

2023 Annual Groundwater Monitoring and Corrective Action Report

Edgewater Generating Station
I-43 Ash Disposal Facility
Town of Wilson
Sheboygan County, Wisconsin

Prepared for:

Alliant Energy



SCS ENGINEERS

25222069.00 | January 31, 2024

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OVERVIEW OF CURRENT STATUS

Edgewater Generating Station, I-43 Ash Disposal Facility 2023 Annual Report

In accordance with §257.90(e)(6), this section at the beginning of the annual report provides an overview of the current status of groundwater monitoring and corrective action programs for the coal combustion residual (CCR) unit. Supporting information is provided in the text of the annual report.

Category	Rule Requirement	Site Status
Monitoring Status – Start of Year	(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;	Detection
Monitoring Status – End of Year	(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;	Detection
Statistically Significant Increases (SSIs)	(iii) If it was determined that there was an SSI over background for one or more constituents listed in Appendix III to this part pursuant to §257.94(e):	
	(A) Identify those constituents listed in Appendix III to this part and the names of the monitoring wells associated with such an increase; and	<u>October 2022</u> None <u>April 2023</u> None
	(B) Provide the date when the assessment monitoring program was initiated for the CCR unit.	Not Applicable

Category	Rule Requirement	Site Status
Statistically Significant Levels (SSL) Above Groundwater Protection Standard (GPS)	(iv) If it was determined that there was an SSL above the groundwater protection standard for one or more constituents listed in Appendix IV to this part pursuant to §257.95(g) include all of the following:	Not applicable – Appendix IV sampling not required
	(A) Identify those constituents listed in Appendix IV to this part 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; and	
Selection of Remedy	(v) Whether a remedy was selected pursuant to §257.97 during the current annual reporting period, and if so, the date of remedy selection; and	Not applicable – Site is in detection monitoring
Corrective Action	(vi) Whether remedial activities were initiated or are ongoing pursuant to §257.98 during the current annual reporting period.	Not applicable – Site is in detection monitoring

Table of Contents

Section	Page
Overview of Current Status.....	i
1.0 Introduction.....	1
2.0 Background.....	1
2.1 Geologic and Hydrogeologic Setting.....	1
2.1.1 Regional Information.....	1
2.1.2 Site Information.....	2
2.2 CCR Rule Monitoring System.....	2
3.0 §257.90(e) Annual Report Requirements.....	3
3.1 §257.90(e)(1) Site Map.....	3
3.2 §257.90(e)(2) Monitoring System Changes.....	3
3.3 §257.90(e)(3) Summary of Sampling Events.....	3
3.4 §257.90(e)(4) Monitoring Transition Narrative.....	4
3.5 §257.90(e)(5) Other Requirements.....	5
3.5.1 §257.90(e) General Requirements.....	5
3.5.2 §257.94(d) Alternative Detection Monitoring Frequency.....	6
3.5.3 §257.94(e)(2) Alternative Source Demonstration for Detection Monitoring.....	6
3.5.4 §257.95(c) Alternative Assessment Monitoring Frequency.....	6
3.5.5 §257.95(d)(3) Assessment Monitoring Results and Standards.....	6
3.5.6 §257.95(g)(3)(ii) Alternative Source Demonstration for Assessment Monitoring..	6
3.5.7 §257.96(a) Extension of Time for Corrective Measures Assessment.....	7
3.6 §257.90(e)(6) Overview.....	7
4.0 Reference.....	7

Tables

Table 1.	Groundwater Monitoring Well Network
Table 2.	CCR Rule Groundwater Samples Summary
Table 3.	Groundwater Elevation Summary
Table 4.	Horizontal Gradients and Flow Velocity
Table 5.	Groundwater Analytical Results Summary – October 2022 and April 2023
Table 6.	Groundwater Field Data Summary – October 2022 and April 2023

Figures

Figure 1.	Site Location Map
Figure 2.	Site Plan and Monitoring Well Locations
Figure 3.	Bedrock Potentiometric Surface Map – April 24-25, 2023
Figure 4.	Bedrock Potentiometric Surface Map – October 9, 2023

Appendices

Appendix A	Regional Hydrogeologic Information
Appendix B	Boring Logs and Well Construction Documentation
Appendix C	Laboratory Reports
	C1 October 2022 Detection Monitoring
	C2 April 2023 Detection Monitoring
Appendix D	Historical Monitoring Results

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1.0 INTRODUCTION

This 2023 Annual Groundwater Monitoring and Corrective Action Report was prepared to support compliance with the groundwater monitoring requirements of the Coal Combustion Residuals (CCR) Rule [40 Code of Federal Regulations (CFR) 257.50-107]. Specifically, this report was prepared to fulfill the requirements of 40 CFR 257.90(e). The applicable sections of the Rule are provided below in italics, followed by applicable information relative to the 2023 Annual Groundwater Monitoring and Corrective Action Report for the CCR Unit.

This report covers the period of groundwater monitoring from January 1, 2023, through December 31, 2023.

The groundwater monitoring system at the Edgewater (EDG) I-43 Ash Disposal Facility (ADF) monitors a single existing CCR unit:

- EDG I-43 Phase 3, Module 1 and 2; and Phase 4, Module 1 (existing CCR Landfill)

The monitoring system is designed to detect monitored constituents at the waste boundary of the I-43 ADF as required by 40 CFR 257.91(d). The groundwater monitoring system consists of two background wells and three downgradient monitoring wells (**Table 1** and **Figure 2**).

2.0 BACKGROUND

To provide context for the annual report, the following background information is provided in this section of the report, prior to the annual report requirement sections:

- Geologic and hydrogeologic setting
- CCR Rule monitoring system

2.1 GEOLOGIC AND HYDROGEOLOGIC SETTING

2.1.1 Regional Information

For the purposes of groundwater monitoring, the Niagara Dolomite Aquifer is considered to be the uppermost aquifer unit, as defined under 40 CFR 257.53, at the I-43 ADF. The dolomite aquifer is underlain by the Maquoketa shale, which is a confining unit. The Maquoketa shale is underlain by the Cambrian-Ordovician sandstone aquifer. This sequence of sedimentary bedrock units is over 1,500 feet thick in the area of the I-43 ADF. The sedimentary sequence is underlain by Precambrian crystalline rocks that are not considered an aquifer in eastern Wisconsin. A summary of the regional hydrogeologic stratigraphy is presented in **Appendix A**.

An unconsolidated sand and gravel aquifer is present in some parts of Sheboygan County (Skinner and Borman, 1973), but does not appear laterally extensive.

Regional groundwater flow in the dolomite aquifer, in the vicinity of the site, is to the east or northeast. A map showing the regional water table elevations is included with the regional hydrogeologic information in **Appendix A**.

2.1.2 Site Information

Soils at the site are primarily clay with discontinuous layers of sand and silty sand to a depth of at least 100 feet. During drilling of the CCR wells, the unconsolidated materials were identified as consisting primarily of clay. Zones of sand and gravel are known to be present within the clay, but these appear to be discontinuous, and no nearby private wells screened within the unconsolidated material have been identified. Soils encountered in borings MW-301, MW-302, MW-303, and MW-304 were primarily lean clay, silty clay, and silty sand. The upper 70 feet of soils in boring MW-305 were similar, but in approximately the lower 40 feet above bedrock, sand was the primary soil type. The depth to bedrock in the five wells ranged from approximately 109 feet to 133 feet below ground surface (bgs), and the elevation of the top of bedrock ranged from approximately 568 feet above mean sea level (amsl) to 605 feet amsl. The boring logs, well construction, and well development forms for the I-43 ADF CCR monitoring wells are provided in **Appendix B**. All CCR monitoring wells are screened within the dolomite bedrock unit.

Shallow groundwater in the clay unit at the site generally flows east to west towards Weedens Creek, a tributary of the Sheboygan River, based on water levels measured under the state monitoring program. The flow direction to the west at the water table is consistent with previous water table maps prepared since the site was developed in the mid-1980s.

In the dolomite aquifer, groundwater flow is generally to the north and northeast as shown on the April and October 2022 bedrock potentiometric surface maps, based on groundwater elevations from monitoring wells MW-301 through MW-305 (**Figures 3 and 4**). The groundwater elevation data for the CCR monitoring wells are provided in **Table 3**. Calculated horizontal gradients and flow velocities for representative flow paths are provided in **Table 4**.

An evaluation was conducted in 2023 to assess the monitoring network coverage based on the apparent flow direction indicated by the potentiometric surface maps. The original downgradient compliance monitoring well locations were selected based on a regional flow direction to the east or northeast; however, the potentiometric surface maps indicate a potential flow path to the north. The mapped flow to the north is largely driven by the water level measured at MW-305. This well is installed at a location where the bedrock surface is somewhat higher than at the other wells; therefore, the apparent northerly flow direction may actually be a reflection of vertical head differences within the dolomite. To obtain additional information on groundwater flow direction and groundwater quality, the installation of an additional compliance monitoring well in the bedrock aquifer is planned for 2024. The monitoring well will be installed north of the CCR unit, on the north side of Phase 3 of the landfill.

2.2 CCR RULE MONITORING SYSTEM

The groundwater monitoring system established in accordance with the CCR Rule consists of two upgradient (background) monitoring wells and three downgradient monitoring wells (**Table 1** and **Figure 2**). The background wells include MW-304 and MW-305. The downgradient wells include MW-301, MW-302, and MW-303. The CCR Rule wells are installed in the upper portion of the dolomite aquifer. Well depths range from approximately 119 to 145 feet, measured from the top of the well casing. Installation of an additional monitoring well north of Phase 3 of the landfill is planned for 2024.

3.0 §257.90(e) ANNUAL REPORT REQUIREMENTS

Annual groundwater monitoring and corrective action report. For existing CCR landfills and existing CCR surface impoundments, no later than January 31, 2018, and annually thereafter, the owner or operator must prepare an annual groundwater monitoring and corrective action report. For new CCR landfills, new CCR surface impoundments, and all lateral expansions of CCR units, the owner or operator must prepare the initial annual groundwater monitoring and corrective action report no later than January 31 of the year following the calendar year a groundwater monitoring system has been established for such CCR unit as required by this subpart, and annually thereafter. For the preceding calendar year, the annual report must document the status of the groundwater monitoring and corrective action program for the CCR unit, summarize key actions completed, describe any problems encountered, discuss actions to resolve the problems, and project key activities for the upcoming year. For purposes of this section, the owner or operator has prepared the annual report when the report is placed in the facility's operating record as required by §257.105(h)(1). At a minimum, the annual groundwater monitoring and corrective action report must contain the following information, to the extent available:

3.1 §257.90(e)(1) SITE MAP

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;

A map of the site location is provided on **Figure 1**. A map with an aerial image showing the I-43 ADF CCR unit, and all background (or upgradient) and downgradient monitoring wells with identification numbers for the groundwater monitoring program, is provided as **Figure 2**.

3.2 §257.90(E)(2) MONITORING SYSTEM CHANGES

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;

No new monitoring wells were installed and no wells were decommissioned as part of the groundwater monitoring program for the I-43 ADF CCR unit in 2023.

3.3 §257.90(E)(3) SUMMARY OF SAMPLING EVENTS

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;

Two semiannual groundwater sampling events and one resampling event were completed in 2023 at the I-43 ADF. A supplemental event occurred in November 2023 for select parameters following the October 2023 event. The samples were collected under the detection monitoring program, which was established on October 17, 2017. 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 is included in **Table 2**.

Groundwater samples collected during the semiannual events, in April and October 2023, were analyzed for the Appendix III constituents. A resample event occurred in November at well MW-302 for fluoride. The resampling was performed in accordance with the Sampling and Analysis Plan for the site, which allows for 1-of-2 testing for evaluation of statistically significant increases (SSIs) above background in detection monitoring.

The validation and evaluation of the October 2022 monitoring event data was completed and transmitted to WPL on January 25, 2023. The validation and evaluation of the April 2023 monitoring event data was completed and transmitted to WPL on August 10, 2023. The validation and evaluation of the October 2023 monitoring event data and the November 2023 re-sampling event was in progress at the end of 2023 and will be transmitted to WPL in 2024; therefore, the October 2023 monitoring results will be included in the 2024 annual report.

The sampling results for Appendix III parameters in October 2022 and April 2023 are summarized in **Table 5**. Field parameter results for the October 2022 and April 2023 sampling events are provided in **Table 6**. The analytical laboratory reports for October 2022 and April 2023 are provided in **Appendix C**. Historical results for each monitoring well through April 2023 are summarized in **Appendix D**.

3.4 §257.90(E)(4) MONITORING TRANSITION NARRATIVE

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 over background levels);

There were no transitions between monitoring programs in 2023. The I-43 ADF remained in the detection monitoring program.

In 2023, the monitoring results for the October 2022 and April 2023 monitoring events were evaluated for SSIs in detection monitoring parameters relative to background. For all parameters except boron, the comparison to background was based on a prediction limit approach, comparing the results to interwell upper prediction limits (UPLs) based on background monitoring results from the upgradient wells (MW-304 and MW-305). For boron, the comparison to background used intrawell UPLs based on background monitoring results from the compliance wells (MW-301, MW-302, and MW-303).

The interwell and intrawell UPLs were most recently updated in January 2021, using background data collected through October 2020 for interwell UPLs and through April 2020 for intrawell UPLs. The January 2021 Statistical Analysis was included in an appendix in the 2021 Annual Groundwater Monitoring Report. The Unified Guidance for Statistical Analysis of Groundwater Monitoring Data at Resource Conservation and Recovery Act (RCRA) Facilities (U.S. Environmental Protection Agency, 2009; Section 5.3.1) recommends periodic updating of background for both intrawell and interwell analyses. For semiannual monitoring, an update interval of 2 to 3 years is recommended; therefore, the UPL update will be completed in 2024.

No SSIs were observed for the October 2022 or April 2023 events.

3.5 §257.90(E)(5) OTHER REQUIREMENTS

Other information required to be included in the annual report as specified in §§257.90 through 257.98.

Additional potentially applicable requirements for the annual report, and the location of the requirement within the Rule, are provided in the following sections. For each cited section of the Rule, the portion referencing the annual report requirement is provided below in italics, followed by applicable information relative to the 2023 Annual Groundwater Monitoring and Corrective Action Report for the I-43 ADF CCR unit.

3.5.1 §257.90(e) General Requirements

For the preceding calendar year, the annual report must document the status of the groundwater monitoring and corrective action program for the CCR unit, summarize key actions completed, describe any problems encountered, discuss actions to resolve the problems, and project key activities for the upcoming year.

Status of Groundwater Monitoring and Corrective Action Program. The groundwater monitoring and corrective action program is currently in detection monitoring.

Summary of Key Actions Completed.

- Statistical evaluation and determination of SSIs for the October 2022 and April 2023 monitoring events.
- Two semiannual groundwater sampling and analysis events (April and October 2023), including a resample event in November 2023 at well MW-302 for fluoride.
- Evaluation of potential locations and drilling access for an additional compliance monitoring well on the north side of the CCR unit, north of Phase 3 of the landfill.

Description of Any Problems Encountered. No problems were encountered in 2023.

Discussion of Actions to Resolve the Problems. Not applicable.

Projection of Key Activities for the Upcoming Year (2024).

- Statistical evaluation and determination of any SSIs for the October 2023 and April 2024 monitoring events.
- If an SSI is determined, then within 90 days either:
 - Complete alternative source demonstration (if applicable), or
 - Establish an assessment monitoring program.
- Installation of an additional monitoring well on the north side of the CCR unit, north of Phase 3 of the landfill, and recertification of the monitoring network.
- Two semiannual groundwater sampling and analysis events (April and October 2024).
- UPL update will be completed in 2024.

3.5.2 §257.94(d) Alternative Detection Monitoring Frequency

The owner or operator must include the demonstration providing the basis for the alternative monitoring frequency and the certification by a qualified professional engineer in the annual groundwater monitoring and corrective action report required by §257.90(e).

Not applicable. No alternative detection monitoring frequency has been proposed.

3.5.3 §257.94(e)(2) Alternative Source Demonstration for Detection Monitoring

The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by §257.90(e), in addition to the certification by a qualified professional engineer.

Not applicable. No SSIs were identified and, therefore, no ASD Reports were prepared for October 2022 or April 2023.

3.5.4 §257.95(c) Alternative Assessment Monitoring Frequency

The owner or operator must include the demonstration providing the basis for the alternative monitoring frequency and the certification by a qualified professional engineer in the annual groundwater monitoring and corrective action report required by §257.90(e).

Not applicable. Assessment monitoring has not been initiated.

3.5.5 §257.95(d)(3) Assessment Monitoring Results and Standards

Include the recorded concentrations required by paragraph (d)(1) of this section, identify the background concentrations established under §257.94(b), and identify the groundwater protection standards established under paragraph (d)(2) of this section in the annual groundwater monitoring and corrective action report required by §257.90(e).

Not applicable. Assessment monitoring has not been initiated.

3.5.6 §257.95(g)(3)(ii) Alternative Source Demonstration for Assessment Monitoring

The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by §257.90(e), in addition to the certification by a qualified professional engineer.

Not applicable. Assessment monitoring has not been initiated.

3.5.7 §257.96(a) Extension of Time for Corrective Measures Assessment

The assessment of corrective measures must be completed within 90 days, unless the owner or operator demonstrates the need for additional time to complete the assessment of corrective measure due to site-specific conditions or circumstances. The owner or operator must obtain a certification from a qualified professional engineer attesting that the demonstration is accurate. The 90-day deadline to complete the assessment of corrective measures may be extended for longer than 60 days. The owner or operator must also include the demonstration in the annual groundwater monitoring and corrective action report required by §257.90(e), in addition to the certification by a qualified professional engineer.

Not applicable. Corrective measures assessment has not been initiated.

3.6 §257.90(E)(6) OVERVIEW

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.

The specific requirements for the overview under §257.90(e)(6) are listed and the information is provided at the beginning of this report, before the Table of Contents.

4.0 REFERENCE

Skinner, Earl L. and Ronald G. Borman, Water Resources of Wisconsin-Lake Michigan Basin, Department of the Interior United States Geological Survey Hydrogeologic Investigations Atlas HA-432, 1973.

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Tables

- 1 Groundwater Monitoring Well Network
- 2 CCR Rule Groundwater Samples Summary
- 3 Groundwater Elevation Summary
- 4 Horizontal Gradients and Flow Velocity
- 5 Groundwater Analytical Results Summary – October 2022
and April 2023
- 6 Groundwater Field Data Summary – October 2022
and April 2023

**Table 1. Groundwater Monitoring Well Network
Edgewater I-43 Ash Disposal Facility / SCS Engineers Project #25223069.00**

Monitoring Well	Location in Monitoring Network	Role in Monitoring Network
MW-301	Downgradient	Compliance
MW-302	Downgradient	Compliance
MW-303	Downgradient	Compliance
MW-304	Upgradient	Background
MW-305	Upgradient	Background

Created by: NLB
 Last revision by: NLB
 Checked by: RM

Date: 12/13/2023
 Date: 12/13/2023
 Date: 12/18/2023

**Table 2. CCR Rule Groundwater Samples Summary
Edgewater I-43 Ash Disposal Facility / SCS Engineers Project #25223069.00**

Sample Dates	Compliance Wells			Background Wells	
	MW-301	MW-302	MW-303	MW-304	MW-305
4/24-25/2023	D	D	D	D	D
10/9/2023	D	D	D	D	D
11/14/2023	--	D-R	--	--	--
Total Samples	2	3	2	2	2

Abbreviations:

D = Required by Detection Monitoring Program

D-R = Detection Monitoring Retest Sample

-- = Not Sampled

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Date: 6/30/2023

Last revision by: NLB

Date: 12/29/2023

Checked by: RM

Date: 1/11/2024

Table 3. Water Level Summary
Edgewater I-43 Ash Disposal Facility / SCS Engineers Project #25223069.00

Well Number	Ground Water Elevation in feet above mean sea level (amsl)				
	MW-301	MW-302	MW-303	MW-304	MW-305
Top of Casing Elevation (feet amsl)	696.96	702.57	719.25	691.97	717.67
Screen Length (ft)	5.00	5.00	5.00	5.00	5.00
Total Depth (ft from top of casing)	134.56	144.33	144.65	119.49	122.97
Top of Well Screen Elevation (ft)	567.40	563.24	579.60	577.48	600.46
Measurement Date					
April 8, 2016	692.29	683.61	696.30	--	--
April 26, 2016	653.54	653.56	653.59	655.90	
June 20, 2016	652.01	651.89	651.80	653.79	--
August 9, 2016	649.68	649.30	649.37	651.55	--
October 19, 2016	652.32	652.38	652.18	654.00	--
December 19, 2016	652.85	652.79	652.82	654.26	--
January 5, 2017	652.86	652.82	652.80	654.15	
January 23, 2017	652.98	664.97	652.92	654.37	--
February 23, 2017	653.14	653.10	653.10	654.49	658.02
April 7, 2017	654.43	654.72	654.55	654.85	659.65
June 6, 2017	654.11	654.12	654.14	655.70	659.70
August 1, 2017	652.64	652.55	652.50	654.49	658.54
October 23, 2017	652.03	652.05	652.03	653.65	657.22
April 3, 2018	651.28	651.25	651.30	652.86	656.24
October 4, 2018	650.71	650.70	650.70	652.26	655.89
April 8-9, 2019	653.06	654.06	654.06	655.59	659.03
October 8, 2019	653.26	653.21	653.27	654.77	658.77
November 26, 2019	--	--	655.56	--	--
April 7, 2020	656.59	656.47	656.46	658.16	661.58
May 20, 2020	--	655.81	--	--	--
October 13, 2020	652.16	652.17	652.20	654.17	658.08
December 18, 2020	653.91	653.88	--	--	--
April 13, 2021	654.56	654.57	654.53	656.36	659.69
June 16, 2021	649.78	649.75	--	--	--
October 26, 2021	650.76	650.88	650.90	652.54	655.86
April 11-13, 2022	651.65	651.62	651.58	653.08	657.58
June 16, 2022	--	650.55	--	--	--
October 4, 2022	648.87	648.85	648.89	650.51	654.40
February 14, 2023	651.61	651.60	651.61	653.17	656.25
March 22, 2023	652.44	652.43	652.42	654.04	657.48
April 24-25, 2023	653.26	653.25	653.31	654.83	658.22
May 25, 2023	651.28	651.24	651.30	653.17	657.54
June 26, 2023	648.06	648.05	648.07	649.86	655.07
July 26, 2023	647.08	647.02	647.17	649.15	652.09
October 11, 2023	648.65	648.67	648.65	650.24	654.22
November 14, 2023	649.98	649.97	649.95	651.37	654.89
Bottom of Well Elevation (ft)	562.40	558.24	574.60	572.48	594.70

Notes: -- = not measured
None

Created by: RM
Last rev. by: NLB
Checked by: RM

Date: 1/10/2020
Date: 12/13/2023
Date: 12/18/2023

Table 4. Horizontal Gradients and Flow Velocity Table
Edgewater I-43 Ash Disposal Facility / SCS Engineers Project #25223069.00
January - December 2023

Flow Path A - North					
Sampling Dates	h1 (ft)	h2 (ft)	Δl (ft)	Δh/Δl (ft/ft)	V (ft/d)
4/25-26/2023	654.00	653.25	510	0.0015	0.06
10/10-11/2023	649.00	648.67	235	0.0014	0.06

Wells	K Value (ft/d)	K Value (ft/d)
MW-301	1.7E-03	4.9
MW-302	4.8E-03	14
MW-303	6.8E-03	19
Geometric Mean	3.8E-03	11

Assumed Porosity, n
0.25

Groundwater flow velocity equation: $V = [K*(\Delta h/\Delta l)] / n$

ft = feet

ft/d = feet per day

K = hydraulic conductivity

n = effective porosity

V = groundwater flow velocity

h1, h2 = point interpreted groundwater elevations at locations 1 and 2

Δl = distance between location 1 and 2

Δh/Δl = hydraulic gradient

Note:

1. See Figures 3 and 4 for velocity calculation flow path locations.

Created by: NLB
 Last revision by: RM
 Checked by: NLB

Date: 12/13/2023
 Date: 1/11/2024
 Date: 1/11/2024

Table 5. Groundwater Analytical Results Summary
Edgewater I-43 Ash Disposal Facility, Sheboygan, WI / SCS Engineers Project #25223069.00

Parameter Name	Interwell UPL	Background Wells				Compliance Wells								
		MW-304		MW-305		MW-301			MW-302			MW-303		
		10/5/2022	4/24/2023	10/4/2022	4/25/2023	Intrawell UPL	10/4/2022	4/24/2023	Intrawell UPL	10/4/2022	4/24/2023	Intrawell UPL	10/5/2022	4/24/2023
Groundwater Elevation, ft amsl		650.51	654.83	654.40	658.22		648.87	653.26		648.85	653.25		648.89	653.31
Appendix III														
Boron, ug/L		91.8	87.1	63.7	60.8	184	124	119	149	117	114	100	84.2	85.4
Calcium, ug/L	103,000	19,400	22,000	83,700	80,500		35,300	30,600		24,800	26,600		29,600	31,200
Chloride, mg/L	24.9	2.4	2.2	29.6	28.3		3.9	3.4		4.3 M0	3.9		4.2	3.8
Fluoride, mg/L	0.753	0.47	0.52	0.59	0.84 J		0.62	0.62		0.72 M0	0.74		0.56	0.58
Field pH, Std. Units	8.34	8.05	8.02	7.51	7.49		7.98	8.05		7.97	8.00		7.97	7.93
Sulfate, mg/L	140	16.2	15.6	140	132		11.8	11.4		17.0	16.1		23.9	20.6
Total Dissolved Solids, mg/L	598	218	226	602	570		236	230		222	240		270	268

4.4 Blue shaded cell indicates the compliance well result exceeds the UPL (background) and the Limit of Quantitation (LOQ).

Abbreviations:

UPL = Upper Prediction Limit

SSI = Statistically Significant Increase

-- = Not Analyzed

ug/L = micrograms per liter

mg/L = milligrams per liter

LOQ = Limit of Quantitation

LOD = Limit of Detection

Notes:

1. An individual result above the UPL does not constitute an SSI above background. See the accompanying letter text for identification of statistically significant results.
2. Interwell UPLs calculated based on results from background wells MW-304 and MW-305. Interwell UPLs based on 1-of-2 retesting approach. Interwell UPLs were calculated with background results from the May 2016 through the October 2020 sampling event.
3. Following the completion of the April 2018 Alternative Source Demonstration (ASD) Report, dated October 31, 2018, the statistical method for evaluating boron data at the three compliance monitoring wells was modified to an intrawell approach. Intrawell UPLs were calculated using results from the May 2016 through the April 2020 sampling events.

