July 26, 2023 Project No. 31405076.2023

Mr. Aaron Darling
Michigan Department of Environment, Great Lakes, and Energy
Materials Management Division
27700 Donald Court
Warren, Michigan 48092-2793

SECOND QUARTER 2023 ENVIRONMENTAL MONITORING REPORT
SMITHS CREEK LANDFILL
ST. CLAIR COUNTY, MICHIGAN

Dear Mr. Darling:

WSP USA Inc. is providing this report to summarize monitoring efforts from the above referenced sampling event. This report is submitted on behalf of St. Clair County, Michigan under the direction of Mr. Matt Williams.

1.0 INTRODUCTION

The Smiths Creek Landfill (SCL) is a Type II landfill located at 6779 Smiths Creek Road in Kimball Township, St. Clair County, Michigan. The SCL occupies approximately 264.5 acres, and is bordered on the north by residential and agricultural properties, on the south by undeveloped private and county owned property, on the east by the Wolvin Drain, and on the west by Smiths Creek and undeveloped and residential properties. Figure 1, Site Location Map, depicts the location and approximate areal extent of SCL in relation to nearby roads and topography.

Groundwater monitoring and reporting were performed in accordance with the Michigan Department of Environmental Quality (MDEQ, now Environment, Great Lakes and Energy [EGLE]) Hydrogeologic Monitoring Plan (HMP) dated August 2014 and approved in October 2014, which included a reduction in sampling frequency from quarterly to semiannually (during the second and fourth quarters of each calendar year). Leachate and surface water continue to be sampled on a quarterly basis. **Table 1, Monitoring Well Network Summary**, includes a summary of the monitoring well network. Designated sampling parameters, test methods, reporting limits, and corresponding containers, preservatives, and holding times are summarized in the HMP. Water level measurement procedures, groundwater and surface water sample collection methods, decontamination procedures, and leachate sample collection procedures were performed in accordance with the HMP and applicable Public Act 451, Part 115 Rules.

2.0 MONITORING RESULTS

Samples were collected by WSP personnel from 15 monitoring wells, four surface water locations, and 1 leachate sampling location between May 2 and 4, 2023. The four surface water locations were also sampled on May 24,

2023, to collect samples for parameters that were previously missed. Copies of the field data forms are included in **Appendix A, Field Data Sheets**. Table 1 identifies the monitoring wells included in the monitoring program. Copies of laboratory reports are included in **Appendix B, Laboratory Results**.

The analytical data for the one leachate sample and four surface water samples is included in **Appendix B, Laboratory Analytical Report**. A review of the reports indicate that the leachate and surface water results are similar to historical results. In addition, upstream and downstream surface water locations were compared and were found to be generally similar, as well as consistent with historically reported results. As such, there is no evidence of surface water impact as a result of the landfill.

3.0 GROUNDWATER SEEPAGE CHARACTERISTICS

Prior to well purging, WSP field personnel collected depth to groundwater measurements from each of the monitoring wells sampled, and groundwater elevations were calculated. The elevations are presented on **Table 2, Historical Groundwater Elevations** and **Figure 1, Groundwater Elevation Contour Map – May 2023**. Review of the map indicates that groundwater flow is toward the east, which is consistent with past determinations.

In accordance with Rule 299.4907(5), the groundwater seepage velocity was determined based on groundwater elevations. As presented in the HMP, Darcy's equation was used to calculate the horizontal seepage velocity, as shown below:

$$V = K\frac{i}{n}$$

Where,

V = seepage velocity
K = hydraulic conductivity
i = hydraulic gradient
n = effective porosity

Table 3, Groundwater Seepage Velocity Calculations, presents values taken from the HMP and used in the calculations, the calculated flow gradients, and the velocity across the site. As shown on Table 3, the calculated average groundwater seepage velocity was 0.0049 feet per day (ft/day) (1.8 feet per year (ft/year)), which is consistent with historical determinations.

4.0 STATISTICAL ANALYSIS RESULTS

WSP completed statistical analyses in accordance with the approved statistical analysis plan, entitled, "Statistical Analysis of Background Groundwater Monitoring Data (SABGMD)", that was prepared in accordance with R299.4908, and last updated in August 2014. **Table 4, Second Quarter 2023 Monitoring Results**, includes the comparisons of the current and previous semiannual event with the updated tolerance limits.

4.1 Exceedances

Based on a review of Table 4, one (1) initial and four (4) confirmed exceedances were reported during the second quarter 2023 monitoring event:

- Total organic carbon in monitoring well MW-207A – Initial
- Arsenic in monitoring well MW-303A – Verified

- Potassium in monitoring well MW-203B – Verified
- Sodium in monitoring well MW-203B – Verified
- Sodium in monitoring well MW-210 – Verified

4.2 Statistically Significant Increases

As shown in **Table 5, Summary of Statistical Exceedances** (required by MDEQ RMD-115-29), five (5) total exceedances (one initial and four verified) were reported during the second quarter 2023 monitoring event. An ASD is provided below for each of the exceedances.

4.2.1 Potassium and Sodium in Monitoring Well MW-203B

As discussed in a report from Golder (now known as WSP) to EGLE dated October 4, 2021, monitoring well MW-203B was installed on April 29, 2021 as a replacement well for monitoring well MW-203. Like monitoring well MW-203 before it, monitoring well MW-203B purges dry, and was thus only subject to limited well development following installation. As described in Golder's October 4, 2021 letter, additional purging of monitoring well MW-203B during continued sampling events may result in additional decreases in the concentrations of chloride, sodium, and potassium. As also proposed in the October 4, 2021 letter, if concentrations did not decrease with time, the limits would be recalculated once a minimum of eight new background values are available from the replacement well. Monitoring well MW-203B was installed immediately prior to the second quarter 2021 monitoring event and currently has a total of seven (7) background monitoring observations per constituent. WSP proposes to collect one (1) additional sample during the next quarterly monitoring period and then recalculate the statistical limits for all constituents. The procedure to be used for recalculating the statistical limits for a replacement well is described in Section 6.5 of the HMP.

4.2.2 Total Organic Carbon in Monitoring Well MW-207A

An initial, recurring exceedance was identified for total organic carbon (TOC) in downgradient monitoring well MW-207A. It is WSP's opinion that the TOC exceedance reported in downgradient monitoring well MW-207A is not a result of landfill influence on the groundwater but is rather a result of natural geochemical variability. As shown in **Appendix C, Time Series Plots MW-207A,** the current concentration of TOC is elevated with respect to TOC concentrations in upgradient monitoring wells at SCL. However, the concentrations of other indicator constituents, particularly chloride, potassium, sodium, and total inorganic nitrogen, decreased or stayed the same at the same time that TOC concentrations increased. If the increased concentration for TOC was a result of landfill influence on the landfill, it would be expected that the landfill indicator parameters would all increase simultaneously. Because only TOC showed an increase concentration during recent sampling events, it is WSP's opinion that the recent change in TOC is not a result of landfill influence on the groundwater, but is a result of another source.

4.2.3 Sodium in Monitoring Well MW-210

As shown in Table 4, the exceedance for sodium in monitoring well MW-210 is a statistically significant increase (SSI) with the result for May 2023 confirming the previous result reported for October 2022.

It is WSP's opinion that the SSI reported for sodium in monitoring well MW-210 is not a result of landfill influence on the groundwater but is rather a result of natural geochemical variability. As shown in **Appendix D, Time Series Plots MW-210**, the current concentration of sodium is within the range of historical values reported in monitoring well MW-210. In addition, sodium concentrations have been stable over the last three to four years.

Further, the concentration of sodium in monitoring well MW-210 is within the range of sodium concentrations in upgradient monitoring wells at the SCL, particularly upgradient monitoring well MW-303A. Because the concentration in downgradient monitoring well MW-210 is similar to that in upgradient monitoring wells, it is likely that the concentration in the downgradient well is a result natural geochemical variability in the uppermost aquifer.

Finally, none of the other leachate indicator parameters in monitoring well MW-210 are showing exceedances or trends (Appendix D) and the reported concentrations for indicator parameters are within the range of concentrations for other monitoring wells at the SCL. Based on these observations, no additional response is necessary with respect to the recent exceedance for sodium in monitoring well MW-210. Continued detection monitoring is appropriate.

4.2.4 Arsenic in Monitoring Well MW-303A

An exceedance was identified for arsenic in upgradient monitoring well MW-303A during the second quarter 2023 monitoring period. Arsenic in monitoring well MW-303A has been variable over the last several years, with reported concentrations ranging between <1 and 2.6 micrograms per liter (ug/L), but not exceeding the Part 201 DWC of 10 ug/L (see TSP in Appendix D). Because monitoring well MW-303A is an upgradient well, it is WSP's opinion that the reported concentration is a result of natural geochemical variability in the uppermost aquifer. Based on these results, it is WSP's opinion that continued detection monitoring is appropriate, and no additional response is necessary. The statistical limit for dissolved arsenic in monitoring well MW-303A (1 ug/L) is the lowest limit for the monitoring network at SCL and is equivalent to the detection limit for arsenic. Because the arsenic limit is so low and the location is upgradient relative to the landfill, it is WSP's opinion that the arsenic concentrations in monitoring well MW-303A are representative of background conditions, and thus the statistical limit should be reevaluated to incorporate additional data. As a result of the infrequent detections reported for monitoring well MW-303A as well as the limited number of background observations, the tolerance limit resulting from the current data would be 2.6 ug/L, which is the value reported for the second quarter 2022 event.

4.2.5 Statistical Summary

Rule 299.4440(9) of Part 115 allows a site 30 days to prepare an ASD which asserts that an SSI indicated by groundwater monitoring data is the result of a source other than a release from the site. As indicated above, a total of five exceedances (1 initial and 4 verified) were reported for the second quarter 2023 monitoring event. However, none of the exceedances reported during the second quarter 2023 monitoring period are attributable to landfill influence on the groundwater; thus, other than the proposed actions described above, no additional response is necessary and continued detection monitoring is appropriate. Due to the relatively low seepage velocity for the SCL (1.8 feet per year), it is WSP's opinion that, where applicable, confirmation sampling during the next semiannual monitoring event is appropriate.

5.0 CHAIN OF CUSTODY INFORMATION & FIELD FORMS

All samples were submitted under standard chain-of custody protocol. Copies of the chains of custody for this event are included with the laboratory results in Appendix A. Field forms are prepared at each sampling location. Copies of the field forms are included in Appendix B, Field Data Sheets.

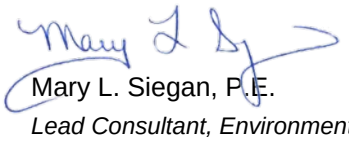
CLOSING

This report is submitted as required by the site's approved HMP by the undersigned professionals. Please do not hesitate to contact either of us at 248/536-5435, if you have any questions.

Sincerely,

WSP USA Inc.

Rachel B. Rubach
Associate Consultant, Environmental Engineer



Mary L. Siegan, P.E.
Lead Consultant, Environmental Engineer

RBR/MLS

CC: Matt Williams, St. Clair County/Smiths Creek Landfill

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TABLES

TABLE 1.
MONITORING WELL NETWORK SUMMARY
Smiths Creek Landfill

Well ID	Gradient Direction	Northing	Easting	Top of Casing Elevation (ft msl)	Bottom of Screen Elevation (ft msl)	Total Well Depth (ft)	Well Screen and Riser Materials
MW-101	Up	18374.3	14719.3	634.76	557.9	76.9	PVC
MW-106A	Down	14643.2	17132.0	633.43	558.2	75.2	PVC
MW-201	Up	18488.1	15529.3	634.57	559.2	75.4	PVC
MW-202	Up	17786.6	14714.4	635.22	570.6	64.6	PVC
MW-203	Down	14644.5	16028.9	632.05	558.9	73.2	PVC
MW-203B	Down	14546.9	16027.9	633.00	631.3	72	PVC
MW-207A	Down	15225.7	17099.4	634.29	551.4	82.9	PVC
MW-208B	Down	15533.4	17136.7	633.91	NA	NA	PVC
MW-209	Down	16102.6	17180.1	630.58	551.4	79.2	PVC
MW-210	Down	16937.0	17218.1	628.38	556.5	71.9	PVC
MW-212	Down	17719.0	16985.5	628.16	563.0	65.2	PVC
MW-301	Down	15814.4	17134.8	635.10	550.8	84.3	PVC
MW-302	Down	16545.2	17191.4	626.75	546.4	80.4	PVC
MW-303A	Up	15709.1	14987.9	633.41	557.7	75.7	PVC
MW-304	Up	16769.8	14812.1	635.12	559.4	75.7	PVC
MW-305	Down	17269.0	17204.0	628.93	553.1	75.8	PVC

Notes:

NA - Not available

Information from CTI, 2010

MSL - Mean Sea Level

PVC - Polyvinyl Chloride

TABLE 2.
HISTORICAL GROUNDWATER ELEVATIONS
Smiths Creek Landfill

Well ID	Top of Casing Elevation	2016		2017		2018		2019		2020		2021		2022		2023
		4/1/2016	10/1/2016	6/1/2017	11/1/2017	5/1/2018	10/23/2018	5/14/2019	11/5/2019	5/29/2020	12/1/2020	5/4/2021	10/19/2021	6/15/2022	10/24/2022	5/12/2023
MW-101	634.76	612.52	611.44	611.44	612.17	612.31	611.19	611.30	611.73	611.38	611.08	611.79	612.03	611.57	610.46	610.39
MW-106A	633.43	601.39	601.59	601.93	602.21	601.61	602.74	602.14	602.48	602.41	602.14	602.06	602.39	602.11	601.53	599.99
MW-201	634.57	611.97	610.87	611.04	611.99	611.78	610.79	610.68	611.13	611.39	610.73	611.38	611.49	611.34	610.20	610.43
MW-202	635.22	612.04	610.91	610.98	611.66	611.69	610.62	610.81	611.18	610.92	610.57	611.24	611.65	611.19	610.09	609.80
MW-203	632.05	607.33	606.87	607.54	608.18	607.71	606.39	606.02	607.28	607.66	607.62	n/a	n/a	n/a	n/a	n/a
MW-203B	633.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	609.02	608.77	608.45	608.18	603.61
MW-207A	634.29	598.46	598.43	598.84	598.99	598.61	597.95	597.78	598.38	598.59	598.11	598.45	598.92	598.47	597.42	598.19
MW-208B	633.91	599.78	599.62	599.89	600.31	599.93	599.13	598.96	599.58	599.87	599.41	599.80	600.21	599.80	598.76	598.44
MW-209	630.58	603.60	602.40	602.68	603.36	602.83	602.16	601.83	602.41	602.78	602.44	602.72	603.00	602.73	601.73	601.27
MW-210	628.38	600.62	600.36	600.60	601.23	600.55	600.07	599.70	600.39	600.83	600.62	600.84	601.02	600.85	599.89	599.39
MW-212	628.16	600.25	599.61	599.64	600.66	599.84	599.35	599.07	599.64	600.23	600.11	600.42	600.46	600.26	599.21	598.80
MW-301	635.10	601.38	601.14	601.51	601.94	601.54	600.76	600.49	601.20	601.40	601.01	601.36	601.74	601.38	600.39	598.97
MW-302	626.75	601.82	601.23	601.41	602.23	601.53	600.96	600.73	601.34	601.86	601.63	601.92	602.04	601.81	600.82	600.58
MW-303A	633.41	611.33	610.70	610.90	611.56	611.41	610.38	610.20	610.91	608.91	610.30	610.88	611.22	610.93	609.89	610.00
MW-304	635.12	610.49	609.74	609.84	610.46	610.36	609.47	609.42	609.89	612.34	609.27	609.93	610.21	609.86	608.81	609.12
MW-305	628.93	599.38	599.03	599.11	599.83	599.11	598.60	598.28	590.80	599.45	599.15	599.49	599.75	599.45	598.39	596.63

Notes:
All measurements recorded in feet above Mean Sea Level

TABLE 3.
GROUNDWATER SEEPAGE VELOCITY CALCULATIONS
Smiths Creek Landfill

Flow Paths	Δ h (feet)[2]	Δ l (feet)[3]	Hydraulic Gradient (Δ h/Δ l)	Average Permeability, K (feet per day)[1]	Assumed Effective Porosity (n_e)	Average Linear Groundwater Velocity (feet per day)[4]
A (MW-101/MW-212)	11.59	2356	0.0049	0.283	0.30	0.0046
B (MW-303A/MW-207A)	11.81	2168	0.0054			0.0051
C (MW-304/MW-305)	12.49	2443	0.0051			0.0048

Notes:

1. Average K values from CTI (2012).
2. Δ h = Change in groundwater elevation.
3. Δ l = Distance along flow paths.
4. Velocity = (Δ h /Δ l x K) / n_e.

TABLE 4.
SMITHS CREEK LANDFILL
Second Quarter 2023 Monitoring Results

Constituent Name	Units	Prediction Limit	Previous Quarterly Result	Current Quarterly Result
MW-101			**10/24/2022**	**5/2/2023**
Inorganic Indicators - Semiannual				
Chloride	mg/L	30.1	24.8	25.1
Potassium	mg/L	2.4	1.66	1.59
Sodium	mg/L	75.3	71.8	69
Total Organic Carbon	mg/L	9.1	1.14	1.34
Total Inorganic Nitrogen	mg/L	0.72	0.145	0.114
Metals - Annual				
Arsenic	ug/L	4.2	n/a	2
Barium	ug/L	48	n/a	36.4
Zinc	ug/L	110	n/a	<-10
MW-106A			**10/25/2022**	**5/3/2023**
Inorganic Indicators - Semiannual				
Chloride	mg/L	39.8	34.7	38.6
Potassium	mg/L	3.7	1.2	1.18
Sodium	mg/L	89.1	81.5	79.2
Total Inorganic Nitrogen	mg/L	0.48	0.171	0.105
Total Organic Carbon	mg/L	5.1	1.56	1.91
Metals - Annual				
Arsenic	ug/L	12.5	n/a	5.4
Barium	ug/L	106	n/a	59.7
Zinc	ug/L	5.3	n/a	<-10
MW-201			**10/25/2022**	**5/3/2023**
Inorganic Indicators - Semiannual				
Chloride	mg/L	30.2	16.2	16.2
Potassium	mg/L	2.6	1.36	1.39
Sodium	mg/L	75.2	71.1	67.2
Total Inorganic Nitrogen	mg/L	5.07	0.107	0.0951
Total Organic Carbon	mg/L	7.2	1.19	1.33
Metals - Annual				
Arsenic	ug/L	6.2	n/a	3.6
Barium	ug/L	50	n/a	39.5
Zinc	ug/L	40	n/a	<-10

Notes:

Shaded values represent exceedance of statistical prediction limit

mg/L = milligrams per liter; ug/L = micrograms per liter.

* = limits shown are from MW-203; additional data being gathered to determine whether revised limits are required for MW-2

TABLE 4.
SMITHS CREEK LANDFILL
Second Quarter 2023 Monitoring Results

Constituent Name	Units	Prediction Limit	Previous Quarterly Result	Current Quarterly Result
MW-202			**10/24/2022**	**5/2/2023**
Inorganic Indicators - Semiannual				
Chloride	mg/L	40	30.1	30.8
Potassium	mg/L	2.1	1.34	1.38
Sodium	mg/L	79	74	70.9
Total Inorganic Nitrogen	mg/L	0.64	0.136	0.106
Total Organic Carbon	mg/L	8.2	1.11	1.3
Metals - Annual				
Arsenic	ug/L	2.0	n/a	1.4
Barium	ug/L	110	n/a	70.9
Zinc	ug/L	60	n/a	<-10
MW-203B			**10/25/2022**	**5/3/2023**
Inorganic Indicators - Semiannual				
Chloride	mg/L	39.9*	37.5	39.3
Potassium	mg/L	1.5*	5.05	4.57
Sodium	mg/L	87.5*	97.7	89.2
Total Inorganic Nitrogen	mg/L	1.05*	0.224	0.195
Total Organic Carbon	mg/L	5.1*	1.58	1.7
Metals - Annual				
Arsenic	ug/L	18.2*	n/a	7.5
Barium	ug/L	87*	n/a	66.3
Zinc	ug/L	60*	n/a	<-10
MW-207A			**10/25/2022**	**5/3/2023**
Inorganic Indicators - Semiannual				
Chloride	mg/L	33.5	22.5	11.6
Potassium	mg/L	3.5	2.66	1.41
Sodium	mg/L	94.2	84	28.1
Total Organic Carbon	mg/L	4.2	2.41	9.56
Total Inorganic Nitrogen	mg/L	1.62	0.0975	<-0.04
Metals - Annual				
Arsenic	ug/L	14.3	n/a	1.2
Barium	ug/L	125.7	n/a	71.9
Zinc	ug/L	30	n/a	<-10

Notes:

Shaded values represent exceedance of statistical prediction limit

mg/L = milligrams per liter; ug/L = micrograms per liter.

* = limits shown are from MW-203; additional data being gathered to determine whether revised limits are required for MW-2

TABLE 4.
SMITHS CREEK LANDFILL
Second Quarter 2023 Monitoring Results

Constituent Name	Units	Prediction Limit	Previous Quarterly Result	Current Quarterly Result
MW-208B			**10/25/2022**	**5/3/2023**
Inorganic Indicators - Semiannual				
Chloride	mg/L	36.8	30.1	32.1
Potassium	mg/L	2.4	1.18	1.24
Sodium	mg/L	117.3	88	85.4
Total Inorganic Nitrogen	mg/L	4.4	0.217	0.163
Total Organic Carbon	mg/L	6.2	1.16	1.47
Metals - Annual				
Arsenic	ug/L	17.0	n/a	8
Barium	ug/L	80.6	n/a	56.7
Zinc	ug/L	9.7	n/a	<-10
MW-209			**10/25/2022**	**5/3/2023**
Inorganic Indicators - Semiannual				
Chloride	mg/L	44.5	32.6	34.6
Potassium	mg/L	1.5	1.16	1.21
Sodium	mg/L	99.8	98.8	94.2
Total Inorganic Nitrogen	mg/L	5.72	0.123	0.0969
Total Organic Carbon	mg/L	7.8	1.05	1.32
Metals - Annual				
Arsenic	ug/L	3.0	n/a	1.4
Barium	ug/L	55	n/a	42.8
Zinc	ug/L	39	n/a	<-10
MW-210			**10/25/2022**	**5/3/2023**
Inorganic Indicators - Semiannual				
Chloride	mg/L	40.1	28.3	29.7
Potassium	mg/L	2.45	1.42	1.36
Sodium	mg/L	90.6	101	93.7
Total Organic Carbon	mg/L	10.6	1.31	1.49
Total Inorganic Nitrogen	mg/L	1.71	0.118	0.112
Metals - Annual				
Arsenic	ug/L	16	n/a	6.3
Zinc	ug/L	50	n/a	<-10

Notes:

Shaded values represent exceedance of statistical prediction limit

mg/L = milligrams per liter; ug/L = micrograms per liter.

* = limits shown are from MW-203; additional data being gathered to determine whether revised limits are required for MW-2

TABLE 4.
SMITHS CREEK LANDFILL
Second Quarter 2023 Monitoring Results

Constituent Name	Units	Prediction Limit	Previous Quarterly Result	Current Quarterly Result
MW-212			**10/25/2022**	**5/3/2023**
Inorganic Indicators - Semiannual				
Chloride	mg/L	41.4	30.4	31.3
Potassium	mg/L	1.8	0.994	1.11
Sodium	mg/L	101.2	95.8	91.9
Total Inorganic Nitrogen	mg/L	0.72	0.0277	0.0893
Total Organic Carbon	mg/L	7.1	1.51	1.69
Metals - Annual				
Arsenic	ug/L	60	n/a	4.5
Barium	ug/L	362.1	n/a	67.4
Zinc	ug/L	20	n/a	<-10
MW-301			**10/24/2022**	**5/3/2023**
Inorganic Indicators - Semiannual				
Chloride	mg/L	54.3	38.6	40.8
Potassium	mg/L	11.8	1.24	1.28
Sodium	mg/L	110.4	106	99.1
Sodium	mg/L	110.4	106	103
Total Organic Carbon	mg/L	12.3	1.04	1.27
Total Inorganic Nitrogen	mg/L	1.13	0.207	0.185
Metals - Annual				
Arsenic	ug/L	7.1	n/a	2.8
Barium	ug/L	60	n/a	27.8
Zinc	ug/L	21	n/a	<-10
MW-302			**10/24/2022**	**5/3/2023**
Inorganic Indicators - Semiannual				
Chloride	mg/L	67	35.3	37.5
Potassium	mg/L	7.9	1.57	1.68
Sodium	mg/L	111.9	100	95.6
Total Organic Carbon	mg/L	11.9	1.11	1.39
Total Inorganic Nitrogen	mg/L	0.92	0.252	0.108
Metals - Annual				
Arsenic	ug/L	6.0	n/a	<-1
Barium	ug/L	40	n/a	32.7
Zinc	ug/L	29	n/a	<-10

Notes:

Shaded values represent exceedance of statistical prediction limit

mg/L = milligrams per liter; ug/L = micrograms per liter.

* = limits shown are from MW-203; additional data being gathered to determine whether revised limits are required for MW-2

TABLE 4.
SMITHS CREEK LANDFILL
Second Quarter 2023 Monitoring Results

Constituent Name	Units	Prediction Limit	Previous Quarterly Result	Current Quarterly Result
MW-303A			**10/25/2022**	**5/3/2023**
Inorganic Indicators - Semiannual				
Chloride	mg/L	48.6	40.7	41.9
Potassium	mg/L	2.2	1.02	1.05
Sodium	mg/L	157.6	110	104
Sodium	mg/L	157.6	110	106
Total Organic Carbon	mg/L	1.89	1.21	1.37
Total Inorganic Nitrogen	mg/L	0.21	0.115	0.0719
Metals - Annual				
Arsenic	ug/L	1.0	n/a	3
Barium	ug/L	24.25	n/a	5.8
Zinc	ug/L	10	n/a	<-10
MW-304			**10/25/2022**	**5/2/2023**
Inorganic Indicators - Semiannual				
Chloride	mg/L	40.2	30.2	32.1
Potassium	mg/L	4.2	1.53	1.52
Sodium	mg/L	90	83.6	80.5
Total Inorganic Nitrogen	mg/L	1.3	0.163	0.129
Total Organic Carbon	mg/L	3.1	1.05	1.2
Metals - Annual				
Arsenic	ug/L	2.0	n/a	<-1
Barium	ug/L	43	n/a	21.8
Zinc	ug/L	30	n/a	<-10
MW-305			**10/25/2022**	**5/3/2023**
Inorganic Indicators - Semiannual				
Chloride	mg/L	49.2	32.2	34.3
Potassium	mg/L	11.1	1.54	1.65
Sodium	mg/L	96.1	97.6	93.9
Total Inorganic Nitrogen	mg/L	2.16	0.0999	0.131
Total Organic Carbon	mg/L	11.9	1.53	1.75
Metals - Annual				
Arsenic	ug/L	6.4	n/a	3.3
Barium	ug/L	60	n/a	34.4
Zinc	ug/L	40	n/a	<-10

Notes:

Shaded values represent exceedance of statistical prediction limit

mg/L = milligrams per liter; ug/L = micrograms per liter.

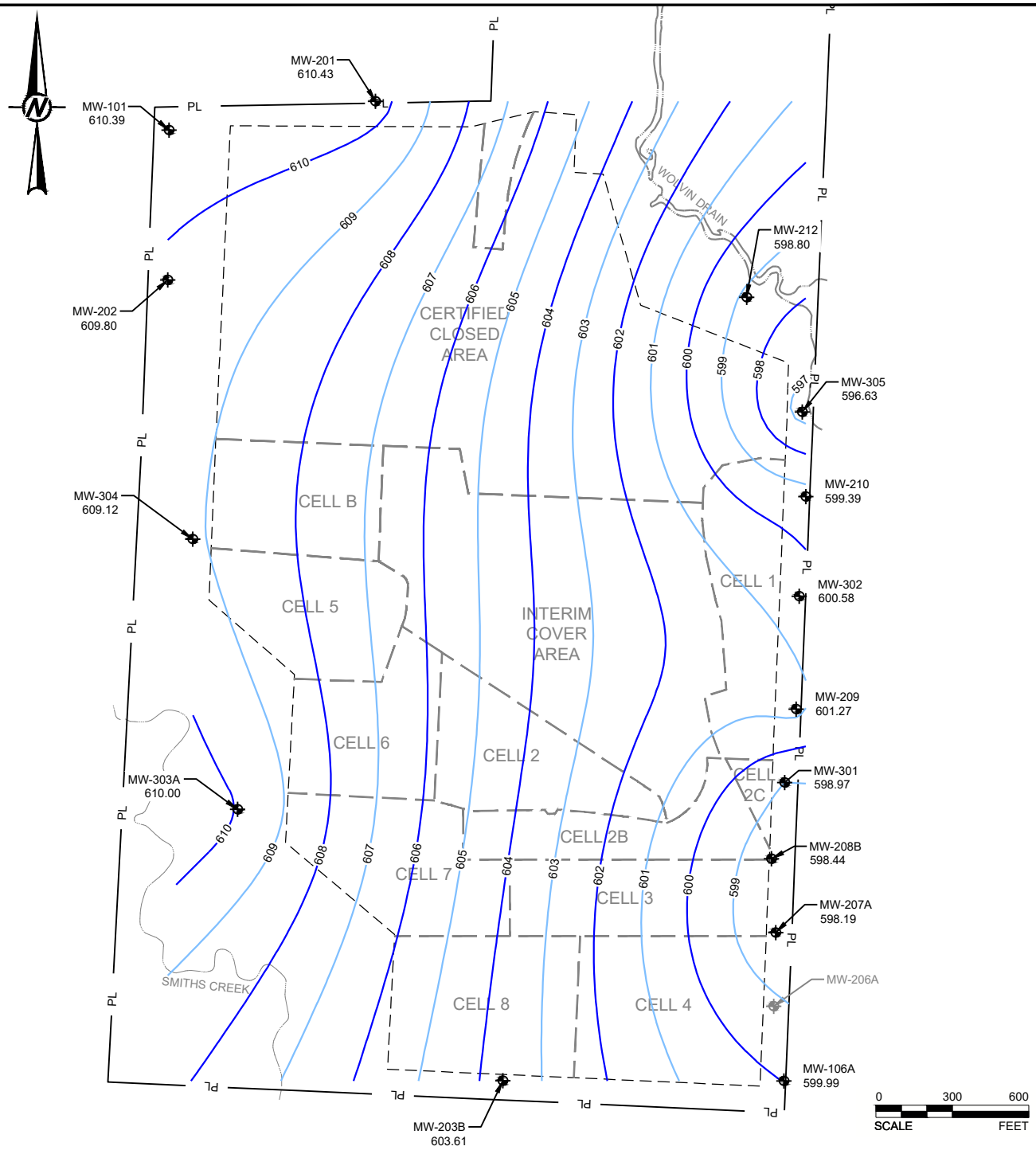
* = limits shown are from MW-203; additional data being gathered to determine whether revised limits are required for MW-2

TABLE 5.
SUMMARY OF STATISTICAL EXCEEDANCES
Fourth Quarter 2022 Monitoring Event
Smiths Creek Landfill

Parameter	Well #	Location (U/D/S)	Part 201 GRCC DWC	Statistical Limit	2Q2023 (bold>201)	4Q2022 (bold>201)	3Q2022 (verification) (bold>201)	2Q2022 (bold>201)	4Q2021 (bold>201)
Chloride (mg/L)	MW-203B	S	250	39.9	39.3	37.7	38.6	37.7	40.0
Potassium (mg/l)		S	n/a	1.5	4.57	5.05	6.41	7.88	5.94
Sodium (mg/L)		S	230	87.5	89.2	97.7	95.4	90.3	86.7
Total Organic Carbon (mg/L)	MW-207A	D	NC	4.2	9.56	2.41	5.6	7.74	11.4
Potassium (ug/L)	MW-210	D	n/a	2.45	1.36	1.42	n/a	2.46	1.69
Sodium (mg/L)		D	230	90.6	93.7	101	n/a	142	114
Arsenic (ug/L)	MW-303A	U	10	1.0	3	n/a	n/a	2.6	n/a
Sodium (mg/L)	MW-305	D	230	96.1	93.9	97.6	n/a	87.8	89.7

COMMENTS: Shaded values exceed the statistical limit.
n/a = not applicable, not required during specified sampling event
n/s = not sampled, recently installed replacement well
NL=No Limit, NC=Not Calculated
U=upgradient, D=downgradient, S=sidegradient
GRCC = generic residential cleanup criteria; DWC = drinking water criteria

FIGURE



LEGEND

- PL — PROPERTY BOUNDARY
- SOLID WASTE BOUNDARY
- CELL BOUNDARY
- 600 — GROUNDWATER ELEVATION CONTOUR
- MW-XXX XXX.XX — MONITORING WELL LOCATION AND GROUNDWATER ELEVATION
- MW-XXX — WELL ABANDONED

CLIENT
SMITHS CREEK LANDFILL
6779 SMITHS CREEK ROAD
SMITHS CREEK, MICHIGAN

PROJECT
2023 GROUNDWATER MONITORING

TITLE
GROUNDWATER ELEVATION CONTOUR MAP
MAY 2, 2023

CONSULTANT
wsp

YYYY-MM-DD	2023-07-07
PREPARED	DJC
DESIGN	RR
REVIEW	RR
APPROVED	MLS

PROJECT No.	CONTROL	Rev.	FIGURE
31405076.000	31405076.000B002.dwg	0	1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

Path: \\golder.gds\complex\data\office\Detroit\Cad\Projects\31x-Projects\31405076.000-Smiths Creek LF\PRODUCTION\B-2023 QUARTERLY MONITORING\ | File Name: 31405076.000B002.dwg

APPENDIX A

Laboratory Results

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

May 19, 2023

Mary Siegan
WSP
46850 Magellan Drive
Suite 190
Novi, MI 48377

RE: Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

Dear Mary Siegan:

Enclosed are the analytical results for sample(s) received by the laboratory on May 04, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Indianapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Rice
jennifer.rice@pacelabs.com
(616)975-4500
Project Manager

Enclosures

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

CERTIFICATIONS

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

Pace Analytical Services Indianapolis
7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

SAMPLE SUMMARY

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50344019001	**Leachate**	Water	05/04/23 09:40	05/04/23 17:42

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

SAMPLE ANALYTE COUNT

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50344019001	**Leachate**	EPA 6010	MTM	9	PASI-I
		EPA 6020	CAW	13	PASI-I
		EPA 5030B/8260	ALA	51	PASI-I
		SM 2320B	DAW	3	PASI-I
		SM 2540C	TRK	1	PASI-I
		EPA 410.4	STS	1	PASI-I
		EPA 9038	STS	1	PASI-I
		NO2+NO3+NH3 Calculation	MMS	1	PASI-I
		EPA 353.2	ZM	1	PASI-I
		EPA 420.4	ZM	1	PASI-I
		SM 4500-Cl-E	ZM	1	PASI-I
		SM 4500-NH3 G	MMS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
		EPA 9012	YAM	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

Sample: Leachate **Lab ID: 50344019001** Collected: 05/04/23 09:40 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Calcium	**161000**	ug/L	5000	1	05/16/23 07:58	05/17/23 11:24	7440-70-2	
Chromium	**238**	ug/L	100	1	05/16/23 07:58	05/17/23 11:24	7440-47-3	
Cobalt	**<75.0**	ug/L	75.0	1	05/16/23 07:58	05/17/23 11:24	7440-48-4	
Copper	**<50.0**	ug/L	50.0	1	05/16/23 07:58	05/17/23 11:24	7440-50-8	
Iron	**12900**	ug/L	500	1	05/16/23 07:58	05/17/23 11:24	7439-89-6	
Lead	**<250**	ug/L	250	1	05/16/23 07:58	05/17/23 11:24	7439-92-1	
Magnesium	**116000**	ug/L	5000	1	05/16/23 07:58	05/17/23 11:24	7439-95-4	
Potassium	**373000**	ug/L	2500	1	05/16/23 07:58	05/17/23 11:24	7440-09-7	
Sodium	**3000000**	ug/L	25000	5	05/16/23 07:58	05/17/23 11:44	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Antimony	**19.7**	ug/L	5.0	1	05/10/23 15:50	05/16/23 03:04	7440-36-0	
Arsenic	**112**	ug/L	5.0	1	05/10/23 15:50	05/16/23 03:04	7440-38-2	
Barium	**497**	ug/L	25.0	1	05/10/23 15:50	05/16/23 03:04	7440-39-3	
Beryllium	**<5.0**	ug/L	5.0	1	05/10/23 15:50	05/17/23 00:40	7440-41-7	
Boron	**7430**	ug/L	5000	50	05/10/23 15:50	05/15/23 23:22	7440-42-8	N2
Cadmium	**<1.0**	ug/L	1.0	1	05/10/23 15:50	05/16/23 03:04	7440-43-9	
Manganese	**268**	ug/L	25.0	1	05/10/23 15:50	05/16/23 03:04	7439-96-5	
Nickel	**80.1**	ug/L	10.0	1	05/10/23 15:50	05/16/23 03:04	7440-02-0	
Selenium	**<5.0**	ug/L	5.0	1	05/10/23 15:50	05/16/23 03:04	7782-49-2	
Silver	**<1.0**	ug/L	1.0	1	05/10/23 15:50	05/16/23 03:04	7440-22-4	
Thallium	**<10.0**	ug/L	10.0	1	05/10/23 15:50	05/16/23 03:04	7440-28-0	
Vanadium	**54.3**	ug/L	10.0	1	05/10/23 15:50	05/16/23 03:04	7440-62-2	
Zinc	**<50.0**	ug/L	50.0	1	05/10/23 15:50	05/16/23 03:04	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Acetone	**483**	ug/L	100	5		05/11/23 23:25	67-64-1	
Acrylonitrile	**<25.0**	ug/L	25.0	5		05/11/23 23:25	107-13-1	
Benzene	**7.1**	ug/L	5.0	5		05/11/23 23:25	71-43-2	
Bromochloromethane	**<5.0**	ug/L	5.0	5		05/11/23 23:25	74-97-5	
Bromodichloromethane	**<5.0**	ug/L	5.0	5		05/11/23 23:25	75-27-4	
Bromoform	**<5.0**	ug/L	5.0	5		05/11/23 23:25	75-25-2	
Bromomethane	**<25.0**	ug/L	25.0	5		05/11/23 23:25	74-83-9	
2-Butanone (MEK)	**553**	ug/L	25.0	5		05/11/23 23:25	78-93-3	
Carbon disulfide	**<5.0**	ug/L	5.0	5		05/11/23 23:25	75-15-0	
Carbon tetrachloride	**<5.0**	ug/L	5.0	5		05/11/23 23:25	56-23-5	
Chlorobenzene	**<5.0**	ug/L	5.0	5		05/11/23 23:25	108-90-7	
Chloroethane	**<25.0**	ug/L	25.0	5		05/11/23 23:25	75-00-3	
Chloroform	**<5.0**	ug/L	5.0	5		05/11/23 23:25	67-66-3	
Chloromethane	**<25.0**	ug/L	25.0	5		05/11/23 23:25	74-87-3	
1,2-Dibromo-3-chloropropane	**<25.0**	ug/L	25.0	5		05/11/23 23:25	96-12-8	
Dibromochloromethane	**<5.0**	ug/L	5.0	5		05/11/23 23:25	124-48-1	
1,2-Dibromoethane (EDB)	**<5.0**	ug/L	5.0	5		05/11/23 23:25	106-93-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

