Prepared for
We Energies

Date
January 31, 2024

Project No.
1940102327

2023 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

PRESQUE ISLE POWER PLANT

ASH LANDFILL NO. 3

RAMBOLL Bright ideas. Sustainable change.

2023 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
PRESQUE ISLE POWER PLANT
ASH LANDFILL NO. 3

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Recipient	**We Energies**
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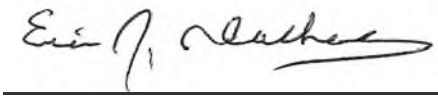

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ACRONYMS AND ABBREVIATIONS

§	Section
40 C.F.R.	Title 40 of the Code of Federal Regulations
ASD	Alternate Source Demonstration
CCR	Coal Combustion Residuals
GWPS	groundwater protection standard
NA	not applicable
No.	number
PIPP	Presque Isle Power Plant
Ramboll	Ramboll Americas Engineering Solutions, Inc.
SAP	Sampling and Analysis Plan
SSI	Statistically Significant Increase
TBD	To be Determined

EXECUTIVE SUMMARY

This report has been prepared to provide the information required by Title 40 of the Code of Federal Regulations (40 C.F.R.) Section (§) 257.90(e) for the Ash Landfill located at the Presque Isle Power Plant (PIPP) in Marquette, Michigan.

Groundwater is being monitored at PIPP Ash Landfill Number (No.) 3 in accordance with the Detection Monitoring Program requirements specified in 40 C.F.R. § 257.94.

No changes were made to the monitoring system in 2023 (no wells were installed or decommissioned).

In 2023, groundwater analytical data was evaluated for statistically significant increases (SSIs) over background concentrations for 40 C.F.R. § 257 Appendix III constituents in groundwater monitoring wells at PIPP Ash Landfill No. 3. The following constituents and wells had SSIs reported in 2023:

- Calcium at wells MW70, MW80PR, and MW95
- pH at well MW80PR
- Total Dissolved Solids (TDS) at well MW80PR

Previously prepared Alternate Source Demonstrations (ASDs) demonstrated that sources other than PIPP Ash Landfill No. 3 were the cause of the SSIs listed above.

PIPP Ash Landfill No. 3 remains in the Detection Monitoring Program in accordance with 40 C.F.R. § 257.94.

1. INTRODUCTION

This report has been prepared by Ramboll Americas Engineering Solutions, Inc. (Ramboll) on behalf of We Energies, to provide the information required by 40 C.F.R. § 257.90(e) for the PIPP Ash Landfill No. 3 located in Marquette, Michigan.

In accordance with 40 C.F.R. § 257.90(e), the owner or operator of a coal combustion residuals (CCR) unit must prepare an Annual Groundwater Monitoring and Corrective Action Report for the preceding calendar year that documents the status of the Groundwater Monitoring and Corrective Action Program for the CCR unit (**Section 2**), summarizes key actions completed (**Section 3**), describes any problems encountered, discusses actions to resolve the problems (**Section 4**), and projects key activities for the upcoming year (**Section 5**). At a minimum, the annual report must contain the following information, to the extent available:

1. A map, aerial image, or diagram showing the CCR unit and all background (or upgradient) and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program for the CCR unit (**Figure 1**).
2. Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken (**Section 3)**.
3. In addition to all the monitoring data obtained under §§ 257.90 through 257.98 (**Tables 1 and 2**), a summary including the number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the Detection Monitoring or Assessment Monitoring Programs (**Section 3 and Table A**).
4. A narrative discussion of any transition between monitoring programs (*e.g.*, the date and circumstances for transitioning from Detection Monitoring to Assessment Monitoring (**Section 2**) in addition to identifying the constituent(s) detected at a statistically significant increase relative to background levels) (**Table A**).
5. Other information required to be included in the annual report as specified in §§ 257.90 through 257.98.
6. A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit (**Executive Summary**). At a minimum, the summary must specify all of the following:
    i. At the start of the current annual reporting period, whether the CCR unit was operating under the Detection Monitoring Program in § 257.94 or the Assessment Monitoring Program in § 257.95.
    ii. At the end of the current annual reporting period, whether the CCR unit was operating under the Detection Monitoring Program in § 257.94 or the Assessment Monitoring Program in § 257.95.
    iii. If it was determined that there was a statistically significant increase over background for one or more constituents listed in Appendix III of § 257 pursuant to § 257.94(e):
        A. Identify those constituents listed in Appendix III of § 257 and the names of the monitoring wells associated with such an increase.

B. Provide the date when the Assessment Monitoring Program was initiated for the CCR unit.

iv. If it was determined that there was a statistically significant level above the groundwater protection standard [GWPS] for one or more constituents listed in Appendix IV of § 257 pursuant to § 257.95(g) include all of the following:

A. Identify those constituents listed in Appendix IV of § 257 and the names of the monitoring wells associated with such an increase.

B. Provide the date when the assessment of corrective measures was initiated for the CCR unit.

C. Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit.

D. Provide the date when the assessment of corrective measures was completed for the CCR unit.

v. Whether a remedy was selected pursuant to § 257.97 during the current annual reporting period, and if so, the date of remedy selection.

vi. Whether remedial activities were initiated or are ongoing pursuant to § 257.98 during the current annual reporting period.

This report provides the required information for PIPP Ash Landfill No. 3 for calendar year 2023.

2. MONITORING AND CORRECTIVE ACTION PROGRAM STATUS

No changes have occurred to the monitoring program status in calendar year 2023 and PIPP Ash Landfill No. 3 remains in the Detection Monitoring Program in accordance with 40 C.F.R. § 257.94.

3. KEY ACTIONS COMPLETED IN 2023

The Detection Monitoring Program is summarized in **Table A** on the following page. The groundwater monitoring system, including the CCR unit and all background (upgradient) and downgradient monitoring wells, is presented in **Figure 1**. No changes were made to the monitoring system in 2023. In general, one groundwater sample was collected from each background and downgradient well during each monitoring event. All samples were collected and analyzed in accordance with the Sampling and Analysis Plan – Revision 1 (SAP; Natural Resource Technology, Inc., 2015). Potentiometric surface maps for the fourth quarter of 2022 and both monitoring events in 2023 are included in **Figures 2 through 4**. Water level data, collected from background and downgradient monitoring wells, are included in **Table 1**. All monitoring data and analytical results obtained under 40 C.F.R. §§ 257.90 through 257.98 (as applicable) in the fourth quarter of 2022 and both monitoring events in 2023 are presented in **Table 2**. Laboratory reports for both 2023 monitoring events are included in **Appendix A**[1].

Analytical data were evaluated in accordance with the Statistical Analysis Plan (Natural Resource Technology, Inc., an OBG Company, 2017) to determine any SSIs of Appendix III parameters relative to background concentrations. Statistical background values are provided in **Table 3**. A flow chart showing the statistical methodology for determination of background values is included as **Appendix B**.

Statistical evaluation, including SSI determinations, of analytical data from the Detection Monitoring Program for the November 8-9, 2022 (Detection Monitoring Round 11) and May 23-24, 2023 (Detection Monitoring Round 12) sampling events were completed in 2023 and within 90 days of receipt of the analytical data. SSIs over background concentrations for Appendix III constituents were identified; SSI parameters and well locations are provided in **Table A**.

The SSIs determined in 2023 were also determined in previous sampling events. Potential alternate sources and natural variation were evaluated following those previous sampling events as outlined in the 40 C.F.R. § 257.94(e)(2). ASDs were completed and certified by a qualified professional engineer. The dates ASDs were completed are provided in the notes of **Table A**.

[1] Laboratory reports for the fourth quarter of 2022 monitoring event were provided in the 2022 annual report.

Table A. 2022-2023 Detection Monitoring Program Summary

Sampling Date	Analytical Data Receipt Date	Parameters Collected	SSI Wells (Parameters)	SSI(s) Determination Date	ASD Completion Date [1]
November 8-9, 2022	December 28, 2022	Appendix III	MW70, MW80PR, and MW95 (Calcium)	March 28, 2023	NA
May 22-24, 2023	June 20, 2023	Appendix III	MW70 and MW80PR (Calcium) MW80PR (pH) MW80PR (TDS)	September 18, 2023	NA
November 14-15, 2023	January 4, 2024	Appendix III	TBD	TBD before April 4, 2024	NA

Notes:

ASD: Alternate Source Demonstration

NA: not applicable

SSI: statistically significant increase

[1] The ASD previously completed on April 15, 2018 for the PIPP Ash Landfill No. 3 provided a description, data, and pertinent information supporting an alternate source for the wells and parameters with SSIs during the November 8-9, 2022 and May 22-24, 2023 sampling events.

4. PROBLEMS ENCOUNTERED AND ACTIONS TO RESOLVE THE PROBLEMS

No problems were encountered with the Groundwater Monitoring Program during 2023. Groundwater samples were collected and analyzed in accordance with the SAP and all data were accepted.

5. KEY ACTIVITIES PLANNED FOR 2024

The following key activities are planned for 2024:

- Continuation of the Detection Monitoring Program with semi-annual sampling scheduled for the second and fourth quarters of 2024.
- Complete evaluation of analytical data from the downgradient wells using background data to determine whether an SSI of Appendix III parameters detected at concentrations greater than background concentrations has occurred.
- If an SSI is identified, potential alternate sources (*i.e.,* a source other than the CCR unit caused the SSI or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality) will be evaluated.
  - If an alternate source is identified to be the cause of the SSI, a written demonstration will be completed within 90 days of SSI determination and included in the 2024 Annual Groundwater Monitoring and Corrective Action Report.
  - If an alternate source(s) is not identified to be the cause of the SSI, the applicable requirements of 40 C.F.R. §§ 257.94 through 257.98 as may apply in 2024 (*e.g.,* Assessment Monitoring) will be met, including associated recordkeeping/notifications required by 40 C.F.R. §§ 257.105 through 257.108.

