

Prepared for
We Energies

Date
January 31, 2023

Project No.
1940102327

2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

PRESQUE ISLE POWER PLANT ASH LANDFILL NO. 3

**2022 ANNUAL GROUNDWATER MONITORING AND
CORRECTIVE ACTION REPORT
PRESQUE ISLE POWER PLANT
ASH LANDFILL NO. 3**

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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 2022 (no wells were installed or decommissioned).

In 2022, 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 2022:

- Calcium at wells MW70, MW79, MW80PR, and MW95
- pH at well MW80PR
- Sulfate at well MW79
- Total Dissolved Solids (TDS) at wells MW70 and 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 Presque Isle Power Plant (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, summarizes key actions completed, describes any problems encountered, discusses actions to resolve the problems, and projects key activities for the upcoming year. 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.
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.
3. In addition to all the monitoring data obtained under §§ 257.90 through 257.98, 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.
4. A narrative discussion of any transition between monitoring programs (*e.g.*, the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituent(s) detected at a statistically significant increase relative to background levels).
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. 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 2022.

2. MONITORING AND CORRECTIVE ACTION PROGRAM STATUS

No changes have occurred to the monitoring program status in calendar year 2022 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 2022

The detection monitoring program is summarized in **Table A** on the following page. The groundwater monitoring system, including the CCR unit and all background and compliance monitoring wells, is presented in **Figure 1**. No changes were made to the monitoring system in 2022. In general, one groundwater sample was collected from each background (upgradient) 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 2021 and both monitoring events in 2022 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 2021 and both monitoring events in 2022 are presented in **Table 2**. Laboratory reports for the fourth quarter of 2021 and both 2022 monitoring events are included in **Appendix A**.

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 November 1-3, 2021 (Detection Monitoring Round 9) and May 23-25, 2022 (Detection Monitoring Round 10) were completed in 2022 and within 90 days of receipt of the analytical data. SSIs over background concentrations for Appendix III constituents were identified during data evaluations of Round 10 groundwater sampling analytical data. Additional information regarding SSI parameters and well locations is provided in **Table A**.

Potential alternate sources and natural variation were evaluated 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**.

Table A. 2021-2022 Detection Monitoring Program Summary

Sampling Date	Analytical Data Receipt Date	Parameters Collected	SSI Wells (Parameters)	SSI(s) Determination Date	ASD Completion Date ¹
November 1-3, 2021	November 29, 2021	Appendix III	MW70, MW80PR, and MW95 (Calcium) MW79 (Sulfate) MW80PR (TDS)	February 28, 2022	NA
May 23-25, 2022	June 30, 2022	Appendix III	MW70, MW79, MW80PR, and MW95 (Calcium) MW80PR (pH) MW70 and MW80PR (TDS)	September 28, 2022	NA
November 7-9, 2022	December 28, 2022	Appendix III	TBD	TBD before March 28, 2023	NA

Notes:

ASD: Alternate Source Demonstration

NA: not applicable

SSI: statistically significant increase

¹ ASDs previously completed on April 15, 2018; December 4, 2018; and May 28, 2019 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 1-3, 2021; May 23-25, 2022; and November 7-9, 2022 sampling events.

4. PROBLEMS ENCOUNTERED AND ACTIONS TO RESOLVE THE PROBLEMS

No problems were encountered with the Groundwater Monitoring Program during 2022. Groundwater samples were collected and analyzed in accordance with the SAP and all data were accepted.

5. KEY ACTIVITIES PLANNED FOR 2023

The following key activities are planned for 2023:

- Continuation of the detection monitoring program with semi-annual sampling scheduled for the second and fourth quarters of 2023.
- Complete evaluation of analytical data from the compliance 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 2023 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 2023 (*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: 10/01/2021 to 11/09/2022

Lab Methods:

Well Id	Date Sampled	Lab Id	GW Elv, ft
MW70	11/4/2021	AE57282	817.25
	5/25/2022	AE61178	823.84
	11/8/2022	AE64064	820.96
MW79	11/3/2021	AE57280	818.97
	5/25/2022	AE61184	820.09
	11/8/2022	AE64062	819.90
MW80PR	11/3/2021	AE57281	816.74
	5/24/2022	AE61177	819.25
	11/8/2022	AE64063	816.95
MW85	11/4/2021	AE57284	822.38
	5/25/2022	AE61182	825.26
	11/9/2022	AE64067	822.22
MW86	11/4/2021	AE57285	857.96
	5/25/2022	AE61181	857.01
	11/9/2022	AE64068	858.68
MW87	11/4/2021	AE57286	823.43
	5/25/2022	AE61179	823.35
	11/8/2022	AE64066	820.57
MW95	11/3/2021	AE57279	820.59
	5/25/2022	AE61183	821.91
	11/8/2022	AE64061	820.71

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

Date Range: 11/01/2021 to 12/31/2022

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	11/4/2021	AE57282	0.0129	24.4000	1.00	<0.10	7.2	4.2
	5/25/2022	AE61178	0.0154	49.8000	1.10	<0.10	7.6	4.1
	11/8/2022	AE64064	0.0119	23.8000	0.76	<0.10	7.3	4.2
MW79	11/3/2021	AE57280	0.0252	13.4000	1.20	<0.10	5.8	14.2
	5/25/2022	AE61184	0.0259	18.9000	1.10	<0.10	6.2	9.4
	11/8/2022	AE64062	0.0242	15.1000	0.72	<0.10	5.9	4.6
MW80PR	11/3/2021	AE57281	0.0117	50.5000	4.40	<0.10	7.7	5.9
	5/24/2022	AE61177	0.0279	48.7000	5.00	<0.10	7.9	5.6
	11/8/2022	AE64063	0.0110	52.0000	4.10	<0.10	7.8	5.2
MW85	11/4/2021	AE57284	0.0148	7.2500	1.30	<0.10	6.5	2.9
	5/25/2022	AE61182	0.0171	7.0600	1.10	<0.10	6.5	2.9
	11/9/2022	AE64067	0.0124	4.7400	0.83	<0.10	7.0	3.2
MW86	11/4/2021	AE57285	0.0140	5.8500	5.30	<0.48	5.9	2.8
	5/25/2022	AE61181	0.0136	2.3000	4.10	<0.48	6.3	<2.2
	11/9/2022	AE64068	0.0135	6.3100	1.90	<0.10	5.9	<0.4
MW87	11/4/2021	AE57286	0.0906	11.5000	1.20	<0.10	6.9	5.3
	5/25/2022	AE61179	0.0299	2.8300	1.10	<0.10	5.9	4.5
	11/8/2022	AE64066	0.0477	10.6000	1.00	<0.10	6.9	4.6
MW95	11/3/2021	AE57279	0.0292	29.0000	0.95	<0.10	7.4	5.0
	5/25/2022	AE61183	0.0273	24.0000	0.92	<0.10	7.0	4.4
	11/8/2022	AE64061	0.0327	24.3000	0.66	<0.10	7.8	3.8

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

Date Range: 11/01/2021 to 12/31/2022

Lab Methods:

Well Id	Date Sampled	Lab Id	TDS, mg/L
MW70	11/4/2021	AE57282	88.0
	5/25/2022	AE61178	166.0
	11/8/2022	AE64064	76.0
MW79	11/3/2021	AE57280	58.0
	5/25/2022	AE61184	108.0
	11/8/2022	AE64062	40.0
MW80PR	11/3/2021	AE57281	158.0
	5/24/2022	AE61177	176.0
	11/8/2022	AE64063	142.0
MW85	11/4/2021	AE57284	32.0
	5/25/2022	AE61182	42.0
	11/9/2022	AE64067	10.0
MW86	11/4/2021	AE57285	152.0
	5/25/2022	AE61181	132.0
	11/9/2022	AE64068	86.0
MW87	11/4/2021	AE57286	74.0
	5/25/2022	AE61179	28.0
	11/8/2022	AE64066	52.0
MW95	11/3/2021	AE57279	108.0
	5/25/2022	AE61183	134.0
	11/8/2022	AE64061	84.0




TABLE 3
STATISTICAL BACKGROUND VALUES
 2022 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



-  DOWNGRADIENT MONITORING WELL LOCATION
-  UPGRADIENT MONITORING WELL LOCATION
-  LANDFILL NO. 3



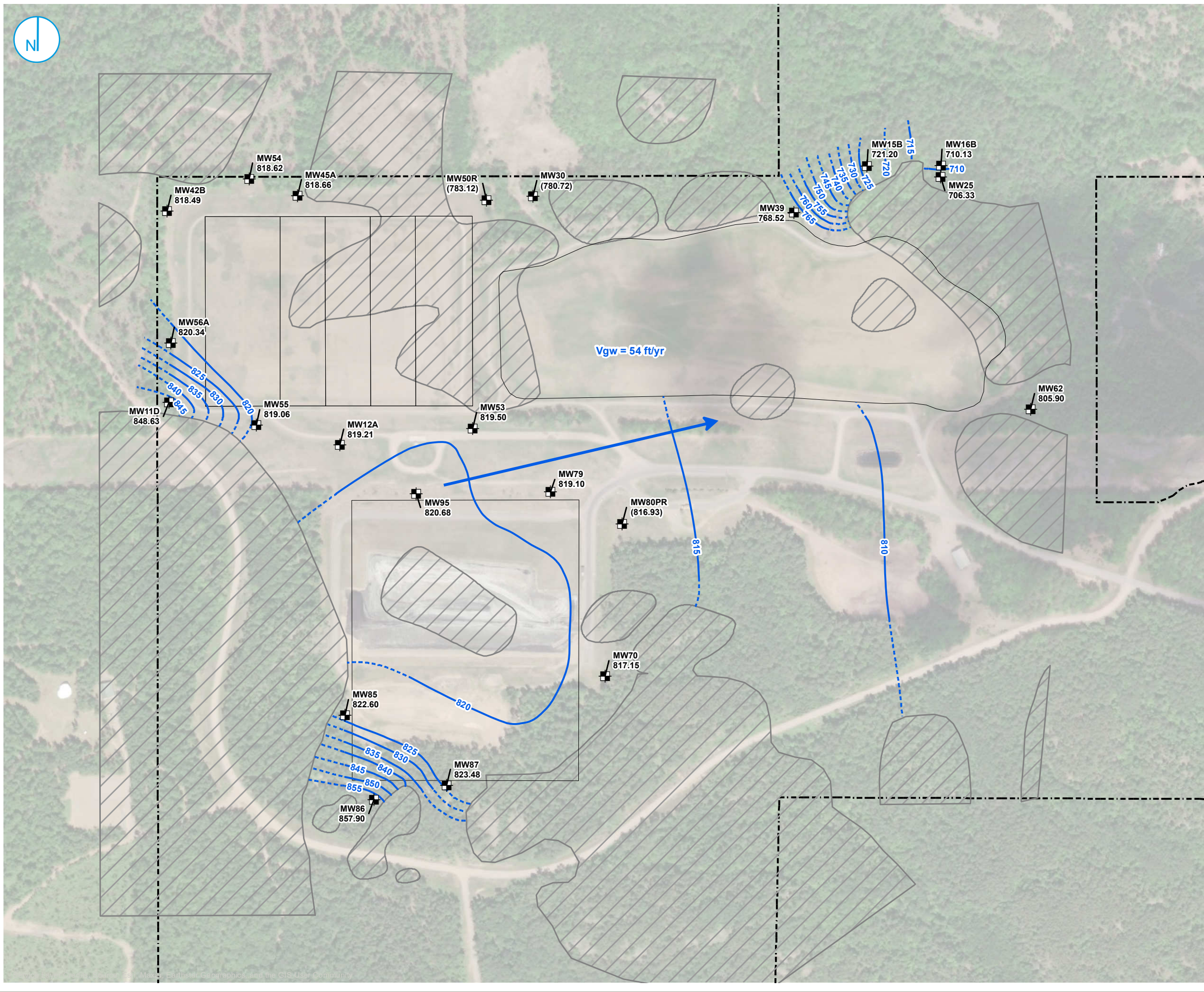
MONITORING WELL LOCATION MAP

2022 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT PRESQUE ISLE POWER PLANT ASH LANDFILL NO. 3 MARQUETTE COUNTY, MICHIGAN

FIGURE 1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.





- 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

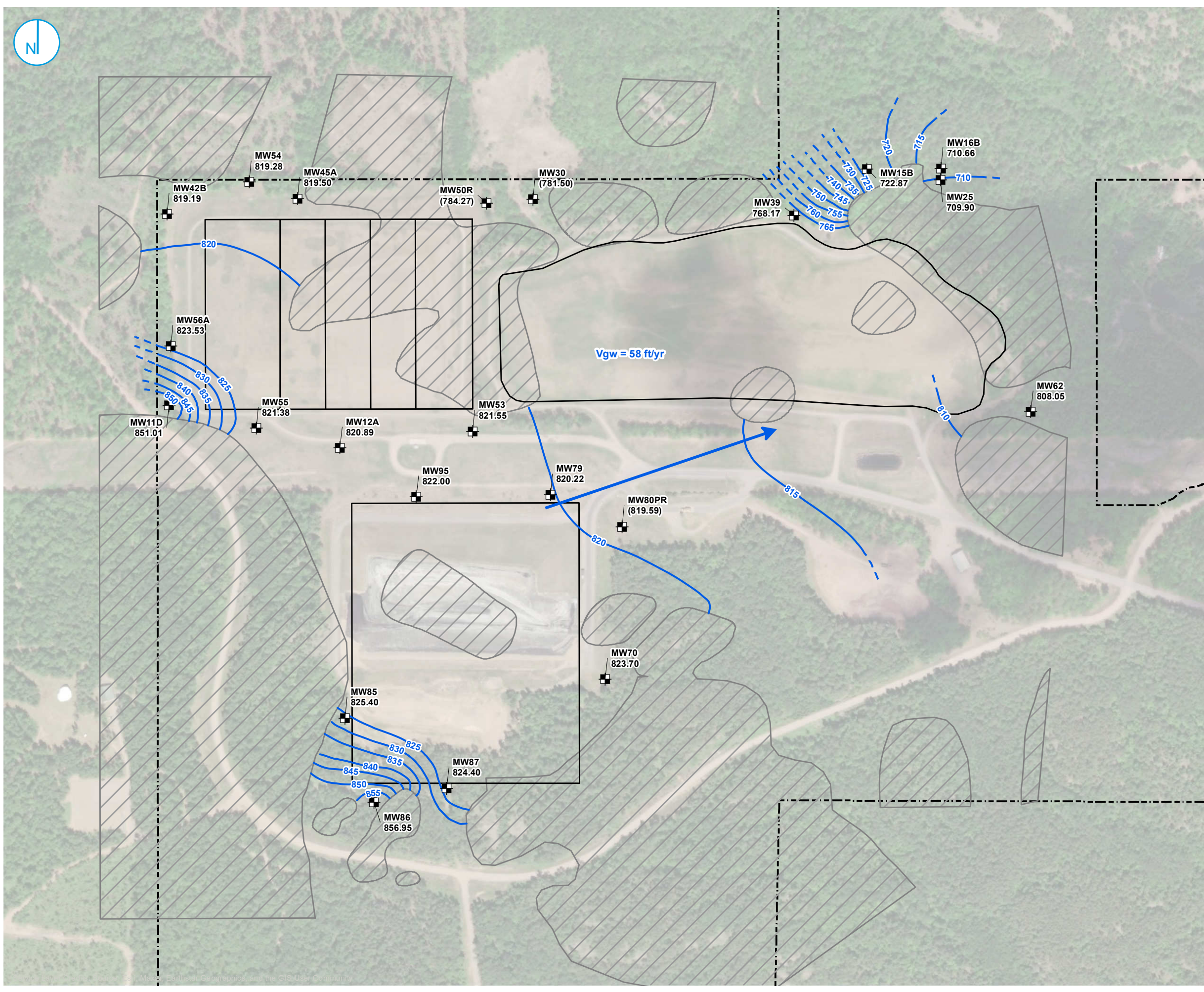


**WATER TABLE ELEVATION CONTOURS
 NOVEMBER 1-3, 2021**

**2022 ANNUAL GROUNDWATER MONITORING
 AND CORRECTIVE ANNUAL REPORT
 PRESQUE ISLE POWER PLANT
 ASH LANDFILL NO. 3
 MARQUETTE COUNTY, MICHIGAN**

FIGURE 2





- 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



**WATER TABLE ELEVATION CONTOURS
 MAY 24-26, 2022**

**2022 ANNUAL GROUNDWATER MONITORING
 AND CORRECTIVE ANNUAL REPORT
 PRESQUE ISLE POWER PLANT
 ASH LANDFILL NO. 3
 MARQUETTE COUNTY, MICHIGAN**

FIGURE 3





- 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



**WATER TABLE ELEVATION CONTOURS
 NOVEMBER 7-9, 2022**

**2022 ANNUAL GROUNDWATER MONITORING
 AND CORRECTIVE ANNUAL REPORT
 PRESQUE ISLE POWER PLANT
 ASH LANDFILL NO. 3
 MARQUETTE COUNTY, MICHIGAN**

FIGURE 4



APPENDICES

APPENDIX A
LABORATORY REPORTS



RAMBOLL | Bright ideas. Sustainable change.

Attachment 1

ENT
ATTACHMENT
SECTION

We Energies PIPP Ash LF #3 Sampling

**FIELD NOTEBOOK
1940100325-FB011
Routine State Sampling**

**November 2021
Ramboll Project No: 1940100325/210**



234 W Florida Street, 5th Floor
Milwaukee, WI 53204



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Ramboll
www.ramboll.com

Activity Summary Report

Date(s): 11-3-21

Page 1 of 2

Project:	Presque Isle Power Plant Ash LF 3	Location:	Marquette, MI
Project #:	1940100325	Personnel:	
Task #:	210		

Date	Arrival Time	Departure Time	Temperature am / pm	Cloud Cover am / pm	Wind Conditions Am / pm
11-3-21	1500	1800	43° / 38°	sun / cloudy	10-20 / S-60
11-4-21	800	1145	37° / 40°	cloud / S-20	10-10 / 10-20

Summary of Field Notes/Sheets Recorded:

- Sample Control Log(s) _____
- Well Condition Form(s) _____
- Water Level and Field Parameters Field Form(s) _____
- Well Development And Groundwater Sampling Field Form(s) _____
- Chain-of-Custody(s) _____
- Equipment Rental Information _____
- Other: _____

Contractor Summary:

NA

Summary of Equipment On-Site:

Aqua Troll 600 water quality meter, Solnist water level indicator, 7-piece bailer, MP50 controller, Ramboll battery and Ramboll truck.

Site Visitor Summary:

NA

Attachment 1
FIELD
ATTACHMENT
SECTION

Activity Summary Report

Date(s):
Project Number:

11-3-21 - 11-4-21
1940100325/210

Page 2 of 2

Summary of Work (include sample locations, types, media, etc...)

