2025 Annual Groundwater Monitoring and Corrective Action Report

Primary Ash Pond
Columbia Energy Center
Pardeeville, Wisconsin

Prepared for:

Alliant Energy



SCS ENGINEERS

25225067.20 | January 30, 2026

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OVERVIEW OF CURRENT STATUS

Columbia Energy Center, Primary Ash Pond
2025 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.

The closure of the Primary Ash Pond at the Columbia Energy Center (COL) was certified on October 10, 2025 (**Appendix A**). The closure was completed by removal of CCR in accordance with §257.102(c), and groundwater sampling results met the performance standard for closure by removal under §257.102(c)(1)(ii). Therefore, in accordance with §257.104(a)(2), the COL Primary Ash Pond is not subject to the post-closure care criteria under §257.104 and continued groundwater monitoring is not required. This report will therefore be the final Annual Groundwater Monitoring and Corrective Action Report for the COL Primary Ash Pond.

The groundwater monitoring system for the Primary Ash Pond at the COL monitored a single existing 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;	Assessment
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;	Closure certified in October 2025, monitoring no longer required.
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	August 2024 Boron: M-4R, MW-305 Chloride: M-4R Field pH: MW-305 Sulfate: M-4R Total Dissolved Solids (TDS): M-4R

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Category	Rule Requirement	Site Status
		<u>October 2024</u> Boron: M-4R, MW-303, MW-304R, MW-305, MW-316 Chloride: M-4R, MW-303, MW-304R, MW-305, MW-316 Field pH: MW-303, MW-305, MW-316 Sulfate: M-4R, MW-303, MW-304R, MW-305, MW-316 TDS: M-4R, MW-304R <u>April 2025</u> Boron: M-4R, MW-304R, MW-305, MW-316 Chloride: M-4R, MW-304R, MW-305, MW-316 Field pH: MW-305, MW-316 Sulfate: M-4R, MW-304R, MW-305, MW-316 TDS: MW-304R
	(B) Provide the date when the assessment monitoring program was initiated for the CCR unit.	July 16, 2018

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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 GPS for one or more constituents listed in Appendix IV to this part pursuant to §257.95(g) include all of the following:	
	(A) Identify those constituents listed in Appendix IV to this part and the names of the monitoring wells associated with such an increase;	August 2024 None October 2024 Arsenic: MW-303 April 2025 None
	(B) Provide the date when the assessment of corrective measures (ACM) was initiated for the CCR unit;	Not applicable – Alternative Source Demonstration prepared in April 2025 for October 2024 SSL. ACM not required.
	(C) Provide the date when the public meeting was held for the ACM for the CCR unit; and	Not applicable – ACM not required.
	(D) Provide the date when the ACM was completed for the CCR unit.	Not applicable – ACM not required.
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 – Selection of Remedy not required.
Corrective Action	(vi) Whether remedial activities were initiated or are ongoing pursuant to §257.98 during the current annual reporting period.	Not applicable – Remedial activities not required.

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1.0 INTRODUCTION

This 2025 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 2025 Annual Groundwater Monitoring and Corrective Action Report for the CCR Units.

This report covers the period of groundwater monitoring from January 1, 2025, through December 31, 2025. The Primary Pond was certified closed on October 10, 2025. The closure was completed by removal of CCR in accordance with §257.102(c), and groundwater sampling results met the performance standard for closure by removal under §257.102(c)(1)(ii). Therefore, in accordance with §257.104(a)(2), the Columbia Energy Center (COL) Primary Ash Pond is not subject to the post-closure care criteria under §257.104 and continued groundwater monitoring is not required. This report will therefore be the final Annual Groundwater Monitoring and Corrective Action Report for the COL Primary Ash Pond.

The groundwater monitoring system for the Primary Ash Pond at the COL monitored a single existing CCR unit:

- COL Primary Ash Pond (existing CCR surface impoundment)

The system was designed to detect monitored constituents at the waste boundary of the Primary Ash Pond as required by 40 CFR 257.91(d). The groundwater monitoring system consisted of two upgradient and four 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 surficial sand and gravel aquifer is considered to be the uppermost aquifer unit, as defined under 40 CFR 257.53, at the COL Primary Ash Pond. Immediately underlying the surficial sand and gravel aquifer is the Cambrian-Ordovician sandstone aquifer. A summary of the regional hydrogeologic stratigraphy is presented in **Appendix B**.

The sand and gravel aquifer is capable of producing sufficient water for industrial or municipal use in some parts of Columbia County, and is capable of producing sufficient water for domestic use in many areas, including along the Wisconsin River near the Columbia Energy Center (Harr et. al, 1978). A map showing expected well yields within the sand and gravel aquifer in Columbia County is included in **Appendix B**.

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Regional groundwater flow in the site vicinity is generally west toward the Wisconsin River. A map showing the regional water table elevations is included with the regional hydrogeologic information in Appendix B.

2.1.2 Site Information

Soils at the site are primarily sand to a depth of approximately 50 to 100 feet and overlie sandstone bedrock. Soils encountered during the site feasibility study for the COL Ash Disposal Facility were described as generally sandy with interbedded silty clay lenses up to 20 feet thick (Warzyn, 1978). During drilling of CCR wells MW-301, MW-303, MW-304 (now abandoned), MW-304R, MW-305, and MW-316, the unconsolidated materials were identified as consisting primarily of silty sand and sand. Boring logs for previously-installed monitoring wells MW-84A and M-4R show silty sand and sand as the primary unconsolidated materials at these locations. The boring logs for Primary Ash Pond CCR monitoring wells are provided in Appendix C. All CCR monitoring wells are screened within the unconsolidated sand unit.

In the vicinity of the former ash ponds, groundwater historically flowed radially away from the ponds in all directions; however, since the completion of pond closure activities, the radial flow pattern is no longer observed. Groundwater flow at the Primary Ash Pond in 2025 was from east/southeast to west/northwest for the April, August, and October groundwater elevation sampling events. The groundwater dewatering system used during closure activities ceased operations as of September 11, 2023, and removal of CCR from the Unit was completed on October 4, 2023. The Primary Pond was certified closed on October 10, 2025, and further groundwater monitoring at the Primary Pond is not required.

The water table elevations and groundwater flow directions for the April 2025 monitoring event are shown on Figure 3. The groundwater elevation data for the CCR monitoring wells are provided in Table 3, and horizontal gradients and flow velocities for representative flow paths are provided in Table 4.

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 four downgradient monitoring Wells (Table 1 and Figure 2). The background wells include MW-84A and MW-301. The downgradient wells include M-4R, MW-303, MW-304R, and MW-305. Monitoring well MW-316 was originally installed as a temporary supplemental well to provide data on shallow groundwater flow and water quality south of the Primary Pond. The groundwater monitoring system was updated on April 15, 2025; this update replaced MW-303 with MW-316 in the compliance monitoring network. The CCR Rule wells are installed in the surficial sand aquifer. Well depths range from approximately 26 to 47 feet, measured from the top of the well casing.

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 CCR

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management units, the owner or operator must prepare the initial annual groundwater monitoring and corrective action report no later than January 31, 2029, 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 showing the site location is provided on **Figure 1**. A map showing the CCR unit and all background (or upgradient) and downgradient monitoring wells with identification numbers for the groundwater monitoring program is provided as **Figure 2**. Other CCR units are also shown on **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;

The Primary Pond CCR Unit met closure criteria in 2025, and the final groundwater sampling event was conducted in April 2025. The unit was certified as closed on October 10, 2025 (**Appendix A**). The closure was completed by removal of CCR in accordance with §257.102(c), and groundwater sampling results met the performance standard for closure by removal under §257.102(c)(1)(ii). Therefore, in accordance with §257.104(a)(2), the COL Primary Ash Pond is not subject to the post-closure care criteria under §257.104 and continued groundwater monitoring is not required. This report will therefore be the final Annual Groundwater Monitoring and Corrective Action Report for the COL Primary Ash Pond.

Prior to closure, MW-316 was added and MW-303 removed from the monitoring network. This was documented in the April 15, 2025 Groundwater Monitoring System Update – Certification. Soil boring logs, well construction forms, and development and abandonment forms are included in **Appendix C**.

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;

One semiannual groundwater sampling event was completed for the Primary Ash Pond CCR unit in 2025. Only one sampling event was completed because the CCR unit met closure criteria in 2025.

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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 or assessment monitoring program is included in **Table 2**.

Groundwater samples collected in the April 2025 sampling event were analyzed for both Appendix III and Appendix IV constituents.

The validation and evaluation of the October 2024 monitoring event data were completed and transmitted to Wisconsin Power and Light Company (WPL) in a results letter on January 29, 2025. A supplemental event was conducted in August 2024 and reported with the October 2024 results letter.

The supplemental August 2024 event was conducted in anticipation of groundwater levels potentially being too low in October to collect a complete set of groundwater samples for analysis. In August 2024, samples were collected from MW-4R and MW-305. In October 2024, samples were collected from wells MW-84, MW-301, M-4R, MW-303, MW-304R, MW-305, and supplemental well MW-316.

The April 2025 event results were reported to WPL in a letter dated August 15, 2025. Samples were collected from MW-84A, MW-301, M-4R, MW-304R, MW-305, and MW-316.

The sampling results for Appendix III and Appendix IV parameters for August and October 2024 are summarized in **Table 5A**. The April 2025 sampling results are summarized in **Table 5B**. Field parameter results for the August 2024, October 2024, and April 2025 sampling events are provided in **Table 6**. The analytical laboratory reports for August and October 2024 and April 2025 events are provided in **Appendix D**. Historical results for each monitoring well through April 2025 are summarized in **Appendix E**.

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);

The monitoring program was ended after the October 10, 2025 closure certification.

Assessment monitoring for the Primary Ash Pond was initiated in April 2018 and continued through April 2025. Evaluation of the August and October 2024 results was completed in January 2025. Evaluation of the April 2025 event were completed in August 2025.

In accordance with the Unified Guidance for Statistical Analysis of Groundwater Monitoring Data at Resource Conservation and Recovery Act (RCRA) Facilities (U.S. EPA, 2009), the comparison of assessment monitoring results to the GPS was based on the lower confidence limit (LCL) for the arithmetic mean. The LCL evaluation was completed for each Appendix IV parameter that has been detected at a concentration exceeding the GPS in at least one sample result since assessment monitoring was initiated, which include arsenic, molybdenum, and selenium. The LCLs were calculated with Sanitas™ using historical concentrations measured since assessment monitoring began in April 2018. LCL evaluations for data collected in August 2024, October 2024, and April 2025 are provided in **Appendix F**.

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For the monitoring results of the August and October 2024 events, there were no assessment monitoring parameters where the GPS was exceeded. Molybdenum was detected at a level equal to the GPS at supplemental Monitoring well MW-316 in October 2024. The LCL evaluation was completed on the full data set and the last eight sampling events for arsenic, molybdenum, and selenium. The LCL evaluation determined that arsenic was at a statistically significant level (SSL) above the GPS in samples from MW-303 when the eight most recent sampling events were used in the evaluation. A Mann-Kendall trend analysis was used to evaluate the potential trends of arsenic results in MW-303. The evaluation completed with the most recent eight sampling events showed no statistically significant trend for arsenic at MW-303. The arsenic concentration in the October 2024 sample from MW-303 was below the GPS. The SSL determination for arsenic for MW-303 was due to higher results in previous events. SSLs for arsenic have been identified previously and attributed to alternative sources.

An ASD was completed for the October 2024 event, demonstrating that sources other than the CCR unit were the likely cause of the SSL for arsenic. The October 2024 ASD report is provided in Appendix G.

There were no GPS exceedances for individual monitoring wells for April 2025 that exceeded the GPS at a compliance monitoring well. The LCL evaluation was completed on arsenic, molybdenum, and selenium for compliance and background wells. The LCL evaluation results did not indicate an SSL above the GPS for this event.

As shown in Table 5A and Table 5B, groundwater results for the two most recent monitoring events did not exceed the GPS for any parameter. Historical groundwater result summaries are included in Appendix E.

The comparison to background was based on a prediction limit approach, comparing the results to interwell upper prediction limits (UPLs) for Appendix III parameters and upper tolerance limits (UTLs) for Appendix IV parameters based on background monitoring results from the upgradient wells (MW-84A and MW-301). The interwell UPLs and UTLs were most recently updated in September 2024 using background data collected through December 2023.

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 2025 Annual Groundwater Monitoring and Corrective Action Report for the 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.

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Status of Groundwater Monitoring and Corrective Action Program. The groundwater monitoring and corrective action program was in Assessment Monitoring at the beginning of 2025. The monitoring program was ended after the October 10, 2025 closure certification.

Summary of Key Actions Completed.

- Completed statistical evaluation for the August 2024, October 2024, and April 2025 assessment monitoring events.
- Prepared an ASD following the October 2024 monitoring event.
- Completed one semiannual groundwater sampling and analysis event for April 2025.
- Recertified the groundwater monitoring well network.
- Completed a Certification of Closure for the Primary Pond, dated October 10, 2025.

Description of Any Problems Encountered. There were no problems encountered during the reporting period.

Discussion of Actions to Resolve the Problems. Not applicable.

Projection of Key Activities for the Upcoming Year (2025).

- Following the Primary Pond closure in October 2025, no additional activities are planned.

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. The Primary Ash Pond is no longer in detection monitoring.

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. The Primary Ash Pond is no longer in detection monitoring.

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. No alternative monitoring frequency has been proposed. The Primary Ash Pond was closed in October 2025, so no additional assessment monitoring is required.

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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).

The 2025 assessment monitoring results, background UPLs and UTLs, and GPSs established for the Primary Ash Pond are provided in Table 5A and Table 5B. The laboratory reports are provided in Appendix D. Historical monitoring results are summarized in Appendix E.

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.

The ASD report prepared to address the SSLs above the GPS observed for arsenic at MW-303 for the October 2024 sampling event is provided in Appendix G. The ASD report is certified by a qualified professional engineer. An ASD Report was not required for the April 2025 sampling event because there were no SSLs above the GPS for the compliance wells at the waste boundary.

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 REFERENCES

Harr, C.A., L.C. Trotta, and R.G. Borman, 1978, "Ground-Water Resources and Geology of Columbia County, Wisconsin," University of Wisconsin-Extension Geological and Natural History Survey Information Circular Number 37, 1978.

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U.S. Environmental Protection Agency (U.S. EPA), 2009, Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance, EPA 530-R-09-007, March 2009.

Warzyn Engineering, Inc., 1978, Feasibility Study, Proposed Fly Ash and/or Scrubber Sludge Disposal Facility – Columbia Site, Wisconsin Power and Light Company, Town of Pacific, Columbia County, WI, January 1978.

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Table 1. Groundwater Monitoring Well Network
Columbia Energy Center Primary Ash Pond / SCS Engineers Project #25225067.20

Monitoring Well	Location in Monitoring Network	Role in Monitoring Network [2]
MW-84A	Upgradient	Background
MW-301	Upgradient	Background
M-4R	Downgradient	Compliance
MW-304R	Downgradient	Compliance
MW-305	Downgradient	Compliance
MW-316	Downgradient	Compliance
MW-303[1]	Downgradient	Supplemental

Note (1): MW-303 was removed from the network when MW-316 was added, documented in the April 15, 2025 Groundwater Monitoring System Update - Certification.
(2) The roles listed in this table are as of the end of the monitoring period covered by this 2025 report.

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Table 2. Groundwater Samples Summary
Columbia Energy Center Primary Ash Pond / SCS Engineers Project #25225067.20

Sample Dates	Background Wells		Compliance Wells				Supplemental Well
	MW-84A	MW-301	M-4R	MW-304R	MW-305	MW-316	MW-303
April 21-23, 2025	A	A	A	A	A	A	A-S
Total Samples	1	1	1	1	1	1	1

Abbreviations:
A = Required by Assessment Monitoring Program
A-S = Supplemental Sample for the Assessment Monitoring Program

Notes:

1. The addition of MW-316 to the monitoring network, and removal of MW-303 from the network was documented in the April 15, 2025 - Groundwater Monitoring System Update - Certification.

2. The Primary Pond was certified closed on September 30, 2025. No additional groundwater sampling events are required.

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Table 3. Groundwater Elevation - State Monitoring Program and CCR Well Network
Columbia Dry Ash and Ash Pond Disposal Facilities / SCS Engineers Project #25225067

	Well Number	MW-1AR	MW-4	MW-5R	MW-33AR	MW-33BR	MW-34A	MW-34B	MW-37A	MW-83	MW-84A	MW-84B	MW-86	MW-91AR	MW-91B	MW-92A	MW-92B	MW-93A	MW-93B	MW-312
	Measurement Date																			
Dry Ash Facility (Facility ID #03025)	October 2, 2012	783.41	783.70	784.96	782.38	782.23	783.03	782.99	782.66	dry	783.84	783.94	783.81	784.09	783.90	784.49	784.06	NI	NI	NI
	April 15, 2013	785.44	784.02	786.09	784.16	784.14	784.74	784.79	783.87	784.49	785.83	785.76	785.22	785.14	785.01	785.75	785.34	NI	NI	NI
	October 8, 2013	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	785.66	785.42	785.97	785.52	NI	NI	NI
	October 15, 2013	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	785.66	785.42	785.97	785.52	NI	NI	NI
	April 14, 2014	784.95	784.09	785.63	783.74	783.91	784.63	784.70	783.45	783.73	785.58	785.52	784.96	785.04	784.96	785.99	785.54	NI	NI	NI
	October 2-3, 2014	785.03	785.39	786.08	784.37	784.28	784.57	784.54	784.56	dry	785.24	785.18	785.19	785.47	785.28	785.75	785.33	NI	NI	NI
	April 13-14, 2015	783.96	783.63	785.25	783.01	782.74	783.65	783.95	782.87	dry	784.43	784.51	784.17	784.48	784.37	785.07	784.66	NI	NI	NI
	October 6-7, 2015	784.28	784.44	785.72	783.68	783.33	784.05	784.02	783.66	dry	784.80	784.76	784.66	784.89	784.70	785.20	784.76	NI	NI	NI
	April 4-6, 2016	785.82	aband	787.02	785.29	785.07	785.63	785.67	784.76	785.43	786.37	786.26	785.89	786.05	785.95	786.61	786.21	NI	NI	NI
	October 11-13, 2016	786.64	aband	788.00	787.36	786.46	786.45	786.32	786.40	786.81	787.22	787.11	786.96	787.17	786.81	787.68	787.25	NI	NI	NI
	April 10-13, 2017	786.96	aband	788.13	786.39	785.99	786.30	786.28	786.34	786.23	787.16	787.06	786.96	787.24	787.03	787.90	787.60	NI	NI	NI
	October 3-5, 2017	785.48	aband	786.66	784.51	784.22	784.67	784.63	784.86	784.29	NM	786.49	785.58	786.08	785.83	786.47	786.02	NI	NI	NI
	October 9-10, 2017	NM	aband	NM	NM	NM	NM	NM	NM	NM	785.56 [1]	NM	NM	NM	NM	NM	NM	NI	NI	NI
	February 21, 2018	783.97	aband	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	784.68	784.46	NM	NM	NI	NI	NI
	April 23-25, 2018	783.99	aband	785.36	783.09	786.36	781.77	780.79	783.28	783.32	785.88	784.91	782.54	784.71	784.53	785.23	784.81	NI	NI	NI
	October 23-25, 2018	788.25	aband	789.71	788.77	787.96	787.88	787.73	787.62	788.26	788.32	788.19	788.21	788.59	788.31	789.32	788.87	NI	NI	NI
	April 1-4, 2019	787.05	aband	788.64	786.63	786.54	786.82	786.92	786.47	786.78	787.35	787.34	787.16	787.45	787.18	788.04	787.63	NI	NI	NI
	October 7-9, 2019	787.26	aband	789.23	788.26	787.64	787.92	787.74	786.77	788.90	787.79	787.73	787.44	787.78	787.62	788.63	788.17	NI	NI	NI
	May 27-28, 2020	786.92	aband	788.34	786.01	785.75	785.98	785.99	786.22	786.03	787.02	786.99	786.94	787.26	787.05	787.86	787.47	NI	NI	NI
	October 7-8, 2020	785.95	aband	787.76	785.91	785.45	785.70	785.68	785.52	785.72	786.10	786.06	786.10	786.55	786.33	786.85	786.38	NI	NI	NI
	February 25, 2021	NM	aband	NM	NM	NM	784.75	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI
	April 14, 2021	778.12	aband	787.29	784.27	784.05	784.77	784.77	784.46	784.34	785.84	785.81	785.60	785.86	785.69	786.47	786.06	NI	NI	NI
	June 11, 2021	NM	aband	NM	784.19	NM	784.66	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI
	October 11-12, 14, 2021	784.47	aband	786.78	783.73	783.60	784.42	784.41	783.88	783.87	784.96	784.88	784.79	785.14	784.94	785.55	785.11	NI	NI	NI
	October 17, 2021	NM	aband	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI
	April 1, 2022	aband	aband	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	April 11-13, 2022	aband	aband	785.52	783.27	783.45	784.30	784.42	783.26	783.78	785.02	785.00	784.70	784.83	784.72	785.45	785.02	783.99	783.97	783.73
	October 24-28, 2022	aband	aband	785.43	781.94	781.61	783.61	783.61	782.28	dry	784.57	784.54	784.38	784.64	784.47	785.05	784.62	783.74	782.76	783.50
	February 20-23, 2023	aband	aband	NM	783.57	NM	784.48	NM	NM	NM	785.25	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	March 27-28, 2023	aband	aband	NM	784.52	NM	785.23	NM	NM	NM	786.21	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	April 24-27, 2023	aband	aband	787.76	785.79	785.35	786.22	786.12	784.99	786.05	786.97	786.86	786.67	786.76	786.59	787.53	787.11	785.87	785.85	785.55
	May 16, 2023	aband	aband	787.79	785.64	785.25	786.06	786.05	785.39	785.77	786.88	786.79	786.74	786.95	786.75	787.47	787.05	786.23	786.21	785.97
	May 30-31, 2023	aband	aband	NM	785.23	NM	785.70	NM	NM	NM	786.57	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	October 9-11, 2023	aband	aband	785.33	782.57	782.39	783.55	783.40	782.94	dry	784.39	784.31	784.24	784.63	784.36	784.89	784.36	783.86	783.59	783.69
	April 15-17, 2024	aband	aband	dry	783.02	782.94	784.14	784.11	782.95	783.41	784.90	784.84	784.54	784.61	784.57	785.19	784.75	783.88	783.87	783.59
	April 19, 2024	aband	aband	785.47	783.06	783.02	784.28	784.30	783.05	dry	785.05	785.01	784.67	784.74	784.62	785.63	785.16	783.95	783.95	783.68
	July 29, 2024	aband	aband	NM	NM	NM	787.29	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	August 15, 2024	aband	aband	789.12	788.77	787.94	787.62	787.56	788.05	788.44	788.17	788.07	788.31	788.66	788.40	789.03	788.58	788.39	788.35	788.31
	October 1-3, 2024	aband	aband	788.25	787.33	786.64	786.79	786.75	786.60	788.86	787.14	787.06	787.14	787.81	787.52	788.33	787.86	787.00	786.97	786.90
	November 5, 2024	aband	aband	NM	785.98	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	January 10, 2025	aband	aband	NM	785.35	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	April 21-23, 2025	aband	aband	787.47	783.71	785.07	783.15	785.86	785.00	785.70	786.33	786.69	786.54	786.84	786.64	787.43	787.00	786.03	786.00	785.65
	July 16, 2025	aband	aband	NM	786.07	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM

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Table 3. Groundwater Elevation - State Monitoring Program and CCR Well Network
Columbia Dry Ash and Ash Pond Disposal Facilities / SCS Engineers Project #25225067

	Well Number	M-3	M-4R	MW-39A	MW-39B	MW-48A	MW-48B	MW-57	MW-59	MW-216R	MW-217	MW-220RR
	Measurement Date											
Ash Pond Facility (Facility ID #02325)	October 2, 2012	780.13	786.76	781.49	781.34	782.03	781.93	780.58	779.88	781.91	780.95	780.55
	April 15, 2013	785.16	788.39	783.97	784.00	783.77	783.78	784.69	783.66	784.09	784.75	785.02
	October 8, 2013	781.22	786.67	NM	NM	783.69	783.58	NM	NM	783.39	782.27	782.36
	October 15, 2013	NM	NM	782.94	782.81	NM	NM	782.47	783.49	NM	NM	NM
	April 14, 2014	786.04	788.96	783.57	783.68	783.56	783.57	785.51	783.41	783.73	785.25	785.87
	October 1-3, 2014	781.16	787.55	783.42	783.32	784.05	783.94	782.32	783.55	783.79	782.63	783.03
	April 13-14, 2015	783.08	786.83	782.77	782.68	782.80	782.82	782.81	782.83	782.93	783.34	783.42
	October 6-7, 2015	780.66	786.12	782.97	782.81	783.10	783.01	781.82	783.25	783.18	781.95	782.26
	April 4-6, 2016	784.21	789.09	785.27	785.27	784.79	784.76	783.21	784.97	785.68	785.02	784.36
	October 11-13, 2016	781.88	787.88	785.75	785.52	785.73	785.61	783.12	786.51	786.16	783.75	784.09
	April 10-13, 2017	782.94	787.95	785.44	785.20	785.82	785.69	782.77	786.09	785.95	784.29	784.09
	October 3-5, 2017	780.93	787.04	783.35	783.18	784.30	784.19	782.37	784.23	783.89	782.48	782.61
	April 23-25, 2018	782.89	790.43	782.86	782.87	783.14	783.09	783.04	783.02	783.23	783.26	783.45
	October 23-25, 2018	782.95	788.47	787.12	786.88	787.12	786.99	783.48	787.73	787.49	784.90	784.52
	April 1-4, 2019	785.68	789.44	786.28	786.31	786.56	786.45	785.27	787.39	786.53	786.33	785.46
	October 7-9, 2019	785.33	790.65	787.10	787.02	786.68	786.65	785.29	786.68	787.07	786.01	785.42
	May 27-29, 2020	781.80	787.73	785.12	784.92	785.74	785.59	783.11	785.89	785.60	783.41	783.89
	October 7-8 & 17, 2020	781.42	787.74	784.74	784.64	785.03	784.96	782.83	785.43	785.10	783.06	783.49
	April 12, 2021	782.30	786.34	783.66	783.65	784.13	784.08	782.79	784.08	783.97	783.15	783.49
	October 11-12, 14, 2021	781.03	786.33	782.94	782.85	783.09	783.03	781.94	783.11	783.04	782.15	782.66
	April 11-13, 2022	783.95	788.26	783.37	783.34	783.10	783.10	NM	782.99	783.40	783.93	783.83
	June 3, 2022	NM	NM	NM	NM	NM	NM	782.13	NM	NM	NM	NM
	October 25, 26, 28, 2022	780.41	783.85	780.76	780.66	779.57	779.55	779.23	778.98	778.61	780.33	781.49
	March 27-28, 2023	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	April 24-27, 2023	785.18	782.59	785.38	785.19	784.55	784.51	NM	784.83	784.46	783.78	785.30
	May 16, 2023	782.79	781.64	784.70	784.58	784.60	784.49	782.80	784.68	783.94	782.07	784.03
	October 9-11, 2023	779.65	780.54	781.50	781.30	781.94	781.69	780.26	781.95	781.21	779.89	780.43
	April 15-17, 2024	781.73	781.38	782.58	782.51	782.42	782.35	781.82	782.23	782.17	781.47	783.40
	April 19, 2024	NM	dry	782.78	782.80	782.57	782.56	NM	782.35	782.29	781.65	783.48
	August 15, 2024	781.49	784.27	786.74	786.56	787.47	787.31	783.56	787.87	786.90	783.38	783.95
	October 1-3, 2024	779.13	783.42	785.25	785.12	785.99	785.86	782.99	785.86	785.19	782.26	783.50
	October 4, 2024	NM	783.57	NM	NM	NM	NM	NM	NM	NM	NM	NM
	April 21-23, 2025	779.71	783.61	784.43	784.40	784.70	784.66	782.78	784.67	784.39	782.95	783.61

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Table 3. Groundwater Elevation - State Monitoring Program and CCR Well Network
Columbia Dry Ash and Ash Pond Disposal Facilities / SCS Engineers Project #25225067

	Well Number	MW-301	MW-302	MW-303	MW-304	MW-304R	MW-305	M-4R	MW-33AR	MW-34A	MW-84A	MW-306	MW-307	MW-308	MW-309	MW-310	MW-311	MW-312	MW-313	MW-314	MW-315	MW-316	MW-317	MW-318	MW-319
	Measurement Date																								
CCR Rule Wells (cont.)	December 21-22, 2015	785.56	784.78	784.11	786.13	NI	788.96	787.58	783.77	783.50	785.31	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
	April 4-5, 2016	786.78	785.81	785.48	788.08	NI	789.61	789.09	785.29	785.63	786.37	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
	July 7-8, 2016	786.31	786.28	784.60	787.36	NI	789.26	787.43	785.19	785.05	785.89	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
	July 28, 2016	NM	NM	784.35	NM	NI	NM	NM	NM	784.86	785.61	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
	October 11-13, 2016	787.64	787.76	786.18	788.18	NI	789.78	787.88	787.36	786.45	787.22	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
	December 29, 2016	787.37	787.05	NM	NM	NI	NM	NM	785.66	785.72	786.63	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
	January 25-26, 2017	787.27	786.89	785.28	789.34	NI	789.36	789.64	785.88	785.98	786.70	785.50	785.36	785.73	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
	April 10 & 11, 2017	787.89	787.55	786.00	788.22	NI	789.57	787.95	786.39	786.30	787.16	786.22	785.64	786.51	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
	June 6, 2017	788.25	788.37	786.49	788.58	NI	789.79	787.83	787.27	786.66	787.63	786.85	786.07	786.46	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
	August 7-9, 2017	787.34	787.55	785.42	789.52	NI	789.30	788.54	786.11	785.81	786.68	785.69	785.19	785.37	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
	October 23-24, 2017	785.89	785.94	783.92	788.97	NI	788.14	788.00	784.13	784.50	785.32	783.97	784.79	784.17	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
	February 21, 2018	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	783.19	783.05	783.02	NI	NI	NI	NI	NI	NI	NI	NI
	March 23, 2018	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	783.10	783.10	783.00	NI	NI	NI	NI	NI	NI	NI	NI
	April 23-25, 2018	785.29	784.37	783.27	789.69	NI	787.67	790.43	783.09	781.77	785.88	783.24	783.65	782.65	783.07	782.97	781.83	NI	NI	NI	NI	NI	NI	NI	NI
	May 24, 2018	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	785.79	785.09	NM	785.45	785.97	786.11	NI	NI	NI	NI	NI	NI	NI	NI
	June 23, 2018	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	786.03	786.64	786.47	NI	NI	NI	NI	NI	NI	NI	NI
	July 23, 2018	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	786.27	786.35	786.55	NI	NI	NI	NI	NI	NI	NI	NI
	August 7, 2018	787.06	NM	785.20	788.25	NI	788.56	787.63	NM	NM	786.55	NM	NM	NM	NM	NM	NM	NI	NI	NI	NI	NI	NI	NI	NI
	August 22, 2018	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	785.54	785.40	785.46	NI	NI	NI	NI	NI	NI	NI	NI
	September 21, 2018	NM	788.37	786.50	NM	NI	NM	NM	787.90	787.01	NM	NM	NM	NM	787.08	787.24	787.66	NI	NI	NI	NI	NI	NI	NI	NI
	October 22-24, 2018	788.98	789.16	787.51	789.05	NI	790.04	788.47	788.77	787.88	788.32	787.66	786.57	787.81	787.99	788.18	788.64	NI	NI	NI	NI	NI	NI	NI	NI
	April 1-4, 2019	787.04	787.56	786.52	789.72	NI	790.07	789.44	786.63	786.82	787.35	786.72	786.71	787.53	786.30	786.38	786.38	NI	NI	NI	NI	NI	NI	NI	NI
	June 12, 2019	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	NM	787.25	NM	NI	NI	NI	NI	NI	NI	NI	NI
	June 19, 2019	NM	NM	786.81	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI	NI	NI	NI	NI	NI
	October 7-9, 2019	788.47	788.31	787.02	790.41	NI	790.36	790.65	NM	NM	NM	787.47	786.99	787.18	787.26	787.94	787.64	NI	NI	NI	NI	NI	NI	NI	NI
	December 13, 2019	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	787.03	785.68	786.43	NM	NM	NM	NI	NI	NI	NI	NI	NI	NI	NI
	December 23, 2019	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	NM	775.22	NM	NI	NI	NI	NI	NI	NI	NI	NI
	January 17, 2020	NM	NM	785.58	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI	NI	NI	NI	NI	NI
	February 3, 2020	787.24	NM	NM	NM	NI	NM	NM	NM	NM	786.50	785.77	785.57	786.48	NM	NM	NM	NI	NI	NI	NI	NI	NI	NI	NI
	May 27-29, 2020	787.77	787.29	785.56	789.30	NI	787.78	787.73	786.01	785.98	787.02	785.77	785.35	786.28	785.98	785.81	785.85	NI	NI	NI	NI	NI	NI	NI	NI
	June 30, 2020	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	786.18	NM	NM	NI	NI	NI	NI	NI	NI	NI	NI
	August 6, 2020	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	785.93	NM	NM	NI	NI	NI	NI	NI	NI	NI	NI
	October 7-8, 2020	786.53	786.74	785.16	788.52	NI	787.96	787.74	785.91	785.70	786.10	785.39	784.71	785.68	785.47	785.56	785.83	NI	NI	NI	NI	NI	NI	NI	NI
	December 11, 2020	NM	NM	NM	NM	NI	788.19	NM	NM	NM	NM	NM	NM	NM	785.26	785.26	NM	NI	NI	NI	NI	NI	NI	NI	NI
	February 25, 2021	NM	NM	784.27	NM	NI	788.36	NM	NM	784.75	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI	NI	NI	NI	NI	NI
	April 12, 2021	786.50	785.77	784.07	787.99	NI	788.11	786.34	784.27	784.77	785.84	784.32	784.21	785.55	784.29	784.24	784.15	NI	NI	NI	NI	NI	NI	NI	NI
	June 11, 2021	NM	NM	NM	NM	NI	NM	NM	784.19	784.66	NM	NM	NM	NM	784.20	784.05	NM	NI	NI	NI	NI	NI	NI	NI	NI
	July 20, 2021	NM	NM	783.64	NM	NI	788.39	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI	NI	NI	NI	NI	NI
	October 11-12, 14, 2021	785.28	785.09	783.09	787.78	NI	787.75	786.33	783.73	784.42	784.96	782.93	782.44	783.76	783.65	783.48	783.48	NI	NI	NI	NI	NI	NI	NI	NI
	December 21, 2021	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	782.93	NM	NM	NI	NI	NI	NI	NI	NI	NI	NI
	February 24, 2022	NM	NM	782.34	NM	NI	786.49	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI	NI	NI	NI	NI	NI
	April 11-13, 2022	785.44	784.42	783.40	788.20	NI	787.87	788.26	783.27	784.30	785.02	783.11	783.32	784.19	783.14	783.19	783.04	NI	NI	NI	NI	NI	NI	NI	NI
	July 27, 2022	NM	NM	783.07	NM	NI	787.03	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI	NI	NI	NI	NI	NI
	October 25-27, 2022	784.91	784.62	778.94	781.79	NI	784.97	783.85	781.94	783.61	784.57	778.32	777.89	784.16	781.50	780.96	781.23	NI	NI	NI	NI	NI	NI	NI	NI
	November 30, 2022	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	781.62	781.14	781.15	NI	NI	NI	NI	NI	NI	NI	NI
	December 2, 2022	785.12	784.48	NM	783.97	NI	NM	NM	781.91	783.71	784.76	778.52	779.54	NM	NM	NM	NM	NI	NI	NI	NI	NI	NI	NI	NI
	January 12-13, 2023	785.20	784.55	NM	NM	NI	NM	NM	782.75	784.10	784.88	NM	NM	NM	782.57	782.45	782.32	NI	NI	NI	NI	NI	NI	NI	NI
	January 20, 2023	NM	NM	NM	788.08	NI	NM	NM	NM	NM	NM	782.15	782.11	784.98	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI	NI
	January 24, 2023	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	783.73	783.36	783.63	783.77	NI	NI	NI	NI
	February 20-23, 2023	785.56	784.98	NM	NM	NI	NM	NM	NM	NM	NM	783.04	782.91	785.32	783.31	783.34	783.40	783.50	783.59	783.82	783.96	NI	NI	NI	NI
	March 27-28, 2023	786.83	785.87	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	783.84	783.98	784.43	NM	784.12	784.41	784.57	NI	NI	NI	NI
	April 24-27, 2023	787.57	786.87	784.38	784.03	NI	NM	782.59	785.79	786.22	786.97	784.82	784.25	787.75	785.05	785.18	785.69	NM	785.21	785.43	785.59	NI	NI	NI	NI
	May 5, 2023	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	785.55	NM	NM	NM	780.49	NI	NI	NI
	May 16, 2023	787.43	787.07	783.88	784.12	NI	dry	781.64	785.64	786.06	786.88	784.65	783.89	786.88	785.15	785.11	785.39	785.97	785.46	785.68	785.88	780.48	NI	NI	NI
	May 30-31, 2023	787.04	786.89	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	784.90	784.69	784.97	NM	785.24	785.55	785.77	NM	NI	NI	NI
	June 29-30, 2023	786.32	786.39	NM	NM	NI	NM	NM	784.32	785.04	785.92	NM	NM	NM	784.12	783.84	783.97	NM	784.67	784.95	785.17	NM	NI	NI	NI
	July 31, 2023	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	783.96	784.26	784.49	NM	NI	NI	NI
	August 31, 2023	NM	785.30	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	NM	782.47	NM	NM	783.55	783.83	783.97	NM	NI	NI	NI
	October 9-11, 2023	784.67	784.65	781.21	780.09	NI	779.93	780.54	782.57	783.55	784.39	NM	NM	783.09	782.58	782.32	782.22	783.69	783.10	783.33	783.59	780.30	NI	NI	NI
	November 9, 2023	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	782.76	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI
	November 20, 2023	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	781.97	781.45	782.85	NM	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI
	December 27, 2023	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	783.18	783.36	NM	NI	NI	NI
	April 15-17, 2024	785.27	784.49	782.16	aband	782.17	780.80	781.38	783.02	784.14	784.90	782.40	782.24	784.51	782.79	782.68	782.64	783.59	783.16	783.42	783.53	782.09	783.12	783.05	785.27
	April 19, 2024	785.51	784.55	782.26	aband	782.23	dry	dry	783.06	784.28	785.05	NM	782.64	784.69	782.90	782.82	782.74	783.68	783.30	783.49	783.62	782.15	NM	NM	NM
	May 20, 2024	NM	NM	NM	aband	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	784.25	NM	NM	NM	NM
	June 4, 2024	NM	NM	NM	aband	NM	783.03	783.66	NM	NM	NM	NM	NM	NM	784.27	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	June 27, 2024	NM	NM	NM	aband	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	785.87	785.97	787.20
	July 31, 2024	NM	NM	NM	aband	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	787.95	788.83	789.56
	August 8, 2024	NM	NM	787.17	aband	786.34	783.77	784.45	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	786.24	NM	NM	NM
	August 15, 2024	788.75	789.53	786.93	aband	786.03	783.75	784.27	788.77	787.62	788.17	787.66	787.24	788.39	787.90	787.93	788.37	788.31	aband	aband	aband	785.99	787.87	788.63	789.68
	August 30, 2024	NM	NM	NM	aband	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	aband	aband	aband	NM	787.28	787.78	789.17
	October 1-3, 2024	787.92	788.35	785.30	aband	784.91	782.80	783.42	787.33	786.79	787.14	786.04	785.94	786.88	786.46	786.35	786.40	786.90	aband	aband	aband	784.80	786.41	786.71	788.22
	October 18, 2024	NM	NM	NM	aband	NM	NM	NM	NM	NM	NM	785.50	785.08	786.34	NM	NM	NM	NM	aband	aband	aband	NM	NM	NM	NM
	October 31, 2024	NM	NM	NM	aband	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	aband	aband	aband	NM	785.73	785.92	787.88
	November 5, 2024	NM	NM	NM	aband	NM	NM	NM	NM	NM	NM	NM	NM	NM	785.66	785.45	NM	NM	aband	aband	aband	NM	NM	NM	NM
	December 9, 2024	NM	NM	NM	aband	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	aband	aband	aband	NM	785.50	785.64	787.41
	January 10, 2025	NM	NM	NM	aband	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	aband	aband	aband	NM	785.22	NM	787.12
	January 17, 2025	NM	NM	NM	aband	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	aband	aband	aband	NM	NM	785.35	NM
	February 25, 2025	NM	NM	NM	aband	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	aband	aband	aband	NM	784.36	784.53	786.59
	March 27, 2025	NM	NM	NM	aband	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	aband	aband	aband	NM	784.26	784.44	786.25
	April 21-23, 2025	787.41	787.05	784.37	aband	784.21	783.18	783.61	783.71	783.15	786.33	784.75	784.83	786.43	785.17	785.09	785.23	785.65	aband	aband	aband	784.27	784.94	785.06	786.31
	April 26, 2025	NM	NM	NM	aband	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	aband	aband	aband	NM	784.94	785.06	786.30
	July 16, 2025	NM	NM	NM	aband	NM	NM	NM	NM	NM	NM	NM	NM	NM	785.46	785.45	NM	NM	aband	aband	aband	NM	NM	785.45	787.04
	July 30, 2025	NM	NM	NM	aband	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	784.97	NM	NM	aband	aband	aband	NM	NM	NM	NM

02/27/2026 - Classification: Internal - ECRM13684511

Table 3. Groundwater Elevation - State Monitoring Program and CCR Well Network
Columbia Dry Ash and Ash Pond Disposal Facilities / SCS Engineers Project #25225067

Notes:
NM = not measured
NI = not installed
aband = abandoned
(1) The depth to water at MW-84A was not measured prior to purging for sampling during the October 3-5, 2017 sampling event. The level was allowed to return to static and was measured on October 10, 2017.
(2) MW-303 was extended in 2022 due to regrading. Prior to October 2022, the TOC elevation was 811.52'. For events in October 2022 and later, the TOC elevation is 815.72'.

Created by: MDB Date: 5/6/2013
Last revision by: RM Date: 7/30/2025
Checked by: CG Date: 8/1/2025

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Table 4. Horizontal Gradients and Flow Velocity
Columbia Energy Center - Primary Pond / SCS Engineers Project #25225067.20
April 2025

	Flow Path A - Northwest				
Sampling Dates	**h1 (ft)**	**h2 (ft)**	**Δl (ft)**	**Δh/Δl (ft/ft)**	**V (ft/d)**
4/21-23/2025	784.21	783.00	1171	0.001	0.04

Wells	**K Values (cm/sec)**	**K Values (ft/d)**
M-4R	3.0E-03	8.4
M-303	4.0E-02	114
M-304	1.2E-02	34
MW-304R	6.3E-05	0.18
M-305	5.0E-02	141
MW-316	1.0E-02	29
Geometric Mean	6.0E-03	17

Assumed Porosity, n
0.40

Groundwater flow velocity equation: V = [K*(Δh/Δl)] / n

ft = feet
ft/d = feet per day
K = hydraulic conductivity
n = effective porosity
V = groundwater flow velocity

h1, h2 = point interpreted groundwater elevation at locations 1 and 2
Δl = distance between location 1 and 2
Δh/Δl = hydraulic gradient

Note:
1. See Figure 3 for velocity calculation flow path for April 2025.

Last revision by: NLB Date: 7/21/2025
Checked by: RM Date: 9/18/2025

02/27/2026 - Classification: Internal - ECRM13684511

Table 5A. Groundwater Analytical Results Summary - Assessment Monitoring - October 2024
Columbia Generating Station - Primary Pond / SCS Engineers Project #25225067.20

Parameter Name	UPL/UTL Method	UPL		Background Wells		Compliance Wells						Supplemental Well
				MW-84A	MW-301	M-4R		MW-303	MW-304R	MW-305		MW-316
				10/2/2024	10/2/2024	8/15/2024	10/1/2024	10/2/2024	10/1/2024	8/15/2024	10/1/2024	10/2/2024
Groundwater Elevation, ft amsl				787.14	787.92	784.27	783.42	785.30	784.91	783.75	782.80	784.80
Appendix III												
Boron, µg/L	NP	36.2		10.3	22.1	651	854	2,750	874	524	803	1,540
Calcium, µg/L	NP	126,000		73,300	97,000 P6	124,000	111,000	47,700	90,300	35,400	34,100	25,100
Chloride, mg/L	P	5.91		3.3	1.5 J	24.1	11.9	9.7	31.2	4.0	16.9	18.5
Fluoride, mg/L	NP	0.2		<0.095	0.13 J	<0.95 D3	0.23 J	0.097 J	0.26 J	0.20 J	0.16 J	0.24 J
Field pH, Std. Units	P	7.75		7.36	6.85	6.95	7.19	8.69	7.27	7.89	8.25	8.53
Sulfate, mg/L	NP	27.5		1.8 J	10.4	238	146	258	128	23.3	50.9	152
Total Dissolved Solids, mg/L	NP	514		318	410	604	524	488	538	158	170	360
Appendix IV		**UTL**	**GPS**									
Antimony, µg/L	NP	0.550	6	<0.15	<0.15	0.23 J	0.23 J	<0.15	<0.15	0.41 J	0.34 J	<0.15
Arsenic, µg/L	NP	0.910	10	<0.28	<0.28	<0.28	<0.28	3.9	1.7	0.41 J	0.42 J	4.4
Barium, µg/L	P	18	2000	13.6	10.6	43.2	33.2	22.0	80.4	7.8	6.5	23.1
Beryllium, µg/L	NP	0.470	4	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Cadmium, µg/L	NP	0.530	5	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
Chromium, µg/L	NP	2.6	100	1.7 J	<1.0	1.3 J	<1.0	53.0	<1.0	3.1 J	3.4 J	<1.0
Cobalt, µg/L	NP	0.520	6	<0.12	<0.12	0.68 J	0.13 J	0.34 J	0.84 J	<0.12	<0.12	0.13 J
Fluoride, mg/L	NP	0.2	4	<0.095	0.13 J	<0.95 D3	0.23 J	0.097 J	0.26 J	0.20 J	0.16 J	0.24 J
Lead, µg/L	NP	0.550	15	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24
Lithium, µg/L	P	0.872	40	0.57 J	0.80 J	0.88 J	2.6	1.4	1.7	0.41 J	<0.22	1.3
Mercury, µg/L	DQ	DQ	2	<0.066	<0.066	<0.066	0.067 J	<0.066	<0.066	<0.066	<0.066	<0.066
Molybdenum, µg/L	NP	0.620	100	<0.44	<0.44	10.9	14.1	47.4	14.5	7.4	6.0	100
Selenium, µg/L	NP	0.710	50	<0.32	0.39 J	20.2	25.4	14.4	<0.32	0.60 J	1.4	<0.32
Thallium, µg/L	NP	0.660	2	<0.14	0.15 J	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14
Radium 226/228 Combined, pCi/L	P	1.95	5	0.668	0.833	0.250	0.865	0.334	0.538	0.000	0.608	1.01

Blue shaded cell indicates the compliance well result exceeds the UPL (background) and the LOQ.
Yellow highlighted cell indicates the compliance well result exceeds the GPS.

Abbreviations:
UPL = Upper Prediction Limit
UTL = Upper Tolerance Limit
GPS = Groundwater Protection Standard
NP = Nonparametric UPL (highest background value) with 1-of-2 retesting
P = Parametric UPL with 1-of-2 retesting
DQ = Double Quantitation Rule (not detected in background).

mg/L = milligrams per liter mg/L = milligrams per liter
µg/L = micrograms per liter µg/L = micrograms per liter
Std. Units = Standard Units
ft amsl = feet above mean sea level
pCi/L = picocuries per liter
LOD = Limit of Detection
LOQ = Limit of Quantitation

Lab Notes:
J = Estimated concentration at or above the LOD and below the LOQ.

Notes:
1. An individual result above the UPL or GPS does not constitute a statistically significant increase (SSI) above background or a statistically significant level above the GPS. See the accompanying letter text for identification of statistically significant results.
2. GPS is the United States Environmental Protection Agency (U.S. EPA) Maximum Contamination Level (MCLs), if established; otherwise, the values from 40 CFR 257.95(h)(2).
3. Interwell UPLs calculated based on results from background wells MW-84A and MW-301.
4. For compliance wells, only results confirmed above the LOQ are evaluated as potential statistically significant increases above background.
5. Interwell UPLs and UTLs were updated September 2024 based on background data collected through October 2023.

Created by: RM Date: 6/2/2023
Last revision by: RM Date: 1/13/2025
Checked by: LH Date: 1/13/2025

02/27/2026 - Classification: Internal - ECRM13684511

Table 5B. Groundwater Analytical Results Summary - Assessment Monitoring - April 2025
Columbia Generating Station - Primary Pond / SCS Engineers Project #25225067.20

Parameter Name	UPL/UTL Method	UPL		Background Wells		Compliance Wells			
				MW-84A	MW-301	M-4R	MW-304R	MW-305	MW-316
				4/22/2025	4/22/2025	4/21/2025	4/21/2025	4/22/2025	4/22/2025
Groundwater Elevation, ft amsl				786.33	787.41	783.61	784.21	783.18	784.27
Appendix III									
Boron, µg/L	NP	36.2		10.0	25.5	540	855	848	1,700
Calcium, µg/L	NP	126,000		70,000	108,000	102,000 P6	90,800	42,200	26,500
Chloride, mg/L	P	5.91		3.0	1.4 J	25.6	24.0	7.9	16.0
Fluoride, mg/L	NP	0.2		<0.095	<0.095	<0.19 D3	0.14 J	0.20 J	0.14 J
Field pH, Std. Units	P	7.75		7.07	6.59	7.28	7.28	8.42	8.37
Sulfate, mg/L	NP	27.5		1.7 J	8.2	113	147	106	134
Total Dissolved Solids, mg/L	NP	514		324	468	470	554	226	332
Appendix IV		**UTL**	**GPS**						
Antimony, µg/L	NP	0.550	6	<0.15	<0.15	0.21 J	<0.15	0.26 J	<0.15
Arsenic, µg/L	NP	0.910	10	<0.28	<0.28	<0.28	1.1	0.44 J	5.2
Barium, µg/L	P	18	2000	13.5	10.2	25.5	62.7	7.7	25.9
Beryllium, µg/L	NP	0.470	4	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Cadmium, µg/L	NP	0.530	5	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
Chromium, µg/L	NP	2.6	100	1.9 J	<1.0	<1.0	<1.0	4.1	<1.0
Cobalt, µg/L	NP	0.520	6	<0.12	<0.12	<0.12	0.92 J	<0.12	<0.12
Fluoride, mg/L	NP	0.2	4	<0.095	<0.095	<0.19 D3	0.14 J	0.20 J	0.14 J
Lead, µg/L	NP	0.550	15	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24
Lithium, µg/L	P	0.872	40	0.41 J	0.57 J	1.7	0.74 J	<0.22	1.3
Mercury, µg/L	DQ	DQ	2	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066
Molybdenum, µg/L	NP	0.620	100	<0.44	<0.44	12.2	9.5	9.6	77.5
Selenium, µg/L	NP	0.710	50	<0.32	<0.32	27.2	<0.32	4.0	<0.32
Thallium, µg/L	NP	0.660	2	<0.14	<0.14	0.16 J	<0.14	<0.14	<0.14
Radium 226/228 Combined, pCi/L	P	1.95	5	0.249	0.483	0.794	0.350	0.630	0.312

Blue shaded cell indicates the compliance well result exceeds the UPL (background) and the LOQ.
Yellow highlighted cell indicates the compliance well result exceeds the GPS.

Abbreviations:
UPL = Upper Prediction Limit
UTL = Upper Tolerance Limit
GPS = Groundwater Protection Standard
NP = Nonparametric UPL (highest background value) with 1-of-2 retesting
P = Parametric UPL with 1-of-2 retesting
DQ = Double Quantitation Rule (not detected in background).

mg/L = milligrams per liter
µg/L = micrograms per liter
Std. Units = Standard Units
ft amsl = feet above mean sea level
pCi/L = picocuries per liter
LOD = Limit of Detection
LOQ = Limit of Quantitation

Lab Notes:
J = Estimated concentration at or above the LOD and below the LOQ.
D3 = Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
P6 = Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

Notes:
1. An individual result above the UPL or GPS does not constitute a statistically significant increase (SSI) above background or a statistically significant level above the GPS. See the accompanying letter text for identification of statistically significant results.
2. GPS is the United States Environmental Protection Agency (U.S. EPA) Maximum Contamination Level (MCLs), if established; otherwise, the values from 40 CFR 257.95(h)(2).
3. Interwell UPLs calculated based on results from background wells MW-84A and MW-301.
4. For compliance wells, only results confirmed above the LOQ are evaluated as potential statistically significant increases above background.
5. Interwell UPLs and UTLs were updated September 2024 based on background data collected through October 2023.

Created by: RM Date: 6/2/2023
Last revision by: RM Date: 5/20/2025
Checked by: EMS Date: 5/28/2025

02/27/2026 - Classification: Internal - ECRM13684511

Table 6. Groundwater Field Data Summary
Columbia Energy Center - Primary Ash Pond / SCS Engineers Project #25225067.20

Well	Sample Date	Groundwater Elevation (feet amsl)	Field Temperature (deg C)	Field pH (Std. Units)	Oxygen, Dissolved (mg/L)	Field Specific Conductance (µmhos/cm)	Field Oxidation Potential (mV)	Turbidity (NTU)
MW-84A	10/2/2024	787.14	12.4	7.36	8.73	503	65.1	2.55
	4/22/2025	786.33	10.8	7.07	7.42	588	93.8	0.00
MW-301	10/2/2024	787.92	11.7	6.85	2.77	602	68.1	1.84
	4/22/2025	787.41	8.0	6.59	3.11	827	107	8.64
M-4R	8/15/2024	784.27	16.2	6.95	1.26	825	137	3.50
	10/1/2024	783.42	14.8	7.19	0.69	790	126	10.5
	4/21/2025	783.61	8.8	7.28	2.97	734	41.2	3.48
MW-303[1]	10/2/2024	785.30	13.6	8.69	5.69	744	165	1.18
	4/23/2025	784.37	11.1	9.03	6.39	988	20.7	0.00
MW-304R	10/1/2024	784.91	14.9	7.27	0.60	835	108	18.1
	4/21/2025	784.21	10.4	7.28	0.05	848	-105	7.88
MW-305	8/15/2024	783.75	17.6	7.89	5.32	260	112	0.00
	10/1/2024	782.80	16.8	8.25	5.00	299	139.5	12.0
	4/22/2025	783.18	12.3	8.42	4.35	376	56.2	0.00
MW-316	10/2/2024	784.80	12.6	8.53	0.32	584	134	2.16
	4/22/2025	784.27	12.0	8.37	0.02	504	-180	0.68

Abbreviations:
mg/L = milligrams per liter
amsl = Above mean sea level
µmhos/cm = micromhos per centimeter
NTU = Nephelometric Turbidity Unit
mV = millivolts
deg C = degrees Celsius

Notes:

1. MW-303 was removed from the monitoring network with the addition of MW-316. Documented in the April 15, 2025 Groundwater Monitoring System Update - Certification.

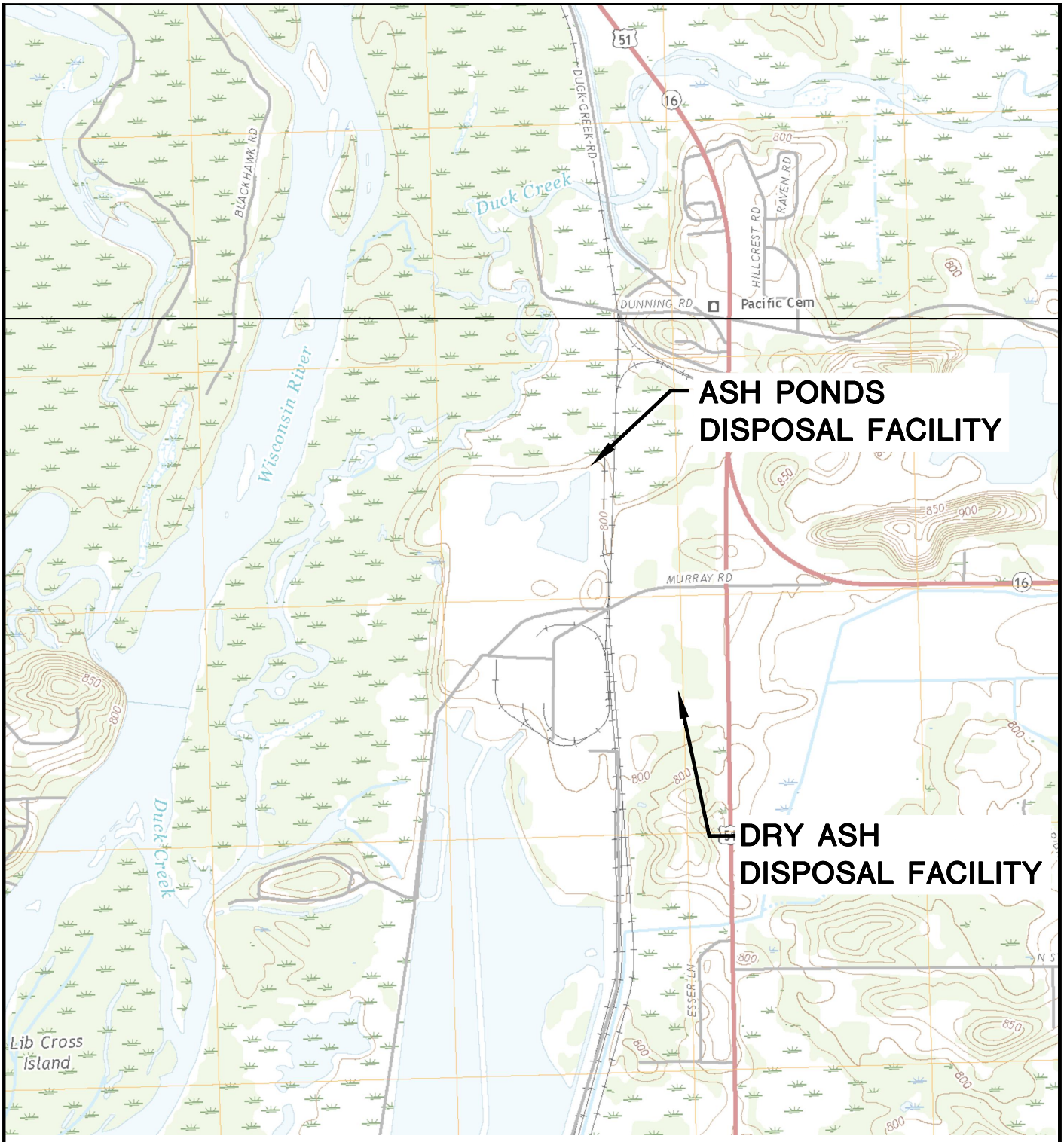
Last revision by: NLB Date: 9/3/2025
Checked by: RM Date: 12/10/2025

02/27/2026 - Classification: Internal - ECRM13684511

Figures

1 Site Location Map
2 Site Plan and Monitoring Well Locations
3 Water Table Map – April 2025

02/27/2026 - Classification: Internal - ECRM13684511



N

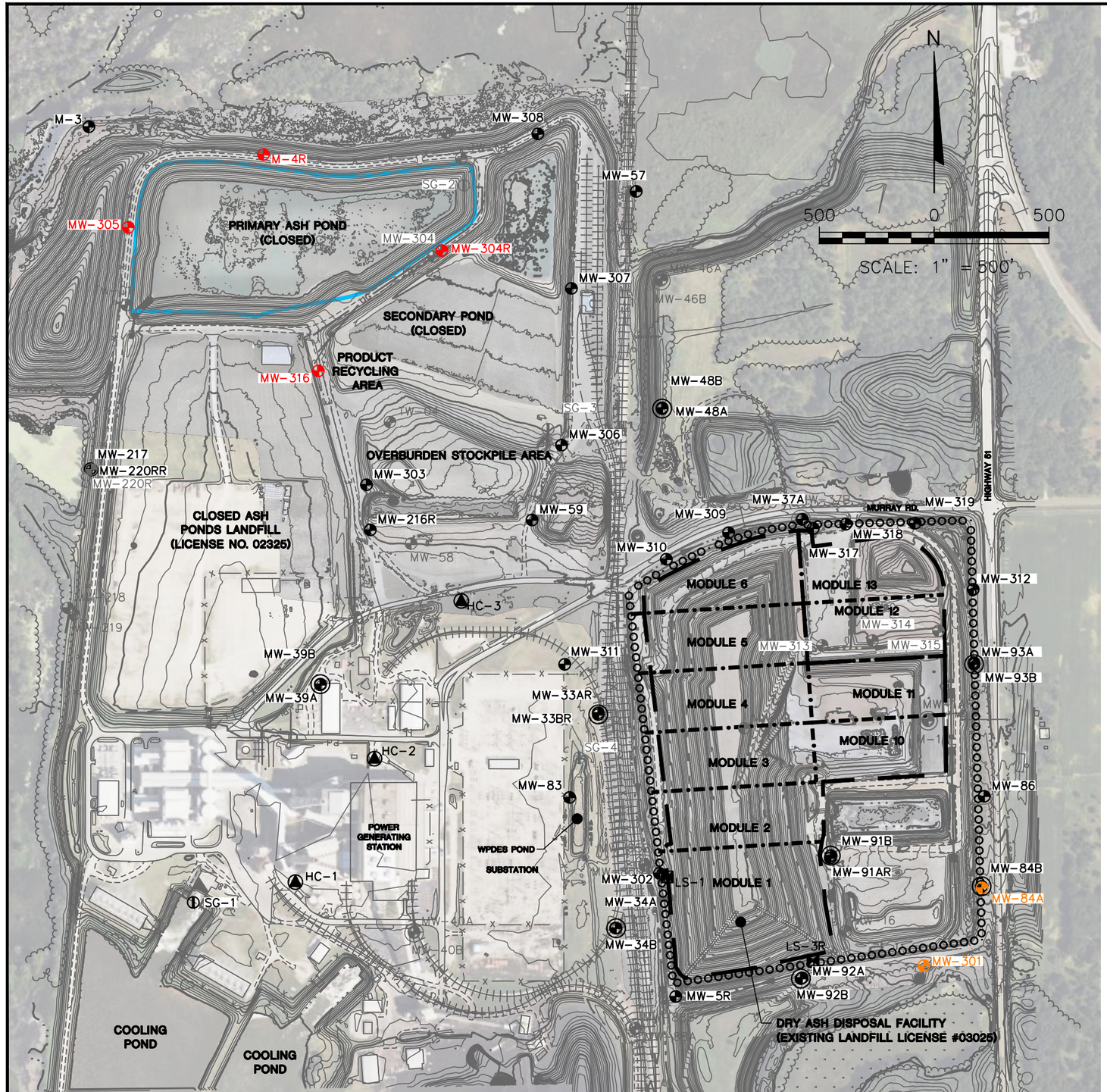
POYNETTE QUADRANGLE
WISCONSIN–COLUMBIA CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
2018
SCALE: 1" = 2,000'



CLIENT: ALLIANT ENERGY COLUMBIA ENERGY CENTER W8375 MURRAY ROAD PARDEEVILLE, WI 53954	SITE: ALLIANT ENERGY COLUMBIA ENERGY CENTER PARDEEVILLE, WI	SITE LOCATION MAP	
PROJECT NO. 25219067.00	DRAWN BY: BSS	ENGINEER: SCS ENGINEERS 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830	FIGURE 1
DRAWN: 12/02/2019	CHECKED BY: MDB		
REVISED: 01/10/2020	APPROVED BY: TK 01/30/2020		

I:\25219067.00\Drawings\CCR 2019 Annual Report\Site Location Map.dwg, 1/30/2020 3:38:21 PM

02/27/2026 - Classification: Internal - ECRM13684511



LEGEND

- EXISTING MAJOR CONTOUR (10' INTERVAL)
- EXISTING MINOR CONTOUR (2' CONTOUR)
- EXISTING FENCELINE
- EXISTING TRACKS
- EXISTING PAVED ROAD
- EXISTING UNPAVED ROAD
- EDGE OF WATER
- DRY ASH DISPOSAL FACILITY LIMITS
- LINER PHASE/MODULE LIMITS
- WATER SUPPLY WELL
- STAFF GAUGE
- WATER TABLE WELL
- PIEZOMETER
- LYSIMETER
- ABANDONED STAFF GUAGE
- ABANDONED WATER TABLE WELL
- ABANDONED PIEZOMETER
- CCR MONITORING WELL
- PRIMARY ASH POND CCR MONITORING WELL
- CCR BACKGROUND MONITORING WELL
- CCR UNIT

NOTES:

1. BASE MAP CREATED FROM AERIAL SURVEY BY KBM, FLOWN DECEMBER 1, 2014, PERIODIC SURVEYS BY SCS ENGINEERS AND CEDAR CREEK SURVEYING, LLC, AND DECEMBER 2023 DRONE SURVEY BY AMES.
2. MONITORING WELL LOCATIONS AND ELEVATIONS SURVEYED BY WISCONSIN POWER AND LIGHT, INC. IN DECEMBER 1994, NOVEMBER 1996, APRIL 2003, AND JANUARY 2016 AND BY SCS ENGINEERS IN FEBRUARY 2018.
3. SUPPLY WELL LOCATIONS ARE APPROXIMATE AND ASSUMED BASED ON JANUARY 2013 DRAWINGS BY TRC.
4. MONITORING WELLS MW-301 THROUGH MW-305 INSTALLED BY BADGER STATE DRILLING ON NOVEMBER 11-13, 2015.
5. MONITORING WELLS MW-306 THROUGH MW-308 INSTALLED BY BADGER STATE DRILLING ON NOVEMBER 14-15, 2016.
6. MONITORING WELLS MW-309 THROUGH MW-311 INSTALLED BY BADGER STATE DRILLING ON FEBRUARY 13-14, 2018.
7. MONITORING WELLS MW-93A, MW-93B, AND MW-312 INSTALLED BY CASCADE ENVIRONMENTAL ON MARCH 25-28, 2022.
8. MONITORING WELL MW-316 WAS INSTALLED BY HORIZON CONSTRUCTION & EXPLORATION ON APRIL 27, 2023.
9. MONITORING WELLS MW-317, MW-318, AND MW-319 WERE INSTALLED BY HORIZON CONSTRUCTION & EXPLORATION ON APRIL 9 THROUGH 11, 2024. MONITORING WELLS MW-313, MW-314, AND MW-315 WERE ABANDONED BY HORIZON CONSTRUCTION & EXPLORATION ON MAY 22, 2024.
10. BACKGROUND MONITORING WELLS ARE: MW-301 AND MW-84A.