6. REFERENCES

Natural Resource Technology, Inc., 2015, *Sampling and Analysis Plan-Revision 1, Presque Isle Power Plant Ash Landfill No. 3, Marquette, Michigan, December 8, 2015.*

Natural Resource Technology, an OBG Company, 2017, *Statistical Analysis Plan, Presque Isle Power Plant Ash Landfill No. 3, Marquette, Michigan, October 17, 2017.*

TABLES

Presque Isle-CCR
Table 1. Groundwater Elevations

Date Range: 11/01/2022 to 12/31/2023

Well Id	Date Sampled	Lab Id	GW Elv, ft
MW70	11/08/2022	AE64064	820.96
	05/24/2023	AE67090	824.78
	11/15/2023	AE70340	822.08
MW79	11/08/2022	AE64062	819.90
	05/23/2023	AE67088	823.52
	11/15/2023	AE70335	820.71
MW80PR	11/08/2022	AE64063	816.95
	05/23/2023	AE67089	823.35
	11/15/2023	AE70334	818.04
MW85	11/09/2022	AE64067	822.22
	05/24/2023	AE67092	825.26
	11/15/2023	AE70337	823.48
MW86	11/09/2022	AE64068	858.68
	05/24/2023	AE67093	858.35
	11/15/2023	AE70338	858.46
MW87	11/08/2022	AE64066	820.57
	05/24/2023	AE67094	830.63
	11/15/2023	AE70339	821.44
MW95	11/08/2022	AE64061	820.71
	05/23/2023	AE67087	826.92
	11/15/2023	AE70336	821.70

Presque Isle-CCR
Table 2. Analytical Results - Appendix III Parameters

Date Range: 11/01/2022 to 12/31/2023
Lab Methods:

Well Id	Date Sampled	Lab Id	B, tot, mg/L	Ca, tot, mg/L	Cl, tot, mg/L	F, tot, mg/L	pH (field), STD	SO4, tot, mg/L
MW70	11/8/2022	AE64064	0.0119	23.8000	0.76	<0.10	7.3	4.2
	5/24/2023	AE67090	<0.0173	31.2000	0.96	<0.10	7.7	3.4
	11/15/2023	AE70340	0.0099	21.4000	<3.00	<0.48	7.4	3.7
MW79	11/8/2022	AE64062	0.0242	15.1000	0.72	<0.10	5.9	4.6
	5/23/2023	AE67088	0.0218	8.6600	0.92	<0.10	6.9	4.1
	11/15/2023	AE70335	0.0194	11.4000	<3.00	<0.48	5.9	2.4
MW80PR	11/8/2022	AE64063	0.0110	52.0000	4.10	<0.10	7.8	5.2
	5/23/2023	AE67089	<0.0173	52.9000	3.90	<0.10	8.6	5.5
	11/15/2023	AE70334	0.0111	47.8000	4.70	<0.48	7.8	5.5
MW85	11/9/2022	AE64067	0.0124	4.7400	0.83	<0.10	7.0	3.2
	5/24/2023	AE67092	<0.0173	10.2000	0.91	<0.10	8.2	2.7
	11/15/2023	AE70337	0.0123	7.2100	<3.00	<0.48	6.4	2.5
MW86	11/9/2022	AE64068	0.0135	6.3100	1.90	<0.10	5.9	<0.4
	5/24/2023	AE67093	<0.0173	3.2400	4.00	<0.48	7.1	<2.2
	11/15/2023	AE70338	0.0130	8.0100	3.30	<0.48	6.0	<2.2
MW87	11/8/2022	AE64066	0.0477	10.6000	1.00	<0.10	6.9	4.6
	5/24/2023	AE67094	<0.0173	3.8800	1.10	<0.10	7.3	5.0
	11/15/2023	AE70339	0.1870	11.1000	<3.00	<0.48	6.9	10.5
MW95	11/8/2022	AE64061	0.0327	24.3000	0.66	<0.10	7.8	3.8
	5/23/2023	AE67087	0.0249	14.8000	0.98	<0.10	7.0	3.0
	11/15/2023	AE70336	0.0233	6.8200	<3.00	<0.48	6.0	3.2

Presque Isle-CCR
Table 2. Analytical Results - Appendix III Parameters

Date Range: 11/01/2022 to 12/31/2023
Lab Methods:

Well Id	Date Sampled	Lab Id	TDS, mg/L
MW70	11/8/2022	AE64064	76.0
	5/24/2023	AE67090	104.0
	11/15/2023	AE70340	64.0
MW79	11/8/2022	AE64062	40.0
	5/23/2023	AE67088	46.0
	11/15/2023	AE70335	42.0
MW80PR	11/8/2022	AE64063	142.0
	5/23/2023	AE67089	186.0
	11/15/2023	AE70334	222.0
MW85	11/9/2022	AE64067	10.0
	5/24/2023	AE67092	44.0
	11/15/2023	AE70337	28.0
MW86	11/9/2022	AE64068	86.0
	5/24/2023	AE67093	100.0
	11/15/2023	AE70338	156.0
MW87	11/8/2022	AE64066	52.0
	5/24/2023	AE67094	<8.7
	11/15/2023	AE70339	74.0
MW95	11/8/2022	AE64061	84.0
	5/23/2023	AE67087	82.0
	11/15/2023	AE70336	38.0

Notes:
Exceedance of Background

TABLE 3
STATISTICAL BACKGROUND VALUES
2023 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
PRESQUE ISLE POWER PLANT
ASH LANDFILL NO. 3
PRESQUE ISLE, MICHIGAN

Parameter	Date Range	Sample Count	Percent Non-Detects	Statistical Calculation	Statistical Background Value (LPL/UPL)
Boron (mg/L)	11/4/2015 – 08/08/2017	24	0	Non-parametric UPL	0.28
Calcium (mg/L)	11/4/2015 – 08/08/2017	24	0	Parametric UPL	16.5
Chloride (mg/L)	11/4/2015 – 08/08/2017	24	8.33	Parametric UPL	8.53
Fluoride (mg/L)	11/4/2015 – 08/08/2017	24	95.83	Non-parametric UPL	0.12
pH (field) (SU)	11/4/2015 – 08/08/2017	24	0	Parametric LPL/UPL	5.2/7.8
Sulfate (mg/L)	11/4/2015 – 08/08/2017	24	20.83	Parametric UPL	11.4
Total Dissolved Solids (mg/L)	11/4/2015 – 08/08/2017	24	0	Parametric UPL	144

Notes:
LPL = lower prediction limit (applicable for pH only)
mg/L = milligrams per liter
SU = standard units
TBD = to be determined (following collection of background data)
UPL = upper prediction limit

FIGURES

Y:\GIS\Projects\16\1660\MXD\2020Annual_GWM_CAR\Figure 1_GW Samp Well Loc_PIPP_LF3.mxd

PROJECT: 71202 | DATED: 12/10/2020 | DESIGNER: STOLZSD

DOWNGRADIENT MONITORING WELL LOCATION

UPGRADIENT MONITORING WELL LOCATION

LANDFILL NO. 3

0 200 400 Feet

MONITORING WELL LOCATION MAP

2023 ANNUAL GROUNDWATER MONIORING AND CORRECTIVE ACTION REPORT
PRESQUE ISLE POWER PLANT
ASH LANDFILL NO. 3
MARQUETTE COUNTY, MICHIGAN

FIGURE 1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

GROUNDWATER MONITORING WELL

GROUNDWATER ELEVATION CONTOUR (5-FT CONTOUR INTERVAL)

INFERRED GROUNDWATER ELEVATION CONTOUR

GROUNDWATER FLOW DIRECTION

INFERRED ZONES WHERE THE GLACIAL DRIFT AQUIFER IS NOT PRESENT

LANDFILL BOUNDARY

PROPERTY BOUNDARY

Notes

ELEVATIONS IN PARENTHESES NOT USED FOR CONTOURING

Vgw = ESTIMATED FT/YR GROUNDWATER FLOW VELOCITY

0 200 400 Feet

WATER TABLE ELEVATION CONTOURS NOVEMBER 7-9, 2022

2023 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
PRESQUE ISLE POWER PLANT
ASH LANDFILL NO. 3
MARQUETTE COUNTY, MICHIGAN

FIGURE 2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC

RAMBOLL

GROUNDWATER AVERAGE LINEAR VELOCITY CALCULATIONS
PRESQUE ISLE POWER PLANT ASH LANDFILLS
MARQUETTE, MICHIGAN

NOVEMBER 2022

$V = K i / n_e$

V = Groundwater Velocity
K = Hydraulic Conductivity
i = Hydraulic Gradient (unitless value)
n_e = Effective Porosity
(some contours are not shown on flow maps)

WATER TABLE

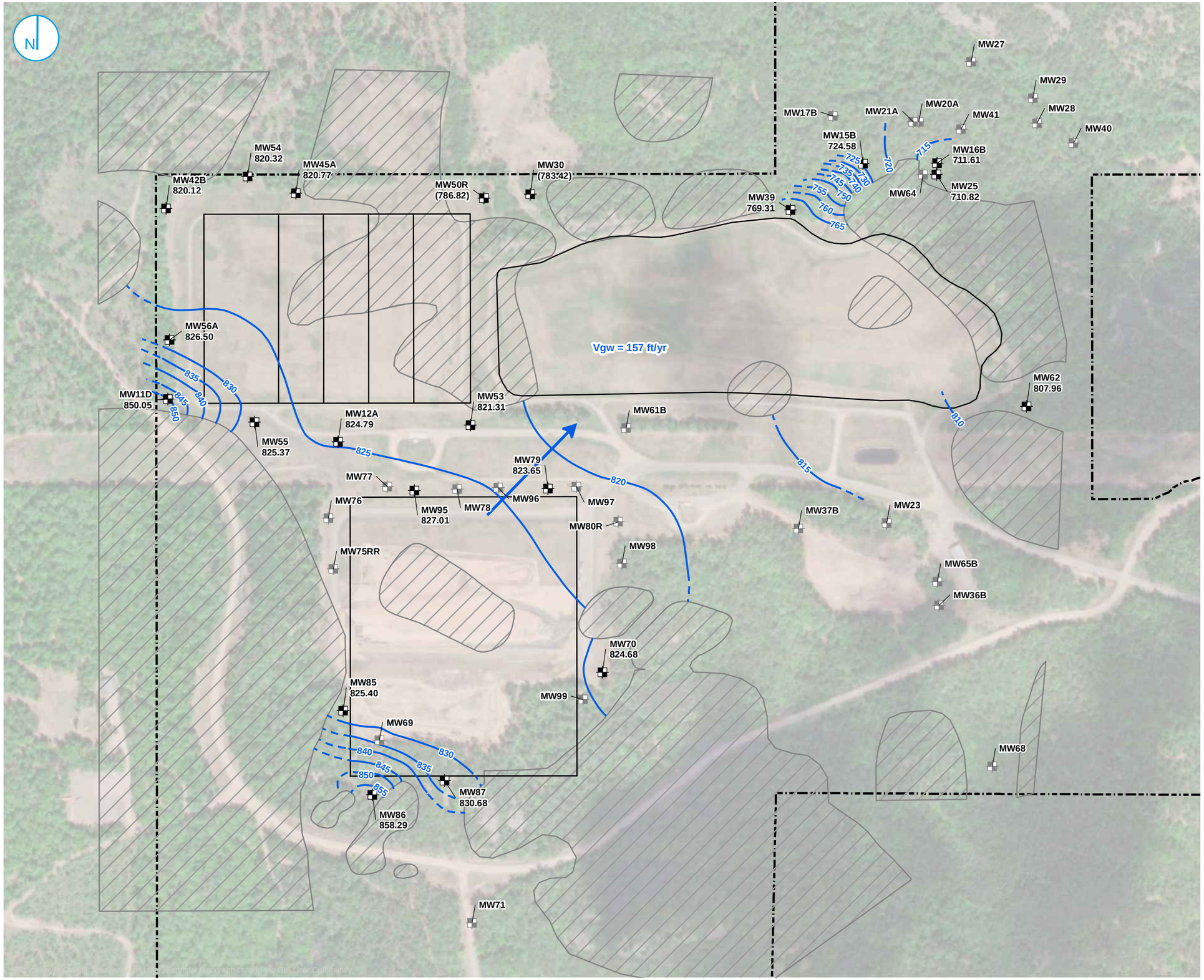
Contours	**820**	**to**	**815**	**Northeast of Landfill 3**	Elevation Change (ft)		Distance Change (ft)
K =	2.38E+03	ft/yr.	Geometric mean for Landfill 3 (all)				
i =	0.008		between contours identified above		5	/	610 = 0.008
n_e =	25	%					

$$V = \frac{2.38E+03 * 8.20E-03}{0.25}$$

V = 78 feet/year

[U: LCA 12/28/22, C: KLT 1/18/23]

