug-95	479.0		
3	Jun-96	580.0		
4	Aug-96	641.0		
5	Nov-96	769.0		
6	May-97	1500.0		
7	Nov-97	660.0		
8	May-98	549.0		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	498.0	-0.60	35	Nov-11	4.5	751.0	0.15
10	Apr-99	4.5	523.0	-0.53	36	Jun-12	4.5	714.0	0.04
11	Nov-99	4.5	405.0	-0.87	37	Dec-12	4.5	714.0	0.04
12	Apr-00	4.5	770.0	0.20	38	Jun-13	4.5	742.0	0.12
13	Dec-00	4.5	610.0	-0.27	39	Nov-13	4.5	726.0	0.07
14	May-01	4.5	890.0	0.56	40	Jun-14	4.5	717.0	0.05
15	Oct-01	4.5	1830.0	3.32	41	Jun-15	4.5	621.0	-0.24
16	May-02	4.5	1000.0	0.88	42	Jun-16	4.5	730.0	0.08
17	Nov-02	4.5	490.0	-0.62	43	Jun-17	4.5	691.0	-0.03
18	Jun-03	4.5	530.0	-0.51					
19	Nov-03	4.5	630.0	-0.21					
20	Jun-04	4.5	570.0	-0.39					
21	Dec-04	4.5	550.0	-0.45					
22	Jun-05	4.5	620.0	-0.24					
23	Dec-05	4.5	642.0	-0.18					
24	Jun-06	4.5	504.1	-0.58					
25	Nov-06	4.5	677.0	-0.07					
26	Jun-07	4.5	644.0	-0.17					
27	Nov-07	4.5	783.0	0.24					
28	Jun-08	4.5	920.0	0.64					
29	Nov-08	4.5	806.0	0.31					
30	Jun-09	4.5	924.0	0.66					
31	Nov-09	4.5	835.0	0.39					
32	Jun-10	4.5	841.0	0.41					
33	Nov-10	4.5	779.0	0.23					
34	Jun-11	4.5	742.0	0.12					

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

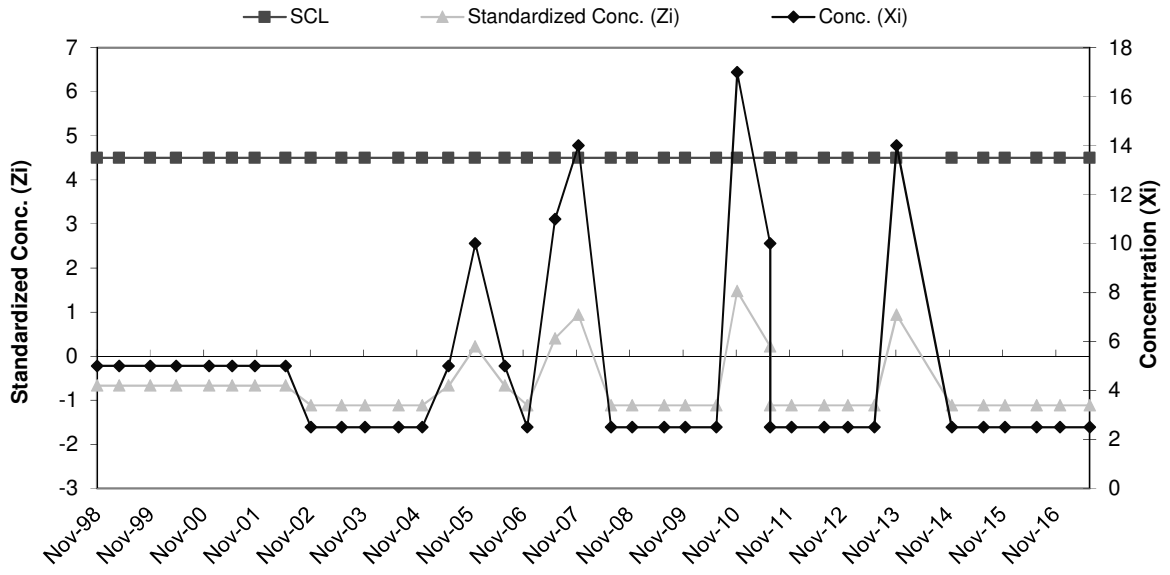


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-7 Cr

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10	**8.75**	**5.60**
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	May-98	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	5	-0.67	36	Nov-11	4.5	2.5	-1.12
10	Apr-99	4.5	5	-0.67	37	Jun-12	4.5	2.5	-1.12
11	Nov-99	4.5	5	-0.67	38	Dec-12	4.5	2.5	-1.12
12	Apr-00	4.5	5	-0.67	39	Jun-13	4.5	2.5	-1.12
13	Dec-00	4.5	5	-0.67	40	Nov-13	4.5	14	0.94
14	May-01	4.5	5	-0.67	41	Nov-14	4.5	2.5	-1.12
15	Oct-01	4.5	5	-0.67	42	Jun-15	4.5	2.5	-1.12
16	May-02	4.5	5	-0.67	43	Nov-15	4.5	2.5	-1.12
17	Nov-02	4.5	2.5	-1.12	44	Jun-16	4.5	2.5	-1.12
18	Jun-03	4.5	2.5	-1.12	45	Nov-16	4.5	2.5	-1.12
19	Nov-03	4.5	2.5	-1.12	46	Jun-17	4.5	2.5	-1.12
20	Jun-04	4.5	2.5	-1.12					
21	Dec-04	4.5	2.5	-1.12					
22	Jun-05	4.5	5	-0.67					
23	Dec-05	4.5	10	0.22					
24	Jun-06	4.5	5	-0.67					
25	Nov-06	4.5	2.5	-1.12					
26	Jun-07	4.5	11	0.40					
27	Nov-07	4.5	14	0.94					
28	Jun-08	4.5	2.5	-1.12					
29	Nov-08	4.5	2.5	-1.12					
30	Jun-09	4.5	2.5	-1.12					
31	Nov-09	4.5	2.5	-1.12					
32	Jun-10	4.5	2.5	-1.12					
33	Nov-10	4.5	17	1.47					
34	Jun-11	4.5	10	0.22					
35	Jun-11	4.5	2.5	-1.12					

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

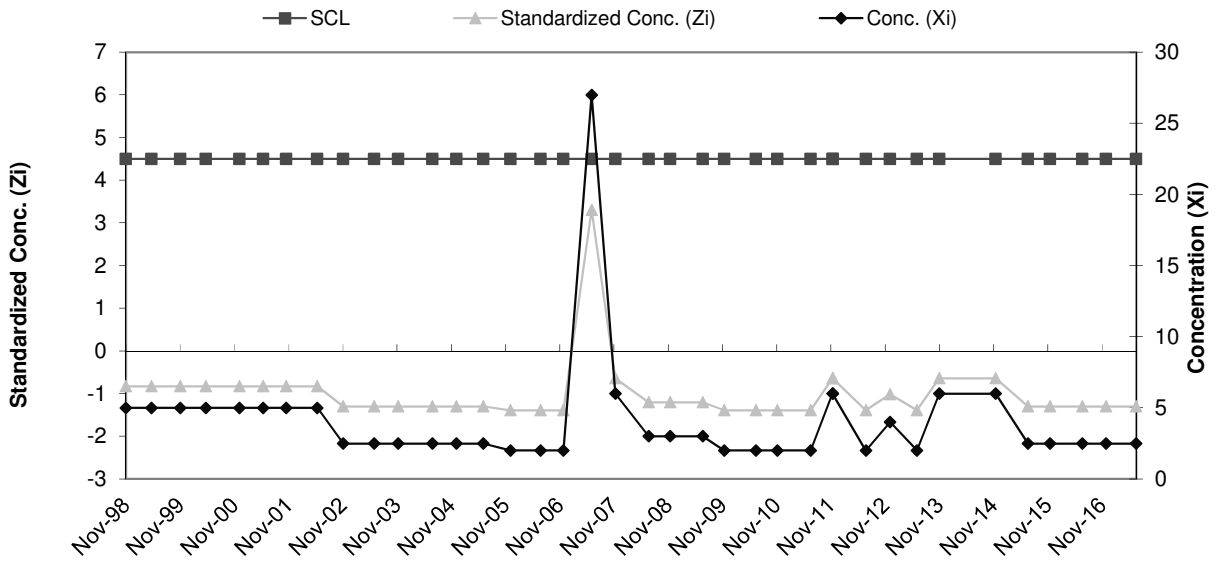


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-7 Cu

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10	**9.40**	**5.32**
5	Aug-96	10		
6	Nov-96	10		
7	May-97	10		
8	May-98	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	5	-0.83	35	Nov-11	4.5	6	-0.64
10	Apr-99	4.5	5	-0.83	36	Jun-12	4.5	2	-1.39
11	Nov-99	4.5	5	-0.83	37	Dec-12	4.5	4	-1.02
12	Apr-00	4.5	5	-0.83	38	Jun-13	4.5	2	-1.39
13	Dec-00	4.5	5	-0.83	39	Nov-13	4.5	6	-0.64
14	May-01	4.5	5	-0.83	40	Nov-14	4.5	6	-0.64
15	Oct-01	4.5	5	-0.83	41	Jun-15	4.5	2.5	-1.30
16	May-02	4.5	5	-0.83	42	Nov-15	4.5	2.5	-1.30
17	Nov-02	4.5	2.5	-1.30	43	Jun-16	4.5	2.5	-1.30
18	Jun-03	4.5	2.5	-1.30	44	Nov-16	4.5	2.5	-1.30
19	Nov-03	4.5	2.5	-1.30	45	Jun-17	4.5	2.5	-1.30
20	Jun-04	4.5	2.5	-1.30					
21	Dec-04	4.5	2.5	-1.30					
22	Jun-05	4.5	2.5	-1.30					
23	Dec-05	4.5	2	-1.39					
24	Jun-06	4.5	2	-1.39					
25	Nov-06	4.5	2	-1.39					
26	Jun-07	4.5	27	3.31					
27	Nov-07	4.5	6	-0.64					
28	Jun-08	4.5	3	-1.20					
29	Nov-08	4.5	3	-1.20					
30	Jun-09	4.5	3	-1.20					
31	Nov-09	4.5	2	-1.39					
32	Jun-10	4.5	2	-1.39					
33	Nov-10	4.5	2	-1.39					
34	Jun-11	4.5	2	-1.39					
35	Nov-11	4.5	6	-0.64					

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

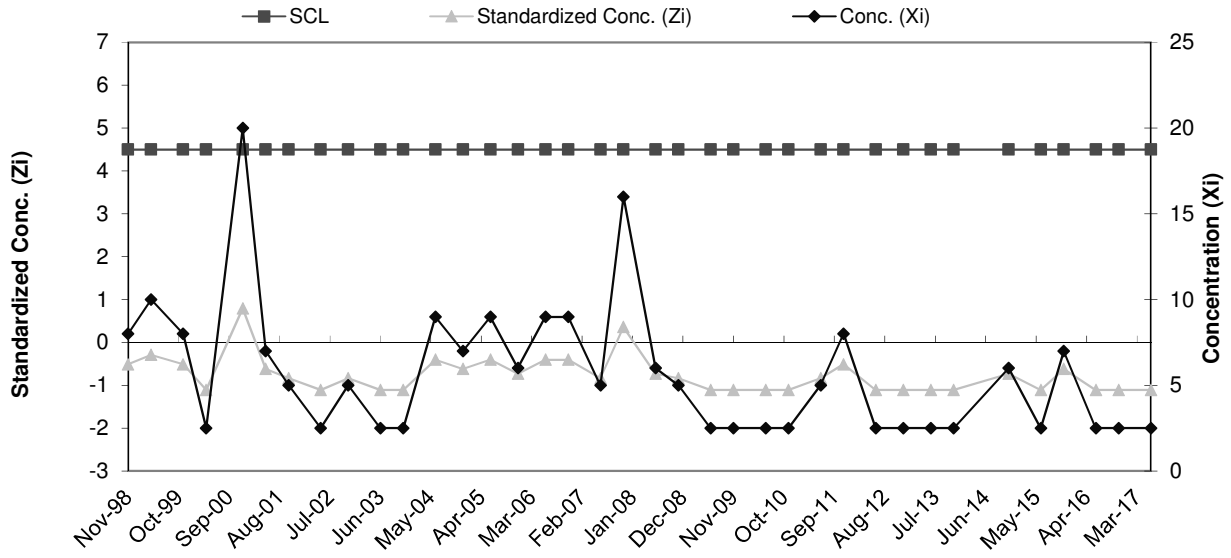


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-7 Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	15		
2	Aug-95	20		
3	Feb-96	20		
4	Jun-96	10	**12.70**	**9.19**
5	Aug-96	10		
6	Nov-96	20		
7	May-97	14		
8	May-98	2.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	8	-0.51	35	Nov-11	4.5	8	-0.51
10	Apr-99	4.5	10	-0.29	36	Jun-12	4.5	2.5	-1.11
11	Nov-99	4.5	8	-0.51	37	Dec-12	4.5	2.5	-1.11
12	Apr-00	4.5	2.5	-1.11	38	Jun-13	4.5	2.5	-1.11
13	Dec-00	4.5	20	0.79	39	Nov-13	4.5	2.5	-1.11
14	May-01	4.5	7	-0.62	40	Nov-14	4.5	6	-0.73
15	Oct-01	4.5	5	-0.84	41	Jun-15	4.5	2.5	-1.11
16	May-02	4.5	2.5	-1.11	42	Nov-15	4.5	7	-0.62
17	Nov-02	4.5	5	-0.84	43	Jun-16	4.5	2.5	-1.11
18	Jun-03	4.5	2.5	-1.11	44	Nov-16	4.5	2.5	-1.11
19	Nov-03	4.5	2.5	-1.11	45	Jun-17	4.5	2.5	-1.11
20	Jun-04	4.5	9	-0.40					
21	Dec-04	4.5	7	-0.62					
22	Jun-05	4.5	9	-0.40					
23	Dec-05	4.5	6	-0.73					
24	Jun-06	4.5	9	-0.40					
25	Nov-06	4.5	9	-0.40					
26	Jun-07	4.5	5	-0.84					
27	Nov-07	4.5	16	0.36					
28	Jun-08	4.5	6	-0.73					
29	Nov-08	4.5	5	-0.84					
30	Jun-09	4.5	2.5	-1.11					
31	Nov-09	4.5	2.5	-1.11					
32	Jun-10	4.5	2.5	-1.11					
33	Nov-10	4.5	2.5	-1.11					
34	Jun-11	4.5	5	-0.84					

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

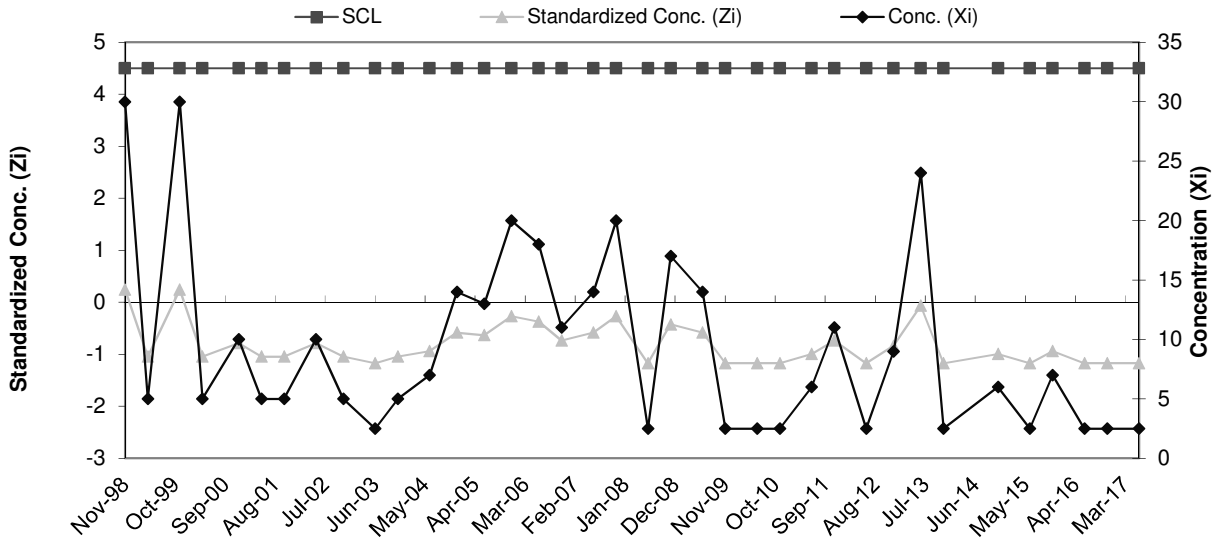


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-7 Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	10		
3	Feb-96	22		
4	Jun-96	20	**25.25**	**19.40**
5	Aug-96	60		
6	Nov-96	50		
7	May-97	10		
8	May-98	20		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	30	0.24	35	Nov-11	4.5	11	-0.73
10	Apr-99	4.5	5	-1.04	36	Jun-12	4.5	2.5	-1.17
11	Nov-99	4.5	30	0.24	37	Dec-12	4.5	9	-0.84
12	Apr-00	4.5	5	-1.04	38	Jun-13	4.5	24	-0.06
13	Dec-00	4.5	10	-0.79	39	Nov-13	4.5	2.5	-1.17
14	May-01	4.5	5	-1.04	40	Nov-14	4.5	6	-0.99
15	Oct-01	4.5	5	-1.04	41	Jun-15	4.5	2.5	-1.17
16	May-02	4.5	10	-0.79	42	Nov-15	4.5	7	-0.94
17	Nov-02	4.5	5	-1.04	43	Jun-16	4.5	2.5	-1.17
18	Jun-03	4.5	2.5	-1.17	44	Nov-16	4.5	2.5	-1.17
19	Nov-03	4.5	5	-1.04	45	Jun-17	4.5	2.5	-1.17
20	Jun-04	4.5	7	-0.94			4.5		
21	Dec-04	4.5	14	-0.58					
22	Jun-05	4.5	13	-0.63					
23	Dec-05	4.5	20	-0.27					
24	Jun-06	4.5	18	-0.37					
25	Nov-06	4.5	11	-0.73					
26	Jun-07	4.5	14	-0.58					
27	Nov-07	4.5	20	-0.27					
28	Jun-08	4.5	2.5	-1.17					
29	Nov-08	4.5	17	-0.43					
30	Jun-09	4.5	14	-0.58					
31	Nov-09	4.5	2.5	-1.17					
32	Jun-10	4.5	2.5	-1.17					
33	Nov-10	4.5	2.5	-1.17					
34	Jun-11	4.5	6	-0.99					

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

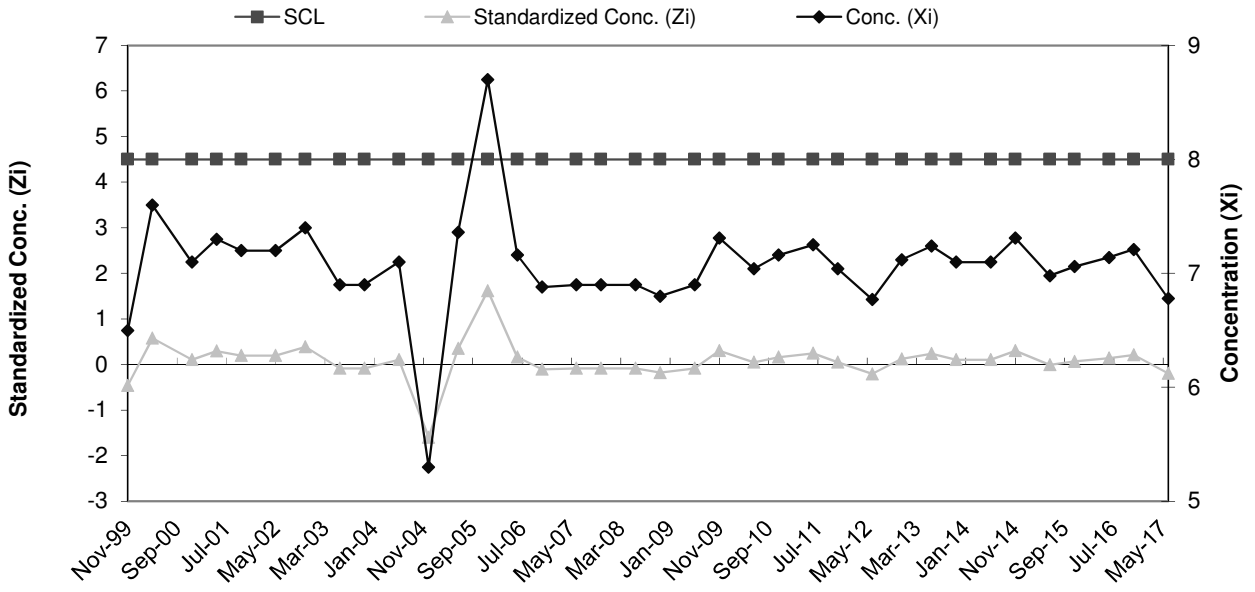


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-7 pH

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	7.5	6.99	1.06
2	Jun-96	6.9		
3	Aug-96	7.6		
4	Nov-96	8.0		
5	May-97	7.2		
6	May-98	6.6		
7	Nov-98	4.6		
8	Apr-99	7.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-99	4.5	6.5	-0.46	33	Nov-11	4.5	7.0	0.05
10	Apr-00	4.5	7.6	0.58	34	Jun-12	4.5	6.8	-0.21
11	Dec-00	4.5	7.1	0.11	35	Dec-12	4.5	7.1	0.13
12	May-01	4.5	7.3	0.30	36	Jun-13	4.5	7.2	0.24
13	Oct-01	4.5	7.2	0.20	37	Nov-13	4.5	7.1	0.11
14	May-02	4.5	7.2	0.20	38	Jun-14	4.5	7.1	0.11
15	Nov-02	4.5	7.4	0.39	39	Nov-14	4.5	7.3	0.30
16	Jun-03	4.5	6.9	-0.08	40	Jun-15	4.5	7.0	-0.01
17	Nov-03	4.5	6.9	-0.08	41	Nov-15	4.5	7.1	0.07
18	Jun-04	4.5	7.1	0.11	42	Jun-16	4.5	7.1	0.14
19	Dec-04	4.5	5.3	-1.60	43	Nov-16	4.5	7.2	0.21
20	Jun-05	4.5	7.4	0.35	44	Jun-17	4.5	6.8	-0.20
21	Dec-05	4.5	8.7	1.62					
22	Jun-06	4.5	7.2	0.16					
23	Nov-06	4.5	6.9	-0.10					
24	Jun-07	4.5	6.9	-0.08					
25	Nov-07	4.5	6.9	-0.08					
26	Jun-08	4.5	6.9	-0.08					
27	Nov-08	4.5	6.8	-0.18					
28	Jun-09	4.5	6.9	-0.08					
29	Nov-09	4.5	7.3	0.30					
30	Jun-10	4.5	7.0	0.05					
31	Nov-10	4.5	7.2	0.16					
32	Jun-11	4.5	7.3	0.25					

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

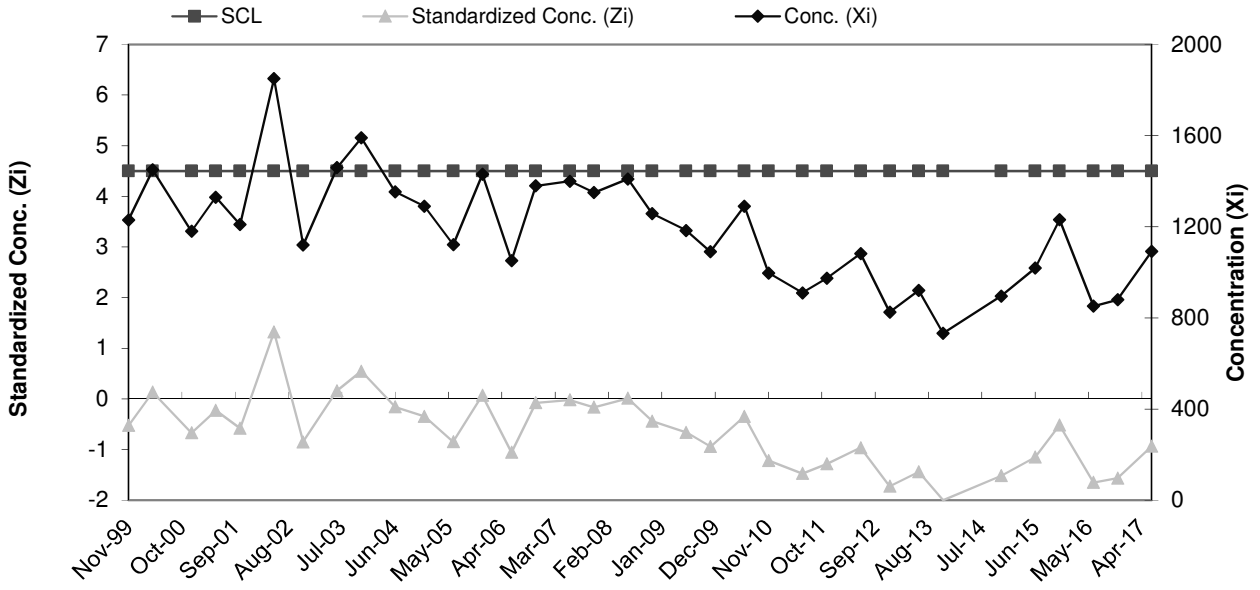


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-7 SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	1509.0		
2	Jun-96	1508.0		
3	Aug-96	1567.0		
4	Nov-96	1960.0	**1,405.88**	**336.33**
5	May-97	780.0		
6	May-98	1270.0		
7	Nov-98	1240.0		
8	Apr-99	1413.0		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-99	4.5	1230.0	-0.52	33	Nov-11	4.5	974.0	-1.28
10	Apr-00	4.5	1450.0	0.13	34	Jun-12	4.5	1082.0	-0.96
11	Dec-00	4.5	1180.0	-0.67	35	Dec-12	4.5	825.0	-1.73
12	May-01	4.5	1330.0	-0.23	36	Jun-13	4.5	921.0	-1.44
13	Oct-01	4.5	1210.0	-0.58	37	Nov-13	4.5	733.0	-2.00
14	May-02	4.5	1850.0	1.32	38	Nov-14	4.5	896.0	-1.52
15	Nov-02	4.5	1120.0	-0.85	39	Jun-15	4.5	1019.0	-1.15
16	Jun-03	4.5	1460.0	0.16	40	Nov-15	4.5	1231.0	-0.52
17	Nov-03	4.5	1590.0	0.55	41	Jun-16	4.5	852.0	-1.65
18	Jun-04	4.5	1353.0	-0.16	42	Nov-16	4.5	880.0	-1.56
19	Dec-04	4.5	1290.0	-0.34	43	Jun-17	4.5	1092.0	-0.93
20	Jun-05	4.5	1121.0	-0.85			4.5		
21	Dec-05	4.5	1430.0	0.07					
22	Jun-06	4.5	1051.0	-1.06					
23	Nov-06	4.5	1380.0	-0.08					
24	Jun-07	4.5	1400.0	-0.02					
25	Nov-07	4.5	1350.0	-0.17					
26	Jun-08	4.5	1410.0	0.01					
27	Nov-08	4.5	1258.0	-0.44					
28	Jun-09	4.5	1184.0	-0.66					
29	Nov-09	4.5	1090.0	-0.94					
30	Jun-10	4.5	1290.0	-0.34					
31	Nov-10	4.5	997.0	-1.22					
32	Jun-11	4.5	910.0	-1.47					

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

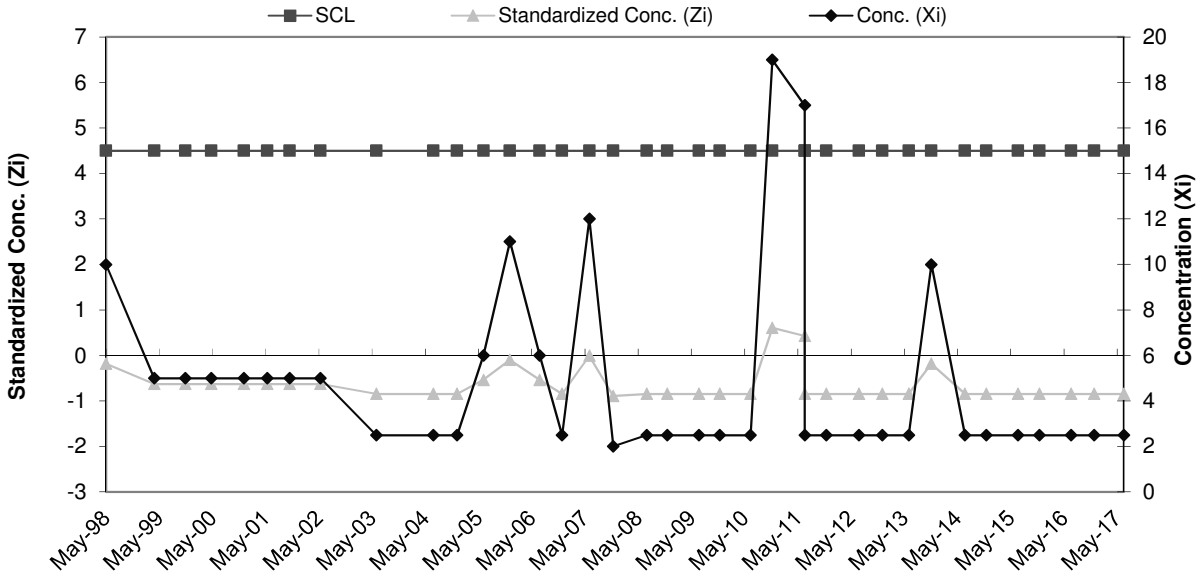


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-9 Cr

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	37		
3	Feb-96	10		
4	Jun-96	10	**12.12**	**11.34**
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	10	-0.19	34	Nov-11	4.5	2.5	-0.85
10	Apr-99	4.5	5	-0.63	35	Jun-12	4.5	2.5	-0.85
11	Nov-99	4.5	5	-0.63	36	Dec-12	4.5	2.5	-0.85
12	Apr-00	4.5	5	-0.63	37	Jun-13	4.5	2.5	-0.85
13	Dec-00	4.5	5	-0.63	38	Nov-13	4.5	10	-0.19
14	May-01	4.5	5	-0.63	39	Jun-14	4.5	2.5	-0.85
15	Oct-01	4.5	5	-0.63	40	Nov-14	4.5	2.5	-0.85
16	May-02	4.5	5	-0.63	41	Jun-15	4.5	2.5	-0.85
17	Jun-03	4.5	2.5	-0.85	42	Nov-15	4.5	2.5	-0.85
18	Jun-04	4.5	2.5	-0.85	43	Jun-16	4.5	2.5	-0.85
19	Dec-04	4.5	2.5	-0.85	44	Nov-16	4.5	2.5	-0.85
20	Jun-05	4.5	6	-0.54	45	Jun-17	4.5	2.5	-0.85
21	Dec-05	4.5	11	-0.10					
22	Jun-06	4.5	6	-0.54					
23	Nov-06	4.5	2.5	-0.85					
24	Jun-07	4.5	12	-0.01					
25	Nov-07	4.5	2	-0.89					
26	Jul-08	4.5	2.5	-0.85					
27	Nov-08	4.5	2.5	-0.85					
28	Jun-09	4.5	2.5	-0.85					
29	Nov-09	4.5	2.5	-0.85					
30	Jun-10	4.5	2.5	-0.85					
31	Nov-10	4.5	19	0.61					
32	Jun-11	4.5	17	0.43					
33	Jun-11	4.5	2.5	-0.85					