Sample: Leachate **Lab ID: 50344019001** Collected: 05/04/23 09:40 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 5030B/8260							
	Pace Analytical Services - Indianapolis							
Dibromomethane	**<5.0**	ug/L	5.0	5		05/11/23 23:25	74-95-3	
1,2-Dichlorobenzene	**<5.0**	ug/L	5.0	5		05/11/23 23:25	95-50-1	
1,4-Dichlorobenzene	**<5.0**	ug/L	5.0	5		05/11/23 23:25	106-46-7	
trans-1,4-Dichloro-2-butene	**<25.0**	ug/L	25.0	5		05/11/23 23:25	110-57-6	
1,1-Dichloroethane	**<5.0**	ug/L	5.0	5		05/11/23 23:25	75-34-3	
1,2-Dichloroethane	**<5.0**	ug/L	5.0	5		05/11/23 23:25	107-06-2	
1,1-Dichloroethene	**<5.0**	ug/L	5.0	5		05/11/23 23:25	75-35-4	
cis-1,2-Dichloroethene	**<5.0**	ug/L	5.0	5		05/11/23 23:25	156-59-2	
trans-1,2-Dichloroethene	**<5.0**	ug/L	5.0	5		05/11/23 23:25	156-60-5	
1,2-Dichloropropane	**<5.0**	ug/L	5.0	5		05/11/23 23:25	78-87-5	
cis-1,3-Dichloropropene	**<5.0**	ug/L	5.0	5		05/11/23 23:25	10061-01-5	
trans-1,3-Dichloropropene	**<5.0**	ug/L	5.0	5		05/11/23 23:25	10061-02-6	
Ethylbenzene	**17.9**	ug/L	5.0	5		05/11/23 23:25	100-41-4	
2-Hexanone	**<25.0**	ug/L	25.0	5		05/11/23 23:25	591-78-6	
Iodomethane	**<5.0**	ug/L	5.0	5		05/11/23 23:25	74-88-4	
Methylene Chloride	**<25.0**	ug/L	25.0	5		05/11/23 23:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<25.0**	ug/L	25.0	5		05/11/23 23:25	108-10-1	
Styrene	**<5.0**	ug/L	5.0	5		05/11/23 23:25	100-42-5	
1,1,1,2-Tetrachloroethane	**<5.0**	ug/L	5.0	5		05/11/23 23:25	630-20-6	
1,1,2,2-Tetrachloroethane	**<5.0**	ug/L	5.0	5		05/11/23 23:25	79-34-5	
Tetrachloroethene	**<5.0**	ug/L	5.0	5		05/11/23 23:25	127-18-4	
Toluene	**27.1**	ug/L	5.0	5		05/11/23 23:25	108-88-3	
1,1,1-Trichloroethane	**<5.0**	ug/L	5.0	5		05/11/23 23:25	71-55-6	
1,1,2-Trichloroethane	**<5.0**	ug/L	5.0	5		05/11/23 23:25	79-00-5	
Trichloroethene	**<5.0**	ug/L	5.0	5		05/11/23 23:25	79-01-6	
Trichlorofluoromethane	**<5.0**	ug/L	5.0	5		05/11/23 23:25	75-69-4	
1,2,3-Trichloropropane	**<5.0**	ug/L	5.0	5		05/11/23 23:25	96-18-4	
Vinyl chloride	**<5.0**	ug/L	5.0	5		05/11/23 23:25	75-01-4	
Xylene (Total)	**45.2**	ug/L	10.0	5		05/11/23 23:25	1330-20-7	
m&p-Xylene	**30.5**	ug/L	10.0	5		05/11/23 23:25	179601-23-1	
o-Xylene	**14.8**	ug/L	5.0	5		05/11/23 23:25	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	96	%.	79-124	5		05/11/23 23:25	460-00-4	F1,HS, pH
Dibromofluoromethane (S)	99	%.	82-128	5		05/11/23 23:25	1868-53-7	
Toluene-d8 (S)	94	%.	73-122	5		05/11/23 23:25	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**3810000**	ug/L	10000	1		05/11/23 18:30		
Alkalinity,Bicarbonate (CaCO3)	**3810000**	ug/L	10000	1		05/11/23 18:30		
Alkalinity,Carbonate (CaCO3)	**<10000**	ug/L	10000	1		05/11/23 18:30		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**9370000**	ug/L	667000	1		05/09/23 10:19		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

Sample: Leachate **Lab ID: 50344019001** Collected: 05/04/23 09:40 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
410.4 COD	Analytical Method: EPA 410.4 Preparation Method: EPA 410.4 Pace Analytical Services - Indianapolis							
Chemical Oxygen Demand	**1760000**	ug/L	50000	1	05/11/23 12:29	05/11/23 15:37		
9038 Sulfate Water	Analytical Method: EPA 9038 Pace Analytical Services - Indianapolis							
Sulfate	**<500000**	ug/L	500000	50		05/09/23 10:00	14808-79-8	D3
Total Inorganic Nitrogen	Analytical Method: NO2+NO3+NH3 Calculation Pace Analytical Services - Indianapolis							
Total Inorganic Nitrogen	**708000**	ug/L	20.0	1		05/19/23 15:28		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, NO2 plus NO3	**<2000**	ug/L	2000	100		05/12/23 16:00		D3,P4
420.4 Phenolics, Total	Analytical Method: EPA 420.4 Preparation Method: EPA 420.4 Pace Analytical Services - Indianapolis							
Phenolics, Total Recoverable	**164**	ug/L	100	1	05/15/23 11:30	05/17/23 15:36	64743-03-9	
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - Indianapolis							
Chloride	**8630000**	ug/L	100000	100		05/11/23 15:48	16887-00-6	
4500 Ammonia Water	Analytical Method: SM 4500-NH3 G Pace Analytical Services - Indianapolis							
Nitrogen, Ammonia	**708000**	ug/L	5000	50		05/15/23 19:58	7664-41-7	P4
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**457000**	ug/L	32000	64		05/13/23 00:53	7440-44-0	
9012 Cyanide, Total	Analytical Method: EPA 9012 Preparation Method: EPA 9012 Pace Analytical Services - Indianapolis							
Cyanide	**36.9**	ug/L	10.0	1	05/17/23 10:27	05/17/23 19:19	57-12-5	P4

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

QC Batch: 731783
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344019001

METHOD BLANK: 3358686 Matrix: Water
Associated Lab Samples: 50344019001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Calcium	ug/L	<1000	1000	05/17/23 10:48	
Chromium	ug/L	<20.0	20.0	05/17/23 10:48	
Cobalt	ug/L	<15.0	15.0	05/17/23 10:48	
Copper	ug/L	<10.0	10.0	05/17/23 10:48	
Iron	ug/L	<100	100	05/17/23 10:48	
Lead	ug/L	<50.0	50.0	05/17/23 10:48	
Magnesium	ug/L	<1000	1000	05/17/23 10:48	
Potassium	ug/L	<500	500	05/17/23 10:48	
Sodium	ug/L	<1000	1000	05/17/23 10:48	

LABORATORY CONTROL SAMPLE: 3358687

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	5000	4970	99	80-120	
Chromium	ug/L	1000	1000	100	80-120	
Cobalt	ug/L	1000	995	99	80-120	
Copper	ug/L	1000	976	98	80-120	
Iron	ug/L	2500	2570	103	80-120	
Lead	ug/L	1000	942	94	80-120	
Magnesium	ug/L	5000	5060	101	80-120	
Potassium	ug/L	5000	4950	99	80-120	
Sodium	ug/L	5000	5070	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3358688 3358689

Parameter	Units	50343959003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	283000	5000	5000	290000	283000	142	2	75-125	2	20	E,P6
Chromium	ug/L	ND	1000	1000	1070	1090	107	109	75-125	1	20	
Cobalt	ug/L	ND	1000	1000	1040	1030	104	103	75-125	1	20	
Copper	ug/L	ND	1000	1000	1050	1070	105	107	75-125	2	20	
Iron	ug/L	421	2500	2500	3090	3030	107	105	75-125	2	20	
Lead	ug/L	ND	1000	1000	980	974	98	97	75-125	1	20	
Magnesium	ug/L	27700	5000	5000	32900	32100	105	88	75-125	3	20	
Potassium	ug/L	2990	5000	5000	8630	8550	113	111	75-125	1	20	
Sodium	ug/L	110000	5000	5000	116000	114000	114	74	75-125	2	20	P6

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

QC Batch: 732598
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50344019001

METHOD BLANK: 3362201 Matrix: Water
Associated Lab Samples: 50344019001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	<1.0	1.0	05/15/23 14:27	
Arsenic	ug/L	<1.0	1.0	05/15/23 14:27	
Barium	ug/L	<5.0	5.0	05/15/23 14:27	
Beryllium	ug/L	<1.0	1.0	05/16/23 20:26	
Boron	ug/L	<20.0	20.0	05/16/23 20:26	N2
Cadmium	ug/L	<0.20	0.20	05/15/23 14:27	
Manganese	ug/L	<5.0	5.0	05/15/23 14:27	
Nickel	ug/L	<2.0	2.0	05/15/23 14:27	
Selenium	ug/L	<1.0	1.0	05/15/23 14:27	
Silver	ug/L	<0.20	0.20	05/15/23 14:27	
Thallium	ug/L	<2.0	2.0	05/15/23 14:27	
Vanadium	ug/L	<2.0	2.0	05/15/23 14:27	
Zinc	ug/L	<10.0	10.0	05/15/23 14:27	

LABORATORY CONTROL SAMPLE: 3362202

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	41.8	105	80-120	
Arsenic	ug/L	40	39.5	99	80-120	
Barium	ug/L	40	39.4	98	80-120	
Beryllium	ug/L	40	41.4	104	80-120	
Boron	ug/L	40	43.7	109	80-120	N2
Cadmium	ug/L	40	38.5	96	80-120	
Manganese	ug/L	40	41.1	103	80-120	
Nickel	ug/L	40	39.9	100	80-120	
Selenium	ug/L	40	39.5	99	80-120	
Silver	ug/L	40	40.8	102	80-120	
Thallium	ug/L	40	42.2	105	80-120	
Vanadium	ug/L	40	40.2	101	80-120	
Zinc	ug/L	40	40.2	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362203 3362204

Parameter	Units	50343922008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	40	40	40.2	40.5	100	101	75-125	1	20	
Arsenic	ug/L	ND	40	40	40.5	39.9	101	99	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362203 3362204

Parameter	Units	50343922008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	40.8	40	40	79.3	79.2	96	96	75-125	0	20	
Beryllium	ug/L	ND	40	40	38.6	38.7	97	97	75-125	0	20	CC
Boron	ug/L	104	40	40	138	136	85	81	75-125	1	20	CC,N2
Cadmium	ug/L	ND	40	40	38.5	38.7	96	97	75-125	1	20	
Manganese	ug/L	241	40	40	281	281	99	99	75-125	0	20	
Nickel	ug/L	ND	40	40	41.8	42.9	95	98	75-125	3	20	
Selenium	ug/L	ND	40	40	41.0	40.0	102	100	75-125	2	20	
Silver	ug/L	ND	40	40	37.7	38.3	94	96	75-125	2	20	
Thallium	ug/L	ND	40	40	39.3	39.2	98	98	75-125	0	20	
Vanadium	ug/L	ND	40	40	39.2	40.0	97	99	75-125	2	20	
Zinc	ug/L	ND	40	40	<50.0	<50.0	94	97	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

QC Batch: 733107
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Low Level
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50344019001

METHOD BLANK: 3364677 Matrix: Water
Associated Lab Samples: 50344019001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<1.0	1.0	05/11/23 22:56	
1,1,1-Trichloroethane	ug/L	<1.0	1.0	05/11/23 22:56	
1,1,2,2-Tetrachloroethane	ug/L	<1.0	1.0	05/11/23 22:56	
1,1,2-Trichloroethane	ug/L	<1.0	1.0	05/11/23 22:56	
1,1-Dichloroethane	ug/L	<1.0	1.0	05/11/23 22:56	
1,1-Dichloroethene	ug/L	<1.0	1.0	05/11/23 22:56	
1,2,3-Trichloropropane	ug/L	<1.0	1.0	05/11/23 22:56	
1,2-Dibromo-3-chloropropane	ug/L	<5.0	5.0	05/11/23 22:56	
1,2-Dibromoethane (EDB)	ug/L	<1.0	1.0	05/11/23 22:56	
1,2-Dichlorobenzene	ug/L	<1.0	1.0	05/11/23 22:56	
1,2-Dichloroethane	ug/L	<1.0	1.0	05/11/23 22:56	
1,2-Dichloropropane	ug/L	<1.0	1.0	05/11/23 22:56	
1,4-Dichlorobenzene	ug/L	<1.0	1.0	05/11/23 22:56	
2-Butanone (MEK)	ug/L	<5.0	5.0	05/11/23 22:56	
2-Hexanone	ug/L	<5.0	5.0	05/11/23 22:56	
4-Methyl-2-pentanone (MIBK)	ug/L	<5.0	5.0	05/11/23 22:56	
Acetone	ug/L	<20.0	20.0	05/11/23 22:56	
Acrylonitrile	ug/L	<5.0	5.0	05/11/23 22:56	
Benzene	ug/L	<1.0	1.0	05/11/23 22:56	
Bromochloromethane	ug/L	<1.0	1.0	05/11/23 22:56	
Bromodichloromethane	ug/L	<1.0	1.0	05/11/23 22:56	
Bromoform	ug/L	<1.0	1.0	05/11/23 22:56	
Bromomethane	ug/L	<5.0	5.0	05/11/23 22:56	
Carbon disulfide	ug/L	<1.0	1.0	05/11/23 22:56	
Carbon tetrachloride	ug/L	<1.0	1.0	05/11/23 22:56	
Chlorobenzene	ug/L	<1.0	1.0	05/11/23 22:56	
Chloroethane	ug/L	<5.0	5.0	05/11/23 22:56	
Chloroform	ug/L	<1.0	1.0	05/11/23 22:56	
Chloromethane	ug/L	<5.0	5.0	05/11/23 22:56	
cis-1,2-Dichloroethene	ug/L	<1.0	1.0	05/11/23 22:56	
cis-1,3-Dichloropropene	ug/L	<1.0	1.0	05/11/23 22:56	
Dibromochloromethane	ug/L	<1.0	1.0	05/11/23 22:56	
Dibromomethane	ug/L	<1.0	1.0	05/11/23 22:56	
Ethylbenzene	ug/L	<1.0	1.0	05/11/23 22:56	
Iodomethane	ug/L	<1.0	1.0	05/11/23 22:56	
m&p-Xylene	ug/L	<2.0	2.0	05/11/23 22:56	
Methylene Chloride	ug/L	<5.0	5.0	05/11/23 22:56	
o-Xylene	ug/L	<1.0	1.0	05/11/23 22:56	
Styrene	ug/L	<1.0	1.0	05/11/23 22:56	
Tetrachloroethene	ug/L	<1.0	1.0	05/11/23 22:56	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

METHOD BLANK: 3364677 Matrix: Water
Associated Lab Samples: 50344019001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Toluene	ug/L	<1.0	1.0	05/11/23 22:56	
trans-1,2-Dichloroethene	ug/L	<1.0	1.0	05/11/23 22:56	
trans-1,3-Dichloropropene	ug/L	<1.0	1.0	05/11/23 22:56	
trans-1,4-Dichloro-2-butene	ug/L	<5.0	5.0	05/11/23 22:56	
Trichloroethene	ug/L	<1.0	1.0	05/11/23 22:56	
Trichlorofluoromethane	ug/L	<1.0	1.0	05/11/23 22:56	
Vinyl chloride	ug/L	<1.0	1.0	05/11/23 22:56	
Xylene (Total)	ug/L	<2.0	2.0	05/11/23 22:56	
4-Bromofluorobenzene (S)	%.	96	79-124	05/11/23 22:56	
Dibromofluoromethane (S)	%.	97	82-128	05/11/23 22:56	
Toluene-d8 (S)	%.	95	73-122	05/11/23 22:56	

LABORATORY CONTROL SAMPLE: 3364678

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	54.5	109	81-130	
1,1,1-Trichloroethane	ug/L	50	54.5	109	76-127	
1,1,2,2-Tetrachloroethane	ug/L	50	50.2	100	70-126	
1,1,2-Trichloroethane	ug/L	50	52.0	104	79-124	
1,1-Dichloroethane	ug/L	50	51.8	104	76-123	
1,1-Dichloroethene	ug/L	50	56.1	112	73-133	
1,2,3-Trichloropropane	ug/L	50	49.3	99	75-121	
1,2-Dibromo-3-chloropropane	ug/L	50	54.8	110	81-133	
1,2-Dibromoethane (EDB)	ug/L	50	52.8	106	80-126	
1,2-Dichlorobenzene	ug/L	50	51.3	103	79-123	
1,2-Dichloroethane	ug/L	50	47.9	96	70-124	
1,2-Dichloropropane	ug/L	50	52.8	106	74-128	
1,4-Dichlorobenzene	ug/L	50	50.6	101	77-120	
2-Butanone (MEK)	ug/L	250	239	96	59-134	
2-Hexanone	ug/L	250	226	90	63-134	
4-Methyl-2-pentanone (MIBK)	ug/L	250	230	92	67-133	
Acetone	ug/L	250	221	89	32-133	
Acrylonitrile	ug/L	250	248	99	69-137	
Benzene	ug/L	50	53.2	106	74-124	
Bromochloromethane	ug/L	50	44.9	90	66-127	
Bromodichloromethane	ug/L	50	57.6	115	80-126	
Bromoform	ug/L	50	55.5	111	75-128	
Bromomethane	ug/L	50	36.6	73	10-183	
Carbon disulfide	ug/L	50	51.1	102	68-123	
Carbon tetrachloride	ug/L	50	53.8	108	78-132	
Chlorobenzene	ug/L	50	51.2	102	77-121	
Chloroethane	ug/L	50	44.2	88	43-140	
Chloroform	ug/L	50	53.6	107	75-118	
Chloromethane	ug/L	50	38.3	77	45-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

LABORATORY CONTROL SAMPLE: 3364678

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/L	50	54.6	109	76-125	
cis-1,3-Dichloropropene	ug/L	50	53.2	106	76-132	
Dibromochloromethane	ug/L	50	55.7	111	79-130	
Dibromomethane	ug/L	50	54.1	108	79-124	
Ethylbenzene	ug/L	50	51.6	103	74-125	
Iodomethane	ug/L	50	27.3	55	10-160	
m&p-Xylene	ug/L	100	99.1	99	72-123	
Methylene Chloride	ug/L	50	50.1	100	77-126	
o-Xylene	ug/L	50	51.7	103	74-124	
Styrene	ug/L	50	52.0	104	81-129	
Tetrachloroethene	ug/L	50	54.6	109	73-132	
Toluene	ug/L	50	49.7	99	72-119	
trans-1,2-Dichloroethene	ug/L	50	55.1	110	74-125	
trans-1,3-Dichloropropene	ug/L	50	51.3	103	75-132	
trans-1,4-Dichloro-2-butene	ug/L	50	43.1	86	66-152	
Trichloroethene	ug/L	50	55.2	110	75-127	
Trichlorofluoromethane	ug/L	50	48.2	96	64-136	
Vinyl chloride	ug/L	50	39.9	80	48-133	
Xylene (Total)	ug/L	150	151	101	73-123	
4-Bromofluorobenzene (S)	%.			96	79-124	
Dibromofluoromethane (S)	%.			101	82-128	
Toluene-d8 (S)	%.			96	73-122	

MATRIX SPIKE SAMPLE: 3364680

Parameter	Units	50344049002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	50	54.0	108	60-150	
1,1,1-Trichloroethane	ug/L	ND	50	55.1	110	63-138	
1,1,2,2-Tetrachloroethane	ug/L	ND	50	49.2	98	58-146	
1,1,2-Trichloroethane	ug/L	ND	50	52.1	104	63-142	
1,1-Dichloroethane	ug/L	1.0	50	55.0	108	64-138	
1,1-Dichloroethene	ug/L	ND	50	55.6	111	65-139	
1,2,3-Trichloropropane	ug/L	ND	50	49.3	99	54-144	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	53.0	106	48-144	
1,2-Dibromoethane (EDB)	ug/L	ND	50	51.8	104	64-139	
1,2-Dichlorobenzene	ug/L	ND	50	50.4	101	50-136	
1,2-Dichloroethane	ug/L	ND	50	47.5	95	55-146	
1,2-Dichloropropane	ug/L	ND	50	53.3	107	66-134	
1,4-Dichlorobenzene	ug/L	ND	50	49.7	99	50-131	
2-Butanone (MEK)	ug/L	ND	250	250	100	45-155	
2-Hexanone	ug/L	ND	250	227	91	48-157	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	250	231	92	53-156	
Acetone	ug/L	ND	250	227	91	16-162	
Acrylonitrile	ug/L	ND	250	248	99	58-140	
Benzene	ug/L	ND	50	54.0	108	65-137	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

MATRIX SPIKE SAMPLE: 3364680

Parameter	Units	50344049002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Bromochloromethane	ug/L	ND	50	46.3	93	56-139	
Bromodichloromethane	ug/L	ND	50	57.6	115	61-149	
Bromoform	ug/L	ND	50	52.8	106	51-138	
Bromomethane	ug/L	ND	50	29.4	59	10-169	
Carbon disulfide	ug/L	ND	50	49.1	98	55-126	
Carbon tetrachloride	ug/L	ND	50	54.9	110	65-156	
Chlorobenzene	ug/L	ND	50	50.9	102	54-135	
Chloroethane	ug/L	ND	50	44.6	89	46-142	
Chloroform	ug/L	ND	50	54.1	108	64-133	
Chloromethane	ug/L	ND	50	38.6	77	30-139	
cis-1,2-Dichloroethene	ug/L	ND	50	55.7	111	59-141	
cis-1,3-Dichloropropene	ug/L	ND	50	51.5	103	57-141	
Dibromochloromethane	ug/L	ND	50	54.7	109	59-147	
Dibromomethane	ug/L	ND	50	53.8	108	64-142	
Ethylbenzene	ug/L	ND	50	52.1	104	50-143	
Iodomethane	ug/L	ND	50	17.8	36	10-154	
m&p-Xylene	ug/L	ND	100	99.6	100	49-137	
Methylene Chloride	ug/L	ND	50	49.7	99	53-126	
o-Xylene	ug/L	ND	50	51.2	102	53-142	
Styrene	ug/L	ND	50	51.5	103	57-141	
Tetrachloroethene	ug/L	ND	50	54.7	109	43-149	
Toluene	ug/L	ND	50	50.6	101	57-137	
trans-1,2-Dichloroethene	ug/L	ND	50	54.5	109	63-133	
trans-1,3-Dichloropropene	ug/L	ND	50	49.5	99	56-140	
trans-1,4-Dichloro-2-butene	ug/L	ND	50	39.3	79	36-169	
Trichloroethene	ug/L	ND	50	55.7	111	52-145	
Trichlorofluoromethane	ug/L	ND	50	46.5	93	52-144	
Vinyl chloride	ug/L	ND	50	39.1	78	43-139	
Xylene (Total)	ug/L	ND	150	151	100	52-137	
4-Bromofluorobenzene (S)	%.				97	79-124	
Dibromofluoromethane (S)	%.				101	82-128	
Toluene-d8 (S)	%.				95	73-122	

SAMPLE DUPLICATE: 3364679

Parameter	Units	50344049001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	<1.0		20	
1,1,1-Trichloroethane	ug/L	ND	<1.0		20	
1,1,2,2-Tetrachloroethane	ug/L	ND	<1.0		20	
1,1,2-Trichloroethane	ug/L	ND	<1.0		20	
1,1-Dichloroethane	ug/L	ND	<1.0		20	
1,1-Dichloroethene	ug/L	ND	<1.0		20	
1,2,3-Trichloropropane	ug/L	ND	<1.0		20	
1,2-Dibromo-3-chloropropane	ug/L	ND	<5.0		20	
1,2-Dibromoethane (EDB)	ug/L	ND	<1.0		20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

SAMPLE DUPLICATE: 3364679

Parameter	Units	50344049001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichlorobenzene	ug/L	ND	<1.0		20	
1,2-Dichloroethane	ug/L	ND	<1.0		20	
1,2-Dichloropropane	ug/L	ND	<1.0		20	
1,4-Dichlorobenzene	ug/L	ND	<1.0		20	
2-Butanone (MEK)	ug/L	ND	<5.0		20	
2-Hexanone	ug/L	ND	<5.0		20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	<5.0		20	
Acetone	ug/L	ND	<20.0		20	
Acrylonitrile	ug/L	ND	<5.0		20	
Benzene	ug/L	ND	<1.0		20	
Bromochloromethane	ug/L	ND	<1.0		20	
Bromodichloromethane	ug/L	ND	<1.0		20	
Bromoform	ug/L	ND	<1.0		20	
Bromomethane	ug/L	ND	<5.0		20	
Carbon disulfide	ug/L	ND	<1.0		20	
Carbon tetrachloride	ug/L	ND	<1.0		20	
Chlorobenzene	ug/L	ND	<1.0		20	
Chloroethane	ug/L	ND	<5.0		20	
Chloroform	ug/L	ND	<1.0		20	
Chloromethane	ug/L	ND	<5.0		20	
cis-1,2-Dichloroethene	ug/L	ND	<1.0		20	
cis-1,3-Dichloropropene	ug/L	ND	<1.0		20	
Dibromochloromethane	ug/L	ND	<1.0		20	
Dibromomethane	ug/L	ND	<1.0		20	
Ethylbenzene	ug/L	ND	<1.0		20	
Iodomethane	ug/L	ND	<1.0		20	
m&p-Xylene	ug/L	ND	<2.0		20	
Methylene Chloride	ug/L	ND	<5.0		20	
o-Xylene	ug/L	ND	<1.0		20	
Styrene	ug/L	ND	<1.0		20	
Tetrachloroethene	ug/L	ND	<1.0		20	
Toluene	ug/L	ND	<1.0		20	
trans-1,2-Dichloroethene	ug/L	ND	<1.0		20	
trans-1,3-Dichloropropene	ug/L	ND	<1.0		20	
trans-1,4-Dichloro-2-butene	ug/L	ND	<5.0		20	
Trichloroethene	ug/L	ND	<1.0		20	
Trichlorofluoromethane	ug/L	ND	<1.0		20	
Vinyl chloride	ug/L	ND	<1.0		20	
Xylene (Total)	ug/L	ND	<2.0		20	
4-Bromofluorobenzene (S)	%.	97	95			
Dibromofluoromethane (S)	%.	98	98			
Toluene-d8 (S)	%.	96	95			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

QC Batch: 733048
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344019001

METHOD BLANK: 3364383 Matrix: Water
Associated Lab Samples: 50344019001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	ug/L	<10000	10000	05/11/23 18:30	
Alkalinity,Bicarbonate (CaCO3)	ug/L	<10000	10000	05/11/23 18:30	
Alkalinity,Carbonate (CaCO3)	ug/L	<10000	10000	05/11/23 18:30	

LABORATORY CONTROL SAMPLE: 3364384

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	ug/L	50000	52300	105	90-110	

SAMPLE DUPLICATE: 3364385

Parameter	Units	50344303001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	ug/L	3930 mg/L	4010000	2	20	
Alkalinity,Bicarbonate (CaCO3)	ug/L	3930 mg/L	4010000	2	20	
Alkalinity,Carbonate (CaCO3)	ug/L	ND	<10000		20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

QC Batch: 732397
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344019001

METHOD BLANK: 3361198 Matrix: Water
Associated Lab Samples: 50344019001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	ug/L	<20000	20000	05/09/23 10:15	

LABORATORY CONTROL SAMPLE: 3361199

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	ug/L	300000	283000	94	80-120	

SAMPLE DUPLICATE: 3361200

Parameter	Units	50344013007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	ug/L	428 mg/L	428000	0	10	

SAMPLE DUPLICATE: 3361201

Parameter	Units	50344022001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	ug/L	426 mg/L	412000	3	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

QC Batch: 732938
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344019001

METHOD BLANK: 3363902 Matrix: Water
Associated Lab Samples: 50344019001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	ug/L	<10000	10000	05/11/23 15:37	

LABORATORY CONTROL SAMPLE: 3363903

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	ug/L	500000	514000	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3363904 3363905

Parameter	Units	50344019001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chemical Oxygen Demand	ug/L	1760000	10000000	10000000	12400000	12500000	106	107	90-110	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

QC Batch: 732380
QC Batch Method: EPA 9038
Analysis Method: EPA 9038
Analysis Description: 9038 Sulfate Water
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344019001

METHOD BLANK: 3361054 Matrix: Water
Associated Lab Samples: 50344019001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	ug/L	<10000	10000	05/09/23 09:44	

LABORATORY CONTROL SAMPLE: 3361055

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	ug/L	20000	19900	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3361056 3361057

Parameter	Units	50343927002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	ug/L	107 mg/L	500000	500000	579000	576000	94	94	90-110	0	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

QC Batch: 733152
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, preserved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344019001

METHOD BLANK: 3364957 Matrix: Water
Associated Lab Samples: 50344019001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	ug/L	<20.0	20.0	05/12/23 15:25	

LABORATORY CONTROL SAMPLE: 3364958

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	ug/L	2000	1920	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3364959 3364960

Parameter	Units	50344013007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	ug/L	0.015J mg/L	2000	2000	1410	1440	70	71	90-110	2	20	M3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3364961 3364962

Parameter	Units	50344022001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	ug/L	0.042J mg/L	2000	2000	1860	1880	91	92	90-110	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

QC Batch: 733490
QC Batch Method: EPA 420.4
Analysis Method: EPA 420.4
Analysis Description: 420.4 Phenolics
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344019001

METHOD BLANK: 3366536 Matrix: Water
Associated Lab Samples: 50344019001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phenolics, Total Recoverable	ug/L	<10.0	10.0	05/17/23 15:28	

LABORATORY CONTROL SAMPLE: 3366537

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phenolics, Total Recoverable	ug/L	50	49.9	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3366538 3366539

Parameter	Units	50344418003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phenolics, Total Recoverable	ug/L	ND	50	50	52.4	51.7	101	99	90-110	1	20	

MATRIX SPIKE SAMPLE: 3366540

Parameter	Units	50344015003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phenolics, Total Recoverable	ug/L	<0.010 mg/L	50	50.1	95	90-110	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

QC Batch: 732909
QC Batch Method: SM 4500-Cl-E
Analysis Method: SM 4500-Cl-E
Analysis Description: 4500 Chloride
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344019001

METHOD BLANK: 3363787 Matrix: Water
Associated Lab Samples: 50344019001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	ug/L	<1000	1000	05/11/23 15:20	

LABORATORY CONTROL SAMPLE: 3363788

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	ug/L	20000	20600	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3363789 3363790

Parameter	Units	50343803002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	ug/L	13.5 mg/L	20000	20000	36400	35600	114	111	90-110	2	20	M3

MATRIX SPIKE SAMPLE: 3363791

Parameter	Units	50343803004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	ug/L	<1.0 mg/L	20000	21900	105	90-110	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

QC Batch: 733641
QC Batch Method: SM 4500-NH3 G
Analysis Method: SM 4500-NH3 G
Analysis Description: 4500 Ammonia
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344019001

METHOD BLANK: 3366954 Matrix: Water
Associated Lab Samples: 50344019001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	ug/L	<100	100	05/15/23 21:54	

LABORATORY CONTROL SAMPLE: 3366955

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	ug/L	5000	5430	109	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3366956 3366957

Parameter	Units	50344022001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	ug/L	0.076J mg/L	5000	5000	5570	5560	110	110	90-110	0	20	

MATRIX SPIKE SAMPLE: 3366958

Parameter	Units	50344161003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	ug/L	0.102 mg/L	5000	5440	109	90-110	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

QC Batch: 733230
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344019001

METHOD BLANK: 3365181 Matrix: Water
Associated Lab Samples: 50344019001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	ug/L	<500	500	05/12/23 22:16	

LABORATORY CONTROL SAMPLE: 3365182

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	ug/L	10000	10100	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3365183 3365184

Parameter	Units	50344013007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	ug/L	2.7 mg/L	10000	10000	12300	13000	96	103	80-120	5	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3365185 3365186

Parameter	Units	50344022001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	ug/L	0.87J mg/L	20000	20000	22100	22100	106	106	80-120	0	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

QC Batch: 733976
QC Batch Method: EPA 9012
Analysis Method: EPA 9012
Analysis Description: 9012 Cyanide, Total
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344019001

METHOD BLANK: 3368431 Matrix: Water
Associated Lab Samples: 50344019001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide	ug/L	<5.0	5.0	05/17/23 19:04	

LABORATORY CONTROL SAMPLE: 3368432

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	ug/L	100	91.5	92	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3368433 3368434

Parameter	Units	50344022001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	ug/L	ND	100	100	91.0	88.4	91	88	90-110	3	20	M0

MATRIX SPIKE SAMPLE: 3368435

Parameter	Units	50344035001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cyanide	ug/L	ND	100	90.9	91	90-110	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALIFIERS

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

CC	The continuing calibration for this compound is outside of method control limits. The result is estimated.
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
F1	The sample was analyzed at a dilution due to foaming of the sample in the purge vessel.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P4	Sample field preservation does not meet EPA or method recommendations for this analysis.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.
pH	Post-analysis pH measurement indicates insufficient VOA sample preservation.

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Smith's Creek Landfill Leachat
Pace Project No.: 50344019

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50344019001	**Leachate**	EPA 3010	731783	EPA 6010	734038
50344019001	**Leachate**	EPA 200.2	732598	EPA 6020	732963
50344019001	**Leachate**	EPA 5030B/8260	733107		
50344019001	**Leachate**	SM 2320B	733048		
50344019001	**Leachate**	SM 2540C	732397		
50344019001	**Leachate**	EPA 410.4	732938	EPA 410.4	732989
50344019001	**Leachate**	EPA 9038	732380		
50344019001	**Leachate**	NO2+NO3+NH3 Calculation	734687		
50344019001	**Leachate**	EPA 353.2	733152		
50344019001	**Leachate**	EPA 420.4	733490	EPA 420.4	734122
50344019001	**Leachate**	SM 4500-Cl-E	732909		
50344019001	**Leachate**	SM 4500-NH3 G	733641		
50344019001	**Leachate**	SM 5310C	733230		
50344019001	**Leachate**	EPA 9012	733976	EPA 9012	734306

WO# : 50344019

50344019

CHAIN-OF-CUSTODY / Analytical Request D

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

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pace

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	WSP, Michigan	Report To:	Mary Siegan	Attention:	
Address:	46850 Magellan Drive	Copy To:		Company Name:	
Suite 190, Novi, MI 48377				Address:	
Email:	mary.siegan@wsp.com	Purchase Order #:		Pace Quote:	
Phone:	(248)536-5435 Fax:	Project Name:	Smith's Creek Leachate	Pace Project Manager:	jennifer.rice@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	8219/2

Regulatory Agency

State / Location: MI

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: VOC - 8260	Total Metals	Cl, SO4, Alk	TDS	NH3, NPN, TIN, COD	Total Cyanide	TOC	Phenol Total	Residual Chlorine (Y/N)
1	Leachate			5/4	0940	5/4	0940		10	2	2	1	3		1			Y	X	X	X	X	X	X	X	
2																										
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	WSP	5/4/23		Pace	5/4/23	1145	
	Pace	5/4/23	1742	J. Riordan/Pace	5/4/23	1742	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Ian Cash

SIGNATURE of SAMPLER:

DATE Signed: 5/4/23

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Sample Conditions Upon Receipt Form (SCUR)

Date/Time: 5/4/23	**Evaluated By:** JN
Client: WSP, MICH.	**PM:** JLR
Lab Notified of Rush or Short Holds: YES NO	

WO# : 50344019

PM: JLR1 **Due Date: 05/19/23**

CLIENT: GR-Golder

Project Received Via: FedEx UPS Client Pace Courier Other: _____

	YES	NO	N/A	Comments:
Custody Seal Present and Intact:			✓	
Received Sample Information Form (SIF): Drinking Waters Only			✓	
Short Hold Present (≤ 48 Hours):		✓		
Sample Received in Hold:	✓			
Custody Signature Present:	✓			
Collector Signature Present:	✓			
Sample Collected Today and On Ice:	✓			
IR Gun #: 350 ✓ 351				
Ice Type: WET Bagged / WET Loose BLUE NONE				
Ice Location: TOP BOTTOM MIDDLE ✓ DISPERSED				
Temp Blank Received:	✓			
Sample Label Matches COC (ID/Date/Time):	✓			
Container Intact:	✓			
Correct Container:	✓			
Sufficient Volume:	✓			
Sample pH Acceptable: All containers needing preservation are found to be in compliance with EPA recommendation **pH Strip Lot #:** HC303864 *Exceptions are VOA, coliform, LLHg, O&G/TPH, or any container with a septum cap or preserved with HCl*	YES	✓	N/A	SEE NCF
Residual Chlorine Absent: **Cl_2 Strip Lot #:** HC301221 *Applies to SVOC 625, PCB/Pest. 608, Total/Amenable Cyanide*	✓		N/A	
VOA Headspace Acceptable (<6mm):		✓	N/A	SEE NCF
Trip Blank Received: HCl MeOH Other: _____		✓	ON HOLD	

Temp. should be 0°C - 6°C (Initial/Corrected)

1. Cooler Temp. Upon Receipt: 0.5 / 0.8 °C
2. Cooler Temp. Upon Receipt: _____ °C
3. Cooler Temp. Upon Receipt: _____ °C
4. Cooler Temp. Upon Receipt: _____ °C

Non-Conformance Form Required: ✓ YES NO

Comments:

WO#: 50344019

PM: JLR1 Due Date: 05/19/23
CLIENT: GR-Golder

mple Receiving Non-Conformance Form (NCF)

Date: 5/4/23		**COC Integrity Issues:** Check issues below and add details where appropriate		**Sample Integrity Issues:** Check issues below and add details where appropriate			
Evaluated by: JN		COC does not match samples received (missing, additional, etc.)		Custody seal(s) damaged or missing on coolers, samples, or trip blanks		*Insufficient sample volume received	
Client: WSP, MICHIGAN		COC sample ID does not match sample label		Cooler or sample container broken or compromised		*Sample contains residual chlorine	
***Drinking Water Deficiency:** Samples may be invalid. Analysis must not proceed without client written permission.		*COC collection date/time missing or does not match sample label		*Sample past holding time	✓	Improper preservation	
		*Analyses/ analytes missing or clarification needed		*Temperature not within acceptance criteria (typically 0-6°C)		*Sample contains interferences (multi-phasic, solids, color, odor, etc…)	
		*Required signatures are missing		*Sample arrived frozen or partially frozen	✓	Vial(s) received with improper headspace (>6mm)	
*No Sample Information Form (SIF) received with sample(s)		*Residual Chlorine presence/ absence not indicated on COC		*Incorrect or improper containers received		Other: See notes below	

COC					Sample Label					Sample Notes
Sample ID	Date	Time	Container Type	Quantity	Sample ID	Date	Time	Container Type	Quantity	
					Leachate			3P3N	1	Ph = 6
					↓			3P3S	1	Ph = 5
								3P3B	1	Ph = 9
								VG9H	3	(3 of 3) Headspace

General Comments/ Client Instructions:

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

May 22, 2023

Mary Siegan
WSP
46850 Magellan Drive
Suite 190
Novi, MI 48377

RE: Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Dear Mary Siegan:

Enclosed are the analytical results for sample(s) received by the laboratory on May 04, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Indianapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Rice
jennifer.rice@pacelabs.com
(616)975-4500
Project Manager

Enclosures

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

CERTIFICATIONS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Pace Analytical Services Indianapolis
7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

SAMPLE SUMMARY

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50344032001	**MW-201**	Water	05/03/23 08:00	05/04/23 17:42
50344032002	**MW-212**	Water	05/03/23 08:37	05/04/23 17:42
50344032003	**MW-305**	Water	05/03/23 08:50	05/04/23 17:42
50344032004	**MW-106A**	Water	05/03/23 09:12	05/04/23 17:42
50344032005	**MW-207A**	Water	05/03/23 09:36	05/04/23 17:42
50344032006	**MW-208B**	Water	05/03/23 10:07	05/04/23 17:42
50344032007	**MW-209**	Water	05/03/23 10:28	05/04/23 17:42
50344032008	**MW-302**	Water	05/03/23 11:04	05/04/23 17:42
50344032009	**MW-210**	Water	05/03/23 11:21	05/04/23 17:42
50344032010	**MW-202**	Water	05/02/23 15:55	05/04/23 17:42
50344032011	**MW-101**	Water	05/02/23 16:49	05/04/23 17:42
50344032012	**MW-304**	Water	05/02/23 12:47	05/04/23 17:42
50344032013	**MW-303A**	Water	05/03/23 14:03	05/04/23 17:42
50344032014	**MW-203B**	Water	05/03/23 14:59	05/04/23 17:42
50344032015	**MW-301**	Water	05/03/23 16:09	05/04/23 17:42
50344032016	**SW-U1**	Water	05/04/23 08:25	05/04/23 17:42
50344032017	**SW-DA1**	Water	05/04/23 08:45	05/04/23 17:42
50344032018	**SW-D2**	Water	05/04/23 09:05	05/04/23 17:42
50344032019	**SW-U2**	Water	05/04/23 10:07	05/04/23 17:42
50344032020	**Trip Blank**	Water	05/02/23 00:00	05/04/23 17:42
50344032021	**Field Blank**	Water	05/03/23 09:00	05/04/23 17:42
50344032022	**MW-213**	Water	05/03/23 00:00	05/04/23 17:42