Y:\GIS\Projects\161660\MXD\2023\Figure 1_WTE_Contours_2023_May.mxd



GROUNDWATER MONITORING WELL

ABANDONED MONITORING WELL

GROUNDWATER ELEVATION CONTOUR (5-FT CONTOUR INTERVAL)

INFERRED GROUNDWATER ELEVATION CONTOUR

GROUNDWATER FLOW DIRECTION

INFERRED ZONES WHERE THE GLACIAL DRIFT AQUIFER IS NOT PRESENT

LANDFILL BOUNDARY

PROPERTY BOUNDARY

Notes

ELEVATIONS IN PARENTHESES NOT USED FOR CONTOURING

Vgw = ESTIMATED FT/YR GROUNDWATER FLOW VELOCITY

0 200 400 Feet

WATER TABLE ELEVATION CONTOURS
MAY 22-24, 2023

2023 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
PRESQUE ISLE POWER PLANT
ASH LANDFILL NO. 3
MARQUETTE COUNTY, MICHIGAN

FIGURE 3

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

PROJECT: 169000XXX | DATED: 7/17/2023 | DESIGNER: HOTCALD

GROUNDWATER AVERAGE LINEAR VELOCITY CALCULATIONS
PRESQUE ISLE POWER PLANT ASH LANDFILLS
MARQUETTE, MICHIGAN

MAY 2023

$V = K i / n_e$

V = Groundwater Velocity
K = Hydraulic Conductivity
i = Hydraulic Gradient (unitless value)
n_e = Effective Porosity

WATER TABLE

(some contours are not shown on flow maps)

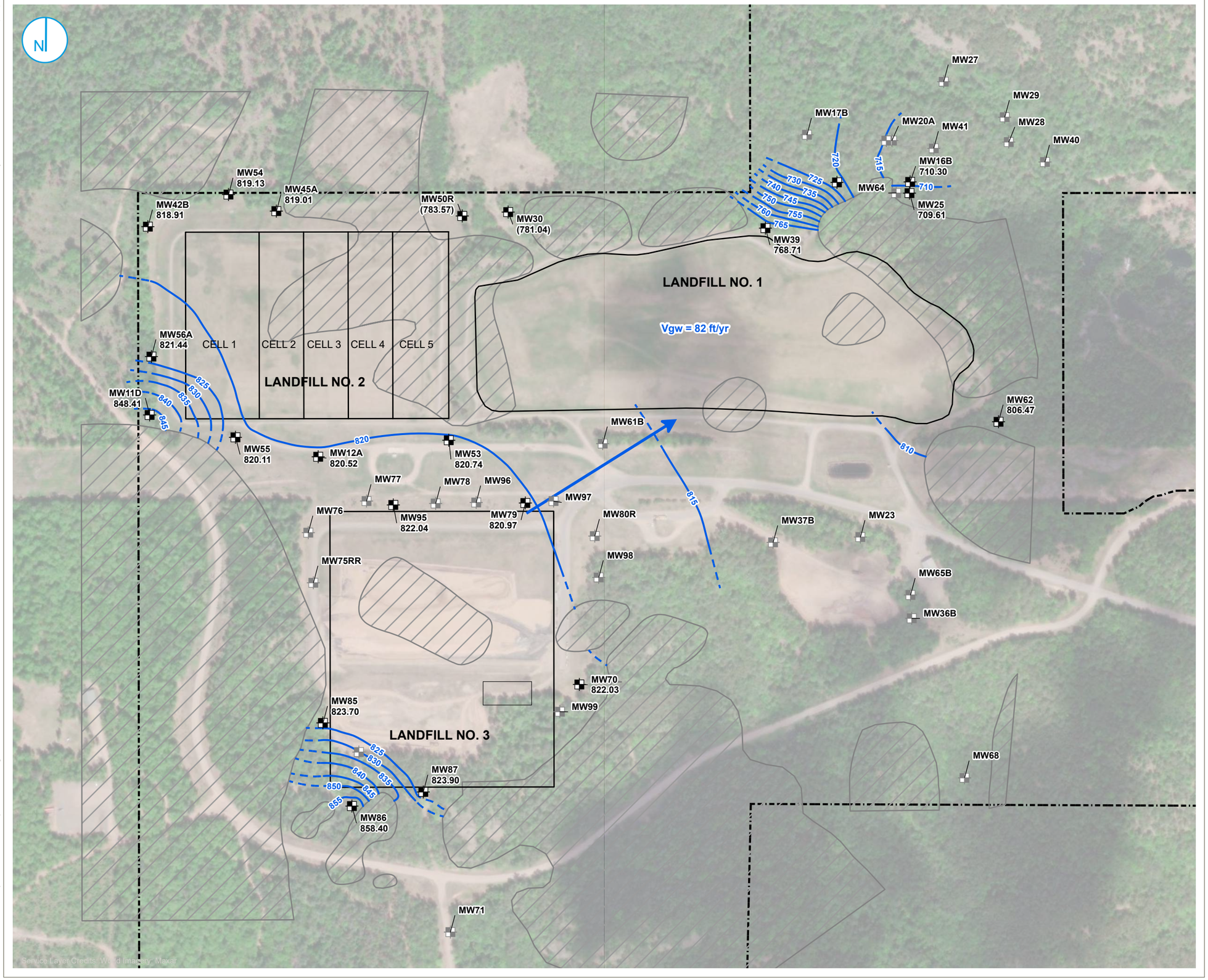
Contours	**825**	**to**	**820**	**Northeast of Landfill 3**	Elevation Change (ft)		Distance Change (ft)	
K =	2.38E+03	ft/yr.	Geometric mean for Landfill 3 (all)					
i =	0.017		between contours identified above		5	/	303	0.017
n_e =	25	%						

$$V = \frac{2.38E+03 * 1.65E-02}{0.25}$$

V = 157 feet/year

[U: KLT 6/14/23, C: MJK 7/17/23]

Y:\GIS\Projects\16\1660MXD\2023 GW Contour Maps.aprx



GROUNDWATER MONITORING WELL

ABANDONED MONITORING WELL

GROUNDWATER ELEVATION CONTOUR (5-FT CONTOUR INTERVAL)

INFERRED GROUNDWATER ELEVATION CONTOUR

GROUNDWATER FLOW DIRECTION

INFERRED ZONES WHERE THE GLACIAL DRIFT AQUIFER IS NOT PRESENT

LANDFILL BOUNDARY

PROPERTY BOUNDARY

Notes

ELEVATIONS IN PARENTHESES NOT USED FOR CONTOURING
Vgw = ESTIMATED FT/YR GROUNDWATER FLOW VELOCITY

0 200 400 Feet

WATER TABLE ELEVATION CONTOURS NOVEMBER 14-15, 2023

2023 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
PRESQUE ISLE POWER PLANT
ASH LANDFILL NO. 3
MARQUETTE COUNTY, MICHIGAN

FIGURE 4

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

PROJECT: 169000XXXX | DATED: 1/19/2024 | DESIGNER: egreaves

GROUNDWATER AVERAGE LINEAR VELOCITY CALCULATIONS
PRESQUE ISLE POWER PLANT ASH LANDFILLS
MARQUETTE, MICHIGAN

NOVEMBER 2023

$V = K\,i\,/\,n_e$

V = Groundwater Velocity
K = Hydraulic Conductivity
i = Hydraulic Gradient (unitless value)
n_e = Effective Porosity

WATER TABLE

(some contours are not shown on flow maps)

Contours	**820**	**to**	**815**	**Northeast of Landfill 3**	Elevation Change (ft)		Distance Change (ft)
K =	2.38E+03	ft/yr.	Geometric mean for Landfill 3 (all)				
i =	0.009		between contours identified above		5	/	581 = 0.009
n_e =	25	%					

$$V = \frac{2.38E+03 * 8.61E-03}{0.25}$$

V = 82 feet/year

[U: KLT 1/10/24, C: MMG 1/10/24]

RAMBOLL

APPENDICES

APPENDIX A
LABORATORY REPORTS

To: Eric Kovatch
PSB Annex A231

From: WEC Business Services
Laboratory Services PSBA-A070
WDNR Cert # 241329000

Report Date: Wednesday, January 24, 2024

The following are the analytical results for samples received by Laboratory Services:

Sample Description: **MW95** **PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE67087 Sample Collection Date/Time: 05/23/2023 15:03
Sample Received: 06/09/2023 Sample Collector: RAMBOLL