PROJECT NO.	25224067.00	DRAWN BY:	SB
DRAWN:	01/03/2025	CHECKED BY:	NLB
REVISED:	02/18/2025	APPROVED BY:	TK (02/18/2025)

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

CLIENT: ALLIANT ENERGY
COLUMBIA ENERGY CENTER
W8375 MURRAY ROAD
PARDEEVILLE, WI 53954

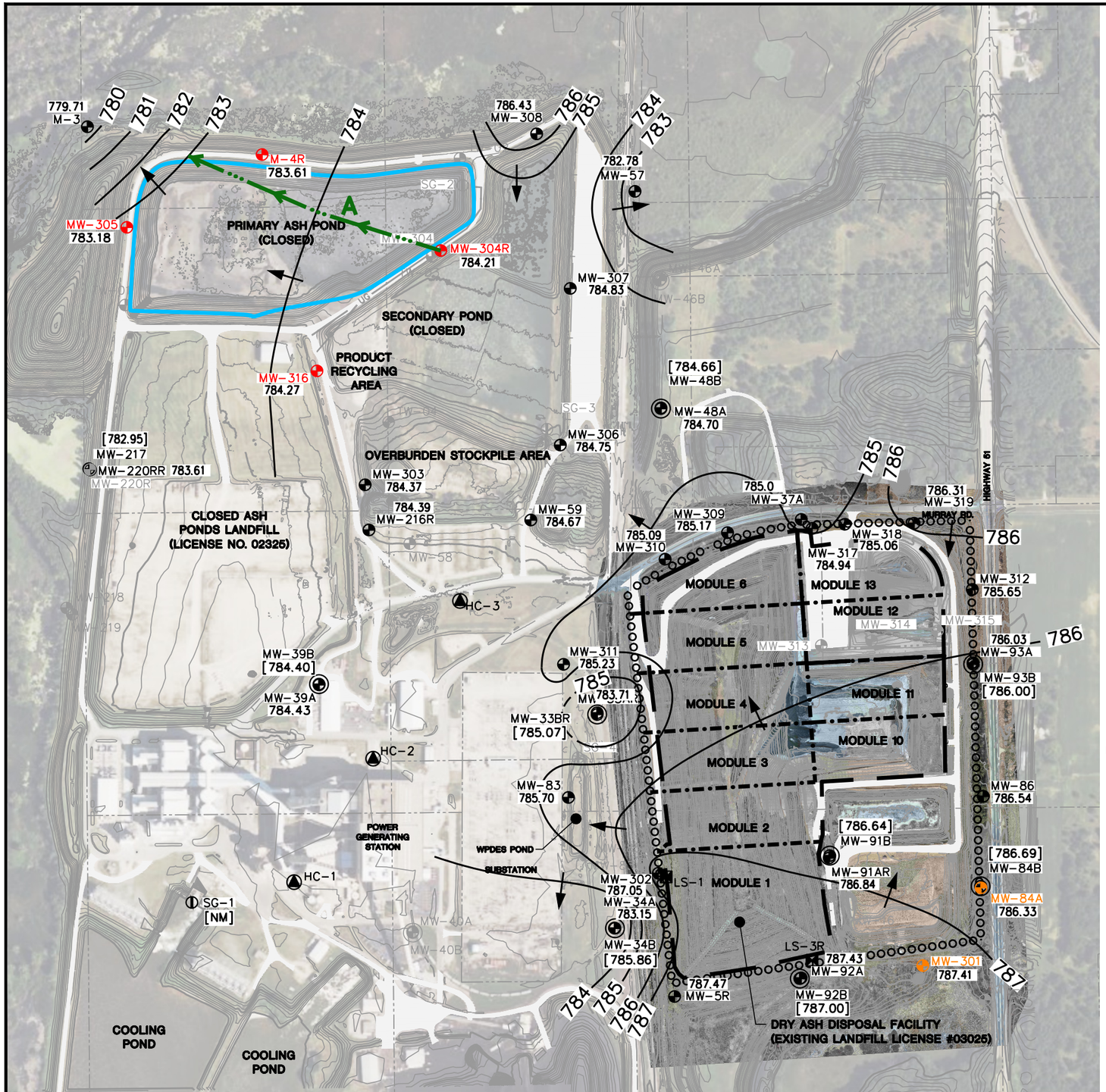
SITE: ALLIANT ENERGY
COLUMBIA ENERGY CENTER
PARDEEVILLE, WI

SITE PLAN AND MONITORING WELL LOCATIONS
COLUMBIA ENERGY CENTER PRIMARY ASH POND

FIGURE
2

I:\Client\Alliant_PROJECT SITES\Columbia\CAD Master References COL\Water Table Maps\Site Plan\02_Col Site Plan Figures.dwg, 1/12/2026 3:39:38 PM

02/27/2026 - Classification: Internal - ECRM13684511



LEGEND

- EXISTING MAJOR CONTOUR (10' INTERVAL)
- EXISTING MINOR CONTOUR (2' CONTOUR)
- EXISTING FENCELINE
- EXISTING TRACKS
- EXISTING PAVED ROAD
- EXISTING UNPAVED ROAD
- EDGE OF WATER
- DRY ASH DISPOSAL FACILITY LIMITS
- LINER PHASE/MODULE LIMITS
- WATER SUPPLY WELL
- STAFF GAUGE
- WATER TABLE WELL
- PIEZOMETER
- LYSIMETER
- ABANDONED STAFF GUAGE
- ABANDONED WATER TABLE WELL
- ABANDONED PIEZOMETER
- CCR MONITORING WELL
- CCR BACKGROUND MONITORING WELL

- 788.75 — WATER TABLE ELEVATION
- [781.47] — POTENTIOMETRIC SURFACE ELEVATION (NOT CONTOURED)
- [NM] — NOT MEASURED
- WATER TABLE CONTOUR (1-FOOT CONTOUR INTERVAL) (DASHED WHERE INFERRED)
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- CCR UNITS
- APPROXIMATE PROPERTY LINE
- FLOW PATH FOR VELOCITY CALCULATION

N

500 0 500

SCALE: 1" = 500'

NOTES:

1. WATER LEVELS WERE MEASURED ON APRIL 21-23, 2025.
2. WELL INSTALLATION AND SURVEY INFORMATION, SEE SITE PLAN FIGURE 2 NOTES.
3. STATE MONITORING WELLS M-3, M-4R, MW-5R, MW-33AR, MW-33BR, MW-34A, MW-34B, MW-37A, MW-39A, MW-39B, MW-48A, MW-48B, MW-57, MW-59, MW-83, MW-84A, MW-84B, MW-91AR, MW-91B, MW-92A, MW-92B, MW-93A, MW-93B, MW-86, MW-216R, MW-217 and MW-220RR.
4. CCR BACKGROUND MONITORING WELLS: MW-301 & MW-84A.
5. CCR MONITORING WELLS: MW-33AR, MW-34A, MW-302, MW-302A, MW-303, MW-304R, MW-305, MW-306, MW-307, MW-308, MW-309, MW-310, MW-311, MW-312, MW-316, MW-317, MW-318, MW-31 and MW-319.
6. SURFACE WATER MONITORING POINTS: STAFF GAUGE SG-1.
7. OTHER MONITORING POINTS: SUPPLY WELLS HC-1, HC-2 AND HC-3. LYSIMETERS L-1 AND LS-3R.
8. THERE WERE NO DRY MONITORING WELLS OR LEACHATE HEADWELLS IN APRIL 2025.
9. VERTICAL DATUM IS REFERENCED TO THE USGS MEAN SEA LEVEL (MSL).
10. BACKGROUND AERIAL IMAGE IS A COMPOSITE OF AN AERIAL PHOTOGRAPH IMPORTED FROM BING MAPS USING AUTOCAD GEOLOCATION MAP TOOL AND DRONE PHOTO BY SCS ENGINEERS DATED JANUARY 20th, 2025.

PROJECT NO.	25225067.00	DRAWN BY:	RVG/SB
DRAWN:	05/15/2025	CHECKED BY:	NLB
REVISED:	01/29/2026	APPROVED BY:	TK 01/29/2026

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

CLIENT: ALLIANT ENERGY
COLUMBIA ENERGY CENTER
W8375 MURRAY ROAD
PARDEEVILLE, WI 53954

SITE: ALLIANT ENERGY
COLUMBIA ENERGY CENTER
PARDEEVILLE, WI

WATER TABLE CONTOUR MAP
APRIL 2025

FIGURE 3

I:\Client\Alliant_PROJECT SITES\Columbia\CAD Master References COL\Water Table Maps\COL April 2025 GW Master Map.dwg, 1/29/2026 2:30:38 PM

02/27/2026 - Classification: Internal - ECRM13684511

Appendix A

Certification of Closure – COL Primary Pond

02/27/2026 - Classification: Internal - ECRM13684511

October 10, 2025
File No. 25225223.00

Ms. Cheryl Bommarito
Columbia Energy Center
W8375 Murray Road
Pardeeville, WI 53954

Subject: Certification of Closure – COL Primary Pond
Columbia Energy Center, Pardeeville, Wisconsin

Dear Ms. Bommarito:

The closure of the Columbia Energy Center Primary Ash Pond has been conducted in accordance with the written Closure Plan for CCR Surface Impoundments – Amendment No. 1, dated November 11, 2020.

As of the date of this letter, the closure of the impoundments has been completed to satisfy the requirements in 40 CFR 257.102. The closure has been completed by removal of CCR in accordance with the performance standards in 40 CFR 257.102(c).

Based on the results of the two most recent groundwater sampling events, the former Primary Ash Pond CCR Unit meets the groundwater performance standard for closure by removal of CCR under 40 CFR 257.102(c)(1)(ii).

02/27/2026 - Classification: Internal - ECRM13684511

PE CERTIFICATION



I, Phillip E. Gearing, hereby certify that the closure of the following CCR impoundment at the Columbia Energy Center has been completed in accordance with Amendment No. 1 to the written closure plan and the requirements of 40 CFR 257.102.

- COL Primary Ash Pond

This certification is based on my review of the written closure plan posted to Alliant Energy's CCR Rule Compliance Data and Information website and my oversight of the closure of the Primary Ash Pond. I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Wisconsin.

10/10/2025
Phillip E. Gearing, PE (date)

Wisconsin License No. E-45115

My license renewal date is: 7/31/2026

Pages or sheets covered by this seal: Certification of Closure – COL Primary Ash Pond, dated October 10, 2025.

If you have any questions regarding this certification, please contact Phil Gearing.

Sincerely,

Phillip E. Gearing, PE
Senior Project Manager / Certifying PE
SCS Engineers

Sherren Clark, PE, PG
Project Director
SCS Engineers

MDB/AJR/SCC/PEG

cc: Jeff Maxted, Alliant Energy

I:\25225223.00\Deliverables\Closure Certification\251010_Bommarito_Cert_Primary Pond_v1.0.docx

Appendix B

Summary of Regional Hydrogeologic Stratigraphy

02/27/2026 - Classification: Internal - ECRM13684511

Table COL-3. Regional Hydrogeologic Stratigraphy
Columbia Energy Center / SCS Engineers Project #25215053

Approximate Age	Hydrogeologic Unit	General Thickness (feet)	Name of Rock Unit*	Predominant Lithology
Quaternary (0-1 million years old)	Surficial Aquifer	0 to 300+	Holocene & Pleistocene Deposits	• Unconsolidated clay, silt, sand, gravel, cobbles, boulders, and organic matter
Ordovician (460 to 490 million years old)	Sandstone Aquifer	0 to 800+	Galena Decorah Platteville St. Peter Prairie du Chien	• Dolomite and shaley dolomite • Sandstone
Cambrian (490 to 500 million years old)			Trempeleau Franconia Galesville Eau Claire Mt. Simon	• Sandstone
Precambrian (more than 1 billion years old)	Used for domestic supply in some areas	--	Precambrian	• Igneous and metamorphic rocks

*This nomenclature and classification of rock units in this report are those of the Wisconsin Geological and Natural History Survey and do not necessarily coincide with those accepted by the U.S. Geological Survey.

Sources:

Harr, C.A., L.C. Trotta, and R.G. Borman, "Ground-Water Resources and Geology of Columbia County, Wisconsin," University of Wisconsin-Extension Geological and Natural History Survey Information Circular Number 37, 1978.

Wisconsin Geological and Natural History Survey, Bedrock Stratigraphic Units in Wisconsin, UW Extension Educational Series 51, ISSN: 1052-2115, 2011.

I:\25215053\Reports\Report 3 - Columbia\Tables\Table_2_Regional_Hydrogeologic_Stratigraphy.doc

02/27/2026 - Classification: Internal - ECRM13684511

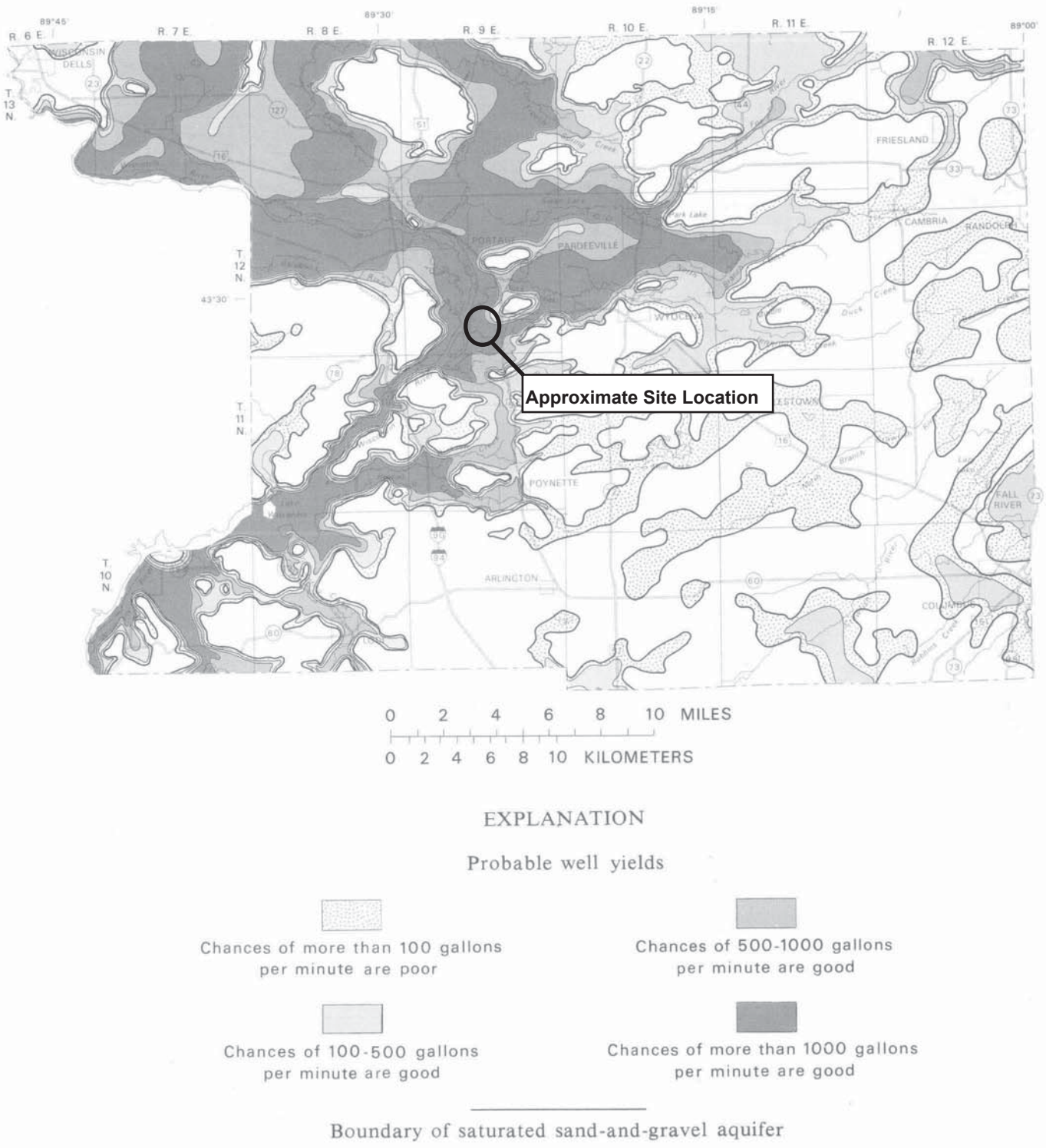
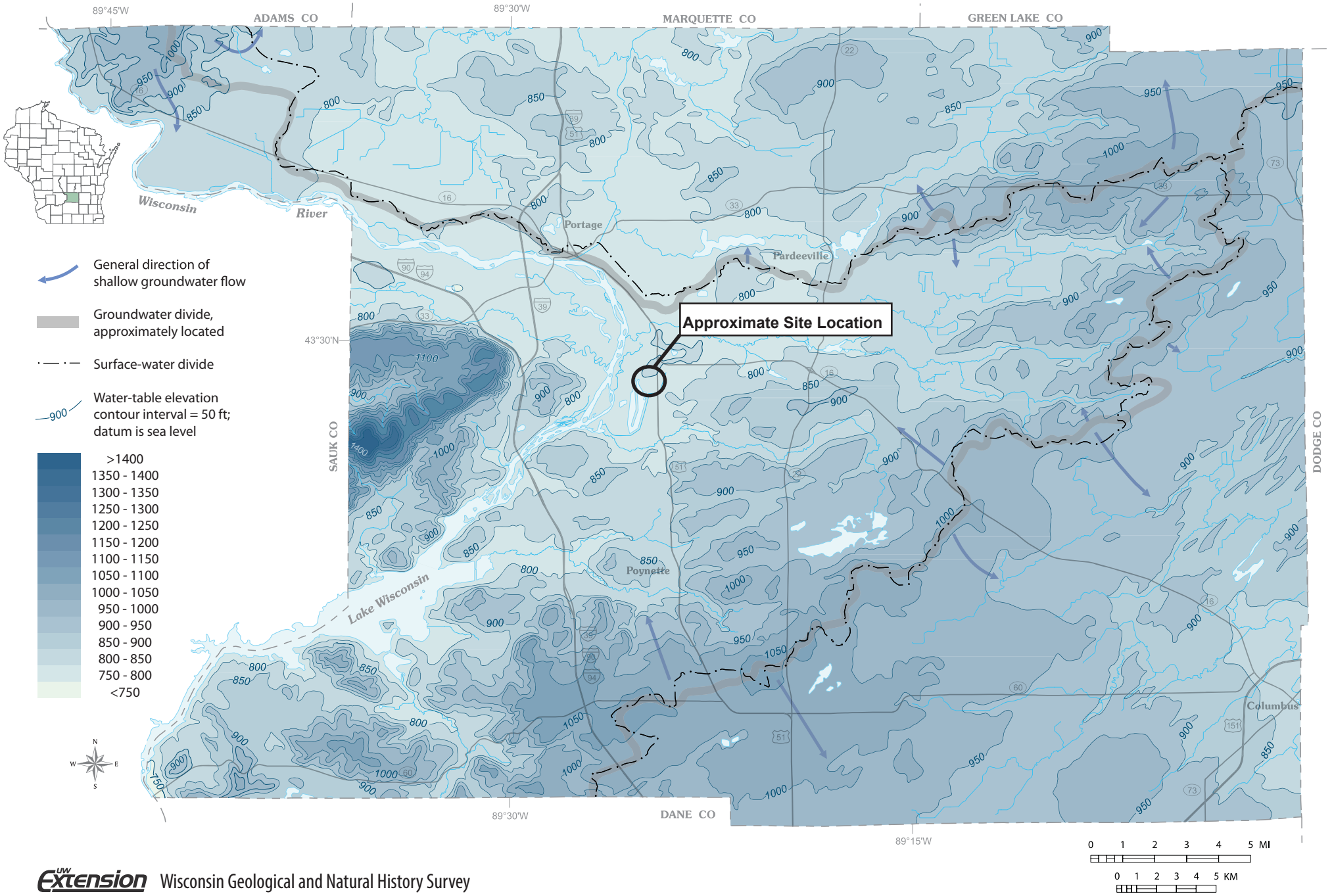


Figure 9. Probably well yields from the sand-and-gravel aquifer.

Source: Harr, C.A., L.C. Trotta, and R.G. Borman, "Ground-Water Resources and Geology of Columbia County, Wisconsin," University of Wisconisn-Extension Geological and Natural History Surevy Information Circular Number 37, 1978.

02/27/2026 - Classification: Internal - ECRM13684511

Generalized water-table elevation in Columbia County, Wisconsin



Wisconsin Geological and Natural History Survey

02/27/2026 Classification: Internal FOIA 2025-4511

Source: Selkwood, Stephen R., Wisconsin Geologic and Natural History Survey, Water Table Elevation, Groundwater Resources of Columbia County Wisconsin,

Appendix C

Boring Logs and Well Construction Documentation

02/27/2026 - Classification: Internal - ECRM13684511

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
WPL-Columbia SCS#: 25215135.00		MW-301

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Kevin Durst Badger State Drilling	11/11/2015	11/11/2015	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
VY701			Feet	803.69 Feet	8.5 in.

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 541562.2 N, 2025001.0 E S/C/N
1/4 of 1/4 of Section 27, T 12 N, R 9 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Columbia	11	Portage

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: Pocket Penetration (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
S1	21	7 6 9 10	1–2	SILTY SAND, yellowish brown (10YR 5/6), fine to medium grained.						M				
S2	20	6 7 9 10	3–4	Same as above except, 10YR 5/4 (top section), 10YR 3/6 (bottom section), trace gravel.						M				
S3	22	7 6 9 6	5–7	Same as above except, 10YR 3/4 (bottom), 10YR 5/4 (top), trace little roots and sticks, trace gravel.	SM					M				
S4	21	4 5 6 5	8–10	Same as above except, 10YR (top), 10YR 4/6 (bottom), trace clay at bottom.						M				
S5	18	2 2 4 5	11–12	Same as above except, fine to coarse grained sand, little gravel, trace clay in top half, 10YR 3/6.						M				
S6	20	2 3 3 3	13–15	Same as above except, 10YR 6/8.						M				

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

Signature [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 be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

02/27/2026 - Classification: Internal - ECRM13684511

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

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

Sample Number and Type	Sample 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: Pocket Penetration (tsf)	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			16	SILTY SAND, yellowish brown (10YR 5/6), fine to medium grained.										
S7	20	5 4 4 3	17							M				
			18											
			19											
S8	20	2 4 4 5	20							W				
			21											
					SM									
S9	23	4 4 3 6	22							W				
			23											
			24	Same as above except, 10YR 6/4.										
S10	21	3 2 4 10	25							W				
			26											
			27											
			28	End of boring at 28 ft bgs.										

02/27/2026 - Classification: Internal - ECRM13684511

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
WPL-Columbia SCS#: 25215135.00		MW-303

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Kevin Durst Badger State Drilling	11/12/2015	11/13/2015	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
VY714			Feet	808.69 Feet	8.5 in.

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 543655.7 N, 2122574 E
1/4 of 1/4 of Section 27, T 12 N, R 9 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Columbia	11	Portage

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: Pocket Penetration (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
S1	20	5 8 15 10	1–3	SILTY SAND CLAY with GRAVEL, (fill), tan colored 10YR 7/6.	SM					M				
S2	24	7 7 7 17	4–5	Same as above except, grey/brown (10YR 5/4).						M				
S3	20	13 34 50/5	6–8	SILTY SAND, trace gravel, tan color (10YR 5/4).						M				
S4	14	30 50/5	9–10		SM					M				
S5	15	31 50/3	11–13							M				
S6	15	38 50/3	14–15	Same as above with an inch of rock (limestone).						M				

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

Signature	Firm	Tel: (608) 224-2830
for Zach Watson	SCS Engineers 2830 Dairy Drive Madison, WI 53711	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 be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

02/27/2026 - Classification: Internal - ECRM13684511

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number MW-303 Use only as an attachment to Form 4400-122. Page 2 of 2

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: Pocket Penetration (tsf)	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			16											
S7	10	50/4	17	SILTY SAND, trace gravel, tan color (10YR 5/4), with trace gravel.						M				
			18											
			19											
S8	18	28 37 50/4	20							M				
			21											
S9	0	50	22											Lost spoon tip no sample.
			23											
			24	Same as above except, fine to coarse grained sand, little gravel.	SM									
S10	15	35 50/5	25							M				
			26	Same as above except, tan (10YR 5/6).										
S11	14	7 50/3	27							W				
			28											
			29											
			30											
			31											
			32											
			33	End of boring at 33 ft bgs.										

02/27/2026 - Classification: Internal - ECRM13684511

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
WPL-Columbia SCS#: 25215135.00		MW-304

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Kevin Durst Badger State Drilling	11/12/2015	11/12/2015	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
VY703			Feet	802.50 Feet	8.5 in.

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 544671 N, 2122897 E /C/N
1/4 of 1/4 of Section 27, T 12 N, R 9 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Columbia	11	Portage

Sample Number and Type	Sample 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: Pocket Penetration (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	TOPSOIL.	TOPSOIL									
				SILTY SAND, mostly fine, brown/tan (10YR 5/6).										
S1	24	7 8 10 12	2							M				
			3											
			4	Same as above except, trace gravel, brown tan to grey (top to bottom) 10YR 5/4.										
S2	24	14 22 26 31	5							M				
			6	Same as above except, brown/tan/grey assorted coloring.										
S3	24	16 18 22 24	7							M				
			8		SM									
			9	Same as above except, black/grey/brown, saturated area about 2" thick.										
S4	24	11 15 15 14	10							M				
			11	Same as above except, 10YR 5/3.										
S5	24	23 31 30 29	12							M				
			13											
			14	trace gravel.										
S6	20	9 10 7 5	15							M				

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

Signature	Firm	Tel: (608) 224-2830
for Zach Watson	SCS Engineers 2830 Dairy Drive Madison, WI 53711	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 be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

02/27/2026 - Classification: Internal - ECRM13684511

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number MW-304 Use only as an attachment to Form 4400-122.

Sample: Number and Type	Sample: 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: Pocket Penetration (tsf)	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			16	SILTY SAND, mostly fine, brown/tan (10YR 5/6).										
S7	4		17							W				dropped spoon
			18											
			19	Same as above except, 10YR 6/3.	SM									
S8			20							W				
			21											
			22											
			23	End of boring at 23 ft bgs.										

02/27/2026 - Classification: Internal - ECRM13684511

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
WPL-Columbia SCS#: 25215135.00		MW-305

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Kevin Durst Badger State Drilling	11/13/2015	11/13/2015	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
VY716			Feet	803.95 Feet	8.5 in.

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 544776.1 N, 2121537 E S/C/N
1/4 of 1/4 of Section 27, T 12 N, R 9 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Columbia	11	Portage

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: Pocket Penetration (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	TOPSOIL	TOPSOIL									
S1	18	5 8 9 7	2	SILTY SAND, mostly fine, brown/tan 10YR 5/8.						M				
S2	18	2 3 3 4	5							M				
S3	18	2 8 9 8	6 7	Same as above except, trace gravel, tan 10YR 6/8 at bottom.	SM					M				
S4	20	5 7 6 5	9 10	Same as above except, light tan 10YR 6/6, trace gravel, some large gravel chunks.						M				
S5	20	9 12 17 22	11 12	POORLY GRADED SAND, tan (10YR 6/8), trace gravel, some saturated areas.	SP					M				
S6	24	16 19 22 34	14 15	SILTY SAND, trace gravel, tan (10YR 5/6).	SM					W				

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

Signature for Zach Watson 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 be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

02/27/2026 - Classification: Internal - ECRM13684511

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number MW-305 Use only as an attachment to Form 4400-122. Page 2 of 2

Sample Number and Type	Sample 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: Pocket Penetration (tsf)	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
S7		31 30 41 50/2	16 17 18	SILTY SAND, trace gravel, tan (10YR 5/6), some large dolomite chunks.	SM					W				
				End of boring at 18 ft bgs.										

02/27/2026 - Classification: Internal - ECRM13684511

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
WPL - Columbia SCS#:		MW-304R

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Adam Sweet Horizon	3/18/2024	3/18/2024	roto-sonic

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-304R	23.0 Feet	801.66 Feet	6 in.

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 544,676 N, 2,122,904 E S / C / N
NW 1/4 of NE 1/4 of Section 27, T 12 N, R 9 E
Lat ° ' "
Long ° ' "
Local Grid Location Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
111003090	Columbia	11	Pardeeville

Sample Number and Type	Sample 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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			0	TOPSOIL.	TOPSOIL									Blind drilled to 12'. Soil types copied from adjacent MW-304 boring log
			1.5	SILTY SAND (SM), mostly fine, brown/tan (10YR 5/6).	SM									
			3.0	Same as above except, trace gravel, brown tan to grey (top to bottom) (10YR 5/4)	SM									
			4.5	Same as above except, brown/tan/grey assorted coloring.	SM									
			6.0											
			7.5	Same as above except, black/grey/brown, saturated area about 2" thick.	SM									
			9.0											
			10.5	Same as above except, 10YR 5/3.	SM									
			12.0	Same as above except, trace gravel, dark yellowish brown (10YR 4/6).										
1	9		13.5											
			15.0		SM									
			16.5											
			18.0											
2	0		19.5											

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

Signature	Firm	Tel:
MB for B Salome	SCS	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 be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

02/27/2026 - Classification: Internal - ECRM13684511

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number MW-304R Use only as an attachment to Form 4400-122.

Sample Number and Type	Sample 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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			21.0	SILTY SAND (SM), mostly fine, some grey/black streaking, trace gravel, light brownish grey (10YR 6/2)	SM									
			22.5											
3	46		24.0											
			25.5	SILTY SAND (SM) bordering POORLY GRADED SAND (SP), trace gravel, very hard at 27', less fines at bottom, light brownish grey (10YR 6/2)	SP-SM									
			27.0	SILTY SAND (SM), mostly fine, trace gravel, light brownish grey (10YR 6/2).	SM									
4	10		28.5											
				End of boring at 29'. Installed screen from 28.5-18.5', Filter pack from 29- 14.5'.										

02/27/2026 - Classification: Internal - ECRM13684511

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
WPL - Columbia Generating Station SCS#: 25223067.00		MW-316

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Adam Sweet Horizon Construction and Exploration	4/27/2023	4/27/2023	rotosonic

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
WC189		MW-316	Feet MSL	808.49 Feet MSL	6.0 in.

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 544,152 N, 2,122,365 E S/C/N
SW 1/4 of NW 1/4 of Section 27, T 12 N, R 9 E
Lat ° ' "
Long ° ' "
Local Grid Location Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Columbia	11	Town of Pacific

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: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
S0	0		0	Hydrovac to 10' below ground surface. Soils predominantly silt, sand and gravel.										
			2											
			4											
			6											
			8											
			10	No recovery.										
			12											
			14											
S1	0		16											Drillers indicated that rig was spinning on a hard layer down to 20' bgs. From 20'-22' bgs drillers stated they felt "blow-out" and soils were likely silty sand or fine sand.
			18											
			20											
			22											
S2	0		24											

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

Signature	Firm	Tel:
	SCS Engineers 3900 Kilroy Airport Way Long Beach, CA 90806	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 be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

02/27/2026 - Classification: Internal - ECRM13684511

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number MW-316 Use only as an attachment to Form 4400-122.

Sample Number and Type	Sample 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: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
S2	0		26											
			28											
S3	6		30											
			32	POORLY GRADED SNAD AND GRAVEL, fine to coarse grained, light brown, with trace large cobbles. No recovery.	SP					W				
			34											
			36											
S4	0		38											
			40											
			42											
			44											
S5	0		46											
				End of boring at 47' below ground surface.										

02/27/2026 - Classification: Internal - ECRM13684511

WARZYN ENGINEERING INC

LOG OF TEST BORING

Project Wisconsin Power & Light

Location Columbia Generating Station

Boring No. MW-84A
Surface Elevation 813.4
Job No. C 7134
Sheet 1 of 1

1409 EMIL STREET • P.O. BOX 9538, MADISON, WIS. 53715 • TEL. (608) 257-4848

SAMPLE No.	SAMPLE Type	Recovery ↓	Moisture ↓	N	Depth	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES q_u	W	LL	PL	D
						Dark Brown Silty SAND (SM)					
					5						
						Brown Fine to Medium SAND, Little Silt, Trace to Little Gravel and Boulders (SM)					
					10						
					15						
					20						
					25						
					30						
					35						
					40	End Boring at 37'					
						Well Installed at 37'					

WATER LEVEL OBSERVATIONS

While Drilling
Upon Completion of Drilling
Time After Drilling
Depth to Water
Depth to Cave In

GENERAL NOTES

Start 10/5/83 Complete 10/5/83
Crew Chief JVS Rig B-40
Drilling Method ED 0-37'

02/27/2026 - Classification: Internal - ECRM13684511

State of Wisconsin
Department of Natural Resources

Route To:
☒ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other

Soil Boring Log Information
Form 4400-122 7-91

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
WP&L - Columbia 3024.07		M4R

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
Environmental & Foundation Drilling, Crew: Frank, Jim, Leon	8/22/96	8/22/96	4 1/4 HSA

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		M4R	Feet MSL	803.6 Feet MSL	8.0 Inches

Boring Location
State Plane 545093.90 N, 2122125.90 E
NW 1/4 of NW 1/4 of Section 27 T 12 N,R 9E
Lat ° ' "
Long ° ' "
Local Grid Location (If applicable)
Feet ☐ N ☐ S Feet ☐ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Columbia	11	Pacific

Sample Number	Sample Length (In) Recovered	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	Comments
1	12	22	1	**SILTY SAND (SM)**, trace fine gravel, non-plastic, yellowish brown 10YR 5/6, no odor, loose, (Fill).	SM					M				SS
2	24	16	2	As above, occasional thin layers of light brown sand.										SS
3	15	17	4	As above.										SS
			5	Color change to 10YR 5/4.										
4	24	25	6	As above, occasional 10YR 4/4 dark yellowish brown seams with more silt, trace clay.										SS
5	23	19	8	As above.										SS
			9	1" gravel (dark colored) at about 9.0 feet.										
			10											
			11											
			12											

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

Signature

Firm RMT
744 Heartland Trail, Madison Wisconsin
Tel: 608-831-4444, Fax: 608-831-3334

This form is authorized by Chapters 144, 147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than $10 nor more than $5,000 for each violation. Fined not less than $10 or more than $100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.

02/27/2026 - Classification: Internal - ECRM13684511

State of Wisconsin
Department of Natural Resources

Soil Boring Log Information Supplement
Form 4400-122A 7-91

Boring Number **M4R** Use only as an attachment to Form 4400-122.

Sample Number	Sample Length (In) Recovered	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	Comments
6	22	34	13–14	As above.										SS
			15	Color change to 10YR 5/3 brown at 14.8 feet, (Native).						VM				
7	22	9	18–19	As above, no stratigraphy, 10YR 4/6 dark yellowish brown.						W	NV	NP	9.0%	SS
			23	End of boring at 23.5 feet.										

0227/2026 - Classification: Internal - ECRM13684511

SCS # 25215135

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-Columbia	Local Grid Location of Well: _____ ft. ☐ N. ☐ S. _____ ft. ☐ E. ☐ W.	Well Name: MW-301
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No.: VY701 / DNR Well ID No.: _____
Facility ID: _____	St. Plane 541562.2 ft. N, 2125001 ft. E. S/C/N	Date Well Installed: 11 / 11 / 2015 (m m d d y y y y)
Type of Well: Well Code 11 / MW	Section Location of Waste/Source: SW 1/4 of SE 1/4 of Sec. 27, T. 12 N, R. 9 ☒ E ☐ W	Well Installed By: Name (first, last) and Firm: Kevin Duerst / Badger State Drilling
Distance from Waste/Source _____ ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number: _____

A. Protective pipe, top elevation 807.16 ft. MSL
B. Well casing, top elevation 806.89 ft. MSL
C. Land surface elevation 803.69 ft. MSL
D. Surface seal, bottom 791.69 ft. MSL or 12 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

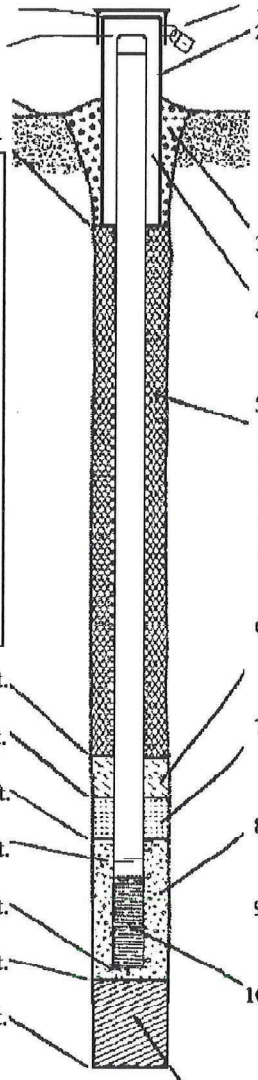
14. Drilling method used: Rotary ☐ 50 / Hollow Stem Auger ☒ 41 / Other ☐ ___

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):
_____

E. Bentonite seal, top 803.69 ft. MSL or 0 ft.
F. Fine sand, top 791.69 ft. MSL or 12 ft.
G. Filter pack, top 789.69 ft. MSL or 14 ft.
H. Screen joint, top 787.69 ft. MSL or 16 ft.
I. Well bottom 777.69 ft. MSL or 26 ft.
J. Filter pack, bottom 776.69 ft. MSL or 27 ft.
K. Borehole, bottom 775.69 ft. MSL or 28 ft.
L. Borehole, diameter 8.5 in.
M. O.D. well casing 2.4 in.
N. I.D. well casing 2.0 in.



1. Cap and lock? ☐ Yes ☒ No
2. Protective cover pipe:
a. Inside diameter: 6 in.
b. Length: 5 ft.
c. Material: Steel ☒ 04 / Other ☐ ___
d. Additional protection? ☒ Yes ☐ No
If yes, describe: bumper posts
3. Surface seal: Bentonite ☒ 30 / Concrete ☐ 01 / Other ☐ ___
4. Material between well casing and protective pipe: Bentonite ☒ 30 / Other ☐ ___
Bentonite to grade, sand above
5. Annular space seal: a. Granular/Chipped Bentonite ☐ 33
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. _____ Ft^3 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. 4 ft3 Other ☐ ___
7. Fine sand material: Manufacturer, product name & mesh size
a. RW Sidley Inc. #7 ☐
b. Volume added 0.5 ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. RW Sidley #5 ☐
b. Volume added 2 ft^3
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 Johnson
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): Native / None ☐ 14 / Other ☒ ___

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 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.

02/27/2026 - Classification: Internal - ECRM13684511

SCS # 25215135

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-Columbia	Local Grid Location of Well: ___ ft. ☐N ☐S ___ ft. ☐E ☐W	Well Name: MW-303
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No.: VY714 / DNR Well ID No.:
Facility ID	St. Plane 543655.7 ft. N, 2122574 ft. E. S/C/N	Date Well Installed: 11 / 13 / 2015 (m m d d y y y y)
Type of Well: Well Code 11 / MW	Section Location of Waste/Source: SW 1/4 of NW 1/4 of Sec. 27 T. 12 N, R. 9 ☒E ☐W	Well Installed By: Name (first, last) and Firm: Kevin Duerst / Badger State Drilling
Distance from Waste/Source ___ ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number:

A. Protective pipe, top elevation 811.81 ft. MSL

B. Well casing, top elevation 811.52 ft. MSL

C. Land surface elevation 808.69 ft. MSL

D. Surface seal, bottom 789.69 ft. MSL or 19 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):

E. Bentonite seal, top 808.69 ft. MSL or 0 ft.

F. Fine sand, top 789.69 ft. MSL or 19 ft.

G. Filter pack, top 787.69 ft. MSL or 21 ft.

H. Screen joint, top 785.69 ft. MSL or 23 ft.

I. Well bottom 775.69 ft. MSL or 33 ft.

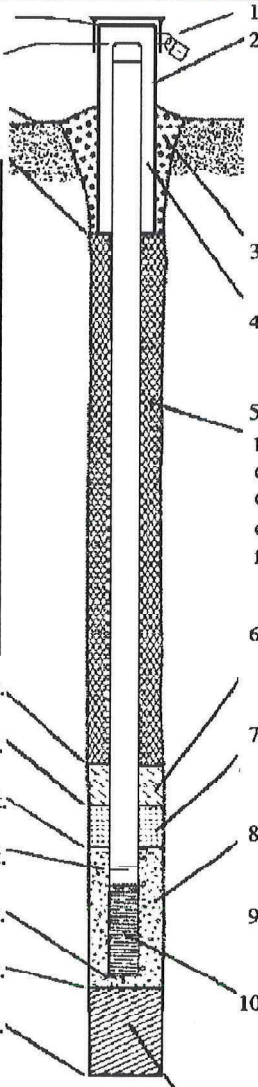
J. Filter pack, bottom 775.69 ft. MSL or 33 ft.

K. Borehole, bottom 774.69 ft. MSL or 34 ft.

L. Borehole, diameter 8.5 in.

M. O.D. well casing 2.4 in.

N. I.D. well casing 2.0 in.



1. Cap and lock? ☐ Yes ☒ No

2. Protective cover pipe:
a. Inside diameter: 6 in.
b. Length: 5 ft.
c. Material: steel — Steel ☒ 04 Other ☐ ___
d. Additional protection? ☐ Yes ☐ No
If yes, describe: yes, bumper posts

3. Surface seal: Bentonite ☒ 30 Concrete ☐ 01 Other ☐ ___

4. Material between well casing and protective pipe: Bentonite to grade, sand in between — Bentonite ☒ 30 Other ☐ ___

5. Annular space seal: a. Granular/Chipped Bentonite ☐ 33
b. ___ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ___ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ___ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. ___ Ft^3 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. 6.7 ft3 Other ☐ ___

7. Fine sand material: Manufacturer, product name & mesh size
a. RW Sidley Inc. #7 ☐
b. Volume added 0.5 ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. RW Sidley #5 ☐
b. Volume added 2.5 ft^3

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 Johnson
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.

11. Backfill material (below filter pack): Native — None ☐ 14 Other ☒ ___

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

Signature: for 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.

02/27/2026 - Classification: Internal - ECRM13684511

SCS # 25215135

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-Columbia	Local Grid Location of Well: ___ ft. ☐N ☐S ___ ft. ☐E ☐W	Well Name: MW-304
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No.: VY703 / DNR Well ID No.: ___
Facility ID: ___	St. Plane: 544671 ft. N, 2122897 ft. E. S/C/N	Date Well Installed: 11 / 12 / 2015 (m m d d y y y y)
Type of Well: Well Code 11 / MW	Section Location of Waste/Source: SE 1/4 of NW 1/4 of Sec. 27, T. 12 N, R. 9 ☒E ☐W	Well Installed By: Name (first, last) and Firm: Kevin Duerst / Badger State Drilling
Distance from Waste/Source: ___ ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number: ___

A. Protective pipe, top elevation: 805.67 ft. MSL

B. Well casing, top elevation: 805.42 ft. MSL

C. Land surface elevation: 802.50 ft. MSL

D. Surface seal, bottom: 793.50 ft. MSL or 9 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):

E. Bentonite seal, top: 802.50 ft. MSL or 0 ft.

F. Fine sand, top: 793.50 ft. MSL or 9 ft.

G. Filter pack, top: 791.50 ft. MSL or 11 ft.

H. Screen joint, top: 789.50 ft. MSL or 13 ft.

I. Well bottom: 779.50 ft. MSL or 23 ft.

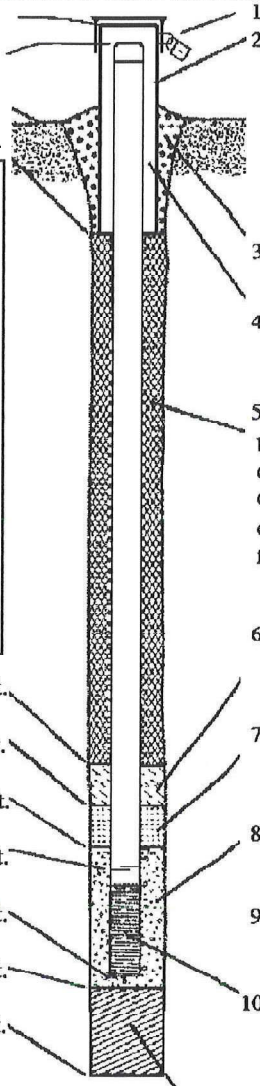
J. Filter pack, bottom: 779.50 ft. MSL or 23 ft.

K. Borehole, bottom: 779.50 ft. MSL or 23 ft.

L. Borehole, diameter: 8.5 in.

M. O.D. well casing: 2.4 in.

N. I.D. well casing: 2.0 in.



1. Cap and lock? ☐ Yes ☒ No

2. Protective cover pipe:
a. Inside diameter: 6 in.
b. Length: 5 ft.
c. Material: steel — Steel ☐ 04 / Other ☐ ___
d. Additional protection? ☐ Yes ☐ No
If yes, describe: yes, bumper posts

3. Surface seal: Bentonite ☒ 30 / Concrete ☐ 01 / Other ☐ ___

4. Material between well casing and protective pipe: Sand. Bentonite to grade — Bentonite ☒ 30 / Other ☐ ___

5. Annular space seal: a. Granular/Chipped Bentonite ☐ 33
b. ___ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ___ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ___ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. ___ Ft^3 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. 3.4 ft3 Other ☐ ___

7. Fine sand material: Manufacturer, product name & mesh size
a. RW Sidley Inc. #7 ☐
b. Volume added 0.5 ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. RW Sidley #5 ☐
b. Volume added 1.5 ft^3

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 Johnson
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.

11. Backfill material (below filter pack): Native — None ☐ 14 / Other ☒ ___

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

Signature: for Zach Watson | Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718-6751

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02/27/2026 - Classification: Internal - ECRM13684511

SCS # 25215135

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Managemen ☐
Remediation/Redevelopment ☐ Other ☐

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

Facility/Project Name: WPL-Columbia	Local Grid Location of Well: ☐ ft. ☐ N. ☐ ft. ☐ E. ☐ W.	Well Name: MW-305
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No.: VY716 / DNR Well ID No.
Facility ID	St. Plane 544776.1 ft. N, 2121537 ft. E. S/C/N	Date Well Installed: 11/13/2015 (m m d d y y y y)
Type of Well: Well Code /	Section Location of Waste/Source: SW 1/4 of NW 1/4 of Sec. 27, T. 12 N. R. 9 ☒ E ☐ W	Well Installed By: Name (first, last) and Firm: Kevin Duerst / Badger State Drilling
Distance from Waste/Source ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number

A. Protective pipe, top elevation 806.88 ft. MSL
B. Well casing, top elevation 806.32 ft. MSL
C. Land surface elevation 803.95 ft. MSL
D. Surface seal, bottom 794.95 ft. MSL or 9 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

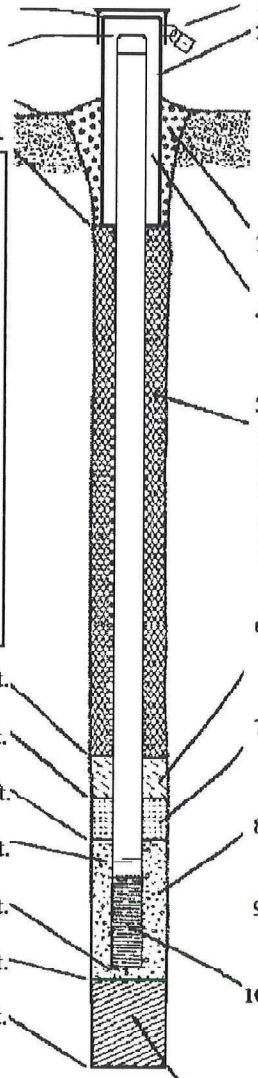
14. Drilling method used: Rotary ☐ 50 / Hollow Stem Auger ☒ 41 / Other ☐

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):

E. Bentonite seal, top 803.95 ft. MSL or 0 ft.
F. Fine sand, top 794.95 ft. MSL or 9 ft.
G. Filter pack, top 792.95 ft. MSL or 11 ft.
H. Screen joint, top 789.95 ft. MSL or 13 ft.
I. Well bottom 779.95 ft. MSL or 23 ft.
J. Filter pack, bottom 779.95 ft. MSL or 23 ft.
K. Borehole, bottom 779.35 ft. MSL or 23.6 ft.
L. Borehole, diameter 8.5 in.
M. O.D. well casing 2.4 in.
N. I.D. well casing 2.0 in.



1. Cap and lock? ☐ Yes ☒ No
2. Protective cover pipe:
a. Inside diameter: 6 in.
b. Length: 5 ft.
c. Material: steel — Steel ☐ 04 / Other ☐
d. Additional protection? ☐ Yes ☐ No
If yes, describe: yes, bumper posts
3. Surface seal: Bentonite ☒ 30 / Concrete ☐ 01 / Other ☐
4. Material between well casing and protective pipe: Bentonite to grade, sand in between — Bentonite ☐ 30 / Other ☐
5. Annular space seal: a. Granular/Chipped Bentonite ☐ 33
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. ____ Ft^3 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 ft3 — Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. RW Sidley Inc. #7 ☐
b. Volume added 0.5 ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. RW Sidley #5 ☐
b. Volume added 3 ft^3
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 Johnson
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): Native — None ☐ 14 / Other ☒

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

Signature	Firm
for Zach Watson	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.

02/27/2026 - Classification: Internal - ECRM13684511

WELL DETAIL INFORMATION SHEET

JOB NO. C 7134

BORING NO. MW-84A

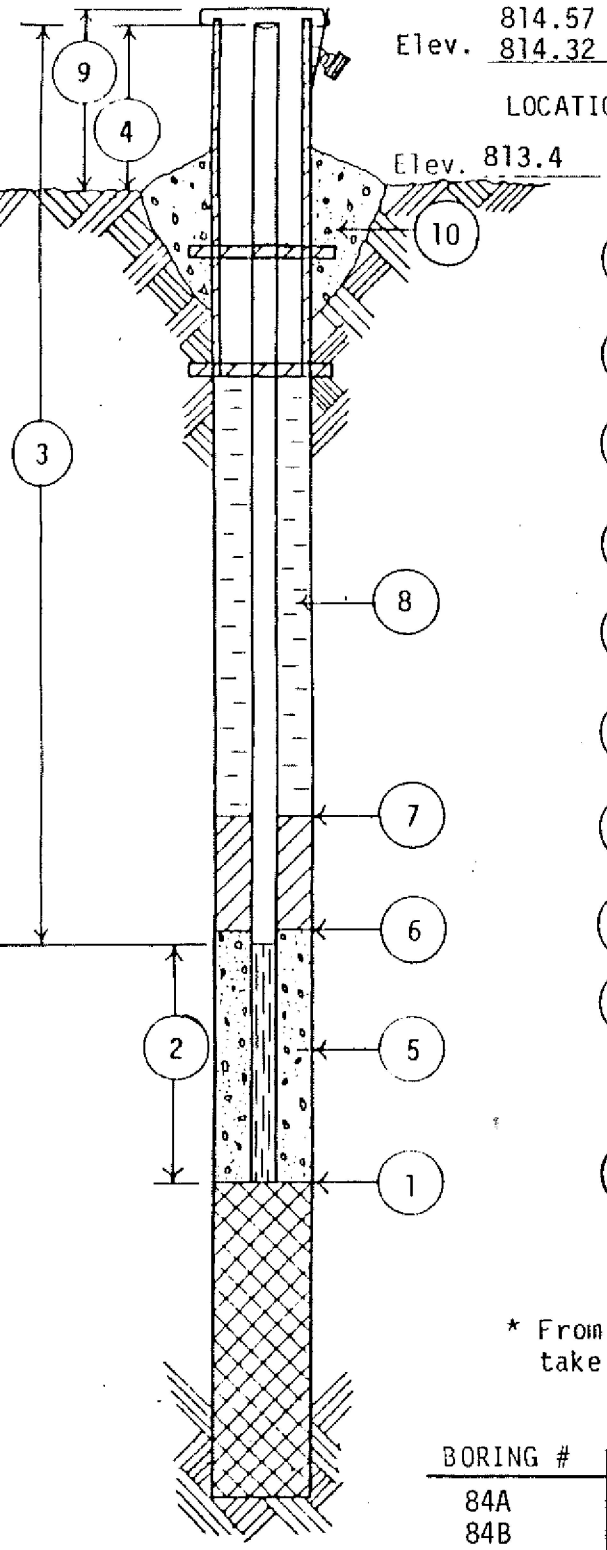
DATE 10/5/83

Elev. 814.57 Steel
814.32 PVC

CHIEF JS

LOCATION WP&L-Columbia Generating Station

All depth measurements of well detail assumed to be from ground surface unless otherwise indicated.



(1) DEPTH TO BOTTOM OF BOREHOLE
37 FEET

(2) LENGTH OF WELL POINT, (WELL SCREEN,) OR SLOTTED PIPE 10 FEET

(3) TOTAL LENGTH OF SOLID PIPE 29 FEET @ 2 IN. DIAMETER

(4) HEIGHT OF WELL CASING ABOVE GROUND
2 FEET

(5) TYPE OF FILTER MATERIAL AROUND WELL POINT OR SLOTTED PIPE Flint Sand

(6) DEPTH OF LOWER OR BOTTOM SEAL
3 FEET

(7) DEPTH OF UPPER OR TOP SEAL
0 FEET

(8) TYPE OF BACKFILL Spoils (Sand)

(9) PROTECTIVE CASING (YES) NO

HEIGHT ABOVE GROUND 2'

LOCKING CAP (YES) NO

(10) CONCRETE CAP (YES) NO

WATER LEVEL CHECKS

* From top of casing, if protective casing higher take measurement from top of protective casing.

BORING #	DATE	TIME	DEPTH TO WATER	REMARKS
84A	10/7/83	3 days	21'	
84B	10/7/83	3 days	19'6"	

WARZYN ENGINEERING INC.

02/27/2026 Classification: Internal - ECRM13684511

SCS # 25224143.00

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 - Columbia Dry Ash	**Local Grid Location of Well** ☐ N. ____ ft. ☐ S. ☐ E. ____ ft. ☐ W.	**Well Name** MW-304R
Facility License, Permit or Monitoring No. 03025	**Local Grid Origin** ☐ (estimated: ☐) or **Well Location** ☐ Lat. ° ' " Long. ° ' " or	**Wis. Unique Well No.**	**DNR Well ID No.**
Facility ID	**St. Plane** 544675.81 ft. N, 2122903.5 ft. E. S/C/N	**Date Well Installed** 03 / 18 / 2024 (m m d d y y y y)
Type of Well Well Code 11 / MW	**Section Location of Waste/Source** NW 1/4 of NE 1/4 of Sec. 27, T. 12 N, R. 09 ☒ E ☐ W	**Well Installed By: Name (first, last) and Firm** Adam Sweet Horizon Construction and Exploration
Distance from Waste/ Source ____ ft. **Enf. Stds. Apply** ☒	**Location of Well Relative to Waste/Source** u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	**Gov. Lot Number**

A. Protective pipe, top elevation 804.92 ft. MSL
B. Well casing, top elevation 804.34 ft. MSL
C. Land surface elevation 801.66 ft. MSL
D. Surface seal, bottom 1.74 ft. MSL or 799.92 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

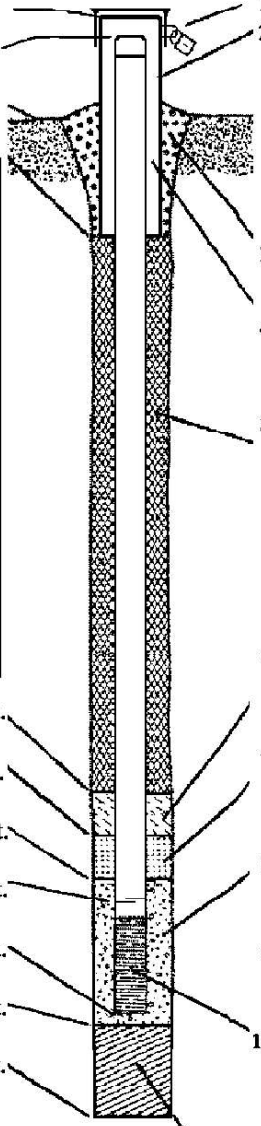
14. Drilling method used: Rotary ☐ 50
Hollow Stem Auger ☐ 41
Rotosonic — Other ☒

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

16. Drilling additives used? ☐ Yes ☒ No
Describe N/A

17. Source of water (attach analysis, if required):
N/A

E. Bentonite seal, top 801.66 ft. MSL or 0 ft.
F. Fine sand, top 787.16 ft. MSL or 14.5 ft.
G. Filter pack, top 785.16 ft. MSL or 16.5 ft.
H. Screen joint, top 783.16 ft. MSL or 18.5 ft.
I. Well bottom 773.16 ft. MSL or 28.5 ft.
J. Filter pack, bottom 772.66 ft. MSL or 29 ft.
K. Borehole, bottom 772.66 ft. MSL or 29 ft.
L. Borehole, diameter 6 in.
M. O.D. well casing 2.04 in.
N. I.D. well casing 2.00 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4 in.
b. Length: 5 ft.
c. Material: Steel ☒ 04 Other ☐
d. Additional protection? ☒ Yes ☐ No
If yes, describe: Bumper posts (x3)
3. Surface seal: Bentonite ☒ 30 Concrete ☐ 01 Other ☐
4. Material between well casing and protective pipe: Bentonite ☒ 30
Sand. Bentonite to grade — Other ☐
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. ____ Ft^3 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. 4 bags (14.5-surface) Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Red Flint 15 ☐
b. Volume added 1 bag ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint 40 ☐
b. Volume added 3.5 bags ft^3
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
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☒ 14 Other ☐

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

Signature	Firm
for B Salome	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.