Pace Analytical Services, LLC
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Grand Rapids, MI 49512
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SAMPLE ANALYTE COUNT

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50344032001	**MW-201**	EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	3	PASI-I
		EPA 5030B/8260	DAP	49	PASI-I
		NO2+NO3+NH3 Calculation	MMS	1	PASI-I
		EPA 353.2	ZM	1	PASI-I
		SM 4500-Cl-E	ZM	1	PASI-I
		SM-4500-NH3 G	OAS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344032002	**MW-212**	EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	3	PASI-I
		EPA 5030B/8260	DAP	49	PASI-I
		NO2+NO3+NH3 Calculation	MMS	1	PASI-I
		EPA 353.2	ZM	1	PASI-I
		SM 4500-Cl-E	ZM	1	PASI-I
		SM-4500-NH3 G	OAS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344032003	**MW-305**	EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	3	PASI-I
		EPA 5030B/8260	DAP	49	PASI-I
		NO2+NO3+NH3 Calculation	MMS	1	PASI-I
		EPA 353.2	ZM	1	PASI-I
		SM 4500-Cl-E	ZM	1	PASI-I
		SM-4500-NH3 G	OAS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344032004	**MW-106A**	EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	3	PASI-I
		EPA 5030B/8260	DAP	49	PASI-I
		NO2+NO3+NH3 Calculation	MMS	1	PASI-I
		EPA 353.2	ZM	1	PASI-I
		SM 4500-Cl-E	ZM	1	PASI-I
		SM-4500-NH3 G	OAS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344032005	**MW-207A**	EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	3	PASI-I
		EPA 5030B/8260	DAP	49	PASI-I
		NO2+NO3+NH3 Calculation	MMS	1	PASI-I
		EPA 353.2	ZM	1	PASI-I

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 4500-Cl-E	ZM	1	PASI-I
		SM-4500-NH3 G	OAS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344032006	**MW-208B**	EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	3	PASI-I
		EPA 5030B/8260	DAP	49	PASI-I
		NO2+NO3+NH3 Calculation	MMS	1	PASI-I
		EPA 353.2	ZM	1	PASI-I
		SM 4500-Cl-E	ZM	1	PASI-I
		SM-4500-NH3 G	OAS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344032007	**MW-209**	EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	3	PASI-I
		EPA 5030B/8260	DAP	49	PASI-I
		NO2+NO3+NH3 Calculation	MMS	1	PASI-I
		EPA 353.2	ZM	1	PASI-I
		SM 4500-Cl-E	ZM	1	PASI-I
		SM-4500-NH3 G	OAS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344032008	**MW-302**	EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	3	PASI-I
		EPA 5030B/8260	DAP	49	PASI-I
		NO2+NO3+NH3 Calculation	MMS	1	PASI-I
		EPA 353.2	ZM	1	PASI-I
		SM 4500-Cl-E	ZM	1	PASI-I
		SM-4500-NH3 G	OAS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344032009	**MW-210**	EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	3	PASI-I
		EPA 5030B/8260	DAP	49	PASI-I
		NO2+NO3+NH3 Calculation	MMS	1	PASI-I
		EPA 353.2	ZM	1	PASI-I
		SM 4500-Cl-E	ZM	1	PASI-I
		SM-4500-NH3 G	OAS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344032010	**MW-202**	EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	3	PASI-I

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SAMPLE ANALYTE COUNT

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 5030B/8260	DAP	49	PASI-I
		NO2+NO3+NH3 Calculation	MMS	1	PASI-I
		EPA 353.2	ZM	1	PASI-I
		SM 4500-Cl-E	ZM	1	PASI-I
		SM-4500-NH3 G	OAS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344032011	**MW-101**	EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	3	PASI-I
		EPA 5030B/8260	DAP	49	PASI-I
		NO2+NO3+NH3 Calculation	MMS	1	PASI-I
		EPA 353.2	ZM	1	PASI-I
		SM 4500-Cl-E	ZM	1	PASI-I
		SM-4500-NH3 G	OAS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344032012	**MW-304**	EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	3	PASI-I
		EPA 5030B/8260	DAP	49	PASI-I
		NO2+NO3+NH3 Calculation	MMS	1	PASI-I
		EPA 353.2	ZM	1	PASI-I
		SM 4500-Cl-E	ZM	1	PASI-I
		SM-4500-NH3 G	OAS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344032013	**MW-303A**	EPA 6010	MTM	2	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	CAW	3	PASI-I
		EPA 6020	DMT	3	PASI-I
		EPA 5030B/8260	DAP	49	PASI-I
		NO2+NO3+NH3 Calculation	MMS	1	PASI-I
		EPA 353.2	ZM	1	PASI-I
		SM 4500-Cl-E	ZM	1	PASI-I
		SM-4500-NH3 G	OAS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344032014	**MW-203B**	EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	3	PASI-I
		EPA 5030B/8260	DAP	49	PASI-I
		NO2+NO3+NH3 Calculation	MMS	1	PASI-I
		EPA 353.2	ZM	1	PASI-I

Pace Analytical Services, LLC
4171 40th St. SE
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SAMPLE ANALYTE COUNT

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 4500-Cl-E	ZM	1	PASI-I
		SM-4500-NH3 G	OAS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344032015	**MW-301**	EPA 6010	MTM	2	PASI-I
		EPA 6010	JPK	2	PASI-I
		EPA 6020	CAW	3	PASI-I
		EPA 6020	DMT	3	PASI-I
		EPA 5030B/8260	DAP	49	PASI-I
		NO2+NO3+NH3 Calculation	MMS	1	PASI-I
		EPA 353.2	ZM	1	PASI-I
		SM 4500-Cl-E	ZM	1	PASI-I
		SM-4500-NH3 G	OAS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344032016	**SW-U1**	EPA 9056	RID	2	PASI-I
		EPA 6010	MTM	4	PASI-I
		SM 2320B	DAW	2	PASI-I
		NO2+NO3+NH3 Calculation	MMS	1	PASI-I
		EPA 353.2	ZM	1	PASI-I
		SM-4500-NH3 G	OAS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344032017	**SW-DA1**	EPA 9056	RID	2	PASI-I
		EPA 6010	MTM	4	PASI-I
		SM 2320B	DAW	2	PASI-I
		NO2+NO3+NH3 Calculation	MMS	1	PASI-I
		EPA 353.2	ZM	1	PASI-I
		SM-4500-NH3 G	OAS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344032018	**SW-D2**	EPA 9056	RID	2	PASI-I
		EPA 6010	MTM	4	PASI-I
		SM 2320B	DAW	2	PASI-I
		NO2+NO3+NH3 Calculation	MMS	1	PASI-I
		EPA 353.2	ZM	1	PASI-I
		SM-4500-NH3 G	OAS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344032019	**SW-U2**	EPA 9056	RID	2	PASI-I
		EPA 6010	MTM	4	PASI-I
		SM 2320B	DAW	2	PASI-I

Pace Analytical Services, LLC
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Grand Rapids, MI 49512
(616)975-4500

SAMPLE ANALYTE COUNT

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		NO2+NO3+NH3 Calculation	MMS	1	PASI-I
		EPA 353.2	ZM	1	PASI-I
		SM-4500-NH3 G	OAS	1	PASI-I
		SM 5310C	ATS	1	PASI-I
50344032020	**Trip Blank**	EPA 5030B/8260	DAP	49	PASI-I
50344032021	**Field Blank**	EPA 5030B/8260	DAP	49	PASI-I
50344032022	**MW-213**	EPA 6010	JPK	2	PASI-I
		EPA 6020	DMT	3	PASI-I
		EPA 5030B/8260	DAP	49	PASI-I
		NO2+NO3+NH3 Calculation	MMS	1	PASI-I
		EPA 353.2	ZM	1	PASI-I
		SM 4500-Cl-E	ZM	1	PASI-I
		SM-4500-NH3 G	OAS	1	PASI-I
		SM 5310C	ATS	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-201 **Lab ID: 50344032001** Collected: 05/03/23 08:00 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Potassium, Dissolved	**1390**	ug/L	500	1	05/15/23 09:06	05/17/23 01:44	7440-09-7	
Sodium, Dissolved	**67200**	ug/L	1000	1	05/15/23 09:06	05/17/23 01:44	7440-23-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**3.6**	ug/L	1.0	1	05/09/23 07:30	05/11/23 11:17	7440-38-2	
Barium, Dissolved	**39.5**	ug/L	5.0	1	05/09/23 07:30	05/11/23 11:17	7440-39-3	
Zinc, Dissolved	**<10.0**	ug/L	10.0	1	05/09/23 07:30	05/11/23 11:17	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/16/23 01:17	67-64-1	
Acrylonitrile	**<5.0**	ug/L	5.0	1		05/16/23 01:17	107-13-1	
Benzene	**<1.0**	ug/L	1.0	1		05/16/23 01:17	71-43-2	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/16/23 01:17	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		05/16/23 01:17	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/16/23 01:17	75-25-2	
Bromomethane	**<5.0**	ug/L	5.0	1		05/16/23 01:17	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/16/23 01:17	78-93-3	
Carbon disulfide	**<1.0**	ug/L	1.0	1		05/16/23 01:17	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		05/16/23 01:17	56-23-5	
Chlorobenzene	**<1.0**	ug/L	1.0	1		05/16/23 01:17	108-90-7	
Chloroethane	**<5.0**	ug/L	5.0	1		05/16/23 01:17	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/16/23 01:17	67-66-3	
Chloromethane	**<5.0**	ug/L	5.0	1		05/16/23 01:17	74-87-3	
1,2-Dibromo-3-chloropropane	**<5.0**	ug/L	5.0	1		05/16/23 01:17	96-12-8	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		05/16/23 01:17	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		05/16/23 01:17	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/16/23 01:17	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/16/23 01:17	95-50-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/16/23 01:17	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	5.0	1		05/16/23 01:17	110-57-6	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		05/16/23 01:17	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		05/16/23 01:17	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		05/16/23 01:17	75-35-4	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/16/23 01:17	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/16/23 01:17	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/16/23 01:17	78-87-5	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/16/23 01:17	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/16/23 01:17	10061-02-6	
Ethylbenzene	**<1.0**	ug/L	1.0	1		05/16/23 01:17	100-41-4	
2-Hexanone	**<5.0**	ug/L	5.0	1		05/16/23 01:17	591-78-6	
Iodomethane	**<1.0**	ug/L	1.0	1		05/16/23 01:17	74-88-4	
Methylene Chloride	**<5.0**	ug/L	5.0	1		05/16/23 01:17	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/16/23 01:17	108-10-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-201 **Lab ID: 50344032001** Collected: 05/03/23 08:00 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Styrene	**<1.0**	ug/L	1.0	1		05/16/23 01:17	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/16/23 01:17	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/16/23 01:17	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		05/16/23 01:17	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		05/16/23 01:17	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		05/16/23 01:17	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		05/16/23 01:17	79-00-5	
Trichloroethene	**<1.0**	ug/L	1.0	1		05/16/23 01:17	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/16/23 01:17	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		05/16/23 01:17	96-18-4	
Vinyl chloride	**<1.0**	ug/L	1.0	1		05/16/23 01:17	75-01-4	
Xylene (Total)	**<2.0**	ug/L	2.0	1		05/16/23 01:17	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	91	%.	79-124	1		05/16/23 01:17	460-00-4	
Dibromofluoromethane (S)	100	%.	82-128	1		05/16/23 01:17	1868-53-7	
Toluene-d8 (S)	100	%.	73-122	1		05/16/23 01:17	2037-26-5	
Total Inorganic Nitrogen	Analytical Method: NO2+NO3+NH3 Calculation Pace Analytical Services - Indianapolis							
Total Inorganic Nitrogen	**95.1**	ug/L	20.0	1		05/19/23 15:28		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, NO2 plus NO3	**53.1**	ug/L	20.0	1		05/12/23 17:29		
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - Indianapolis							
Chloride	**16200**	ug/L	1000	1		05/11/23 15:51	16887-00-6	
4500 Ammonia Water Low Level	Analytical Method: SM-4500-NH3 G Pace Analytical Services - Indianapolis							
Nitrogen, Ammonia	**42.0**	ug/L	20.0	1		05/16/23 12:25	7664-41-7	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1330J**	ug/L	2000	4		05/13/23 02:37	7440-44-0	D3