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

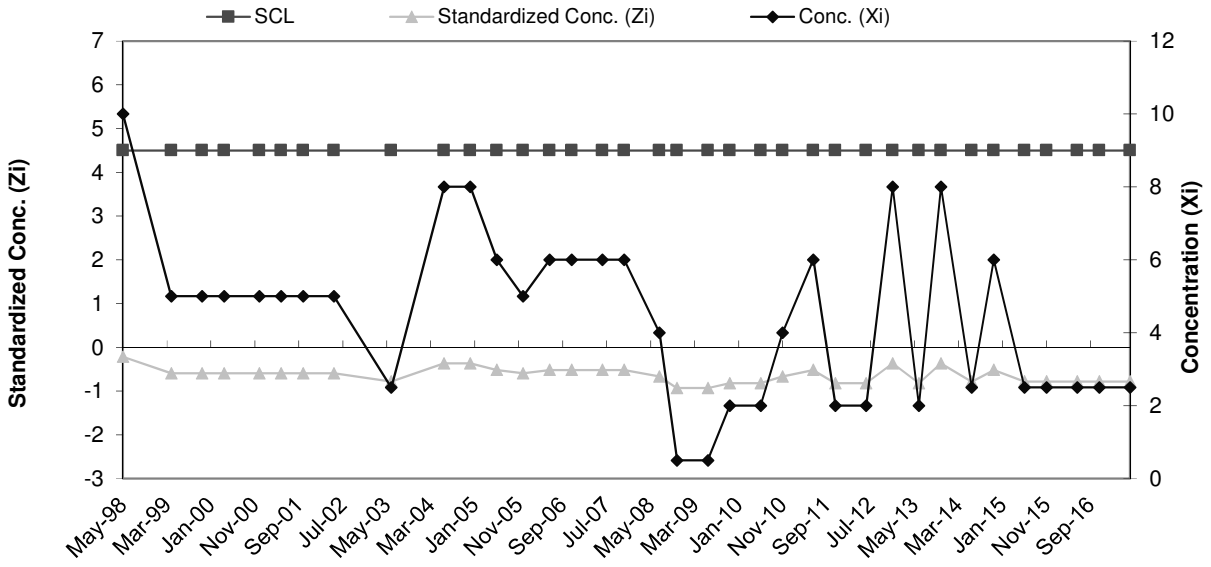


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-9 Cu

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	43		
3	Feb-96	10		
4	Jun-96	10	**12.87**	**13.26**
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	10	-0.22	33	Nov-11	4.5	2	-0.82
10	Apr-99	4.5	5	-0.59	34	Jun-12	4.5	2	-0.82
11	Nov-99	4.5	5	-0.59	35	Dec-12	4.5	8	-0.37
12	Apr-00	4.5	5	-0.59	36	Jun-13	4.5	2	-0.82
13	Dec-00	4.5	5	-0.59	37	Nov-13	4.5	8	-0.37
14	May-01	4.5	5	-0.59	38	Jun-14	4.5	2.5	-0.78
15	Oct-01	4.5	5	-0.59	39	Nov-14	4.5	6	-0.52
16	May-02	4.5	5	-0.59	40	Jun-15	4.5	2.5	-0.78
17	Jun-03	4.5	2.5	-0.78	41	Nov-15	4.5	2.5	-0.78
18	Jun-04	4.5	8	-0.37	42	Jun-16	4.5	2.5	-0.78
19	Dec-04	4.5	8	-0.37	43	Nov-16	4.5	2.5	-0.78
20	Jun-05	4.5	6	-0.52	44	Jun-17	4.5	2.5	-0.78
21	Dec-05	4.5	5	-0.59					
22	Jun-06	4.5	6	-0.52					
23	Nov-06	4.5	6	-0.52					
24	Jun-07	4.5	6	-0.52					
25	Nov-07	4.5	6	-0.52					
26	Jul-08	4.5	4	-0.67					
27	Nov-08	4.5	0.5	-0.93					
28	Jun-09	4.5	0.5	-0.93					
29	Nov-09	4.5	2	-0.82					
30	Jun-10	4.5	2	-0.82					
31	Nov-10	4.5	4	-0.67					
32	Jun-11	4.5	6	-0.52					

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

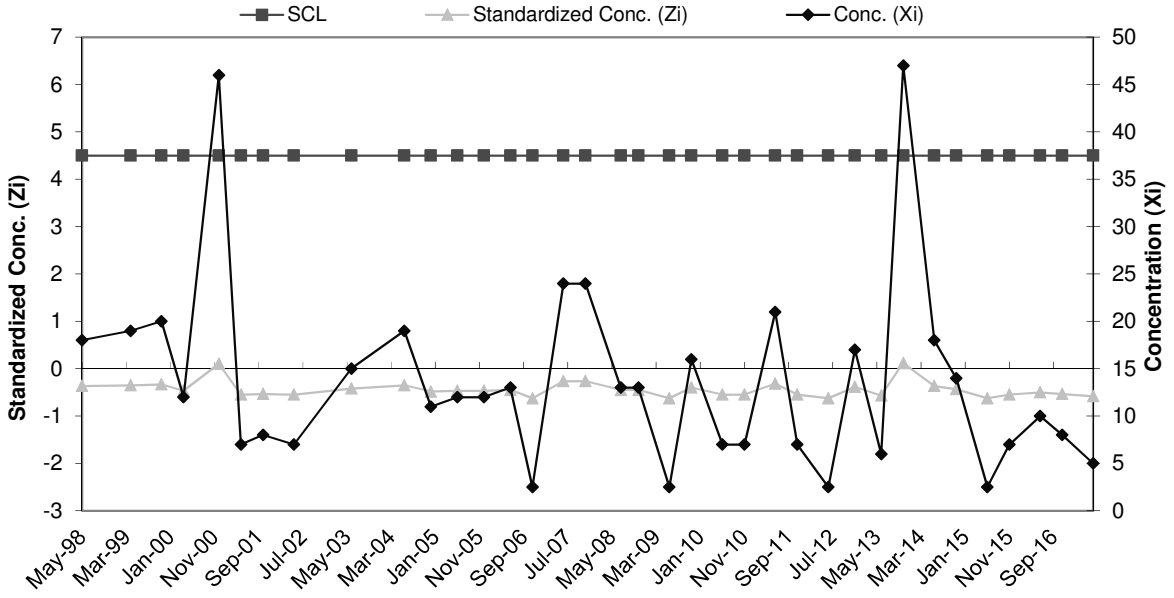


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-9 Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	15		
2	Aug-95	20		
3	Feb-96	20		
4	Jun-96	10	**39.83**	**59.86**
5	Aug-96	10		
6	Nov-96	10		
7	May-97	51		
8	Nov-97	183		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	18	-0.36	33	Nov-11	4.5	7	-0.55
10	Apr-99	4.5	19	-0.35	34	Jun-12	4.5	2.5	-0.62
11	Nov-99	4.5	20	-0.33	35	Dec-12	4.5	17	-0.38
12	Apr-00	4.5	12	-0.46	36	Jun-13	4.5	6	-0.57
13	Dec-00	4.5	46	0.10	37	Nov-13	4.5	47	0.12
14	May-01	4.5	7	-0.55	38	Jun-14	4.5	18	-0.36
15	Oct-01	4.5	8	-0.53	39	Nov-14	4.5	14	-0.43
16	May-02	4.5	7	-0.55	40	Jun-15	4.5	2.5	-0.62
17	Jun-03	4.5	15	-0.41	41	Nov-15	4.5	7	-0.55
18	Jun-04	4.5	19	-0.35	42	Jun-16	4.5	10	-0.50
19	Dec-04	4.5	11	-0.48	43	Nov-16	4.5	8	-0.53
20	Jun-05	4.5	12	-0.46	44	Jun-17	4.5	5	-0.58
21	Dec-05	4.5	12	-0.46					
22	Jun-06	4.5	13	-0.45					
23	Nov-06	4.5	2.5	-0.62					
24	Jun-07	4.5	24	-0.26					
25	Nov-07	4.5	24	-0.26					
26	Jul-08	4.5	13	-0.45					
27	Nov-08	4.5	13	-0.45					
28	Jun-09	4.5	2.5	-0.62					
29	Nov-09	4.5	16	-0.40					
30	Jun-10	4.5	7	-0.55					
31	Nov-10	4.5	7	-0.55					
32	Jun-11	4.5	21	-0.31					

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

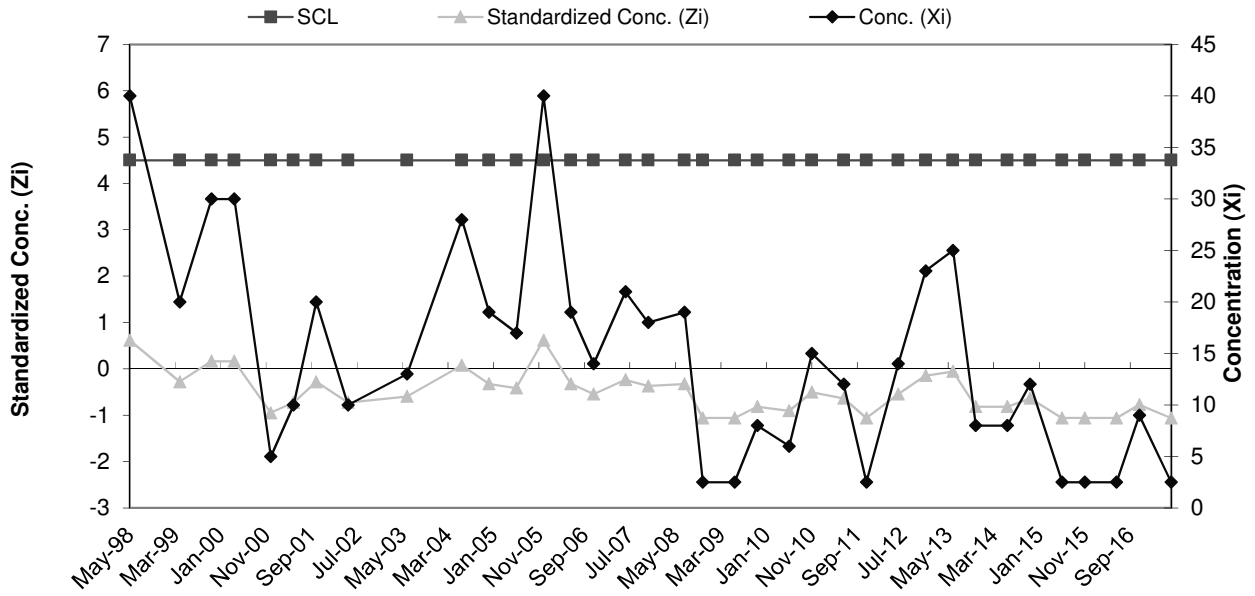


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-9 Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10	**26.23**	**22.36**
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10		
5	Aug-96	70		
6	Nov-96	40		
7	May-97	20		
8	Nov-97	40		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	40	0.62	33	Nov-11	4.5	2.5	-1.06
10	Apr-99	4.5	20	-0.28	34	Jun-12	4.5	14	-0.55
11	Nov-99	4.5	30	0.17	35	Dec-12	4.5	23	-0.14
12	Apr-00	4.5	30	0.17	36	Jun-13	4.5	25	-0.06
13	Dec-00	4.5	5	-0.95	37	Nov-13	4.5	8	-0.82
14	May-01	4.5	10	-0.73	38	Jun-14	4.5	8	-0.82
15	Oct-01	4.5	20	-0.28	39	Nov-14	4.5	12	-0.64
16	May-02	4.5	10	-0.73	40	Jun-15	4.5	2.5	-1.06
17	Jun-03	4.5	13	-0.59	41	Nov-15	4.5	2.5	-1.06
18	Jun-04	4.5	28	0.08	42	Jun-16	4.5	2.5	-1.06
19	Dec-04	4.5	19	-0.32	43	Nov-16	4.5	9	-0.77
20	Jun-05	4.5	17	-0.41	44	Jun-17	4.5	2.5	-1.06
21	Dec-05	4.5	40	0.62					
22	Jun-06	4.5	19	-0.32					
23	Nov-06	4.5	14	-0.55					
24	Jun-07	4.5	21	-0.23					
25	Nov-07	4.5	18	-0.37					
26	Jul-08	4.5	19	-0.32					
27	Nov-08	4.5	2.5	-1.06					
28	Jun-09	4.5	2.5	-1.06					
29	Nov-09	4.5	8	-0.82					
30	Jun-10	4.5	6	-0.90					
31	Nov-10	4.5	15	-0.50					
32	Jun-11	4.5	12	-0.64					

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

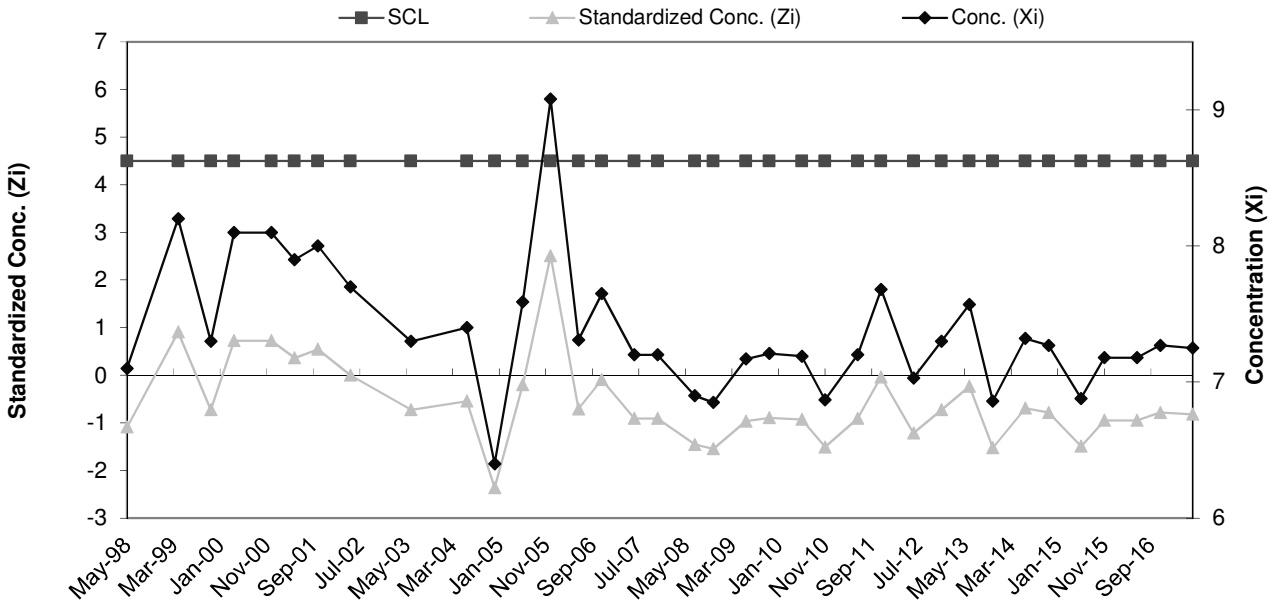


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-9 pH

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	7.7	**7.20**	**0.55**
2	Aug-95	7.7		
3	Feb-96	7.3		
4	Jun-96	6.8		
5	Aug-96	8.0		
6	Nov-96	6.8		
7	May-97	6.8		
8	Nov-97	6.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	6.6	-1.09	33	Nov-11	4.5	7.2	-0.04
10	Apr-99	4.5	7.7	0.91	34	Jun-12	4.5	6.5	-1.22
11	Nov-99	4.5	6.8	-0.73	35	Dec-12	4.5	6.8	-0.73
12	Apr-00	4.5	7.6	0.73	36	Jun-13	4.5	7.1	-0.24
13	Dec-00	4.5	7.6	0.73	37	Nov-13	4.5	6.4	-1.53
14	May-01	4.5	7.4	0.36	38	Jun-14	4.5	6.8	-0.69
15	Oct-01	4.5	7.5	0.55	39	Nov-14	4.5	6.8	-0.78
16	May-02	4.5	7.2	0.00	40	Jun-15	4.5	6.4	-1.49
17	Jun-03	4.5	6.8	-0.73	41	Nov-15	4.5	6.7	-0.94
18	Jun-04	4.5	6.9	-0.55	42	Jun-16	4.5	6.7	-0.94
19	Dec-04	4.5	5.9	-2.36	43	Nov-16	4.5	6.8	-0.78
20	Jun-05	4.5	7.1	-0.20	44	Jun-17	4.5	6.8	-0.82
21	Dec-05	4.5	8.6	2.51					
22	Jun-06	4.5	6.8	-0.71					
23	Nov-06	4.5	7.2	-0.09					
24	Jun-07	4.5	6.7	-0.91					
25	Nov-07	4.5	6.7	-0.91					
26	Jul-08	4.5	6.4	-1.45					
27	Nov-08	4.5	6.4	-1.54					
28	Jun-09	4.5	6.7	-0.96					
29	Nov-09	4.5	6.7	-0.89					
30	Jun-10	4.5	6.7	-0.93					
31	Nov-10	4.5	6.4	-1.51					
32	Jun-11	4.5	6.7	-0.91					

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

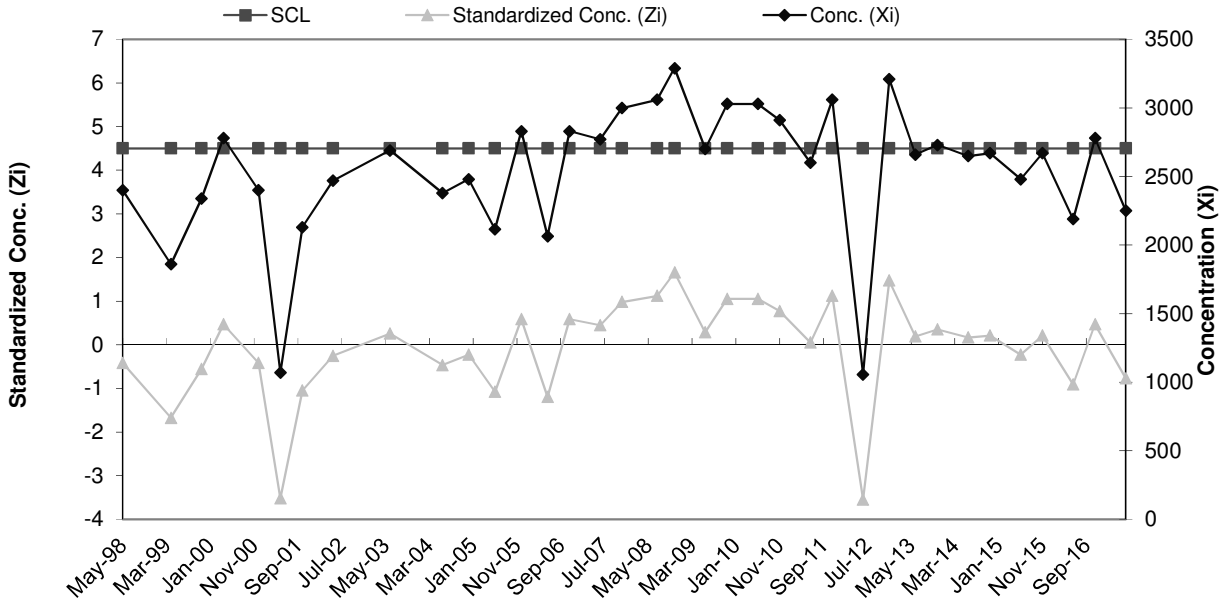


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-9 SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	2400	**2,578.63**	**428.85**
2	Aug-95	1829		
3	Feb-96	2860		
4	Jun-96	2550		
5	Aug-96	2310		
6	Nov-96	3280		
7	May-97	2600		
8	Nov-97	2800		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	2400	-0.42	33	Nov-11	4.5	3060	1.12
10	Apr-99	4.5	1860	-1.68	34	Jun-12	4.5	1057	-3.55
11	Nov-99	4.5	2340	-0.56	35	Dec-12	4.5	3210	1.47
12	Apr-00	4.5	2780	0.47	36	Jun-13	4.5	2660	0.19
13	Dec-00	4.5	2400	-0.42	37	Nov-13	4.5	2730	0.35
14	May-01	4.5	1070	-3.52	38	Jun-14	4.5	2650	0.17
15	Oct-01	4.5	2130	-1.05	39	Nov-14	4.5	2670	0.21
16	May-02	4.5	2470	-0.25	40	Jun-15	4.5	2480	-0.23
17	Jun-03	4.5	2690	0.26	41	Nov-15	4.5	2670	0.21
18	Jun-04	4.5	2379	-0.47	42	Jun-16	4.5	2190	-0.91
19	Dec-04	4.5	2480	-0.23	43	Nov-16	4.5	2780	0.47
20	Jun-05	4.5	2116	-1.08	44	Jun-17	4.5	2250	-0.77
21	Dec-05	4.5	2830	0.59					
22	Jun-06	4.5	2065	-1.20					
23	Nov-06	4.5	2830	0.59					
24	Jun-07	4.5	2770	0.45					
25	Nov-07	4.5	3000	0.98					
26	Jul-08	4.5	3060	1.12					
27	Nov-08	4.5	3290	1.66					
28	Jun-09	4.5	2700	0.28					
29	Nov-09	4.5	3030	1.05					
30	Jun-10	4.5	3030	1.05					
31	Nov-10	4.5	2910	0.77					
32	Jun-11	4.5	2600	0.05					

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

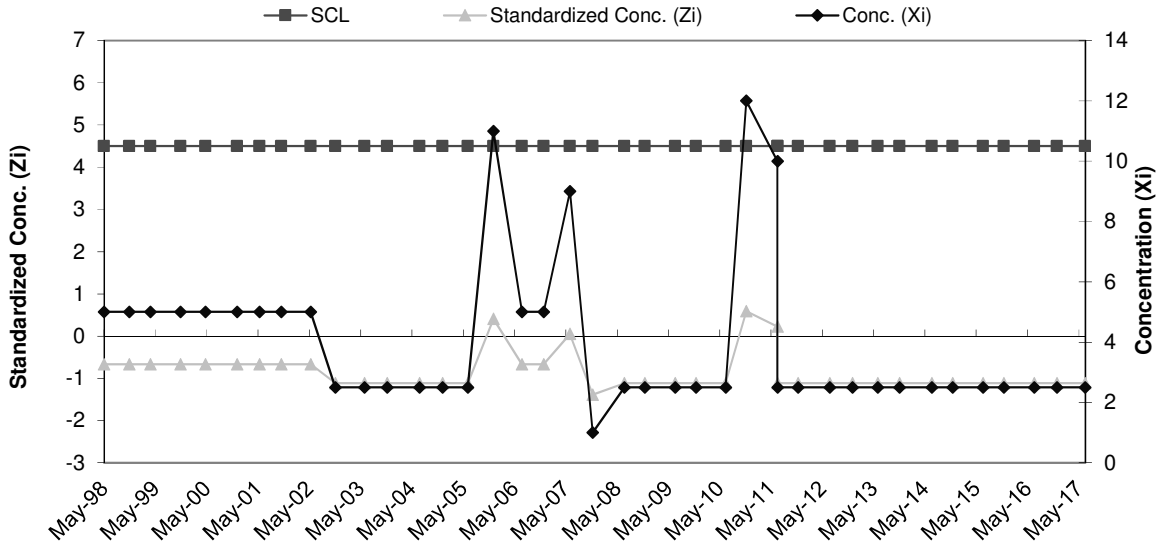


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-18a Cr

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10	**8.74**	**5.57**
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.67	37	Nov-11	4.5	2.5	-1.12
10	Nov-98	4.5	5	-0.67	38	Jun-12	4.5	2.5	-1.12
11	Apr-99	4.5	5	-0.67	39	Dec-12	4.5	2.5	-1.12
12	Nov-99	4.5	5	-0.67	40	Jun-13	4.5	2.5	-1.12
13	Apr-00	4.5	5	-0.67	41	Nov-13	4.5	2.5	-1.12
14	Dec-00	4.5	5	-0.67	42	Jun-14	4.5	2.5	-1.12
15	May-01	4.5	5	-0.67	43	Nov-14	4.5	2.5	-1.12
16	Oct-01	4.5	5	-0.67	44	Jun-15	4.5	2.5	-1.12
17	May-02	4.5	5	-0.67	45	Nov-15	4.5	2.5	-1.12
18	Nov-02	4.5	2.5	-1.12	46	Jun-16	4.5	2.5	-1.12
19	Jun-03	4.5	2.5	-1.12	47	Nov-16	4.5	2.5	-1.12
20	Nov-03	4.5	2.5	-1.12	48	Jun-17	4.5	2.5	-1.12
21	Jun-04	4.5	2.5	-1.12					
22	Dec-04	4.5	2.5	-1.12					
23	Jun-05	4.5	2.5	-1.12					
24	Dec-05	4.5	11	0.41					
25	Jun-06	4.5	5	-0.67					
26	Nov-06	4.5	5	-0.67					
27	Jun-07	4.5	9	0.05					
28	Nov-07	4.5	1	-1.39					
29	Jun-08	4.5	2.5	-1.12					
30	Nov-08	4.5	2.5	-1.12					
31	Jun-09	4.5	2.5	-1.12					
32	Nov-09	4.5	2.5	-1.12					
33	Jun-10	4.5	2.5	-1.12					
34	Nov-10	4.5	12	0.59					
35	Jun-11	4.5	10	0.23					
36	Jun-11	4.5	2.5	-1.12					

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

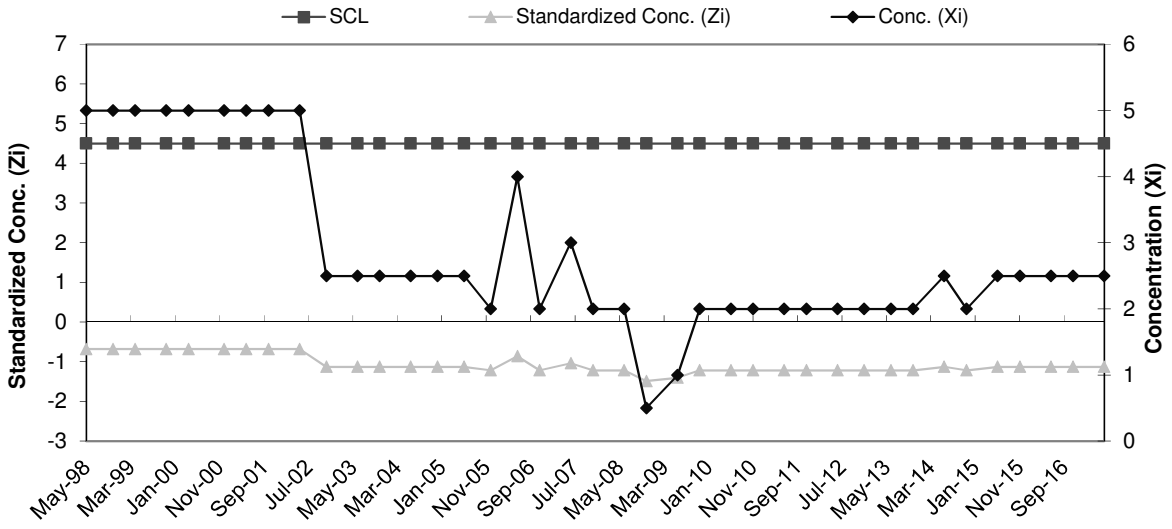


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-18a Cu

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10	**8.78**	**5.56**
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.68	36	Nov-11	4.5	2	-1.22
10	Nov-98	4.5	5	-0.68	37	Jun-12	4.5	2	-1.22
11	Apr-99	4.5	5	-0.68	38	Dec-12	4.5	2	-1.22
12	Nov-99	4.5	5	-0.68	39	Jun-13	4.5	2	-1.22
13	Apr-00	4.5	5	-0.68	40	Nov-13	4.5	2	-1.22
14	Dec-00	4.5	5	-0.68	41	Jun-14	4.5	2.5	-1.13
15	May-01	4.5	5	-0.68	42	Nov-14	4.5	2	-1.22
16	Oct-01	4.5	5	-0.68	43	Jun-15	4.5	2.5	-1.13
17	May-02	4.5	5	-0.68	44	Nov-15	4.5	2.5	-1.13
18	Nov-02	4.5	2.5	-1.13	45	Jun-16	4.5	2.5	-1.13
19	Jun-03	4.5	2.5	-1.13	46	Nov-16	4.5	2.5	-1.13
20	Nov-03	4.5	2.5	-1.13	47	Jun-17	4.5	2.5	-1.13
21	Jun-04	4.5	2.5	-1.13					
22	Dec-04	4.5	2.5	-1.13					
23	Jun-05	4.5	2.5	-1.13					
24	Dec-05	4.5	2	-1.22					
25	Jun-06	4.5	4	-0.86					
26	Nov-06	4.5	2	-1.22					
27	Jun-07	4.5	3	-1.04					
28	Nov-07	4.5	2	-1.22					
29	Jun-08	4.5	2	-1.22					
30	Nov-08	4.5	0.5	-1.49					
31	Jun-09	4.5	1	-1.40					
32	Nov-09	4.5	2	-1.22					
33	Jun-10	4.5	2	-1.22					
34	Nov-10	4.5	2	-1.22					
35	Jun-11	4.5	2	-1.22					

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

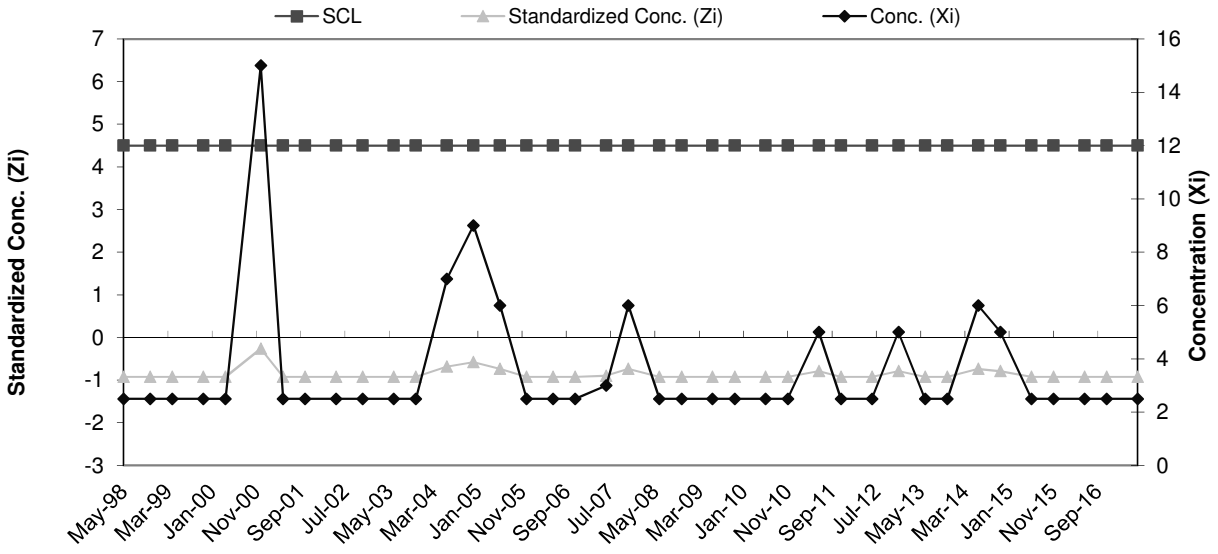


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-18a Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	15		
2	Aug-95	20		
3	Feb-96	20		
4	Jun-96	10	**20.01**	**18.96**
5	Aug-96	10		
6	Nov-96	10		
7	May-97	13		
8	Nov-97	62		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	2.5	-0.92	36	Nov-11	4.5	2.5	-0.92
10	Nov-98	4.5	2.5	-0.92	37	Jun-12	4.5	2.5	-0.92
11	Apr-99	4.5	2.5	-0.92	38	Dec-12	4.5	5	-0.79
12	Nov-99	4.5	2.5	-0.92	39	Jun-13	4.5	2.5	-0.92
13	Apr-00	4.5	2.5	-0.92	40	Nov-13	4.5	2.5	-0.92
14	Dec-00	4.5	15	-0.26	41	Jun-14	4.5	6	-0.74
15	May-01	4.5	2.5	-0.92	42	Nov-14	4.5	5	-0.79
16	Oct-01	4.5	2.5	-0.92	43	Jun-15	4.5	2.5	-0.92
17	May-02	4.5	2.5	-0.92	44	Nov-15	4.5	2.5	-0.92
18	Nov-02	4.5	2.5	-0.92	45	Jun-16	4.5	2.5	-0.92
19	Jun-03	4.5	2.5	-0.92	46	Nov-16	4.5	2.5	-0.92
20	Nov-03	4.5	2.5	-0.92	47	Jun-17	4.5	2.5	-0.92
21	Jun-04	4.5	7	-0.69					
22	Dec-04	4.5	9	-0.58					
23	Jun-05	4.5	6	-0.74					
24	Dec-05	4.5	2.5	-0.92					
25	Jun-06	4.5	2.5	-0.92					
26	Nov-06	4.5	2.5	-0.92					
27	Jun-07	4.5	3	-0.90					
28	Nov-07	4.5	6	-0.74					
29	Jun-08	4.5	2.5	-0.92					
30	Nov-08	4.5	2.5	-0.92					
31	Jun-09	4.5	2.5	-0.92					
32	Nov-09	4.5	2.5	-0.92					
33	Jun-10	4.5	2.5	-0.92					
34	Nov-10	4.5	2.5	-0.92					
35	Jun-11	4.5	5	-0.79					