02/27/2026 - Classification: Internal - ECRM13684511

e of Wisconsin
partment of Natural Resources

Route to: Solid Waste ■ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☐ Underground Tanks ☐ Other ☐ ____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4-9

Facility/Project Name
WPSL Columbia

Local Grid Location of Well
■ N. 545093.9 ft. ☐ S. ■ E. 2122125.9 ft. ☐ W.

Well Name
M4R

Facility License, Permit or Monitoring Number
2325

Grid Origin Location
Lat. ___ ___ ___ Long. ___ ___ ___ or
St. Plane ____ ft. N, ____ ft. E.

Wis. Unique Well Number

DNR Well Number
133

Type of Well: Water Table Observation Well ■ 11
Piezometer ☐ 12

Section Location of Waste/Source
NW¼ of NW¼ of Sec. 27, T12N, R 9 ■ E. ☐ W.

Date Well Installed
08 / 22 / 96
M M D D Y Y

Distance Well is From Waste/Source Boundary
120 ft.

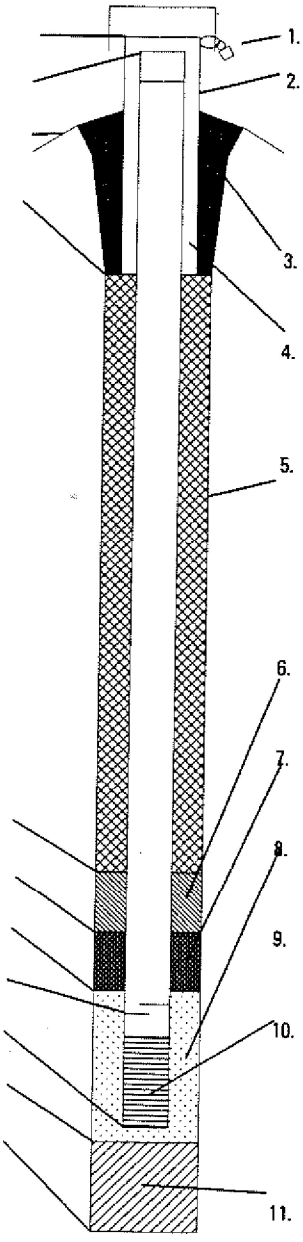
Location of Well Relative to Waste/Source
U ☐ Upgradient S ☐ Sidegradient
D ■ Downgradient N ☐ Not Known

Well Installed By: (Persons' Name and Firm)
Frank Badula
Environmental & Foundation Drilling

Is Well A Point of Enforcement Std. Application? ☐ Yes ■ No

1. Protective pipe, top elevation: 805.94 ft. MSL
2. Well casing, top elevation: 806.10 ft. MSL
3. Land surface elevation: 803.6 ft. MSL
4. Surface seal, bottom: 803.1 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 attached? 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):

Bentonite seal, top: 803.1 ft. MSL or 0.5 ft.
Fine sand, top: 794.6 ft. MSL or 9.0 ft.
Filter pack, top: 792.6 ft. MSL or 11.0 ft.
Screen joint, top: 790.6 ft. MSL or 13.0 ft.
Well bottom: 780.6 ft. MSL or 23.0 ft.
Filter pack, bottom: 780.1 ft. MSL or 23.5 ft.
Borehole, bottom: 780.1 ft. MSL or 23.5 ft.
Borehole, diameter: 8.0 in.
O.D. well casing: 2.38 in.
D. well casing: 2.03 in.



1. Cap and lock? ■ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4.0 i
b. Length: 7.0 f
c. Material: Steel ■ 04
Other ☐
d. Additional protection? ■ Yes ☐ No
If yes, describe: Bumper posts
3. Surface seal: Bentonite ■ 30
Concrete ☐ 01
Other ☐
4. Material between well casing and protective pipe: Bentonite ■ 30
Annular space seal ☐
Other ☐
5. Annular space seal:
b. ___ Lbs/gal mud weight....
c. ___ Lbs/gal mud weight.....
d. ___ % Bentonite.....
e. ___ lb volume added for any of the above
f. How installed:
a. Granular Bentonite ☐ 33
Bentonite-sand slurry ☐ 35
Bentonite slurry ☐ 31
Bentonite-cement grout ☐ 50
Tremie ☐ 01
Tremie pumped ☐ 02
Gravity ■ 08
6. Bentonite seal:
b. ☐ 1/4 in. ■ 3/8 in. ☐ 1/2 in.
c. ____
a. Bentonite granules ☐ 33
Bentonite pellets ■ 32
Other ☐
7. Fine sand material: Manufacturer, product name, mesh size
a. Unimin silica sand
b. Volume added 75 lbs
8. Filter pack material: Manufacturer, product, mesh size
a. Badger Mining Co. (#30)
b. Volume added 400 lbs
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 Timco
c. Slot size: 0.010 in
d. Slotted length: 10.0 ft
11. Backfill material (below filter pack): None ■ 14
Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.
Signature
Firm
RMT, Inc.

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with ch. 144, Wis. Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5,000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than $10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed form should be sent.

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APPENDIX D
APPENDIX E
APPENDIX F
APPENDIX G

02/27/2026 - Classification: Internal - ECRM13684511

SCS # 25223067.00

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 - Columbia Generating Station	**Local Grid Location of Well** ☐ N. ☐ S. ____ ft. ☐ E. ☐ W. ____ ft.	**Well Name** MW-316
Facility License, Permit or Monitoring No.	**Local Grid Origin** ☐ (estimated: ☐) or **Well Location** ☐ Lat. ° ' " Long. ° ' " or	**Wis. Unique Well No.** WC189
Facility ID	**St. Plane** 544,151.67 ft. N, 2,122,364.52 ft. E. S/C/N	**DNR Well ID No.**
Type of Well Well Code 11 / MW	**Section Location of Waste/Source** SW 1/4 of NW 1/4 of Sec. 27, T. 12 N, R. 9 ☒ E ☐ W	**Date Well Installed** 04 / 28 / 2023 (m m d d y y y y)
Distance from Waste/ Source ____ ft.	**Enf. Stds. Apply** ☐	**Location of Well Relative to Waste/Source** u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known
		Gov. Lot Number
		Well Installed By: Name (first, last) and Firm Adam Sweet Horizon Construction and Exploration

A. Protective pipe, top elevation 809.20 ft. MSL

B. Well casing, top elevation 808.49 ft. MSL

C. Land surface elevation 806.31 ft. MSL

D. Surface seal, bottom 804.31 ft. MSL or 2 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 ☒ Rotosonic

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):
Horizon brought to site.

E. Bentonite seal, top 806.31 ft. MSL or 0 ft.

F. Fine sand, top 780.31 ft. MSL or 26 ft.

G. Filter pack, top 778.31 ft. MSL or 28 ft.

H. Screen joint, top 776.31 ft. MSL or 30 ft.

I. Well bottom 766.31 ft. MSL or 40 ft.

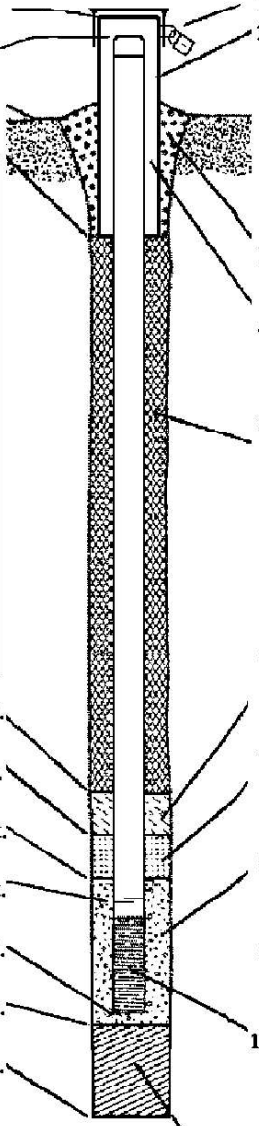
J. Filter pack, bottom 764.31 ft. MSL or 42 ft.

K. Borehole, bottom 759.31 ft. MSL or 47 ft.

L. Borehole, diameter 6 in.

M. O.D. well casing 2.37 in.

N. I.D. well casing 2.01 in.



1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 6 in.
b. Length: 5 ft.
c. Material: Steel ☒ 04 Other ☐
d. Additional protection? ☒ Yes ☐ No
If yes, describe: Bumper Posts

3. Surface seal: Bentonite ☒ 30 Concrete ☐ 01 Other ☐

4. Material between well casing and protective pipe: Bentonite ☒ 30 Other ☐

5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. 6 Ft^3 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. ____ Other ☐

7. Fine sand material: Manufacturer, product name & mesh size
a. Red Flint #15 ☒
b. Volume added 0.5 ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint #40 ☒
b. Volume added 4 ft^3

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 Johnson
c. Slot size: 0.010 in.
d. Slotted length: 10 ft.

11. Backfill material (below filter pack): None ☐ 14
Filter Sand Other ☒

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 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.

02/27/2026 - Classification: Internal - ECRM13684511

State of Wis., Dept. of Natural Resources SCS No. 25224143.00
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment
☒ Waste Management ☐ Other: _____

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Columbia	VY703	MW-304

Latitude / Longitude (see instructions): _____ N _____ W
Format Code: ☐ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼ SE	¼ NW	Section	Township	Range
or Gov't Lot #		27	12 N	9 ☒ E ☐ W

Well Street Address: W8375 Murray Rd

Well City, Village or Town	Well ZIP Code
Pardeeville	53954

Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well
Compromised	

2. Facility / Owner Information

Facility Name: Columbia Energy Center
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner: Wisconsin Power and Light Company
Present Well Owner: Wisconsin Power and Light Company
Mailing Address of Present Owner: W8375 Murray Rd

City of Present Owner	State	ZIP Code
Pardeeville	WI	53954

3. Filled & Sealed Well / Drillhole / Borehole Information

☒ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 11/12/2015

If a Well Construction Report is available, please attach.

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug ☐ Other (specify): _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
23	2
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
8.5	13

Was well annular space grouted? ☒ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
11	>23

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☒ Yes	☐ No	☐ N/A
Liner(s) removed?	☐ Yes	☐ No	☐ N/A
Liner(s) perforated?	☐ Yes	☐ No	☐ N/A
Screen removed?	☐ Yes	☒ No	☐ N/A
Casing left in place?	☒ Yes	☐ No	☐ N/A
Was casing cut off below surface?	☒ Yes	☐ No	☐ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☒ Yes	☐ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☐ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain): _____

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8 Bentonite Chips	Surface	23		

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
Bri Salome		03/18/2024

Street or Route	Telephone Number
2830 Dairy Drive	(608)216 - 7368

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Madison	WI	53718		5/17/2024

DNR Use Only

Date Received	Noted By

Comments:

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

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

Facility/Project Name	County Name	Well Name
Alliant-Columbia	Columbia	MW-301

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
	11	VY701	

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☒ 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☐ 51
pumped slowly	☐ 50
Other _____	☐

3. Time spent developing well 120 min.

4. Depth of well (from top of well casisng) 29.4 ft.

5. Inside diameter of well 2.00 in.

6. Volume of water in filter pack and well casing 7.6 gal.

7. Volume of water removed from well 84.0 gal.

8. Volume of water added (if any) ____.__ gal.

9. Source of water added _____

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

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 21.72 ft.	21.77 ft.
Date	b. 12/02/2015 (m m d d y y y y)	12/02/2015 (m m d d y y y y)
Time	c. 08:30 ☒ a.m. ☐ p.m.	10:30 ☒ a.m. ☐ p.m.
12. Sediment in well bottom	0.__ inches	0.__ inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☒ 20 Turbid ☐ 25 (Describe)
14. Total suspended solids	____.__ mg/l	____.__ mg/l
15. COD	____.__ mg/l	____.__ mg/l

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

16. Well developed by: Name (first, last) and Firm
First Name: Gary Last Name: Sterkel
Firm: SCS ENGINEERS

17. Additional comments on development:

Name and Address of Facility Contact /Owner/Responsible Party
First Name: Nate Last Name: Sievers
Facility/Firm: Wisconsin Power and Light
Street: W8375 Murray Rd.
City/State/Zip: Pardeville, WI 53954

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: [signature] for Gary Sterkel
Print Name: Gary Sterkel
Firm: SCS ENGINEERS

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

02/27/2026 - Classification: Internal - ECRM13684511

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

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

Facility/Project Name	County Name	Well Name
Alliant - Columbia	Columbia	MW-302

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
	11	VY702	

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☒ 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☐ 51
pumped slowly	☐ 50
Other _____	☐

3. Time spent developing well 120 min.

4. Depth of well (from top of well casisng) 33.6 ft.

5. Inside diameter of well 2.00 in.

6. Volume of water in filter pack and well casing 5.4 gal.

7. Volume of water removed from well 60.0 gal.

8. Volume of water added (if any) ____.__ gal.

9. Source of water added _____

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

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 28.37 ft.	28.41 ft.
Date	b. 12/02/2015 (m m d d y y y y)	12/02/2015 (m m d d y y y y)
Time	c. 02:00 ☐ a.m. ☒ p.m.	04:00 ☐ a.m. ☒ p.m.
12. Sediment in well bottom	0.__ inches	0.__ inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☒ 20 Turbid ☐ 25 (Describe)
14. Total suspended solids	____.__ mg/l	____.__ mg/l
15. COD	____.__ mg/l	____.__ mg/l

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

16. Well developed by: Name (first, last) and Firm
First Name: Gary Last Name: Sterkel
Firm: SCS ENGINEERS

17. Additional comments on development:

Name and Address of Facility Contact /Owner/Responsible Party
First Name: Nate Last Name: Sievers
Facility/Firm: Wisconsin Power and Light
Street: W8375 Murray Rd.
City/State/Zip: Pardeeville, WI 53954

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: for G.S.
Print Name: Gary Sterkel
Firm: SCS ENGINEERS

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

02/27/2026 - Classification: Internal - ECRM13684511

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

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

Facility/Project Name	County Name	Well Name
Alliant - Columbia	Columbia	MW-303

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
	11	VY714	

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☒ 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☐ 51
pumped slowly	☐ 50
Other _____	☐

3. Time spent developing well 120 min.

4. Depth of well (from top of well casisng) 35.8 ft.

5. Inside diameter of well 2.00 in.

6. Volume of water in filter pack and well casing 7.5 gal.

7. Volume of water removed from well 83.0 gal.

8. Volume of water added (if any) ____.__ gal.

9. Source of water added _____

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

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 28.30 ft.	28.38 ft.
Date	b. 12/02/2015 (m m d d y y y y)	12/02/2015
Time	c. 11:45 ☒ a.m. ☐ p.m.	1:45 ☐ a.m. ☒ p.m.
12. Sediment in well bottom	____.__ inches	____.__ inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☒ 20 Turbid ☐ 25 (Describe)
14. Total suspended solids	____.__ mg/l	____.__ mg/l
15. COD	____.__ mg/l	____.__ mg/l

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

16. Well developed by: Name (first, last) and Firm
First Name: Gary Last Name: Sterkel
Firm: SCS ENGINEERS

17. Additional comments on development:

Name and Address of Facility Contact /Owner/Responsible Party
First Name: Nate Last Name: Sievers
Facility/Firm: Wisconsin Power and Light
Street: W8375 Murray Rd.
City/State/Zip: Pardeeville, WI 53954

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: for G.S.
Print Name: Gary Sterkel
Firm: SCS ENGINEERS

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

02/27/2026 - Classification: Internal - ECRM13684511

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

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

Facility/Project Name	County Name	Well Name
Alliant - Columbia	Columbia	MW-304

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
	11	VY703	

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☐ 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☐ 51
pumped slowly	☐ 50
Other _____	☐

3. Time spent developing well 135 min.

4. Depth of well (from top of well casisng) 25.7 ft.

5. Inside diameter of well 2.00 in.

6. Volume of water in filter pack and well casing 8.0 gal.

7. Volume of water removed from well 88.0 gal.

8. Volume of water added (if any) ____.__ gal.

9. Source of water added _____

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

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 17.26 ft.	20.85 ft.
Date	b. 12/03/2015 (m m d d y y y y)	12/03/2015
Time	c. 11:00 ☒ a.m. ☐ p.m.	01:15 ☐ a.m. ☒ p.m.
12. Sediment in well bottom	____.__ inches	____.__ inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☒ 20 Turbid ☐ 25 (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: Gary Last Name: Sterkel
Firm: SCS ENGINEERS

17. Additional comments on development:

Name and Address of Facility Contact /Owner/Responsible Party
First Name: Nate Last Name: Sievers
Facility/Firm: Wisconsin Power and Light
Street: W8375 Murray Rd.
City/State/Zip: Pardeeville, WI 53954

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: for G. S.
Print Name: Gary Sterkel
Firm: SCS ENGINEERS

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

02/27/2026 - Classification: Internal - ECRM13684511

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

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

Facility/Project Name	County Name	Well Name
Alliant - Columbia	Columbia	MW-305

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
	11	VY716	

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☒ 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☐ 51
pumped slowly	☐ 50
Other _____	☐

3. Time spent developing well 120 min.

4. Depth of well (from top of well casisng) 25.6 ft.

5. Inside diameter of well 2.00 in.

6. Volume of water in filter pack and well casing 7.7 gal.

7. Volume of water removed from well 85.0 gal.

8. Volume of water added (if any) ____.__ gal.

9. Source of water added _____

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

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 18.61 ft.	18.62 ft.
Date	b. 12/02/2015 (m m d d y y y y)	12/02/2015
Time	c. 08:30 ☒ a.m. ☐ p.m.	11:30 ☒ a.m. ☐ p.m.
12. Sediment in well bottom	____.__ inches	____.__ inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☒ 20 Turbid ☐ 25 (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: Gary Last Name: Sterkel
Firm: SCS ENGINEERS

17. Additional comments on development:

Name and Address of Facility Contact /Owner/Responsible Party
First Name: Nate Last Name: Sievers
Facility/Firm: Wisconsin Power and Light
Street: W8375 Murray Rd.
City/State/Zip: Pardeeville, WI 53954

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: for G.S.
Print Name: Gary Sterkel
Firm: SCS ENGINEERS

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

02/27/2026 - Classification: Internal - ECRM13684511

ate of Wisconsin
epartment of Natural Resources

MONITORING WELL DEVELOPMENT
Form 4400-113B Rev. 4-90

Route to: Solid Waste ■ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☐ Underground Tanks ☐ Other ☐ _____

cility/Project Name	County Name	Well Name	
P&L Columbia	Columbia	M4R	
cility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
2325	11		133

Can this well be purged dry? ☐ Yes ■ No

Well development method
- surged with bailer and bailed ☐ 41
- surged with bailer and pumped ■ 61
- surged with block and bailed ☐ 42
- surged with block and pumped ☐ 62
- surged with block, bailed and pumped ☐ 70
- compressed air ☐ 20
- bailed only ☐ 10
- pumped only ☐ 51
- pumped slowly ☐ 50
- Other _____ ☐ [illegible]

Time spent developing well 120 min.

Depth of well (from top of well casing) 253 ft.

Inside diameter of well 2.0 in.

Volume of water in filter pack and well casing 4.2 gal.

Volume of water removed from well 70. gal.

Volume of water added (if any) 0. gal.

Source of water added _____

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 1990 ft.	2005 ft.
Date	b. 08/23/96 m m d d y y ■ a.m.	08/23/96 m m d d y y ■ a.m.
Time	c. 8:30 ☐ p.m.	10:30 ☐ p.m.
12. Sediment in well bottom	0. inches	0. inches
13. Water clarity	Clear ☐ 10 Turbid ■ 15 (Describe) Brn, very silty	Clear ■ 20 Turbid ☐ 25 (Describe)
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	mg/l	190. mg/l
15. COD	mg/l	N/A. mg/l

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

. Additional comments on development: Well was surged w/PVC bailer for 30 nutes and then pumped.

me	Volume Removed (gal.)	pH	Temperature (°C)	Conductivity (μmhos)
40	0 (initial)	6.12	15.2	660
25	10	6.73	14.0	670
40	25	6.95	13.7	610
50	35	6.90	13.7	600
55	45	6.87	13.6	600
:00	55	6.92	13.6	600
:10	70	6.95	13.7	600

ell developed by: Person's Name and Firm

me: Meredith Westover

m: RMT, Inc.

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

Signature: [signature]

Print Initials: M L W

Firm: RMT, Inc.

OTE: Shaded areas are for DNR use only. See instructions for more information including a list of county codes. I:\WPMSN\PJT\00-03024\07\B0003024.07A 12/31/96

APPENDIX D
APPENDIX E
APPENDIX F
APPENDIX G

02/27/2026 - Classification: Internal - ECRM13684511

SCS # 25224143

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☒
Remediation/Redevelopment ☐ Other ☐ _____

Facility/Project Name	County Name	Well Name
WPL - Columbia Dry Ash	Columbia	MW-304R

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
03025	11		

1. Can this well be purged dry? ☒ Yes ☐ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☒ 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☐ 51
pumped slowly	☐ 50
Other _____	☐

3. Time spent developing well 181 min.

4. Depth of well (from top of well casisng) 30.7 ft.

5. Inside diameter of well 2.00 in.

6. Volume of water in filter pack and well casing 4.6 gal.

7. Volume of water removed from well 9.5 gal.

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

9. Source of water added _____

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

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 22.97 ft.	29.62 ft.
Date	b. 03/19/2024 (m m d d y y y y)	03/19/2024 (m m d d y y y y)
Time	c. 11:18 ☒ a.m. ☐ p.m.	2:19 ☐ a.m. ☒ p.m.
12. Sediment in well bottom	0.1 inches	0.0 inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☐ 20 Turbid ☒ 25 (Describe)
	no odor	no odor
	light brown	light brown
	saturated, water looks thick	significantly less turbid

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

14. Total suspended solids	____.__ mg/l	340.__ mg/l
15. COD	____.__ mg/l	____.__ mg/l

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

17. Additional comments on development:

TD before development: 30.63 / started surge purge at 11:18 / Went dry during second and third purge of 30 min surge/purge
11:48 Finished surge/purge DTW: 29.82 TD 30.73 purged 4 gallons
Waited for well to recover, checked DTW every 30 mins approximately / 1250 DTW 23.45; continue with purge
Purged 3 gallons, went dry DTW 30.21 / 1307 pulled pump / Going to wait one (1) hour for final purge / 1407 DTW 23.57
1409 put pump back down, continued with purge / 1419 well went dry pulled pump DTW 29.62 TD 30.73 purged 2.5 gallons
Wait 30 mins to sample / 1447 DTW 24.72 / 1449 sampled for TSS

Name and Address of Facility Contact /Owner/Responsible Party
First Name: Brian Last Name: Clepper
Facility/Firm: Alliant/WPL Columbia Generating System (CGS)
Street: W8375 Murray Rd
City/State/Zip: Pardeeville, WI 53957

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: _____
Print Name: Bri Salome
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.

02/27/2026 - Classification: Internal - ECRM13684511

SCS # 25223067.00

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

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

Facility/Project Name	County Name	Well Name
Columbia Generating Station	Columbia	MW-316

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
	__	WC189 ___	___

1. Can this well be purged dry? ☐ Yes ☐ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☐ 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☐ 51
pumped slowly	☐ 50
Other Surged and purged with pump	☒ --

3. Time spent developing well ___110 min.

4. Depth of well (from top of well casisng) __43.7 ft.

5. Inside diameter of well __2.01__ in.

6. Volume of water in filter pack and well casing ___10.2 gal.

7. Volume of water removed from well __105.0 gal.

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

9. Source of water added NA

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

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. __27.65 ft.	__27.66 ft.
Date	b. 04 / 28 / 2023 (m m / d d / y y y y)	04 / 28 / 2023
Time	c. 9 : 40 ☒ a.m. ☐ p.m.	11 : 30 ☒ a.m. ☐ p.m.
12. Sediment in well bottom	___--.__ inches	___--.__ inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15	Clear ☒ 20 Turbid ☐ 25
(Describe)	Dark brown, cloudy	Clear

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

14. Total suspended solids	___---.__ mg/l	___134.0 mg/l
15. COD	___---.__ mg/l	___---.-- mg/l

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

17. Additional comments on development:
SUrged and purged with pump over 110 minutes.

Name and Address of Facility Contact /Owner/Responsible Party
First Name: _____ Last Name: _____
Facility/Firm: _____
Street: _____
City/State/Zip: _____

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: _____
Print Name: Ryan Matzuk
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.

02/27/2026 - Classification: Internal - ECRM13684511

Appendix D

Laboratory Reports

02/27/2026 - Classification: Internal - ECRM13684511

D1 – August 2024 Supplemental Assessment Monitoring

02/27/2026 - Classification: Internal - ECRM13684511

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

September 10, 2024

Meghan Blodgett
SCS ENGINEERS
2830 Dairy Drive
Madison, WI 53718

RE: Project: 25224067 COLUMBIA PRIMARY POND
Pace Project No.: 40282792

Dear Meghan Blodgett:

Enclosed are the analytical results for sample(s) received by the laboratory on August 17, 2024. 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
- Pace Analytical Services - Greensburg

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

Sincerely,

Tod Noltemeyer

Tod Noltemeyer for
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

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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: 25224067 COLUMBIA PRIMARY POND
Pace Project No.: 40282792

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
ANABISO/IEC 17025:2017 Rad Cert#: L24170
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 2950
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA010
Louisiana DEQ/TNI Certification #: 04086
Maine Certification #: 2023021
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572023-03
New Hampshire/TNI Certification #: 297622
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-015
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN02867
Texas/TNI Certification #: T104704188-22-18
Utah/TNI Certification #: PA014572223-14
USDA Soil Permit #: 525-23-67-77263
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad

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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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: 25224067 COLUMBIA PRIMARY POND
Pace Project No.: 40282792

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40282792001	**MW-305**	Water	08/15/24 10:55	08/17/24 08:45
40282792002	**M-4R**	Water	08/15/24 12:40	08/17/24 08:45
40282792003	**FIELD BLANK**	Water	08/15/24 12:50	08/17/24 08:45

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Green Bay, WI 54302
(920)469-2436

SAMPLE ANALYTE COUNT

Project: 25224067 COLUMBIA PRIMARY POND
Pace Project No.: 40282792

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40282792001	**MW-305**	EPA 6020B	KXS	14	PASI-G
		EPA 7470	AJT	1	PASI-G
			AG1	7	PASI-G
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	LMB	1	PASI-G
		EPA 9040	HML	1	PASI-G
		EPA 300.0	HMB	3	PASI-G
40282792002	**M-4R**	EPA 6020B	KXS	14	PASI-G
		EPA 7470	AJT	1	PASI-G
			AG1	7	PASI-G
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	LMB	1	PASI-G
		EPA 9040	HML	1	PASI-G
		EPA 300.0	HMB	3	PASI-G
40282792003	**FIELD BLANK**	EPA 6020B	KXS	14	PASI-G
		EPA 7470	AJT	1	PASI-G
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	LMB	1	PASI-G
		EPA 9040	HML	1	PASI-G
		EPA 300.0	HMB	3	PASI-G

PASI-G = Pace Analytical Services - Green Bay
PASI-PA = Pace Analytical Services - Greensburg

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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 25224067 COLUMBIA PRIMARY POND
Pace Project No.: 40282792

Sample: MW-305 **Lab ID: 40282792001** Collected: 08/15/24 10:55 Received: 08/17/24 08:45 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								
Antimony	**0.41J**	ug/L	1.0	0.15	1	08/20/24 06:23	08/23/24 14:08	7440-36-0	
Arsenic	**0.41J**	ug/L	1.0	0.28	1	08/20/24 06:23	08/23/24 14:08	7440-38-2	
Barium	**7.8**	ug/L	2.3	0.70	1	08/20/24 06:23	08/23/24 14:08	7440-39-3	
Beryllium	**<0.25**	ug/L	1.0	0.25	1	08/20/24 06:23	08/23/24 14:08	7440-41-7	
Boron	**524**	ug/L	100	30.3	10	08/20/24 06:23	08/22/24 17:04	7440-42-8	
Cadmium	**<0.15**	ug/L	1.0	0.15	1	08/20/24 06:23	08/23/24 14:08	7440-43-9	
Calcium	**35400**	ug/L	254	76.2	1	08/20/24 06:23	08/23/24 14:08	7440-70-2	
Chromium	**3.1J**	ug/L	3.4	1.0	1	08/20/24 06:23	08/23/24 14:08	7440-47-3	
Cobalt	**<0.12**	ug/L	1.0	0.12	1	08/20/24 06:23	08/23/24 14:08	7440-48-4	
Lead	**<0.24**	ug/L	1.0	0.24	1	08/20/24 06:23	08/23/24 14:08	7439-92-1	
Lithium	**0.41J**	ug/L	1.0	0.22	1	08/20/24 06:23	08/23/24 14:08	7439-93-2	
Molybdenum	**7.4**	ug/L	1.5	0.44	1	08/20/24 06:23	08/23/24 14:08	7439-98-7	
Selenium	**0.60J**	ug/L	1.1	0.32	1	08/20/24 06:23	08/23/24 14:08	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	08/20/24 06:23	08/23/24 14:08	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Green Bay								
Mercury	**<0.066**	ug/L	0.20	0.066	1	08/28/24 09:40	08/29/24 09:25	7439-97-6	
Field Data	Analytical Method: Pace Analytical Services - Green Bay								
Field pH	**7.89**	Std. Units			1		08/15/24 10:55		
Field Specific Conductance	**260**	umhos/cm			1		08/15/24 10:55		
Oxygen, Dissolved	**5.32**	mg/L			1		08/15/24 10:55	7782-44-7	
REDOX	**112.2**	mV			1		08/15/24 10:55		
Turbidity	**0.00**	NTU			1		08/15/24 10:55		
Static Water Level	**783.75**	feet			1		08/15/24 10:55		
Temperature, Water (C)	**17.6**	deg C			1		08/15/24 10:55		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Green Bay								
Total Dissolved Solids	**158**	mg/L	20.0	8.7	1		08/22/24 10:42		
9040 pH	Analytical Method: EPA 9040 Pace Analytical Services - Green Bay								
pH at 25 Degrees C	**8.1**	Std. Units	0.10	0.010	1		08/23/24 15:05		H6
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay								
Chloride	**4.0**	mg/L	2.0	0.59	1		08/28/24 13:04	16887-00-6	
Fluoride	**0.20J**	mg/L	0.32	0.095	1		08/28/24 13:04	16984-48-8	
Sulfate	**23.3**	mg/L	20.0	4.4	10		08/27/24 19:02	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 25224067 COLUMBIA PRIMARY POND
Pace Project No.: 40282792

Sample: M-4R **Lab ID: 40282792002** Collected: 08/15/24 12:40 Received: 08/17/24 08:45 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								
Antimony	**0.23J**	ug/L	1.0	0.15	1	08/20/24 06:23	08/23/24 14:25	7440-36-0	
Arsenic	**<0.28**	ug/L	1.0	0.28	1	08/20/24 06:23	08/23/24 14:25	7440-38-2	
Barium	**43.2**	ug/L	2.3	0.70	1	08/20/24 06:23	08/23/24 14:25	7440-39-3	
Beryllium	**<0.25**	ug/L	1.0	0.25	1	08/20/24 06:23	08/23/24 14:25	7440-41-7	
Boron	**651**	ug/L	10.0	3.0	1	08/20/24 06:23	08/22/24 17:55	7440-42-8	
Cadmium	**<0.15**	ug/L	1.0	0.15	1	08/20/24 06:23	08/23/24 14:25	7440-43-9	
Calcium	**124000**	ug/L	254	76.2	1	08/20/24 06:23	08/23/24 14:25	7440-70-2	
Chromium	**1.3J**	ug/L	3.4	1.0	1	08/20/24 06:23	08/23/24 14:25	7440-47-3	
Cobalt	**0.68J**	ug/L	1.0	0.12	1	08/20/24 06:23	08/23/24 14:25	7440-48-4	
Lead	**<0.24**	ug/L	1.0	0.24	1	08/20/24 06:23	08/23/24 14:25	7439-92-1	
Lithium	**0.88J**	ug/L	1.0	0.22	1	08/20/24 06:23	08/23/24 14:25	7439-93-2	
Molybdenum	**10.9**	ug/L	1.5	0.44	1	08/20/24 06:23	08/23/24 14:25	7439-98-7	
Selenium	**20.2**	ug/L	1.1	0.32	1	08/20/24 06:23	08/23/24 14:25	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	08/20/24 06:23	08/23/24 14:25	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Green Bay								
Mercury	**<0.066**	ug/L	0.20	0.066	1	08/28/24 09:40	08/29/24 07:36	7439-97-6	
Field Data	Analytical Method: Pace Analytical Services - Green Bay								
Field pH	**6.95**	Std. Units			1		08/15/24 12:40		
Field Specific Conductance	**825**	umhos/cm			1		08/15/24 12:40		
Oxygen, Dissolved	**1.26**	mg/L			1		08/15/24 12:40	7782-44-7	
REDOX	**137.1**	mV			1		08/15/24 12:40		
Turbidity	**3.50**	NTU			1		08/15/24 12:40		
Static Water Level	**784.27**	feet			1		08/15/24 12:40		
Temperature, Water (C)	**16.2**	deg C			1		08/15/24 12:40		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Green Bay								
Total Dissolved Solids	**604**	mg/L	20.0	8.7	1		08/22/24 10:43		
9040 pH	Analytical Method: EPA 9040 Pace Analytical Services - Green Bay								
pH at 25 Degrees C	**7.8**	Std. Units	0.10	0.010	1		08/23/24 15:14		H6
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay								
Chloride	**24.1**	mg/L	20.0	5.9	10		08/27/24 19:16	16887-00-6	
Fluoride	**<0.95**	mg/L	3.2	0.95	10		08/27/24 19:16	16984-48-8	D3
Sulfate	**238**	mg/L	20.0	4.4	10		08/27/24 19:16	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 25224067 COLUMBIA PRIMARY POND
Pace Project No.: 40282792

Sample: FIELD BLANK **Lab ID: 40282792003** Collected: 08/15/24 12:50 Received: 08/17/24 08:45 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								
Antimony	**<0.15**	ug/L	1.0	0.15	1	08/20/24 06:23	08/23/24 14:33	7440-36-0	
Arsenic	**<0.28**	ug/L	1.0	0.28	1	08/20/24 06:23	08/23/24 14:33	7440-38-2	
Barium	**<0.70**	ug/L	2.3	0.70	1	08/20/24 06:23	08/23/24 14:33	7440-39-3	
Beryllium	**<0.25**	ug/L	1.0	0.25	1	08/20/24 06:23	08/23/24 14:33	7440-41-7	
Boron	**20.0**	ug/L	10.0	3.0	1	08/20/24 06:23	08/23/24 14:33	7440-42-8	B
Cadmium	**<0.15**	ug/L	1.0	0.15	1	08/20/24 06:23	08/23/24 14:33	7440-43-9	
Calcium	**790**	ug/L	254	76.2	1	08/20/24 06:23	08/23/24 14:33	7440-70-2	B
Chromium	**<1.0**	ug/L	3.4	1.0	1	08/20/24 06:23	08/23/24 14:33	7440-47-3	
Cobalt	**<0.12**	ug/L	1.0	0.12	1	08/20/24 06:23	08/23/24 14:33	7440-48-4	
Lead	**<0.24**	ug/L	1.0	0.24	1	08/20/24 06:23	08/23/24 14:33	7439-92-1	
Lithium	**0.42J**	ug/L	1.0	0.22	1	08/20/24 06:23	08/23/24 14:33	7439-93-2	
Molybdenum	**<0.44**	ug/L	1.5	0.44	1	08/20/24 06:23	08/23/24 14:33	7439-98-7	
Selenium	**<0.32**	ug/L	1.1	0.32	1	08/20/24 06:23	08/23/24 14:33	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	08/20/24 06:23	08/23/24 14:33	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Green Bay								
Mercury	**<0.066**	ug/L	0.20	0.066	1	08/28/24 09:40	08/29/24 07:38	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Green Bay								
Total Dissolved Solids	**<8.7**	mg/L	20.0	8.7	1		08/22/24 10:43		
9040 pH	Analytical Method: EPA 9040 Pace Analytical Services - Green Bay								
pH at 25 Degrees C	**5.4**	Std. Units	0.10	0.010	1		08/23/24 15:29		H6
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay								
Chloride	**<0.59**	mg/L	2.0	0.59	1		08/27/24 19:30	16887-00-6	
Fluoride	**<0.095**	mg/L	0.32	0.095	1		08/27/24 19:30	16984-48-8	
Sulfate	**<0.44**	mg/L	2.0	0.44	1		08/27/24 19:30	14808-79-8	

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QUALITY CONTROL DATA

Project: 25224067 COLUMBIA PRIMARY POND
Pace Project No.: 40282792

QC Batch: 483034
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40282792001, 40282792002, 40282792003

METHOD BLANK: 2765745 Matrix: Water
Associated Lab Samples: 40282792001, 40282792002, 40282792003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	<0.066	0.20	08/29/24 07:12	

LABORATORY CONTROL SAMPLE: 2765746

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2765747 2765748

Parameter	Units	40283069004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.066	5	5	4.4	4.6	88	93	85-115	5	20	

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QUALITY CONTROL DATA

Project: 25224067 COLUMBIA PRIMARY POND
Pace Project No.: 40282792

QC Batch: 482328
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020B MET
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40282792001, 40282792002, 40282792003

METHOD BLANK: 2762198 Matrix: Water
Associated Lab Samples: 40282792001, 40282792002, 40282792003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	<0.15	1.0	08/23/24 13:59	
Arsenic	ug/L	<0.28	1.0	08/23/24 13:59	
Barium	ug/L	<0.70	2.3	08/23/24 13:59	
Beryllium	ug/L	<0.25	1.0	08/23/24 13:59	
Boron	ug/L	6.8J	10.0	08/23/24 13:59	
Cadmium	ug/L	<0.15	1.0	08/23/24 13:59	
Calcium	ug/L	228J	254	08/23/24 13:59	
Chromium	ug/L	<1.0	3.4	08/23/24 13:59	
Cobalt	ug/L	<0.12	1.0	08/23/24 13:59	
Lead	ug/L	<0.24	1.0	08/23/24 13:59	
Lithium	ug/L	<0.22	1.0	08/23/24 13:59	
Molybdenum	ug/L	<0.44	1.5	08/23/24 13:59	
Selenium	ug/L	<0.32	1.1	08/23/24 13:59	
Thallium	ug/L	<0.14	1.0	08/23/24 13:59	

LABORATORY CONTROL SAMPLE: 2762199

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	250	260	104	80-120	
Arsenic	ug/L	250	256	102	80-120	
Barium	ug/L	250	249	100	80-120	
Beryllium	ug/L	250	250	100	80-120	
Boron	ug/L	250	245	98	80-120	
Cadmium	ug/L	250	261	104	80-120	
Calcium	ug/L	10000	10400	104	80-120	
Chromium	ug/L	250	245	98	80-120	
Cobalt	ug/L	250	246	98	80-120	
Lead	ug/L	250	245	98	80-120	
Lithium	ug/L	250	251	100	80-120	
Molybdenum	ug/L	250	242	97	80-120	
Selenium	ug/L	250	261	104	80-120	
Thallium	ug/L	250	240	96	80-120	

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QUALITY CONTROL DATA

Project: 25224067 COLUMBIA PRIMARY POND
Pace Project No.: 40282792

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2762202 2762203

Parameter	Units	40282792001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	0.41J	250	250	259	251	103	100	75-125	3	20	
Arsenic	ug/L	0.41J	250	250	256	248	102	99	75-125	3	20	
Barium	ug/L	7.8	250	250	254	248	98	96	75-125	2	20	
Beryllium	ug/L	<0.25	250	250	253	242	101	97	75-125	4	20	
Boron	ug/L	524	250	250	769	737	98	85	75-125	4	20	
Cadmium	ug/L	<0.15	250	250	257	251	103	100	75-125	3	20	
Calcium	ug/L	35400	10000	10000	46700	45400	114	100	75-125	3	20	
Chromium	ug/L	3.1J	250	250	246	240	97	95	75-125	2	20	
Cobalt	ug/L	<0.12	250	250	239	234	96	94	75-125	2	20	
Lead	ug/L	<0.24	250	250	242	238	97	95	75-125	1	20	
Lithium	ug/L	0.41J	250	250	251	243	100	97	75-125	3	20	
Molybdenum	ug/L	7.4	250	250	250	246	97	96	75-125	1	20	
Selenium	ug/L	0.60J	250	250	261	252	104	100	75-125	3	20	
Thallium	ug/L	<0.14	250	250	239	235	95	94	75-125	2	20	

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QUALITY CONTROL DATA

Project: 25224067 COLUMBIA PRIMARY POND
Pace Project No.: 40282792

QC Batch: 482578
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40282792001, 40282792002, 40282792003

METHOD BLANK: 2763409 Matrix: Water
Associated Lab Samples: 40282792001, 40282792002, 40282792003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<8.7	20.0	08/22/24 10:42	

LABORATORY CONTROL SAMPLE: 2763410

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	582	576	99	80-120	

SAMPLE DUPLICATE: 2763411

Parameter	Units	40282797001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	304	308	1	10	

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QUALITY CONTROL DATA

Project: 25224067 COLUMBIA PRIMARY POND
Pace Project No.: 40282792

QC Batch: 482711
QC Batch Method: EPA 9040
Analysis Method: EPA 9040
Analysis Description: 9040 pH
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40282792001, 40282792002, 40282792003

SAMPLE DUPLICATE: 2764511

Parameter	Units	40282792001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.1	8.2	1	20	H6

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QUALITY CONTROL DATA

Project: 25224067 COLUMBIA PRIMARY POND
Pace Project No.: 40282792

QC Batch: 482880
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40282792001, 40282792002, 40282792003

METHOD BLANK: 2765118 Matrix: Water
Associated Lab Samples: 40282792001, 40282792002, 40282792003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<0.59	2.0	08/27/24 15:17	
Fluoride	mg/L	<0.095	0.32	08/27/24 15:17	
Sulfate	mg/L	<0.44	2.0	08/27/24 15:17	

LABORATORY CONTROL SAMPLE: 2765119

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	21.2	106	90-110	
Fluoride	mg/L	2	1.9	97	90-110	
Sulfate	mg/L	20	21.1	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2765120 2765121

Parameter	Units	40282661018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	22.0	200	200	229	241	104	110	90-110	5	15	
Fluoride	mg/L	<0.95	20	20	19.6	21.3	98	107	90-110	8	15	
Sulfate	mg/L	182	200	200	398	401	108	109	90-110	1	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2765122 2765123

Parameter	Units	40282755004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	85.8	100	100	194	196	108	110	90-110	1	15	
Fluoride	mg/L	0.89J	10	10	11.7	11.8	108	109	90-110	2	15	
Sulfate	mg/L	344	400	400	780	781	109	109	90-110	0	15	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 25224067 COLUMBIA PRIMARY POND
Pace Project No.: 40282792

Sample: MW-305 **Lab ID: 40282792001** Collected: 08/15/24 10:55 Received: 08/17/24 08:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.470 ± 0.686 (1.47) C:NA T:91%**	pCi/L	08/29/24 14:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**-0.147 ± 0.305 (1.00) C:85% T:87%**	pCi/L	09/04/24 15:22	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.000 ± 0.991 (2.47)**	pCi/L	09/10/24 15:30	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 25224067 COLUMBIA PRIMARY POND
Pace Project No.: 40282792

Sample: M-4R **Lab ID: 40282792002** Collected: 08/15/24 12:40 Received: 08/17/24 08:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.498 ± 0.693 (1.46) C:NA T:87%**	pCi/L	08/29/24 14:48	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.250 ± 0.369 (1.00) C:82% T:91%**	pCi/L	09/04/24 15:22	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.250 ± 1.06 (2.46)**	pCi/L	09/10/24 15:30	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 25224067 COLUMBIA PRIMARY POND
Pace Project No.: 40282792

Sample: FIELD BLANK **Lab ID: 40282792003** Collected: 08/15/24 12:50 Received: 08/17/24 08:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.062 ± 0.580 (1.16) C:NA T:96%**	pCi/L	08/29/24 16:11	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.661 ± 0.431 (1.00) C:76% T:88%**	pCi/L	09/04/24 15:22	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.661 ± 1.01 (2.16)**	pCi/L	09/10/24 15:30	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 25224067 COLUMBIA PRIMARY POND
Pace Project No.: 40282792

QC Batch: 690807
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 40282792001, 40282792002, 40282792003

METHOD BLANK: 3363809 Matrix: Water
Associated Lab Samples: 40282792001, 40282792002, 40282792003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.150 ± 0.327 (0.602) C:NA T:92%	pCi/L	08/29/24 14:19	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 25224067 COLUMBIA PRIMARY POND
Pace Project No.: 40282792

QC Batch: 690808
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 40282792001, 40282792002, 40282792003

METHOD BLANK: 3363811 Matrix: Water
Associated Lab Samples: 40282792001, 40282792002, 40282792003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.193 ± 0.302 (0.654) C:85% T:88%	pCi/L	09/04/24 15:20	

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QUALIFIERS

Project: 25224067 COLUMBIA PRIMARY POND
Pace Project No.: 40282792

DEFINITIONS

Act - Activity
Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)
(MDC) - Minimum Detectable Concentration
Trac - Tracer Recovery (%)
Carr - Carrier Recovery (%)
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 - The reported result is an estimated value.
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.
DL - Adjusted Method Detection Limit.
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 - Analyte was not detected and is reported as less than the LOD or as defined by the customer.
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

B	Analyte was detected in the associated method blank.
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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 25224067 COLUMBIA PRIMARY POND
Pace Project No.: 40282792

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40282792001	**MW-305**	EPA 3010A	482328	EPA 6020B	482467
40282792002	**M-4R**	EPA 3010A	482328	EPA 6020B	482467
40282792003	**FIELD BLANK**	EPA 3010A	482328	EPA 6020B	482467
40282792001	**MW-305**	EPA 7470	483034	EPA 7470	483070
40282792002	**M-4R**	EPA 7470	483034	EPA 7470	483070
40282792003	**FIELD BLANK**	EPA 7470	483034	EPA 7470	483070
40282792001	**MW-305**				
40282792002	**M-4R**				
40282792001	**MW-305**	EPA 903.1	690807		
40282792002	**M-4R**	EPA 903.1	690807		
40282792003	**FIELD BLANK**	EPA 903.1	690807		
40282792001	**MW-305**	EPA 904.0	690808		
40282792002	**M-4R**	EPA 904.0	690808		
40282792003	**FIELD BLANK**	EPA 904.0	690808		
40282792001	**MW-305**	Total Radium Calculation	694876		
40282792002	**M-4R**	Total Radium Calculation	694876		
40282792003	**FIELD BLANK**	Total Radium Calculation	694876		
40282792001	**MW-305**	SM 2540C	482578		
40282792002	**M-4R**	SM 2540C	482578		
40282792003	**FIELD BLANK**	SM 2540C	482578		
40282792001	**MW-305**	EPA 9040	482711		
40282792002	**M-4R**	EPA 9040	482711		
40282792003	**FIELD BLANK**	EPA 9040	482711		
40282792001	**MW-305**	EPA 300.0	482880		
40282792002	**M-4R**	EPA 300.0	482880		
40282792003	**FIELD BLANK**	EPA 300.0	482880		

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CHAIN-OF-CUSTODY Analytical Request Document

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Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-In Number Here: 40282792

ALL SHADED AREAS are for LAB USE ONLY

Company: SCS Engineers	Billing Information: Same as contact
Address: 2830 Dairy Dr. Madison, WI 53718	
Report To: Meghan Blodgett	Email To: mblodgett@scsengineers.com
Copy To:	Site Collection Info/Address:
Customer Project Name/Number: Columbia Primary Pond 25224067	State: WI County/City: Columbia Time Zone Collected: [ ] PT [ ] MT [X] CT [ ] ET
Phone: Email:	Site/Facility ID #: Compliance Monitoring? [ ] Yes [ ] No
Collected By (print): Ryan Matzek	Purchase Order #: Quote #: DW PWS ID #: DW Location Code:
Collected By (signature):	Turnaround Date Required: Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)
	Field Filtered (if applicable): [ ] Yes [X] No Analysis:

Container Preservative Type **: 1 | | U | | 1 | | | | |

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Analyses: 6020 metals		TDS, pH, Anions		Radium 226/228				Lab Profile/Line:
MW-305	GW	G	8/15/24	1055				4	X		X		X				001
MW-4R	↓	↓	↓	1240				↓	X		X		X				002
Field Blank	↓	↓	↓	1250				↓	X		X		X				003

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y N NA
Custody Signatures Present	Y N NA
Collector Signature Present	Y N NA
Bottles Intact	Y N NA
Correct Bottles	Y N NA
Sufficient Volume	Y N NA
Samples Received on Ice	Y N NA
VOA - Headspace Acceptable	Y N NA
USDA Regulated Soils	Y N NA
Samples In Holding Time	Y N NA
Residual Chlorine Present	Y N NA
Cl Strips:	
Sample pH Acceptable	Y N NA
pH Strips:	
Sulfide Present	Y N NA
Lead Acetate Strips:	

LAB USE ONLY:
Lab Sample # / Comments:

SCW 8/17/24 GP

Customer Remarks / Special Conditions / Possible Hazards: See attached Table for Full parameter list

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #: 2824345

Samples received via: FEDEX UPS Client Courier Pace Courier

Lab Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: D
Cooler 1 Temp Upon Receipt: oC
Cooler 1 Therm Corr. Factor: oC
Cooler 1 Corrected Temp: oC
Comments:

8/17/24 GP

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
SCS	8/16/24 1000		
CS Logistic	8/17/24 0845		8/17/24 0845

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

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Table 2. Sampling Points and Parameters - CCR Rule Sampling Program
Groundwater Monitoring - Columbia Energy Center / SCS Engineers Project #25224067

		Parameter	MW-305	M-4R	FIELD BLANK - PPOND
Lab Parameters	Appendix III Parameters (Detection Monitoring)	Boron	X	X	X
		Calcium	X	X	X
		Chloride	X	X	X
		Fluoride	X	X	X
		pH	X	X	X
		Sulfate	X	X	X
		TDS	X	X	X
	Appendix IV Parameters (Assessment Monitoring)	Antimony	X	X	X
		Arsenic	X	X	X
		Barium	X	X	X
		Beryllium	X	X	X
		Cadmium	X	X	X
		Chromium	X	X	X
		Cobalt	X	X	X
		Fluoride	X	X	X
		Lead	X	X	X
		Lithium	X	X	X
		Mercury	X	X	X
		Molybdenum	X	X	X
		Selenium	X	X	X
		Thallium	X	X	X
		Radium 226+228	X	X	X
Field Parameters	CCR Rule Field Parameters	Groundwater Elevation	X	X	
		pH	X	X	
	Low-Flow Sampling Field Parameters	Well Depth			
		Specific Conductance	X	X	
		Dissolved Oxygen	X	X	
		ORP	X	X	
		Temperature	X	X	
		Turbidity	X	X	
		Color	X	X	
		Odor	X	X	

Notes: All samples are unfiltered (total).