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-212 **Lab ID: 50344032002** Collected: 05/03/23 08:37 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Potassium, Dissolved	**1110**	ug/L	500	1	05/15/23 09:06	05/17/23 01:55	7440-09-7	
Sodium, Dissolved	**91900**	ug/L	1000	1	05/15/23 09:06	05/17/23 01:55	7440-23-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**4.5**	ug/L	1.0	1	05/09/23 07:30	05/11/23 11:20	7440-38-2	
Barium, Dissolved	**67.4**	ug/L	5.0	1	05/09/23 07:30	05/11/23 11:20	7440-39-3	
Zinc, Dissolved	**<10.0**	ug/L	10.0	1	05/09/23 07:30	05/11/23 11:20	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/15/23 17:41	67-64-1	
Acrylonitrile	**<5.0**	ug/L	5.0	1		05/15/23 17:41	107-13-1	
Benzene	**<1.0**	ug/L	1.0	1		05/15/23 17:41	71-43-2	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 17:41	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		05/15/23 17:41	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/15/23 17:41	75-25-2	
Bromomethane	**<5.0**	ug/L	5.0	1		05/15/23 17:41	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/15/23 17:41	78-93-3	
Carbon disulfide	**<1.0**	ug/L	1.0	1		05/15/23 17:41	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		05/15/23 17:41	56-23-5	
Chlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 17:41	108-90-7	
Chloroethane	**<5.0**	ug/L	5.0	1		05/15/23 17:41	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/15/23 17:41	67-66-3	
Chloromethane	**<5.0**	ug/L	5.0	1		05/15/23 17:41	74-87-3	
1,2-Dibromo-3-chloropropane	**<5.0**	ug/L	5.0	1		05/15/23 17:41	96-12-8	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 17:41	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		05/15/23 17:41	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/15/23 17:41	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 17:41	95-50-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 17:41	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	5.0	1		05/15/23 17:41	110-57-6	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 17:41	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 17:41	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 17:41	75-35-4	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 17:41	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 17:41	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 17:41	78-87-5	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 17:41	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 17:41	10061-02-6	
Ethylbenzene	**<1.0**	ug/L	1.0	1		05/15/23 17:41	100-41-4	
2-Hexanone	**<5.0**	ug/L	5.0	1		05/15/23 17:41	591-78-6	
Iodomethane	**<1.0**	ug/L	1.0	1		05/15/23 17:41	74-88-4	
Methylene Chloride	**<5.0**	ug/L	5.0	1		05/15/23 17:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/15/23 17:41	108-10-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-212 **Lab ID: 50344032002** Collected: 05/03/23 08:37 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Styrene	**<1.0**	ug/L	1.0	1		05/15/23 17:41	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 17:41	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 17:41	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		05/15/23 17:41	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		05/15/23 17:41	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 17:41	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 17:41	79-00-5	
Trichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 17:41	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/15/23 17:41	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 17:41	96-18-4	
Vinyl chloride	**<1.0**	ug/L	1.0	1		05/15/23 17:41	75-01-4	
Xylene (Total)	**<2.0**	ug/L	2.0	1		05/15/23 17:41	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%.	79-124	1		05/15/23 17:41	460-00-4	
Dibromofluoromethane (S)	105	%.	82-128	1		05/15/23 17:41	1868-53-7	
Toluene-d8 (S)	104	%.	73-122	1		05/15/23 17:41	2037-26-5	
Total Inorganic Nitrogen	Analytical Method: NO2+NO3+NH3 Calculation Pace Analytical Services - Indianapolis							
Total Inorganic Nitrogen	**89.3**	ug/L	20.0	1		05/19/23 15:28		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, NO2 plus NO3	**<20.0**	ug/L	20.0	1		05/12/23 16:27		
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - Indianapolis							
Chloride	**31300**	ug/L	1000	1		05/11/23 15:52	16887-00-6	
4500 Ammonia Water Low Level	Analytical Method: SM-4500-NH3 G Pace Analytical Services - Indianapolis							
Nitrogen, Ammonia	**89.3**	ug/L	20.0	1		05/16/23 12:29	7664-41-7	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1690**	ug/L	500	1		05/13/23 03:10	7440-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
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ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-305 **Lab ID: 50344032003** Collected: 05/03/23 08:50 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Potassium, Dissolved	**1650**	ug/L	500	1	05/15/23 09:06	05/17/23 01:57	7440-09-7	
Sodium, Dissolved	**93900**	ug/L	1000	1	05/15/23 09:06	05/17/23 01:57	7440-23-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**3.3**	ug/L	1.0	1	05/09/23 07:30	05/11/23 11:30	7440-38-2	
Barium, Dissolved	**34.4**	ug/L	5.0	1	05/09/23 07:30	05/11/23 11:30	7440-39-3	
Zinc, Dissolved	**<10.0**	ug/L	10.0	1	05/09/23 07:30	05/11/23 11:30	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/15/23 18:14	67-64-1	
Acrylonitrile	**<5.0**	ug/L	5.0	1		05/15/23 18:14	107-13-1	
Benzene	**<1.0**	ug/L	1.0	1		05/15/23 18:14	71-43-2	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 18:14	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		05/15/23 18:14	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/15/23 18:14	75-25-2	
Bromomethane	**<5.0**	ug/L	5.0	1		05/15/23 18:14	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/15/23 18:14	78-93-3	
Carbon disulfide	**<1.0**	ug/L	1.0	1		05/15/23 18:14	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		05/15/23 18:14	56-23-5	
Chlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 18:14	108-90-7	
Chloroethane	**<5.0**	ug/L	5.0	1		05/15/23 18:14	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/15/23 18:14	67-66-3	
Chloromethane	**<5.0**	ug/L	5.0	1		05/15/23 18:14	74-87-3	
1,2-Dibromo-3-chloropropane	**<5.0**	ug/L	5.0	1		05/15/23 18:14	96-12-8	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 18:14	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		05/15/23 18:14	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/15/23 18:14	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 18:14	95-50-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 18:14	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	5.0	1		05/15/23 18:14	110-57-6	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 18:14	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 18:14	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 18:14	75-35-4	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 18:14	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 18:14	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 18:14	78-87-5	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 18:14	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 18:14	10061-02-6	
Ethylbenzene	**<1.0**	ug/L	1.0	1		05/15/23 18:14	100-41-4	
2-Hexanone	**<5.0**	ug/L	5.0	1		05/15/23 18:14	591-78-6	
Iodomethane	**<1.0**	ug/L	1.0	1		05/15/23 18:14	74-88-4	
Methylene Chloride	**<5.0**	ug/L	5.0	1		05/15/23 18:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/15/23 18:14	108-10-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-305 **Lab ID: 50344032003** Collected: 05/03/23 08:50 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Styrene	**<1.0**	ug/L	1.0	1		05/15/23 18:14	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 18:14	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 18:14	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		05/15/23 18:14	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		05/15/23 18:14	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 18:14	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 18:14	79-00-5	
Trichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 18:14	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/15/23 18:14	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 18:14	96-18-4	
Vinyl chloride	**<1.0**	ug/L	1.0	1		05/15/23 18:14	75-01-4	
Xylene (Total)	**<2.0**	ug/L	2.0	1		05/15/23 18:14	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%.	79-124	1		05/15/23 18:14	460-00-4	
Dibromofluoromethane (S)	100	%.	82-128	1		05/15/23 18:14	1868-53-7	
Toluene-d8 (S)	104	%.	73-122	1		05/15/23 18:14	2037-26-5	
Total Inorganic Nitrogen	Analytical Method: NO2+NO3+NH3 Calculation Pace Analytical Services - Indianapolis							
Total Inorganic Nitrogen	**131**	ug/L	20.0	1		05/19/23 15:28		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, NO2 plus NO3	**<20.0**	ug/L	20.0	1		05/12/23 16:29		
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - Indianapolis							
Chloride	**34300**	ug/L	1000	1		05/11/23 15:57	16887-00-6	
4500 Ammonia Water Low Level	Analytical Method: SM-4500-NH3 G Pace Analytical Services - Indianapolis							
Nitrogen, Ammonia	**131**	ug/L	20.0	1		05/16/23 12:32	7664-41-7	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1750**	ug/L	500	1		05/13/23 03:20	7440-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-106A **Lab ID: 50344032004** Collected: 05/03/23 09:12 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Potassium, Dissolved	**1180**	ug/L	500	1	05/15/23 09:06	05/17/23 02:03	7440-09-7	
Sodium, Dissolved	**79200**	ug/L	1000	1	05/15/23 09:06	05/17/23 02:03	7440-23-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**5.4**	ug/L	1.0	1	05/09/23 07:30	05/11/23 11:33	7440-38-2	
Barium, Dissolved	**59.7**	ug/L	5.0	1	05/09/23 07:30	05/11/23 11:33	7440-39-3	
Zinc, Dissolved	**<10.0**	ug/L	10.0	1	05/09/23 07:30	05/11/23 11:33	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/15/23 18:46	67-64-1	
Acrylonitrile	**<5.0**	ug/L	5.0	1		05/15/23 18:46	107-13-1	
Benzene	**<1.0**	ug/L	1.0	1		05/15/23 18:46	71-43-2	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 18:46	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		05/15/23 18:46	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/15/23 18:46	75-25-2	
Bromomethane	**<5.0**	ug/L	5.0	1		05/15/23 18:46	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/15/23 18:46	78-93-3	
Carbon disulfide	**<1.0**	ug/L	1.0	1		05/15/23 18:46	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		05/15/23 18:46	56-23-5	
Chlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 18:46	108-90-7	
Chloroethane	**<5.0**	ug/L	5.0	1		05/15/23 18:46	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/15/23 18:46	67-66-3	
Chloromethane	**<5.0**	ug/L	5.0	1		05/15/23 18:46	74-87-3	
1,2-Dibromo-3-chloropropane	**<5.0**	ug/L	5.0	1		05/15/23 18:46	96-12-8	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 18:46	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		05/15/23 18:46	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/15/23 18:46	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 18:46	95-50-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 18:46	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	5.0	1		05/15/23 18:46	110-57-6	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 18:46	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 18:46	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 18:46	75-35-4	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 18:46	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 18:46	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 18:46	78-87-5	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 18:46	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 18:46	10061-02-6	
Ethylbenzene	**<1.0**	ug/L	1.0	1		05/15/23 18:46	100-41-4	
2-Hexanone	**<5.0**	ug/L	5.0	1		05/15/23 18:46	591-78-6	
Iodomethane	**<1.0**	ug/L	1.0	1		05/15/23 18:46	74-88-4	
Methylene Chloride	**<5.0**	ug/L	5.0	1		05/15/23 18:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/15/23 18:46	108-10-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-106A **Lab ID: 50344032004** Collected: 05/03/23 09:12 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Styrene	**<1.0**	ug/L	1.0	1		05/15/23 18:46	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 18:46	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 18:46	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		05/15/23 18:46	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		05/15/23 18:46	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 18:46	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 18:46	79-00-5	
Trichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 18:46	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/15/23 18:46	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 18:46	96-18-4	
Vinyl chloride	**<1.0**	ug/L	1.0	1		05/15/23 18:46	75-01-4	
Xylene (Total)	**<2.0**	ug/L	2.0	1		05/15/23 18:46	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	103	%.	79-124	1		05/15/23 18:46	460-00-4	
Dibromofluoromethane (S)	100	%.	82-128	1		05/15/23 18:46	1868-53-7	
Toluene-d8 (S)	105	%.	73-122	1		05/15/23 18:46	2037-26-5	
Total Inorganic Nitrogen	Analytical Method: NO2+NO3+NH3 Calculation Pace Analytical Services - Indianapolis							
Total Inorganic Nitrogen	**105**	ug/L	20.0	1		05/19/23 15:28		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, NO2 plus NO3	**<20.0**	ug/L	20.0	1		05/12/23 16:30		
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - Indianapolis							
Chloride	**38600**	ug/L	1000	1		05/11/23 15:58	16887-00-6	
4500 Ammonia Water Low Level	Analytical Method: SM-4500-NH3 G Pace Analytical Services - Indianapolis							
Nitrogen, Ammonia	**105**	ug/L	20.0	1		05/16/23 12:33	7664-41-7	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1910**	ug/L	500	1		05/13/23 03:30	7440-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
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ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-207A **Lab ID: 50344032005** Collected: 05/03/23 09:36 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Potassium, Dissolved	**1410**	ug/L	500	1	05/15/23 09:06	05/17/23 02:05	7440-09-7	
Sodium, Dissolved	**28100**	ug/L	1000	1	05/15/23 09:06	05/17/23 02:05	7440-23-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**1.2**	ug/L	1.0	1	05/09/23 07:30	05/11/23 11:37	7440-38-2	
Barium, Dissolved	**71.9**	ug/L	5.0	1	05/09/23 07:30	05/11/23 11:37	7440-39-3	
Zinc, Dissolved	**<10.0**	ug/L	10.0	1	05/09/23 07:30	05/11/23 11:37	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/15/23 19:19	67-64-1	
Acrylonitrile	**<5.0**	ug/L	5.0	1		05/15/23 19:19	107-13-1	
Benzene	**<1.0**	ug/L	1.0	1		05/15/23 19:19	71-43-2	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 19:19	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		05/15/23 19:19	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/15/23 19:19	75-25-2	
Bromomethane	**<5.0**	ug/L	5.0	1		05/15/23 19:19	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/15/23 19:19	78-93-3	
Carbon disulfide	**<1.0**	ug/L	1.0	1		05/15/23 19:19	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		05/15/23 19:19	56-23-5	
Chlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 19:19	108-90-7	
Chloroethane	**<5.0**	ug/L	5.0	1		05/15/23 19:19	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/15/23 19:19	67-66-3	
Chloromethane	**<5.0**	ug/L	5.0	1		05/15/23 19:19	74-87-3	
1,2-Dibromo-3-chloropropane	**<5.0**	ug/L	5.0	1		05/15/23 19:19	96-12-8	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 19:19	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		05/15/23 19:19	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/15/23 19:19	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 19:19	95-50-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 19:19	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	5.0	1		05/15/23 19:19	110-57-6	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 19:19	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 19:19	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 19:19	75-35-4	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 19:19	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 19:19	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 19:19	78-87-5	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 19:19	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 19:19	10061-02-6	
Ethylbenzene	**<1.0**	ug/L	1.0	1		05/15/23 19:19	100-41-4	
2-Hexanone	**<5.0**	ug/L	5.0	1		05/15/23 19:19	591-78-6	
Iodomethane	**<1.0**	ug/L	1.0	1		05/15/23 19:19	74-88-4	
Methylene Chloride	**<5.0**	ug/L	5.0	1		05/15/23 19:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/15/23 19:19	108-10-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-207A **Lab ID: 50344032005** Collected: 05/03/23 09:36 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Styrene	**<1.0**	ug/L	1.0	1		05/15/23 19:19	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 19:19	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 19:19	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		05/15/23 19:19	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		05/15/23 19:19	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 19:19	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 19:19	79-00-5	
Trichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 19:19	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/15/23 19:19	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 19:19	96-18-4	
Vinyl chloride	**<1.0**	ug/L	1.0	1		05/15/23 19:19	75-01-4	
Xylene (Total)	**<2.0**	ug/L	2.0	1		05/15/23 19:19	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%.	79-124	1		05/15/23 19:19	460-00-4	
Dibromofluoromethane (S)	100	%.	82-128	1		05/15/23 19:19	1868-53-7	
Toluene-d8 (S)	103	%.	73-122	1		05/15/23 19:19	2037-26-5	
Total Inorganic Nitrogen	Analytical Method: NO2+NO3+NH3 Calculation Pace Analytical Services - Indianapolis							
Total Inorganic Nitrogen	**<40.0**	ug/L	40.0	2		05/19/23 15:28		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, NO2 plus NO3	**21.8**	ug/L	20.0	1		05/12/23 16:36		
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - Indianapolis							
Chloride	**11600**	ug/L	1000	1		05/11/23 15:59	16887-00-6	
4500 Ammonia Water Low Level	Analytical Method: SM-4500-NH3 G Pace Analytical Services - Indianapolis							
Nitrogen, Ammonia	**<40.0**	ug/L	40.0	2		05/16/23 15:48	7664-41-7	D3
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**9560**	ug/L	500	1		05/13/23 03:41	7440-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-208B **Lab ID: 50344032006** Collected: 05/03/23 10:07 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Potassium, Dissolved	**1240**	ug/L	500	1	05/15/23 09:06	05/17/23 02:08	7440-09-7	
Sodium, Dissolved	**85400**	ug/L	1000	1	05/15/23 09:06	05/17/23 02:08	7440-23-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**8.0**	ug/L	1.0	1	05/09/23 07:30	05/11/23 11:40	7440-38-2	
Barium, Dissolved	**56.7**	ug/L	5.0	1	05/09/23 07:30	05/11/23 11:40	7440-39-3	
Zinc, Dissolved	**<10.0**	ug/L	10.0	1	05/09/23 07:30	05/11/23 11:40	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/15/23 19:52	67-64-1	
Acrylonitrile	**<5.0**	ug/L	5.0	1		05/15/23 19:52	107-13-1	
Benzene	**<1.0**	ug/L	1.0	1		05/15/23 19:52	71-43-2	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 19:52	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		05/15/23 19:52	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/15/23 19:52	75-25-2	
Bromomethane	**<5.0**	ug/L	5.0	1		05/15/23 19:52	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/15/23 19:52	78-93-3	
Carbon disulfide	**<1.0**	ug/L	1.0	1		05/15/23 19:52	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		05/15/23 19:52	56-23-5	
Chlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 19:52	108-90-7	
Chloroethane	**<5.0**	ug/L	5.0	1		05/15/23 19:52	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/15/23 19:52	67-66-3	
Chloromethane	**<5.0**	ug/L	5.0	1		05/15/23 19:52	74-87-3	
1,2-Dibromo-3-chloropropane	**<5.0**	ug/L	5.0	1		05/15/23 19:52	96-12-8	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 19:52	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		05/15/23 19:52	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/15/23 19:52	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 19:52	95-50-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 19:52	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	5.0	1		05/15/23 19:52	110-57-6	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 19:52	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 19:52	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 19:52	75-35-4	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 19:52	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 19:52	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 19:52	78-87-5	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 19:52	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 19:52	10061-02-6	
Ethylbenzene	**<1.0**	ug/L	1.0	1		05/15/23 19:52	100-41-4	
2-Hexanone	**<5.0**	ug/L	5.0	1		05/15/23 19:52	591-78-6	
Iodomethane	**<1.0**	ug/L	1.0	1		05/15/23 19:52	74-88-4	
Methylene Chloride	**<5.0**	ug/L	5.0	1		05/15/23 19:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/15/23 19:52	108-10-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-208B **Lab ID: 50344032006** Collected: 05/03/23 10:07 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Styrene	**<1.0**	ug/L	1.0	1		05/15/23 19:52	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 19:52	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 19:52	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		05/15/23 19:52	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		05/15/23 19:52	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 19:52	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 19:52	79-00-5	
Trichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 19:52	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/15/23 19:52	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 19:52	96-18-4	
Vinyl chloride	**<1.0**	ug/L	1.0	1		05/15/23 19:52	75-01-4	
Xylene (Total)	**<2.0**	ug/L	2.0	1		05/15/23 19:52	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%.	79-124	1		05/15/23 19:52	460-00-4	
Dibromofluoromethane (S)	96	%.	82-128	1		05/15/23 19:52	1868-53-7	
Toluene-d8 (S)	103	%.	73-122	1		05/15/23 19:52	2037-26-5	
Total Inorganic Nitrogen	Analytical Method: NO2+NO3+NH3 Calculation Pace Analytical Services - Indianapolis							
Total Inorganic Nitrogen	**163**	ug/L	20.0	1		05/19/23 15:28		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, NO2 plus NO3	**<20.0**	ug/L	20.0	1		05/12/23 16:41		
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - Indianapolis							
Chloride	**32100**	ug/L	1000	1		05/11/23 16:00	16887-00-6	
4500 Ammonia Water Low Level	Analytical Method: SM-4500-NH3 G Pace Analytical Services - Indianapolis							
Nitrogen, Ammonia	**163**	ug/L	20.0	1		05/16/23 12:38	7664-41-7	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1470**	ug/L	500	1		05/13/23 03:57	7440-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-209 **Lab ID: 50344032007** Collected: 05/03/23 10:28 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Potassium, Dissolved	**1210**	ug/L	500	1	05/15/23 09:06	05/17/23 02:10	7440-09-7	
Sodium, Dissolved	**94200**	ug/L	1000	1	05/15/23 09:06	05/17/23 02:10	7440-23-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**1.4**	ug/L	1.0	1	05/09/23 07:30	05/11/23 11:50	7440-38-2	
Barium, Dissolved	**42.8**	ug/L	5.0	1	05/09/23 07:30	05/11/23 11:50	7440-39-3	
Zinc, Dissolved	**<10.0**	ug/L	10.0	1	05/09/23 07:30	05/11/23 11:50	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/15/23 20:24	67-64-1	
Acrylonitrile	**<5.0**	ug/L	5.0	1		05/15/23 20:24	107-13-1	
Benzene	**<1.0**	ug/L	1.0	1		05/15/23 20:24	71-43-2	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 20:24	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		05/15/23 20:24	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/15/23 20:24	75-25-2	
Bromomethane	**<5.0**	ug/L	5.0	1		05/15/23 20:24	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/15/23 20:24	78-93-3	
Carbon disulfide	**<1.0**	ug/L	1.0	1		05/15/23 20:24	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		05/15/23 20:24	56-23-5	
Chlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 20:24	108-90-7	
Chloroethane	**<5.0**	ug/L	5.0	1		05/15/23 20:24	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/15/23 20:24	67-66-3	
Chloromethane	**<5.0**	ug/L	5.0	1		05/15/23 20:24	74-87-3	
1,2-Dibromo-3-chloropropane	**<5.0**	ug/L	5.0	1		05/15/23 20:24	96-12-8	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 20:24	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		05/15/23 20:24	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/15/23 20:24	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 20:24	95-50-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 20:24	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	5.0	1		05/15/23 20:24	110-57-6	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 20:24	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 20:24	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 20:24	75-35-4	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 20:24	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 20:24	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 20:24	78-87-5	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 20:24	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 20:24	10061-02-6	
Ethylbenzene	**<1.0**	ug/L	1.0	1		05/15/23 20:24	100-41-4	
2-Hexanone	**<5.0**	ug/L	5.0	1		05/15/23 20:24	591-78-6	
Iodomethane	**<1.0**	ug/L	1.0	1		05/15/23 20:24	74-88-4	
Methylene Chloride	**<5.0**	ug/L	5.0	1		05/15/23 20:24	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/15/23 20:24	108-10-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-209 **Lab ID: 50344032007** Collected: 05/03/23 10:28 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Styrene	**<1.0**	ug/L	1.0	1		05/15/23 20:24	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 20:24	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 20:24	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		05/15/23 20:24	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		05/15/23 20:24	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 20:24	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 20:24	79-00-5	
Trichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 20:24	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/15/23 20:24	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 20:24	96-18-4	
Vinyl chloride	**<1.0**	ug/L	1.0	1		05/15/23 20:24	75-01-4	
Xylene (Total)	**<2.0**	ug/L	2.0	1		05/15/23 20:24	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%.	79-124	1		05/15/23 20:24	460-00-4	
Dibromofluoromethane (S)	100	%.	82-128	1		05/15/23 20:24	1868-53-7	
Toluene-d8 (S)	103	%.	73-122	1		05/15/23 20:24	2037-26-5	
Total Inorganic Nitrogen	Analytical Method: NO2+NO3+NH3 Calculation Pace Analytical Services - Indianapolis							
Total Inorganic Nitrogen	**96.9**	ug/L	20.0	1		05/19/23 15:28		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, NO2 plus NO3	**<20.0**	ug/L	20.0	1		05/12/23 16:45		
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - Indianapolis							
Chloride	**34600**	ug/L	1000	1		05/11/23 16:01	16887-00-6	
4500 Ammonia Water Low Level	Analytical Method: SM-4500-NH3 G Pace Analytical Services - Indianapolis							
Nitrogen, Ammonia	**96.9**	ug/L	20.0	1		05/16/23 12:40	7664-41-7	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1320**	ug/L	500	1		05/13/23 04:07	7440-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-302 **Lab ID: 50344032008** Collected: 05/03/23 11:04 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Potassium, Dissolved	**1680**	ug/L	500	1	05/15/23 09:06	05/17/23 02:12	7440-09-7	
Sodium, Dissolved	**95600**	ug/L	1000	1	05/15/23 09:06	05/17/23 02:12	7440-23-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**<1.0**	ug/L	1.0	1	05/09/23 07:30	05/11/23 11:53	7440-38-2	
Barium, Dissolved	**32.7**	ug/L	5.0	1	05/09/23 07:30	05/11/23 11:53	7440-39-3	
Zinc, Dissolved	**<10.0**	ug/L	10.0	1	05/09/23 07:30	05/11/23 11:53	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/15/23 20:57	67-64-1	
Acrylonitrile	**<5.0**	ug/L	5.0	1		05/15/23 20:57	107-13-1	
Benzene	**<1.0**	ug/L	1.0	1		05/15/23 20:57	71-43-2	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 20:57	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		05/15/23 20:57	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/15/23 20:57	75-25-2	
Bromomethane	**<5.0**	ug/L	5.0	1		05/15/23 20:57	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/15/23 20:57	78-93-3	
Carbon disulfide	**<1.0**	ug/L	1.0	1		05/15/23 20:57	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		05/15/23 20:57	56-23-5	
Chlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 20:57	108-90-7	
Chloroethane	**<5.0**	ug/L	5.0	1		05/15/23 20:57	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/15/23 20:57	67-66-3	
Chloromethane	**<5.0**	ug/L	5.0	1		05/15/23 20:57	74-87-3	
1,2-Dibromo-3-chloropropane	**<5.0**	ug/L	5.0	1		05/15/23 20:57	96-12-8	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 20:57	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		05/15/23 20:57	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/15/23 20:57	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 20:57	95-50-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 20:57	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	5.0	1		05/15/23 20:57	110-57-6	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 20:57	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 20:57	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 20:57	75-35-4	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 20:57	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 20:57	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 20:57	78-87-5	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 20:57	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 20:57	10061-02-6	
Ethylbenzene	**<1.0**	ug/L	1.0	1		05/15/23 20:57	100-41-4	
2-Hexanone	**<5.0**	ug/L	5.0	1		05/15/23 20:57	591-78-6	
Iodomethane	**<1.0**	ug/L	1.0	1		05/15/23 20:57	74-88-4	
Methylene Chloride	**<5.0**	ug/L	5.0	1		05/15/23 20:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/15/23 20:57	108-10-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-302 **Lab ID: 50344032008** Collected: 05/03/23 11:04 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Styrene	**<1.0**	ug/L	1.0	1		05/15/23 20:57	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 20:57	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 20:57	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		05/15/23 20:57	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		05/15/23 20:57	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 20:57	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 20:57	79-00-5	
Trichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 20:57	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/15/23 20:57	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 20:57	96-18-4	
Vinyl chloride	**<1.0**	ug/L	1.0	1		05/15/23 20:57	75-01-4	
Xylene (Total)	**<2.0**	ug/L	2.0	1		05/15/23 20:57	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%.	79-124	1		05/15/23 20:57	460-00-4	
Dibromofluoromethane (S)	99	%.	82-128	1		05/15/23 20:57	1868-53-7	
Toluene-d8 (S)	104	%.	73-122	1		05/15/23 20:57	2037-26-5	
Total Inorganic Nitrogen	Analytical Method: NO2+NO3+NH3 Calculation Pace Analytical Services - Indianapolis							
Total Inorganic Nitrogen	**108**	ug/L	20.0	1		05/19/23 15:28		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, NO2 plus NO3	**<20.0**	ug/L	20.0	1		05/12/23 16:46		
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - Indianapolis							
Chloride	**37500**	ug/L	1000	1		05/11/23 16:02	16887-00-6	
4500 Ammonia Water Low Level	Analytical Method: SM-4500-NH3 G Pace Analytical Services - Indianapolis							
Nitrogen, Ammonia	**108**	ug/L	20.0	1		05/16/23 12:41	7664-41-7	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1390**	ug/L	500	1		05/16/23 13:33	7440-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-210 **Lab ID: 50344032009** Collected: 05/03/23 11:21 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Potassium, Dissolved	**1360**	ug/L	500	1	05/15/23 09:06	05/17/23 02:14	7440-09-7	
Sodium, Dissolved	**93700**	ug/L	1000	1	05/15/23 09:06	05/17/23 02:14	7440-23-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**6.3**	ug/L	1.0	1	05/09/23 07:30	05/11/23 11:56	7440-38-2	
Barium, Dissolved	**28.4**	ug/L	5.0	1	05/09/23 07:30	05/11/23 11:56	7440-39-3	
Zinc, Dissolved	**<10.0**	ug/L	10.0	1	05/09/23 07:30	05/11/23 11:56	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/15/23 21:29	67-64-1	
Acrylonitrile	**<5.0**	ug/L	5.0	1		05/15/23 21:29	107-13-1	
Benzene	**<1.0**	ug/L	1.0	1		05/15/23 21:29	71-43-2	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 21:29	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		05/15/23 21:29	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/15/23 21:29	75-25-2	
Bromomethane	**<5.0**	ug/L	5.0	1		05/15/23 21:29	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/15/23 21:29	78-93-3	
Carbon disulfide	**<1.0**	ug/L	1.0	1		05/15/23 21:29	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		05/15/23 21:29	56-23-5	
Chlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 21:29	108-90-7	
Chloroethane	**<5.0**	ug/L	5.0	1		05/15/23 21:29	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/15/23 21:29	67-66-3	
Chloromethane	**<5.0**	ug/L	5.0	1		05/15/23 21:29	74-87-3	
1,2-Dibromo-3-chloropropane	**<5.0**	ug/L	5.0	1		05/15/23 21:29	96-12-8	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 21:29	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		05/15/23 21:29	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/15/23 21:29	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 21:29	95-50-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 21:29	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	5.0	1		05/15/23 21:29	110-57-6	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 21:29	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 21:29	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 21:29	75-35-4	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 21:29	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 21:29	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 21:29	78-87-5	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 21:29	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 21:29	10061-02-6	
Ethylbenzene	**<1.0**	ug/L	1.0	1		05/15/23 21:29	100-41-4	
2-Hexanone	**<5.0**	ug/L	5.0	1		05/15/23 21:29	591-78-6	
Iodomethane	**<1.0**	ug/L	1.0	1		05/15/23 21:29	74-88-4	
Methylene Chloride	**<5.0**	ug/L	5.0	1		05/15/23 21:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/15/23 21:29	108-10-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-210 **Lab ID: 50344032009** Collected: 05/03/23 11:21 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Styrene	**<1.0**	ug/L	1.0	1		05/15/23 21:29	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 21:29	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 21:29	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		05/15/23 21:29	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		05/15/23 21:29	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 21:29	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 21:29	79-00-5	
Trichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 21:29	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/15/23 21:29	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 21:29	96-18-4	
Vinyl chloride	**<1.0**	ug/L	1.0	1		05/15/23 21:29	75-01-4	
Xylene (Total)	**<2.0**	ug/L	2.0	1		05/15/23 21:29	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	98	%.	79-124	1		05/15/23 21:29	460-00-4	
Dibromofluoromethane (S)	99	%.	82-128	1		05/15/23 21:29	1868-53-7	
Toluene-d8 (S)	103	%.	73-122	1		05/15/23 21:29	2037-26-5	
Total Inorganic Nitrogen	Analytical Method: NO2+NO3+NH3 Calculation Pace Analytical Services - Indianapolis							
Total Inorganic Nitrogen	**112**	ug/L	20.0	1		05/19/23 15:28		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, NO2 plus NO3	**<20.0**	ug/L	20.0	1		05/12/23 16:48		
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - Indianapolis							
Chloride	**29700**	ug/L	1000	1		05/11/23 16:03	16887-00-6	
4500 Ammonia Water Low Level	Analytical Method: SM-4500-NH3 G Pace Analytical Services - Indianapolis							
Nitrogen, Ammonia	**112**	ug/L	20.0	1		05/16/23 12:42	7664-41-7	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1490**	ug/L	500	1		05/16/23 14:05	7440-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-202 **Lab ID: 50344032010** Collected: 05/02/23 15:55 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Potassium, Dissolved	**1380**	ug/L	500	1	05/15/23 09:06	05/17/23 02:17	7440-09-7	
Sodium, Dissolved	**70900**	ug/L	1000	1	05/15/23 09:06	05/17/23 02:17	7440-23-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**1.4**	ug/L	1.0	1	05/09/23 07:30	05/11/23 12:00	7440-38-2	
Barium, Dissolved	**70.9**	ug/L	5.0	1	05/09/23 07:30	05/11/23 12:00	7440-39-3	
Zinc, Dissolved	**<10.0**	ug/L	10.0	1	05/09/23 07:30	05/11/23 12:00	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/15/23 22:02	67-64-1	
Acrylonitrile	**<5.0**	ug/L	5.0	1		05/15/23 22:02	107-13-1	
Benzene	**<1.0**	ug/L	1.0	1		05/15/23 22:02	71-43-2	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 22:02	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		05/15/23 22:02	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/15/23 22:02	75-25-2	
Bromomethane	**<5.0**	ug/L	5.0	1		05/15/23 22:02	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/15/23 22:02	78-93-3	
Carbon disulfide	**<1.0**	ug/L	1.0	1		05/15/23 22:02	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		05/15/23 22:02	56-23-5	
Chlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 22:02	108-90-7	
Chloroethane	**<5.0**	ug/L	5.0	1		05/15/23 22:02	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/15/23 22:02	67-66-3	
Chloromethane	**<5.0**	ug/L	5.0	1		05/15/23 22:02	74-87-3	
1,2-Dibromo-3-chloropropane	**<5.0**	ug/L	5.0	1		05/15/23 22:02	96-12-8	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 22:02	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		05/15/23 22:02	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/15/23 22:02	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 22:02	95-50-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 22:02	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	5.0	1		05/15/23 22:02	110-57-6	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 22:02	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 22:02	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 22:02	75-35-4	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 22:02	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 22:02	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 22:02	78-87-5	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 22:02	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 22:02	10061-02-6	
Ethylbenzene	**<1.0**	ug/L	1.0	1		05/15/23 22:02	100-41-4	
2-Hexanone	**<5.0**	ug/L	5.0	1		05/15/23 22:02	591-78-6	
Iodomethane	**<1.0**	ug/L	1.0	1		05/15/23 22:02	74-88-4	
Methylene Chloride	**<5.0**	ug/L	5.0	1		05/15/23 22:02	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/15/23 22:02	108-10-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-202 **Lab ID: 50344032010** Collected: 05/02/23 15:55 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Styrene	**<1.0**	ug/L	1.0	1		05/15/23 22:02	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 22:02	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 22:02	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		05/15/23 22:02	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		05/15/23 22:02	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 22:02	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 22:02	79-00-5	
Trichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 22:02	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/15/23 22:02	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 22:02	96-18-4	
Vinyl chloride	**<1.0**	ug/L	1.0	1		05/15/23 22:02	75-01-4	
Xylene (Total)	**<2.0**	ug/L	2.0	1		05/15/23 22:02	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%.	79-124	1		05/15/23 22:02	460-00-4	
Dibromofluoromethane (S)	100	%.	82-128	1		05/15/23 22:02	1868-53-7	
Toluene-d8 (S)	102	%.	73-122	1		05/15/23 22:02	2037-26-5	
Total Inorganic Nitrogen	Analytical Method: NO2+NO3+NH3 Calculation Pace Analytical Services - Indianapolis							
Total Inorganic Nitrogen	**106**	ug/L	20.0	1		05/19/23 15:28		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, NO2 plus NO3	**<20.0**	ug/L	20.0	1		05/12/23 16:50		
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - Indianapolis							
Chloride	**30800**	ug/L	1000	1		05/11/23 16:04	16887-00-6	
4500 Ammonia Water Low Level	Analytical Method: SM-4500-NH3 G Pace Analytical Services - Indianapolis							
Nitrogen, Ammonia	**106**	ug/L	20.0	1		05/16/23 12:43	7664-41-7	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1300**	ug/L	500	1		05/16/23 14:59	7440-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-101 **Lab ID: 50344032011** Collected: 05/02/23 16:49 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Potassium, Dissolved	**1590**	ug/L	500	1	05/15/23 09:06	05/17/23 02:19	7440-09-7	
Sodium, Dissolved	**69000**	ug/L	1000	1	05/15/23 09:06	05/17/23 02:19	7440-23-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**2.0**	ug/L	1.0	1	05/09/23 07:30	05/11/23 12:10	7440-38-2	
Barium, Dissolved	**36.4**	ug/L	5.0	1	05/09/23 07:30	05/11/23 12:10	7440-39-3	
Zinc, Dissolved	**<10.0**	ug/L	10.0	1	05/09/23 07:30	05/11/23 12:10	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/15/23 13:05	67-64-1	
Acrylonitrile	**<5.0**	ug/L	5.0	1		05/15/23 13:05	107-13-1	
Benzene	**<1.0**	ug/L	1.0	1		05/15/23 13:05	71-43-2	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 13:05	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		05/15/23 13:05	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/15/23 13:05	75-25-2	
Bromomethane	**<5.0**	ug/L	5.0	1		05/15/23 13:05	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/15/23 13:05	78-93-3	
Carbon disulfide	**<1.0**	ug/L	1.0	1		05/15/23 13:05	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		05/15/23 13:05	56-23-5	
Chlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 13:05	108-90-7	
Chloroethane	**<5.0**	ug/L	5.0	1		05/15/23 13:05	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/15/23 13:05	67-66-3	
Chloromethane	**<5.0**	ug/L	5.0	1		05/15/23 13:05	74-87-3	
1,2-Dibromo-3-chloropropane	**<5.0**	ug/L	5.0	1		05/15/23 13:05	96-12-8	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 13:05	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		05/15/23 13:05	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/15/23 13:05	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 13:05	95-50-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 13:05	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	5.0	1		05/15/23 13:05	110-57-6	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 13:05	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 13:05	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 13:05	75-35-4	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 13:05	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 13:05	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 13:05	78-87-5	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 13:05	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 13:05	10061-02-6	
Ethylbenzene	**<1.0**	ug/L	1.0	1		05/15/23 13:05	100-41-4	
2-Hexanone	**<5.0**	ug/L	5.0	1		05/15/23 13:05	591-78-6	
Iodomethane	**<1.0**	ug/L	1.0	1		05/15/23 13:05	74-88-4	
Methylene Chloride	**<5.0**	ug/L	5.0	1		05/15/23 13:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/15/23 13:05	108-10-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-101 **Lab ID: 50344032011** Collected: 05/02/23 16:49 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Styrene	**<1.0**	ug/L	1.0	1		05/15/23 13:05	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 13:05	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 13:05	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		05/15/23 13:05	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		05/15/23 13:05	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 13:05	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 13:05	79-00-5	
Trichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 13:05	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/15/23 13:05	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 13:05	96-18-4	
Vinyl chloride	**<1.0**	ug/L	1.0	1		05/15/23 13:05	75-01-4	
Xylene (Total)	**<2.0**	ug/L	2.0	1		05/15/23 13:05	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	98	%.	79-124	1		05/15/23 13:05	460-00-4	
Dibromofluoromethane (S)	102	%.	82-128	1		05/15/23 13:05	1868-53-7	
Toluene-d8 (S)	102	%.	73-122	1		05/15/23 13:05	2037-26-5	
Total Inorganic Nitrogen	Analytical Method: NO2+NO3+NH3 Calculation Pace Analytical Services - Indianapolis							
Total Inorganic Nitrogen	**114**	ug/L	20.0	1		05/19/23 15:28		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, NO2 plus NO3	**<20.0**	ug/L	20.0	1		05/12/23 16:52		
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - Indianapolis							
Chloride	**25100**	ug/L	1000	1		05/11/23 16:05	16887-00-6	
4500 Ammonia Water Low Level	Analytical Method: SM-4500-NH3 G Pace Analytical Services - Indianapolis							
Nitrogen, Ammonia	**114**	ug/L	20.0	1		05/16/23 12:45	7664-41-7	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1340**	ug/L	500	1		05/16/23 15:09	7440-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-304 **Lab ID: 50344032012** Collected: 05/02/23 12:47 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Potassium, Dissolved	**1520**	ug/L	500	1	05/15/23 09:06	05/17/23 02:21	7440-09-7	
Sodium, Dissolved	**80500**	ug/L	1000	1	05/15/23 09:06	05/17/23 02:21	7440-23-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**<1.0**	ug/L	1.0	1	05/09/23 07:30	05/11/23 12:13	7440-38-2	
Barium, Dissolved	**21.8**	ug/L	5.0	1	05/09/23 07:30	05/11/23 12:13	7440-39-3	
Zinc, Dissolved	**<10.0**	ug/L	10.0	1	05/09/23 07:30	05/11/23 12:13	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/15/23 13:38	67-64-1	
Acrylonitrile	**<5.0**	ug/L	5.0	1		05/15/23 13:38	107-13-1	
Benzene	**<1.0**	ug/L	1.0	1		05/15/23 13:38	71-43-2	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 13:38	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		05/15/23 13:38	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/15/23 13:38	75-25-2	
Bromomethane	**<5.0**	ug/L	5.0	1		05/15/23 13:38	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/15/23 13:38	78-93-3	
Carbon disulfide	**<1.0**	ug/L	1.0	1		05/15/23 13:38	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		05/15/23 13:38	56-23-5	
Chlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 13:38	108-90-7	
Chloroethane	**<5.0**	ug/L	5.0	1		05/15/23 13:38	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/15/23 13:38	67-66-3	
Chloromethane	**<5.0**	ug/L	5.0	1		05/15/23 13:38	74-87-3	
1,2-Dibromo-3-chloropropane	**<5.0**	ug/L	5.0	1		05/15/23 13:38	96-12-8	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 13:38	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		05/15/23 13:38	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/15/23 13:38	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 13:38	95-50-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 13:38	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	5.0	1		05/15/23 13:38	110-57-6	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 13:38	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 13:38	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 13:38	75-35-4	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 13:38	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 13:38	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 13:38	78-87-5	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 13:38	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 13:38	10061-02-6	
Ethylbenzene	**<1.0**	ug/L	1.0	1		05/15/23 13:38	100-41-4	
2-Hexanone	**<5.0**	ug/L	5.0	1		05/15/23 13:38	591-78-6	
Iodomethane	**<1.0**	ug/L	1.0	1		05/15/23 13:38	74-88-4	
Methylene Chloride	**<5.0**	ug/L	5.0	1		05/15/23 13:38	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/15/23 13:38	108-10-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-304 **Lab ID: 50344032012** Collected: 05/02/23 12:47 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Styrene	**<1.0**	ug/L	1.0	1		05/15/23 13:38	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 13:38	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 13:38	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		05/15/23 13:38	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		05/15/23 13:38	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 13:38	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 13:38	79-00-5	
Trichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 13:38	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/15/23 13:38	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 13:38	96-18-4	
Vinyl chloride	**<1.0**	ug/L	1.0	1		05/15/23 13:38	75-01-4	
Xylene (Total)	**<2.0**	ug/L	2.0	1		05/15/23 13:38	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%.	79-124	1		05/15/23 13:38	460-00-4	
Dibromofluoromethane (S)	100	%.	82-128	1		05/15/23 13:38	1868-53-7	
Toluene-d8 (S)	103	%.	73-122	1		05/15/23 13:38	2037-26-5	
Total Inorganic Nitrogen	Analytical Method: NO2+NO3+NH3 Calculation Pace Analytical Services - Indianapolis							
Total Inorganic Nitrogen	**129**	ug/L	20.0	1		05/19/23 15:28		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, NO2 plus NO3	**<20.0**	ug/L	20.0	1		05/12/23 16:53		
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - Indianapolis							
Chloride	**32100**	ug/L	1000	1		05/11/23 16:09	16887-00-6	
4500 Ammonia Water Low Level	Analytical Method: SM-4500-NH3 G Pace Analytical Services - Indianapolis							
Nitrogen, Ammonia	**129**	ug/L	20.0	1		05/16/23 12:46	7664-41-7	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1200**	ug/L	500	1		05/16/23 15:19	7440-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
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ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-303A **Lab ID: 50344032013** Collected: 05/03/23 14:03 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Potassium	**1100**	ug/L	500	1	05/16/23 07:58	05/17/23 11:30	7440-09-7	
Sodium	**106000**	ug/L	1000	1	05/16/23 07:58	05/17/23 11:30	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Potassium, Dissolved	**1050**	ug/L	500	1	05/15/23 09:06	05/17/23 02:23	7440-09-7	
Sodium, Dissolved	**104000**	ug/L	1000	1	05/15/23 09:06	05/17/23 02:23	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Arsenic	**3.3**	ug/L	1.0	1	05/10/23 15:50	05/16/23 02:04	7440-38-2	
Barium	**6.9**	ug/L	5.0	1	05/10/23 15:50	05/16/23 02:04	7440-39-3	
Zinc	**<10.0**	ug/L	10.0	1	05/10/23 15:50	05/16/23 02:04	7440-66-6	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**3.0**	ug/L	1.0	1	05/09/23 07:30	05/11/23 12:16	7440-38-2	
Barium, Dissolved	**5.8**	ug/L	5.0	1	05/09/23 07:30	05/11/23 12:16	7440-39-3	
Zinc, Dissolved	**<10.0**	ug/L	10.0	1	05/09/23 07:30	05/11/23 12:16	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/15/23 14:10	67-64-1	
Acrylonitrile	**<5.0**	ug/L	5.0	1		05/15/23 14:10	107-13-1	
Benzene	**<1.0**	ug/L	1.0	1		05/15/23 14:10	71-43-2	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 14:10	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		05/15/23 14:10	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/15/23 14:10	75-25-2	
Bromomethane	**<5.0**	ug/L	5.0	1		05/15/23 14:10	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/15/23 14:10	78-93-3	
Carbon disulfide	**<1.0**	ug/L	1.0	1		05/15/23 14:10	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		05/15/23 14:10	56-23-5	
Chlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 14:10	108-90-7	
Chloroethane	**<5.0**	ug/L	5.0	1		05/15/23 14:10	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/15/23 14:10	67-66-3	
Chloromethane	**<5.0**	ug/L	5.0	1		05/15/23 14:10	74-87-3	
1,2-Dibromo-3-chloropropane	**<5.0**	ug/L	5.0	1		05/15/23 14:10	96-12-8	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 14:10	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		05/15/23 14:10	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/15/23 14:10	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 14:10	95-50-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 14:10	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	5.0	1		05/15/23 14:10	110-57-6	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 14:10	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 14:10	107-06-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-303A **Lab ID: 50344032013** Collected: 05/03/23 14:03 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 14:10	75-35-4	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 14:10	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 14:10	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 14:10	78-87-5	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 14:10	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 14:10	10061-02-6	
Ethylbenzene	**<1.0**	ug/L	1.0	1		05/15/23 14:10	100-41-4	
2-Hexanone	**<5.0**	ug/L	5.0	1		05/15/23 14:10	591-78-6	
Iodomethane	**<1.0**	ug/L	1.0	1		05/15/23 14:10	74-88-4	
Methylene Chloride	**<5.0**	ug/L	5.0	1		05/15/23 14:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/15/23 14:10	108-10-1	
Styrene	**<1.0**	ug/L	1.0	1		05/15/23 14:10	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 14:10	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 14:10	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		05/15/23 14:10	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		05/15/23 14:10	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 14:10	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 14:10	79-00-5	
Trichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 14:10	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/15/23 14:10	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 14:10	96-18-4	
Vinyl chloride	**<1.0**	ug/L	1.0	1		05/15/23 14:10	75-01-4	
Xylene (Total)	**<2.0**	ug/L	2.0	1		05/15/23 14:10	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%.	79-124	1		05/15/23 14:10	460-00-4	
Dibromofluoromethane (S)	99	%.	82-128	1		05/15/23 14:10	1868-53-7	
Toluene-d8 (S)	101	%.	73-122	1		05/15/23 14:10	2037-26-5	
Total Inorganic Nitrogen	Analytical Method: NO2+NO3+NH3 Calculation Pace Analytical Services - Indianapolis							
Total Inorganic Nitrogen	**71.9**	ug/L	20.0	1		05/19/23 15:28		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, NO2 plus NO3	**<20.0**	ug/L	20.0	1		05/12/23 16:55		
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - Indianapolis							
Chloride	**41900**	ug/L	1000	1		05/11/23 16:10	16887-00-6	
4500 Ammonia Water Low Level	Analytical Method: SM-4500-NH3 G Pace Analytical Services - Indianapolis							
Nitrogen, Ammonia	**71.9**	ug/L	20.0	1		05/16/23 12:47	7664-41-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-303A **Lab ID: 50344032013** Collected: 05/03/23 14:03 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1370**	ug/L	500	1		05/16/23 15:29	7440-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
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ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-203B **Lab ID: 50344032014** Collected: 05/03/23 14:59 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Potassium, Dissolved	**4570**	ug/L	500	1	05/15/23 09:06	05/17/23 02:30	7440-09-7	
Sodium, Dissolved	**89200**	ug/L	1000	1	05/15/23 09:06	05/17/23 02:30	7440-23-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**7.5**	ug/L	1.0	1	05/09/23 07:30	05/11/23 12:20	7440-38-2	
Barium, Dissolved	**66.3**	ug/L	5.0	1	05/09/23 07:30	05/11/23 12:20	7440-39-3	
Zinc, Dissolved	**<10.0**	ug/L	10.0	1	05/09/23 07:30	05/11/23 12:20	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/15/23 14:43	67-64-1	
Acrylonitrile	**<5.0**	ug/L	5.0	1		05/15/23 14:43	107-13-1	
Benzene	**<1.0**	ug/L	1.0	1		05/15/23 14:43	71-43-2	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 14:43	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		05/15/23 14:43	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/15/23 14:43	75-25-2	
Bromomethane	**<5.0**	ug/L	5.0	1		05/15/23 14:43	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/15/23 14:43	78-93-3	
Carbon disulfide	**4.8**	ug/L	1.0	1		05/15/23 14:43	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		05/15/23 14:43	56-23-5	
Chlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 14:43	108-90-7	
Chloroethane	**<5.0**	ug/L	5.0	1		05/15/23 14:43	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/15/23 14:43	67-66-3	
Chloromethane	**<5.0**	ug/L	5.0	1		05/15/23 14:43	74-87-3	
1,2-Dibromo-3-chloropropane	**<5.0**	ug/L	5.0	1		05/15/23 14:43	96-12-8	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 14:43	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		05/15/23 14:43	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/15/23 14:43	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 14:43	95-50-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 14:43	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	5.0	1		05/15/23 14:43	110-57-6	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 14:43	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 14:43	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 14:43	75-35-4	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 14:43	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 14:43	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 14:43	78-87-5	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 14:43	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 14:43	10061-02-6	
Ethylbenzene	**<1.0**	ug/L	1.0	1		05/15/23 14:43	100-41-4	
2-Hexanone	**<5.0**	ug/L	5.0	1		05/15/23 14:43	591-78-6	
Iodomethane	**<1.0**	ug/L	1.0	1		05/15/23 14:43	74-88-4	
Methylene Chloride	**<5.0**	ug/L	5.0	1		05/15/23 14:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/15/23 14:43	108-10-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-203B **Lab ID: 50344032014** Collected: 05/03/23 14:59 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Styrene	**<1.0**	ug/L	1.0	1		05/15/23 14:43	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 14:43	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 14:43	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		05/15/23 14:43	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		05/15/23 14:43	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 14:43	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 14:43	79-00-5	
Trichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 14:43	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/15/23 14:43	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 14:43	96-18-4	
Vinyl chloride	**<1.0**	ug/L	1.0	1		05/15/23 14:43	75-01-4	
Xylene (Total)	**<2.0**	ug/L	2.0	1		05/15/23 14:43	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%.	79-124	1		05/15/23 14:43	460-00-4	
Dibromofluoromethane (S)	102	%.	82-128	1		05/15/23 14:43	1868-53-7	
Toluene-d8 (S)	103	%.	73-122	1		05/15/23 14:43	2037-26-5	
Total Inorganic Nitrogen	Analytical Method: NO2+NO3+NH3 Calculation Pace Analytical Services - Indianapolis							
Total Inorganic Nitrogen	**195**	ug/L	20.0	1		05/19/23 15:28		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, NO2 plus NO3	**<20.0**	ug/L	20.0	1		05/12/23 16:57		
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - Indianapolis							
Chloride	**39300**	ug/L	1000	1		05/11/23 16:11	16887-00-6	
4500 Ammonia Water Low Level	Analytical Method: SM-4500-NH3 G Pace Analytical Services - Indianapolis							
Nitrogen, Ammonia	**195**	ug/L	20.0	1		05/16/23 12:48	7664-41-7	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1700**	ug/L	500	1		05/16/23 15:40	7440-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-301 **Lab ID: 50344032015** Collected: 05/03/23 16:09 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Potassium	**1370**	ug/L	500	1	05/16/23 07:58	05/17/23 11:33	7440-09-7	
Sodium	**103000**	ug/L	1000	1	05/16/23 07:58	05/17/23 11:33	7440-23-5	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Potassium, Dissolved	**1280**	ug/L	500	1	05/15/23 09:06	05/17/23 02:32	7440-09-7	
Sodium, Dissolved	**99100**	ug/L	1000	1	05/15/23 09:06	05/17/23 02:32	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Arsenic	**3.1**	ug/L	1.0	1	05/10/23 15:50	05/16/23 02:08	7440-38-2	
Barium	**28.9**	ug/L	5.0	1	05/10/23 15:50	05/16/23 02:08	7440-39-3	
Zinc	**<10.0**	ug/L	10.0	1	05/10/23 15:50	05/16/23 02:08	7440-66-6	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**2.8**	ug/L	1.0	1	05/09/23 07:30	05/11/23 12:30	7440-38-2	
Barium, Dissolved	**27.8**	ug/L	5.0	1	05/09/23 07:30	05/11/23 12:30	7440-39-3	
Zinc, Dissolved	**<10.0**	ug/L	10.0	1	05/09/23 07:30	05/11/23 12:30	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/15/23 15:15	67-64-1	
Acrylonitrile	**<5.0**	ug/L	5.0	1		05/15/23 15:15	107-13-1	
Benzene	**<1.0**	ug/L	1.0	1		05/15/23 15:15	71-43-2	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 15:15	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		05/15/23 15:15	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/15/23 15:15	75-25-2	
Bromomethane	**<5.0**	ug/L	5.0	1		05/15/23 15:15	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/15/23 15:15	78-93-3	
Carbon disulfide	**<1.0**	ug/L	1.0	1		05/15/23 15:15	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		05/15/23 15:15	56-23-5	
Chlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 15:15	108-90-7	
Chloroethane	**<5.0**	ug/L	5.0	1		05/15/23 15:15	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/15/23 15:15	67-66-3	
Chloromethane	**<5.0**	ug/L	5.0	1		05/15/23 15:15	74-87-3	
1,2-Dibromo-3-chloropropane	**<5.0**	ug/L	5.0	1		05/15/23 15:15	96-12-8	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 15:15	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		05/15/23 15:15	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/15/23 15:15	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 15:15	95-50-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 15:15	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	5.0	1		05/15/23 15:15	110-57-6	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 15:15	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 15:15	107-06-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
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ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-301 **Lab ID: 50344032015** Collected: 05/03/23 16:09 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 5030B/8260							
	Pace Analytical Services - Indianapolis							
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 15:15	75-35-4	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 15:15	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 15:15	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 15:15	78-87-5	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 15:15	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 15:15	10061-02-6	
Ethylbenzene	**<1.0**	ug/L	1.0	1		05/15/23 15:15	100-41-4	
2-Hexanone	**<5.0**	ug/L	5.0	1		05/15/23 15:15	591-78-6	
Iodomethane	**<1.0**	ug/L	1.0	1		05/15/23 15:15	74-88-4	
Methylene Chloride	**<5.0**	ug/L	5.0	1		05/15/23 15:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/15/23 15:15	108-10-1	
Styrene	**<1.0**	ug/L	1.0	1		05/15/23 15:15	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 15:15	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 15:15	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		05/15/23 15:15	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		05/15/23 15:15	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 15:15	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 15:15	79-00-5	
Trichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 15:15	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/15/23 15:15	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 15:15	96-18-4	
Vinyl chloride	**<1.0**	ug/L	1.0	1		05/15/23 15:15	75-01-4	
Xylene (Total)	**<2.0**	ug/L	2.0	1		05/15/23 15:15	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%.	79-124	1		05/15/23 15:15	460-00-4	
Dibromofluoromethane (S)	102	%.	82-128	1		05/15/23 15:15	1868-53-7	
Toluene-d8 (S)	103	%.	73-122	1		05/15/23 15:15	2037-26-5	
Total Inorganic Nitrogen	Analytical Method: NO2+NO3+NH3 Calculation							
	Pace Analytical Services - Indianapolis							
Total Inorganic Nitrogen	**185**	ug/L	20.0	1		05/19/23 15:28		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2							
	Pace Analytical Services - Indianapolis							
Nitrogen, NO2 plus NO3	**<20.0**	ug/L	20.0	1		05/12/23 17:02		
4500 Chloride	Analytical Method: SM 4500-Cl-E							
	Pace Analytical Services - Indianapolis							
Chloride	**40800**	ug/L	1000	1		05/11/23 16:12	16887-00-6	
4500 Ammonia Water Low Level	Analytical Method: SM-4500-NH3 G							
	Pace Analytical Services - Indianapolis							
Nitrogen, Ammonia	**185**	ug/L	20.0	1		05/16/23 12:50	7664-41-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
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ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-301 **Lab ID: 50344032015** Collected: 05/03/23 16:09 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1270**	ug/L	500	1		05/16/23 15:50	7440-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
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ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: SW-U1 **Lab ID: 50344032016** Collected: 05/04/23 08:25 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**28600**	ug/L	10000	10		05/16/23 12:17	16887-00-6	
Sulfate	**15100**	ug/L	2000	1		05/16/23 12:01	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Calcium	**52200**	ug/L	1000	1	05/16/23 07:58	05/17/23 11:35	7440-70-2	
Iron	**618**	ug/L	100	1	05/16/23 07:58	05/17/23 11:35	7439-89-6	
Magnesium	**14100**	ug/L	1000	1	05/16/23 07:58	05/17/23 11:35	7439-95-4	
Sodium	**16100**	ug/L	1000	1	05/16/23 07:58	05/17/23 11:35	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**143000**	ug/L	10000	1		05/09/23 02:10		
Alkalinity,Bicarbonate (CaCO3)	**143000**	ug/L	10000	1		05/09/23 02:10		
Total Inorganic Nitrogen	Analytical Method: NO2+NO3+NH3 Calculation							
	Pace Analytical Services - Indianapolis							
Total Inorganic Nitrogen	**20.8**	ug/L	20.0	1		05/19/23 15:28		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2							
	Pace Analytical Services - Indianapolis							
Nitrogen, NO2 plus NO3	**20.8**	ug/L	20.0	1		05/12/23 17:04		
4500 Ammonia Water Low Level	Analytical Method: SM-4500-NH3 G							
	Pace Analytical Services - Indianapolis							
Nitrogen, Ammonia	**<20.0**	ug/L	20.0	1		05/16/23 12:54	7664-41-7	
5310C TOC	Analytical Method: SM 5310C							
	Pace Analytical Services - Indianapolis							
Total Organic Carbon	**16800**	ug/L	2000	4		05/16/23 16:05	7440-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: SW-DA1 **Lab ID: 50344032017** Collected: 05/04/23 08:45 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**33200**	ug/L	10000	10		05/16/23 15:23	16887-00-6	
Sulfate	**17400**	ug/L	2000	1		05/16/23 15:05	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Calcium	**48900**	ug/L	1000	1	05/16/23 07:58	05/17/23 11:37	7440-70-2	
Iron	**823**	ug/L	100	1	05/16/23 07:58	05/17/23 11:37	7439-89-6	
Magnesium	**13500**	ug/L	1000	1	05/16/23 07:58	05/17/23 11:37	7439-95-4	
Sodium	**17500**	ug/L	1000	1	05/16/23 07:58	05/17/23 11:37	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**143000**	ug/L	10000	1		05/09/23 02:10		
Alkalinity,Bicarbonate (CaCO3)	**143000**	ug/L	10000	1		05/09/23 02:10		
Total Inorganic Nitrogen	Analytical Method: NO2+NO3+NH3 Calculation							
	Pace Analytical Services - Indianapolis							
Total Inorganic Nitrogen	**83.3**	ug/L	20.0	1		05/19/23 15:28		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2							
	Pace Analytical Services - Indianapolis							
Nitrogen, NO2 plus NO3	**36.6**	ug/L	20.0	1		05/12/23 17:06		
4500 Ammonia Water Low Level	Analytical Method: SM-4500-NH3 G							
	Pace Analytical Services - Indianapolis							
Nitrogen, Ammonia	**46.7**	ug/L	20.0	1		05/16/23 12:55	7664-41-7	
5310C TOC	Analytical Method: SM 5310C							
	Pace Analytical Services - Indianapolis							
Total Organic Carbon	**14400**	ug/L	2000	4		05/17/23 15:56	7440-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
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ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: SW-D2 **Lab ID: 50344032018** Collected: 05/04/23 09:05 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**8980**	ug/L	1000	1		05/16/23 15:58	16887-00-6	
Sulfate	**40300**	ug/L	2000	1		05/16/23 15:58	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Calcium	**74300**	ug/L	1000	1	05/16/23 07:58	05/17/23 11:39	7440-70-2	
Iron	**13600**	ug/L	100	1	05/16/23 07:58	05/17/23 11:39	7439-89-6	
Magnesium	**26300**	ug/L	1000	1	05/16/23 07:58	05/17/23 11:39	7439-95-4	
Sodium	**10200**	ug/L	1000	1	05/16/23 07:58	05/17/23 11:39	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**201000**	ug/L	10000	1		05/09/23 02:10		
Alkalinity,Bicarbonate (CaCO3)	**201000**	ug/L	10000	1		05/09/23 02:10		
Total Inorganic Nitrogen	Analytical Method: NO2+NO3+NH3 Calculation							
	Pace Analytical Services - Indianapolis							
Total Inorganic Nitrogen	**<20.0**	ug/L	20.0	1		05/19/23 15:28		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2							
	Pace Analytical Services - Indianapolis							
Nitrogen, NO2 plus NO3	**<20.0**	ug/L	20.0	1		05/12/23 17:08		
4500 Ammonia Water Low Level	Analytical Method: SM-4500-NH3 G							
	Pace Analytical Services - Indianapolis							
Nitrogen, Ammonia	**<20.0**	ug/L	20.0	1		05/16/23 12:56	7664-41-7	
5310C TOC	Analytical Method: SM 5310C							
	Pace Analytical Services - Indianapolis							
Total Organic Carbon	**9340**	ug/L	2000	4		05/16/23 16:16	7440-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: SW-U2 **Lab ID: 50344032019** Collected: 05/04/23 10:07 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9056 IC Anions	Analytical Method: EPA 9056							
	Pace Analytical Services - Indianapolis							
Chloride	**47500**	ug/L	10000	10		05/16/23 18:17	16887-00-6	
Sulfate	**23400**	ug/L	2000	1		05/16/23 18:00	14808-79-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Pace Analytical Services - Indianapolis							
Calcium	**63500**	ug/L	1000	1	05/16/23 07:58	05/17/23 11:41	7440-70-2	
Iron	**111**	ug/L	100	1	05/16/23 07:58	05/17/23 11:41	7439-89-6	
Magnesium	**16100**	ug/L	1000	1	05/16/23 07:58	05/17/23 11:41	7439-95-4	
Sodium	**33800**	ug/L	1000	1	05/16/23 07:58	05/17/23 11:41	7440-23-5	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Indianapolis							
Alkalinity, Total as CaCO3	**200000**	ug/L	10000	1		05/09/23 02:10		
Alkalinity,Bicarbonate (CaCO3)	**185000**	ug/L	10000	1		05/09/23 02:10		
Total Inorganic Nitrogen	Analytical Method: NO2+NO3+NH3 Calculation							
	Pace Analytical Services - Indianapolis							
Total Inorganic Nitrogen	**<20.0**	ug/L	20.0	1		05/19/23 15:28		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2							
	Pace Analytical Services - Indianapolis							
Nitrogen, NO2 plus NO3	**<20.0**	ug/L	20.0	1		05/12/23 17:09		
4500 Ammonia Water Low Level	Analytical Method: SM-4500-NH3 G							
	Pace Analytical Services - Indianapolis							
Nitrogen, Ammonia	**<20.0**	ug/L	20.0	1		05/16/23 12:57	7664-41-7	
5310C TOC	Analytical Method: SM 5310C							
	Pace Analytical Services - Indianapolis							
Total Organic Carbon	**13200**	ug/L	2000	4		05/16/23 16:27	7440-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
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ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: Trip Blank **Lab ID: 50344032020** Collected: 05/02/23 00:00 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/15/23 15:48	67-64-1	
Acrylonitrile	**<5.0**	ug/L	5.0	1		05/15/23 15:48	107-13-1	
Benzene	**<1.0**	ug/L	1.0	1		05/15/23 15:48	71-43-2	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 15:48	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		05/15/23 15:48	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/15/23 15:48	75-25-2	
Bromomethane	**<5.0**	ug/L	5.0	1		05/15/23 15:48	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/15/23 15:48	78-93-3	
Carbon disulfide	**<1.0**	ug/L	1.0	1		05/15/23 15:48	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		05/15/23 15:48	56-23-5	
Chlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 15:48	108-90-7	
Chloroethane	**<5.0**	ug/L	5.0	1		05/15/23 15:48	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/15/23 15:48	67-66-3	
Chloromethane	**<5.0**	ug/L	5.0	1		05/15/23 15:48	74-87-3	
1,2-Dibromo-3-chloropropane	**<5.0**	ug/L	5.0	1		05/15/23 15:48	96-12-8	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 15:48	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		05/15/23 15:48	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/15/23 15:48	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 15:48	95-50-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 15:48	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	5.0	1		05/15/23 15:48	110-57-6	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 15:48	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 15:48	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 15:48	75-35-4	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 15:48	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 15:48	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 15:48	78-87-5	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 15:48	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 15:48	10061-02-6	
Ethylbenzene	**<1.0**	ug/L	1.0	1		05/15/23 15:48	100-41-4	
2-Hexanone	**<5.0**	ug/L	5.0	1		05/15/23 15:48	591-78-6	
Iodomethane	**<1.0**	ug/L	1.0	1		05/15/23 15:48	74-88-4	
Methylene Chloride	**<5.0**	ug/L	5.0	1		05/15/23 15:48	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/15/23 15:48	108-10-1	
Styrene	**<1.0**	ug/L	1.0	1		05/15/23 15:48	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 15:48	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 15:48	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		05/15/23 15:48	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		05/15/23 15:48	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 15:48	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 15:48	79-00-5	
Trichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 15:48	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/15/23 15:48	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 15:48	96-18-4	
Vinyl chloride	**<1.0**	ug/L	1.0	1		05/15/23 15:48	75-01-4	
Xylene (Total)	**<2.0**	ug/L	2.0	1		05/15/23 15:48	1330-20-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: Trip Blank **Lab ID: 50344032020** Collected: 05/02/23 00:00 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Surrogates								
4-Bromofluorobenzene (S)	100	%.	79-124	1		05/15/23 15:48	460-00-4	
Dibromofluoromethane (S)	100	%.	82-128	1		05/15/23 15:48	1868-53-7	
Toluene-d8 (S)	102	%.	73-122	1		05/15/23 15:48	2037-26-5	