Created by: NDK
 Last revision by: NLB
 Checked by: RM
 Proj Mgr QA/QC: TK

Date: 9/19/2022
 Date: 3/28/2023
 Date: 7/6/2023
 Date: 1/8/2024

Table 6. Groundwater Field Data Summary
Edgewater I-43 Ash Disposal Facility / SCS Engineers Project #25223069.00

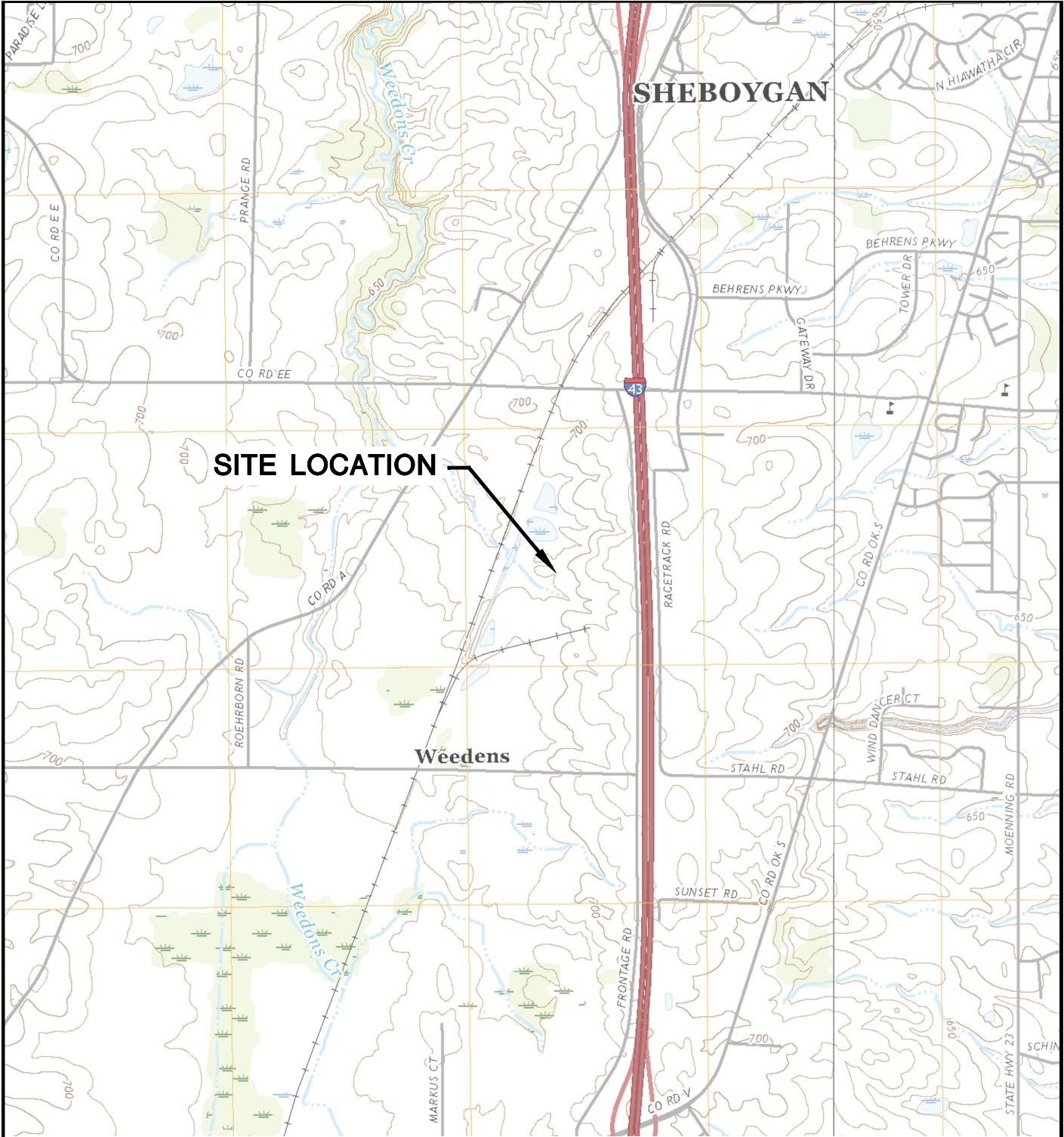
Well	Sample Date	Groundwater Elevation (feet)	Field Temperature (deg C)	Field pH (Std. Units)	Oxygen, Dissolved (mg/L)	Field Specific Conductance (umhos/cm)	Field Oxidation Potential (mV)	Turbidity (NTU)
MW-301	10/4/2022	648.87	11.1	7.98	0.63	373	60	115.0
	4/24/2023	653.26	8.8	8.05	1.40	370	370	97.9
MW-302	10/4/2022	648.85	11.8	7.97	0.83	383	95	3.33
	4/24/2023	653.25	9.0	8.00	1.22	387	451	1.77
MW-303	10/5/2022	648.89	10.3	7.97	1.10	455	118	2.64
	4/24/2023	653.31	9.4	7.93	1.03	447	297	1.65
MW-304	10/5/2022	650.51	11.4	8.05	0.81	400	157	77.7
	4/24/2023	654.83	8.8	8.02	1.02	385	315	2.32
MW-305	10/4/2022	654.40	10.7	7.51	0.67	917	119	6.44
	4/25/2023	658.22	8.5	7.49	1.71	890	323	1.42

Created by: NLB
 Last revision by: NLB
 Checked by: RM

Date: 6/30/2023
 Date: 6/30/2023
 Date: 7/6/2023

Figures

- 1 Site Location Map
- 2 Site Plan and Monitoring Well Locations
- 3 Bedrock Potentiometric Surface Map – April 24-25, 2023
- 4 Bedrock Potentiometric Surface Map – October 9, 2023



SHEBOYGAN FALLS QUADRANGLE
 WISCONSIN-SHEBOYGAN CO.
 7.5 MINUTE SERIES (TOPOGRAPHIC)
 2018
 SCALE: 1" = 2,000'



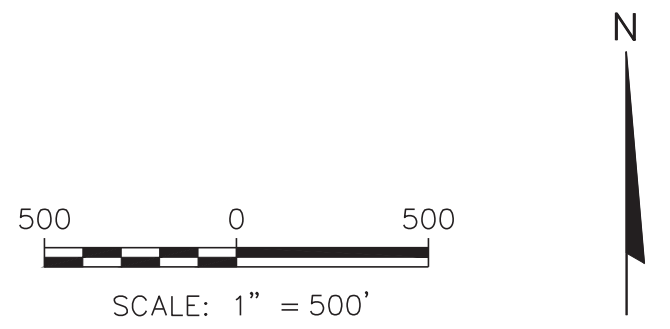
CLIENT	WISCONSIN POWER AND LIGHT CO. 3739 LAKESHORE DRIVE SHEBOYGAN, WI 53081		SITE	ALLIANT ENERGY 1-43 ASH DISPOSAL FACILITY TOWN OF WILSON, WI		ENGINEER	SCS ENGINEERS 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830		FIGURE 1	
	PROJECT NO.	25219069.00		DRAWN BY:	BSS		STATE	SITE LOCATION MAP		
	DRAWN:	11/20/2019		CHECKED BY:	MDB			APPROVED BY:		TK 01/30/2020
REVISED:	01/13/2020									

I:\25219069.00\Drawings\CCR 2019 Annual Report\Site Location Map.dwg, 1/30/2020 3:46:56 PM



LEGEND	
	APPROXIMATE PROPERTY LINE
	MODULE LIMITS
	GRADE (2' CONTOUR)
	GRADE (10' CONTOUR)
	EDGE OF WATER
	SWALE
	CULVERT
	MANHOLE
	CONTACT WATER TRANSFER PIPE
	ABANDONED 3" DIA. HDPE PIPE
	TREELINE/TREES
	PAVED ROAD
	UNPAVED ACCESS ROAD
	RAILROAD TRACKS
	FENCE
	UTILITY/LIGHT POLE
	MONITORING WELL (UNCONSOLIDATED)
	PIEZOMETER (UNCONSOLIDATED)
	PRIVATE WATER SUPPLY WELL
	CCR PIEZOMETER (BEDROCK)
	CCR RULE BACKGROUND MONITORING WELL
	CCR UNIT
	LIMITS OF FINAL COVER

- NOTE:
- 2018 AERIAL PHOTOGRAPH SOURCES: ESRI, DIGITALGLOBE, GEOEYE, I-CUBED, USDA FSA, USGS, AEX, GETMAPPING, AEROGRID, IGN, IGP, SWISSTOPO, AND THE GIS USER COMMUNITY.
 - MONITORING WELLS MW-301, MW-302, MW-303, AND MW-304 WERE INSTALLED BETWEEN NOVEMBER 30, 2015 AND JANUARY 26, 2016 BY BADGER STATE DRILLING INC. DRILLING WAS PERFORMED UNDER THE SUPERVISION OF SCS ENGINEERS.
 - MONITORING WELL MW-305 WAS INSTALLED FEBRUARY 2, 2017 BY BADGER STATE DRILLING, INC.



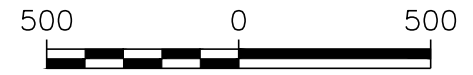
PROJECT NO. 25219069.00	DRAWN BY: BSS	 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830	CLIENT WISCONSIN POWER AND LIGHT CO. 3739 LAKESHORE DRIVE SHEBOYGAN, WI 53081	SITE ALLIANT ENERGY I-43 ASH DISPOSAL FACILITY TOWN OF WILSON, WI	FIGURE 2
DRAWN: 11/20/2019	CHECKED BY: MDB				
REVISED: 01/13/2022	APPROVED BY: TK 1/8/2023				

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LEGEND	
	APPROXIMATE PROPERTY LINE
	MODULE LIMITS
	GRADE (2' CONTOUR)
	GRADE (10' CONTOUR)
	EDGE OF WATER
	SWALE
	CULVERT
	MANHOLE
	CONTACT WATER TRANSFER PIPE
	ABANDONED 3" DIA. HDPE PIPE
	TREELINE/TREES
	PAVED ROAD
	UNPAVED ACCESS ROAD
	RAILROAD TRACKS
	FENCE
	UTILITY/LIGHT POLE
	MONITORING WELL (UNCONSOLIDATED)
	PIEZOMETER (UNCONSOLIDATED)
	PRIVATE WATER SUPPLY WELL
	CCR RULE PIEZOMETER (BEDROCK)
	CCR RULE BACKGROUND MONITORING WELL
	CCR RULE UNIT
	FLOW PATH FOR VELOCITY CALCULATION (SEE TABLE 4)
	POTENTIOMETRIC SURFACE ELEVATION
	POTENTIOMETRIC SURFACE CONTOUR
	APPROXIMATE GROUNDWATER FLOW DIRECTION

- NOTE:
1. MONITORING WELLS MW-301, MW-303, AND MW-304 WERE INSTALLED BETWEEN NOVEMBER 30, 2015 AND JANUARY 26, 2016 BY BADGER STATE DRILLING INC. DRILLING WAS PERFORMED UNDER THE SUPERVISION OF SCS ENGINEERS.
 2. MONITORING WELLS MW-301, MW-302, MW-303 AND MW-304 WERE SURVEYED ON FEBRUARY 8, 2016 BY SCS ENGINEERS.
 3. MONITORING WELL MW-305 WAS SURVEYED ON FEBRUARY 15, 2017 BY CQM, INC.
 4. GROUNDWATER ELEVATIONS WERE COLLECTED FROM PIEZOMETERS ON APRIL 24-25, 2023.
 5. THE BACKGROUND MONITORING WELLS FOR THE I-43 LANDFILL ARE MW-304 AND MW-305.



PROJECT NO.	25223069.00	DRAWN BY:	KP
DRAWN:	07/20/2023	CHECKED BY:	NB
REVISED:	12/20/2023	APPROVED BY:	TK 1/29/2024

SCS ENGINEERS
 2830 DAIRY DRIVE MADISON, WI 53718-6751
 PHONE: (608) 224-2830

CLIENT: WISCONSIN POWER AND LIGHT CO.
 3739 LAKESHORE DRIVE
 SHEBOYGAN, WI 53081

SITE: ALLIANT ENERGY
 I-43 ASH DISPOSAL FACILITY
 TOWN OF WILSON, WISCONSIN

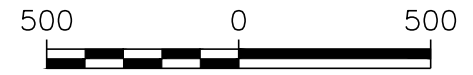
BEDROCK POTENTIOMETRIC SURFACE MAP
 APRIL 2023

FIGURE
 3



LEGEND	
	APPROXIMATE PROPERTY LINE
	MODULE LIMITS
	GRADE (2' CONTOUR)
	GRADE (10' CONTOUR)
	EDGE OF WATER
	SWALE
	CULVERT
	MANHOLE
	CONTACT WATER TRANSFER PIPE
	ABANDONED 3" DIA. HDPE PIPE
	TREELINE/TREES
	PAVED ROAD
	UNPAVED ACCESS ROAD
	RAILROAD TRACKS
	FENCE
	UTILITY/LIGHT POLE
	MONITORING WELL (UNCONSOLIDATED)
	PIEZOMETER (UNCONSOLIDATED)
	PRIVATE WATER SUPPLY WELL
	CCR RULE PIEZOMETER (BEDROCK)
	CCR RULE BACKGROUND MONITORING WELL
	CCR RULE UNIT
	FLOW PATH FOR VELOCITY CALCULATION (SEE TABLE 4)
	POTENTIOMETRIC SURFACE ELEVATION
	POTENTIOMETRIC SURFACE CONTOUR
	APPROXIMATE GROUNDWATER FLOW DIRECTION

- NOTE:
1. MONITORING WELLS MW-301, MW-303, AND MW-304 WERE INSTALLED BETWEEN NOVEMBER 30, 2015 AND JANUARY 26, 2016 BY BADGER STATE DRILLING INC. DRILLING WAS PERFORMED UNDER THE SUPERVISION OF SCS ENGINEERS.
 2. MONITORING WELLS MW-301, MW-302, MW-303 AND MW-304 WERE SURVEYED ON FEBRUARY 8, 2016 BY SCS ENGINEERS.
 3. MONITORING WELL MW-305 WAS SURVEYED ON FEBRUARY 15, 2017 BY CQM, INC.
 4. GROUNDWATER ELEVATIONS WERE COLLECTED FROM PIEZOMETERS ON OCTOBER 11, 2023.
 5. THE BACKGROUND MONITORING WELLS FOR THE I-43 LANDFILL ARE MW-304 AND MW-305.



PROJECT NO.	25223069.00	DRAWN BY:	KP
DRAWN:	10/17/2023	CHECKED BY:	NB
REVISED:	12/20/2023	APPROVED BY:	TK 1/29/2024


SCS ENGINEERS
 2830 DAIRY DRIVE MADISON, WI 53718-6751
 PHONE: (608) 224-2830

CLIENT: WISCONSIN POWER AND LIGHT CO.
 3739 LAKESHORE DRIVE
 SHEBOYGAN, WI 53081

SITE: ALLIANT ENERGY
 I-43 ASH DISPOSAL FACILITY
 TOWN OF WILSON, WISCONSIN

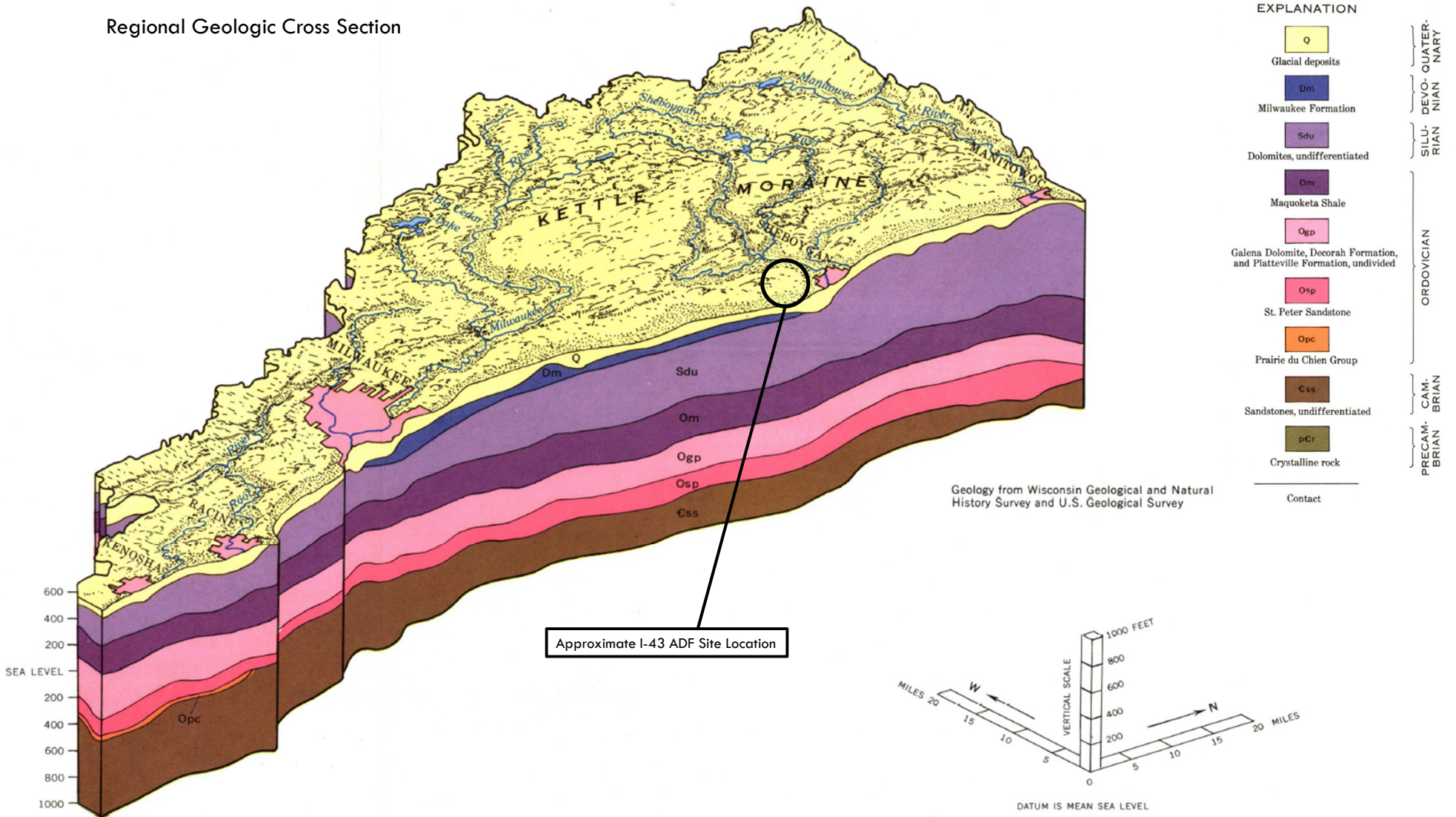
BEDROCK POTENTIOMETRIC SURFACE MAP
 OCTOBER 2023

FIGURE
 4



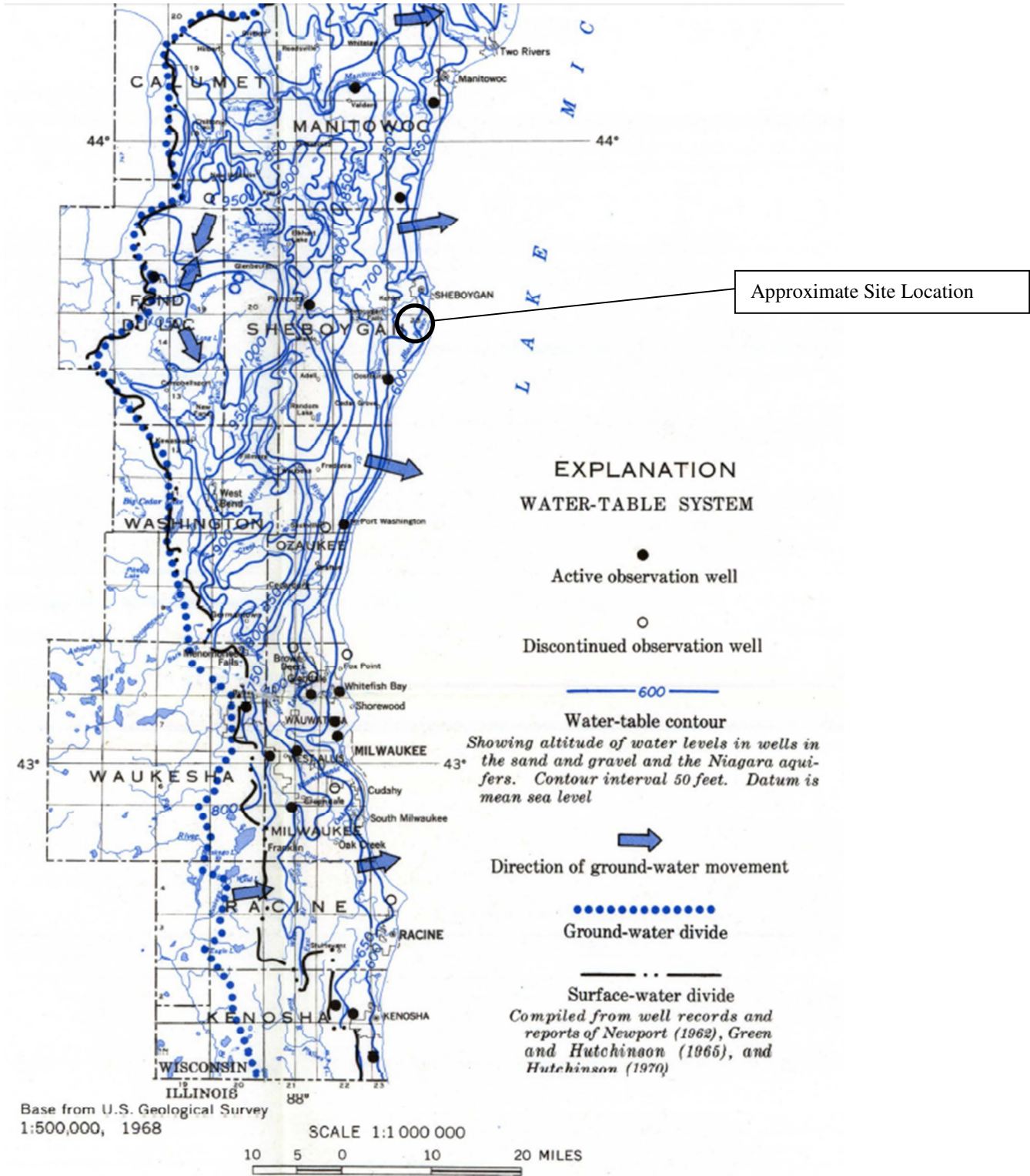
Appendix A
Regional Hydrogeologic Information

Regional Geologic Cross Section



Source: Skinner, Earl L. and Ronald G. Borman, Water Resources of Wisconsin-Lake Michigan Basin, Department of the Interior United States Geological Survey Hydrogeologic Investigations Atlas HA-432, 1973.

Regional Groundwater Flow Map – Uppermost Aquifer



Source: Skinner, Earl L. and Ronald G. Borman, Water Resources of Wisconsin-Lake Michigan Basin, Department of the Interior United States Geological Survey Hydrogeologic Investigations Atlas HA-432, 1973.

**Table I43-3. Regional Hydrogeologic Stratigraphy
Edgewater I-43 Landfill / SCS Engineers Project #25216069**

Age	Hydrogeologic Unit	General Thickness (feet)	Name of Rock Unit*	Predominant Lithology
Quaternary	Sand and Gravel Aquifer	0 to 235	Surface sand and gravel	Sand and Gravel
		0 to 300	Buried sand and gravel	
Devonian	Niagara Dolomite Aquifer	0 to 750	Dolomite (undifferentiated)	Dolomite
Silurian				
Ordovician	Confining Unit	0 to 400	Maquoketa Shale	Shale and dolomite
	Sandstone Aquifer	100 to 340	Galena Decorah Platteville	Dolomite
		0 to 330	St. Peter	Sandstone
		0 to 140	Prairie du Chien	Dolomite
Cambrian		0 to 3,500?	Trempeleau Franconia Galesville Eau Claire Mt. Simon	Sandstone, some Dolomite and Shale
Precambrian	Not an Aquifer	Unknown	Crystalline Rocks	Igneous and metamorphic rocks

Source:

Skinner, Earl L. and Ronald G. Borman, Water Resources of Wisconsin-Lake Michigan Basin, Department of the Interior United States Geological Survey Hydrogeologic Investigations Atlas HA-432, 1973.