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

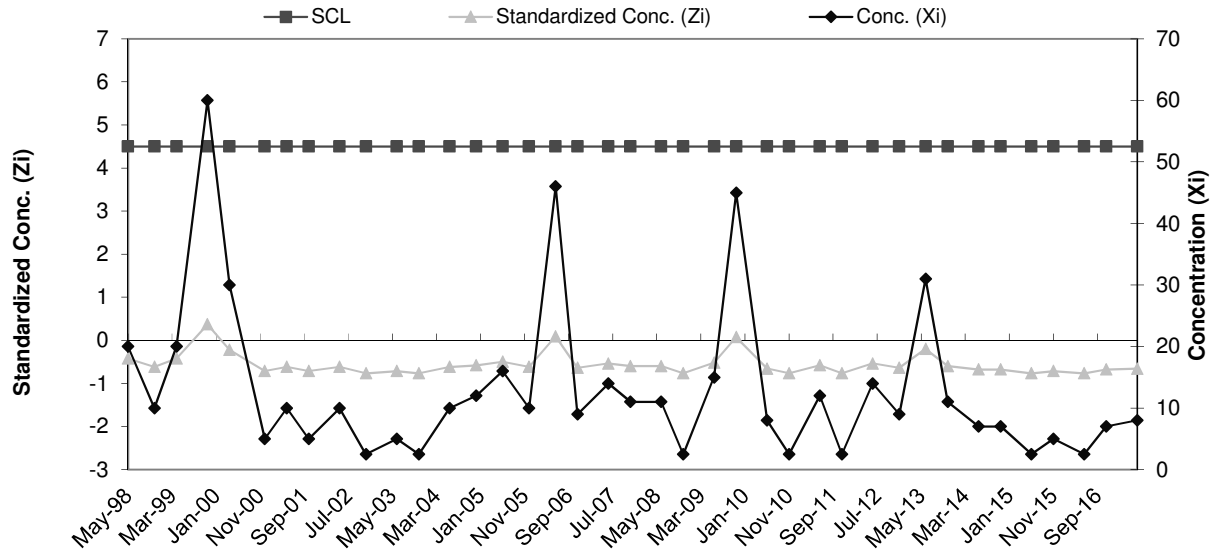


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-18a Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	150		
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10	**41.25**	**50.67**
5	Aug-96	60		
6	Nov-96	70		
7	May-97	10		
8	Nov-97	10		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	20	-0.42	36	Nov-11	4.5	2.5	-0.76
10	Nov-98	4.5	10	-0.62	37	Jun-12	4.5	14	-0.54
11	Apr-99	4.5	20	-0.42	38	Dec-12	4.5	9	-0.64
12	Nov-99	4.5	60	0.37	39	Jun-13	4.5	31	-0.20
13	Apr-00	4.5	30	-0.22	40	Nov-13	4.5	11	-0.60
14	Dec-00	4.5	5	-0.72	41	Jun-14	4.5	7	-0.68
15	May-01	4.5	10	-0.62	42	Nov-14	4.5	7	-0.68
16	Oct-01	4.5	5	-0.72	43	Jun-15	4.5	2.5	-0.76
17	May-02	4.5	10	-0.62	44	Nov-15	4.5	5	-0.72
18	Nov-02	4.5	2.5	-0.76	45	Jun-16	4.5	2.5	-0.76
19	Jun-03	4.5	5	-0.72	46	Nov-16	4.5	7	-0.68
20	Nov-03	4.5	2.5	-0.76	47	Jun-17	4.5	8	-0.66
21	Jun-04	4.5	10	-0.62					
22	Dec-04	4.5	12	-0.58					
23	Jun-05	4.5	16	-0.50					
24	Dec-05	4.5	10	-0.62					
25	Jun-06	4.5	46	0.09					
26	Nov-06	4.5	9	-0.64					
27	Jun-07	4.5	14	-0.54					
28	Nov-07	4.5	11	-0.60					
29	Jun-08	4.5	11	-0.60					
30	Nov-08	4.5	2.5	-0.76					
31	Jun-09	4.5	15	-0.52					
32	Nov-09	4.5	45	0.07					
33	Jun-10	4.5	8	-0.66					
34	Nov-10	4.5	2.5	-0.76					
35	Jun-11	4.5	12	-0.58					

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

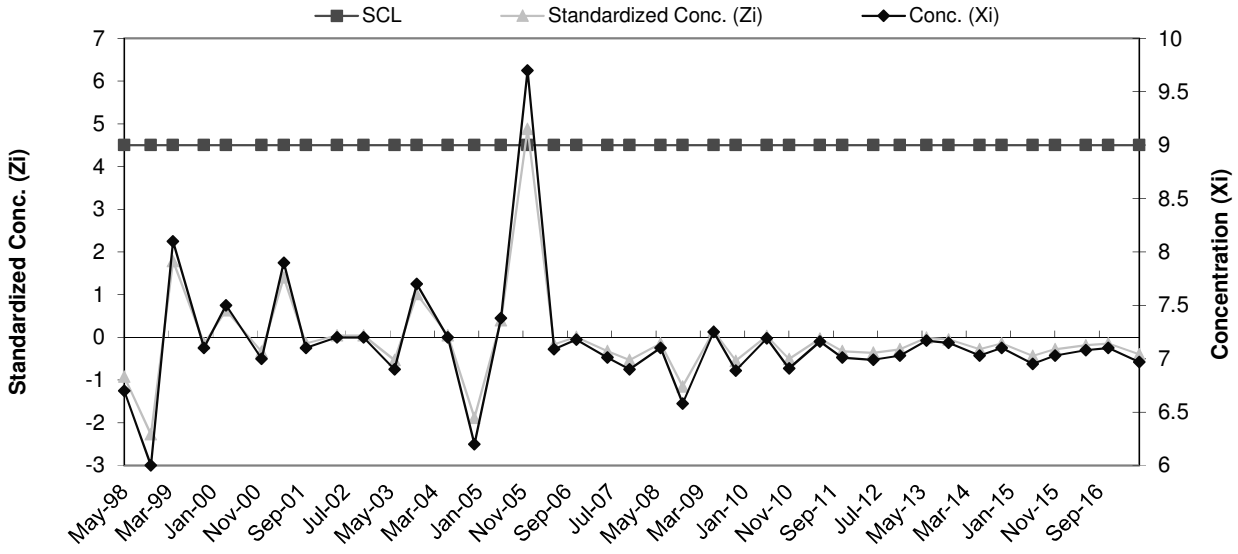


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-18a pH

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	7.5		
2	Aug-95	7.9		
3	Feb-96	7.4		
4	Jun-96	7.0	**7.18**	**0.52**
5	Aug-96	7.5		
6	Nov-96	7.2		
7	May-97	6.5		
8	Nov-97	6.4		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	6.7	-0.92	36	Nov-11	4.5	7.0	-0.32
10	Nov-98	4.5	6.0	-2.27	37	Jun-12	4.5	7.0	-0.36
11	Apr-99	4.5	8.1	1.79	38	Dec-12	4.5	7.0	-0.28
12	Nov-99	4.5	7.1	-0.14	39	Jun-13	4.5	7.2	-0.01
13	Apr-00	4.5	7.5	0.63	40	Nov-13	4.5	7.2	-0.05
14	Dec-00	4.5	7.0	-0.34	41	Jun-14	4.5	7.0	-0.28
15	May-01	4.5	7.9	1.40	42	Nov-14	4.5	7.1	-0.14
16	Oct-01	4.5	7.1	-0.14	43	Jun-15	4.5	7.0	-0.43
17	May-02	4.5	7.2	0.05	44	Nov-15	4.5	7.0	-0.28
18	Nov-02	4.5	7.2	0.05	45	Jun-16	4.5	7.1	-0.18
19	Jun-03	4.5	6.9	-0.53	46	Nov-16	4.5	7.1	-0.14
20	Nov-03	4.5	7.7	1.01	47	Jun-17	4.5	7.0	-0.40
21	Jun-04	4.5	7.2	0.05					
22	Dec-04	4.5	6.2	-1.88					
23	Jun-05	4.5	7.4	0.40					
24	Dec-05	4.5	9.7	4.88					
25	Jun-06	4.5	7.1	-0.16					
26	Nov-06	4.5	7.2	0.01					
27	Jun-07	4.5	7.0	-0.32					
28	Nov-07	4.5	6.9	-0.53					
29	Jun-08	4.5	7.1	-0.14					
30	Nov-08	4.5	6.6	-1.15					
31	Jun-09	4.5	7.3	0.14					
32	Nov-09	4.5	6.9	-0.55					
33	Jun-10	4.5	7.2	0.03					
34	Nov-10	4.5	6.9	-0.51					
35	Jun-11	4.5	7.2	-0.03					

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

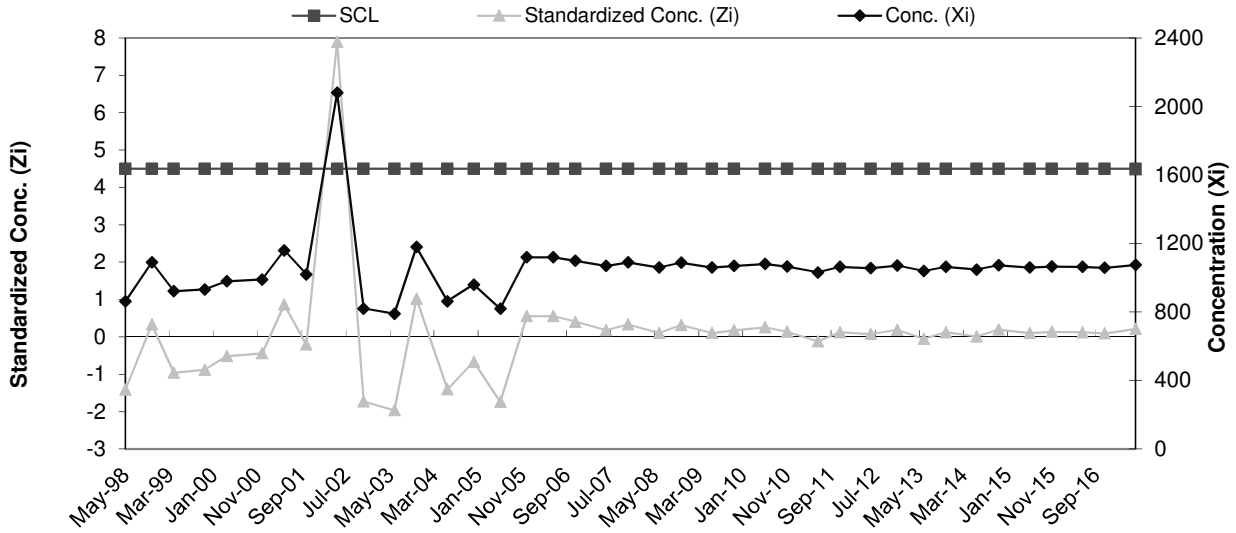


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-18a SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	1048		
2	Aug-95	989		
3	Feb-96	1021		
4	Jun-96	944.0	**1,046.75**	**130.80**
5	Aug-96	1041		
6	Nov-96	1331		
7	May-97	900		
8	Nov-97	1100		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	862	-1.41	36	Nov-11	4.5	1063	0.12
10	Nov-98	4.5	1090.0	0.33	37	Jun-12	4.5	1057	0.08
11	Apr-99	4.5	921	-0.96	38	Dec-12	4.5	1071	0.19
12	Nov-99	4.5	932	-0.88	39	Jun-13	4.5	1040	-0.05
13	Apr-00	4.5	980	-0.51	40	Nov-13	4.5	1063	0.12
14	Dec-00	4.5	990.0	-0.43	41	Jun-14	4.5	1048	0.01
15	May-01	4.5	1160	0.87	42	Nov-14	4.5	1073	0.20
16	Oct-01	4.5	1020	-0.20	43	Jun-15	4.5	1060	0.10
17	May-02	4.5	2080	7.90	44	Nov-15	4.5	1065	0.14
18	Nov-02	4.5	820	-1.73	45	Jun-16	4.5	1063	0.12
19	Jun-03	4.5	790	-1.96	46	Nov-16	4.5	1059	0.09
20	Nov-03	4.5	1180	1.02	47	Jun-17	4.5	1075	0.22
21	Jun-04	4.5	863	-1.40					
22	Dec-04	4.5	960	-0.66					
23	Jun-05	4.5	819	-1.74					
24	Dec-05	4.5	1120	0.56					
25	Jun-06	4.5	1120	0.56					
26	Nov-06	4.5	1100	0.41					
27	Jun-07	4.5	1070	0.18					
28	Nov-07	4.5	1090	0.33					
29	Jun-08	4.5	1060	0.10					
30	Nov-08	4.5	1088	0.32					
31	Jun-09	4.5	1060	0.10					
32	Nov-09	4.5	1070	0.18					
33	Jun-10	4.5	1080	0.25					
34	Nov-10	4.5	1065	0.14					
35	Jun-11	4.5	1031	-0.12					

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

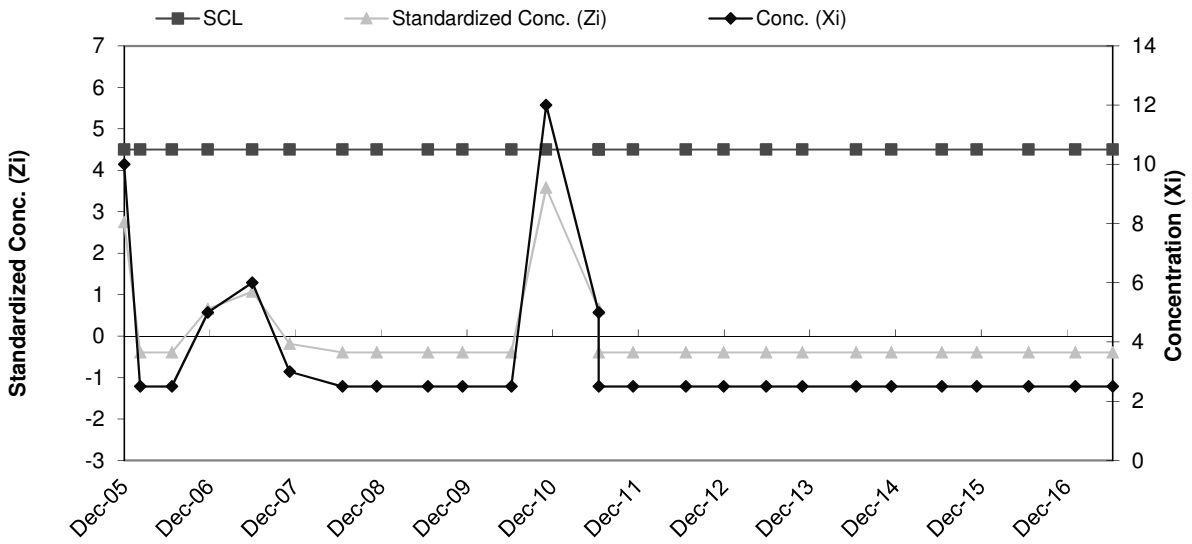


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-19a Cr

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	May-98	5	**3.44**	**2.39**
2	May-01	5		
3	May-02	5		
4	Jun-03	2.5		
5	Nov-03	2.5		
6	Jun-04	2.5		
7	Dec-04	2.5		
8	Jun-05	2.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Dec-05	4.5	10	2.74
10	Feb-06	4.5	2.5	-0.39
11	Jun-06	4.5	2.5	-0.39
12	Nov-06	4.5	5	0.65
13	Jun-07	4.5	6	1.07
14	Nov-07	4.5	3	-0.18
15	Jun-08	4.5	2.5	-0.39
16	Nov-08	4.5	2.5	-0.39
17	Jun-09	4.5	2.5	-0.39
18	Nov-09	4.5	2.5	-0.39
19	Jun-10	4.5	2.5	-0.39
20	Nov-10	4.5	12	3.58
21	Jun-11	4.5	5	0.65
22	Jun-11	4.5	2.5	-0.39
23	Nov-11	4.5	2.5	-0.39
24	Jun-12	4.5	2.5	-0.39
25	Dec-12	4.5	2.5	-0.39
26	Jun-13	4.5	2.5	-0.39
27	Nov-13	4.5	2.5	-0.39
28	Jun-14	4.5	2.5	-0.39
29	Nov-14	4.5	2.5	-0.39
30	Jun-15	4.5	2.5	-0.39
31	Nov-15	4.5	2.5	-0.39
32	Jun-16	4.5	2.5	-0.39
33	Jan-17	4.5	2.5	-0.39
34	Jun-17	4.5	2.5	-0.39

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

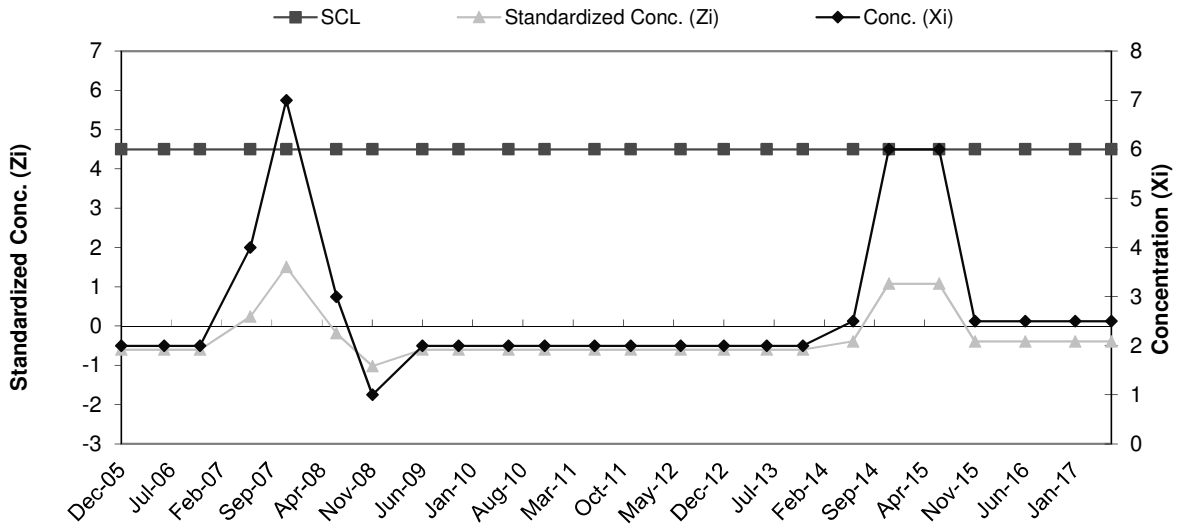


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-19a Cu

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	May-98	5	**3.43**	**2.38**
2	May-01	5		
3	May-02	5		
4	Jun-03	2.5		
5	Nov-03	2.5		
6	Jun-04	2.5		
7	Dec-04	2.5		
8	Jun-05	2.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Dec-05	4.5	2	-0.60
10	Jun-06	4.5	2	-0.60
11	Nov-06	4.5	2	-0.60
12	Jun-07	4.5	4	0.24
13	Nov-07	4.5	7	1.50
14	Jun-08	4.5	3	-0.18
15	Nov-08	4.5	1	-1.02
16	Jun-09	4.5	2	-0.60
17	Nov-09	4.5	2	-0.60
18	Jun-10	4.5	2	-0.60
19	Nov-10	4.5	2	-0.60
20	Jun-11	4.5	2	-0.60
21	Nov-11	4.5	2	-0.60
22	Jun-12	4.5	2	-0.60
23	Dec-12	4.5	2	-0.60
24	Jun-13	4.5	2	-0.60
25	Nov-13	4.5	2	-0.60
26	Jun-14	4.5	2.5	-0.39
27	Nov-14	4.5	6	1.08
28	Jun-15	4.5	6	1.08
29	Nov-15	4.5	2.5	-0.39
30	Jun-16	4.5	2.5	-0.39
31	Jan-17	4.5	2.5	-0.39
32	Jun-17	4.5	2.5	-0.39

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

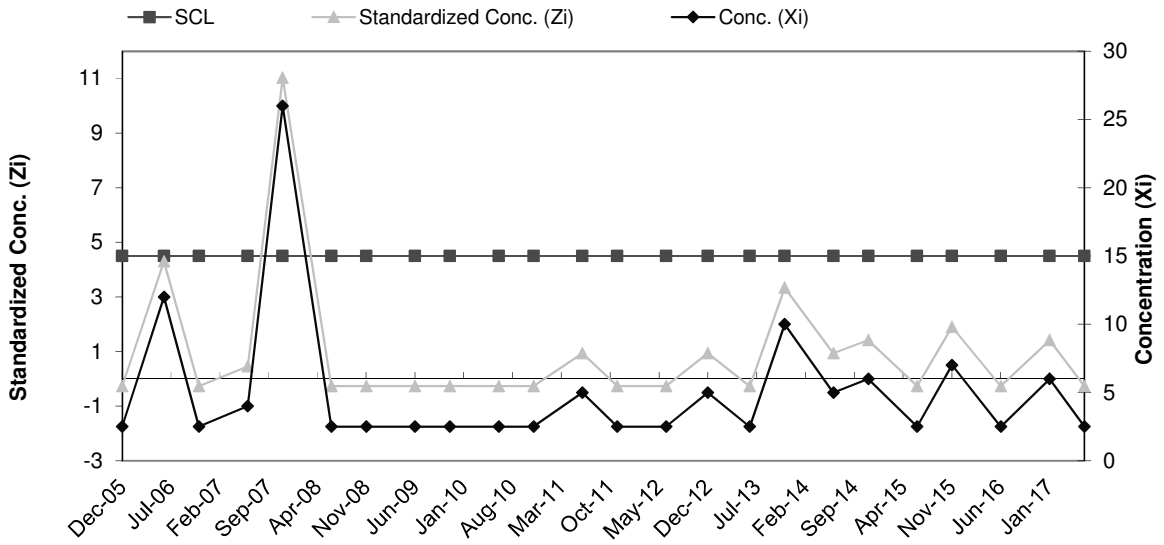


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-19a Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	May-98	2.5		
2	May-01	2.5		
3	May-02	2.5		
4	Jun-03	2.5	**3.06**	**2.08**
5	Nov-03	2.5		
6	Jun-04	2.5		
7	Dec-04	2.5		
8	Jun-05	7		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Dec-05	4.5	2.5	-0.27
10	Jun-06	4.5	12	4.30
11	Nov-06	4.5	2.5	-0.27
12	Jun-07	4.5	4	0.45
13	Nov-07	4.5	26	11.03
14	Jun-08	4.5	2.5	-0.27
15	Nov-08	4.5	2.5	-0.27
16	Jun-09	4.5	2.5	-0.27
17	Nov-09	4.5	2.5	-0.27
19	Jun-10	4.5	2.5	-0.27
20	Nov-10	4.5	2.5	-0.27
21	Jun-11	4.5	5	0.93
22	Nov-11	4.5	2.5	-0.27
23	Jun-12	4.5	2.5	-0.27
24	Dec-12	4.5	5	0.93
25	Jun-13	4.5	2.5	-0.27
26	Nov-13	4.5	10	3.34
27	Jun-14	4.5	5	0.93
28	Nov-14	4.5	6	1.41
29	Jun-15	4.5	2.5	-0.27
30	Nov-15	4.5	7	1.89
31	Jun-16	4.5	2.5	-0.27
32	Jan-17	4.5	6	1.41
33	Jun-17	4.5	2.5	-0.27

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

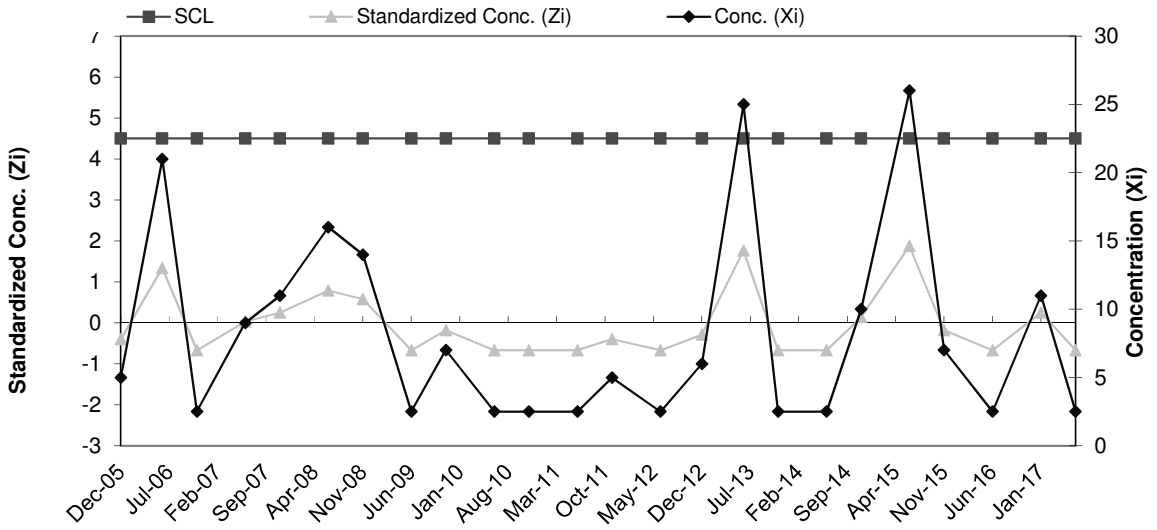


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-19a Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	May-98	30		
2	May-01	5		
3	May-02	10		
4	Jun-03	2.5	**8.69**	**9.24**
5	Nov-03	2.5		
6	Jun-04	8		
7	Dec-04	9		
8	Jun-05	2.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Dec-05	4.5	5	-0.40
10	Jun-06	4.5	21	1.33
11	Nov-06	4.5	2.5	-0.67
12	Jun-07	4.5	9	0.03
13	Nov-07	4.5	11	0.25
14	Jun-08	4.5	16	0.79
15	Nov-08	4.5	14	0.57
16	Jun-09	4.5	2.5	-0.67
17	Nov-09	4.5	7	-0.18
18	Jun-10	4.5	2.5	-0.67
19	Nov-10	4.5	2.5	-0.67
20	Jun-11	4.5	2.5	-0.67
21	Nov-11	4.5	5	-0.40
22	Jun-12	4.5	2.5	-0.67
23	Dec-12	4.5	6	-0.29
24	Jun-13	4.5	25	1.77
25	Nov-13	4.5	2.5	-0.67
26	Jun-14	4.5	2.5	-0.67
27	Nov-14	4.5	10	0.14
28	Jun-15	4.5	26	1.87
29	Nov-15	4.5	7	-0.18
30	Jun-16	4.5	2.5	-0.67
31	Jan-17	4.5	11	0.25
32	Jun-17	4.5	2.5	-0.67

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

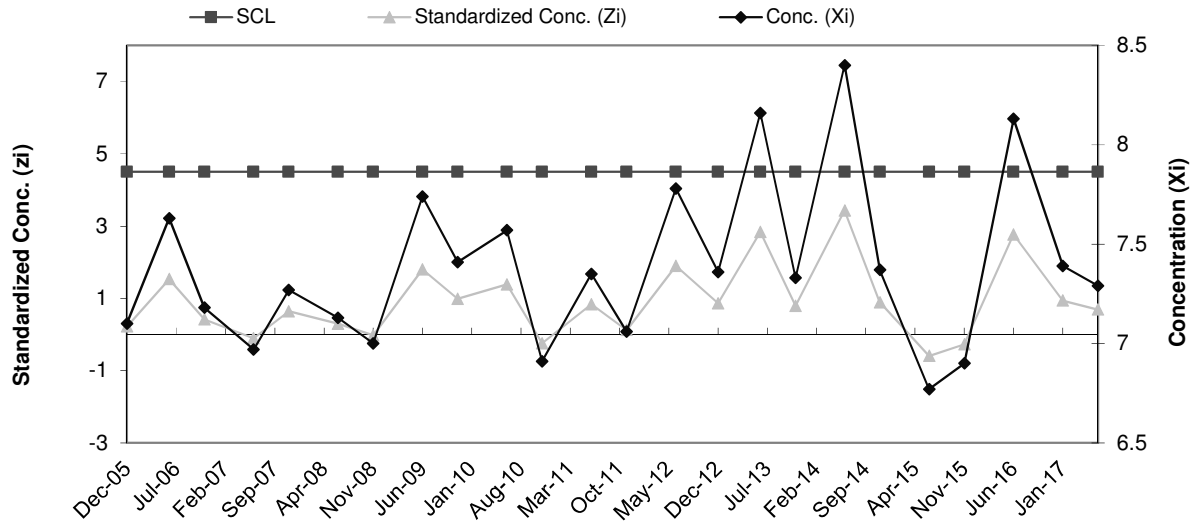


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-19a pH

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	May-98	6.8	**7.01**	**0.40**
2	May-01	7.1		
3	May-02	7.2		
4	Jun-03	6.9		
5	Nov-03	7.6		
6	Jun-04	7.2		
7	Dec-04	6.2		
8	Jun-05	7.1		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Dec-05	4.5	7.1	0.22
10	Jun-06	4.5	7.6	1.53
11	Nov-06	4.5	7.2	0.42
12	Jun-07	4.5	7.0	-0.10
13	Nov-07	4.5	7.3	0.64
14	Jun-08	4.5	7.1	0.29
15	Nov-08	4.5	7.0	-0.03
16	Jun-09	4.5	7.7	1.80
17	Nov-09	4.5	7.4	0.99
18	Jun-10	4.5	7.6	1.38
19	Nov-10	4.5	6.9	-0.25
20	Jun-11	4.5	7.4	0.84
21	Nov-11	4.5	7.1	0.12
22	Jun-12	4.5	7.8	1.90
23	Dec-12	4.5	7.4	0.86
24	Jun-13	4.5	8.2	2.84
25	Nov-13	4.5	7.3	0.79
26	Jun-14	4.5	8.4	3.43
27	Nov-14	4.5	7.4	0.89
28	Jun-15	4.5	6.8	-0.60
29	Nov-15	4.5	6.9	-0.27
30	Jun-16	4.5	8.1	2.76
31	Jan-17	4.5	7.4	0.94
32	Jun-17	4.5	7.3	0.69