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: Field Blank **Lab ID: 50344032021** Collected: 05/03/23 09:00 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/15/23 16:20	67-64-1	
Acrylonitrile	**<5.0**	ug/L	5.0	1		05/15/23 16:20	107-13-1	
Benzene	**<1.0**	ug/L	1.0	1		05/15/23 16:20	71-43-2	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 16:20	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		05/15/23 16:20	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/15/23 16:20	75-25-2	
Bromomethane	**<5.0**	ug/L	5.0	1		05/15/23 16:20	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/15/23 16:20	78-93-3	
Carbon disulfide	**<1.0**	ug/L	1.0	1		05/15/23 16:20	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		05/15/23 16:20	56-23-5	
Chlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 16:20	108-90-7	
Chloroethane	**<5.0**	ug/L	5.0	1		05/15/23 16:20	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/15/23 16:20	67-66-3	
Chloromethane	**<5.0**	ug/L	5.0	1		05/15/23 16:20	74-87-3	
1,2-Dibromo-3-chloropropane	**<5.0**	ug/L	5.0	1		05/15/23 16:20	96-12-8	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 16:20	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		05/15/23 16:20	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/15/23 16:20	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 16:20	95-50-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 16:20	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	5.0	1		05/15/23 16:20	110-57-6	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 16:20	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 16:20	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 16:20	75-35-4	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 16:20	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 16:20	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 16:20	78-87-5	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 16:20	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 16:20	10061-02-6	
Ethylbenzene	**<1.0**	ug/L	1.0	1		05/15/23 16:20	100-41-4	
2-Hexanone	**<5.0**	ug/L	5.0	1		05/15/23 16:20	591-78-6	
Iodomethane	**<1.0**	ug/L	1.0	1		05/15/23 16:20	74-88-4	
Methylene Chloride	**<5.0**	ug/L	5.0	1		05/15/23 16:20	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/15/23 16:20	108-10-1	
Styrene	**<1.0**	ug/L	1.0	1		05/15/23 16:20	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 16:20	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 16:20	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		05/15/23 16:20	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		05/15/23 16:20	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 16:20	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 16:20	79-00-5	
Trichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 16:20	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/15/23 16:20	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 16:20	96-18-4	
Vinyl chloride	**<1.0**	ug/L	1.0	1		05/15/23 16:20	75-01-4	
Xylene (Total)	**<2.0**	ug/L	2.0	1		05/15/23 16:20	1330-20-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: Field Blank **Lab ID: 50344032021** Collected: 05/03/23 09:00 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Surrogates								
4-Bromofluorobenzene (S)	98	%.	79-124	1		05/15/23 16:20	460-00-4	
Dibromofluoromethane (S)	100	%.	82-128	1		05/15/23 16:20	1868-53-7	
Toluene-d8 (S)	101	%.	73-122	1		05/15/23 16:20	2037-26-5	

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ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-213 **Lab ID: 50344032022** Collected: 05/03/23 00:00 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Indianapolis							
Potassium, Dissolved	**1520**	ug/L	500	1	05/15/23 09:06	05/17/23 02:34	7440-09-7	
Sodium, Dissolved	**79300**	ug/L	1000	1	05/15/23 09:06	05/17/23 02:34	7440-23-5	
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 200.2 Pace Analytical Services - Indianapolis							
Arsenic, Dissolved	**<1.0**	ug/L	1.0	1	05/09/23 07:30	05/11/23 12:33	7440-38-2	
Barium, Dissolved	**22.0**	ug/L	5.0	1	05/09/23 07:30	05/11/23 12:33	7440-39-3	
Zinc, Dissolved	**<10.0**	ug/L	10.0	1	05/09/23 07:30	05/11/23 12:33	7440-66-6	
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/15/23 16:53	67-64-1	
Acrylonitrile	**<5.0**	ug/L	5.0	1		05/15/23 16:53	107-13-1	
Benzene	**<1.0**	ug/L	1.0	1		05/15/23 16:53	71-43-2	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 16:53	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		05/15/23 16:53	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/15/23 16:53	75-25-2	
Bromomethane	**<5.0**	ug/L	5.0	1		05/15/23 16:53	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/15/23 16:53	78-93-3	
Carbon disulfide	**<1.0**	ug/L	1.0	1		05/15/23 16:53	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		05/15/23 16:53	56-23-5	
Chlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 16:53	108-90-7	
Chloroethane	**<5.0**	ug/L	5.0	1		05/15/23 16:53	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/15/23 16:53	67-66-3	
Chloromethane	**<5.0**	ug/L	5.0	1		05/15/23 16:53	74-87-3	
1,2-Dibromo-3-chloropropane	**<5.0**	ug/L	5.0	1		05/15/23 16:53	96-12-8	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		05/15/23 16:53	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		05/15/23 16:53	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/15/23 16:53	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 16:53	95-50-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/15/23 16:53	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	5.0	1		05/15/23 16:53	110-57-6	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 16:53	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 16:53	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 16:53	75-35-4	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 16:53	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 16:53	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 16:53	78-87-5	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 16:53	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		05/15/23 16:53	10061-02-6	
Ethylbenzene	**<1.0**	ug/L	1.0	1		05/15/23 16:53	100-41-4	
2-Hexanone	**<5.0**	ug/L	5.0	1		05/15/23 16:53	591-78-6	
Iodomethane	**<1.0**	ug/L	1.0	1		05/15/23 16:53	74-88-4	
Methylene Chloride	**<5.0**	ug/L	5.0	1		05/15/23 16:53	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/15/23 16:53	108-10-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Sample: MW-213 **Lab ID: 50344032022** Collected: 05/03/23 00:00 Received: 05/04/23 17:42 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 5030B/8260 Pace Analytical Services - Indianapolis							
Styrene	**<1.0**	ug/L	1.0	1		05/15/23 16:53	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 16:53	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		05/15/23 16:53	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		05/15/23 16:53	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		05/15/23 16:53	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 16:53	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		05/15/23 16:53	79-00-5	
Trichloroethene	**<1.0**	ug/L	1.0	1		05/15/23 16:53	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/15/23 16:53	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		05/15/23 16:53	96-18-4	
Vinyl chloride	**<1.0**	ug/L	1.0	1		05/15/23 16:53	75-01-4	
Xylene (Total)	**<2.0**	ug/L	2.0	1		05/15/23 16:53	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	98	%.	79-124	1		05/15/23 16:53	460-00-4	
Dibromofluoromethane (S)	101	%.	82-128	1		05/15/23 16:53	1868-53-7	
Toluene-d8 (S)	101	%.	73-122	1		05/15/23 16:53	2037-26-5	
Total Inorganic Nitrogen	Analytical Method: NO2+NO3+NH3 Calculation Pace Analytical Services - Indianapolis							
Total Inorganic Nitrogen	**127**	ug/L	20.0	1		05/19/23 15:28		
353.2 Nitrogen, NO2/NO3 pres.	Analytical Method: EPA 353.2 Pace Analytical Services - Indianapolis							
Nitrogen, NO2 plus NO3	**<20.0**	ug/L	20.0	1		05/12/23 17:11		
4500 Chloride	Analytical Method: SM 4500-Cl-E Pace Analytical Services - Indianapolis							
Chloride	**31900**	ug/L	1000	1		05/11/23 16:13	16887-00-6	
4500 Ammonia Water Low Level	Analytical Method: SM-4500-NH3 G Pace Analytical Services - Indianapolis							
Nitrogen, Ammonia	**127**	ug/L	20.0	1		05/16/23 12:59	7664-41-7	
5310C TOC	Analytical Method: SM 5310C Pace Analytical Services - Indianapolis							
Total Organic Carbon	**1180J**	ug/L	2000	4		05/16/23 17:08	7440-44-0	D3

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
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QUALITY CONTROL DATA

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

QC Batch: 733242
QC Batch Method: EPA 9056
Analysis Method: EPA 9056
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344032016, 50344032017, 50344032018, 50344032019

METHOD BLANK: 3365248 Matrix: Water
Associated Lab Samples: 50344032016, 50344032017, 50344032018, 50344032019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	ug/L	<1000	1000	05/16/23 11:29	
Sulfate	ug/L	<2000	2000	05/16/23 11:29	

LABORATORY CONTROL SAMPLE: 3365249

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	ug/L	2500	2320	93	80-120	
Sulfate	ug/L	5000	4720	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3365250 3365251

Parameter	Units	50344032016 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	ug/L	28600	25000	25000	51500	53000	92	98	80-120	3	15	
Sulfate	ug/L	15100	5000	5000	20000	20000	98	98	80-120	0	15	

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(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

QC Batch: 731783
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344032013, 50344032015, 50344032016, 50344032017, 50344032018, 50344032019

METHOD BLANK: 3358686 Matrix: Water
Associated Lab Samples: 50344032013, 50344032015, 50344032016, 50344032017, 50344032018, 50344032019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Calcium	ug/L	<1000	1000	05/17/23 10:48	
Iron	ug/L	<100	100	05/17/23 10:48	
Magnesium	ug/L	<1000	1000	05/17/23 10:48	
Potassium	ug/L	<500	500	05/17/23 10:48	
Sodium	ug/L	<1000	1000	05/17/23 10:48	

LABORATORY CONTROL SAMPLE: 3358687

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	5000	4970	99	80-120	
Iron	ug/L	2500	2570	103	80-120	
Magnesium	ug/L	5000	5060	101	80-120	
Potassium	ug/L	5000	4950	99	80-120	
Sodium	ug/L	5000	5070	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3358688 3358689

Parameter	Units	50343959003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	283000	5000	5000	290000	283000	142	2	75-125	2	20	E,P6
Iron	ug/L	421	2500	2500	3090	3030	107	105	75-125	2	20	
Magnesium	ug/L	27700	5000	5000	32900	32100	105	88	75-125	3	20	
Potassium	ug/L	2990	5000	5000	8630	8550	113	111	75-125	1	20	
Sodium	ug/L	110000	5000	5000	116000	114000	114	74	75-125	2	20	P6

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QUALITY CONTROL DATA

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

QC Batch: 732810
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344032001, 50344032002, 50344032003, 50344032004, 50344032005, 50344032006, 50344032007, 50344032008, 50344032009, 50344032010, 50344032011, 50344032012, 50344032013, 50344032014, 50344032015, 50344032022

METHOD BLANK: 3363307 Matrix: Water
Associated Lab Samples: 50344032001, 50344032002, 50344032003, 50344032004, 50344032005, 50344032006, 50344032007, 50344032008, 50344032009, 50344032010, 50344032011, 50344032012, 50344032013, 50344032014, 50344032015, 50344032022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Potassium, Dissolved	ug/L	<500	500	05/17/23 01:42	
Sodium, Dissolved	ug/L	<1000	1000	05/17/23 01:42	

LABORATORY CONTROL SAMPLE: 3363308

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Potassium, Dissolved	ug/L	5000	4980	100	80-120	
Sodium, Dissolved	ug/L	5000	4880	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3363309 3363310

Parameter	Units	50344032001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Potassium, Dissolved	ug/L	1390	5000	5000	6850	6560	109	103	75-125	4	20	
Sodium, Dissolved	ug/L	67200	5000	5000	74700	73900	149	133	75-125	1	20	P6

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QUALITY CONTROL DATA

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

QC Batch: 732598
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344032013, 50344032015

METHOD BLANK: 3362201 Matrix: Water
Associated Lab Samples: 50344032013, 50344032015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	<1.0	1.0	05/15/23 14:27	
Barium	ug/L	<5.0	5.0	05/15/23 14:27	
Zinc	ug/L	<10.0	10.0	05/15/23 14:27	

LABORATORY CONTROL SAMPLE: 3362202

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	39.5	99	80-120	
Barium	ug/L	40	39.4	98	80-120	
Zinc	ug/L	40	40.2	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3362203 3362204

Parameter	Units	50343922008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	ND	40	40	40.5	39.9	101	99	75-125	1	20	
Barium	ug/L	40.8	40	40	79.3	79.2	96	96	75-125	0	20	
Zinc	ug/L	ND	40	40	<50.0	<50.0	94	97	75-125	3	20	

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QUALITY CONTROL DATA

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

QC Batch: 732353
QC Batch Method: EPA 200.2
Analysis Method: EPA 6020
Analysis Description: 6020 MET Dissolved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344032001, 50344032002, 50344032003, 50344032004, 50344032005, 50344032006, 50344032007, 50344032008, 50344032009, 50344032010, 50344032011, 50344032012, 50344032013, 50344032014, 50344032015, 50344032022

METHOD BLANK: 3360965 Matrix: Water
Associated Lab Samples: 50344032001, 50344032002, 50344032003, 50344032004, 50344032005, 50344032006, 50344032007, 50344032008, 50344032009, 50344032010, 50344032011, 50344032012, 50344032013, 50344032014, 50344032015, 50344032022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	<1.0	1.0	05/10/23 04:15	
Barium, Dissolved	ug/L	<5.0	5.0	05/10/23 04:15	
Zinc, Dissolved	ug/L	<10.0	10.0	05/10/23 04:15	

LABORATORY CONTROL SAMPLE: 3360966

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	40	39.4	99	80-120	
Barium, Dissolved	ug/L	40	40.1	100	80-120	
Zinc, Dissolved	ug/L	40	39.1	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3360967 3360968

Parameter	Units	50344191001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	ND	40	40	39.0	39.2	96	97	75-125	1	20	
Barium, Dissolved	ug/L	78.6	40	40	116	117	94	96	75-125	1	20	
Zinc, Dissolved	ug/L	ND	40	40	35.2	35.6	85	87	75-125	1	20	

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QUALITY CONTROL DATA

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

QC Batch: 732885
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Low Level
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344032002, 50344032003, 50344032004, 50344032005, 50344032006, 50344032007, 50344032008, 50344032009, 50344032010

METHOD BLANK: 3363698
Matrix: Water
Associated Lab Samples: 50344032002, 50344032003, 50344032004, 50344032005, 50344032006, 50344032007, 50344032008, 50344032009, 50344032010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<1.0	1.0	05/15/23 12:17	
1,1,1-Trichloroethane	ug/L	<1.0	1.0	05/15/23 12:17	
1,1,2,2-Tetrachloroethane	ug/L	<1.0	1.0	05/15/23 12:17	
1,1,2-Trichloroethane	ug/L	<1.0	1.0	05/15/23 12:17	
1,1-Dichloroethane	ug/L	<1.0	1.0	05/15/23 12:17	
1,1-Dichloroethene	ug/L	<1.0	1.0	05/15/23 12:17	
1,2,3-Trichloropropane	ug/L	<1.0	1.0	05/15/23 12:17	
1,2-Dibromo-3-chloropropane	ug/L	<5.0	5.0	05/15/23 12:17	
1,2-Dibromoethane (EDB)	ug/L	<1.0	1.0	05/15/23 12:17	
1,2-Dichlorobenzene	ug/L	<1.0	1.0	05/15/23 12:17	
1,2-Dichloroethane	ug/L	<1.0	1.0	05/15/23 12:17	
1,2-Dichloropropane	ug/L	<1.0	1.0	05/15/23 12:17	
1,4-Dichlorobenzene	ug/L	<1.0	1.0	05/15/23 12:17	
2-Butanone (MEK)	ug/L	<5.0	5.0	05/15/23 12:17	
2-Hexanone	ug/L	<5.0	5.0	05/15/23 12:17	
4-Methyl-2-pentanone (MIBK)	ug/L	<5.0	5.0	05/15/23 12:17	
Acetone	ug/L	<20.0	20.0	05/15/23 12:17	
Acrylonitrile	ug/L	<5.0	5.0	05/15/23 12:17	
Benzene	ug/L	<1.0	1.0	05/15/23 12:17	
Bromochloromethane	ug/L	<1.0	1.0	05/15/23 12:17	
Bromodichloromethane	ug/L	<1.0	1.0	05/15/23 12:17	
Bromoform	ug/L	<1.0	1.0	05/15/23 12:17	
Bromomethane	ug/L	<5.0	5.0	05/15/23 12:17	
Carbon disulfide	ug/L	<1.0	1.0	05/15/23 12:17	
Carbon tetrachloride	ug/L	<1.0	1.0	05/15/23 12:17	
Chlorobenzene	ug/L	<1.0	1.0	05/15/23 12:17	
Chloroethane	ug/L	<5.0	5.0	05/15/23 12:17	
Chloroform	ug/L	<1.0	1.0	05/15/23 12:17	
Chloromethane	ug/L	<5.0	5.0	05/15/23 12:17	
cis-1,2-Dichloroethene	ug/L	<1.0	1.0	05/15/23 12:17	
cis-1,3-Dichloropropene	ug/L	<1.0	1.0	05/15/23 12:17	
Dibromochloromethane	ug/L	<1.0	1.0	05/15/23 12:17	
Dibromomethane	ug/L	<1.0	1.0	05/15/23 12:17	
Ethylbenzene	ug/L	<1.0	1.0	05/15/23 12:17	
Iodomethane	ug/L	<1.0	1.0	05/15/23 12:17	
Methylene Chloride	ug/L	<5.0	5.0	05/15/23 12:17	
Styrene	ug/L	<1.0	1.0	05/15/23 12:17	
Tetrachloroethene	ug/L	<1.0	1.0	05/15/23 12:17	
Toluene	ug/L	<1.0	1.0	05/15/23 12:17	

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(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

METHOD BLANK: 3363698 Matrix: Water

Associated Lab Samples: 50344032002, 50344032003, 50344032004, 50344032005, 50344032006, 50344032007, 50344032008, 50344032009, 50344032010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	<1.0	1.0	05/15/23 12:17	
trans-1,3-Dichloropropene	ug/L	<1.0	1.0	05/15/23 12:17	
trans-1,4-Dichloro-2-butene	ug/L	<5.0	5.0	05/15/23 12:17	
Trichloroethene	ug/L	<1.0	1.0	05/15/23 12:17	
Trichlorofluoromethane	ug/L	<1.0	1.0	05/15/23 12:17	
Vinyl chloride	ug/L	<1.0	1.0	05/15/23 12:17	
Xylene (Total)	ug/L	<2.0	2.0	05/15/23 12:17	1d
4-Bromofluorobenzene (S)	%.	100	79-124	05/15/23 12:17	1d
Dibromofluoromethane (S)	%.	103	82-128	05/15/23 12:17	
Toluene-d8 (S)	%.	103	73-122	05/15/23 12:17	

LABORATORY CONTROL SAMPLE: 3363699

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	53.0	106	81-130	
1,1,1-Trichloroethane	ug/L	50	55.1	110	76-127	
1,1,2,2-Tetrachloroethane	ug/L	50	47.1	94	70-126	
1,1,2-Trichloroethane	ug/L	50	53.2	106	79-124	
1,1-Dichloroethane	ug/L	50	51.6	103	76-123	
1,1-Dichloroethene	ug/L	50	55.8	112	73-133	
1,2,3-Trichloropropane	ug/L	50	50.8	102	75-121	
1,2-Dibromo-3-chloropropane	ug/L	50	47.2	94	81-133	
1,2-Dibromoethane (EDB)	ug/L	50	52.7	105	80-126	
1,2-Dichlorobenzene	ug/L	50	51.1	102	79-123	
1,2-Dichloroethane	ug/L	50	53.2	106	70-124	
1,2-Dichloropropane	ug/L	50	52.8	106	74-128	
1,4-Dichlorobenzene	ug/L	50	51.6	103	77-120	
2-Butanone (MEK)	ug/L	250	256	103	59-134	
2-Hexanone	ug/L	250	241	96	63-134	
4-Methyl-2-pentanone (MIBK)	ug/L	250	247	99	67-133	
Acetone	ug/L	250	219	88	32-133	
Acrylonitrile	ug/L	250	282	113	69-137	
Benzene	ug/L	50	55.3	111	74-124	
Bromochloromethane	ug/L	50	51.5	103	66-127	
Bromodichloromethane	ug/L	50	55.8	112	80-126	
Bromoform	ug/L	50	47.2	94	75-128	
Bromomethane	ug/L	50	60.9	122	10-183	
Carbon disulfide	ug/L	50	54.9	110	68-123	
Carbon tetrachloride	ug/L	50	54.1	108	78-132	
Chlorobenzene	ug/L	50	53.0	106	77-121	
Chloroethane	ug/L	50	50.7	101	43-140	
Chloroform	ug/L	50	54.6	109	75-118	
Chloromethane	ug/L	50	45.6	91	45-130	

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QUALITY CONTROL DATA

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

LABORATORY CONTROL SAMPLE: 3363699

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/L	50	54.9	110	76-125	
cis-1,3-Dichloropropene	ug/L	50	53.4	107	76-132	
Dibromochloromethane	ug/L	50	52.8	106	79-130	
Dibromomethane	ug/L	50	54.9	110	79-124	
Ethylbenzene	ug/L	50	55.1	110	74-125	
Iodomethane	ug/L	50	43.7	87	10-160	
Methylene Chloride	ug/L	50	54.2	108	77-126	
Styrene	ug/L	50	55.1	110	81-129	
Tetrachloroethene	ug/L	50	52.5	105	73-132	
Toluene	ug/L	50	51.2	102	72-119	
trans-1,2-Dichloroethene	ug/L	50	54.8	110	74-125	
trans-1,3-Dichloropropene	ug/L	50	51.9	104	75-132	
trans-1,4-Dichloro-2-butene	ug/L	50	50.1	100	66-152	
Trichloroethene	ug/L	50	55.2	110	75-127	
Trichlorofluoromethane	ug/L	50	52.8	106	64-136	
Vinyl chloride	ug/L	50	46.4	93	48-133	
Xylene (Total)	ug/L	150	165	110	73-123	
4-Bromofluorobenzene (S)	%.			102	79-124	
Dibromofluoromethane (S)	%.			102	82-128	
Toluene-d8 (S)	%.			99	73-122	

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QUALITY CONTROL DATA

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

QC Batch: 732887
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Low Level
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344032011, 50344032012, 50344032013, 50344032014, 50344032015, 50344032020, 50344032021, 50344032022

METHOD BLANK: 3363704
Matrix: Water
Associated Lab Samples: 50344032011, 50344032012, 50344032013, 50344032014, 50344032015, 50344032020, 50344032021, 50344032022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<1.0	1.0	05/15/23 12:33	
1,1,1-Trichloroethane	ug/L	<1.0	1.0	05/15/23 12:33	
1,1,2,2-Tetrachloroethane	ug/L	<1.0	1.0	05/15/23 12:33	
1,1,2-Trichloroethane	ug/L	<1.0	1.0	05/15/23 12:33	
1,1-Dichloroethane	ug/L	<1.0	1.0	05/15/23 12:33	
1,1-Dichloroethene	ug/L	<1.0	1.0	05/15/23 12:33	
1,2,3-Trichloropropane	ug/L	<1.0	1.0	05/15/23 12:33	
1,2-Dibromo-3-chloropropane	ug/L	<5.0	5.0	05/15/23 12:33	
1,2-Dibromoethane (EDB)	ug/L	<1.0	1.0	05/15/23 12:33	
1,2-Dichlorobenzene	ug/L	<1.0	1.0	05/15/23 12:33	
1,2-Dichloroethane	ug/L	<1.0	1.0	05/15/23 12:33	
1,2-Dichloropropane	ug/L	<1.0	1.0	05/15/23 12:33	
1,4-Dichlorobenzene	ug/L	<1.0	1.0	05/15/23 12:33	
2-Butanone (MEK)	ug/L	<5.0	5.0	05/15/23 12:33	
2-Hexanone	ug/L	<5.0	5.0	05/15/23 12:33	
4-Methyl-2-pentanone (MIBK)	ug/L	<5.0	5.0	05/15/23 12:33	
Acetone	ug/L	<20.0	20.0	05/15/23 12:33	
Acrylonitrile	ug/L	<5.0	5.0	05/15/23 12:33	
Benzene	ug/L	<1.0	1.0	05/15/23 12:33	
Bromochloromethane	ug/L	<1.0	1.0	05/15/23 12:33	
Bromodichloromethane	ug/L	<1.0	1.0	05/15/23 12:33	
Bromoform	ug/L	<1.0	1.0	05/15/23 12:33	
Bromomethane	ug/L	<5.0	5.0	05/15/23 12:33	
Carbon disulfide	ug/L	<1.0	1.0	05/15/23 12:33	
Carbon tetrachloride	ug/L	<1.0	1.0	05/15/23 12:33	
Chlorobenzene	ug/L	<1.0	1.0	05/15/23 12:33	
Chloroethane	ug/L	<5.0	5.0	05/15/23 12:33	
Chloroform	ug/L	<1.0	1.0	05/15/23 12:33	
Chloromethane	ug/L	<5.0	5.0	05/15/23 12:33	
cis-1,2-Dichloroethene	ug/L	<1.0	1.0	05/15/23 12:33	
cis-1,3-Dichloropropene	ug/L	<1.0	1.0	05/15/23 12:33	
Dibromochloromethane	ug/L	<1.0	1.0	05/15/23 12:33	
Dibromomethane	ug/L	<1.0	1.0	05/15/23 12:33	
Ethylbenzene	ug/L	<1.0	1.0	05/15/23 12:33	
Iodomethane	ug/L	<1.0	1.0	05/15/23 12:33	
Methylene Chloride	ug/L	<5.0	5.0	05/15/23 12:33	
Styrene	ug/L	<1.0	1.0	05/15/23 12:33	
Tetrachloroethene	ug/L	<1.0	1.0	05/15/23 12:33	
Toluene	ug/L	<1.0	1.0	05/15/23 12:33	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

METHOD BLANK: 3363704 Matrix: Water
Associated Lab Samples: 50344032011, 50344032012, 50344032013, 50344032014, 50344032015, 50344032020, 50344032021, 50344032022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	<1.0	1.0	05/15/23 12:33	
trans-1,3-Dichloropropene	ug/L	<1.0	1.0	05/15/23 12:33	
trans-1,4-Dichloro-2-butene	ug/L	<5.0	5.0	05/15/23 12:33	
Trichloroethene	ug/L	<1.0	1.0	05/15/23 12:33	
Trichlorofluoromethane	ug/L	<1.0	1.0	05/15/23 12:33	
Vinyl chloride	ug/L	<1.0	1.0	05/15/23 12:33	
Xylene (Total)	ug/L	<2.0	2.0	05/15/23 12:33	
4-Bromofluorobenzene (S)	%.	98	79-124	05/15/23 12:33	1d
Dibromofluoromethane (S)	%.	100	82-128	05/15/23 12:33	
Toluene-d8 (S)	%.	101	73-122	05/15/23 12:33	

LABORATORY CONTROL SAMPLE: 3363705

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	48.5	97	81-130	
1,1,1-Trichloroethane	ug/L	50	52.4	105	76-127	
1,1,2,2-Tetrachloroethane	ug/L	50	46.9	94	70-126	
1,1,2-Trichloroethane	ug/L	50	49.7	99	79-124	
1,1-Dichloroethane	ug/L	50	51.1	102	76-123	
1,1-Dichloroethene	ug/L	50	52.4	105	73-133	
1,2,3-Trichloropropane	ug/L	50	47.9	96	75-121	
1,2-Dibromo-3-chloropropane	ug/L	50	49.3	99	81-133	
1,2-Dibromoethane (EDB)	ug/L	50	51.7	103	80-126	
1,2-Dichlorobenzene	ug/L	50	49.8	100	79-123	
1,2-Dichloroethane	ug/L	50	51.8	104	70-124	
1,2-Dichloropropane	ug/L	50	49.3	99	74-128	
1,4-Dichlorobenzene	ug/L	50	50.3	101	77-120	
2-Butanone (MEK)	ug/L	250	236	94	59-134	
2-Hexanone	ug/L	250	242	97	63-134	
4-Methyl-2-pentanone (MIBK)	ug/L	250	243	97	67-133	
Acetone	ug/L	250	206	82	32-133	
Acrylonitrile	ug/L	250	276	111	69-137	
Benzene	ug/L	50	51.9	104	74-124	
Bromochloromethane	ug/L	50	49.6	99	66-127	
Bromodichloromethane	ug/L	50	54.0	108	80-126	
Bromoform	ug/L	50	45.4	91	75-128	
Bromomethane	ug/L	50	33.9	68	10-183	
Carbon disulfide	ug/L	50	51.2	102	68-123	
Carbon tetrachloride	ug/L	50	52.8	106	78-132	
Chlorobenzene	ug/L	50	51.6	103	77-121	
Chloroethane	ug/L	50	45.3	91	43-140	
Chloroform	ug/L	50	52.2	104	75-118	
Chloromethane	ug/L	50	40.5	81	45-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

LABORATORY CONTROL SAMPLE: 3363705

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/L	50	51.5	103	76-125	
cis-1,3-Dichloropropene	ug/L	50	51.7	103	76-132	
Dibromochloromethane	ug/L	50	51.1	102	79-130	
Dibromomethane	ug/L	50	51.9	104	79-124	
Ethylbenzene	ug/L	50	53.0	106	74-125	
Iodomethane	ug/L	50	23.1	46	10-160	
Methylene Chloride	ug/L	50	46.0	92	77-126	
Styrene	ug/L	50	53.5	107	81-129	
Tetrachloroethene	ug/L	50	49.8	100	73-132	
Toluene	ug/L	50	51.6	103	72-119	
trans-1,2-Dichloroethene	ug/L	50	52.5	105	74-125	
trans-1,3-Dichloropropene	ug/L	50	50.4	101	75-132	
trans-1,4-Dichloro-2-butene	ug/L	50	47.7	95	66-152	
Trichloroethene	ug/L	50	51.9	104	75-127	
Trichlorofluoromethane	ug/L	50	49.6	99	64-136	
Vinyl chloride	ug/L	50	43.3	87	48-133	
Xylene (Total)	ug/L	150	159	106	73-123	
4-Bromofluorobenzene (S)	%.			104	79-124	
Dibromofluoromethane (S)	%.			101	82-128	
Toluene-d8 (S)	%.			100	73-122	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

QC Batch: 733585
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Low Level
Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50344032001

METHOD BLANK: 3366802 Matrix: Water
Associated Lab Samples: 50344032001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<1.0	1.0	05/16/23 00:45	
1,1,1-Trichloroethane	ug/L	<1.0	1.0	05/16/23 00:45	
1,1,2,2-Tetrachloroethane	ug/L	<1.0	1.0	05/16/23 00:45	
1,1,2-Trichloroethane	ug/L	<1.0	1.0	05/16/23 00:45	
1,1-Dichloroethane	ug/L	<1.0	1.0	05/16/23 00:45	
1,1-Dichloroethene	ug/L	<1.0	1.0	05/16/23 00:45	
1,2,3-Trichloropropane	ug/L	<1.0	1.0	05/16/23 00:45	
1,2-Dibromo-3-chloropropane	ug/L	<5.0	5.0	05/16/23 00:45	
1,2-Dibromoethane (EDB)	ug/L	<1.0	1.0	05/16/23 00:45	
1,2-Dichlorobenzene	ug/L	<1.0	1.0	05/16/23 00:45	
1,2-Dichloroethane	ug/L	<1.0	1.0	05/16/23 00:45	
1,2-Dichloropropane	ug/L	<1.0	1.0	05/16/23 00:45	
1,4-Dichlorobenzene	ug/L	<1.0	1.0	05/16/23 00:45	
2-Butanone (MEK)	ug/L	<5.0	5.0	05/16/23 00:45	
2-Hexanone	ug/L	<5.0	5.0	05/16/23 00:45	
4-Methyl-2-pentanone (MIBK)	ug/L	<5.0	5.0	05/16/23 00:45	
Acetone	ug/L	<20.0	20.0	05/16/23 00:45	
Acrylonitrile	ug/L	<5.0	5.0	05/16/23 00:45	
Benzene	ug/L	<1.0	1.0	05/16/23 00:45	
Bromochloromethane	ug/L	<1.0	1.0	05/16/23 00:45	
Bromodichloromethane	ug/L	<1.0	1.0	05/16/23 00:45	
Bromoform	ug/L	<1.0	1.0	05/16/23 00:45	
Bromomethane	ug/L	<5.0	5.0	05/16/23 00:45	
Carbon disulfide	ug/L	<1.0	1.0	05/16/23 00:45	
Carbon tetrachloride	ug/L	<1.0	1.0	05/16/23 00:45	
Chlorobenzene	ug/L	<1.0	1.0	05/16/23 00:45	
Chloroethane	ug/L	<5.0	5.0	05/16/23 00:45	
Chloroform	ug/L	<1.0	1.0	05/16/23 00:45	
Chloromethane	ug/L	<5.0	5.0	05/16/23 00:45	
cis-1,2-Dichloroethene	ug/L	<1.0	1.0	05/16/23 00:45	
cis-1,3-Dichloropropene	ug/L	<1.0	1.0	05/16/23 00:45	
Dibromochloromethane	ug/L	<1.0	1.0	05/16/23 00:45	
Dibromomethane	ug/L	<1.0	1.0	05/16/23 00:45	
Ethylbenzene	ug/L	<1.0	1.0	05/16/23 00:45	
Iodomethane	ug/L	<1.0	1.0	05/16/23 00:45	
Methylene Chloride	ug/L	<5.0	5.0	05/16/23 00:45	
Styrene	ug/L	<1.0	1.0	05/16/23 00:45	
Tetrachloroethene	ug/L	<1.0	1.0	05/16/23 00:45	
Toluene	ug/L	<1.0	1.0	05/16/23 00:45	
trans-1,2-Dichloroethene	ug/L	<1.0	1.0	05/16/23 00:45	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

METHOD BLANK: 3366802 Matrix: Water
Associated Lab Samples: 50344032001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,3-Dichloropropene	ug/L	<1.0	1.0	05/16/23 00:45	
trans-1,4-Dichloro-2-butene	ug/L	<5.0	5.0	05/16/23 00:45	
Trichloroethene	ug/L	<1.0	1.0	05/16/23 00:45	
Trichlorofluoromethane	ug/L	<1.0	1.0	05/16/23 00:45	
Vinyl chloride	ug/L	<1.0	1.0	05/16/23 00:45	
Xylene (Total)	ug/L	<2.0	2.0	05/16/23 00:45	
4-Bromofluorobenzene (S)	%.	97	79-124	05/16/23 00:45	1d
Dibromofluoromethane (S)	%.	100	82-128	05/16/23 00:45	
Toluene-d8 (S)	%.	105	73-122	05/16/23 00:45	

LABORATORY CONTROL SAMPLE: 3366803

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	50.3	101	81-130	
1,1,1-Trichloroethane	ug/L	50	52.1	104	76-127	
1,1,2,2-Tetrachloroethane	ug/L	50	47.0	94	70-126	
1,1,2-Trichloroethane	ug/L	50	51.5	103	79-124	
1,1-Dichloroethane	ug/L	50	49.5	99	76-123	
1,1-Dichloroethene	ug/L	50	52.4	105	73-133	
1,2,3-Trichloropropane	ug/L	50	51.4	103	75-121	
1,2-Dibromo-3-chloropropane	ug/L	50	47.9	96	81-133	
1,2-Dibromoethane (EDB)	ug/L	50	51.2	102	80-126	
1,2-Dichlorobenzene	ug/L	50	50.6	101	79-123	
1,2-Dichloroethane	ug/L	50	49.7	99	70-124	
1,2-Dichloropropane	ug/L	50	48.7	97	74-128	
1,4-Dichlorobenzene	ug/L	50	50.5	101	77-120	
2-Butanone (MEK)	ug/L	250	248	99	59-134	
2-Hexanone	ug/L	250	231	92	63-134	
4-Methyl-2-pentanone (MIBK)	ug/L	250	236	94	67-133	
Acetone	ug/L	250	222	89	32-133	
Acrylonitrile	ug/L	250	268	107	69-137	
Benzene	ug/L	50	51.3	103	74-124	
Bromochloromethane	ug/L	50	47.4	95	66-127	
Bromodichloromethane	ug/L	50	52.1	104	80-126	
Bromoform	ug/L	50	45.8	92	75-128	
Bromomethane	ug/L	50	56.7	113	10-183	
Carbon disulfide	ug/L	50	49.6	99	68-123	
Carbon tetrachloride	ug/L	50	50.8	102	78-132	
Chlorobenzene	ug/L	50	51.4	103	77-121	
Chloroethane	ug/L	50	46.9	94	43-140	
Chloroform	ug/L	50	51.3	103	75-118	
Chloromethane	ug/L	50	39.9	80	45-130	
cis-1,2-Dichloroethene	ug/L	50	51.3	103	76-125	
cis-1,3-Dichloropropene	ug/L	50	49.3	99	76-132	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

LABORATORY CONTROL SAMPLE: 3366803

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibromochloromethane	ug/L	50	51.1	102	79-130	
Dibromomethane	ug/L	50	50.9	102	79-124	
Ethylbenzene	ug/L	50	53.1	106	74-125	
Iodomethane	ug/L	50	36.0	72	10-160	
Methylene Chloride	ug/L	50	51.3	103	77-126	
Styrene	ug/L	50	53.1	106	81-129	
Tetrachloroethene	ug/L	50	49.6	99	73-132	
Toluene	ug/L	50	50.5	101	72-119	
trans-1,2-Dichloroethene	ug/L	50	51.5	103	74-125	
trans-1,3-Dichloropropene	ug/L	50	47.9	96	75-132	
trans-1,4-Dichloro-2-butene	ug/L	50	43.3	87	66-152	
Trichloroethene	ug/L	50	50.9	102	75-127	
Trichlorofluoromethane	ug/L	50	49.7	99	64-136	
Vinyl chloride	ug/L	50	42.7	85	48-133	
Xylene (Total)	ug/L	150	160	107	73-123	
4-Bromofluorobenzene (S)	%.			102	79-124	
Dibromofluoromethane (S)	%.			99	82-128	
Toluene-d8 (S)	%.			100	73-122	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

QC Batch: 732342 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344032016, 50344032017, 50344032018, 50344032019

METHOD BLANK: 3360944 Matrix: Water
Associated Lab Samples: 50344032016, 50344032017, 50344032018, 50344032019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	ug/L	<10000	10000	05/09/23 02:10	
Alkalinity,Bicarbonate (CaCO3)	ug/L	<10000	10000	05/09/23 02:10	

LABORATORY CONTROL SAMPLE: 3360945

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	ug/L	50000	51700	103	90-110	

SAMPLE DUPLICATE: 3360946

Parameter	Units	50344228001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	ug/L	423 mg/L	429000	2	20	
Alkalinity,Bicarbonate (CaCO3)	ug/L	423 mg/L	429000	2	20	

SAMPLE DUPLICATE: 3360947

Parameter	Units	50344052001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	ug/L	374 mg/L	381000	2	20	
Alkalinity,Bicarbonate (CaCO3)	ug/L	374 mg/L	381000	2	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

QC Batch: 733154
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, preserved
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344032001, 50344032002, 50344032003, 50344032004, 50344032005, 50344032006, 50344032007, 50344032008, 50344032009, 50344032010, 50344032011, 50344032012, 50344032013, 50344032014, 50344032015, 50344032016, 50344032017, 50344032018, 50344032019, 50344032022

METHOD BLANK: 3364967 Matrix: Water
Associated Lab Samples: 50344032001, 50344032002, 50344032003, 50344032004, 50344032005, 50344032006, 50344032007, 50344032008, 50344032009, 50344032010, 50344032011, 50344032012, 50344032013, 50344032014, 50344032015, 50344032016, 50344032017, 50344032018, 50344032019, 50344032022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	ug/L	<20.0	20.0	05/12/23 16:21	

LABORATORY CONTROL SAMPLE: 3364968

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	ug/L	2000	1930	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3364969 3364970

Parameter	Units	50344032004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	ug/L	<20.0	2000	2000	2190	2200	109	110	90-110	1	20	

MATRIX SPIKE SAMPLE: 3364971

Parameter	Units	50344032006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	ug/L	<20.0	2000	1880	94	90-110	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

QC Batch: 732911
QC Batch Method: SM 4500-Cl-E
Analysis Method: SM 4500-Cl-E
Analysis Description: 4500 Chloride
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344032001, 50344032002, 50344032003, 50344032004, 50344032005, 50344032006, 50344032007, 50344032008, 50344032009, 50344032010, 50344032011, 50344032012, 50344032013, 50344032014, 50344032015, 50344032022

METHOD BLANK: 3363801 Matrix: Water
Associated Lab Samples: 50344032001, 50344032002, 50344032003, 50344032004, 50344032005, 50344032006, 50344032007, 50344032008, 50344032009, 50344032010, 50344032011, 50344032012, 50344032013, 50344032014, 50344032015, 50344032022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	ug/L	<1000	1000	05/11/23 15:49	