I:\25216069.00\Reports\2018 ASD Report\Attachment A Regional Geology and Hydro\Regional_Hydrogeologic_Stratigraphy_I43.doc

Appendix B

Boring Logs and Well Construction Documentation

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name WPL-Edgewater I43		License/Permit/Monitoring Number SCS#: 25215135.20		Boring Number MW-301	
Boring Drilled By: Name of crew chief (first, last) and Firm Kevin Durst Badger State			Date Drilling Started 12/15/2015	Date Drilling Completed 12/19/2015	Drilling Method HSA/rotary (mud)
WI Unique Well No. VV864	DNR Well ID No.	Common Well Name	Final Static Water Level Feet	Surface Elevation 694.40 Feet	Borehole Diameter 8.0 in.
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/>			Local Grid Location		
State Plane 626,196 N, 2,559,679 E S/C/N			Feet <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W		
SE 1/4 of NE 1/4 of Section 8, T 14 N, R 23 E			Lat _____ ' _____ '' Long _____ ' _____ ''		
Facility ID		County Sheboygan	County Code 60	Civil Town/City/ or Village Wilson Tn.	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties						RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
			1	LEAN CLAY, brown (fill).	cl										
S1	17	25 78	2	LEAN CLAY, red brown (7.5YR 4/6), moist, with fine to coarse sand, fine gravel, stiff, gray coatings on fractures, diamicton (till).					3.0	M					
S2	22	47 911	4						2.25						
S3	24	45 88	7						2.25						
S4		24 55	9	Softer, brittle, crumbles. Color changes to (10.5YR 4/2).	cl				1.5						
S5	22	34 77	14	LEAN CLAY, dark reddish gray (5YR 4/2), trace coarse sand, fine crumbly texture.					2.25						

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Joe Larson <i>[Signature]</i>	Firm SCS Engineers 2830 Dairy Drive Madison, WI 53718	Tel: (608) 224-2830 Fax:
--	---	-----------------------------

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Boring Number **MW-301** Use only as an attachment to Form 4400-122. Page **2** of **6**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
S6	24	3 5 8 8	16	LEAN CLAY, red brown, trace coarse sand and fine gravel.	cl.										
			17	Same as above.											
18															
19	Same except dark brown (7.5YR 4/4).	2.5	M												
20															
21															
22															
23															
S7	14	5 5 8 8	24	Dark brown (7.5YR 4/2).											
			25												
26															
27															
S8	24	4 5 8 8	28	LEAN CLAY, dark brown (7.5YR 4/4), trace medium to coarse sand, few fine sand partings, massive, diamicton (till).											
			29												
30															
31															
32															
S9	23	4 5 9 10	33	Same, massive to indistinctly laminated, trace fine gravel (dolomite), subrounded (till).											
			34												
35															
36															
37															
S10	24	5 5 8 10	38	Same											
			39												
40															
					1.25										

Boring Number		MW-301		Use only as an attachment to Form 4400-122.					Page 3 of 6					
Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S11	24	55 119	41	LEAN CLAY, red brown (7.5YR 4/2).										
			42	Same as above.										
			43											
			44											
			45											
S12	24	57 99	48	Same.	cl.									
			49											
			50											
			51											
			52											
S13	24	67 1011	53											
			54											
			55											
			56											
			57											
S14	24	57 1010	58											
			59											
			60											
			61											
			62											
S15	24	56 78	63	Same, except less sand and fine gravel										
			64											
			65											

Boring Number **MW-301** Use only as an attachment to Form 4400-122. Page **4** of **6**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S16	24	3 8 8 14	66	LEAN CLAY, same as above.	CL									
			67											
			68											
S17	18	7 7 22	69	SILT, light grey (5YR 6/1), laminated (lake sediment).	ML									
			70											
			71											
S18	12	16 18 23	72		SM									
			73											
			74	SILTY SAND, grey, fine, with medium to coarse sand, trace fine gravel, mostly very fine sand (outwash).										
S19	24	13 9 12 14	75											
			76											
			77	LEAN CLAY, dark brown (7.5YR 4/2) with trace fine to coarse sand, fine gravel (sub-rounded dolomite), massive, diamicton, peds have fine crumbling texture.										
S20	24	14 20 23	78		CL									
			79											
			80	Same, except less sand and gravel										
S21	24	9 14 19	81											
			82											
			83											
			84											
			85											
			86											
			87											
			88											
			89											
			90											

Boring Number		MW-301		Use only as an attachment to Form 4400-122.					Page 5 of 6					
Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S22	24	10 12 14	91	LEAN CLAY, same as above.	CL				2.5					
			92											
			93											
			94	Same.										
			95											
S23	22	9 11 15	98	LEAN CLAY, dark grayish brown (10YR 4/2), massive to very indistinctly laminated, very plastic.					3.0	M				
			99											
			100											
			101											
			102											
S24	24	7 8 10	103	LEAN CLAY, dark grayish brown (10YR 4/2), massive to indistinctly laminated, very plastic (lake sediment).	CL				1.5	M				
			104											
			105											
			106											
			107											
S25	22	8 10 12	108						2.0	M				
			109											
			110											
			111											
			112											
S26	NR	8 10 13	113											
			114											
			115											

Boring Number		MW-301		Use only as an attachment to Form 4400-122.				Page 6 of 6						
Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
			116	LEAN CLAY, same as above.										
			117											
			118	Thinly laminated (lake sediment).	CL									
S27	24	WOR	119					3.5	M					Rods dropped
			120											
S28	22	17 20 21	121	SILT, greyish brown (10YR 5/2), with clay (lake sediment).	ML			2.0	M					
			122											
S29	9	19 50/3	123	SILTY GRAVEL, dolomite fragments, grey, with clayey silt (weathered bedrock).	GM									
			124	DOLOMITE (bedrock).										
			125											
S30			126											S30 sampled chips from 124'-128'.
			127											
			128											
			129		DOLOMITE									
			130											Lost circulation- no water/mud returning.
			131											
			132											
			133											
			134											
			135	End of boring @ 135.0'										
				Checked and edited by: BJS 3/30/2016										

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name WPL-Edgewater I43		License/Permit/Monitoring Number SCS#: 25215135.20		Boring Number MW-302	
Boring Drilled By: Name of crew chief (first, last) and Firm Kevin Durst Badger State			Date Drilling Started 12/4/2015	Date Drilling Completed 12/7/2015	Drilling Method HSA/rotary (mud)
WI Unique Well No. VV863	DNR Well ID No.	Common Well Name	Final Static Water Level Feet	Surface Elevation 700.24 Feet	Borehole Diameter 8.0 in.
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/> State Plane 625,788 N, 2,559,719 E S/C/N NE 1/4 of SE 1/4 of Section 8, T 14 N, R 23 E			Local Grid Location Lat _____ " _____ " Long _____ " _____ " Feet <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W		
Facility ID	County Sheboygan	County Code 60	Civil Town/City/ or Village Wilson Tn.		

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S1	13	36 8 10	1 2	LEAN CLAY, strong brown (7.5YR 4/6) to dark brown (7.5YR 3/2) mottled, trace fine to coarse sand.					3.7	M				
S2	11	36 9 11	3 4	LEAN CLAY, brown (7.5YR 4/4), trace small, fine to coarse sand and fine gravel, possible clay and gravel fill @5' very hard, dry, diamicton (till).					3.5	M				
S3	18	58 10 14	5 6 7	LEAN CLAY, mottled, strong brown (7.5YR 4/6) and brown, trace fine to coarse sand, fine gravel, very slightly moist (till).	cl				2.5-4.0	M				
S4	15	44 7 8	8 9						2.0	M				
S5	19	36 10 12	10 11 12 13 14	Same as above, except brown (7.5YR 4/4), very hard, cohesive (till).					2.0-4.0	M				

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Meghan Blodgett 	Firm SCS Engineers 2830 Dairy Drive Madison, WI 53718	Tel: (608) 224-2830 Fax:
--	---	-----------------------------

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Boring Number **MW-302**

Use only as an attachment to Form 4400-122.

Page **2** of **7**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S6	24	3 4	16	LEAN CLAY, brown (7.5YR 4/4), trace fine to coarse sand, fine gravel, as above (till).					1.5	M				
		6 9	19											
S7	24	2 3	23	Same as above, except dark brown (7.5YR 4/2), more moist (till).					1.5	M				
		5 6	24											
S8	20	7 8	28	LEAN CLAY, brown (7.5YR 4/2), massive, trace fine to coarse sand, fine gravel (till).	cl.				1.0					
		7 9	29											
S9	6	5 6	33						1.0					
		8 8	34											
S10	24	5 8	38						1.0					
		10 11	39											

Boring Number **MW-302** Use only as an attachment to Form 4400-122. Page **3** of **7**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S11	19	79 11 12	41	LEAN CLAY, brown (7.5YR 4/2), trace fine to coarse sand, fine gravel (till).										
			42											
			43											
			44											
			45											
S12	18	6 10 12 12	48	Same as above, except less sand and gravel.	cl.									
			49											
			50											
			51											
			52											
S13	24	7 7 10 10	53	LEAN CLAY, brown, trace fine to coarse sand, 1/8-3/4" fine to coarse sand seams at 58.5', 59', and 59.75', laminated with very thin silt partings (lake sediment).	cl.									
			54											
			55											
			56											
			57											
S14	24	7 9 11 12	58	SILT, brown (7.5YR 5/2), massive, little clay (lake sediment).	ML									
			59											
			60											
			61											
			62											
S15	24	7 9 12 12	63											
			64											
			65											

Boring Number **MW-302** Use only as an attachment to Form 4400-122. Page **4** of **7**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S16	18	14 18	66	SILT with sand, brown, massive, sand is very fine to fine.	ML									
		30 26	67	SILTY SAND, fine, massive.	SM									
S17	20	14 25	68	SILT WITH SAND, fine, loose, mostly very fine sand (lake sediment).										
		38 32	69											
S18	18	21 30	70	Same.										
		34 34	71											
S19	18	14 12	72	Same.										
		25 24	73											
S20	18	19 27	74		ML									
		28 28	75											
S21	18	21 29	76											
		33 30	77											
S22	16	23 32	78											
		30 28	79											
S23	16	19 21	80	POORLY GRADED SAND WITH SILT, fine with medium, brown to gray, loose (outwash).										
		21 27	81		SP-SM									
S24 A/S24 B	14	9 19	82											
		19 16	83	SILT, brown, little fine sand, massive to indistinctly laminated (lake sediment).										
S25	18		84											
			85		ML									
			86											
			87											
			88											
		10 20	89	LEAN CLAY, dark brown (7.5YR 4/2), massive, trace fine to coarse sand, fine gravel, very stiff, cohesive, diamictic (till).	CL					3.0-4.5	W			
	23 24	90												

Sand appears barely wet.

Boring Number **MW-302**

Use only as an attachment to Form 4400-122.

Page **5** of **7**

Sample		Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S26	20	12 18 21 25	91	LEAN CLAY, brown, massive, trace fine to coarse sand, fine gravel, as above (till). Same.	CL									
			92											
			93											
			94											
			95											
S27	14	17 20 22 12	96	LEAN CLAY, brown (7.5YR 5/2), massive to indistinctly laminated, trace fine gravel, red/gray laminations (lake sediment).										
			97											
			98											
			99											
			100											
S28	24	8 10 13 14	101	LEAN CLAY, grayish brown (10YR 5/2), laminated, with very thin silt partings, very stiff, hard (lake sediment).	CL									
			102											
			103											
			104											
			105											
S29	24	7 9 12 14	106	Same as above, except silt is concentrated in 1 mm layers spaced 2-6" apart.										
			107											
			108											
			109											
			110											
S30		7 9 12 14	111	Same except dark grayish brown (10YR 4/2), laminated, fewer silt partings, very plastic (lake sediment).										
			112											
			113											
			114											
			115											

Boring Number **MW-302**

Use only as an attachment to Form 4400-122.

Page **6** of **7**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
			116	LEAN CLAY, same as above, very plastic, laminated (lake sediment).										
S31	24	7 8 10 12	119	Same.	CL				1.0				S30 was not collected	
S32	24	9 10 12 13	121						0.5-1.0					
S33	24	11 13 18 18	123	Same as above, very plastic, laminated, few silt partings (lake sediment).					2.0					
S34			124											
S35	24	14 22 30/5	125	LEAN CLAY WITH SAND, grayish brown, sand is fine.	CL				0.5					
S36			126	SILT WITH SAND, grayish brown, mostly very fine sand, cohesive.	ML									
S37	24	30 25 28 24	127	LEAN CLAY WITH SAND, grayish brown, sand is fine, some silt, laminated to thinly bedded clay and silt (lake sediment).					0.5					
S38			128											
S39	24	15 17 19 17	129	Thinly bedded silty fine sand and clay.	CL				0.5-1.0					
S40	6	21 19 50/3	131	With dolomite gravel.										
			132											
			133	DOLOMITE, light gray and brownish gray, dark and light laminations, massive, some pitted and vuggy, mostly without mineralization, vertical fractures common.										
			134											
			135											
			136		DOLOMITE									
			137											
S41	0	50/3	138											
			139	Shaly zone (6') at ~138.5. gray, mineralized fractures below 139'.									Convert to rock coring. Run 1 133'-143'-No water return below 139'.	
			140											

Boring Number **MW-302**

Use only as an attachment to Form 4400-122.

Page **7** of **7**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
			141	DOLOMITE (bedrock).										
			142	Very vuggy and mineralized vugs and fractures below 142'.	DOLOMITE									TCR=126/120
			143											TCR=100%
			144	Blind drilled 144-148'										SCR=103/120
				End of boring @ 148'										MCR=86%
				Logged by: Zach Watson: 0-28' Meghan Blodgett: 28-110' Tony Kollasch: 110-144'										MCR=68.5/120
				Checked and edited by: BJS 3/30/2016										MCR=57%
														RQD=57%
														Fair

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name WPL-Edgewater I43		SCS#: 25215135.20		License/Permit/Monitoring Number		Boring Number MW-303	
Boring Drilled By: Name of crew chief (first, last) and Firm Kevin Durst Badger State				Date Drilling Started 11/30/2015		Date Drilling Completed 12/4/2015	
Drilling Method HSA/rotary (mud)		WI Unique Well No. VV865		DNR Well ID No.		Common Well Name	
Final Static Water Level Feet		Surface Elevation 716.60 Feet		Borehole Diameter 8.0 in.			
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/> State Plane 625,616 N, 2,560,451 E S/C/N NE 1/4 of SE 1/4 of Section 8, T 14 N, R 23 E				Lat _____ " _____ "		Local Grid Location	
Feet <input type="checkbox"/> N		Feet <input type="checkbox"/> E		Feet <input type="checkbox"/> S		Feet <input type="checkbox"/> W	
Facility ID		County Sheboygan		County Code 60		Civil Town/City/ or Village Wilson Tn.	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S1	14	12 24	1 2	LEAN CLAY, strong brown (7.5YR 4/6), med plasticity, mottled coloring, trace coarse sand.	cl				1.5	M				
S2 A, B	14	41 22	4 5	SILTY SAND layer, fine to coarse @ 5-5.5'.	SM				0.75	M				
S3	24	47 1011	6 7	LEAN CLAY, (7.5YR 4/4), trace sand, fine to coarse, fine gravel, very stiff, firm, massive, diamicton (till).					2.8-4.0	W				
S4	18	25 79	9 10	Same.	cl				3.0	W				
S5	22	23 46	14 15						1-1.8	W				

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Zach Watson <i>[Signature]</i>	Firm SCS Engineers 2830 Dairy Drive Madison, WI 53718	Tel: (608) 224-2830 Fax:
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This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Boring Number **MW-303**

Use only as an attachment to Form 4400-122.

Page **2** of **7**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
			16	LEAN CLAY, (7.5YR 4/4), as above.										
S6	24	3 4 6 8	19						2.0	W				
S7	24	3 5 6 7	24		Same.				1.5- 2.0	W				
S8	24	3 6 7 8	29		Same.	cl.			1.5	W				
S9	24	3 5 7 9	34						2.2	W				
S10	6	6 9 11 13	39	Same as above, except very soft and saturated.				NA	W					

Boring Number **MW-303**

Use only as an attachment to Form 4400-122.

Page 3 of 7

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
			41	LEAN CLAY, (7.5YR 4/4).										
S11	6	10 12 12 16	44 45							W				
S12	24	5 6 8 10	49 50	(no sample retained)					1.3	W				
			53		cl.									
S13	21	3 7 7 9	54 55	LEAN CLAY (7.5YR 4/4), fine to coarse sand, fine gravel, firm, massive, diamicton (till).					1.0	W				
S14	19	10 11 13 10	59 60	Same.					1.0	W				
S15	11	4 6 9 11	64 65						0.5	W				

Boring Number **MW-303**

Use only as an attachment to Form 4400-122.

Page 4 of 7

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
			66	Same.										
			67											
			68											
S16	4	9 34 50/5	69	LEAN CLAY WITH SAND, brown (7.5YR 4/4), soft, sand fine to coarse.					0	W				
			70											
			71											
			72											
			73											
S17	7	8 12 12 13	74	Some as above, except trace fine to coarse sand.	cl.				0	W				
			75											
			76											
			77											
			78											
S18	24	3 6 5 7	79	Same as above except, soft in some areas and stiff in others.					0.5	W				
			80											
			81											
			82											
			83											
S19	15	19 22 25 31	84	SANDY SILT, (10YR 5/4), fine sand, very uniform grains, loose, mostly very fine sand, non-plastic.						W				
			85											
			86		ML									
S20	3	16 16 23 25	86							W				
			87											
			88											
S21	20	20 18 13 14	88	LEAN CLAY, brown (7.5YR 4/4), trace coarse sand, massive to indistinctly laminated (lake sediment).	cl.					W				
			89											
			90											

Boring Number **MW-303** Use only as an attachment to Form 4400-122. Page **5** of **7**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S22	18	35 38 23 30	91-94	Same with layers of SANDY SILT, yellowish brown (10YR 5/4), fine, loose (lake sediment).										
S23	18	19 12 12 13	94-97		CL			1.0	W					
S24	16	24 28 34 50/4	104-105	SANDY SILT, yellowish brown (10YR 5/4) fine, mostly very fine sand, loose (lake sediment).					W					
S25	12	36 50/5	105-107		ML				W					
S26	23	32 22 20 24	107-109	LEAN CLAY, with layers of SILT, SAND (lake sediment as above).				3.2	W					
S27	3	50/5	114-115	SILTY SAND, (10YR 5/4).	SM			1.2	W					

Boring Number **MW-303**

Use only as an attachment to Form 4400-122.

Page **6** of **7**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S28	5	50/4	116	LEAN CLAY, 7.5 YR 5/2, trace gravel.	SM									
			117		CL			2.5	W					
			118											
S29	5	50/5	119	SILTY SAND WITH GRAVEL, fine, with medium and coarse sand, greys, blues whites and browns, gravel is fine and coarse.										
S30	8	41 50/4	121	SILTY SAND, fine to coarse grained, trace fine gravel, fine (outwash).										
			122											
S31	2	50/4	123											
S32	10	31 50/4	124											
			125		SM									
			126											
			127	Same.										
			128											
S33	3	50/5	129											
S34	4	50/4	130											
			131	SILT, some gravel, very dense/stiff (weathered bedrock).	ML			4.5	W					
			132	DOLOMITE (bedrock).										
			133											
			134											
			135											
			136		DOLOMITE									
			137											
			138											
			139											
			140											

Boring Number **MW-303**

Use only as an attachment to Form 4400-122.

Page **7** of **7**

Sample			Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)	Blow Counts							Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
			141	DOLOMITE (bedrock).	DOLOMITE									
			142											
			143											
				End of boring @ 143.5'										
				Checked and edited by: BJS 3/30/2016										

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name WPL-Edgewater I43		SCS#: 25215135.20		License/Permit/Monitoring Number		Boring Number MW-304	
Boring Drilled By: Name of crew chief (first, last) and Firm Kevin Durst Badger State				Date Drilling Started 1/25/2016		Date Drilling Completed 1/26/2016	
Drilling Method HSA/rotary (mud)		WI Unique Well No. VV866		DNR Well ID No.		Common Well Name	
Final Static Water Level Feet		Surface Elevation 689.48 Feet		Borehole Diameter 8.0 in.			
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/> State Plane 624,204 N, 2,558,156 E S/C/N SW 1/4 of SE 1/4 of Section 8, T 14 N, R 23 E				Lat _____ ' _____ '' Long _____ ' _____ ''		Local Grid Location Feet <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
Facility ID		County Sheboygan		County Code 60		Civil Town/City/ or Village Wilson Tn.	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S1	14	25 6 11	1 2	LEAN CLAY, brown (7.5YR 4/6), with fine to coarse sand, fine gravel.	CL				3.5	M				
S2	14	46 5 9	3 4	Same as above, except dark brown.					3.5	M				
S3	24	25 8 11	5 6 7	LEAN CLAY, brown (7.5YR 4/6), with silt layers, cohesive, stiff.					3.25	M				
S4	24	45 9 10	8 9	LEAN CLAY, brown (7.5YR 4/4), with fine to coarse sand, fine gravel, massive, stiff, diamicton (till). 1 inch interval of sand, fine to medium grained, brown.	CL				3.25	M				
S6	24	24 4 5	10 11 12 13 14	LEAN CLAY, as above (till).					1.5	M				

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Joe Larson <i>Joe Larson</i>	Firm SCS Engineers 2830 Dairy Drive Madison, WI 53718	Tel: (608) 224-2830 Fax:
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This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Boring Number **MW-304**

Use only as an attachment to Form 4400-122.

Page **2** of **6**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S7	22	3 4 4 6	18-19	LEAN CLAY, brown (7.5YR 4/4), as above (till).					1.25	M				
S8	22	2 3 5 6	23-24											
S9	24	2 4 6 7	28-29		cl.				1.0	M				
S10	24	3 5 6 9	33-34						1.0	M				
S11	24	3 6 8 12	38-39	Same with fine silt partings.					2.5	M				

Boring Number **MW-304**

Use only as an attachment to Form 4400-122.

Page 3 of 6

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S12	24	4 4 5 8	41	LEAN CLAY, brown.	CL									
			42											
			43	CLAYEY SILT, brown (7.5YR 4/6).	ML									
S13	24	2 4 4 6	44	LEAN CLAY WITH SAND, brown (7.5YR 4/6), fine to coarse.	CL									
			45											
			46											
S14	24	4 5 8 11	47	LEAN CLAY, brown (7.5YR 4/6).	CL									
			48											
			49	SILTY SAND, brown, fine to medium grained.	SM					0.75	W			
S15	16	5 13 23 25	50	CLAYEY SAND, fine to coarse.	SC									
			51											
			52	POORLY GRADED SAND WITH SILT, grey (10YR 4/2), fine to medium grained (outwash).										
S16	12	8 11 18 20	53	Same.	SP-SM									
			54											
S17	20	15 23 31 30	55	Same except mostly very fine sand.										
			56	LEAN CLAY, with fine to coarse sand, fine gravel, diamicton (till)	CL									

Boring Number **MW-304** Use only as an attachment to Form 4400-122. Page **4** of **6**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S18	20	14 19 15 15	66	LEAN CLAY, brown (7.5YR 4/6).					2.5	M				
			67		cl.									
S19	8	50/5	69	LEAN CLAY, with layers of SILT, fine to coarse sand (lake sediment).					4.5	M				
			70											
			71											
			72											
S20		8 10 15 17	73	LEAN CLAY, dark brown (7.5YR 4/2), laminated, very plastic (lake sediment).					1.25	M				
			74											
			75											
			76		cl.									
			77											
			78	Same with few silt partings, very stiff.										
S21	24	7 11 14 15	79						2.75					
			80											
			81											
			82											
			83											
S22	12	25 50/5	84	SILTY SAND, grey, fine to coarse grained, dense, trace gravel.					>4.5					
			85											
S23	16	21 34 42 46	86							W				
			87		SM									
			88	Limestone rock fragments, with fine and coarse gravel.										
S24	1	50/2	89											
			90											

Boring Number **MW-304**

Use only as an attachment to Form 4400-122.

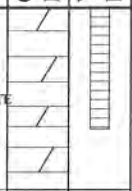
Page **5** of **6**

Sample			Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)	Blow Counts							Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S25	3	50/4	91	Same, diamicton.										
S26	2	50/5	92		SM									S26 was skipped.
S27	24	34 31 42 52/3	93-94	SILTY SAND and SILT, except dark grayish brown (10YR 4/2), sandstone fragments, fine sand, fine gravel, cohesive, brittle.						W				
S28	14	30 39 50/3	95-96		SM					W				
S29	12	20 34 50/5	97-98							W				
S30	12	37 50/4	99-100	FAT CLAY WITH GRAVEL, brown (7.5 4/3), sandstone fragments, fine to coarse sand, fine gravel.	CH				4.5	W				
S31	12	16 35 50/4	101-102	SILTY SAND, dark grayish brown (10YR 4/2).	SM				1.5	W				
S32	18	17 35 50/4	103-104	LEAN CLAY, very dark brown (7.5 YR 2.5/2). SILTY SAND, dark grayish brown (10YR 4/2), fine grained.	CL SM					W				
S33	8	17 50/2	105-106	SANDY LEAN CLAY, dark brown (7.5YR 3/2), trace gravel.	CL				4.0	W				Bedrock at 106.5 ft bgs.
S34	2	50/3	107-108	SILTY SAND, dark grayish brown (10YR 4/2), fine grained, (weathered bedrock).	SM									
S35	NA		109-115	DOLOMITE, gray (7.5YR 6/1), angular fragments.										

Boring Number **MW-304**

Use only as an attachment to Form 4400-122.

Page **6** of **6**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S36	NA		116 117 118	DOLOMITE, gray (7.5YR 6/1), angular fragments.	DOLOMITE									
				End of boring @ 118'	Logged by: Joe Larson: 0-93' Kyle Kramer: 93-118' Checked and edited by: BJS 3/30/2016									

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name WPL I43		SCS#: 25217032.00		License/Permit/Monitoring Number		Boring Number MW-305	
Boring Drilled By: Name of crew chief (first, last) and Firm Kevin Duerst Badger State Drilling				Date Drilling Started 1/30/2017		Date Drilling Completed 2/2/2017	
Drilling Method HSA/Rotary		WI Unique Well No. VY819		DNR Well ID No.		Common Well Name MW-305	
Final Static Water Level Feet		Surface Elevation 715.46 Feet		Borehole Diameter 6.3 in.			
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input checked="" type="checkbox"/> State Plane 623,435 N, 2,559,946 E S/C/N SE 1/4 of SE 1/4 of Section 8, T 14 N, R 23 E				Lat _____ ° _____ ' _____ "		Local Grid Location	
Feet <input type="checkbox"/> N		Feet <input type="checkbox"/> E		Feet <input type="checkbox"/> S		Feet <input type="checkbox"/> W	
Facility ID		County Sheboygan		County Code 60		Civil Town/City/ or Village Wilson Tn.	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
			1	TOPSOIL.											
S1	8	22 4	2	LEAN CLAY, strong brown (7.5YR 4/6).						1.75					
S2	14	48 11	5							4.5+					
S3	18	71 14	7		CL					4.5+					
S4	18	410 9	9							4.5+					

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature 	Firm SCS Engineers 2830 Dairy Drive Madison, WI 53711	Tel: (608) 224-2830 Fax:
--	---	-----------------------------

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Boring Number **MW-305**

Use only as an attachment to Form 4400-122.

Page 2 of 7

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length, Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S5	18	46 8	13 14 15 16 17 18	Same as above except, brown (7.5 YR4/3).					2.5					
S6	18	46 9	19 20 21 22 23	Same as above except, trace gravel.	cl.				4.5+					Mud Rotary @ 15 ft bgs.
S7	18	46 7	24 25 26 27						3.0					
S8	18	46 7	28 29 30 31 32						2.0					

Boring Number **MW-305**

Use only as an attachment to Form 4400-122.

Page **3** of **7**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S9	18	58 9	33 34 35					2.5						
S10	18	47 9	38 39 40					2.5						
S11	18	37 8	41 42 43 44 45	CL				2.5						
S12	18	39 13	46 47 48 49 50					2.0						

Boring Number **MW-305** Use only as an attachment to Form 4400-122.