11-3 Sample/gauge w-45, 74, 80PK, 70, 85, 86, 87

Issues/ Resolution:

NA

Additional Comments:

The gates were locked upon arrival and locked upon exit at end of each day. No gate opener and keys returned to security at end of day. No observed signs of unauthorized access to the site (e.g. trails/denying evidence of vehicle/ATV traffic, etc.) No noticeable signs of property damage from weather or public/personnel

Field Representative:
Date:

Nate Duda
11-4-21

Signature:



Activity Summary Report



Sample Control Log

Sample Control Log

Project Name: We Energies Presque Isle Power Plant Ash LF 3

Analytical Laboratory: We Energies

Project ID: 1940100325

NA

Task ID: 210

Field Staff ID(s): NWA CTD

Well ID	Sample Media	Sample Order	Total Bails	QC Sample Information (duplicate, blank, etc)	COC Number	Notes (turnaround time, handling notes)
MW15	GW	1	5	-	0325-210.001	1609 11-3-21
MW79	GW	2	8	-		1654
MW80PR	GW	3	30	-		1731
MW70	GW	4	2	-		902 11-3-21 no TOC present
QA/QC1	GW	5	2	PUP MW70		907912 no TOC present
MW85	GW	6	6	-		822997
MW86	GW	7	14	-		1019 no TOC present
MW87	GW	8	10	-		1055 no TOC present
EB3	OT	9	-	Equipment blank?		1111 no TOC present



Well Condition Field Form

WELL CONDITION FIELD FORM

Site : We Energies Presque Isle Power Plant Ash LF 3
 Project # : 1940100325
 Task # : 210

Date : 11-3-21
 Samplers : AMP CTA

Location	EVERY SAMPLING EVENT										AT LEAST ONCE A YEAR			Field Comments:
	Surface Seal	Lid	Gasket	Lock	Cap	Protection (bumper posts, etc.)	Bailer	Pump	Well Casing	Water Level (feet)	Expected Well Depth (feet)	Field Measured Well Depth (feet)	Well Base Sediment Thickness (feet)	
MW69		NA	NA				NA				44.62	NM	NA	
MW70	G	NA	NA	G	→		NA	G	→	29.51	31.05	NM	NA	
MW71		NA	NA				NA				39.14	NM	NA	
MW75R		NA	NA				NA				52.46	NM	NA	ABANDONED
MW76		NA	NA				NA				46.55	NM	NA	
MW77		NA	NA				NA				43.76	NM	NA	
MW78		NA	NA				NA				22.84	NM	NA	
MW78P		NA	NA				NA				50.27	NM	NA	
MW79	G	NA	NA	G	→		NA	G	→	23.24	29.60	NM	NA	
MW80R		NA	NA				NA				24.30	NM	NA	
MW80PR	G	NA	NA	G	→		NA	G	→	17.61	40.85	NM	NA	
MW85	G	NA	NA	G	→		NA	G	→	41.30	47.85	NM	NA	
MW85P		NA	NA				NA				87.28	NM	NA	
MW86	G	NA	NA	G	→		NA	G	→	5.00	16.84	NM	NA	

P : Poor - Potential or Evident Sample Integrity Issues (additional comments required, picture(s) desirable)
 F : Fair - Future Sample Integrity May Be Compromised if Well Repair/Upgrade is Not Undertaken (additional comments required, picture(s) desirable)
 G : Good (additional comments not required)
 n/a : Not Applicable



WELL CONDITION FIELD FORM

Site : We Energies Presque Isle Power Plant Ash LF 3
 Project # : 1940100325

Task # : 210

Date : 11-3-21

Samplers : nmr ctp

Location	EVERY SAMPLING EVENT								AT LEAST ONCE A YEAR				Field Comments
	Surface Seal	Lid	Gasket	Lock	Cap	Protection (bumper posts, etc.)	Bailer	Pump	Well Casing	Water Level (feet)	Expected Well Depth (feet)	Field Measured Well Depth (feet)	
MW87	G	NA	NA	G	G	G	NA	G	G	31.47	39.61	NM	NA
MW95	G	NA	NA	G	G	G	NA	G	G	32.53	36.00	NM	NA
MW96	G	NA	NA	G	G	G	NA	G	G	29.05	29.05	NM	NA
MW97	G	NA	NA	G	G	G	NA	G	G	32.95	32.95	NM	NA
MW98	G	NA	NA	G	G	G	NA	G	G	20.25	20.25	NM	NA
MW99	G	NA	NA	G	G	G	NA	G	G	31.70	31.70	NM	NA

P : Poor - Potential or Evident Sample Integrity Issues (additional comments required, picture(s) desirable)
 F : Fair - Future Sample Integrity May Be Compromised if Well Repair/Upgrade is Not Undertaken (additional comments required, picture(s) desirable)
 G : Good (additional comments not required)
 n/a : Not Applicable

I:\WB-31060\1202-Web-Landfill-711\Docs\1660\PIPP - MDSQ Reporting\Completed Sampling Events\2021\Field Book Supporting Doc\1197 PIPP 3-WCF-011.xls 2 of 2



Well Development and
Groundwater Sampling
Field Form

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Presque Isle Power Plant Ash LF 3 Client: We Energies
 Project Number: 1940100325 Task #: 210 Start Date: 11/14/21 Time: 1007
 Field Personnel: NRP UJA Finish Date: 1019

WELL INFORMATION

Well ID: MW80Rm-06
 Casing ID: 2 Inches
 Total Depth: 24.30 ft. 16.6 Inches
 Borehole Diameter: _____ Inches
 Filter Pack Interval: _____

EVENT TYPE

Well Development
 Low-Flow / Low-Stress Sampling
 Well Volume Approach Sampling
 Other (Specify below)

PURGE INFORMATION

Purge Method: Bailer Pump
 Bailer Type: 7-piece
 Pump Type and Serial #: NA
 Tube/Pump Intake Depth: NA
 Stabilized Pumping Rate: NA

DEPTH MEASUREMENTS

	INITIAL		FINAL	
	Depth FT BTOC	Time (24-Hour)	Depth FT BTOC	Time (24-Hour)
LNAPL	NA	NA	NA	NA
Groundwater	<u>5.80</u>	<u>1007</u>	NA	<u>1619</u>
DNAPL	NA	NA	NA	NA
Casing Base	NA	NA	NA	NA

VOLUME CALCULATION AND PRODUCTION INFORMATION

Volume Calculation Type: Well Casing Borehole
 Volume Per Foot: _____ 1.3 Bails
 Standing Water Column: _____ feet
 1 Well Volume: 3.5 Bails 10.8 4 Well Volumes: 17 Bails
 Actual Volume: 19 Bails
 Well Purged Dry? Yes No

Water Quality Probe Type and Serial # AquaTroll 600

WATER QUALITY INDICATOR PARAMETERS

Sampling Stage	Time (military)	Volume Removed (bails)	Depth to Water (Feet)	Drawdown (Feet)	Temp (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
initial	<u>1007</u>	NA	<u>5.80</u>	NA	-	-	-	-	-	-	-
Sample	<u>1019</u>	<u>19</u>	-	-	<u>10.39</u>	<u>5.91</u>	<u>213.92</u>	<u>0.13</u>	<u>0.00</u>	<u>0.5</u>	<u>Clear</u>

ABBREVIATIONS

ORP - Oxidation-Reduction Potential
 SEC - Specific Electrical Conductance
 SU - Standard Units
 Temp - Temperature
 nm - Not Measured
 na - Not Applicable
 FT BTOC - Feet Below Top of Casing
 Cond. - Actual Conductivity

NOTES

Initial/Potentiometric WL: _____ Date: _____ Time: 7

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Presque Isle Power Plant Ash LF 3
 Project Number: 1940100325
 Field Personnel: NAKIA

Client: We Energies
 Task #: 210
 Start Date: 11/3/21
 Finish Date: 12/1
 Time: 1716
 Time: 1711

WELL INFORMATION

Well ID: MW80PR
 Casing ID: 2 Inches
 Total Depth: 40.85 ft.
 Borehole Diameter: _____ Inches
 Filter Pack Interval: _____

EVENT TYPE

Well Development
 Low-Flow / Low-Stress Sampling
 Well Volume Approach Sampling
 Other (Specify below)

PURGE INFORMATION

Purge Method: Bailor Pump
 Bailer Type: NA
 Pump Type and Serial #: QED Bladder Pump P1150
 Tube/Pump Intake Depth: 38.7 ft.
 Stabilized Pumping Rate: _____

DEPTH MEASUREMENTS

	INITIAL		FINAL	
	Depth FT BTOC	Time (24-Hour)	Depth FT BTOC	Time (24-Hour)
LNAPL	NA	NA	NA	NA
Groundwater	17.61	1716	NA	1731
DNAPL	NA	NA	NA	NA
Casing Base	NA	NA	NA	NA

VOLUME CALCULATION AND PRODUCTION INFORMATION

Volume Calculation Type: Well Casing Borehole
 Volume Per Foot: _____ feet
 Standing Water Column: 2324 feet
 1 Well Volume: 7.5 Bails
 4 Well Volumes: 30 Bails
 Actual Volume: 30 Bails
 Well Purged Dry? Yes No

AquaTroll 600

Water Quality Probe Type and Serial # _____

WATER QUALITY INDICATOR PARAMETERS

Sampling Stage	Time (military)	Volume Removed (bails)	Depth to Water (Feet)	Drawdown (Feet)	Temp (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mv)	Visual Clarity
initial	1716	NA	-	NA	-	-	-	-	-	-	-
Sample	1731	30	-	-	8.84	7.74	290.16	8.84	3.64	141.1	Clear

ABBREVIATIONS

ORP - Oxidation-Reduction Potential
 SEC - Specific Electrical Conductance
 SU - Standard Units
 Temp - Temperature
 FT BTOC - Feet Below Top of Casing
 na - Not Applicable
 nm - Not Measured

NOTES

Date: _____ Time: _____

Initial/Potentiometric WL: _____

3



WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

Site: Presque Isle Power Plant Ash LF 3
 Project Number: 1940100325
 Field Personnel: _____

PROJECT INFORMATION

Client: We Energies
 Task #: 210
 Start Date: Nov 17 2010
 Finish Date: 11/4/21

Time: 1037
 Time: 1055

WELL INFORMATION

Well ID: MW78-67
 Casing ID: 2 inches
 Total Depth: 39.6 ~~22.84~~ ft.
 Borehole Diameter: _____ inches
 Filter Pack Interval: _____ inches

EVENT TYPE

- Well Development
- Low-Flow / Low-Stress Sampling
- Well Volume Approach Sampling
- Other (Specify below)

PURGE INFORMATION

Purge Method: Bailor Pump
 Bailor Type: 7-piece
 Pump Type and Serial #: NA
 Tube/Pump Intake Depth: NA
 Stabilized Pumping Rate: NA

DEPTH MEASUREMENTS

	INITIAL		FINAL	
	Depth FT BTOC	Time (24-Hour)	Depth FT BTOC	Time (24-Hour)
LNAPL	NA	NA	NA	NA
Groundwater	<u>31.97</u>	<u>1037</u>	NA	<u>1055</u>
DNAPL	NA	NA	NA	NA
Casing Base	NA	NA	NA	NA

VOLUME CALCULATION AND PRODUCTION INFORMATION

Volume Calculation Type: Well Casing Borehole
 Volume Per Foot: _____ feet
 Standing Water Column: 7.69 feet
 1 Well Volume: 2.7 Bails
 4 Well Volumes: 10 Bails
 Actual Volume: 10 Bails
 Well Purged Dry? Yes No

Water Level Serial #: _____

Solinst _____
 Water Quality Probe Type and Serial # _____

WATER QUALITY INDICATOR PARAMETERS

Sampling Stage	Time (military)	Volume Removed (bails)	Depth to Water (Feet)	Drawdown (Feet)	Temp (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
initial	<u>1037</u>	NA	<u>31.97</u>	NA	-	-	-	-	-	-	-
Sample	<u>1055</u>	<u>10</u>	-	-	<u>6.38</u>	<u>6.84</u>	<u>144.77</u>	<u>9.70</u>	<u>0.02</u>	<u>36.1</u>	<u>clear</u>

NOTES

Initial/Potentiometric WL: _____ Date: _____ Time: 8
 No TOC present
 1.3 will be present

ABBREVIATIONS

- Cond. - Actual Conductivity
- FT BTOC - Feet Below Top of Casing
- na - Not Applicable
- nm - Not Measured
- ORP - Oxidation-Reduction Potential
- SEC - Specific Electrical Conductance
- SU - Standard Units
- Temp - Temperature



WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Presque Isle Power Plant Ash LF 3
 Client: We Energies
 Project Number: 1940100325
 Task #: 210
 Field Personnel:
 Start Date: 11/3/21 Time: 1530
 Finish Date: 11/3/21 Time: 1605

WELL INFORMATION

Well ID: MW95
 Casing ID: 2 Inches
 Total Depth: 36.00 ft.
 Borehole Diameter: _____ Inches
 Filter Pack Interval: _____

EVENT TYPE

Well Development
 Low-Flow / Low-Stress Sampling
 Well Volume Approach Sampling
 Other (Specify below)

PURGE INFORMATION

Purge Method: Bailer Pump
 Bailer Type: NA
 Pump Type and Serial #: QED Bladder Pump P1150
 Tube/Pump Intake Depth: 35 ft.
 Stabilized Pumping Rate: _____

DEPTH MEASUREMENTS

	INITIAL		FINAL	
	Depth FT BTOC	Time (24-Hour)	Depth FT BTOC	Time (24-Hour)
LNAPL	NA	NA	NA	NA
Groundwater	32.57	1530	NA	1609
DNAPL	NA	NA	NA	NA
Casing Base	NA	NA	NA	NA

VOLUME CALCULATION AND PRODUCTION INFORMATION

Volume Calculation Type: Well Casing Borehole
 Volume Per Foot: _____ 1.3 Bails
 Standing Water Column: _____ feet
 1 Well Volume: 125 Bails 4 Well Volumes: 5 Bails
 Actual Volume: 5 Bails
 Well Purged Dry? Yes No

Water Level Serial #: _____ Solnist _____ Water Quality Probe Type and Serial # _____ AquaTroll 600

WATER QUALITY INDICATOR PARAMETERS

Sampling Stage	Time (military)	Volume Removed (bails)	Depth to Water (Feet)	Drawdown (Feet)	Temp (°C)	pH (SU)	SEC or Cond. (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
initial	1540	NA	-	NA	8.30	7.38	189.41	8.80	2.71	127.3	clear
Sample	1609	5	-	-	-	-	-	-	-	-	-

ABBREVIATIONS

ORP - Oxidation-Reduction Potential
 Cond. - Actual Conductivity
 SEC - Specific Electrical Conductance
 FT BTOC - Feet Below Top of Casing
 SU - Standard Units
 na - Not Applicable
 nm - Not Measured

NOTES

Initial/Potentiometric WL: _____ Date: _____ Time: _____



WORLD SERVICE (SINGAPORE) AND ASSOCIATED CAMPS (NO. 1) FORM

REPORT OF ACTIVITIES

The Project or Camp Report No. 13

Project Name: WORLD SERVICE

File No. 13

Year: 1952

Country: SINGAPORE

City: SINGAPORE

Project Director: [Signature]

The Camp Name: WORLD SERVICE

Year: 1952

Country: SINGAPORE

City: SINGAPORE

Project Director: [Signature]

The Camp Name: WORLD SERVICE

Year: 1952

Country: SINGAPORE

City: SINGAPORE

Project Director: [Signature]

The Camp Name: WORLD SERVICE

Month	Year	Country	City	Project Director	Camp Name	Activities	Remarks
Jan	1952	SINGAPORE	SINGAPORE	[Signature]	WORLD SERVICE	...	...
Feb	1952	SINGAPORE	SINGAPORE	[Signature]	WORLD SERVICE	...	...
Mar	1952	SINGAPORE	SINGAPORE	[Signature]	WORLD SERVICE	...	...
Apr	1952	SINGAPORE	SINGAPORE	[Signature]	WORLD SERVICE	...	...
May	1952	SINGAPORE	SINGAPORE	[Signature]	WORLD SERVICE	...	...
Jun	1952	SINGAPORE	SINGAPORE	[Signature]	WORLD SERVICE	...	...
Jul	1952	SINGAPORE	SINGAPORE	[Signature]	WORLD SERVICE	...	...
Aug	1952	SINGAPORE	SINGAPORE	[Signature]	WORLD SERVICE	...	...
Sep	1952	SINGAPORE	SINGAPORE	[Signature]	WORLD SERVICE	...	...
Oct	1952	SINGAPORE	SINGAPORE	[Signature]	WORLD SERVICE	...	...
Nov	1952	SINGAPORE	SINGAPORE	[Signature]	WORLD SERVICE	...	...
Dec	1952	SINGAPORE	SINGAPORE	[Signature]	WORLD SERVICE	...	...

Project Director: [Signature]

The Camp Name: WORLD SERVICE

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Presque Isle Power Plant Ash LF 3

Client: We Energies

Project Number: 1940100325

Task #: 210

Field Personnel: NM LIA

Start Date: 11/3/21

Time: 1630

Finish Date: 11/3/21

Time: 1659

WELL INFORMATION

Well ID: MW96-71

Casing ID: 2 inches

Total Depth: 29.85 ft.

Borehole Diameter: _____ inches

Filter Pack Interval: _____

EVENT TYPE

- Well Development
- Low-Flow / Low-Stress Sampling
- Well Volume Approach Sampling
- Other (Specify below)

PURGE INFORMATION

- Purge Method: Bailer Pump
- Bailer Type: 7-piece
- Pump Type and Serial #: NA
- Tube/Pump Intake Depth: NA
- Stabilized Pumping Rate: NA

DEPTH MEASUREMENTS

	INITIAL		FINAL	
	Depth FT BTOC	Time (24-Hour)	Depth FT BTOC	Time (24-Hour)
LNAPL	NA	NA	NA	NA
Groundwater	<u>23.24</u>	<u>1630</u>	NA	<u>1659</u>
DNAPL	NA	NA	NA	NA
Casing Base	NA	NA	NA	NA

VOLUME CALCULATION AND PRODUCTION INFORMATION

Volume Calculation Type: Well Casing Borehole
 1.3 Bails
 Volume Per Foot: _____ feet
 Standing Water Column: 6.36 feet
 4 Well Volumes: 8 Bails
 1 Well Volume: 2 Bails
 Actual Volume: 8 Bails
 Well Purged Dry? Yes No

Water Level Serial #: _____

Water Quality Probe Type and Serial # _____

Aqua Troll 600

WATER QUALITY INDICATOR PARAMETERS

Sampling Stage	Time (military)	Volume Removed (bails)	Depth to Water (Feet)	Drawdown (Feet)	Temp (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mv)	Visual Clarity
initial	<u>1630</u>	NA	<u>23.24</u>	NA	-	-	<u>131.84</u>	<u>6.39</u>	<u>2.16</u>	<u>172.5</u>	<u>clear</u>
Sample	<u>1659</u>	<u>8</u>	-	-	<u>9.61</u>	<u>5.75</u>					

ABBREVIATIONS

- ORP - Oxidation-Reduction Potential
- SEC - Specific Electrical Conductance
- SU - Standard Units
- Temp - Temperature
- na - Not Applicable
- n/m - Not Measured

Notes: _____

Date: _____

Time: _____

Initial/Potentiometric WL: _____

2

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Presque Isle Power Plant Ash LF 3 Client: We Energies

Project Number: 1940100325 Task #: 210 Start Date: 11/19/12 Time: 8:50

Field Personnel: *NM UTR* Finish Date: Time: 7:02

WELL INFORMATION

Well ID: MW70

Casing ID: 2 inches

Total Depth: 31.05 ft.

Borehole Diameter: inches

Filter Pack Interval: inches

EVENT TYPE

Well Development
 Low-Flow / Low-Stress Sampling
 Well Volume Approach Sampling
 Other (Specify below)

PURGE INFORMATION

Purge Method: Bailor Pump
 Bailor Type: 7-piece
 Pump Type and Serial #: QED Bladder Pump P1150
 Tube/Pump Intake Depth: 30.1 ft.
 Stabilized Pumping Rate:

DEPTH MEASUREMENTS

	INITIAL		FINAL	
	Depth FT BTOC	Time (24-Hour)	Depth FT BTOC	Time (24-Hour)
LNAPL	NA	NA	NA	NA
Groundwater	29.51	058	NA	907
DNAPL	NA	NA	NA	NA
Casing Base	NA	NA	NA	NA

VOLUME CALCULATION AND PRODUCTION INFORMATION

Volume Calculation Type: Well Casing Borehole

Volume Per Foot: 1.3 Balls

Standing Water Column: 1.57 feet

1 Well Volume: 0.5 Balls 4 Well Volumes: 2 Balls

Actual Volume: 2 Balls

Well Purged Dry? Yes No

Water Level Serial #: Solmist Water Quality Probe Type and Serial #: AquaTroll 600

WATER QUALITY INDICATOR PARAMETERS

Sampling Stage	Time (military)	Volume Removed (balls)	Depth to Water (Feet)	Drawdown (Feet)	Temp (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
initial	458	NA	29.51	NA	-	-	-	-	-	-	-
Sample	907	NA	-	-	8.06	7.11	196.63	10.31	0.00	144.3	Clear

ABBREVIATIONS

- ORP - Oxidation-Reduction Potential
- Cond. - Actual Conductivity
- SEC - Specific Electrical Conductance
- FT BTOC - Feet Below Top of Casing
- na - Not Applicable
- mm - Not Measured
- SU - Standard Units
- Temp - Temperature

NOTES

2/19/12/12

Initial/Potentiometric WL: Date: Time:



WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Presque Isle Power Plant Ash LF 3
 Project Number: 1940100325
 Field Personnel: NWA LTD
 Client: We Energies
 Task #: 210
 Start Date: 11/4/21
 Finish Date: 11/4/21
 Time: 8:32
 Time: 9:57

WELL INFORMATION

Well ID: MW85
 Casing ID: 2
 Total Depth: 47.85 ft.
 Borehole Diameter: _____
 Filter Pack Interval: _____

EVENT TYPE

Well Development
 Low-Flow / Low-Stress Sampling
 Well Volume Approach Sampling
 Other (Specify below)

PURGE INFORMATION

Purge Method: Bailer Pump
 Bailer Type: NA
 Pump Type and Serial #: QED Bladder Pump P1150
 Tube/Pump Intake Depth: 46.9 ft.
 Stabilized Pumping Rate: _____

DEPTH MEASUREMENTS

	INITIAL		FINAL	
	Depth FT BTOC	Time (24-Hour)	Depth FT BTOC	Time (24-Hour)
LNAPL	NA	NA	NA	NA
Groundwater	41.36	4:32	NA	9:57
DNAPL	NA	NA	NA	NA
Casing Base	NA	NA	NA	NA

VOLUME CALCULATION AND PRODUCTION INFORMATION

Volume Calculation Type: Well Casing Borehole
 Volume Per Foot: 1.3 Bails
 Standing Water Column: 6.77 feet
 1 Well Volume: 2 Bails 4 Well Volumes: 8 Bails
 Actual Volume: 8 Bails
 Well Purged Dry? Yes No

Water Quality Probe Type and Serial #
 AquaTroll 600

WATER QUALITY INDICATOR PARAMETERS

Sampling Stage	Time (military)	Volume Removed (bails)	Depth to Water (Feet)	Drawdown (Feet)	Temp (°C)	pH (SU)	SEC or Cond. (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
initial	9:37	NA	-	NA	7.00	6.95	52.15	7.19	0	148.1	clear
Sample	9:57										

ABBREVIATIONS

ORP - Oxidation-Reduction Potential
 SEC - Specific Electrical Conductance
 SU - Standard Units
 Temp - Temperature
 na - Not Applicable
 nm - Not Measured

Initial/Potentiometric WL: _____ Date: _____ Time: _____



Chain-of-Custody Documentation

We Energies - Laboratory Services Division
Analysis Request Form/Chain of Custody Record

Requestor: _____
 Company Phone: _____
 Company Mail Code: _____
 Project Internal Order #: _____
 Date Results Needed: _____
 Notification Options: E-Mail Fax Mail Phone (Circle Preference)
 Sample Collector: Mak Pads
 Sample Collector Signature: [Signature]

COCH 003252001

Preservation Codes

- Vendor/Lot# of Preservative Used _____
 A = HNO3
 B = HCL
 C = H2SO4
 D = NaOH
 E = None
 F = Other