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

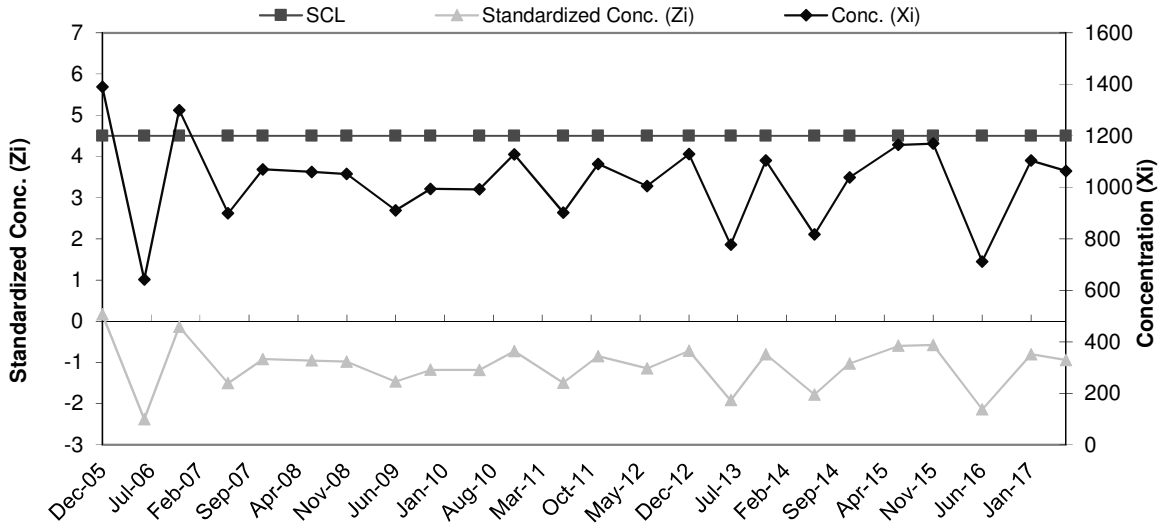


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-19a SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	May-98	1480		
2	May-01	1050		
3	May-02	1740		
4	Jun-03	1350	**1,340.63**	**293.72**
5	Nov-03	1620		
6	Jun-04	1316		
7	Dec-04	1340		
8	Jun-05	829		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Dec-05	4.5	1390	0.17
10	Jun-06	4.5	642	-2.38
11	Nov-06	4.5	1300	-0.14
12	Jun-07	4.5	899	-1.50
13	Nov-07	4.5	1070	-0.92
14	Jun-08	4.5	1060	-0.96
15	Nov-08	4.5	1052	-0.98
16	Jun-09	4.5	911	-1.46
17	Nov-09	4.5	994	-1.18
18	Jun-10	4.5	992	-1.19
19	Nov-10	4.5	1128	-0.72
20	Jun-11	4.5	902	-1.49
21	Nov-11	4.5	1091	-0.85
22	Jun-12	4.5	1005	-1.14
23	Dec-12	4.5	1129	-0.72
24	Jun-13	4.5	777	-1.92
25	Nov-13	4.5	1104	-0.81
26	Jun-14	4.5	817	-1.78
27	Nov-14	4.5	1038	-1.03
28	Jun-15	4.5	1165	-0.60
29	Nov-15	4.5	1170	-0.58
30	Jun-16	4.5	712	-2.14
31	Jan-17	4.5	1104	-0.81
32	Jun-17	4.5	1064	-0.94

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

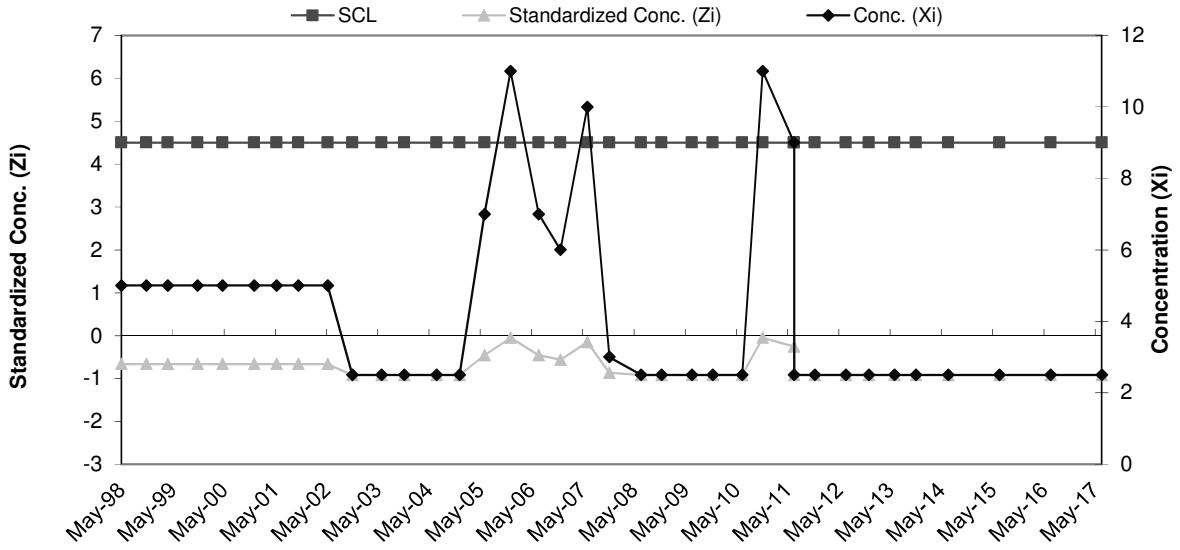


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-20d Cr

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	10		
3	Feb-96	32		
4	Jun-96	10	**11.51**	**9.80**
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.66	37	Nov-11	4.5	2.5	-0.92
10	Nov-98	4.5	5	-0.66	38	Jun-12	4.5	2.5	-0.92
11	Apr-99	4.5	5	-0.66	39	Dec-12	4.5	2.5	-0.92
12	Nov-99	4.5	5	-0.66	40	Jun-13	4.5	2.5	-0.92
13	Apr-00	4.5	5	-0.66	41	Nov-13	4.5	2.5	-0.92
14	Dec-00	4.5	5	-0.66	42	Jun-14	4.5	2.5	-0.92
15	May-01	4.5	5	-0.66	43	Jun-15	4.5	2.5	-0.92
16	Oct-01	4.5	5	-0.66	44	Jun-16	4.5	2.5	-0.92
17	May-02	4.5	5	-0.66	45	Jun-17	4.5	2.5	-0.92
18	Nov-02	4.5	2.5	-0.92					
19	Jun-03	4.5	2.5	-0.92					
20	Nov-03	4.5	2.5	-0.92					
21	Jun-04	4.5	2.5	-0.92					
22	Dec-04	4.5	2.5	-0.92					
23	Jun-05	4.5	7	-0.46					
24	Dec-05	4.5	11	-0.05					
25	Jun-06	4.5	7	-0.46					
26	Nov-06	4.5	6	-0.56					
27	Jun-07	4.5	10	-0.15					
28	Nov-07	4.5	3	-0.87					
29	Jun-08	4.5	2.5	-0.92					
30	Nov-08	4.5	2.5	-0.92					
31	Jun-09	4.5	2.5	-0.92					
32	Nov-09	4.5	2.5	-0.92					
33	Jun-10	4.5	2.5	-0.92					
34	Nov-10	4.5	11	-0.05					
35	Jun-11	4.5	9	-0.26					
36	Jun-11	4.5	2.5	-0.92					

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

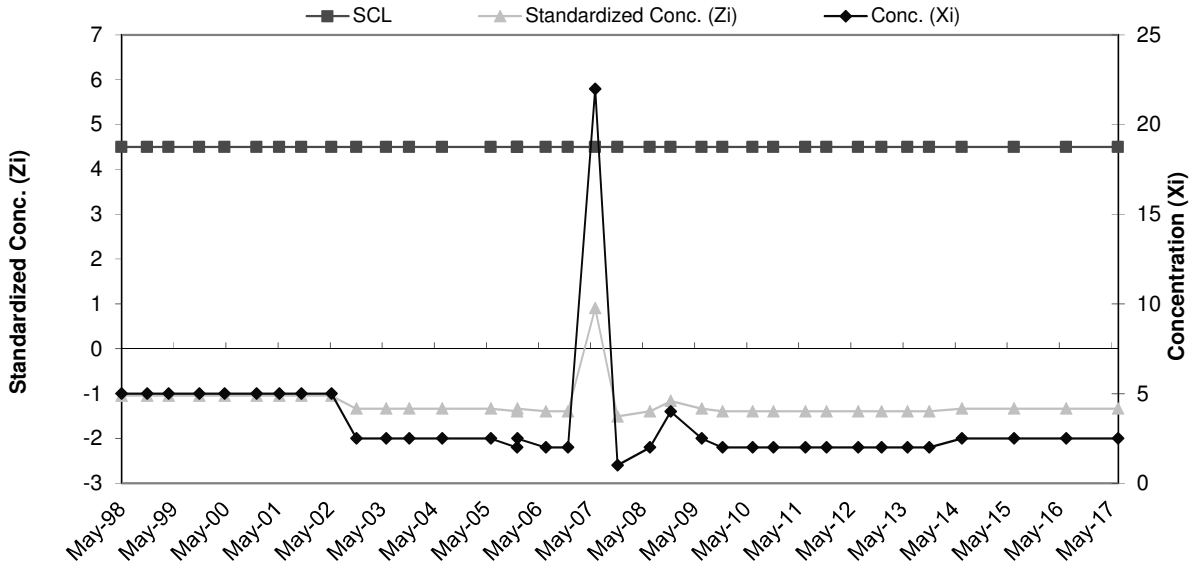


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-20d Cu

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	20		
3	Feb-96	28		
4	Jun-96	10	**14.13**	**8.70**
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	Nov-97	20		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-1.05	36	Nov-11	4.5	2	-1.39
10	Nov-98	4.5	5	-1.05	37	Jun-12	4.5	2	-1.39
11	Apr-99	4.5	5	-1.05	38	Dec-12	4.5	2	-1.39
12	Nov-99	4.5	5	-1.05	39	Jun-13	4.5	2	-1.39
13	Apr-00	4.5	5	-1.05	40	Nov-13	4.5	2	-1.39
14	Dec-00	4.5	5	-1.05	41	Jun-14	4.5	2.5	-1.34
15	May-01	4.5	5	-1.05	42	Jun-15	4.5	2.5	-1.34
16	Oct-01	4.5	5	-1.05	43	Jun-16	4.5	2.5	-1.34
17	May-02	4.5	5	-1.05	44	Jun-17	4.5	2.5	-1.34
18	Nov-02	4.5	2.5	-1.34					
19	Jun-03	4.5	2.5	-1.34					
20	Nov-03	4.5	2.5	-1.34					
21	Jun-04	4.5	2.5	-1.34					
22	Dec-05	4.5	2.5	-1.34					
23	Jun-05	4.5	2.5	-1.34					
24	Dec-05	4.5	2	-1.39					
25	Jun-06	4.5	2	-1.39					
26	Nov-06	4.5	2	-1.39					
27	Jun-07	4.5	22	0.90					
28	Nov-07	4.5	1	-1.51					
29	Jun-08	4.5	2	-1.39					
30	Nov-08	4.5	4	-1.16					
31	Jun-09	4.5	2.5	-1.34					
32	Nov-09	4.5	2	-1.39					
33	Jun-10	4.5	2	-1.39					
34	Nov-10	4.5	2	-1.39					
35	Jun-11	4.5	2	-1.39					

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

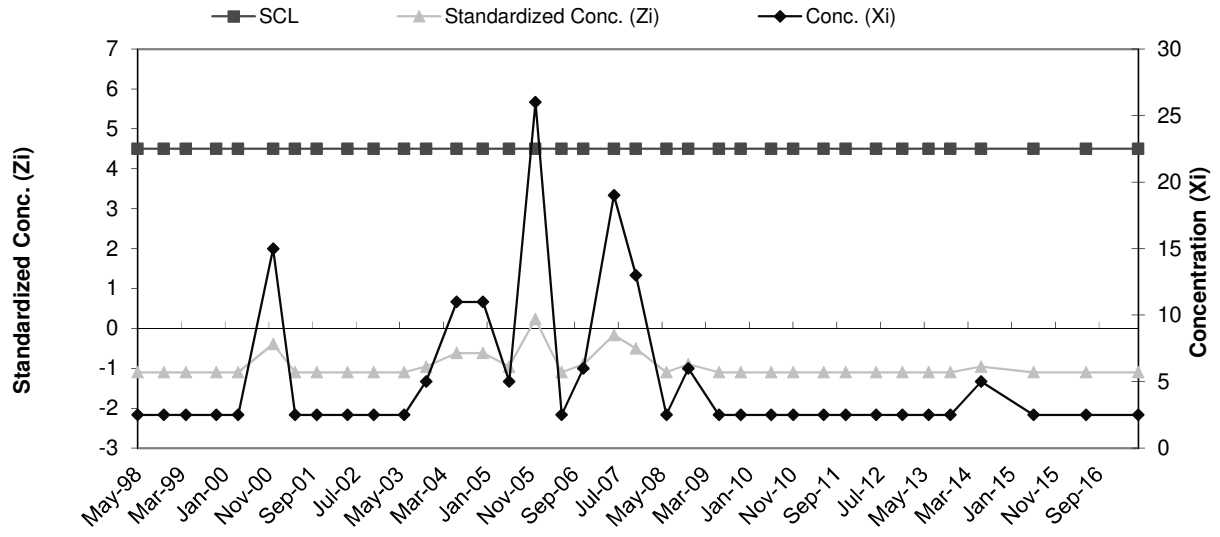


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-20d Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	15		
2	Aug-95	20		
3	Feb-96	54		
4	Jun-96	10	**21.88**	**17.64**
5	Aug-96	10		
6	Nov-96	10		
7	May-97	15		
8	Nov-97	41		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	2.5	-1.10	36	Nov-11	4.5	2.5	-1.10
10	Nov-98	4.5	2.5	-1.10	37	Jun-12	4.5	2.5	-1.10
11	Apr-99	4.5	2.5	-1.10	38	Dec-12	4.5	2.5	-1.10
12	Nov-99	4.5	2.5	-1.10	39	Jun-13	4.5	2.5	-1.10
13	Apr-00	4.5	2.5	-1.10	40	Nov-13	4.5	2.5	-1.10
14	Dec-00	4.5	15	-0.39	41	Jun-14	4.5	5	-0.96
15	May-01	4.5	2.5	-1.10	42	Jun-15	4.5	2.5	-1.10
16	Oct-01	4.5	2.5	-1.10	43	Jun-16	4.5	2.5	-1.10
17	May-02	4.5	2.5	-1.10	44	Jun-17	4.5	2.5	-1.10
18	Nov-02	4.5	2.5	-1.10					
19	Jun-03	4.5	2.5	-1.10					
20	Nov-03	4.5	5	-0.96					
21	Jun-04	4.5	11	-0.62					
22	Dec-04	4.5	11	-0.62					
23	Jun-05	4.5	5	-0.96					
24	Dec-05	4.5	26	0.23					
25	Jun-06	4.5	2.5	-1.10					
26	Nov-06	4.5	6	-0.90					
27	Jun-07	4.5	19	-0.16					
28	Nov-07	4.5	13	-0.50					
29	Jun-08	4.5	2.5	-1.10					
30	Nov-08	4.5	6	-0.90					
31	Jun-09	4.5	2.5	-1.10					
32	Nov-09	4.5	2.5	-1.10					
33	Jun-10	4.5	2.5	-1.10					
34	Nov-10	4.5	2.5	-1.10					
35	Jun-11	4.5	2.5	-1.10					

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

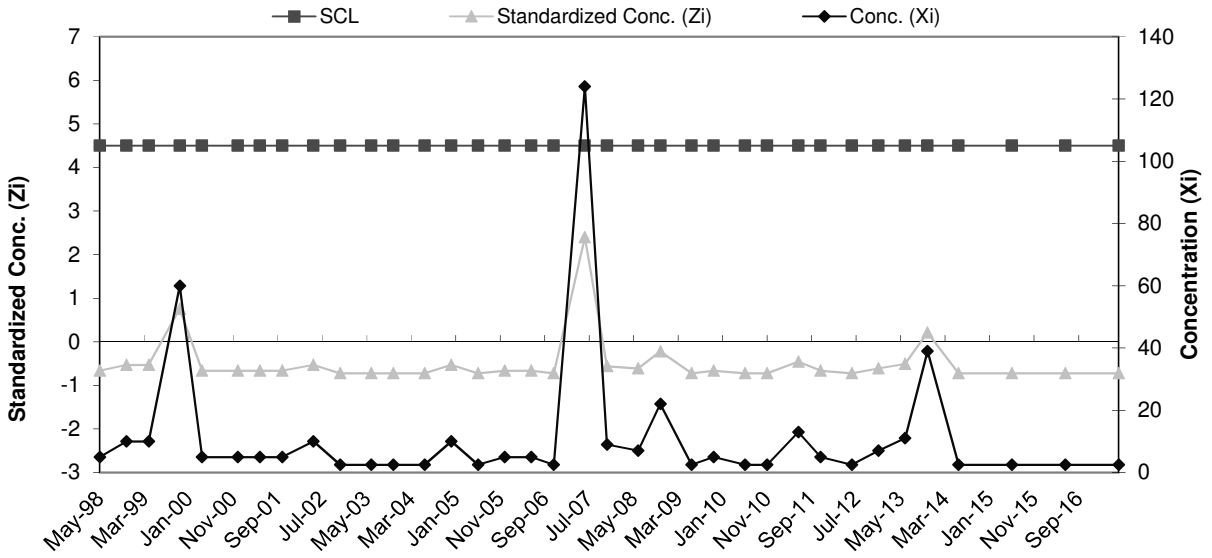


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-20d Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	10		
3	Feb-96	120		
4	Jun-96	10	**30.66**	**38.93**
5	Aug-96	40		
6	Nov-96	40		
7	May-97	10		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.66	36	Nov-11	4.5	5	-0.66
10	Nov-98	4.5	10	-0.53	37	Jun-12	4.5	2.5	-0.72
11	Apr-99	4.5	10	-0.53	38	Dec-12	4.5	7	-0.61
12	Nov-99	4.5	60	0.75	39	Jun-13	4.5	11	-0.51
13	Apr-00	4.5	5	-0.66	40	Nov-13	4.5	39	0.21
14	Dec-00	4.5	5	-0.66	41	Jun-14	4.5	2.5	-0.72
15	May-01	4.5	5	-0.66	42	Jun-15	4.5	2.5	-0.72
16	Oct-01	4.5	5	-0.66	43	Jun-16	4.5	2.5	-0.72
17	May-02	4.5	10	-0.53	44	Jun-17	4.5	2.5	-0.72
18	Nov-02	4.5	2.5	-0.72					
19	Jun-03	4.5	2.5	-0.72					
20	Nov-03	4.5	2.5	-0.72					
21	Jun-04	4.5	2.5	-0.72					
22	Dec-04	4.5	10	-0.53					
23	Jun-05	4.5	2.5	-0.72					
24	Dec-05	4.5	5	-0.66					
25	Jun-06	4.5	5	-0.66					
26	Nov-06	4.5	2.5	-0.72					
27	Jun-07	4.5	124	2.40					
28	Nov-07	4.5	9	-0.56					
29	Jun-08	4.5	7	-0.61					
30	Nov-08	4.5	22	-0.22					
31	Jun-09	4.5	2.5	-0.72					
32	Nov-09	4.5	5	-0.66					
33	Jun-10	4.5	2.5	-0.72					
34	Nov-10	4.5	2.5	-0.72					
35	Jun-11	4.5	13	-0.45					

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

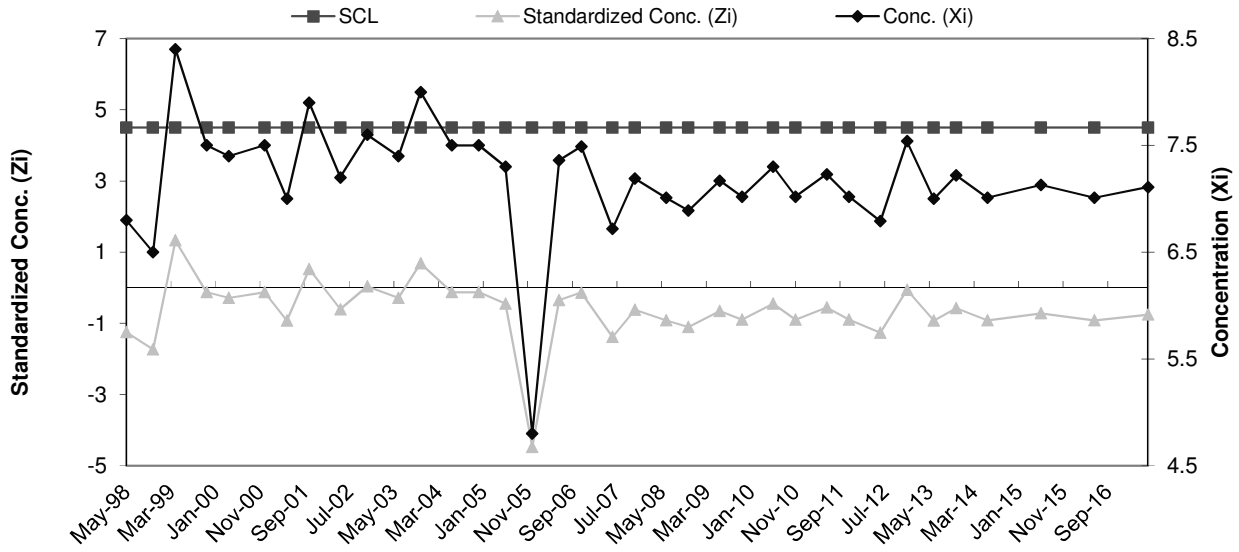


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-20d pH

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	8.3		
2	Aug-95	8.1		
3	Feb-96	7.1		
4	Jun-96	7.9	**7.58**	**0.62**
5	Aug-96	8.0		
6	Nov-96	7.7		
7	May-97	6.8		
8	Nov-97	6.7		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	6.8	-1.25	36	Nov-11	4.5	7.0	-0.89
10	Nov-98	4.5	6.5	-1.73	37	Jun-12	4.5	6.8	-1.27
11	Apr-99	4.5	8.4	1.33	38	Dec-12	4.5	7.5	-0.06
12	Nov-99	4.5	7.5	-0.12	39	Jun-13	4.5	7.0	-0.93
13	Apr-00	4.5	7.4	-0.28	40	Nov-13	4.5	7.2	-0.57
14	Dec-00	4.5	7.5	-0.12	41	Jun-14	4.5	7.0	-0.91
15	May-01	4.5	7.0	-0.93	42	Jun-15	4.5	7.1	-0.72
16	Oct-01	4.5	7.9	0.52	43	Jun-16	4.5	7.0	-0.91
17	May-02	4.5	7.2	-0.60	44	Jun-17	4.5	7.1	-0.75
18	Nov-02	4.5	7.6	0.04					
19	Jun-03	4.5	7.4	-0.28					
20	Nov-03	4.5	8.0	0.68					
21	Jun-04	4.5	7.5	-0.12					
22	Dec-04	4.5	7.5	-0.12					
23	Jun-05	4.5	7.3	-0.44					
24	Dec-05	4.5	4.8	-4.47					
25	Jun-06	4.5	7.4	-0.35					
26	Nov-06	4.5	7.5	-0.14					
27	Jun-07	4.5	6.7	-1.38					
28	Nov-07	4.5	7.2	-0.62					
29	Jun-08	4.5	7.0	-0.91					
30	Nov-08	4.5	6.9	-1.10					
31	Jun-09	4.5	7.2	-0.65					
32	Nov-09	4.5	7.0	-0.89					
33	Jun-10	4.5	7.3	-0.44					
34	Nov-10	4.5	7.0	-0.89					
35	Jun-11	4.5	7.2	-0.56					

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

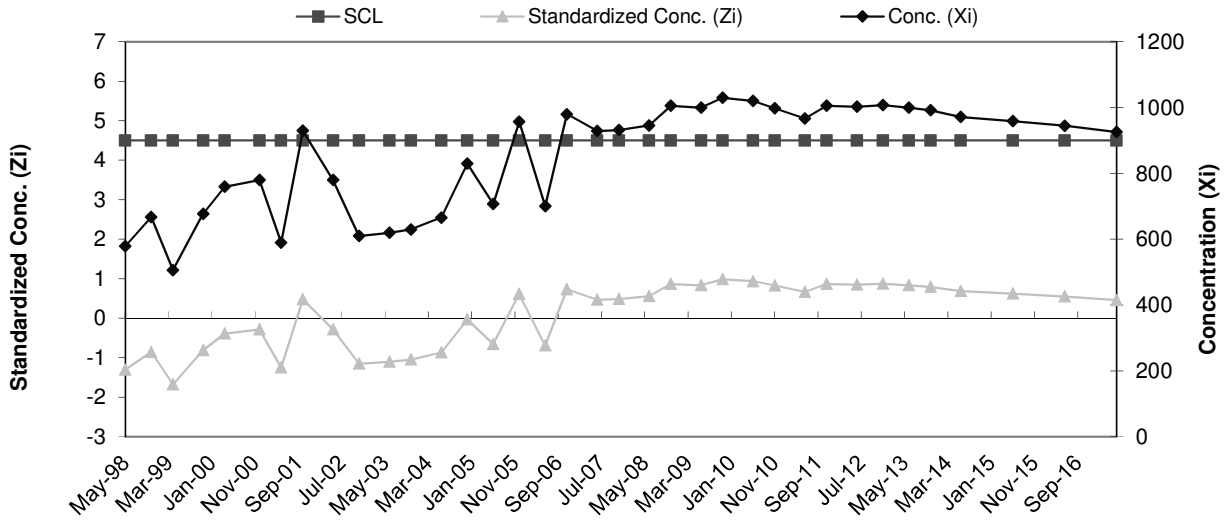


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-20d SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	771		
2	Aug-95	1204		
3	Feb-96	801		
4	Jun-96	745	**835.75**	**196.61**
5	Aug-96	750		
6	Nov-96	1075		
7	May-97	640		
8	Nov-97	700		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	579	-1.31	36	Nov-11	4.5	1006	0.87
10	Nov-98	4.5	667	-0.86	37	Jun-12	4.5	1003	0.85
11	Apr-99	4.5	506	-1.68	38	Dec-12	4.5	1008	0.88
12	Nov-99	4.5	677	-0.81	39	Jun-13	4.5	1000	0.84
13	Apr-00	4.5	760	-0.39	40	Nov-13	4.5	992	0.79
14	Dec-00	4.5	780	-0.28	41	Jun-14	4.5	972	0.69
15	May-01	4.5	590	-1.25	42	Jun-15	4.5	959	0.63
16	Oct-01	4.5	930	0.48	43	Jun-16	4.5	945	0.56
17	May-02	4.5	780	-0.28	44	Jun-17	4.5	926	0.46
18	Nov-02	4.5	610	-1.15					
19	Jun-03	4.5	620	-1.10					
20	Nov-03	4.5	630	-1.05					
21	Jun-04	4.5	666	-0.86					
22	Dec-04	4.5	830	-0.03					
23	Jun-05	4.5	707	-0.65					
24	Dec-05	4.5	957	0.62					
25	Jun-06	4.5	701	-0.69					
26	Nov-06	4.5	980	0.73					
27	Jun-07	4.5	929	0.47					
28	Nov-07	4.5	932	0.49					
29	Jun-08	4.5	946	0.56					
30	Nov-08	4.5	1006	0.87					
31	Jun-09	4.5	1000	0.84					
32	Nov-09	4.5	1030	0.99					
33	Jun-10	4.5	1020	0.94					
34	Nov-10	4.5	998	0.83					
35	Jun-11	4.5	967	0.67					

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

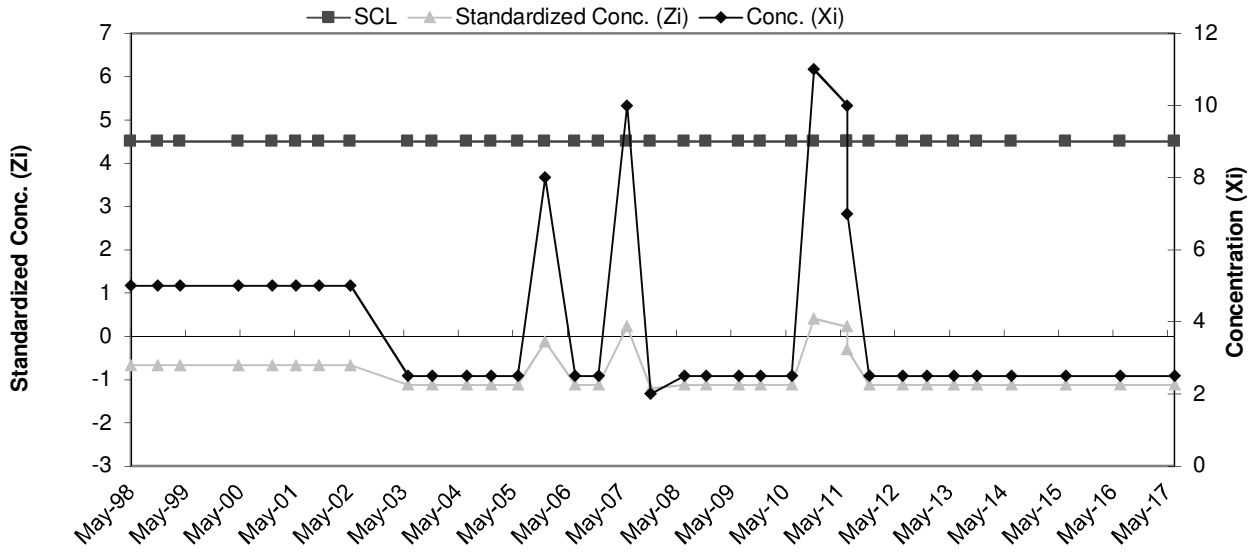


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-21d Cr

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10	**8.74**	**5.57**
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.67	36	Nov-11	4.5	2.5	-1.12
10	Nov-98	4.5	5	-0.67	37	Jun-12	4.5	2.5	-1.12
11	Apr-99	4.5	5	-0.67	38	Dec-12	4.5	2.5	-1.12
12	Apr-00	4.5	5	-0.67	39	Jun-13	4.5	2.5	-1.12
13	Dec-00	4.5	5	-0.67	40	Nov-13	4.5	2.5	-1.12
14	May-01	4.5	5	-0.67	41	Jun-14	4.5	2.5	-1.12
15	Oct-01	4.5	5	-0.67	42	Jun-15	4.5	2.5	-1.12
16	May-02	4.5	5	-0.67	43	Jun-16	4.5	2.5	-1.12
18	Jun-03	4.5	2.5	-1.12	44	Jun-17	4.5	2.5	-1.12
19	Nov-03	4.5	2.5	-1.12					
20	Jun-04	4.5	2.5	-1.12					
21	Dec-04	4.5	2.5	-1.12					
22	Jun-05	4.5	2.5	-1.12					
23	Dec-05	4.5	8	-0.13					
24	Jun-06	4.5	2.5	-1.12					
25	Nov-06	4.5	2.5	-1.12					
26	Jun-07	4.5	10	0.23					
27	Nov-07	4.5	2	-1.21					
28	Jun-08	4.5	2.5	-1.12					
29	Nov-08	4.5	2.5	-1.12					
30	Jun-09	4.5	2.5	-1.12					
31	Nov-09	4.5	2.5	-1.12					
32	Jun-10	4.5	2.5	-1.12					
33	Nov-10	4.5	11	0.41					
34	Jun-11	4.5	10	0.23					
35	Jun-11	4.5	7	-0.31					