I \25224067 00\Data and Calculations\Field Work Requests\2024 April GW Sampling\[202

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Client Name: SCS Engineer

Sample Preservation Receipt Form

Project # 40282792

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

Lab Lot# of pH paper: 100333 Lab Std #ID of preservation (if pH adjusted). 100333 YA 8/17/24

Initial when completed: YA Date/ Time:

Pace Lab #	Glass: AG1U	BG1U	AG1H	AG4S	AG5U	AG2S	BG3U	Plastic: BP1U	BP3U	BP3B	BP3N	BP3S	BP2Z	Vials: VG9C	DG9T	VG9U	VG9H	VG9M	VG9D	Jars: JGFU	JG9U	WGFU	WPFU	General: SP5T	ZPLC	GN 1	GN 2	VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
001									1		1															2								2.5 / 5
002																										2								2.5 / 5
003																										2								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									YA 8/17/24																									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

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	1 L poly HNO3
						GN 2	

Page 1 of 2

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Sample Condition Upon Receipt Form (SCUR)

Project #: WO# : 40282792

Client Name: SCS Engineer

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

Tracking #: N/A

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 - 127 **Type of Ice:** (Wet) Blue Dry None ☐ Meltwater Only

Cooler Temperature Uncorr: 0.0 /Corr: 0.0

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: 8/17/24 Initials: YM
Labeled By Initials: AG

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☐Yes ☑No ☐N/A	2. PG # 8/17/24 YM
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No	5.
- DI VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☑No	6.
Rush Turn Around Time Requested:	☐Yes ☑No	7.
Sufficient Volume:		8.
For Analysis: ☑Yes ☐No MS/MSD:	☐Yes ☑No ☐N/A	
Correct Containers Used:	☑Yes ☐No	9.
Correct Type: Pace Green Bay, Pace IR, Non-Pace		
Containers Intact:	☑Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☑No ☐N/A	11.
Sample Labels match COC:	☐Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: _____		
Trip Blank Present:	☐Yes ☐No ☑N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☑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 logi

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D2 – October 2024 Assessment Monitoring

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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

October 31, 2024

Meghan Blodgett
SCS ENGINEERS
2830 Dairy Drive
Madison, WI 53718

RE: Project: 25223067 COLUMBIA CCR BACKGROU
Pace Project No.: 40285191

Dear Meghan Blodgett:

Enclosed are the analytical results for sample(s) received by the laboratory on October 04, 2024. 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
- Pace Analytical Services - Greensburg

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

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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: 25223067 COLUMBIA CCR BACKGROU
Pace Project No.: 40285191

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
ANABISO/IEC 17025:2017 Rad Cert#: L24170
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 2950
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA010
Louisiana DEQ/TNI Certification #: 04086
Maine Certification #: 2023021
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572023-03
New Hampshire/TNI Certification #: 297622
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-015
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN02867
Texas/TNI Certification #: T104704188-22-18
Utah/TNI Certification #: PA014572223-14
USDA Soil Permit #: 525-23-67-77263
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad

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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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: 25223067 COLUMBIA CCR BACKGROU
Pace Project No.: 40285191

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40285191001	**MW-301**	Water	10/02/24 12:40	10/04/24 08:35
40285191002	**MW-84A**	Water	10/02/24 11:50	10/04/24 08:35
40285191003	**MW-84A DUP**	Water	10/02/24 11:55	10/04/24 08:35

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SAMPLE ANALYTE COUNT

Project: 25223067 COLUMBIA CCR BACKGROU
Pace Project No.: 40285191

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40285191001	**MW-301**	EPA 6020B	KXS	15	PASI-G
		EPA 7470	AJT	1	PASI-G
			LB	7	PASI-G
		EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	LAL	1	PASI-PA
		SM 2540C	LMB	1	PASI-G
		EPA 9040	HML	1	PASI-G
		EPA 300.0	HMB	3	PASI-G
		EPA 310.2	MT	1	PASI-G
40285191002	**MW-84A**	EPA 6020B	KXS	15	PASI-G
		EPA 7470	AJT	1	PASI-G
			LB	7	PASI-G
		EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		Total Radium Calculation	LAL	1	PASI-PA
		SM 2540C	LMB	1	PASI-G
		EPA 9040	HML	1	PASI-G
		EPA 300.0	HMB	3	PASI-G
		EPA 310.2	MT	1	PASI-G
40285191003	**MW-84A DUP**	EPA 6020B	KXS	15	PASI-G
		EPA 7470	AJT	1	PASI-G

PASI-G = Pace Analytical Services - Green Bay
PASI-PA = Pace Analytical Services - Greensburg

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Pace Analytical Services, LLC
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Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 25223067 COLUMBIA CCR BACKGROU
Pace Project No.: 40285191

Sample: MW-301 **Lab ID: 40285191001** Collected: 10/02/24 12:40 Received: 10/04/24 08:35 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								
Antimony	**<0.15**	ug/L	1.0	0.15	1	10/06/24 09:18	10/08/24 17:28	7440-36-0	
Arsenic	**<0.28**	ug/L	1.0	0.28	1	10/06/24 09:18	10/08/24 17:28	7440-38-2	
Barium	**10.6**	ug/L	2.3	0.70	1	10/06/24 09:18	10/08/24 17:28	7440-39-3	
Beryllium	**<0.25**	ug/L	1.0	0.25	1	10/06/24 09:18	10/08/24 17:28	7440-41-7	
Boron	**22.1**	ug/L	10.0	3.0	1	10/06/24 09:18	10/08/24 17:28	7440-42-8	
Cadmium	**<0.15**	ug/L	1.0	0.15	1	10/06/24 09:18	10/08/24 17:28	7440-43-9	
Calcium	**97000**	ug/L	2540	762	10	10/06/24 09:18	10/08/24 17:11	7440-70-2	P6
Chromium	**<1.0**	ug/L	3.4	1.0	1	10/06/24 09:18	10/08/24 17:28	7440-47-3	
Cobalt	**<0.12**	ug/L	1.0	0.12	1	10/06/24 09:18	10/08/24 17:28	7440-48-4	
Lead	**<0.24**	ug/L	1.0	0.24	1	10/06/24 09:18	10/08/24 17:28	7439-92-1	
Lithium	**0.80J**	ug/L	1.0	0.22	1	10/06/24 09:18	10/08/24 17:28	7439-93-2	
Molybdenum	**<0.44**	ug/L	1.5	0.44	1	10/06/24 09:18	10/08/24 17:28	7439-98-7	
Selenium	**0.39J**	ug/L	1.1	0.32	1	10/06/24 09:18	10/08/24 17:28	7782-49-2	
Thallium	**0.15J**	ug/L	1.0	0.14	1	10/06/24 09:18	10/08/24 17:28	7440-28-0	
Total Hardness by 2340B	**434**	mg/L	17.0	3.2	10	10/06/24 09:18	10/08/24 17:11		
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Green Bay								
Mercury	**<0.066**	ug/L	0.20	0.066	1	10/08/24 06:34	10/10/24 08:47	7439-97-6	
Field Data	Analytical Method: Pace Analytical Services - Green Bay								
Field pH	**6.85**	Std. Units			1		10/02/24 12:40		
Field Specific Conductance	**602.4**	umhos/cm			1		10/02/24 12:40		
Oxygen, Dissolved	**2.77**	mg/L			1		10/02/24 12:40	7782-44-7	
REDOX	**68.1**	mV			1		10/02/24 12:40		
Turbidity	**1.84**	NTU			1		10/02/24 12:40		
Static Water Level	**787.92**	feet			1		10/02/24 12:40		
Temperature, Water (C)	**11.7**	deg C			1		10/02/24 12:40		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Green Bay								
Total Dissolved Solids	**410**	mg/L	20.0	8.7	1		10/08/24 18:00		
9040 pH	Analytical Method: EPA 9040 Pace Analytical Services - Green Bay								
pH at 25 Degrees C	**8.2**	Std. Units	0.10	0.010	1		10/16/24 17:23		H6
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay								
Chloride	**1.5J**	mg/L	2.0	0.59	1		10/18/24 00:28	16887-00-6	
Fluoride	**0.13J**	mg/L	0.32	0.095	1		10/18/24 00:28	16984-48-8	
Sulfate	**10.4**	mg/L	2.0	0.44	1		10/18/24 00:28	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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02/27/2026 - Classification: Internal - ECRM13684511

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 25223067 COLUMBIA CCR BACKGROU
Pace Project No.: 40285191

Sample: MW-301 **Lab ID: 40285191001** Collected: 10/02/24 12:40 Received: 10/04/24 08:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
310.2 Alkalinity	Analytical Method: EPA 310.2 Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**433**	mg/L	25.0	7.4	1		10/08/24 09:33		

REPORT OF LABORATORY ANALYSIS

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Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 25223067 COLUMBIA CCR BACKGROU
Pace Project No.: 40285191

Sample: MW-84A **Lab ID: 40285191002** Collected: 10/02/24 11:50 Received: 10/04/24 08:35 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								
Antimony	**<0.15**	ug/L	1.0	0.15	1	10/06/24 09:18	10/08/24 18:02	7440-36-0	
Arsenic	**<0.28**	ug/L	1.0	0.28	1	10/06/24 09:18	10/08/24 18:02	7440-38-2	
Barium	**13.6**	ug/L	2.3	0.70	1	10/06/24 09:18	10/08/24 18:02	7440-39-3	
Beryllium	**<0.25**	ug/L	1.0	0.25	1	10/06/24 09:18	10/08/24 18:02	7440-41-7	
Boron	**10.3**	ug/L	10.0	3.0	1	10/06/24 09:18	10/08/24 18:02	7440-42-8	
Cadmium	**<0.15**	ug/L	1.0	0.15	1	10/06/24 09:18	10/08/24 18:02	7440-43-9	
Calcium	**73300**	ug/L	254	76.2	1	10/06/24 09:18	10/08/24 18:02	7440-70-2	
Chromium	**1.7J**	ug/L	3.4	1.0	1	10/06/24 09:18	10/08/24 18:02	7440-47-3	
Cobalt	**<0.12**	ug/L	1.0	0.12	1	10/06/24 09:18	10/08/24 18:02	7440-48-4	
Lead	**<0.24**	ug/L	1.0	0.24	1	10/06/24 09:18	10/08/24 18:02	7439-92-1	
Lithium	**0.57J**	ug/L	1.0	0.22	1	10/06/24 09:18	10/08/24 18:02	7439-93-2	
Molybdenum	**<0.44**	ug/L	1.5	0.44	1	10/06/24 09:18	10/08/24 18:02	7439-98-7	
Selenium	**<0.32**	ug/L	1.1	0.32	1	10/06/24 09:18	10/08/24 18:02	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	10/06/24 09:18	10/08/24 18:02	7440-28-0	
Total Hardness by 2340B	**341**	mg/L	1.7	0.32	1	10/06/24 09:18	10/08/24 18:02		
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Green Bay								
Mercury	**<0.066**	ug/L	0.20	0.066	1	10/08/24 06:34	10/10/24 08:49	7439-97-6	
Field Data	Analytical Method: Pace Analytical Services - Green Bay								
Field pH	**7.36**	Std. Units			1		10/02/24 11:50		
Field Specific Conductance	**502.7**	umhos/cm			1		10/02/24 11:50		
Oxygen, Dissolved	**8.73**	mg/L			1		10/02/24 11:50	7782-44-7	
REDOX	**65.1**	mV			1		10/02/24 11:50		
Turbidity	**2.55**	NTU			1		10/02/24 11:50		
Static Water Level	**787.14**	feet			1		10/02/24 11:50		
Temperature, Water (C)	**12.4**	deg C			1		10/02/24 11:50		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Green Bay								
Total Dissolved Solids	**318**	mg/L	20.0	8.7	1		10/08/24 18:01		
9040 pH	Analytical Method: EPA 9040 Pace Analytical Services - Green Bay								
pH at 25 Degrees C	**8.4**	Std. Units	0.10	0.010	1		10/16/24 17:26		H6
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay								
Chloride	**3.3**	mg/L	2.0	0.59	1		10/18/24 00:39	16887-00-6	
Fluoride	**<0.095**	mg/L	0.32	0.095	1		10/18/24 00:39	16984-48-8	
Sulfate	**1.8J**	mg/L	2.0	0.44	1		10/18/24 00:39	14808-79-8	

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Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 25223067 COLUMBIA CCR BACKGROU
Pace Project No.: 40285191

Sample: MW-84A **Lab ID: 40285191002** Collected: 10/02/24 11:50 Received: 10/04/24 08:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
310.2 Alkalinity	Analytical Method: EPA 310.2 Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**350**	mg/L	25.0	7.4	1		10/08/24 09:34		

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ANALYTICAL RESULTS

Project: 25223067 COLUMBIA CCR BACKGROU
Pace Project No.: 40285191

Sample: MW-84A DUP **Lab ID: 40285191003** Collected: 10/02/24 11:55 Received: 10/04/24 08:35 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								
Antimony	**<0.15**	ug/L	1.0	0.15	1	10/06/24 09:18	10/08/24 18:10	7440-36-0	
Arsenic	**<0.28**	ug/L	1.0	0.28	1	10/06/24 09:18	10/08/24 18:10	7440-38-2	
Barium	**13.7**	ug/L	2.3	0.70	1	10/06/24 09:18	10/08/24 18:10	7440-39-3	
Beryllium	**<0.25**	ug/L	1.0	0.25	1	10/06/24 09:18	10/08/24 18:10	7440-41-7	
Boron	**10.4**	ug/L	10.0	3.0	1	10/06/24 09:18	10/08/24 18:10	7440-42-8	
Cadmium	**<0.15**	ug/L	1.0	0.15	1	10/06/24 09:18	10/08/24 18:10	7440-43-9	
Calcium	**72500**	ug/L	254	76.2	1	10/06/24 09:18	10/08/24 18:10	7440-70-2	
Chromium	**1.8J**	ug/L	3.4	1.0	1	10/06/24 09:18	10/08/24 18:10	7440-47-3	
Cobalt	**<0.12**	ug/L	1.0	0.12	1	10/06/24 09:18	10/08/24 18:10	7440-48-4	
Lead	**<0.24**	ug/L	1.0	0.24	1	10/06/24 09:18	10/08/24 18:10	7439-92-1	
Lithium	**0.48J**	ug/L	1.0	0.22	1	10/06/24 09:18	10/08/24 18:10	7439-93-2	
Molybdenum	**<0.44**	ug/L	1.5	0.44	1	10/06/24 09:18	10/08/24 18:10	7439-98-7	
Selenium	**<0.32**	ug/L	1.1	0.32	1	10/06/24 09:18	10/08/24 18:10	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	10/06/24 09:18	10/08/24 18:10	7440-28-0	
Total Hardness by 2340B	**339**	mg/L	1.7	0.32	1	10/06/24 09:18	10/08/24 18:10		
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Green Bay								
Mercury	**<0.066**	ug/L	0.20	0.066	1	10/08/24 06:34	10/10/24 09:02	7439-97-6	

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QUALITY CONTROL DATA

Project: 25223067 COLUMBIA CCR BACKGROU
Pace Project No.: 40285191

QC Batch: 486508
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40285191001, 40285191002, 40285191003

METHOD BLANK: 2786308 Matrix: Water
Associated Lab Samples: 40285191001, 40285191002, 40285191003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	<0.066	0.20	10/10/24 08:28	

LABORATORY CONTROL SAMPLE: 2786309

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2786310 2786311

Parameter	Units	40285189001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.066	5	5	5.0	4.9	101	98	85-115	3	20	

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QUALITY CONTROL DATA

Project: 25223067 COLUMBIA CCR BACKGROU
Pace Project No.: 40285191

QC Batch: 486340
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020B MET
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40285191001, 40285191002, 40285191003

METHOD BLANK: 2785746 Matrix: Water
Associated Lab Samples: 40285191001, 40285191002, 40285191003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	<0.15	1.0	10/08/24 17:03	
Arsenic	ug/L	<0.28	1.0	10/08/24 17:03	
Barium	ug/L	<0.70	2.3	10/08/24 17:03	
Beryllium	ug/L	<0.25	1.0	10/08/24 17:03	
Boron	ug/L	<3.0	10.0	10/08/24 17:03	
Cadmium	ug/L	<0.15	1.0	10/08/24 17:03	
Calcium	ug/L	<76.2	254	10/08/24 17:03	
Chromium	ug/L	<1.0	3.4	10/08/24 17:03	
Cobalt	ug/L	<0.12	1.0	10/08/24 17:03	
Lead	ug/L	<0.24	1.0	10/08/24 17:03	
Lithium	ug/L	<0.22	1.0	10/08/24 17:03	
Molybdenum	ug/L	<0.44	1.5	10/08/24 17:03	
Selenium	ug/L	<0.32	1.1	10/08/24 17:03	
Thallium	ug/L	<0.14	1.0	10/08/24 17:03	
Total Hardness by 2340B	mg/L	<0.32	1.7	10/08/24 17:03	

LABORATORY CONTROL SAMPLE: 2785747

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	250	249	100	80-120	
Arsenic	ug/L	250	251	100	80-120	
Barium	ug/L	250	248	99	80-120	
Beryllium	ug/L	250	247	99	80-120	
Boron	ug/L	250	217	87	80-120	
Cadmium	ug/L	250	251	100	80-120	
Calcium	ug/L	10000	9820	98	80-120	
Chromium	ug/L	250	238	95	80-120	
Cobalt	ug/L	250	246	99	80-120	
Lead	ug/L	250	251	101	80-120	
Lithium	ug/L	250	245	98	80-120	
Molybdenum	ug/L	250	245	98	80-120	
Selenium	ug/L	250	251	100	80-120	
Thallium	ug/L	250	250	100	80-120	
Total Hardness by 2340B	mg/L		65.9			

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QUALITY CONTROL DATA

Project: 25223067 COLUMBIA CCR BACKGROU
Pace Project No.: 40285191

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2785748 2785749

Parameter	Units	40285191001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.15	250	250	254	255	102	102	75-125	0	20	
Arsenic	ug/L	<0.28	250	250	256	257	102	103	75-125	0	20	
Barium	ug/L	10.6	250	250	265	265	102	102	75-125	0	20	
Beryllium	ug/L	<0.25	250	250	254	253	102	101	75-125	1	20	
Boron	ug/L	22.1	250	250	246	241	89	88	75-125	2	20	
Cadmium	ug/L	<0.15	250	250	255	255	102	102	75-125	0	20	
Calcium	ug/L	97000	10000	10000	115000	113000	182	162	75-125	2	20	P6
Chromium	ug/L	<1.0	250	250	241	242	96	97	75-125	0	20	
Cobalt	ug/L	<0.12	250	250	248	247	99	99	75-125	0	20	
Lead	ug/L	<0.24	250	250	252	251	101	100	75-125	1	20	
Lithium	ug/L	0.80J	250	250	253	252	101	100	75-125	0	20	
Molybdenum	ug/L	<0.44	250	250	257	255	103	102	75-125	1	20	
Selenium	ug/L	0.39J	250	250	253	253	101	101	75-125	0	20	
Thallium	ug/L	0.15J	250	250	245	245	98	98	75-125	0	20	
Total Hardness by 2340B	mg/L	434			534	522				2	20	

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QUALITY CONTROL DATA

Project: 25223067 COLUMBIA CCR BACKGROU
Pace Project No.: 40285191

QC Batch: 486616
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40285191001, 40285191002

METHOD BLANK: 2786836 Matrix: Water
Associated Lab Samples: 40285191001, 40285191002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<8.7	20.0	10/08/24 17:59	

LABORATORY CONTROL SAMPLE: 2786837

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	582	506	87	80-120	

SAMPLE DUPLICATE: 2786842

Parameter	Units	40285126001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	498	472	5	10	

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QUALITY CONTROL DATA

Project: 25223067 COLUMBIA CCR BACKGROU
Pace Project No.: 40285191

QC Batch: 487364
QC Batch Method: EPA 9040
Analysis Method: EPA 9040
Analysis Description: 9040 pH
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40285191001, 40285191002

SAMPLE DUPLICATE: 2790786

Parameter	Units	40285189001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.5	8.5	0	20	H6

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QUALITY CONTROL DATA

Project: 25223067 COLUMBIA CCR BACKGROU
Pace Project No.: 40285191

QC Batch: 487482
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40285191001, 40285191002

METHOD BLANK: 2791543 Matrix: Water
Associated Lab Samples: 40285191001, 40285191002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<0.59	2.0	10/17/24 19:11	
Fluoride	mg/L	<0.095	0.32	10/17/24 19:11	
Sulfate	mg/L	<0.44	2.0	10/17/24 19:11	

LABORATORY CONTROL SAMPLE: 2791544

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	20.7	103	90-110	
Fluoride	mg/L	2	2.0	99	90-110	
Sulfate	mg/L	20	20.5	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2791545 2791546

Parameter	Units	40285153002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	280	400	400	723	724	111	111	90-110	0	15	M0
Fluoride	mg/L	<1.9	40	40	42.3	42.7	101	102	90-110	1	15	
Sulfate	mg/L	213	400	400	645	647	108	109	90-110	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2791547 2791548

Parameter	Units	40285193002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	52.7	400	400	487	476	109	106	90-110	2	15	
Fluoride	mg/L	<0.095	2	2	1.7	1.7	86	87	90-110	1	15	M0
Sulfate	mg/L	224	400	400	676	662	113	109	90-110	2	15	M0

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QUALITY CONTROL DATA

Project: 25223067 COLUMBIA CCR BACKGROU
Pace Project No.: 40285191

QC Batch: 486447
QC Batch Method: EPA 310.2
Analysis Method: EPA 310.2
Analysis Description: 310.2 Alkalinity
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40285191001, 40285191002

METHOD BLANK: 2786090 Matrix: Water
Associated Lab Samples: 40285191001, 40285191002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<7.4	25.0	10/08/24 09:12	

LABORATORY CONTROL SAMPLE: 2786091

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	100	101	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2786092 2786093

Parameter	Units	40285195001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	367	100	100	467	472	100	105	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2786094 2786095

Parameter	Units	40285280009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	466	200	200	648	643	91	88	90-110	1	20	M0

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 25223067 COLUMBIA CCR BACKGROU
Pace Project No.: 40285191

Sample: MW-301 **Lab ID: 40285191001** Collected: 10/02/24 12:40 Received: 10/04/24 08:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.102 ± 0.661 (1.00) C:NA T:93%**	pCi/L	10/21/24 14:11	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.731 ± 0.340 (1.00) C:81% T:91%**	pCi/L	10/22/24 12:01	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.833 ± 1.00 (2.00)**	pCi/L	10/28/24 16:04	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 25223067 COLUMBIA CCR BACKGROU
Pace Project No.: 40285191

Sample: MW-84A **Lab ID: 40285191002** Collected: 10/02/24 11:50 Received: 10/04/24 08:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.000 ± 0.507 (1.00) C:NA T:89%**	pCi/L	10/21/24 14:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.668 ± 0.345 (1.00) C:86% T:87%**	pCi/L	10/22/24 12:01	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.668 ± 0.852 (2.00)**	pCi/L	10/28/24 16:04	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 25223067 COLUMBIA CCR BACKGROU
Pace Project No.: 40285191

QC Batch: 701602
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 40285191001, 40285191002

METHOD BLANK: 3417130 Matrix: Water
Associated Lab Samples: 40285191001, 40285191002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.243 ± 0.253 (0.376) C:NA T:91%	pCi/L	10/21/24 13:59	

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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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL - RADIOCHEMISTRY

Project: 25223067 COLUMBIA CCR BACKGROU
Pace Project No.: 40285191

QC Batch: 701603
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 40285191001, 40285191002

METHOD BLANK: 3417131 Matrix: Water
Associated Lab Samples: 40285191001, 40285191002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.553 ± 0.364 (0.691) C:85% T:85%	pCi/L	10/22/24 11:58	

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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QUALIFIERS

Project: 25223067 COLUMBIA CCR BACKGROU
Pace Project No.: 40285191

DEFINITIONS

Act - Activity
Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)
(MDC) - Minimum Detectable Concentration
Trac - Tracer Recovery (%)
Carr - Carrier Recovery (%)
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 - The reported result is an estimated value.
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.
DL - Adjusted Method Detection Limit.
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 - Analyte was not detected and is reported as less than the LOD or as defined by the customer.
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

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 25223067 COLUMBIA CCR BACKGROU
Pace Project No.: 40285191

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40285191001	**MW-301**	EPA 3010A	486340	EPA 6020B	486463
40285191002	**MW-84A**	EPA 3010A	486340	EPA 6020B	486463
40285191003	**MW-84A DUP**	EPA 3010A	486340	EPA 6020B	486463
40285191001	**MW-301**	EPA 7470	486508	EPA 7470	486537
40285191002	**MW-84A**	EPA 7470	486508	EPA 7470	486537
40285191003	**MW-84A DUP**	EPA 7470	486508	EPA 7470	486537
40285191001	**MW-301**				
40285191002	**MW-84A**				
40285191001	**MW-301**	EPA 903.1	701602		
40285191002	**MW-84A**	EPA 903.1	701602		
40285191001	**MW-301**	EPA 904.0	701603		
40285191002	**MW-84A**	EPA 904.0	701603		
40285191001	**MW-301**	Total Radium Calculation	705774		
40285191002	**MW-84A**	Total Radium Calculation	705774		
40285191001	**MW-301**	SM 2540C	486616		
40285191002	**MW-84A**	SM 2540C	486616		
40285191001	**MW-301**	EPA 9040	487364		
40285191002	**MW-84A**	EPA 9040	487364		
40285191001	**MW-301**	EPA 300.0	487482		
40285191002	**MW-84A**	EPA 300.0	487482		
40285191001	**MW-301**	EPA 310.2	486447		
40285191002	**MW-84A**	EPA 310.2	486447		

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40295191

CHAIN-OF-CUSTODY / Analytical Request Document

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

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:
Company: SCS ENGINEERS	Report To: Meghan Blodgett	Attention:
Address: 2830 Dairy Drive	Copy To:	Company Name:
Madison, WI 53718		Address:
Email: mblodgett@scsengineers.com	Purchase Order #:	Pace Quote:
Phone: 608-216-7362 Fax:	Project Name: 25223067 Columbia CCR Background	Pace Project Manager: dan.milewsky@pacelabs.com,
Requested Due Date:	Project #: 25223067	Pace Profile #:

Regulatory Agency

State / Location: WI

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N)	Analyses Test	Residual Chlorine (Y/N)	
																		Y/N			
1	MW-301	WT		10/2	1240														X		001
2	MW-84A	WT		10/2	1150														X		002
3	Field Dup #1 (MW-84A)			10/2	1155														X		003
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

Analyses Test: Metals; TDS and pH; Chloride,Fluoride,Sulfate; Hardness; Alkalinity

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Full List Metals = B, Ca, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li Hg, Mo, Se, Tl ALL SAMPLES UNFILTERED		10/3/24	1500							
	CS Logistics	10/4/24	0835	[illegible]	10/4/24	0835	0.5	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Ethan Schaefer

SIGNATURE of SAMPLER: [signature] 10/3/24

Samples spread across multiple coolers

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Sample Preservation Receipt Form

Client Name: SCS Project # 40285191

All containers needing preservation have been checked and noted below: ☑Yes ☐No ☐N/A Initial when completed: GF Date/ Time:

Lab Lot# of pH paper: 10537733 Lab Std #ID of preservation (if pH adjusted):

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	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN 1	GN 2							
001									2		1															2					X		2.5 / 5
002									2		1															2					X		2.5 / 5
003									1		1																				X		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

10/4/22 GF

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
BG1U	1 liter clear glass	BP3U	250 mL plastic unpres	DG9T	40 mL amber Na Thio
AG1H	1 liter amber glass HCL	BP3B	250 mL plastic NaOH	VG9U	40 mL clear vial unpres
AG4S	125 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9H	40 mL clear vial HCL
AG5U	100 mL amber glass unpres	BP3S	250 mL plastic H2SO4	VG9M	40 mL clear vial MeOH
AG2S	500 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH + Zn	VG9D	40 mL clear vial DI
BG3U	250 mL clear glass unpres				

JGFU	4 oz amber jar unpres
JG9U	9 oz amber jar unpres
WGFU	4 oz clear jar unpres
WPFU	4 oz plastic jar unpres
SP5T	120 mL plastic Na Thiosulfate
ZPLC	ziploc bag
GN 1	1 liter plastic HNO3
GN 2	

Page 1 of 2

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Sample Condition Upon Receipt Form (SCUR)

Project #:

WO# : 40285191

40285191

Client Name: SCS

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

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 - 141 **Type of Ice:** (Wet) Blue Dry None ☐ Meltwater Only

Cooler Temperature Uncorr: 0-5 /Corr: 0-5

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: 10/4/24 /Initials: GF

Labeled By Initials: mh

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☐Yes ☑No ☐N/A	2. preserve 10/4/24 GF
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No	5.
- DI VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☑No	6.
Rush Turn Around Time Requested:	☐Yes ☑No	7.
Sufficient Volume: For Analysis: ☑Yes ☐No MS/MSD: ☐Yes ☑No ☐N/A		8.
Correct Containers Used:	☑Yes ☐No	9.
Correct Type: Pace Green Bay, Pace IR, Non-Pace		
Containers Intact:	☑Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: W	☑Yes ☐No ☐N/A	12.
Trip Blank Present:	☐Yes ☐No ☑N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☑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 logi

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

October 28, 2024

Meghan Blodgett
SCS ENGINEERS
2830 Dairy Drive
Madison, WI 53718

RE: Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

Dear Meghan Blodgett:

Enclosed are the analytical results for sample(s) received by the laboratory on October 04, 2024. 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
- Pace Analytical Services - Greensburg

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

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(920)469-2436

CERTIFICATIONS

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
ANABISO/IEC 17025:2017 Rad Cert#: L24170
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 2950
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA010
Louisiana DEQ/TNI Certification #: 04086
Maine Certification #: 2023021
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572023-03
New Hampshire/TNI Certification #: 297622
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-015
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN02867
Texas/TNI Certification #: T104704188-22-18
Utah/TNI Certification #: PA014572223-14
USDA Soil Permit #: 525-23-67-77263
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad

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

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(920)469-2436

SAMPLE SUMMARY

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40285185001	**MW-303**	Water	10/02/24 12:25	10/04/24 08:35
40285185002	**MW-304R**	Water	10/01/24 13:00	10/04/24 08:35
40285185003	**MW-305**	Water	10/01/24 16:15	10/04/24 08:35
40285185004	**M-4R**	Water	10/01/24 14:30	10/04/24 08:35
40285185005	**FIELD BLANK-PPOND**	Water	10/01/24 14:50	10/04/24 08:35
40285185006	**MW-316**	Water	10/02/24 11:00	10/04/24 08:35

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SAMPLE ANALYTE COUNT

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40285185001	**MW-303**	EPA 6020B	KXS	14	PASI-G
		EPA 7470	AJT	1	PASI-G
			LB	7	PASI-G
		EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	LMB	1	PASI-G
		EPA 9040	HML	1	PASI-G
		EPA 300.0	HMB	3	PASI-G
40285185002	**MW-304R**	EPA 6020B	KXS	14	PASI-G
		EPA 7470	AJT	1	PASI-G
			LB	7	PASI-G
		EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	LMB	1	PASI-G
		EPA 9040	HML	1	PASI-G
		EPA 300.0	HMB	3	PASI-G
40285185003	**MW-305**	EPA 6020B	KXS	14	PASI-G
		EPA 7470	AJT	1	PASI-G
			LB	7	PASI-G
		EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	LMB	1	PASI-G
		EPA 9040	HML	1	PASI-G
		EPA 300.0	HMB	3	PASI-G
40285185004	**M-4R**	EPA 6020B	KXS	14	PASI-G
		EPA 7470	AJT	1	PASI-G
			LB	7	PASI-G
		EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	LMB	1	PASI-G
		EPA 9040	HML	1	PASI-G
		EPA 300.0	HMB	3	PASI-G
40285185005	**FIELD BLANK-PPOND**	EPA 6020B	KXS	14	PASI-G

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(920)469-2436

SAMPLE ANALYTE COUNT

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 7470	AJT	1	PASI-G
		EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	LMB	1	PASI-G
		EPA 9040	HML	1	PASI-G
		EPA 300.0	HMB	3	PASI-G
40285185006	**MW-316**	EPA 6020B	KXS	14	PASI-G
		EPA 7470	AJT	1	PASI-G
			LB	7	PASI-G
		EPA 903.1	REH1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	LMB	1	PASI-G
		EPA 9040	HML	1	PASI-G
		EPA 300.0	HMB	3	PASI-G

PASI-G = Pace Analytical Services - Green Bay
PASI-PA = Pace Analytical Services - Greensburg

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ANALYTICAL RESULTS

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

Sample: MW-303 **Lab ID: 40285185001** Collected: 10/02/24 12:25 Received: 10/04/24 08:35 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								
Antimony	**<0.15**	ug/L	1.0	0.15	1	10/06/24 09:18	10/08/24 18:18	7440-36-0	
Arsenic	**3.9**	ug/L	1.0	0.28	1	10/06/24 09:18	10/08/24 18:18	7440-38-2	
Barium	**22.0**	ug/L	2.3	0.70	1	10/06/24 09:18	10/08/24 18:18	7440-39-3	
Beryllium	**<0.25**	ug/L	1.0	0.25	1	10/06/24 09:18	10/08/24 18:18	7440-41-7	
Boron	**2750**	ug/L	100	30.3	10	10/06/24 09:18	10/09/24 14:57	7440-42-8	
Cadmium	**<0.15**	ug/L	1.0	0.15	1	10/06/24 09:18	10/08/24 18:18	7440-43-9	
Calcium	**47700**	ug/L	254	76.2	1	10/06/24 09:18	10/08/24 18:18	7440-70-2	
Chromium	**53.0**	ug/L	3.4	1.0	1	10/06/24 09:18	10/08/24 18:18	7440-47-3	
Cobalt	**0.34J**	ug/L	1.0	0.12	1	10/06/24 09:18	10/08/24 18:18	7440-48-4	
Lead	**<0.24**	ug/L	1.0	0.24	1	10/06/24 09:18	10/08/24 18:18	7439-92-1	
Lithium	**1.4**	ug/L	1.0	0.22	1	10/06/24 09:18	10/08/24 18:18	7439-93-2	
Molybdenum	**47.4**	ug/L	1.5	0.44	1	10/06/24 09:18	10/08/24 18:18	7439-98-7	
Selenium	**14.4**	ug/L	1.1	0.32	1	10/06/24 09:18	10/08/24 18:18	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	10/06/24 09:18	10/08/24 18:18	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Green Bay								
Mercury	**<0.066**	ug/L	0.20	0.066	1	10/07/24 09:24	10/08/24 06:57	7439-97-6	
Field Data	Analytical Method: Pace Analytical Services - Green Bay								
Field pH	**8.69**	Std. Units			1		10/02/24 12:25		
Field Specific Conductance	**744**	umhos/cm			1		10/02/24 12:25		
Oxygen, Dissolved	**5.69**	mg/L			1		10/02/24 12:25	7782-44-7	
REDOX	**164.8**	mV			1		10/02/24 12:25		
Turbidity	**1.18**	NTU			1		10/02/24 12:25		
Static Water Level	**785.3**	feet			1		10/02/24 12:25		
Temperature, Water (C)	**13.6**	deg C			1		10/02/24 12:25		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Green Bay								
Total Dissolved Solids	**488**	mg/L	20.0	8.7	1		10/08/24 15:26		
9040 pH	Analytical Method: EPA 9040 Pace Analytical Services - Green Bay								
pH at 25 Degrees C	**8.3**	Std. Units	0.10	0.010	1		10/14/24 18:09		H6
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay								
Chloride	**9.7**	mg/L	2.0	0.59	1		10/17/24 21:56	16887-00-6	
Fluoride	**0.097J**	mg/L	0.32	0.095	1		10/17/24 21:56	16984-48-8	
Sulfate	**258**	mg/L	40.0	8.9	20		10/18/24 12:30	14808-79-8	

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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

Sample: MW-304R **Lab ID: 40285185002** Collected: 10/01/24 13:00 Received: 10/04/24 08:35 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								
Antimony	**<0.15**	ug/L	1.0	0.15	1	10/06/24 09:18	10/08/24 18:23	7440-36-0	
Arsenic	**1.7**	ug/L	1.0	0.28	1	10/06/24 09:18	10/08/24 18:23	7440-38-2	
Barium	**80.4**	ug/L	2.3	0.70	1	10/06/24 09:18	10/08/24 18:23	7440-39-3	
Beryllium	**<0.25**	ug/L	1.0	0.25	1	10/06/24 09:18	10/08/24 18:23	7440-41-7	
Boron	**874**	ug/L	100	30.3	10	10/06/24 09:18	10/09/24 15:01	7440-42-8	
Cadmium	**<0.15**	ug/L	1.0	0.15	1	10/06/24 09:18	10/08/24 18:23	7440-43-9	
Calcium	**90300**	ug/L	254	76.2	1	10/06/24 09:18	10/08/24 18:23	7440-70-2	
Chromium	**<1.0**	ug/L	3.4	1.0	1	10/06/24 09:18	10/08/24 18:23	7440-47-3	
Cobalt	**0.84J**	ug/L	1.0	0.12	1	10/06/24 09:18	10/08/24 18:23	7440-48-4	
Lead	**<0.24**	ug/L	1.0	0.24	1	10/06/24 09:18	10/08/24 18:23	7439-92-1	
Lithium	**1.7**	ug/L	1.0	0.22	1	10/06/24 09:18	10/08/24 18:23	7439-93-2	
Molybdenum	**14.5**	ug/L	1.5	0.44	1	10/06/24 09:18	10/08/24 18:23	7439-98-7	
Selenium	**<0.32**	ug/L	1.1	0.32	1	10/06/24 09:18	10/08/24 18:23	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	10/06/24 09:18	10/08/24 18:23	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Green Bay								
Mercury	**<0.066**	ug/L	0.20	0.066	1	10/07/24 09:24	10/08/24 06:59	7439-97-6	
Field Data	Analytical Method: Pace Analytical Services - Green Bay								
Field pH	**7.27**	Std. Units			1		10/01/24 13:00		
Field Specific Conductance	**835**	umhos/cm			1		10/01/24 13:00		
Oxygen, Dissolved	**0.60**	mg/L			1		10/01/24 13:00	7782-44-7	
REDOX	**107.9**	mV			1		10/01/24 13:00		
Turbidity	**18.14**	NTU			1		10/01/24 13:00		
Static Water Level	**784.91**	feet			1		10/01/24 13:00		
Temperature, Water (C)	**14.9**	deg C			1		10/01/24 13:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Green Bay								
Total Dissolved Solids	**538**	mg/L	20.0	8.7	1		10/08/24 12:59		
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		10/14/24 18:11		H6
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay								
Chloride	**31.2**	mg/L	2.0	0.59	1		10/17/24 22:07	16887-00-6	
Fluoride	**0.26J**	mg/L	0.32	0.095	1		10/17/24 22:07	16984-48-8	
Sulfate	**128**	mg/L	20.0	4.4	10		10/18/24 12:41	14808-79-8	

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ANALYTICAL RESULTS

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

Sample: MW-305 **Lab ID: 40285185003** Collected: 10/01/24 16:15 Received: 10/04/24 08:35 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								
Antimony	**0.34J**	ug/L	1.0	0.15	1	10/06/24 09:18	10/08/24 18:27	7440-36-0	
Arsenic	**0.42J**	ug/L	1.0	0.28	1	10/06/24 09:18	10/08/24 18:27	7440-38-2	
Barium	**6.5**	ug/L	2.3	0.70	1	10/06/24 09:18	10/08/24 18:27	7440-39-3	
Beryllium	**<0.25**	ug/L	1.0	0.25	1	10/06/24 09:18	10/08/24 18:27	7440-41-7	
Boron	**803**	ug/L	100	30.3	10	10/06/24 09:18	10/09/24 15:05	7440-42-8	
Cadmium	**<0.15**	ug/L	1.0	0.15	1	10/06/24 09:18	10/08/24 18:27	7440-43-9	
Calcium	**34100**	ug/L	254	76.2	1	10/06/24 09:18	10/08/24 18:27	7440-70-2	
Chromium	**3.4J**	ug/L	3.4	1.0	1	10/06/24 09:18	10/08/24 18:27	7440-47-3	
Cobalt	**<0.12**	ug/L	1.0	0.12	1	10/06/24 09:18	10/08/24 18:27	7440-48-4	
Lead	**<0.24**	ug/L	1.0	0.24	1	10/06/24 09:18	10/08/24 18:27	7439-92-1	
Lithium	**<0.22**	ug/L	1.0	0.22	1	10/06/24 09:18	10/08/24 18:27	7439-93-2	
Molybdenum	**6.0**	ug/L	1.5	0.44	1	10/06/24 09:18	10/08/24 18:27	7439-98-7	
Selenium	**1.4**	ug/L	1.1	0.32	1	10/06/24 09:18	10/08/24 18:27	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	10/06/24 09:18	10/08/24 18:27	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Green Bay								
Mercury	**<0.066**	ug/L	0.20	0.066	1	10/07/24 09:24	10/08/24 07:07	7439-97-6	
Field Data	Analytical Method: Pace Analytical Services - Green Bay								
Field pH	**8.25**	Std. Units			1		10/01/24 16:15		
Field Specific Conductance	**299.3**	umhos/cm			1		10/01/24 16:15		
Oxygen, Dissolved	**5.00**	mg/L			1		10/01/24 16:15	7782-44-7	
REDOX	**139.5**	mV			1		10/01/24 16:15		
Turbidity	**11.95**	NTU			1		10/01/24 16:15		
Static Water Level	**782.80**	feet			1		10/01/24 16:15		
Temperature, Water (C)	**16.8**	deg C			1		10/01/24 16:15		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Green Bay								
Total Dissolved Solids	**170**	mg/L	20.0	8.7	1		10/08/24 12:59		
9040 pH	Analytical Method: EPA 9040 Pace Analytical Services - Green Bay								
pH at 25 Degrees C	**8.2**	Std. Units	0.10	0.010	1		10/14/24 18:12		H6
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay								
Chloride	**16.9**	mg/L	2.0	0.59	1		10/17/24 22:18	16887-00-6	
Fluoride	**0.16J**	mg/L	0.32	0.095	1		10/17/24 22:18	16984-48-8	
Sulfate	**50.9**	mg/L	2.0	0.44	1		10/17/24 22:18	14808-79-8	

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ANALYTICAL RESULTS

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

Sample: M-4R **Lab ID: 40285185004** Collected: 10/01/24 14:30 Received: 10/04/24 08:35 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								
Antimony	**0.23J**	ug/L	1.0	0.15	1	10/06/24 09:18	10/08/24 18:31	7440-36-0	
Arsenic	**<0.28**	ug/L	1.0	0.28	1	10/06/24 09:18	10/08/24 18:31	7440-38-2	
Barium	**33.2**	ug/L	2.3	0.70	1	10/06/24 09:18	10/08/24 18:31	7440-39-3	
Beryllium	**<0.25**	ug/L	1.0	0.25	1	10/06/24 09:18	10/08/24 18:31	7440-41-7	
Boron	**854**	ug/L	100	30.3	10	10/06/24 09:18	10/09/24 15:09	7440-42-8	
Cadmium	**<0.15**	ug/L	1.0	0.15	1	10/06/24 09:18	10/08/24 18:31	7440-43-9	
Calcium	**111000**	ug/L	254	76.2	1	10/06/24 09:18	10/08/24 18:31	7440-70-2	
Chromium	**<1.0**	ug/L	3.4	1.0	1	10/06/24 09:18	10/08/24 18:31	7440-47-3	
Cobalt	**0.13J**	ug/L	1.0	0.12	1	10/06/24 09:18	10/08/24 18:31	7440-48-4	
Lead	**<0.24**	ug/L	1.0	0.24	1	10/06/24 09:18	10/08/24 18:31	7439-92-1	
Lithium	**2.6**	ug/L	1.0	0.22	1	10/06/24 09:18	10/08/24 18:31	7439-93-2	
Molybdenum	**14.1**	ug/L	1.5	0.44	1	10/06/24 09:18	10/08/24 18:31	7439-98-7	
Selenium	**25.4**	ug/L	1.1	0.32	1	10/06/24 09:18	10/08/24 18:31	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	10/06/24 09:18	10/08/24 18:31	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Green Bay								
Mercury	**0.067J**	ug/L	0.20	0.066	1	10/07/24 09:24	10/08/24 07:09	7439-97-6	
Field Data	Analytical Method: Pace Analytical Services - Green Bay								
Field pH	**7.19**	Std. Units			1		10/01/24 14:30		
Field Specific Conductance	**790**	umhos/cm			1		10/01/24 14:30		
Oxygen, Dissolved	**0.69**	mg/L			1		10/01/24 14:30	7782-44-7	
REDOX	**126.1**	mV			1		10/01/24 14:30		
Turbidity	**10.54**	NTU			1		10/01/24 14:30		
Static Water Level	**783.42**	feet			1		10/01/24 14:30		
Temperature, Water (C)	**14.8**	deg C			1		10/01/24 14:30		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Green Bay								
Total Dissolved Solids	**524**	mg/L	20.0	8.7	1		10/08/24 12:59		
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		10/14/24 18:14		H6
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay								
Chloride	**11.9**	mg/L	2.0	0.59	1		10/17/24 22:29	16887-00-6	
Fluoride	**0.23J**	mg/L	0.32	0.095	1		10/17/24 22:29	16984-48-8	
Sulfate	**146**	mg/L	20.0	4.4	10		10/18/24 12:52	14808-79-8	

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ANALYTICAL RESULTS

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

Sample: FIELD BLANK-PPOND **Lab ID: 40285185005** Collected: 10/01/24 14:50 Received: 10/04/24 08:35 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								
Antimony	**<0.15**	ug/L	1.0	0.15	1	10/06/24 09:18	10/08/24 18:44	7440-36-0	
Arsenic	**<0.28**	ug/L	1.0	0.28	1	10/06/24 09:18	10/08/24 18:44	7440-38-2	
Barium	**<0.70**	ug/L	2.3	0.70	1	10/06/24 09:18	10/08/24 18:44	7440-39-3	
Beryllium	**<0.25**	ug/L	1.0	0.25	1	10/06/24 09:18	10/08/24 18:44	7440-41-7	
Boron	**<3.0**	ug/L	10.0	3.0	1	10/06/24 09:18	10/08/24 18:44	7440-42-8	
Cadmium	**<0.15**	ug/L	1.0	0.15	1	10/06/24 09:18	10/08/24 18:44	7440-43-9	
Calcium	**<76.2**	ug/L	254	76.2	1	10/06/24 09:18	10/08/24 18:44	7440-70-2	
Chromium	**<1.0**	ug/L	3.4	1.0	1	10/06/24 09:18	10/08/24 18:44	7440-47-3	
Cobalt	**<0.12**	ug/L	1.0	0.12	1	10/06/24 09:18	10/08/24 18:44	7440-48-4	
Lead	**<0.24**	ug/L	1.0	0.24	1	10/06/24 09:18	10/08/24 18:44	7439-92-1	
Lithium	**<0.22**	ug/L	1.0	0.22	1	10/06/24 09:18	10/08/24 18:44	7439-93-2	
Molybdenum	**<0.44**	ug/L	1.5	0.44	1	10/06/24 09:18	10/08/24 18:44	7439-98-7	
Selenium	**<0.32**	ug/L	1.1	0.32	1	10/06/24 09:18	10/08/24 18:44	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	10/06/24 09:18	10/08/24 18:44	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Green Bay								
Mercury	**0.068J**	ug/L	0.20	0.066	1	10/07/24 09:24	10/08/24 07:11	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Green Bay								
Total Dissolved Solids	**<8.7**	mg/L	20.0	8.7	1		10/08/24 13:00		1q
9040 pH	Analytical Method: EPA 9040 Pace Analytical Services - Green Bay								
pH at 25 Degrees C	**7.1**	Std. Units	0.10	0.010	1		10/14/24 18:21		H6
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay								
Chloride	**<0.59**	mg/L	2.0	0.59	1		10/17/24 22:40	16887-00-6	
Fluoride	**<0.095**	mg/L	0.32	0.095	1		10/17/24 22:40	16984-48-8	
Sulfate	**<0.44**	mg/L	2.0	0.44	1		10/17/24 22:40	14808-79-8	

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ANALYTICAL RESULTS

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

Sample: MW-316 **Lab ID: 40285185006** Collected: 10/02/24 11:00 Received: 10/04/24 08:35 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								
Antimony	**<0.15**	ug/L	1.0	0.15	1	10/06/24 09:18	10/08/24 18:52	7440-36-0	
Arsenic	**4.4**	ug/L	1.0	0.28	1	10/06/24 09:18	10/08/24 18:52	7440-38-2	
Barium	**23.1**	ug/L	2.3	0.70	1	10/06/24 09:18	10/08/24 18:52	7440-39-3	
Beryllium	**<0.25**	ug/L	1.0	0.25	1	10/06/24 09:18	10/08/24 18:52	7440-41-7	
Boron	**1540**	ug/L	100	30.3	10	10/06/24 09:18	10/09/24 15:13	7440-42-8	
Cadmium	**<0.15**	ug/L	1.0	0.15	1	10/06/24 09:18	10/08/24 18:52	7440-43-9	
Calcium	**25100**	ug/L	254	76.2	1	10/06/24 09:18	10/08/24 18:52	7440-70-2	
Chromium	**<1.0**	ug/L	3.4	1.0	1	10/06/24 09:18	10/08/24 18:52	7440-47-3	
Cobalt	**0.13J**	ug/L	1.0	0.12	1	10/06/24 09:18	10/08/24 18:52	7440-48-4	
Lead	**<0.24**	ug/L	1.0	0.24	1	10/06/24 09:18	10/08/24 18:52	7439-92-1	
Lithium	**1.3**	ug/L	1.0	0.22	1	10/06/24 09:18	10/08/24 18:52	7439-93-2	
Molybdenum	**100**	ug/L	1.5	0.44	1	10/06/24 09:18	10/08/24 18:52	7439-98-7	
Selenium	**<0.32**	ug/L	1.1	0.32	1	10/06/24 09:18	10/08/24 18:52	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	10/06/24 09:18	10/08/24 18:52	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Green Bay								
Mercury	**<0.066**	ug/L	0.20	0.066	1	10/07/24 09:24	10/08/24 07:14	7439-97-6	
Field Data	Analytical Method: Pace Analytical Services - Green Bay								
Field pH	**8.53**	Std. Units			1		10/02/24 11:00		
Field Specific Conductance	**584.0**	umhos/cm			1		10/02/24 11:00		
Oxygen, Dissolved	**0.32**	mg/L			1		10/02/24 11:00	7782-44-7	
REDOX	**133.7**	mV			1		10/02/24 11:00		
Turbidity	**2.16**	NTU			1		10/02/24 11:00		
Static Water Level	**784.80**	feet			1		10/02/24 11:00		
Temperature, Water (C)	**12.6**	deg C			1		10/02/24 11:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Green Bay								
Total Dissolved Solids	**360**	mg/L	20.0	8.7	1		10/08/24 15:26		
9040 pH	Analytical Method: EPA 9040 Pace Analytical Services - Green Bay								
pH at 25 Degrees C	**8.3**	Std. Units	0.10	0.010	1		10/14/24 18:24		H6
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay								
Chloride	**18.5**	mg/L	2.0	0.59	1		10/17/24 22:50	16887-00-6	
Fluoride	**0.24J**	mg/L	0.32	0.095	1		10/17/24 22:50	16984-48-8	
Sulfate	**152**	mg/L	20.0	4.4	10		10/18/24 13:02	14808-79-8	

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QUALITY CONTROL DATA

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

QC Batch: 486354
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40285185001, 40285185002, 40285185003, 40285185004, 40285185005, 40285185006

METHOD BLANK: 2785787 Matrix: Water
Associated Lab Samples: 40285185001, 40285185002, 40285185003, 40285185004, 40285185005, 40285185006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	<0.066	0.20	10/08/24 06:11	

LABORATORY CONTROL SAMPLE: 2785788

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.4	88	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2785789 2785790

Parameter	Units	40285020001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.066	5	5	4.2	4.5	83	89	85-115	6	20	M0

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QUALITY CONTROL DATA

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

QC Batch: 486340
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020B MET
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40285185001, 40285185002, 40285185003, 40285185004, 40285185005, 40285185006

METHOD BLANK: 2785746 Matrix: Water
Associated Lab Samples: 40285185001, 40285185002, 40285185003, 40285185004, 40285185005, 40285185006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	<0.15	1.0	10/08/24 17:03	
Arsenic	ug/L	<0.28	1.0	10/08/24 17:03	
Barium	ug/L	<0.70	2.3	10/08/24 17:03	
Beryllium	ug/L	<0.25	1.0	10/08/24 17:03	
Boron	ug/L	<3.0	10.0	10/08/24 17:03	
Cadmium	ug/L	<0.15	1.0	10/08/24 17:03	
Calcium	ug/L	<76.2	254	10/08/24 17:03	
Chromium	ug/L	<1.0	3.4	10/08/24 17:03	
Cobalt	ug/L	<0.12	1.0	10/08/24 17:03	
Lead	ug/L	<0.24	1.0	10/08/24 17:03	
Lithium	ug/L	<0.22	1.0	10/08/24 17:03	
Molybdenum	ug/L	<0.44	1.5	10/08/24 17:03	
Selenium	ug/L	<0.32	1.1	10/08/24 17:03	
Thallium	ug/L	<0.14	1.0	10/08/24 17:03	

LABORATORY CONTROL SAMPLE: 2785747

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	250	249	100	80-120	
Arsenic	ug/L	250	251	100	80-120	
Barium	ug/L	250	248	99	80-120	
Beryllium	ug/L	250	247	99	80-120	
Boron	ug/L	250	217	87	80-120	
Cadmium	ug/L	250	251	100	80-120	
Calcium	ug/L	10000	9820	98	80-120	
Chromium	ug/L	250	238	95	80-120	
Cobalt	ug/L	250	246	99	80-120	
Lead	ug/L	250	251	101	80-120	
Lithium	ug/L	250	245	98	80-120	
Molybdenum	ug/L	250	245	98	80-120	
Selenium	ug/L	250	251	100	80-120	
Thallium	ug/L	250	250	100	80-120	

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QUALITY CONTROL DATA

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2785748 2785749

Parameter	Units	40285191001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.15	250	250	254	255	102	102	75-125	0	20	
Arsenic	ug/L	<0.28	250	250	256	257	102	103	75-125	0	20	
Barium	ug/L	10.6	250	250	265	265	102	102	75-125	0	20	
Beryllium	ug/L	<0.25	250	250	254	253	102	101	75-125	1	20	
Boron	ug/L	22.1	250	250	246	241	89	88	75-125	2	20	
Cadmium	ug/L	<0.15	250	250	255	255	102	102	75-125	0	20	
Calcium	ug/L	97000	10000	10000	115000	113000	182	162	75-125	2	20	P6
Chromium	ug/L	<1.0	250	250	241	242	96	97	75-125	0	20	
Cobalt	ug/L	<0.12	250	250	248	247	99	99	75-125	0	20	
Lead	ug/L	<0.24	250	250	252	251	101	100	75-125	1	20	
Lithium	ug/L	0.80J	250	250	253	252	101	100	75-125	0	20	
Molybdenum	ug/L	<0.44	250	250	257	255	103	102	75-125	1	20	
Selenium	ug/L	0.39J	250	250	253	253	101	101	75-125	0	20	
Thallium	ug/L	0.15J	250	250	245	245	98	98	75-125	0	20	

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QUALITY CONTROL DATA

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

QC Batch: 486561
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40285185002, 40285185003, 40285185004, 40285185005

METHOD BLANK: 2786441 Matrix: Water
Associated Lab Samples: 40285185002, 40285185003, 40285185004, 40285185005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<8.7	20.0	10/08/24 12:56	

LABORATORY CONTROL SAMPLE: 2786442

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

SAMPLE DUPLICATE: 2786455

Parameter	Units	40285189004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	<8.7	<8.7		10	

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QUALITY CONTROL DATA

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

QC Batch: 486562
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40285185001, 40285185006

METHOD BLANK: 2786475 Matrix: Water
Associated Lab Samples: 40285185001, 40285185006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<8.7	20.0	10/08/24 15:24	

LABORATORY CONTROL SAMPLE: 2786476

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	582	538	92	80-120	

SAMPLE DUPLICATE: 2786486

Parameter	Units	40284993001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	430	472	9	10	

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QUALITY CONTROL DATA

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

QC Batch: 487178
QC Batch Method: EPA 9040
Analysis Method: EPA 9040
Analysis Description: 9040 pH
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40285185001, 40285185002, 40285185003, 40285185004, 40285185005, 40285185006

SAMPLE DUPLICATE: 2790058

Parameter	Units	40285155001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.2	8.3	1	20	H6

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QUALITY CONTROL DATA

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

QC Batch: 487482
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40285185001, 40285185002, 40285185003, 40285185004, 40285185005, 40285185006

METHOD BLANK: 2791543 Matrix: Water
Associated Lab Samples: 40285185001, 40285185002, 40285185003, 40285185004, 40285185005, 40285185006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<0.59	2.0	10/17/24 19:11	
Fluoride	mg/L	<0.095	0.32	10/17/24 19:11	
Sulfate	mg/L	<0.44	2.0	10/17/24 19:11	

LABORATORY CONTROL SAMPLE: 2791544

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	20.7	103	90-110	
Fluoride	mg/L	2	2.0	99	90-110	
Sulfate	mg/L	20	20.5	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2791545 2791546

Parameter	Units	40285153002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	280	400	400	723	724	111	111	90-110	0	15	M0
Fluoride	mg/L	<1.9	40	40	42.3	42.7	101	102	90-110	1	15	
Sulfate	mg/L	213	400	400	645	647	108	109	90-110	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2791547 2791548

Parameter	Units	40285193002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	52.7	400	400	487	476	109	106	90-110	2	15	
Fluoride	mg/L	<0.095	2	2	1.7	1.7	86	87	90-110	1	15	M0
Sulfate	mg/L	224	400	400	676	662	113	109	90-110	2	15	M0

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

Sample: MW-303 **Lab ID: 40285185001** Collected: 10/02/24 12:25 Received: 10/04/24 08:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.416 ± 0.482 (1.12) C:NA T:98%**	pCi/L	10/22/24 14:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.334 ± 0.288 (1.00) C:80% T:84%**	pCi/L	10/25/24 12:41	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.334 ± 0.770 (2.12)**	pCi/L	10/28/24 12:45	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

Sample: MW-304R **Lab ID: 40285185002** Collected: 10/01/24 13:00 Received: 10/04/24 08:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0751 ± 0.764 (1.46) C:NA T:88%**	pCi/L	10/22/24 14:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.463 ± 0.320 (1.00) C:79% T:85%**	pCi/L	10/25/24 12:41	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.538 ± 1.08 (2.46)**	pCi/L	10/28/24 12:45	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

Sample: MW-305 **Lab ID: 40285185003** Collected: 10/01/24 16:15 Received: 10/04/24 08:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.336 ± 0.575 (1.01) C:NA T:81%**	pCi/L	10/22/24 14:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.272 ± 0.300 (1.00) C:80% T:88%**	pCi/L	10/25/24 12:41	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.608 ± 0.875 (2.01)**	pCi/L	10/28/24 12:45	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

Sample: M-4R **Lab ID: 40285185004** Collected: 10/01/24 14:30 Received: 10/04/24 08:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.245 ± 0.481 (1.00) C:NA T:90%**	pCi/L	10/22/24 14:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.620 ± 0.441 (1.00) C:72% T:88%**	pCi/L	10/25/24 12:41	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.865 ± 0.922 (2.00)**	pCi/L	10/28/24 12:45	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

Sample: FIELD BLANK-PPOND **Lab ID: 40285185005** Collected: 10/01/24 14:50 Received: 10/04/24 08:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.176 ± 0.576 (1.07) C:NA T:94%**	pCi/L	10/22/24 14:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.527 ± 0.385 (1.00) C:82% T:87%**	pCi/L	10/25/24 12:41	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.703 ± 0.961 (2.07)**	pCi/L	10/28/24 12:45	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

Sample: MW-316 **Lab ID: 40285185006** Collected: 10/02/24 11:00 Received: 10/04/24 08:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.246 ± 0.660 (1.20) C:NA T:92%**	pCi/L	10/22/24 14:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.761 ± 0.448 (1.00) C:78% T:85%**	pCi/L	10/25/24 12:41	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.01 ± 1.11 (2.20)**	pCi/L	10/28/24 12:45	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

QC Batch: 701947
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 40285185001, 40285185002, 40285185003, 40285185004, 40285185005, 40285185006

METHOD BLANK: 3418912 Matrix: Water
Associated Lab Samples: 40285185001, 40285185002, 40285185003, 40285185004, 40285185005, 40285185006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0451 ± 0.206 (0.486) C:NA T:97%	pCi/L	10/22/24 14:37	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

QC Batch: 701948 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 40285185001, 40285185002, 40285185003, 40285185004, 40285185005, 40285185006

METHOD BLANK: 3418914 Matrix: Water
Associated Lab Samples: 40285185001, 40285185002, 40285185003, 40285185004, 40285185005, 40285185006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0832 ± 0.262 (0.592) C:82% T:86%	pCi/L	10/25/24 12:41	

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REPORT OF LABORATORY ANALYSIS

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02/27/2026 - Classification: Internal - ECRM13684511

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

DEFINITIONS

Act - Activity
Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)
(MDC) - Minimum Detectable Concentration
Trac - Tracer Recovery (%)
Carr - Carrier Recovery (%)
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 - The reported result is an estimated value.
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.
DL - Adjusted Method Detection Limit.
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 - Analyte was not detected and is reported as less than the LOD or as defined by the customer.
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	Analyte was measured in the associated method blank at a concentration of -10mg/L
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.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40285185001	**MW-303**	EPA 3010A	486340	EPA 6020B	486463
40285185002	**MW-304R**	EPA 3010A	486340	EPA 6020B	486463
40285185003	**MW-305**	EPA 3010A	486340	EPA 6020B	486463
40285185004	**M-4R**	EPA 3010A	486340	EPA 6020B	486463
40285185005	**FIELD BLANK-PPOND**	EPA 3010A	486340	EPA 6020B	486463
40285185006	**MW-316**	EPA 3010A	486340	EPA 6020B	486463
40285185001	**MW-303**	EPA 7470	486354	EPA 7470	486467
40285185002	**MW-304R**	EPA 7470	486354	EPA 7470	486467
40285185003	**MW-305**	EPA 7470	486354	EPA 7470	486467
40285185004	**M-4R**	EPA 7470	486354	EPA 7470	486467
40285185005	**FIELD BLANK-PPOND**	EPA 7470	486354	EPA 7470	486467
40285185006	**MW-316**	EPA 7470	486354	EPA 7470	486467
40285185001	**MW-303**				
40285185002	**MW-304R**				
40285185003	**MW-305**				
40285185004	**M-4R**				
40285185006	**MW-316**				
40285185001	**MW-303**	EPA 903.1	701947		
40285185002	**MW-304R**	EPA 903.1	701947		
40285185003	**MW-305**	EPA 903.1	701947		
40285185004	**M-4R**	EPA 903.1	701947		
40285185005	**FIELD BLANK-PPOND**	EPA 903.1	701947		
40285185006	**MW-316**	EPA 903.1	701947		
40285185001	**MW-303**	EPA 904.0	701948		
40285185002	**MW-304R**	EPA 904.0	701948		
40285185003	**MW-305**	EPA 904.0	701948		
40285185004	**M-4R**	EPA 904.0	701948		
40285185005	**FIELD BLANK-PPOND**	EPA 904.0	701948		
40285185006	**MW-316**	EPA 904.0	701948		
40285185001	**MW-303**	Total Radium Calculation	705720		
40285185002	**MW-304R**	Total Radium Calculation	705720		
40285185003	**MW-305**	Total Radium Calculation	705720		
40285185004	**M-4R**	Total Radium Calculation	705720		
40285185005	**FIELD BLANK-PPOND**	Total Radium Calculation	705720		
40285185006	**MW-316**	Total Radium Calculation	705720		
40285185001	**MW-303**	SM 2540C	486562		
40285185002	**MW-304R**	SM 2540C	486561		
40285185003	**MW-305**	SM 2540C	486561		
40285185004	**M-4R**	SM 2540C	486561		
40285185005	**FIELD BLANK-PPOND**	SM 2540C	486561		
40285185006	**MW-316**	SM 2540C	486562		
40285185001	**MW-303**	EPA 9040	487178		
40285185002	**MW-304R**	EPA 9040	487178		
40285185003	**MW-305**	EPA 9040	487178		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 25224067 COLUMBIA CCR PRIMARY
Pace Project No.: 40285185

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40285185004	**M-4R**	EPA 9040	487178		
40285185005	**FIELD BLANK-PPOND**	EPA 9040	487178		
40285185006	**MW-316**	EPA 9040	487178		
40285185001	**MW-303**	EPA 300.0	487482		
40285185002	**MW-304R**	EPA 300.0	487482		
40285185003	**MW-305**	EPA 300.0	487482		
40285185004	**M-4R**	EPA 300.0	487482		
40285185005	**FIELD BLANK-PPOND**	EPA 300.0	487482		
40285185006	**MW-316**	EPA 300.0	487482		

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40285185

CHAIN-OF-CUSTODY / Analytical Request Document

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

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:	
Company: SCS ENGINEERS	Report To: Meghan Blodgett	Attention:	
Address: 2830 Dairy Drive	Copy To:	Company Name:	
Madison, WI 53718		Address:	Regulatory Agency
Email: mblodgett@scsengineers.com	Purchase Order #:	Pace Quote:	
Phone: 608-216-7362 Fax:	Project Name: 25224067 Columbia CCR Primary Pond	Pace Project Manager: dan.milewsky@pacelabs.com,	State / Location
Requested Due Date:	Project #: 25223067	Pace Profile #:	WI

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Y/N	Analyses Test: Radium 226	Radium 228	Metals	chloride,fluoride,sulfate	TDS and pH	Residual Chlorine (Y/N)	
	MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS																	Requested Analysis Filtered (Y/N)	N	N	N	N	N	N		
1		WT																							
2	MW-303	WT		10/2	1225														X	X	X	X	X		001
3	MW-304R	WT		10/1	1300														X	X	X	X	X		002
4	MW-305	WT		10/1	1615														X	X	X	X	X		003
5	M-4R	WT		10/1	1430														X	X	X	X	X		004
6	FIELD BLANK-PPOND	WT		10/1	1450														X	X	X	X	X		005
7	MW-316	WT		10/2	1100														X	X	X	X	X		006
8																									
9																									
10																									
11																									
12																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Full List Metals = B, Ca, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl ALL SAMPLES UNFILTERED		10/3/24	1500							
	CS Logistics	10/4/24	0885		10/4/24	0835	0.5	y	y	y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Bri Salome

SIGNATURE of SAMPLER: DATE Signed:

Samples in multiple coolers

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Sample Preservation Receipt Form

Client Name: SCS Project # 40285185

All containers needing preservation have been checked and noted below: ☑Yes ☐No ☐N/A Initial when completed: GF Date/ Time:

Lab Lot# of pH paper: 10D3733 Lab Std #ID of preservation (if pH adjusted):

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	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN 1	GN 2							
001									2		1															2								2.5 / 5
002									2		1															2								2.5 / 5
003									2		1															2								2.5 / 5
004									2		1															2								2.5 / 5
005									2		1															2								2.5 / 5
006									2		1															2								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

10/4/24 GF

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
BG1U	1 liter clear glass
AG1H	1 liter amber glass HCL
AG4S	125 mL amber glass H2SO4
AG5U	100 mL amber glass unpres
AG2S	500 mL amber glass H2SO4
BG3U	250 mL clear glass unpres

BP1U	1 liter plastic unpres
BP3U	250 mL plastic unpres
BP3B	250 mL plastic NaOH
BP3N	250 mL plastic HNO3
BP3S	250 mL plastic H2SO4
BP2Z	500 mL plastic NaOH + Zn

VG9C	40 mL clear ascorbic w/ HCl
DG9T	40 mL amber Na Thio
VG9U	40 mL clear vial unpres
VG9H	40 mL clear vial HCL
VG9M	40 mL clear vial MeOH
VG9D	40 mL clear vial DI

JGFU	4 oz amber jar unpres
JG9U	9 oz amber jar unpres
WGFU	4 oz clear jar unpres
WPFU	4 oz plastic jar unpres
SP5T	120 mL plastic Na Thiosulfate
ZPLC	ziploc bag
GN 1	1 liter plastic HNO3
GN 2	

Page 1 of 2

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Sample Condition Upon Receipt Form (SCUR)

Project #:

WO# : 40285185

40285185

Client Name: SCS

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

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 - 141 **Type of Ice:** (Wet) Blue Dry None ☐ Meltwater Only

Cooler Temperature Uncorr: 0.5 /Corr: 0.5

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: 10/4/24 /Initials: GF

Labeled By Initials: MH

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☐Yes ☑No ☐N/A	2. Preserve 10/4/24 GF
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☑No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No	5.
- DI VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☑No	6.
Rush Turn Around Time Requested:	☐Yes ☑No	7.
Sufficient Volume: For Analysis: ☑Yes ☐No MS/MSD: ☐Yes ☑No ☐N/A		8.
Correct Containers Used:	☑Yes ☐No	9.
Correct Type: Pace Green Bay, Pace IR, Non-Pace		
Containers Intact:	☑Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: W	☑Yes ☐No ☐N/A	12.
Trip Blank Present:	☐Yes ☐No ☑N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☑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 logi

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D3 – April 2025 Assessment Monitoring

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1241 Bellevue Street - Suite 9
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(920)469-2436

May 07, 2025

Meghan Blodgett
SCS ENGINEERS
2830 Dairy Drive
Madison, WI 53718

RE: Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294084

Dear Meghan Blodgett:

Enclosed are the analytical results for sample(s) received by the laboratory on April 23, 2025. 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

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CERTIFICATIONS

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294084

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

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SAMPLE SUMMARY

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294084

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40294084001	**MW-301**	Water	04/22/25 12:15	04/23/25 10:30
40294084002	**MW-84A**	Water	04/22/25 10:25	04/23/25 10:30

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SAMPLE ANALYTE COUNT

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294084

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40294084001	**MW-301**	EPA 6020B	KXS	3
			AG1	7
		SM 2540C	LMB	1
		EPA 9040	HML	1
		EPA 300.0	TXW	3
		EPA 310.2	MT	1
40294084002	**MW-84A**	EPA 6020B	KXS	3
			AG1	7
		SM 2540C	LMB	1
		EPA 9040	HML	1
		EPA 300.0	TXW	3
		EPA 310.2	MT	1

PASI-G = Pace Analytical Services - Green Bay

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ANALYTICAL RESULTS

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294084

Sample: MW-301 **Lab ID: 40294084001** Collected: 04/22/25 12:15 Received: 04/23/25 10:30 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	**25.5**	ug/L	10.0	3.0	1	04/25/25 07:50	04/30/25 00:56	7440-42-8	
Calcium	**108000**	ug/L	254	76.2	1	04/25/25 07:50	04/30/25 00:56	7440-70-2	
Total Hardness by 2340B	**475**	mg/L	1.7	0.32	1	04/25/25 07:50	04/30/25 00:56		
Field Data	Analytical Method: Pace Analytical Services - Green Bay								
Field pH	**6.59**	Std. Units			1		04/22/25 12:15		
Field Specific Conductance	**827**	umhos/cm			1		04/22/25 12:15		
Oxygen, Dissolved	**3.11**	mg/L			1		04/22/25 12:15	7782-44-7	
REDOX	**106.7**	mV			1		04/22/25 12:15		
Turbidity	**8.64**	NTU			1		04/22/25 12:15		
Static Water Level	**787.41**	feet			1		04/22/25 12:15		
Temperature, Water (C)	**8.0**	deg C			1		04/22/25 12:15		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Green Bay								
Total Dissolved Solids	**468**	mg/L	20.0	8.7	1		04/24/25 14:55		
9040 pH	Analytical Method: EPA 9040 Pace Analytical Services - Green Bay								
pH at 25 Degrees C	**7.7**	Std. Units	0.10	0.010	1		04/24/25 13:55		H6
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay								
Chloride	**1.4J**	mg/L	2.0	0.59	1		05/03/25 13:37	16887-00-6	
Fluoride	**<0.095**	mg/L	0.32	0.095	1		05/03/25 13:37	16984-48-8	
Sulfate	**8.2**	mg/L	2.0	0.44	1		05/03/25 13:37	14808-79-8	
310.2 Alkalinity	Analytical Method: EPA 310.2 Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**502**	mg/L	50.0	14.9	2		05/02/25 13:35		

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ANALYTICAL RESULTS

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294084

Sample: MW-84A **Lab ID: 40294084002** Collected: 04/22/25 10:25 Received: 04/23/25 10:30 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	**10.0**	ug/L	10.0	3.0	1	04/25/25 07:50	04/30/25 01:00	7440-42-8	
Calcium	**70000**	ug/L	254	76.2	1	04/25/25 07:50	04/30/25 01:00	7440-70-2	
Total Hardness by 2340B	**329**	mg/L	1.7	0.32	1	04/25/25 07:50	04/30/25 01:00		
Field Data	Analytical Method:								
	Pace Analytical Services - Green Bay								
Field pH	**7.07**	Std. Units			1		04/22/25 10:25		
Field Specific Conductance	**587.6**	umhos/cm			1		04/22/25 10:25		
Oxygen, Dissolved	**7.42**	mg/L			1		04/22/25 10:25	7782-44-7	
REDOX	**93.8**	mV			1		04/22/25 10:25		
Turbidity	**0.00**	NTU			1		04/22/25 10:25		
Static Water Level	**786.33**	feet			1		04/22/25 10:25		
Temperature, Water (C)	**10.8**	deg C			1		04/22/25 10:25		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Green Bay								
Total Dissolved Solids	**324**	mg/L	20.0	8.7	1		04/24/25 14:55		
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		04/24/25 13:57		H6
300.0 IC Anions	Analytical Method: EPA 300.0								
	Pace Analytical Services - Green Bay								
Chloride	**3.0**	mg/L	2.0	0.59	1		05/03/25 13:48	16887-00-6	
Fluoride	**<0.095**	mg/L	0.32	0.095	1		05/03/25 13:48	16984-48-8	
Sulfate	**1.7J**	mg/L	2.0	0.44	1		05/03/25 13:48	14808-79-8	
310.2 Alkalinity	Analytical Method: EPA 310.2								
	Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**359**	mg/L	25.0	7.4	1		05/02/25 10:57		

REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, LLC.