ANALYSIS REQUESTED	
Depth	Temp
	pH
	COND
	Seam-ke

Sample Description (include sample type ie grab or composite)	Date Collected	Time Collected	PRESERVATION CODE	For Laboratory Use Only	
				LAB COMMENTS	Laboratory Sample Number
PIP3 STATE/CCA	11-3-21	1609		ACE	
MW95/110321001		1609	738	X	
MW79/110321002		1654	18184	X	
MW80AR/110321003		1771	774	X	
MW70/110421004	11-4-21	907	749	X	
MW101/110421005		912		X	
MW85/110721006		947	655	X	
MW86/110421007		1014	5.91	X	
MW87/110421008		1055	6.89	X	
MW88/110421009		1111	7.06	X	

Received on Ice: _____
 Sample pH check: _____
 Date/Time: _____
 Date/Time: _____
 Date/Time: _____
 Date/Time: _____
 Received by: _____
 Relinquished by: _____
 Relinquished by: _____
 Relinquished by: _____
 Relinquished by: _____
 Logged in by/Date: _____
 Activity Code: _____
 Results Reported by: _____
 Test Codes: _____

Received by: _____ Date/Time: _____
 Received by: _____ Date/Time: _____
 Received by: _____ Date/Time: _____
 Received by: _____ Date/Time: _____

Due Date: _____
 Storage: _____
 Reported To: _____

Project Specialist: _____
 Reviewed and Approved by: _____
 Date: _____
 Via: _____ E-Mail _____ Fax _____ Call _____

To: Eric Kovatch
 PSB Annex A231

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



Report Date: Monday, November 29, 2021

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

Sample Description: MW95_110321001 PIPP LF3 Semi Annual - State and CCR									
Sample ID: AE57279		Sample Collection Date/Time: 11/03/2021		16:04					
Sample Received: 11/22/2021		Sample Collector: NATE DUDA							
<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	32.57	0.05	feet		1.0		H2OD	11/3/21	NATE DUDA
Field Temperature	8.30	0.1	Degrees C		1.0		TEMP	11/3/21	NATE DUDA
Field Conductivity	189.41	0	umhos		1.0		FCOND25	11/3/21	NATE DUDA
Field pH	7.38	0.1	Units	0.1	1.0		FIELDPH	11/3/21	NATE DUDA
Total Fluoride	Less Than	0.095	mg/L	0.32	1.0		EPA 300.0	11/20/21	020
Total Chloride	0.95	0.43	mg/L	2.0	1.0	J,X	EPA 300.0	11/20/21	020
Total Sulfate	5.0	0.44	mg/L	2.0	1.0		EPA 300.0	11/20/21	020
Total Boron	29.2	3.0	ug/L	10.0	1.0		EPA 200.7	11/11/21	020
Total Calcium	29000	76.2	ug/L	254	1.0		EPA 200.7	11/11/21	020
Total Iron	198	58.0	ug/L	250	1.0	J	EPA 200.7	11/11/21	020
Total Silver	Less Than	0.13	ug/L	0.5	1.0		EPA 200.7	11/11/21	020
Total Copper	Less Than	1.9	ug/L	6.4	1.0		EPA 200.7	11/11/21	020
Total Nickel	0.31	0.28	ug/L	1.0	1.0	J	EPA 200.7	11/11/21	020
Total Vanadium	1.6	0.32	ug/L	1.0	1.0		EPA 200.7	11/11/21	020
Total Zinc	Less Than	10.3	ug/L	34.4	1.0		EPA 200.7	11/11/21	020
Total Magnesium	7430	31.2	ug/L	250	1.0		EPA 200.7	11/11/21	020
Total Dissolved Solids	108	8.7	mg/L	2.0	1.0		Std Mtd 2540 C	11/8/21	020
Alkalinity as CaCO3	101	5.0	ppm	10.0	1.0		EPA 310.2	11/4/21	020
Dissolved Calcium	29200	762	ug/L	2540	10.0		EPA 200.7	11/11/21	020
Dissolved Magnesium	7180	31.2	ug/L	250	1.0		EPA 200.7	11/11/21	020
Dissolved Sodium	1860	42.0	ug/L	250	1.0		EPA 200.7	11/11/21	020
Dissolved Potassium	1180	237	ug/L	789	1.0		EPA 200.8	11/11/21	020
Dissolved Sulfate	5.2	0.44	mg/L	2.0	1.0		EPA 300.0	11/20/21	020
Dissolved Chloride	Less Than	0.43	mg/L	2.0	1.0		EPA 300.0	11/20/21	020
Bicarbonate Ion	100.8	5.0	mg/L	10.0	1.0		HCO3	11/4/21	020
Carbonate Ion	0.2	0.1	mg/L	0.4	1.0	J	CO3	11/4/21	020
Total Hardness as CaCO3	100	1	mg/L	3.3	1.0		Std Mtd 2340B	11/11/21	020

Sample Comments:

Sample Description: MW79_110321002 PIPP LF3 Semi Annual - State and CCR									
Sample ID: AE57280		Sample Collection Date/Time: 11/03/2021		16:54					
Sample Received: 11/22/2021		Sample Collector: NATE DUDA							
<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	23.24	0.05	feet		1.0		H2OD	11/3/21	NATE DUDA

Report Date: Monday, November 29, 2021

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

Sample Description: **MW79_110321002 PIPP LF3 Semi Annual - State and CCR**
 Sample ID: AE57280 Sample Collection Date/Time: 11/03/2021 16:54
 Sample Received: 11/22/2021 Sample Collector: NATE DUDA

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Temperature	9.61	0.1	Degrees C		1.0		TEMP	11/3/21	NATE DUDA
Field Conductivity	131.84	0	umhos		1.0		FCOND25	11/3/21	NATE DUDA
Field pH	5.75	0.1	Units	0.1	1.0		FIELDPH	11/3/21	NATE DUDA
Total Fluoride	Less Than	0.095	mg/L	0.32	1.0		EPA 300.0	11/20/21	020
Total Chloride	1.2	0.43	mg/L	2.0	1.0	J,X	EPA 300.0	11/20/21	020
Total Sulfate	14.2	0.44	mg/L	2.0	1.0		EPA 300.0	11/20/21	020
Total Boron	25.2	3.0	ug/L	10.0	1.0		EPA 200.7	11/11/21	020
Total Calcium	13400	76.2	ug/L	254	1.0		EPA 200.7	11/11/21	020
Total Iron	Less Than	58.0	ug/L	250	1.0		EPA 200.7	11/11/21	020
Total Silver	Less Than	0.13	ug/L	0.50	1.0		EPA 200.7	11/11/21	020
Total Copper	Less Than	1.9	ug/L	6.4	1.0		EPA 200.7	11/11/21	020
Total Nickel	Less Than	0.28	ug/L	1.0	1.0		EPA 200.7	11/11/21	020
Total Vanadium	0.61	0.32	ug/L	1.0	1.0	J	EPA 200.7	11/11/21	020
Total Zinc	Less Than	10.3	ug/L	34.4	1.0		EPA 200.7	11/11/21	020
Total Magnesium	3530	31.2	ug/L	250	1.0		EPA 200.7	11/11/21	020
Total Dissolved Solids	58.0	8.7	mg/L	20.0	1.0		Std Mtd 2540 C	11/8/21	020
Alkalinity as CaCO3	48	5.0	ppm	10.0	1.0		EPA 310.2	11/4/21	020
Dissolved Calcium	13200	76.2	ug/L	254	1.0		EPA 200.7	11/11/21	020
Dissolved Magnesium	3300	31.2	ug/L	250	1.0		EPA 200.7	11/11/21	020
Dissolved Sodium	6480	42.0	ug/L	250	1.0		EPA 200.7	11/11/21	020
Dissolved Potassium	2750	237	ug/L	789	1.0		EPA 200.8	11/11/21	020
Dissolved Sulfate	15.0	0.44	mg/L	2.0	1.0		EPA 300.0	11/20/21	020
Dissolved Chloride	0.68	0.43	mg/L	2.0	1.0	J	EPA 300.0	11/20/21	020
Bicarbonate Ion	48	5.0	mg/L	10.0	1.0		HCO3	11/4/21	020
Carbonate Ion	Less Than	0.1	mg/L	0.4	1.0		CO3	11/4/21	020
Total Hardness as CaCO3	48	1	mg/L	3.3	1.0		Std Mtd 2340B	11/11/21	020

Sample Comments:

Sample Description: **MW80PR_110321003 PIPP LF3 Semi Annual - State and CCR**
 Sample ID: AE57281 Sample Collection Date/Time: 11/03/2021 17:31
 Sample Received: 11/22/2021 Sample Collector: NATE DUDA

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	17.61	0.05	feet		1.0		H2OD	11/3/21	NATE DUDA
Field Temperature	8.84	0.1	Degrees C		1.0		TEMP	11/3/21	NATE DUDA
Field Conductivity	290.14	0	umhos		1.0		FCOND25	11/3/21	NATE DUDA
Field pH	7.74	0.1	Units	0.1	1.0		FIELDPH	11/3/21	NATE DUDA
Total Fluoride	Less Than	0.095	mg/L	0.32	1.0		EPA 300.0	11/19/21	020
Total Chloride	4.4	0.43	mg/L	2.0	1.0	X	EPA 300.0	11/19/21	020
Total Sulfate	5.9	0.44	mg/L	2.0	1.0		EPA 300.0	11/9/21	020
Total Boron	11.7	3.0	ug/L	10.0	1.0		EPA 200.7	11/11/21	020
Total Calcium	50500	76.2	ug/L	254	1.0		EPA 200.7	11/11/21	020
Total Iron	Less Than	58.0	ug/L	250	1.0		EPA 200.7	11/11/21	020

Report Date: Monday, November 29, 2021

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

Sample Description: **MW80PR_110321003 PIPP LF3 Semi Annual - State and CCR**
 Sample ID: AE57281 Sample Collection Date/Time: 11/03/2021 17:31
 Sample Received: 11/22/2021 Sample Collector: NATE DUDA

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Total Silver	Less Than	0.13	ug/L	0.50	1.0		EPA 200.7	11/11/21	020
Total Copper	Less Than	1.9	ug/L	6.4	1.0		EPA 200.7	11/11/21	020
Total Nickel	Less Than	0.28	ug/L	1.0	1.0		EPA 200.7	11/11/21	020
Total Vanadium	1.1	0.32	ug/L	1.0	1.0		EPA 200.7	11/11/21	020
Total Zinc	Less Than	10.3	ug/L	34.4	1.0		EPA 200.7	11/11/21	020
Total Magnesium	8570	31.2	ug/L	250	1.0		EPA 200.7	11/11/21	020
Total Dissolved Solids	158	8.7	mg/L	20.0	1.0		Std Mtd 2540 C	11/8/21	020
Alkalinity as CaCO3	149	5.0	ppm	10.0	1.0		EPA 310.2	11/4/21	020
Dissolved Calcium	50000	76.2	ug/L	254	1.0		EPA 200.7	11/11/21	020
Dissolved Magnesium	8090	31.2	ug/L	250	1.0		EPA 200.7	11/11/21	020
Dissolved Sodium	1530	42.0	ug/L	250	1.0		EPA 200.7	11/11/21	020
Dissolved Potassium	1140	237	ug/L	789	1.0		EPA 200.8	11/11/21	020
Dissolved Sulfate	6.2	0.44	mg/L	2.0	1.0		EPA 300.0	11/20/21	020
Dissolved Chloride	4.5	0.43	mg/L	2.0	1.0		EPA 300.0	11/20/21	020
Bicarbonate Ion	148.2	5.0	mg/L	10.0	1.0		HCO3	11/4/21	020
Carbonate Ion	0.8	0.1	mg/L	0.4	1.0		CO3	11/4/21	020
Total Hardness as CaCO3	160	1	mg/L	3.3	1.0		Std Mtd 2340B	11/11/21	020

Sample Comments:

Sample Description: **MW70_110321004 PIPP LF3 Semi Annual - State and CCR**
 Sample ID: AE57282 Sample Collection Date/Time: 11/04/2021 09:07
 Sample Received: 11/22/2021 Sample Collector: NATE DUDA

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	29.51	0.05	feet		1.0		H2OD	11/4/21	NATE DUDA
Field Temperature	8.06	0.1	Degrees C		1.0		TEMP	11/4/21	NATE DUDA
Field Conductivity	146.64	0	umhos		1.0		FCOND25	11/4/21	NATE DUDA
Field pH	7.19	0.1	Units	0.1	1.0		FIELDPH	11/4/21	NATE DUDA
Total Fluoride	Less Than	0.095	mg/L	0.32	1.0		EPA 300.0	11/20/21	020
Total Chloride	1.0	0.43	mg/L	2.0	1.0	J,X	EPA 300.0	11/20/21	020
Total Sulfate	4.2	0.44	mg/L	2.0	1.0		EPA 300.0	11/20/21	020
Total Boron	12.9	3.0	ug/L	10.0	1.0		EPA 200.7	11/11/21	020
Total Calcium	24400	76.2	ug/L	254	1.0		EPA 200.7	11/11/21	020
Total Iron	132	58.0	ug/L	250	1.0	J	EPA 200.7	11/11/21	020
Total Silver	Less Than	0.13	ug/L	0.50	1.0		EPA 200.7	11/11/21	020
Total Copper	Less Than	1.9	ug/L	6.4	1.0		EPA 200.7	11/11/21	020
Total Nickel	Less Than	0.28	ug/L	1.0	1.0		EPA 200.7	11/11/21	020
Total Vanadium	0.99	0.32	ug/L	1.0	1.0	J	EPA 200.7	11/11/21	020
Total Zinc	Less Than	10.3	ug/L	34.4	1.0		EPA 200.7	11/11/21	020
Total Magnesium	3290	31.2	ug/L	250	1.0		EPA 200.7	11/11/21	020
Total Dissolved Solids	88.0	8.7	mg/L	20.0	1.0		Std Mtd 2540 C	11/8/21	020
Alkalinity as CaCO3	72.0	5.0	ppm	10.0	1.0		EPA 310.2	11/4/21	020
Dissolved Calcium	25000	76.2	ug/L	254	1.0		EPA 200.7	11/11/21	020

Report Date: Monday, November 29, 2021

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

Sample Description: **MW70_110321004 PIPP LF3 Semi Annual - State and CCR**
Sample ID: AE57282 Sample Collection Date/Time: 11/04/2021 09:07
Sample Received: 11/22/2021 Sample Collector: NATE DUDA

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Dissolved Magnesium	3170	31.2	ug/L	250	1.0		EPA 200.7	11/11/21	020
Dissolved Sodium	1320	42.0	ug/L	250	1.0		EPA 200.7	11/11/21	020
Dissolved Potassium	770	237	ug/L	789	1.0	J	EPA 200.8	11/11/21	020
Dissolved Sulfate	4.3	0.44	mg/L	2.0	1.0		EPA 300.0	11/20/21	020
Dissolved Chloride	0.47	0.43	mg/L	2.0	1.0	J	EPA 300.0	11/20/21	020
Bicarbonate Ion	71.9	5.0	mg/L	10.0	1.0		HCO3	11/4/21	020
Carbonate Ion	0.1	0.1	mg/L	0.4	1.0	J	CO3	11/4/21	020
Total Hardness as CaCO3	74	1	mg/L	3.3	1.0		Std Mtd 2340B	11/11/21	020

Sample Comments:

Sample Description: **QA/QC1_110321005 PIPP LF3 Semi Annual - State and CCR**
Sample ID: AE57283 Sample Collection Date/Time: 11/04/2021 09:12
Sample Received: 11/22/2021 Sample Collector: NATE DUDA

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Total Fluoride	Less Than	0.095	mg/L	0.32	1.0		EPA 300.0	11/20/21	020
Total Chloride	1.0	0.43	mg/L	2.0	1.0	J,X	EPA 300.0	11/20/21	020
Total Sulfate	4.2	0.44	mg/L	2.0	1.0		EPA 300.0	11/20/21	020
Total Boron	12.9	3.0	ug/L	10.0	1.0		EPA 200.7	11/11/21	020
Total Calcium	24600	76.2	ug/L	254	1.0		EPA 200.7	11/11/21	020
Total Iron	126	58.0	ug/L	250	1.0	J	EPA 200.7	11/11/21	020
Total Silver	Less Than	0.13	ug/L	0.50	1.0		EPA 200.7	11/11/21	020
Total Copper	Less Than	1.9	ug/L	6.4	1.0		EPA 200.7	11/11/21	020
Total Nickel	Less Than	0.28	ug/L	1.0	1.0		EPA 200.7	11/11/21	020
Total Vanadium	0.97	0.32	ug/L	1.0	1.0	J	EPA 200.7	11/11/21	020
Total Zinc	Less Than	10.3	ug/L	34.4	1.0		EPA 200.7	11/11/21	020
Total Magnesium	3320	31.2	ug/L	250	1.0		EPA 200.7	11/11/21	020
Total Dissolved Solids	72.0	8.7	mg/L	20.0	1.0		Std Mtd 2540 C	11/8/21	020
Alkalinity as CaCO3	72.4	5.0	ppm	10.0	1.0		EPA 310.2	11/4/21	020
Dissolved Calcium	24300	76.2	ug/L	254	1.0		EPA 200.7	11/11/21	020
Dissolved Magnesium	3130	31.2	ug/L	250	1.0		EPA 200.7	11/11/21	020
Dissolved Sodium	1320	42.0	ug/L	250	1.0		EPA 200.7	11/11/21	020
Dissolved Potassium	743	237	ug/L	789	1.0	J	EPA 200.8	11/11/21	020
Dissolved Sulfate	4.3	0.44	mg/L	2.0	1.0		EPA 300.0	11/21/21	020
Dissolved Chloride	0.55	0.43	mg/L	2.0	1.0	J	EPA 300.0	11/21/21	020
Bicarbonate Ion	72.3	5.0	mg/L	10.0	1.0		HCO3	11/4/21	020
Carbonate Ion	0.1	0.1	mg/L	0.4	1.0	J	CO3	11/4/21	020
Total Hardness as CaCO3	75	1	mg/L	3.3	1.0		Std Mtd 2340B	11/11/21	020

Sample Comments:

Report Date: Monday, November 29, 2021

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

Sample Description: **MW85_110321006 PIPP LF3 Semi Annual - State and CCR**
 Sample ID: AE57284 Sample Collection Date/Time: 11/04/2021 09:47
 Sample Received: 11/22/2021 Sample Collector: NATE DUDA

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	41.38	0.05	feet		1.0		H2OD	11/4/21	NATE DUDA
Field Temperature	7.08	0.1	Degrees C		1.0		TEMP	11/4/21	NATE DUDA
Field Conductivity	52.95	0	umhos		1.0		FCOND25	11/4/21	NATE DUDA
Field pH	6.45	0.1	Units	0.1	1.0		FIELDPH	11/4/21	NATE DUDA
Total Fluoride	Less Than	0.095	mg/L	0.32	1.0		EPA 300.0	11/20/21	020
Total Chloride	1.3	0.43	mg/L	2.0	1.0	J,X	EPA 300.0	11/20/21	020
Total Sulfate	2.9	0.44	mg/L	2.0	1.0		EPA 300.0	11/20/21	020
Total Boron	14.8	3.0	ug/L	10.0	1.0		EPA 200.7	11/11/21	020
Total Calcium	7250	76.2	ug/L	254	1.0		EPA 200.7	11/11/21	020
Total Iron	Less Than	58.0	ug/L	250	1.0		EPA 200.7	11/11/21	020
Total Silver	Less Than	0.13	ug/L	0.5	1.0		EPA 200.7	11/11/21	020
Total Copper	Less Than	1.9	ug/L	6.4	1.0		EPA 200.7	11/11/21	020
Total Nickel	Less Than	0.28	ug/L	1.0	1.0		EPA 200.7	11/11/21	020
Total Vanadium	0.34	0.32	ug/L	1.0	1.0	J	EPA 200.7	11/11/21	020
Total Zinc	Less Than	10.3	ug/L	34.4	1.0		EPA 200.7	11/11/21	020
Total Magnesium	1320	31.2	ug/L	250	1.0		EPA 200.7	11/11/21	020
Total Dissolved Solids	32.0	8.7	mg/L	20.0	1.0		Std Mtd 2540 C	11/8/21	020
Alkalinity as CaCO3	24.0	5.0	ppm	10.0	1.0		EPA 310.2	11/4/21	020
Dissolved Calcium	6750	76.2	ug/L	254	1.0		EPA 200.7	11/11/21	020
Dissolved Magnesium	1220	31.2	ug/L	250	1.0		EPA 200.7	11/11/21	020
Dissolved Sodium	825	42.0	ug/L	250	1.0		EPA 200.7	11/11/21	020
Dissolved Potassium	612	237	ug/L	789	1.0	J	EPA 200.8	11/11/21	020
Dissolved Sulfate	2.8	0.44	mg/L	2.0	1.0		EPA 300.0	11/21/21	020
Dissolved Chloride	0.82	0.43	mg/L	2.0	1.0	J	EPA 300.0	11/21/21	020
Bicarbonate Ion	24.0	5.0	mg/L	10.0	1.0		HCO3	11/4/21	020
Carbonate Ion	Less Than	0.1	mg/L	0.4	1.0		CO3	11/4/21	020
Total Hardness as CaCO3	24	1	mg/L	3.3	1.0		Std Mtd 2340B	11/11/21	020

Sample Comments:

Sample Description: **MW86_110321007 PIPP LF3 Semi Annual - State and CCR**
 Sample ID: AE57285 Sample Collection Date/Time: 11/04/2021 10:14
 Sample Received: 11/22/2021 Sample Collector: NATE DUDA