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

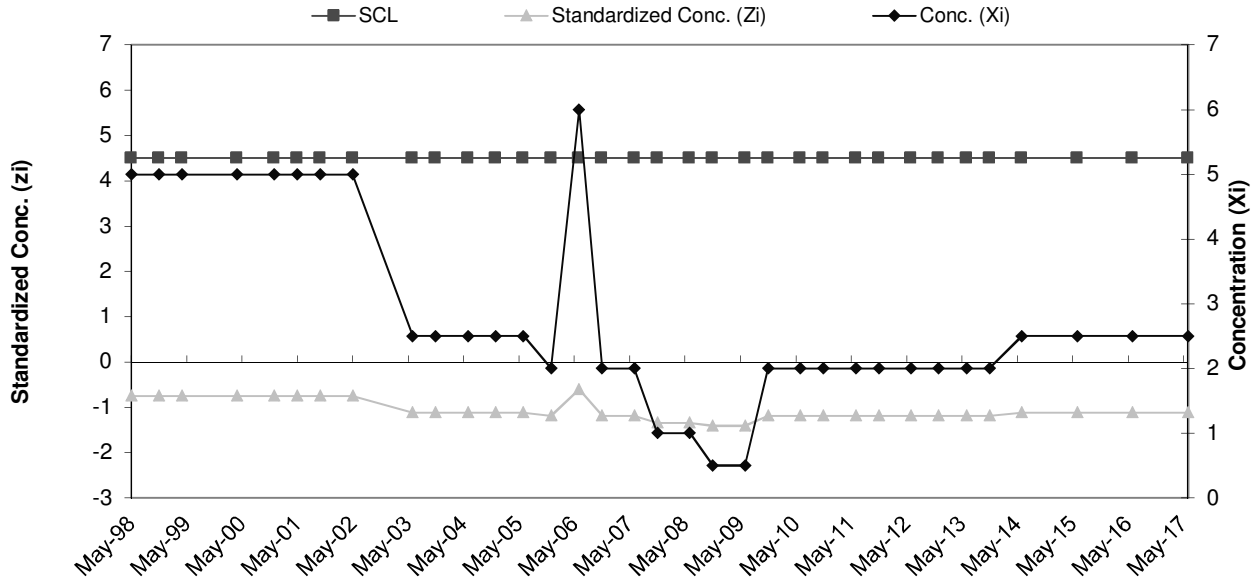


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-21d Cu

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	21		
3	Feb-96	10		
4	Jun-96	10	**10.13**	**6.83**
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.75	35	Nov-11	4.5	2	-1.19
10	Nov-98	4.5	5	-0.75	36	Jun-12	4.5	2	-1.19
11	Apr-99	4.5	5	-0.75	37	Dec-12	4.5	2	-1.19
12	Apr-00	4.5	5	-0.75	38	Jun-13	4.5	2	-1.19
13	Dec-00	4.5	5	-0.75	39	Nov-13	4.5	2	-1.19
14	May-01	4.5	5	-0.75	40	Jun-14	4.5	2.5	-1.12
15	Oct-01	4.5	5	-0.75	41	Jun-15	4.5	2.5	-1.12
16	May-02	4.5	5	-0.75	42	Jun-16	4.5	2.5	-1.12
18	Jun-03	4.5	2.5	-1.12	43	Jun-17	4.5	2.5	-1.12
19	Nov-03	4.5	2.5	-1.12					
20	Jun-04	4.5	2.5	-1.12					
21	Dec-04	4.5	2.5	-1.12					
22	Jun-05	4.5	2.5	-1.12					
23	Dec-05	4.5	2	-1.19					
24	Jun-06	4.5	6	-0.60					
25	Nov-06	4.5	2	-1.19					
26	Jun-07	4.5	2	-1.19					
27	Nov-07	4.5	1	-1.34					
28	Jun-08	4.5	1	-1.34					
29	Nov-08	4.5	0.5	-1.41					
30	Jun-09	4.5	0.5	-1.41					
31	Nov-09	4.5	2	-1.19					
32	Jun-10	4.5	2	-1.19					
33	Nov-10	4.5	2	-1.19					
34	Jun-11	4.5	2	-1.19					

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

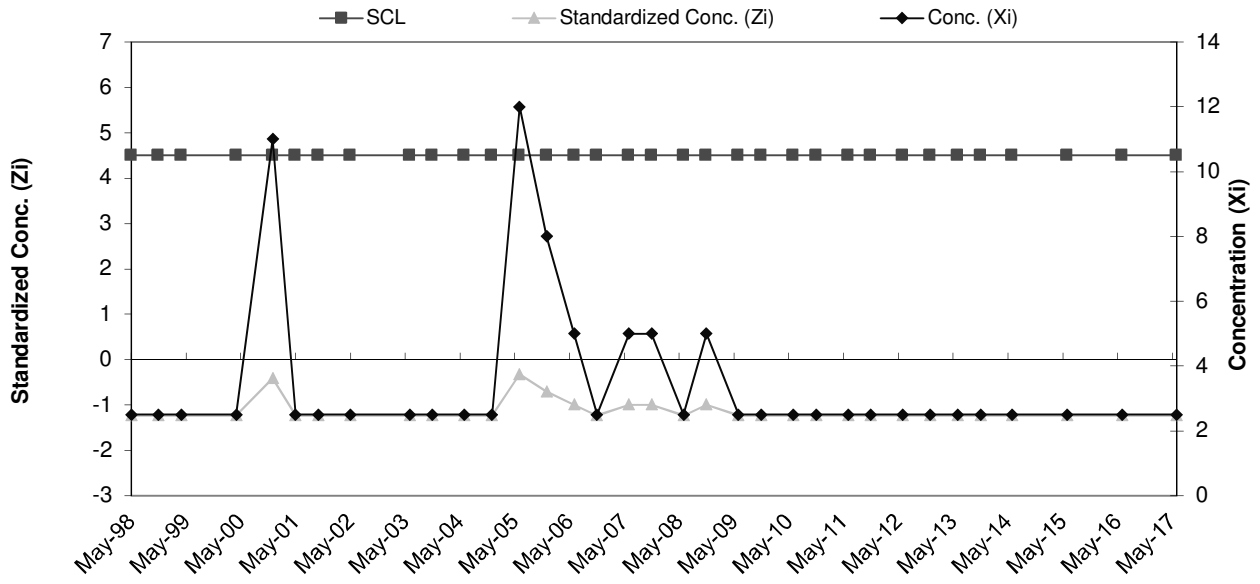


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-21d Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	15		
2	Aug-95	20		
3	Feb-96	20		
4	Jun-96	10	**15.37**	**10.43**
5	Aug-96	10		
6	Nov-96	10		
7	May-97	8		
8	Nov-97	30		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	2.5	-1.23	35	Nov-11	4.5	2.5	-1.23
10	Nov-98	4.5	2.5	-1.23	36	Jun-12	4.5	2.5	-1.23
11	Apr-99	4.5	2.5	-1.23	37	Dec-12	4.5	2.5	-1.23
12	Apr-00	4.5	2.5	-1.23	38	Jun-13	4.5	2.5	-1.23
13	Dec-00	4.5	11	-0.42	39	Nov-13	4.5	2.5	-1.23
14	May-01	4.5	2.5	-1.23	40	Jun-14	4.5	2.5	-1.23
15	Oct-01	4.5	2.5	-1.23	41	Jun-15	4.5	2.5	-1.23
16	May-02	4.5	2.5	-1.23	42	Jun-16	4.5	2.5	-1.23
18	Jun-03	4.5	2.5	-1.23	43	Jun-17	4.5	2.5	-1.23
19	Nov-03	4.5	2.5	-1.23					
20	Jun-04	4.5	2.5	-1.23					
20	Dec-04	4.5	2.5	-1.23					
21	Jun-05	4.5	12	-0.32					
22	Dec-05	4.5	8	-0.71					
23	Jun-06	4.5	5	-0.99					
24	Nov-06	4.5	2.5	-1.23					
25	Jun-07	4.5	5	-0.99					
26	Nov-07	4.5	5	-0.99					
27	Jun-08	4.5	2.5	-1.23					
28	Nov-08	4.5	5	-0.99					
30	Jun-09	4.5	2.5	-1.23					
31	Nov-09	4.5	2.5	-1.23					
32	Jun-10	4.5	2.5	-1.23					
33	Nov-10	4.5	2.5	-1.23					
34	Jun-11	4.5	2.5	-1.23					

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

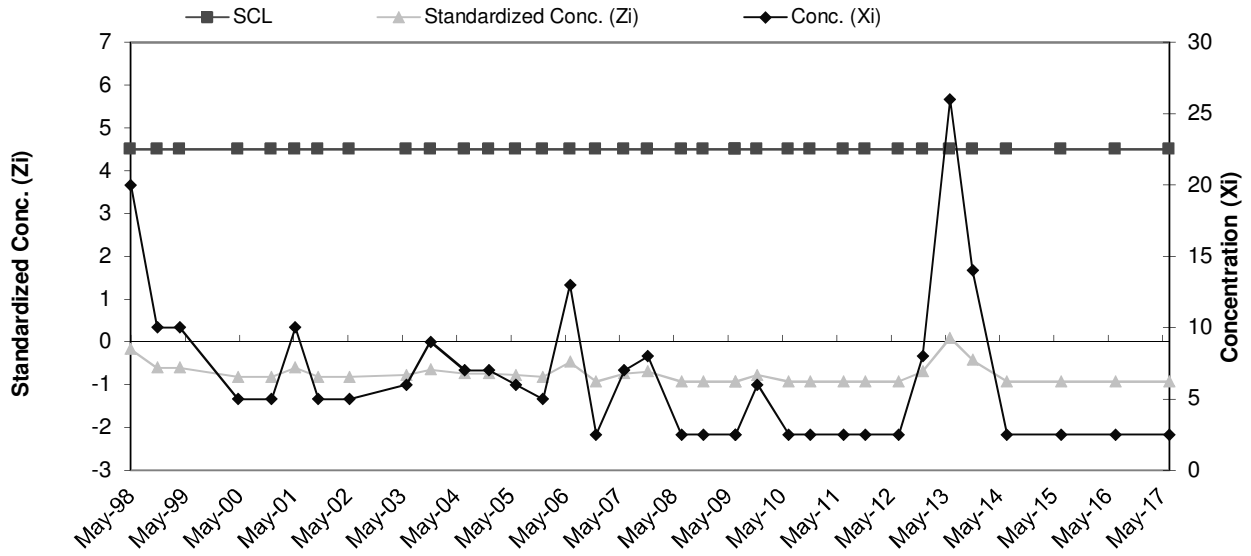


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-21d Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	61		
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10	**23.89**	**23.00**
5	Aug-96	50		
6	Nov-96	40		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	20	-0.17	36	Nov-11	4.5	2.5	-0.93
10	Nov-98	4.5	10	-0.60	37	Jun-12	4.5	2.5	-0.93
11	Apr-99	4.5	10	-0.60	38	Dec-12	4.5	8	-0.69
12	Apr-00	4.5	5	-0.82	39	Jun-13	4.5	26	0.09
13	Dec-00	4.5	5	-0.82	40	Nov-13	4.5	14	-0.43
14	May-01	4.5	10	-0.60	41	Jun-14	4.5	2.5	-0.93
15	Oct-01	4.5	5	-0.82	42	Jun-15	4.5	2.5	-0.93
16	May-02	4.5	5	-0.82	43	Jun-16	4.5	2.5	-0.93
18	Jun-03	4.5	6	-0.78	44	Jun-17	4.5	2.5	-0.93
19	Nov-03	4.5	9	-0.65					
20	Jun-04	4.5	7	-0.73					
21	Dec-04	4.5	7	-0.73					
22	Jun-05	4.5	6	-0.78					
23	Dec-05	4.5	5	-0.82					
24	Jun-06	4.5	13	-0.47					
25	Nov-06	4.5	2.5	-0.93					
26	Jun-07	4.5	7	-0.73					
27	Nov-07	4.5	8	-0.69					
28	Jun-08	4.5	2.5	-0.93					
29	Nov-08	4.5	2.5	-0.93					
30	Jun-09	4.5	2.5	-0.93					
31	Jun-09	4.5	2.5	-0.93					
32	Nov-09	4.5	6	-0.78					
33	Jun-10	4.5	2.5	-0.93					
34	Nov-10	4.5	2.5	-0.93					
35	Jun-11	4.5	2.5	-0.93					

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

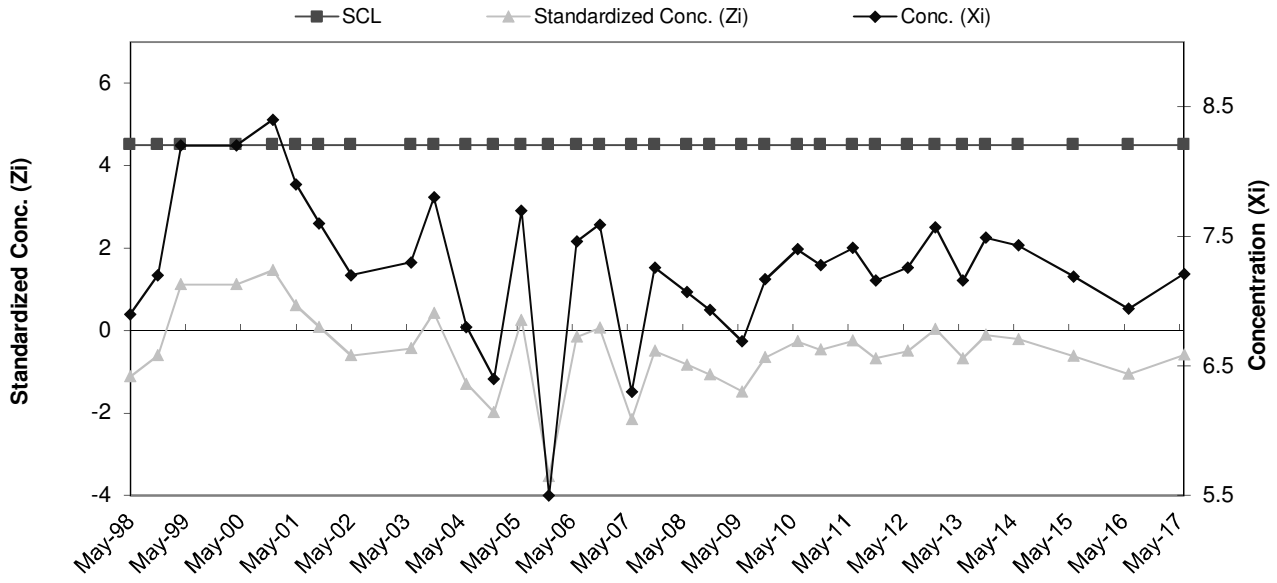


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-21d pH

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	8.3		
2	Aug-95	8.1		
3	Feb-96	7.7		
4	Jun-96	7.6	**7.55**	**0.58**
5	Aug-96	7.9		
6	Nov-96	7.3		
7	May-97	6.8		
8	Nov-97	6.7		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	6.9	-1.12	35	Nov-11	4.5	7.2	-0.67
10	Nov-98	4.5	7.2	-0.60	36	Jun-12	4.5	7.3	-0.50
11	Apr-99	4.5	8.2	1.12	37	Dec-12	4.5	7.6	0.03
12	Apr-00	4.5	8.2	1.12	38	Jun-13	4.5	7.2	-0.67
13	Dec-00	4.5	8.4	1.46	39	Nov-13	4.5	7.5	-0.10
14	May-01	4.5	7.9	0.60	40	Jun-14	4.5	7.4	-0.21
15	Oct-01	4.5	7.6	0.09	41	Jun-15	4.5	7.2	-0.62
16	May-02	4.5	7.2	-0.60	42	Jun-16	4.5	6.9	-1.05
18	Jun-03	4.5	7.3	-0.43	43	Jun-17	4.5	7.2	-0.59
19	Nov-03	4.5	7.8	0.43					
20	Jun-04	4.5	6.8	-1.29					
21	Dec-04	4.5	6.4	-1.98					
22	Jun-05	4.5	7.7	0.26					
23	Dec-05	4.5	5.5	-3.53					
24	Jun-06	4.5	7.5	-0.16					
25	Nov-06	4.5	7.6	0.07					
26	Jun-07	4.5	6.3	-2.15					
27	Nov-07	4.5	7.3	-0.50					
28	Jun-08	4.5	7.1	-0.83					
29	Nov-08	4.5	6.9	-1.07					
30	Jun-09	4.5	6.7	-1.48					
31	Nov-09	4.5	7.2	-0.65					
32	Jun-10	4.5	7.4	-0.26					
33	Nov-10	4.5	7.3	-0.47					
34	Jun-11	4.5	7.4	-0.24					

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

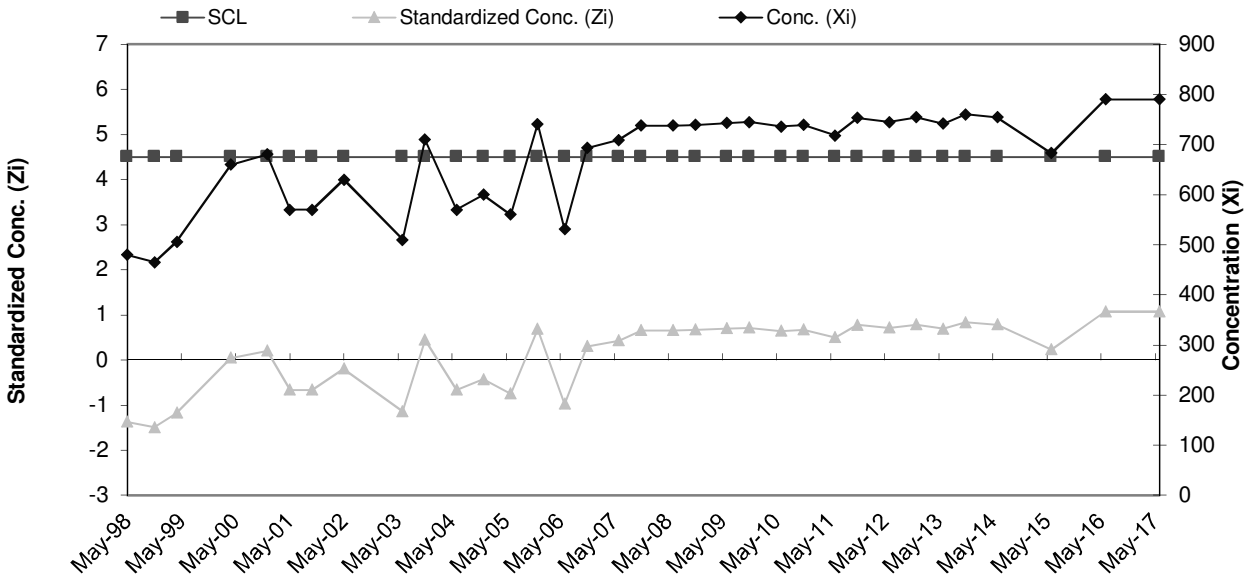


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-21d SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	870		
2	Aug-95	684		
3	Feb-96	646		
4	Jun-96	577	**654.13**	**126.68**
5	Aug-96	576		
6	Nov-96	810		
7	May-97	530		
8	Nov-97	540		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	480	-1.37	35	Nov-11	4.5	753	0.78
10	Nov-98	4.5	465	-1.49	36	Jun-12	4.5	745	0.72
11	Apr-99	4.5	506	-1.17	37	Dec-12	4.5	754	0.79
12	Apr-00	4.5	660	0.05	38	Jun-13	4.5	742	0.69
13	Dec-00	4.5	680	0.20	39	Nov-13	4.5	760	0.84
14	May-01	4.5	570	-0.66	40	Jun-14	4.5	754	0.79
15	Oct-01	4.5	570	-0.66	41	Jun-15	4.5	683	0.23
16	May-02	4.5	630	-0.19	42	Jun-16	4.5	790	1.07
18	Jun-03	4.5	510	-1.14	43	Jun-17	4.5	790	1.07
19	Nov-03	4.5	710	0.44					
20	Jun-04	4.5	570	-0.66					
21	Dec-04	4.5	600	-0.43					
22	Jun-05	4.5	560	-0.74					
23	Dec-05	4.5	741	0.69					
24	Jun-06	4.5	531.3	-0.97					
25	Nov-06	4.5	693	0.31					
26	Jun-07	4.5	709	0.43					
27	Nov-07	4.5	738	0.66					
28	Jun-08	4.5	738	0.66					
29	Nov-08	4.5	739	0.67					
30	Jun-09	4.5	743	0.70					
31	Nov-09	4.5	745	0.72					
32	Jun-10	4.5	736	0.65					
33	Nov-10	4.5	739	0.67					
34	Jun-11	4.5	718	0.50					

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

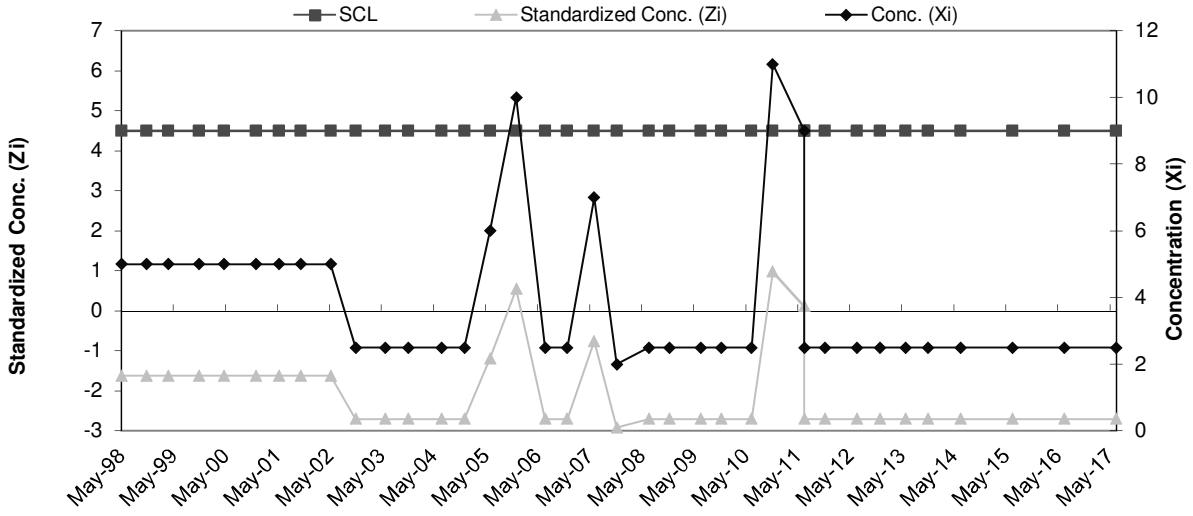


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-22D Cr

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10	**8.75**	**2.31**
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-1.62	37	Nov-11	4.5	2.5	-2.70
10	Nov-98	4.5	5	-1.62	38	Jun-12	4.5	2.5	-2.70
11	Apr-99	4.5	5	-1.62	39	Dec-12	4.5	2.5	-2.70
12	Nov-99	4.5	5	-1.62	40	Jun-13	4.5	2.5	-2.70
13	Apr-00	4.5	5	-1.62	41	Nov-13	4.5	2.5	-2.70
14	Dec-00	4.5	5	-1.62	42	Jun-14	4.5	2.5	-2.70
15	May-01	4.5	5	-1.62	43	Jun-15	4.5	2.5	-2.70
16	Oct-01	4.5	5	-1.62	44	Jun-16	4.5	2.5	-2.70
17	May-02	4.5	5	-1.62	45	Jun-17	4.5	2.5	-2.70
18	Nov-02	4.5	2.5	-2.70					
19	Jun-03	4.5	2.5	-2.70					
20	Nov-03	4.5	2.5	-2.70					
21	Jun-04	4.5	2.5	-2.70					
22	Dec-04	4.5	2.5	-2.70					
23	Jun-05	4.5	6	-1.19					
24	Dec-05	4.5	10	0.54					
25	Jun-06	4.5	2.5	-2.70					
26	Nov-06	4.5	2.5	-2.70					
27	Jun-07	4.5	7	-0.76					
28	Nov-07	4.5	2	-2.92					
29	Jun-08	4.5	2.5	-2.70					
30	Nov-08	4.5	2.5	-2.70					
31	Jun-09	4.5	2.5	-2.70					
32	Nov-09	4.5	2.5	-2.70					
33	Jun-10	4.5	2.5	-2.70					
34	Nov-10	4.5	11	0.97					
35	Jun-11	4.5	9	0.11					
36	Jun-11	4.5	2.5	-2.70					

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

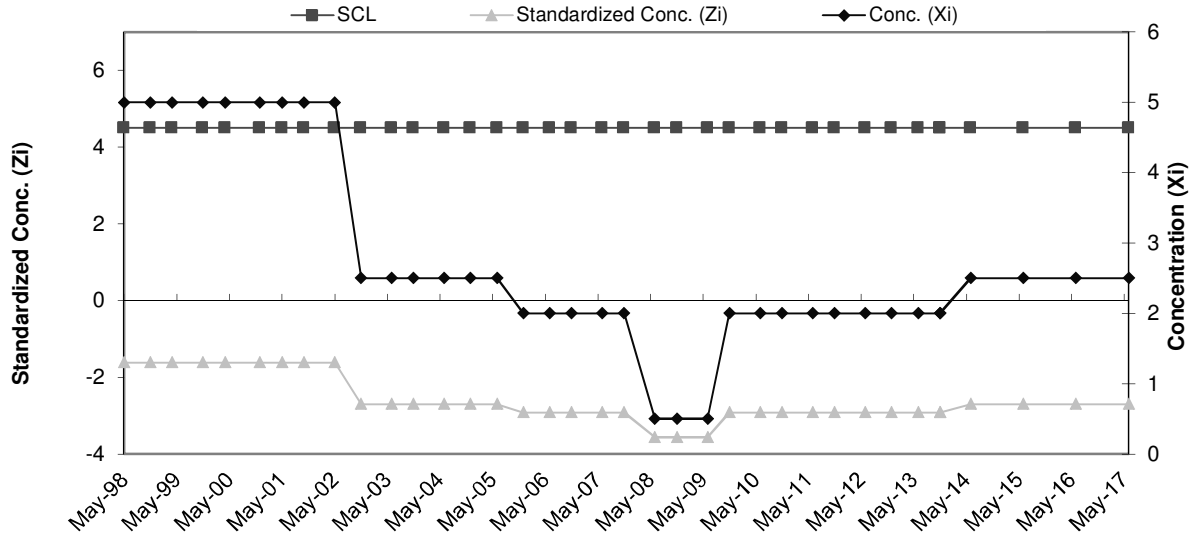


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-22D Cu

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10	**8.75**	**2.31**
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-1.62	36	Nov-11	4.5	2	-2.92
10	Nov-98	4.5	5	-1.62	37	Jun-12	4.5	2	-2.92
11	Apr-99	4.5	5	-1.62	38	Dec-12	4.5	2	-2.92
12	Nov-99	4.5	5	-1.62	39	Jun-13	4.5	2	-2.92
13	Apr-00	4.5	5	-1.62	40	Nov-13	4.5	2	-2.92
14	Dec-00	4.5	5	-1.62	41	Nov-13	4.5	2	-2.92
15	May-01	4.5	5	-1.62	42	Jun-14	4.5	2.5	-2.70
16	Oct-01	4.5	5	-1.62	43	Jun-15	4.5	2.5	-2.70
17	May-02	4.5	5	-1.62	44	Jun-16	4.5	2.5	-2.70
18	Nov-02	4.5	2.5	-2.70	45	Jun-17	4.5	2.5	-2.70
19	Jun-03	4.5	2.5	-2.70					
20	Nov-03	4.5	2.5	-2.70					
21	Jun-04	4.5	2.5	-2.70					
22	Dec-04	4.5	2.5	-2.70					
23	Jun-05	4.5	2.5	-2.70					
24	Dec-05	4.5	2	-2.92					
25	Jun-06	4.5	2	-2.92					
26	Nov-06	4.5	2	-2.92					
27	Jun-07	4.5	2	-2.92					
28	Nov-07	4.5	2	-2.92					
29	Jun-08	4.5	0.5	-3.56					
30	Nov-08	4.5	0.5	-3.56					
31	Jun-09	4.5	0.5	-3.56					
32	Nov-09	4.5	2	-2.92					
33	Jun-10	4.5	2	-2.92					
34	Nov-10	4.5	2	-2.92					
35	Jun-11	4.5	2	-2.92					

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

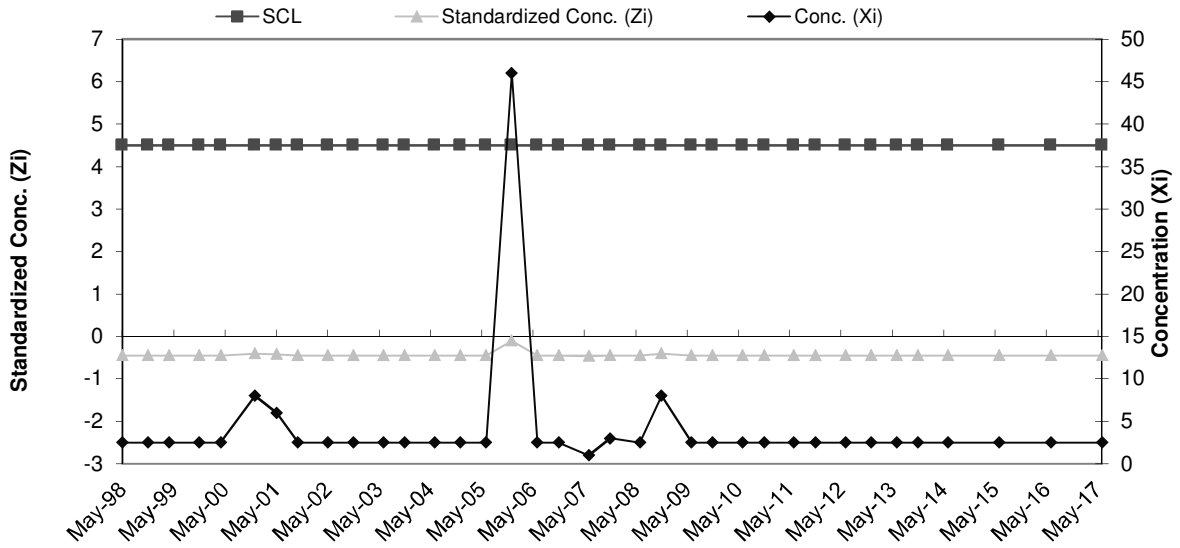


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-22D Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	370		
2	Aug-95	20		
3	Feb-96	20		
4	Jun-96	10	**58.94**	**125.96**
5	Aug-96	10		
6	Nov-96	10		
7	May-97	2.5		
8	Nov-97	29		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	2.5	-0.45	36	Nov-11	4.5	2.5	-0.45
10	Nov-98	4.5	2.5	-0.45	37	Jun-12	4.5	2.5	-0.45
11	Apr-99	4.5	2.5	-0.45	38	Dec-12	4.5	2.5	-0.45
12	Nov-99	4.5	2.5	-0.45	39	Jun-13	4.5	2.5	-0.45
13	Apr-00	4.5	2.5	-0.45	40	Nov-13	4.5	2.5	-0.45
14	Dec-00	4.5	8	-0.40	41	Jun-14	4.5	2.5	-0.45
15	May-01	4.5	6	-0.42	42	Jun-15	4.5	2.5	-0.45
16	Oct-01	4.5	2.5	-0.45	43	Jun-16	4.5	2.5	-0.45
17	May-02	4.5	2.5	-0.45	44	Jun-17	4.5	2.5	-0.45
18	Nov-02	4.5	2.5	-0.45					
19	Jun-03	4.5	2.5	-0.45					
20	Nov-03	4.5	2.5	-0.45					
21	Jun-04	4.5	2.5	-0.45					
22	Dec-04	4.5	2.5	-0.45					
23	Jun-05	4.5	2.5	-0.45					
24	Dec-05	4.5	46	-0.10					
25	Jun-06	4.5	2.5	-0.45					
26	Nov-06	4.5	2.5	-0.45					
27	Jun-07	4.5	1	-0.46					
28	Nov-07	4.5	3	-0.44					
29	Jun-08	4.5	2.5	-0.45					
30	Nov-08	4.5	8	-0.40					
31	Jun-09	4.5	2.5	-0.45					
32	Nov-09	4.5	2.5	-0.45					
33	Jun-10	4.5	2.5	-0.45					
34	Nov-10	4.5	2.5	-0.45					
35	Jun-11	4.5	2.5	-0.45					