LABORATORY CONTROL SAMPLE: 3363802

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	ug/L	20000	20600	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3363803 3363804

Parameter	Units	50344032002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	ug/L	31300	20000	20000	52300	52200	105	104	90-110	0	20	

MATRIX SPIKE SAMPLE: 3363805

Parameter	Units	50344177001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	ug/L	63.1 mg/L	20000	83200	100	90-110	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

QC Batch: 733753
QC Batch Method: SM-4500-NH3 G
Analysis Method: SM-4500-NH3 G
Analysis Description: 4500 Ammonia Low Level
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344032001, 50344032002, 50344032003, 50344032004, 50344032005, 50344032006, 50344032007, 50344032008, 50344032009, 50344032010, 50344032011, 50344032012, 50344032013, 50344032014, 50344032015, 50344032016, 50344032017, 50344032018, 50344032019, 50344032022

METHOD BLANK: 3367408
Matrix: Water
Associated Lab Samples: 50344032001, 50344032002, 50344032003, 50344032004, 50344032005, 50344032006, 50344032007, 50344032008, 50344032009, 50344032010, 50344032011, 50344032012, 50344032013, 50344032014, 50344032015, 50344032016, 50344032017, 50344032018, 50344032019, 50344032022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	ug/L	<20.0	20.0	05/16/23 12:23	

LABORATORY CONTROL SAMPLE: 3367409

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	ug/L	1000	993	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3367410 3367411

Parameter	Units	50344032001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	ug/L	42.0	1000	1000	1040	1030	99	99	90-110	0	20	

MATRIX SPIKE SAMPLE: 3367412

Parameter	Units	50344032002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	ug/L	89.3	1000	1070	98	90-110	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

QC Batch: 733230 | Analysis Method: SM 5310C
QC Batch Method: SM 5310C | Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344032001, 50344032002, 50344032003, 50344032004, 50344032005, 50344032006, 50344032007

METHOD BLANK: 3365181 Matrix: Water
Associated Lab Samples: 50344032001, 50344032002, 50344032003, 50344032004, 50344032005, 50344032006, 50344032007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	ug/L	ND	500	05/12/23 22:16	

LABORATORY CONTROL SAMPLE: 3365182

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	ug/L	10000	10100	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3365183 3365184

Parameter	Units	50344013007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	ug/L	2.7 mg/L	10000	10000	12300	13000	96	103	80-120	5	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3365185 3365186

Parameter	Units	50344022001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	ug/L	0.87J mg/L	20000	20000	22100	22100	106	106	80-120	0	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

QC Batch: 733251 — Analysis Method: SM 5310C
QC Batch Method: SM 5310C — Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344032008, 50344032009, 50344032010, 50344032011, 50344032012, 50344032013, 50344032014, 50344032015, 50344032016, 50344032018, 50344032019, 50344032022

METHOD BLANK: 3365283 — Matrix: Water
Associated Lab Samples: 50344032008, 50344032009, 50344032010, 50344032011, 50344032012, 50344032013, 50344032014, 50344032015, 50344032016, 50344032018, 50344032019, 50344032022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	ug/L	<500	500	05/16/23 12:28	

LABORATORY CONTROL SAMPLE: 3365284

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	ug/L	10000	9870	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3365285 3365286

Parameter	Units	50344032008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	ug/L	1390	10000	10000	11600	11500	102	101	80-120	1	20	

MATRIX SPIKE SAMPLE: 3365287

Parameter	Units	50344032009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	ug/L	1490	10000	11700	102	80-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

QC Batch: 733845
QC Batch Method: SM 5310C
Analysis Method: SM 5310C
Analysis Description: 5310C Total Organic Carbon
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50344032017

METHOD BLANK: 3367713 Matrix: Water
Associated Lab Samples: 50344032017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	ug/L	<500	500	05/17/23 13:01	

LABORATORY CONTROL SAMPLE: 3367714

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	ug/L	10000	10200	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3367715 3367716

Parameter	Units	50344013013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	ug/L	1.9 mg/L	10000	10000	12800	12900	109	110	80-120	1	20	

MATRIX SPIKE SAMPLE: 3367717

Parameter	Units	50344013014 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	ug/L	2.3J mg/L	20000	24900	113	80-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALIFIERS

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

1d	A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume. DAP 05/16/23
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

Pace Analytical Services, LLC
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50344032016	**SW-U1**	EPA 9056	733242		
50344032017	**SW-DA1**	EPA 9056	733242		
50344032018	**SW-D2**	EPA 9056	733242		
50344032019	**SW-U2**	EPA 9056	733242		
50344032013	**MW-303A**	EPA 3010	731783	EPA 6010	734038
50344032015	**MW-301**	EPA 3010	731783	EPA 6010	734038
50344032016	**SW-U1**	EPA 3010	731783	EPA 6010	734038
50344032017	**SW-DA1**	EPA 3010	731783	EPA 6010	734038
50344032018	**SW-D2**	EPA 3010	731783	EPA 6010	734038
50344032019	**SW-U2**	EPA 3010	731783	EPA 6010	734038
50344032001	**MW-201**	EPA 3010	732810	EPA 6010	733966
50344032002	**MW-212**	EPA 3010	732810	EPA 6010	733966
50344032003	**MW-305**	EPA 3010	732810	EPA 6010	733966
50344032004	**MW-106A**	EPA 3010	732810	EPA 6010	733966
50344032005	**MW-207A**	EPA 3010	732810	EPA 6010	733966
50344032006	**MW-208B**	EPA 3010	732810	EPA 6010	733966
50344032007	**MW-209**	EPA 3010	732810	EPA 6010	733966
50344032008	**MW-302**	EPA 3010	732810	EPA 6010	733966
50344032009	**MW-210**	EPA 3010	732810	EPA 6010	733966
50344032010	**MW-202**	EPA 3010	732810	EPA 6010	733966
50344032011	**MW-101**	EPA 3010	732810	EPA 6010	733966
50344032012	**MW-304**	EPA 3010	732810	EPA 6010	733966
50344032013	**MW-303A**	EPA 3010	732810	EPA 6010	733966
50344032014	**MW-203B**	EPA 3010	732810	EPA 6010	733966
50344032015	**MW-301**	EPA 3010	732810	EPA 6010	733966
50344032022	**MW-213**	EPA 3010	732810	EPA 6010	733966
50344032013	**MW-303A**	EPA 200.2	732598	EPA 6020	732963
50344032015	**MW-301**	EPA 200.2	732598	EPA 6020	732963
50344032001	**MW-201**	EPA 200.2	732353	EPA 6020	732464
50344032002	**MW-212**	EPA 200.2	732353	EPA 6020	732464
50344032003	**MW-305**	EPA 200.2	732353	EPA 6020	732464
50344032004	**MW-106A**	EPA 200.2	732353	EPA 6020	732464
50344032005	**MW-207A**	EPA 200.2	732353	EPA 6020	732464
50344032006	**MW-208B**	EPA 200.2	732353	EPA 6020	732464
50344032007	**MW-209**	EPA 200.2	732353	EPA 6020	732464
50344032008	**MW-302**	EPA 200.2	732353	EPA 6020	732464
50344032009	**MW-210**	EPA 200.2	732353	EPA 6020	732464
50344032010	**MW-202**	EPA 200.2	732353	EPA 6020	732464
50344032011	**MW-101**	EPA 200.2	732353	EPA 6020	732464
50344032012	**MW-304**	EPA 200.2	732353	EPA 6020	732464
50344032013	**MW-303A**	EPA 200.2	732353	EPA 6020	732464
50344032014	**MW-203B**	EPA 200.2	732353	EPA 6020	732464
50344032015	**MW-301**	EPA 200.2	732353	EPA 6020	732464
50344032022	**MW-213**	EPA 200.2	732353	EPA 6020	732464
50344032001	**MW-201**	EPA 5030B/8260	733585		
50344032002	**MW-212**	EPA 5030B/8260	732885		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50344032003	**MW-305**	EPA 5030B/8260	732885		
50344032004	**MW-106A**	EPA 5030B/8260	732885		
50344032005	**MW-207A**	EPA 5030B/8260	732885		
50344032006	**MW-208B**	EPA 5030B/8260	732885		
50344032007	**MW-209**	EPA 5030B/8260	732885		
50344032008	**MW-302**	EPA 5030B/8260	732885		
50344032009	**MW-210**	EPA 5030B/8260	732885		
50344032010	**MW-202**	EPA 5030B/8260	732885		
50344032011	**MW-101**	EPA 5030B/8260	732887		
50344032012	**MW-304**	EPA 5030B/8260	732887		
50344032013	**MW-303A**	EPA 5030B/8260	732887		
50344032014	**MW-203B**	EPA 5030B/8260	732887		
50344032015	**MW-301**	EPA 5030B/8260	732887		
50344032020	**Trip Blank**	EPA 5030B/8260	732887		
50344032021	**Field Blank**	EPA 5030B/8260	732887		
50344032022	**MW-213**	EPA 5030B/8260	732887		
50344032016	**SW-U1**	SM 2320B	732342		
50344032017	**SW-DA1**	SM 2320B	732342		
50344032018	**SW-D2**	SM 2320B	732342		
50344032019	**SW-U2**	SM 2320B	732342		
50344032001	**MW-201**	NO2+NO3+NH3 Calculation	734687		
50344032002	**MW-212**	NO2+NO3+NH3 Calculation	734687		
50344032003	**MW-305**	NO2+NO3+NH3 Calculation	734687		
50344032004	**MW-106A**	NO2+NO3+NH3 Calculation	734687		
50344032005	**MW-207A**	NO2+NO3+NH3 Calculation	734687		
50344032006	**MW-208B**	NO2+NO3+NH3 Calculation	734687		
50344032007	**MW-209**	NO2+NO3+NH3 Calculation	734687		
50344032008	**MW-302**	NO2+NO3+NH3 Calculation	734687		
50344032009	**MW-210**	NO2+NO3+NH3 Calculation	734687		
50344032010	**MW-202**	NO2+NO3+NH3 Calculation	734687		
50344032011	**MW-101**	NO2+NO3+NH3 Calculation	734687		
50344032012	**MW-304**	NO2+NO3+NH3 Calculation	734687		
50344032013	**MW-303A**	NO2+NO3+NH3 Calculation	734687		
50344032014	**MW-203B**	NO2+NO3+NH3 Calculation	734687		
50344032015	**MW-301**	NO2+NO3+NH3 Calculation	734687		
50344032016	**SW-U1**	NO2+NO3+NH3 Calculation	734687		

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50344032017	SW-DA1	NO2+NO3+NH3 Calculation	734687		
50344032018	SW-D2	NO2+NO3+NH3 Calculation	734687		
50344032019	SW-U2	NO2+NO3+NH3 Calculation	734687		
50344032022	MW-213	NO2+NO3+NH3 Calculation	734687		
50344032001	MW-201	EPA 353.2	733154		
50344032002	MW-212	EPA 353.2	733154		
50344032003	MW-305	EPA 353.2	733154		
50344032004	MW-106A	EPA 353.2	733154		
50344032005	MW-207A	EPA 353.2	733154		
50344032006	MW-208B	EPA 353.2	733154		
50344032007	MW-209	EPA 353.2	733154		
50344032008	MW-302	EPA 353.2	733154		
50344032009	MW-210	EPA 353.2	733154		
50344032010	MW-202	EPA 353.2	733154		
50344032011	MW-101	EPA 353.2	733154		
50344032012	MW-304	EPA 353.2	733154		
50344032013	MW-303A	EPA 353.2	733154		
50344032014	MW-203B	EPA 353.2	733154		
50344032015	MW-301	EPA 353.2	733154		
50344032016	SW-U1	EPA 353.2	733154		
50344032017	SW-DA1	EPA 353.2	733154		
50344032018	SW-D2	EPA 353.2	733154		
50344032019	SW-U2	EPA 353.2	733154		
50344032022	MW-213	EPA 353.2	733154		
50344032001	MW-201	SM 4500-Cl-E	732911		
50344032002	MW-212	SM 4500-Cl-E	732911		
50344032003	MW-305	SM 4500-Cl-E	732911		
50344032004	MW-106A	SM 4500-Cl-E	732911		
50344032005	MW-207A	SM 4500-Cl-E	732911		
50344032006	MW-208B	SM 4500-Cl-E	732911		
50344032007	MW-209	SM 4500-Cl-E	732911		
50344032008	MW-302	SM 4500-Cl-E	732911		
50344032009	MW-210	SM 4500-Cl-E	732911		
50344032010	MW-202	SM 4500-Cl-E	732911		
50344032011	MW-101	SM 4500-Cl-E	732911		
50344032012	MW-304	SM 4500-Cl-E	732911		
50344032013	MW-303A	SM 4500-Cl-E	732911		
50344032014	MW-203B	SM 4500-Cl-E	732911		
50344032015	MW-301	SM 4500-Cl-E	732911		
50344032022	MW-213	SM 4500-Cl-E	732911		
50344032001	MW-201	SM-4500-NH3 G	733753		
50344032002	MW-212	SM-4500-NH3 G	733753		
50344032003	MW-305	SM-4500-NH3 G	733753		
50344032004	MW-106A	SM-4500-NH3 G	733753		
50344032005	MW-207A	SM-4500-NH3 G	733753		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Smith's Creek Landfill GW/SW
Pace Project No.: 50344032

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50344032006	**MW-208B**	SM-4500-NH3 G	733753		
50344032007	**MW-209**	SM-4500-NH3 G	733753		
50344032008	**MW-302**	SM-4500-NH3 G	733753		
50344032009	**MW-210**	SM-4500-NH3 G	733753		
50344032010	**MW-202**	SM-4500-NH3 G	733753		
50344032011	**MW-101**	SM-4500-NH3 G	733753		
50344032012	**MW-304**	SM-4500-NH3 G	733753		
50344032013	**MW-303A**	SM-4500-NH3 G	733753		
50344032014	**MW-203B**	SM-4500-NH3 G	733753		
50344032015	**MW-301**	SM-4500-NH3 G	733753		
50344032016	**SW-U1**	SM-4500-NH3 G	733753		
50344032017	**SW-DA1**	SM-4500-NH3 G	733753		
50344032018	**SW-D2**	SM-4500-NH3 G	733753		
50344032019	**SW-U2**	SM-4500-NH3 G	733753		
50344032022	**MW-213**	SM-4500-NH3 G	733753		
50344032001	**MW-201**	SM 5310C	733230		
50344032002	**MW-212**	SM 5310C	733230		
50344032003	**MW-305**	SM 5310C	733230		
50344032004	**MW-106A**	SM 5310C	733230		
50344032005	**MW-207A**	SM 5310C	733230		
50344032006	**MW-208B**	SM 5310C	733230		
50344032007	**MW-209**	SM 5310C	733230		
50344032008	**MW-302**	SM 5310C	733251		
50344032009	**MW-210**	SM 5310C	733251		
50344032010	**MW-202**	SM 5310C	733251		
50344032011	**MW-101**	SM 5310C	733251		
50344032012	**MW-304**	SM 5310C	733251		
50344032013	**MW-303A**	SM 5310C	733251		
50344032014	**MW-203B**	SM 5310C	733251		
50344032015	**MW-301**	SM 5310C	733251		
50344032016	**SW-U1**	SM 5310C	733251		
50344032017	**SW-DA1**	SM 5310C	733845		
50344032018	**SW-D2**	SM 5310C	733251		
50344032019	**SW-U2**	SM 5310C	733251		
50344032022	**MW-213**	SM 5310C	733251		

WO# : 50344032

50344032

Pace

CHAIN-OF-CUS

The Chain-of-Custody is a [illegible] rately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pa[illegible]standard-terms.pdf

Page : 1 Of 2

Section A Required Client Information:		Section B Required Project Information:		Section Invoice Information:	
Company:	WSP, Michigan	Report To:	Mary Siegan	Attention:	
Address:	46850 Magellan Drive	Copy To:		Company Name:	
	Suite 190, Novi, MI 48377			Address:	
Email:	mary.siegan@wsp.com	Purchase Order #:		Pace Quote:	
Phone:	(248)536-5435 Fax:	Project Name:	Smith's Creek GW-Annual	Pace Project Manager:	jennifer.rice@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	8284/1,2

Regulatory Agency	
State / Location	
	MI

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	8260 VOC	Dissolved Metals	Cl	NH3, NPN, TIN	TOC	Total Metals	Residual Chlorine (Y/N)
1	MW-201			5/2	0830					1	1	1	3						X	X	X	Y	X	X	
2	MW-212			5/2	0850																				
3	MW-305				0850																				
4	MW-106A				0912																				
5	MW-207A				0936																				
6	MW-208B				1007																				
7	MW-209				1028																				
8	MW-302				1104																				
9	MW-210				1121																				
10	MW-202			5/2	1555																				
11	MW-109			5/2	1649																				
12	MW-304			5/3	1247																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	WSP	5/4		Pace	5/4/23	1145	
	Pace	5/4/23	1742	D. Nagdin/PACE	5/4/23	1742	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: [illegible]

SIGNATURE of SAMPLER: [signature] DATE Signed: 5/4/23

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

WO# : 50344032

PM: JLR1 Due Date: 05/19/23

CLIENT: GR-Golder

Pace

CHAIN-OF-C ...t

The Chain-of-Custo... accurately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of .../pas-standard-terms.pdf

Section A Required Client Information:		Section B Required Project Information:			
Company:	WSP, Michigan	Report To:	Mary Siegan	Attention:	
Address:	46850 Magellan Drive	Copy To:		Company Name:	
Suite 190, Novi, MI 48377				Address:	
Email:	mary.siegan@wsp.com	Purchase Order #:		Pace Quote:	
Phone:	(248)536-5435 Fax:	Project Name:	Smith's Creek GW-Annual	Pace Project Manager:	jennifer.rice@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	8284/1,2

Regulatory Agency	
State / Location	MI

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: 8260 VOC	Dissolved Metals	Cl	NH3, NPN, TIN	TOC	Total Metals	Residual Chlorine (Y/N)
1	MW-303A			5/3	1403				5	1	1	1	3	1					X	X	X	X	X	X	-
2	MW-203B				1459																				
3	MW-301				1609																				
4	SW-U1			5/4	0825																				
5	SW-DA1				0845																				
6	SW-D2				0905																				
7	SW-U2				1007																				
8	Trip Blank			-	-				3										X						
9	Field Blank			5/3	0900				3										X						
10																									
11																									
12																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	WSP	5/4		Pace	5/4/23	1145	
	Pace	5/4/23	1742	J. NARDIN / PACE	5/4/23	1742	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER:

DATE Signed: 5/4/23

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Sample Conditions Upon Receipt Form (SCUR)

Date/Time: 5/4/23	**Evaluated By:** DN	**WO#: 50344032**	
Client: WSP, Michigan	**PM:** JLR	**PM: JLR1** **Due Date: 05/19/23**	
Lab Notified of Rush or Short Holds: YES NO		**CLIENT: GR-Golder**	

Project Received Via: FedEx UPS Client Pace Courier Other: _____				**Comments:**
Custody Seal Present and Intact:	YES	NO	N/A	
Received Sample Information Form (SIF): Drinking Waters Only	YES	NO	N/A	
Short Hold Present (≤ 48 Hours):	YES	NO		
Sample Received in Hold:	YES	NO		
Custody Signature Present:	YES	NO		
Collector Signature Present:	YES	NO		
Sample Collected Today and On Ice:	YES	NO	N/A	
IR Gun #: 350 351	**Temp. should be 0°C - 6°C (Initial/Corrected)**			
Ice Type: WET Bagged / WET Loose BLUE NONE	1. Cooler Temp. Upon Receipt: 1.8 / 2.1 °C			
Ice Location: TOP BOTTOM MIDDLE DISPERSED	2. Cooler Temp. Upon Receipt: 0.5 / 0.8 °C			
Temp Blank Received:	YES	NO		
Sample Label Matches COC (ID/Date/Time):	YES	NO		SEE NCF
Container Intact:	YES	NO		
Correct Container:	YES	NO		SEE NCF
Sufficient Volume:	YES	NO		
Sample pH Acceptable: All containers needing preservation are found to be in compliance with EPA recommendation **pH Strip Lot #:** HC 203864 *Exceptions are VOA, coliform, LLHg, O&G/TPH, or any container with a septum cap or preserved with HCl*	YES	NO	N/A	
Residual Chlorine Absent: **Cl_2 Strip Lot #:** _____ *Applies to SVOC 625, PCB/Pest. 608, Total/Amenable Cyanide*	YES	NO	N/A	
VOA Headspace Acceptable (<6mm):	YES	NO	N/A	
Trip Blank Received: HCl MeOH Other: _____	YES	NO	ON HOLD	
Comments:	3. Cooler Temp. Upon Receipt: 0.4 / 0.7 °C			
	4. Cooler Temp. Upon Receipt: _____ °C			
	Non-Conformance Form Required: YES NO			

WO#: 50344032

PM: JLR1 Due Date: 05/19/23

CLIENT: GR-Golder

Sample Receiving Non-Conformance Form (NCF)

	COC Integrity Issues: Check issues below and add details where appropriate		Sample Integrity Issues: Check issues below and add details where appropriate	
Date: 5/4/23	* ✓	COC does not match samples received (missing, additional, etc.)	Custody seal(s) damaged or missing on coolers, samples, or trip blanks	*Insufficient sample volume received
Evaluated by: SN		COC sample ID does not match sample label	Cooler or sample container broken or compromised	*Sample contains residual chlorine
Client: WSP, Michigan	✓	*COC collection date/time missing or does not match sample label	*Sample past holding time	Improper preservation
*Drinking Water Deficiency: Samples may be invalid. Analysis must not proceed without client written permission.		*Analyses/ analytes missing or clarification needed	*Temperature not within acceptance criteria (typically 0-6°C)	*Sample contains interferences (multi-phasic, solids, color, odor, etc…)
		*Required signatures are missing	*Sample arrived frozen or partially frozen	Vial(s) received with improper headspace (>6mm)
*No Sample Information Form (SIF) received with sample(s)		*Residual Chlorine presence/ absence not indicated on COC	*Incorrect or improper containers received	Other: See notes below

COC					Sample Label					* Sample Notes
Sample ID	Date	Time	Container Type	Quantity	Sample ID	Date	Time	Container Type	Quantity	COC Page (1 of 2)
MW-207A		0936					0940			Did NOT RECEIVE
MW-302		1104					1050			the (TOTAL) METALS
MW-202	5/2	1555				5/1	1538			FOR ANY OF THE SAMPLES ON (Page 1).

General Comments/ Client Instructions:

WO#: 50344032

PM: JLR1 Due Date: 05/19/23

CLIENT: GR-Golder

Sample Receiving Non-Conformance Form (NCF)

	COC Integrity Issues: Check issues below and add details where appropriate		Sample Integrity Issues: Check issues below and add details where appropriate		
Date: 5/4/23	✓*	COC does not match samples received (missing, additional, etc.)	Custody seal(s) damaged or missing on coolers, samples, or trip blanks		*Insufficient sample volume received
Evaluated by: DN		COC sample ID does not match sample label	Cooler or sample container broken or compromised		*Sample contains residual chlorine
Client: WSP, MICHIGAN	✓	*COC collection date/time missing or does not match sample label	*Sample past holding time		Improper preservation
*Drinking Water Deficiency: Samples may be invalid. Analysis must not proceed without client written permission.		*Analyses/ analytes missing or clarification needed	*Temperature not within acceptance criteria (typically 0-6°C)		*Sample contains interferences (multi-phasic, solids, color, odor, etc...)
		*Required signatures are missing	*Sample arrived frozen or partially frozen		Vial(s) received with improper headspace (>6mm)
*No Sample Information Form (SIF) received with sample(s)		*Residual Chlorine presence/ absence not indicated on COC	*Incorrect or improper containers received		Other: See notes below

COC					Sample Label					* Sample Notes
Sample ID	Date	Time	Container Type	Quantity	Sample ID	Date	Time	Container Type	Quantity	
SW-U1		0825					0830			COC Page (2 of 2)
MW-203B			(TOTAL) BP3N	1				(TOTAL) BP3N	0	
SW-U1			(Diss) BP3F	1				(Diss.) BP3F	0	
SW-DA1			↓	↓				↓	0	
SW-D2			↓	↓				↓	0	
SW-U2			↓	↓				↓	0	
					MW-213	5/3	-	VG9H BP3U BP3F BP3S AG3S	7	Sample Not listed on COC.

General Comments/ Client Instructions:

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

June 12, 2023

Mary Siegan
WSP
46850 Magellan Drive
Suite 190
Novi, MI 48377

RE: Project: Smith's Creek Landfill SW
Pace Project No.: 50345842

Dear Mary Siegan:

Enclosed are the analytical results for sample(s) received by the laboratory on May 25, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Indianapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Rice
jennifer.rice@pacelabs.com
(616)975-4500
Project Manager

Enclosures

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

CERTIFICATIONS

Project: Smith's Creek Landfill SW
Pace Project No.: 50345842

Pace Analytical Services Indianapolis
7726 Moller Road, Indianapolis, IN 46268
Illinois Accreditation #: 200074
Indiana Drinking Water Laboratory #: C-49-06
Kansas/TNI Certification #: E-10177
Kentucky UST Agency Interest #: 80226
Kentucky WW Laboratory ID #: 98019
Michigan Drinking Water Laboratory #9050
Ohio VAP Certified Laboratory #: CL0065
Oklahoma Laboratory #: 9204
Texas Certification #: T104704355
Wisconsin Laboratory #: 999788130
USDA Foreign Soil Permit #: 525-23-13-23119
USDA Compliance Agreement #: IN-SL-22-001

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

SAMPLE SUMMARY

Project: Smith's Creek Landfill SW
Pace Project No.: 50345842

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50345842001	**SW-U1**	Water	05/24/23 11:46	05/25/23 15:10
50345842002	**SW-U2**	Water	05/24/23 11:25	05/25/23 15:10
50345842003	**SW-D1A**	Water	05/24/23 11:57	05/25/23 15:10
50345842004	**SW-D2**	Water	05/24/23 12:09	05/25/23 15:10

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4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

SAMPLE ANALYTE COUNT

Project: Smith's Creek Landfill SW
Pace Project No.: 50345842

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50345842001	**SW-U1**	SM 2540C	TRK	1	PASI-I
		SM 2540D	IRH	1	PASI-I
50345842002	**SW-U2**	SM 2540C	TRK	1	PASI-I
		SM 2540D	IRH	1	PASI-I
50345842003	**SW-D1A**	SM 2540C	TRK	1	PASI-I
		SM 2540D	IRH	1	PASI-I
50345842004	**SW-D2**	SM 2540C	TRK	1	PASI-I
		SM 2540D	IRH	1	PASI-I

PASI-I = Pace Analytical Services - Indianapolis

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill SW
Pace Project No.: 50345842

Sample: SW-U1 **Lab ID: 50345842001** Collected: 05/24/23 11:46 Received: 05/25/23 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**357000**	ug/L	20000	1		05/31/23 10:52		
2540D Total Suspended Solids	Analytical Method: SM 2540D Pace Analytical Services - Indianapolis							
Total Suspended Solids	**24000**	ug/L	2500	1		05/31/23 14:47		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill SW
Pace Project No.: 50345842

Sample: SW-U2 **Lab ID: 50345842002** Collected: 05/24/23 11:25 Received: 05/25/23 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**286000**	ug/L	20000	1		05/31/23 10:52		
2540D Total Suspended Solids	Analytical Method: SM 2540D Pace Analytical Services - Indianapolis							
Total Suspended Solids	**17600**	ug/L	3030	1		05/31/23 14:47		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill SW
Pace Project No.: 50345842

Sample: SW-D1A **Lab ID: 50345842003** Collected: 05/24/23 11:57 Received: 05/25/23 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**242000**	ug/L	40000	1		05/31/23 10:54		
2540D Total Suspended Solids	Analytical Method: SM 2540D Pace Analytical Services - Indianapolis							
Total Suspended Solids	**400000**	ug/L	25000	1		05/31/23 14:47		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

ANALYTICAL RESULTS

Project: Smith's Creek Landfill SW
Pace Project No.: 50345842

Sample: SW-D2 **Lab ID: 50345842004** Collected: 05/24/23 12:09 Received: 05/25/23 15:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Indianapolis							
Total Dissolved Solids	**<200000**	ug/L	200000	1		05/31/23 10:54		PK,PP
2540D Total Suspended Solids	Analytical Method: SM 2540D Pace Analytical Services - Indianapolis							
Total Suspended Solids	**1620000**	ug/L	83300	1		05/31/23 14:47		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill SW
Pace Project No.: 50345842

QC Batch: 736615
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50345842001, 50345842002, 50345842003, 50345842004

METHOD BLANK: 3379877 Matrix: Water
Associated Lab Samples: 50345842001, 50345842002, 50345842003, 50345842004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	ug/L	<20000	20000	05/31/23 10:50	

LABORATORY CONTROL SAMPLE: 3379878

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	ug/L	300000	286000	95	80-120	

SAMPLE DUPLICATE: 3379879

Parameter	Units	50345842002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	ug/L	286000	292000	2	10	

SAMPLE DUPLICATE: 3379880

Parameter	Units	50345842004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	ug/L	<200000	<200000	7	10	PK,PP

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA

Project: Smith's Creek Landfill SW
Pace Project No.: 50345842

QC Batch: 736674 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Laboratory: Pace Analytical Services - Indianapolis
Associated Lab Samples: 50345842001, 50345842002, 50345842003, 50345842004

METHOD BLANK: 3380044 Matrix: Water
Associated Lab Samples: 50345842001, 50345842002, 50345842003, 50345842004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	ug/L	<2500	2500	05/31/23 14:45	

LABORATORY CONTROL SAMPLE: 3380045

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Suspended Solids	ug/L	100000	100000	100	80-120	

SAMPLE DUPLICATE: 3380046

Parameter	Units	50345773001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	ug/L	86.7 mg/L	95800	10	10	

SAMPLE DUPLICATE: 3380047

Parameter	Units	50345783002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	ug/L	273 mg/L	268000	2	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALIFIERS

Project: Smith's Creek Landfill SW
Pace Project No.: 50345842

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

PK	Sample volume was decreased because complete filtration was not achieved within the maximum method-specified timeframe.
PP	The mass of dried residue obtained did not meet the test method requirements based on volume used.

Pace Analytical Services, LLC
4171 40th St. SE
Grand Rapids, MI 49512
(616)975-4500

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Smith's Creek Landfill SW
Pace Project No.: 50345842

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50345842001	**SW-U1**	SM 2540C	736615		
50345842002	**SW-U2**	SM 2540C	736615		
50345842003	**SW-D1A**	SM 2540C	736615		
50345842004	**SW-D2**	SM 2540C	736615		
50345842001	**SW-U1**	SM 2540D	736674		
50345842002	**SW-U2**	SM 2540D	736674		
50345842003	**SW-D1A**	SM 2540D	736674		
50345842004	**SW-D2**	SM 2540D	736674		

WO# : 50345842

50345842

CHAIN-OF-CUSTODY / Analytical Request Do

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

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelab

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:	
Company: WSP, Michigan	Report To: Mary Siegan	Attention:	
Address: 46850 Magellan Drive	Copy To:	Company Name:	Regulatory Agency
Suite 190, Novi, MI 48377		Address:	
Email: mary.siegan@wsp.com	Purchase Order #:	Pace Quote:	State / Location
Phone: (248)536-5435 Fax:	Project Name: Smith's Creek SW	Pace Project Manager: jennifer.rice@pacelabs.com,	MI
Requested Due Date:	Project #:	Pace Profile #: 8218/2	

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Total Metals	Alkalinity,Cl,SO4	TSS	TDS	NH3, NPN, TIN	TOC by 5310 WTOC	Residual Chlorine (Y/N)
1	SW-U1	WT	G	5/24	1146	5/24	1146		6	3	2	1						X	X	X	X	X	X	
2	SW-U2				1125		1125																	
3	SW-D1A				1157		1157																	
4	SW-D2				1209		1209																	
5																								
6																								
7																								
8																								
9	only analyze TDS, TSS																							
10	parameters that were missed																							
11	in previous sampling																							
12	per Mary Siegen WSP 5/26/23																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Pace	5/25/23	1518	Pace	5/25/23	1128	
	Pace	5-25-23	1510	Pace	5-25-23	1510	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed: 5/24/23

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Sample Conditions Upon Receipt Form (SCUR)

Date/Time: 5/25/23	**Evaluated By:** SN	**WO# : 50345842**
Client: WSP, NICH	**PM:** JLR	PM: JLR1 Due Date: 06/12/23
Lab Notified of Rush or Short Holds: YES NO		CLIENT: GR-Golder

Project Received Via: FedEx UPS Client Pace Courier Other: _____

	YES	NO	NA	Comments:
Custody Seal Present and Intact:			NA	
Received Sample Information Form (SIF): Drinking Waters Only			NA	
Short Hold Present (≤ 48 Hours):		NO		
Sample Received in Hold:	YES			
Custody Signature Present:	YES			
Collector Signature Present:	YES			
Sample Collected Today and On Ice:			N/A	

IR Gun #: 350 351

Ice Type: WET Bagged / WET Loose BLUE NONE

Ice Location: TOP BOTTOM MIDDLE DISPERSED

Temp. should be 0°C - 6°C (Initial/Corrected)

1. Cooler Temp. Upon Receipt: 0.1 / 0.4 °C

2. Cooler Temp. Upon Receipt: _____ °C

	YES	NO		
Temp Blank Received:	YES			
Sample Label Matches COC (ID/Date/Time):	YES			
Container Intact:	YES			
Correct Container:	YES			
Sufficient Volume:	YES			
Sample pH Acceptable: All containers needing preservation are found to be in compliance with EPA recommendation **pH Strip Lot #:** HC203816 *Exceptions are VOA, coliform, LLHg, O&G/TPH, or any container with a septum cap or preserved with HCl*	YES	NO	N/A	
Residual Chlorine Absent: **Cl_2 Strip Lot #:** _____ *Applies to SVOC 625, PCB/Pest. 608, Total/Amenable Cyanide*	YES	NO	N/A	5/25/23 SN
VOA Headspace Acceptable (<6mm):	YES	NO	N/A	
Trip Blank Received: HCl MeOH Other: _____	YES	NO	ON HOLD	NOT FOR this PROJECT

Comments:

3. Cooler Temp. Upon Receipt: _____ °C

4. Cooler Temp. Upon Receipt: _____ °C

Non-Conformance Form Required: YES NO

APPENDIX B

Field Data Sheets

Well ID MW-101

GROUNDWATER SAMPLE COLLECTION RECORD

SITE IDENTIFICATION

COMPANY: Smith's Creek Landfill FACILITY/SITE: Smith's Creek Landfill
PROJECT NUMBER: 31405076.2023
ADDRESS: 6779 Smith's Creek Rd. Smith's Creek, MI
CONTACT: Matt Williams
PHONE: (248) 459-3309

WEATHER CONDITIONS

SKY: overcast
GROUND: wet
AIR TEMPERATURE (°F): 43F
PRECIPITATION (LAST 24 HRS): yes

WELL SECURITY

PROTECTIVE COVER: ok
BUMPER POSTS: N/A
EXTERNAL WELL ID: ok
LOCK: ok
WELL DIAMETER: ~~locked~~ 2"
CONCRETE PAD: ok

CALCULATIONS

WELL ELEVATION (FT/MSL):
DEPTH TO WATER (FT): 24.37
GROUNDWATER ELEVATION (FT/MSL):
TOTAL WELL DEPTH (FT): 76.9
WELL STICK-UP (FT):
WATER VOLUME IN CASING (GALLONS): 8.4

PURGING

INITIAL PURGE DATE: 5/2/23
INITIAL PURGE TIME: 1545

STABILIZATION READINGS

	1	2	3	4	5	6	Final
Time	1604	1627					1649
Volume Removed (gal)	8.4	16.8					25.2
pH (s.u.)	8.20	8.22					8.19
Conductivity ~~(µmho/cm)~~ mS/cm	0.458	0.462					0.469
Temperature (°C)	11.1	10.9					11.3

SAMPLING

SAMPLE DATE: 5/2/23
SAMPLE TIME: 1649
TOTAL BOTTLES COLLECTED: 4x3 VOAs
FILTERED FOR METALS: yes
SAMPLE CLARITY (clear, sl. turbid, m. turbid, v. turbid):
COLOR (yellow, brown, rust, grey, white, colorless):
ODOR (sulfur, LFG, musty, solvent, petrol, no odor):
SAMPLE COLLECTED BY: JC

EQUIPMENT

FIELD METER USED:
CALIBRATION TIME:
PH CALIBRATION STANDARDS (s.u.):
CONDUCTIVITY STANDARD (µmho/cm):
PURIFIED WATER SUPPLIED BY:
PUMP/BAILER TYP

SAMPLING COMPANY: Golder Associates Inc.
SAMPLER'S PHONE: 248-295-0135
SAMPLER'S ADDRESS: 27200 Haggerty Road, Suite B-12 Farmington Hills, Michigan, USA 48331
CLIENT REPRESENTATIVES:
REGULATORY REPRESENTATIVES:

COMMENTS:

DATE FORM COMPLETED:
FORM COMPLETED BY (signature):

Well ID MW-106A

GROUNDWATER SAMPLE COLLECTION RECORD

SITE IDENTIFICATION

COMPANY: Smith's Creek Landfill
FACILITY/SITE: Smith's Creek Landfill
PROJECT NUMBER: 31405076.2023
ADDRESS: 6779 Smith's Creek Rd. Smith's Creek, MI
CONTACT: Matt Williams
PHONE: (248) 459-3309

WEATHER CONDITIONS

SKY: Overcast
GROUND:
AIR TEMPERATURE (°F): 40's
PRECIPITATION (LAST 24 HRS):

WELL SECURITY

PROTECTIVE COVER: ok
BUMPER POSTS: N/A
EXTERNAL WELL ID: ok
LOCK: ok
WELL DIAMETER: 2"
CONCRETE PAD: N/A

CALCULATIONS

WELL ELEVATION (FT/MSL):
DEPTH TO WATER (FT): IC ~~24.44~~ 33.44
GROUNDWATER ELEVATION (FT/MSL):
TOTAL WELL DEPTH (FT): 75.2
WELL STICK-UP (FT):
WATER VOLUME IN CASING (GALLONS): IC ~~8.16~~ 6.6

PURGING

INITIAL PURGE DATE: 5/2/23
INITIAL PURGE TIME: IC ~~0835~~ 1019

STABILIZATION READINGS

	IC 1 1048	2	3	4	5	6	Final
Time	~~1019~~	1054					
Volume Removed (gal)	6.6	well					
pH (s.u.)	8.07	dry					
Conductivity. ~~(µmho/cm)~~ mS/cm	0.744						
Temperature (°C)	13.0						

SAMPLING

SAMPLE DATE: 5/3/23
SAMPLE TIME: 0912
TOTAL BOTTLES COLLECTED: 4 + 3 vocs
FILTERED FOR METALS: yes
SAMPLE CLARITY (clear, sl. turbid, m. turbid, v. turbid):
COLOR (yellow, brown, rust, grey, white, colorless):
ODOR (sulfur, LFG, musty, solvent, petrol, no odor):
SAMPLE COLLECTED BY: IC

EQUIPMENT

FIELD METER USED:
CALIBRATION TIME: 0755
PH CALIBRATION STANDARDS (s.u.): 4/7/10
CONDUCTIVITY STANDARD (µmho/cm): 1,413
PURIFIED WATER SUPPLIED BY: lab
PUMP/BAILER TYP MP-50

SAMPLING COMPANY: Golder Associates Inc.
SAMPLER'S PHONE: 248-295-0135
SAMPLER'S ADDRESS: 27200 Haggerty Road, Suite B-12 Farmington Hills, Michigan, USA 48331
CLIENT REPRESENTATIVES:
REGULATORY REPRESENTATIVES:

COMMENTS:

Went dry on 11/17

DATE FORM COMPLETED: 5/3 FORM COMPLETED BY (signature):

Well ID MW-201

GROUNDWATER SAMPLE COLLECTION RECORD

SITE IDENTIFICATION

COMPANY: Smith's Creek Landfill
FACILITY/SITE: Smith's Creek Landfill
PROJECT NUMBER: 31405076.2023
ADDRESS: 6779 Smith's Creek Rd. Smith's Creek, MI
CONTACT: Matt Williams
PHONE: (248) 459-3309