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	5.80	0.05	feet		1.0		H2OD	11/4/21	NATE DUDA
Field Temperature	10.39	0.1	Degrees C		1.0		TEMP	11/4/21	NATE DUDA
Field Conductivity	219.92	0	umhos		1.0		FCOND25	11/4/21	NATE DUDA
Field pH	5.91	0.1	Units	0.1	1.0		FIELDPH	11/4/21	NATE DUDA
Total Fluoride	Less Than	0.48	mg/L	1.6	5.0		EPA 300.0	11/20/21	020
Total Chloride	5.3	2.2	mg/L	10.0	5.0	J,X	EPA 300.0	11/20/21	020
Total Sulfate	2.8	2.2	mg/L	10.0	5.0	J	EPA 300.0	11/20/21	020
Total Boron	14.0	3.0	ug/L	10.0	1.0		EPA 200.7	11/11/21	020
Total Calcium	5850	76.2	ug/L	254	1.0		EPA 200.7	11/11/21	020

Report Date: Monday, November 29, 2021

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

Sample Description: **MW86_110321007 PIPP LF3 Semi Annual - State and CCR**
 Sample ID: AE57285 Sample Collection Date/Time: 11/04/2021 10:14
 Sample Received: 11/22/2021 Sample Collector: NATE DUDA

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Total Iron	50200	58.0	ug/L	250	1.0		EPA 200.7	11/11/21	020
Total Silver	Less Than	0.13	ug/L	0.50	1.0		EPA 200.7	11/11/21	020
Total Copper	Less Than	1.9	ug/L	6.4	1.0		EPA 200.7	11/11/21	020
Total Nickel	1.1	0.28	ug/L	1.0	1.0		EPA 200.7	11/11/21	020
Total Vanadium	11.5	0.32	ug/L	1.0	1.0		EPA 200.7	11/11/21	020
Total Zinc	Less Than	10.3	ug/L	34.4	1.0		EPA 200.7	11/11/21	020
Total Magnesium	3140	7.1	ug/L	24	1.0		EPA 200.7	11/11/21	020
Total Dissolved Solids	152	17.3	mg/L	40.0	2.0		Std Mtd 2540 C	11/8/21	020
Alkalinity as CaCO3	36.0	5.0	ppm	10.0	1.0		EPA 310.2	11/4/21	020
Dissolved Calcium	5850	76.2	ug/L	254	1.0		EPA 200.7	11/11/21	020
Dissolved Magnesium	3010	31.2	ug/L	250	1.0		EPA 200.7	11/11/21	020
Dissolved Sodium	1560	42.0	ug/L	250	1.0		EPA 200.7	11/11/21	020
Dissolved Potassium	3080	237	ug/L	789	1.0		EPA 200.8	11/11/21	020
Dissolved Sulfate	Less Than	0.44	mg/L	2.0	1.0		EPA 300.0	11/21/21	020
Dissolved Chloride	0.53	0.43	mg/L	2.0	1.0	J	EPA 300.0	11/21/21	020
Bicarbonate Ion	36.0	5.0	mg/L		1.0		HCO3	11/4/21	020
Carbonate Ion	Less Than	0.1	mg/L	0.4	1.0		CO3	11/4/21	020
Total Hardness as CaCO3	28	1	mg/L	3.3	1.0		Std Mtd 2340B	11/11/21	020

Sample Comments:

Sample Description: **MW87_110321008 PIPP LF3 Semi Annual - State and CCR**
 Sample ID: AE57286 Sample Collection Date/Time: 11/04/2021 10:55
 Sample Received: 11/22/2021 Sample Collector: NATE DUDA

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	31.97	0.05	feet		1.0		H2OD	11/4/21	NATE DUDA
Field Temperature	6.38	0.1	Degrees C		1.0		TEMP	11/4/21	NATE DUDA
Field Conductivity	144.77	0	umhos		1.0		FCOND25	11/4/21	NATE DUDA
Field pH	6.89	0.1	Units	0.1	1.0		FIELDPH	11/4/21	NATE DUDA
Total Fluoride	Less Than	0.095	mg/L	0.32	1.0		EPA 300.0	11/20/21	020
Total Chloride	1.2	0.43	mg/L	2.0	1.0	J,X	EPA 300.0	11/20/21	020
Total Sulfate	5.3	0.44	mg/L	2.0	1.0		EPA 300.0	11/20/21	020
Total Boron	90.6	3.0	ug/L	10.0	1.0		EPA 200.7	11/11/21	020
Total Calcium	11500	76.2	ug/L	254	1.0		EPA 200.7	11/11/21	020
Total Iron	Less Than	58.0	ug/L	250	1.0		EPA 200.7	11/11/21	020
Total Silver	Less Than	0.13	ug/L	0.50	1.0		EPA 200.7	11/11/21	020
Total Copper	Less Than	1.9	ug/L	6.4	1.0		EPA 200.7	11/11/21	020
Total Nickel	Less Than	0.28	ug/L	1.0	1.0		EPA 200.7	11/11/21	020
Total Vanadium	0.35	0.32	ug/L	1.0	1.0	J	EPA 200.7	11/11/21	020
Total Zinc	10.8	10.3	ug/L	34.4	1.0	J	EPA 200.7	11/11/21	020
Total Magnesium	3860	31.2	ug/L	250	1.0		EPA 200.7	11/11/21	020
Total Dissolved Solids	74.0	8.7	mg/L	20.0	1.0		Std Mtd 2540 C	11/8/21	020
Alkalinity as CaCO3	63.7	5.0	ppm	10.0	1.0		EPA 310.2	11/4/21	020

Report Date: Monday, November 29, 2021

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

Sample Description: **MW87_110321008 PIPP LF3 Semi Annual - State and CCR**
 Sample ID: AE57286 Sample Collection Date/Time: 11/04/2021 10:55
 Sample Received: 11/22/2021 Sample Collector: NATE DUDA

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Dissolved Calcium	11700	76.2	ug/L	254	1.0		EPA 200.7	11/11/21	020
Dissolved Magnesium	3720	31.2	ug/L	250	1.0		EPA 200.7	11/11/21	020
Dissolved Sodium	9780	42.0	ug/L	250	1.0		EPA 200.7	11/11/21	020
Dissolved Potassium	2660	237	ug/L	789	1.0		EPA 200.8	11/11/21	020
Dissolved Sulfate	5.6	0.44	mg/L	2.0	1.0		EPA 300.0	11/21/21	020
Dissolved Chloride	0.65	0.43	mg/L	2.0	1.0	J	EPA 300.0	11/21/21	020
Bicarbonate Ion	63.7	5.0	mg/L	10.0	1.0		HCO3	11/4/21	020
Carbonate Ion	0.1	0.1	mg/L	0.4	1.0		CO3	11/4/21	020
Total Hardness as CaCO3	45	1	mg/L	3.3	1.0		Std Mtd 2340B	11/11/21	020

Sample Comments:

Sample Description: **EB3_110321009 PIPP LF3 Semi Annual - State and CCR**
 Sample ID: AE57287 Sample Collection Date/Time: 11/04/2021 11:11
 Sample Received: 11/22/2021 Sample Collector: NATE DUDA

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Temperature	9.81	0.1	Degrees C		1.0		TEMP	11/4/21	NATE DUDA
Field Conductivity	36.85	0	umhos		1.0		FCOND25	11/4/21	NATE DUDA
Field pH	7.86	0.1	Units	0.1	1.0		FIELDPH	11/4/21	NATE DUDA
Total Fluoride	Less Than	0.095	mg/L	0.32	1.0		EPA 300.0	11/20/21	020
Total Chloride	0.73	0.43	mg/L	2.0	1.0	J	EPA 300.0	11/20/21	020
Total Sulfate	Less Than	0.44	mg/L	2.0	1.0		EPA 300.0	11/20/21	020
Total Boron	Less Than	3.0	ug/L	10.0	1.0		EPA 200.7	11/11/21	020
Total Calcium	Less Than	76.2	ug/L	254	1.0		EPA 200.7	11/11/21	020
Total Iron	Less Than	58.0	ug/L	250	1.0		EPA 200.7	11/11/21	020
Total Silver	Less Than	0.13	ug/L	0.50	1.0		EPA 200.7	11/11/21	020
Total Copper	Less Than	1.9	ug/L	6.4	1.0		EPA 200.7	11/11/21	020
Total Nickel	Less Than	31.2	ug/L	250	1.0		EPA 200.7	11/11/21	020
Total Vanadium	Less Than	0.32	ug/L	1.0	1.0		EPA 200.7	11/11/21	020
Total Zinc	Less Than	10.3	ug/L	34.4	1.0		EPA 200.7	11/11/21	020
Total Magnesium	Less Than	31.2	ug/L	250	1.0		EPA 200.7	11/11/21	020
Total Dissolved Solids	Less Than	8.7	mg/L	20.0	1.0		Std Mtd 2540 C	11/8/21	020
Alkalinity as CaCO3	Less Than	5.0	ppm	10.0	1.0		EPA 310.2	11/4/21	020
Dissolved Calcium	Less Than	76.2	ug/L	254	1.0		EPA 200.7	11/11/21	020
Dissolved Magnesium	Less Than	31.2	ug/L	250	1.0		EPA 200.7	11/11/21	020
Dissolved Sodium	Less Than	42.0	ug/L	250	1.0		EPA 200.7	11/11/21	020
Dissolved Potassium	Less Than	237	ug/L	789	1.0		EPA 200.8	11/11/21	020
Dissolved Sulfate	Less Than	0.44	mg/L	2.0	1.0		EPA 300.0	11/21/21	020
Dissolved Chloride	Less Than	0.43	mg/L	2.0	1.0		EPA 300.0	11/21/21	020
Bicarbonate Ion	Less Than	5.0	mg/L	10.0	1.0		HCO3	11/4/21	020
Carbonate Ion	Less Than	0.1	mg/L	0.4	1.0		CO3	11/4/21	020
Total Hardness as CaCO3	Less Than	1	mg/L	3.3	1.0		Std Mtd 2340B	11/21/21	020

Report Date: Monday, November 29, 2021

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

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: Patrick Ahrens at (414) 221-2835.

Prepared for
Wisconsin Public Service Corporation

Date
May 2022

Project No.
1940102327.210

FIELD NOTEBOOK
1940102327.210-FB-012
WE ENERGIES PIPP ASH LF #3 STATE SAMPLING

ACTIVITY SUMMARY REPORT

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5

Activity Summary Report

Date(s): 5/24/22 - 5/25/22

Page 1 of 2

Project:	Presque Isle Power Plant Ash LF 3	Location:	Marquette, MI
Project #:	1940102327	Personnel:	LTA, DCG
Task #:	210		

Date	Arrival Time	Departure Time	Temperature am / pm	Cloud Cover am / pm	Wind Conditions Am / pm
5/24	1420	1600	- / 60's	- / Sunny	- / S-10SE
5/25	0745	1600	50's / 50's	cloudy / raining	0-5s / 0-5s

Summary of Field Notes/Sheets Recorded:

- Sample Control Log(s) _____
- Well Condition Form(s) _____
- Water Level and Field Parameters Field Form(s) _____
- Well Development And Groundwater Sampling Field Form(s) _____
- Chain-of-Custody(s) _____
- Equipment Rental Information _____
- Other: _____

Contractor Summary:

NA

Summary of Equipment On-Site:

Aqua Troll 600 water quality meter, Solnist water level indicator, 7-piece bailer, MP50 controller, Ramboll battery and Ramboll truck.

Site Visitor Summary:

NA

SECTION 2
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SECTION 5

Activity Summary Report

Date(s): 5/24/22 - 5/25/22
Project Number: 02327/210

Page 2 of 2

Summary of Work (include sample locations, types, media, etc...)

5/24: WL + Sampled W80PR

5/25: WL + Sampled MW87, MW70, QA/QC1, MW86, MW85,
MW95, MW79, LTANK, LTANK for PFAS

Issues/ Resolution:

Actively raining during PFAS sampling

NO₂-NO₃ samples need H₂SO₄ preservative. Operation Summary
Sheet and bottle order updated.

Additional Comments:

See LFI + 2 Comments

Field Representative:
Date:

Lydia Albright
5-26-22

Signature:

Lydia Albright

SAMPLE CONTROL LOG

SECTION 3

SECTION 4

SECTION 5

Sample Control Log

Project Name: We Energies Presque Isle Power Plant Ash LF 3

Analytical Laboratory: We Energies

Project ID: 1940102327

Geotechnical Laboratory: NA

Task ID: 210

Field Staff ID(s): LTA, DCG

Well ID	Sample Media	Sample Order	Total Bails*	QC Sample Information (duplicate, blank, etc)	COC Number	Notes (turnaround time, handling notes)
W80PR	GW	1	33	—	02327.210.3	5-24-22 1536
MW70	↓	2	10	—	↓	6-25-22 0855
MW87		3	11	—		1008
QA/QC1		4	11	MW87		—
MW86		5	13	—		1054
MW85		6	12	—		1144
MW95		7	6	—		1256
MW79		8	11	—		1335
EB-3		DI	9	—		Equipment Blank
L-TANK	Leachate	10	—	—	02327.210.6 02327.210.5	+PFAS @ 1400 +PFAS FB-1 @ 1405 1420
[Crossed out section]						LTA 5/25/22

* All samples use GED Bladder Pump

COC# :
02327.210.6

WELL CONDITION FIELD FORMS

SECTION 4

SECTION 5

WELL CONDITION FIELD FORM

Site : We Energies Presque Isle Power Plant Ash LF 3

Date : 5/24/22 - 5/25/22

Project # : 1940102327

Samplers : LTA, DCG

Task # : 210

Location	EVERY SAMPLING EVENT										AT LEAST ONCE A YEAR			Field Comments:
	Surface Seal	Lid	Gasket	Lock	Cap	Protection (bumper posts, etc.)	Bailer	Pump	Well Casing	Water Level (feet)	Expected Well Depth (feet)	Field Measured Well Depth (feet)	Well Base Sediment Thickness (feet)	
MW70	G	NA	NA	G	G	NA	NA	G	G	22.96	31.05	NM	NA	
MW79	G	NA	NA	G	G	NA	NA	G	G	22.12	29.60	NM	NA	no blow down time
MW80PR	G	NA	NA	G	G	NA	NA	G	G	14.95	40.85	NM	NA	
MW85	G	NA	NA	G	G	NA	NA	G	G	38.50	47.85	NM	NA	
MW86	G	NA	NA	G	G	NA	NA	G	G	6.75	16.84	NM	NA	
MW87	G	NA	NA	G	G	NA	NA	G	G	31.05	39.61	NM	NA	
MW95	G	NA	NA	G	G	NA	NA	G	G	31.25	36.00	NM	NA	

P : Poor - Potential or Evident Sample Integrity Issues (additional comments required, picture(s) desirable)
 F : Fair - Future Sample Integrity May Be Compromised if Well Repair/Upgrade is Not Undertaken (additional comments required, picture(s) desirable)
 G : Good (additional comments not required)
 n/a : Not Applicable



**WELL DEVELOPMENT AND GROUNDWATER SAMPLING
FIELD FORM**

SECTION
5

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Presque Isle Power Plant Ash LF 3 Client: We Energies
 Project Number: 1940102327 Task #: 210 Start Date: 5/25/22 Time: 1211
 Field Personnel: LTA, DCG Finish Date: _____ Time: 1256

WELL INFORMATION	EVENT TYPE	PURGE INFORMATION
Well ID: <u>MW95</u>	<input type="checkbox"/> Well Development	Purge Method: <input type="checkbox"/> Bailer <input checked="" type="checkbox"/> Pump
Casing ID: <u>2</u> Inches	<input checked="" type="checkbox"/> Low-Flow / Low-Stress Sampling	Bailer Type: <u>NA</u>
Total Depth: <u>36.00</u> ft.	<input type="checkbox"/> Well Volume Approach Sampling	Pump Type and Serial #: <u>QED Bladder Pump P1150</u>
Borehole Diameter: _____ Inches	<input type="checkbox"/> Other (Specify below)	Tube/Pump Intake Depth: <u>35</u> ft.
Filter Pack Interval: _____		Stabilized Pumping Rate: _____

DEPTH MEASUREMENTS					VOLUME CALCULATION AND PRODUCTION INFORMATION				
	INITIAL		FINAL		Volume Calculation Type:				
	Depth FT BTOC	Time (24-Hour)	Depth FT BTOC	Time (24-Hour)		<input checked="" type="checkbox"/> Well Casing <input type="checkbox"/> Borehole	1.3 Bails		
LNAPL	NA	NA	NA	NA	Volume Per Foot:				
Groundwater	<u>31.25</u>	<u>1211</u>	NA	<u>1256</u>	Standing Water Column:	<u>4.75</u> feet			
DNAPL	NA	NA	NA	NA	1 Well Volume:	<u>1</u> Bails	4 Well Volumes: <u>6</u> Bails		
Casing Base	NA	NA	NA	NA	Actual Volume:	<u>6</u> Bails			
					Well Purged Dry?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			

Water Level Serial #: _____ Solnist _____ Water Quality Probe Type and Serial #: AquaTroll 600

WATER QUALITY INDICATOR PARAMETERS

Sampling Stage	Time (military)	Volume Removed (bails)	Depth to Water (Feet)	Drawdown (Feet)	Temp (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
initial	<u>1211</u>	NA	<u>31.25</u>	NA	-	-	-	-	-	-	
Sample	<u>1256</u>	<u>6</u>	-	-	<u>8.56</u>	<u>6.96</u>	<u>171.97</u>	<u>9.69</u>	<u>0.60</u>	<u>19.9</u>	<u>Clear</u>
<div style="border: 1px solid black; padding: 5px; display: inline-block;">LTA 5/25/22</div>											

NOTES

Initial/Potentiometric WL: 31.25 Date: 5/25/22 Time: 1256

007

ABBREVIATIONS

Cond. - Actual Conductivity FT BTOC - Feet Below Top of Casing na - Not Applicable nm - Not Measured	ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units Temp - Temperature
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WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Presque Isle Power Plant Ash LF 3 Client: We Energies
 Project Number: 1940102327 Task #: 210 Start Date: 5/25/22 Time: 1320
 Field Personnel: LTA, DCG Finish Date: 5/25/22 Time: 1335

WELL INFORMATION	EVENT TYPE	PURGE INFORMATION
Well ID: MW79	<input type="checkbox"/> Well Development	Purge Method: <input type="checkbox"/> Bailer <input checked="" type="checkbox"/> Pump
Casing ID: 2 Inches	<input checked="" type="checkbox"/> Low-Flow / Low-Stress Sampling	Bailer Type: NA
Total Depth: 19.8-29.8	<input type="checkbox"/> Well Volume Approach Sampling	Pump Type and Serial #: QED Bladder Pump P1150
Borehole Diameter: _____ Inches	<input type="checkbox"/> Other (Specify below)	Tube/Pump Intake Depth: 28.8 ft
Filter Pack Interval: _____		Stabilized Pumping Rate: _____

DEPTH MEASUREMENTS					VOLUME CALCULATION AND PRODUCTION INFORMATION			
	INITIAL		FINAL		Volume Calculation Type:	Volume Per Foot:	Standing Water Column:	Well Purged Dry?
	Depth FT BTOC	Time (24-Hour)	Depth FT BTOC	Time (24-Hour)					☒ Well Casing ☐ Borehole	1.3 Bails	feet	☐ Yes ☒ No
LNAPL	NA	NA	NA	NA	<input checked="" type="checkbox"/> Well Casing <input type="checkbox"/> Borehole	1.3 Bails	8.68 feet	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Groundwater	22.12	1320	NA	1335				
DNAPL	NA	NA	NA	NA				
Casing Base	NA	NA	NA	NA				
1 Well Volume:	2 Bails		4 Well Volumes: 11 Bails					
Actual Volume:	11 Bails							

Water Level Serial #: _____ Solnist Water Quality Probe Type and Serial #: AquaTroll 600

WATER QUALITY INDICATOR PARAMETERS

Sampling Stage	Time (military)	Volume Removed (bails)	Depth to Water (Feet)	Drawdown (Feet)	Temp (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
initial	1320	NA	22.12	NA	-	-	-	-	-	-	
Sample	1335	11	-	-	7.38	6.73	136.57	9.21	1.71	78.5	Clear
<div style="display: flex; justify-content: space-between; align-items: center;"> LTA 5/25/22 </div>											

NOTES	ABBREVIATIONS
Initial/Potentiometric WL: 22.12 Date: 5/25/22 Time: 1335 008	Cond. - Actual Conductivity FT BTOC - Feet Below Top of Casing na - Not Applicable nm - Not Measured ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units Temp - Temperature



WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Presque Isle Power Plant Ash LF 3 Client: We Energies
 Project Number: 1940102327 Task #: 210 Start Date: 5/24/22 Time: 1527
 Field Personnel: LTA, DCG Finish Date: _____ Time: 1536

WELL INFORMATION

Well ID: MW80PR
 Casing ID: 2 Inches
 Total Depth: 40.85 ft.
 Borehole Diameter: _____ Inches
 Filter Pack Interval: _____

EVENT TYPE

- Well Development
 Low-Flow / Low-Stress Sampling
 Well Volume Approach Sampling
 Other (Specify below)

PURGE INFORMATION

Purge Method: Bailer Pump
 Bailer Type: NA
 Pump Type and Serial #: QED Bladder Pump P1150
 Tube/Pump Intake Depth: 38.7 ft.
 Stabilized Pumping Rate: _____

DEPTH MEASUREMENTS

	INITIAL		FINAL	
	Depth FT BTOC	Time (24-Hour)	Depth FT BTOC	Time (24-Hour)
LNAPL	NA	NA	NA	NA
Groundwater	<u>14.95</u>	<u>1527</u>	NA	<u>1536</u>
DNAPL	NA	NA	NA	NA
Casing Base	NA	NA	NA	NA

VOLUME CALCULATION AND PRODUCTION INFORMATION

Volume Calculation Type: Well Casing Borehole
 Volume Per Foot: _____ 1.3 Bails
 Standing Water Column: 25.90 feet
 1 Well Volume: 8 Bails 4 Well Volumes: 33 Bails
 Actual Volume: 33 Bails
 Well Purged Dry? Yes No