Page **4** of **7**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S13	18	55 8	53 54 55 56 57 58	Same as above except, brown (7.5YR 4/3).					2.5					
S14	18	55 6	59 60 61 62 63		CL				1.5					
S15	12	55 16	64 65 66 67 68						3.0					
S16	12	13 16 16	69 70	POORLY GRADED SAND, gray (10YR 5/1), medium to coarse grained.	SP									
S17	20	14 19 20 22	71 72	SILTY SAND, brown (7.5YR 4/3), fine grained.	SM									

Boring Number **MW-305**

Use only as an attachment to Form 4400-122.

Page **5** of **7**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S18	16	9 9	73	LEAN CLAY, brown (7.5YR 4/3).	SM									
		10 16	74		CL									
S19	18	8 16	75	POORLY GRADED SAND, gray (10YR 5/1), fine to medium grained.										
		18 21	76											
S20	16	8 18	77											
		20 23	78											
S21	16	15 20	79											
		23 30	80											
S22	16	15 23	81											
		26 31	82											
S23	18	21 18	83		SP									
		29 31	84											
S24	18	17 30	85											
		33 33	86											
S25	16	15 20	89											
		30 30	90											
			91											
			92											

Boring Number **MW-305** Use only as an attachment to Form 4400-122.

Page **6** of **7**

Sample		Blow Counts	Depth In Feet:	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S26	18	18 23 25 29	93 94 95 96 97											
S27	14	10 22 24 25	98 99 100 101 102	Same as above except, trace coarse gravel.	SP									
S28	12	13 13 10 18	103 104 105 106 107	Same as above except, trace coarse gravel.										
S29	12	23 42 50/0.5	108 109 110 111 112	DOLOMITE, gray (10YR 5/1), weathered.										

Boring Number **MW-305**

Use only as an attachment to Form 4400-122.

Page **7** of **7**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
			113												
			114												
			115												
			116												
			117												
			118												
			119												
			120												
S30			121	End of boring at 121 ft bgs.											

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name WPL-Edgewater I43	Local Grid Location of Well 626196.3 ft. <input checked="" type="checkbox"/> N. <input type="checkbox"/> S. 2559679 ft. <input checked="" type="checkbox"/> E. <input type="checkbox"/> W.	Well Name MW-301
Facility License, Permit or Monitoring No. 02853	Local Grid Origin (estimated: <input type="checkbox"/>) or Well Location <input checked="" type="checkbox"/> or Lat. " Long.	Wis. Unique Well No. VV864
Facility ID 460022090	St. Plane 626196.3 ft. N. 2559679.0 ft. E. S/C/N	DNR Well ID No.
Type of Well Well Code 12 / PZ	Section Location of Waste/Source SW 1/4 of NE 1/4 of Sec. 8, T. 14 N, R. 23 <input checked="" type="checkbox"/> E. <input type="checkbox"/> W.	Date Well Installed 1 / 14 / 2016 m m d d y y v v
Distance from Waste/Source _____ ft.	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input checked="" type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	Well Installed By: Name (first, last) and Firm Kevin Durst
Enf. Stds. Apply <input type="checkbox"/>	Gov. Lot Number	Badger State Drilling

- A. Protective pipe, top elevation --- 697.21 ft. MSL
- B. Well casing, top elevation --- 696.96 ft. MSL
- C. Land surface elevation --- 694.40 ft. MSL
- D. Surface seal, bottom --- 693.90 ft. MSL or --- 0.5 ft.

12. USCS classification of soil near screen:
 GP GM GC GW SW SP
 SM SC ML MH CL CH
 Bedrock

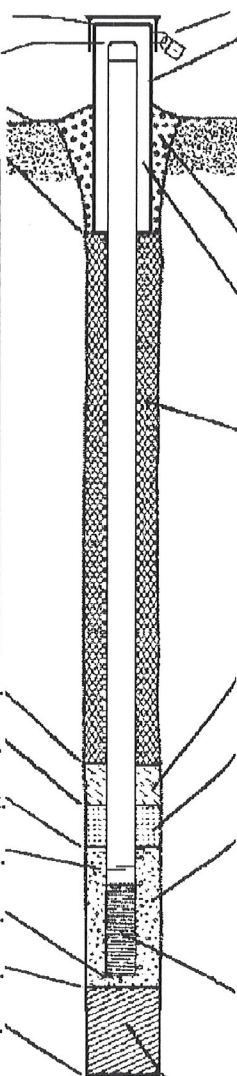
13. Sieve analysis performed? Yes No

14. Drilling method used: Rotary 50
 Hollow Stem Auger 41
 Other

15. Drilling fluid used: Water 02 Air 01
 Drilling Mud 03 None 99

16. Drilling additives used? Yes No
 Describe _____

17. Source of water (attach analysis, if required):
 Site Supply Well



- 1. Cap and lock? Yes No
- 2. Protective cover pipe:
 - a. Inside diameter: --- 4 in.
 - b. Length: --- 7 ft.
 - c. Material: Steel 04
Other
 - d. Additional protection? Yes No
If yes, describe: yes, bumper posts (3)
- 3. Surface seal: Bentonite 30
Concrete 01
Other
- 4. Material between well casing and protective pipe: Bentonite 30
Ohio #5 sand- 2 bags Other
- 5. Annular space seal:
 - a. Granular/Chipped Bentonite 33
 - b. ___ Lbs/gal mud weight . . . Bentonite-sand slurry 35
 - c. 200 Lbs/gal mud weight Bentonite slurry 31
 - d. ___ % Bentonite Bentonite-cement grout 50
 - e. ___ Ft³ volume added for any of the above
 - f. How installed: Tremie 01
Tremie pumped 02
Gravity 08
- 6. Bentonite seal:
 - a. Bentonite granules 33
 - b. 1/4 in. 3/8 in. 1/2 in. Bentonite chips 32
 - c. 2 Bags Other
- 7. Fine sand material: Manufacturer, product name & mesh size
a. Ohio #7
- b. Volume added 0.5 lbs ft³
- 8. Filter pack material: Manufacturer, product name & mesh size
a. Ohio #5
- b. Volume added 3 lbs ft³
- 9. Well casing: Flush threaded PVC schedule 40 23
Flush threaded PVC schedule 80 24
Other
- 10. Screen material: PVC
a. Screen type: Factory cut 11
Continuous slot 01
Other
- b. Manufacturer Monoflex
- c. Slot size: 0.01 in.
- d. Slotted length: --- 5 ft.
- 11. Backfill material (below filter pack): None 14
Bedrock cuttings/slough Other

- E. Bentonite seal, top --- 566.40 ft. MSL or --- 118 ft.
- F. Fine sand, top --- 571.40 ft. MSL or --- 123 ft.
- G. Filter pack, top --- 569.40 ft. MSL or --- 125 ft.
- H. Screen joint, top --- 567.40 ft. MSL or --- 127 ft.
- I. Well bottom --- 562.40 ft. MSL or --- 132 ft.
- J. Filter pack, bottom --- 562.40 ft. MSL or --- 132 ft.
- K. Borehole, bottom --- 559.40 ft. MSL or --- 135 ft.
- L. Borehole, diameter --- 8.0 in.
- M. O.D. well casing --- 2.4 in.
- N. I.D. well casing --- 1.9 in.

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature *[Signature]* for J.L. Firm SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718-6751

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater Waste Management
 Remediation/Redevelopment Other

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name WPL-143	Local Grid Location of Well 625788.4 ft. <input checked="" type="checkbox"/> N. <input type="checkbox"/> S. 2559719 ft. <input checked="" type="checkbox"/> E. <input type="checkbox"/> W.	Well Name MW-302
Facility License, Permit or Monitoring No. 02853	Local Grid Origin (estimated: <input type="checkbox"/>) or Well Location <input checked="" type="checkbox"/> Lat. " Long. " or	Wis. Unique Well No. <input type="checkbox"/> DNR Well ID No. <input type="checkbox"/>
Facility ID 460022090	St. Plane 625788.4 ft. N, 2539719.0 ft. E. S/C/N	Date Well Installed 1 / 15 / 2016 m m d d y y v v v y
Type of Well Well Code 12 / PZ	Section Location of Waste/Source SW 1/4 of NE 1/4 of Sec. 8, T. 14 N, R. 23 <input checked="" type="checkbox"/> E <input type="checkbox"/> W	Well Installed By: Name (first, last) and Firm Kevin Durst
Distance from Waste/Source _____ ft.	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	Badger State Drilling
Enf. Stds. Apply <input type="checkbox"/>	Gov. Lot Number _____	

A. Protective pipe, top elevation -- 702.81 ft. MSL	1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B. Well casing, top elevation -- 702.57 ft. MSL	2. Protective cover pipe: a. Inside diameter: -- 4 in.
C. Land surface elevation -- 700.24 ft. MSL	b. Length: -- 7 ft.
D. Surface seal, bottom -- 699.74 ft. MSL or -- 0.5 ft.	c. Material: Steel <input checked="" type="checkbox"/> 04 Other <input type="checkbox"/>
12. USCS classification of soil near screen: GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock <input checked="" type="checkbox"/>	d. Additional protection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe: ves. bumper posts (3)
13. Sieve analysis performed? <input type="checkbox"/> Yes <input type="checkbox"/> No	3. Surface seal: Bentonite <input checked="" type="checkbox"/> 30 Concrete <input type="checkbox"/> 01 Other <input type="checkbox"/>
14. Drilling method used: Rotary <input checked="" type="checkbox"/> 50 Hollow Stem Auger <input checked="" type="checkbox"/> 41 Other <input type="checkbox"/>	4. Material between well casing and protective pipe: Bentonite <input type="checkbox"/> 30 Ohio #5 sand-2 bags Other <input type="checkbox"/>
15. Drilling fluid used: Water <input checked="" type="checkbox"/> 02 Air <input type="checkbox"/> 01 Drilling Mud <input type="checkbox"/> 03 None <input type="checkbox"/> 99	5. Annular space seal: a. Granular/Chipped Bentonite <input type="checkbox"/> 33 b. ___ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/> 35 c. 200 Lbs/gal mud weight . . . Bentonite slurry <input checked="" type="checkbox"/> 31 d. ___ % Bentonite Bentonite-cement grout <input type="checkbox"/> 50 e. ___ Ft ³ volume added for any of the above
16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Describe _____	f. How installed: Tremie <input checked="" type="checkbox"/> 01 Tremie pumped <input checked="" type="checkbox"/> 02 Gravity <input type="checkbox"/> 08
17. Source of water (attach analysis, if required): Site supply well	6. Bentonite seal: a. Bentonite granules <input type="checkbox"/> 33 b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input type="checkbox"/> 32 c. 2 Bags Other <input type="checkbox"/>
E. Bentonite seal, top -- 572.24 ft. MSL or -- 128 ft.	7. Fine sand material: Manufacturer, product name & mesh size a. 1 bag Ohio #7 <input type="checkbox"/>
F. Fine sand, top -- 567.24 ft. MSL or -- 133 ft.	b. Volume added 0.5 ft ³
G. Filter pack, top -- 565.24 ft. MSL or -- 135 ft.	8. Filter pack material: Manufacturer, product name & mesh size a. Ohio #5 <input type="checkbox"/>
H. Screen joint, top -- 563.24 ft. MSL or -- 137 ft.	b. Volume added 3 ft ³
I. Well bottom -- 558.24 ft. MSL or -- 142 ft.	9. Well casing: Flush threaded PVC schedule 40 <input type="checkbox"/> 23 Flush threaded PVC schedule 80 <input checked="" type="checkbox"/> 24 Other <input type="checkbox"/>
J. Filter pack, bottom -- 558.24 ft. MSL or -- 142 ft.	10. Screen material: PVC
K. Borehole, bottom -- 552.24 ft. MSL or -- 148 ft.	a. Screen type: Factory cut <input type="checkbox"/> 11 Continuous slot <input checked="" type="checkbox"/> 01 Other <input type="checkbox"/>
L. Borehole, diameter -- 8.0 in.	b. Manufacturer Monoflex
M. O.D. well casing -- 2.4 in.	c. Slot size: 0.01 in.
N. I.D. well casing -- 1.9 in.	d. Slotted length: -- 5 ft.
	11. Backfill material (below filter pack): None <input type="checkbox"/> 14 Limestone Chips Other <input checked="" type="checkbox"/>

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature *[Signature]* for M.H. Firm SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718-6751

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater Remediation/Redevelopment Waste Management Other

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name WPL-143	Local Grid Location of Well 625615.5 ft. <input checked="" type="checkbox"/> N. <input type="checkbox"/> S. 2560451 ft. <input checked="" type="checkbox"/> E. <input type="checkbox"/> W.	Well Name MW-303
Facility License, Permit or Monitoring No. 02853	Local Grid Origin (estimated: <input type="checkbox"/>) or Well Location <input checked="" type="checkbox"/> " or Lat. " Long. " or	Wis. Unique Well No. <input type="checkbox"/> DNR Well ID No. <input type="checkbox"/>
Facility ID 460022090	St. Plane 625615.5 ft. N. 2560451.0 ft. E. S/C/N	Date Well Installed 12 / 03 / 2015 m m d d y y v v y y
Type of Well Well Code 12 / PZ	Section Location of Waste/Source SW ₁ /4 of NE 1/4 of Sec. 8, T. 14 N, R. 23 <input checked="" type="checkbox"/> E <input type="checkbox"/> W	Well Installed By: Name (first, last) and Firm Kevin Durst
Distance from Waste/Source _____ ft.	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	Gov. Lot Number _____
Enf. Stds. Apply <input type="checkbox"/>		Badger State Drilling

- A. Protective pipe, top elevation -- 719.48 ft. MSL
- B. Well casing, top elevation -- 719.25 ft. MSL
- C. Land surface elevation -- 716.60 ft. MSL
- D. Surface seal, bottom -- 716.10 ft. MSL or -- .50 ft.

12. USCS classification of soil near screen:
 GP GM GC GW SW SP
 SM SC ML MH CL CH
 Bedrock

13. Sieve analysis performed? Yes No

14. Drilling method used: Rotary 5 0
 Hollow Stem Auger 4 1
 Other

15. Drilling fluid used: Water 0 2 Air 0 1
 Drilling Mud 0 3 None 9 9

16. Drilling additives used? Yes No
 Describe _____

17. Source of water (attach analysis, if required):
 Site supply well

- 1. Cap and lock? Yes No
- 2. Protective cover pipe:
 - a. Inside diameter: -- 6 in.
 - b. Length: -- 5 ft.
 - c. Material: Steel 0 4
Other
 - d. Additional protection? Yes No
If yes, describe: ves. bumper posts (3)
- 3. Surface seal: Bentonite 3 0
Concrete 0 1
Other
- 4. Material between well casing and protective pipe: Bentonite 3 0
Ohio #5 sand Other
- 5. Annular space seal:
 - a. Granular/Chipped Bentonite 3 3
 - b. ___ Lbs/gal mud weight . . . Bentonite-sand slurry 3 5
 - c. 150 Lbs/gal mud weight Bentonite slurry 3 1
 - d. ___ % Bentonite Bentonite-cement grout 5 0
 - e. ___ Ft³ volume added for any of the above
 - f. How installed: Tremie 0 1
Tremie pumped 0 2
Gravity 0 8
- 6. Bentonite seal:
 - a. Bentonite granules 3 3
 - b. 1/4 in. 3/8 in. 1/2 in. Bentonite chips 3 2
 - c. _____ Other
- 7. Fine sand material: Manufacturer, product name & mesh size
 a. Ohio #7
 b. Volume added 0.5 ft³
- 8. Filter pack material: Manufacturer, product name & mesh size
 a. Ohio #5
 b. Volume added 1.50 ft³
- 9. Well casing: Flush threaded PVC schedule 40 2 3
 Flush threaded PVC schedule 80 2 4
 Other
- 10. Screen material: PVC
 a. Screen type: Factory cut 1 1
 Continuous slot 0 1
 Other
- b. Manufacturer Model flex
 c. Slot size: 0.01 in.
 d. Slotted length: -- 5 ft.
- 11. Backfill material (below filter pack): None 1 4
 Native Other

- E. Bentonite seal, top -- 588.60 ft. MSL or -- 128 ft.
- F. Fine sand, top -- 583.60 ft. MSL or -- 133 ft.
- G. Filter pack, top -- 581.60 ft. MSL or -- 135 ft.
- H. Screen joint, top -- 579.60 ft. MSL or -- 137 ft.
- I. Well bottom -- 574.60 ft. MSL or -- 142 ft.
- J. Filter pack, bottom -- 574.60 ft. MSL or -- 142 ft.
- K. Borehole, bottom -- 573.60 ft. MSL or -- 143 ft.
- L. Borehole, diameter -- 6.0 in.
- M. O.D. well casing -- 2.4 in.
- N. I.D. well casing -- 1.9 in.

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature *Zach Watson* Firm SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718-6751

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name WPL-143	Local Grid Location of Well 624204 ft. <input checked="" type="checkbox"/> N. 2558156 ft. <input checked="" type="checkbox"/> E.	Well Name MW-304
Facility License, Permit or Monitoring No. 02853	Local Grid Origin (estimated: <input type="checkbox"/>) or Well Location <input checked="" type="checkbox"/> Lat. _____ Long. _____ or _____	Wis. Unique Well No. VV866
Facility ID 460022090	St. Plane 624204.0 ft. N, 2558156.0 ft. E. S/C/N	Date Well Installed 1 / 26 / 2016 m m d d y y y y
Type of Well Well Code 12 / PZ	Section Location of Waste/Source SW 1/4 of NE 1/4 of Sec. 8, T. 14 N, R. 23 <input checked="" type="checkbox"/> E <input checked="" type="checkbox"/> W	Well Installed By: Name (first, last) and Firm Kevin Duerst
Distance from Waste/Source _____ ft.	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	Badger State Drilling

A. Protective pipe, top elevation -- 692.38 ft. MSL	1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B. Well casing, top elevation -- 691.97 ft. MSL	2. Protective cover pipe: a. Inside diameter: -- 6 in.
C. Land surface elevation -- 689.48 ft. MSL	b. Length: -- 5 ft.
D. Surface seal, bottom -- 688.98 ft. MSL or -- 0.5 ft.	c. Material: Steel <input checked="" type="checkbox"/> 0.4 Other <input type="checkbox"/>
12. USCS classification of soil near screen: GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock <input checked="" type="checkbox"/>	d. Additional protection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe: <u>yes, bumper posts</u>
13. Sieve analysis performed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	3. Surface seal: Bentonite <input checked="" type="checkbox"/> 3.0 Concrete <input type="checkbox"/> 0.1 Other <input type="checkbox"/>
14. Drilling method used: Rotary <input checked="" type="checkbox"/> 5.0 Hollow Stem Auger <input checked="" type="checkbox"/> 4.1 Other <input type="checkbox"/>	4. Material between well casing and protective pipe: Bentonite <input type="checkbox"/> 3.0 Other <input checked="" type="checkbox"/>
15. Drilling fluid used: Water <input checked="" type="checkbox"/> 0.2 Air <input type="checkbox"/> 0.1 Drilling Mud <input type="checkbox"/> 0.3 None <input checked="" type="checkbox"/> 9.9	5. Annular space seal: a. Granular/Chipped Bentonite <input type="checkbox"/> 3.3 b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/> 3.5 c. 200 Lbs/gal mud weight . . . Bentonite slurry <input type="checkbox"/> 3.1 d. _____ % Bentonite Bentonite-cement grout <input type="checkbox"/> 5.0 e. _____ Ft ³ volume added for any of the above
16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Describe _____	f. How installed: Tremie <input checked="" type="checkbox"/> 0.1 Tremie pumped <input type="checkbox"/> 0.2 Gravity <input type="checkbox"/> 0.8
17. Source of water (attach analysis, if required): <u>Site supply well</u>	6. Bentonite seal: a. Bentonite granules <input type="checkbox"/> 3.3 b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input checked="" type="checkbox"/> 3.2 c. <u>Black Hills Bentonite</u> Other <input type="checkbox"/>
E. Bentonite seal, top -- 586.48 ft. MSL or -- 103 ft.	7. Fine sand material: Manufacturer, product name & mesh size a. <u>Ohio #5</u> <input type="checkbox"/>
F. Fine sand, top -- 581.48 ft. MSL or -- 108 ft.	b. Volume added <u>0.5</u> ft ³
G. Filter pack, top -- 579.48 ft. MSL or -- 110 ft.	8. Filter pack material: Manufacturer, product name & mesh size a. <u>Ohio #7</u> <input type="checkbox"/>
H. Screen joint, top -- 577.48 ft. MSL or -- 112 ft.	b. Volume added <u>1</u> ft ³
I. Well bottom -- 572.48 ft. MSL or -- 117 ft.	9. Well casing: Flush threaded PVC schedule 40 <input type="checkbox"/> 2.3 Flush threaded PVC schedule 80 <input checked="" type="checkbox"/> 2.4 Other <input type="checkbox"/>
J. Filter pack, bottom -- 572.48 ft. MSL or -- 117 ft.	10. Screen material: <u>PVC</u>
K. Borehole, bottom -- 571.48 ft. MSL or -- 118 ft.	a. Screen type: Factory cut <input checked="" type="checkbox"/> 1.1 Continuous slot <input type="checkbox"/> 0.1 Other <input type="checkbox"/>
L. Borehole, diameter -- 8.0 in.	b. Manufacturer <u>Monoflex</u>
M. O.D. well casing -- 2.4 in.	c. Slot size: <u>0.01</u> in.
N. I.D. well casing -- 1.9 in.	d. Slotted length: <u>5</u> ft.
	11. Backfill material (below filter pack): None <input checked="" type="checkbox"/> 1.4 Other <input type="checkbox"/>

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Tyler [Signature] for Joe Larson Firm SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718-6751

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

Facility/Project Name WPL - Edgewater I43	Local Grid Location of Well _____ ft. <input type="checkbox"/> N. _____ ft. <input type="checkbox"/> E. _____ ft. <input type="checkbox"/> S. _____ ft. <input type="checkbox"/> W.	Well Name MW-305
Facility License, Permit or Monitoring No.	Local Grid Origin _____ (estimated: <input type="checkbox"/>) or Well Location <input checked="" type="checkbox"/> Lat. _____ " Long. _____ " or _____ " or _____ "	Wis. Unique Well No. VY819 DNR Well ID No. _____
Facility ID	St. Plane 623435.13 ft. N, 2559945.85 ft. E. S/C/N	Date Well Installed 2 / 2 / 2017 m m d d y y y y
Type of Well Well Code 12 / PZ	Section Location of Waste/Source 1/4 of _____ 1/4 of Sec. _____ T. _____ N, R. _____ <input type="checkbox"/> E <input type="checkbox"/> W	Well Installed By: Name (first, last) and Firm Kevin Duerst
Distance from Waste/Source _____ ft.	Enf. Stds. Apply <input checked="" type="checkbox"/>	Gov. Lot Number _____
Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known		Badger State Drilling

<p>A. Protective pipe, top elevation --- 717.88 ft. MSL</p> <p>B. Well casing, top elevation --- 717.67 ft. MSL</p> <p>C. Land surface elevation --- 715.46 ft. MSL</p> <p>D. Surface seal, bottom --- 713.46 ft. MSL or --- 2 ft.</p>	<p>12. USCS classification of soil near screen: GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock <input checked="" type="checkbox"/></p> <p>13. Sieve analysis performed? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>14. Drilling method used: Rotary <input checked="" type="checkbox"/> 5 0 Hollow Stem Auger <input checked="" type="checkbox"/> 4 1 Other <input type="checkbox"/></p> <p>15. Drilling fluid used: Water <input checked="" type="checkbox"/> 0 2 Air <input type="checkbox"/> 0 1 Drilling Mud <input type="checkbox"/> 0 3 None <input type="checkbox"/> 9 9</p> <p>16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Describe _____</p> <p>17. Source of water (attach analysis, if required): Site Supply Well</p>	<p>1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Protective cover pipe: _____ 6.0 in. a. Inside diameter: _____ 5 ft. b. Length: c. Material: Steel <input checked="" type="checkbox"/> 0 4 Other <input type="checkbox"/></p> <p>d. Additional protection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe: yes, bumper posts (3)</p> <p>3. Surface seal: Bentonite <input type="checkbox"/> 3 0 Concrete <input checked="" type="checkbox"/> 0 1 Other <input type="checkbox"/></p> <p>4. Material between well casing and protective pipe: Bentonite <input type="checkbox"/> 3 0 #5 R.W. Sidley Other <input checked="" type="checkbox"/></p> <p>5. Annular space seal: a. Granular/Chipped Bentonite <input type="checkbox"/> 3 3 b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/> 3 5 c. _____ Lbs/gal mud weight Bentonite slurry <input checked="" type="checkbox"/> 3 1 d. _____ % Bentonite Bentonite-cement grout <input type="checkbox"/> 5 0 e. _____ 9.4 Ft³ volume added for any of the above f. How installed: Tremie <input type="checkbox"/> 0 1 Tremie pumped <input type="checkbox"/> 0 2 Gravity <input type="checkbox"/> 0 8</p> <p>6. Bentonite seal: a. Bentonite granules <input type="checkbox"/> 3 3 b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input type="checkbox"/> 3 2 c. 100 lbs Other <input type="checkbox"/></p> <p>7. Fine sand material: Manufacturer, product name & mesh size a. #7 R.W. Sidley <input type="checkbox"/> b. Volume added _____ 0.5 ft³</p> <p>8. Filter pack material: Manufacturer, product name & mesh size a. #5 R.W. Sidley <input type="checkbox"/> b. Volume added _____ 1.5 ft³</p> <p>9. Well casing: Flush threaded PVC schedule 40 <input type="checkbox"/> 2 3 Flush threaded PVC schedule 80 <input type="checkbox"/> 2 4 Other <input type="checkbox"/></p> <p>10. Screen material: PVC a. Screen type: Factory cut <input type="checkbox"/> 1 1 Continuous slot <input checked="" type="checkbox"/> 0 1 Other <input type="checkbox"/></p> <p>b. Manufacturer _____ Monoflex c. Slot size: _____ 0.01 in. d. Slotted length: _____ 5 ft.</p> <p>11. Backfill material (below filter pack): None <input checked="" type="checkbox"/> 1 4 Other <input type="checkbox"/></p>
--	--	--

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature *Phyllis* Firm SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

Route to: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name Alliant Energy I-43	County Name Sheboygan	Well Name MW-301	
Facility License, Permit or Monitoring Number	County Code 59	Wis. Unique Well Number VV-864	DNR Well ID Number

1. Can this well be purged dry? Yes No

2. Well development method
- surged with bailer and bailed 4 1
 - surged with bailer and pumped 6 1
 - surged with block and bailed 4 2
 - surged with block and pumped 6 2
 - surged with block, bailed and pumped 7 0
 - compressed air 2 0
 - bailed only 1 0
 - pumped only 5 1
 - pumped slowly 5 0
 - Other

3. Time spent developing well _____ 190 min.

4. Depth of well (from top of well casing) _____ 132 9 ft.

5. Inside diameter of well _____ 2 0 in.

6. Volume of water in filter pack and well casing _____ 18 2 gal.

7. Volume of water removed from well _____ 315 gal.

8. Volume of water added (if any) _____ gal.

9. Source of water added _____

10. Analysis performed on water added? Yes No
(If yes, attach results)

17. Additional comments on development:

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. _____ 46 _____ 49 ft.	_____ 46 _____ 34 ft.
Date	b. _____ 02 / _____ 16 / _____ 2016	_____ 02 / _____ 16 / _____ 2016
Time	c. _____ 12 : 50 <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.	_____ 16 : 00 <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.
12. Sediment in well bottom	_____ inches	_____ inches
13. Water clarity	Clear <input type="checkbox"/> 1 0 Turbid <input checked="" type="checkbox"/> 1 5 (Describe) _____	Clear <input checked="" type="checkbox"/> 2 0 Turbid <input type="checkbox"/> 2 5 (Describe) _____
	Medium brown color	Medium brown color
	Very turbid	Slightly to moderately turbid

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids _____ mg/l _____ mg/l

15. COD _____ mg/l _____ mg/l

16. Well developed by: Name (first, last) and Firm

First Name: Nate Last Name: Harms

Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

Name and Address of Facility Contact /Owner/Responsible Party

First Name: Jim Last Name: Jakubiak

Facility/Firm: WP&L Alliant Energy

Street: 3739 Lakeshore Drive

City/State/Zip: Sheboygan, WI 53082

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: 

Print Name: Nate Harms

Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

NOTE: See instructions for more information including a list of county codes and well type codes.