WEATHER CONDITIONS

SKY: Overcast
GROUND: moist
AIR TEMPERATURE (°F): 40F
PRECIPITATION (LAST 24 HRS): yes

WELL SECURITY

PROTECTIVE COVER: ok
BUMPER POSTS: N/A
EXTERNAL WELL ID: ok
LOCK: ok
WELL DIAMETER: 2"
CONCRETE PAD: NA

CALCULATIONS

WELL ELEVATION (FT/MSL):
DEPTH TO WATER (FT): 24.14
GROUNDWATER ELEVATION (FT/MSL):
TOTAL WELL DEPTH (FT): 75.4
WELL STICK-UP (FT):
WATER VOLUME IN CASING (GALLONS): 8.16

PURGING

INITIAL PURGE DATE: 5/2/23
INITIAL PURGE TIME: 0835

STABILIZATION READINGS

	1	2	3	4	5	6	Final
Time	0853	0854				0812	
Volume Removed (gal)	8.16	8.20				8.16	
pH (s.u.)	7.67	well dry				8.13	
Conductivity. (µmho/cm)	0.744					0.796	
Temperature (°C)	13.0					10.1	

SAMPLING

SAMPLE DATE: 5/3/23
SAMPLE TIME: 0800
TOTAL BOTTLES COLLECTED: 4+3 VOAs
FILTERED FOR METALS: yes
SAMPLE CLARITY (clear, sl. turbid, m. turbid, v. turbid): sl. turbid
COLOR (yellow, brown, rust, grey, white, colorless): colorless
ODOR (sulfur, LFG, musty, solvent, petrol, no odor): no odor
SAMPLE COLLECTED BY: JC

EQUIPMENT

FIELD METER USED: Horiba U05
CALIBRATION TIME: 0755
PH CALIBRATION STANDARDS (s.u.): 4, 7, 10
CONDUCTIVITY STANDARD (µmho/cm): 1,413
PURIFIED WATER SUPPLIED BY: lab
PUMP/BAILER TYP MP-50

SAMPLING COMPANY: Golder Associates Inc.
SAMPLER'S PHONE: 248-295-0135
SAMPLER'S ADDRESS: 27200 Haggerty Road, Suite B-12 Farmington Hills, Michigan, USA 48331
CLIENT REPRESENTATIVES:
REGULATORY REPRESENTATIVES:

COMMENTS:

Went dry on 11/17

DATE FORM COMPLETED: 5/3/23 FORM COMPLETED BY (signature):

Well ID MW-202

GROUNDWATER SAMPLE COLLECTION RECORD

SITE IDENTIFICATION

COMPANY: Smith's Creek Landfill
FACILITY/SITE: Smith's Creek Landfill
PROJECT NUMBER: 31405076.2023
ADDRESS: 6779 Smith's Creek Rd. Smith's Creek, MI
CONTACT: Matt Williams
PHONE: (248) 459-3309

WEATHER CONDITIONS

SKY: overcast
GROUND: wet
AIR TEMPERATURE (°F): 44F
PRECIPITATION (LAST 24 HRS): yes

WELL SECURITY

PROTECTIVE COVER: ok
BUMPER POSTS: N/A
EXTERNAL WELL ID: ok
LOCK: ok
WELL DIAMETER: 2"
CONCRETE PAD: ok

CALCULATIONS

WELL ELEVATION (FT/MSL):
DEPTH TO WATER (FT): 25.42
GROUNDWATER ELEVATION (FT/MSL):
TOTAL WELL DEPTH (FT): 64.6
WELL STICK-UP (FT):
WATER VOLUME IN CASING (GALLONS): 6.2

PURGING

INITIAL PURGE DATE: 5/1/23
INITIAL PURGE TIME: 1446

STABILIZATION READINGS

	1	2	3	4	5	6	Final
Time	1504	1521					1538
Volume Removed (gal)	6.2	12.4					18.6
pH (s.u.)	7.82	7.89					7.87
Conductivity. ~~(µmho/cm)~~ mS/cm	0.450	0.454					0.461
Temperature (°C)	10.6	10.8					10.8

SAMPLING

SAMPLE DATE: 5/1/23
SAMPLE TIME: 1555
TOTAL BOTTLES COLLECTED: 4 + 3 VOAs
FILTERED FOR METALS: yes
SAMPLE CLARITY (clear, sl. turbid, m. turbid, v. turbid):
COLOR (yellow, brown, rust, grey, white, colorless):
ODOR (sulfur, LFG, musty, solvent, petrol, no odor):
SAMPLE COLLECTED BY: JC

EQUIPMENT

FIELD METER USED: Horiba
CALIBRATION TIME: 1500 (5/1/23)
PH CALIBRATION STANDARDS (s.u.): 4, 7, 10
CONDUCTIVITY STANDARD ~~(µmho/cm)~~ mS/cm: 1.413
PURIFIED WATER SUPPLIED BY: lab
PUMP/BAILER TYP MP-50

SAMPLING COMPANY: Golder Associates Inc.
SAMPLER'S PHONE: 248-295-0135
SAMPLER'S ADDRESS: 27200 Haggerty Road, Suite B-12 Farmington Hills, Michigan, USA 48331
CLIENT REPRESENTATIVES:
REGULATORY REPRESENTATIVES:

COMMENTS:

DATE FORM COMPLETED: 5/2/22 FORM COMPLETED BY (signature):

Well ID MW-203B

GROUNDWATER SAMPLE COLLECTION RECORD

SITE IDENTIFICATION

COMPANY: Smith's Creek Landfill
FACILITY/SITE: Smith's Creek Landfill
PROJECT NUMBER: 31405076.2023
ADDRESS: 6779 Smith's Creek Rd. Smith's Creek, MI
CONTACT: Matt Williams
PHONE: (248) 459-3309

WEATHER CONDITIONS

SKY: overcast
GROUND: moist
AIR TEMPERATURE (°F): 45F
PRECIPITATION (LAST 24 HRS): yes

WELL SECURITY

PROTECTIVE COVER: ok
BUMPER POSTS: N/A
EXTERNAL WELL ID: ok
LOCK: ok
WELL DIAMETER: 2"
CONCRETE PAD: ok

CALCULATIONS

WELL ELEVATION (FT/MSL):
DEPTH TO WATER (FT): 29.39
GROUNDWATER ELEVATION (FT/MSL):
TOTAL WELL DEPTH (FT): 73.21
WELL STICK-UP (FT):
WATER VOLUME IN CASING (GALLONS): 7.0

PURGING

INITIAL PURGE DATE: 5/3/23
INITIAL PURGE TIME: 1410

STABILIZATION READINGS

	1	2	3	4	5	6	Final
Time	1428	1444	1459				
Volume Removed (gal)	7.0	14	21				
pH (s.u.)	8.68	8.62	8.65				
Conductivity. (µmho/cm)	0.437	0.441	0.443				
Temperature (°C)	11.6	11.6	11.8				

SAMPLING

SAMPLE DATE: 5/3/23
SAMPLE TIME: 1459
TOTAL BOTTLES COLLECTED: 4 + 3 VOAs → IC
FILTERED FOR METALS: yes
SAMPLE CLARITY (clear, sl. turbid, m. turbid, v. turbid):
COLOR (yellow, brown, rust, grey, white, colorless):
ODOR (sulfur, LFG, musty, solvent, petrol, no odor):
SAMPLE COLLECTED BY: IC

EQUIPMENT

FIELD METER USED:
CALIBRATION TIME: 0755
PH CALIBRATION STANDARDS (s.u.): 4, 7, 10
CONDUCTIVITY STANDARD (µmho/cm): 1.413
PURIFIED WATER SUPPLIED BY: lab
PUMP/BAILER TYP MP50

SAMPLING COMPANY: Golder Associates Inc.
SAMPLER'S PHONE: 248-295-0135
SAMPLER'S ADDRESS: 27200 Haggerty Road, Suite B-12 Farmington Hills, Michigan, USA 48331
CLIENT REPRESENTATIVES:
REGULATORY REPRESENTATIVES:

COMMENTS:

DATE FORM COMPLETED: 5/3/23 FORM COMPLETED BY (signature):

Well ID MW-207A

GROUNDWATER SAMPLE COLLECTION RECORD

SITE IDENTIFICATION

COMPANY: Smith's Creek Landfill
FACILITY/SITE: Smith's Creek Landfill
PROJECT NUMBER: 31405076.2023
ADDRESS: 6779 Smith's Creek Rd. Smith's Creek, MI
CONTACT: Matt Williams
PHONE: (248) 459-3309

WEATHER CONDITIONS

SKY: overcast
GROUND: moist
AIR TEMPERATURE (°F): 40F
PRECIPITATION (LAST 24 HRS):

WELL SECURITY

PROTECTIVE COVER: ok
BUMPER POSTS: N/A
EXTERNAL WELL ID: ok
LOCK: ok
WELL DIAMETER: 2"
CONCRETE PAD: ok

CALCULATIONS

WELL ELEVATION (FT/MSL):
DEPTH TO WATER (FT): 36.1
GROUNDWATER ELEVATION (FT/MSL):
TOTAL WELL DEPTH (FT): 82.9
WELL STICK-UP (FT):
WATER VOLUME IN CASING (GALLONS): 7.4

PURGING

INITIAL PURGE DATE: 5/2/23
INITIAL PURGE TIME: 1105

STABILIZATION READINGS

	1	2	3	4	5	6	Final
Time	1127	1129					0936
Volume Removed (gal)	7.4	dry					7.4
pH (s.u.)	7.42						7.41
Conductivity (µmho/cm)	1,118						0.989
Temperature (°C)	10.4						10.6

SAMPLING

SAMPLE DATE: 5/3/23
SAMPLE TIME: 0936
TOTAL BOTTLES COLLECTED: 4 + 3 VOAS
FILTERED FOR METALS: yes
SAMPLE CLARITY (clear, sl. turbid, m. turbid, v. turbid):
COLOR (yellow, brown, rust, grey, white, colorless):
ODOR (sulfur, LFG, musty, solvent, petrol, no odor):
SAMPLE COLLECTED BY: IC

EQUIPMENT

FIELD METER USED:
CALIBRATION TIME: 0755
PH CALIBRATION STANDARDS (s.u.): 4, 7, 10
CONDUCTIVITY STANDARD (µmho/cm): 1,413
PURIFIED WATER SUPPLIED BY: lab
PUMP/BAILER TYP MP-50

SAMPLING COMPANY: Golder Associates Inc.
SAMPLER'S PHONE: 248-295-0135
SAMPLER'S ADDRESS: 27200 Haggerty Road, Suite B-12 Farmington Hills, Michigan, USA 48331
CLIENT REPRESENTATIVES:
REGULATORY REPRESENTATIVES:

COMMENTS:

Went dry on 11/17

DATE FORM COMPLETED: 5/3
FORM COMPLETED BY (signature):

Well ID MW-208B

GROUNDWATER SAMPLE COLLECTION RECORD

SITE IDENTIFICATION

COMPANY: Smith's Creek Landfill
FACILITY/SITE: Smith's Creek Landfill
PROJECT NUMBER: 31405076.2023
ADDRESS: 6779 Smith's Creek Rd. Smith's Creek, MI
CONTACT: Matt Williams
PHONE: (248) 459-3309

WEATHER CONDITIONS

SKY: overcast
GROUND: moist
AIR TEMPERATURE (°F): 44F
PRECIPITATION (LAST 24 HRS): yes

WELL SECURITY

PROTECTIVE COVER: ok
BUMPER POSTS: N/A
EXTERNAL WELL ID: ok
LOCK: ok
WELL DIAMETER: 2"
CONCRETE PAD: ok

CALCULATIONS

WELL ELEVATION (FT/MSL):
DEPTH TO WATER (FT): 35.47
GROUNDWATER ELEVATION (FT/MSL):
TOTAL WELL DEPTH (FT): NA
WELL STICK-UP (FT):
WATER VOLUME IN CASING (GALLONS):

PURGING

INITIAL PURGE DATE: 5/2/23
INITIAL PURGE TIME: 1143

STABILIZATION READINGS

	1	2	3	4	5	6	Final
Time	1210	1212					1007
Volume Removed (gal)	8.3	8.4					8.4
pH (s.u.)	7.79	well					7.77
Conductivity. (µmho/cm)	271	dry					283
Temperature (°C)	10.9						10.7

SAMPLING

SAMPLE DATE: 5/3/23
SAMPLE TIME: 1007
TOTAL BOTTLES COLLECTED: 4x3VOAs
FILTERED FOR METALS: yes
SAMPLE CLARITY (clear, sl. turbid, m. turbid, v. turbid): C
COLOR (yellow, brown, rust, grey, white, colorless): C
ODOR (sulfur, LFG, musty, solvent, petrol, no odor): C
SAMPLE COLLECTED BY: tc

EQUIPMENT

FIELD METER USED:
CALIBRATION TIME: 0755
PH CALIBRATION STANDARDS (s.u.): 4, 7, 10
CONDUCTIVITY STANDARD (µmho/cm): 1,413
PURIFIED WATER SUPPLIED BY: lab
PUMP/BAILER TYP: MP-50

SAMPLING COMPANY: Golder Associates Inc.
SAMPLER'S PHONE: 248-295-0135
SAMPLER'S ADDRESS: 27200 Haggerty Road, Suite B-12 Farmington Hills, Michigan, USA 48331
CLIENT REPRESENTATIVES:
REGULATORY REPRESENTATIVES:

COMMENTS:

Went dry on 11/17

DATE FORM COMPLETED:
FORM COMPLETED BY (signature):

Well ID MW-209

GROUNDWATER SAMPLE COLLECTION RECORD

SITE IDENTIFICATION

COMPANY: Smith's Creek Landfill
FACILITY/SITE: Smith's Creek Landfill
PROJECT NUMBER: 31405076.2023
ADDRESS: 6779 Smith's Creek Rd. Smith's Creek, MI
CONTACT: Matt Williams
PHONE: (248) 459-3309

WEATHER CONDITIONS

SKY: overcast
GROUND: wet
AIR TEMPERATURE (°F): 44F
PRECIPITATION (LAST 24 HRS): yes

WELL SECURITY

PROTECTIVE COVER: ok
BUMPER POSTS: N/A
EXTERNAL WELL ID: ok
LOCK: ok
WELL DIAMETER: 2"
CONCRETE PAD: ok

CALCULATIONS

WELL ELEVATION (FT/MSL):
DEPTH TO WATER (FT): 29.31
GROUNDWATER ELEVATION (FT/MSL):
TOTAL WELL DEPTH (FT): 79.2
WELL STICK-UP (FT):
WATER VOLUME IN CASING (GALLONS): 7.9

PURGING

INITIAL PURGE DATE: 5/12/23
INITIAL PURGE TIME: 1218

STABILIZATION READINGS

	1247	1250	3	4	5	6	Final
Time	~~1247~~ 1245 C	~~1248~~ C					1028
Volume Removed (gal)	7.9	well dry					7.9
pH (s.u.)	7.75						7.81
Conductivity. ~~(µmho/cm)~~ mS/cm	0.580						0.611
Temperature (°C)	10.1						10.6

SAMPLING

SAMPLE DATE: 5/13/23
SAMPLE TIME: 1028
TOTAL BOTTLES COLLECTED: 4 + 3 VOAs
FILTERED FOR METALS: yes
SAMPLE CLARITY (clear, sl. turbid, m. turbid, v. turbid):
COLOR (yellow, brown, rust, grey, white, colorless):
ODOR (sulfur, LFG, musty, solvent, petrol, no odor):
SAMPLE COLLECTED BY: JC

EQUIPMENT

FIELD METER USED:
CALIBRATION TIME: 0755
PH CALIBRATION STANDARDS (s.u.): 4, 7, 10
CONDUCTIVITY STANDARD (µmho/cm): 1.413
PURIFIED WATER SUPPLIED BY: lab
PUMP/BAILER TYP MP50

SAMPLING COMPANY: Golder Associates Inc.
SAMPLER'S PHONE: 248-295-0135
SAMPLER'S ADDRESS: 27200 Haggerty Road, Suite B-12 Farmington Hills, Michigan, USA 48331
CLIENT REPRESENTATIVES:
REGULATORY REPRESENTATIVES:

COMMENTS:

Went dry on 11/17

DATE FORM COMPLETED: 5/13/23 FORM COMPLETED BY (signature):

Well ID MW-210

GROUNDWATER SAMPLE COLLECTION RECORD

SITE IDENTIFICATION

COMPANY: Smith's Creek Landfill
FACILITY/SITE: Smith's Creek Landfill
PROJECT NUMBER: 31405076.2023
ADDRESS: 6779 Smith's Creek Rd. Smith's Creek, MI
CONTACT: Matt Williams
PHONE: (248) 459-3309

WEATHER CONDITIONS

SKY: Overcast
GROUND: wet
AIR TEMPERATURE (°F): 44F
PRECIPITATION (LAST 24 HRS): yes

WELL SECURITY

PROTECTIVE COVER ok
BUMPER POSTS: ~~ok~~ N/A
EXTERNAL WELL ID: ok
LOCK: ok
WELL DIAMETER 2"
CONCRETE PAD: ok

CALCULATIONS

WELL ELEVATION (FT/MSL):
DEPTH TO WATER (FT): 28.99
GROUNDWATER ELEVATION (FT/MSL):
TOTAL WELL DEPTH (FT): 71.9
WELL STICK-UP (FT):
WATER VOLUME IN CASING (GALLONS): 6.8

PURGING

INITIAL PURGE DATE: 5/3/23
INITIAL PURGE TIME: 1247

STABILIZATION READINGS

	1	2	3	4	5	6	Final
Time	1313	1319					~~1050~~ 1121
Volume Removed (gal)	6.8	well dry					6.8
pH (s.u.)	7.31						7.22
Conductivity. ~~(µmho/cm)~~ mS/cm	0.368						0.421
Temperature (°C)	11.4						10.9

SAMPLING

SAMPLE DATE: ~~1050~~ 5/3/23
SAMPLE TIME: ~~1050~~ 1121
TOTAL BOTTLES COLLECTED: 4 3 VOAS
FILTERED FOR METALS: yes
SAMPLE CLARITY (~~clear~~, sl. turbid, m. turbid, v. turbid):
COLOR (yellow, brown, rust, grey, white, ~~colorless~~):
ODOR (sulfur, LFG, musty, solvent, petrol, ~~no odor~~):
SAMPLE COLLECTED BY: JC

EQUIPMENT

FIELD METER USED:
CALIBRATION TIME: 0755
PH CALIBRATION STANDARDS (s.u.): 4/7/10
CONDUCTIVITY STANDARD (µmho/cm): 1,413
PURIFIED WATER SUPPLIED BY: lab
PUMP/BAILER TYP MP50

SAMPLING COMPANY: Golder Associates Inc.
SAMPLER'S PHONE: 248-295-0135
SAMPLER'S ADDRESS: 27200 Haggerty Road, Suite B-12 Farmington Hills, Michigan, USA 48331
CLIENT REPRESENTATIVES:
REGULATORY REPRESENTATIVES:

COMMENTS:

Went dry on 11/17

DATE FORM COMPLETED: 5/3
FORM COMPLETED BY (signature):

Well ID MW-212

GROUNDWATER SAMPLE COLLECTION RECORD

SITE IDENTIFICATION

COMPANY: Smith's Creek Landfill
FACILITY/SITE: Smith's Creek Landfill
PROJECT NUMBER: 31405076.2023
ADDRESS: 6779 Smith's Creek Rd. Smith's Creek, MI
CONTACT: Matt Williams
PHONE: (248) 459-3309

WEATHER CONDITIONS

SKY: Overcast
GROUND: wet
AIR TEMPERATURE (°F): 41F
PRECIPITATION (LAST 24 HRS):

WELL SECURITY

PROTECTIVE COVER: ok
BUMPER POSTS: N/A
EXTERNAL WELL ID: ok
LOCK: ok
WELL DIAMETER: 2"
CONCRETE PAD: N/A

CALCULATIONS

WELL ELEVATION (FT/MSL):
DEPTH TO WATER (FT): 29.36
GROUNDWATER ELEVATION (FT/MSL):
TOTAL WELL DEPTH (FT): 65.2
WELL STICK-UP (FT):
WATER VOLUME IN CASING (GALLONS): 5.69

PURGING

INITIAL PURGE DATE: 5/2/23
INITIAL PURGE TIME: 0910

STABILIZATION READINGS

	1	2	3	4	5	6	Final
Time	0931	0933					0831
Volume Removed (gal)	5.7	5.8					5.7
pH (s.u.)	7.97	well dry					7.93
Conductivity. (µmho/cm)	1.125						1.047
Temperature (°C)	9.2						10.3

SAMPLING

SAMPLE DATE: 5/3/23
SAMPLE TIME: 0837
TOTAL BOTTLES COLLECTED: 4+3 VOAs
FILTERED FOR METALS: yes
SAMPLE CLARITY (clear, sl. turbid, m. turbid, v. turbid):
COLOR (yellow, brown, rust, grey, white, colorless):
ODOR (sulfur, LFG, musty, solvent, petrol, no odor):
SAMPLE COLLECTED BY: IC

EQUIPMENT IC

FIELD METER USED: ~~0837~~
CALIBRATION TIME: 0755
PH CALIBRATION STANDARDS (s.u.): 4,7,10
CONDUCTIVITY STANDARD (µmho/cm): 1,413
PURIFIED WATER SUPPLIED BY: lab
PUMP/BAILER TYP MP-50

SAMPLING COMPANY: Golder Associates Inc.
SAMPLER'S PHONE: 248-295-0135
SAMPLER'S ADDRESS: 27200 Haggerty Road, Suite B-12 Farmington Hills, Michigan, USA 48331
CLIENT REPRESENTATIVES:
REGULATORY REPRESENTATIVES:

COMMENTS:

Went dry on 11/17

DATE FORM COMPLETED: 5/3/23 FORM COMPLETED BY (signature):

Well ID MW-301

GROUNDWATER SAMPLE COLLECTION RECORD

SITE IDENTIFICATION

COMPANY: Smith's Creek Landfill
FACILITY/SITE: Smith's Creek Landfill
PROJECT NUMBER: 31405076.2023
ADDRESS: 6779 Smith's Creek Rd. Smith's Creek, MI
CONTACT: Matt Williams
PHONE: (248) 459-3309

WEATHER CONDITIONS

SKY: Overcast
GROUND: moist
AIR TEMPERATURE (°F): 43F
PRECIPITATION (LAST 24 HRS): yes

WELL SECURITY

PROTECTIVE COVER: ok
BUMPER POSTS: ok N/A
EXTERNAL WELL ID: ok
LOCK: ok
WELL DIAMETER:
CONCRETE PAD: ok

CALCULATIONS

WELL ELEVATION (FT/MSL):
DEPTH TO WATER (FT): 36.13
GROUNDWATER ELEVATION (FT/MSL):
TOTAL WELL DEPTH (FT): 84.3
WELL STICK-UP (FT):
WATER VOLUME IN CASING (GALLONS): 7.7

PURGING

INITIAL PURGE DATE: 5/3/23
INITIAL PURGE TIME: 1506

STABILIZATION READINGS

	1 (1530)	2	3	4	5	6	Final
Time	~~1506~~	1551	1608				
Volume Removed (gal)	7.7	15.4	23.1				
pH (s.u.)	8.63	8.60	8.62				
Conductivity. (µmho/cm)	0.451	0.448	0.454				
Temperature (°C)	12.0	12.1	12.1				

SAMPLING

SAMPLE DATE: 5/3/23
SAMPLE TIME: 1609
TOTAL BOTTLES COLLECTED: 4x 3 VOAs + 1 total metals
FILTERED FOR METALS: yes (dissolved only)
SAMPLE CLARITY (clear, sl. turbid, m. turbid, v. turbid):
COLOR (yellow, brown, rust, grey, white, ~~colorless~~):
ODOR (sulfur, LFG, musty, solvent, petrol, ~~no odor~~):
SAMPLE COLLECTED BY: TC

EQUIPMENT

FIELD METER USED:
CALIBRATION TIME: 0755
PH CALIBRATION STANDARDS (s.u.): 4, 7, 10
CONDUCTIVITY STANDARD (µmho/cm): 1.413
PURIFIED WATER SUPPLIED BY: lab
PUMP/BAILER TYP MP50

SAMPLING COMPANY: Golder Associates Inc.
SAMPLER'S PHONE: 248-295-0135
SAMPLER'S ADDRESS: 27200 Haggerty Road, Suite B-12 Farmington Hills, Michigan, USA 48331
CLIENT REPRESENTATIVES:
REGULATORY REPRESENTATIVES:

COMMENTS:

DATE FORM COMPLETED: 5/3/23 FORM COMPLETED BY (signature):

Well ID MW-302

GROUNDWATER SAMPLE COLLECTION RECORD

SITE IDENTIFICATION

COMPANY: Smith's Creek Landfill
FACILITY/SITE: Smith's Creek Landfill
PROJECT NUMBER: 31405076.2023
ADDRESS: 6779 Smith's Creek Rd. Smith's Creek, MI
CONTACT: Matt Williams
PHONE: (248) 459-3309

WEATHER CONDITIONS

SKY: overcast
GROUND: wet
AIR TEMPERATURE (°F): 39F
PRECIPITATION (LAST 24 HRS): yes

WELL SECURITY

PROTECTIVE COVER: ok
BUMPER POSTS: NA
EXTERNAL WELL ID: ok
LOCK: ok
WELL DIAMETER: 2"
CONCRETE PAD: ok

CALCULATIONS

WELL ELEVATION (FT/MSL):
DEPTH TO WATER (FT): 26.17
GROUNDWATER ELEVATION (FT/MSL):
TOTAL WELL DEPTH (FT): 80.4
WELL STICK-UP (FT):
WATER VOLUME IN CASING (GALLONS): 8.6

PURGING

INITIAL PURGE DATE: 5/2/23
INITIAL PURGE TIME: ~~0~~ 1256

STABILIZATION READINGS

	1	2	3	4	5	6	Final
Time	1313	1329	1336				1050
Volume Removed (gal)	8.6	17.2	well				17.2
pH (s.u.)	8.14	8.39	dry				8.20
Conductivity. ~~(µmho/cm)~~ mS/cm	0.523	0.490					0.476
Temperature (°C)	10.2	10.6					10.9

SAMPLING

SAMPLE DATE: 5/3/23
SAMPLE TIME: 1104
TOTAL BOTTLES COLLECTED: 4 + 3 VOAs
FILTERED FOR METALS: yes
SAMPLE CLARITY (clear, sl. turbid, m. turbid, v. turbid):
COLOR (yellow, brown, rust, grey, white, colorless):
ODOR (sulfur, LFG, musty, solvent, petrol, no odor):
SAMPLE COLLECTED BY: JC

EQUIPMENT

FIELD METER USED:
CALIBRATION TIME: 0755
PH CALIBRATION STANDARDS (s.u.): 4, 7, 10
CONDUCTIVITY STANDARD (µmho/cm): 1,413
PURIFIED WATER SUPPLIED BY: Lab
PUMP/BAILER TYP MP50

SAMPLING COMPANY: Golder Associates Inc.
SAMPLER'S PHONE: 248-295-0135
SAMPLER'S ADDRESS: 27200 Haggerty Road, Suite B-12 Farmington Hills, Michigan, USA 48331
CLIENT REPRESENTATIVES:
REGULATORY REPRESENTATIVES:

COMMENTS:

DATE FORM COMPLETED: 5/3/23 FORM COMPLETED BY (signature):

Well ID MW-303A

GROUNDWATER SAMPLE COLLECTION RECORD

SITE IDENTIFICATION

COMPANY: Smith's Creek Landfill
FACILITY/SITE: Smith's Creek Landfill
PROJECT NUMBER: 31405076.2023
ADDRESS: 6779 Smith's Creek Rd. Smith's Creek, MI
CONTACT: Matt Williams
PHONE: (248) 459-3309

WEATHER CONDITIONS

SKY: overcast
GROUND: wet
AIR TEMPERATURE (°F): 46F
PRECIPITATION (LAST 24 HRS): yes

WELL SECURITY

PROTECTIVE COVER: ok
BUMPER POSTS: N/A
EXTERNAL WELL ID: ok
LOCK: ok
WELL DIAMETER: 2"
CONCRETE PAD: ok

CALCULATIONS

WELL ELEVATION (FT/MSL):
DEPTH TO WATER (FT): 23.41
GROUNDWATER ELEVATION (FT/MSL):
TOTAL WELL DEPTH (FT): 75.7
WELL STICK-UP (FT):
WATER VOLUME IN CASING (GALLONS): 8.3

PURGING

INITIAL PURGE DATE: 5/3/23
INITIAL PURGE TIME: 1317

STABILIZATION READINGS

	1	2	3	4	5	6	Final
Time	1333	1348	1403				
Volume Removed (gal)	8.3	16.6	24.9				
pH (s.u.)	8.05	8.07	8.11				
Conductivity. (µmho/cm)	0.499	0.487	0.490				
Temperature (°C)	11.7	11.8	11.8				

SAMPLING

SAMPLE DATE: 5/3/23
SAMPLE TIME: 1403
TOTAL BOTTLES COLLECTED: 4+3 VOAs + 1 total metals
FILTERED FOR METALS: yes (dissolved only)
SAMPLE CLARITY (clear, sl. turbid, m. turbid, v. turbid):
COLOR (yellow, brown, rust, grey, white, colorless):
ODOR (sulfur, LFG, musty, solvent, petrol, no odor):
SAMPLE COLLECTED BY:

EQUIPMENT

FIELD METER USED:
CALIBRATION TIME: 0755
PH CALIBRATION STANDARDS (s.u.): 4/7/10
CONDUCTIVITY STANDARD (µmho/cm): 1.413
PURIFIED WATER SUPPLIED BY: lab
PUMP/BAILER TYP MP-50

SAMPLING COMPANY: Golder Associates Inc.
SAMPLER'S PHONE: 248-295-0135
SAMPLER'S ADDRESS: 27200 Haggerty Road, Suite B-12 Farmington Hills, Michigan, USA 48331
CLIENT REPRESENTATIVES:
REGULATORY REPRESENTATIVES:

COMMENTS: Upgradient total metals taken here

DATE FORM COMPLETED: 5/3 FORM COMPLETED BY (signature):

Well ID MW-304

GROUNDWATER SAMPLE COLLECTION RECORD

SITE IDENTIFICATION

COMPANY: Smith's Creek Landfill
FACILITY/SITE: Smith's Creek Landfill
PROJECT NUMBER: 31405076.2023
ADDRESS: 6779 Smith's Creek Rd. Smith's Creek, MI
CONTACT: Matt Williams
PHONE: (248) 459-3309

WEATHER CONDITIONS

SKY: Overcast
GROUND: wet
AIR TEMPERATURE (°F): 46F
PRECIPITATION (LAST 24 HRS): yes

WELL SECURITY

PROTECTIVE COVER: ok
BUMPER POSTS: N/A
EXTERNAL WELL ID: ok
LOCK: ok
WELL DIAMETER: 2"
CONCRETE PAD: ok

CALCULATIONS

WELL ELEVATION (FT/MSL):
DEPTH TO WATER (FT): 26.0
GROUNDWATER ELEVATION (FT/MSL):
TOTAL WELL DEPTH (FT): 75.7
WELL STICK-UP (FT):
WATER VOLUME IN CASING (GALLONS): 7.9

PURGING

INITIAL PURGE DATE: 5/3/23
INITIAL PURGE TIME: 1145

STABILIZATION READINGS

	1	2	3	4	5	6	Final
Time	1207	1229	1247				
Volume Removed (gal)	7.9	15.8	23.7				
pH (s.u.)	7.29	7.34	7.41				
Conductivity. (µmho/cm)	0.544	0.430	0.426				
Temperature (°C)	11.4	11.7	11.6				

SAMPLING

SAMPLE DATE: 5/3/23
SAMPLE TIME: 1247
TOTAL BOTTLES COLLECTED: 4+3 VOAs (4+3 VOAs for DUP)
FILTERED FOR METALS: yes
SAMPLE CLARITY: (clear), sl. turbid, m. turbid, v. turbid):
COLOR (yellow, brown, rust, grey, white, colorless):
ODOR (sulfur, LFG, musty, solvent, petrol, no odor):
SAMPLE COLLECTED BY: IC

EQUIPMENT

FIELD METER USED:
CALIBRATION TIME: 0755
PH CALIBRATION STANDARDS (s.u.): 4, 7, 10
CONDUCTIVITY STANDARD (µmho/cm): 1,413
PURIFIED WATER SUPPLIED BY: lab
PUMP/BAILER TYP MP50

SAMPLING COMPANY: Golder Associates Inc.
SAMPLER'S PHONE: 248-295-0135
SAMPLER'S ADDRESS: 27200 Haggerty Road, Suite B-12 Farmington Hills, Michigan, USA 48331
CLIENT REPRESENTATIVES:
REGULATORY REPRESENTATIVES:

COMMENTS: Duplicate (MW-213) taken here

DATE FORM COMPLETED:
FORM COMPLETED BY (signature):

Well ID MW-305

GROUNDWATER SAMPLE COLLECTION RECORD

SITE IDENTIFICATION

COMPANY: Smith's Creek Landfill
FACILITY/SITE: Smith's Creek Landfill
PROJECT NUMBER: 31405076.2023
ADDRESS: 6779 Smith's Creek Rd. Smith's Creek, MI
CONTACT: Matt Williams
PHONE: (248) 459-3309

WEATHER CONDITIONS

SKY: overcast
GROUND: moist
AIR TEMPERATURE (°F): 42F
PRECIPITATION (LAST 24 HRS):

WELL SECURITY

PROTECTIVE COVER: ok
BUMPER POSTS: N/A
EXTERNAL WELL ID: ok
LOCK: ok
WELL DIAMETER: 2"
CONCRETE PAD: ok

CALCULATIONS

WELL ELEVATION (FT/MSL):
DEPTH TO WATER (FT): 32.3
GROUNDWATER ELEVATION (FT/MSL):
TOTAL WELL DEPTH (FT): 75.8
WELL STICK-UP (FT):
WATER VOLUME IN CASING (GALLONS): 6.9

PURGING

INITIAL PURGE DATE: ~~5/2/22~~ 5/2/23
INITIAL PURGE TIME: 0946

STABILIZATION READINGS

	1	2	3	4	5	6	Final
Time	1003	1004					0850
Volume Removed (gal)	6.9	7.0					6.9
pH (s.u.)	7.42	well dry					7.48
Conductivity. (μmho/cm)	0.621						0.644
Temperature (°C)	10.8						10.4

SAMPLING

SAMPLE DATE: 5/3/23
SAMPLE TIME: 0850
TOTAL BOTTLES COLLECTED: 4+3 VOAS
FILTERED FOR METALS: yes
SAMPLE CLARITY (clear, sl. turbid, m. turbid, v. turbid): clear (circled)
COLOR (yellow, brown, rust, grey, white, colorless): colorless (circled)
ODOR (sulfur, LFG, musty, solvent, petrol, no odor): no odor (circled)
SAMPLE COLLECTED BY:

EQUIPMENT

FIELD METER USED:
CALIBRATION TIME: 0755
PH CALIBRATION STANDARDS (s.u.): 4, 7, 10
CONDUCTIVITY STANDARD (μmho/cm): 1,413
PURIFIED WATER SUPPLIED BY: lab
PUMP/BAILER TYP: MP-50

SAMPLING COMPANY: Golder Associates Inc.
SAMPLER'S PHONE: 248-295-0135
SAMPLER'S ADDRESS: 27200 Haggerty Road, Suite B-12 Farmington Hills, Michigan, USA 48331
CLIENT REPRESENTATIVES:
REGULATORY REPRESENTATIVES:

COMMENTS:

Went dry on 11/17

DATE FORM COMPLETED: 5/3 FORM COMPLETED BY (signature): [signature]

Sample ID SW-U2

SURFACE WATER SAMPLE COLLECTION RECORD

SITE IDENTIFICATION

COMPANY: Smith's Creek Landfill
FACILITY/SITE: Smith's Creek Landfill
PROJECT NUMBER: 20141318
ADDRESS: 6779 Smith's Creek Rd. Smith's Creek, MI
CONTACT: Matt Williams
PHONE: (248) 459-3309

WEATHER CONDITIONS DURING SAMPLING

SKY: Sunny
WIND (mph): 0mph
AIR TEMPERATURE (°F): 54F

SAMPLING

SAMPLE DATE: 5/4/23
SAMPLE TIME: 1007
TOTAL BOTTLES COLLECTED: 4
FILTERED FOR METALS: no
SAMPLE CLARIT clear
SAMPLE COLOR: none
SAMPLE ODOR: none

FIELD MEASUREMENTS

FIELD MEASUREMENT TIME: 1005
FINAL pH (S.U.): 7.11
FINAL CONDUCTIVITY (µMHO/CM): 0.337
SAMPLE TEMPERATURE (°C): 12.1
DISSOLVED OXYGEN (mg/L):

EQUIPMENT

FIELD METER USED:
CALIBRATION TIME: 0820
FINAL CALIBRATION pH:
FINAL CALIBRATION SC:
DEIONIZED WATER SUPPLIED BY: lab

SAMPLE COLLECTED BY: IC
SAMPLING COMPANY: Golder Associates Inc.
SAMPLER'S PHONE: 248-295-0135
SAMPLER'S ADDRESS: 27200 Haggerty Road, Suite B-12 Farmington Hills, Michigan, USA 48331
CLIENT REPRESENTATIVES:
REGULATORY REPRESENTATIVES:

COMMENTS:

DATE FORM COMPLETED: 5/4/23 FORM COMPLETED BY (signature):

SAMPLE ID: Leachate

LEACHATE SAMPLE COLLECTION RECORD

SITE IDENTIFICATION

COMPANY: Smith's Creek Landfill
FACILITY/SITE: Smith's Creek Landfill
PROJECT NUMBER: 31405076.2023
ADDRESS: 6779 Smith's Creek Rd. Smith's Creek, MI
CONTACT: Matt Williams
PHONE: (248) 459-3309

WEATHER CONDITIONS DURING SAMPLING

SKY: Sunny
WIND (mph): 0mph
AIR TEMPERATURE (°F): 54F

SAMPLING

SAMPLE DATE: 5/4/23
SAMPLE TIME: 0940
TOTAL BOTTLES COLLECTED: 7 + 3 VOAS
FILTERED FOR METALS: NO
SAMPLE CLARITY: black
SAMPLE COLOR: black
SAMPLE ODOR: strong

FIELD MEASUREMENTS

FIELD MEASUREMENT TIME: 0920
FINAL pH (S.U.): 2.99
FINAL CONDUCTIVITY (µMHO/CM): 1,137
SAMPLE TEMPERATURE (°C): 14.1

EQUIPMENT

FIELD METER USED:
CALIBRATION TIME: 0820
FINAL CALIBRATION pH:
FINAL CALIBRATION SC:
FILTER TYPE USED:
PUMP OR BAILER USED:

SAMPLE COLLECTED BY: IC
SAMPLING COMPANY: Golder Associates Inc.
SAMPLER'S PHONE: 248-295-0135
SAMPLER'S ADDRESS: 27200 Haggerty Road, Suite B-12 Farmington Hills, Michigan, USA 48331
CLIENT REPRESENTATIVES:
REGULATORY REPRESENTATIVES:

COMMENTS:

DATE FORM COMPLETED: 5/4/23 FORM COMPLETED BY (signature):

Sample ID SW-D2

SURFACE WATER SAMPLE COLLECTION RECORD

SITE IDENTIFICATION

COMPANY: Smith's Creek Landfill
FACILITY/SITE: Smith's Creek Landfill
PROJECT NUMBER: 31405076.2023
ADDRESS: 6779 Smith's Creek Rd. Smith's Creek, MI
CONTACT: Matt Williams
PHONE: (248) 459-3309

WEATHER CONDITIONS DURING SAMPLING

SKY: Sunny
WIND (mph): 0mph
AIR TEMPERATURE (°F): 53F

SAMPLING

SAMPLE DATE: 5/4/23
SAMPLE TIME: 0905
TOTAL BOTTLES COLLECTED: 4
FILTERED FOR METALS: no
SAMPLE CLARIT clear
SAMPLE COLOR: none
SAMPLE ODOR: none