Water Level Serial #: _____

Solnist

Water Quality Probe Type and Serial #

AquaTroll 600

WATER QUALITY INDICATOR PARAMETERS

Sampling Stage	Time (military)	Volume Removed (bails)	Depth to Water (Feet)	Drawdown (Feet)	Temp (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
initial	<u>1527</u>	NA	<u>14.95</u>	NA	-	-	-	-	-	-	-
Sample	<u>1536</u>	<u>33</u>	-	-	<u>9.20</u>	<u>7.85</u>	<u>333.50</u>	<u>9.47</u>	<u>0.01</u>	<u>94.5</u>	<u>Clear</u>
_____ _____ _____ _____ _____											

NOTES

Initial/Potentiometric WL: 14.95 Date: 5/24/22 Time: 1536
CPM 4 / 107 001

ABBREVIATIONS

Cond. - Actual Conductivity
 FT BTOC - Feet Below Top of Casing
 na - Not Applicable
 nm - Not Measured
 ORP - Oxidation-Reduction Potential
 SEC - Specific Electrical Conductance
 SU - Standard Units
 Temp - Temperature

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Presque Isle Power Plant Ash LF 3 Client: We Energies
 Project Number: 1940102327 Task #: 210 Start Date: 5/25/22 Time: 0825
 Field Personnel: LTA, NG Finish Date: 5/25/22 Time: 0855

WELL INFORMATION	EVENT TYPE	PURGE INFORMATION
Well ID: <u>MW70</u>	<input type="checkbox"/> Well Development <input type="checkbox"/> Low-Flow / Low-Stress Sampling <input checked="" type="checkbox"/> Well Volume Approach Sampling <input type="checkbox"/> Other (Specify below)	Purge Method: <input checked="" type="checkbox"/> Bailer <input type="checkbox"/> Pump
Casing ID: <u>2</u> Inches		Bailer Type: <u>7-piece</u>
Total Depth: <u>31.05 ft.</u>		Pump Type and Serial #: <u>QED Bladder Pump P1150</u>
Borehole Diameter: _____ Inches		Tube/Pump Intake Depth: <u>30.1 ft.</u>
Filter Pack Interval: _____		Stabilized Pumping Rate: _____

DEPTH MEASUREMENTS					VOLUME CALCULATION AND PRODUCTION INFORMATION				
	INITIAL		FINAL		Volume Calculation Type: <input checked="" type="checkbox"/> Well Casing <input type="checkbox"/> Borehole	Volume Per Foot: <u>1.3</u> Bails	Standing Water Column: <u>8.09</u> feet	1 Well Volume: <u>2</u> Bails	4 Well Volumes: <u>10</u> Bails
	Depth FT BTOC	Time (24-Hour)	Depth FT BTOC	Time (24-Hour)					
LNAPL	NA	NA	NA	NA	Well Purged Dry? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Groundwater	<u>22.96</u>	<u>0825</u>	NA	<u>0855</u>					
DNAPL	NA	NA	NA	NA					
Casing Base	NA	NA	NA	NA					

Water Level Serial #: Solnist Water Quality Probe Type and Serial #: AquaTroll 600

WATER QUALITY INDICATOR PARAMETERS

Sampling Stage	Time (military)	Volume Removed (bails)	Depth to Water (Feet)	Drawdown (Feet)	Temp (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
initial	<u>0825</u>	NA	<u>22.96</u>	NA	-	-	-	-	-	-	
Sample	<u>0855</u>	<u>10</u>	-	-	<u>6.94</u>	<u>7.60</u>	<u>229.66</u>	<u>12.54</u>	<u>2.49</u>	<u>143.1</u>	<u>clear</u>
_____ _____ _____ _____ _____											

NOTES	ABBREVIATIONS
Initial/Potentiometric WL: <u>22.96</u> Date: <u>5/26/22</u> Time: <u>0855</u> <u>002</u>	Cond. - Actual Conductivity FT BTOC - Feet Below Top of Casing na - Not Applicable nm - Not Measured ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units Temp - Temperature



WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: <u>Presque Isle Power Plant Ash LF 3</u>		Client: <u>We Energies</u>	
Project Number: <u>1940102327</u>	Task #: <u>210</u>	Start Date: <u>5/25/22</u>	Time: <u>114</u>
Field Personnel: <u>LTA, DCG</u>		Finish Date: <u>5/25/22</u>	Time: <u>1144</u>

WELL INFORMATION	EVENT TYPE	PURGE INFORMATION
Well ID: <u>MW85</u>	<input type="checkbox"/> Well Development	Purge Method: <input type="checkbox"/> Bailer <input checked="" type="checkbox"/> Pump
Casing ID: <u>2</u> Inches	<input checked="" type="checkbox"/> Low-Flow / Low-Stress Sampling	Bailer Type: <u>NA</u>
Total Depth: <u>47.85</u> ft.	<input type="checkbox"/> Well Volume Approach Sampling	Pump Type and Serial #: <u>QED Bladder Pump P1150</u>
Borehole Diameter: _____ Inches	<input type="checkbox"/> Other (Specify below)	Tube/Pump Intake Depth: <u>46.9</u> ft.
Filter Pack Interval: _____		Stabilized Pumping Rate: _____

DEPTH MEASUREMENTS					VOLUME CALCULATION AND PRODUCTION INFORMATION				
	INITIAL		FINAL		Volume Calculation Type:	Volume Per Foot:	Standing Water Column:	1 Well Volume:	4 Well Volumes:
	Depth FT BTOC	Time (24-Hour)	Depth FT BTOC	Time (24-Hour)					
LNAPL	NA	NA	NA	NA					
Groundwater	<u>38.50</u>	<u>1144</u>	NA	<u>1144</u>		<u>1.3</u>	<u>9.4</u>	<u>3</u>	<u>12</u>
DNAPL	NA	NA	NA	NA					
Casing Base	NA	NA	NA	NA					

Water Level Serial #: _____	Solnist	Water Quality Probe Type and Serial #: _____	AquaTroll 600
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WATER QUALITY INDICATOR PARAMETERS

Sampling Stage	Time (military)	Volume Removed (bails)	Depth to Water (Feet)	Drawdown (Feet)	Temp (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
initial	<u>1114</u>	NA	<u>38.50</u>	NA	-	-	-	-	-	-	
Sample	<u>1144</u>	<u>12</u>	-	-	<u>7.30</u>	<u>6.52</u>	<u>48.69</u>	<u>13.05</u>	<u>0.00</u>	<u>23.2</u>	<u>clear</u>
<u>LTA 5/25/22</u>											

NOTES	ABBREVIATIONS
Initial/Potentiometric WL: <u>38.50</u> Date: <u>5/25/22</u> Time: <u>1144</u> <u>006</u>	Cond. - Actual Conductivity FT BTOC - Feet Below Top of Casing na - Not Applicable nm - Not Measured ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units Temp - Temperature

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Presque Isle Power Plant Ash LF 3 Client: We Energies
 Project Number: 1940102327 Task #: 210 Start Date: 5/25/22 Time: 1039
 Field Personnel: LTA, DCG Finish Date: 5/25/22 Time: 1054

WELL INFORMATION	EVENT TYPE	PURGE INFORMATION
Well ID: MW86	<input type="checkbox"/> Well Development	Purge Method: Bailer <input type="checkbox"/> Pump <input checked="" type="checkbox"/>
Casing ID: 2 Inches	<input checked="" type="checkbox"/> Low-Flow / Low-Stress Sampling	Bailer Type: NA
Total Depth: 6.6-16.6	<input type="checkbox"/> Well Volume Approach Sampling	Pump Type and Serial #: QED Bladder Pump P1150
Borehole Diameter: _____ Inches	<input type="checkbox"/> Other (Specify below)	Tube/Pump Intake Depth: 13.6 ft
Filter Pack Interval: _____		Stabilized Pumping Rate: _____

DEPTH MEASUREMENTS					VOLUME CALCULATION AND PRODUCTION INFORMATION				
	INITIAL		FINAL		Volume Calculation Type:	Well Casing		Borehole	
	Depth FT BTOC	Time (24-Hour)	Depth FT BTOC	Time (24-Hour)		Volume Per Foot:	1.3 Bails		
LNAPL	NA	NA	NA	NA	Standing Water Column:	10.69 feet			
Groundwater	6.75	1039	NA	1054	1 Well Volume:	3 Bails	4 Well Volumes:	13 Bails	
DNAPL	NA	NA	NA	NA	Actual Volume:	13 Bails			
Casing Base	NA	NA	NA	NA	Well Purged Dry?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			

Water Level Serial #: Solnist Water Quality Probe Type and Serial #: AquaTroll 600

WATER QUALITY INDICATOR PARAMETERS											
Sampling Stage	Time (military)	Volume Removed (bails)	Depth to Water (Feet)	Drawdown (Feet)	Temp (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
initial	1039	NA	6.75	NA	-	-	-	-	-	-	-
Sample	1054	13	-	-	8.40	6.25	116.07	0.03	3.43	-173.9	clear/orange
LTA										5/25/22	

NOTES	ABBREVIATIONS
Initial/Potentiometric WL: 6.75 Date: 5/25/22 Time: 1054 005	Cond. - Actual Conductivity FT BTOC - Feet Below Top of Casing na - Not Applicable nm - Not Measured ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units Temp - Temperature

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Presque Isle Power Plant Ash LF 3 Client: We Energies
 Project Number: 1940102327 Task #: 210 Start Date: 5/25/22 Time: 0920
 Field Personnel: LTA, DCG Finish Date: 5/25/22 Time: 1608

WELL INFORMATION	EVENT TYPE	PURGE INFORMATION
Well ID: MW87	<input type="checkbox"/> Well Development	Purge Method: Bailer <input checked="" type="checkbox"/> Pump
Casing ID: 2 Inches	<input type="checkbox"/> Low-Flow / Low-Stress Sampling	Bailer Type: NA
Total Depth: 29.6-39.6	<input checked="" type="checkbox"/> Well Volume Approach Sampling	Pump Type and Serial #: QED Bladder Pump P1150
Borehole Diameter: _____ Inches	<input type="checkbox"/> Other (Specify below)	Tube/Pump Intake Depth: 38.6 ft
Filter Pack Interval: _____		Stabilized Pumping Rate: _____

DEPTH MEASUREMENTS					VOLUME CALCULATION AND PRODUCTION INFORMATION				
	INITIAL		FINAL		Volume Calculation Type:	Volume Per Foot:	Standing Water Column:	1 Well Volume:	4 Well Volumes:
	Depth FT BTOC	Time (24-Hour)	Depth FT BTOC	Time (24-Hour)						☒ Well Casing ☐ Borehole	1.3 Bails	_____ feet	_____ Bails	_____ Bails
LNAPL	NA	NA	NA	NA	<input checked="" type="checkbox"/> Well Casing <input type="checkbox"/> Borehole	1.3 Bails	8.50 feet	2 Bails	11 Bails
Groundwater	31.05	0920	NA	1008					
DNAPL	NA	NA	NA	NA					
Casing Base	NA	NA	NA	NA					

Well Purged Dry? Yes No

Water Level Serial #: _____ Solnist Water Quality Probe Type and Serial #: AquaTroll 600

WATER QUALITY INDICATOR PARAMETERS											
Sampling Stage	Time (military)	Volume Removed (bails)	Depth to Water (Feet)	Drawdown (Feet)	Temp (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
initial	0920	NA	31.05	NA	-	-	-	-	-	-	
Sample	1008	11	-	-	6.54	5.90	26.38	12.68	27.20	161.3	Clear
_____							LTA	5/25/22			

NOTES	ABBREVIATIONS
Initial/Potentiometric WL: 31.05 Date: 5/25/22 Time: 1008 008 QV/BCL=004	Cond. - Actual Conductivity ORP - Oxidation-Reduction Potential FT BTOC - Feet Below Top of Casing SEC - Specific Electrical Conductance na - Not Applicable SU - Standard Units nm - Not Measured Temp - Temperature

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Presque Isle Power Plant Ash LF 3 Client: We Energies
 Project Number: 1940102327 Start Date: 5/25/22 Time: 1410
 Field Personnel: LJA, DCG Task #: 210 Finish Date: 5/25/22 Time: 1420

WELL INFORMATION

Well ID: LTANK
 Casing ID: -- Inches
 Total Depth: --
 Borehole Diameter: -- Inches
 Filter Pack Interval:

EVENT TYPE

- Well Development
 Low-Flow / Low-Stress Sampling
 Well Volume Approach Sampling
 Other (Specify below)
 Grab

PURGE INFORMATION

Purge Method: Bailer Pump
 Bailer Type: 3-piece
 Pump Type and Serial #: NA
 Tube/Pump Intake Depth: NA
 Stabilized Pumping Rate: NA

DEPTH MEASUREMENTS

	INITIAL		FINAL	
	Depth FT BTOC	Time (24-Hour)	Depth FT BTOC	Time (24-Hour)
LNAPL	NA	NA	NA	NA
Groundwater	NA	1410	NA	1420
DNAPL	NA	NA	NA	NA
Casing Base	NA	NA	NA	NA

VOLUME CALCULATION AND PRODUCTION INFORMATION

Volume Calculation Type: Well Casing Borehole
 Volume Per Foot: NA 1.3 Bails
 Standing Water Column: -- feet
 1 Well Volume: -- Bails 4 Well Volumes: -- Bails
 Actual Volume: -- Bails
 Well Purged Dry? Yes No

Water Level Serial #: Solnist

Water Quality Probe Type and Serial #

AquaTroll 600

WATER QUALITY INDICATOR PARAMETERS

Sampling Stage	Time (military)	Volume Removed (bails)	Depth to Water (Feet)	Drawdown (Feet)	Temp (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
initial	1410	NA	--	NA	--	9.22	4245.60	11.59	9.41	-62.4	clear
Sample	1420	--	--	--	8.10	--	--	--	--	--	--
_____ _____ _____ _____ _____											

NOTES

NO @1420

ABBREVIATIONS

Cond. - Actual Conductivity
 FT BTOC - Feet Below Top of Casing
 na - Not Applicable
 nm - Not Measured
 ORP - Oxidation-Reduction Potential
 SEC - Specific Electrical Conductance
 SU - Standard Units
 Temp - Temperature

To: Eric Kovatch
 PSB Annex A231

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



Report Date: Thursday, June 30, 2022

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

Sample Description: **MW80PR_052422001 PIPP Landfill 3 Semi Annual - State and CCR**
 Sample ID: AE61177 Sample Collection Date/Time: 05/24/2022 15:36
 Sample Received: 06/23/2022 Sample Collector:

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	15.10	0.05	feet		1		H2OD	5/24/22	L ALBRIGHT
Field Temperature	9.2	0.1	Degrees t		1		TEMP	5/24/22	L ALBRIGHT
Field Conductivity	334	0	umhos		1		FCOND25	5/24/22	L ALBRIGHT
Field pH	7.9	0.1	Units	0.1	1		FIELDPH	5/24/22	L ALBRIGHT
Total Fluoride	Less Than	0.095	mg/L	0.32	1		EPA 300.0	5/26/22	020
Total Chloride	5.0	0.43	mg/L	2.0	1		EPA 300.0	5/26/22	020
Total Sulfate	5.6	0.44	mg/L	2.0	1		EPA 300.0	5/26/22	020
Total Boron	27.9	3.0	ug/L	10.0	1		EPA 200.7	6/6/22	020
Total Calcium	48700	76.2	ug/L	254	1		EPA 200.7	6/6/22	020
Redox Potential	94.5	1	mV		1		ASTM D1498-93	5/24/22	L ALBRIGHT
Turbidity	0.01	0.1	NTU'S		1		EPA 180.1	5/24/22	L ALBRIGHT
Dissolved Oxygen-Field	9.5	0.1	mg/l		1		FIELDDO	5/24/22	L ALBRIGHT
Total Suspended Solids	Less Than	0.95	mg/L	2.0	1		Std Mtd 2540 D	5/26/22	020

Sample Comments:

Sample Description: **MW70_052522002 PIPP Landfill 3 Semi Annual - State and CCR**
 Sample ID: AE61178 Sample Collection Date/Time: 05/25/2022 08:55
 Sample Received: 06/23/2022 Sample Collector:

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	22.92	0.05	feet		1		H2OD	5/25/22	L ALBRIGHT
Field Temperature	6.9	0.1	Degrees t		1		TEMP	5/25/22	L ALBRIGHT
Field Conductivity	230	0	umhos		1		FCOND25	5/25/22	L ALBRIGHT
Field pH	7.6	0.1	Units	0.1	1		FIELDPH	5/25/22	L ALBRIGHT
Total Fluoride	Less Than	0.095	mg/L	0.32	1		EPA 300.0	5/26/22	020
Total Chloride	1.1	0.43	mg/L	2.0	1	J	EPA 300.0	5/26/22	020
Total Sulfate	4.1	0.44	mg/L	2.0	1		EPA 300.0	5/26/22	020
Total Boron	15.4	3.0	ug/L	10.0	1		EPA 200.7	6/6/22	020
Total Calcium	49800	76.2	ug/L	254	1		EPA 200.7	6/6/22	020
Redox Potential	143	1	mV		1		ASTM D1498-93	5/25/22	L ALBRIGHT
Turbidity	2.5	0.1	NTU'S		1		EPA 180.1	5/25/22	L ALBRIGHT
Dissolved Oxygen-Field	12.5	0.1	mg/l		1		FIELDDO	5/25/22	L ALBRIGHT
Total Suspended Solids	Less Than	1	mg/L	2.1	1		Std Mtd 2540 D	5/26/22	020

Report Date: Thursday, June 30, 2022

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

Sample Comments:

Sample Description: **MW87_052522003 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE61179 Sample Collection Date/Time: 05/25/2022 10:08
Sample Received: 06/23/2022 Sample Collector:

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	32.05	0.05	feet		1		H2OD	5/25/22	L ALBRIGHT
Field Temperature	6.5	0.1	Degrees C		1		TEMP	5/25/22	L ALBRIGHT
Field Conductivity	26	0	umhos		1		FCOND25	5/25/22	L ALBRIGHT
Field pH	5.9	0.1	Units	0.1	1		FIELDPH	5/25/22	L ALBRIGHT
Total Fluoride	Less Than	0.095	mg/L	0.32	1		EPA 300.0	5/26/22	020
Total Chloride	1.1	0.43	mg/L	2.0	1	J	EPA 300.0	5/26/22	020
Total Sulfate	4.5	0.44	mg/L	2.0	1		EPA 300.0	5/26/22	020
Total Boron	29.9	3.0	ug/L	10.0	1		EPA 200.7	6/6/22	020
Total Calcium	2830	76.2	ug/L	254	1		EPA 200.7	6/6/22	020
Redox Potential	161	1	mV		1		ASTM D1498-93	5/25/22	L ALBRIGHT
Turbidity	27.2	0.1	NTU'S		1		EPA 180.1	5/25/22	L ALBRIGHT
Dissolved Oxygen-Field	12.7	0.1	mg/l		1		FIELDDO	5/25/22	L ALBRIGHT
Total Suspended Solids	2.7	0.98	mg/L	2.1	1		Std Mtd 2540 D	5/26/22	020
Dissolved Boron	19.7	3.0	ug/L	10.0	1		EPA 200.7	6/6/22	020
Dissolved Calcium	2140	76.2	ug/L	254	1		EPA 200.7	6/6/22	020

Sample Comments:

Sample Description: **QAQC1_052522004 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE61180 Sample Collection Date/Time: 05/25/2022 10:08
Sample Received: 06/23/2022 Sample Collector:

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Total Fluoride	Less Than	0.095	mg/L	0.32	1		EPA 300.0	5/26/22	020
Total Chloride	1.1	0.43	mg/L	2.0	1	J	EPA 300.0	5/26/22	020
Total Sulfate	3.3	0.44	mg/L	2.0	1		EPA 300.0	5/26/22	020
Total Boron	23.5	3.0	ug/L	10.0	1		EPA 200.7	6/6/22	020
Total Calcium	2410	76.2	ug/L	254	1		EPA 200.7	6/6/22	020
Total Suspended Solids	4.0	1	mg/L	2.1	1		Std Mtd 2540 D	5/26/22	020
Dissolved Boron	18.3	3.0	ug/L	10.0	1		EPA 200.7	6/6/22	020
Dissolved Calcium	2200	76.2	ug/L	254	1		EPA 200.7	6/6/22	020

Sample Comments:

Report Date: Thursday, June 30, 2022

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

Sample Description: **MW86_052522005 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE61181 Sample Collection Date/Time: 05/25/2022 10:54
Sample Received: 06/23/2022 Sample Collector:

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	6.75	0.05	feet		1		H2OD	5/25/22	L ALBRIGHT
Field Temperature	8.4	0.1	Degrees C		1		TEMP	5/25/22	L ALBRIGHT
Field Conductivity	116	0	umhos		1		FCOND25	5/25/22	L ALBRIGHT
Field pH	6.3	0.1	Units	0.1	1		FIELDPH	5/25/22	L ALBRIGHT
Total Fluoride	Less Than	0.48	mg/L	1.60	5		EPA 300.0	5/26/22	020
Total Chloride	4.1	2.2	mg/L	10.0	5	J	EPA 300.0	5/26/22	020
Total Sulfate	Less Than	2.2	mg/L	10	5		EPA 300.0	5/26/22	020
Total Boron	13.6	3.0	ug/L	10.0	1		EPA 200.7	6/6/22	020
Total Calcium	2300	76.2	ug/L	254	1		EPA 200.7	6/6/22	020
Redox Potential	-174	1	mV		1		ASTM D1498-93	5/25/22	L ALBRIGHT
Turbidity	3.4	0.1	NTU'S		1		EPA 180.1	5/25/22	L ALBRIGHT
Dissolved Oxygen-Field	0.03	0.1	mg/l		1		FIELDDO	5/25/22	L ALBRIGHT
Total Suspended Solids	23.8	4.5	mg/L	9.5	1		Std Mtd 2540 D	5/26/22	020