Route to: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name Alliant Energy I-43	County Name Sheboygan	Well Name MW-302	
Facility License, Permit or Monitoring Number	County Code 59	Wis. Unique Well Number VV-863	DNR Well ID Number

1. Can this well be purged dry? Yes No

2. Well development method
- surged with bailer and bailed 4 1
 - surged with bailer and pumped 6 1
 - surged with block and bailed 4 2
 - surged with block and pumped 6 2
 - surged with block, bailed and pumped 7 0
 - compressed air 2 0
 - bailed only 1 0
 - pumped only 5 1
 - pumped slowly 5 0
 - Other _____

3. Time spent developing well _____ 145 min.

4. Depth of well (from top of well casing) _____ 143.8 ft.

5. Inside diameter of well _____ 2.0 in.

6. Volume of water in filter pack and well casing _____ 19.3 gal.

7. Volume of water removed from well _____ 296 gal.

8. Volume of water added (if any) _____ gal.

9. Source of water added _____

10. Analysis performed on water added? Yes No
(If yes, attach results)

17. Additional comments on development:

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. _____ 51.23 ft.	_____ 51.24 ft.
Date	b. <u>02</u> / <u>16</u> / <u>2016</u>	<u>02</u> / <u>16</u> / <u>2016</u>
	m m d d y y y y	m m d d y y y y
Time	c. _____ 11:55 <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.	_____ 14:20 <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.
12. Sediment in well bottom	_____ inches	_____ inches
13. Water clarity	Clear <input type="checkbox"/> 1 0 Turbid <input checked="" type="checkbox"/> 1 5 (Describe) _____	Clear <input checked="" type="checkbox"/> 2 0 Turbid <input type="checkbox"/> 2 5 (Describe) _____
	Medium brown color	Medium brown color
	Very turbid	Very slight turbidity

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids _____ mg/l _____ mg/l

15. COD _____ mg/l _____ mg/l

16. Well developed by: Name (first, last) and Firm

First Name: Nate Last Name: Harms

Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

Name and Address of Facility Contact/Owner/Responsible Party

First Name: Jim Last Name: Jakubiak

Facility/Firm: WP&L Alliant Energy

Street: 3739 Lakeshore Drive

City/State/Zip: Sheboygan, WI 53082

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: 

Print Name: Nate Harms

Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

NOTE: See instructions for more information including a list of county codes and well type codes.

Route to: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name Alliant Energy I-43	County Name Sheboygan	Well Name MW-303	
Facility License, Permit or Monitoring Number	County Code 59	Wis. Unique Well Number VV-865	DNR Well ID Number

1. Can this well be purged dry? Yes No

2. Well development method
- surged with bailer and bailed 4 1
 - surged with bailer and pumped 6 1
 - surged with block and bailed 4 2
 - surged with block and pumped 6 2
 - surged with block, bailed and pumped 7 0
 - compressed air 2 0
 - bailed only 1 0
 - pumped only 5 1
 - pumped slowly 5 0
 - Other

3. Time spent developing well _____ 150 min.

4. Depth of well (from top of well casing) _____ 145.7 ft.

5. Inside diameter of well _____ 2.0 in.

6. Volume of water in filter pack and well casing _____ 18.4 gal.

7. Volume of water removed from well _____ 250 gal.

8. Volume of water added (if any) _____ - gal.

9. Source of water added _____

10. Analysis performed on water added? Yes No
(If yes, attach results)

17. Additional comments on development:

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. _____ 67 _____ 86 ft.	_____ 67 _____ 86 ft.
Date	b. <u>02</u> / <u>16</u> / <u>2016</u>	<u>02</u> / <u>16</u> / <u>2016</u>
	m m d d y y y y	m m d d y y y y
Time	c. _____ 15 : 10 <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.	_____ 17 : 40 <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.
12. Sediment in well bottom	_____ inches	_____ inches
13. Water clarity	Clear <input type="checkbox"/> 1 0 Turbid <input checked="" type="checkbox"/> 1 5 (Describe) _____	Clear <input checked="" type="checkbox"/> 2 0 Turbid <input type="checkbox"/> 2 5 (Describe) _____
	Medium brown color	Light brown color
	Very turbid	very slight turbidity
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	_____ mg/l	_____ mg/l
15. COD	_____ mg/l	_____ mg/l

16. Well developed by: Name (first, last) and Firm
First Name: Nate Last Name: Harms
Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

Name and Address of Facility Contact /Owner/Responsible Party

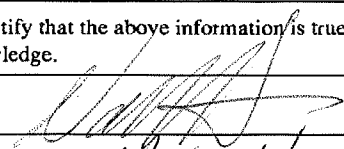
First Name: Jim Last Name: Jakubiak

Facility/Firm: WP&L Alliant Energy

Street: 3739 Lakeshore Drive

City/State/Zip: Sheboygan, WI 53082

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: 

Print Name: Nate Harms

Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

NOTE: See instructions for more information including a list of county codes and well type codes.

Route to: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name Alliant Energy I-43	County Name Sheboygan	Well Name MW-304	
Facility License, Permit or Monitoring Number	County Code 59	Wis. Unique Well Number VV-866	DNR Well ID Number

1. Can this well be purged dry? Yes No

2. Well development method
- surged with bailer and bailed 4 1
 - surged with bailer and pumped 6 1
 - surged with block and bailed 4 2
 - surged with block and pumped 6 2
 - surged with block, bailed and pumped 7 0
 - compressed air 2 0
 - bailed only 1 0
 - pumped only 5 1
 - pumped slowly 5 0
 - Other

3. Time spent developing well 120 min.

4. Depth of well (from top of well casing) 145.7 ft.

5. Inside diameter of well 2.0 in.

6. Volume of water in filter pack and well casing 18.4 gal.

7. Volume of water removed from well 240 gal.

8. Volume of water added (if any) -,- gal.

9. Source of water added _____

10. Analysis performed on water added? Yes No
(If yes, attach results)

17. Additional comments on development:

11. Depth to Water Before Development After Development

(from top of well casing) a. 39.15 ft. 39.39 ft.

Date b. 02/16/2016 02/16/2016
m m d d y y y y m m d d y y y y

Time c. 16:40 a.m. p.m. 18:40 a.m. p.m.

12. Sediment in well bottom _____ inches _____ inches

13. Water clarity Clear 1 0 Clear 2 0
Turbid 1 5 Turbid 2 5
(Describe) (Describe)

Medium brown color Water mostly clear
Very turbid Very slight turbidity

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended _____ mg/l _____ mg/l
solids

15. COD _____ mg/l _____ mg/l

16. Well developed by: Name (first, last) and Firm

First Name: Nate Last Name: Harms

Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

Name and Address of Facility Contact /Owner/Responsible Party

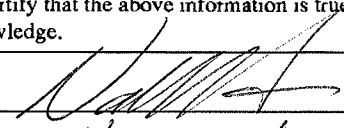
First Name: Jim Last Name: Jakubiak

Facility/Firm: WP&L Alliant Energy

Street: 3739 Lakeshore Drive

City/State/Zip: Sheboygan, WI 53082

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: 

Print Name: Nate Harms

Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

NOTE: See instructions for more information including a list of county codes and well type codes.

Route to: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name WPL-I-43	County Name Sheyboygan	Well Name MW-305	
Facility License, Permit or Monitoring Number 02853	County Code 59	Wis. Unique Well Number VY819	DNR Well ID Number _____

1. Can this well be purged dry? Yes No

2. Well development method

surged with bailer and bailed	<input type="checkbox"/>	4 1
surged with bailer and pumped	<input checked="" type="checkbox"/>	6 1
surged with block and bailed	<input type="checkbox"/>	4 2
surged with block and pumped	<input type="checkbox"/>	6 2
surged with block, bailed and pumped	<input type="checkbox"/>	7 0
compressed air	<input type="checkbox"/>	2 0
bailed only	<input type="checkbox"/>	1 0
pumped only	<input type="checkbox"/>	5 1
pumped slowly	<input type="checkbox"/>	5 0
Other _____	<input type="checkbox"/>	

3. Time spent developing well _____ 162 min.

4. Depth of well (from top of well casing) _____ 122.97 ft.

5. Inside diameter of well _____ 1.9 in.

6. Volume of water in filter pack and well casing _____ 14.16 gal.

7. Volume of water removed from well _____ 135.0 gal.

8. Volume of water added (if any) _____ gal.

9. Source of water added _____ NA

10. Analysis performed on water added? Yes No
(If yes, attach results)

	<u>Before Development</u>	<u>After Development</u>
--	---------------------------	--------------------------

11. Depth to Water (from top of well casing)

a. _____ 59 _____ 56 ft. _____ 59 _____ 46 ft.

Date b. 2 / 7 / 2017 2 / 7 / 2017
m m d d y y y y m m d d y y y y

Time c. _____ 11 : 00 a.m. _____ 2 : 05 p.m.
_____ p.m. _____ a.m.

12. Sediment in well bottom _____ inches _____ inches

13. Water clarity

Clear <input type="checkbox"/> 1 0	Clear <input checked="" type="checkbox"/> 2 0
Turbid <input checked="" type="checkbox"/> 1 5	Turbid <input type="checkbox"/> 2 5

(Describe) _____ (Describe) _____

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids _____ mg/l _____ mg/l

15. COD _____ mg/l _____ mg/l

16. Well developed by: Name (first, last) and Firm

First Name: Kyle Last Name: Kramer

Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

17. Additional comments on development:
Water clarity was clear before ten well volumes.

Name and Address of Facility Contact /Owner/Responsible Party


First Name: Jim Last Name: Jakubiak

Facility/Firm: Wisconsin Power and Light

Street: 3739 Lakeshore Drive


City/State/Zip: Sheyboygan, WI 53081

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: 

Print Name: Kyle Kramer

Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718



Appendix C
Laboratory Reports

C1 October 2022 Detection Monitoring

October 27, 2022

Meghan Blodgett
SCS ENGINEERS
2830 Dairy Drive
Madison, WI 53718

RE: Project: CCR RULE EDGEWATER I-43 ASH
Pace Project No.: 40252607

Dear Meghan Blodgett:

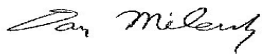
Enclosed are the analytical results for sample(s) received by the laboratory on October 06, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Green Bay

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

Sincerely,



Dan Milewsky
dan.milewsky@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: Matt Bizjack, Alliant Energy
Sherren Clark, SCS Engineers
Jenny Coughlin, Alliant Energy
Tom Karwoski, SCS ENGINEERS
Nicole Kron, SCS ENGINEERS
Ryan Matzuk, SCS Engineers
Jeff Maxted, ALLIANT ENERGY
Marc Morandi, ALLIANT ENERGY



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: CCR RULE EDGEWATER I-43 ASH

Pace Project No.: 40252607

Pace Analytical Services Green Bay

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 12064

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

Texas Certification #: T104704529-21-8

Virginia VELAP Certification ID: 11873

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-21-00008

Federal Fish & Wildlife Permit #: 51774A

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: CCR RULE EDGEWATER I-43 ASH

Pace Project No.: 40252607

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40252607001	MW-301	Water	10/04/22 13:25	10/06/22 08:10
40252607002	MW-302	Water	10/04/22 12:10	10/06/22 08:10
40252607003	MW-303	Water	10/05/22 09:55	10/06/22 08:10
40252607004	MW-304	Water	10/05/22 10:55	10/06/22 08:10
40252607005	MW-305	Water	10/04/22 11:05	10/06/22 08:10
40252607006	FIELD BLANK	Water	10/05/22 10:40	10/06/22 08:10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CCR RULE EDGEWATER I-43 ASH

Pace Project No.: 40252607

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40252607001	MW-301	EPA 6020B	KXS	2
			KPR	7
		SM 2540C	SRK	1
		EPA 9040	YER	1
		EPA 300.0	HMB	3
40252607002	MW-302	EPA 6020B	KXS	2
			KPR	7
		SM 2540C	SRK	1
		EPA 9040	YER	1
		EPA 300.0	HMB	3
40252607003	MW-303	EPA 6020B	KXS	2
			KPR	7
		SM 2540C	SRK	1
		EPA 9040	YER	1
		EPA 300.0	HMB	3
40252607004	MW-304	EPA 6020B	KXS	2
			KPR	7
		SM 2540C	SRK	1
		EPA 9040	YER	1
		EPA 300.0	HMB	3
40252607005	MW-305	EPA 6020B	KXS	2
			KPR	7
		SM 2540C	SRK	1
		EPA 9040	YER	1
		EPA 300.0	HMB	3
40252607006	FIELD BLANK	EPA 6020B	KXS	2
			SM 2540C	SRK
		EPA 9040	YER	1
		EPA 300.0	HMB	3

PASI-G = Pace Analytical Services - Green Bay

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CCR RULE EDGEWATER I-43 ASH

Pace Project No.: 40252607

Sample: MW-301 **Lab ID: 40252607001** Collected: 10/04/22 13:25 Received: 10/06/22 08:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Green Bay									
Boron	124	ug/L	10.0	3.0	1	10/19/22 06:04	10/25/22 19:35	7440-42-8	
Calcium	35300	ug/L	254	76.2	1	10/19/22 06:04	10/25/22 19:35	7440-70-2	
Field Data									
Analytical Method:									
Pace Analytical Services - Green Bay									
Field pH	7.98	Std. Units			1		10/04/22 13:25		
Field Specific Conductance	373	umhos/cm			1		10/04/22 13:25		
Oxygen, Dissolved	0.63	mg/L			1		10/04/22 13:25	7782-44-7	
REDOX	59.9	mV			1		10/04/22 13:25		
Turbidity	115.0	NTU			1		10/04/22 13:25		
Static Water Level	648.87	feet			1		10/04/22 13:25		
Temperature, Water (C)	11.1	deg C			1		10/04/22 13:25		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Green Bay									
Total Dissolved Solids	236	mg/L	20.0	8.7	1		10/10/22 11:58		
9040 pH									
Analytical Method: EPA 9040									
Pace Analytical Services - Green Bay									
pH at 25 Degrees C	8.0	Std. Units	0.10	0.010	1		10/18/22 09:17		H6
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Green Bay									
Chloride	3.9	mg/L	2.0	0.43	1		10/13/22 20:28	16887-00-6	
Fluoride	0.62	mg/L	0.32	0.095	1		10/13/22 20:28	16984-48-8	
Sulfate	11.8	mg/L	2.0	0.44	1		10/19/22 22:07	14808-79-8	

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ANALYTICAL RESULTS

Project: CCR RULE EDGEWATER I-43 ASH
Pace Project No.: 40252607

Sample: MW-302 **Lab ID: 40252607002** Collected: 10/04/22 12:10 Received: 10/06/22 08:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Green Bay							
Boron	117	ug/L	10.0	3.0	1	10/19/22 06:04	10/25/22 19:43	7440-42-8	
Calcium	24800	ug/L	254	76.2	1	10/19/22 06:04	10/25/22 19:43	7440-70-2	
Field Data		Analytical Method: Pace Analytical Services - Green Bay							
Field pH	7.97	Std. Units			1		10/04/22 12:10		
Field Specific Conductance	383	umhos/cm			1		10/04/22 12:10		
Oxygen, Dissolved	0.83	mg/L			1		10/04/22 12:10	7782-44-7	
REDOX	94.9	mV			1		10/04/22 12:10		
Turbidity	3.33	NTU			1		10/04/22 12:10		
Static Water Level	648.85	feet			1		10/04/22 12:10		
Temperature, Water (C)	11.8	deg C			1		10/04/22 12:10		
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Green Bay							
Total Dissolved Solids	222	mg/L	20.0	8.7	1		10/10/22 11:58		
9040 pH		Analytical Method: EPA 9040 Pace Analytical Services - Green Bay							
pH at 25 Degrees C	8.0	Std. Units	0.10	0.010	1		10/18/22 09:20		H6
300.0 IC Anions		Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay							
Chloride	4.3	mg/L	2.0	0.43	1		10/13/22 20:44	16887-00-6	M0
Fluoride	0.72	mg/L	0.32	0.095	1		10/13/22 20:44	16984-48-8	M0
Sulfate	17.0	mg/L	2.0	0.44	1		10/19/22 22:23	14808-79-8	

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ANALYTICAL RESULTS

Project: CCR RULE EDGEWATER I-43 ASH

Pace Project No.: 40252607

Sample: MW-303 **Lab ID: 40252607003** Collected: 10/05/22 09:55 Received: 10/06/22 08:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Green Bay							
Boron	84.2	ug/L	10.0	3.0	1	10/19/22 06:04	10/25/22 20:49	7440-42-8	
Calcium	29600	ug/L	254	76.2	1	10/19/22 06:04	10/25/22 20:49	7440-70-2	
Field Data		Analytical Method: Pace Analytical Services - Green Bay							
Field pH	7.97	Std. Units			1		10/05/22 09:55		
Field Specific Conductance	455	umhos/cm			1		10/05/22 09:55		
Oxygen, Dissolved	1.10	mg/L			1		10/05/22 09:55	7782-44-7	
REDOX	117.5	mV			1		10/05/22 09:55		
Turbidity	2.64	NTU			1		10/05/22 09:55		
Static Water Level	648.89	feet			1		10/05/22 09:55		
Temperature, Water (C)	10.3	deg C			1		10/05/22 09:55		
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Green Bay							
Total Dissolved Solids	270	mg/L	20.0	8.7	1		10/10/22 11:58		
9040 pH		Analytical Method: EPA 9040 Pace Analytical Services - Green Bay							
pH at 25 Degrees C	7.9	Std. Units	0.10	0.010	1		10/18/22 09:22		H6
300.0 IC Anions		Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay							
Chloride	4.2	mg/L	2.0	0.43	1		10/14/22 14:25	16887-00-6	
Fluoride	0.56	mg/L	0.32	0.095	1		10/14/22 14:25	16984-48-8	
Sulfate	23.9	mg/L	2.0	0.44	1		10/14/22 14:25	14808-79-8	

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ANALYTICAL RESULTS

Project: CCR RULE EDGEWATER I-43 ASH

Pace Project No.: 40252607

Sample: MW-304 **Lab ID: 40252607004** Collected: 10/05/22 10:55 Received: 10/06/22 08:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Green Bay							
Boron	91.8	ug/L	10.0	3.0	1	10/19/22 06:04	10/25/22 20:56	7440-42-8	
Calcium	19400	ug/L	254	76.2	1	10/19/22 06:04	10/25/22 20:56	7440-70-2	
Field Data		Analytical Method: Pace Analytical Services - Green Bay							
Field pH	8.05	Std. Units			1		10/05/22 10:55		
Field Specific Conductance	400	umhos/cm			1		10/05/22 10:55		
Oxygen, Dissolved	0.81	mg/L			1		10/05/22 10:55	7782-44-7	
REDOX	157.2	mV			1		10/05/22 10:55		
Turbidity	77.7	NTU			1		10/05/22 10:55		
Static Water Level	650.51	feet			1		10/05/22 10:55		
Temperature, Water (C)	11.4	deg C			1		10/05/22 10:55		
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Green Bay							
Total Dissolved Solids	218	mg/L	20.0	8.7	1		10/10/22 11:59		
9040 pH		Analytical Method: EPA 9040 Pace Analytical Services - Green Bay							
pH at 25 Degrees C	8.0	Std. Units	0.10	0.010	1		10/18/22 09:24		H6
300.0 IC Anions		Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay							
Chloride	2.4	mg/L	2.0	0.43	1		10/14/22 15:15	16887-00-6	
Fluoride	0.47	mg/L	0.32	0.095	1		10/14/22 15:15	16984-48-8	
Sulfate	16.2	mg/L	2.0	0.44	1		10/14/22 15:15	14808-79-8	

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ANALYTICAL RESULTS

Project: CCR RULE EDGEWATER I-43 ASH

Pace Project No.: 40252607

Sample: MW-305 **Lab ID: 40252607005** Collected: 10/04/22 11:05 Received: 10/06/22 08:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Green Bay							
Boron	63.7	ug/L	10.0	3.0	1	10/19/22 06:04	10/25/22 21:03	7440-42-8	
Calcium	83700	ug/L	254	76.2	1	10/19/22 06:04	10/25/22 21:03	7440-70-2	
Field Data		Analytical Method: Pace Analytical Services - Green Bay							
Field pH	7.51	Std. Units			1		10/04/22 11:05		
Field Specific Conductance	917	umhos/cm			1		10/04/22 11:05		
Oxygen, Dissolved	0.67	mg/L			1		10/04/22 11:05	7782-44-7	
REDOX	118.5	mV			1		10/04/22 11:05		
Turbidity	6.44	NTU			1		10/04/22 11:05		
Static Water Level	654.40	feet			1		10/04/22 11:05		
Temperature, Water (C)	10.7	deg C			1		10/04/22 11:05		
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Green Bay							
Total Dissolved Solids	602	mg/L	20.0	8.7	1		10/10/22 11:59		
9040 pH		Analytical Method: EPA 9040 Pace Analytical Services - Green Bay							
pH at 25 Degrees C	7.5	Std. Units	0.10	0.010	1		10/18/22 09:27		H6
300.0 IC Anions		Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay							
Chloride	29.6	mg/L	2.0	0.43	1		10/14/22 15:31	16887-00-6	
Fluoride	0.59	mg/L	0.32	0.095	1		10/14/22 15:31	16984-48-8	
Sulfate	140	mg/L	10.0	2.2	5		10/17/22 14:32	14808-79-8	

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ANALYTICAL RESULTS

Project: CCR RULE EDGEWATER I-43 ASH

Pace Project No.: 40252607

Sample: FIELD BLANK **Lab ID: 40252607006** Collected: 10/05/22 10:40 Received: 10/06/22 08:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Green Bay									
Boron	<3.0	ug/L	10.0	3.0	1	10/19/22 06:04	10/24/22 18:14	7440-42-8	
Calcium	<76.2	ug/L	254	76.2	1	10/19/22 06:04	10/24/22 18:14	7440-70-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Green Bay									
Total Dissolved Solids	14.0J	mg/L	20.0	8.7	1		10/10/22 11:59		
9040 pH									
Analytical Method: EPA 9040 Pace Analytical Services - Green Bay									
pH at 25 Degrees C	6.2	Std. Units	0.10	0.010	1		10/18/22 09:36		H6
300.0 IC Anions									
Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay									
Chloride	<0.43	mg/L	2.0	0.43	1		10/14/22 15:47	16887-00-6	
Fluoride	<0.095	mg/L	0.32	0.095	1		10/14/22 15:47	16984-48-8	
Sulfate	<0.44	mg/L	2.0	0.44	1		10/14/22 15:47	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CCR RULE EDGEWATER I-43 ASH
Pace Project No.: 40252607

QC Batch: 429098 Analysis Method: EPA 6020B
QC Batch Method: EPA 3010A Analysis Description: 6020B MET
Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 40252607001, 40252607002, 40252607003, 40252607004, 40252607005, 40252607006

METHOD BLANK: 2471384 Matrix: Water
Associated Lab Samples: 40252607001, 40252607002, 40252607003, 40252607004, 40252607005, 40252607006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Boron	ug/L	<3.0	10.0	10/24/22 18:00	
Calcium	ug/L	<76.2	254	10/24/22 18:00	

LABORATORY CONTROL SAMPLE: 2471385

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	250	226	90	80-120	
Calcium	ug/L	10000	9400	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2471386 2471387

Parameter	Units	40252499001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	15.7	250	250	235	232	88	87	75-125	1	20	
Calcium	ug/L	81900	10000	10000	93900	91800	120	99	75-125	2	20	

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QUALITY CONTROL DATA

Project: CCR RULE EDGEWATER I-43 ASH

Pace Project No.: 40252607

QC Batch: 428279

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 40252607001, 40252607002, 40252607003, 40252607004, 40252607005, 40252607006

METHOD BLANK: 2466706

Matrix: Water

Associated Lab Samples: 40252607001, 40252607002, 40252607003, 40252607004, 40252607005, 40252607006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<8.7	20.0	10/10/22 11:57	

LABORATORY CONTROL SAMPLE: 2466707

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	587	534	91	80-120	

SAMPLE DUPLICATE: 2466708

Parameter	Units	40252660001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	488	480	2	10	

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QUALITY CONTROL DATA

Project: CCR RULE EDGEWATER I-43 ASH

Pace Project No.: 40252607

QC Batch:	428993	Analysis Method:	EPA 9040
QC Batch Method:	EPA 9040	Analysis Description:	9040 pH
		Laboratory:	Pace Analytical Services - Green Bay

Associated Lab Samples: 40252607001, 40252607002, 40252607003, 40252607004, 40252607005, 40252607006

SAMPLE DUPLICATE: 2470712

Parameter	Units	40252531001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.2	8.3	0	20	H6

SAMPLE DUPLICATE: 2470713

Parameter	Units	40253066025 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.9	7.9	1	20	1q,H6