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	26.24	0.05	feet		1		H2OD	5/23/23	L ANDERSON
Field Temperature	9.3	0.1	Degrees (		1		TEMP	5/23/23	L ANDERSON
Field Conductivity	98	0	umhos		1		FCOND25	5/23/23	L ANDERSON
Field pH	7.0	0.1	Units	0.1	1		FIELDPH	5/23/23	L ANDERSON
Turbidity	1.43	0.1	NTU'S		1		EPA 180.1	5/23/23	L ANDERSON
Dissolved Oxygen-Field	9.8	0.1	mg/l		1		FIELDDO	5/23/23	L ANDERSON
Redox Potential	74	1	mV		1		ASTM D1498-93	5/23/23	L ANDERSON
Total Dissolved Solids	82.0	8.7	mg/L	20.0	1		Std Mtd 2540 C	5/26/23	020
Total Fluoride	Less Than	0.095	mg/L	0.32	1		EPA 300.0	5/25/23	020
Total Chloride	0.98	0.43	mg/L	2.0	1	J,B	EPA 300.0	5/25/23	020
Total Sulfate	3.0	0.44	mg/L	2.0	1		EPA 300.0	6/8/23	020
Total Alkalinity as CaCO3	44.3	5.0	mg/L	10.0	1		SM 2320 B-1997	6/1/23	020
Bicarbonate Ion	44.3	5.0	mg/L	10.0	1		HCO3	6/1/23	020
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	6/1/23	020
Total Organic Carbon	1.2	0.14	ppm	0.5	1		SM 5310C-2000	5/30/23	020
Total Boron	24.9	17.3	ug/L	40.0	1	J	EPA 200.7	5/26/23	020
Total Calcium	14800	114	ug/L	500	1		EPA 200.7	5/26/23	020
Total Iron	Less Than	56.7	ug/L	100	1		EPA 200.7	5/26/23	020
Total Silver	Less Than	3.2	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Copper	Less Than	3.4	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Nickel	Less Than	2.6	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Vanadium	Less Than	2.6	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Zinc	Less Than	11.6	ug/L	40.0	1		EPA 200.7	5/26/23	020
Nitrite as N	Less Than	0.021	mg/L	0.10	1		EPA 300.0	5/25/23	020
Nitrate as N	0.19	0.044	mg/L	0.15	1		EPA 300.0	5/25/23	020
Nitrate-Nitrite as N	0.19	0.011	mg/L	0.036	1		EPA 300.0	6/26/23	CMW

Sample Comments:
Sample analyzed by Pace Analytical (WDNR Lab Certification #405132750)

Sample Description: **MW79** **PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE67088 Sample Collection Date/Time: 05/23/2023 15:47
Sample Received: 06/09/2023 Sample Collector: RAMBOLL

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	18.69	0.05	feet		1		H2OD	5/23/23	L ANDERSON
Field Temperature	7.4	0.1	Degrees (		1		TEMP	5/23/23	L ANDERSON

Report Date: Wednesday, January 24, 2024

The following are the analytical results for samples received by Laboratory Services:

Sample Description: **MW79 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE67088 Sample Collection Date/Time: 05/23/2023 15:47
Sample Received: 06/09/2023 Sample Collector: RAMBOLL

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Conductivity	68	0	umhos		1		FCOND25	5/23/23	L ANDERSON
Field pH	6.9	0.1	Units	0.1	1		FIELDPH	5/23/23	L ANDERSON
Turbidity	11.3	0.1	NTU'S		1		EPA 180.1	5/23/23	L ANDERSON
Dissolved Oxygen-Field	11.5	0.1	mg/l		1		FIELDDO	5/23/23	L ANDERSON
Redox Potential	83	1	mV		1		ASTM D1498-93	5/23/23	L ANDERSON
Total Dissolved Solids	46.0	8.7	mg/L	20.0	1		Std Mtd 2540 C	5/26/23	020
Total Fluoride	Less Than	0.095	mg/L	0.32	1		EPA 300.0	5/25/23	020
Total Chloride	0.92	0.43	mg/L	2.0	1	J,B	EPA 300.0	5/25/23	020
Total Sulfate	4.1	2.2	mg/L	10.0	5	J, D3	EPA 300.0	6/9/23	020
Total Alkalinity as CaCO3	26.5	5.0	mg/L	10.0	1		SM 2320 B-1997	6/1/23	020
Bicarbonate Ion	26.5	5.0	mg/L	10.0	1		HCO3	6/1/23	020
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	6/1/23	020
Total Organic Carbon	1.1	0.14	ppm	0.5	1		SM 5310C-2000	5/30/23	020
Total Boron	21.8	17.3	ug/L	40.0	1	J	EPA 200.7	5/26/23	020
Total Calcium	8660	114	ug/L	500	1		EPA 200.7	5/26/23	020
Total Iron	160	56.7	ug/L	100	1		EPA 200.7	5/26/23	020
Total Silver	Less than	3.2	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Copper	Less Than	3.4	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Nickel	Less Than	2.6	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Vanadium	Less Than	2.6	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Zinc	Less Than	11.6	ug/L	40.0	1		EPA 200.7	5/26/23	020
Nitrite as N	Less Than	0.021	mg/L	0.10	1		EPA 300.0	5/25/23	020
Nitrate as N	1.1	0.044	mg/L	0.15	1		EPA 300.0	5/25/23	020
Nitrate-Nitrite as N	1.1	0.011	mg/L	0.036	1		EPA 300.0	6/26/23	CMW

Sample Comments:
Sample analyzed by Pace Analytical (WDNR Lab Certification #405132750)
D3 - Sample diluted due to presence of high levels of non-target compounds or ot

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Sample Description: **MW80PR PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE67089 Sample Collection Date/Time: 05/23/2023 16:16
Sample Received: 06/09/2023 Sample Collector: RAMBOLL

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	11.00	0.05	feet		1		H2OD	5/23/23	L ANDERSON
Field Temperature	9.2	0.1	Degrees C		1		TEMP	5/23/23	L ANDERSON
Field Conductivity	271	0	umhos		1		FCOND25	5/23/23	L ANDERSON
Field pH	8.6	0.1	Units	0.1	1		FIELDPH	5/23/23	L ANDERSON
Turbidity	0.4	0.1	NTU'S		1		EPA 180.1	5/23/23	L ANDERSON
Dissolved Oxygen-Field	8.7	0.1	mg/l		1		FIELDDO	5/23/23	L ANDERSON
Redox Potential	36	1	mV		1		ASTM D1498-93	5/23/23	L ANDERSON
Total Dissolved Solids	186	8.7	mg/L	20.0	1		Std Mtd 2540 C	5/26/23	020
Total Fluoride	Less Than	0.095	mg/L	0.32	1		EPA 300.0	5/25/23	020
Total Chloride	3.9	0.43	mg/L	2.0	1	B	EPA 300.0	5/25/23	020
Total Sulfate	5.5	2.2	mg/L	10.0	5	J, D3	EPA 300.0	5/25/23	020
Total Alkalinity as CaCO3	150	5.0	mg/L	10.0	1		SM 2320 B-1997	6/1/23	020

Report Date: Wednesday, January 24, 2024

The following are the analytical results for samples received by Laboratory Services:

Sample Description: **MW80PR PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE67089 Sample Collection Date/Time: 05/23/2023 16:16
Sample Received: 06/09/2023 Sample Collector: RAMBOLL

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Bicarbonate Ion	150	5.0	mg/L	10.0	1		HCO3	6/1/23	020
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	6/1/23	020
Total Organic Carbon	0.75	0.14	ppm	0.5	1		SM 5310C-2000	5/30/23	020
Total Boron	Less Than	17.3	ug/L	40.0	1		EPA 200.7	5/26/23	020
Total Calcium	52900	114	ug/L	500	1		EPA 200.7	5/26/23	020
Total Iron	Less Than	56.7	ug/L	100	1		EPA 200.7	5/26/23	020
Total Silver	Less Than	3.2	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Copper	Less Than	3.4	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Nickel	Less Than	2.6	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Vanadium	Less Than	2.6	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Zinc	Less Than	11.6	ug/L	40.0	1		EPA 200.7	5/26/23	020
Nitrite as N	Less Than	0.021	mg/L	0.10	1		EPA 300.0	5/25/23	020
Nitrate as N	0.53	0.044	mg/L	0.15	1		EPA 300.0	5/25/23	020
Nitrate-Nitrite as N	0.53	0.011	mg/L	0.036	1		EPA 300.0	6/26/23	CMW

Sample Comments:
Sample analyzed by Pace Analytical (WDNR Lab Certification #405132750)
D3 - Sample diluted due to presence of high levels of non-target compounds or ot

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Sample Description: **MW70 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE67090 Sample Collection Date/Time: 05/24/2023 08:49
Sample Received: 06/09/2023 Sample Collector: RAMBOLL

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	21.98	0.05	feet		1		H2OD	5/24/23	L ANDERSON
Field Temperature	5.7	0.1	Degrees C		1		TEMP	5/24/23	L ANDERSON
Field Conductivity	168	0	umhos		1		FCOND25	5/24/23	L ANDERSON
Field pH	7.7	0.1	Units	0.1	1		FIELDPH	5/24/23	L ANDERSON
Turbidity	11.1	0.1	NTU'S		1		EPA 180.1	5/24/23	L ANDERSON
Dissolved Oxygen-Field	12.6	0.1	mg/l		1		FIELDDO	5/24/23	L ANDERSON
Redox Potential	156	1	mV		1		ASTM D1498-93	5/24/23	L ANDERSON
Total Dissolved Solids	104	8.7	mg/L	20.0	1		Std Mtd 2540 C	5/26/23	020
Total Fluoride	Less Than	0.095	mg/L	0.32	1		EPA 300.0	5/25/23	020
Total Chloride	0.96	0.43	mg/L	2.0	1	J,B	EPA 300.0	5/25/23	020
Total Sulfate	3.4	2.2	mg/L	10.0	5	J, D3	EPA 300.0	6/9/23	020
Total Alkalinity as CaCO3	100	5.0	mg/L	10.0	1		SM 2320 B-1997	6/1/23	020
Bicarbonate Ion	100	5.0	mg/L	10.0	1		HCO3	6/1/23	020
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	6/1/23	020
Total Organic Carbon	0.65	0.14	ppm	0.50	1		SM 5310C-2000	5/30/23	020
Total Boron	Less Than	17.3	ug/L	40.0	1		EPA 200.7	5/26/23	020
Total Calcium	31200	114	ug/L	500	1		EPA 200.7	5/26/23	020
Total Iron	Less Than	56.7	ug/L	100	1		EPA 200.7	5/26/23	020
Total Silver	Less Than	3.2	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Copper	Less Than	3.4	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Nickel	Less Than	2.6	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Vanadium	Less Than	2.6	ug/L	10.0	1		EPA 200.7	5/26/23	020

Report Date: Wednesday, January 24, 2024

The following are the analytical results for samples received by Laboratory Services:

Sample Description: **MW70** **PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE67090 Sample Collection Date/Time: 05/24/2023 08:49
Sample Received: 06/09/2023 Sample Collector: RAMBOLL