Sample Comments:

Sample Description: **MW85_052522006 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE61182 Sample Collection Date/Time: 05/25/2022 11:44
Sample Received: 06/23/2022 Sample Collector:

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	38.50	0.05	feet		1		H2OD	5/25/22	L ALBRIGHT
Field Temperature	7.3	0.1	Degrees C		1		TEMP	5/25/22	L ALBRIGHT
Field Conductivity	49	0	umhos		1		FCOND25	5/25/22	L ALBRIGHT
Field pH	6.5	0.1	Units	0.1	1		FIELDPH	5/25/22	L ALBRIGHT
Total Fluoride	Less Than	0.095	mg/L	0.32	1		EPA 300.0	5/26/22	020
Total Chloride	1.1	0.43	mg/L	2.0	1	J	EPA 300.0	5/26/22	020
Total Sulfate	2.9	0.44	mg/L	2.0	1		EPA 300.0	5/26/22	020
Total Boron	17.1	3.0	ug/L	10.0	1		EPA 200.7	6/6/22	020
Total Calcium	7060	76.2	ug/L	254	1		EPA 200.7	6/6/22	020
Redox Potential	23.2	1	mV		1		ASTM D1498-93	5/25/22	L ALBRIGHT
Turbidity	0.00	0.1	NTU'S		1		EPA 180.1	5/25/22	L ALBRIGHT
Dissolved Oxygen-Field	13.1	0.1	mg/l		1		FIELDDO	5/25/22	L ALBRIGHT
Total Suspended Solids	Less Than	0.96	mg/L	2.0	1		Std Mtd 2540 D	6/6/22	020

Sample Comments:

Sample Description: **MW95_052522007 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE61183 Sample Collection Date/Time: 05/25/2022 12:56
Sample Received: 06/23/2022 Sample Collector:

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
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Report Date: Thursday, June 30, 2022

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

Sample Description: **MW95_052522007 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE61183 Sample Collection Date/Time: 05/25/2022 12:56
Sample Received: 06/23/2022 Sample Collector:

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	31.25	0.05	feet		1		H2OD	5/25/22	L ALBRIGHT
Field Temperature	8.6	0.1	Degrees C		1		TEMP	5/25/22	L ALBRIGHT
Field Conductivity	172	0	umhos		1		FCOND25	5/25/22	L ALBRIGHT
Field pH	7.0	0.1	Units	0.1	1		FIELDPH	5/25/22	L ALBRIGHT
Total Fluoride	Less Than	0.095	mg/L	0.32	1		EPA 300.0	5/26/22	020
Total Chloride	0.92	0.43	mg/L	2.0	1	J	EPA 300.0	5/26/22	020
Total Sulfate	4.4	0.44	mg/L	2.0	1		EPA 300.0	5/26/22	020
Total Boron	27.3	3.0	ug/L	10.0	1		EPA 200.7	6/6/22	020
Total Calcium	24000	76.2	ug/L	254	1		EPA 200.7	6/6/22	020
Redox Potential	19.9	1	mV		1		ASTM D1498-93	5/25/22	L ALBRIGHT
Turbidity	0.00	0.1	NTU'S		1		EPA 180.1	5/25/22	L ALBRIGHT
Dissolved Oxygen-Field	9.7	0.1	mg/l		1		FIELDDO	5/25/22	L ALBRIGHT
Total Suspended Solids	Less Than	0.99	mg/L	2.1	1		Std Mtd 2540 D	5/26/22	020

Sample Comments:

Sample Description: **MW79_052522008 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE61184 Sample Collection Date/Time: 05/25/2022 13:35
Sample Received: 06/23/2022 Sample Collector:

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	22.12	0.05	feet		1		H2OD	5/25/22	L ALBRIGHT
Field Temperature	7.4	0.1	Degrees C		1		TEMP	5/25/22	L ALBRIGHT
Field Conductivity	137	0	umhos		1		FCOND25	5/25/22	L ALBRIGHT
Field pH	6.2	0.1	Units	0.1	1		FIELDPH	5/25/22	L ALBRIGHT
Total Fluoride	Less Than	0.095	mg/L	0.32	1		EPA 300.0	5/26/22	020
Total Chloride	1.1	0.43	mg/L	2.0	1	J	EPA 300.0	5/26/22	020
Total Sulfate	9.4	0.44	mg/L	2.0	1		EPA 300.0	5/26/22	020
Total Boron	25.9	3.0	ug/L	10.0	1		EPA 200.7	6/6/22	020
Total Calcium	18900	76.2	ug/L	254	1		EPA 200.7	6/6/22	020
Redox Potential	78.5	1	mV		1		ASTM D1498-93	5/25/22	L ALBRIGHT
Turbidity	1.7	0.1	NTU'S		1		EPA 180.1	5/25/22	L ALBRIGHT
Dissolved Oxygen-Field	9.2	0.1	mg/l		1		FIELDDO	5/25/22	L ALBRIGHT
Total Suspended Solids	Less Than	0.96	mg/L	2.0	1		Std Mtd 2540 D	5/26/22	020

Sample Comments:

Sample Description: **EB 1 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE61185 Sample Collection Date/Time: 05/25/2022 00:00
Sample Received: 06/23/2022 Sample Collector:

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
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Report Date: Thursday, June 30, 2022

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

Sample Description: **EB 1 PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE61185 Sample Collection Date/Time: 05/25/2022 00:00
Sample Received: 06/23/2022 Sample Collector:

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>LOQ</u>	<u>DIL</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Total Fluoride	Less Than	0.095	mg/L	0.32	1		EPA 300.0	5/26/22	020
Total Chloride	Less Than	0.43	mg/L	2.0	1		EPA 300.0	5/26/22	020
Total Sulfate	Less Than	0.44	mg/L	2.0	1		EPA 300.0	5/26/22	020
Total Boron	Less Than	3.0	ug/L	10.0	1		EPA 200.7	6/6/22	020
Total Calcium	Less Than	76.2	ug/L	254	1		EPA 200.7	6/6/22	020
Total Suspended Solids	Less Than	0.95	mg/L	2.0	1		Std Mtd 2540 D	6/6/22	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.

Prepared for

Wisconsin Public Service Corporation

Date

November 2022

Project No.

1940102327.210

FIELD NOTEBOOK

1940102327.210-FB-013

WE ENERGIES PIPP ASH LF #3 STATE SAMPLING

ACTIVITY SUMMARY REPORT

Activity Summary Report

Date(s): 11-8-22 and 11-9-22

Page 1 of 2

Project:	Presque Isle Power Plant Ash LF 3	Location:	Marquette, MI
Project #:	1940102327	Personnel:	KTS
Task #:	210		CMD

Date	Arrival Time	Departure Time	Temperature am / pm	Cloud Cover am / pm	Wind Conditions Am / pm
11-8-22	1300	1800	40's	partly cloudy	5-10
11-9-22	0650		45	cloudy	0-5
			48 11-8-22		

Summary of Field Notes/Sheets Recorded:

- Sample Control Log(s) _____
- Well Condition Form(s) _____
- Water Level and Field Parameters Field Form(s) _____
- Well Development And Groundwater Sampling Field Form(s) _____
- Chain-of-Custody(s) _____
- Equipment Rental Information AquaTroll Calibration Form
- Other: _____

Contractor Summary:

NA _____ KTS
11-8-22

Summary of Equipment On-Site:

Aqua Troll 600 water quality meter, Solnist water level indicator, 7-piece bailer, MP50 controller, Ramboll battery and Ramboll truck.

Site Visitor Summary:

NA _____ KTS
11-8-22

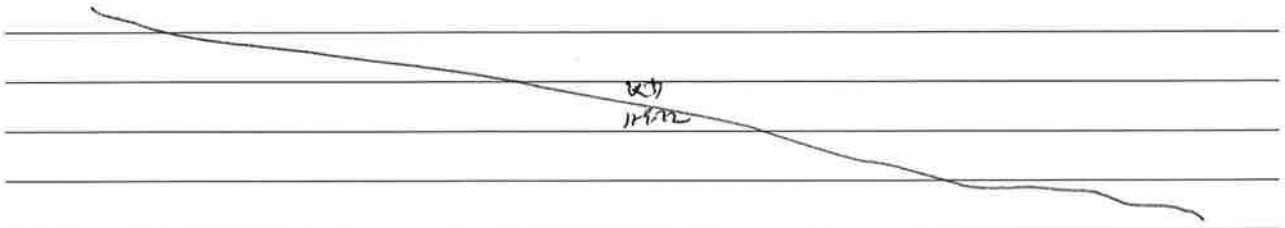
Activity Summary Report

Date(s): 11-8-22 and 11-9-22
Project Number: 02327/210

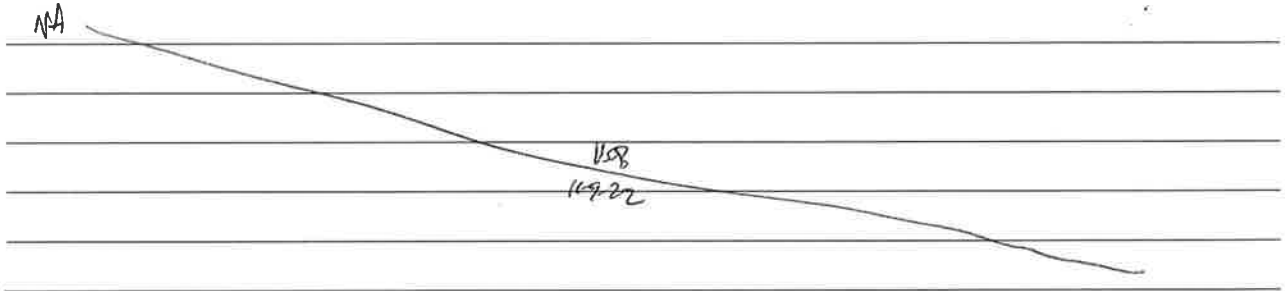
Page 2 of 2

Summary of Work (include sample locations, types, media, etc...)

11-8-22: Sample walks MW-95, MW-79, MW-80PR, MW-76 (QA/QC 2)³, MW-87.
11-9-22: Sample walks MW-85, MW-86, and ED-1. Drop samples at Pace on drive back to Milwaukee.



Issues/ Resolution:



Additional Comments:

All gates were locked upon arrival and upon exiting. No observed signs of unauthorized access to the site. No noticeable signs of property damage from weather or personnel/public. Contact Tom Fure. Phone 906-250-4733.
Key pad gate code 2701.
Samples dropped off at Pace for analysis.
Times recorded in Eastern time zone unless noted.

Field Representative: Kyle Schaefer Signature: Kyle Schaefer
Date: 11-8-22

SAMPLE CONTROL LOG

Sample Control Log

Project Name: We Energies Presque Isle Power Plant Ash LF 3

Project ID: 1940102327

Task ID: 210

Analytical Laboratory: We Energies

Geotechnical Laboratory: NA

Field Staff ID(s): VJ, LMD

Well ID	Sample Media	Sample Order	Total Bails	QC Sample Information (duplicate, blank, etc)	COC Number	Notes (turnaround time, handling notes)
MW-95	GW	cc1	5	NA	1940102327-1122-004	1234 11-8-22 110822001 on CEC and stat
MW-99	GW	cc2	9	NA		1412 110822002 on CEC
MW-80PR	GW	cc3	31	NA		1450 110822003 on CEC
MW-76	GW	cc4	7	NA		1528 110822004 on CEC
MW-70	GW	cc5	7	QA/CEC I		1533 110822005 on CEC
MW-87	GW	cc6	10	NA		1623 110822006 on CEC
MW-85	GW	cc7	8	NA		1740 11-9-22 110922007 on CEC
MW-86	GW	cc8	16	NA		0825 110922008 on CEC
EB-1	DF	cc9	NA	Equipment Blank I		0115 Temp 7.46 Cond 7.57 PH 8.01 ORP 1.5 DO 11.30 Turbidity 0.00

WELL CONDITION FIELD FORMS

WELL CONDITION FIELD FORM

Site : We Energies Presque Isle Power Plant Ash LF 3

Project # : 1940102327

Task # : 210

Date : 11-8-22 to 11-9-22

Samplers : VJ
LMP

Location	EVERY SAMPLING EVENT										AT LEAST ONCE A YEAR			Field Comments:
	Surface Seal	Lid	Gasket	Lock	Cap	Protection (bumper posts, etc.)	Bailer	Pump	Well Casing	Water Level (feet)	Expected Well Depth (feet)	Field Measured Well Depth (feet)	Well Base Sediment Thickness (feet)	
MW70	G	NA	NA	G	G	NA	NA	G	G	25.78	31.05	NM	NA	oil fees
MW79	G	NA	NA	G	G	NA	NA	G	G	23.19	29.60	NM	NA	oil
MW80PR	G	NA	NA	G	G	NA	NA	G	G	17.07	40.85	NM	NA	oil
MW85	G	NA	NA	G	G	NA	NA	G	G	41.49	47.85	NM	NA	oil
MW86	G	NA	NA	G	G	NA	NA	G	G	5.07	16.84	NM	NA	oil
MW87	G	NA	NA	G	G	NA	NA	G	G	31.83	39.61	NM	NA	oil
MW95	G	NA	NA	G	G	NA	NA	G	G	32.31	36.00	NM	NA	oil

P : Poor - Potential or Evident Sample Integrity Issues (additional comments required, picture(s) desirable)

F : Fair - Future Sample Integrity May Be Compromised if Well Repair/Upgrade is Not Undertaken (additional comments required, picture(s) desirable)

G : Good (additional comments not required)

n/a : Not Applicable

**WELL DEVELOPMENT AND GROUNDWATER SAMPLING
FIELD FORM**

We Energies Multi-Site Guideline For Bailing and Well Volume Removal

Measurements for 2" Wells - (1.3 Bails/Per Foot Water)								
# Feet of Water	# Bails/ Foot of Water	# Feet of Water	# Bails/ Foot of Water	# Feet of Water	# Bails/ Foot of Water	# Feet of Water	# Bails/ Foot of Water	
1	21	27	41	53	61	79	81	105
2	22	29	42	55	62	81	82	107
3	23	30	43	56	63	82	83	108
4	24	31	44	57	64	83	84	109
5	25	33	45	59	65	85	85	111
6	26	34	46	60	66	86	86	112
7	27	35	47	61	67	87	87	113
8	28	36	48	62	68	88	88	114
9	29	38	49	64	69	90	89	115
10	30	39	50	65	70	91	90	116
11	31	40	51	66	71	92	91	118
12	32	42	52	68	72	94	92	120
13	33	43	53	69	73	95	93	121
14	34	44	54	70	74	96	94	122
15	35	45	55	72	75	98	95	124
16	36	47	56	73	76	99	96	125
17	37	48	57	74	77	100	97	126
18	38	49	58	75	78	101	98	127
19	39	51	59	77	79	103	99	129
20	40	52	60	78	80	104	100	130

Pump Run Time Calculation:

Total Depth (ft.) - Static Water Level (ft.) = Standing Water Column (ft.)

Standing Water Column (ft.) * 0.16 (Gal./ft.) = 1 Well Volume (Gal.)

1 Well Volume (Gal.) * 4 = 4 Well Volumes (Gal.)

4 Well Volumes (Gal.) / Time (Gal./min) = Time (min)

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Presque Isle Power Plant Ash LF 3
 Project Number: 1940102327
 Field Personnel: WES, CAD

Client: We Energies
 Task #: 210

Start Date: 11/8/22 Time: 1513
 Finish Date: 11/8/22 Time: 1528

WELL INFORMATION

Well ID: MW70
 Casing ID: 2 inches
 Total Depth: 31.05 ft.
 Borehole Diameter: _____ inches
 Filter Pack Interval: _____

EVENT TYPE

Well Development
 Low-Flow / Low-Stress Sampling
 Well Volume Approach Sampling
 Other (Specify below)

PURGE INFORMATION

Purge Method: Bailer Pump
 Bailer Type: 7-piece
 Pump Type and Serial #: QED Bladder Pump P1150
 Tube/Pump Intake Depth: 30.1 ft.
 Stabilized Pumping Rate: 25.0 ml/min

DEPTH MEASUREMENTS

	INITIAL		FINAL	
	Depth FT BTOC	Time (24-Hour)	Depth FT BTOC	Time (24-Hour)
LNAPL	NA	NA	NA	NA
Groundwater	<u>25.78</u>	<u>1513</u>	NA	NA
DNAPL	NA	NA	NA	NA
Casing Base	NA	NA	NA	NA

VOLUME CALCULATION AND PRODUCTION INFORMATION

Volume Calculation Type: Well Casing Borehole
 Volume Per Foot: _____ feet
 Standing Water Column: 5.27 feet
 1 Well Volume: 2 Bails 4 Well Volumes: 7 Bails
 Actual Volume: 7 Bails
 Well Purged Dry? Yes No

Water Level Serial #: _____

Water Quality Probe Type and Serial #

AquaTroll 600

WATER QUALITY INDICATOR PARAMETERS

Sampling Stage	Time (military)	Volume Removed (bails)	Depth to Water (Feet)	Temp (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
initial	<u>1513</u>	NA	<u>25.78</u>	-	-	-	-	-	-	<u>clear</u>
Sample	<u>1528</u>	<u>7</u>	-	<u>8.17</u>	<u>7.28</u>	<u>143.76</u>	<u>10.56</u>	<u>0.00</u>	<u>106.5</u>	<u>clear</u>

NOTES

Initial/Potentiometric WL: 25.78 Date: 11-8-22 Time: 1507

WR 183 Q/A 1 0.5
1528 0.4

ABBREVIATIONS

Cond. - Actual Conductivity
 FT BTOC - Feet Below Top of Casing
 na - Not Applicable
 hm - Not Measured
 ORP - Oxidation-Reduction Potential
 SEC - Specific Electrical Conductance
 SU - Standard Units
 Temp - Temperature

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Presque Isle Power Plant Ash LF 3
 Client: We Energies
 Project Number: 1940102327
 Task #: 210
 Field Personnel: RJ, LMD
 Start Date: 11/8/22
 Finish Date: 11/8/22
 Time: 1403
 Time: 1412

WELL INFORMATION	EVENT TYPE
Well ID: MW79	<input type="checkbox"/> Well Development
Casing ID: 2 inches	<input checked="" type="checkbox"/> Low-Flow / Low-Stress Sampling
Total Depth: 19.8-29.8	<input type="checkbox"/> Well Volume Approach Sampling
Borehole Diameter: _____ inches	<input type="checkbox"/> Other (Specify below)
Filter Pack Interval: _____	

DEPTH MEASUREMENTS	
INITIAL	FINAL
Depth FT BTOC: NA	Depth FT BTOC: NA
Time (24-Hour): NA	Time (24-Hour): NA
LNAPL: 23.19	Groundwater: 1412
DNAPL: NA	Casing Base: NA
Casing Base: NA	

Volume Calculation Type: Well Casing Borehole
 Volume Per Foot: _____ feet
 Standing Water Column: 3 Bails 6.61 feet
 1 Well Volume: 9 Bails
 Actual Volume: _____
 Well Purged Dry? Yes No

Water Level Serial #: _____ Solinst _____ Water Quality Probe Type and Serial #: Aqua Troll 600

WATER QUALITY INDICATOR PARAMETERS												
Sampling Stage	Time (military)	Volume Removed (bails)	Depth to Water (Feet)	Drawdown (Feet)	Temp (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mv)	Visual Clarity	
initial	1403	NA	23.19	NA	-	-	-	-	-	-	clear	
Sample	1412	9	-	-	9.73	5.93	124.35	8.58	0.20	140.2	clear	
<i>11-11-22</i>												

Initial/Potentiometric WL: 23.19 Date: 11-8-22 Time: 1356

NOTES: col
 Abbreviations: Cond. - Actual Conductivity; FT BTOC - Feet Below Top of Casing; na - Not Applicable; nm - Not Measured
 ORP - Oxidation-Reduction Potential; SEC - Specific Electrical Conductance; SU - Standard Units; Temp - Temperature

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Presque Isle Power Plant Ash LF 3
 Project Number: 1940102327
 Field Personnel: KS, CMB

Client: We Energies
 Task #: 210
 Start Date: 11/6/22
 Finish Date: 11/6/22
 Time: 1435
 Time: 1450

WELL INFORMATION

Well ID: MW80PR
 Casing ID: 2 Inches
 Total Depth: 40.85 ft.
 Borehole Diameter: _____ Inches
 Filter Pack Interval: _____

EVENT TYPE

Well Development
 Low-Flow / Low-Stress Sampling
 Well Volume Approach Sampling
 Other (Specify below)

PURGE INFORMATION

Purge Method: Bailer Pump
 Bailer Type: NA
 Pump Type and Serial #: QED Bladder Pump P1150
 Tube/Pump Intake Depth: 38.7 ft.
 Stabilized Pumping Rate: 150 ml/min

DEPTH MEASUREMENTS

	INITIAL		FINAL	
	Depth FT BTOC	Time (24-Hour)	Depth FT BTOC	Time (24-Hour)
LNAPL	NA	NA	NA	NA
Groundwater	17.07	1435	NA	1450
DNAPL	NA	NA	NA	NA
Casing Base	NA	NA	NA	NA

VOLUME CALCULATION AND PRODUCTION INFORMATION

Volume Calculation Type: Well Casing Borehole
 Volume Per Foot: _____ feet
 Standing Water Column: 23.78 feet
 1 Well Volume: 8 Bails 4 Well Volumes: 31 Bails
 Actual Volume: 31 Bails
 Well Purged Dry? Yes No

Water Level Serial #: _____ Solmist _____ Water Quality Probe Type and Serial # _____ Aqua Troll 600