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QUALITY CONTROL DATA

Project: CCR RULE EDGEWATER I-43 ASH
Pace Project No.: 40252607

QC Batch: 428572 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 40252607001, 40252607002

METHOD BLANK: 2468263 Matrix: Water
Associated Lab Samples: 40252607001, 40252607002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<0.43	2.0	10/13/22 12:15	
Fluoride	mg/L	<0.095	0.32	10/13/22 12:15	
Sulfate	mg/L	<0.44	2.0	10/14/22 19:54	

LABORATORY CONTROL SAMPLE: 2468264

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	21.1	105	90-110	
Fluoride	mg/L	2	2.1	103	90-110	
Sulfate	mg/L	20	18.9	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2468265 2468266

Parameter	Units	40252565001		MSD		MSD		% Rec		Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec					
Chloride	mg/L	546	400	400	952	947	102	100	90-110	1	15		
Fluoride	mg/L	39.5	40	40	85.0	88.5	114	123	90-110	4	15	M0	
Sulfate	mg/L	538	2000	2000	2830	2760	114	111	90-110	3	15	M0	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2468267 2468268

Parameter	Units	40252607002		MSD		MSD		% Rec		Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec					
Chloride	mg/L	4.3	20	20	26.7	27.1	112	114	90-110	1	15	M0	
Fluoride	mg/L	0.72	2	2	2.9	2.9	109	111	90-110	1	15	M0	
Sulfate	mg/L	17.0	20	20	38.5	38.6	108	108	90-110	0	15		

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

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QUALITY CONTROL DATA

Project: CCR RULE EDGEWATER I-43 ASH
Pace Project No.: 40252607

QC Batch: 428659 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 40252607003, 40252607004, 40252607005, 40252607006

METHOD BLANK: 2468707 Matrix: Water
Associated Lab Samples: 40252607003, 40252607004, 40252607005, 40252607006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<0.43	2.0	10/14/22 13:52	
Fluoride	mg/L	<0.095	0.32	10/14/22 13:52	
Sulfate	mg/L	<0.44	2.0	10/14/22 13:52	

LABORATORY CONTROL SAMPLE: 2468708

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	19.4	97	90-110	
Fluoride	mg/L	2	1.9	95	90-110	
Sulfate	mg/L	20	20.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2468709 2468710

Parameter	Units	40252607003		40252607004		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MSD Spike Conc.								
Chloride	mg/L	4.2	20	20	20	25.6	25.8	107	108	90-110	1	15	
Fluoride	mg/L	0.56	2	2	2	2.6	2.7	104	105	90-110	1	15	
Sulfate	mg/L	23.9	20	20	20	44.0	44.2	101	101	90-110	0	15	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: CCR RULE EDGEWATER I-43 ASH
Pace Project No.: 40252607

DEFINITIONS

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

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

- | | |
|----|---|
| 1q | Due to the sample matrix, DI water was added to this sample on a one to one basis and the sample was stirred before analysis. |
| H6 | Analysis initiated outside of the 15 minute EPA required holding time. |
| M0 | Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits. |

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CCR RULE EDGEWATER I-43 ASH
Pace Project No.: 40252607

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40252607001	MW-301	EPA 3010A	429098	EPA 6020B	429199
40252607002	MW-302	EPA 3010A	429098	EPA 6020B	429199
40252607003	MW-303	EPA 3010A	429098	EPA 6020B	429199
40252607004	MW-304	EPA 3010A	429098	EPA 6020B	429199
40252607005	MW-305	EPA 3010A	429098	EPA 6020B	429199
40252607006	FIELD BLANK	EPA 3010A	429098	EPA 6020B	429199
40252607001	MW-301				
40252607002	MW-302				
40252607003	MW-303				
40252607004	MW-304				
40252607005	MW-305				
40252607001	MW-301	SM 2540C	428279		
40252607002	MW-302	SM 2540C	428279		
40252607003	MW-303	SM 2540C	428279		
40252607004	MW-304	SM 2540C	428279		
40252607005	MW-305	SM 2540C	428279		
40252607006	FIELD BLANK	SM 2540C	428279		
40252607001	MW-301	EPA 9040	428993		
40252607002	MW-302	EPA 9040	428993		
40252607003	MW-303	EPA 9040	428993		
40252607004	MW-304	EPA 9040	428993		
40252607005	MW-305	EPA 9040	428993		
40252607006	FIELD BLANK	EPA 9040	428993		
40252607001	MW-301	EPA 300.0	428572		
40252607002	MW-302	EPA 300.0	428572		
40252607003	MW-303	EPA 300.0	428659		
40252607004	MW-304	EPA 300.0	428659		
40252607005	MW-305	EPA 300.0	428659		
40252607006	FIELD BLANK	EPA 300.0	428659		

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CHAIN-OF-CUSTODY / Analytical Request Document

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

40252607

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at <https://info.pacelabs.com/hubfs/pas-standard-terms.pdf>.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Page: 1 Of 1	
Company: SCS ENGINEERS	Report To: Meghan Blodgett	Attention:		Company Name:		Regulatory Agency:	
Address: 2830 Dairy Drive	Copy To:	Address:		Address:		State / Location:	
Madison, WI 53718	Purchase Order #:	Pace Quote:		Pace Project Manager: dan.milewsky@pacelabs.com,		WI	
Email: mblodgett@scsengineers.com	Project Name: CCR Rule Edgewater I-43 Ash (25216069)	Pace Profile #: 3946-13					
Phone: 608-216-7362 Fax:	Project #:						
Requested Due Date:							

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX Drinking Water Water Waste Water Product Soil/Solid Oil Wipe Air Other Tissue	CODE DW WT WW P SL OL WP AR OT TS	MATRIX CODE (see valid codes to left) SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Y/N Analyses Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	
					START		END				Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol				Other
					DATE	TIME	DATE	TIME													
1	MW-301	WT			10/4	1325			3	1	1										001
2	MW-302	WT			10/4	1210															002
3	MW-303	WT			10/5	955															003
4	MW-304	WT			10/5	1055															004
5	MW-305	WT			10/4	1105															005
6	FIELD BLANK	WT			10/5	1040															006
7		WT																			
8		WT																			
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
ALL SAMPLES UNFILTERED	<i>[Signature]</i> SCS	10/5/22					
		10/5/22	1700				
	CS LOGISTICS	10/6/22	0910	<i>[Signature]</i> PAX	10/6/22	0916	3.5 Y N Y

SAMPLER NAME AND SIGNATURE		TEMP in C	Received on Ice (Y/N)	Custody Sealed (Y/N)	Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	<i>[Signature]</i>					
SIGNATURE of SAMPLER:	<i>[Signature]</i>					
DATE Signed:		10/5/22				

Client Name: SCS Engineers

Sample Preservation Receipt Form Project # 40252607

All containers needing preservation have been checked and noted below:
Lab Lot# of pH paper: 1003111

Yes No N/A
Lab Std #ID of preservation (if pH adjusted):

Initial when completed: TP Date/Time:

Pace Lab #	Glass						Plastic						Vials					Jars				General		VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)			
	AG1U	BG1U	AG1H	AG4S	AG5U	AG2S	BP1U	BP3U	BP3B	BP3N	BP3S	BP2Z	VG9C	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T								ZPLC	GN 1	GN 2
001							2		1																							X	2.5 / 5
002							2																									X	2.5 / 5
003							2																									X	2.5 / 5
004							2																									X	2.5 / 5
005							2																									X	2.5 / 5
006							2																									X	2.5 / 5
007																																	2.5 / 5
008																																	2.5 / 5
009																																	2.5 / 5
010																																	2.5 / 5
011																																	2.5 / 5
012																																	2.5 / 5
013																																	2.5 / 5
014																																	2.5 / 5
015																																	2.5 / 5
016																																	2.5 / 5
017																																	2.5 / 5
018																																	2.5 / 5
019																																	2.5 / 5
020																																	2.5 / 5

TP 10/16/22

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm) : Yes No N/A *If yes look in headspace column

AG1U 1 liter amber glass	BP1U 1 liter plastic unpres	VG9C 40 mL clear ascorbic w/ HCl	JGFU 4 oz amber jar unpres
BG1U 1 liter clear glass	BP3U 250 mL plastic unpres	DG9T 40 mL amber Na Thio	JG9U 9 oz amber jar unpres
AG1H 1 liter amber glass HCL	BP3B 250 mL plastic NaOH	VG9U 40 mL clear vial unpres	WGFU 4 oz clear jar unpres
AG4S 125 mL amber glass H2SO4	BP3N 250 mL plastic HNO3	VG9H 40 mL clear vial HCL	WPFU 4 oz plastic jar unpres
AG5U 100 mL amber glass unpres	BP3S 250 mL plastic H2SO4	VG9M 40 mL clear vial MeOH	SP5T 120 mL plastic Na Thiosulfate
AG2S 500 mL amber glass H2SO4	BP2Z 500 mL plastic NaOH + Zn	VG9D 40 mL clear vial DI	ZPLC ziploc bag
BG3U 250 mL clear glass unpres			GN 1
			GN 2

Sample Condition Upon Receipt Form (SCUR)

Project #:

Client Name: SCS Engineers

Courier: CS Logistics Fed Ex Speedee UPS Waltco
 Client Pace Other: _____

WO#: 40252607



40252607

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used SR - 118 Type of Ice: Wet Blue Dry None Meltwater Only

Cooler Temperature Uncorr: 3 / Corr: 3.5

Temp Blank Present: yes no Biological Tissue is Frozen: yes no

Temp should be above freezing to 6°C.

Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Person examining contents:
 Date: 10/16/22 / Initials: TP
 Labeled By Initials: SUT

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
- DI VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume:		8.
For Analysis: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No MS/MSD: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Correct Type: Pace <u>Green Bay</u> , Pace IR, Non-Pace		
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>W</u>		
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: _____ If checked, see attached form for additional comments
 Person Contacted: _____ Date/Time: _____
 Comments/ Resolution: _____

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logir

C2 April 2023 Detection Monitoring

May 12, 2023

Meghan Blodgett
SCS ENGINEERS
2830 Dairy Drive
Madison, WI 53718

RE: Project: 25223069 I-43 CCR
Pace Project No.: 40261416

Dear Meghan Blodgett:

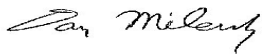
Enclosed are the analytical results for sample(s) received by the laboratory on April 27, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Green Bay

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

Sincerely,



Dan Milewsky
dan.milewsky@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: Matt Bizjack, Alliant Energy
Natalie Burris, SCS ENGINEERS
Sherren Clark, SCS Engineers
Jenny Coughlin, Alliant Energy
Tom Karwoski, SCS ENGINEERS
Ryan Matzuk, SCS Engineers
Jeff Maxted, ALLIANT ENERGY



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 25223069 I-43 CCR

Pace Project No.: 40261416

Pace Analytical Services Green Bay

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 12064

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

Texas Certification #: T104704529-21-8

Virginia VELAP Certification ID: 11873

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-21-00008

Federal Fish & Wildlife Permit #: 51774A

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 25223069 I-43 CCR
Pace Project No.: 40261416

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40261416001	MW-301	Water	04/24/23 13:15	04/27/23 09:15
40261416002	MW-302	Water	04/24/23 14:45	04/27/23 09:15
40261416003	MW-303	Water	04/24/23 09:45	04/27/23 09:15
40261416004	MW-304	Water	04/24/23 11:25	04/27/23 09:15
40261416005	MW-305	Water	04/25/23 09:20	04/27/23 09:15
40261416006	FIELD BLANK	Water	04/25/23 08:50	04/27/23 09:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 25223069 I-43 CCR

Pace Project No.: 40261416

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40261416001	MW-301	EPA 6020B	KXS	2
			AG1	7
		SM 2540C	SRK	1
		EPA 9040	YER	1
		EPA 300.0	HMB	3
40261416002	MW-302	EPA 6020B	KXS	2
			AG1	7
		SM 2540C	SRK	1
		EPA 9040	YER	1
		EPA 300.0	HMB	3
40261416003	MW-303	EPA 6020B	KXS	2
			AG1	7
		SM 2540C	SRK	1
		EPA 9040	YER	1
		EPA 300.0	HMB	3
40261416004	MW-304	EPA 6020B	KXS	2
			AG1	7
		SM 2540C	SRK	1
		EPA 9040	YER	1
		EPA 300.0	HMB	3
40261416005	MW-305	EPA 6020B	KXS	2
			AG1	7
		SM 2540C	SRK	1
		EPA 9040	YER	1
		EPA 300.0	HMB	3
40261416006	FIELD BLANK	EPA 6020B	KXS	2
			SM 2540C	SRK
		EPA 9040	YER	1
		EPA 300.0	HMB	3

PASI-G = Pace Analytical Services - Green Bay

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 25223069 I-43 CCR

Pace Project No.: 40261416

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
40261416001	MW-301					
EPA 6020B	Boron	119	ug/L	10.0	05/10/23 22:36	
EPA 6020B	Calcium	30600	ug/L	254	05/10/23 22:36	
	Field pH	8.05	Std. Units		04/24/23 13:15	
	Field Specific Conductance	370	umhos/cm		04/24/23 13:15	
	Oxygen, Dissolved	1.40	mg/L		04/24/23 13:15	
	REDOX	370.1	mV		04/24/23 13:15	
	Turbidity	97.9	NTU		04/24/23 13:15	
	Static Water Level	653.26	feet		04/24/23 13:15	
	Temperature, Water (C)	8.8	deg C		04/24/23 13:15	
SM 2540C	Total Dissolved Solids	230	mg/L	20.0	04/28/23 15:36	
EPA 9040	pH at 25 Degrees C	7.9	Std. Units	0.10	05/02/23 10:06	H6
EPA 300.0	Chloride	3.4	mg/L	2.0	05/10/23 06:46	
EPA 300.0	Fluoride	0.62	mg/L	0.32	05/10/23 06:46	
EPA 300.0	Sulfate	11.4	mg/L	2.0	05/10/23 06:46	
40261416002	MW-302					
EPA 6020B	Boron	114	ug/L	10.0	05/10/23 22:44	
EPA 6020B	Calcium	26600	ug/L	254	05/10/23 22:44	
	Field pH	8.00	Std. Units		04/24/23 14:45	
	Field Specific Conductance	387	umhos/cm		04/24/23 14:45	
	Oxygen, Dissolved	1.22	mg/L		04/24/23 14:45	
	REDOX	451.2	mV		04/24/23 14:45	
	Turbidity	1.77	NTU		04/24/23 14:45	
	Static Water Level	653.25	feet		04/24/23 14:45	
	Temperature, Water (C)	9.0	deg C		04/24/23 14:45	
SM 2540C	Total Dissolved Solids	240	mg/L	20.0	04/28/23 15:36	
EPA 9040	pH at 25 Degrees C	8.0	Std. Units	0.10	05/02/23 10:09	H6
EPA 300.0	Chloride	3.9	mg/L	2.0	05/10/23 07:00	
EPA 300.0	Fluoride	0.74	mg/L	0.32	05/10/23 07:00	
EPA 300.0	Sulfate	16.1	mg/L	2.0	05/10/23 07:00	
40261416003	MW-303					
EPA 6020B	Boron	85.4	ug/L	10.0	05/10/23 22:51	
EPA 6020B	Calcium	31200	ug/L	254	05/10/23 22:51	
	Field pH	7.93	Std. Units		04/24/23 09:45	
	Field Specific Conductance	447	umhos/cm		04/24/23 09:45	
	Oxygen, Dissolved	1.03	mg/L		04/24/23 09:45	
	REDOX	297.4	mV		04/24/23 09:45	
	Turbidity	1.65	NTU		04/24/23 09:45	
	Static Water Level	653.31	feet		04/24/23 09:45	
	Temperature, Water (C)	9.4	deg C		04/24/23 09:45	
SM 2540C	Total Dissolved Solids	268	mg/L	20.0	04/28/23 15:36	
EPA 9040	pH at 25 Degrees C	8.0	Std. Units	0.10	05/02/23 10:15	H6
EPA 300.0	Chloride	3.8	mg/L	2.0	05/10/23 07:15	
EPA 300.0	Fluoride	0.58	mg/L	0.32	05/10/23 07:15	
EPA 300.0	Sulfate	20.6	mg/L	2.0	05/10/23 07:15	
40261416004	MW-304					
EPA 6020B	Boron	87.1	ug/L	10.0	05/10/23 22:58	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 25223069 I-43 CCR
Pace Project No.: 40261416

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40261416004	MW-304					
EPA 6020B	Calcium	22000	ug/L	254	05/10/23 22:58	
	Field pH	8.02	Std. Units		04/24/23 11:25	
	Field Specific Conductance	385	umhos/cm		04/24/23 11:25	
	Oxygen, Dissolved	1.02	mg/L		04/24/23 11:25	
	REDOX	315	mV		04/24/23 11:25	
	Turbidity	2.32	NTU		04/24/23 11:25	
	Static Water Level	654.83	feet		04/24/23 11:25	
	Temperature, Water (C)	8.8	deg C		04/24/23 11:25	
SM 2540C	Total Dissolved Solids	226	mg/L	20.0	04/28/23 15:36	
EPA 9040	pH at 25 Degrees C	7.9	Std. Units	0.10	05/02/23 10:24	H6
EPA 300.0	Chloride	2.2	mg/L	2.0	05/10/23 07:30	
EPA 300.0	Fluoride	0.52	mg/L	0.32	05/10/23 07:30	
EPA 300.0	Sulfate	15.6	mg/L	2.0	05/10/23 07:30	
40261416005	MW-305					
EPA 6020B	Boron	60.8	ug/L	10.0	05/10/23 23:06	
EPA 6020B	Calcium	80500	ug/L	254	05/10/23 23:06	
	Field pH	7.49	Std. Units		04/25/23 09:20	
	Field Specific Conductance	890	umhos/cm		04/25/23 09:20	
	Oxygen, Dissolved	1.71	mg/L		04/25/23 09:20	
	REDOX	322.8	mV		04/25/23 09:20	
	Turbidity	1.42	NTU		04/25/23 09:20	
	Static Water Level	658.22	feet		04/25/23 09:20	
	Temperature, Water (C)	8.5	deg C		04/25/23 09:20	
SM 2540C	Total Dissolved Solids	570	mg/L	20.0	04/28/23 15:37	
EPA 9040	pH at 25 Degrees C	7.6	Std. Units	0.10	05/02/23 10:26	H6
EPA 300.0	Chloride	28.3	mg/L	10.0	05/12/23 01:08	
EPA 300.0	Fluoride	0.84J	mg/L	1.6	05/12/23 01:08	D3
EPA 300.0	Sulfate	132	mg/L	10.0	05/12/23 01:08	
40261416006	FIELD BLANK					
SM 2540C	Total Dissolved Solids	18.0J	mg/L	20.0	04/28/23 15:37	
EPA 9040	pH at 25 Degrees C	7.5	Std. Units	0.10	05/02/23 10:38	H6
EPA 300.0	Chloride	2.6	mg/L	2.0	05/12/23 01:53	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 25223069 I-43 CCR
Pace Project No.: 40261416

Sample: MW-301 **Lab ID: 40261416001** Collected: 04/24/23 13:15 Received: 04/27/23 09:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Green Bay							
Boron	119	ug/L	10.0	3.0	1	05/02/23 05:28	05/10/23 22:36	7440-42-8	
Calcium	30600	ug/L	254	76.2	1	05/02/23 05:28	05/10/23 22:36	7440-70-2	
Field Data		Analytical Method: Pace Analytical Services - Green Bay							
Field pH	8.05	Std. Units			1		04/24/23 13:15		
Field Specific Conductance	370	umhos/cm			1		04/24/23 13:15		
Oxygen, Dissolved	1.40	mg/L			1		04/24/23 13:15	7782-44-7	
REDOX	370.1	mV			1		04/24/23 13:15		
Turbidity	97.9	NTU			1		04/24/23 13:15		
Static Water Level	653.26	feet			1		04/24/23 13:15		
Temperature, Water (C)	8.8	deg C			1		04/24/23 13:15		
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Green Bay							
Total Dissolved Solids	230	mg/L	20.0	8.7	1		04/28/23 15:36		
9040 pH		Analytical Method: EPA 9040 Pace Analytical Services - Green Bay							
pH at 25 Degrees C	7.9	Std. Units	0.10	0.010	1		05/02/23 10:06		H6
300.0 IC Anions		Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay							
Chloride	3.4	mg/L	2.0	0.43	1		05/10/23 06:46	16887-00-6	
Fluoride	0.62	mg/L	0.32	0.095	1		05/10/23 06:46	16984-48-8	
Sulfate	11.4	mg/L	2.0	0.44	1		05/10/23 06:46	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 25223069 I-43 CCR

Pace Project No.: 40261416

Sample: MW-302 **Lab ID: 40261416002** Collected: 04/24/23 14:45 Received: 04/27/23 09:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Green Bay									
Boron	114	ug/L	10.0	3.0	1	05/02/23 05:28	05/10/23 22:44	7440-42-8	
Calcium	26600	ug/L	254	76.2	1	05/02/23 05:28	05/10/23 22:44	7440-70-2	
Field Data									
Analytical Method:									
Pace Analytical Services - Green Bay									
Field pH	8.00	Std. Units			1		04/24/23 14:45		
Field Specific Conductance	387	umhos/cm			1		04/24/23 14:45		
Oxygen, Dissolved	1.22	mg/L			1		04/24/23 14:45	7782-44-7	
REDOX	451.2	mV			1		04/24/23 14:45		
Turbidity	1.77	NTU			1		04/24/23 14:45		
Static Water Level	653.25	feet			1		04/24/23 14:45		
Temperature, Water (C)	9.0	deg C			1		04/24/23 14:45		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Green Bay									
Total Dissolved Solids	240	mg/L	20.0	8.7	1		04/28/23 15:36		
9040 pH									
Analytical Method: EPA 9040									
Pace Analytical Services - Green Bay									
pH at 25 Degrees C	8.0	Std. Units	0.10	0.010	1		05/02/23 10:09		H6
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Green Bay									
Chloride	3.9	mg/L	2.0	0.43	1		05/10/23 07:00	16887-00-6	
Fluoride	0.74	mg/L	0.32	0.095	1		05/10/23 07:00	16984-48-8	
Sulfate	16.1	mg/L	2.0	0.44	1		05/10/23 07:00	14808-79-8	

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ANALYTICAL RESULTS

Project: 25223069 I-43 CCR

Pace Project No.: 40261416

Sample: MW-303 **Lab ID: 40261416003** Collected: 04/24/23 09:45 Received: 04/27/23 09:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Green Bay									
Boron	85.4	ug/L	10.0	3.0	1	05/02/23 05:28	05/10/23 22:51	7440-42-8	
Calcium	31200	ug/L	254	76.2	1	05/02/23 05:28	05/10/23 22:51	7440-70-2	
Field Data									
Analytical Method:									
Pace Analytical Services - Green Bay									
Field pH	7.93	Std. Units			1		04/24/23 09:45		
Field Specific Conductance	447	umhos/cm			1		04/24/23 09:45		
Oxygen, Dissolved	1.03	mg/L			1		04/24/23 09:45	7782-44-7	
REDOX	297.4	mV			1		04/24/23 09:45		
Turbidity	1.65	NTU			1		04/24/23 09:45		
Static Water Level	653.31	feet			1		04/24/23 09:45		
Temperature, Water (C)	9.4	deg C			1		04/24/23 09:45		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Green Bay									
Total Dissolved Solids	268	mg/L	20.0	8.7	1		04/28/23 15:36		
9040 pH									
Analytical Method: EPA 9040									
Pace Analytical Services - Green Bay									
pH at 25 Degrees C	8.0	Std. Units	0.10	0.010	1		05/02/23 10:15		H6
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Green Bay									
Chloride	3.8	mg/L	2.0	0.43	1		05/10/23 07:15	16887-00-6	
Fluoride	0.58	mg/L	0.32	0.095	1		05/10/23 07:15	16984-48-8	
Sulfate	20.6	mg/L	2.0	0.44	1		05/10/23 07:15	14808-79-8	

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ANALYTICAL RESULTS

Project: 25223069 I-43 CCR

Pace Project No.: 40261416

Sample: MW-304 **Lab ID: 40261416004** Collected: 04/24/23 11:25 Received: 04/27/23 09:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Green Bay							
Boron	87.1	ug/L	10.0	3.0	1	05/02/23 05:28	05/10/23 22:58	7440-42-8	
Calcium	22000	ug/L	254	76.2	1	05/02/23 05:28	05/10/23 22:58	7440-70-2	
Field Data		Analytical Method: Pace Analytical Services - Green Bay							
Field pH	8.02	Std. Units			1		04/24/23 11:25		
Field Specific Conductance	385	umhos/cm			1		04/24/23 11:25		
Oxygen, Dissolved	1.02	mg/L			1		04/24/23 11:25	7782-44-7	
REDOX	315	mV			1		04/24/23 11:25		
Turbidity	2.32	NTU			1		04/24/23 11:25		
Static Water Level	654.83	feet			1		04/24/23 11:25		
Temperature, Water (C)	8.8	deg C			1		04/24/23 11:25		
2540C Total Dissolved Solids		Analytical Method: SM 2540C Pace Analytical Services - Green Bay							
Total Dissolved Solids	226	mg/L	20.0	8.7	1		04/28/23 15:36		
9040 pH		Analytical Method: EPA 9040 Pace Analytical Services - Green Bay							
pH at 25 Degrees C	7.9	Std. Units	0.10	0.010	1		05/02/23 10:24		H6
300.0 IC Anions		Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay							
Chloride	2.2	mg/L	2.0	0.43	1		05/10/23 07:30	16887-00-6	
Fluoride	0.52	mg/L	0.32	0.095	1		05/10/23 07:30	16984-48-8	
Sulfate	15.6	mg/L	2.0	0.44	1		05/10/23 07:30	14808-79-8	