02/27/2026 - Classification: Internal - ECRM13684511

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294084

QC Batch: 502897
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020B MET
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40294084001, 40294084002

METHOD BLANK: 2871558 Matrix: Water
Associated Lab Samples: 40294084001, 40294084002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Boron	ug/L	<3.0	10.0	04/29/25 22:58	
Calcium	ug/L	<76.2	254	04/29/25 22:58	
Total Hardness by 2340B	mg/L	<0.32	1.7	04/29/25 22:58	

LABORATORY CONTROL SAMPLE: 2871559

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	250	230	92	80-120	
Calcium	ug/L	10000	9450	94	80-120	
Total Hardness by 2340B	mg/L		62.7			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2871560 2871561

Parameter	Units	40294083001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	379	250	250	618	611	96	93	75-125	1	20	
Calcium	ug/L	66700	10000	10000	76100	75000	94	82	75-125	1	20	
Total Hardness by 2340B	mg/L	313			375	372				1	20	

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294084

QC Batch: 502870
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40294084001, 40294084002

METHOD BLANK: 2871186 Matrix: Water
Associated Lab Samples: 40294084001, 40294084002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<8.7	20.0	04/24/25 14:54	

LABORATORY CONTROL SAMPLE: 2871187

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	578	560	97	80-120	

SAMPLE DUPLICATE: 2871188

Parameter	Units	40294036001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	578	600	4	10	

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294084

QC Batch: 502833
QC Batch Method: EPA 9040
Analysis Method: EPA 9040
Analysis Description: 9040 pH
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40294084001, 40294084002

SAMPLE DUPLICATE: 2870947

Parameter	Units	40294083001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.1	8.2	1	20	H6

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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294084

QC Batch: 503541
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40294084001, 40294084002

METHOD BLANK: 2875114 Matrix: Water
Associated Lab Samples: 40294084001, 40294084002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<0.59	2.0	05/03/25 10:54	
Fluoride	mg/L	<0.095	0.32	05/03/25 10:54	
Sulfate	mg/L	<0.44	2.0	05/03/25 10:54	

LABORATORY CONTROL SAMPLE: 2875115

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	20.9	104	90-110	
Fluoride	mg/L	2	2.0	101	90-110	
Sulfate	mg/L	20	21.1	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2875116 2875117

Parameter	Units	40294083004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	386	200	200	562	558	88	86	90-110	1	15	M0
Fluoride	mg/L	<0.95	20	20	20.1	20.2	100	101	90-110	1	15	
Sulfate	mg/L	75.7	200	200	294	293	109	109	90-110	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2875118 2875119

Parameter	Units	40294198001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	101	200	200	307	308	103	104	90-110	0	15	
Fluoride	mg/L	<0.95	20	20	21.0	21.2	105	106	90-110	1	15	
Sulfate	mg/L	104	200	200	323	323	109	110	90-110	0	15	

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Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294084

QC Batch: 503496
QC Batch Method: EPA 310.2
Analysis Method: EPA 310.2
Analysis Description: 310.2 Alkalinity
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40294084001, 40294084002

METHOD BLANK: 2874894 Matrix: Water
Associated Lab Samples: 40294084001, 40294084002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<7.4	25.0	05/02/25 09:34	

LABORATORY CONTROL SAMPLE: 2874895

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	100	104	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2874896 2874897

Parameter	Units	40293987001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	176	100	100	277	279	101	103	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2874898 2874899

Parameter	Units	40294084002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	359	100	100	463	467	104	108	90-110	1	20	

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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02/27/2026 - Classification: Internal - ECRM13684511

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294084

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 - The reported result is an estimated value.

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.

DL - Adjusted Method Detection Limit.

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 - Analyte was not detected and is reported as less than the LOD or as defined by the customer.

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

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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Pace Analytical Services, LLC
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Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294084

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40294084001	**MW-301**	EPA 3010A	502897	EPA 6020B	502977
40294084002	**MW-84A**	EPA 3010A	502897	EPA 6020B	502977
40294084001	**MW-301**				
40294084002	**MW-84A**				
40294084001	**MW-301**	SM 2540C	502870		
40294084002	**MW-84A**	SM 2540C	502870		
40294084001	**MW-301**	EPA 9040	502833		
40294084002	**MW-84A**	EPA 9040	502833		
40294084001	**MW-301**	EPA 300.0	503541		
40294084002	**MW-84A**	EPA 300.0	503541		
40294084001	**MW-301**	EPA 310.2	503496		
40294084002	**MW-84A**	EPA 310.2	503496		

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CHAIN-OF-CUSTODY / Analytical Request Document

40294084

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

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:	
Company:	SCS ENGINEERS	Report To:	Meghan Blodgett	Attention:	
Address:	2830 Dairy Drive	Copy To:		Company Name:	
Madison, WI 53718				Address:	
Email:	mblodgett@scsengineers.com	Purchase Order #:		Pace Quote:	
Phone:	608-216-7362 Fax:	Project Name:	25225067 Columbia CCR Background	Pace Project Manager:	dan.milewsky@pacelabs.com,
Requested Due Date:		Project #:	25225067	Pace Profile #:	

Regulatory Agency: | State / Location: WI

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: Metals	TDS and pH	Chloride, Fluoride, Sulfate	Hardness	Alkalinity						Residual Chlorine (Y/N)	
																		N	N	N	N	N	N						
1	MW-301	WT		4/22	1215														X	X	X	X	X						001
2	MW-84A	WT		4/22	1025														X	X	X	X	X						002
3	Field Dup #1																		X				X						No Sample
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Full List Metals = B, Ca, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li Hg, Mo, Se, Tl ALL SAMPLES UNFILTERED	CS Logistics	4/23/25	1030	PACE	4/23/25	1030	0.0	Y	Y	Y

SAMPLER NAME AND SIGNATURE		TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Kyle Vernon				
SIGNATURE of SAMPLER:	Kyle 4/22/25				

02/27/2026 - Classification: Internal - ECRM13684511

Client Name: SCS

Sample Preservation Receipt Form

Project # 40294084

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

Lab Lot# of pH paper: 10 D 3242 Lab Std #ID of preservation (if pH adjusted):

Initial when completed: MCH Date/ Time:

Pace Lab #	Glass: AG1U	BG1U	AG1H	AG4S	AG5U	AG2S	BG3U	Plastic: BP1U	BP3U	BP3B	BP3N	BP3S	BP2Z	Vials: VG9C	DG9T	VG9U	VG9H	VG9M	VG9D	Jars: JGFU	JG9U	WGFU	WPFU	General: SP5T	ZPLC	GN 1	GN 2	VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Acf pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
001									2		2+1															2					XXX		2.5 / 5
002									2		2+1															2					XXX		2.5 / 5
003											AG 4/24/25																							2.5 / 5
004																										AG 4/24/25								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

MCH 4/23/25

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	1L plastic HNO3
						GN 2	

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Sample Condition Upon Receipt Form (SCUR)

Project #:

WO# : 40294084

40294084

Client Name: SCS

Courier: ☒ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☐ Purple Mountain ☐ Client ☐ Pace Other: _____

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~~ MCH 4/23/25 ☐ None ☐ Other _____

Thermometer Used SR - 148 **Type of Ice:** (Wet) Blue Dry None ☐ Meltwater Only

Cooler Temperature Uncorr: 0.0/2.0/3.0 Corr: 0.0/2.0/3.0

Temp Blank Present: ☐ yes ☒ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Person examining contents:
Date: 4/23/25 Initials: MCH

Labeled By Initials: EL

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

02/27/2026 - Classification: Internal - ECRM13684511

Pace

CHAIN-OF-CUSTODY / Analytical Request Document

40294084

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

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.

Page : 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: SCS ENGINEERS	Report To: Meghan Blodgett	Attention:
Address: 2830 Dairy Drive	Copy To:	Company Name:
Madison, WI 53718		Address:
Email: mblodgett@scsengineers.com	Purchase Order #:	Pace Quote:
Phone: 608-216-7362 Fax:	Project Name: 25225067 Columbia CCR Background	Pace Project Manager: dan.milewsky@pacelabs.com,
Requested Due Date:	Project #: 25225067	Pace Profile #:

Regulatory Agency	
State / Location	WI

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: Metals	TDS and pH	Chloride, Fluoride, Sulfate	Hardness	Alkalinity						Residual Chlorine (Y/N)	
																		N	N	N	N	N							
1	MW-301	WT		4/22	1215														X	X	X	X	X						001
2	MW-84A	WT		4/22	1025														X	X	X	X	X						002
3	Field Dup #1																		X			X							No Sample
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Full List Metals = B, Ca, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li Hg, Mo, Se, Tl ALL SAMPLES UNFILTERED	CS Logistics	4/23/25	1030	PACE	4/23/25	1030	0.0	Y	Y	Y

SAMPLER NAME AND SIGNATURE		TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Kyle Vernon				
SIGNATURE of SAMPLER:	Kyle Vernon 4/22/25				

02/27/2026 - Classification: Internal - ECRM13684511

Client Name: SCS

Sample Preservation Receipt Form

Project # 4029408H

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

Lab Lot# of pH paper: 10 D 3242 Lab Std #ID of preservation (if pH adjusted):

Initial when completed: MCH 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	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN 1	GN 2							
001									2		2															2					XXX		2.5 / 5
002									2		2															2					XXX		2.5 / 5
003																																	2.5 / 5
004																																	2.5 / 5
005																																	2.5 / 5
006																																	2.5 / 5
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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

MCH 4/23/25

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	1L plastic HNO3
						GN 2	

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Sample Condition Upon Receipt Form (SCUR)

Project #:

WO# : 40294084

40294084

Client Name: SCS

Courier: ☒ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☐ Purple Mountain ☐ Client ☐ Pace Other: _____

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~~ mw 4/23/25 ☐ None ☐ Other _____

Thermometer Used SR - 148 **Type of Ice:** (Wet) Blue Dry None ☐ Meltwater Only

Cooler Temperature Uncorr: 0.0/20/3.0 Corr: 0.0/20/3.0

Temp Blank Present: ☐ yes ☒ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Person examining contents: Date: 4/23/25 Initials: MCH

Labeled By Initials: EL

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

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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

May 15, 2025

Meghan Blodgett
SCS ENGINEERS
2830 Dairy Drive
Madison, WI 53718

RE: Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294114

Dear Meghan Blodgett:

Enclosed are the analytical results for sample(s) received by the laboratory on April 23, 2025. 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
- Pace Analytical Services - Greensburg

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

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(920)469-2436

CERTIFICATIONS

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294114

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
ANABISO/IEC 17025:2017 Rad Cert#: L24170
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 2950
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA010
Louisiana DEQ/TNI Certification #: 04086
Maine Certification #: 2023021
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572023-03
New Hampshire/TNI Certification #: 297622
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-015
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN02867
Texas/TNI Certification #: T104704188-22-18
Utah/TNI Certification #: PA014572223-14
USDA Soil Permit #: 525-23-67-77263
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad

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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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294114

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40294114001	**MW-301**	Water	04/22/25 12:15	04/23/25 10:30
40294114002	**MW-84A**	Water	04/22/25 10:25	04/23/25 10:30

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(920)469-2436

SAMPLE ANALYTE COUNT

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294114

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40294114001	**MW-301**	EPA 6020B	KXS	12	PASI-G
		EPA 7470	AF	1	PASI-G
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
40294114002	**MW-84A**	EPA 6020B	KXS	12	PASI-G
		EPA 7470	AF	1	PASI-G
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

PASI-G = Pace Analytical Services - Green Bay
PASI-PA = Pace Analytical Services - Greensburg

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ANALYTICAL RESULTS

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294114

Sample: MW-301 **Lab ID: 40294114001** Collected: 04/22/25 12:15 Received: 04/23/25 10:30 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								
Antimony	**<0.15**	ug/L	1.0	0.15	1	04/25/25 07:50	04/29/25 18:36	7440-36-0	
Arsenic	**<0.28**	ug/L	1.0	0.28	1	04/25/25 07:50	04/29/25 18:36	7440-38-2	
Barium	**10.2**	ug/L	2.3	0.70	1	04/25/25 07:50	04/29/25 18:36	7440-39-3	
Beryllium	**<0.25**	ug/L	1.0	0.25	1	04/25/25 07:50	04/29/25 18:36	7440-41-7	
Cadmium	**<0.15**	ug/L	1.0	0.15	1	04/25/25 07:50	04/29/25 18:36	7440-43-9	
Chromium	**<1.0**	ug/L	3.4	1.0	1	04/25/25 07:50	04/29/25 18:36	7440-47-3	
Cobalt	**<0.12**	ug/L	1.0	0.12	1	04/25/25 07:50	04/29/25 18:36	7440-48-4	
Lead	**<0.24**	ug/L	1.0	0.24	1	04/25/25 07:50	04/29/25 18:36	7439-92-1	
Lithium	**0.57J**	ug/L	1.0	0.22	1	04/25/25 07:50	04/29/25 18:36	7439-93-2	
Molybdenum	**<0.44**	ug/L	1.5	0.44	1	04/25/25 07:50	04/29/25 18:36	7439-98-7	
Selenium	**<0.32**	ug/L	1.1	0.32	1	04/25/25 07:50	04/29/25 18:36	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	04/25/25 07:50	04/29/25 18:36	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Green Bay								
Mercury	**<0.066**	ug/L	0.20	0.066	1	04/25/25 13:39	04/28/25 14:53	7439-97-6	

REPORT OF LABORATORY ANALYSIS

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(920)469-2436

ANALYTICAL RESULTS

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294114

Sample: MW-84A **Lab ID: 40294114002** Collected: 04/22/25 10:25 Received: 04/23/25 10:30 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								
Antimony	**<0.15**	ug/L	1.0	0.15	1	04/25/25 07:50	04/29/25 18:40	7440-36-0	
Arsenic	**<0.28**	ug/L	1.0	0.28	1	04/25/25 07:50	04/29/25 18:40	7440-38-2	
Barium	**13.5**	ug/L	2.3	0.70	1	04/25/25 07:50	04/29/25 18:40	7440-39-3	
Beryllium	**<0.25**	ug/L	1.0	0.25	1	04/25/25 07:50	04/29/25 18:40	7440-41-7	
Cadmium	**<0.15**	ug/L	1.0	0.15	1	04/25/25 07:50	04/29/25 18:40	7440-43-9	
Chromium	**1.9J**	ug/L	3.4	1.0	1	04/25/25 07:50	04/29/25 18:40	7440-47-3	
Cobalt	**<0.12**	ug/L	1.0	0.12	1	04/25/25 07:50	04/29/25 18:40	7440-48-4	
Lead	**<0.24**	ug/L	1.0	0.24	1	04/25/25 07:50	04/29/25 18:40	7439-92-1	
Lithium	**0.41J**	ug/L	1.0	0.22	1	04/25/25 07:50	04/29/25 18:40	7439-93-2	
Molybdenum	**<0.44**	ug/L	1.5	0.44	1	04/25/25 07:50	04/29/25 18:40	7439-98-7	
Selenium	**<0.32**	ug/L	1.1	0.32	1	04/25/25 07:50	04/29/25 18:40	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	04/25/25 07:50	04/29/25 18:40	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Green Bay								
Mercury	**<0.066**	ug/L	0.20	0.066	1	04/25/25 13:39	04/28/25 14:56	7439-97-6	

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QUALITY CONTROL DATA

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294114

QC Batch: 502929
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40294114001, 40294114002

METHOD BLANK: 2871750 Matrix: Water
Associated Lab Samples: 40294114001, 40294114002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	<0.066	0.20	04/28/25 13:28	

LABORATORY CONTROL SAMPLE: 2871751

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.6	113	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2871752 2871753

Parameter	Units	40294024001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.066	5	5	5.6	5.7	111	112	85-115	1	20	

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(920)469-2436

QUALITY CONTROL DATA

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294114

QC Batch: 502899
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020B MET
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40294114001, 40294114002

METHOD BLANK: 2871567 Matrix: Water
Associated Lab Samples: 40294114001, 40294114002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	<0.15	1.0	04/29/25 17:06	
Arsenic	ug/L	<0.28	1.0	04/29/25 17:06	
Barium	ug/L	<0.70	2.3	04/29/25 17:06	
Beryllium	ug/L	<0.25	1.0	04/29/25 17:06	
Cadmium	ug/L	<0.15	1.0	04/29/25 17:06	
Chromium	ug/L	<1.0	3.4	04/29/25 17:06	
Cobalt	ug/L	<0.12	1.0	04/29/25 17:06	
Lead	ug/L	<0.24	1.0	04/29/25 17:06	
Lithium	ug/L	<0.22	1.0	04/29/25 17:06	
Molybdenum	ug/L	<0.44	1.5	04/29/25 17:06	
Selenium	ug/L	<0.32	1.1	04/29/25 17:06	
Thallium	ug/L	<0.14	1.0	04/29/25 17:06	

LABORATORY CONTROL SAMPLE: 2871568

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	250	245	98	80-120	
Arsenic	ug/L	250	248	99	80-120	
Barium	ug/L	250	243	97	80-120	
Beryllium	ug/L	250	262	105	80-120	
Cadmium	ug/L	250	251	100	80-120	
Chromium	ug/L	250	252	101	80-120	
Cobalt	ug/L	250	244	98	80-120	
Lead	ug/L	250	246	98	80-120	
Lithium	ug/L	250	255	102	80-120	
Molybdenum	ug/L	250	247	99	80-120	
Selenium	ug/L	250	253	101	80-120	
Thallium	ug/L	250	243	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2871569 2871570

Parameter	Units	40294085001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	0.21J	250	250	251	246	100	98	75-125	2	20	
Arsenic	ug/L	<0.28	250	250	255	251	102	101	75-125	1	20	
Barium	ug/L	25.5	250	250	274	269	99	98	75-125	2	20	
Beryllium	ug/L	<0.25	250	250	258	258	103	103	75-125	0	20	

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(920)469-2436

QUALITY CONTROL DATA

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294114

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2871569 2871570

Parameter	Units	40294085001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	<0.15	250	250	256	249	102	100	75-125	3	20	
Chromium	ug/L	<1.0	250	250	249	246	100	98	75-125	1	20	
Cobalt	ug/L	<0.12	250	250	241	238	96	95	75-125	1	20	
Lead	ug/L	<0.24	250	250	252	248	101	99	75-125	1	20	
Lithium	ug/L	1.7	250	250	258	255	102	101	75-125	1	20	
Molybdenum	ug/L	12.2	250	250	266	263	102	100	75-125	1	20	
Selenium	ug/L	27.2	250	250	280	276	101	100	75-125	1	20	
Thallium	ug/L	0.16J	250	250	257	253	103	101	75-125	2	20	

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(920)469-2436

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294114

Sample: MW-301 **Lab ID: 40294114001** Collected: 04/22/25 12:15 Received: 04/23/25 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.114 ± 0.524 (1.00) C:NA T:93%**	pCi/L	05/14/25 12:43	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.369 ± 0.417 (1.00) C:78% T:91%**	pCi/L	05/14/25 14:28	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.483 ± 0.941 (2.00)**	pCi/L	05/15/25 16:18	7440-14-4	

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Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294114

Sample: MW-84A **Lab ID: 40294114002** Collected: 04/22/25 10:25 Received: 04/23/25 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.210 ± 0.411 (1.00) C:NA T:95%**	pCi/L	05/14/25 12:43	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.249 ± 0.361 (1.00) C:77% T:86%**	pCi/L	05/14/25 14:28	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.249 ± 0.772 (2.00)**	pCi/L	05/15/25 16:18	7440-14-4	

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02/27/2026 - Classification: Internal - ECRM13684511

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL - RADIOCHEMISTRY

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294114

QC Batch: 742291
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 40294114001, 40294114002

METHOD BLANK: 3612216 Matrix: Water
Associated Lab Samples: 40294114001, 40294114002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.294 ± 0.250 (0.310) C:NA T:94%	pCi/L	05/14/25 12:43	

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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(920)469-2436

QUALITY CONTROL - RADIOCHEMISTRY

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294114

QC Batch: 742292
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 40294114001, 40294114002

METHOD BLANK: 3612218 Matrix: Water
Associated Lab Samples: 40294114001, 40294114002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.200 ± 0.312 (0.778) C:79% T:86%	pCi/L	05/14/25 14:26	

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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(920)469-2436

QUALIFIERS

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294114

DEFINITIONS

Act - Activity
Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)
(MDC) - Minimum Detectable Concentration
Trac - Tracer Recovery (%)
Carr - Carrier Recovery (%)
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 - The reported result is an estimated value.
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.
DL - Adjusted Method Detection Limit.
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 - Analyte was not detected and is reported as less than the LOD or as defined by the customer.
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.

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(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 25225067 COLUMBIA CCR BACKGRND
Pace Project No.: 40294114

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40294114001	**MW-301**	EPA 3010A	502899	EPA 6020B	502978
40294114002	**MW-84A**	EPA 3010A	502899	EPA 6020B	502978
40294114001	**MW-301**	EPA 7470	502929	EPA 7470	502995
40294114002	**MW-84A**	EPA 7470	502929	EPA 7470	502995
40294114001	**MW-301**	EPA 903.1	742291		
40294114002	**MW-84A**	EPA 903.1	742291		
40294114001	**MW-301**	EPA 904.0	742292		
40294114002	**MW-84A**	EPA 904.0	742292		
40294114001	**MW-301**	Total Radium Calculation	746009		
40294114002	**MW-84A**	Total Radium Calculation	746009		

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402944114

Pace

CHAIN-OF-CUSTODY / Analytical Request Document

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

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:
Company: SCS ENGINEERS	Report To: Meghan Blodgett	Attention:
Address: 2830 Dairy Drive	Copy To:	Company Name:
Madison, WI 53718		Address:
Email: mblodgett@scsengineers.com	Purchase Order #:	Pace Quote:
Phone: 608-216-7362 Fax:	Project Name: 25225067 Columbia CCR Background	Pace Project Manager: dan.milewsky@pacelabs.com,
Requested Due Date:	Project #: 25225067	Pace Profile #:

Regulatory Agency
State / Location
WI

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Y/N	Analyses Test: Metals (Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl)	Radium 226/228	Residual Chlorine (Y/N)	
	Requested Analysis Filtered (Y/N)																		N	N		
1	MW-301	WT		4/22	1215														X	X		001
2	MW-84A	WT		4/22	1025														X	X		002
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
ALL SAMPLES UNFILTERED	CS Logistics	4/24/25	1030	PACE	4/24/25	1030	0.0	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kyle Vernon

SIGNATURE of SAMPLER: on behalf of Kyle Vernon

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

02/27/2026 - Classification: Internal - ECRM13684511

Sample Preservation Receipt Form

Client Name: SCS Project #:

All containers needing preservation have been checked and noted below: ☒Yes ☐No ☐N/A Initial when completed: MCH Date/Time:

Lab Lot# of pH paper: 10 D 32n2 Lab Std #ID of preservation (if pH adjusted):

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	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN 1	GN 2							
001											1															2					XXX		2.5 / 5
002											1															2					XXX		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											MCH																							2.5 / 5
011																																		2.5 / 5
012															4/2																			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

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	1L plastic HNO3
						GN 2	

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Sample Condition Upon Receipt Form (SCUR)

Project #:

WO# : 40294114

40294114

Client Name: SCS

Courier: ☒ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☐ Purple Mountain ☐ Client ☐ Pace Other: _____

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~~ MM 4/23/25 ☐ None ☐ Other _____

Thermometer Used SR - 148 **Type of Ice:** (Wet) Blue Dry None ☐ Meltwater Only

Cooler Temperature Uncorr: 0.0/20/3.0 Corr: 0.0/20/3.0

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: 4/23/25 Initials: MCH

Labeled By Initials: EL

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

02/27/2026 - Classification: Internal - ECRM13684511

Pace

CHAIN-OF-CUSTODY / Analytical Request Document

40294084

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

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.

Page : 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: SCS ENGINEERS	Report To: Meghan Blodgett	Attention:
Address: 2830 Dairy Drive	Copy To:	Company Name:
Madison, WI 53718		Address:
Email: mblodgett@scsengineers.com	Purchase Order #:	Pace Quote:
Phone: 608-216-7362 Fax:	Project Name: 25225067 Columbia CCR Background	Pace Project Manager: dan.milewsky@pacelabs.com,
Requested Due Date:	Project #: 25225067	Pace Profile #:

Regulatory Agency	
State / Location	WI

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: Metals	TDS and pH	Chloride, Fluoride, Sulfate	Hardness	Alkalinity						Residual Chlorine (Y/N)	
																		N	N	N	N	N							
1	MW-301	WT		4/22	1215														X	X	X	X	X						001
2	MW-84A	WT		4/22	1025														X	X	X	X	X						002
3	Field Dup #1																		X			X							No Sample
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Full List Metals = B, Ca, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li Hg, Mo, Se, Tl ALL SAMPLES UNFILTERED	CS Logistics	4/23/25	1030	PACE	4/23/25	1030	0.0	Y	Y	Y

SAMPLER NAME AND SIGNATURE		TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Kyle Vernon				
SIGNATURE of SAMPLER:	Kyle Vernon 4/22/25				

02/27/2026 - Classification: Internal - ECRM13684511

Client Name: SCS

Sample Preservation Receipt Form

Project # 4029408H

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

Lab Lot# of pH paper: 10 D 3242 Lab Std #ID of preservation (if pH adjusted):

Initial when completed: MCH 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	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN 1	GN 2							
001									2		2															2					XXX		2.5 / 5
002									2		2															2					XXX		2.5 / 5
003																																	2.5 / 5
004																																	2.5 / 5
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011																																	2.5 / 5
012																																	2.5 / 5
013																																	2.5 / 5
014																																	2.5 / 5
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016																																	2.5 / 5
017																																	2.5 / 5
018																																	2.5 / 5
019																																	2.5 / 5
020																																	2.5 / 5

MCH 4/23/25

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
BG1U	1 liter clear glass
AG1H	1 liter amber glass HCL
AG4S	125 mL amber glass H2SO4
AG5U	100 mL amber glass unpres
AG2S	500 mL amber glass H2SO4
BG3U	250 mL clear glass unpres

BP1U	1 liter plastic unpres
BP3U	250 mL plastic unpres
BP3B	250 mL plastic NaOH
BP3N	250 mL plastic HNO3
BP3S	250 mL plastic H2SO4
BP2Z	500 mL plastic NaOH + Zn

VG9C	40 mL clear ascorbic w/ HCl
DG9T	40 mL amber Na Thio
VG9U	40 mL clear vial unpres
VG9H	40 mL clear vial HCL
VG9M	40 mL clear vial MeOH
VG9D	40 mL clear vial DI

JGFU	4 oz amber jar unpres
JG9U	9 oz amber jar unpres
WGFU	4 oz clear jar unpres
WPFU	4 oz plastic jar unpres
SP5T	120 mL plastic Na Thiosulfate
ZPLC	ziploc bag
GN 1	1L plastic HNO3
GN 2	

02/27/2026 - Classification: Internal - ECRM13684511

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO# : 40294084

40294084

Client Name: SCS

Courier: ☒ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☐ Purple Mountain ☐ Client ☐ Pace Other: _____

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~~ mw 4/23/25 ☐ None ☐ Other _____

Thermometer Used SR - 148 **Type of Ice:** (Wet) Blue Dry None ☐ Meltwater Only

Cooler Temperature Uncorr: 0.0/20/3.0 Corr: 0.0/20/3.0

Temp Blank Present: ☐ yes ☒ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Person examining contents:
Date: 4/23/25 Initials: MCH

Labeled By Initials: EL

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

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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

May 15, 2025

Meghan Blodgett
SCS ENGINEERS
2830 Dairy Drive
Madison, WI 53718

RE: Project: 25225067 COLUMBIA CCR PRIMARY
Pace Project No.: 40294085

Dear Meghan Blodgett:

Enclosed are the analytical results for sample(s) received by the laboratory on April 23, 2025. 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
- Pace Analytical Services - Greensburg

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

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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: 25225067 COLUMBIA CCR PRIMARY
Pace Project No.: 40294085

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
ANABISO/IEC 17025:2017 Rad Cert#: L24170
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 2950
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA010
Louisiana DEQ/TNI Certification #: 04086
Maine Certification #: 2023021
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572023-03
New Hampshire/TNI Certification #: 297622
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-015
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN02867
Texas/TNI Certification #: T104704188-22-18
Utah/TNI Certification #: PA014572223-14
USDA Soil Permit #: 525-23-67-77263
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad

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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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: 25225067 COLUMBIA CCR PRIMARY
Pace Project No.: 40294085

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40294085001	**M-4R**	Water	04/21/25 11:45	04/23/25 10:30
40294085002	**MW-316**	Water	04/22/25 11:07	04/23/25 10:30
40294085003	**MW-304R**	Water	04/21/25 16:35	04/23/25 10:30
40294085004	**MW-305**	Water	04/22/25 11:20	04/23/25 10:30

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SAMPLE ANALYTE COUNT

Project: 25225067 COLUMBIA CCR PRIMARY
Pace Project No.: 40294085

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40294085001	**M-4R**	EPA 6020B	KXS	14	PASI-G
		EPA 7470	AF	1	PASI-G
			AG1	7	PASI-G
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	LMB	1	PASI-G
		EPA 9040	HML	1	PASI-G
		EPA 300.0	TXW	3	PASI-G
40294085002	**MW-316**	EPA 6020B	KXS	14	PASI-G
		EPA 7470	AF	1	PASI-G
			AG1	7	PASI-G
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	LMB	1	PASI-G
		EPA 9040	HML	1	PASI-G
		EPA 300.0	TXW	3	PASI-G
40294085003	**MW-304R**	EPA 6020B	KXS	14	PASI-G
		EPA 7470	AF	1	PASI-G
			AG1	7	PASI-G
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	LMB	1	PASI-G
		EPA 9040	HML	1	PASI-G
		EPA 300.0	TXW	3	PASI-G
40294085004	**MW-305**	EPA 6020B	KXS	14	PASI-G
		EPA 7470	AF	1	PASI-G
			AG1	7	PASI-G
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		SM 2540C	LMB	1	PASI-G
		EPA 9040	HML	1	PASI-G
		EPA 300.0	TXW	3	PASI-G

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SAMPLE ANALYTE COUNT

Project: 25225067 COLUMBIA CCR PRIMARY
Pace Project No.: 40294085

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory

PASI-G = Pace Analytical Services - Green Bay
PASI-PA = Pace Analytical Services - Greensburg

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ANALYTICAL RESULTS

Project: 25225067 COLUMBIA CCR PRIMARY
Pace Project No.: 40294085

Sample: M-4R **Lab ID: 40294085001** Collected: 04/21/25 11:45 Received: 04/23/25 10:30 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								
Antimony	**0.21J**	ug/L	1.0	0.15	1	04/25/25 07:50	04/29/25 17:33	7440-36-0	
Arsenic	**<0.28**	ug/L	1.0	0.28	1	04/25/25 07:50	04/29/25 17:33	7440-38-2	
Barium	**25.5**	ug/L	2.3	0.70	1	04/25/25 07:50	04/29/25 17:33	7440-39-3	
Beryllium	**<0.25**	ug/L	1.0	0.25	1	04/25/25 07:50	04/29/25 17:33	7440-41-7	
Boron	**540**	ug/L	10.0	3.0	1	04/25/25 07:50	04/29/25 17:33	7440-42-8	
Cadmium	**<0.15**	ug/L	1.0	0.15	1	04/25/25 07:50	04/29/25 17:33	7440-43-9	
Calcium	**102000**	ug/L	254	76.2	1	04/25/25 07:50	04/29/25 17:33	7440-70-2	P6
Chromium	**<1.0**	ug/L	3.4	1.0	1	04/25/25 07:50	04/29/25 17:33	7440-47-3	
Cobalt	**<0.12**	ug/L	1.0	0.12	1	04/25/25 07:50	04/29/25 17:33	7440-48-4	
Lead	**<0.24**	ug/L	1.0	0.24	1	04/25/25 07:50	04/29/25 17:33	7439-92-1	
Lithium	**1.7**	ug/L	1.0	0.22	1	04/25/25 07:50	04/29/25 17:33	7439-93-2	
Molybdenum	**12.2**	ug/L	1.5	0.44	1	04/25/25 07:50	04/29/25 17:33	7439-98-7	
Selenium	**27.2**	ug/L	1.1	0.32	1	04/25/25 07:50	04/29/25 17:33	7782-49-2	
Thallium	**0.16J**	ug/L	1.0	0.14	1	04/25/25 07:50	04/29/25 17:33	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Green Bay								
Mercury	**<0.066**	ug/L	0.20	0.066	1	04/25/25 13:39	04/28/25 14:12	7439-97-6	
Field Data	Analytical Method: Pace Analytical Services - Green Bay								
Field pH	**7.28**	Std. Units			1		04/21/25 11:45		
Field Specific Conductance	**734**	umhos/cm			1		04/21/25 11:45		
Oxygen, Dissolved	**2.97**	mg/L			1		04/21/25 11:45	7782-44-7	
REDOX	**41.2**	mV			1		04/21/25 11:45		
Turbidity	**3.48**	NTU			1		04/21/25 11:45		
Static Water Level	**783.61**	feet			1		04/21/25 11:45		
Temperature, Water (C)	**8.8**	deg C			1		04/21/25 11:45		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Green Bay								
Total Dissolved Solids	**470**	mg/L	20.0	8.7	1		04/24/25 13:39		
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		04/24/25 14:03		H6
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay								
Chloride	**25.6**	mg/L	4.0	1.2	2		05/03/25 14:10	16887-00-6	
Fluoride	**<0.19**	mg/L	0.63	0.19	2		05/03/25 14:10	16984-48-8	D3
Sulfate	**113**	mg/L	4.0	0.89	2		05/03/25 14:10	14808-79-8	

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ANALYTICAL RESULTS

Project: 25225067 COLUMBIA CCR PRIMARY
Pace Project No.: 40294085

Sample: MW-316 **Lab ID: 40294085002** Collected: 04/22/25 11:07 Received: 04/23/25 10:30 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								
Antimony	**<0.15**	ug/L	1.0	0.15	1	04/25/25 07:50	04/29/25 18:00	7440-36-0	
Arsenic	**5.2**	ug/L	1.0	0.28	1	04/25/25 07:50	04/29/25 18:00	7440-38-2	
Barium	**25.9**	ug/L	2.3	0.70	1	04/25/25 07:50	04/29/25 18:00	7440-39-3	
Beryllium	**<0.25**	ug/L	1.0	0.25	1	04/25/25 07:50	04/29/25 18:00	7440-41-7	
Boron	**1700**	ug/L	10.0	3.0	1	04/25/25 07:50	04/29/25 18:00	7440-42-8	
Cadmium	**<0.15**	ug/L	1.0	0.15	1	04/25/25 07:50	04/29/25 18:00	7440-43-9	
Calcium	**26500**	ug/L	254	76.2	1	04/25/25 07:50	04/29/25 18:00	7440-70-2	
Chromium	**<1.0**	ug/L	3.4	1.0	1	04/25/25 07:50	04/29/25 18:00	7440-47-3	
Cobalt	**<0.12**	ug/L	1.0	0.12	1	04/25/25 07:50	04/29/25 18:00	7440-48-4	
Lead	**<0.24**	ug/L	1.0	0.24	1	04/25/25 07:50	04/29/25 18:00	7439-92-1	
Lithium	**1.3**	ug/L	1.0	0.22	1	04/25/25 07:50	04/29/25 18:00	7439-93-2	
Molybdenum	**77.5**	ug/L	1.5	0.44	1	04/25/25 07:50	04/29/25 18:00	7439-98-7	
Selenium	**<0.32**	ug/L	1.1	0.32	1	04/25/25 07:50	04/29/25 18:00	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	04/25/25 07:50	04/29/25 18:00	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Green Bay								
Mercury	**<0.066**	ug/L	0.20	0.066	1	04/25/25 13:39	04/28/25 14:15	7439-97-6	
Field Data	Analytical Method: Pace Analytical Services - Green Bay								
Field pH	**8.37**	Std. Units			1		04/22/25 11:07		
Field Specific Conductance	**504**	umhos/cm			1		04/22/25 11:07		
Oxygen, Dissolved	**0.02**	mg/L			1		04/22/25 11:07	7782-44-7	
REDOX	**-180**	mV			1		04/22/25 11:07		
Turbidity	**0.68**	NTU			1		04/22/25 11:07		
Static Water Level	**784.27**	feet			1		04/22/25 11:07		
Temperature, Water (C)	**12.0**	deg C			1		04/22/25 11:07		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Green Bay								
Total Dissolved Solids	**332**	mg/L	20.0	8.7	1		04/24/25 14:55		
9040 pH	Analytical Method: EPA 9040 Pace Analytical Services - Green Bay								
pH at 25 Degrees C	**8.4**	Std. Units	0.10	0.010	1		04/24/25 14:05		H6
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay								
Chloride	**16.0**	mg/L	2.0	0.59	1		05/03/25 14:31	16887-00-6	
Fluoride	**0.14J**	mg/L	0.32	0.095	1		05/03/25 14:31	16984-48-8	
Sulfate	**134**	mg/L	20.0	4.4	10		05/03/25 14:21	14808-79-8	

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ANALYTICAL RESULTS

Project: 25225067 COLUMBIA CCR PRIMARY
Pace Project No.: 40294085

Sample: MW-304R **Lab ID: 40294085003** Collected: 04/21/25 16:35 Received: 04/23/25 10:30 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								
Antimony	**<0.15**	ug/L	1.0	0.15	1	04/25/25 07:50	04/29/25 18:09	7440-36-0	
Arsenic	**1.1**	ug/L	1.0	0.28	1	04/25/25 07:50	04/29/25 18:09	7440-38-2	
Barium	**62.7**	ug/L	2.3	0.70	1	04/25/25 07:50	04/29/25 18:09	7440-39-3	
Beryllium	**<0.25**	ug/L	1.0	0.25	1	04/25/25 07:50	04/29/25 18:09	7440-41-7	
Boron	**855**	ug/L	10.0	3.0	1	04/25/25 07:50	04/29/25 18:09	7440-42-8	
Cadmium	**<0.15**	ug/L	1.0	0.15	1	04/25/25 07:50	04/29/25 18:09	7440-43-9	
Calcium	**90800**	ug/L	254	76.2	1	04/25/25 07:50	04/29/25 18:09	7440-70-2	
Chromium	**<1.0**	ug/L	3.4	1.0	1	04/25/25 07:50	04/29/25 18:09	7440-47-3	
Cobalt	**0.92J**	ug/L	1.0	0.12	1	04/25/25 07:50	04/29/25 18:09	7440-48-4	
Lead	**<0.24**	ug/L	1.0	0.24	1	04/25/25 07:50	04/29/25 18:09	7439-92-1	
Lithium	**0.74J**	ug/L	1.0	0.22	1	04/25/25 07:50	04/29/25 18:09	7439-93-2	
Molybdenum	**9.5**	ug/L	1.5	0.44	1	04/25/25 07:50	04/29/25 18:09	7439-98-7	
Selenium	**<0.32**	ug/L	1.1	0.32	1	04/25/25 07:50	04/29/25 18:09	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	04/25/25 07:50	04/29/25 18:09	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Green Bay								
Mercury	**<0.066**	ug/L	0.20	0.066	1	04/25/25 13:39	04/28/25 14:17	7439-97-6	
Field Data	Analytical Method: Pace Analytical Services - Green Bay								
Field pH	**7.28**	Std. Units			1		04/21/25 16:35		
Field Specific Conductance	**848**	umhos/cm			1		04/21/25 16:35		
Oxygen, Dissolved	**0.05**	mg/L			1		04/21/25 16:35	7782-44-7	
REDOX	**-104.9**	mV			1		04/21/25 16:35		
Turbidity	**7.88**	NTU			1		04/21/25 16:35		
Static Water Level	**784.21**	feet			1		04/21/25 16:35		
Temperature, Water (C)	**10.4**	deg C			1		04/21/25 16:35		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Green Bay								
Total Dissolved Solids	**554**	mg/L	20.0	8.7	1		04/24/25 13:39		
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		04/24/25 14:07		H6
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay								
Chloride	**24.0**	mg/L	2.0	0.59	1		05/03/25 14:53	16887-00-6	
Fluoride	**0.14J**	mg/L	0.32	0.095	1		05/03/25 14:53	16984-48-8	
Sulfate	**147**	mg/L	20.0	4.4	10		05/03/25 14:42	14808-79-8	

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ANALYTICAL RESULTS

Project: 25225067 COLUMBIA CCR PRIMARY
Pace Project No.: 40294085

Sample: MW-305 **Lab ID: 40294085004** Collected: 04/22/25 11:20 Received: 04/23/25 10:30 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								
Antimony	**0.26J**	ug/L	1.0	0.15	1	04/25/25 07:50	04/29/25 18:14	7440-36-0	
Arsenic	**0.44J**	ug/L	1.0	0.28	1	04/25/25 07:50	04/29/25 18:14	7440-38-2	
Barium	**7.7**	ug/L	2.3	0.70	1	04/25/25 07:50	04/29/25 18:14	7440-39-3	
Beryllium	**<0.25**	ug/L	1.0	0.25	1	04/25/25 07:50	04/29/25 18:14	7440-41-7	
Boron	**848**	ug/L	10.0	3.0	1	04/25/25 07:50	04/29/25 18:14	7440-42-8	
Cadmium	**<0.15**	ug/L	1.0	0.15	1	04/25/25 07:50	04/29/25 18:14	7440-43-9	
Calcium	**42200**	ug/L	254	76.2	1	04/25/25 07:50	04/29/25 18:14	7440-70-2	
Chromium	**4.1**	ug/L	3.4	1.0	1	04/25/25 07:50	04/29/25 18:14	7440-47-3	
Cobalt	**<0.12**	ug/L	1.0	0.12	1	04/25/25 07:50	04/29/25 18:14	7440-48-4	
Lead	**<0.24**	ug/L	1.0	0.24	1	04/25/25 07:50	04/29/25 18:14	7439-92-1	
Lithium	**<0.22**	ug/L	1.0	0.22	1	04/25/25 07:50	04/29/25 18:14	7439-93-2	
Molybdenum	**9.6**	ug/L	1.5	0.44	1	04/25/25 07:50	04/29/25 18:14	7439-98-7	
Selenium	**4.0**	ug/L	1.1	0.32	1	04/25/25 07:50	04/29/25 18:14	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	04/25/25 07:50	04/29/25 18:14	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Green Bay								
Mercury	**<0.066**	ug/L	0.20	0.066	1	04/25/25 13:39	04/28/25 14:20	7439-97-6	
Field Data	Analytical Method: Pace Analytical Services - Green Bay								
Field pH	**8.42**	Std. Units			1		04/22/25 11:20		
Field Specific Conductance	**375.5**	umhos/cm			1		04/22/25 11:20		
Oxygen, Dissolved	**4.35**	mg/L			1		04/22/25 11:20	7782-44-7	
REDOX	**56.2**	mV			1		04/22/25 11:20		
Turbidity	**0.00**	NTU			1		04/22/25 11:20		
Static Water Level	**783.18**	feet			1		04/22/25 11:20		
Temperature, Water (C)	**12.3**	deg C			1		04/22/25 11:20		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Green Bay								
Total Dissolved Solids	**226**	mg/L	20.0	8.7	1		04/24/25 14:55		
9040 pH	Analytical Method: EPA 9040 Pace Analytical Services - Green Bay								
pH at 25 Degrees C	**8.2**	Std. Units	0.10	0.010	1		04/24/25 14:14		H6
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Green Bay								
Chloride	**7.9**	mg/L	2.0	0.59	1		05/03/25 15:49	16887-00-6	
Fluoride	**0.20J**	mg/L	0.32	0.095	1		05/03/25 15:49	16984-48-8	
Sulfate	**106**	mg/L	20.0	4.4	10		05/03/25 15:38	14808-79-8	

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QUALITY CONTROL DATA

Project: 25225067 COLUMBIA CCR PRIMARY
Pace Project No.: 40294085

QC Batch: 502929 | Analysis Method: EPA 7470
QC Batch Method: EPA 7470 | Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40294085001, 40294085002, 40294085003, 40294085004

METHOD BLANK: 2871750 Matrix: Water
Associated Lab Samples: 40294085001, 40294085002, 40294085003, 40294085004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	<0.066	0.20	04/28/25 13:28	

LABORATORY CONTROL SAMPLE: 2871751

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.6	113	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2871752 2871753

Parameter	Units	40294024001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.066	5	5	5.6	5.7	111	112	85-115	1	20	

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REPORT OF LABORATORY ANALYSIS

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(920)469-2436

QUALITY CONTROL DATA

Project: 25225067 COLUMBIA CCR PRIMARY
Pace Project No.: 40294085

QC Batch: 502899
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020B MET
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40294085001, 40294085002, 40294085003, 40294085004

METHOD BLANK: 2871567 Matrix: Water
Associated Lab Samples: 40294085001, 40294085002, 40294085003, 40294085004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	<0.15	1.0	04/29/25 17:06	
Arsenic	ug/L	<0.28	1.0	04/29/25 17:06	
Barium	ug/L	<0.70	2.3	04/29/25 17:06	
Beryllium	ug/L	<0.25	1.0	04/29/25 17:06	
Boron	ug/L	<3.0	10.0	04/29/25 17:06	
Cadmium	ug/L	<0.15	1.0	04/29/25 17:06	
Calcium	ug/L	<76.2	254	04/29/25 17:06	
Chromium	ug/L	<1.0	3.4	04/29/25 17:06	
Cobalt	ug/L	<0.12	1.0	04/29/25 17:06	
Lead	ug/L	<0.24	1.0	04/29/25 17:06	
Lithium	ug/L	<0.22	1.0	04/29/25 17:06	
Molybdenum	ug/L	<0.44	1.5	04/29/25 17:06	
Selenium	ug/L	<0.32	1.1	04/29/25 17:06	
Thallium	ug/L	<0.14	1.0	04/29/25 17:06	

LABORATORY CONTROL SAMPLE: 2871568

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	250	245	98	80-120	
Arsenic	ug/L	250	248	99	80-120	
Barium	ug/L	250	243	97	80-120	
Beryllium	ug/L	250	262	105	80-120	
Boron	ug/L	250	239	96	80-120	
Cadmium	ug/L	250	251	100	80-120	
Calcium	ug/L	10000	9560	96	80-120	
Chromium	ug/L	250	252	101	80-120	
Cobalt	ug/L	250	244	98	80-120	
Lead	ug/L	250	246	98	80-120	
Lithium	ug/L	250	255	102	80-120	
Molybdenum	ug/L	250	247	99	80-120	
Selenium	ug/L	250	253	101	80-120	
Thallium	ug/L	250	243	97	80-120	

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QUALITY CONTROL DATA

Project: 25225067 COLUMBIA CCR PRIMARY
Pace Project No.: 40294085

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2871569 2871570

Parameter	Units	40294085001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	0.21J	250	250	251	246	100	98	75-125	2	20	
Arsenic	ug/L	<0.28	250	250	255	251	102	101	75-125	1	20	
Barium	ug/L	25.5	250	250	274	269	99	98	75-125	2	20	
Beryllium	ug/L	<0.25	250	250	258	258	103	103	75-125	0	20	
Boron	ug/L	540	250	250	783	772	98	93	75-125	1	20	
Cadmium	ug/L	<0.15	250	250	256	249	102	100	75-125	3	20	
Calcium	ug/L	102000	10000	10000	116000	114000	144	124	75-125	2	20	P6
Chromium	ug/L	<1.0	250	250	249	246	100	98	75-125	1	20	
Cobalt	ug/L	<0.12	250	250	241	238	96	95	75-125	1	20	
Lead	ug/L	<0.24	250	250	252	248	101	99	75-125	1	20	
Lithium	ug/L	1.7	250	250	258	255	102	101	75-125	1	20	
Molybdenum	ug/L	12.2	250	250	266	263	102	100	75-125	1	20	
Selenium	ug/L	27.2	250	250	280	276	101	100	75-125	1	20	
Thallium	ug/L	0.16J	250	250	257	253	103	101	75-125	2	20	

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QUALITY CONTROL DATA

Project: 25225067 COLUMBIA CCR PRIMARY
Pace Project No.: 40294085

QC Batch: 502813
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40294085001, 40294085003

METHOD BLANK: 2870847 Matrix: Water
Associated Lab Samples: 40294085001, 40294085003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<8.7	20.0	04/24/25 13:36	

LABORATORY CONTROL SAMPLE: 2870848

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	578	566	98	80-120	

SAMPLE DUPLICATE: 2870849

Parameter	Units	40293965001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	240	236	2	10	

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QUALITY CONTROL DATA

Project: 25225067 COLUMBIA CCR PRIMARY
Pace Project No.: 40294085

QC Batch: 502870
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40294085002, 40294085004

METHOD BLANK: 2871186 Matrix: Water
Associated Lab Samples: 40294085002, 40294085004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<8.7	20.0	04/24/25 14:54	

LABORATORY CONTROL SAMPLE: 2871187

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	578	560	97	80-120	

SAMPLE DUPLICATE: 2871188

Parameter	Units	40294036001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	578	600	4	10	

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QUALITY CONTROL DATA

Project: 25225067 COLUMBIA CCR PRIMARY
Pace Project No.: 40294085

QC Batch: 502833
QC Batch Method: EPA 9040
Analysis Method: EPA 9040
Analysis Description: 9040 pH
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40294085001, 40294085002, 40294085003, 40294085004

SAMPLE DUPLICATE: 2870947

Parameter	Units	40294083001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.1	8.2	1	20	H6

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QUALITY CONTROL DATA

Project: 25225067 COLUMBIA CCR PRIMARY
Pace Project No.: 40294085

QC Batch: 503541
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40294085001, 40294085002, 40294085003, 40294085004

METHOD BLANK: 2875114 Matrix: Water
Associated Lab Samples: 40294085001, 40294085002, 40294085003, 40294085004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<0.59	2.0	05/03/25 10:54	
Fluoride	mg/L	<0.095	0.32	05/03/25 10:54	
Sulfate	mg/L	<0.44	2.0	05/03/25 10:54	

LABORATORY CONTROL SAMPLE: 2875115

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	20.9	104	90-110	
Fluoride	mg/L	2	2.0	101	90-110	
Sulfate	mg/L	20	21.1	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2875116 2875117

Parameter	Units	40294083004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	386	200	200	562	558	88	86	90-110	1	15	M0
Fluoride	mg/L	<0.95	20	20	20.1	20.2	100	101	90-110	1	15	
Sulfate	mg/L	75.7	200	200	294	293	109	109	90-110	0	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2875118 2875119

Parameter	Units	40294198001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	101	200	200	307	308	103	104	90-110	0	15	
Fluoride	mg/L	<0.95	20	20	21.0	21.2	105	106	90-110	1	15	
Sulfate	mg/L	104	200	200	323	323	109	110	90-110	0	15	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 25225067 COLUMBIA CCR PRIMARY
Pace Project No.: 40294085

Sample: M-4R **Lab ID: 40294085001** Collected: 04/21/25 11:45 Received: 04/23/25 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.660 ± 0.555 (1.00) C:NA T:95%**	pCi/L	05/14/25 12:43	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.134 ± 0.373 (1.00) C:76% T:82%**	pCi/L	05/14/25 14:28	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.794 ± 0.928 (2.00)**	pCi/L	05/15/25 16:18	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 25225067 COLUMBIA CCR PRIMARY
Pace Project No.: 40294085

Sample: MW-316 **Lab ID: 40294085002** Collected: 04/22/25 11:07 Received: 04/23/25 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.451 ± 0.627 (1.33) C:NA T:88%**	pCi/L	05/14/25 12:56	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.312 ± 0.381 (1.00) C:74% T:88%**	pCi/L	05/14/25 14:29	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.312 ± 1.01 (2.33)**	pCi/L	05/15/25 16:18	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 25225067 COLUMBIA CCR PRIMARY
Pace Project No.: 40294085

Sample: MW-304R **Lab ID: 40294085003** Collected: 04/21/25 16:35 Received: 04/23/25 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.104 ± 0.539 (1.08) C:NA T:96%**	pCi/L	05/14/25 12:56	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.350 ± 0.414 (1.00) C:78% T:86%**	pCi/L	05/14/25 14:29	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.350 ± 0.953 (2.08)**	pCi/L	05/15/25 16:18	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 25225067 COLUMBIA CCR PRIMARY
Pace Project No.: 40294085

Sample: MW-305 **Lab ID: 40294085004** Collected: 04/22/25 11:20 Received: 04/23/25 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.111 ± 0.254 (1.00) C:NA T:89%**	pCi/L	05/14/25 12:56	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.519 ± 0.379 (1.00) C:82% T:83%**	pCi/L	05/14/25 14:29	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.630 ± 0.633 (2.00)**	pCi/L	05/15/25 16:18	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 25225067 COLUMBIA CCR PRIMARY
Pace Project No.: 40294085

QC Batch: 742291
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 40294085001, 40294085002, 40294085003, 40294085004

METHOD BLANK: 3612216 Matrix: Water
Associated Lab Samples: 40294085001, 40294085002, 40294085003, 40294085004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.294 ± 0.250 (0.310) C:NA T:94%	pCi/L	05/14/25 12:43	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 25225067 COLUMBIA CCR PRIMARY
Pace Project No.: 40294085

QC Batch: 742292
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 40294085001, 40294085002, 40294085003, 40294085004

METHOD BLANK: 3612218 Matrix: Water
Associated Lab Samples: 40294085001, 40294085002, 40294085003, 40294085004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.200 ± 0.312 (0.778) C:79% T:86%	pCi/L	05/14/25 14:26	

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QUALIFIERS

Project: 25225067 COLUMBIA CCR PRIMARY
Pace Project No.: 40294085

DEFINITIONS

Act - Activity
Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)
(MDC) - Minimum Detectable Concentration
Trac - Tracer Recovery (%)
Carr - Carrier Recovery (%)
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 - The reported result is an estimated value.
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.
DL - Adjusted Method Detection Limit.
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 - Analyte was not detected and is reported as less than the LOD or as defined by the customer.
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.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 25225067 COLUMBIA CCR PRIMARY
Pace Project No.: 40294085

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40294085001	**M-4R**	EPA 3010A	502899	EPA 6020B	502978
40294085002	**MW-316**	EPA 3010A	502899	EPA 6020B	502978
40294085003	**MW-304R**	EPA 3010A	502899	EPA 6020B	502978
40294085004	**MW-305**	EPA 3010A	502899	EPA 6020B	502978
40294085001	**M-4R**	EPA 7470	502929	EPA 7470	502995
40294085002	**MW-316**	EPA 7470	502929	EPA 7470	502995
40294085003	**MW-304R**	EPA 7470	502929	EPA 7470	502995
40294085004	**MW-305**	EPA 7470	502929	EPA 7470	502995
40294085001	**M-4R**				
40294085002	**MW-316**				
40294085003	**MW-304R**				
40294085004	**MW-305**				
40294085001	**M-4R**	EPA 903.1	742291		
40294085002	**MW-316**	EPA 903.1	742291		
40294085003	**MW-304R**	EPA 903.1	742291		
40294085004	**MW-305**	EPA 903.1	742291		
40294085001	**M-4R**	EPA 904.0	742292		
40294085002	**MW-316**	EPA 904.0	742292		
40294085003	**MW-304R**	EPA 904.0	742292		
40294085004	**MW-305**	EPA 904.0	742292		
40294085001	**M-4R**	Total Radium Calculation	746009		
40294085002	**MW-316**	Total Radium Calculation	746009		
40294085003	**MW-304R**	Total Radium Calculation	746009		
40294085004	**MW-305**	Total Radium Calculation	746009		
40294085001	**M-4R**	SM 2540C	502813		
40294085002	**MW-316**	SM 2540C	502870		
40294085003	**MW-304R**	SM 2540C	502813		
40294085004	**MW-305**	SM 2540C	502870		
40294085001	**M-4R**	EPA 9040	502833		
40294085002	**MW-316**	EPA 9040	502833		
40294085003	**MW-304R**	EPA 9040	502833		
40294085004	**MW-305**	EPA 9040	502833		
40294085001	**M-4R**	EPA 300.0	503541		
40294085002	**MW-316**	EPA 300.0	503541		
40294085003	**MW-304R**	EPA 300.0	503541		
40294085004	**MW-305**	EPA 300.0	503541		

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CHAIN-OF-CUSTODY / Analytical Request Document

40294085

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

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:
Company: SCS ENGINEERS	Report To: Meghan Blodgett	Attention:
Address: 2830 Dairy Drive	Copy To:	Company Name:
Madison, WI 53718		Address:
Email: mblodgett@scsengineers.com	Purchase Order #:	Pace Quote:
Phone: 608-216-7362 Fax:	Project Name: 25225067 Columbia CCR Primary Pond	Pace Project Manager: dan.milewsky@pacelabs.com,
Requested Due Date:	Project #: 25225067	Pace Profile #:

Regulatory Agency

State / Location: WI

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Radium 226	Radium 228	Metals	chloride,fluoride,sulfate	TDS and pH	Residual Chlorine (Y/N)	
1	M-4R	WT		4/21	1145				5	2		3						N	X	X	X	X	X		001
2	MW-316	WT		4/22	1107				↓	↓		↓						N	X	X	X	X	X		002
3	MW-304R	WT		4/21	1635													N	X	X	X	X	X		003
4	MW-305	WT		4/22	1120				↓	↓		↓						N	X	X	X	X	X		004
5																		N							
6																		N							
7																		N							
8																		N							
9																		N							
10																		N							
11																		N							
12																		N							

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Full List Metals = B, Ca, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Li, Hg, Mo, Se, Tl ALL SAMPLES UNFILTERED	CS Logistics	4/23/25	1030	PACE	4/23/25	1030	0.0	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Bridget Jarosinski

SIGNATURE of SAMPLER: Bridget Jarosinski DATE Signed: 4/22/2025

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

02/27/2026 - Classification: Internal - ECRM13684511

Client Name: SCS

Sample Preservation Receipt Form

Project # 407940485

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

Lab Lot# of pH paper: 10 D 3242 Lab Std #ID of preservation (if pH adjusted):