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

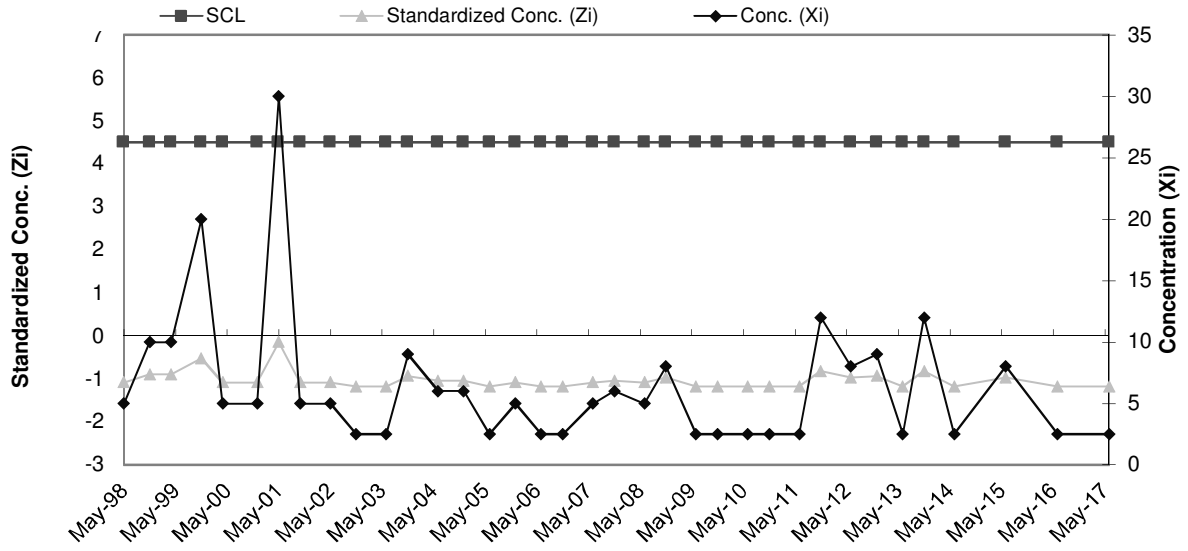


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-22D Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	47		
3	Feb-96	80		
4	Jun-96	20	**34.00**	**26.69**
5	Aug-96	50		
6	Nov-96	50		
7	May-97	5		
8	Nov-97	10		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-1.09	36	Nov-11	4.5	12	-0.82
10	Nov-98	4.5	10	-0.90	37	Jun-12	4.5	8	-0.97
11	Apr-99	4.5	10	-0.90	38	Dec-12	4.5	9	-0.94
12	Nov-99	4.5	20	-0.52	39	Jun-13	4.5	2.5	-1.18
13	Apr-00	4.5	5	-1.09	40	Nov-13	4.5	12	-0.82
14	Dec-00	4.5	5	-1.09	41	Jun-14	4.5	2.5	-1.18
15	May-01	4.5	30	-0.15	42	Jun-15	4.5	8	-0.97
16	Oct-01	4.5	5	-1.09	43	Jun-16	4.5	2.5	-1.18
17	May-02	4.5	5	-1.09	44	Jun-17	4.5	2.5	-1.18
18	Nov-02	4.5	2.5	-1.18					
19	Jun-03	4.5	2.5	-1.18					
20	Nov-03	4.5	9	-0.94					
21	Jun-04	4.5	6	-1.05					
22	Dec-04	4.5	6	-1.05					
23	Jun-05	4.5	2.5	-1.18					
24	Dec-05	4.5	5	-1.09					
25	Jun-06	4.5	2.5	-1.18					
26	Nov-06	4.5	2.5	-1.18					
27	Jun-07	4.5	5	-1.09					
28	Nov-07	4.5	6	-1.05					
29	Jun-08	4.5	5	-1.09					
30	Nov-08	4.5	8	-0.97					
31	Jun-09	4.5	2.5	-1.18					
32	Nov-09	4.5	2.5	-1.18					
33	Jun-10	4.5	2.5	-1.18					
34	Nov-10	4.5	2.5	-1.18					
35	Jun-11	4.5	2.5	-1.18					

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

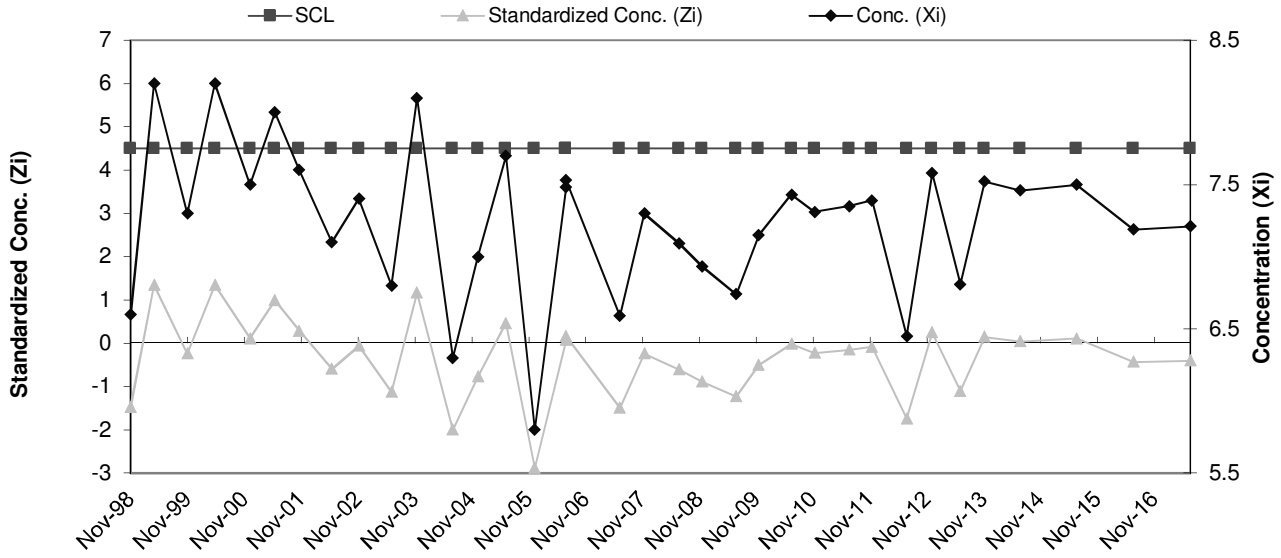


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-22D pH

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	7.7		
2	Aug-95	8.3		
3	Jun-96	7.5		
4	Aug-96	8.1	**7.44**	**0.57**
5	Nov-96	7.2		
6	May-97	6.7		
7	Nov-97	6.9		
8	May-98	7.1		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	6.6	-1.47	35	Nov-11	4.5	7.4	-0.08
10	Apr-99	4.5	8.2	1.34	36	Jun-12	4.5	6.5	-1.74
11	Nov-99	4.5	7.3	-0.24	37	Dec-12	4.5	7.6	0.25
12	Apr-00	4.5	8.2	1.34	38	Jun-13	4.5	6.8	-1.10
13	Dec-00	4.5	7.5	0.11	39	Nov-13	4.5	7.5	0.15
14	May-01	4.5	8	0.99	40	Jun-14	4.5	7.5	0.04
15	Oct-01	4.5	7.6	0.29	41	Jun-15	4.5	7.5	0.11
16	May-02	4.5	7.1	-0.59	42	Jun-16	4.5	7.2	-0.44
17	Nov-02	4.5	7.4	-0.07	43	Jun-17	4.5	7.2	-0.40
18	Jun-03	4.5	6.8	-1.12					
19	Nov-03	4.5	8.1	1.17					
20	Jun-04	4.5	6.3	-2.00					
21	Dec-04	4.5	7	-0.77					
22	Jun-05	4.5	7.7	0.46					
23	Dec-05	4.5	5.8	-2.88					
24	Jun-06	4.5	7.5	0.07					
25	Jun-06	4.5	7.5	0.16					
26	Jun-07	4.5	6.6	-1.49					
27	Nov-07	4.5	7.3	-0.24					
28	Jun-08	4.5	7.1	-0.61					
29	Nov-08	4.5	6.9	-0.89					
30	Jun-09	4.5	6.7	-1.23					
31	Nov-09	4.5	7.2	-0.51					
32	Jun-10	4.5	7.4	-0.01					
33	Nov-10	4.5	7.3	-0.22					
34	Jun-11	4.5	7.4	-0.15					

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

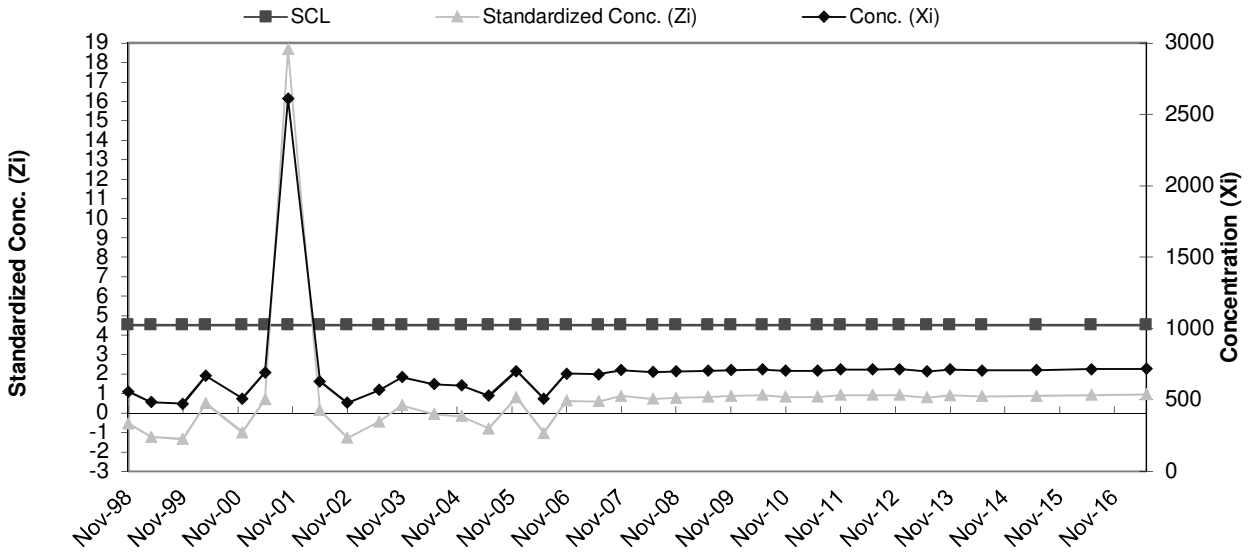


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-22D SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	573		
2	Aug-95	739		
3	Jun-96	600		
4	Aug-96	608	**617.25**	**106.65**
5	Nov-96	817		
6	May-97	550		
7	Nov-97	550		
8	May-98	501		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-98	4.5	559	-0.55	35	Nov-11	4.5	714	0.91
10	Apr-99	4.5	485	-1.24	36	Jun-12	4.5	714	0.91
11	Nov-99	4.5	474	-1.34	37	Dec-12	4.5	716	0.93
12	Apr-00	4.5	670	0.49	38	Jun-13	4.5	701	0.79
13	Dec-00	4.5	510	-1.01	39	Nov-13	4.5	713	0.90
14	May-01	4.5	690	0.68	40	Jun-14	4.5	707	0.84
15	Oct-01	4.5	2610	18.68	41	Jun-15	4.5	710	0.87
16	May-02	4.5	630	0.12	42	Jun-16	4.5	716	0.93
17	Nov-02	4.5	480	-1.29	43	Jun-17	4.5	718	0.94
18	Jun-03	4.5	570	-0.44					
19	Nov-03	4.5	660	0.40					
20	Jun-04	4.5	610	-0.07					
21	Dec-04	4.5	600	-0.16					
22	Jun-05	4.5	531	-0.81					
23	Dec-05	4.5	702	0.79					
24	Jun-06	4.5	507	-1.04					
25	Nov-06	4.5	684	0.63					
26	Jun-07	4.5	680	0.59					
27	Nov-07	4.5	710	0.87					
28	Jun-08	4.5	694	0.72					
29	Nov-08	4.5	699	0.77					
30	Jun-09	4.5	705	0.82					
31	Nov-09	4.5	710	0.87					
32	Jun-10	4.5	715	0.92					
33	Nov-10	4.5	704	0.81					
34	Jun-11	4.5	705	0.82					

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

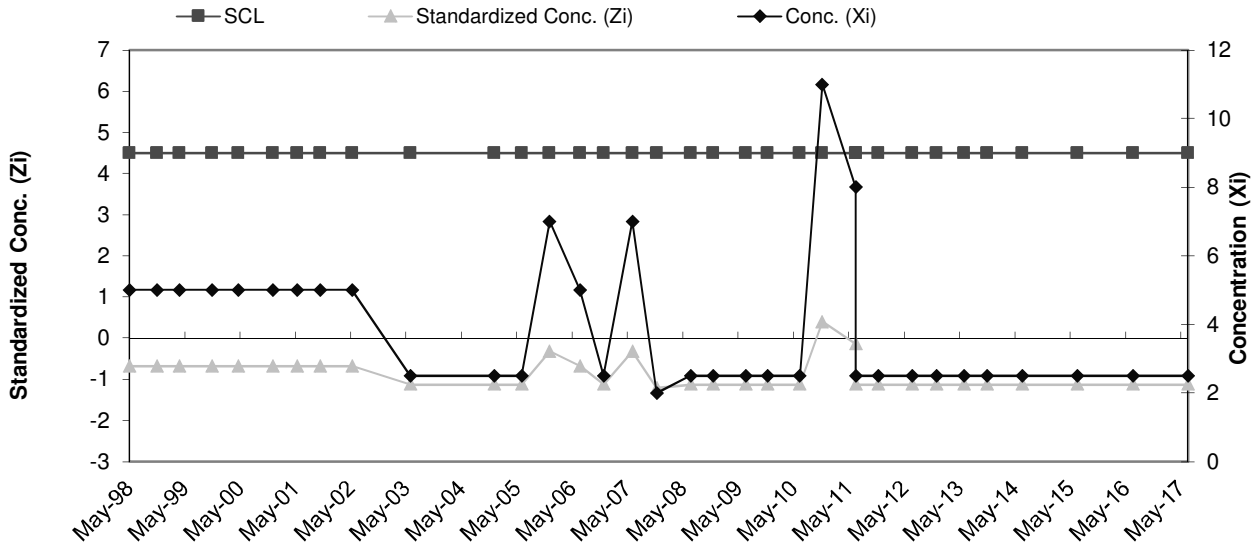


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-23d Cr

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10	**8.79**	**5.60**
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.68	34	Nov-11	4.5	2.5	-1.12
10	Nov-98	4.5	5	-0.68	35	Jun-12	4.5	2.5	-1.12
11	Apr-99	4.5	5	-0.68	36	Dec-12	4.5	2.5	-1.12
12	Nov-99	4.5	5	-0.68	37	Jun-13	4.5	2.5	-1.12
13	Apr-00	4.5	5	-0.68	38	Nov-13	4.5	2.5	-1.12
14	Dec-00	4.5	5	-0.68	39	Jun-14	4.5	2.5	-1.12
15	May-01	4.5	5	-0.68	40	Jun-15	4.5	2.5	-1.12
16	Oct-01	4.5	5	-0.68	41	Jun-16	4.5	2.5	-1.12
17	May-02	4.5	5	-0.68	42	Jun-17	4.5	2.5	-1.12
18	Jun-03	4.5	2.5	-1.12					
19	Dec-04	4.5	2.5	-1.12					
20	Jun-05	4.5	2.5	-1.12					
21	Dec-05	4.5	7.0	-0.32					
22	Jun-06	4.5	5.0	-0.68					
23	Nov-06	4.5	2.5	-1.12					
24	Jun-07	4.5	7	-0.32					
25	Nov-07	4.5	2	-1.21					
26	Jun-08	4.5	2.5	-1.12					
27	Nov-08	4.5	2.5	-1.12					
28	Jun-09	4.5	2.5	-1.12					
29	Nov-09	4.5	2.5	-1.12					
30	Jun-10	4.5	2.5	-1.12					
31	Nov-10	4.5	11	0.39					
32	Jun-11	4.5	8	-0.14					
33	Jun-11	4.5	2.5	-1.12					

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

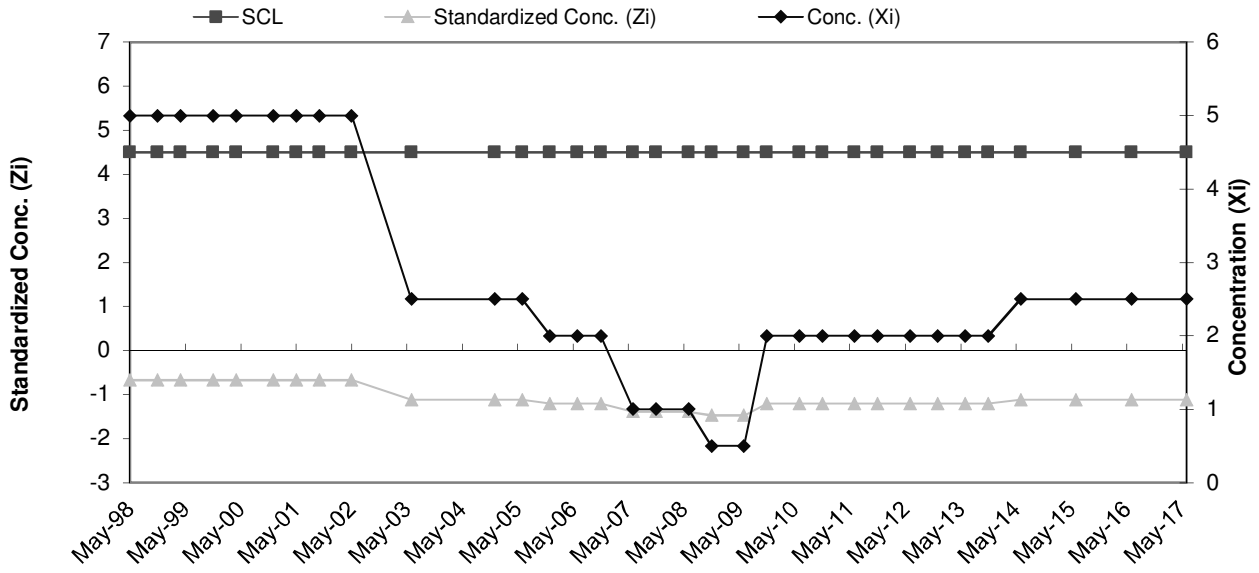


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-23d Cu

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10	**8.75**	**5.59**
5	Aug-96	10		
6	Nov-96	10		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5	-0.67	33	Nov-11	4.5	2	-1.21
10	Nov-98	4.5	5	-0.67	34	Jun-12	4.5	2	-1.21
11	Apr-99	4.5	5	-0.67	35	Dec-12	4.5	2	-1.21
12	Nov-99	4.5	5	-0.67	36	Jun-13	4.5	2	-1.21
13	Apr-00	4.5	5	-0.67	37	Nov-13	4.5	2	-1.21
14	Dec-00	4.5	5	-0.67	38	Jun-14	4.5	2.5	-1.12
15	May-01	4.5	5	-0.67	39	Jun-15	4.5	2.5	-1.12
16	Oct-01	4.5	5	-0.67	40	Jun-16	4.5	2.5	-1.12
17	May-02	4.5	5	-0.67	41	Jun-17	4.5	2.5	-1.12
18	Jun-03	4.5	2.5	-1.12					
19	Dec-04	4.5	2.5	-1.12					
20	Jun-05	4.5	2.5	-1.12					
21	Dec-05	4.5	2.0	-1.21					
22	Jun-06	4.5	2.0	-1.21					
23	Nov-06	4.5	2.0	-1.21					
24	Jun-07	4.5	1	-1.39					
25	Nov-07	4.5	1	-1.39					
26	Jun-08	4.5	1	-1.39					
27	Nov-08	4.5	0.5	-1.48					
28	Jun-09	4.5	0.5	-1.48					
29	Nov-09	4.5	2	-1.21					
30	Jun-10	4.5	2	-1.21					
31	Nov-10	4.5	2	-1.21					
32	Jun-11	4.5	2	-1.21					

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

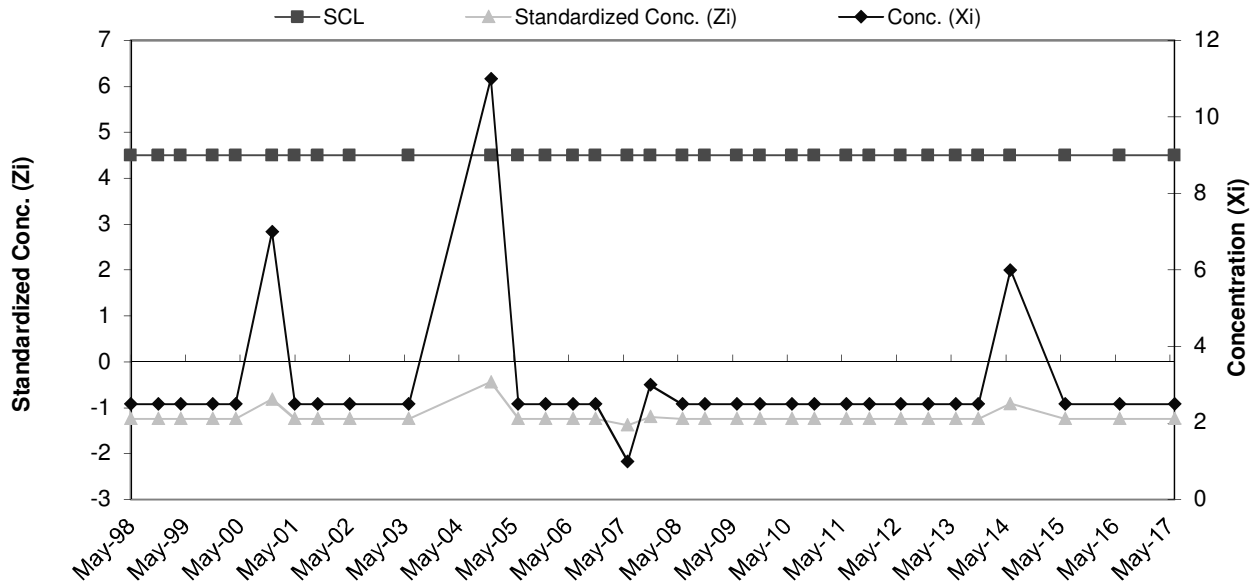


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-23d Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	15		
2	Aug-95	20		
3	Feb-96	20		
4	Jun-96	10	**15.61**	**10.57**
5	Aug-96	10		
6	Nov-96	10		
7	May-97	9		
8	Nov-97	31		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	2.5	-1.24	33	Nov-11	4.5	2.5	-1.24
10	Nov-98	4.5	2.5	-1.24	34	Jun-12	4.5	2.5	-1.24
11	Apr-99	4.5	2.5	-1.24	35	Dec-12	4.5	2.5	-1.24
12	Nov-99	4.5	2.5	-1.24	36	Jun-13	4.5	2.5	-1.24
13	Apr-00	4.5	2.5	-1.24	37	Nov-13	4.5	2.5	-1.24
14	Dec-00	4.5	7.0	-0.81	38	Jun-14	4.5	6	-0.91
15	May-01	4.5	2.5	-1.24	39	Jun-15	4.5	2.5	-1.24
16	Oct-01	4.5	2.5	-1.24	40	Jun-16	4.5	2.5	-1.24
17	May-02	4.5	2.5	-1.24	41	Jun-17	4.5	2.5	-1.24
18	Jun-03	4.5	2.5	-1.24					
19	Dec-04	4.5	11.0	-0.44					
20	Jun-05	4.5	2.5	-1.24					
21	Dec-05	4.5	2.5	-1.24					
22	Jun-06	4.5	2.5	-1.24					
23	Nov-06	4.5	2.5	-1.24					
24	Jun-07	4.5	1	-1.38					
25	Nov-07	4.5	3	-1.19					
26	Jun-08	4.5	2.5	-1.24					
27	Nov-08	4.5	2.5	-1.24					
28	Jun-09	4.5	2.5	-1.24					
29	Nov-09	4.5	2.5	-1.24					
30	Jun-10	4.5	2.5	-1.24					
31	Nov-10	4.5	2.5	-1.24					
32	Jun-11	4.5	2.5	-1.24					

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

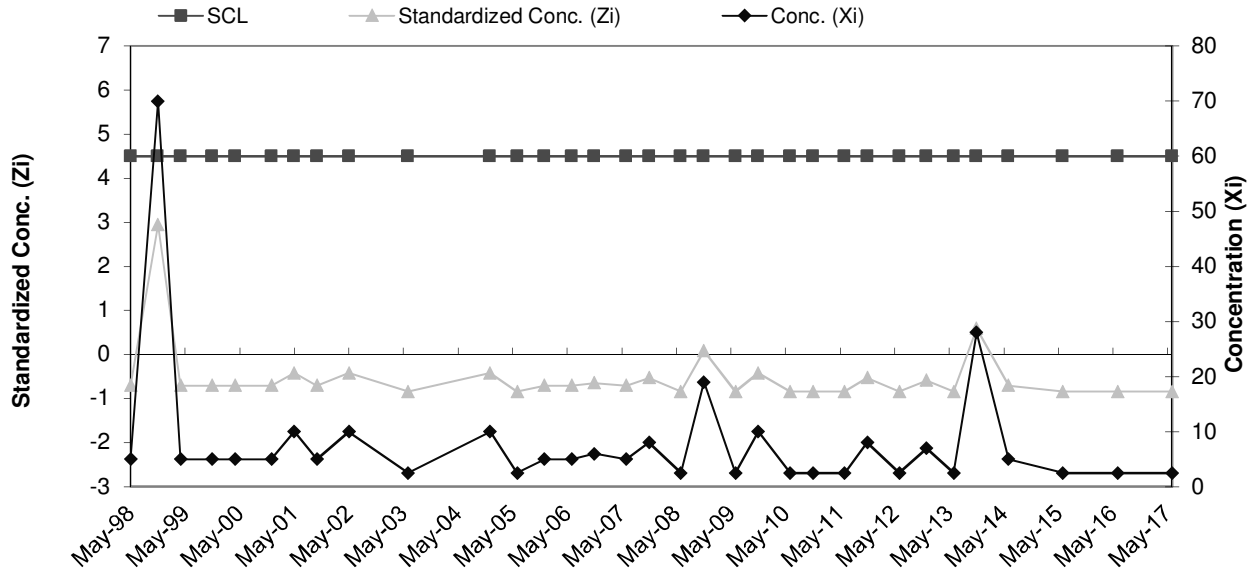


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-23d Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	10		
2	Aug-95	10		
3	Feb-96	10		
4	Jun-96	10	**17.49**	**17.84**
5	Aug-96	50		
6	Nov-96	40		
7	May-97	5		
8	Nov-97	5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	5.0	-0.70	33	Nov-11	4.5	8	-0.53
10	Nov-98	4.5	70.0	2.94	34	Jun-12	4.5	2.5	-0.84
11	Apr-99	4.5	5.0	-0.70	35	Dec-12	4.5	7	-0.59
12	Nov-99	4.5	5.0	-0.70	36	Jun-13	4.5	2.5	-0.84
13	Apr-00	4.5	5.0	-0.70	37	Nov-13	4.5	28	0.59
14	Dec-00	4.5	5.0	-0.70	38	Jun-14	4.5	5	-0.70
15	May-01	4.5	10.0	-0.42	39	Jun-15	4.5	2.5	-0.84
16	Oct-01	4.5	5.0	-0.70	40	Jun-16	4.5	2.5	-0.84
17	May-02	4.5	10.0	-0.42	41	Jun-17	4.5	2.5	-0.84
18	Jun-03	4.5	2.5	-0.84					
19	Dec-04	4.5	10.0	-0.42					
20	Jun-05	4.5	2.5	-0.84					
21	Dec-05	4.5	5.0	-0.70					
22	Jun-06	4.5	5.0	-0.70					
23	Nov-06	4.5	6.0	-0.64					
24	Jun-07	4.5	5	-0.70					
25	Nov-07	4.5	8	-0.53					
26	Jun-08	4.5	2.5	-0.84					
27	Nov-08	4.5	19	0.08					
28	Jun-09	4.5	2.5	-0.84					
29	Nov-09	4.5	10	-0.42					
30	Jun-10	4.5	2.5	-0.84					
31	Nov-10	4.5	2.5	-0.84					
32	Jun-11	4.5	2.5	-0.84					

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

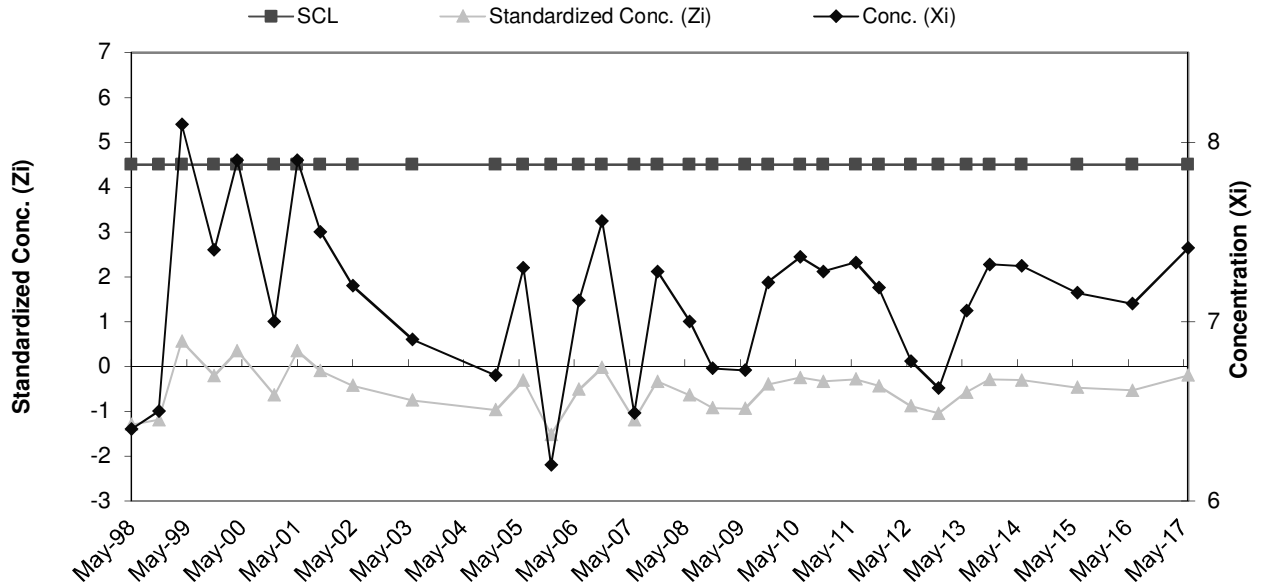


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-23d pH

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	7.3		
2	Aug-95	8.2		
3	Feb-96	7.5		
4	Jun-96	8.3	**7.59**	**0.91**
5	Aug-96	8.9		
6	Nov-96	7.7		
7	May-97	6.8		
8	Nov-97	6.0		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	6.4	-1.30	33	Nov-11	4.5	7.2	-0.43
10	Nov-98	4.5	6.5	-1.19	34	Jun-12	4.5	6.8	-0.88
11	Apr-99	4.5	8.1	0.56	35	Dec-12	4.5	6.6	-1.05
12	Nov-99	4.5	7.4	-0.21	36	Jun-13	4.5	7.1	-0.58
13	Apr-00	4.5	7.9	0.34	37	Nov-13	4.5	7.3	-0.29
14	Dec-00	4.5	7.0	-0.64	38	Jun-14	4.5	7.3	-0.30
15	May-01	4.5	7.9	0.34	39	Jun-15	4.5	7.2	-0.47
16	Oct-01	4.5	7.5	-0.10	40	Jun-16	4.5	7.1	-0.53
17	May-02	4.5	7.2	-0.42	41	Jun-17	4.5	7.4	-0.19
18	Jun-03	4.5	6.9	-0.75					
19	Dec-04	4.5	6.7	-0.97					
20	Jun-05	4.5	7.3	-0.31					
21	Dec-05	4.5	6.2	-1.52					
22	Jun-06	4.5	7.1	-0.51					
23	Nov-06	4.5	7.6	-0.03					
24	Jun-07	4.5	6.5	-1.20					
25	Nov-07	4.5	7.3	-0.34					
26	Jun-08	4.5	7.0	-0.64					
27	Nov-08	4.5	6.7	-0.93					
28	Jun-09	4.5	6.7	-0.94					
29	Nov-09	4.5	7.2	-0.40					
30	Jun-10	4.5	7.4	-0.25					
31	Nov-10	4.5	7.3	-0.34					
32	Jun-11	4.5	7.3	-0.28					