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ANALYTICAL RESULTS

Project: 25223069 I-43 CCR
Pace Project No.: 40261416

Sample: MW-305 **Lab ID: 40261416005** Collected: 04/25/23 09:20 Received: 04/27/23 09:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Green Bay									
Boron	60.8	ug/L	10.0	3.0	1	05/02/23 05:28	05/10/23 23:06	7440-42-8	
Calcium	80500	ug/L	254	76.2	1	05/02/23 05:28	05/10/23 23:06	7440-70-2	
Field Data									
Analytical Method: Pace Analytical Services - Green Bay									
Field pH	7.49	Std. Units			1		04/25/23 09:20		
Field Specific Conductance	890	umhos/cm			1		04/25/23 09:20		
Oxygen, Dissolved	1.71	mg/L			1		04/25/23 09:20	7782-44-7	
REDOX	322.8	mV			1		04/25/23 09:20		
Turbidity	1.42	NTU			1		04/25/23 09:20		
Static Water Level	658.22	feet			1		04/25/23 09:20		
Temperature, Water (C)	8.5	deg C			1		04/25/23 09:20		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Green Bay									
Total Dissolved Solids	570	mg/L	20.0	8.7	1		04/28/23 15:37		
9040 pH									
Analytical Method: EPA 9040 Pace Analytical Services - Green Bay									
pH at 25 Degrees C	7.6	Std. Units	0.10	0.010	1		05/02/23 10:26		H6
300.0 IC Anions									
Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay									
Chloride	28.3	mg/L	10.0	2.2	5		05/12/23 01:08	16887-00-6	
Fluoride	0.84J	mg/L	1.6	0.48	5		05/12/23 01:08	16984-48-8	D3
Sulfate	132	mg/L	10.0	2.2	5		05/12/23 01:08	14808-79-8	

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ANALYTICAL RESULTS

Project: 25223069 I-43 CCR

Pace Project No.: 40261416

Sample: FIELD BLANK **Lab ID: 40261416006** Collected: 04/25/23 08:50 Received: 04/27/23 09:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Green Bay									
Boron	<3.0	ug/L	10.0	3.0	1	05/02/23 05:28	05/10/23 19:40	7440-42-8	
Calcium	<76.2	ug/L	254	76.2	1	05/02/23 05:28	05/10/23 19:40	7440-70-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Green Bay									
Total Dissolved Solids	18.0J	mg/L	20.0	8.7	1		04/28/23 15:37		
9040 pH									
Analytical Method: EPA 9040									
Pace Analytical Services - Green Bay									
pH at 25 Degrees C	7.5	Std. Units	0.10	0.010	1		05/02/23 10:38		H6
300.0 IC Anions									
Analytical Method: EPA 300.0									
Pace Analytical Services - Green Bay									
Chloride	2.6	mg/L	2.0	0.43	1		05/12/23 01:53	16887-00-6	
Fluoride	<0.095	mg/L	0.32	0.095	1		05/12/23 01:53	16984-48-8	
Sulfate	<0.44	mg/L	2.0	0.44	1		05/12/23 01:53	14808-79-8	

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QUALITY CONTROL DATA

Project: 25223069 I-43 CCR

Pace Project No.: 40261416

QC Batch:	443772	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3010A	Analysis Description:	6020B MET
		Laboratory:	Pace Analytical Services - Green Bay

Associated Lab Samples: 40261416001, 40261416002, 40261416003, 40261416004, 40261416005, 40261416006

METHOD BLANK: 2547952 Matrix: Water
Associated Lab Samples: 40261416001, 40261416002, 40261416003, 40261416004, 40261416005, 40261416006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Boron	ug/L	<3.0	10.0	05/10/23 19:11	
Calcium	ug/L	<76.2	254	05/10/23 19:11	

LABORATORY CONTROL SAMPLE: 2547953

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	250	225	90	80-120	
Calcium	ug/L	10000	9600	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2547954 2547955

Parameter	Units	40261411001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	32.0	250	250	249	245	87	85	75-125	2	20	
Calcium	ug/L	91800	10000	10000	104000	105000	124	132	75-125	1	20 P6	

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QUALITY CONTROL DATA

Project: 25223069 I-43 CCR

Pace Project No.: 40261416

QC Batch:	443595	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Green Bay

Associated Lab Samples: 40261416001, 40261416002, 40261416003, 40261416004, 40261416005, 40261416006

METHOD BLANK: 2547072 Matrix: Water

Associated Lab Samples: 40261416001, 40261416002, 40261416003, 40261416004, 40261416005, 40261416006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<8.7	20.0	04/28/23 15:33	

LABORATORY CONTROL SAMPLE: 2547073

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	582	548	94	80-120	

SAMPLE DUPLICATE: 2547074

Parameter	Units	40261401001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	840	824	2	10	

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QUALITY CONTROL DATA

Project: 25223069 I-43 CCR

Pace Project No.: 40261416

QC Batch: 443778

Analysis Method: EPA 9040

QC Batch Method: EPA 9040

Analysis Description: 9040 pH

Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 40261416001, 40261416002, 40261416003, 40261416004, 40261416005, 40261416006

SAMPLE DUPLICATE: 2547973

Parameter	Units	40261401001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.9	8.0	1	20	H6

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QUALITY CONTROL DATA

Project: 25223069 I-43 CCR

Pace Project No.: 40261416

QC Batch:	444301	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Green Bay

Associated Lab Samples: 40261416001, 40261416002, 40261416003, 40261416004

METHOD BLANK: 2550762 Matrix: Water
Associated Lab Samples: 40261416001, 40261416002, 40261416003, 40261416004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<0.43	2.0	05/10/23 00:19	
Fluoride	mg/L	<0.095	0.32	05/10/23 00:19	
Sulfate	mg/L	<0.44	2.0	05/10/23 00:19	

LABORATORY CONTROL SAMPLE: 2550763

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	18.5	92	90-110	
Fluoride	mg/L	2	1.9	94	90-110	
Sulfate	mg/L	20	18.6	93	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2550764 2550765

Parameter	Units	40261368001		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	Result	MSD Result	% Rec	MSD % Rec					
Chloride	mg/L	286	400	400	682	684	99	99	99	90-110	0	15	
Fluoride	mg/L	<1.9	40	40	42.2	42.4	105	106	106	90-110	1	15	
Sulfate	mg/L	276	400	400	669	672	98	99	99	90-110	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2550766 2550767

Parameter	Units	40261416004		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	Result	MSD Result	% Rec	MSD % Rec					
Chloride	mg/L	2.2	20	20	23.1	23.2	105	105	105	90-110	0	15	
Fluoride	mg/L	0.52	2	2	2.6	2.6	104	105	105	90-110	0	15	
Sulfate	mg/L	15.6	20	20	36.2	36.2	103	103	103	90-110	0	15	

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QUALITY CONTROL DATA

Project: 25223069 I-43 CCR
Pace Project No.: 40261416

QC Batch: 444304 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 40261416005, 40261416006

METHOD BLANK: 2550775 Matrix: Water

Associated Lab Samples: 40261416005, 40261416006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<0.43	2.0	05/12/23 00:39	
Fluoride	mg/L	<0.095	0.32	05/12/23 00:39	
Sulfate	mg/L	<0.44	2.0	05/12/23 00:39	

LABORATORY CONTROL SAMPLE: 2550776

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	20.7	104	90-110	
Fluoride	mg/L	2	2.1	107	90-110	
Sulfate	mg/L	20	21.0	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2550777 2550778

Parameter	Units	40261416005		40261416006		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Chloride	mg/L	28.3	100	100	131	131	103	102	90-110	1	15		
Fluoride	mg/L	0.84J	10	10	11.5	11.4	106	106	90-110	1	15		
Sulfate	mg/L	132	100	100	230	228	98	96	90-110	1	15		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2550779 2550780

Parameter	Units	40261456001		40261456002		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Chloride	mg/L	139	100	100	230	232	90	92	90-110	1	15		
Fluoride	mg/L	<0.48	10	10	10.4	10.8	104	108	90-110	4	15		
Sulfate	mg/L	91.1	100	100	187	191	96	99	90-110	2	15		

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QUALIFIERS

Project: 25223069 I-43 CCR

Pace Project No.: 40261416

DEFINITIONS

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

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

H6 Analysis initiated outside of the 15 minute EPA required holding time.

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 25223069 I-43 CCR
Pace Project No.: 40261416

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40261416001	MW-301	EPA 3010A	443772	EPA 6020B	443833
40261416002	MW-302	EPA 3010A	443772	EPA 6020B	443833
40261416003	MW-303	EPA 3010A	443772	EPA 6020B	443833
40261416004	MW-304	EPA 3010A	443772	EPA 6020B	443833
40261416005	MW-305	EPA 3010A	443772	EPA 6020B	443833
40261416006	FIELD BLANK	EPA 3010A	443772	EPA 6020B	443833
40261416001	MW-301				
40261416002	MW-302				
40261416003	MW-303				
40261416004	MW-304				
40261416005	MW-305				
40261416001	MW-301	SM 2540C	443595		
40261416002	MW-302	SM 2540C	443595		
40261416003	MW-303	SM 2540C	443595		
40261416004	MW-304	SM 2540C	443595		
40261416005	MW-305	SM 2540C	443595		
40261416006	FIELD BLANK	SM 2540C	443595		
40261416001	MW-301	EPA 9040	443778		
40261416002	MW-302	EPA 9040	443778		
40261416003	MW-303	EPA 9040	443778		
40261416004	MW-304	EPA 9040	443778		
40261416005	MW-305	EPA 9040	443778		
40261416006	FIELD BLANK	EPA 9040	443778		
40261416001	MW-301	EPA 300.0	444301		
40261416002	MW-302	EPA 300.0	444301		
40261416003	MW-303	EPA 300.0	444301		
40261416004	MW-304	EPA 300.0	444301		
40261416005	MW-305	EPA 300.0	444304		
40261416006	FIELD BLANK	EPA 300.0	444304		

REPORT OF LABORATORY ANALYSIS

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Client Name: SCS Engineers

Sample Preservation Receipt Form

All containers needing preservation have been checked and noted below:
 Yes No N/A

Project # 40261416

Lab Lot# of pH paper: W20722

Lab Std #ID of preservation (if pH adjusted):

Initial when completed: 8/8

Date/Time:

Pace Lab #	Glass						Plastic						Vials					Jars				General		VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)						
	AG1U	BG1U	AG1H	AG4S	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	BP2Z	VG9C	DG9T	VG9U	VG9H	VG9M	VG9D	JG9U	JG9U	WGFU	WPFU								SP5T	ZPLC	GN 1	GN 2		
001																																				
002																																				2.5/5
003																																				2.5/5
004																																				2.5/5
005																																				2.5/5
006																																				2.5/5
007																																				2.5/5
008																																				2.5/5
009																																				2.5/5
010																																				2.5/5
011																																				2.5/5
012																																				2.5/5
013																																				2.5/5
014																																				2.5/5
015																																				2.5/5
016																																				2.5/5
017																																				2.5/5
018																																				2.5/5
019																																				2.5/5
020																																				2.5/5

4/12 7/23 8/8

XXXXXX


Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____

Headspace in VOA Vials (>6mm) : Yes No N/A *If yes look in headspace column

AG1U 1 liter amber glass	BP1U 1 liter plastic unpres	VG9C 40 mL clear ascorbic w/ HCl	JGFU 4 oz amber jar unpres
BG1U 1 liter clear glass	BP3U 250 mL plastic unpres	DG9T 40 mL amber Na Thio	JG9U 9 oz amber jar unpres
AG1H 1 liter amber glass HCL	BP3B 250 mL plastic NaOH	VG9U 40 mL clear vial unpres	WGFU 4 oz clear jar unpres
AG4S 125 mL amber glass H2SO4	BP3N 250 mL plastic HNO3	VG9H 40 mL clear vial HCL	WPFU 4 oz plastic jar unpres
AG5U 100 mL amber glass unpres	BP3S 250 mL plastic H2SO4	VG9M 40 mL clear vial MeOH	SP5T 120 mL plastic Na Thiosulfate
AG2S 500 mL amber glass H2SO4	BP2Z 500 mL plastic NaOH + Zn	VG9D 40 mL clear vial DI	ZPLC ziploc bag
BG3U 250 mL clear glass unpres			GN 1
			GN 2

Sample Condition Upon Receipt Form (SCUR)

Client Name: SLS Engineers
 Courier: CS Logistics Fed Ex Speedee UPS Walto
 Client Pace Other: _____

Project #: _____
WO#: 40261416

 40261416

Tracking #: _____
 Custody Seal on Cooler/Box Present: yes no Seals intact: yes no
 Custody Seal on Samples Present: yes no Seals intact: yes no
 Packing Material: Bubble Wrap Bubble Bags None Other
 Thermometer Used SR-9 Type of Ice: Wet Blue Dry None Meltwater Only

Cooler Temperature Uncorr: 1.0 ICorr: 2.0
 Temp Blank Present: yes no Biological Tissue is Frozen: yes no


Person examining contents:
 Date: 4/27/23 /Initials: SG
 Labeled By Initials: _____

Temp should be above freezing to 6°C.
 Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
- DI VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time: _____
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume:		8.
For Analysis: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No MS/MSD: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Correct Type: <u>Pace Green Bay</u> , Pace IR, Non-Pace		
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>W5</u>		
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution:
 Person Contacted: _____ Date/Time: _____ If checked, see attached form for additional comments
 Comments/ Resolution: _____

PM Review is documented electronically in LIMS. By releasing the project, the PM acknowledges they have reviewed the sample logir
 Page 2 of 2



Appendix D

Historical Monitoring Results

Single Location
Name: WPL - Edgewater I43

Location ID: MW-301
 Number of Sampling Dates: 25

Parameter Name	Units	4/26/2016	6/21/2016	8/10/2016	10/19/2016	12/19/2016	1/5/2017	1/23/2017	2/23/2017
Boron	ug/L	298	157	151	148	174	--	177	181
Calcium	ug/L	389000	148000	94900	77800	127000	--	105000	51400
Chloride	mg/L	28.5	18	6.2	7.4	8.9	--	8.2	6.3
Fluoride	mg/L	<2	1.1	0.62	0.65	0.86	--	0.77	0.64
Field pH	Std. Units	8.24	8.01	8.08	8	8.36	--	8.21	8.14
Sulfate	mg/L	25.9	15.9	7.4	9.5	9.6	--	9.3	9.1
Total Dissolved Solids	mg/L	343	290	306	312	264	194	254	276
Antimony	ug/L	0.98	0.58	0.12	<0.36	1	--	<0.36	2.7
Arsenic	ug/L	20.8	8.1	5.8	4.6	7.3	--	6.8	5.6
Barium	ug/L	596	236	177	141	195	--	219	128
Beryllium	ug/L	3.9	1.1	0.54	<0.63	1.1	--	1.1	4.1
Cadmium	ug/L	0.47	<0.44	<0.089	<0.44	0.97	--	<0.44	2.1
Chromium	ug/L	133	37.7	20.8	16	27.7	--	28.6	14.2
Cobalt	ug/L	36.3	10.6	5.4	4.2	8.4	--	7.6	5.2
Lead	ug/L	35.9	11.3	6.1	5.1	9.6	--	8.1	5.6
Lithium	ug/L	137	49.2	29	24.8	42.2	--	38.6	25.1
Mercury	ug/L	<0.18	<0.13	<0.13	<0.13	<0.13	--	<0.13	<0.13
Molybdenum	ug/L	12.2	11.5	10.8	9.4	11	--	10.9	13.3
Selenium	ug/L	12.2	2.6	1.1	<1	2.5	--	<1	3.4
Thallium	ug/L	0.88	<0.71	<0.14	<0.71	1.2	--	<0.71	2.6
Radium-226	pCi/L	1.9	1.29	-0.088	-0.595	0.446	--	0.432	0.546
Radium-228	pCi/L	3.54	0.349	0.462	1.58	1.65	--	0.563	3.3
Total Radium	pCi/L	5.44	1.64	0.462	1.58	2.09	--	0.995	3.85
Field Specific Conductance	umhos/cm	401	394	387	367	384	--	382	371
Oxygen, Dissolved	mg/L	1.1	0.9	0.1	0.1	0.09	--	0.1	1.5
Field Oxidation Potential	mV	-94	-178	-155	-135	-143	--	-141	33
Groundwater Elevation	feet	653.54	652.01	649.68	652.32	652.85	--	652.98	653.14
Temperature	deg C	8.7	10.9	10.9	11.3	7.5	--	8.5	9
Turbidity	NTU	340.1	916.9	739.9	452.6	895.1	--	650.8	264.3
pH at 25 Degrees C	Std. Units	7.8	8	7.6	7.8	7.9	--	8.1	7.9

Location ID:

MW-301

Number of Sampling Dates:

25

Parameter Name	Units	4/6/2017	6/6/2017	8/1/2017	10/23/2017	4/3/2018	10/4/2018	4/9/2019	10/8/2019
Boron	ug/L	144	138	145	149	136	120	126	142
Calcium	ug/L	45200	57600	59400	48700	36700	43700	42900	42600
Chloride	mg/L	5.6	7.5	5.2	4.7	4.7	4.1	4	3.8
Fluoride	mg/L	0.61	0.87	0.63	0.62	0.62	0.61	0.63	0.63
Field pH	Std. Units	8.12	7.89	7.99	7.82	8.02	8.15	8.18	7.7
Sulfate	mg/L	9.1	9	8.2	8.6	9.3	8.8	9.2	9.3
Total Dissolved Solids	mg/L	240	264	248	236	214	260	230	256
Antimony	ug/L	1.4	<0.15	<0.15	--	--	--	--	--
Arsenic	ug/L	4.7	3.7	4.2	--	--	--	--	--
Barium	ug/L	107	125	115	--	--	--	--	--
Beryllium	ug/L	0.49	0.18	0.25	--	--	--	--	--
Cadmium	ug/L	1	0.091	<0.081	--	--	--	--	--
Chromium	ug/L	8.6	10.6	8.6	--	--	--	--	--
Cobalt	ug/L	2.9	2.7	2.3	--	--	--	--	--
Lead	ug/L	3.3	3.2	3	--	--	--	--	--
Lithium	ug/L	16.2	18.1	16.7	--	--	--	--	--
Mercury	ug/L	<0.13	<0.13	<0.13	--	--	--	--	--
Molybdenum	ug/L	10.6	10.2	9.7	--	--	--	--	--
Selenium	ug/L	1.5	<0.32	0.39	--	--	--	--	--
Thallium	ug/L	1.3	<0.14	<0.14	--	--	--	--	--
Radium-226	pCi/L	-0.084	0.408	0.539	--	--	--	--	--
Radium-228	pCi/L	0.486	1.2	0.557	--	--	--	--	--
Total Radium	pCi/L	0.486	1.61	1.16	--	--	--	--	--
Field Specific Conductance	umhos/cm	390	374	377	378	384	387	395	390
Oxygen, Dissolved	mg/L	0.3	0.2	0	0.6	0.1	0.2	0.2	0.32
Field Oxidation Potential	mV	-53	-171	-161	-46	-138	-97	-99	97
Groundwater Elevation	feet	654.43	654.11	652.64	652.03	651.28	650.71	653.06	653.26
Temperature	deg C	9.9	11.1	10.5	9.7	8.6	9.5	9.4	9.8
Turbidity	NTU	207.4	322.2	349.1	150.6	89.45	136.6	125.8	133.7
pH at 25 Degrees C	Std. Units	8	8	7.9	7.8	8	7.2	7.9	7.9

Location ID:

MW-301

Number of Sampling Dates:

25

Parameter Name	Units	4/7/2020	10/13/2020	12/18/2020	4/13/2021	6/16/2021	10/26/2021	4/13/2022	10/4/2022
Boron	ug/L	133	142	--	132	--	130	124	124
Calcium	ug/L	55800	33400	--	53900	--	30200	42100	35300
Chloride	mg/L	6.9	4.2	--	3.9	--	3.3	3.7	3.9
Fluoride	mg/L	0.82	0.83	0.64	0.64	--	0.61	0.7	0.62
Field pH	Std. Units	8.05	7.96	7.64	8.48	8.14	8.23	8.03	7.98
Sulfate	mg/L	11.2	19	--	10.2	--	10.2	11.1	11.8
Total Dissolved Solids	mg/L	276	228	--	238	--	200	262	236
Antimony	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lithium	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Radium-226	pCi/L	--	--	--	--	--	--	--	--
Radium-228	pCi/L	--	--	--	--	--	--	--	--
Total Radium	pCi/L	--	--	--	--	--	--	--	--
Field Specific Conductance	umhos/cm	384	354	391	387	358	356	377	373
Oxygen, Dissolved	mg/L	0.3	1.1	0.5	0.2	0.3	1.3	0.49	0.63
Field Oxidation Potential	mV	-69	162	1.7	-16	146	291	224.6	59.9
Groundwater Elevation	feet	656.59	652.16	653.91	654.56	649.78	650.76	651.65	648.87
Temperature	deg C	9.5	12.5	8.1	9.1	10.2	11.2	9.2	11.1
Turbidity	NTU	259	57.28	69.45	179	--	130	145	115
pH at 25 Degrees C	Std. Units	7.9	7.8	--	8	--	7.9	8	8

Location ID:

MW-301

Number of Sampling Dates:

25

Parameter Name	Units	4/24/2023							
Boron	ug/L	119							
Calcium	ug/L	30600							
Chloride	mg/L	3.4							
Fluoride	mg/L	0.62							
Field pH	Std. Units	8.05							
Sulfate	mg/L	11.4							
Total Dissolved Solids	mg/L	230							
Antimony	ug/L	--							
Arsenic	ug/L	--							
Barium	ug/L	--							
Beryllium	ug/L	--							
Cadmium	ug/L	--							
Chromium	ug/L	--							
Cobalt	ug/L	--							
Lead	ug/L	--							
Lithium	ug/L	--							
Mercury	ug/L	--							
Molybdenum	ug/L	--							
Selenium	ug/L	--							
Thallium	ug/L	--							
Radium-226	pCi/L	--							
Radium-228	pCi/L	--							
Total Radium	pCi/L	--							
Field Specific Conductance	umhos/cm	370							
Oxygen, Dissolved	mg/L	1.4							
Field Oxidation Potential	mV	370.1							
Groundwater Elevation	feet	653.26							
Temperature	deg C	8.8							
Turbidity	NTU	97.9							
pH at 25 Degrees C	Std. Units	7.9							

Single Location
Name: WPL - Edgewater I43

Location ID: MW-302
 Number of Sampling Dates: 27

Parameter Name	Units	4/26/2016	6/21/2016	8/9/2016	10/19/2016	12/19/2016	1/5/2017	1/23/2017	2/23/2017
Boron	ug/L	198	121	131	126	127	--	151	149
Calcium	ug/L	254000	49000	36500	30900	42600	--	59300	41900
Chloride	mg/L	19.5	8.9	7.1	7.6	10	--	8.9	6.9
Fluoride	mg/L	1.1	0.74	0.75	0.69	0.94	--	0.85	0.67
Field pH	Std. Units	8.33	8.05	6.24	12.2	8.31	--	8.16	8.16
Sulfate	mg/L	81.5	36.4	35	42.6	36.4	--	30.4	27.9
Total Dissolved Solids	mg/L	543	346	308	298	302	280	324	344
Antimony	ug/L	4.5	0.73	0.28	0.37	0.97	--	0.75	0.96
Arsenic	ug/L	26.7	7.8	6.2	4.5	6.5	--	9	8.5
Barium	ug/L	309	100	80.1	60.4	77.5	--	119	103
Beryllium	ug/L	3.8	0.69	0.22	<0.13	0.35	--	1	0.8
Cadmium	ug/L	0.85	<0.18	<0.089	<0.089	0.6	--	<0.44	<0.44
Chromium	ug/L	49.8	5.2	2	0.81	3	--	7	5.5
Cobalt	ug/L	14.6	1.8	0.65	0.36	1.1	--	2.5	2.1
Lead	ug/L	55	7.1	2.3	0.92	3.6	--	8.8	6.5
Lithium	ug/L	79.9	19.2	14.4	14	15.8	--	22.8	19.6
Mercury	ug/L	<0.18	<0.13	<0.13	<0.13	<0.13	--	<0.13	<0.13
Molybdenum	ug/L	24.4	11.8	11.5	12.7	10.7	--	11.6	9.8
Selenium	ug/L	21.6	2.3	0.64	0.39	1.4	--	2.1	2.7
Thallium	ug/L	<0.71	<0.29	<0.14	<0.14	0.68	--	<0.71	<0.71
Radium-226	pCi/L	4.55	1.73	0.0816	0	0.293	--	0.325	1.21
Radium-228	pCi/L	3	1.84	1.24	1.12	0.574	--	2.4	2.64
Total Radium	pCi/L	7.55	3.57	1.32	1.12	0.867	--	2.73	3.85
Field Specific Conductance	umhos/cm	648	508	507	510	497	--	486	470
Oxygen, Dissolved	mg/L	2.4	0.5	0.5	0	0	--	0.4	1
Field Oxidation Potential	mV	52	-108	-95	-107	-73	--	-79	25
Groundwater Elevation	feet	653.56	651.89	649.3	652.38	652.79	--	664.97	653.1
Temperature	deg C	8.8	10.1	11.3	12.2	8.1	--	8.6	9.1
Turbidity	NTU	961.9	248.2	85.43	32.08	190.8	--	372.8	296.2
pH at 25 Degrees C	Std. Units	8	8	7.8	7.8	7.9	--	8	7.9

Location ID:

MW-302

Number of Sampling Dates:

27

Parameter Name	Units	4/6/2017	6/6/2017	8/1/2017	10/23/2017	4/3/2018	10/4/2018	4/9/2019	10/8/2019
Boron	ug/L	132	124	130	128	124	115	118	129
Calcium	ug/L	40800	38700	33900	31200	30000	28200	28400	29900
Chloride	mg/L	6.7	6.9	5.6	5.5	5.2	4.5	4.4	3.8
Fluoride	mg/L	0.68	0.83	0.74	0.71	0.73	0.71	0.73	0.71
Field pH	Std. Units	8	7.95	7.98	7.7	8.02	8.08	8.14	7.67
Sulfate	mg/L	29.6	32.2	24	26.3	22.6	19.6	20.4	18.4
Total Dissolved Solids	mg/L	322	284	262	238	248	250	248	242
Antimony	ug/L	0.41	0.4	0.21	--	--	--	--	--
Arsenic	ug/L	5.7	7.2	6.3	--	--	--	--	--
Barium	ug/L	90.2	77.2	78.8	--	--	--	--	--
Beryllium	ug/L	<0.63	<0.18	<0.18	--	--	--	--	--
Cadmium	ug/L	<0.44	<0.081	<0.081	--	--	--	--	--
Chromium	ug/L	3.6	1.6	1.2	--	--	--	--	--
Cobalt	ug/L	1.1	0.52	0.47	--	--	--	--	--
Lead	ug/L	3.5	1.4	1.7	--	--	--	--	--
Lithium	ug/L	16.8	12.7	11.2	--	--	--	--	--
Mercury	ug/L	<0.13	<0.13	<0.13	--	--	--	--	--
Molybdenum	ug/L	10.3	10.7	8	--	--	--	--	--
Selenium	ug/L	1.4	<0.32	0.44	--	--	--	--	--
Thallium	ug/L	<0.71	<0.14	<0.14	--	--	--	--	--
Radium-226	pCi/L	1.49	0.366	1.1	--	--	--	--	--
Radium-228	pCi/L	0.351	0.841	0.208	--	--	--	--	--
Total Radium	pCi/L	1.84	1.21	0.844	--	--	--	--	--
Field Specific Conductance	umhos/cm	491	419	435	455	434	433	426	423
Oxygen, Dissolved	mg/L	0	0.3	0	0.7	0.2	0.3	0.8	0.72
Field Oxidation Potential	mV	-12	-14	-115	70	-75	60	18	90
Groundwater Elevation	feet	654.72	654.12	652.55	652.05	651.25	650.7	654.06	653.21
Temperature	deg C	9.7	12.1	10.7	10.4	8.8	10.1	9.9	9.7
Turbidity	NTU	144.2	84.5	56.73	33.56	35.46	23.32	18.41	11.73
pH at 25 Degrees C	Std. Units	8	7.9	7.9	7.9	8	7.9	7.9	7.9