WATER QUALITY INDICATOR PARAMETERS

Sampling Stage	Time (military)	Volume Removed (bails)	Depth to Water (Feet)	Temp (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
initial	1435	NA	17.07	-	-	-	-	-	-	clear
Sample	1450	31	-	8.84	7.86	310.33	9.00	0.40	99.5	clear

NOTES

Initial/Potentiometric WL: 17.07 Date: 11-8-22 Time: 1425

ABBREVIATIONS

Cond. - Actual Conductivity
 FT BTOC - Feet Below Top of Casing
 na - Not Applicable
 nm - Not Measured

ORP - Oxidation-Reduction Potential
 SEC - Specific Electrical Conductance
 SU - Standard Units
 Temp - Temperature



WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Presque Isle Power Plant Ash LF 3
 Client: We Energies
 Project Number: 1940102327
 Task #: 210
 Field Personnel: WJ, GAO
 Start Date: 11/9/22 Time: 0710
 Finish Date: 11/9/22 Time: 0740

WELL INFORMATION	EVENT TYPE	PURGE INFORMATION
Well ID: MW85	<input type="checkbox"/> Well Development <input checked="" type="checkbox"/> Low-Flow / Low-Stress Sampling <input type="checkbox"/> Well Volume Approach Sampling <input type="checkbox"/> Other (Specify below)	Purge Method: <input type="checkbox"/> Bailer <input checked="" type="checkbox"/> Pump Bailer Type: NA Pump Type and Serial #: QED Bladder Pump P1150 Tube/Pump Intake Depth: 46.9 ft. Stabilized Pumping Rate: <u>1.5c mt/min</u>

DEPTH MEASUREMENTS		VOLUME CALCULATION AND PRODUCTION INFORMATION	
INITIAL	FINAL	Volume Calculation Type:	
Depth FT BTOC	Depth FT BTOC	<input checked="" type="checkbox"/> Well Casing <input type="checkbox"/> Borehole	Volume Per Foot: <u>1.3</u> feet
Time (24-Hour)	Time (24-Hour)		Standing Water Column: <u>6.36</u> feet
LNAPL	NA		1 Well Volume: <u>2</u> Bails
Groundwater	<u>41.49</u>		Actual Volume: <u>8</u> Bails
DNAPL	NA		Well Purged Dry? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Casing Base	NA		

Water Level Serial #: _____ Solnist _____ Water Quality Probe Type and Serial #: AquaTroll 600

WATER QUALITY INDICATOR PARAMETERS										
Sampling Stage	Time (military)	Volume Removed (bails)	Depth to Water (Feet)	Temp (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mv)	Visual Clarity
initial	<u>0710</u>	NA	<u>41.49</u>	-	-	-	-	-	-	<u>clear</u>
Sample	<u>0740</u>	<u>8</u>	-	<u>7.13</u>	<u>5.74</u>	<u>37.28</u>	<u>10.06</u>	<u>0-50</u>	<u>205.8</u>	<u>clear</u>
					<u>7.53</u>					
					<u>11.9-2.7</u>					

NOTES	ABBREVIATIONS
Initial/Potentiometric WL: <u>41.49</u> Date: <u>11-9-22</u> Time: <u>0710</u>	Cond. - Actual Conductivity FT BTOC - Feet Below Top of Casing na - Not Applicable nm - Not Measured
<u>UR</u>	ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units Temp - Temperature



WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Presque Isle Power Plant Ash LF 3 Client: We Energies
 Project Number: 1940102327 Task #: 210 Start Date: 11/9/22 Time: 0810
 Field Personnel: VAS, LMD Finish Date: Time: 0825

WELL INFORMATION	EVENT TYPE	PURGE INFORMATION
Well ID: MW86	<input type="checkbox"/> Well Development <input checked="" type="checkbox"/> Low-Flow / Low-Stress Sampling <input type="checkbox"/> Well Volume Approach Sampling <input type="checkbox"/> Other (Specify below)	Purge Method: Bailer <input checked="" type="checkbox"/> Pump
Casing ID: 2 Inches		Bailer Type: NA
Total Depth: 6.6-16.6 Inches		Pump Type and Serial #: QED Bladder Pump P1150
Borehole Diameter: _____ Inches		Tube/Pump Intake Depth: 13.6 ft
Filter Pack Interval: _____		Stabilized Pumping Rate: 25 ml/min

DEPTH MEASUREMENTS			
	INITIAL		FINAL
	Depth FT BTOC	Time (24-Hour)	Time (24-Hour)
LNAPL	NA	NA	NA
Groundwater	5.27	0810	0825
DNAPL	NA	NA	NA
Casing Base	NA	NA	NA

Volume Calculation Type: Well Casing Borehole
 Volume Per Foot: 1.3 Bails
 Standing Water Column: 11.53 feet
 1 Well Volume: 4 Bails 4 Well Volumes: 16 Bails
 Actual Volume: 16 Bails
 Well Purged Dry? Yes No

Water Level Serial #: _____ Solinst _____ Water Quality Probe Type and Serial #: AquaTroll 600

WATER QUALITY INDICATOR PARAMETERS											
Sampling Stage	Time (military)	Volume Removed (bails)	Depth to Water (Feet)	Drawdown (Feet)	Temp (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
initial	0810	NA	5.27	NA	-	-	-	-	-	-	cloudy / orange-ish
Sample	0825	16	-	-	9.43	5.94	177.03	0.16	0.00	0.7	cloud / orange-ish

NOTES		ABBREVIATIONS
Initial/Potentiometric WL: 5.27	Date: 11-9-22	ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units m - Not Measured
	Time: 0827	Cond - Actual Conductivity FT BTOC - Feet Below Top of Casing na - Not Applicable m - Not Measured

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Presque Isle Power Plant Ash LF 3
 Client: We Energies
 Project Number: 1940102327
 Task #: 210
 Field Personnel: WSS, GMD
 Start Date: 11/8/22 Time: 1602
 Finish Date: 11/8/22 Time: 1673

WELL INFORMATION	EVENT TYPE
Well ID: MW87	<input type="checkbox"/> Well Development
Casing ID: 2 inches	<input type="checkbox"/> Low-Flow / Low-Stress Sampling
Total Depth: 29.6-39.6 inches	<input checked="" type="checkbox"/> Well Volume Approach Sampling
Borehole Diameter: _____ inches	<input type="checkbox"/> Other (specify below)
Filter Pack Interval: _____ inches	

DEPTH MEASUREMENTS	
INITIAL	FINAL
Depth FT BTOC: NA	Depth FT BTOC: NA
Time (24-Hour): NA	Time (24-Hour): NA
Groundwater: 31.83	Groundwater: 16.23
DNAPL: NA	DNAPL: NA
Casing Base: NA	Casing Base: NA

Volume Calculation Type: Well Casing Borehole
 Volume Per Foot: _____
 Standing Water Column: _____
 1 Well Volume: 3 Bails 7.77 feet
 Actual Volume: 10 Bails 4 Well Volumes: 10 Bails
 Well Purged Dry? Yes No

Water Level Serial #: _____ Solinst _____ Water Quality Probe Type and Serial #: _____ AquaTroll 600

WATER QUALITY INDICATOR PARAMETERS											
Sampling Stage	Time (military)	Volume Removed (bails)	Depth to Water (Feet)	Drawdown (Feet)	Temp (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
initial	1602	NA	31.83	NA	-	-	-	-	-	-	clear
Sample	1623	10	-	-	7.03	6.91	113.79	11.46	0.00	116.6	clear

Initial/Potentiometric WL: 31.83 Date: 11/8/22 Time: 1536
 Notes: ccr ccb
ABBREVIATIONS
 Cond. - Actual Conductivity
 FT BTOC - Feet Below Top of Casing
 na - Not Applicable
 nm - Not Measured
 ORP - Oxidation-Reduction Potential
 SEC - Specific Electrical Conductance
 SU - Standard Units
 Temp - Temperature

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Presque Isle Power Plant Ash LF 3 Client: We Energies
 Project Number: 1940102327 Task #: 210 Start Date: 11/18/22 Time: 12:01
 Field Personnel: LTR, LMD Finish Date: Time: 12:34

WELL INFORMATION	EVENT TYPE	PURGE INFORMATION
Well ID: MW95	<input type="checkbox"/> Well Development <input checked="" type="checkbox"/> Low-Flow / Low-Stress Sampling <input type="checkbox"/> Well Volume Approach Sampling <input type="checkbox"/> Other (Specify below)	Purge Method: <input type="checkbox"/> Bailer <input checked="" type="checkbox"/> Pump Bailer Type: NA Pump Type and Serial #: QED Bladder Pump P1150 Tube/Pump Intake Depth: 35 ft. Stabilized Pumping Rate: <u>25 m/min</u>

DEPTH MEASUREMENTS			
	INITIAL		FINAL
	Depth FT-BTOC	Time (24-Hour)	Depth FT-BTOC
LNAPL	NA	NA	NA
Groundwater	32.31	12:34	NA
DNAPL	NA	NA	NA
Casing Base	NA	NA	NA

Volume Calculation Type: Well Casing Borehole
 Volume Per Foot: 1.3 Bails feet
 Standing Water Column: 3.69 Bails 4 Well Volumes: 5 Bails
 1 Well Volume: 1 Bails
 Actual Volume: 5 Bails
 Well Purged Dry? Yes No

Water Level Serial #: _____ Water Quality Probe Type and Serial # _____ AquaTroll 600

WATER QUALITY INDICATOR PARAMETERS											
Sampling Stage	Time (military)	Volume Removed (bails)	Depth to Water (Feet)	Drawdown (Feet)	Temp (°C)	pH (SU)	SEC or Cond. (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
initial	12:01	NA	32.31	NA	-	-	-	-	-	-	clear
Sample	12:34	5	-	-	8.69	7.38	185.15	8.76	0.60	101.9	clear

NOTES	ABBREVIATIONS
Initial/Potentiometric WL: 32.31 Date: 11/18/22 Time: 12:01 Central time CCF cel	Cond. - Actual Conductivity FT BTOC - Feet Below Top of Casing na - Not Applicable nm - Not Measured ORP - Oxidation-Reduction Potential SEC - Specific Electrical Conductance SU - Standard Units Temp - Temperature

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Presque Isle Power Plant Ash LF 3 Client: We Energies
 Project Number: 1940102327 Task #: 210 Start Date: _____ Time: _____
 Field Personnel: _____ Finish Date: _____ Time: _____

WELL INFORMATION	EVENT TYPE	PURGE INFORMATION
Well ID: <u>MW75R</u>	<input type="checkbox"/> Well Development <input type="checkbox"/> Low-Flow / Low-Stress Sampling <input checked="" type="checkbox"/> Well Volume Approach Sampling <input type="checkbox"/> Other (Specify below)	Purge Method: <input checked="" type="checkbox"/> Bailor <input type="checkbox"/> Pump Bailor Type: <u>7-piece</u>
Casing ID: <u>2</u> inches		Pump Type and Serial #: <u>NA</u>
Total Depth: <u>52.46 ft.</u>		Tube/Pump Intake Depth: <u>NA</u>
Borehole Diameter: _____ inches		Stabilized Pumping Rate: <u>NA</u>
Filter Pack Interval: _____ inches		

DEPTH MEASUREMENTS

	INITIAL		FINAL	
	Depth FT BTOC	Time (24-Hour)	Depth FT BTOC	Time (24-Hour)
LNAPL	NA	NA	NA	NA
Groundwater	NA	NA	NA	NA
DNAPL	NA	NA	NA	NA
Casing Base	NA	NA	NA	NA

Volume Calculation Type: Well Casing Borehole
 Volume Per Foot: _____ feet
 Standing Water Column: _____ feet
 1 Well Volume: _____ Bails 4 Well Volumes: _____ Bails
 Actual Volume: _____ Bails
 Well Purged Dry? Yes No

Water Level Serial #: _____ Solinst _____ Water Quality Probe Type and Serial #: AquaTroll 600

WATER QUALITY INDICATOR PARAMETERS

Sampling Stage	Time (military)	Volume Removed (bails)	Depth to Water (Feet)	Drawdown (Feet)	Temp (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
initial		NA	NA	NA	-	-	-	-	-	-	-
Sample											

NOTES

Initial/Potentiometric WL: _____ Date: _____ Time: _____
Not required by EMS and well abandoned.

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD FORM

PROJECT INFORMATION

Site: Presque Isle Power Plant Ash LF 3 Client: We Energies Task #: 210 Start Date: _____ Time: _____
 Project Number: 1940102327 Finish Date: _____
 Field Personnel: _____

WELL INFORMATION

Well ID: LTANK Purge Method: Bailer Pump
 Casing ID: _____ Bailer Type: 3-piece
 Total Depth: -- Pump Type and Serial #: NA
 Borehole Diameter: _____ Tube/Pump Intake Depth: NA
 Filter Pack Interval: _____ Stabilized Pumping Rate: NA

EVENT TYPE

Well Development
 Low-Flow / Low-Stress Sampling
 Well Volume Approach Sampling
 Other: (Specify below)
 Grab

PURGE INFORMATION

Volume Calculation Type: Well Casing Borehole
 Volume Per Foot: _____ 1.3 Bails
 Standing Water Column: _____ feet
 1 Well Volume: _____ Bails 4 Well Volumes: _____ Bails
 Actual Volume: _____ Bails
 Well Purged Dry? Yes No

DEPTH MEASUREMENTS

	INITIAL		FINAL	
	Depth FT BTOC	Time (24-Hour)	Depth FT BTOC	Time (24-Hour)
LNAPL	NA	NA	NA	NA
Groundwater	NA	NA	NA	NA
DNAPL	NA	NA	NA	NA
Casing Base	NA	NA	NA	NA

VOLUME CALCULATION AND PRODUCTION INFORMATION

Water Level Serial #: _____ Water Quality Probe Type and Serial #: Aqua Troll 600

WATER QUALITY INDICATOR PARAMETERS

Sampling Stage	Time (military)	Volume Removed (bails)	Depth to Water (Feet)	Drawdown (Feet)	Temp (°C)	pH (SU)	SEC or Cond. (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Visual Clarity
initial		NA	NA	NA							
Sample						7.5					
						11-8-22					

NOTES

Not required by EMS.

ABBREVIATIONS

Cond. - Actual Conductivity ORP - Oxidation-Reduction Potential
 FT BTOC - Feet Below Top of Casing SEC - Specific Electrical Conductance
 na - Not Applicable SU - Standard Units
 nm - Not Measured Temp - Temperature



CHAIN OF CUSTODY DOCUMENTATION

To: Eric Kovatch
PSB Annex A231



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

Report Date: Wednesday, December 28, 2022

The following are the analytical results for samples received by Laboratory Services on 12/12/2022 :

Sample Description: MW95 **PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE64061 **Serial/Impact ID:** 110822001
Sample Collector: RAMBOLL **Sample Collection Date:** 11/8/22 **Collection Time:** 12:34

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	32.45	0.05	feet		H2OD	11/8/22	RAMBOLL
Field Temperature	9.9	0.1	Degrees C		TEMP	11/8/22	RAMBOLL
Field Conductivity	199	0	umhos		FCOND25	11/8/22	RAMBOLL
Field pH	7.8	0.1	Units		FIELDPH	11/8/22	RAMBOLL
Total Fluoride	Less Than	0.095	mg/L		EPA 300.0	11/17/22	020
Total Chloride	0.66	0.43	mg/L	J	EPA 300.0	11/17/22	020
Total Sulfate	3.8	0.44	mg/L		EPA 300.0	11/17/22	020
Total Boron	32.7	3.0	ug/L		EPA 200.7	12/1/22	020
Total Calcium	24300	76.2	ug/L		EPA 200.7	12/1/22	020
Total Iron	Less Than	58	ug/L		EPA 200.7	12/1/22	020
Total Silver	Less Than	0.13	ug/L		EPA 200.7	12/1/22	020
Total Copper	Less Than	1.9	ug/L		EPA 200.7	12/1/22	020
Total Nickel	Less Than	0.28	ug/L		EPA 200.7	12/1/22	020
Total Vanadium	1.6	0.32	ug/L		EPA 200.7	12/1/22	020
Total Zinc	Less Than	10.3	ug/L		EPA 200.7	12/1/22	020
Redox Potential	77.2	1	mV		ASTM D1498-93	11/8/22	RAMBOLL
Turbidity	Less Than	0.1	NTU'S		EPA 180.1	11/8/22	RAMBOLL
Dissolved Oxygen-Field	10.84	0.1	mg/l		FIELDDO	11/8/22	RAMBOLL
Total Dissolved Solids	84	8.7	mg/L		Std Mtd 2540 C	11/11/22	020
Dissolved Calcium	25200	76.2	ug/L		EPA 200.7	11/29/22	020
Dissolved Magnesium	6620	31.2	ug/L		EPA 200.7	11/29/22	020
Dissolved Potassium	1080	237	ug/L		EPA 200.7	11/29/22	020
Dissolved Sodium	1780	42	ug/L		EPA 200.7	11/29/22	020
Dissolved Chloride	0.69	0.43	mg/L	J	EPA 300.0	11/22/22	020
Dissolved Fluoride	Less Than	0.095	mg/L		EPA 300.0	11/23/22	020
Dissolved Sulfate	3.8	0.44	mg/L		EPA 300.0	11/22/22	020
Total Filtered Alkalinity as CaCO3	95.5	5	mg/l		Std Mtd 2320 B	11/13/22	020
Carbonate Ion	Less Than	5	mg/L		CO3	11/13/22	020
Bicarbonate Ion	95.5	5	mg/L		HCO3	11/13/22	020
Total Hardness as CaCO3	90	1	mg/L		Std Mtd 2340B	12/21/22	020

Sample Description: MW79 **PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE64062 **Serial/Impact ID:** 110822002
Sample Collector: RAMBOLL **Sample Collection Date:** 11/8/22 **Collection Time:** 14:12

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	22.31	0.05	feet		H2OD	11/8/22	RAMBOLL
Field Temperature	9.7	0.1	Degrees C		TEMP	11/8/22	RAMBOLL

Field Conductivity	124	0	umhos		FCOND25	11/8/22	RAMBOLL
Field pH	5.9	0.1	Units		FIELDPH	11/8/22	RAMBOLL
Total Fluoride	Less Than	0.095	mg/L		EPA 300.0	11/17/22	020
Total Chloride	0.72	0.43	mg/L	J	EPA 300.0	11/17/22	020
Total Sulfate	4.6	0.44	mg/L		EPA 300.0	11/17/22	020
Total Boron	24.2	3	ug/L		EPA 200.7	12/1/22	020
Total Calcium	15100	76.2	ug/L		EPA 200.7	12/1/22	020
Total Iron	Less Than	58	ug/L		EPA 200.7	12/1/22	020
Total Silver	Less Than	0.13	ug/L		EPA 200.7	12/1/22	020
Total Copper	Less Than	1.9	ug/L		EPA 200.7	12/1/22	020
Total Nickel	Less Than	1	ug/L	1	EPA 200.7	12/1/22	020
Total Vanadium	0.46	0.32	ug/L	J	EPA 200.7	12/1/22	020
Total Zinc	Less Than	10.3	ug/L		EPA 200.7	12/1/22	020
Redox Potential	140	1	mV		ASTM D1498-93	11/8/22	RAMBOLL
Turbidity	Less Than	0.1	NTU'S		EPA 180.1	11/8/22	RAMBOLL
Dissolved Oxygen-Field	8.58	0.1	mg/l		FIELDDO	11/8/22	RAMBOLL
Total Dissolved Solids	40	8.7	mg/L		Std Mtd 2540 C	11/11/22	020
Dissolved Calcium	14800	76.2	ug/L		EPA 200.7	11/29/22	020
Dissolved Magnesium	4010	31.2	ug/L		EPA 200.7	11/29/22	020
Dissolved Potassium	2490	237	ug/L		EPA 200.7	11/29/22	020
Dissolved Sodium	1910	42	ug/L		EPA 200.7	11/29/22	020
Dissolved Chloride	0.73	0.43	mg/L	J	EPA 300.0	11/23/22	020
Dissolved Fluoride	Less Than	0.095	mg/L		EPA 300.0	11/23/22	020
Dissolved Sulfate	5.2	0.44	mg/L		EPA 300.0	11/23/22	020
Total Filtered Alkalinity as CaCO3	50.4	5	mg/l		Std Mtd 2320 B	11/13/22	020
Carbonate Ion	Less Than	5	mg/L		CO3	11/13/22	020
Bicarbonate Ion	50.4	5	mg/L		HCO3	11/13/22	020
Total Hardness as CaCO3	53	1	mg/L		Std Mtd 2340B	12/21/22	020

Sample Description: MW80PR PIPP Landfill 3 Semi Annual - State and CCR

Sample ID: AE64063 Serial/Impact ID: 110822003
Sample Collector: RAMBOLL Sample Collection Date: 11/8/22 Collection Time: 14:50