Initial when completed: MCH 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	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN 1	GN 2							
001									2		1															2						XXX		2.5 / 5
002									2		1															2						XXX		2.5 / 5
003									2		1															2						XXX		2.5 / 5
004									2		1															2						XXX		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

MCH 4/23/25

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	1L plastic HNO3
						GN 2	

02/27/2026 - Classification: Internal - ECRM13684511

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO# : 40294085

40294085

Client Name: SCS

Courier: ☒ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☐ Purple Mountain ☐ Client ☐ Pace Other: _____

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~~ mcw 4/23/25 ☐ None ☐ Other _____

Thermometer Used SR - 148 **Type of Ice:** (Wet) Blue Dry None ☐ Meltwater Only

Cooler Temperature Uncorr: 0.0/2.0/3.0 Corr: 0.0/2.0/3.0

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: 4/23/25 Initials: MCH

Labeled By Initials: MVS

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

02/27/2026 - Classification: Internal - ECRM13684511

Appendix E

Historical Monitoring Results

02/27/2026 - Classification: Internal - ECRM13684511

Single Location
Name: WPL - Columbia

Location ID: MW-84A

Number of Sampling Dates: 28

Parameter Name	Units	12/22/2015	4/5/2016	7/8/2016	7/28/2016	10/13/2016	12/29/2016	1/25/2017	4/11/2017	6/6/2017	8/8/2017	10/24/2017	4/25/2018	8/8/2018	10/24/2018	4/3/2019	10/9/2019
Boron	ug/L	11.9	14	14.7	--	11.1	14.7	16.1	12.9	14.8	22.9	13.8	25	12.8	10.1	13.6	12
Calcium	ug/L	74000	72200	67600	--	74000	76000	70800	73200	76100	74900	77500	76600	76000	74000	80100	73500
Chloride	mg/L	4.9	4.7	5.1	--	4.3	4.7	4.6	4.9	5.5	5.5	5.1	4.8	4.9	4.2	3.6	3.9
Fluoride	mg/L	<0.2	<0.2	<0.2	--	<0.1	<0.1	0.12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Field pH	Std. Units	7.6	7.61	7.45	7.34	7.91	7.25	6.99	7.8	7.28	7.23	7.68	7.45	7.38	7.24	7.03	7.23
Sulfate	mg/L	4.9	4.3	3.7	--	2.6	2.7	3	2.8	2.7	2	2.2	2.8	1.9	1.6	1.4	1.3
Total Dissolved Solids	mg/L	316	322	316	--	324	316	328	342	344	342	314	328	372	330	318	310
Antimony	ug/L	<0.073	0.084	0.1	--	<0.073	<0.073	<0.073	<0.073	<0.15	<0.15	--	<0.15	<0.15	<0.15	<0.15	<0.15
Arsenic	ug/L	0.15	0.29	0.14	--	0.35	0.19	0.35	<0.099	<0.28	0.28	--	<0.28	<0.28	0.33	<0.28	0.46
Barium	ug/L	15.3	12.7	12.2	--	14.2	18.4	13.8	14.1	13.4	14	--	14.6	13.7	14.5	14.7	13.2
Beryllium	ug/L	<0.13	<0.13	<0.13	--	<0.13	<0.13	<0.13	<0.13	<0.18	<0.18	--	<0.18	<0.18	<0.18	<0.18	<0.25
Cadmium	ug/L	<0.089	<0.089	<0.089	--	<0.089	<0.089	<0.089	<0.089	<0.081	<0.081	--	<0.081	--	<0.15	<0.15	<0.15
Chromium	ug/L	2.5	1.9	1.8	--	2	2	1.9	2.4	2	1.6	--	2.4	1.5	1.6	1.8	1.6
Cobalt	ug/L	0.095	<0.036	0.053	--	<0.036	<0.036	<0.036	<0.036	<0.085	<0.085	--	<0.085	<0.085	<0.12	<0.12	<0.12
Lead	ug/L	0.16	<0.04	0.39	--	0.049	0.11	<0.04	0.041	<0.2	<0.2	--	<0.2	--	<0.24	<0.24	<0.24
Lithium	ug/L	0.72	0.44	0.5	--	0.56	0.56	0.56	0.55	0.46	0.58	--	0.5	0.4	0.49	0.56	0.52
Mercury	ug/L	<0.1	<0.1	<0.13	--	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	--	<0.13	--	<0.084	<0.084	<0.084
Molybdenum	ug/L	<0.07	<0.07	0.073	--	0.12	<0.07	<0.07	<0.07	<0.44	<0.44	--	<0.44	<0.44	<0.44	<0.44	<0.44
Selenium	ug/L	<0.21	<0.21	<0.21	--	<0.21	<0.21	<0.21	<0.21	<0.32	<0.32	--	<0.32	<0.32	<0.32	<0.32	<0.32
Thallium	ug/L	<0.14	<0.14	<0.14	--	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	--	<0.14	<0.14	<0.14	<0.14	<0.14
Total Radium	pCi/L	0.593	0.0809	--	1.37	0.825	0.404	1.39	0.0929	0.676	0.509	--	0.526	0.529	0.62	0.681	0.247
Radium-226	pCi/L	0.156	-0.088	--	-0.058	0.132	0.168	0.624	0.0768	0.27	0.242	--	0.155	-0.203	0.313	0.199	0.247
Radium-228	pCi/L	0.437	0.0809	--	1.37	0.693	0.236	0.766	0.0161	0.406	0.267	--	0.371	0.529	0.307	0.482	-0.024
Field Specific Conductance	umhos/cm	599	427	574.8	579.3	1002	578.2	489	948	535.3	557.2	491	581.7	617.1	609	637.2	614.1
Oxygen, Dissolved	mg/L	9.7	9.37	3.78	5.11	9.61	8.94	6.48	9.28	9.46	7.5	9.3	3.94	8.84	10.01	9.49	11.36
Field Oxidation Potential	mV	154	165.1	139.9	138.3	82.7	87	192.9	102	123.6	204.7	210	53.3	142.7	71.5	103.4	181.7
Groundwater Elevation	feet	785.31	786.3	785.89	785.61	787.22	786.63	786.7	787.16	787.63	786.68	785.32	785.88	786.55	788.32	787.35	787.79
Temperature	deg C	10.4	10.2	11.3	11	11.5	10.8	10.9	10.6	11.3	11.2	11.1	10.2	12	11.6	10.2	11.8
Turbidity	NTU	--	0.86	2.75	0.17	0.3	0.25	0.33	0.04	0.56	0.08	2.93	0.81	0.71	3.79	1.9	2.41
pH at 25 Degrees C	Std. Units	7.5	7.4	7.4	--	7.3	7.4	7.3	7.7	7.6	7.4	7.6	7.6	7.4	7.5	7.4	7.5

Single Location
Name: WPL - Columbia

Location ID: MW-84A

Number of Sampling Dates: 28

Parameter Name	Units	2/3/2020	5/29/2020	10/8/2020	4/14/2021	10/14/2021	4/13/2022	10/27/2022	4/27/2023	10/11/2023	4/17/2024	10/2/2024	4/22/2025
Boron	ug/L	15.7	10	9.7	14.3	11.1	10.5	12.2	10.3	14	11.9	10.3	10
Calcium	ug/L	72700	77600	69200	69100	75300	75100	78400	68600	65100	73700	73300	70000
Chloride	mg/L	3.7	3.7	4.3	4.4	3.5	5.2	3.4	3	3.1	3.2	3.3	3
Fluoride	mg/L	--	<0.095	<0.095	<0.095	<0.095	<0.095	<0.095	<0.095	<0.095	0.12	<0.095	<0.095
Field pH	Std. Units	7.51	7.34	7.49	7.34	7.42	7.34	7.31	7.01	7.51	7.68	7.36	7.07
Sulfate	mg/L	<2.2	1.5	1.3	1.4	1.3	1.4	1.1	1.3	1.4	1.4	1.8	1.7
Total Dissolved Solids	mg/L	316	340	320	328	326	334	302	326	324	322	318	324
Antimony	ug/L	--	<0.15	<0.15	0.55	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
Arsenic	ug/L	0.38	0.34	0.49	0.91	0.41	0.31	0.72	<0.28	<0.28	0.29	<0.28	<0.28
Barium	ug/L	14	13.9	12.6	13.4	12.9	13.5	13.7	12.6	12.7	14.4	13.6	13.5
Beryllium	ug/L	--	<0.25	<0.25	0.47	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Cadmium	ug/L	--	<0.15	<0.15	0.53	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
Chromium	ug/L	1.6	1.7	1.6	2.6	1.9	2.2	2.2	1.7	1.6	2.1	1.7	1.9
Cobalt	ug/L	<0.12	<0.12	<0.12	0.52	0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
Lead	ug/L	--	<0.24	<0.24	0.55	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24
Lithium	ug/L	0.58	0.4	0.39	1	0.28	0.36	0.41	0.71	0.54	0.67	0.57	0.41
Mercury	ug/L	--	<0.084	<0.066	<0.066	<0.093	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066
Molybdenum	ug/L	<0.44	<0.44	<0.44	0.62	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44
Selenium	ug/L	<0.32	<0.32	<0.32	0.48	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32
Thallium	ug/L	<0.14	<0.14	<0.14	0.66	0.19	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14
Total Radium	pCi/L	0.1	0.395	0.39	0.285	0.243	0.611	0.673	0.326	0.844	--	0.668	0.249
Radium-226	pCi/L	0.1	0.368	0	-0.289	0	0.254	0.267	0	0.292	--	0	-0.21
Radium-228	pCi/L	-0.153	0.0273	0.39	0.285	0.243	0.357	0.406	0.326	0.552	--	0.668	0.249
Field Specific Conductance	umhos/cm	618.4	613.7	610.1	610.9	598.9	600.2	585.2	556.6	599.9	588.1	502.7	587.6
Oxygen, Dissolved	mg/L	8.43	9.81	9.39	9.8	9.25	9.33	8.31	9.37	8.44	7.82	8.73	7.42
Field Oxidation Potential	mV	121.5	135	153.2	95.6	89.7	200.6	39.9	103.4	91.2	0	65.1	93.8
Groundwater Elevation	feet	786.5	787.02	786.1	785.84	784.96	785.02	784.57	786.97	784.39	784.9	787.14	786.33
Temperature	deg C	10.3	10.6	11.9	10.2	12.5	9.9	11.7	10.7	12.3	11	12.4	10.8
Turbidity	NTU	1.23	2.15	0	2.45	3.41	0	0	0.72	0.03	0	2.55	0
pH at 25 Degrees C	Std. Units	7.4	7.6	7.6	7.6	7.8	7.6	7.4	7.6	7.6	8.2	8.4	8

Single Location
Name: WPL - Columbia

Location ID: MW-301

Number of Sampling Dates: 27

Parameter Name	Units	12/22/2015	4/5/2016	7/8/2016	10/13/2016	12/29/2016	1/25/2017	4/11/2017	6/6/2017	8/8/2017	10/23/2017	4/25/2018	8/8/2018	10/24/2018	4/2/2019	10/9/2019	2/3/2020
Boron	ug/L	26.5	25.2	23.6	30.6	32.8	32.6	28.8	21.3	30.6	34.3	24.3	22.8	27.8	26.9	35.9	27.9
Calcium	ug/L	126000	115000	108000	118000	129000	124000	120000	111000	108000	87200	112000	105000	101000	126000	114000	113000
Chloride	mg/L	3.7	4	3.5	2.2	2	1.5	2	3.5	5.5	4	2.3	5.2	3.2	0.79	1.7	1.3
Fluoride	mg/L	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	--
Field pH	Std. Units	6.85	7.01	6.87	7.28	6.63	7.1	7.11	6.7	6.75	7.37	6.76	6.91	6.79	6.62	6.67	6.89
Sulfate	mg/L	9.3	15.3	15	13.9	12.3	6.5	10.3	17.1	31.6	27.5	8.6	21.6	19.2	4.4	8.4	7.2
Total Dissolved Solids	mg/L	478	486	464	490	444	514	502	458	462	362	464	502	424	462	418	462
Antimony	ug/L	0.15	0.094	0.13	<0.073	0.4	<0.073	<0.073	<0.15	<0.15	--	<0.15	0.36	<0.15	0.32	<0.15	--
Arsenic	ug/L	0.26	0.26	0.19	0.24	0.4	0.13	0.18	<0.28	<0.28	--	<0.28	0.45	<0.28	0.4	0.42	<0.28
Barium	ug/L	20.2	11.1	11.6	15.6	15	13.5	13.2	11.3	11.8	--	9.3	10.2	11.5	11.8	10	10.9
Beryllium	ug/L	<0.13	<0.13	<0.13	<0.13	0.19	<0.13	<0.13	<0.18	<0.18	--	<0.18	0.37	<0.18	0.28	<0.25	--
Cadmium	ug/L	<0.089	<0.089	<0.089	<0.089	0.32	<0.089	<0.089	<0.081	<0.081	--	<0.081	--	<0.15	0.21	<0.15	--
Chromium	ug/L	2.1	0.58	0.59	<0.39	0.7	0.53	0.7	2.3	<1	--	<1	<1	<1	<1	<1	<1
Cobalt	ug/L	1.4	0.25	0.22	0.041	0.38	0.071	0.064	0.13	0.12	--	<0.085	0.28	<0.12	0.35	<0.12	0.17
Lead	ug/L	0.9	0.077	0.48	<0.04	0.34	<0.04	<0.04	<0.2	<0.2	--	<0.2	--	<0.24	0.3	<0.24	--
Lithium	ug/L	1.3	0.58	0.69	0.6	0.87	0.67	0.68	0.62	0.6	--	0.55	0.85	0.52	0.9	0.61	0.67
Mercury	ug/L	<0.1	<0.1	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	--	<0.13	--	<0.084	<0.084	<0.084	--
Molybdenum	ug/L	0.35	0.15	0.14	0.12	0.38	<0.07	<0.07	<0.44	<0.44	--	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44
Selenium	ug/L	0.3	0.21	0.39	<0.21	0.26	<0.21	<0.21	<0.32	<0.32	--	<0.32	0.71	<0.32	0.49	<0.32	<0.32
Thallium	ug/L	<0.14	<0.14	<0.14	<0.14	0.48	<0.14	<0.14	<0.14	<0.14	--	<0.14	0.3	<0.14	0.48	<0.14	<0.14
Total Radium	pCi/L	1.31	1.11	0.89	0.631	1.01	2.42	1.35	1.3	1.74	--	0.882	0.0351	0.652	0.552	0.701	0.502
Radium-226	pCi/L	0.655	0.294	0.404	-0.067	0.108	1.46	0.513	0.287	1.09	--	0.122	-0.06	0.247	0	0.252	0.136
Radium-228	pCi/L	0.651	0.82	0.486	0.631	0.905	0.964	0.833	1.01	0.647	--	0.76	0.0351	0.405	0.552	0.449	0.366
Field Specific Conductance	umhos/cm	897	573	796	1464	859	1018	1354	698.4	691.7	561	774	799	767	883	801	868
Oxygen, Dissolved	mg/L	1.7	2.71	1.47	1.99	1.34	1.24	1.44	1.81	1.43	1.1	2.35	2.14	2.49	2.2	1.67	1.07
Field Oxidation Potential	mV	135	123.7	133.9	100.8	95.8	226.1	100.9	115.1	187.4	204	74.3	126.5	77.9	152.1	173	132.3
Groundwater Elevation	feet	785.56	768.12	786.31	787.64	787.37	787.27	787.89	788.25	787.34	785.89	785.29	787.06	788.98	787.04	788.47	787.24
Temperature	deg C	9.7	7.7	10	11.2	10.1	8.8	7.7	8.9	10.2	11.1	7.4	10.6	11.1	7.5	11.3	8.5
Turbidity	NTU	--	1.52	3.89	0.59	0.74	0.42	0.1	0.22	0.18	1.52	1.12	0.46	3.3	2.02	2.12	1.41
pH at 25 Degrees C	Std. Units	7	7	6.8	6.8	6.9	6.9	7.1	7	7	7.3	7	7	7.1	6.8	7	6.8

Single Location
Name: WPL - Columbia

Location ID: MW-301

Number of Sampling Dates: 27

Parameter Name	Units	5/29/2020	10/8/2020	4/14/2021	10/14/2021	4/13/2022	10/27/2022	4/27/2023	10/11/2023	4/17/2024	10/2/2024	4/22/2025
Boron	ug/L	21.3	28.8	22.2	31.4	28.7	37.5	20.1	36.2	24.9	22.1	25.5
Calcium	ug/L	112000	93000	117000	67800	97300	62800	120000	52300	102000	97000	108000
Chloride	mg/L	2	3.4	1.5	2.7	1.9	2.3	1.5	2.1	1.6	1.5	1.4
Fluoride	mg/L	<0.095	<0.095	<0.095	<0.095	<0.095	<0.095	<0.095	<0.095	<0.095	0.13	<0.095
Field pH	Std. Units	6.73	6.95	6.66	7.01	6.6	6.8	6.65	7.06	7.06	6.85	6.59
Sulfate	mg/L	11.5	25.1	8.5	17.4	12.7	11.6	12.3	11.8	11.5	10.4	8.2
Total Dissolved Solids	mg/L	452	412	472	334	422	282	526	300	458	410	468
Antimony	ug/L	<0.15	0.33	<0.15	<0.15	0.31	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
Arsenic	ug/L	0.33	0.62	<0.28	0.35	0.47	0.3	<0.28	<0.28	<0.28	<0.28	<0.28
Barium	ug/L	9.8	9.4	8.9	7.7	7.8	7.5	9.8	7.3	8.1	10.6	10.2
Beryllium	ug/L	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Cadmium	ug/L	<0.15	0.19	<0.15	<0.15	0.3	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
Chromium	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt	ug/L	<0.12	0.29	<0.12	0.34	0.32	0.52	<0.12	0.13	<0.12	<0.12	<0.12
Lead	ug/L	<0.24	0.25	<0.24	<0.24	3.1	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24
Lithium	ug/L	0.47	0.46	0.58	0.46	0.56	0.37	0.62	0.43	0.63	0.8	0.57
Mercury	ug/L	<0.084	<0.066	<0.066	<0.093	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066
Molybdenum	ug/L	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44
Selenium	ug/L	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	0.39	<0.32
Thallium	ug/L	<0.14	0.3	<0.14	0.17	0.32	<0.14	<0.14	<0.14	<0.14	0.15	<0.14
Total Radium	pCi/L	0.193	0.38	1.16	0.172	0.179	0.00292	0.417	0.611	1.04	0.833	0.483
Radium-226	pCi/L	0	0.0511	0.418	0.172	0	-0.169	0	-0.0576	0.252	0.102	0.114
Radium-228	pCi/L	0.193	0.329	0.739	-0.0327	0.179	0.00292	0.417	0.611	0.787	0.731	0.369
Field Specific Conductance	umhos/cm	797	760	857	597.2	747	507.5	857	536	781	602.4	827
Oxygen, Dissolved	mg/L	2	1.22	3.9	0.25	2.47	0.1	6.5	0.16	2.53	2.77	3.11
Field Oxidation Potential	mV	118.7	183.9	102.9	57.8	207.5	80.9	95.3	23.8	17.9	68.1	106.7
Groundwater Elevation	feet	787.77	786.53	786.5	785.28	785.44	784.91	787.57	784.67	785.27	787.92	787.41
Temperature	deg C	8.1	11	7.4	11.1	7.1	10.8	8	10.7	8.6	11.7	8
Turbidity	NTU	0	0	2.41	3.21	0	0	0	0.34	0	1.84	8.64
pH at 25 Degrees C	Std. Units	7	7.2	6.9	7.3	7	7.1	6.9	7.2	7.9	8.2	7.7

Single Location
Name: WPL - Columbia

Location ID: M-4R

Number of Sampling Dates: 25

Parameter Name	Units	12/22/2015	4/4/2016	7/7/2016	10/12/2016	1/25/2017	4/11/2017	6/5/2017	8/9/2017	10/24/2017	4/23/2018	8/7/2018	10/24/2018	4/1/2019	10/7/2019	5/27/2020	10/7/2020
Boron	ug/L	1000	461	453	793	866	512	464	973	1910	905	704	1140	788	1120	644	1360
Calcium	ug/L	105000	79400	68900	94300	103000	84800	90300	91600	67100	86400	99700	84100	106000	82400	106000	98000
Chloride	mg/L	45.9	23.8	37.2	33.6	36.5	44	37.1	40.8	49.3	51.6	48.2	26.3	31.4	33.9	50	53.3
Fluoride	mg/L	0.22	<0.2	<0.2	0.16	0.38	0.18	0.2	0.23	<0.5	0.16	0.13	<0.1	0.17	0.17	0.13	0.27
Field pH	Std. Units	7.41	7.55	7.26	7.67	7.27	7.55	7.07	7.13	7.52	7.44	7.18	7.13	7.24	7.44	7.29	7.47
Sulfate	mg/L	112	102	88.5	82.8	144	127	131	139	187	162	151	89.2	149	128	162	203
Total Dissolved Solids	mg/L	544	440	410	468	570	484	494	544	474	516	646	424	524	432	594	604
Antimony	ug/L	0.13	0.14	0.13	<0.073	0.24	0.14	0.26	0.15	--	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
Arsenic	ug/L	0.17	0.2	0.18	0.25	0.47	<0.099	0.33	<0.28	--	0.36	<0.28	<0.28	<0.28	0.37	0.39	0.44
Barium	ug/L	25.4	16.3	17.6	27.5	24	22.5	22.3	23.8	--	16.5	23.9	23.7	24.1	21	24.2	25.3
Beryllium	ug/L	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.18	<0.18	--	0.3	<0.18	<0.18	<0.18	<0.25	<0.25	<0.25
Cadmium	ug/L	<0.089	<0.089	0.21	<0.089	0.1	<0.089	0.084	<0.081	--	<0.081	--	<0.15	<0.15	<0.15	<0.15	<0.15
Chromium	ug/L	0.68	1.6	<0.39	0.49	0.4	0.7	<1	<1	--	<1	<1	1.3	<1	1.4	1.2	<1
Cobalt	ug/L	0.33	0.11	0.16	0.11	0.31	0.32	0.27	0.21	--	0.16	0.12	<0.12	<0.12	<0.12	<0.12	<0.12
Lead	ug/L	0.067	<0.04	0.73	<0.04	0.094	<0.04	<0.2	<0.2	--	<0.2	--	<0.24	<0.24	<0.24	<0.24	<0.24
Lithium	ug/L	4.3	1.7	1.5	2.6	6.1	3.2	1.2	3.7	--	4.8	1.9	1.1	1.8	1.8	1.4	2.2
Mercury	ug/L	<0.1	<0.1	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	--	<0.13	--	<0.084	<0.084	--	<0.084	--
Molybdenum	ug/L	14.6	9.9	13.2	11.6	17.6	14.5	11.9	15.8	--	19.1	14.7	15.4	29.4	27.6	25.6	27.6
Selenium	ug/L	3	6.4	15.3	7.7	10.5	13.3	9.7	15	--	8.6	5.5	4.1	12.6	1.8	11.7	1.6
Thallium	ug/L	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	0.18	<0.14	--	0.21	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14
Total Radium	pCi/L	0.771	0.247	1.74	0.549	1.7	1.21	0.936	0.689	--	0.741	0.48	0.33	0.76	0.244	0.123	0.485
Radium-226	pCi/L	0.764	0.16	0.635	0.467	0.984	0.933	0.168	0.439	--	0.217	0.239	0.139	0.211	0.103	0.119	0
Radium-228	pCi/L	0.007	0.0865	1.1	0.0824	0.72	0.274	0.768	0.25	--	0.524	0.241	0.191	0.549	0.141	0.0036	0.485
Field Specific Conductance	umhos/cm	954	535	662	1332	819	1212	660.4	751	612	790	881	819	888	705	869	948
Oxygen, Dissolved	mg/L	0.9	3.63	0.1	0.68	0.11	0.92	1.71	0.1	0.6	1.16	0.28	1.12	1.21	2.65	4	0.11
Field Oxidation Potential	mV	106	129.6	52.4	20.9	-0.5	46	82.2	-53.6	170	40.1	118.6	137.3	190.4	177.4	203.6	217.8
Groundwater Elevation	feet	801.22	811.83	801.07	801.52	789.64	787.95	787.83	788.54	788	790.43	787.63	788.47	789.44	790.65	787.73	787.74
Temperature	deg C	15	11.7	13.9	16.5	14.9	11.7	12.1	15	15.8	10.6	13.9	16.4	11.2	15	11	14.3
Turbidity	NTU	--	0	0.05	0.24	0.43	0.23	0.39	0.47	2.71	0.42	0.08	3.54	1.56	1.6	0.16	0
pH at 25 Degrees C	Std. Units	7.3	7.6	7.3	7.1	7.2	7.5	7.4	7.6	7.5	7.4	7.3	7.4	7.4	7.4	7.7	7.5

Single Location
Name: WPL - Columbia

Location ID: M-4R

Number of Sampling Dates: 25

Parameter Name	Units	4/13/2021	10/11/2021	4/11/2022	10/25/2022	4/17/2024	6/4/2024	8/15/2024	10/1/2024	4/21/2025
Boron	ug/L	730	2290	1160	1590	--	930	651	854	540
Calcium	ug/L	110000	90400	75900	110000	--	117000	124000	111000	102000
Chloride	mg/L	49.6	67.8	65.5	58.6	--	16.3	24.1	11.9	25.6
Fluoride	mg/L	0.23	0.26	0.29	0.23	--	0.25	<0.95	0.23	<0.19
Field pH	Std. Units	7.18	7.41	7.05	7.23	--	7.19	6.95	7.19	7.28
Sulfate	mg/L	193	236	184	282	--	119	238	146	113
Total Dissolved Solids	mg/L	556	628	476	670	--	578	604	524	470
Antimony	ug/L	<0.15	0.23	0.2	0.28	--	0.3	0.23	0.23	0.21
Arsenic	ug/L	<0.28	<0.28	<0.28	0.4	--	<0.28	<0.28	<0.28	<0.28
Barium	ug/L	25.1	25.8	21.2	34.3	--	36.1	43.2	33.2	25.5
Beryllium	ug/L	<0.25	<0.25	<0.25	<0.25	--	<0.25	<0.25	<0.25	<0.25
Cadmium	ug/L	<0.15	<0.15	<0.15	<0.15	--	<0.15	<0.15	<0.15	<0.15
Chromium	ug/L	<1	<1	<1	<1	--	1.4	1.3	<1	<1
Cobalt	ug/L	<0.12	<0.12	<0.12	0.14	--	0.34	0.68	0.13	<0.12
Lead	ug/L	<0.24	<0.24	<0.24	<0.24	--	0.75	<0.24	<0.24	<0.24
Lithium	ug/L	1.8	2.5	2.2	1.7	--	5	0.88	2.6	1.7
Mercury	ug/L	<0.066	<0.066	<0.066	<0.066	--	<0.066	<0.066	0.067	<0.066
Molybdenum	ug/L	41.1	60.7	42.5	34.5	--	9.7	10.9	14.1	12.2
Selenium	ug/L	3.7	2.3	3	5.8	--	116	20.2	25.4	27.2
Thallium	ug/L	<0.14	<0.14	<0.14	<0.14	--	<0.14	<0.14	<0.14	0.16
Total Radium	pCi/L	0.139	0.498	0.427	0.181	--	1.16	0.25	0.865	0.794
Radium-226	pCi/L	-0.073	-0.174	0.0901	-0.246	--	-0.725	-0.498	0.245	0.66
Radium-228	pCi/L	0.139	0.498	0.337	0.181	--	1.16	0.25	0.62	0.134
Field Specific Conductance	umhos/cm	845	955	754	988	--	843	825	790	734
Oxygen, Dissolved	mg/L	0.27	--	0.63	0.38	--	0.47	1.26	0.69	2.97
Field Oxidation Potential	mV	128.7	150.5	208.8	103.1	--	77.1	137.1	126.1	41.2
Groundwater Elevation	feet	786.34	786.33	788.26	--	781.38	783.66	784.27	783.42	783.61
Temperature	deg C	10.3	15.6	10.3	13.6	--	15.5	16.2	14.8	8.8
Turbidity	NTU	0	0	0	0	--	4.96	3.5	10.54	3.48
pH at 25 Degrees C	Std. Units	7.5	7.8	7.6	7.4	--	7.9	7.8	8	7.9

Single Location
Name: WPL - Columbia

Location ID: MW-304

Number of Sampling Dates: 22

Parameter Name	Units	12/21/2015	4/4/2016	7/7/2016	10/13/2016	1/26/2017	4/10/2017	6/5/2017	8/8/2017	10/23/2017	4/24/2018	8/8/2018	10/24/2018	4/2/2019	10/7/2019	5/27/2020	10/7/2020
Boron	ug/L	609	420	445	659	614	496	486	570	732	430	632	892	413	613	469	784
Calcium	ug/L	78800	77600	72000	77000	65700	79100	75200	79700	78300	77900	84900	72400	88300	82900	84000	75100
Chloride	mg/L	34.2	29.3	34.2	31.4	42.8	23.5	42.3	37.5	39.5	30.1	39.1	36.9	30.8	29.4	25.2	43.9
Fluoride	mg/L	0.27	<0.2	0.23	<0.5	0.26	0.1	0.19	0.12	0.13	<0.1	<1	0.14	<0.1	<0.1	<0.095	0.17
Field pH	Std. Units	7.17	7.45	7.25	7.71	7.59	7.64	7.2	7.13	7.78	7.16	7.21	7.11	7.28	7.35	7.09	7.18
Sulfate	mg/L	71.9	71.7	66.2	46.8	56.9	63.6	97.1	68.5	57.2	43.5	76	34.1	33.1	40	42.4	55.9
Total Dissolved Solids	mg/L	420	434	402	406	388	422	500	454	390	406	530	384	394	428	412	442
Antimony	ug/L	0.72	<0.073	<0.073	<0.073	<0.073	<0.073	<0.15	<0.15	--	<0.15	<0.15	<0.15	<0.15	0.29	0.25	<0.15
Arsenic	ug/L	2.3	1.1	1.2	1.8	0.99	0.98	1.1	1	--	0.64	0.76	1.6	0.63	3.2	1.3	2.8
Barium	ug/L	42.9	34.8	28.2	39.5	28.2	30.9	30.9	33.3	--	26.2	35.2	33.6	26.7	34.8	30.8	37.4
Beryllium	ug/L	0.34	<0.13	<0.13	<0.13	<0.13	<0.13	<0.18	<0.18	--	<0.18	<0.18	<0.18	<0.18	<0.25	0.26	<0.25
Cadmium	ug/L	0.64	<0.089	0.12	<0.089	<0.089	<0.089	<0.081	<0.081	--	<0.081	--	<0.15	<0.15	<0.15	0.19	<0.15
Chromium	ug/L	2.1	1.5	<0.39	<0.39	<0.39	0.65	1.9	<1	--	<1	<1	<1	<1	<1	<1	<1
Cobalt	ug/L	1.9	1.2	0.62	0.83	0.73	0.62	0.76	0.8	--	0.36	1.1	0.88	0.67	0.92	0.69	0.65
Lead	ug/L	1.1	0.47	0.43	<0.04	<0.04	0.16	<0.2	<0.2	--	<0.2	--	<0.24	<0.24	<0.24	0.29	<0.24
Lithium	ug/L	0.93	0.51	0.17	0.14	<0.11	0.16	<0.14	<0.14	--	<0.14	<0.14	<0.19	<0.19	<0.22	0.3	<0.22
Mercury	ug/L	<0.1	<0.1	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	--	<0.13	--	<0.084	<0.084	--	<0.084	--
Molybdenum	ug/L	15.6	9.2	21.9	17.1	14.4	10.1	15.6	11.8	--	3.2	12.3	10.2	3	4.8	3.9	12
Selenium	ug/L	1	<0.21	<0.21	<0.21	<0.21	<0.21	<0.32	<0.32	--	<0.32	<0.32	<0.32	<0.32	<0.32	0.33	<0.32
Thallium	ug/L	0.68	0.15	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	--	0.15	<0.14	<0.14	<0.14	<0.14	0.33	<0.14
Total Radium	pCi/L	1.03	0.474	2.24	0.885	1.25	0.74	1.88	0.777	--	0.94	0.474	0.678	0.911	0.443	0.302	0.435
Radium-226	pCi/L	0.759	0.18	-0.084	0	0.426	0.413	0.437	0.266	--	0.136	-0.061	0.244	0.703	-0.154	0.0533	0
Radium-228	pCi/L	0.267	0.294	2.24	0.885	0.819	0.327	1.44	0.511	--	0.804	0.474	0.434	0.208	0.443	0.249	0.435
Field Specific Conductance	umhos/cm	770	535	680	1211	624.9	1.105	660	704	628	686.4	785	707	747	729	711	776
Oxygen, Dissolved	mg/L	0.8	0.45	0.33	0.59	1.96	0.58	1.37	0.69	0.3	1.45	0.29	1.08	0.3	0.28	0.61	0.31
Field Oxidation Potential	mV	96	-65.2	21.2	-68.7	-58.7	-22.2	-15.3	-43.7	94	-18	24.8	-43	14.2	-97	54.2	-99.7
Groundwater Elevation	feet	786.13	792.16	787.36	788.18	789.34	788.22	788.58	789.52	788.97	789.69	788.25	789.05	789.72	790.41	789.3	788.52
Temperature	deg C	13.7	9.7	16.4	16.3	12.4	10.4	13.4	17.9	17.4	10.6	20.1	16.7	8.3	18.5	16.2	18.3
Turbidity	NTU	--	0	2.57	2.19	1.2	5.43	12.84	1.54	6.2	1.22	2.35	5.89	5.27	2.61	4.35	1.1
pH at 25 Degrees C	Std. Units	7.3	7.4	7.3	7.3	7.7	7.6	7.4	7.4	7.5	7.4	7.3	7.5	7.3	7.3	7.6	7.4

Single Location
Name: WPL - Columbia

Location ID: MW-304

Number of Sampling Dates: 22

Parameter Name	Units	4/12/2021	10/11/2021	4/11/2022	10/25/2022	1/20/2023	4/25/2023
Boron	ug/L	568	1090	664	--	346	--
Calcium	ug/L	78900	86600	84900	--	92700	--
Chloride	mg/L	44.7	56.6	52.9	--	12.7	--
Fluoride	mg/L	0.16	0.15	<0.095	--	0.32	--
Field pH	Std. Units	7.3	7.07	7.22	--	7	--
Sulfate	mg/L	85.5	129	117	--	31.3	--
Total Dissolved Solids	mg/L	434	522	492	--	398	--
Antimony	ug/L	0.86	0.44	<0.15	--	<0.15	--
Arsenic	ug/L	1.8	1.6	0.87	--	1.4	--
Barium	ug/L	32.5	46.4	35.4	--	30.7	--
Beryllium	ug/L	0.86	<0.25	<0.25	--	<0.25	--
Cadmium	ug/L	0.79	0.36	<0.15	--	<0.15	--
Chromium	ug/L	1.1	<1	<1	--	<1	--
Cobalt	ug/L	0.84	1.2	0.79	--	0.37	--
Lead	ug/L	0.89	0.52	<0.24	--	0.24	--
Lithium	ug/L	1.1	0.45	<0.22	--	0.29	--
Mercury	ug/L	<0.066	<0.066	<0.066	--	<0.066	--
Molybdenum	ug/L	13	13.5	9.8	--	2.4	--
Selenium	ug/L	1.1	0.35	<0.32	--	<0.32	--
Thallium	ug/L	1	0.46	<0.14	--	0.23	--
Total Radium	pCi/L	1.22	0.371	0.256	--	0.945	--
Radium-226	pCi/L	0.219	-0.184	0	--	0.397	--
Radium-228	pCi/L	1	0.371	0.256	--	0.548	--
Field Specific Conductance	umhos/cm	751	847	830	--	664.8	--
Oxygen, Dissolved	mg/L	0.36	--	0.21	--	0.14	--
Field Oxidation Potential	mV	27.3	63.9	197.6	--	115.3	--
Groundwater Elevation	feet	787.99	787.78	788.2	781.79	788.08	784.03
Temperature	deg C	10.6	18.3	10.6	--	10	--
Turbidity	NTU	3.19	0.38	0.96	--	3.69	--
pH at 25 Degrees C	Std. Units	7.4	7.7	7.4	--	7.5	--

Single Location
Name: WPL - Columbia

Location ID: MW-304R

Number of Sampling Dates: 3

Parameter Name	Units	4/17/2024	10/1/2024	4/21/2025
Boron	ug/L	822	874	855
Calcium	ug/L	85500	90300	90800
Chloride	mg/L	45.6	31.2	24
Fluoride	mg/L	0.14	0.26	0.14
Field pH	Std. Units	7.37	7.27	7.28
Sulfate	mg/L	163	128	147
Total Dissolved Solids	mg/L	544	538	554
Antimony	ug/L	0.17	<0.15	<0.15
Arsenic	ug/L	1.8	1.7	1.1
Barium	ug/L	92	80.4	62.7
Beryllium	ug/L	<0.25	<0.25	<0.25
Cadmium	ug/L	<0.15	<0.15	<0.15
Chromium	ug/L	1.4	<1	<1
Cobalt	ug/L	0.88	0.84	0.92
Lead	ug/L	0.36	<0.24	<0.24
Lithium	ug/L	25.2	1.7	0.74
Mercury	ug/L	<0.066	<0.066	<0.066
Molybdenum	ug/L	52.2	14.5	9.5
Selenium	ug/L	<0.32	<0.32	<0.32
Thallium	ug/L	<0.14	<0.14	<0.14
Total Radium	pCi/L	1.08	0.538	0.35
Radium-226	pCi/L	0.467	0.0751	-0.104
Radium-228	pCi/L	0.608	0.463	0.35
Field Specific Conductance	umhos/cm	888	835	848
Oxygen, Dissolved	mg/L	0.35	0.6	0.05
Field Oxidation Potential	mV	-105.6	107.9	-104.9
Groundwater Elevation	feet	783.25	784.91	784.21
Temperature	deg C	11.4	14.9	10.4
Turbidity	NTU	50.27	18.14	7.88
pH at 25 Degrees C	Std. Units	8.5	8	8

Single Location
Name: WPL - Columbia

Location ID: MW-305

Number of Sampling Dates: 28

Parameter Name	Units	12/21/2015	4/4/2016	7/8/2016	10/13/2016	1/25/2017	6/5/2017	8/7/2017	10/24/2017	4/23/2018	8/7/2018	10/24/2018	4/1/2019	10/7/2019	5/27/2020	10/7/2020	12/11/2020
Boron	ug/L	1020	525	1110	1270	733	1240	2470	2200	1200	1360	1600	692	1430	1040	1650	--
Calcium	ug/L	46400	37500	47300	56700	96500	75500	80200	94100	64800	91200	60200	74700	93000	103000	112000	--
Chloride	mg/L	37.1	25.3	32.4	29.4	46.1	37.1	46.9	50.2	50.6	45.7	26.2	35.8	29.3	51.3	44.9	--
Fluoride	mg/L	0.76	0.7	0.44	0.65	0.53	0.41	0.46	0.64	0.37	0.18	0.36	0.33	0.36	0.3	0.47	--
Field pH	Std. Units	7.93	8.68	8.04	8.25	8.17	7.72	7.82	8.48	9.12	8.01	7.7	8.04	7.75	8.48	8.64	8.43
Sulfate	mg/L	105	78.7	99.2	108	274	185	243	252	191	276	123	200	480	305	391	--
Total Dissolved Solids	mg/L	258	228	282	298	530	408	490	490	386	614	312	418	496	556	572	--
Antimony	ug/L	0.81	0.32	0.43	0.51	0.71	0.55	0.68	--	0.26	0.42	0.58	0.16	0.46	0.3	0.42	--
Arsenic	ug/L	0.56	0.34	0.26	0.27	0.78	0.37	0.43	--	0.48	0.42	0.4	<0.28	0.49	0.75	0.95	--
Barium	ug/L	9.8	3.9	6.4	9.4	12.7	8.2	12.9	--	6	13.5	11	8.4	15	14.2	20.2	--
Beryllium	ug/L	0.19	<0.13	<0.13	<0.13	<0.13	<0.18	<0.18	--	<0.18	<0.18	<0.18	<0.18	<0.25	<0.25	<0.25	--
Cadmium	ug/L	0.31	<0.089	<0.089	<0.089	0.34	0.18	0.13	--	<0.081	--	<0.15	<0.15	<0.15	<0.15	<0.15	--
Chromium	ug/L	1.4	1.6	1.1	0.83	1.5	1.5	<1	--	<1	<1	1.1	1.3	1.1	<1	<1	--
Cobalt	ug/L	0.37	0.069	0.07	<0.036	0.44	0.26	0.2	--	<0.085	<0.085	0.13	<0.12	<0.12	<0.12	<0.12	--
Lead	ug/L	0.38	0.056	0.27	0.2	0.38	<0.2	<0.2	--	<0.2	--	<0.24	<0.24	<0.24	<0.24	<0.24	--
Lithium	ug/L	0.5	0.24	<0.11	0.34	0.21	0.17	0.15	--	<0.14	<0.14	0.24	<0.19	<0.22	<0.22	<0.22	--
Mercury	ug/L	<0.1	<0.1	<0.13	<0.13	<0.13	<0.13	<0.13	--	<0.13	--	<0.084	<0.084	--	<0.084	--	--
Molybdenum	ug/L	33.2	37.3	34.8	40.2	69.1	41.3	68.7	--	54.4	55.7	45.6	47.7	56.2	60.5	102	99
Selenium	ug/L	3.7	3	4.8	3.7	6.8	3.9	5.2	--	6.9	4.8	5.4	3.2	7.7	4.2	7.6	--
Thallium	ug/L	0.44	<0.14	<0.14	<0.14	0.45	0.15	0.2	--	0.16	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	--
Total Radium	pCi/L	0.253	0.0515	1.43	0.99	0.838	0.839	0.103	--	0.353	0.717	0.924	0.799	0.727	0.71	0.577	--
Radium-226	pCi/L	0.253	-0.037	0.112	0.594	0	0.128	-0.121	--	0.189	0.219	0.578	0.39	0.232	0.0976	0.0596	--
Radium-228	pCi/L	-0.223	0.0515	1.32	0.396	0.838	0.711	0.103	--	0.164	0.498	0.346	0.409	0.495	0.612	0.517	--
Field Specific Conductance	umhos/cm	492	285.6	489.1	861	727	558.4	689	630	579.5	813	565	683	751	814	857	834
Oxygen, Dissolved	mg/L	5.5	5.6	1.17	1.38	2.31	3.06	0.55	1.3	0.78	2.04	2.78	5.14	3.53	3.16	1.53	1.75
Field Oxidation Potential	mV	234	67.3	96.1	-31.4	-27.6	73.6	99.5	115	-3.3	129.9	102.6	164.8	165.5	211.2	215.8	112.4
Groundwater Elevation	feet	788.96	812.15	789.26	789.78	789.36	789.79	789.3	788.14	787.67	788.56	790.04	790.07	790.36	787.78	787.96	788.19
Temperature	deg C	24.3	10.9	17	26.1	18.2	12.8	21.8	26.7	12.1	19.6	25.7	11.8	23.4	12.1	21.9	20.8
Turbidity	NTU	--	0	0.96	0.59	1.61	0	0.56	2.67	5.98	0.05	3.52	1.34	1.97	0	0	0
pH at 25 Degrees C	Std. Units	7.9	7.9	7.9	7.3	8	7.9	7.8	8	8.2	8.1	7.8	7.9	7.7	8.4	8.4	--

Single Location
Name: WPL - Columbia

Location ID: MW-305

Number of Sampling Dates: 28

Parameter Name	Units	2/25/2021	4/12/2021	7/20/2021	10/11/2021	2/24/2022	4/11/2022	7/27/2022	10/25/2022	4/17/2024	8/15/2024	10/1/2024	4/22/2025
Boron	ug/L	--	668	--	1650	--	957	--	1610	--	524	803	848
Calcium	ug/L	--	235000	--	149000	--	97000	--	71600	--	35400	34100	42200
Chloride	mg/L	--	68.2	--	63	--	58.5	--	55.5	--	4	16.9	7.9
Fluoride	mg/L	--	<0.095	--	0.31	--	0.21	--	0.32	--	0.2	0.16	0.2
Field pH	Std. Units	8.68	8.67	8.71	8.95	9.36	8.52	9.12	9.31	--	7.89	8.25	8.42
Sulfate	mg/L	--	649	--	446	--	274	--	261	--	23.3	50.9	106
Total Dissolved Solids	mg/L	--	1020	--	730	--	484	--	474	--	158	170	226
Antimony	ug/L	--	0.31	--	0.59	--	0.33	--	0.47	--	0.41	0.34	0.26
Arsenic	ug/L	--	0.95	--	1.4	--	0.59	--	1.3	--	0.41	0.42	0.44
Barium	ug/L	--	30	--	29.3	--	16.9	--	10.8	--	7.8	6.5	7.7
Beryllium	ug/L	--	<0.25	--	<0.25	--	<0.25	--	<0.25	--	<0.25	<0.25	<0.25
Cadmium	ug/L	--	<0.15	--	<0.15	--	<0.15	--	<0.15	--	<0.15	<0.15	<0.15
Chromium	ug/L	--	<1	--	1.1	--	1.3	--	<1	--	3.1	3.4	4.1
Cobalt	ug/L	--	<0.12	--	<0.12	--	<0.12	--	<0.12	--	<0.12	<0.12	<0.12
Lead	ug/L	--	<0.24	--	<0.24	--	<0.24	--	<0.24	--	<0.24	<0.24	<0.24
Lithium	ug/L	--	<0.22	--	<0.22	--	<0.22	--	<0.22	--	0.41	<0.22	<0.22
Mercury	ug/L	--	<0.066	--	<0.066	--	<0.066	--	<0.066	--	<0.066	<0.066	<0.066
Molybdenum	ug/L	107	106	77	124	35.8	45.9	35.1	44.9	--	7.4	6	9.6
Selenium	ug/L	--	8	--	4.5	--	21.5	--	9.1	--	0.6	1.4	4
Thallium	ug/L	--	<0.14	--	<0.14	--	<0.14	--	<0.14	--	<0.14	<0.14	<0.14
Total Radium	pCi/L	--	0.418	--	0.483	--	0.761	--	0.309	--	0	0.608	0.63
Radium-226	pCi/L	--	-0.199	--	0.0522	--	-0.114	--	0	--	-0.47	0.336	0.111
Radium-228	pCi/L	--	0.418	--	0.431	--	0.761	--	0.309	--	-0.147	0.272	0.519
Field Specific Conductance	umhos/cm	955	1373	1046	1068	677	755	633	704	--	260	299.3	375.5
Oxygen, Dissolved	mg/L	2.33	2.7	2.38	--	1.28	4.09	5.07	1.49	--	5.32	5	4.35
Field Oxidation Potential	mV	170	51.5	103.3	151.8	203.5	203.7	77.4	104.1	--	112.2	139.5	56.2
Groundwater Elevation	feet	788.36	788.11	788.39	787.75	786.49	787.87	787.03	784.97	780.8	783.75	782.8	783.18
Temperature	deg C	15.9	13.6	18.2	24.2	17.2	14	15.3	18.7	--	17.6	16.8	12.3
Turbidity	NTU	0.85	1.14	0	0	0.09	0	0	0	--	0	11.95	0
pH at 25 Degrees C	Std. Units	--	8.3	--	8.7	--	8.4	--	9.1	--	8.1	8.2	8.2

Single Location
Name: WPL - Columbia

Location ID: MW-316

Number of Sampling Dates: 5

Parameter Name	Units	5/5/2023	10/9/2023	4/17/2024	10/2/2024	4/22/2025
Boron	ug/L	--	--	--	1540	1700
Calcium	ug/L	--	--	--	25100	26500
Chloride	mg/L	--	--	--	18.5	16
Fluoride	mg/L	--	--	--	0.24	0.14
Field pH	Std. Units	8.32	8.27	8.31	8.53	8.37
Sulfate	mg/L	--	--	--	152	134
Total Dissolved Solids	mg/L	--	--	--	360	332
Antimony	ug/L	--	--	--	<0.15	<0.15
Arsenic	ug/L	1.2	1.6	2.6	4.4	5.2
Barium	ug/L	--	--	--	23.1	25.9
Beryllium	ug/L	--	--	--	<0.25	<0.25
Cadmium	ug/L	--	--	--	<0.15	<0.15
Chromium	ug/L	--	--	--	<1	<1
Cobalt	ug/L	--	--	--	0.13	<0.12
Lead	ug/L	--	--	--	<0.24	<0.24
Lithium	ug/L	--	--	--	1.3	1.3
Mercury	ug/L	--	--	--	<0.066	<0.066
Molybdenum	ug/L	--	--	--	100	77.5
Selenium	ug/L	--	--	--	<0.32	<0.32
Thallium	ug/L	--	--	--	<0.14	<0.14
Total Radium	pCi/L	--	--	--	1.01	0.312
Radium-226	pCi/L	--	--	--	0.246	-0.451
Radium-228	pCi/L	--	--	--	0.761	0.312
Field Specific Conductance	umhos/cm	636.1	680	671	584	504
Oxygen, Dissolved	mg/L	0.09	0.08	0.3	0.32	0.02
Field Oxidation Potential	mV	-167.2	-40.6	-2.3	133.7	-180
Groundwater Elevation	feet	--	780.3	782.09	784.8	784.27
Temperature	deg C	12.8	12.5	12.2	12.6	12
Turbidity	NTU	0.05	1.6	1.62	2.16	0.68
pH at 25 Degrees C	Std. Units	--	--	--	8.3	8.4

Appendix F

Statistical Evaluations

02/27/2026 - Classification: Internal - ECRM13684511

F1 – October 2024 LCLs

02/27/2026 - Classification: Internal - ECRM13684511

Confidence Interval

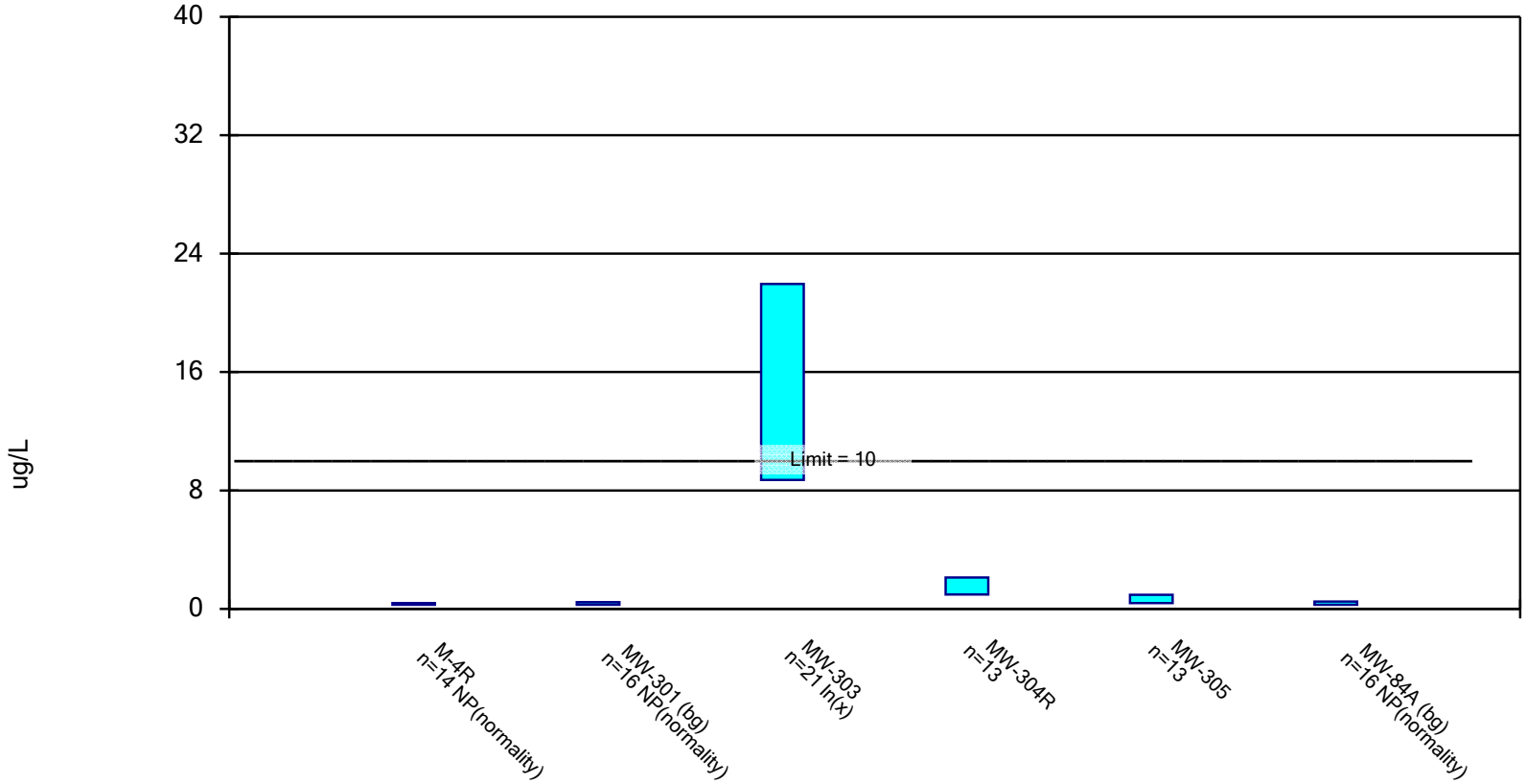
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020 Printed 1/16/2025, 3:34 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Arsenic (ug/L)	M-4R	0.39	0.28	10	No	14	64.29	No	0.01	NP (normality)
Arsenic (ug/L)	MW-301 (bg)	0.45	0.28	10	No	16	50	No	0.01	NP (normality)
Arsenic (ug/L)	MW-303	21.95	8.715	10	No	21	0	ln(x)	0.01	Param.
Arsenic (ug/L)	MW-304R	2.125	0.9669	10	No	13	0	No	0.01	Param.
Arsenic (ug/L)	MW-305	0.9503	0.3882	10	No	13	7.692	No	0.01	Param.
Arsenic (ug/L)	MW-84A (bg)	0.49	0.28	10	No	16	37.5	No	0.01	NP (normality)
Molybdenum (ug/L)	M-4R	36.86	16.41	100	No	14	0	No	0.01	Param.
Molybdenum (ug/L)	MW-301 (bg)	0.44	0.44	100	No	16	100	No	0.01	NP (NDs)
Molybdenum (ug/L)	MW-303	98.77	63.34	100	No	17	0	ln(x)	0.01	Param.
Molybdenum (ug/L)	MW-304R	15.66	4.367	100	No	13	0	ln(x)	0.01	Param.
Molybdenum (ug/L)	MW-305	82.26	41.09	100	No	18	0	No	0.01	Param.
Molybdenum (ug/L)	MW-84A (bg)	0.62	0.44	100	No	16	93.75	No	0.01	NP (NDs)
Selenium (ug/L)	M-4R	16.22	3.05	50	No	14	0	ln(x)	0.01	Param.
Selenium (ug/L)	MW-301 (bg)	0.39	0.32	50	No	16	81.25	No	0.01	NP (NDs)
Selenium (ug/L)	MW-303	38.34	17.2	50	No	16	0	ln(x)	0.01	Param.
Selenium (ug/L)	MW-304R	0.35	0.32	50	No	13	76.92	No	0.01	NP (NDs)
Selenium (ug/L)	MW-305	9.416	2.503	50	No	13	0	ln(x)	0.01	Param.
Selenium (ug/L)	MW-84A (bg)	0.48	0.32	50	No	16	93.75	No	0.01	NP (NDs)

02/27/2026 - Classification: Internal - ECRM13684511

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 1/16/2025 3:27 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Confidence Interval

Constituent: Arsenic (ug/L) Analysis Run 1/16/2025 3:34 PM View: COL Primary Pond

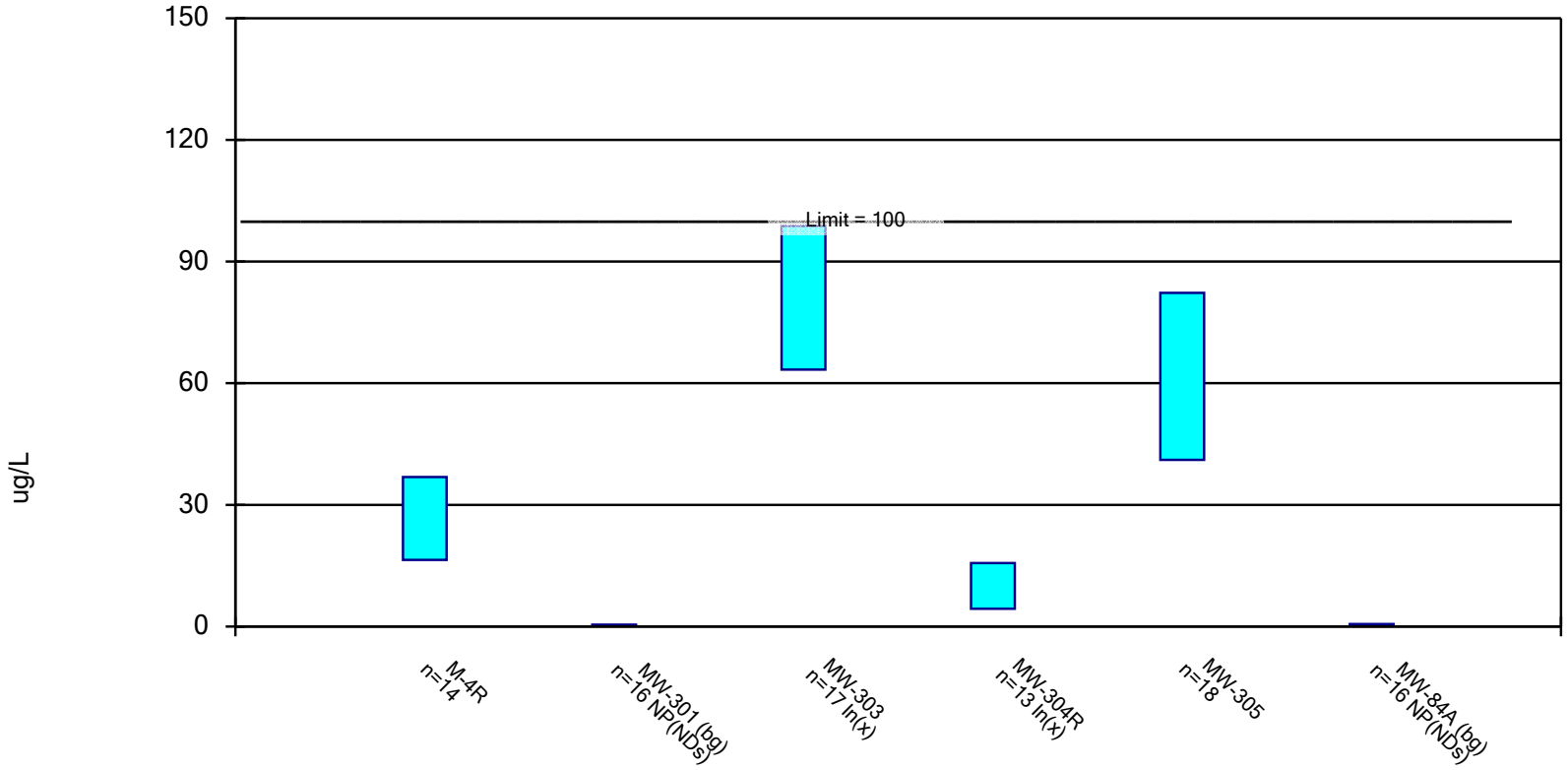
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	M-4R	MW-301 (bg)	MW-303	MW-304R	MW-305	MW-84A (bg)
4/23/2018	0.36 (J)				0.48 (J)	
4/24/2018			39.1	0.64 (J)		
4/25/2018		<0.28 (U)				<0.28 (U)
8/7/2018	<0.28 (U)				0.42 (J)	
8/8/2018		0.45 (J)	8.7	0.76 (J)		<0.28 (U)
9/21/2018			6			
10/24/2018	<0.28 (U)	<0.28 (U)	7.8	1.6	0.4 (J)	0.33 (J)
4/1/2019	<0.28 (U)		33.2		<0.28 (U)	
4/2/2019		0.4 (J)		0.63 (J)		
4/3/2019						<0.28 (U)
6/19/2019			5.3			
10/7/2019	0.37 (J)		10.2	3.2	0.49 (J)	
10/9/2019		0.42 (J)				0.46 (J)
2/3/2020		<0.28 (U)				0.38 (J)
5/27/2020	0.39 (J)		5.9	1.3	0.75 (J)	
5/29/2020		0.33 (J)				0.34 (J)
10/7/2020	0.44 (J)		9.5	2.8	0.95 (J)	
10/8/2020		0.62 (J)				0.49 (J)
2/25/2021			7.7			
4/12/2021			10.4	1.8	0.95 (J)	
4/13/2021	<0.28 (U)					
4/14/2021		<0.28 (U)				0.91 (J)
7/20/2021			13.9			
10/11/2021	<0.28 (U)			1.6	1.4	
10/12/2021			18.6			
10/14/2021		0.35 (J)				0.41 (J)
2/24/2022			28.8			
4/11/2022	<0.28 (U)			0.87 (J)	0.59 (J)	
4/12/2022			27.1			
4/13/2022		0.47 (J)				0.31 (J)
7/27/2022			29.4			
10/25/2022	0.4 (J)				1.3	
10/26/2022			52			
10/27/2022		0.3 (J)				0.72 (J)
1/20/2023				1.4		
4/24/2023			4			
4/27/2023		<0.28 (U)				<0.28 (U)
10/9/2023			36.3			
10/11/2023		<0.28				<0.28
4/17/2024		<0.28	40.4	1.8		0.29 (J)
6/4/2024	<0.28					
8/15/2024	<0.28				0.41 (J)	
10/1/2024	<0.28			1.7	0.42 (J)	
10/2/2024		<0.28	3.9			<0.28
Mean	0.32	0.3488	18.96	1.546	0.6692	0.395
Std. Dev.	0.05831	0.09892	14.71	0.7791	0.378	0.1806
Upper Lim.	0.39	0.45	21.95	2.125	0.9503	0.49
Lower Lim.	0.28	0.28	8.715	0.9669	0.3882	0.28

ND substitution: RL or RL/2 if <15% NDs.