FIELD MEASUREMENTS

FIELD MEASUREMENT TIME: 0903
FINAL pH (S.U.): 8.21
FINAL CONDUCTIVITY (µMHO/CM): 0.431
SAMPLE TEMPERATURE (°C): 9.1
DISSOLVED OXYGEN (mg/L):

EQUIPMENT

FIELD METER USED:
CALIBRATION TIME: 0820
FINAL CALIBRATION pH:
FINAL CALIBRATION SC:
DEIONIZED WATER SUPPLIED BY: lab

SAMPLE COLLECTED BY: IC
SAMPLING COMPANY: Golder Associates Inc.
SAMPLER'S PHONE: 248-295-0135
SAMPLER'S ADDRESS: 27200 Haggerty Road, Suite B-12 Farmington Hills, Michigan, USA 48331
CLIENT REPRESENTATIVES:
REGULATORY REPRESENTATIVES:

COMMENTS:

DATE FORM COMPLETED: 5/4/23 FORM COMPLETED BY (signature):

Sample ID SW-DA1

SURFACE WATER SAMPLE COLLECTION RECORD

SITE IDENTIFICATION

COMPANY: Smith's Creek Landfill
FACILITY/SITE: Smith's Creek Landfill
PROJECT NUMBER: 31405076.2023
ADDRESS: 6779 Smith's Creek Rd. Smith's Creek, MI
CONTACT: Matt Williams
PHONE: (248) 459-3309

WEATHER CONDITIONS DURING SAMPLING

SKY: Sunny
WIND (mph): 5mph, ENE
AIR TEMPERATURE (°F): 50F

SAMPLING

SAMPLE DATE: 5/4/23
SAMPLE TIME: 0845
TOTAL BOTTLES COLLECTED: 4
FILTERED FOR METALS: no
SAMPLE CLARIT Clear
SAMPLE COLOR: none
SAMPLE ODOR: none

FIELD MEASUREMENTS

FIELD MEASUREMENT TIME: 0844
FINAL pH (S.U.): 8.02
FINAL CONDUCTIVITY (µMHO/CM): 0.386
SAMPLE TEMPERATURE (°C): 9.7
DISSOLVED OXYGEN (mg/L):

EQUIPMENT

FIELD METER USED:
CALIBRATION TIME: 0820
FINAL CALIBRATION pH:
FINAL CALIBRATION SC:
DEIONIZED WATER SUPPLIED BY: Lab

SAMPLE COLLECTED BY: IC
SAMPLING COMPANY: Golder Associates Inc.
SAMPLER'S PHONE: 248-295-0135
SAMPLER'S ADDRESS: 27200 Haggerty Road, Suite B-12 Farmington Hills, Michigan, USA 48331
CLIENT REPRESENTATIVES:
REGULATORY REPRESENTATIVES:

COMMENTS:

DATE FORM COMPLETED: 5/4/23 FORM COMPLETED BY (signature):

Sample ID SW-U1

SURFACE WATER SAMPLE COLLECTION RECORD

SITE IDENTIFICATION

COMPANY: Smith's Creek Landfill
FACILITY/SITE: Smith's Creek Landfill
PROJECT NUMBER: 20141318
ADDRESS: 6779 Smith's Creek Rd. Smith's Creek, MI
CONTACT: Matt Williams
PHONE: (248) 459-3309

WEATHER CONDITIONS DURING SAMPLING

SKY: SUNNY
WIND (mph): 5, ENE
AIR TEMPERATURE (°F): 50F

SAMPLING

SAMPLE DATE: 5/4/23
SAMPLE TIME: 0825
TOTAL BOTTLES COLLECTED: 4
FILTERED FOR METALS: no
SAMPLE CLARIT clear
SAMPLE COLOR: none
SAMPLE ODOR: none

FIELD MEASUREMENTS

FIELD MEASUREMENT TIME: 0828
FINAL pH (S.U.): 7.07
FINAL CONDUCTIVITY (µMHO/CM): 0.346
SAMPLE TEMPERATURE (°C): 8.3
DISSOLVED OXYGEN (mg/L):

EQUIPMENT

FIELD METER USED:
CALIBRATION TIME: 0820
FINAL CALIBRATION pH:
FINAL CALIBRATION SC:
DEIONIZED WATER SUPPLIED BY: lab

SAMPLE COLLECTED BY: IC
SAMPLING COMPANY: Golder Associates Inc.
SAMPLER'S ADDRESS: 27200 Haggerty Road, Suite B-12 Farmington Hills, Michigan, USA 48331
SAMPLER'S PHONE: 248-295-0135
CLIENT REPRESENTATIVES:
REGULATORY REPRESENTATIVES:

COMMENTS:

DATE FORM COMPLETED: 5/4/23
FORM COMPLETED BY (signature):

Sample ID SW-U1

SURFACE WATER SAMPLE COLLECTION RECORD

SITE IDENTIFICATION

COMPANY: St. Clair County
FACILITY/SITE: Smiths Creek Landfill
ADDRESS: 6779 Smiths Creek Rd., 48074
CONTACT: Matt Williams
PHONE: 248-459-3309

WEATHER CONDITIONS DURING SAMPLING

SKY: Sunny
WIND (mph): 0
AIR TEMPERATURE (°F): 63

SAMPLING ☐ NOT COLLECTED

SAMPLE DATE: 5/24/23
SAMPLE TIME: 1146
TOTAL BOTTLES COLLECTED: 6
SAMPLE FILTERED DURING COLLECTION? ☐
SAMPLE CLARIT clear
SAMPLE COLOR: none
SAMPLE ODOR: none

FIELD MEASUREMENTS

FIELD MEASUREMENT TIME: 1143
FINAL pH (S.U.): 7.10
FINAL CONDUCTIVITY (µMHO/CM): 0.337
SAMPLE TEMPERATURE (°C): 12.0
DISSOLVED OXYGEN (mg/L)::

EQUIPMENT

FIELD METER USED:
INITIAL CALIBRATION TIME: 0700
FINAL CALIBRATION TIME: 0710
FINAL CALIBRATION pH: 4,7,10
FINAL CALIBRATION SC: 1,413
DEIONIZED WATER SUPPLIED BY: lab

SAMPLE COLLECTED BY: Ian Cisco
SAMPLING COMPANY: WSP USA Inc.
SAMPLER'S PHONE: 248-295-0135
SAMPLER'S ADDRESS: 27200 Haggerty Road, Ste B-12, Farmington Hills, Michigan
CLIENT REPRESENTATIVES:
REGULATORY REPRESENTATIVES:

COMMENTS:

Sample ID SW-U2

SURFACE WATER SAMPLE COLLECTION RECORD

SITE IDENTIFICATION

COMPANY: St. Clair County
FACILITY/SITE: Smiths Creek Landfill
ADDRESS: 6779 Smiths Creek Rd., 48074
CONTACT: Matt Williams
PHONE: 248-459-3309

WEATHER CONDITIONS DURING SAMPLING

SKY: clear
WIND (mph): 0
AIR TEMPERATURE (°F): 60F

SAMPLING ☐ NOT COLLECTED

SAMPLE DATE: 5/24/23
SAMPLE TIME: 1125
TOTAL BOTTLES COLLECTED: 6
SAMPLE FILTERED DURING COLLECTION? ☐
SAMPLE CLARIT clear/some debris
SAMPLE COLOR: clear
SAMPLE ODOR: none

FIELD MEASUREMENTS

FIELD MEASUREMENT TIME: 1123
FINAL pH (S.U.): 7.16
FINAL CONDUCTIVITY (µMHO/CM): 0.367
SAMPLE TEMPERATURE (°C): 10.3
DISSOLVED OXYGEN (mg/L)::

EQUIPMENT

FIELD METER USED:
INITIAL CALIBRATION TIME: 0700
FINAL CALIBRATION TIME: 0710
FINAL CALIBRATION pH: 4,7,10
FINAL CALIBRATION SC: 1.413
DEIONIZED WATER SUPPLIED BY: lab

SAMPLE COLLECTED BY: Ian Cisco
SAMPLING COMPANY: WSP USA Inc.
SAMPLER'S PHONE: 248-295-0135
SAMPLER'S ADDRESS: 27200 Haggerty Road, Ste B-12, Farmington Hills, Michigan
CLIENT REPRESENTATIVES:
REGULATORY REPRESENTATIVES:

COMMENTS:

Sample ID SW-D1A

SURFACE WATER SAMPLE COLLECTION RECORD

SITE IDENTIFICATION

COMPANY: St. Clair County
FACILITY/SITE: Smith's Creek Landfill
ADDRESS: 6779 Smith's Creek Rd., 48074
CONTACT: Matt Williams
PHONE: 248-459-3309

WEATHER CONDITIONS DURING SAMPLING

SKY: clear
WIND (mph): 0
AIR TEMPERATURE (°F): 62F

SAMPLING ☐ NOT COLLECTED

SAMPLE DATE: 5/24/23
SAMPLE TIME: 1157
TOTAL BOTTLES COLLECTED: 6
SAMPLE FILTERED DURING COLLECTION? ☐
SAMPLE CLARIT clear, some debris
SAMPLE COLOR: none
SAMPLE ODOR: none

FIELD MEASUREMENTS

FIELD MEASUREMENT TIME: 1155
FINAL pH (S.U.): 7.97
FINAL CONDUCTIVITY (µMHO/CM): 0.379
SAMPLE TEMPERATURE (°C): 10.5
DISSOLVED OXYGEN (mg/L)::

EQUIPMENT

FIELD METER USED:
INITIAL CALIBRATION TIME: 0706
FINAL CALIBRATION TIME: 0710
FINAL CALIBRATION pH: 4,7,10
FINAL CALIBRATION SC: 1,413
DEIONIZED WATER SUPPLIED BY: lab

SAMPLE COLLECTED BY: Ian Ciso
SAMPLING COMPANY: WSP USA Inc.
SAMPLER'S PHONE: 248-295-0135
SAMPLER'S ADDRESS: 27200 Haggerty Road, Ste B-12, Farmington Hills, Michigan
CLIENT REPRESENTATIVES:
REGULATORY REPRESENTATIVES:

COMMENTS:

Sample ID SW-D2

SURFACE WATER SAMPLE COLLECTION RECORD

SITE IDENTIFICATION

COMPANY: St. Clair County
FACILITY/SITE: Smiths Creek Landfill
ADDRESS: 6779 Smiths Creek Rd., 48074
CONTACT: Matt Williams
PHONE: 248-459-3309

WEATHER CONDITIONS DURING SAMPLING

SKY: clear
WIND (mph): 6
AIR TEMPERATURE (°F): 64F

SAMPLING ☐ NOT COLLECTED

SAMPLE DATE: 5/24/23
SAMPLE TIME: 1209
TOTAL BOTTLES COLLECTED: 6
SAMPLE FILTERED DURING COLLECTION? ☐
SAMPLE CLARIT murky/muddy
SAMPLE COLOR: brown
SAMPLE ODOR: none

FIELD MEASUREMENTS

FIELD MEASUREMENT TIME: 1208
FINAL pH (S.U.): 8.04
FINAL CONDUCTIVITY (µMHO/CM): 0.446
SAMPLE TEMPERATURE (°C): 10.7
DISSOLVED OXYGEN (mg/L)::

EQUIPMENT

FIELD METER USED:
INITIAL CALIBRATION TIME: 0700
FINAL CALIBRATION TIME: 0710
FINAL CALIBRATION pH: 4,7,10
FINAL CALIBRATION SC: 1,413
DEIONIZED WATER SUPPLIED BY: lab

SAMPLE COLLECTED BY: Ian Cisco
SAMPLING COMPANY: WSP USA Inc.
SAMPLER'S PHONE: 248-295-0135
SAMPLER'S ADDRESS: 27200 Haggerty Road, Ste B-12, Farmington Hills, Michigan
CLIENT REPRESENTATIVES:
REGULATORY REPRESENTATIVES:

COMMENTS:

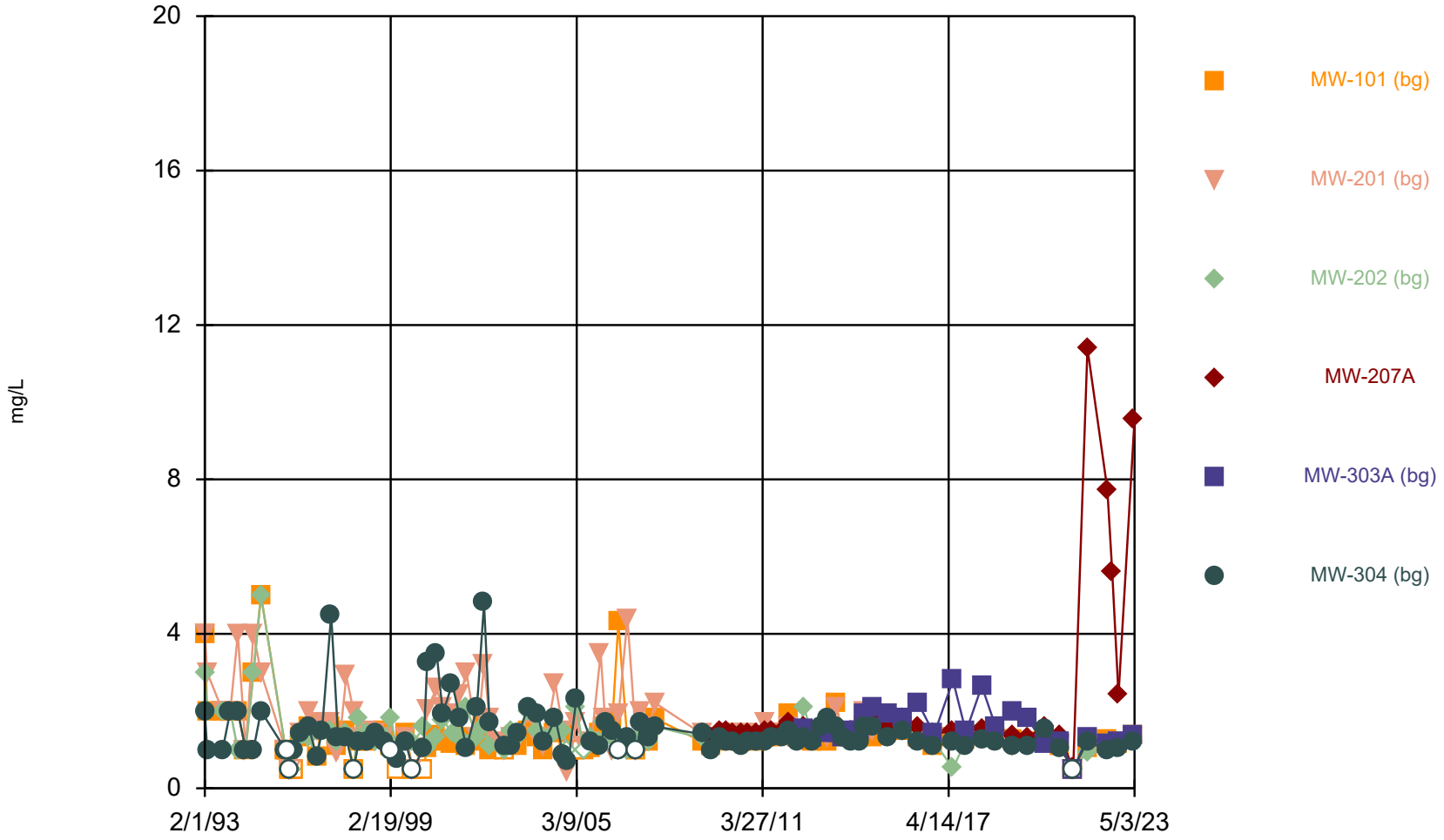
v. shallow, some silt in sample

APPENDIX C

Time Series Plots
MW-207A

Hollow symbols indicate censored values.

Time Series



Constituent: Carbon, Total Organic Analysis Run 7/3/2023 2:27 PM View: SCL SW

Smiths Creek LF Client: St. Clair County Data: Dt-scl

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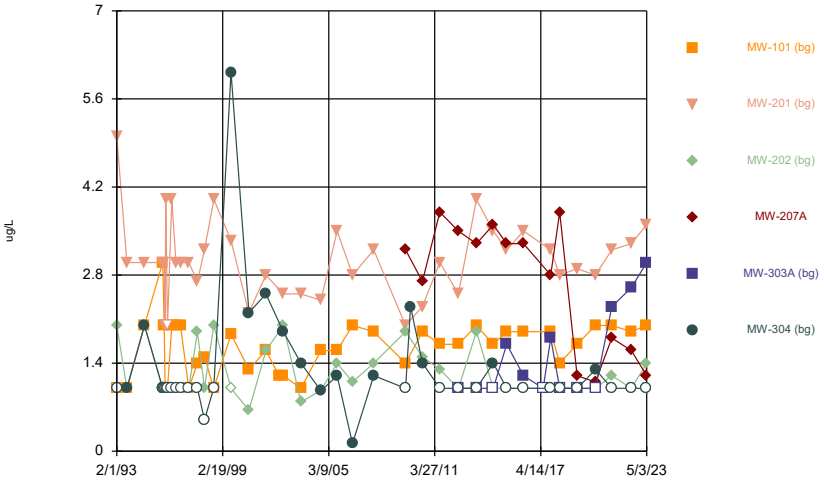
Hollow symbols indicate censored values.

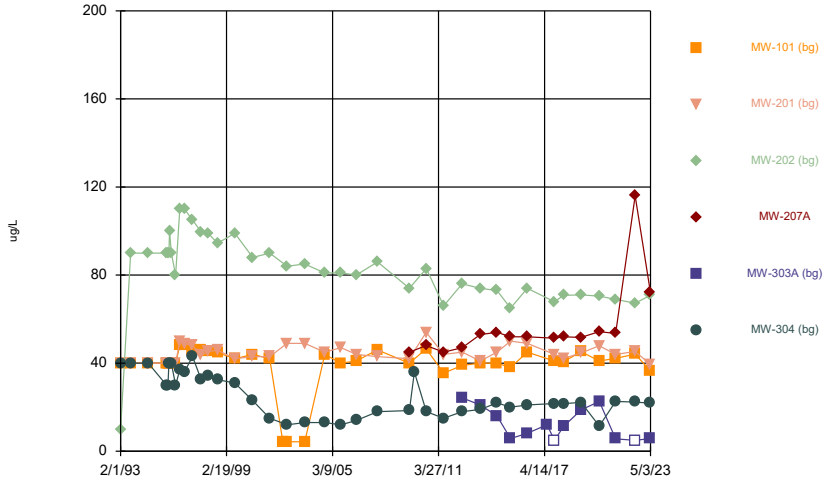
Time Series



Constituent: Arsenic Analysis Run 7/17/2023 10:36 PM View: SCL SW
Smiths Creek LF Client: St. Clair County Data: Dt-scl

Sanitas™ v.9.6.37 Software licensed to WSP. UG
Hollow symbols indicate censored values.

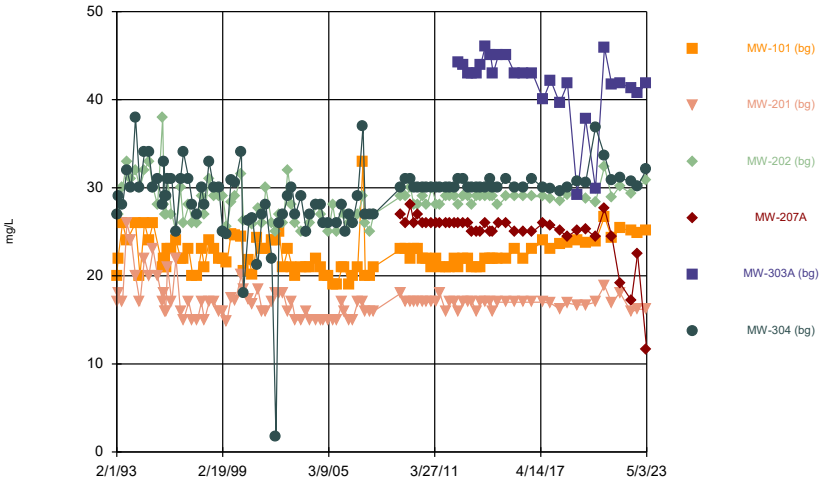
Time Series



Constituent: Barium Analysis Run 7/17/2023 10:36 PM View: SCL SW
Smiths Creek LF Client: St. Clair County Data: Dt-scl

Sanitas™ v.9.6.37 Software licensed to WSP. UG

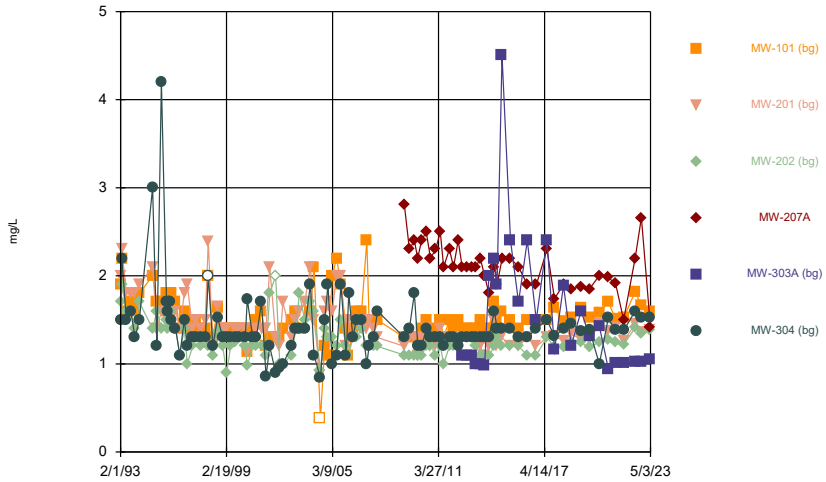
Time Series



Constituent: Chloride Analysis Run 7/17/2023 10:36 PM View: SCL SW
Smiths Creek LF Client: St. Clair County Data: Dt-scl

Sanitas™ v.9.6.37 Software licensed to WSP. UG
Hollow symbols indicate censored values.

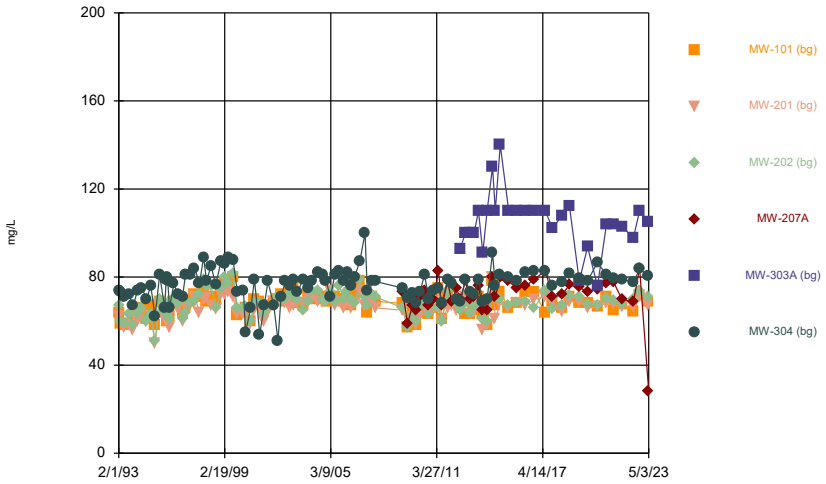
Time Series



Constituent: Potassium Analysis Run 7/17/2023 10:36 PM View: SCL SW
Smiths Creek LF Client: St. Clair County Data: Dt-scl

Sanitas™ v.9.6.37 Software licensed to WSP. UG

Time Series



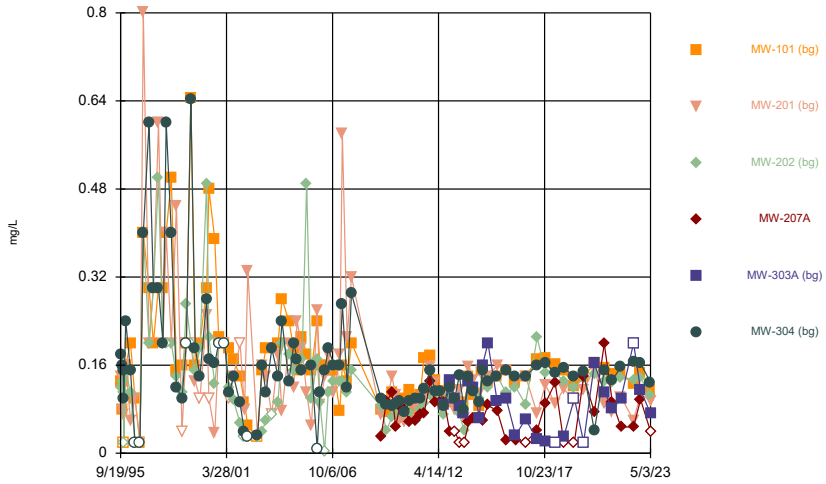
Constituent: Sodium Analysis Run 7/17/2023 10:37 PM View: SCL SW

Smiths Creek LF Client: St. Clair County Data: Dt-scl

Sanitas™ v.9.6.37 Software licensed to WSP. UG

Hollow symbols indicate censored values.

Time Series



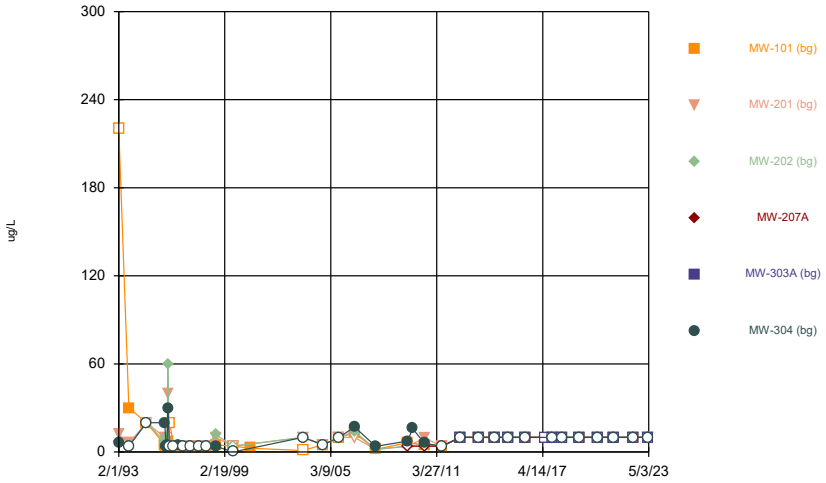
Constituent: Total Inorganic Nitrogen Analysis Run 7/17/2023 10:37 PM View: SCL SW

Smiths Creek LF Client: St. Clair County Data: Dt-scl

Sanitas™ v.9.6.37 Software licensed to WSP. UG

Hollow symbols indicate censored values.

Time Series



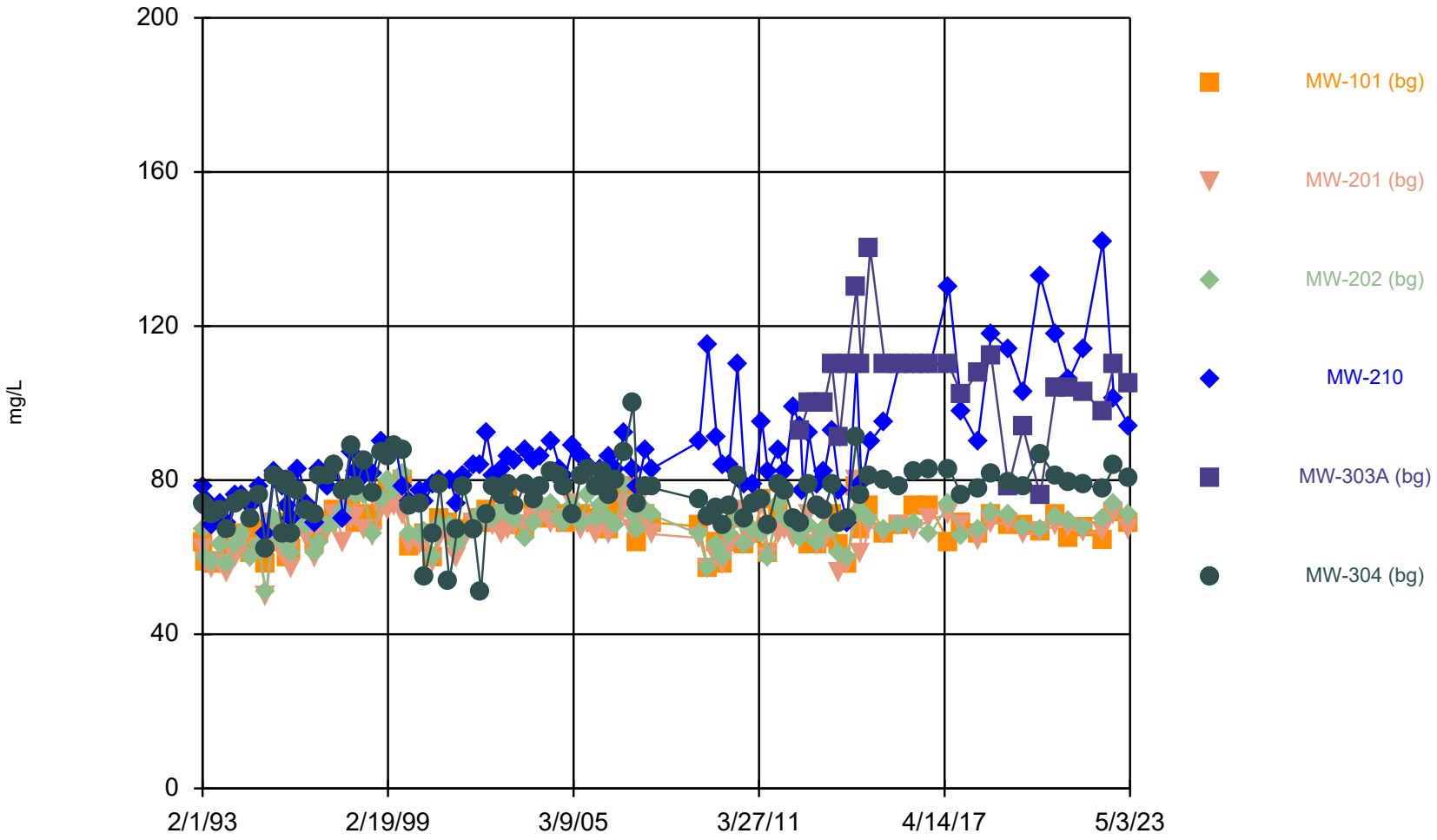
Constituent: Zinc Analysis Run 7/17/2023 10:37 PM View: SCL SW

Smiths Creek LF Client: St. Clair County Data: Dt-scl

APPENDIX D

Time Series Plots
MW-210

Time Series



Constituent: Sodium Analysis Run 7/3/2023 2:58 PM View: SCL SW

Smiths Creek LF Client: St. Clair County Data: Dt-scl

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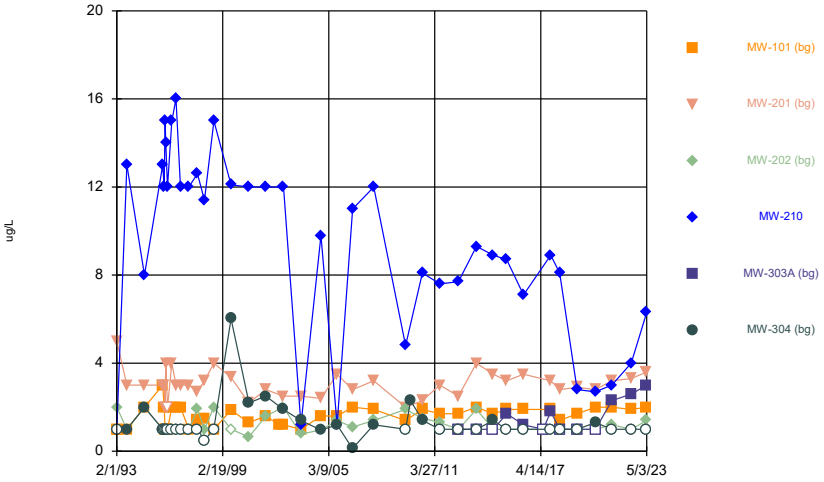
Hollow symbols indicate censored values.

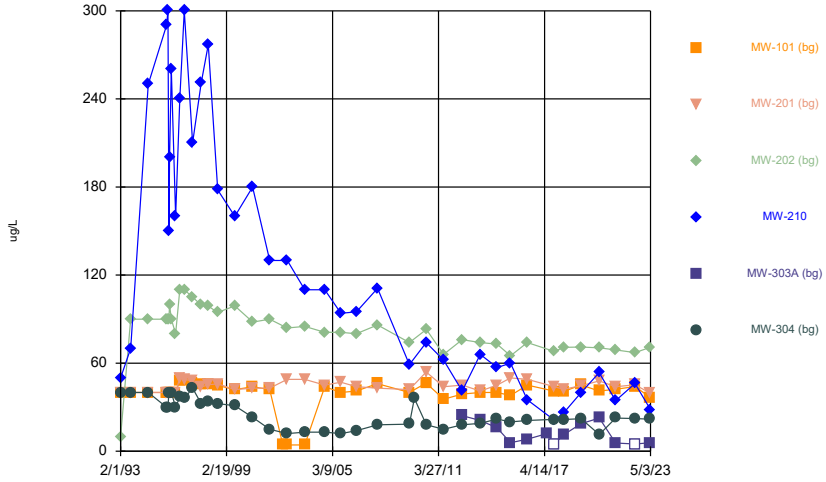
Time Series



Constituent: Arsenic Analysis Run 7/17/2023 10:42 PM View: SCL SW
Smiths Creek LF Client: St. Clair County Data: Dt-scl

Sanitas™ v.9.6.37 Software licensed to WSP. UG
Hollow symbols indicate censored values.

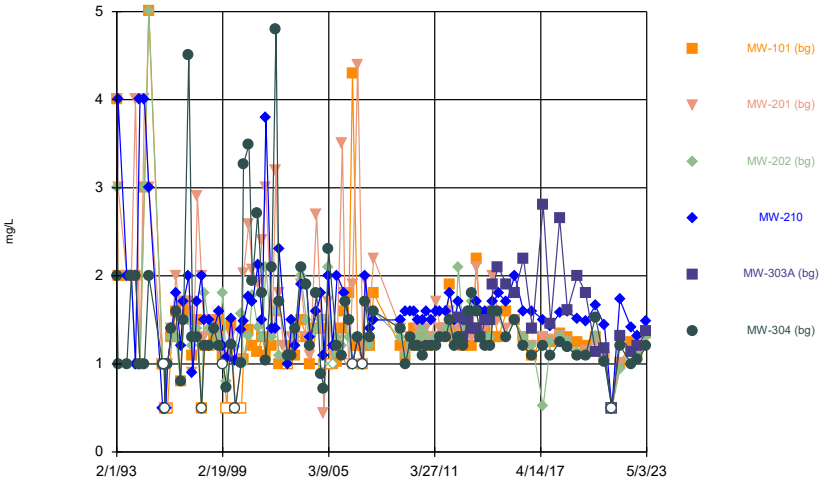
Time Series



Constituent: Barium Analysis Run 7/17/2023 10:42 PM View: SCL SW
Smiths Creek LF Client: St. Clair County Data: Dt-scl

Sanitas™ v.9.6.37 Software licensed to WSP. UG
Hollow symbols indicate censored values.

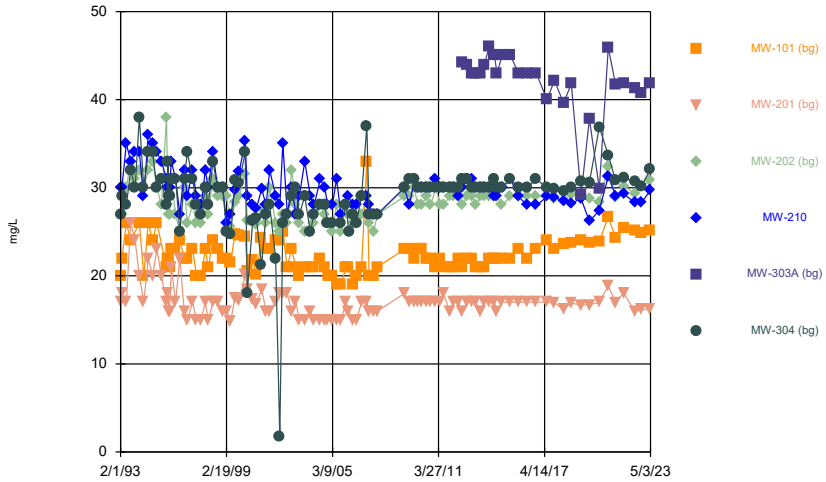
Time Series



Constituent: Carbon, Total Organic Analysis Run 7/17/2023 10:42 PM View: SCL SW
Smiths Creek LF Client: St. Clair County Data: Dt-scl

Sanitas™ v.9.6.37 Software licensed to WSP. UG

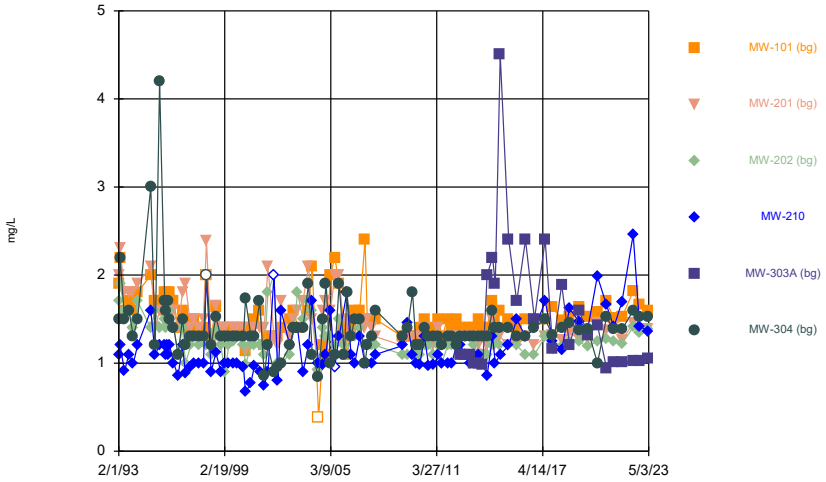
Time Series



Constituent: Chloride Analysis Run 7/17/2023 10:42 PM View: SCL SW
Smiths Creek LF Client: St. Clair County Data: Dt-scl

Sanitas™ v.9.6.37 Software licensed to WSP. UG
Hollow symbols indicate censored values.

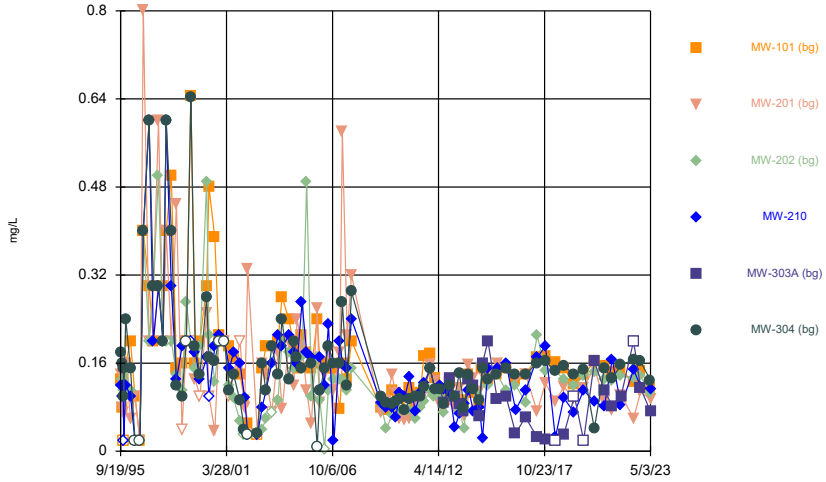
Time Series



Constituent: Potassium Analysis Run 7/17/2023 10:42 PM View: SCL SW
Smiths Creek LF Client: St. Clair County Data: Dt-scl

Sanitas™ v.9.6.37 Software licensed to WSP. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Total Inorganic Nitrogen Analysis Run 7/17/2023 10:42 PM View: SCL SW
Smiths Creek LF Client: St. Clair County Data: Dt-scl