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

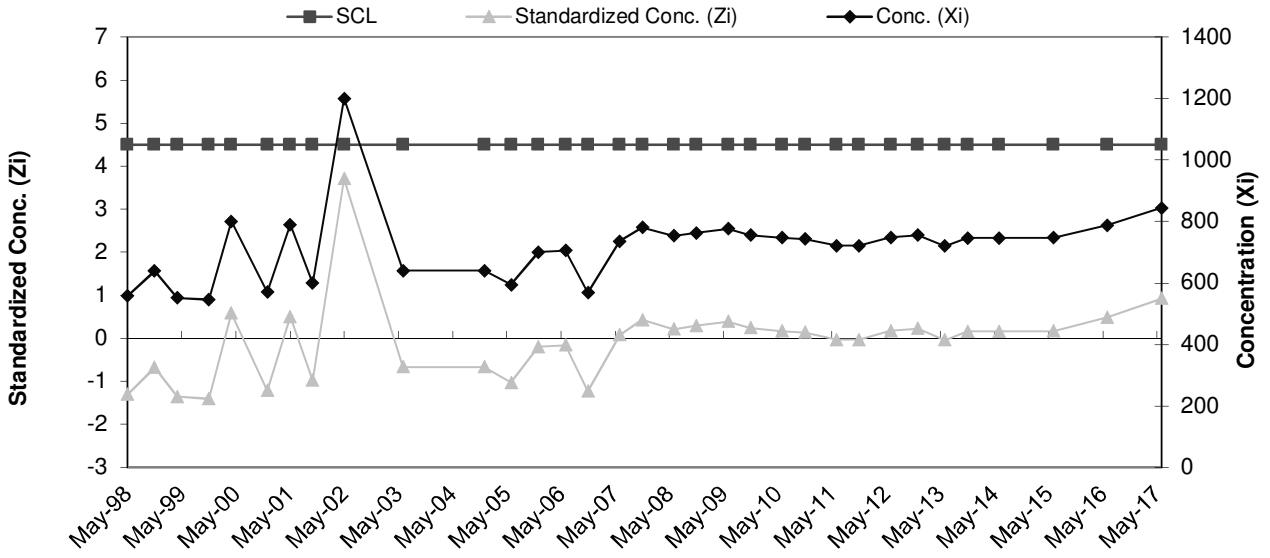


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-23d SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-95	680		
2	Aug-95	845		
3	Feb-96	751		
4	Jun-96	632	**725.75**	**127.98**
5	Aug-96	691		
6	Nov-96	977		
7	May-97	610		
8	Nov-97	620		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)	Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	May-98	4.5	558	-1.31	33	Nov-11	4.5	721	-0.04
10	Nov-98	4.5	639	-0.68	34	Jun-12	4.5	748	0.17
11	Apr-99	4.5	552	-1.36	35	Dec-12	4.5	755	0.23
12	Nov-99	4.5	546	-1.40	36	Jun-13	4.5	720	-0.04
13	Apr-00	4.5	800	0.58	37	Nov-13	4.5	746	0.16
14	Dec-00	4.5	570	-1.22	38	Jun-14	4.5	746	0.16
15	May-01	4.5	790	0.50	39	Jun-15	4.5	747	0.17
16	Oct-01	4.5	600	-0.98	40	Jun-16	4.5	788	0.49
17	May-02	4.5	1200	3.71	41	Jun-17	4.5	844	0.92
18	Jun-03	4.5	640	-0.67					
19	Dec-04	4.5	640	-0.67					
20	Jun-05	4.5	594	-1.03					
21	Dec-05	4.5	700	-0.20					
22	Jun-06	4.5	705	-0.16					
23	Nov-06	4.5	568	-1.23					
24	Jun-07	4.5	736	0.08					
25	Nov-07	4.5	780	0.42					
26	Jun-08	4.5	753	0.21					
27	Nov-08	4.5	763	0.29					
28	Jun-09	4.5	776	0.39					
29	Nov-09	4.5	756	0.24					
30	Jun-10	4.5	747	0.17					
31	Nov-10	4.5	743	0.13					
32	Jun-11	4.5	721	-0.04					

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

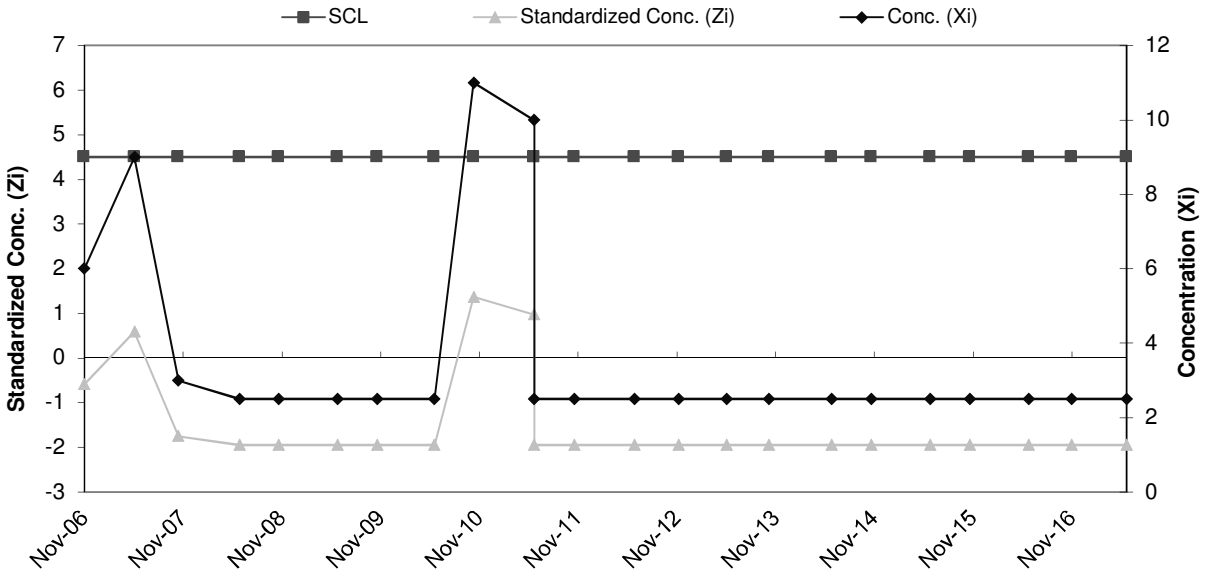


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-24 Cr

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Aug-96	10		
2	Nov-96	10		
3	May-97	5		
4	May-98	5	**7.50**	**2.56**
5	Nov-03	5		
6	Jun-05	8		
7	Dec-05	11		
8	Jun-06	6		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-06	4.5	6	-0.59
10	Jun-07	4.5	9	0.59
11	Nov-07	4.5	3	-1.76
12	Jun-08	4.5	2.5	-1.95
13	Nov-08	4.5	2.5	-1.95
14	Jun-09	4.5	2.5	-1.95
15	Nov-09	4.5	2.5	-1.95
16	Jun-10	4.5	2.5	-1.95
17	Nov-10	4.5	11	1.37
18	Jun-11	4.5	10	0.98
19	Jun-11	4.5	2.5	-1.95
20	Nov-11	4.5	2.5	-1.95
21	Jun-12	4.5	2.5	-1.95
22	Dec-12	4.5	2.5	-1.95
23	Jun-13	4.5	2.5	-1.95
24	Nov-13	4.5	2.5	-1.95
25	Jun-14	4.5	2.5	-1.95
26	Nov-14	4.5	2.5	-1.95
27	Jun-15	4.5	2.5	-1.95
28	Nov-15	4.5	2.5	-1.95
29	Jun-16	4.5	2.5	-1.95
30	Nov-16	4.5	2.5	-1.95
31	Jun-17	4.5	2.5	-1.95

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

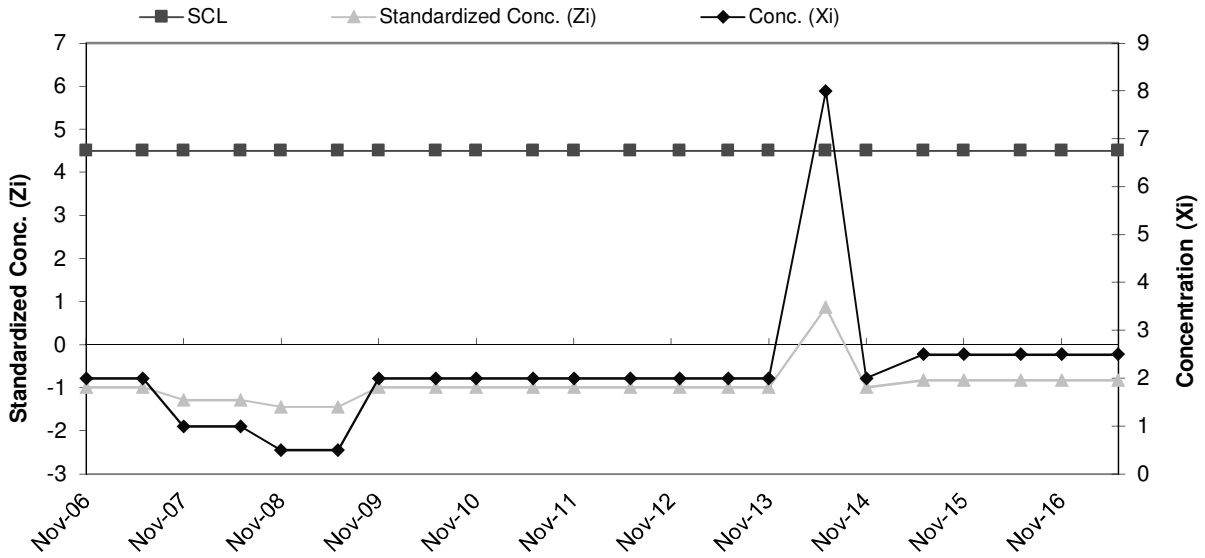


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-24 Cu

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Aug-96	10		
2	Nov-96	10		
3	May-97	5		
4	May-98	5	**5.19**	**3.25**
5	Nov-03	5		
6	Jun-05	2.5		
7	Dec-05	2		
8	Jun-06	2		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-06	4.5	2	-0.98
10	Jun-07	4.5	2	-0.98
11	Nov-07	4.5	1	-1.29
12	Jun-08	4.5	1	-1.29
13	Nov-08	4.5	0.5	-1.44
14	Jun-09	4.5	0.5	-1.44
15	Nov-09	4.5	2	-0.98
16	Jun-10	4.5	2	-0.98
17	Nov-10	4.5	2	-0.98
18	Jun-11	4.5	2	-0.98
19	Nov-11	4.5	2	-0.98
20	Jun-12	4.5	2	-0.98
21	Dec-12	4.5	2	-0.98
22	Jun-13	4.5	2	-0.98
23	Nov-13	4.5	2	-0.98
24	Jun-14	4.5	8	0.87
25	Nov-14	4.5	2	-0.98
26	Jun-15	4.5	2.5	-0.83
27	Nov-15	4.5	2.5	-0.83
28	Jun-16	4.5	2.5	-0.83
29	Nov-16	4.5	2.5	-0.83
30	Jun-17	4.5	2.5	-0.83

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

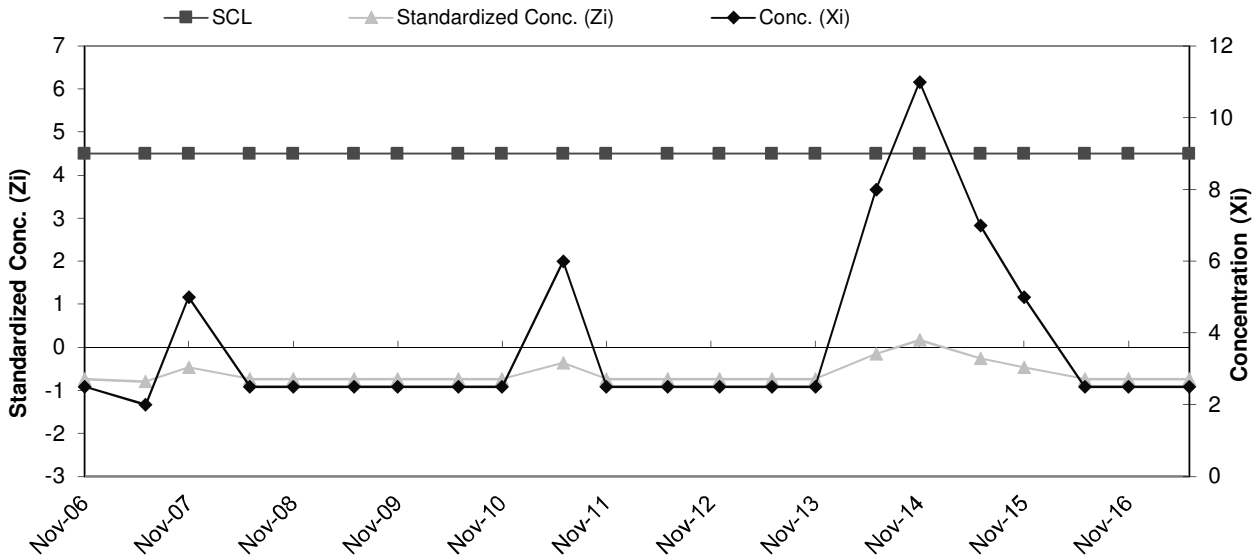


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-24 Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Aug-96	10		
2	Nov-96	10		
3	May-97	31		
4	May-98	8	**9.44**	**9.35**
5	Nov-03	9		
6	Jun-05	2.5		
7	Dec-05	2.5		
8	Jun-06	2.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-06	4.5	2.5	-0.74
10	Jun-07	4.5	2	-0.80
11	Nov-07	4.5	5	-0.47
12	Jun-08	4.5	2.5	-0.74
13	Nov-08	4.5	2.5	-0.74
14	Jun-09	4.5	2.5	-0.74
15	Nov-09	4.5	2.5	-0.74
16	Jun-10	4.5	2.5	-0.74
17	Nov-10	4.5	2.5	-0.74
18	Jun-11	4.5	6	-0.37
19	Nov-11	4.5	2.5	-0.74
20	Jun-12	4.5	2.5	-0.74
21	Dec-12	4.5	2.5	-0.74
22	Jun-13	4.5	2.5	-0.74
23	Nov-13	4.5	2.5	-0.74
24	Jun-14	4.5	8	-0.15
25	Nov-14	4.5	11	0.17
26	Jun-15	4.5	7	-0.26
27	Nov-15	4.5	5	-0.47
28	Jun-16	4.5	2.5	-0.74
29	Nov-16	4.5	2.5	-0.74
30	Jun-17	4.5	2.5	-0.74

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

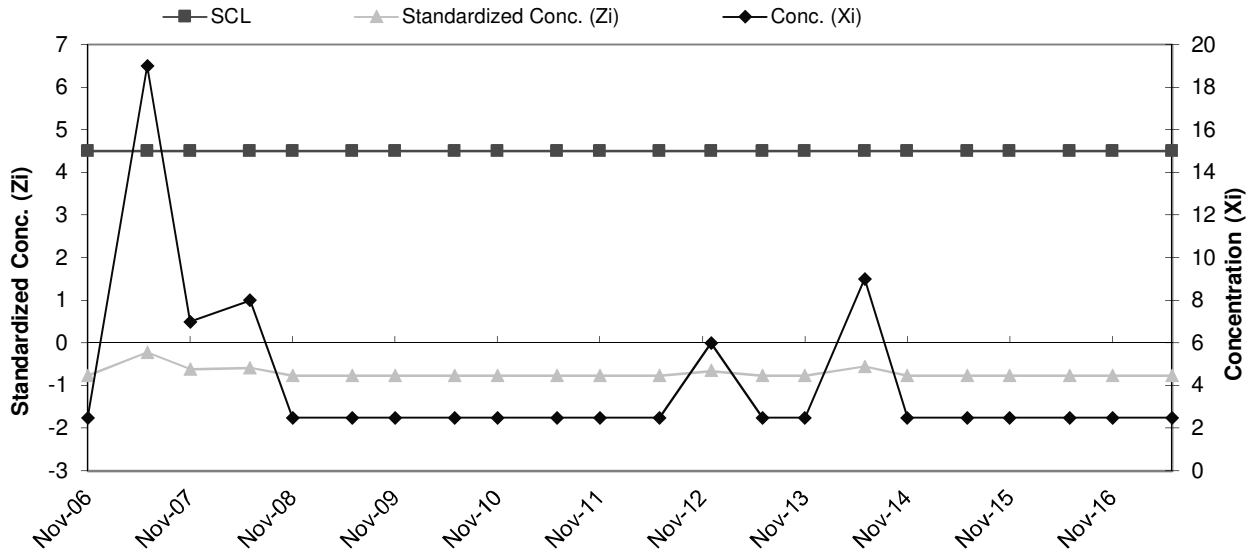


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-24 Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Aug-96	90		
2	Nov-96	50		
3	May-97	10		
4	May-98	20	**25.63**	**30.14**
5	Nov-03	20		
6	Jun-05	2.5		
7	Dec-05	10		
8	Jun-06	2.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-06	4.5	2.5	-0.77
10	Jun-07	4.5	19	-0.22
11	Nov-07	4.5	7	-0.62
12	Jun-08	4.5	8	-0.58
13	Nov-08	4.5	2.5	-0.77
14	Jun-09	4.5	2.5	-0.77
15	Nov-09	4.5	2.5	-0.77
16	Jun-10	4.5	2.5	-0.77
17	Nov-10	4.5	2.5	-0.77
18	Jun-11	4.5	2.5	-0.77
19	Nov-11	4.5	2.5	-0.77
20	Jun-12	4.5	2.5	-0.77
21	Dec-12	4.5	6	-0.65
22	Jun-13	4.5	2.5	-0.77
23	Nov-13	4.5	2.5	-0.77
24	Jun-14	4.5	9	-0.55
25	Nov-14	4.5	2.5	-0.77
26	Jun-15	4.5	2.5	-0.77
27	Nov-15	4.5	2.5	-0.77
28	Jun-16	4.5	2.5	-0.77
29	Nov-16	4.5	2.5	-0.77
30	Jun-17	4.5	2.5	-0.77

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

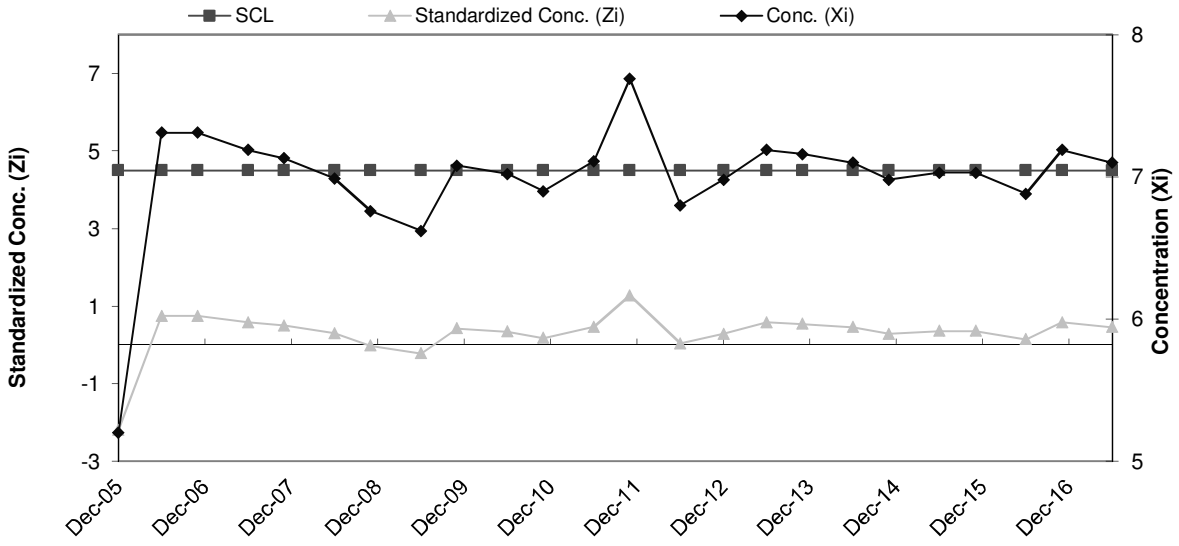


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-24 pH

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Aug-96	7.8		
2	Nov-96	7.1		
3	May-97	6.4		
4	May-98	7	**6.78**	**0.72**
5	Nov-98	6		
6	Nov-99	7		
7	May-01	6.4		
8	Jun-05	7.3		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Dec-05	4.5	5.2	-2.20
10	Jun-06	4.5	7.3	0.75
11	Nov-06	4.5	7.3	0.75
12	Jun-07	4.5	7.2	0.58
13	Nov-07	4.5	7.1	0.50
14	Jun-08	4.5	7.0	0.30
15	Nov-08	4.5	6.8	-0.02
14	Jun-09	4.5	6.6	-0.22
15	Nov-09	4.5	7.1	0.43
16	Jun-10	4.5	7.0	0.34
17	Nov-10	4.5	6.9	0.17
18	Jun-11	4.5	7.1	0.47
19	Nov-11	4.5	7.7	1.28
20	Jun-12	4.5	6.8	0.03
21	Dec-12	4.5	7.0	0.29
22	Jun-13	4.5	7.2	0.58
23	Nov-13	4.5	7.2	0.54
24	Jun-14	4.5	7.1	0.45
25	Nov-14	4.5	7.0	0.29
26	Jun-15	4.5	7.0	0.36
27	Nov-15	4.5	7.0	0.36
28	Jun-16	4.5	6.9	0.15
29	Nov-16	4.5	7.2	0.58
30	Jun-17	4.5	7.1	0.45

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

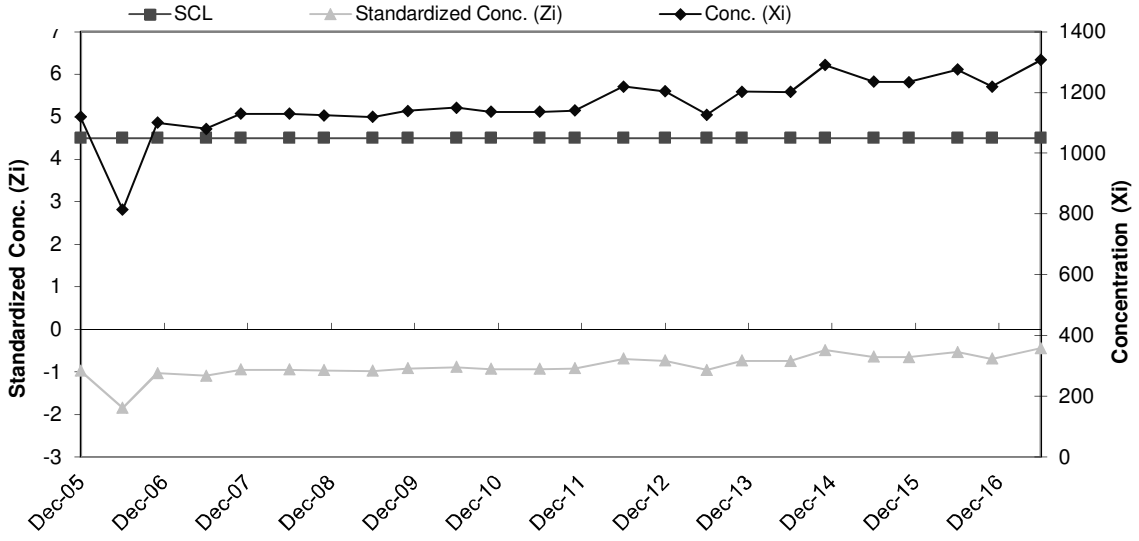


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-24 SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Aug-96	1502		
2	Nov-96	2030		
3	May-97	1700		
4	May-98	1410	**1,462.00**	**351.23**
5	Nov-98	1595		
6	Nov-99	1152		
7	May-01	1450		
8	Jun-05	857		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Dec-05	4.5	1120	-0.97
10	Jun-06	4.5	814	-1.84
11	Nov-06	4.5	1100	-1.03
12	Jun-07	4.5	1080	-1.09
13	Nov-07	4.5	1130	-0.95
14	Jun-08	4.5	1130	-0.95
15	Nov-08	4.5	1125	-0.96
16	Jun-09	4.5	1120	-0.97
17	Nov-09	4.5	1140	-0.92
18	Jun-10	4.5	1150	-0.89
19	Nov-10	4.5	1136	-0.93
20	Jun-11	4.5	1136	-0.93
21	Nov-11	4.5	1141	-0.91
22	Jun-12	4.5	1219	-0.69
23	Dec-12	4.5	1204	-0.73
24	Jun-13	4.5	1127	-0.95
25	Nov-13	4.5	1203	-0.74
26	Jun-14	4.5	1202	-0.74
27	Nov-14	4.5	1290	-0.49
28	Jun-15	4.5	1235	-0.65
29	Nov-15	4.5	1234	-0.65
30	Jun-16	4.5	1275	-0.53
31	Nov-16	4.5	1220	-0.69
32	Jun-17	4.5	1307	-0.44

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

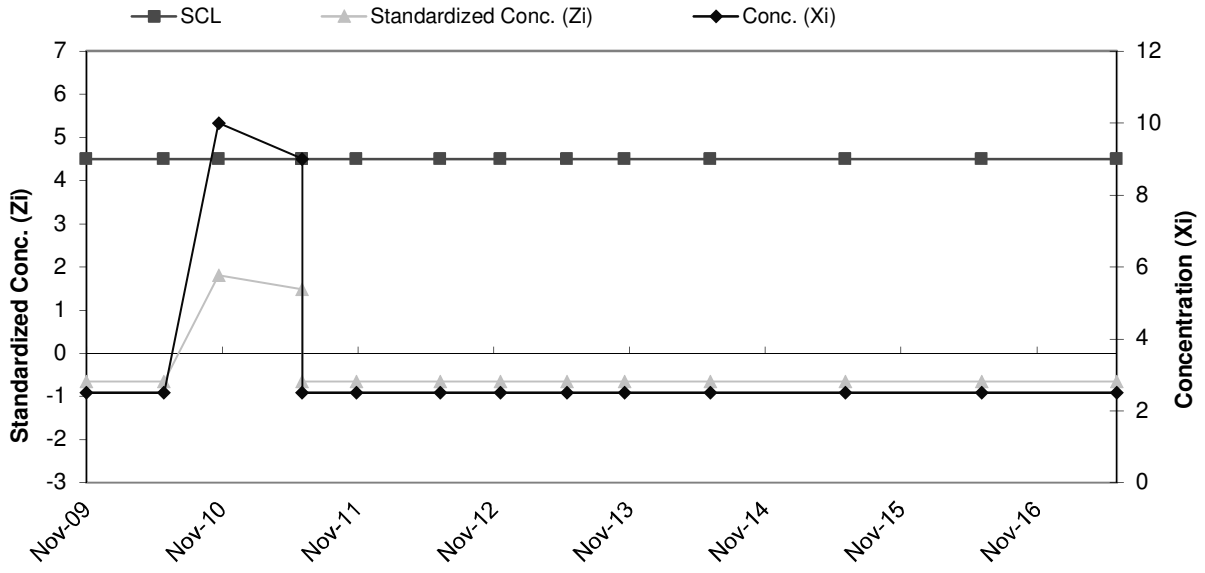


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-27 Cr

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Dec-05	9		
2	Jun-06	6		
3	Nov-06	2.5		
4	Jun-07	9	**4.50**	**3.05**
5	Nov-07	2		
6	Jun-08	2.5		
7	Nov-08	2.5		
8	Jun-09	2.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-09	4.5	2.5	-0.66
10	Jun-10	4.5	2.5	-0.66
11	Nov-10	4.5	10	1.80
12	Jun-11	4.5	9	1.48
13	Jun-11	4.5	2.5	-0.66
14	Nov-11	4.5	2.5	-0.66
15	Jun-12	4.5	2.5	-0.66
16	Dec-12	4.5	2.5	-0.66
17	Jun-13	4.5	2.5	-0.66
18	Nov-13	4.5	2.5	-0.66
19	Jun-14	4.5	2.5	-0.66
20	Jun-15	4.5	2.5	-0.66
21	Jun-16	4.5	2.5	-0.66
22	Jun-17	4.5	2.5	-0.66

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

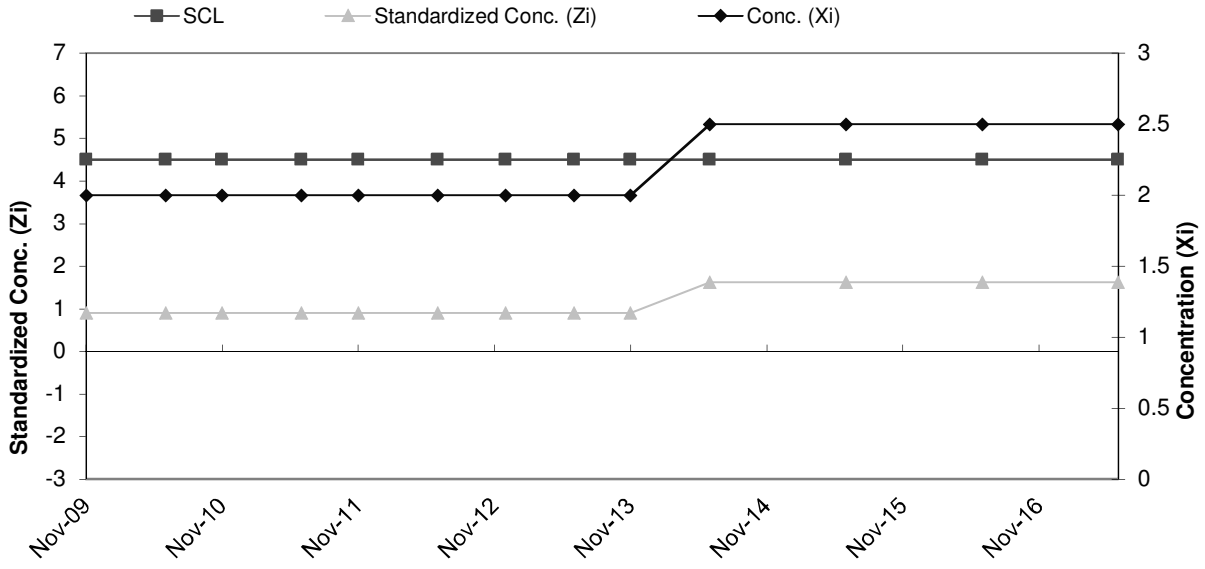


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-27 Cu

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Dec-05	2	**1.38**	**0.69**
2	Jun-06	2		
3	Nov-06	2		
4	Jun-07	2		
5	Nov-07	1		
6	Jun-08	0.5		
7	Nov-08	0.5		
8	Jun-09	1		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-09	4.5	2	0.90
10	Jun-10	4.5	2	0.90
11	Nov-10	4.5	2	0.90
12	Jun-11	4.5	2	0.90
13	Nov-11	4.5	2	0.90
14	Jun-12	4.5	2	0.90
15	Dec-12	4.5	2	0.90
16	Jun-13	4.5	2	0.90
17	Nov-13	4.5	2	0.90
18	Jun-14	4.5	2.5	1.62
19	Jun-15	4.5	2.5	1.62
20	Jun-16	4.5	2.5	1.62
21	Jun-17	4.5	2.5	1.62