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Total Zinc	Less than	11.6	ug/L	40.0	1		EPA 200.7	5/26/23	020
Nitrite as N	Less Than	0.021	mg/L	0.10	1		EPA 300.0	5/25/23	020
Nitrate as N	0.092	0.044	mg/L	0.15	1	J	EPA 300.0	5/25/23	020
Nitrate-Nitrite as N	0.092	0.011	mg/L	0.036	1		EPA 300.0	6/26/23	CMW

Sample Comments:
Sample analyzed by Pace Analytical (WDNR Lab Certification #405132750)
D3 - Sample diluted due to presence of high levels of non-target compounds or ot

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Sample Description: **QAQC1** **PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE67091 Sample Collection Date/Time: 05/24/2023 08:54
Sample Received: 06/09/2023 Sample Collector: RAMBOLL

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Total Dissolved Solids	92.0	8.7	mg/L	20.0	1		Std Mtd 2540 C	5/26/23	020
Total Fluoride	Less Than	0.095	mg/L	0.32	1		EPA 300.0	5/25/23	020
Total Chloride	0.97	0.43	mg/L	2.0	1	J, B	EPA 300.0	5/25/23	020
Total Sulfate	3.1	2.2	mg/L	10.0	5	J, D3	EPA 300.0	6/9/23	020
Total Alkalinity as CaCO3	92.5	5.0	mg/L	10.0	1		SM 2320 B-1997	6/1/23	020
Bicarbonate Ion	92.5	5.0	mg/L	10.0	1		HCO3	6/1/23	020
Carbonate Ion	Less than	5.0	mg/L	10.0	1		CO3	6/1/23	020
Total Organic Carbon	0.67	0.14	ppm	0.50	1		SM 5310C-2000	5/30/23	020
Total Boron	Less than	17.3	ug/L	40.0	1		EPA 200.7	5/26/23	020
Total Calcium	30900	114	ug/L	500	1		EPA 200.7	5/26/23	020
Total Iron	110	56.7	ug/L	100	1		EPA 200.7	5/26/23	020
Total Silver	Less Than	3.2	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Copper	Less Than	3.4	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Nickel	Less Than	2.6	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Vanadium	Less than	2.6	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Zinc	Less Than	11.6	ug/L	40.0	1		EPA 200.7	5/26/23	020
Nitrite as N	Less Than	0.021	mg/L	0.10	1		EPA 300.0	5/25/23	020
Nitrate as N	0.096	0.044	mg/L	0.15	1	J	EPA 300.0	5/25/23	020
Nitrate-Nitrite as N	0.096	0.011	mg/L	0.036	1		EPA 300.0	6/26/23	CMW

Sample Comments:
Sample analyzed by Pace Analytical (WDNR Lab Certification #405132750)
D3 - Sample diluted due to presence of high levels of non-target compounds or ot

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Sample Description: **MW85** **PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE67092 Sample Collection Date/Time: 05/24/2023 09:40
Sample Received: 06/09/2023 Sample Collector: RAMBOLL

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	38.5	0.05	feet		1		H2OD	5/24/23	L ANDERSON
Field Temperature	6.9	0.1	Degrees (		1		TEMP	5/24/23	L ANDERSON
Field Conductivity	60	0	umhos		1		FCOND25	5/24/23	L ANDERSON

Report Date: Wednesday, January 24, 2024

The following are the analytical results for samples received by Laboratory Services:

Sample Description: **MW85** **PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE67092 Sample Collection Date/Time: 05/24/2023 09:40
Sample Received: 06/09/2023 Sample Collector: RAMBOLL

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field pH	8.2	0.1	Units	0.1	1		FIELDPH	5/24/23	L ANDERSON
Turbidity	0.3	0.1	NTU'S		1		EPA 180.1	5/23/23	L ANDERSON
Dissolved Oxygen-Field	14.0	0.1	mg/l		1		FIELDDO	5/23/23	L ANDERSON
Redox Potential	102	1	mV		1		ASTM D1498-93	5/23/23	L ANDERSON
Total Dissolved Solids	44.0	8.7	mg/L	20.0	1		Std Mtd 2540 C	5/26/23	020
Total Fluoride	Less Than	0.095	mg/L	0.32	1		EPA 300.0	5/25/23	020
Total Chloride	0.91	0.43	mg/L	2.0	1	J, B	EPA 300.0	5/25/23	020
Total Sulfate	2.7	2.2	mg/L	10.0	5	J, D3	EPA 300.0	6/9/23	020
Total Alkalinity as CaCO3	25.9	5.0	mg/L	10.0	1		SM 2320 B-1997	6/1/23	020
Bicarbonate Ion	25.9	5.0	mg/L	10.0	1		HCO3	6/1/23	020
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	6/1/23	020
Total Organic Carbon	3.8	0.14	ppm	0.50	1		SM 5310C-2000	5/30/23	020
Total Boron	Less Than	17.3	ug/L	40.0	1		EPA 200.7	5/26/23	020
Total Calcium	10200	114	ug/L	500	1		EPA 200.7	5/26/23	020
Total Iron	57.9	56.7	ug/L	100	1	J	EPA 200.7	5/26/23	020
Total Silver	Less Than	3.2	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Copper	Less Than	3.4	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Nickel	Less Than	2.6	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Vanadium	Less Than	2.6	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Zinc	Less Than	11.6	ug/L	40.0	1		EPA 200.7	5/26/23	020
Nitrite as N	Less Than	0.021	mg/L	0.10	1		EPA 300.0	5/25/23	020
Nitrate as N	0.11	0.044	mg/L	0.15	1	J	EPA 300.0	5/25/23	020
Nitrate-Nitrite as N	0.11	0.011	mg/L	0.036	1		EPA 300.0	6/26/23	CMW

Sample Comments:
Sample analyzed by Pace Analytical (WDNR Lab Certification #405132750)
D3 - Sample diluted due to presence of high levels of non-target compounds or ot

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Sample Description: **MW86** **PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE67093 Sample Collection Date/Time: 05/24/2023 10:22
Sample Received: 06/09/2023 Sample Collector: RAMBOLL

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	5.41	0.05	feet		1		H2OD	5/24/23	L ANDERSON
Field Temperature	6.1	0.1	Degrees (		1		TEMP	5/24/23	L ANDERSON
Field Conductivity	118	0	umhos		1		FCOND25	5/24/23	L ANDERSON
Field pH	7.1	0.1	Units	0.1	1		FIELDPH	5/24/23	L ANDERSON
Turbidity	2.8	0.1	NTU'S		1		EPA 180.1	5/24/23	L ANDERSON
Dissolved Oxygen-Field	0.1	0.1	mg/l		1		FIELDDO	5/24/23	L ANDERSON
Redox Potential	-149	1	mV		1		ASTM D1498-93	5/24/23	L ANDERSON
Total Dissolved Solids	100	8.7	mg/L	20.0	1		Std Mtd 2540 C	5/26/23	020
Total Fluoride	Less Than	0.48	mg/L	1.6	5	D3	EPA 300.0	5/25/23	020
Total Chloride	4.0	2.2	mg/L	10.0	5	J, B,	EPA 300.0	5/25/23	020
Total Sulfate	Less Than	2.2	mg/L	10.0	5	D3	EPA 300.0	6/9/23	020
Total Alkalinity as CaCO3	32.9	5.0	mg/L	10.0	1		SM 2320 B-1997	6/1/23	020
Bicarbonate Ion	32.9	5.0	mg/L	10.0	1		HCO3	6/1/23	020

Report Date: Wednesday, January 24, 2024

The following are the analytical results for samples received by Laboratory Services:

Sample Description: **MW86 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE67093 Sample Collection Date/Time: 05/24/2023 10:22
Sample Received: 06/09/2023 Sample Collector: RAMBOLL

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	6/1/23	020
Total Organic Carbon	17.6	0.42	ppm	1.5	3		SM 5310C-2000	5/31/23	020
Total Boron	Less Than	17.3	ug/L	40.0	1		EPA 200.7	5/26/23	020
Total Calcium	3240	114	ug/L	500	1		EPA 200.7	5/26/23	020
Total Iron	26600	56.7	ug/L	100	1		EPA 200.7	5/26/23	020
Total Silver	Less Than	3.2	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Copper	Less Than	3.4	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Nickel	Less Than	2.6	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Vanadium	8.7	2.6	ug/L	10.0	1	J	EPA 200.7	5/26/23	020
Total Zinc	Less Than	11.6	ug/L	40.0	1		EPA 200.7	5/26/23	020
Nitrite as N	Less Than	0.1	mg/L	0.5	5		EPA 300.0	5/25/23	020
Nitrate as N	0.23	0.22	mg/L	0.75	5	J	EPA 300.0	5/25/23	020
Nitrate-Nitrite as N	0.23	0.011	mg/L	0.036	1		EPA 300.0	6/26/23	CMW

Sample Comments:
Sample analyzed by Pace Analytical (WDNR Lab Certification #405132750)
D3 - Sample diluted due to presence of high levels of non-trget compounds or oth

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Sample Description: **MW87 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE67094 Sample Collection Date/Time: 05/24/2023 11:09
Sample Received: 06/09/2023 Sample Collector: RAMBOLL

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	24.77	0.05	feet		1		H2OD	5/24/23	L ANDERSON
Field Temperature	6.2	0.1	Degrees (		1		TEMP	5/24/23	L ANDERSON
Field Conductivity	39	0	umhos		1		FCOND25	5/24/23	L ANDERSON
Field pH	7.3	0.1	Units	0.1	1		FIELDPH	5/24/23	L ANDERSON
Turbidity	64.6	0.1	NTU'S		1		EPA 180.1	5/24/23	L ANDERSON
Dissolved Oxygen-Field	13.5	0.1	mg/l		1		FIELDDO	5/24/23	L ANDERSON
Redox Potential	30	1	mV		1		ASTM D1498-93	5/24/23	L ANDERSON
Total Dissolved Solids	Less Than	8.7	mg/L	20.0	1		Std Mtd 2540 C	5/26/23	020
Total Fluoride	Less Than	0.095	mg/L	0.32	1		EPA 300.0	5/25/23	020
Total Chloride	1.1	0.43	mg/L	2.0	1	J, B	EPA 300.0	5/25/23	020
Total Sulfate	5.0	2.2	mg/L	10.0	5	J, D3	EPA 300.0	6/9/23	020
Total Alkalinity as CaCO3	13.2	5.0	mg/L	10.0	1		SM 2320 B-1997	6/1/23	020
Bicarbonate Ion	13.2	5.0	mg/L	10.0	1		HCO3	6/1/23	020
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	6/1/23	020
Total Organic Carbon	1.4	0.14	ppm	0.50	1		SM 5310C-2000	5/31/23	020
Total Boron	Less Than	17.3	ug/L	40.0	1		EPA 200.7	5/26/23	020
Total Calcium	3880	114	ug/L	500	1		EPA 200.7	5/26/23	020
Total Iron	475	56.7	ug/L	100	1		EPA 200.7	5/26/23	020
Total Silver	Less Than	3.2	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Copper	Less Than	3.4	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Nickel	Less Than	2.6	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Vanadium	Less Than	2.6	ug/L	10.0	1		EPA 200.7	5/26/23	020
Total Zinc	Less than	11.6	ug/L	40.0	1		EPA 200.7	5/26/23	020