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum Analysis Run 1/16/2025 3:27 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Confidence Interval

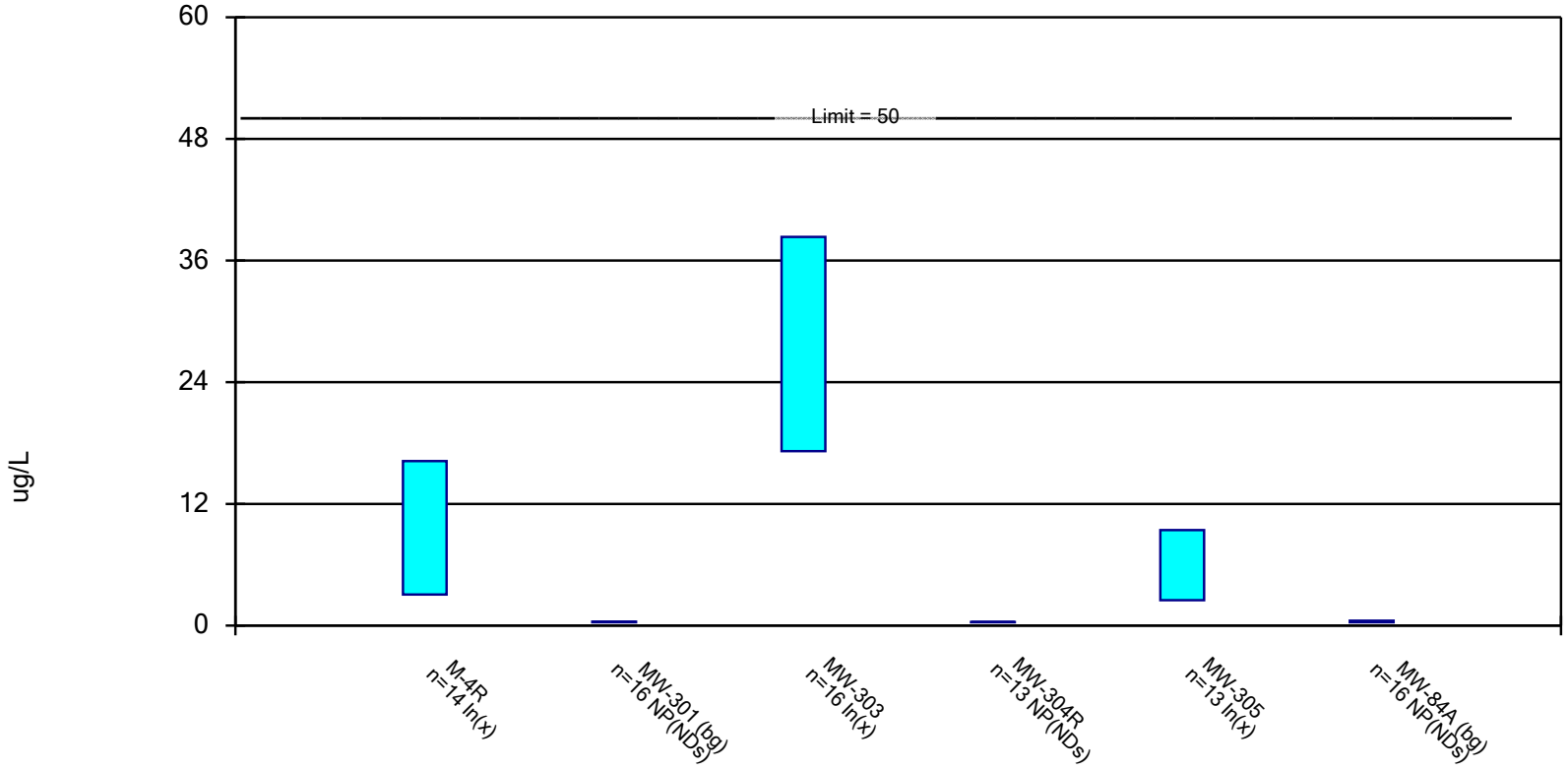
Constituent: Molybdenum (ug/L) Analysis Run 1/16/2025 3:34 PM View: COL Primary Pond
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	M-4R	MW-301 (bg)	MW-303	MW-304R	MW-305	MW-84A (bg)
4/23/2018	19.1				54.4	
4/24/2018			138	3.2		
4/25/2018		<0.44 (U)				<0.44 (U)
8/7/2018	14.7				55.7	
8/8/2018		<0.44 (U)	94.8	12.3		<0.44 (U)
9/21/2018			84.7			
10/24/2018	15.4	<0.44 (U)	85.5	10.2	45.6	<0.44 (U)
4/1/2019	29.4		106		47.7	
4/2/2019		<0.44 (U)		3		
4/3/2019						<0.44 (U)
6/19/2019			64.1			
10/7/2019	27.6		87	4.8	56.2	
10/9/2019		<0.44 (U)				<0.44 (U)
2/3/2020		<0.44 (U)				<0.44 (U)
5/27/2020	25.6		67.1	3.9	60.5	
5/29/2020		<0.44 (U)				<0.44 (U)
10/7/2020	27.6		67.1	12	102	
10/8/2020		<0.44 (U)				<0.44 (U)
12/11/2020					99	
2/25/2021					107	
4/12/2021			67.1	13	106	
4/13/2021	41.1					
4/14/2021		<0.44 (U)				0.62 (J)
7/20/2021					77	
10/11/2021	60.7			13.5	124	
10/12/2021			78			
10/14/2021		<0.44 (U)				<0.44 (U)
2/24/2022					35.8	
4/11/2022	42.5			9.8	45.9	
4/12/2022			174			
4/13/2022		<0.44 (U)				<0.44 (U)
7/27/2022					35.1	
10/25/2022	34.5				44.9	
10/26/2022			89.4			
10/27/2022		<0.44 (U)				<0.44 (U)
1/20/2023				2.4		
4/24/2023			41.3			
4/27/2023		<0.44 (U)				<0.44 (U)
10/9/2023			56.3			
10/11/2023		<0.44 (U)				<0.44 (U)
4/17/2024		<0.44	82	52.2		<0.44
6/4/2024	9.7					
8/15/2024	10.9				7.4	
10/1/2024	14.1			14.5	6	
10/2/2024		<0.44	47.4			<0.44
Mean	26.64	0.44	84.11	11.91	61.68	0.4512
Std. Dev.	14.44	0	32.48	12.92	34.03	0.045
Upper Lim.	36.86	0.44	98.77	15.66	82.26	0.62
Lower Lim.	16.41	0.44	63.34	4.367	41.09	0.44

ND substitution: RL or RL/2 if <15% NDs.

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Selenium Analysis Run 1/16/2025 3:27 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Confidence Interval

Constituent: Selenium (ug/L) Analysis Run 1/16/2025 3:34 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	M-4R	MW-301 (bg)	MW-303	MW-304R	MW-305	MW-84A (bg)
4/23/2018	8.6				6.9	
4/24/2018			52.9	<0.32 (U)		
4/25/2018		<0.32 (U)				<0.32 (U)
8/7/2018	5.5				4.8	
8/8/2018		0.71 (J)	25.1	<0.32 (U)		<0.32 (U)
9/21/2018			15.8			
10/24/2018	4.1	<0.32 (U)	15.1	<0.32 (U)	5.4	<0.32 (U)
4/1/2019	12.6		36.5		3.2	
4/2/2019		0.49 (J)		<0.32 (U)		
4/3/2019						<0.32 (U)
10/7/2019	1.8		16.4	<0.32 (U)	7.7	
10/9/2019		<0.32 (U)				<0.32 (U)
2/3/2020		<0.32 (U)				<0.32 (U)
5/27/2020	11.7		18.7	0.33 (J)	4.2	
5/29/2020		<0.32 (U)				<0.32 (U)
10/7/2020	1.6		17.2	<0.32 (U)	7.6	
10/8/2020		<0.32 (U)				<0.32 (U)
4/12/2021			22.4	1.1	8	
4/13/2021	3.7					
4/14/2021		<0.32 (U)				0.48 (J)
10/11/2021	2.3			0.35 (J)	4.5	
10/12/2021			28.1			
10/14/2021		<0.32 (U)				<0.32 (U)
4/11/2022	3			<0.32 (U)	21.5	
4/12/2022			87.2			
4/13/2022		<0.32 (U)				<0.32 (U)
10/25/2022	5.8				9.1	
10/26/2022			74.4			
10/27/2022		<0.32 (U)				<0.32 (U)
1/20/2023				<0.32 (U)		
4/24/2023			9.7			
4/27/2023		<0.32 (U)				<0.32 (U)
10/9/2023			28.3			
10/11/2023		<0.32 (U)				<0.32 (U)
4/17/2024		<0.32	36.3	<0.32		<0.32
6/4/2024	116					
8/15/2024	20.2				0.6 (J)	
10/1/2024	25.4			<0.32	1.4	
10/2/2024		0.39 (J)	14.4			<0.32
Mean	15.88	0.3594	31.16	0.3831	6.531	0.33
Std. Dev.	29.7	0.1036	22.32	0.2156	5.179	0.04
Upper Lim.	16.22	0.39	38.34	0.35	9.416	0.48
Lower Lim.	3.05	0.32	17.2	0.32	2.503	0.32

ND substitution: RL or RL/2 if <15% NDs.

Confidence Interval

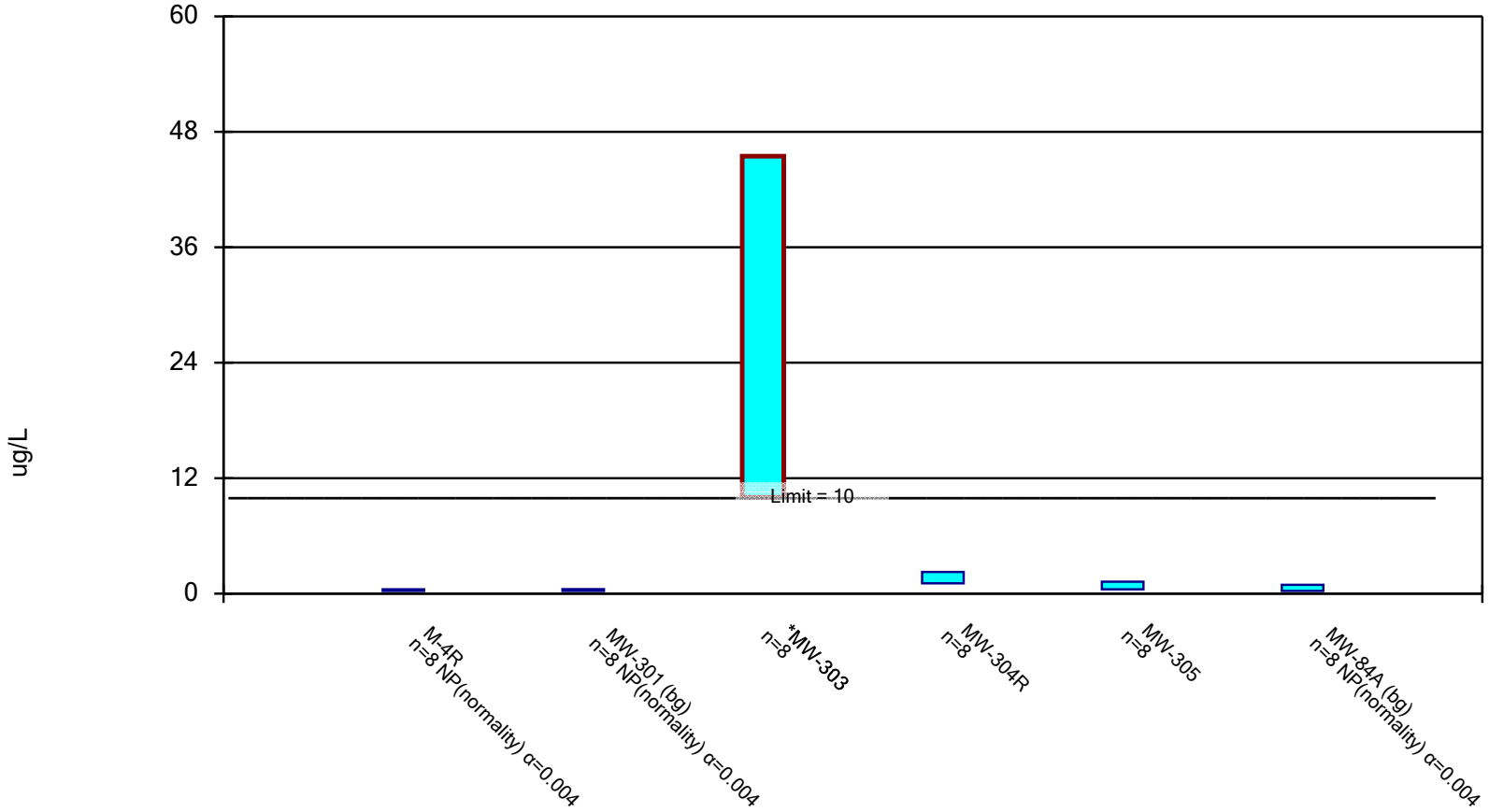
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020 Printed 1/16/2025, 3:23 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Arsenic (ug/L)	M-4R	0.44	0.28	10	No	8	75	No	0.004	NP (normality)
Arsenic (ug/L)	MW-301 (bg)	0.47	0.28	10	No	8	62.5	No	0.004	NP (normality)
Arsenic (ug/L)	**MW-303**	**45.47**	**10.01**	**10**	**Yes**	**8**	**0**	**No**	**0.01**	**Param.**
Arsenic (ug/L)	MW-304R	2.248	1.069	10	No	8	0	No	0.01	Param.
Arsenic (ug/L)	MW-305	1.243	0.4495	10	No	8	0	No	0.01	Param.
Arsenic (ug/L)	MW-84A (bg)	0.91	0.28	10	No	8	37.5	No	0.004	NP (normality)
Molybdenum (ug/L)	M-4R	49.26	11.02	100	No	8	0	No	0.01	Param.
Molybdenum (ug/L)	MW-301 (bg)	0.44	0.44	100	No	8	100	No	0.004	NP (NDs)
Molybdenum (ug/L)	MW-303	115.9	44.94	100	No	8	0	ln(x)	0.01	Param.
Molybdenum (ug/L)	MW-304R	27.9	3.941	100	No	8	0	ln(x)	0.01	Param.
Molybdenum (ug/L)	MW-305	87.77	6.254	100	No	8	0	No	0.01	Param.
Molybdenum (ug/L)	MW-84A (bg)	0.62	0.44	100	No	8	87.5	No	0.004	NP (NDs)
Selenium (ug/L)	M-4R	37.22	1.647	50	No	8	0	ln(x)	0.01	Param.
Selenium (ug/L)	MW-301 (bg)	0.39	0.32	50	No	8	87.5	No	0.004	NP (NDs)
Selenium (ug/L)	MW-303	65.28	13.4	50	No	8	0	ln(x)	0.01	Param.
Selenium (ug/L)	MW-304R	1.1	0.32	50	No	8	62.5	No	0.004	NP (normality)
Selenium (ug/L)	MW-305	15.16	1.375	50	No	8	0	ln(x)	0.01	Param.
Selenium (ug/L)	MW-84A (bg)	0.48	0.32	50	No	8	87.5	No	0.004	NP (NDs)

02/27/2026 - Classification: Internal - ECRM13684511

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 1/16/2025 3:19 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Confidence Interval

Constituent: Arsenic (ug/L) Analysis Run 1/16/2025 3:23 PM View: COL Primary Pond

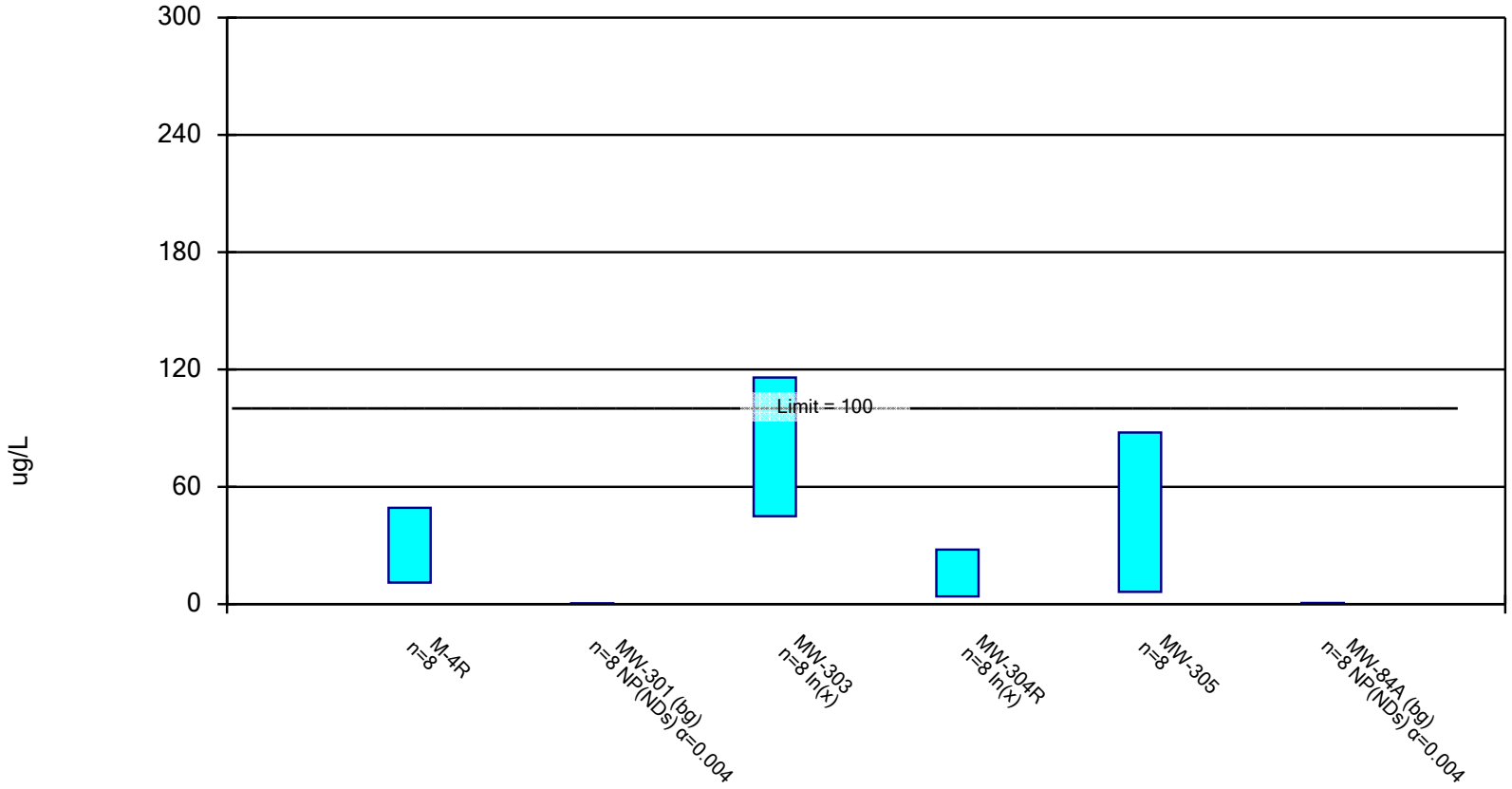
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	M-4R	MW-301 (bg)	MW-303	MW-304R	MW-305	MW-84A (bg)
5/27/2020				1.3	0.75 (J)	
10/7/2020	0.44 (J)			2.8	0.95 (J)	
4/12/2021				1.8	0.95 (J)	
4/13/2021	<0.28 (U)					
4/14/2021		<0.28 (U)				0.91 (J)
10/11/2021	<0.28 (U)			1.6	1.4	
10/14/2021		0.35 (J)				0.41 (J)
2/24/2022			28.8			
4/11/2022	<0.28 (U)			0.87 (J)	0.59 (J)	
4/12/2022			27.1			
4/13/2022		0.47 (J)				0.31 (J)
7/27/2022			29.4			
10/25/2022	0.4 (J)				1.3	
10/26/2022			52			
10/27/2022		0.3 (J)				0.72 (J)
1/20/2023				1.4		
4/24/2023			4			
4/27/2023		<0.28 (U)				<0.28 (U)
10/9/2023			36.3			
10/11/2023		<0.28				<0.28
4/17/2024		<0.28	40.4	1.8		0.29 (J)
6/4/2024	<0.28					
8/15/2024	<0.28				0.41 (J)	
10/1/2024	<0.28			1.7	0.42 (J)	
10/2/2024		<0.28	3.9			<0.28
Mean	0.315	0.315	27.74	1.659	0.8463	0.435
Std. Dev.	0.06568	0.06719	16.73	0.5562	0.3744	0.2438
Upper Lim.	0.44	0.47	45.47	2.248	1.243	0.91
Lower Lim.	0.28	0.28	10.01	1.069	0.4495	0.28

ND substitution: RL or RL/2 if <15% NDs.

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum Analysis Run 1/16/2025 3:19 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Confidence Interval

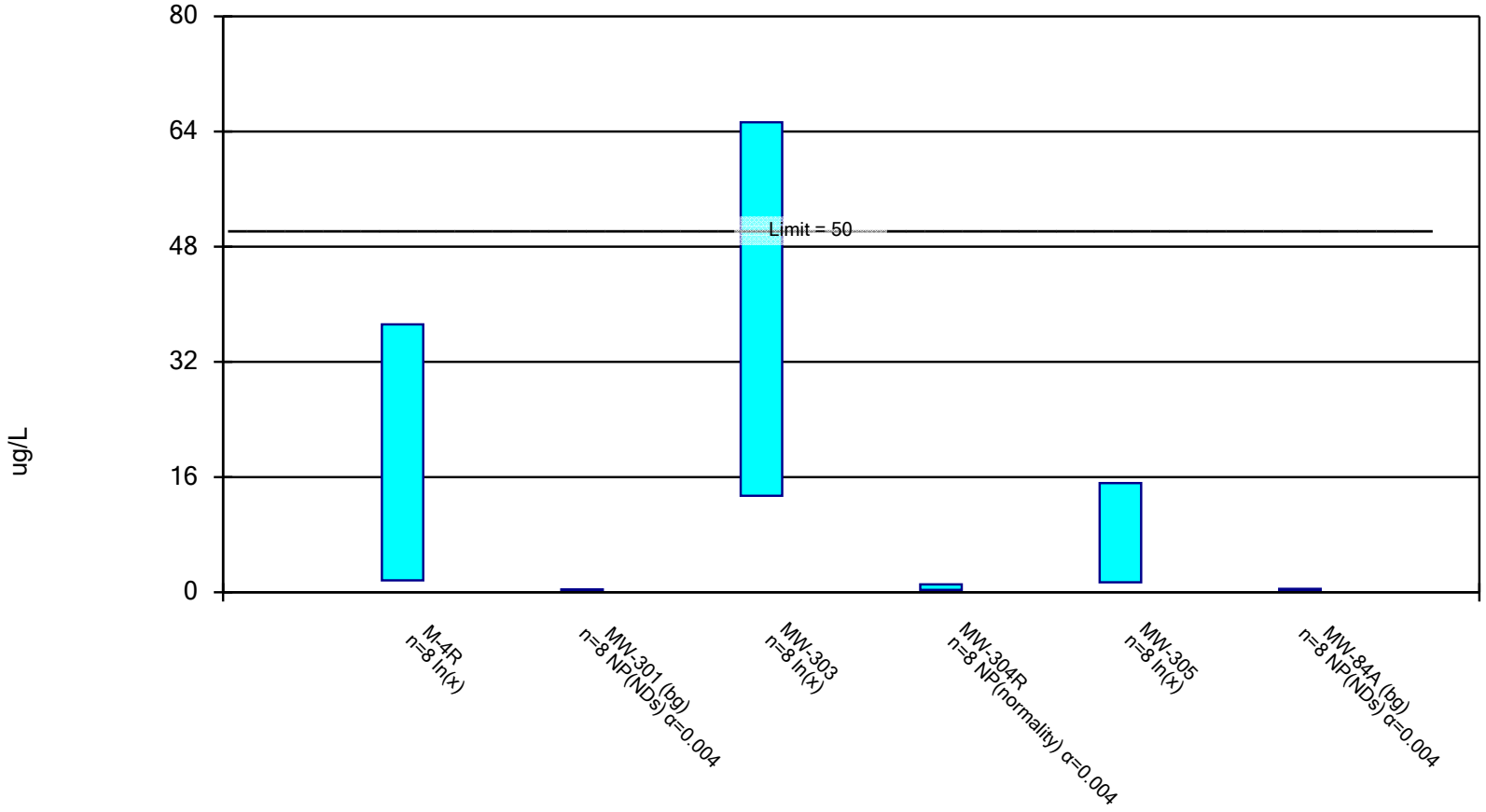
Constituent: Molybdenum (ug/L) Analysis Run 1/16/2025 3:23 PM View: COL Primary Pond
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	M-4R	MW-301 (bg)	MW-303	MW-304R	MW-305	MW-84A (bg)
5/27/2020				3.9		
10/7/2020	27.6			12		
4/12/2021			67.1	13		
4/13/2021	41.1					
4/14/2021		<0.44 (U)				0.62 (J)
7/20/2021					77	
10/11/2021	60.7			13.5	124	
10/12/2021			78			
10/14/2021		<0.44 (U)				<0.44 (U)
2/24/2022					35.8	
4/11/2022	42.5			9.8	45.9	
4/12/2022			174			
4/13/2022		<0.44 (U)				<0.44 (U)
7/27/2022					35.1	
10/25/2022	34.5				44.9	
10/26/2022			89.4			
10/27/2022		<0.44 (U)				<0.44 (U)
1/20/2023				2.4		
4/24/2023			41.3			
4/27/2023		<0.44 (U)				<0.44 (U)
10/9/2023			56.3			
10/11/2023		<0.44 (U)				<0.44 (U)
4/17/2024		<0.44	82	52.2		<0.44
6/4/2024	9.7					
8/15/2024	10.9				7.4	
10/1/2024	14.1			14.5	6	
10/2/2024		<0.44	47.4			<0.44
Mean	30.14	0.44	79.44	15.16	47.01	0.4625
Std. Dev.	18.04	0	41.78	15.62	38.45	0.06364
Upper Lim.	49.26	0.44	115.9	27.9	87.77	0.62
Lower Lim.	11.02	0.44	44.94	3.941	6.254	0.44

ND substitution: RL or RL/2 if <15% NDs.

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Selenium Analysis Run 1/16/2025 3:19 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Confidence Interval

Constituent: Selenium (ug/L) Analysis Run 1/16/2025 3:23 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	M-4R	MW-301 (bg)	MW-303	MW-304R	MW-305	MW-84A (bg)
5/27/2020				0.33 (J)	4.2	
10/7/2020	1.6			<0.32 (U)	7.6	
4/12/2021			22.4	1.1	8	
4/13/2021	3.7					
4/14/2021		<0.32 (U)				0.48 (J)
10/11/2021	2.3			0.35 (J)	4.5	
10/12/2021			28.1			
10/14/2021		<0.32 (U)				<0.32 (U)
4/11/2022	3			<0.32 (U)	21.5	
4/12/2022			87.2			
4/13/2022		<0.32 (U)				<0.32 (U)
10/25/2022	5.8				9.1	
10/26/2022			74.4			
10/27/2022		<0.32 (U)				<0.32 (U)
1/20/2023				<0.32 (U)		
4/24/2023			9.7			
4/27/2023		<0.32 (U)				<0.32 (U)
10/9/2023			28.3			
10/11/2023		<0.32 (U)				<0.32 (U)
4/17/2024		<0.32	36.3	<0.32		<0.32
6/4/2024	116					
8/15/2024	20.2				0.6 (J)	
10/1/2024	25.4			<0.32	1.4	
10/2/2024		0.39 (J)	14.4			<0.32
Mean	22.25	0.3287	37.6	0.4225	7.113	0.34
Std. Dev.	38.94	0.02475	28.13	0.274	6.572	0.05657
Upper Lim.	37.22	0.39	65.28	1.1	15.16	0.48
Lower Lim.	1.647	0.32	13.4	0.32	1.375	0.32

ND substitution: RL or RL/2 if <15% NDs.

Trend Test

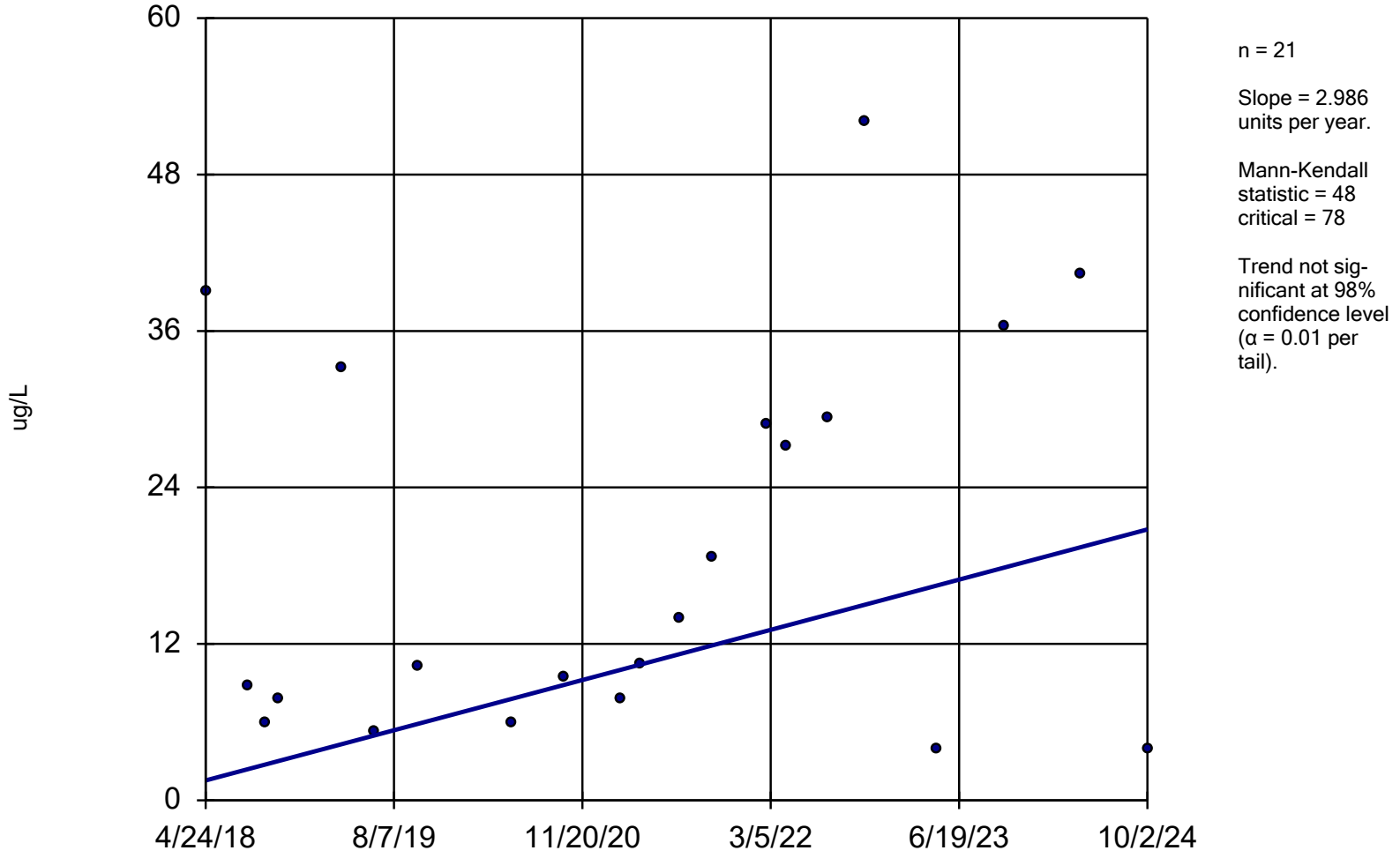
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020 Printed 1/16/2025, 3:39 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Arsenic (ug/L)	MW-303	2.986	48	78	No	21	0	n/a	n/a	0.02	NP

02/27/2026 - Classification: Internal - ECRM13684511

Arsenic

MW-303



n = 21

Slope = 2.986 units per year.

Mann-Kendall statistic = 48 critical = 78

Trend not significant at 98% confidence level (α = 0.01 per tail).

Sen's Slope and 98% Confidence Band Analysis Run 1/16/2025 3:37 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Sen's Slope Estimator

Constituent: Arsenic (ug/L) Analysis Run 1/16/2025 3:39 PM View: COL Primary Pond
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	MW-303
4/24/2018	39.1
8/8/2018	8.7
9/21/2018	6
10/24/2018	7.8
4/1/2019	33.2
6/19/2019	5.3
10/7/2019	10.2
5/27/2020	5.9
10/7/2020	9.5
2/25/2021	7.7
4/12/2021	10.4
7/20/2021	13.9
10/12/2021	18.6
2/24/2022	28.8
4/12/2022	27.1
7/27/2022	29.4
10/26/2022	52
4/24/2023	4
10/9/2023	36.3
4/17/2024	40.4
10/2/2024	3.9

02/27/2026 - Classification: Internal - ECRM13684511

Trend Test

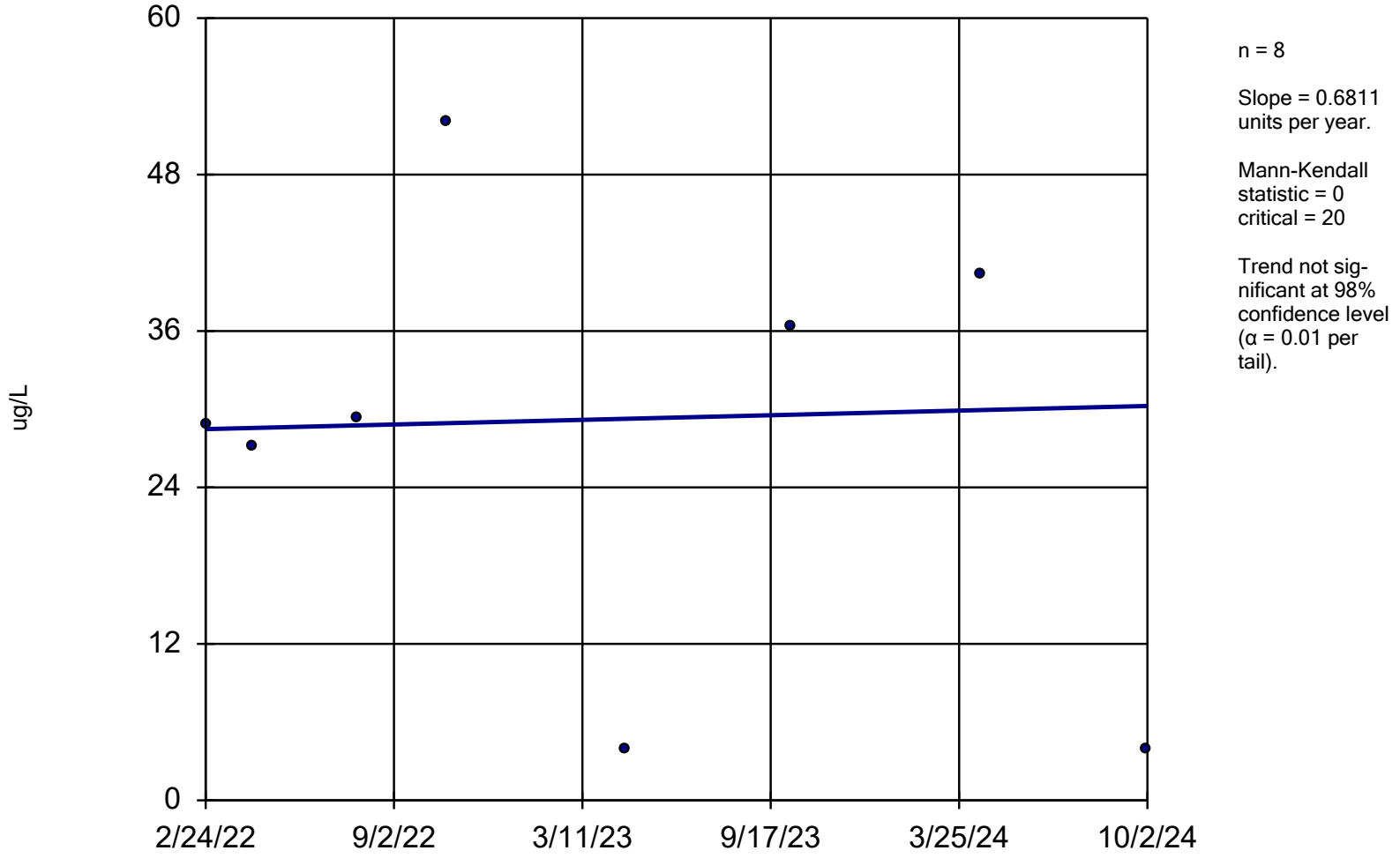
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020 Printed 1/16/2025, 3:36 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Arsenic (ug/L)	MW-303	0.6811	0	20	No	8	0	n/a	n/a	0.02	NP

02/27/2026 - Classification: Internal - ECRM13684511

Arsenic

MW-303



Sen's Slope and 98% Confidence Band Analysis Run 1/16/2025 3:35 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Sen's Slope Estimator

Constituent: Arsenic (ug/L) Analysis Run 1/16/2025 3:36 PM View: COL Primary Pond
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	MW-303
4/24/2018	39.1
8/8/2018	8.7
9/21/2018	6
10/24/2018	7.8
4/1/2019	33.2
6/19/2019	5.3
10/7/2019	10.2
5/27/2020	5.9
10/7/2020	9.5
2/25/2021	7.7
4/12/2021	10.4
7/20/2021	13.9
10/12/2021	18.6
2/24/2022	28.8
4/12/2022	27.1
7/27/2022	29.4
10/26/2022	52
4/24/2023	4
10/9/2023	36.3
4/17/2024	40.4
10/2/2024	3.9

02/27/2026 - Classification: Internal - ECRM13684511

F2 – April 2025 LCLs

02/27/2026 - Classification: Internal - ECRM13684511

Confidence Interval

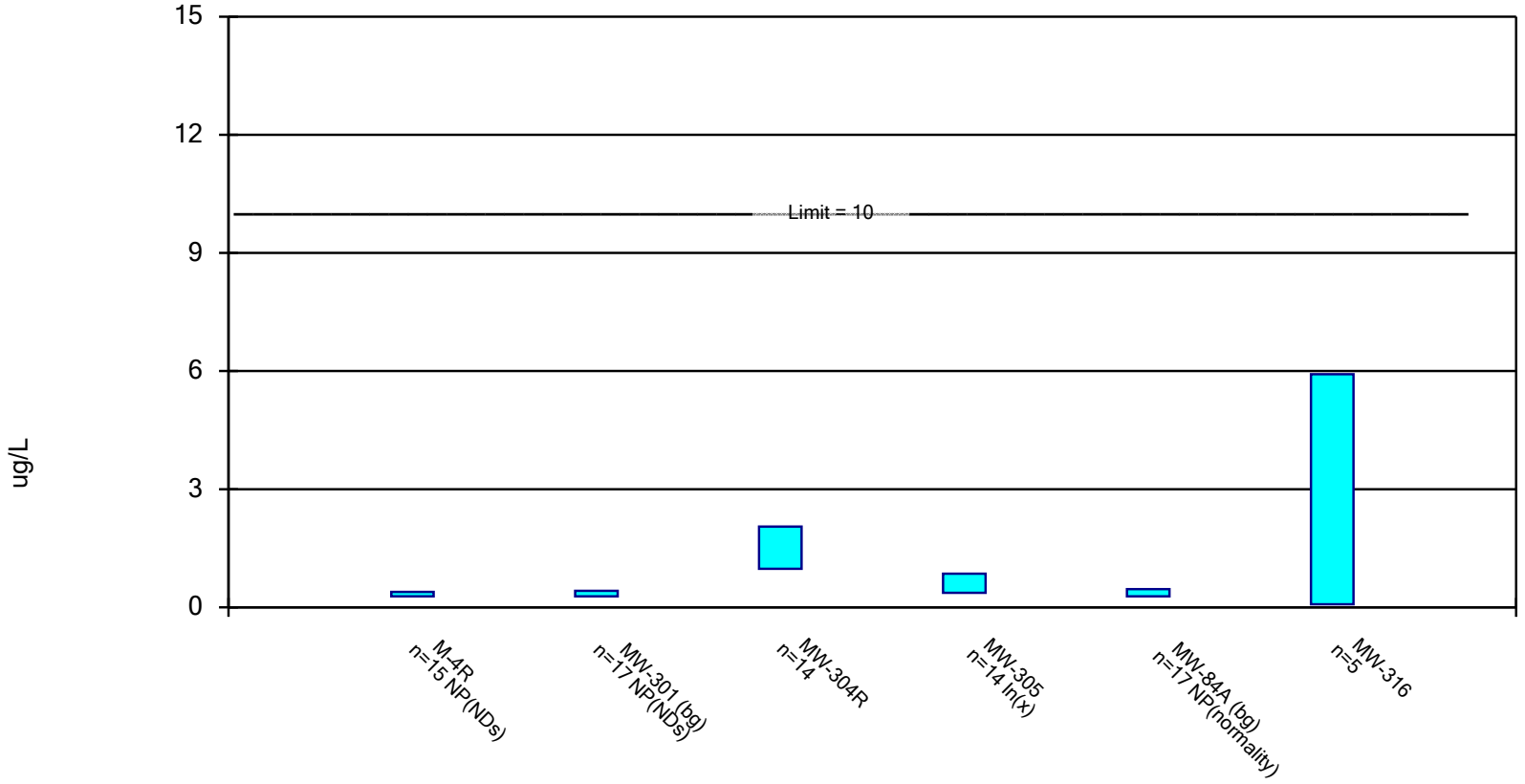
Columbia Energy Center Client: SCS Engineers Data: Columbia Printed 6/5/2025, 2:09 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Arsenic (ug/L)	M-4R	0.39	0.28	10	No	15	66.67	No	0.01	NP (NDs)
Arsenic (ug/L)	MW-301 (bg)	0.42	0.28	10	No	17	52.94	No	0.01	NP (NDs)
Arsenic (ug/L)	MW-304R	2.051	0.9774	10	No	14	0	No	0.01	Param.
Arsenic (ug/L)	MW-305	0.8545	0.3681	10	No	14	7.143	ln(x)	0.01	Param.
Arsenic (ug/L)	MW-84A (bg)	0.46	0.28	10	No	17	41.18	No	0.01	NP (normality)
Arsenic (ug/L)	MW-316	5.922	0.07834	10	No	5	0	No	0.01	Param.
Molybdenum (ug/L)	M-4R	35.44	15.91	100	No	15	0	No	0.01	Param.
Molybdenum (ug/L)	MW-301 (bg)	0.44	0.44	100	No	17	100	No	0.01	NP (NDs)
Molybdenum (ug/L)	MW-304R	14.99	4.653	100	No	14	0	ln(x)	0.01	Param.
Molybdenum (ug/L)	MW-305	79.53	38.35	100	No	19	0	No	0.01	Param.
Molybdenum (ug/L)	MW-84A (bg)	0.62	0.44	100	No	17	94.12	No	0.01	NP (NDs)
Selenium (ug/L)	M-4R	17.23	3.439	50	No	15	0	ln(x)	0.01	Param.
Selenium (ug/L)	MW-301 (bg)	0.39	0.32	50	No	17	82.35	No	0.01	NP (NDs)
Selenium (ug/L)	MW-304R	0.33	0.32	50	No	14	78.57	No	0.01	NP (NDs)
Selenium (ug/L)	MW-305	8.79	2.608	50	No	14	0	ln(x)	0.01	Param.
Selenium (ug/L)	MW-84A (bg)	0.48	0.32	50	No	17	94.12	No	0.01	NP (NDs)

02/27/2026 - Classification: Internal - ECRM13684511

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 6/5/2025 2:07 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: Columbia

Confidence Interval

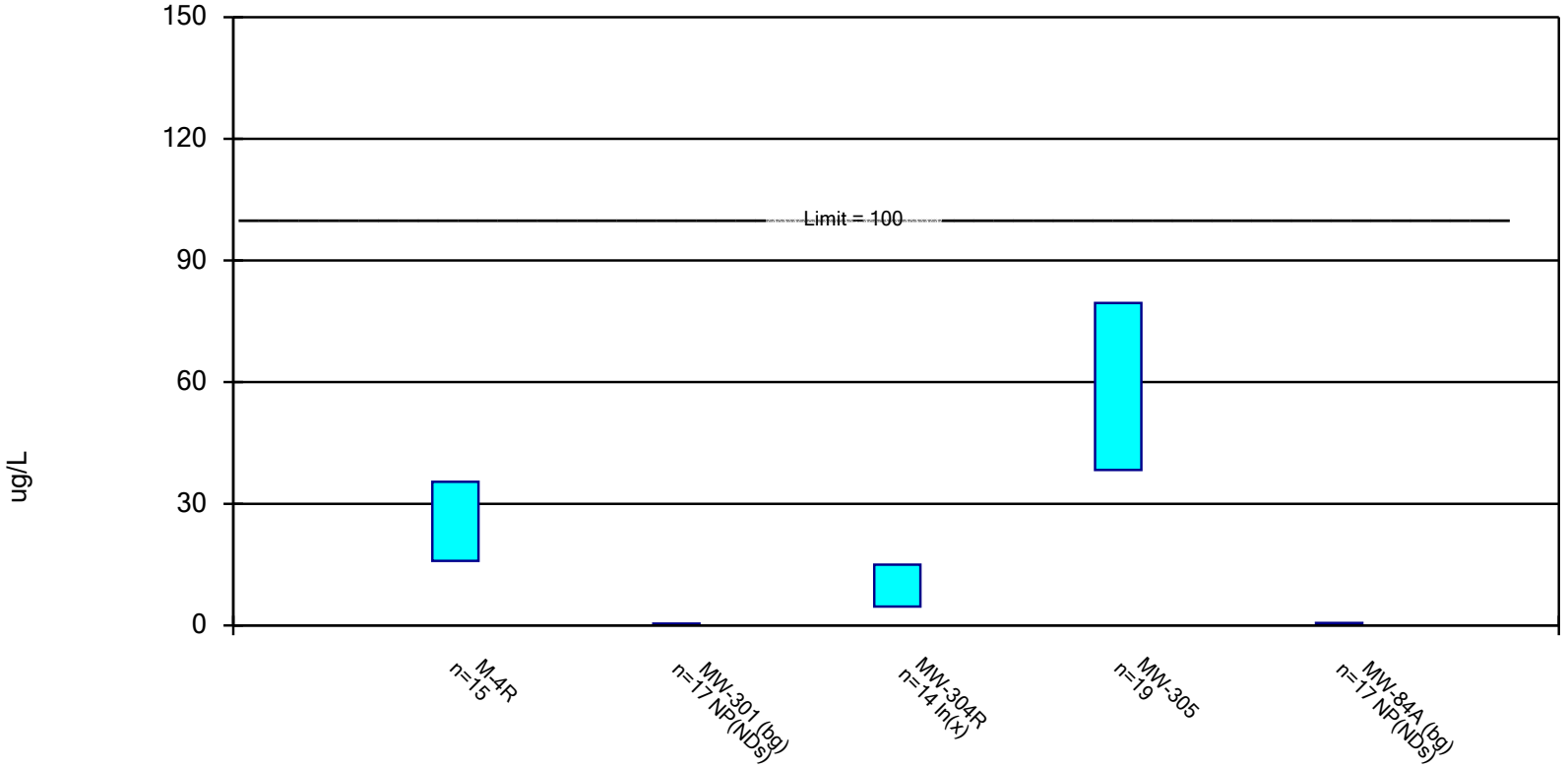
Constituent: Arsenic (ug/L) Analysis Run 6/5/2025 2:09 PM View: COL Primary Pond
Columbia Energy Center Client: SCS Engineers Data: Columbia

	M-4R	MW-301 (bg)	MW-304R	MW-305	MW-84A (bg)	MW-316
4/23/2018	0.36 (J)			0.48 (J)		
4/24/2018			0.64 (J)			
4/25/2018		<0.28 (U)			<0.28 (U)	
8/7/2018	<0.28 (U)			0.42 (J)		
8/8/2018		0.45 (J)	0.76 (J)		<0.28 (U)	
10/24/2018	<0.28 (U)	<0.28 (U)	1.6	0.4 (J)	0.33 (J)	
4/1/2019	<0.28 (U)			<0.28 (U)		
4/2/2019		0.4 (J)	0.63 (J)			
4/3/2019					<0.28 (U)	
10/7/2019	0.37 (J)		3.2	0.49 (J)		
10/9/2019		0.42 (J)			0.46 (J)	
2/3/2020		<0.28 (U)			0.38 (J)	
5/27/2020	0.39 (J)		1.3	0.75 (J)		
5/29/2020		0.33 (J)			0.34 (J)	
10/7/2020	0.44 (J)		2.8	0.95 (J)		
10/8/2020		0.62 (J)			0.49 (J)	
4/12/2021			1.8	0.95 (J)		
4/13/2021	<0.28 (U)					
4/14/2021		<0.28 (U)			0.91 (J)	
10/11/2021	<0.28 (U)		1.6	1.4		
10/14/2021		0.35 (J)			0.41 (J)	
4/11/2022	<0.28 (U)		0.87 (J)	0.59 (J)		
4/13/2022		0.47 (J)			0.31 (J)	
10/25/2022	0.4 (J)			1.3		
10/27/2022		0.3 (J)			0.72 (J)	
1/20/2023			1.4			
4/27/2023		<0.28 (U)			<0.28 (U)	
5/5/2023						1.2
10/9/2023						1.6
10/11/2023		<0.28			<0.28	
4/17/2024		<0.28	1.8		0.29 (J)	2.6
6/4/2024	<0.28					
8/15/2024	<0.28			0.41 (J)		
10/1/2024	<0.28		1.7	0.42 (J)		
10/2/2024		<0.28			<0.28	4.4
4/21/2025	<0.28 (U)		1.1			
4/22/2025		<0.28 (U)		0.44 (J)	<0.28 (U)	5.2
Mean	0.3173	0.3447	1.514	0.6529	0.3882	3
Std. Dev.	0.05713	0.09722	0.7579	0.3683	0.1771	1.744
Upper Lim.	0.39	0.42	2.051	0.8545	0.46	5.922
Lower Lim.	0.28	0.28	0.9774	0.3681	0.28	0.07834

ND substitution: RL or RL/2 if <15% NDs.

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum Analysis Run 6/5/2025 2:08 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: Columbia

Confidence Interval

Constituent: Molybdenum (ug/L) Analysis Run 6/5/2025 2:09 PM View: COL Primary Pond

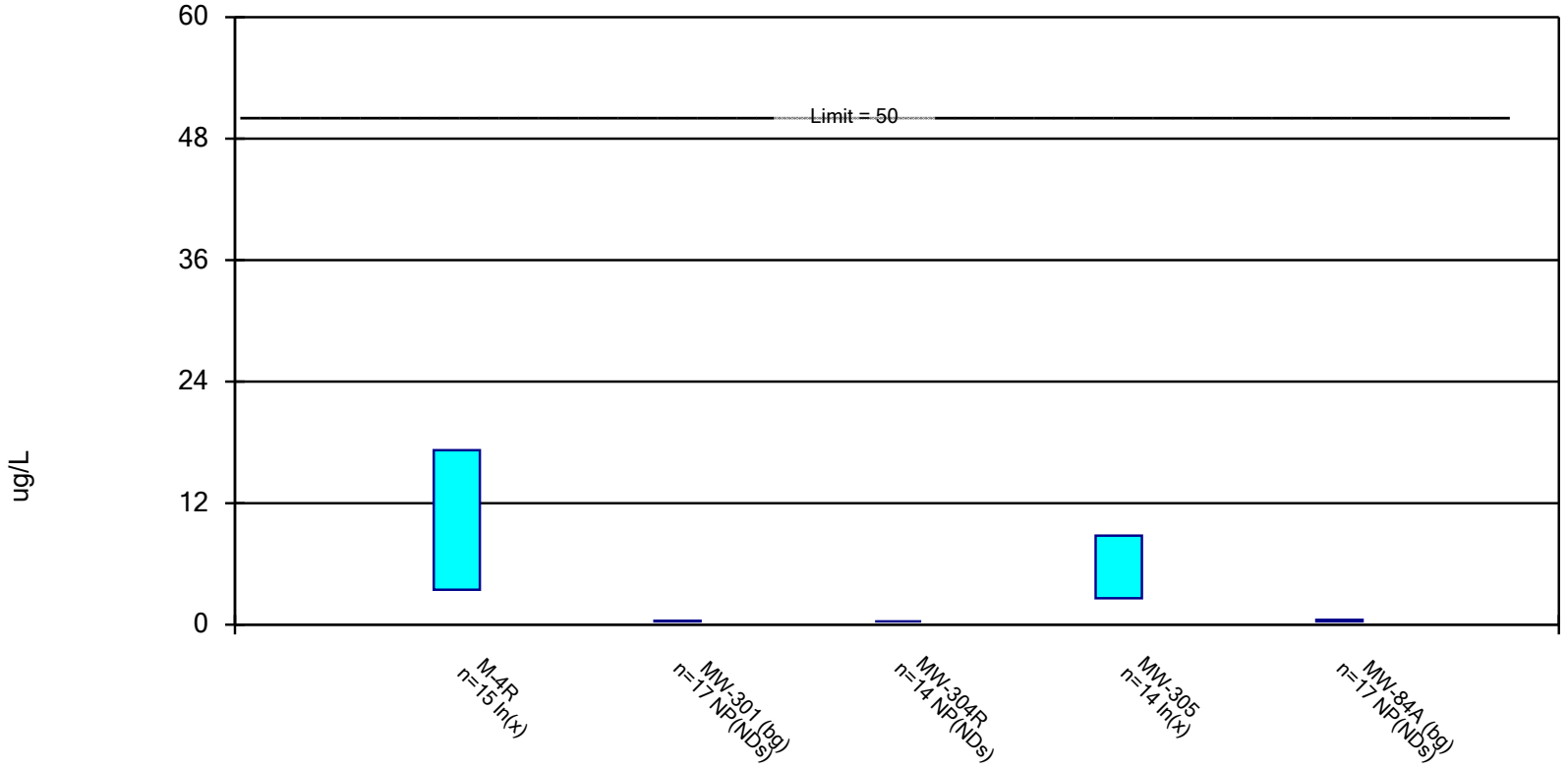
Columbia Energy Center Client: SCS Engineers Data: Columbia

	M-4R	MW-301 (bg)	MW-304R	MW-305	MW-84A (bg)
4/23/2018	19.1			54.4	
4/24/2018			3.2		
4/25/2018		<0.44 (U)			<0.44 (U)
8/7/2018	14.7			55.7	
8/8/2018		<0.44 (U)	12.3		<0.44 (U)
10/24/2018	15.4	<0.44 (U)	10.2	45.6	<0.44 (U)
4/1/2019	29.4			47.7	
4/2/2019		<0.44 (U)	3		
4/3/2019					<0.44 (U)
10/7/2019	27.6		4.8	56.2	
10/9/2019		<0.44 (U)			<0.44 (U)
2/3/2020		<0.44 (U)			<0.44 (U)
5/27/2020	25.6		3.9	60.5	
5/29/2020		<0.44 (U)			<0.44 (U)
10/7/2020	27.6		12	102	
10/8/2020		<0.44 (U)			<0.44 (U)
12/11/2020				99	
2/25/2021				107	
4/12/2021			13	106	
4/13/2021	41.1				
4/14/2021		<0.44 (U)			0.62 (J)
7/20/2021				77	
10/11/2021	60.7		13.5	124	
10/14/2021		<0.44 (U)			<0.44 (U)
2/24/2022				35.8	
4/11/2022	42.5		9.8	45.9	
4/13/2022		<0.44 (U)			<0.44 (U)
7/27/2022				35.1	
10/25/2022	34.5			44.9	
10/27/2022		<0.44 (U)			<0.44 (U)
1/20/2023			2.4		
4/27/2023		<0.44 (U)			<0.44 (U)
10/11/2023		<0.44 (U)			<0.44 (U)
4/17/2024		<0.44	52.2		<0.44
6/4/2024	9.7				
8/15/2024	10.9			7.4	
10/1/2024	14.1		14.5	6	
10/2/2024		<0.44			<0.44
4/21/2025	12.2		9.5		
4/22/2025		<0.44 (U)		9.6	<0.44 (U)
Mean	25.67	0.44	11.74	58.94	0.4506
Std. Dev.	14.41	0	12.43	35.16	0.04366
Upper Lim.	35.44	0.44	14.99	79.53	0.62
Lower Lim.	15.91	0.44	4.653	38.35	0.44

ND substitution: RL or RL/2 if <15% NDs.

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Selenium Analysis Run 6/5/2025 2:08 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: Columbia

Confidence Interval

Constituent: Selenium (ug/L) Analysis Run 6/5/2025 2:09 PM View: COL Primary Pond
Columbia Energy Center Client: SCS Engineers Data: Columbia

	M-4R	MW-301 (bg)	MW-304R	MW-305	MW-84A (bg)
4/23/2018	8.6			6.9	
4/24/2018			<0.32 (U)		
4/25/2018		<0.32 (U)			<0.32 (U)
8/7/2018	5.5			4.8	
8/8/2018		0.71 (J)	<0.32 (U)		<0.32 (U)
10/24/2018	4.1	<0.32 (U)	<0.32 (U)	5.4	<0.32 (U)
4/1/2019	12.6			3.2	
4/2/2019		0.49 (J)	<0.32 (U)		
4/3/2019					<0.32 (U)
10/7/2019	1.8		<0.32 (U)	7.7	
10/9/2019		<0.32 (U)			<0.32 (U)
2/3/2020		<0.32 (U)			<0.32 (U)
5/27/2020	11.7		0.33 (J)	4.2	
5/29/2020		<0.32 (U)			<0.32 (U)
10/7/2020	1.6		<0.32 (U)	7.6	
10/8/2020		<0.32 (U)			<0.32 (U)
4/12/2021			1.1	8	
4/13/2021	3.7				
4/14/2021		<0.32 (U)			0.48 (J)
10/11/2021	2.3		0.35 (J)	4.5	
10/14/2021		<0.32 (U)			<0.32 (U)
4/11/2022	3		<0.32 (U)	21.5	
4/13/2022		<0.32 (U)			<0.32 (U)
10/25/2022	5.8			9.1	
10/27/2022		<0.32 (U)			<0.32 (U)
1/20/2023			<0.32 (U)		
4/27/2023		<0.32 (U)			<0.32 (U)
10/11/2023		<0.32 (U)			<0.32 (U)
4/17/2024		<0.32	<0.32		<0.32
6/4/2024	116				
8/15/2024	20.2			0.6 (J)	
10/1/2024	25.4		<0.32	1.4	
10/2/2024		0.39 (J)			<0.32
4/21/2025	27.2		<0.32 (U)		
4/22/2025		<0.32 (U)		4	<0.32 (U)
Mean	16.63	0.3571	0.3786	6.35	0.3294
Std. Dev.	28.76	0.1008	0.2078	5.022	0.03881
Upper Lim.	17.23	0.39	0.33	8.79	0.48
Lower Lim.	3.439	0.32	0.32	2.608	0.32

ND substitution: RL or RL/2 if <15% NDs.