Location ID:

MW-302

Number of Sampling Dates:

27

Parameter Name	Units	4/8/2020	5/20/2020	10/13/2020	12/18/2020	4/13/2021	6/16/2021	10/26/2021	4/13/2022
Boron	ug/L	111	--	128	--	121	--	122	113
Calcium	ug/L	27200	--	26900	--	28700	--	27200	28600
Chloride	mg/L	4.4	--	4.3	--	4.1	--	3.8	4
Fluoride	mg/L	0.75	0.7	0.82	0.73	0.76	0.77	0.74	0.85
Field pH	Std. Units	7.79	8.19	7.85	8.05	8.36	8.37	8.23	8.01
Sulfate	mg/L	19.4	--	19	--	17.4	--	15.9	17.2
Total Dissolved Solids	mg/L	254	--	192	--	232	--	220	238
Antimony	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Lithium	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Radium-226	pCi/L	--	--	--	--	--	--	--	--
Radium-228	pCi/L	--	--	--	--	--	--	--	--
Total Radium	pCi/L	--	--	--	--	--	--	--	--
Field Specific Conductance	umhos/cm	413	420	418	426	412	386	393	399
Oxygen, Dissolved	mg/L	0.7	0.2	0.3	1	0.4	0.6	0.6	0.69
Field Oxidation Potential	mV	-3.4	-6	37	163	189	24	207	341
Groundwater Elevation	feet	656.47	655.81	652.17	653.88	654.57	649.75	650.88	651.62
Temperature	deg C	9.3	10	11.9	8.9	9.2	10.3	9.8	9.9
Turbidity	NTU	25.99	10.15	14.16	9.23	19.6	18.1	38.3	3.88
pH at 25 Degrees C	Std. Units	7.7	--	7.9	--	8	--	8	7.9

Location ID:

MW-302

Number of Sampling Dates:

27

Parameter Name	Units	6/16/2022	10/4/2022	4/24/2023					
Boron	ug/L	--	117	114					
Calcium	ug/L	--	24800	26600					
Chloride	mg/L	--	4.3	3.9					
Fluoride	mg/L	0.77	0.72	0.74					
Field pH	Std. Units	8.1	7.97	8					
Sulfate	mg/L	--	17	16.1					
Total Dissolved Solids	mg/L	--	222	240					
Antimony	ug/L	--	--	--					
Arsenic	ug/L	--	--	--					
Barium	ug/L	--	--	--					
Beryllium	ug/L	--	--	--					
Cadmium	ug/L	--	--	--					
Chromium	ug/L	--	--	--					
Cobalt	ug/L	--	--	--					
Lead	ug/L	--	--	--					
Lithium	ug/L	--	--	--					
Mercury	ug/L	--	--	--					
Molybdenum	ug/L	--	--	--					
Selenium	ug/L	--	--	--					
Thallium	ug/L	--	--	--					
Radium-226	pCi/L	--	--	--					
Radium-228	pCi/L	--	--	--					
Total Radium	pCi/L	--	--	--					
Field Specific Conductance	umhos/cm	384	383	387					
Oxygen, Dissolved	mg/L	0.52	0.83	1.22					
Field Oxidation Potential	mV	105.7	94.9	451.2					
Groundwater Elevation	feet	650.55	648.85	653.25					
Temperature	deg C	11.1	11.8	9					
Turbidity	NTU	4.95	3.33	1.77					
pH at 25 Degrees C	Std. Units	--	8	8					

Single Location
Name: WPL - Edgewater I43

Location ID: MW-303
 Number of Sampling Dates: 23

Parameter Name	Units	4/26/2016	6/21/2016	8/9/2016	10/19/2016	12/19/2016	1/5/2017	1/23/2017	2/23/2017
Boron	ug/L	86.4	85	96	90.8	81.6	--	99.8	93.9
Calcium	ug/L	48300	36900	36700	31600	50500	--	46700	32600
Chloride	mg/L	15.5	6.9	6.8	6.8	22.9	--	8.8	5.3
Fluoride	mg/L	0.55	0.59	0.59	0.6	0.63	--	0.8	0.55
Field pH	Std. Units	7.96	7.98	6.24	8.03	8.32	--	8.23	8.24
Sulfate	mg/L	131	45.2	70.1	137	38.2	--	113	46.1
Total Dissolved Solids	mg/L	468	314	378	458	312	310	400	300
Antimony	ug/L	0.66	0.1	0.077	0.077	2.3	--	0.59	0.081
Arsenic	ug/L	2.8	5.3	4.4	2.7	3.2	--	3.8	5.5
Barium	ug/L	134	80.2	91.2	81.6	90.3	--	120	81.1
Beryllium	ug/L	0.18	<0.13	<0.13	<0.13	<0.13	--	0.13	<0.13
Cadmium	ug/L	<0.089	<0.089	<0.089	<0.089	0.22	--	0.098	<0.089
Chromium	ug/L	8.1	1	0.93	0.41	1.3	--	8.6	2.1
Cobalt	ug/L	2.2	0.5	0.4	0.32	0.63	--	2	0.75
Lead	ug/L	1.9	0.26	0.091	0.16	0.3	--	2.1	0.52
Lithium	ug/L	19.3	10.2	13.1	14.8	10.3	--	20.1	11.9
Mercury	ug/L	<0.18	<0.13	<0.13	<0.13	<0.13	--	<0.13	<0.13
Molybdenum	ug/L	45.4	12.7	23	34	9.4	--	30.5	11
Selenium	ug/L	0.66	<0.21	<0.21	<0.21	0.26	--	0.29	<0.21
Thallium	ug/L	<0.14	0.17	<0.14	<0.14	<0.14	--	<0.14	<0.14
Radium-226	pCi/L	0	0.721	0	0	0.367	--	-0.066	0.233
Radium-228	pCi/L	0.392	0.338	0.426	0.921	0.497	--	0.236	1.37
Total Radium	pCi/L	0.392	1.06	0.426	0.921	0.864	--	0.236	1.6
Field Specific Conductance	umhos/cm	586	589	756	567	582	--	681	558
Oxygen, Dissolved	mg/L	1.1	0.8	0.4	2.2	0	--	0.9	0.1
Field Oxidation Potential	mV	178	-174	-138	-185	-156	--	-168	-119
Groundwater Elevation	feet	653.59	651.8	649.37	652.18	652.82	--	652.92	653.1
Temperature	deg C	8.6	10.2	11.3	11.3	4.4	--	8.8	8.9
Turbidity	NTU	107.6	21.88	13.48	8.9	30.04	--	103.3	51.76
pH at 25 Degrees C	Std. Units	7.6	7.9	7.8	7.9	7.7	--	8.1	7.9

Location ID:

MW-303

Number of Sampling Dates:

23

Parameter Name	Units	4/7/2017	6/6/2017	8/1/2017	10/23/2017	4/3/2018	10/4/2018	4/9/2019	10/7/2019
Boron	ug/L	89.8	89.1	95	89	94.6	87.3	88.4	91.2
Calcium	ug/L	33200	35500	35900	29100	31900	31600	31700	30900
Chloride	mg/L	6.2	6.2	5.7	6.8	5	4.4	4.1	4.7
Fluoride	mg/L	0.57	0.69	0.6	0.66	0.54	0.56	0.57	0.6
Field pH	Std. Units	8.15	7.9	7.91	7.59	7.98	8.04	8.05	10.12
Sulfate	mg/L	79.2	51.1	40.5	67.1	27.3	26.1	23.7	30.3
Total Dissolved Solids	mg/L	348	314	290	304	260	270	270	230
Antimony	ug/L	<0.073	<0.15	<0.15	--	--	--	--	--
Arsenic	ug/L	2.8	4	4.4	--	--	--	--	--
Barium	ug/L	80.7	80.6	81.1	--	--	--	--	--
Beryllium	ug/L	<0.13	<0.18	<0.18	--	--	--	--	--
Cadmium	ug/L	<0.089	<0.081	<0.081	--	--	--	--	--
Chromium	ug/L	0.79	<1	<1	--	--	--	--	--
Cobalt	ug/L	0.34	0.4	0.44	--	--	--	--	--
Lead	ug/L	0.082	<0.2	0.22	--	--	--	--	--
Lithium	ug/L	13.2	11.4	11.4	--	--	--	--	--
Mercury	ug/L	<0.13	<0.13	<0.13	--	--	--	--	--
Molybdenum	ug/L	21.2	14.4	12.4	--	--	--	--	--
Selenium	ug/L	<0.21	<0.32	<0.32	--	--	--	--	--
Thallium	ug/L	<0.14	<0.14	<0.14	--	--	--	--	--
Radium-226	pCi/L	0.535	0.298	0.198	--	--	--	--	--
Radium-228	pCi/L	0.336	0.397	0.454	--	--	--	--	--
Total Radium	pCi/L	0.871	0.695	0.603	--	--	--	--	--
Field Specific Conductance	umhos/cm	617	486	564	557	494	500	486	497
Oxygen, Dissolved	mg/L	0.6	0.4	0	1	0.2	0.2	0.2	0.56
Field Oxidation Potential	mV	-93	-65	-157	88	-125	-105	-65	127
Groundwater Elevation	feet	654.55	654.14	652.5	652.03	651.3	650.7	654.06	653.27
Temperature	deg C	9.7	11	11.7	10.1	8.9	10	9.5	11.8
Turbidity	NTU	9.79	22.54	16.29	3.06	6.62	17.2	4.92	9.74
pH at 25 Degrees C	Std. Units	7.9	7.9	7.9	7.9	7.8	7.9	7.8	7.9

Location ID:

MW-303

Number of Sampling Dates:

23

Parameter Name	Units	4/8/2020	10/13/2020	4/13/2021	10/26/2021	4/11/2022	10/5/2022	4/24/2023	
Boron	ug/L	79	85.8	84.7	83.3	80.7	84.2	85.4	
Calcium	ug/L	29900	29000	29600	29300	31300	29600	31200	
Chloride	mg/L	4.3	5.2	4.5	4.2	4.3	4.2	3.8	
Fluoride	mg/L	0.6	0.7	0.62	0.61	0.71	0.56	0.58	
Field pH	Std. Units	7.67	8.31	8.26	8.05	7.73	7.97	7.93	
Sulfate	mg/L	23.3	33.2	25.6	28.9	24.9	23.9	20.6	
Total Dissolved Solids	mg/L	274	150	260	268	274	270	268	
Antimony	ug/L	--	--	--	--	--	--	--	
Arsenic	ug/L	--	--	--	--	--	--	--	
Barium	ug/L	--	--	--	--	--	--	--	
Beryllium	ug/L	--	--	--	--	--	--	--	
Cadmium	ug/L	--	--	--	--	--	--	--	
Chromium	ug/L	--	--	--	--	--	--	--	
Cobalt	ug/L	--	--	--	--	--	--	--	
Lead	ug/L	--	--	--	--	--	--	--	
Lithium	ug/L	--	--	--	--	--	--	--	
Mercury	ug/L	--	--	--	--	--	--	--	
Molybdenum	ug/L	--	--	--	--	--	--	--	
Selenium	ug/L	--	--	--	--	--	--	--	
Thallium	ug/L	--	--	--	--	--	--	--	
Radium-226	pCi/L	--	--	--	--	--	--	--	
Radium-228	pCi/L	--	--	--	--	--	--	--	
Total Radium	pCi/L	--	--	--	--	--	--	--	
Field Specific Conductance	umhos/cm	454	570	475	478	458	455	447	
Oxygen, Dissolved	mg/L	0.5	0.4	0.5	0.6	1.75	1.1	1.03	
Field Oxidation Potential	mV	-75.2	128	154	244	78	117.5	297.4	
Groundwater Elevation	feet	656.46	652.2	654.53	650.9	651.58	648.89	653.31	
Temperature	deg C	9.4	10.7	9.4	9.7	10.9	10.3	9.4	
Turbidity	NTU	21.08	7.21	<0.02	71.5	0.92	2.64	1.65	
pH at 25 Degrees C	Std. Units	7.8	7.9	8	8	7.9	7.9	8	

Single Location
Name: WPL - Edgewater I43

Location ID: MW-304
 Number of Sampling Dates: 23

Parameter Name	Units	4/26/2016	6/21/2016	8/9/2016	10/19/2016	12/19/2016	1/5/2017	1/23/2017	2/23/2017
Boron	ug/L	92.1	90.9	102	106	102	--	101	99.8
Calcium	ug/L	24500	25400	26700	23000	24800	--	24300	24500
Chloride	mg/L	3.8	3.9	2.7	1.8	2.2	--	2.1	2.3
Fluoride	mg/L	0.49	0.55	0.51	0.45	0.59	--	0.5	0.5
Field pH	Std. Units	8.16	8	6.29	8.17	8.29	--	8.14	8.22
Sulfate	mg/L	13.8	14.2	13.2	13.5	14.6	--	14.3	14.6
Total Dissolved Solids	mg/L	222	234	244	232	198	212	214	206
Antimony	ug/L	0.11	0.52	0.36	<0.073	0.23	--	0.3	0.63
Arsenic	ug/L	8.8	10	11.2	10.7	11.4	--	12.2	12.2
Barium	ug/L	77.6	74.7	81.5	73.4	71	--	81.1	73.5
Beryllium	ug/L	<0.13	<0.13	<0.13	<0.13	<0.13	--	<0.13	<0.13
Cadmium	ug/L	<0.089	<0.089	<0.089	<0.089	0.17	--	<0.089	0.45
Chromium	ug/L	0.75	0.94	0.78	<0.39	0.7	--	0.8	1
Cobalt	ug/L	0.26	0.23	0.12	0.078	0.18	--	0.17	0.53
Lead	ug/L	0.36	0.52	0.24	0.12	0.44	--	0.54	0.78
Lithium	ug/L	9.1	9.1	9.4	9.1	10.1	--	9.5	8.9
Mercury	ug/L	<0.18	<0.13	<0.13	<0.13	<0.13	--	<0.13	<0.13
Molybdenum	ug/L	4.6	4	3.9	3.8	3.7	--	3.8	4.1
Selenium	ug/L	<0.21	<0.21	<0.21	<0.21	<0.21	--	<0.21	0.32
Thallium	ug/L	<0.14	<0.14	<0.14	<0.14	0.19	--	<0.14	0.59
Radium-226	pCi/L	-0.215	0.511	0.161	-0.369	0.171	--	0.181	-0.164
Radium-228	pCi/L	0.687	0.288	0.137	0.625	-0.101	--	0.018	1.5
Total Radium	pCi/L	0.687	0.799	0.298	0.625	0.171	--	0.199	1.5
Field Specific Conductance	umhos/cm	4.9	402	399	397	394	--	393	382
Oxygen, Dissolved	mg/L	0.8	0.5	0.1	0	0.3	--	0	1.1
Field Oxidation Potential	mV	-57	-129	-127	-84	-3	--	-98	14
Groundwater Elevation	feet	655.9	653.79	651.55	654	654.26	--	654.37	654.49
Temperature	deg C	8.9	11.02	12	11.1	7.6	--	8.6	8.8
Turbidity	NTU	22.36	17.46	7.38	6.77	8.88	--	10.78	5.06
pH at 25 Degrees C	Std. Units	7.8	8	7.8	7.8	7.9	--	8	7.9

Location ID:

MW-304

Number of Sampling Dates:

23

Parameter Name	Units	4/7/2017	6/6/2017	8/1/2017	10/23/2017	4/3/2018	10/4/2018	4/8/2019	10/8/2019
Boron	ug/L	96.9	102	103	104	98.6	90.2	100	104
Calcium	ug/L	24800	23500	23000	20100	20200	19400	19100	20600
Chloride	mg/L	1.8	2	1.8	1.7	1.7	1.8	1.8	1.7
Fluoride	mg/L	0.48	0.6	0.53	0.54	0.5	0.5	0.51	0.48
Field pH	Std. Units	7.86	8.03	7.9	7.74	7.99	8.1	8.06	7.68
Sulfate	mg/L	14.5	14.9	14.2	14.2	15.2	13.5	14.5	13.5
Total Dissolved Solids	mg/L	224	218	222	208	222	224	226	172
Antimony	ug/L	<0.073	<0.15	<0.15	--	--	--	--	--
Arsenic	ug/L	10.9	11.8	11.4	--	--	--	--	--
Barium	ug/L	73.7	79.1	75.1	--	--	--	--	--
Beryllium	ug/L	<0.13	<0.18	<0.18	--	--	--	--	--
Cadmium	ug/L	<0.089	<0.081	<0.081	--	--	--	--	--
Chromium	ug/L	<0.39	<1	<1	--	--	--	--	--
Cobalt	ug/L	0.047	0.11	0.088	--	--	--	--	--
Lead	ug/L	0.08	<0.2	<0.2	--	--	--	--	--
Lithium	ug/L	9.2	9.1	9.2	--	--	--	--	--
Mercury	ug/L	<0.13	<0.13	<0.13	--	--	--	--	--
Molybdenum	ug/L	3.6	4.7	3.7	--	--	--	--	--
Selenium	ug/L	<0.21	<0.32	<0.32	--	--	--	--	--
Thallium	ug/L	<0.14	<0.14	<0.14	--	--	--	--	--
Radium-226	pCi/L	0.326	0.604	2.05	--	--	--	--	--
Radium-228	pCi/L	0.274	0.688	0.0736	--	--	--	--	--
Total Radium	pCi/L	0.6	1.29	1.1	--	--	--	--	--
Field Specific Conductance	umhos/cm	399	391	382	387	398	400	395	404
Oxygen, Dissolved	mg/L	2	0.5	0.4	0.8	0.3	0.2	0.7	0.81
Field Oxidation Potential	mV	-100	-104	-107	145	-103	-81	-23	104
Groundwater Elevation	feet	654.85	655.7	654.49	653.65	652.86	652.26	655.59	654.77
Temperature	deg C	12	11.2	14.3	10	8.9	9.5	10.4	11
Turbidity	NTU	2.56	3	2.88	1.7	9.62	3	6.25	43.61
pH at 25 Degrees C	Std. Units	8	7.8	8	7.9	8	7.9	7.9	8

Location ID:

MW-304

Number of Sampling Dates:

23

Parameter Name	Units	4/7/2020	10/15/2020	4/13/2021	10/26/2021	4/11/2022	10/5/2022	4/24/2023
Boron	ug/L	100	94.5	91.7	89.8	89.3	91.8	87.1
Calcium	ug/L	18600	15800	19700	21600	25500	19400	22000
Chloride	mg/L	5.2	2.1	2.1	2.3	2.3	2.4	2.2
Fluoride	mg/L	0.75	0.58	0.53	0.49	<0.095	0.47	0.52
Field pH	Std. Units	8.07	8.12	8.31	8.12	7.87	8.05	8.02
Sulfate	mg/L	15.4	15.5	15.3	15.6	16.2	16.2	15.6
Total Dissolved Solids	mg/L	228	228	224	218	220	218	226
Antimony	ug/L	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--
Lithium	ug/L	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--
Radium-226	pCi/L	--	--	--	--	--	--	--
Radium-228	pCi/L	--	--	--	--	--	--	--
Total Radium	pCi/L	--	--	--	--	--	--	--
Field Specific Conductance	umhos/cm	392	411	403	398	392	400	385
Oxygen, Dissolved	mg/L	1.9	0.2	0.5	0.6	0.41	0.81	1.02
Field Oxidation Potential	mV	190	-10	216	205	135.6	157.2	315
Groundwater Elevation	feet	658.16	654.17	656.36	652.54	653.08	650.51	654.83
Temperature	deg C	12.4	9.7	9.1	9.6	11.4	11.4	8.8
Turbidity	NTU	227.3	9.1	<0.02	96.3	5.11	77.7	2.32
pH at 25 Degrees C	Std. Units	7.8	8	8	8	7.9	8	7.9

Single Location
Name: WPL - Edgewater I43

Location ID: MW-305
 Number of Sampling Dates: 16

Parameter Name	Units	2/23/2017	4/7/2017	6/6/2017	8/1/2017	10/23/2017	4/3/2018	10/4/2018	4/9/2019
Boron	ug/L	94.4	86.4	78.8	76.5	70	71.7	65.9	68
Calcium	ug/L	93800	103000	102000	95900	90700	83000	82200	89000
Chloride	mg/L	20.8	20.4	22.5	21.3	21.5	21.8	22.7	23
Fluoride	mg/L	0.73	0.59	0.72	0.69	0.64	0.63	0.58	0.65
Field pH	Std. Units	7.75	7.62	7.52	7.47	7.55	7.54	7.65	7.85
Sulfate	mg/L	127	131	140	130	134	129	130	136
Total Dissolved Solids	mg/L	576	576	598	570	540	566	572	568
Antimony	ug/L	0.21	0.088	0.59	0.53	0.23	<0.15	<0.15	0.78
Arsenic	ug/L	3	2.5	2.5	2.3	2.4	2.2	2.3	2.9
Barium	ug/L	230	220	208	200	195	177	169	169
Beryllium	ug/L	0.21	0.15	<0.18	<0.18	<0.18	<0.18	<0.18	0.19
Cadmium	ug/L	<0.089	<0.089	<0.081	<0.081	0.1	<0.081	<0.15	0.83
Chromium	ug/L	10.8	6.8	4	2.7	1.8	<1	<1	1.2
Cobalt	ug/L	2.6	1.5	0.8	0.56	0.5	<0.085	<0.12	0.83
Lead	ug/L	2.4	1.6	0.98	0.87	0.44	<0.2	<0.24	0.81
Lithium	ug/L	23.2	19.7	15.7	14.8	12.4	12	11.2	11.8
Mercury	ug/L	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.084	<0.084
Molybdenum	ug/L	5	4.6	3.3	3.6	3.2	2.5	2.3	3.3
Selenium	ug/L	0.56	0.28	<0.32	<0.32	<0.32	<0.32	<0.32	0.92
Thallium	ug/L	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	0.8
Radium-226	pCi/L	0.35	0.0649	0.51	0.791	0.277	0.597	0.323	0.764
Radium-228	pCi/L	3.8	0.836	0.555	0.878	0.969	0.73	0.716	0.921
Total Radium	pCi/L	4.15	0.901	1.07	1.31	1.25	1.33	1.04	1.69
Field Specific Conductance	umhos/cm	856	922	884	901	886	915	941	942
Oxygen, Dissolved	mg/L	1.2	0.7	0.4	0.74	0.2	0.2	0.2	0.3
Field Oxidation Potential	mV	-224	-108	-167	-122	-125	-120	-101	-75
Groundwater Elevation	feet	658.02	659.65	659.7	658.54	657.22	656.24	655.89	659.03
Temperature	deg C	7.9	9.2	11.3	12.4	10.3	8.9	9.9	9.8
Turbidity	NTU	613.2	138	140.6	67.21	42.54	13.01	10.56	9.67
pH at 25 Degrees C	Std. Units	7.6	7.6	7.5	7.5	7.7	7.5	7.5	7.5

Location ID:

MW-305

Number of Sampling Dates:

16

Parameter Name	Units	10/8/2019	4/7/2020	10/15/2020	4/13/2021	10/26/2021	4/11/2022	10/4/2022	4/25/2023
Boron	ug/L	73	65.8	65.5	66.6	67.8	61.5	63.7	60.8
Calcium	ug/L	90300	88800	76800	86800	87800	88500	83700	80500
Chloride	mg/L	22.5	24.9	24.5	25.3	24.9	27.5	29.6	28.3
Fluoride	mg/L	0.63	0.75	0.72	0.67	0.72	<0.095	0.59	0.84
Field pH	Std. Units	7.36	7.48	7.63	7.76	7.76	7.42	7.51	7.49
Sulfate	mg/L	137	135	139	127	125	141	140	132
Total Dissolved Solids	mg/L	548	580	500	540	556	578	602	570
Antimony	ug/L	<0.15	--	--	--	--	--	--	--
Arsenic	ug/L	2.4	--	--	--	--	--	--	--
Barium	ug/L	169	--	--	--	--	--	--	--
Beryllium	ug/L	<0.25	--	--	--	--	--	--	--
Cadmium	ug/L	<0.15	--	--	--	--	--	--	--
Chromium	ug/L	<1	--	--	--	--	--	--	--
Cobalt	ug/L	<0.12	--	--	--	--	--	--	--
Lead	ug/L	<0.24	--	--	--	--	--	--	--
Lithium	ug/L	12.4	--	--	--	--	--	--	--
Mercury	ug/L	<0.084	--	--	--	--	--	--	--
Molybdenum	ug/L	2.6	--	--	--	--	--	--	--
Selenium	ug/L	<0.32	--	--	--	--	--	--	--
Thallium	ug/L	<0.14	--	--	--	--	--	--	--
Radium-226	pCi/L	0.238	--	--	--	--	--	--	--
Radium-228	pCi/L	0.473	--	--	--	--	--	--	--
Total Radium	pCi/L	0.711	--	--	--	--	--	--	--
Field Specific Conductance	umhos/cm	935	917	911	891	863	889	917	890
Oxygen, Dissolved	mg/L	0.82	0.53	0.3	0.8	1.6	0.45	0.67	1.71
Field Oxidation Potential	mV	112	28	-41	128	136	261.1	118.5	322.8
Groundwater Elevation	feet	658.77	661.58	658.08	659.69	655.86	657.58	654.4	658.22
Temperature	deg C	12.4	10.5	10	9.4	11	9.9	10.7	8.5
Turbidity	NTU	6.56	7.35	8.27	0.93	21.7	30.1	6.44	1.42
pH at 25 Degrees C	Std. Units	7.6	7.5	7.6	7.6	7.6	7.5	7.5	7.6