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

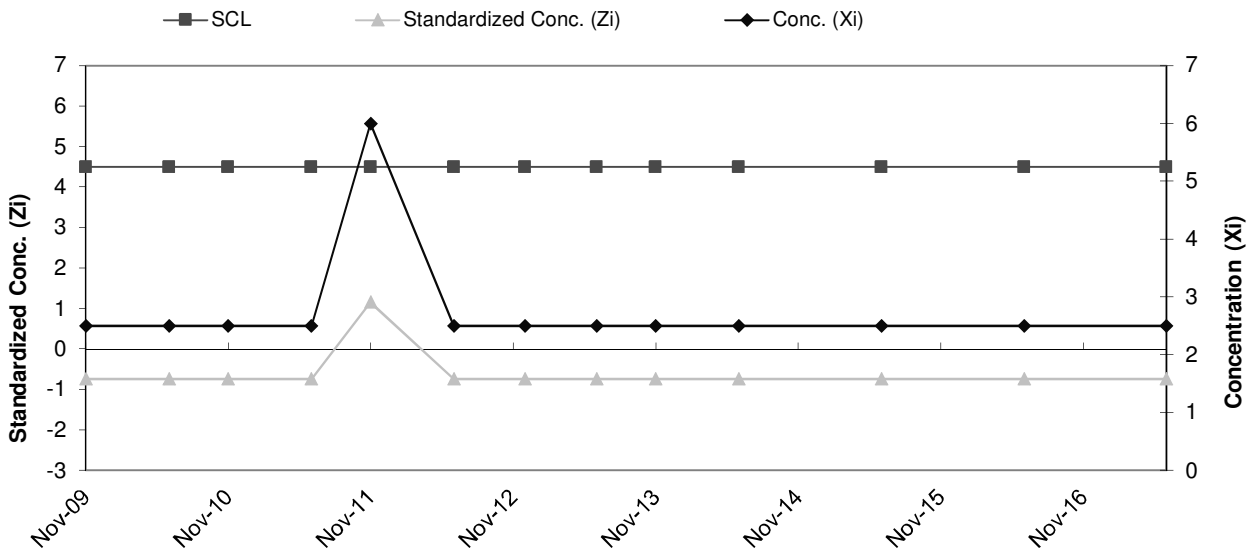


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-27 Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Dec-05	6		
2	Jun-06	7		
3	Nov-06	2.5		
4	Jun-07	3	**3.88**	**1.85**
5	Nov-07	5		
6	Jun-08	2.5		
7	Nov-08	2.5		
8	Jun-09	2.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-09	4.5	2.5	-0.74
10	Jun-10	4.5	2.5	-0.74
11	Nov-10	4.5	2.5	-0.74
12	Jun-11	4.5	2.5	-0.74
13	Nov-11	4.5	6	1.15
14	Jun-12	4.5	2.5	-0.74
15	Dec-12	4.5	2.5	-0.74
16	Jun-13	4.5	2.5	-0.74
17	Nov-13	4.5	2.5	-0.74
18	Jun-14	4.5	2.5	-0.74
19	Jun-15	4.5	2.5	-0.74
20	Jun-16	4.5	2.5	-0.74
21	Jun-17	4.5	2.5	-0.74

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

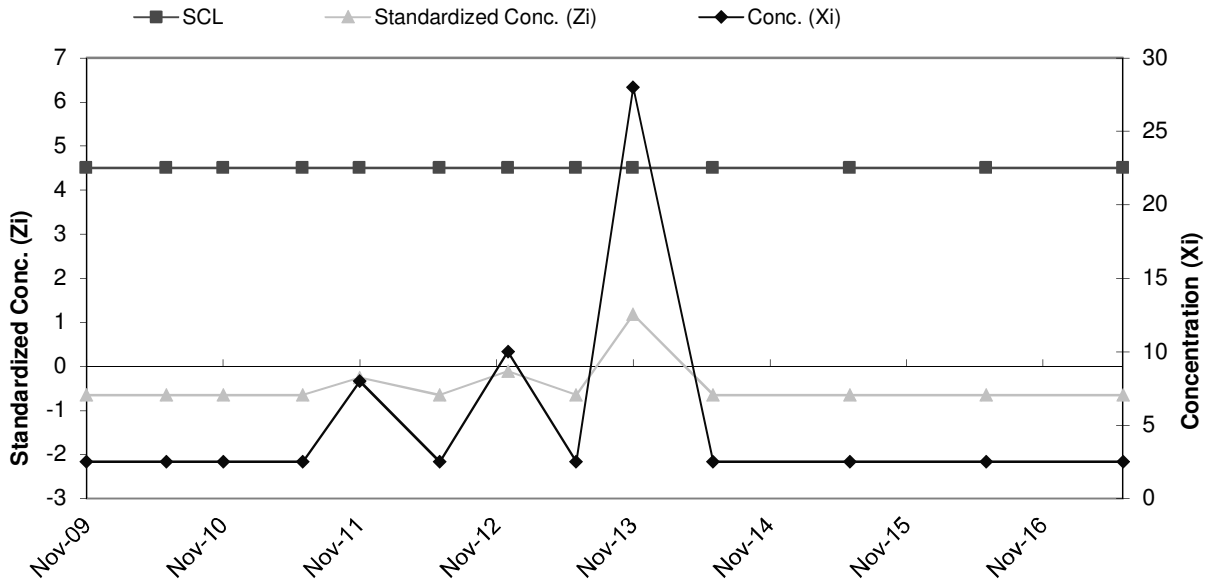


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-27 Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Dec-05	5		
2	Jun-06	6		
3	Nov-06	6		
4	Jun-07	36	**11.56**	**13.97**
5	Nov-07	32		
6	Jun-08	2.5		
7	Nov-08	2.5		
8	Jun-09	2.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-09	4.5	2.5	-0.65
10	Jun-10	4.5	2.5	-0.65
11	Nov-10	4.5	2.5	-0.65
12	Jun-11	4.5	2.5	-0.65
13	Nov-11	4.5	8	-0.26
14	Jun-12	4.5	2.5	-0.65
15	Dec-12	4.5	10	-0.11
16	Jun-13	4.5	2.5	-0.65
17	Nov-13	4.5	28	1.18
18	Jun-14	4.5	2.5	-0.65
19	Jun-15	4.5	2.5	-0.65
20	Jun-16	4.5	2.5	-0.65
21	Jun-17	4.5	2.5	-0.65

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

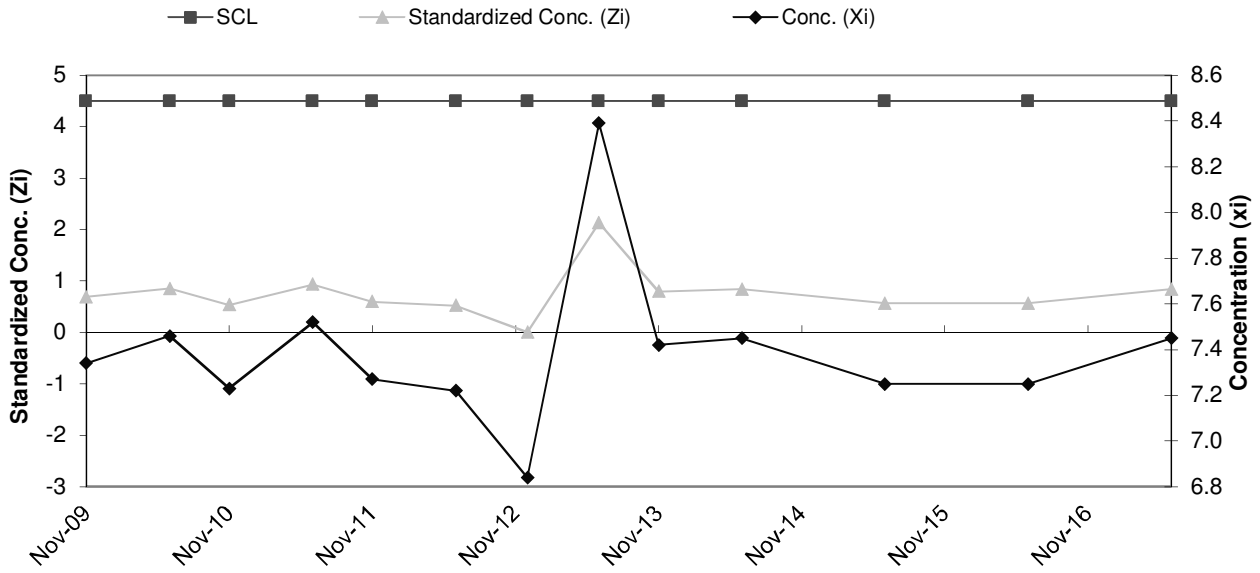


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-27 pH

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Dec-05	5.1		
2	Jun-06	7.1		
3	Nov-06	7.5		
4	Jun-07	6.6	**6.79**	**0.73**
5	Nov-07	7.3		
6	Jun-08	7.1		
7	Nov-08	6.8		
8	Jun-09	6.8		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-09	4.5	7.3	0.69
10	Jun-10	4.5	7.4	0.85
11	Nov-10	4.5	7.2	0.54
12	Jun-11	4.5	7.5	0.94
13	Nov-11	4.5	7.2	0.59
14	Jun-12	4.5	7.2	0.52
15	Dec-12	4.5	6.8	0.00
16	Jun-13	4.5	8.3	2.13
17	Nov-13	4.5	7.4	0.80
18	Jun-14	4.5	7.4	0.84
19	Jun-15	4.5	7.2	0.57
20	Jun-16	4.5	7.2	0.57
21	Jun-17	4.5	7.4	0.84

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

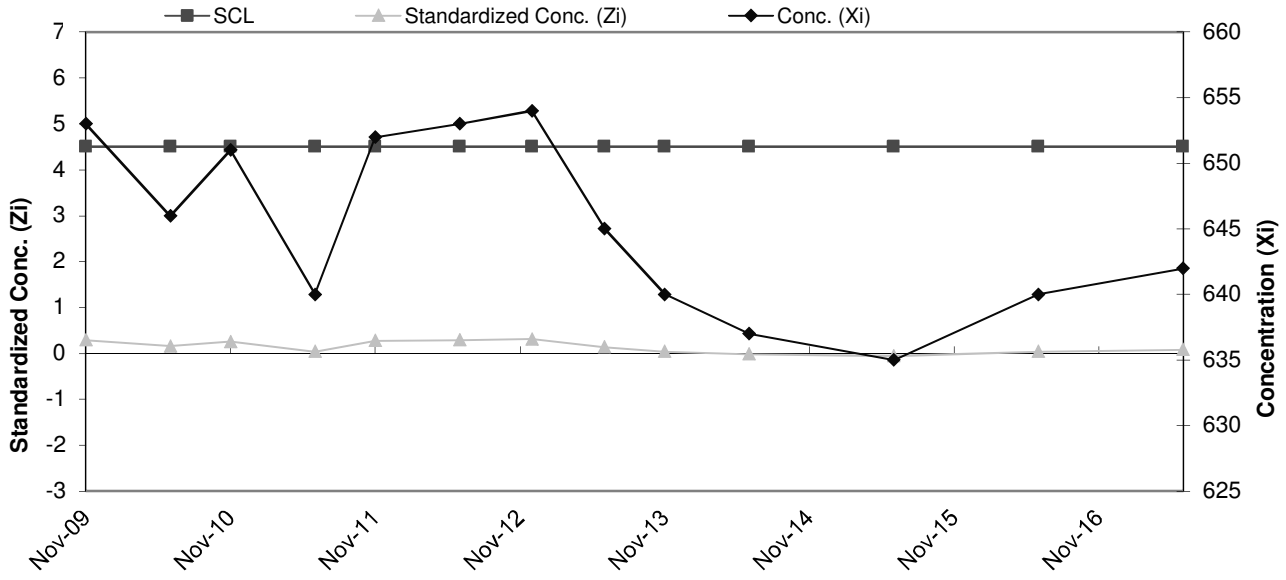


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-27 SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Dec-05	714		
2	Jun-06	594		
3	Nov-06	540		
4	Jun-07	628	**637.75**	**52.08**
5	Nov-07	649		
6	Jun-08	659		
7	Nov-08	667		
8	Jun-09	651		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-09	4.5	653	0.29
10	Jun-10	4.5	646	0.16
11	Nov-10	4.5	651	0.25
12	Jun-11	4.5	640	0.04
13	Nov-11	4.5	652	0.27
14	Jun-12	4.5	653	0.29
15	Dec-12	4.5	654	0.31
16	Jun-13	4.5	645	0.14
17	Nov-13	4.5	640	0.04
18	Jun-14	4.5	637	-0.01
19	Jun-15	4.5	635	-0.05
20	Jun-16	4.5	640	0.04
21	Jun-17	4.5	642	0.08

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

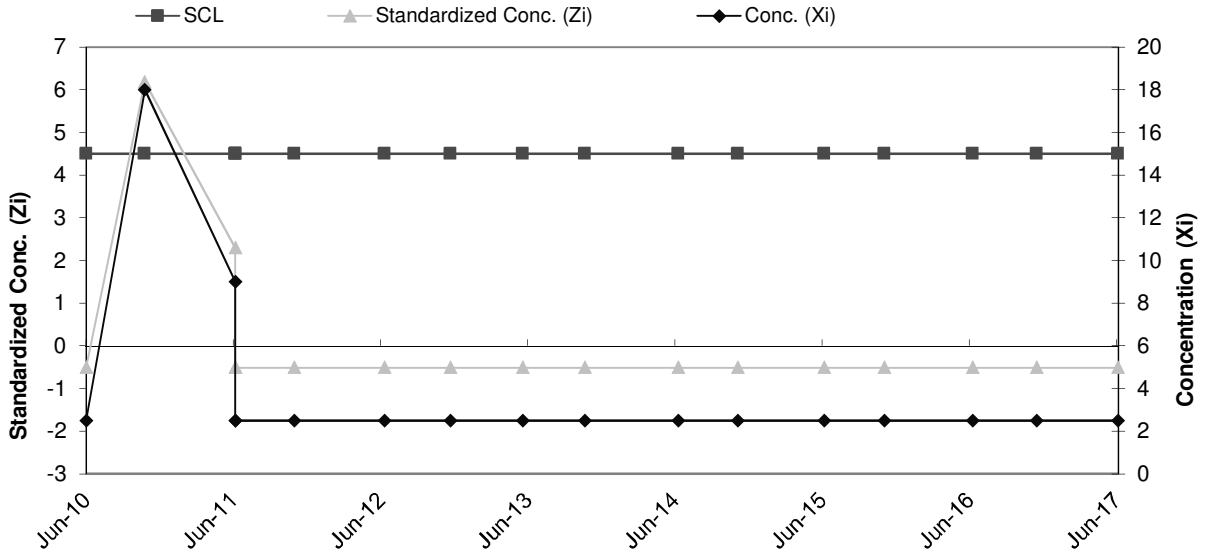


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-28 Cr

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-06	5		
2	Dec-06	2.5		
3	Jun-07	9		
4	Nov-07	3	**3.69**	**2.31**
5	Jun-08	2.5		
6	Nov-08	2.5		
7	Jun-09	2.5		
8	Nov-09	2.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Jun-10	4.5	2.5	-0.51
10	Nov-10	4.5	18	6.19
11	Jun-11	4.5	9	2.30
12	Jun-11	4.5	2.5	-0.51
13	Jun-11	4.5	2.5	-0.51
14	Nov-11	4.5	2.5	-0.51
15	Jun-12	4.5	2.5	-0.51
16	Dec-12	4.5	2.5	-0.51
17	Jun-13	4.5	2.5	-0.51
18	Nov-13	4.5	2.5	-0.51
19	Jun-14	4.5	2.5	-0.51
20	Nov-14	4.5	2.5	-0.51
21	Jun-15	4.5	2.5	-0.51
22	Nov-15	4.5	2.5	-0.51
23	Jun-16	4.5	2.5	-0.51
24	Nov-16	4.5	2.5	-0.51
25	Jun-17	4.5	2.5	-0.51

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

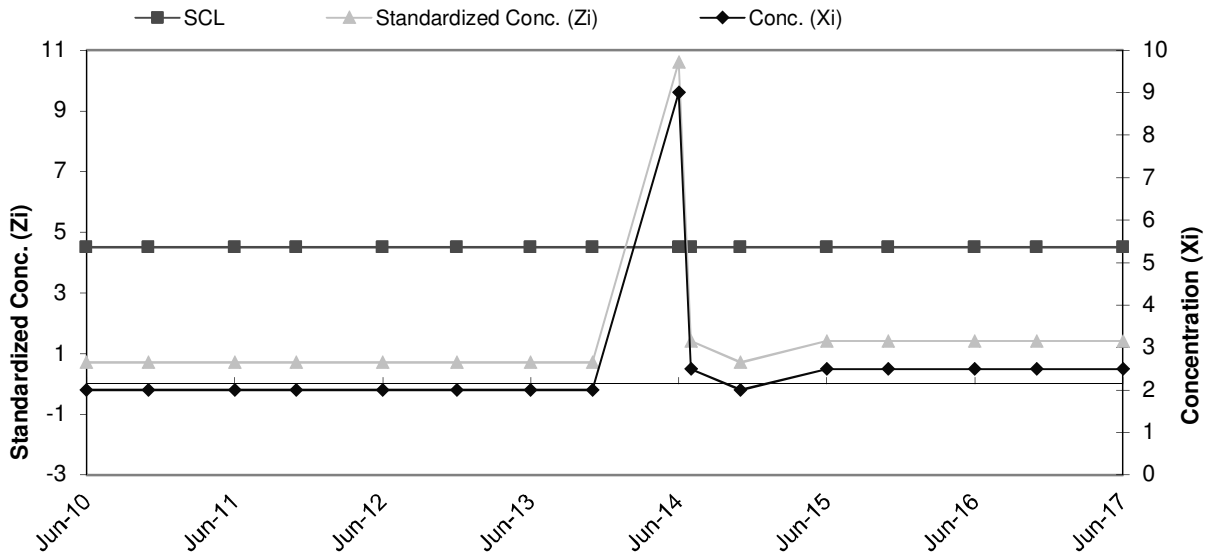


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-28 Cu

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-06	2		
2	Dec-06	2		
3	Jun-07	2		
4	Nov-07	2	**1.50**	**0.71**
5	Jun-08	1		
6	Nov-08	0.5		
7	Jun-09	0.5		
8	Nov-09	2		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Jun-10	4.5	2	0.71
10	Nov-10	4.5	2	0.71
11	Jun-11	4.5	2	0.71
12	Nov-11	4.5	2	0.71
13	Jun-12	4.5	2	0.71
14	Dec-12	4.5	2	0.71
15	Jun-13	4.5	2	0.71
16	Nov-13	4.5	2	0.71
17	Jun-14	4.5	9	10.61
18	Jul-14	4.5	2.5	1.41
19	Nov-14	4.5	2	0.71
20	Jun-15	4.5	2.5	1.41
21	Nov-15	4.5	2.5	1.41
22	Jun-16	4.5	2.5	1.41
23	Nov-16	4.5	2.5	1.41
24	Jun-17	4.5	2.5	1.41

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

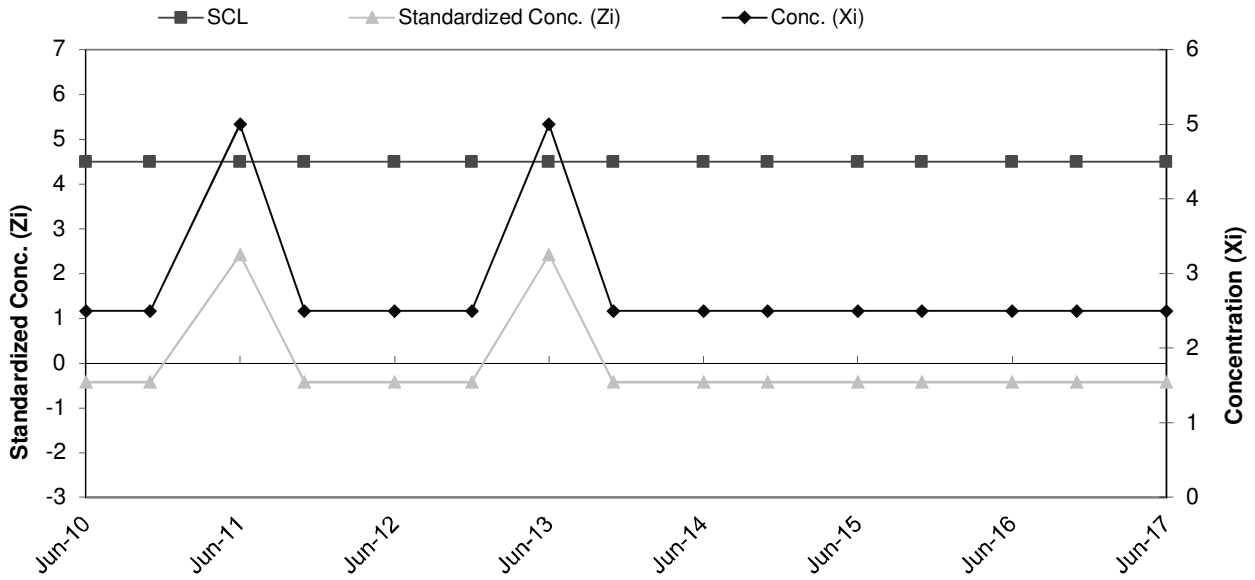


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-28 Ni

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Jun-06	2.5		
2	Dec-06	2.5		
3	Jun-07	3		
4	Nov-07	5	**2.88**	**0.88**
5	Jun-08	2.5		
6	Nov-08	2.5		
7	Jun-09	2.5		
8	Nov-09	2.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Jun-10	4.5	2.5	-0.43
10	Nov-10	4.5	2.5	-0.43
9	Jun-11	4.5	5	2.43
10	Nov-11	4.5	2.5	-0.43
11	Jun-12	4.5	2.5	-0.43
12	Dec-12	4.5	2.5	-0.43
13	Jun-13	4.5	5	2.43
14	Nov-13	4.5	2.5	-0.43
15	Jun-14	4.5	2.5	-0.43
16	Nov-14	4.5	2.5	-0.43
17	Jun-15	4.5	2.5	-0.43
18	Nov-15	4.5	2.5	-0.43
19	Jun-16	4.5	2.5	-0.43
20	Nov-16	4.5	2.5	-0.43
21	Jun-17	4.5	2.5	-0.43

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

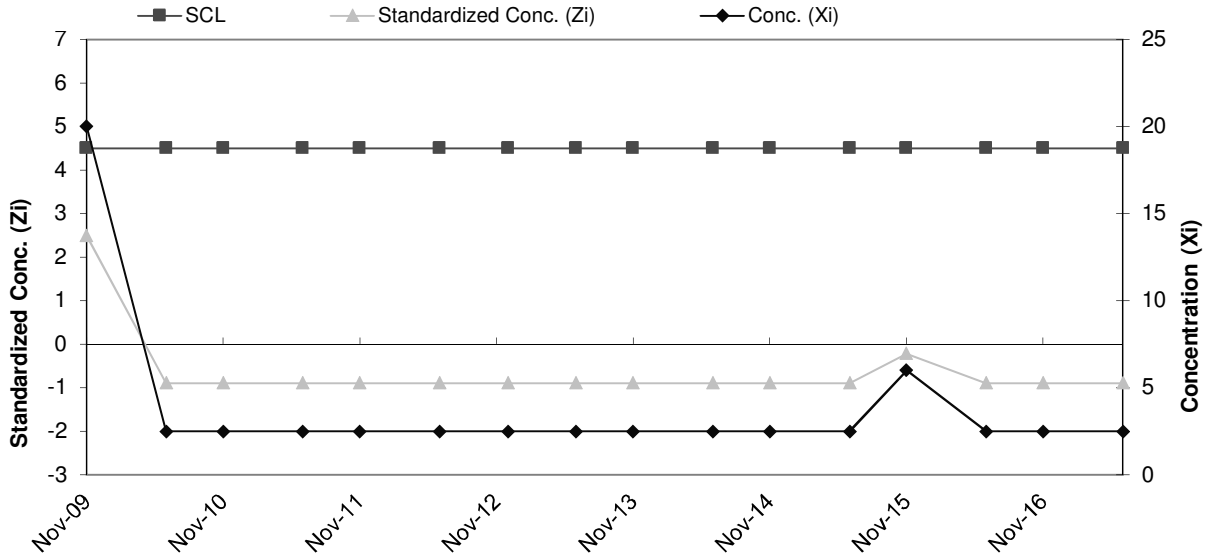


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-28 Zn

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Nov-05	7		
2	Jun-06	18		
3	Dec-06	5		
4	Jun-07	6	**7.13**	**5.16**
5	Nov-07	11		
6	Jun-08	5		
7	Nov-08	2.5		
8	Jun-09	2.5		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-09	4.5	20	2.50
10	Jun-10	4.5	2.5	-0.90
11	Nov-10	4.5	2.5	-0.90
12	Jun-11	4.5	2.5	-0.90
13	Nov-11	4.5	2.5	-0.90
14	Jun-12	4.5	2.5	-0.90
15	Dec-12	4.5	2.5	-0.90
16	Jun-13	4.5	2.5	-0.90
17	Nov-13	4.5	2.5	-0.90
18	Jun-14	4.5	2.5	-0.90
19	Nov-14	4.5	2.5	-0.90
20	Jun-15	4.5	2.5	-0.90
21	Nov-15	4.5	6	-0.22
22	Jun-16	4.5	2.5	-0.90
23	Nov-16	4.5	2.5	-0.90
24	Jun-17	4.5	2.5	-0.90

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

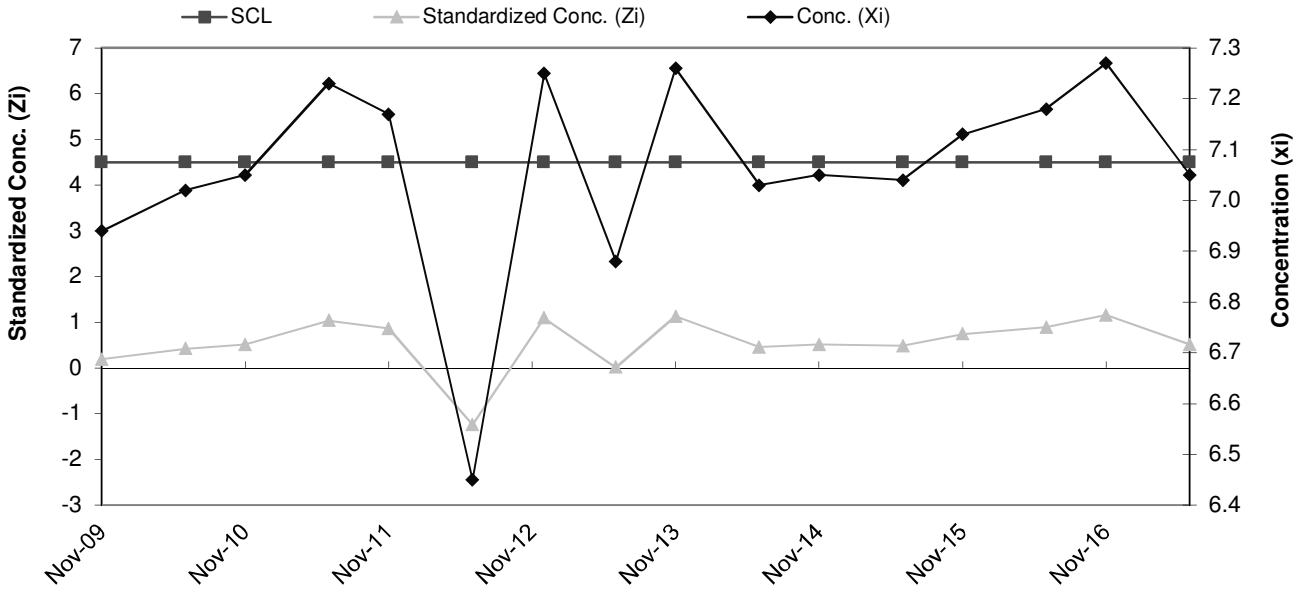


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-28 pH

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Nov-05	6.2		
2	Jun-06	7.1		
3	Dec-06	7.4		
4	Jun-07	6.8	**6.87**	**0.34**
5	Nov-07	6.8		
6	Jun-08	6.9		
7	Nov-08	6.8		
8	Jun-09	7.0		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-09	4.5	6.9	0.19
10	Jun-10	4.5	7.0	0.43
11	Nov-10	4.5	7.1	0.51
12	Jun-11	4.5	7.2	1.04
13	Nov-11	4.5	7.2	0.87
14	Jun-12	4.5	6.5	-1.24
15	Dec-12	4.5	7.3	1.10
16	Jun-13	4.5	6.9	0.02
17	Nov-13	4.5	7.3	1.13
18	Jun-14	4.5	7.0	0.46
19	Nov-14	4.5	7.1	0.51
20	Jun-15	4.5	7.0	0.49
21	Nov-15	4.5	7.1	0.75
22	Jun-16	4.5	7.2	0.89
23	Nov-16	4.5	7.3	1.16
24	Jun-17	4.5	7.1	0.51

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

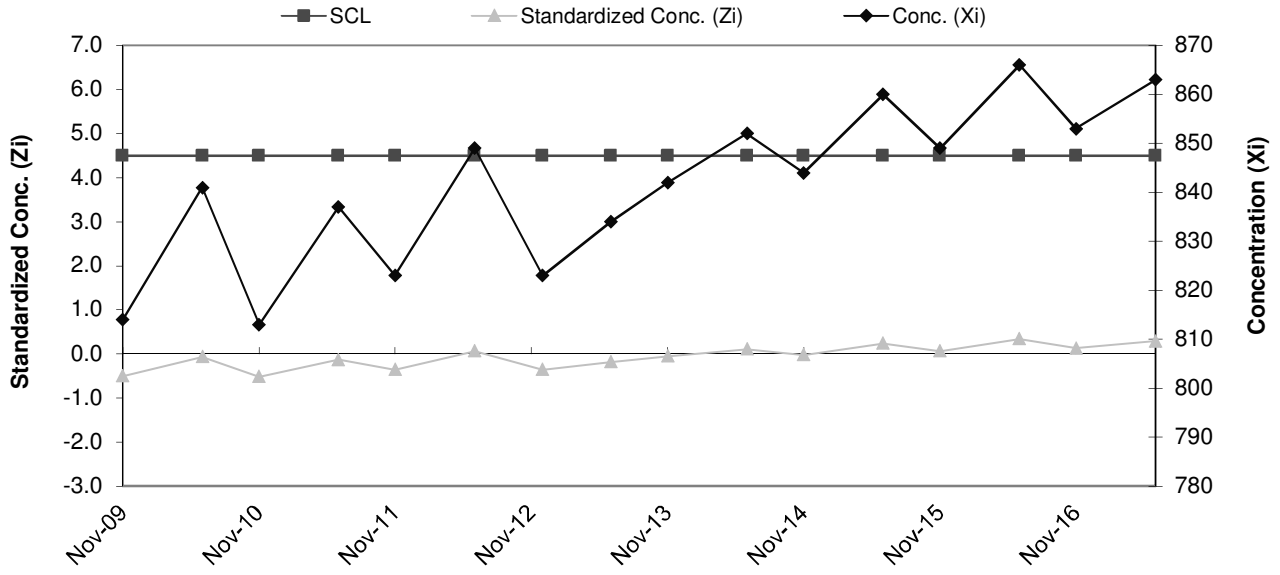


COLDWATER ROAD LANDFILL FACILITY
RCRA GROUND WATER DETECTION MONITORING SYSTEM
SHEWART CONTROL CHART
B-28 SpC

Baseline Data				
Ti	Date	Conc.	Mean	Std. Dev
1	Nov-05	994		
2	Jun-06	828		
3	Dec-06	812		
4	Jun-07	845	**845.13**	**61.71**
5	Nov-07	816		
6	Jun-08	840		
7	Nov-08	804		
8	Jun-09	822		

Ti	Date	SCL	Conc. (Xi)	Standardized Conc. (Zi)
9	Nov-09	4.5	814	-0.50
10	Jun-10	4.5	841	-0.07
11	Nov-10	4.5	813	-0.52
12	Jun-11	4.5	837	-0.13
13	Nov-11	4.5	823	-0.36
14	Jun-12	4.5	849	0.06
15	Dec-12	4.5	823	-0.36
16	Jun-13	4.5	834	-0.18
17	Nov-13	4.5	842	-0.05
18	Jun-14	4.5	852	0.11
19	Nov-14	4.5	844	-0.02
20	Jun-15	4.5	860	0.24
21	Nov-15	4.5	849	0.06
22	Jun-16	4.5	866	0.34
23	Nov-16	4.5	853	0.13
24	Jun-17	4.5	863	0.29

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



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THERE'S A WAY