Report Date: Wednesday, January 24, 2024

The following are the analytical results for samples received by Laboratory Services:

Sample Description: **MW87 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE67094 Sample Collection Date/Time: 05/24/2023 11:09
Sample Received: 06/09/2023 Sample Collector: RAMBOLL

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Nitrite as N	Less Than	0.021	mg/L	0.10	1		EPA 300.0	5/25/23	020
Nitrate as N	0.056	0.044	mg/L	0.15	1	J	EPA 300.0	5/25/23	020
Nitrate-Nitrite as N	0.056	0.011	mg/L	0.036	1		EPA 300.0	6/26/23	CMW

Sample Comments:
Sample analyzed by Pace Analytical (WDNR Lab Certification #405132750)
D3 - Sample diluted due to presence of high levels of non-target compounds or ot

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Sample Description: **EB3 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE67095 Sample Collection Date/Time: 05/24/2023 11:15
Sample Received: 06/09/2023 Sample Collector: RAMBOLL

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Temperature	11	0.1	Degrees (		1		TEMP	5/24/23	L ANDERSON
Field Conductivity	11	0	umhos		1		FCOND25	5/24/23	L ANDERSON
Field pH	6.9	0.1	Units	0.1	1		FIELDPH	5/24/23	L ANDERSON
Turbidity	0.1	0.1	NTU'S		1		EPA 180.1	5/24/23	L ANDERSON
Dissolved Oxygen-Field	10.1	0.1	mg/l		1		FIELDDO	5/24/23	L ANDERSON
Redox Potential	98	1	mV		1		ASTM D1498-93	5/24/23	L ANDERSON
Total Dissolved Solids	Less Than	8.7	mg/L	20.0	1		Std Mtd 2540 C	5/26/23	020
Total Fluoride	Less Than	0.095	mg/L	0.32	1		EPA 300.0	5/25/23	020
Total Chloride	1.3	0.43	mg/L	2.0	1	J, B	EPA 300.0	5/25/23	020
Total Sulfate	Less Than	0.44	mg/L	2.0	1		EPA 300.0	6/9/23	020
Total Alkalinity as CaCO3	Less Than	5.0	mg/L	10.0	1		SM 2320 B-1997	6/1/23	020
Bicarbonate Ion	Less Than	5.0	mg/L	10.0	1		HCO3	6/1/23	020
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	6/1/23	020
Total Organic Carbon	0.41	0.14	ppm	0.50	1	J	SM 5310C-2000	5/31/23	020
Total Boron	25.0	17.3	ug/L	40.0	1	J	EPA 200.7	5/30/23	020
Total Calcium	Less Than	114	ug/L	500	1		EPA 200.7	5/30/23	020
Total Iron	Less Than	56.7	ug/L	100	1		EPA 200.7	5/30/23	020
Total Silver	Less Than	3.2	ug/L	10.0	1		EPA 200.7	5/30/23	020
Total Copper	Less Than	3.4	ug/L	10.0	1		EPA 200.7	5/30/23	020
Total Nickel	Less Than	2.6	ug/L	10.0	1		EPA 200.7	5/30/23	020
Total Vanadium	Less Than	2.6	ug/L	10.0	1		EPA 200.7	5/30/23	020
Total Zinc	Less Than	11.6	ug/L	40.0	1		EPA 200.7	5/30/23	020
Nitrite as N	Less Than	0.021	mg/L	0.10	1		EPA 300.0	5/25/23	020
Nitrate as N	0.044	0.044	mg/L	0.15	1	J	EPA 300.0	5/25/23	020
Nitrate-Nitrite as N	0.044	0.011	mg/L	0.036	1		EPA 300.0	6/26/23	CMW

Sample Comments:
Sample analyzed by Pace Analytical (WDNR Lab Certification #405132750)

Report Date: Wednesday, January 24, 2024

The following are the analytical results for samples received by Laboratory Services:

LOD and LOQ are adjusted for dilution factor.
'J' Flag, if present indicates an estimated concentration at or above the LOD and below the LOQ.

If there are any questions concerning this report, please contact: Laboratory Services at (414) 221-4595.

To: Eric Kovatch
PSB Annex A231

From: WEC Business Services
Laboratory Services PSBA-A070
WDNR Cert # 241329000

Report Date: Thursday, January 4, 2024

The following are the analytical results for samples received by Laboratory Services:

Sample Description: **MW80PR PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE70334 Sample Collection Date/Time: 11/15/2023 08:53
Sample Received: 12/05/2023 Sample Collector: L ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	16.31	0.05	feet		1		H2OD	11/15/23	RAMBOLL
Field Temperature	11.3	0.1	Degrees (		1		TEMP	11/15/23	RAMBOLL
Field Conductivity	277	0	umhos		1		FCOND25	11/15/23	RAMBOLL
Field pH	7.8	0.1	Units	0.1	1		FIELDPH	11/15/23	RAMBOLL
Turbidity	0.0	0.1	NTU'S		1		EPA 180.1	11/15/23	RAMBOLL
Dissolved Oxygen-Field	8.2	0.1	mg/l		1		FIELDDO	11/15/23	RAMBOLL
Redox Potential	257	1	mV		1		ASTM D1498-93	11/15/23	RAMBOLL
Total Boron	11.1	3.0	ug/L	10.0	1		EPA 200.7	11/23/23	020
Total Calcium	47800	76.2	ug/L	254	1		EPA 200.7	11/23/23	020
Total Iron	Less Than	58.0	ug/L	250	1		EPA 200.7	11/23/23	020
Dissolved Calcium	44600	76.2	ug/L	254	1		EPA 200.8	11/23/23	020
Dissolved Magnesium	7830	31.2	ug/L	250	1		EPA 200.8	11/23/23	020
Dissolved Potassium	1160	237	ug/L	789	1		EPA 200.8	11/23/23	020
Dissolved Sodium	1500	42.0	ug/L	250	1		EPA 200.7	11/23/23	020
Total Filtered Alkalinity as CaCO3	156	5.0	mg/l	10.0	1	M0	Std Mtd 2320 B	11/21/23	020
Bicarbonate Ion	156	5.0	mg/L	10.0	1		HCO3	11/21/23	020
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	11/21/23	020
Total Dissolved Solids	222	8.7	mg/L	20.0	1		Std Mtd 2540 C	11/17/23	020
Total Chloride	4.7	3.0	mg/L	10.0	5	J	EPA 300.0	12/1/23	020
Total Fluoride	Less Than	0.48	mg/L	1.5	5		EPA 300.0	12/1/23	020
Total Sulfate	5.5	2.2	mg/L	10.0	5	J	EPA 300.0	12/1/23	020
Dissolved Chloride	5.6	3.0	mg/L	10.0	5	J	EPA 300.0	12/1/23	020
Dissolved Sulfate	6.3	2.2	mg/L	10.0	5	J	EPA 300.0	12/1/23	020

Sample Comments:

Sample Description: **MW79 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE70335 Sample Collection Date/Time: 11/15/2023 11:37
Sample Received: 12/05/2023 Sample Collector: L ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	21.50	0.05	feet		1		H2OD	11/15/23	RAMBOLL
Field Temperature	11.7	0.1	Degrees (		1		TEMP	11/15/23	RAMBOLL
Field Conductivity	72	0	umhos		1		FCOND25	11/15/23	RAMBOLL
Field pH	5.9	0.1	Units	0.1	1		FIELDPH	11/15/23	RAMBOLL
Turbidity	0.0	0.1	NTU'S		1		EPA 180.1	11/15/23	RAMBOLL

Report Date: Thursday, January 4, 2024

The following are the analytical results for samples received by Laboratory Services:

Sample Description: **MW79 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE70335 Sample Collection Date/Time: 11/15/2023 11:37
Sample Received: 12/05/2023 Sample Collector: L ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Dissolved Oxygen-Field	9.6	0.1	mg/l		1		FIELDDO	11/15/23	RAMBOLL
Redox Potential	429	1	mV		1		ASTM D1498-93	11/15/23	RAMBOLL
Total Boron	19.4	3.0	ug/L	10.0	1		EPA 200.7	11/23/23	020
Total Calcium	11400	76.2	ug/L	254	1		EPA 200.7	11/23/23	020
Total Iron	Less Than	58.0	ug/L	250	1		EPA 200.7	11/23/23	020
Dissolved Calcium	11700	76.2	ug/L	254	1		EPA 200.8	11/23/23	020
Dissolved Magnesium	2920	31.2	ug/L	250	1		EPA 200.8	11/23/23	020
Dissolved Potassium	2120	237	ug/L	789	1		EPA 200.8	11/23/23	020
Dissolved Sodium	2540	42.0	ug/L	250	1		EPA 200.7	11/23/23	020
Total Filtered Alkalinity as CaCO3	43.8	5.0	mg/l	10.0	1		Std Mtd 2320 B	11/21/23	020
Bicarbonate Ion	43.8	5.0	mg/L	10.0	1		HCO3	11/21/23	020
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	11/21/23	020
Total Dissolved Solids	42.0	8.7	mg/L	20.0	1		Std Mtd 2540 C	11/17/23	020
Total Chloride	Less Than	3.0	mg/L	10.0	5		EPA 300.0	12/1/23	020
Total Fluoride	Less Than	0.48	mg/L	1.6	5		EPA 300.0	12/1/23	020
Total Sulfate	2.4	2.2	mg/L	10.0	5	J	EPA 300.0	12/1/23	020
Dissolved Chloride	3.0	3.0	mg/L	10.0	5	J	EPA 300.0	12/1/23	020
Dissolved Sulfate	5.1	2.2	mg/L	10.0	5	J	EPA 300.0	12/1/23	020

Sample Comments:

Sample Description: **MW95 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE70336 Sample Collection Date/Time: 11/15/2023 12:22
Sample Received: 12/05/2023 Sample Collector: L ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	31.46	0.05	feet		1		H2OD	11/15/23	RAMBOLL
Field Temperature	11.3	0.1	Degrees (		1		TEMP	11/15/23	RAMBOLL
Field Conductivity	51	0	umhos		1		FCOND25	11/15/23	RAMBOLL
Field pH	6.0	0.1	Units	0.1	1		FIELDPH	11/15/23	RAMBOLL
Turbidity	12.5	0.1	NTU'S		1		EPA 180.1	11/15/23	RAMBOLL
Dissolved Oxygen-Field	9.1	0.1	mg/l		1		FIELDDO	11/15/23	RAMBOLL
Redox Potential	419	1	mV		1		ASTM D1498-93	11/15/23	RAMBOLL
Total Boron	23.3	3.0	ug/L	10.0	1		EPA 200.7	11/23/23	020
Total Calcium	6820	76.2	ug/L	254	1		EPA 200.7	11/23/23	020
Total Iron	292	58.0	ug/L	250	1		EPA 200.7	11/23/23	020
Dissolved Calcium	7010	76.2	ug/L	254	1		EPA 200.8	11/23/23	020
Dissolved Magnesium	1670	31.2	ug/L	250	1		EPA 200.8	11/23/23	020
Dissolved Potassium	975	237	ug/L	789	1		EPA 200.8	11/23/23	020
Dissolved Sodium	1770	42.0	ug/L	250	1		EPA 200.7	11/23/23	020
Total Filtered Alkalinity as CaCO3	26.9	5.0	mg/l	10.0	1		Std Mtd 2320 B	11/21/23	020
Bicarbonate Ion	26.9	5.0	mg/L	10.0	1		HCO3	11/21/23	020
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	11/21/23	020
Total Dissolved Solids	38.0	8.7	mg/L	20.0	1		Std Mtd 2540 C	11/17/23	020

Report Date: Thursday, January 4, 2024

The following are the analytical results for samples received by Laboratory Services:

Sample Description: **MW95 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE70336 Sample Collection Date/Time: 11/15/2023 12:22
Sample Received: 12/05/2023 Sample Collector: L ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Total Chloride	Less Than	3.0	mg/L	10.0	5		EPA 300.0	12/1/23	020
Total Fluoride	Less Than	0.48	mg/L	1.6	5		EPA 300.0	12/1/23	020
Total Sulfate	3.2	2.2	mg/L	10.0	5	J	EPA 300.0	12/1/23	020
Dissolved Chloride	Less Than	3.0	mg/L	10.0	5		EPA 300.0	12/1/23	020
Dissolved Sulfate	3.9	2.2	mg/L	10.0	5	J	EPA 300.0	12/1/23	020

Sample Comments:

Sample Description: **MW85 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE70337 Sample Collection Date/Time: 11/15/2023 12:56
Sample Received: 12/05/2023 Sample Collector: L ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	40.28	0.05	feet		1		H2OD	11/15/23	RAMBOLL
Field Temperature	10.5	0.1	Degrees (		1		TEMP	11/15/23	RAMBOLL
Field Conductivity	46	0	umhos		1		FCOND25	11/15/23	RAMBOLL
Field pH	6.4	0.1	Units	0.1	1		FIELDPH	11/15/23	RAMBOLL
Turbidity	0.1	0.1	NTU'S		1		EPA 180.1	11/15/23	RAMBOLL
Dissolved Oxygen-Field	10.3	0.1	mg/l		1		FIELDDO	11/15/23	RAMBOLL
Redox Potential	402	1	mV		1		ASTM D1498-93	11/15/23	RAMBOLL
Total Boron	12.3	3.0	ug/L	10.0	1		EPA 200.7	11/23/23	020
Total Calcium	7210	76.2	ug/L	254	1		EPA 200.7	11/23/23	020
Total Iron	Less Than	58.0	ug/L	250	1		EPA 200.7	11/23/23	020
Dissolved Calcium	6840	76.2	ug/L	254	1		EPA 200.8	11/23/23	020
Dissolved Magnesium	905	31.2	ug/L	250	1		EPA 200.8	11/23/23	020
Dissolved Potassium	601	237	ug/L	789	1	J	EPA 200.8	11/23/23	020
Dissolved Sodium	649	42.0	ug/L	250	1		EPA 200.7	11/23/23	020
Total Filtered Alkalinity as CaCO3	23.9	5.0	mg/l	10.0	1		Std Mtd 2320 B	11/21/23	020
Bicarbonate Ion	23.9	5.0	mg/L	10.0	1		HCO3	11/21/23	020
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	11/21/23	020
Total Dissolved Solids	28.0	8.7	mg/L	20.0	1		Std Mtd 2540 C	11/17/23	020
Total Chloride	Less Than	3.0	mg/L	10.0	5		EPA 300.0	12/1/23	020
Total Fluoride	Less Than	0.48	mg/L	1.6	5		EPA 300.0	12/1/23	020
Total Sulfate	2.5	2.2	mg/L	10.0	5	J	EPA 300.0	12/1/23	020
Dissolved Chloride	3.0	3.0	mg/L	10.0	5	J	EPA 300.0	12/1/23	020
Dissolved Sulfate	3.5	2.2	mg/L	10.0	5	J	EPA 300.0	12/1/23	020

Sample Comments:

Report Date: Thursday, January 4, 2024

The following are the analytical results for samples received by Laboratory Services:

Sample Description: **MW86 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE70338 Sample Collection Date/Time: 11/15/2023 13:41
Sample Received: 12/05/2023 Sample Collector: L ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	5.30	0.05	feet		1		H2OD	11/15/23	RAMBOLL
Field Temperature	11.4	0.1	Degrees C		1		TEMP	11/15/23	RAMBOLL
Field Conductivity	167	0	umhos		1		FCOND25	11/15/23	RAMBOLL
Field pH	6.0	0.1	Units	0.1	1		FIELDPH	11/15/23	RAMBOLL
Turbidity	1.2	0.1	NTU'S		1		EPA 180.1	11/15/23	RAMBOLL
Dissolved Oxygen-Field	0.3	0.1	mg/l		1		FIELDDO	11/15/23	RAMBOLL
Redox Potential	99	1	mV		1		ASTM D1498-93	11/15/23	RAMBOLL
Total Boron	13.0	3.0	ug/L	10.0	1		EPA 200.7	11/23/23	020
Total Calcium	8010	76.2	ug/L	254	1		EPA 200.7	11/23/23	020
Total Iron	32200	58.0	ug/L	250	1		EPA 200.7	11/23/23	020
Dissolved Calcium	8190	76.2	ug/L	254	1		EPA 200.8	11/23/23	020
Dissolved Magnesium	4060	31.2	ug/L	250	1		EPA 200.8	11/23/23	020
Dissolved Potassium	2370	237	ug/L	789	1		EPA 200.8	11/23/23	020
Dissolved Sodium	1300	42.0	ug/L	250	1		EPA 200.7	11/23/23	020
Total Filtered Alkalinity as CaCO3	50.1	5.0	mg/l	10.0	1		Std Mtd 2320 B	11/21/23	020
Bicarbonate Ion	50.1	5.0	mg/L	10.0	1		HCO3	11/21/23	020
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	11/21/23	020
Total Dissolved Solids	156	8.7	mg/L	20.0	1		Std Mtd 2540 C	11/22/23	020
Total Chloride	3.3	3.0	mg/L	10.0	5	J	EPA 300.0	12/1/23	020
Total Fluoride	Less Than	0.48	mg/L	1.6	5		EPA 300.0	12/1/23	020
Total Sulfate	Less Than	2.2	mg/L	10.0	5		EPA 300.0	12/1/23	020
Dissolved Chloride	4.3	3.0	mg/L	10.0	5	J	EPA 300.0	12/1/23	020
Dissolved Sulfate	Less Than	2.2	mg/L	10.0	5		EPA 300.0	12/1/23	020

Sample Comments:

Sample Description: **MW87 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE70339 Sample Collection Date/Time: 11/15/2023 14:31
Sample Received: 12/05/2023 Sample Collector: L ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	33.96	0.05	feet		1		H2OD	11/15/23	RAMBOLL
Field Temperature	9.9	0.1	Degrees C		1		TEMP	11/15/23	RAMBOLL
Field Conductivity	107	0	umhos		1		FCOND25	11/15/23	RAMBOLL
Field pH	6.9	0.1	Units	0.1	1		FIELDPH	11/15/23	RAMBOLL
Turbidity	1.2	0.1	NTU'S		1		EPA 180.1	11/15/23	RAMBOLL
Dissolved Oxygen-Field	10.9	0.1	mg/l		1		FIELDDO	11/15/23	RAMBOLL
Redox Potential	299	1	mV		1		ASTM D1498-93	11/15/23	RAMBOLL
Total Boron	187	3.0	ug/L	10.0	1		EPA 200.7	11/23/23	020
Total Calcium	11100	76.2	ug/L	254	1		EPA 200.7	11/23/23	020
Total Iron	1570	58.0	ug/L	250	1		EPA 200.7	11/23/23	020
Dissolved Calcium	11500	76.2	ug/L	254	1		EPA 200.8	11/23/23	020
Dissolved Magnesium	3580	31.2	ug/L	250	1		EPA 200.8	11/23/23	020
Dissolved Potassium	2960	237	ug/L	789	1		EPA 200.8	11/23/23	020

Report Date: Thursday, January 4, 2024

The following are the analytical results for samples received by Laboratory Services:

Sample Description: **MW87 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE70339 Sample Collection Date/Time: 11/15/2023 14:31
Sample Received: 12/05/2023 Sample Collector: L ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Dissolved Sodium	17900	42.0	ug/L	250	1		EPA 200.7	11/23/23	020
Total Filtered Alkalinity as CaCO3	77.8	5.0	mg/l	10.0	1		Std Mtd 2320 B	11/21/23	020
Bicarbonate Ion	77.8	5.0	mg/L	10.0	1		HCO3	11/21/23	020
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	11/21/23	020
Total Dissolved Solids	74.0	8.7	mg/L	20.0	1		Std Mtd 2540 C	11/22/23	020
Total Chloride	Less Than	3.0	mg/L	10.0	5		EPA 300.0	12/1/23	020
Total Fluoride	Less Than	0.48	mg/L	1.6	5		EPA 300.0	12/1/23	020
Total Sulfate	10.5	2.2	mg/L	10.0	5		EPA 300.0	12/1/23	020
Dissolved Chloride	3.4	3.0	mg/L	10.0	5	J	EPA 300.0	12/1/23	020
Dissolved Sulfate	11.3	2.2	mg/L	10.0	5		EPA 300.0	12/1/23	020

Sample Comments:

Sample Description: **MW70 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE70340 Sample Collection Date/Time: 11/15/2023 14:31
Sample Received: 12/05/2023 Sample Collector: L ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Field Water Level	24.68	0.05	feet		1		H2OD	11/15/23	RAMBOLL
Field Temperature	10.3	0.1	Degrees (		1		TEMP	11/15/23	RAMBOLL
Field Conductivity	123	0	umhos		1		FCOND25	11/15/23	RAMBOLL
Field pH	7.4	0.1	Units	0.1	1		FIELDPH	11/15/23	RAMBOLL
Turbidity	0.2	0.1	NTU'S		1		EPA 180.1	11/15/23	RAMBOLL
Dissolved Oxygen-Field	10.9	0.1	mg/l		1		FIELDDO	11/15/23	RAMBOLL
Redox Potential	279	1	mV		1		ASTM D1498-93	11/15/23	RAMBOLL
Total Boron	9.9	3.0	ug/L	10.0	1		EPA 200.7	11/23/23	020
Total Calcium	21400	76.2	ug/L	254	1		EPA 200.7	11/23/23	020
Total Iron	Less Than	58.0	ug/L	250	1		EPA 200.7	11/23/23	020
Dissolved Calcium	19300	76.2	ug/L	254	1		EPA 200.8	11/23/23	020
Dissolved Magnesium	2570	31.2	ug/L	250	1		EPA 200.8	11/23/23	020
Dissolved Potassium	673	273	ug/L	789	1	J	EPA 200.8	11/23/23	020
Dissolved Sodium	1100	42.0	ug/L	250	1		EPA 200.7	11/23/23	020
Total Filtered Alkalinity as CaCO3	65.3	5.0	mg/l	10.0	1		Std Mtd 2320 B	11/21/23	020
Bicarbonate Ion	65.3	5.0	mg/L	10.0	1		HCO3	11/21/23	020
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	11/21/23	020
Total Dissolved Solids	64.0	8.7	mg/L	20.0	1		Std Mtd 2540 C	11/22/23	020
Total Chloride	Less Than	3.0	mg/L	10.0	5		EPA 300.0	12/1/23	020
Total Fluoride	Less Than	0.48	mg/L	1.6	5		EPA 300.0	12/1/23	020
Total Sulfate	3.7	2.2	mg/L	10.0	5	J	EPA 300.0	12/1/23	020
Dissolved Chloride	3.1	3.0	mg/L	10.0	5	J	EPA 300.0	12/1/23	020
Dissolved Sulfate	4.5	2.2	mg/L	10.0	5	J	EPA 300.0	12/1/23	020

Report Date: Thursday, January 4, 2024

The following are the analytical results for samples received by Laboratory Services:

Sample Comments:

Sample Description: **QAQC1 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE70341 Sample Collection Date/Time: 11/15/2023 13:46
Sample Received: 12/05/2023 Sample Collector: L ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Total Boron	12.3	3.0	ug/L	10.0	1		EPA 200.7	11/23/23	020
Total Calcium	7570	76.2	ug/L	254	1		EPA 200.7	11/23/23	020
Total Iron	31000	58.0	ug/L	250	1		EPA 200.7	11/23/23	020
Dissolved Calcium	7730	76.2	ug/L	254	1		EPA 200.8	11/23/23	020
Dissolved Magnesium	3970	31.2	ug/L	250	1		EPA 200.8	11/23/23	020
Dissolved Potassium	2190	237	ug/L	789	1		EPA 200.8	11/23/23	020
Dissolved Sodium	1230	42.0	ug/L	250	1		EPA 200.7	11/23/23	020
Total Filtered Alkalinity as CaCO3	59.1	5.0	mg/l	10.0	1		Std Mtd 2320 B	11/21/23	020
Bicarbonate Ion	59.1	5.0	mg/L	10.0	1		HCO3	11/21/23	020
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	11/21/23	020
Total Dissolved Solids	132	8.7	mg/L	20.0	1		Std Mtd 2540 C	11/22/23	020
Total Chloride	3.4	3.0	mg/L	10.0	5	J	EPA 300.0	12/1/23	020
Total Fluoride	Less Than	0.48	mg/L	1.6	5		EPA 300.0	12/1/23	020
Total Sulfate	Less Than	2.2	mg/L	10.0	5		EPA 300.0	12/1/23	020
Dissolved Chloride	4.3	3.0	mg/L	10.0	5	J	EPA 300.0	12/1/23	020
Dissolved Sulfate	Less Than	2.2	mg/L	10.0	5		EPA 300.0	12/1/23	020

Sample Comments:

Sample Description: **EB4 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE70342 Sample Collection Date/Time: 11/15/2023 15:30
Sample Received: 12/05/2023 Sample Collector: L ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Total Boron	Less Than	3.0	ug/L	10.0	1		EPA 200.7	11/23/23	020
Total Calcium	Less Than	76.2	ug/L	254	1		EPA 200.7	11/23/23	020
Total Iron	Less Than	58.0	ug/L	250	1		EPA 200.7	11/23/23	020
Dissolved Calcium	Less Than	76.2	ug/L	254	1		EPA 200.8	11/23/23	020
Dissolved Magnesium	Less Than	31.2	ug/L	250	1		EPA 200.8	11/23/23	020
Dissolved Potassium	Less Than	237	ug/L	789	1		EPA 200.8	11/23/23	020
Dissolved Sodium	Less Than	42.0	ug/L	250	1		EPA 200.7	11/23/23	020
Total Filtered Alkalinity as CaCO3	Less Than	5.0	mg/l	10.0	1		Std Mtd 2320 B	11/21/23	020
Bicarbonate Ion	Less Than	5.0	mg/L	10.0	1		HCO3	11/21/23	020
Carbonate Ion	Less Than	5.0	mg/L	10.0	1		CO3	11/21/23	020
Total Dissolved Solids	Less Than	8.7	mg/L	20.0	1		Std Mtd 2540 C	11/22/23	020
Total Chloride	Less Than	3.0	mg/L	10.0	5		EPA 300.0	12/1/23	020
Total Fluoride	Less Than	0.48	mg/L	1.6	5		EPA 300.0	12/1/23	020
Total Sulfate	Less Than	2.2	mg/L	10.0	5		EPA 300.0	12/1/23	020
Dissolved Chloride	Less Than	3.0	mg/L	10.0	5		EPA 300.0	12/1/23	020

Report Date: Thursday, January 4, 2024

The following are the analytical results for samples received by Laboratory Services:

Sample Description: **EB4 PIPP Landfill 3 Semi Annual - State and CCR**

Sample ID: AE70342 Sample Collection Date/Time: 11/15/2023 15:30

Sample Received: 12/05/2023 Sample Collector: L ANDERSON

Parameter	Result	LOD	Units	LOQ	DIL	Result Flag	Analysis Method	Analysis Date	Analyst
Dissolved Sulfate	Less Than	2.2	mg/L	10.0	5		EPA 300.0	12/1/23	020

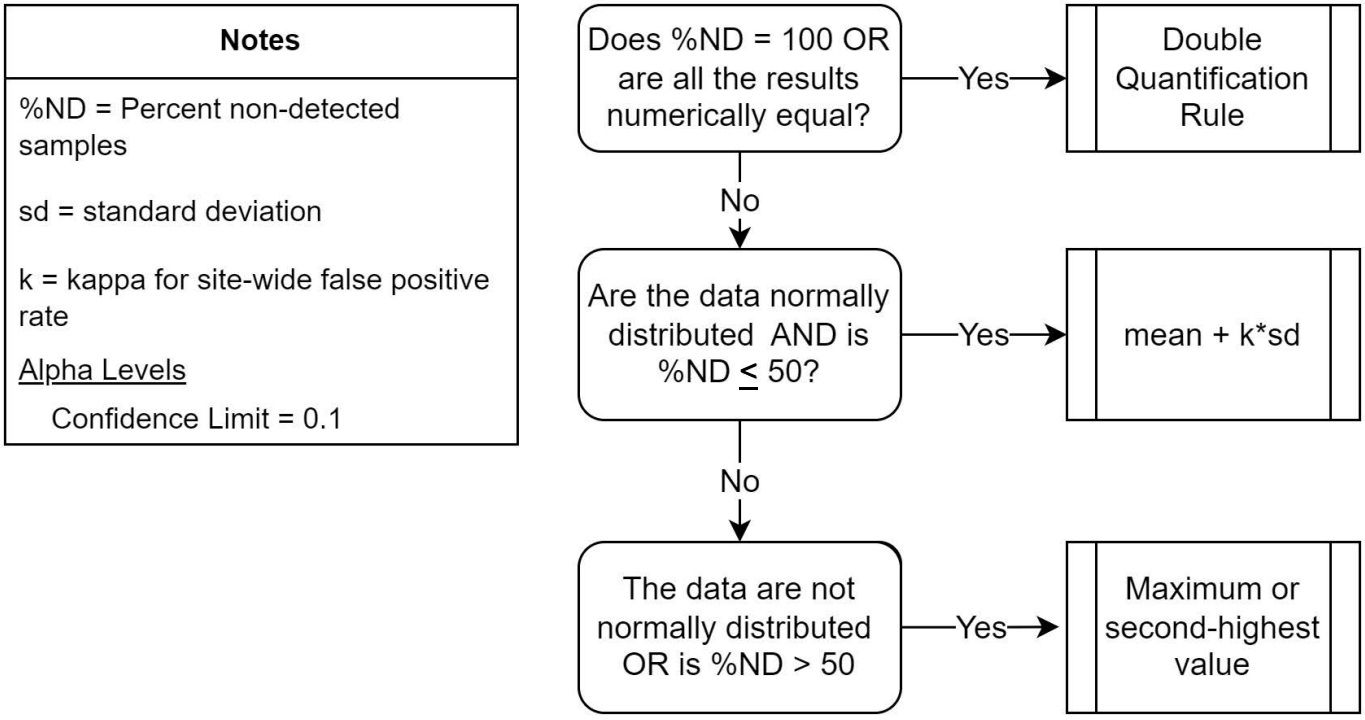
Sample Comments:

LOD and LOQ are adjusted for dilution factor.

'J' Flag, if present indicates an estimated concentration at or above the LOD and below the LOQ.

If there are any questions concerning this report, please contact: Laboratory Services at (414) 221-4595.

APPENDIX B
STATISTICAL METHODOLOGY FOR DETERMINATION OF BACKGROUND VALUES



When data are not normally distributed or %ND > 50, the maximum value is used if the background sample size is < 60. Where the background sample size is > 60, the achievable per-constituent false positive rates for the maximum and second-highest background values will be compared, and the background value with the achievable per-constituent false positive rate that is closest to, but does not exceed, the target per-constituent false positive rate of 0.015% is used.