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	17.40	0.05	feet		H2OD	11/8/22	RAMBOLL
Field Temperature	8.8	0.1	Degrees C		TEMP	11/8/22	RAMBOLL
Field Conductivity	310	0	umhos		FCOND25	11/8/22	RAMBOLL
Field pH	7.8	0.1	Units		FIELDPH	11/8/22	RAMBOLL
Total Fluoride	Less Than	0.095	mg/L		EPA 300.0	11/17/22	020
Total Chloride	4.1	0.43	mg/L		EPA 300.0	11/17/22	020
Total Sulfate	5.2	0.44	mg/L		EPA 300.0	11/17/22	020
Total Boron	11	3	ug/L		EPA 200.7	12/1/22	020
Total Calcium	52000	76.2	ug/L		EPA 200.7	12/1/22	020
Total Iron	Less Than	58	ug/L		EPA 200.7	12/1/22	020
Total Silver	Less Than	0.13	ug/L		EPA 200.7	12/1/22	020
Total Copper	Less Than	1.9	ug/L		EPA 200.7	12/1/22	020
Total Nickel	Less Than	0.28	ug/L		EPA 200.7	12/1/22	020
Total Vanadium	0.88	0.32	ug/L	J	EPA 200.7	12/1/22	020
Total Zinc	Less Than	10.3	ug/L		EPA 200.7	12/1/22	020
Redox Potential	99.5	1	mV		ASTM D1498-93	11/8/22	RAMBOLL
Turbidity	Less Than	0.1	NTU'S		EPA 180.1	11/8/22	RAMBOLL
Dissolved Oxygen-Field	9.00	0.1	mg/l		FIELDDO	11/8/22	RAMBOLL
Total Dissolved Solids	142	8.7	mg/L		Std Mtd 2540 C	11/11/22	020
Dissolved Calcium	46200	76.2	ug/L		EPA 200.7	11/29/22	020
Dissolved Magnesium	7890	31.2	ug/L		EPA 200.7	11/29/22	020
Dissolved Potassium	1150	237	ug/L		EPA 200.7	11/29/22	020
Dissolved Sodium	1560	42	ug/L		EPA 200.7	11/29/22	020
Dissolved Chloride	4.1	0.43	mg/L		EPA 300.0	11/23/22	020
Dissolved Fluoride	Less Than	0.095	mg/L		EPA 300.0	11/23/22	020

Dissolved Sulfate	5.5	0.44	mg/L	EPA 300.0	11/23/22	020
Total Filtered Alkalinity as CaCO3	153	5	mg/l	Std Mtd 2320 B	11/13/22	020
Carbonate Ion	Less Than	5	mg/L	CO3	11/13/22	020
Bicarbonate Ion	153	5	mg/L	HCO3	11/13/22	020
Total Hardness as CaCO3	150	1	mg/L	Std Mtd 2340B	12/21/22	020

Sample Description: MW70 PIPP Landfill 3 Semi Annual - State and CCR

Sample ID: AE64064 Serial/Impact ID: 110822004
Sample Collector: RAMBOLL Sample Collection Date: 11/8/22 Collection Time: 15:28

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	25.80	0.05	feet		H2OD	11/8/22	RAMBOLL
Field Temperature	8.2	0.1	Degrees C		TEMP	11/8/22	RAMBOLL
Field Conductivity	144	0	umhos		FCOND25	11/8/22	RAMBOLL
Field pH	7.3	0.1	Units		FIELDPH	11/8/22	RAMBOLL
Total Fluoride	Less Than	0.095	mg/L		EPA 300.0	11/17/22	020
Total Chloride	0.76	0.43	mg/L	J	EPA 300.0	11/17/22	020
Total Sulfate	4.2	0.44	mg/L		EPA 300.0	11/17/22	020
Total Boron	11.9	3	ug/L		EPA 200.7	12/1/22	020
Total Calcium	23800	76.2	ug/L		EPA 200.7	12/1/22	020
Total Iron	146	58	ug/L	J	EPA 200.7	12/1/22	020
Total Silver	Less Than	0.13	ug/L		EPA 200.7	12/1/22	020
Total Copper	Less Than	1.9	ug/L		EPA 200.7	12/1/22	020
Total Nickel	Less Than	0.28	ug/L		EPA 200.7	12/1/22	020
Total Vanadium	0.89	0.32	ug/L	J	EPA 200.7	12/1/22	020
Total Zinc	Less Than	10.3	ug/L		EPA 200.7	12/1/22	020
Redox Potential	104.6	1	mV		ASTM D1498-93	11/8/22	RAMBOLL
Turbidity	Less Than	0.1	NTU'S		EPA 180.1	11/8/22	RAMBOLL
Dissolved Oxygen-Field	10.50	0.1	mg/l		FIELDDO	11/8/22	RAMBOLL
Total Dissolved Solids	76	8.7	mg/L		Std Mtd 2540 C	11/11/22	020
Dissolved Calcium	21600	76.2	ug/L		EPA 200.7	11/29/22	020
Dissolved Magnesium	2930	31.2	ug/L		EPA 200.7	11/29/22	020
Dissolved Potassium	682	237	ug/L	J	EPA 200.7	11/29/22	020
Dissolved Sodium	1340	42	ug/L		EPA 200.7	11/29/22	020
Dissolved Chloride	0.78	0.43	mg/L	J	EPA 300.0	11/23/22	020
Dissolved Fluoride	Less Than	0.095	mg/L		EPA 300.0	11/23/22	020
Dissolved Sulfate	4.4	0.44	mg/L		EPA 300.0	11/23/22	020
Total Filtered Alkalinity as CaCO3	71	5	mg/l		Std Mtd 2320 B	11/13/22	020
Carbonate Ion	Less Than	5	mg/L		CO3	11/13/22	020
Bicarbonate Ion	71	5	mg/L		HCO3	11/13/22	020
Total Hardness as CaCO3	66	1	mg/L		Std Mtd 2340B	12/21/22	020

Sample Description: QAQC1 PIPP Landfill 3 Semi Annual - State and CCR

Sample ID: AE64065 Serial/Impact ID: 110822005
Sample Collector: RAMBOLL Sample Collection Date: 11/8/22 Collection Time: 15:33

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Total Fluoride	Less Than	0.095	mg/L		EPA 300.0	11/17/22	020
Total Chloride	0.78	0.43	mg/L	J	EPA 300.0	11/17/22	020
Total Sulfate	4.3	0.44	mg/L		EPA 300.0	11/17/22	020
Total Boron	12.9	3	ug/L		EPA 200.7	12/1/22	020
Total Calcium	22300	76.2	ug/L		EPA 200.7	12/1/22	020
Total Iron	Less Than	58	ug/L		EPA 200.7	12/1/22	020
Total Silver	Less Than	0.13	ug/L		EPA 200.7	12/1/22	020
Total Copper	Less Than	1.9	ug/L		EPA 200.7	12/1/22	020
Total Nickel	Less Than	0.28	ug/L		EPA 200.7	12/1/22	020

Total Vanadium	0.78	0.32	ug/L	J	EPA 200.7	12/1/22	020
Total Zinc	Less Than	10.3	ug/L		EPA 200.7	12/1/22	020
Total Dissolved Solids	76	8.7	mg/L		Std Mtd 2540 C	11/11/22	020
Dissolved Calcium	21100	76.2	ug/L		EPA 200.7	11/29/22	020
Dissolved Magnesium	2840	31.2	ug/L		EPA 200.7	11/29/22	020
Dissolved Potassium	681	237	ug/L	J	EPA 200.7	11/29/22	020
Dissolved Sodium	1310	42	ug/L		EPA 200.7	11/29/22	020
Dissolved Chloride	0.79	0.43	mg/L	J	EPA 300.0	11/23/22	020
Dissolved Fluoride	Less Than	0.095	mg/L		EPA 300.0	11/23/22	020
Dissolved Sulfate	4.5	0.44	mg/L		EPA 300.0	11/23/22	020
Total Filtered Alkalinity as CaCO3	69.8	5	mg/l		Std Mtd 2320 B	11/13/22	020
Carbonate Ion	Less Than	5	mg/L		CO3	11/13/22	020
Bicarbonate Ion	69.8	5	mg/L		HCO3	11/13/22	020
Total Hardness as CaCO3	64	1	mg/L		Std Mtd 2340B	12/21/22	020

Sample Description: MW87 **PIPP Landfill 3 Semi Annual - State and CCR**
 Sample ID: AE64066 Serial/Impact ID: 110822006
 Sample Collector: RAMBOLL Sample Collection Date: 11/8/22 Collection Time: 16:23

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	34.83	0.05	feet		H2OD	11/8/22	RAMBOLL
Field Temperature	7.0	0.1	Degrees C		TEMP	11/8/22	RAMBOLL
Field Conductivity	114	0	umhos		FCOND25	11/8/22	RAMBOLL
Field pH	6.9	0.1	Units		FIELDPH	11/8/22	RAMBOLL
Total Fluoride	Less Than	0.095	mg/L		EPA 300.0	11/17/22	020
Total Chloride	1	0.43	mg/L	J	EPA 300.0	11/17/22	020
Total Sulfate	4.6	0.44	mg/L		EPA 300.0	11/17/22	020
Total Boron	47.7	3	ug/L		EPA 200.7	12/1/22	020
Total Calcium	10600	76.2	ug/L		EPA 200.7	12/1/22	020
Total Iron	Less Than	58	ug/L		EPA 200.7	12/1/22	020
Total Silver	Less Than	0.13	ug/L		EPA 200.7	12/1/22	020
Total Copper	Less Than	1.9	ug/L		EPA 200.7	12/1/22	020
Total Nickel	Less Than	0.28	ug/L		EPA 200.7	12/1/22	020
Total Vanadium	0.42	0.32	ug/L	J	EPA 200.7	12/1/22	020
Total Zinc	Less Than	10.3	ug/L		EPA 200.7	12/1/22	020
Redox Potential	116.6	1	mV		ASTM D1498-93	11/8/22	RAMBOLL
Turbidity	Less Than	0.1	NTU'S		EPA 180.1	11/8/22	RAMBOLL
Dissolved Oxygen-Field	11.46	0.1	mg/l		FIELDDO	11/8/22	RAMBOLL
Total Dissolved Solids	52	8.7	mg/L		Std Mtd 2540 C	11/11/22	020
Dissolved Calcium	10100	76.2	ug/L		EPA 200.7	11/29/22	020
Dissolved Magnesium	3170	31.2	ug/L		EPA 200.7	11/29/22	020
Dissolved Potassium	2130	237	ug/L		EPA 200.7	11/29/22	020
Dissolved Sodium	6330	42	ug/L		EPA 200.7	11/29/22	020
Dissolved Chloride	1.1	0.43	mg/L	J	EPA 300.0	11/23/22	020
Dissolved Fluoride	Less Than	0.095	mg/L		EPA 300.0	11/23/22	020
Dissolved Sulfate	5.3	0.44	mg/L		EPA 300.0	11/23/22	020
Total Filtered Alkalinity as CaCO3	51.8	5	mg/l		Std Mtd 2320 B	11/13/22	020
Carbonate Ion	Less Than	5	mg/L		CO3	11/13/22	020
Bicarbonate Ion	51.8	5	mg/L		HCO3	11/13/22	020
Total Hardness as CaCO3	38	1	mg/L		Std Mtd 2340B	12/21/22	020

Sample Description: MW85 **PIPP Landfill 3 Semi Annual - State and CCR**
 Sample ID: AE64067 Serial/Impact ID: 110922007
 Sample Collector: RAMBOLL Sample Collection Date: 11/9/22 Collection Time: 07:40

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
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Field Water Level	41.54	0.05	feet		H2OD	11/8/22	RAMBOLL
Field Temperature	7.7	0.1	Degrees C		TEMP	11/8/22	RAMBOLL
Field Conductivity	61	0	umhos		FCOND25	11/8/22	RAMBOLL
Field pH	7.0	0.1	Units		FIELDPH	11/8/22	RAMBOLL
Total Fluoride	Less Than	0.095	mg/L		EPA 300.0	11/22/22	020
Total Chloride	0.83	0.43	mg/L	J	EPA 300.0	11/22/22	020
Total Sulfate	3.2	0.44	mg/L		EPA 300.0	11/22/22	020
Total Boron	12.4	3	ug/L		EPA 200.7	12/1/22	020
Total Calcium	4740	76.2	ug/L		EPA 200.7	12/1/22	020
Total Iron	Less Than	58	ug/L		EPA 200.7	12/1/22	020
Total Silver	Less Than	0.13	ug/L		EPA 200.7	12/1/22	020
Total Copper	Less Than	1.9	ug/L		EPA 200.7	12/1/22	020
Total Nickel	Less Than	0.28	ug/L		EPA 200.7	12/1/22	020
Total Vanadium	Less Than	0.32	ug/L		EPA 200.7	12/1/22	020
Total Zinc	Less Than	10.3	ug/L		EPA 200.7	12/1/22	020
Redox Potential	201.5	1	mV		ASTM D1498-93	11/8/22	RAMBOLL
Turbidity	Less Than	0.1	NTU'S		EPA 180.1	11/8/22	RAMBOLL
Dissolved Oxygen-Field	11.26	0.1	mg/l		FIELDDO	11/8/22	RAMBOLL
Total Dissolved Solids	10	8.7	mg/L	J	Std Mtd 2540 C	11/11/22	020
Dissolved Calcium	4320	76.2	ug/L		EPA 200.7	11/29/22	020
Dissolved Magnesium	870	31.2	ug/L		EPA 200.7	11/29/22	020
Dissolved Potassium	586	237	ug/L	J	EPA 200.7	11/29/22	020
Dissolved Sodium	683	42	ug/L		EPA 200.7	11/29/22	020
Dissolved Chloride	0.80	0.43	mg/L	J	EPA 300.0	11/23/22	020
Dissolved Fluoride	Less Than	0.095	mg/L		EPA 300.0	11/23/22	020
Dissolved Sulfate	3	0.44	mg/L		EPA 300.0	11/23/22	020
Total Filtered Alkalinity as CaCO3	13.5	5	mg/l		Std Mtd 2320 B	11/15/22	020
Carbonate Ion	Less Than	5	mg/L		CO3	11/15/22	020
Bicarbonate Ion	13.5	5	mg/L		HCO3	11/15/22	020
Total Hardness as CaCO3	14	1	mg/L		Std Mtd 2340B	12/21/22	020

Sample Description: MW86 PIPP Landfill 3 Semi Annual - State and CCR

Sample ID: AE64068 Serial/Impact ID: 110922008
Sample Collector: RAMBOLL Sample Collection Date: 11/9/22 Collection Time: 08:25

<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Water Level	5.08	0.05	feet		H2OD	11/8/22	RAMBOLL
Field Temperature	9.4	0.1	Degrees C		TEMP	11/8/22	RAMBOLL
Field Conductivity	177	0	umhos		FCOND25	11/8/22	RAMBOLL
Field pH	5.9	0.1	Units		FIELDPH	11/8/22	RAMBOLL
Total Fluoride	Less Than	0.095	mg/L		EPA 300.0	11/22/22	020
Total Chloride	1.9	0.43	mg/L	J	EPA 300.0	11/22/22	020
Total Sulfate	Less Than	0.44	mg/L		EPA 300.0	11/22/22	020
Total Boron	13.5	3	ug/L		EPA 200.7	12/1/22	020
Total Calcium	6310	76.2	ug/L		EPA 200.7	12/1/22	020
Total Iron	38200	58	ug/L		EPA 200.7	12/1/22	020
Total Silver	Less Than	0.13	ug/L		EPA 200.7	12/1/22	020
Total Copper	Less Than	1.9	ug/L		EPA 200.7	12/1/22	020
Total Nickel	0.86	0.28	ug/L	J	EPA 200.7	12/1/22	020
Total Vanadium	8.2	0.32	ug/L		EPA 200.7	12/1/22	020
Total Zinc	Less Than	10.3	ug/L		EPA 200.7	12/1/22	020
Redox Potential	0.7	1	mV		ASTM D1498-93	11/8/22	RAMBOLL
Turbidity	Less Than	0.1	NTU'S		EPA 180.1	11/8/22	RAMBOLL
Dissolved Oxygen-Field	0.16	0.1	mg/l		FIELDDO	11/8/22	RAMBOLL
Total Dissolved Solids	86	8.7	mg/L		Std Mtd 2540 C	11/11/22	020
Dissolved Calcium	5980	76.2	ug/L		EPA 200.7	11/29/22	020
Dissolved Magnesium	3080	31.2	ug/L		EPA 200.7	11/29/22	020
Dissolved Potassium	2430	237	ug/L		EPA 200.7	11/29/22	020
Dissolved Sodium	1310	42	ug/L		EPA 200.7	11/29/22	020

Dissolved Chloride	2.1	0.43	mg/L		EPA 300.0	11/23/22	020
Dissolved Fluoride	Less Than	0.095	mg/L		EPA 300.0	11/22/22	020
Dissolved Sulfate	0.51	0.44	mg/L	J	EPA 300.0	11/22/22	020
Total Filtered Alkalinity as CaCO3	52.8	5	mg/l		Std Mtd 2320 B	11/13/22	020
Carbonate Ion	Less Than	5	mg/L		CO3	11/13/22	020
Bicarbonate Ion	52.8	5	mg/L		HCO3	11/13/22	020
Total Hardness as CaCO3	28	1	mg/L		Std Mtd 2340B	12/21/22	020

Sample Description: EB 1 **PIPP Landfill 3 Semi Annual - State and CCR**
Sample ID: AE64069 **Serial/Impact ID:** 110922009
Sample Collector: RAMBOLL **Sample Collection Date:** 11/9/22 **Collection Time:** 09:15

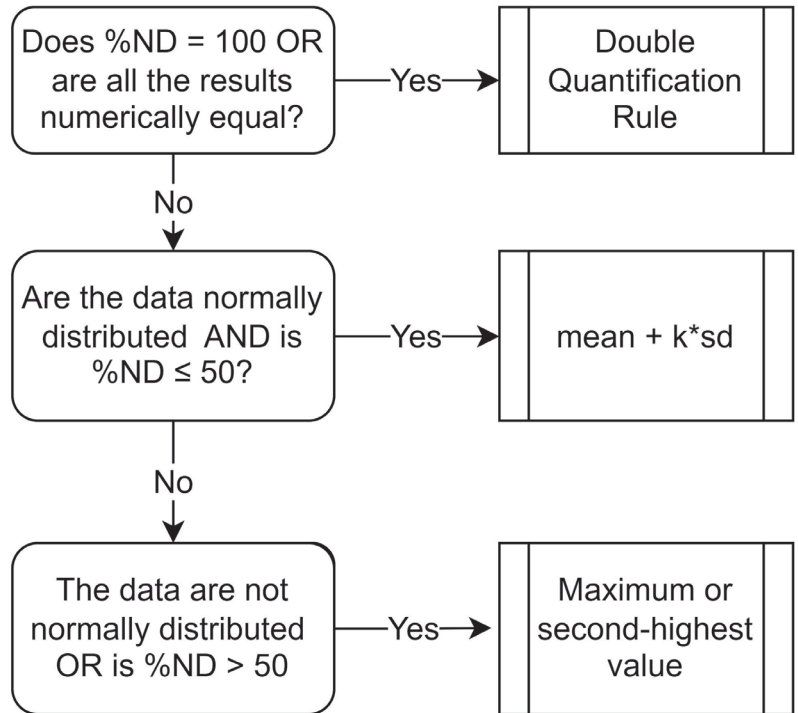
<u>Parameter</u>	<u>Result</u>	<u>LOD</u>	<u>Units</u>	<u>Result Flag</u>	<u>Analysis Method</u>	<u>Analysis Date</u>	<u>Analyst</u>
Field Temperature	7	0.1	Degrees C		TEMP	11/8/22	RAMBOLL
Field Conductivity	8	0	umhos		FCOND25	11/8/22	RAMBOLL
Field pH	8	0.1	Units		FIELDPH	11/8/22	RAMBOLL
Total Fluoride	Less Than	0.095	mg/L		EPA 300.0	11/22/22	020
Total Chloride	Less Than	0.43	mg/L		EPA 300.0	11/22/22	020
Total Sulfate	Less Than	0.44	mg/L		EPA 300.0	11/22/22	020
Total Boron	Less Than	3	ug/L		EPA 200.7	12/1/22	020
Total Calcium	Less Than	76.2	ug/L		EPA 200.7	12/1/22	020
Total Iron	Less Than	58	ug/L		EPA 200.7	12/1/22	020
Total Silver	Less Than	0.13	ug/L		EPA 200.7	12/1/22	020
Total Copper	1.9	1.9	ug/L	J	EPA 200.7	12/1/22	020
Total Nickel	Less Than	0.28	ug/L		EPA 200.7	12/1/22	020
Total Vanadium	Less Than	0.32	ug/L		EPA 200.7	12/1/22	020
Total Zinc	Less Than	10.3	ug/L		EPA 200.7	12/1/22	020
Redox Potential	2	1	mV		ASTM D1498-93	11/8/22	RAMBOLL
Turbidity	0	0.1	NTU'S		EPA 180.1	11/8/22	RAMBOLL
Dissolved Oxygen-Field	11	0.1	mg/l		FIELDDO	11/8/22	RAMBOLL
Total Dissolved Solids	Less Than	8.7	mg/L		Std Mtd 2540 C	11/11/22	020
Dissolved Calcium	Less Than	76.2	ug/L		EPA 200.7	11/29/22	020
Dissolved Magnesium	Less Than	31.2	ug/L		EPA 200.7	11/29/22	020
Dissolved Potassium	Less Than	237	ug/L		EPA 200.7	11/29/22	020
Dissolved Sodium	53.9	42	ug/L	J	EPA 200.7	11/29/22	020
Dissolved Chloride	Less Than	0.43	mg/L		EPA 300.0	11/23/22	020
Dissolved Fluoride	Less Than	0.095	mg/L		EPA 300.0	11/22/22	020
Dissolved Sulfate	Less Than	0.44	mg/L		EPA 300.0	11/22/22	020
Total Filtered Alkalinity as CaCO3	Less Than	5	mg/l		Std Mtd 2320 B	11/15/22	020
Carbonate Ion	Less Than	5	mg/L		CO3	11/15/22	020
Bicarbonate Ion	Less Than	5	mg/L		HCO3	11/15/22	020
Total Hardness as CaCO3	Less Than	1	mg/L		Std Mtd 2340B	12/21/22	020

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

Sample Comments:

APPENDIX B
STATISTICAL METHODOLOGY FOR DETERMINATION OF BACKGROUND
VALUES

Notes
%ND = Percent non-detected samples
sd = standard deviation
k = kappa for site-wide false positive rate
<u>Alpha Levels</u>
Confidence Limit = 0.1



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.