Confidence Interval

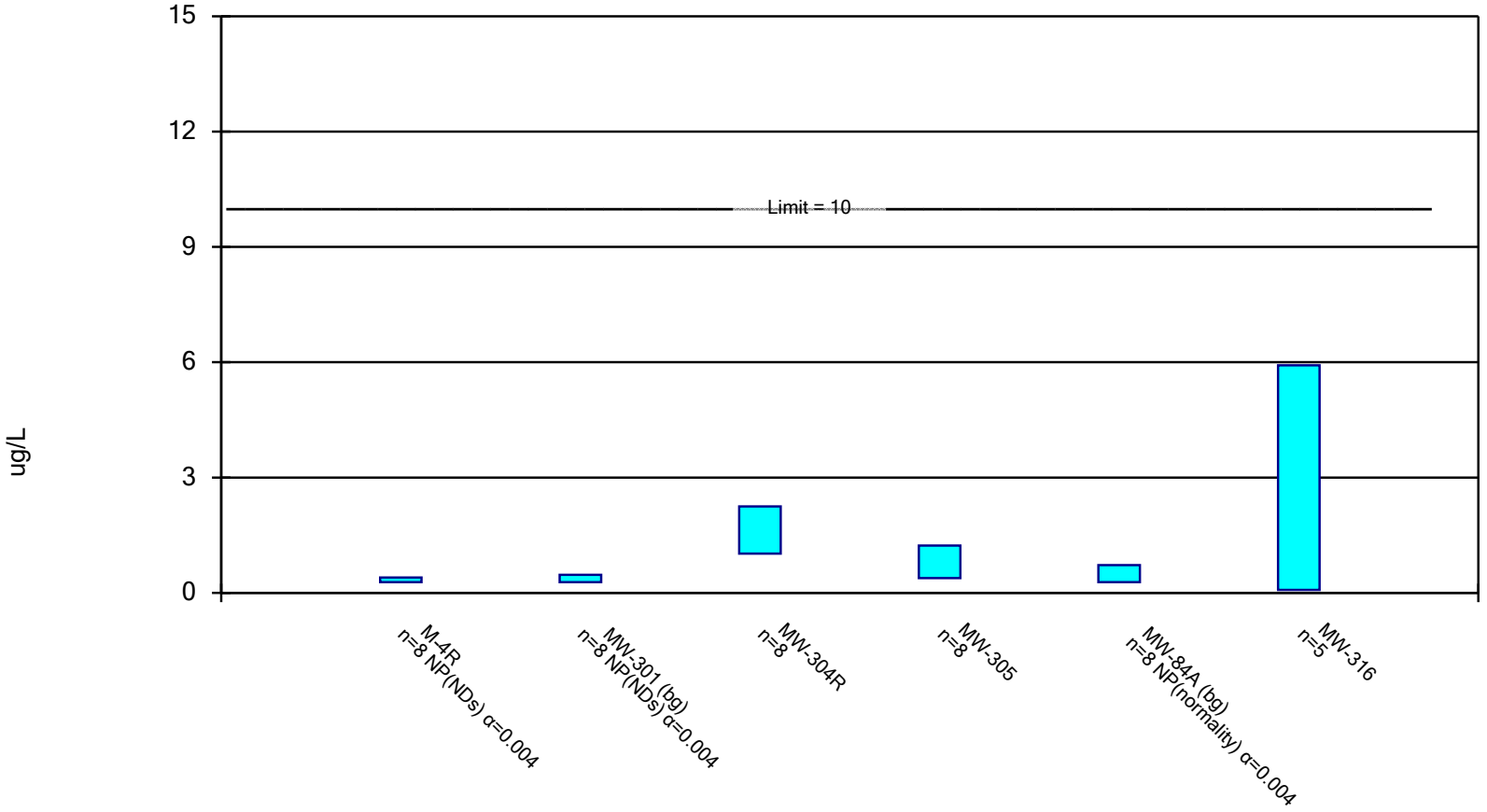
Columbia Energy Center Client: SCS Engineers Data: Columbia Printed 6/5/2025, 2:12 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Arsenic (ug/L)	M-4R	0.4	0.28	10	No	8	87.5	No	0.004	NP (NDs)
Arsenic (ug/L)	MW-301 (bg)	0.47	0.28	10	No	8	62.5	No	0.004	NP (NDs)
Arsenic (ug/L)	MW-304R	2.247	1.02	10	No	8	0	No	0.01	Param.
Arsenic (ug/L)	MW-305	1.232	0.3826	10	No	8	0	No	0.01	Param.
Arsenic (ug/L)	MW-84A (bg)	0.72	0.28	10	No	8	50	No	0.004	NP (normality)
Arsenic (ug/L)	MW-316	5.922	0.07834	10	No	5	0	No	0.01	Param.
Molybdenum (ug/L)	M-4R	48.5	7.93	100	No	8	0	No	0.01	Param.
Molybdenum (ug/L)	MW-301 (bg)	0.44	0.44	100	No	8	100	No	0.004	NP (NDs)
Molybdenum (ug/L)	MW-304R	28.45	4.829	100	No	8	0	ln(x)	0.01	Param.
Molybdenum (ug/L)	MW-305	76.34	7.968	100	No	8	0	ln(x)	0.01	Param.
Molybdenum (ug/L)	MW-84A (bg)	0.44	0.44	100	No	8	100	No	0.004	NP (NDs)
Selenium (ug/L)	M-4R	47.74	2.606	50	No	8	0	ln(x)	0.01	Param.
Selenium (ug/L)	MW-301 (bg)	0.39	0.32	50	No	8	87.5	No	0.004	NP (NDs)
Selenium (ug/L)	MW-304R	1.1	0.32	50	No	8	75	No	0.004	NP (NDs)
Selenium (ug/L)	MW-305	15.08	1.366	50	No	8	0	ln(x)	0.01	Param.
Selenium (ug/L)	MW-84A (bg)	0.32	0.32	50	No	8	100	No	0.004	NP (NDs)

02/27/2026 - Classification: Internal - ECRM13684511

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 6/5/2025 2:10 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: Columbia

Confidence Interval

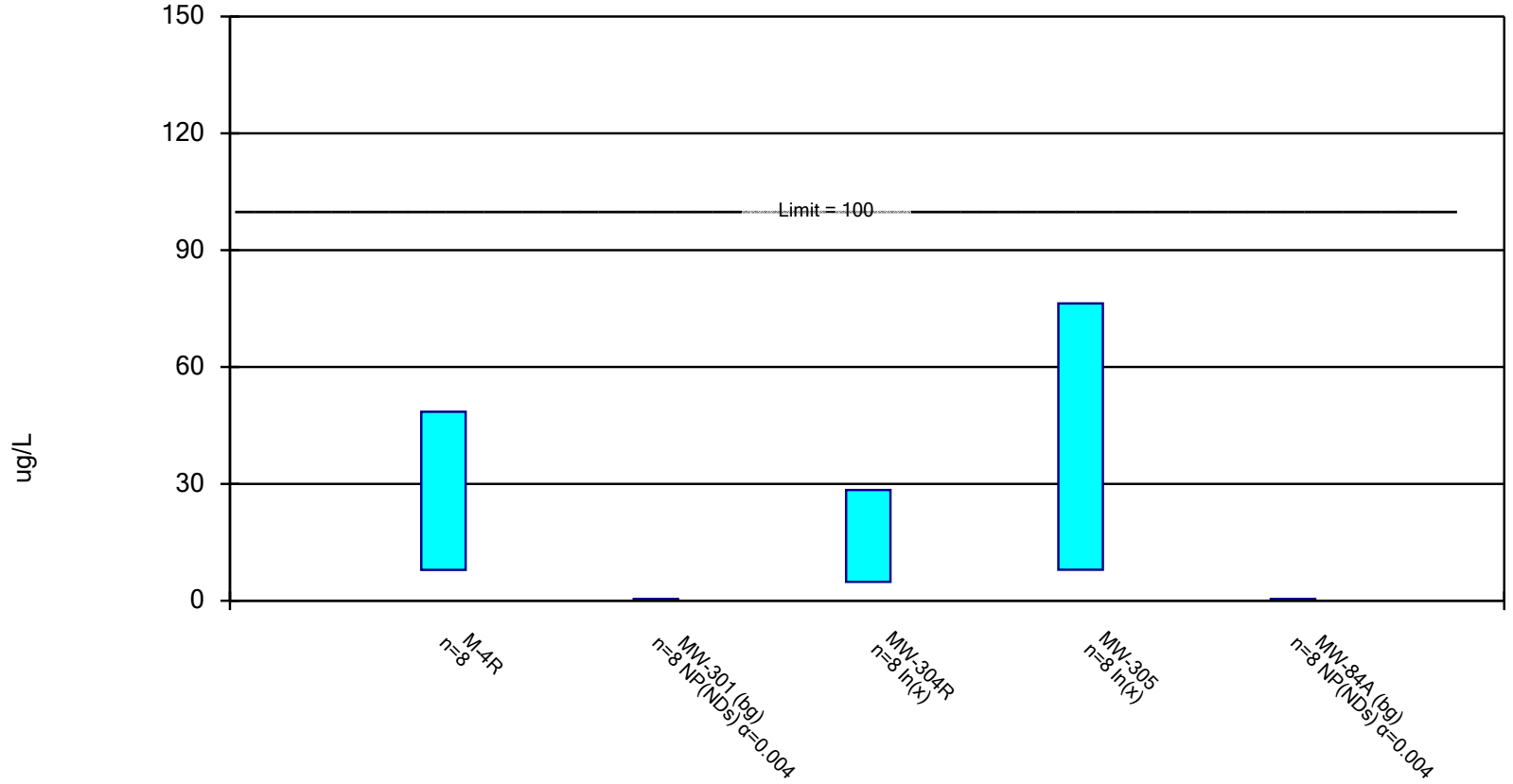
Constituent: Arsenic (ug/L) Analysis Run 6/5/2025 2:12 PM View: COL Primary Pond
Columbia Energy Center Client: SCS Engineers Data: Columbia

	M-4R	MW-301 (bg)	MW-304R	MW-305	MW-84A (bg)	MW-316
10/7/2020			2.8	0.95 (J)		
4/12/2021			1.8	0.95 (J)		
4/13/2021	<0.28 (U)					
10/11/2021	<0.28 (U)		1.6	1.4		
10/14/2021		0.35 (J)			0.41 (J)	
4/11/2022	<0.28 (U)		0.87 (J)	0.59 (J)		
4/13/2022		0.47 (J)			0.31 (J)	
10/25/2022	0.4 (J)			1.3		
10/27/2022		0.3 (J)			0.72 (J)	
1/20/2023			1.4			
4/27/2023		<0.28 (U)			<0.28 (U)	
5/5/2023						1.2
10/9/2023						1.6
10/11/2023		<0.28			<0.28	
4/17/2024		<0.28	1.8		0.29 (J)	2.6
6/4/2024	<0.28					
8/15/2024	<0.28			0.41 (J)		
10/1/2024	<0.28		1.7	0.42 (J)		
10/2/2024		<0.28			<0.28	4.4
4/21/2025	<0.28 (U)		1.1			
4/22/2025		<0.28 (U)		0.44 (J)	<0.28 (U)	5.2
Mean	0.295	0.315	1.634	0.8075	0.3563	3
Std. Dev.	0.04243	0.06719	0.5786	0.4008	0.1535	1.744
Upper Lim.	0.4	0.47	2.247	1.232	0.72	5.922
Lower Lim.	0.28	0.28	1.02	0.3826	0.28	0.07834

ND substitution: RL or RL/2 if <15% NDs.

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum Analysis Run 6/5/2025 2:10 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: Columbia

Confidence Interval

Constituent: Molybdenum (ug/L) Analysis Run 6/5/2025 2:12 PM View: COL Primary Pond

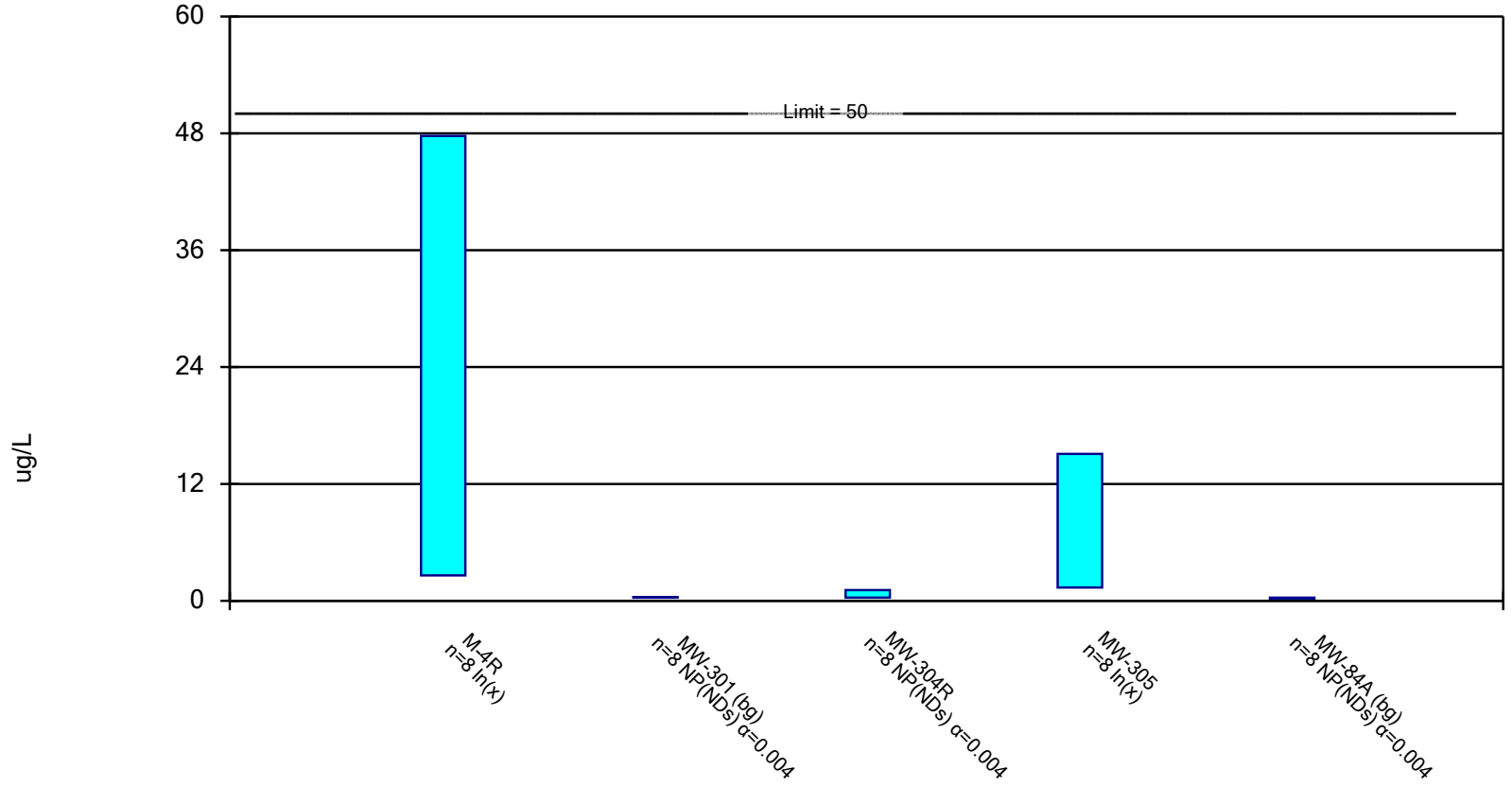
Columbia Energy Center Client: SCS Engineers Data: Columbia

	M-4R	MW-301 (bg)	MW-304R	MW-305	MW-84A (bg)
10/7/2020			12		
4/12/2021			13		
4/13/2021	41.1				
10/11/2021	60.7		13.5	124	
10/14/2021		<0.44 (U)			<0.44 (U)
2/24/2022				35.8	
4/11/2022	42.5		9.8	45.9	
4/13/2022		<0.44 (U)			<0.44 (U)
7/27/2022				35.1	
10/25/2022	34.5			44.9	
10/27/2022		<0.44 (U)			<0.44 (U)
1/20/2023			2.4		
4/27/2023		<0.44 (U)			<0.44 (U)
10/11/2023		<0.44 (U)			<0.44 (U)
4/17/2024		<0.44	52.2		<0.44
6/4/2024	9.7				
8/15/2024	10.9			7.4	
10/1/2024	14.1		14.5	6	
10/2/2024		<0.44			<0.44
4/21/2025	12.2		9.5		
4/22/2025		<0.44 (U)		9.6	<0.44 (U)
Mean	28.21	0.44	15.86	38.59	0.44
Std. Dev.	19.14	0	15.16	38.33	0
Upper Lim.	48.5	0.44	28.45	76.34	0.44
Lower Lim.	7.93	0.44	4.829	7.968	0.44

ND substitution: RL or RL/2 if <15% NDs.

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Selenium Analysis Run 6/5/2025 2:10 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: Columbia

Confidence Interval

Constituent: Selenium (ug/L) Analysis Run 6/5/2025 2:12 PM View: COL Primary Pond
Columbia Energy Center Client: SCS Engineers Data: Columbia

	M-4R	MW-301 (bg)	MW-304R	MW-305	MW-84A (bg)
10/7/2020			<0.32 (U)	7.6	
4/12/2021			1.1	8	
4/13/2021	3.7				
10/11/2021	2.3		0.35 (J)	4.5	
10/14/2021		<0.32 (U)			<0.32 (U)
4/11/2022	3		<0.32 (U)	21.5	
4/13/2022		<0.32 (U)			<0.32 (U)
10/25/2022	5.8			9.1	
10/27/2022		<0.32 (U)			<0.32 (U)
1/20/2023			<0.32 (U)		
4/27/2023		<0.32 (U)			<0.32 (U)
10/11/2023		<0.32 (U)			<0.32 (U)
4/17/2024		<0.32	<0.32		<0.32
6/4/2024	116				
8/15/2024	20.2			0.6 (J)	
10/1/2024	25.4		<0.32	1.4	
10/2/2024		0.39 (J)			<0.32
4/21/2025	27.2		<0.32 (U)		
4/22/2025		<0.32 (U)		4	<0.32 (U)
Mean	25.45	0.3287	0.4212	7.088	0.32
Std. Dev.	38.04	0.02475	0.2745	6.585	0
Upper Lim.	47.74	0.39	1.1	15.08	0.32
Lower Lim.	2.606	0.32	0.32	1.366	0.32

ND substitution: RL or RL/2 if <15% NDs.

Appendix G

Alternative Source Demonstration

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Alternative Source Demonstration
October 2024 Assessment Monitoring

Primary Ash Pond
Columbia Energy Center
Pardeeville, Wisconsin

Prepared for:



SCS ENGINEERS

25224067.00 | April 29, 2025

2830 Dairy Drive
Madison, WI 53718-6751
608-224-2830

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PE CERTIFICATION



I, Sherren Clark, hereby certify that that the information in this alternative source demonstration is accurate and meets the requirements of 40 CFR 257.95(g)(3)(ii). This certification is based on my review of the groundwater data and related site information available for the Columbia Energy Center Primary Ash Pond. I am a duly licensed Professional Engineer under the laws of the State of Wisconsin.

4-28-2025

(signature) (date)

Sherren Clark, PE

(printed or typed name)

License number E-29863

My license renewal date is July 31, 2026.

Pages or sheets covered by this seal:
Alternative Source Demonstration, October 2024 Assessment Monitoring, Primary Ash Pond, Columbia Energy Center, Pardeeville, Wisconsin

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1.0 INTRODUCTION

This Alternative Source Demonstration (ASD) was prepared to support compliance with the groundwater monitoring requirements of the "Coal Combustion Residuals (CCR) Final Rule" published by the U.S. Environmental Protection Agency (U.S. EPA) in the *Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule*, dated April 17, 2015 (U.S. EPA, 2015), and subsequent amendments. Specifically, this report was prepared to fulfill the requirements of 40 CFR 257.95(g)(3)(ii). The applicable sections of the Rule are provided below in *italics*.

1.1 §257.95(G)(3)(II) ALTERNATIVE SOURCE DEMONSTRATION REQUIREMENTS

40 CFR 257.95(g)(3): Within 90 days of finding that any of the constituents listed in Appendix IV to this part have been detected at a statistically significant level exceeding the groundwater protection standards the owner or operator must either:

(i) Initiate an assessment of corrective measures as required by § 257.96; or

(ii) Demonstrate that a source other than the CCR unit caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Any such demonstration must be supported by a report that includes the factual or evidentiary basis for any conclusions and must be certified to be accurate by a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority. If a successful demonstration is made, the owner or operator must continue monitoring in accordance with the assessment monitoring program pursuant to this section, and may return to detection monitoring if the constituents in Appendix III and Appendix IV of this part are at or below background as specified in paragraph (e) of this section. 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 or the approval from the Participating State Director or the approval from EPA where EPA is the permitting authority.

An ASD is completed when there are exceedances of one or more benchmarks established within the groundwater monitoring program to determine if any other sources are likely causes of the identified exceedance(s) of established benchmark(s) at the site. This ASD was performed in response to results indicating that arsenic was identified to be at a statistically significant level (SSL) above the groundwater protection standard (GPS) based on the results of the October 2024 assessment monitoring event.

1.2 SITE INFORMATION AND MAP

The COL site is located at W8375 Murray Road, Pardeeville, Columbia County, Wisconsin (**Figure 1**). It is an active coal-burning generating station, which has been burning coal and disposing of CCR on site since the mid-1970s. The layout of the site is shown on **Figure 2**. The COL property formerly included two CCR surface impoundments: the Primary Pond (existing CCR surface impoundment) and the Secondary Pond (inactive CCR surface impoundment). This ASD evaluates the conditions at

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the site for the Primary Ash Pond only. The CCR has been removed from both former impoundments, as described below.

The groundwater monitoring system monitors the following CCR Unit:

- COL Primary Ash Pond (existing CCR surface impoundment)

The system is designed to detect monitored constituents at the waste boundary of the Primary Ash Pond as required by 40 CFR 257.91(d). The groundwater monitoring system consists of two background monitoring wells (MW-84A and MW-301) and four downgradient monitoring wells (M-4R, MW-303, MW-304R, and MW-305). A temporary monitoring well, MW-316, was installed in 2023 to evaluate groundwater quality between compliance well MW-303 and the Primary Pond (**Figure 2**).

A map showing the CCR Units and all background (or upgradient) and downgradient monitoring wells with identification numbers for the CCR groundwater monitoring program and the state monitoring program is provided on **Figure 2**. Separate monitoring systems have been established for the other CCR Units at COL, which include the Secondary Ash Pond and Modules 1-3, Modules 4-6, and Modules 10-13 of the COL Dry Ash Disposal Facility (ADF).

On April 15, 2025, the monitoring network certification was updated to replace downgradient monitoring well MW-303 with monitoring well MW-316. This ASD addresses monitoring results collected prior to the updated network certification. The updated network will be used for the April 2025 semiannual monitoring event and future events.

In 2023, closure activities were completed for the Primary Ash Pond, including CCR removal facilitated by operation of dewatering wells installed around the perimeter of the pond to lower the groundwater table. Removal of CCR from the Primary Ash Pond was completed on October 4, 2023. In 2022, closure activities were completed for the adjacent Secondary Pond, including CCR removal facilitated by operation of dewatering wells installed around the perimeter of the Secondary Pond to lower the groundwater table elevation.

1.3 STATISTICALLY SIGNIFICANT LEVELS IDENTIFIED

The August and October 2024 results for Appendix IV parameters were compared to the GPSs established under 40 CFR 257.95(h) to evaluate whether any Appendix IV parameter was present at an SSL above the GPS. The August sampling event was performed due to concerns that M-4R and MW-305 might be dry during the October 2024 sampling. These wells had had insufficient water for sample collection during the previous sampling events. Compliance wells M-4R and MW-305 were sampled in August 2024 and all of the monitoring network wells were sampled in October 2024. The August and October 2024 results and GPS values are shown in **Table 1**.

For the October 2024 monitoring event, there were no assessment monitoring parameters for which an individual monitoring result exceeded the GPS at a compliance well; however, an SSL above the GPS was identified for arsenic at MW-303 as described below.

The U.S. EPA's Unified Guidance for Statistical Analysis of Groundwater Monitoring Data at Resource Conservation and Recovery Act (RCRA) Facilities (EPA 530-R-09-007, March 2009) recommends the use of confidence intervals for comparison of assessment monitoring data to fixed GPS values. Specifically, the suggested approach for comparing assessment groundwater monitoring data to GPS values based on long-term chronic health risk, such as drinking water Maximum Contaminant

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Levels (MCLs), is to compare the lower confidence limit (LCL) around the arithmetic mean with the fixed GPS.

An LCL evaluation was completed for each Appendix IV parameter that has been detected at a concentration exceeding the GPS in at least one sample result since assessment monitoring was initiated, which includes arsenic, molybdenum, and selenium. The LCLs were calculated with Sanitas™ using historical concentrations measured since assessment monitoring began in April 2018. The evaluation is provided in **Appendix A**. Based on the LCL evaluation using the complete data set, the arsenic results represent an SSL above the GPS for MW-303; however, molybdenum and selenium results to date do not represent SSLs above the GPS.

An LCL evaluation was also completed for all compliance and background wells using only the last eight sample results (**Appendix A**). Based on the LCL evaluation for the last eight sampling events, arsenic is at an SSL above the GPS at MW-303.

Arsenic was first determined to be at an SSL above the GPS at MW-303 in the evaluation of the October 2022 monitoring results based on a confidence band around a statistically significant increasing trend for the last eight monitoring events, as calculated using the Mann-Kendall/Sen's Slope analysis in Sanitas. The previously identified SSL for arsenic at MW-303 was attributed to alternative sources in an alternative source demonstration completed on June 9, 2023. In the evaluation of the April 2023 monitoring results, the arsenic concentration had decreased to a value below the GPS, and arsenic was not determined to be at an SSL above the GPS. The October 2023 arsenic result at MW-303 was higher than the April 2023 result, with the evaluation of the result indicating that arsenic was at an SSL above the GPS. The October 2023 SSL was also attributed to alternative sources in an alternative source demonstration completed on May 2, 2024.

Although the October 2024 arsenic result was below the GPS, the October 2023 and April 2024 arsenic results at MW-303 both exceeded the GPS; therefore, the arsenic results for this well were also evaluated for a potential increasing trend using a Mann-Kendall analysis (**Appendix A**). Trend analysis for the arsenic results obtained since assessment monitoring began did not indicate a significant trend. To focus on the more recent data, Mann-Kendall trend analysis was also performed for the last eight samples (**Appendix A**). The analysis of the last eight samples indicated no significant increasing trend.

In summary, based on the LCL evaluation for the last eight sampling events, arsenic is at an SSL above the GPS at MW-303. The recent data do not indicate a significant increasing trend and the most recent result was below the GPS.

Time series plots for arsenic at the Primary Pond monitoring wells are provided in **Appendix B.**

1.4 OVERVIEW OF ALTERNATIVE SOURCE DEMONSTRATION

This ASD report includes:

- Background information (**Section 2.0**).
- Evaluation of potential that SSLs are due to methodology or analysis (**Section 3.0**).
- Evaluation of potential that SSLs are due to natural sources or man-made sources other than the CCR Units (**Section 4.0**).
- ASD conclusions (**Section 5.0**).
- Monitoring recommendations (**Section 6.0**).

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The CCR Rule constituent results from background and compliance sampling for arsenic are provided in Table 2. The laboratory reports for the October 2024 assessment monitoring event were reviewed, finalized, and transmitted in January 2025, and will be included in the 2025 Annual Groundwater Monitoring and Corrective Action Report to be completed in January 2026. Complete laboratory reports for the background monitoring events and the previous detection monitoring events were included in previous annual groundwater monitoring and corrective action reports.

2.0 BACKGROUND

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

- Geologic and hydrogeologic setting
- CCR Rule monitoring system
- Other monitoring wells

A more detailed discussion of the background information for the site is provided in the ASD for the COL Dry Ash Disposal Facility - Modules 1-3 for the October 2017 event (SCS, 2018).

2.1 REGIONAL GEOLOGY AND HYDROGEOLOGY

2.1.1 Regional Information

For the purposes of groundwater monitoring, the surficial sand and gravel aquifer is considered the uppermost aquifer, as defined under 40 CFR 257.53. Immediately underlying the surficial sand and gravel aquifer is the Cambrian-Ordovician sandstone aquifer.

A summary of the regional hydrogeologic stratigraphy is presented in Appendix C. The sand and gravel aquifer is capable of producing sufficient water for industrial or municipal use in some parts of Columbia County and is capable of producing sufficient water for domestic use in many areas, including along the Wisconsin River near the Columbia Energy Center (Harr et al., 1978). A map showing expected well yields within the sand and gravel aquifer in Columbia County is included in Appendix C.

Regional groundwater flow in the site vicinity is generally west toward the Wisconsin River. A map showing the regional water table elevations is included with the regional hydrogeologic information in Appendix C.

2.1.2 Site Information

Soils at the site are primarily sand to a depth of approximately 50 to 100 feet and overlie sandstone bedrock. Soils encountered during the site feasibility study for the COL Ash Disposal Facility were described as generally sandy with interbedded silty clay lenses up to 20 feet thick (Warzyn, 1978). During drilling of CCR wells MW-301, MW-303, MW-304R, and MW-305, the unconsolidated materials were identified as consisting primarily of silty sand and sand. Boring logs for previously-installed monitoring wells MW-84A and M-4R show silty sand and sand as the primary unconsolidated materials at these locations. The boring logs for Primary Ash Pond CCR monitoring wells are provided in Appendix B of the 2023 Annual Report (SCS Engineers, 2024). The boring log for monitoring well MW-316 is included in the October 2022 ASD for the Primary Pond (SCS Engineers, 2023), which is included in Appendix F of the 2023 Annual Report (SCS Engineers, 2024). All CCR monitoring wells are screened within the unconsolidated sand unit.

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In the vicinity of the ash ponds, groundwater historically flowed radially away from the ponds in all directions when the ponds were in operation for CCR management. The October 2020 water table is shown on **Figure 3** as an example of the typical historical flow patterns.

As discussed in **Section 1.2**, closure activities for the Secondary Pond and Primary Ash Pond were ongoing in 2022 and 2023. The groundwater dewatering pumps for the Secondary Pond operated in 2022 and were shut off on November 30, 2022. Groundwater dewatering pumps for the Primary Ash Pond were turned on March 8, 2023, and shut off September 11, 2023. Primary Pond excavation began on March 20, 2023, and was completed on October 4, 2023. The October 2022, May 2023, and October 2023 water levels and apparent flow directions, shown on **Figures 4**, **5**, and **6**, reflect the influence of the dewatering and excavation of the Secondary Pond and the Primary Ash Pond. Excavation of the Primary Pond was completed just prior to the October 2023 sampling event. The April, August, and October 2024 groundwater maps, shown on **Figures 7**, **8**, and **9**, indicate groundwater flow direction is toward the Wisconsin River and generally shows that groundwater flow directions around the Primary Pond are no longer impacted by dewatering and excavation activities.

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 four downgradient monitoring wells. The background wells include MW-301 and MW-84A. At the time of the October 2024 sampling event, the downgradient wells included MW-303, MW-304R, MW-305, and M-4R. Monitoring well MW-304 was damaged by heavy equipment during the impoundment closure. MW-304 was abandoned and replaced with MW-304R on March 18, 2024. The monitoring system was recertified on September 26, 2024. The CCR Rule wells are installed within the sand and gravel aquifer. Well depths range from approximately 25 to 41 feet, measured from the top of the well casing. One supplemental downgradient well, MW-316, is located to the south of the Primary Pond. This well has replaced MW-303 in the monitoring system, and the monitoring system was recertified on April 15, 2025.

2.3 OTHER MONITORING WELLS

Additional groundwater monitoring wells currently exist at COL as part of the monitoring systems developed for the state monitoring program and for the other CCR Units.

Monitoring wells for the state monitoring program are installed in the unconsolidated sand and gravel unit, which is the uppermost aquifer as defined under 40 CFR 257.53. This shallow monitoring system includes water table wells and mid-depth piezometers. Well depths range from approximately 14 to 76 feet, measured from the top of the well casing.

A temporary monitoring well, MW-316, was installed in April 2023 to support the source evaluation for the arsenic SSL in the ASD for the October 2022 monitoring event. Monitoring well MW-316 is located between well MW-303 and the Primary Ash Pond (**Figure 2**) and is also installed in the unconsolidated sand and gravel unit that comprises the uppermost aquifer. As discussed in **Section 2.0**, MW-316 replaced compliance well MW-303 in the Primary Pond network in 2025.

3.0 METHODOLOGY AND ANALYSIS REVIEW

To evaluate the potential that an SSL is due to a source other than the regulated CCR Unit, SCS used a two-step evaluation process. First, the sample collection, field and laboratory analysis, and statistical evaluation were reviewed to identify any potential error or analysis that led to exceedance of the benchmark. Second, potential alternative sources, including natural variation and man-made

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sources other than the CCR Unit, were evaluated. This section of the report provides the findings of the methodology and analysis review. Section 4.0 of the report addresses the potential alternative sources.

3.1 SAMPLING AND FIELD ANALYSIS

Field notes and sampling results were reviewed to determine if any sampling error may have caused or contributed to the observed SSL. Potential field sampling errors or issues could include mislabeling of samples, improper sample handling, missed holding times, cross contamination during sampling, or other field errors. Field blank sample results were also reviewed for any indication of potential contamination from sampling equipment or containers.

Based on the review of field notes and comparison to previous results, no sampling error issues were identified in the laboratory analytical reports or the field notes that would indicate a sampling error may have caused or contributed to the observed SSL. The historical results for arsenic are summarized in Table 2.

3.2 LABORATORY ANALYSIS REVIEW

The laboratory reports for the October 2024 assessment monitoring event were reviewed to determine if any laboratory analysis error or issue may have caused or contributed to an observed SSL for arsenic. The laboratory report review included reviewing the laboratory quality control flags and narrative, verifying that correct methods were used and desired detection limits were achieved, and checking the field and laboratory blank sample results.

Based on the review of the laboratory reports, SCS did not identify any issues that indicate the SSL for arsenic may have been due to a laboratory analysis error. There were no laboratory quality control flags or issues identified in the laboratory reports that affect the usability of the data for assessment monitoring.

A time series plot of the arsenic analytical data was also reviewed for anomalous results that might indicate a possible sampling or laboratory error (e.g., dilution error or incorrect sample labeling). The time series plot is provided in Appendix B. Arsenic concentrations at MW-303 have been highly variable since sampling began, but the variations do not appear to reflect a sampling or laboratory error.

3.3 STATISTICAL EVALUATION REVIEW

The review of the statistical results and methods included a quality control check of the following:

- Input analytical data vs. laboratory analytical reports
- Statistical method and process for each SSL

Based on the review of the statistical evaluation, SCS did not identify any errors in the statistical evaluation that caused or contributed to the determination that arsenic was at an SSL above the GPS for the October 2024 assessment monitoring event.

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3.4 SUMMARY OF METHODOLOGY AND ANALYSIS REVIEW FINDINGS

In summary, arsenic was determined to be at an SSL above the GPS based on the October 2024 monitoring event. There were no changes to the SSL determinations for the October 2024 monitoring event based on the methodology and analysis review. No errors or issues causing or contributing to the reported SSL were identified.

4.0 ALTERNATIVE SOURCES

This section of the report discusses the potential alternative sources for the arsenic SSL at monitoring well MW-303, identifies the most likely alternative source(s), and presents the lines of evidence indicating that an alternative source is the most likely cause of the observed SSL.

4.1 POTENTIAL CAUSES OF SSL

4.1.1 Natural Variation

Natural variation can cause or contribute to an SSL if the background concentration at the compliance well location is naturally higher than the upgradient concentrations and higher than the GPS. Since monitoring well MW-303 was not installed and sampled prior to operation of the Primary Pond and other CCR management activities at the site, the true background concentration at this location is not known. Natural arsenic concentrations can vary in groundwater in response to changes in soil type and redox conditions.

The arsenic concentrations at MW-303 can be compared with the concentrations at the upgradient wells and other compliance wells by reviewing the LCL evaluations (Appendix A) and the times series plot (Appendix B). Relative to the other wells, the arsenic concentrations for MW-303 are significantly higher and also much more variable. Based on the observed concentrations, it appears unlikely that natural variation is the primary cause of the arsenic SSL.

4.1.2 Man-Made Alternative Sources

Man-made alternative sources that could potentially contribute to the arsenic SSL at Primary Pond monitoring well MW-303 could include the closed ash landfill, the product recycling area, or other CCR management activities.

Recent changes in groundwater flow due to dewatering activities make determination of man-made alternative sources uncertain. CCR removal activities from the Secondary Ash Pond and the Primary Pond in 2022 and 2023 could also contribute to movement of arsenic in groundwater from uncertain sources. Changes in groundwater flow direction and differing recharge patterns caused by dewatering and subsequent movement of surface water to the ponds could also affect the ambient redox conditions, and mobilize naturally occurring arsenic.

4.2 LINES OF EVIDENCE

The lines of evidence indicating that the GPS exceedance for arsenic is due to an alternative source include:

1. Monitoring well MW-316, installed between well MW-303 and the Primary Pond in 2023, has a low arsenic concentration.

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2. CCR wells located immediately adjacent to the Primary Pond have always had low arsenic. The low arsenic concentrations in samples from MW-316 are consistent with those results.

3. The effects of the completed dewatering activities on the arsenic concentrations at MW-303 indicate that the Primary Pond is not the source of arsenic at MW-303, and suggest the closed ash landfill is a more likely source.

4.2.1 Low Arsenic Concentration in Well MW-316

Monitoring well MW-316, installed between well MW-303 and the Primary Pond in 2023, has a low arsenic concentration. Elevated arsenic concentrations would be expected at MW-316 if the Primary Pond is the source of the arsenic SSL at MW-303.

Unlike the other Primary Pond compliance wells, which were installed at the edge of the Primary Pond, well MW-303 was installed approximately 700 feet south of the impounded water due to active ash management and beneficial use activities adjacent to the Primary Pond. Closure activities have since provided room to install the new well MW-316 approximately 500 feet closer to the Primary Pond. MW-316 was specifically installed to evaluate the Primary Pond as a potential source of the elevated arsenic in well MW-303. Prior to the groundwater dewatering and pond closure activities, groundwater flowed from the Primary Pond, past the location of the new MW-316 well, then toward well MW-303 (**Figures 2** and **3**).

Monitoring well MW-316 was installed on April 27, 2023, and has been sampled semiannually. The laboratory results for the groundwater arsenic concentrations have ranged from 1.2 µg/L in May 2023 to 4.4 µg/L in October 2024 (**Appendix B**). Since well MW-316 is located on the historical groundwater flow path between the Primary Pond and well MW-303, it appears unlikely that the Primary Pond is the source of the elevated arsenic in well MW-303.

4.2.2 Low Arsenic in Other Primary Pond Wells

CCR wells located immediately adjacent to the Primary Pond have always had low arsenic. The low arsenic concentrations in temporary well MW-316 are consistent with those results. Due to historic radial flow outward from the Primary Pond, elevated arsenic concentrations at multiple compliance wells would be expected if the Primary Pond were the source of arsenic at MW-303.

Arsenic concentrations at Primary Pond compliance wells M-4R, MW-304, MW-304R, and MW-305 have ranged from less than 0.099 µg/L to 0.47 µg/L in well M-4R, from 0.63 µg/L to 3.2 µg/L in wells MW-304 and MW-304R, and from 0.20 µg/L to 1.4 µg/L in well MW-305 (**Table 2**). These wells are located immediately adjacent to the Primary Pond, which has historically been a source of groundwater infiltration with radial flow, while MW-303 is located much further from the Primary Pond, as discussed in **Section 4.2.1**. Based on the historical arsenic results for the Primary Pond wells located immediately adjacent to the pond, it appears unlikely that the Primary Pond is the source of the elevated arsenic in well MW-303.

4.2.3 Groundwater Flow Direction Impacts on Arsenic Concentration in Well MW-303

The effects of the groundwater dewatering activities and flow directions changes on the arsenic concentrations at MW-303 indicate that the Primary Pond is not the source of arsenic at MW-303, and suggest the closed ash landfill is a more likely source. Arsenic concentrations at MW-303 increased in 2022, when groundwater dewatering was ongoing for the Secondary Pond closure,

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decreased in 2023 when groundwater dewatering was ongoing for the Primary Pond closure, and increased after dewatering systems had been shut down in late 2023, and decreased again in late 2024.

Groundwater dewatering wells for closure of the Secondary Pond were installed from fall 2021 through summer 2022. The complete Secondary Pond groundwater dewatering system was operational by August 2, 2022, and continued to operate until November 30, 2022, discharging into the Primary Pond. In preparation for Primary Pond closure activities, discharge from the plant to the Primary Pond was reduced beginning in October 2022 and was terminated in March 2023. Groundwater dewatering for the Primary Pond closure began in March 2023 and was completed in September 2023.

Historically, the ponds were a source of infiltration, with groundwater mounding and radial flow (October 2020, **Figure 3**). Under dewatering conditions, flow was toward the dewatering wells around the Secondary Pond (e.g., October 2022, **Figure 4**) or the Primary Pond (e.g., May 2023, **Figure 5**). Shortly following the pump shutdown and completion of the excavation of the Primary Pond, groundwater continued to flow toward the Primary Pond from the MW-303 area (October 2023, **Figure 6**). For the period when flow was toward the Secondary Pond in 2022, MW-303 was located between the closed fly ash landfill and the Secondary Pond, which suggests that the closed fly ash landfill may be a source of elevated arsenic in MW-303. In May 2023, with flow toward the Primary Pond, MW-303 was no longer downgradient from the closed landfill, and the arsenic concentration decreased. In October 2023, water levels indicated flow toward the Primary Pond, but since the pumps had only recently been turned off, it is likely that flow directions and groundwater levels were still recovering from pumping. Under these conditions, it is more difficult to confirm the source of arsenic at MW-303, but since the Primary Pond is downgradient from MW-303 it is not a likely source.

The water table map for April 2024 (**Figure 7**) shows conditions after more time had elapsed following the dewatering activities. The map shows that in April 2024, MW-303 was potentially downgradient from the closed fly ash landfill, with a higher water table elevation on the west side of the landfill than at MW-303, east of the landfill. The water table map for October 2024 (**Figure 8**) shows groundwater in the vicinity of MW-303 flowing from east to west. Under these conditions, a much lower concentration of arsenic was detected in the October 2024 sample.

Due to dewatering, excavation, and closure of the ponds, as well as variations in recharge to the aquifer, arsenic concentrations at MW-303 have been highly variable. The observed variations in concentration, in combination with the observed variations in flow direction, suggest that an alternative source of arsenic is likely.

5.0 ALTERNATIVE SOURCE DEMONSTRATION CONCLUSIONS

The lines of evidence discussed above regarding the SSL reported for arsenic in compliance monitoring well MW-303 demonstrate that the SSL is likely due to sources other than the CCR Unit. The CCR wells located immediately adjacent to the Primary Pond have always had low arsenic. The low arsenic concentration in monitoring well MW-316, located between the Primary Pond and MW-303, is consistent with those results. Based on the recent flow direction changes and the observed changes in arsenic concentration at MW-303, the closed fly ash landfill appears to be a likely source of the elevated arsenic at MW-303.

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6.0 SITE GROUNDWATER MONITORING RECOMMENDATIONS

In accordance with section 257.95(g)(3)(ii) of the CCR Rule, the Primary Pond CCR Unit may continue with assessment monitoring based on this ASD. The ASD report will be included in the 2025 Annual Report due January 31, 2026.

7.0 REFERENCES

SCS Engineers, 2018, Alternative Source Demonstration, October 2017 Detection Monitoring, Columbia Energy Center Dry Ash Disposal Facility, April 2018.

SCS Engineers, 2023, Alternative Source Demonstration, October 2022 Assessment Monitoring, Primary Ash Pond, Columbia Energy Center, June 9, 2023.

SCS Engineers, 2024, 2023 Annual Groundwater Monitoring and Corrective Action Report, Primary Ash Pond, Columbia Energy Center, January 31, 2024.

U.S. EPA, 2015, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule, April 2015.

Warzyn Engineering, Inc., 1978, Feasibility Study, Proposed Fly Ash and/or Scrubber Sludge Disposal Facility – Columbia Site, Wisconsin Power and Light Company, Town of Pacific, Columbia County, WI, January 1978.

Warzyn Engineering, Inc., 1979, and Preliminary Engineering Concepts, Columbia Site, Wisconsin Power and Light Company, Town of Pacific, Columbia County, WI, January 1978.

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Tables

1 Groundwater Analytical Results Summary – October 2024 Event
2 Historical Analytical Results for Arsenic
3 Groundwater Elevation – State Monitoring Program and CCR Well Network

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Table 1. Groundwater Analytical Results Summary - Assessment Monitoring - August and October 2024
Columbia Generating Station - Primary Pond / SCS Engineers Project #25224067.00

Parameter Name	UPL/UTL Method	UPL		Background Wells		Compliance Wells						Supplemental Well
				MW-84A	MW-301	M-4R		MW-303	MW-304R	MW-305		MW-316
				10/2/2024	10/2/2024	8/15/2024	10/1/2024	10/2/2024	10/1/2024	8/15/2024	10/1/2024	10/2/2024
Groundwater Elevation, ft amsl				787.14	787.92	784.27	783.42	785.30	784.91	783.75	782.80	784.80
Appendix III												
Boron, µg/L	NP	36.2		10.3	22.1	651	854	2,750	874	524	803	1,540
Calcium, µg/L	NP	126,000		73,300	97,000 P6	124,000	111,000	47,700	90,300	35,400	34,100	25,100
Chloride, mg/L	P	5.91		3.3	1.5 J	24.1	11.9	9.7	31.2	4.0	16.9	18.5
Fluoride, mg/L	NP	0.2		<0.095	0.13 J	<0.95 D3	0.23 J	0.097 J	0.26 J	0.20 J	0.16 J	0.24 J
Field pH, Std. Units	P	7.75		7.36	6.85	6.95	7.19	8.69	7.27	7.89	8.25	8.53
Sulfate, mg/L	NP	27.5		1.8 J	10.4	238	146	258	128	23.3	50.9	152
Total Dissolved Solids, mg/L	NP	514		318	410	604	524	488	538	158	170	360
Appendix IV		**UTL**	**GPS**									
Antimony, µg/L	NP	0.550	6	<0.15	<0.15	0.23 J	0.23 J	<0.15	<0.15	0.41 J	0.34 J	<0.15
Arsenic, µg/L	NP	0.910	10	<0.28	<0.28	<0.28	<0.28	3.9	1.7	0.41 J	0.42 J	4.4
Barium, µg/L	P	18	2000	13.6	10.6	43.2	33.2	22.0	80.4	7.8	6.5	23.1
Beryllium, µg/L	NP	0.470	4	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Cadmium, µg/L	NP	0.530	5	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
Chromium, µg/L	NP	2.6	100	1.7 J	<1.0	1.3 J	<1.0	53.0	<1.0	3.1 J	3.4 J	<1.0
Cobalt, µg/L	NP	0.520	6	<0.12	<0.12	0.68 J	0.13 J	0.34 J	0.84 J	<0.12	<0.12	0.13 J
Fluoride, mg/L	NP	0.2	4	<0.095	0.13 J	<0.95 D3	0.23 J	0.097 J	0.26 J	0.20 J	0.16 J	0.24 J
Lead, µg/L	NP	0.550	15	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24
Lithium, µg/L	P	0.872	40	0.57 J	0.80 J	0.88 J	2.6	1.4	1.7	0.41 J	<0.22	1.3
Mercury, µg/L	DQ	DQ	2	<0.066	<0.066	<0.066	0.067 J	<0.066	<0.066	<0.066	<0.066	<0.066
Molybdenum, µg/L	NP	0.620	100	<0.44	<0.44	10.9	14.1	47.4	14.5	7.4	6.0	100
Selenium, µg/L	NP	0.710	50	<0.32	0.39 J	20.2	25.4	14.4	<0.32	0.60 J	1.4	<0.32
Thallium, µg/L	NP	0.660	2	<0.14	0.15 J	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14
Radium 226/228 Combined, pCi/L	P	1.95	5	0.668	0.833	0.250	0.865	0.334	0.538	0.000	0.608	1.01

Blue shaded cell indicates the compliance well result exceeds the UPL (background) and the LOQ.
Yellow highlighted cell indicates the compliance well result exceeds the GPS.

Abbreviations:
UPL = Upper Prediction Limit
GPS = Groundwater Protection Standard
NP = Nonparametric UPL (highest background value) with 1-of-2- retesting
P = Parametric UPL with 1-of-2 retesting
DQ = Double Quantification Rule (not detected in background).
mg/L = milligrams per liter
µg/L = micrograms per liter

Lab Notes:
J = Estimated concentration at or above the LOD and below the LOQ.
D3 = Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
P6 = Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

Notes:
1. An individual result above the UPL or GPS does not constitute a statistically significant increase (SSI) above background or a statistically significant level above the GPS. See the accompanying letter text for identification of statistically significant results.
2. GPS is the United States Environmental Protection Agency (U.S. EPA) Maximum Contamination Level (MCLs), if established; otherwise, the values from 40 CFR 257.95(h)(2).
3. Interwell UPLs calculated based on results from background wells MW-84A and MW-301.
4. For compliance wells, only results confirmed above the LOQ are evaluated as potential statistically significant increases above background.
5. Interwell UPLs and UTLs were updated September 2024 based on background data collected through October 2023.

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Table 2. Historical Analytical Results for Arsenic
Columbia Dry Ash Disposal Facility - Primary Pond

Well Group	Well	Collection Date	Arsenic (µg/L)
Background	MW-301	12/22/2015	0.26 J
		4/5/2016	0.26 J
		7/8/2016	0.19 J, 1q
		10/13/2016	0.24 J
		12/29/2016	0.40 J, 1q
		1/25/2017	0.13 J
		4/11/2017	0.18 J, 1q
		6/6/2017	<0.28
		8/8/2017	<0.28
		4/25/2018	<0.28
		8/8/2018	0.45 J
		10/24/2018	<0.28
		4/2/2019	0.40 J
		10/9/2019	0.42 J
		2/3/2020	<0.28
		5/29/2020	0.33 J
		10/8/2020	0.62 J
		4/14/2021	<0.28
		10/14/2021	0.35 J
		4/13/2022	0.47 J
		10/27/2022	0.30 J
		4/27/2023	<0.28
		10/11/2023	<0.28
		4/17/2024	<0.28
		10/2/2024	<0.28
	MW-84A	12/22/2015	0.15 J
		4/5/2016	0.29 J
		7/8/2016	0.14 J, 1q
		10/13/2016	0.35 J
		12/29/2016	0.19 J, 1q
		1/25/2017	0.35 J
		4/11/2017	<0.099 1q
		6/6/2017	<0.28
		8/8/2017	0.28 J
		4/25/2018	<0.28
		8/8/2018	<0.28
		10/24/2018	0.33 J
		4/3/2019	<0.28
		10/9/2019	0.46 J
		2/3/2020	0.38 J
		5/29/2020	0.34 J
		10/8/2020	0.49 J
		4/14/2021	0.91 J
		10/14/2021	0.41 J
		4/13/2022	0.31 J
		10/27/2022	0.72 J
		4/27/2023	<0.28
		10/11/2023	<0.28
		4/17/2024	0.29 J
		10/2/2024	<0.28

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Table 2. Historical Analytical Results for Arsenic
Columbia Dry Ash Disposal Facility - Primary Pond

Well Group	Well	Collection Date	Arsenic (µg/L)
Compliance	M-4R	12/22/2015	0.17 J
		4/4/2016	0.2 J
		7/7/2016	0.18 J
		10/12/2016	0.25 J
		1/25/2017	0.47 J
		4/11/2017	<0.099
		6/5/2017	0.33 J
		8/9/2017	<0.28
		4/23/2018	0.36 J
		8/7/2018	<0.28
		10/24/2018	<0.28
		4/1/2019	<0.28
		10/7/2019	0.37 J
		5/27/2020	0.39 J
		10/7/2020	0.44 J
		4/13/2021	<0.28
		10/11/2021	<0.28
		4/11/2022	<0.28
		10/25/2022	0.40 J
		4/17/2024	NS
		6/4/2024	<0.28
		8/15/2024	<0.28
		10/1/2024	<0.28
	MW-303	12/21/2015	49.2
		4/4/2016	12.6
		7/7/2016	27.9
		10/12/2016	13.4
		1/26/2017	27
		4/10/2017	12.1
		6/6/2017	9.1
		8/8/2017	12.0
		4/24/2018	39.1
		8/8/2018	8.7
		9/21/2018	6.0
		10/24/2018	7.8
		4/1/2019	33.2
		6/19/2019	5.3
		10/7/2019	10.2
		5/27/2020	5.9
		10/7/2020	9.5
		2/25/2021	7.7
		4/12/2021	10.4
		7/20/2021	13.9
		10/12/2021	18.6
		2/24/2022	28.8
		4/12/2022	27.1
		7/27/2022	29.4
		10/26/2022	52.0
		4/24/2023	4.0
		10/9/2023	36.3
		4/17/2024	40.4
		10/2/2024	3.9

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Table 2. Historical Analytical Results for Arsenic
Columbia Dry Ash Disposal Facility - Primary Pond

Well Group	Well	Collection Date	Arsenic (µg/L)
Compliance	MW-304	12/21/2015	2.3
		4/4/2016	1.1
		7/7/2016	1.2
		10/13/2016	1.8
		1/26/2017	0.99 J
		4/10/2017	0.98 J, 1q
		6/5/2017	1.1
		8/8/2017	1.0
		4/24/2018	0.64 J
		8/8/2018	0.76 J
		10/24/2018	1.6
		4/2/2019	0.63 J
		10/7/2019	3.2
		5/27/2020	1.3
		10/7/2020	2.8
		4/12/2021	1.8
		10/11/2021	1.6
		4/11/2022	0.87 J
	MW-304R	4/17/2024	1.8
		10/1/2024	1.7
	MW-305	12/21/2015	0.56 J
		4/4/2016	0.34 J
		7/8/2016	0.26 J, 1q
		10/13/2016	0.27 J
		1/25/2017	0.78 J
		4/10/2017	0.20 J, 1q
		6/5/2017	0.37 J
		8/7/2017	0.43 J
		4/23/2018	0.48 J
		8/7/2018	0.42 J
		10/24/2018	0.40 J
		4/1/2019	<0.28
		10/7/2019	0.49 J
		5/27/2020	0.75 J
		10/7/2020	0.95 J
		4/12/2021	0.95 J
		10/11/2021	1.4
		4/11/2022	0.59 J
		10/25/2022	1.3
		4/17/2024	NS
		8/15/2024	0.41 J
		10/1/2024	0.42 J
Supplemental	MW-316	5/5/2023	1.2
		10/9/2023	1.6
		4/17/2024	2.6
		10/2/2024	4.4

Abbreviations:
µg/L = micrograms per liter or parts per billion (ppb)
J = Estimated value below the laboratory's limit of quantitation
1q = Analyte was measured in the associated method blank at a negative concentration.

Notes:
(1) Analytical laboratory reports provided in the Annual Groundwater Monitoring and Corrective Action Reports.
NS = Not sampled

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Table 3. Groundwater Elevation - State Monitoring Program and CCR Well Network
Columbia Dry Ash and Ash Pond Disposal Facilities / SCS Engineers Project #25224067.00

	Well Number	MW-1AR	MW-4	MW-5R	MW-33AR	MW-33BR	MW-34A	MW-34B	MW-37A	MW-83	MW-84A	MW-84B	MW-86	MW-91AR	MW-91B	MW-92A	MW-92B	MW-93A	MW-93B	MW-312
	Top of Casing Elevation (feet amsl)	822.55	819.74	805.44	808.29	808.39	805.95	806.05	813.04	807.96	814.28	814.26	824.79	809.03	808.45	808.47	808.41	827.89	827.71	826.79
	Screen Length (ft)																	10	5	10
	Total Depth (ft from top of casing)	44.40	39.58	25.97	31.08	57.50	35.43	56.95	31.80	25.42	40.21	52.02	45.43	32.90	52.38	28.94	51.75	50.7	82.5	52.5
	Top of Well Screen Elevation (ft)	778.15	780.16	779.47	777.21	750.89	770.52	749.10	781.24	782.54	774.07	762.24	779.36	776.13	756.07	779.53	756.66	787.19	750.21	784.29
	Measurement Date																			
	October 2, 2012	783.41	783.70	784.96	782.38	782.23	783.03	782.99	782.66	dry	783.84	783.94	783.81	784.09	783.90	784.49	784.06	NI	NI	NI
	April 15, 2013	785.44	784.02	786.09	784.16	784.14	784.74	784.79	783.87	784.49	785.83	785.76	785.22	785.14	785.01	785.75	785.34	NI	NI	NI
	October 8, 2013													785.66	785.42	785.97	785.52	NI	NI	NI
	October 15, 2013	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	785.66	785.42	785.97	785.52	NI	NI	NI
	April 14, 2014	784.95	784.09	785.63	783.74	783.91	784.63	784.70	783.45	783.73	785.58	785.52	784.96	785.04	784.96	785.99	785.54	NI	NI	NI
	October 2-3, 2014	785.03	785.39	786.08	784.37	784.28	784.57	784.54	784.56	dry	785.24	785.18	785.19	785.47	785.28	785.75	785.33	NI	NI	NI
	April 13-14, 2015	783.96	783.63	785.25	783.01	782.74	783.65	783.95	782.87	dry	784.43	784.51	784.17	784.48	784.37	785.07	784.66	NI	NI	NI
	October 6-7, 2015	784.28	784.44	785.72	783.68	783.33	784.05	784.02	783.66	dry	784.80	784.76	784.66	784.89	784.70	785.20	784.76	NI	NI	NI
	April 4-6, 2016	785.82	aband	787.02	785.29	785.07	785.63	785.67	784.76	785.43	786.37	786.26	785.89	786.05	785.95	786.61	786.21	NI	NI	NI
	October 11-13, 2016	786.64	aband	788.00	787.36	786.46	786.45	786.32	786.40	786.81	787.22	787.11	786.96	787.17	786.81	787.68	787.25	NI	NI	NI
	April 10-13, 2017	786.96	aband	788.13	786.39	785.99	786.30	786.28	786.34	786.23	787.16	787.06	786.96	787.24	787.03	787.90	787.60	NI	NI	NI
	October 3-5, 2017	785.48	aband	786.66	784.51	784.22	784.67	784.63	784.86	784.29	NM	786.49	785.58	786.08	785.83	786.47	786.02	NI	NI	NI
	October 9-10, 2017	NM	aband	NM	NM	NM	NM	NM	NM	NM	785.56 [6]	NM	NM	NM	NM	NM	NM	NI	NI	NI
	February 21, 2018	783.97	aband	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	784.68	784.46	NM	NM	NI	NI	NI
	April 23-25, 2018	783.99	aband	785.36	783.09	786.36	781.77	780.79	783.28	783.32	785.88	784.91	782.54	784.71	784.53	785.23	784.81	NI	NI	NI
	October 23-25, 2018	788.25	aband	789.71	788.77	787.96	787.88	787.73	787.62	788.26	788.32	788.19	788.21	788.59	788.31	789.32	788.87	NI	NI	NI
	April 1-4, 2019	787.05	aband	788.64	786.63	786.54	786.82	786.92	786.47	786.78	787.35	787.34	787.16	787.45	787.18	788.04	787.63	NI	NI	NI
	October 7-9, 2019	787.26	aband	789.23	788.26	787.64	787.92	787.74	786.77	788.90	787.79	787.73	787.44	787.78	787.62	788.63	788.17	NI	NI	NI
	May 27-28, 2020	786.92	aband	788.34	786.01	785.75	785.98	785.99	786.22	786.03	787.02	786.99	786.94	787.26	787.05	787.86	787.47	NI	NI	NI
	October 7-8, 2020	785.95	aband	787.76	785.91	785.45	785.70	785.68	785.52	785.72	786.10	786.06	786.10	786.55	786.33	786.85	786.38	NI	NI	NI
	February 25, 2021	NM	aband	NM	NM	NM	784.75	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI
	April 14, 2021	778.12	aband	787.29	784.27	784.05	784.77	784.77	784.46	c	785.84	785.81	785.60	785.86	785.69	786.47	786.06	NI	NI	NI
	June 11, 2021	NM	aband	NM	784.19	NM	784.66	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI
	October 11-12, 14, 2021	784.47	aband	786.78	783.73	783.60	784.42	784.41	783.88	783.87	784.96	784.88	784.79	785.14	784.94	785.55	785.11	NI	NI	NI
	October 17, 2021	NM	aband	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI
	April 1, 2022	aband	aband	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	April 11-13, 2022	aband	aband	785.52	783.27	783.45	784.30	784.42	783.26	783.78	785.02	785.00	784.70	784.83	784.72	785.45	785.02	783.99	783.97	783.73
	October 24-28, 2022	aband	aband	785.43	781.94	781.61	783.61	783.61	782.28	dry	784.57	784.54	784.38	784.64	784.47	785.05	784.62	783.74	782.76	783.50
	February 20-23, 2023	aband	aband	NM	783.57	NM	784.48	NM	NM	NM	785.25	NM	NM	NM	NM	NM	NM	NM	NM	NM
	March 27-28, 2023	aband	aband	NM	784.52	NM	785.23	NM	NM	NM	786.21	NM	NM	NM	NM	NM	NM	NM	NM	NM
	April 24-27, 2023	aband	aband	787.76	785.79	785.35	786.22	786.12	784.99	786.05	786.97	786.86	786.67	786.76	786.59	787.53	787.11	785.87	785.85	785.55
	May 16, 2023	aband	aband	787.79	785.64	785.25	786.06	786.05	785.39	785.77	786.88	786.79	786.74	786.95	786.75	787.47	787.05	786.23	786.21	785.97
	May 30-31, 2023	aband	aband	NM	785.23	NM	785.70	NM	NM	NM	786.57	NM	NM	NM	NM	NM	NM	NM	NM	NM
	October 9-11, 2023	aband	aband	785.33	782.57	782.39	783.55	783.40	782.94	dry	784.39	784.31	784.24	784.63	784.36	784.89	784.36	783.86	783.59	783.69
	April 15-17, 2024	aband	aband	dry	783.02	782.94	784.14	784.11	782.95	783.41	784.90	784.84	784.54	784.61	784.57	785.19	784.75	783.88	783.87	783.59
	April 19, 2024	aband	aband	785.47	783.06	783.02	784.28	784.30	783.05	dry	785.05	785.01	784.67	784.74	784.62	785.63	785.16	783.95	783.95	783.68
	July 29, 2024	aband	aband	NM	NM	NM	787.29	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	August 15, 2024	aband	aband	789.12	788.77	787.94	787.62	787.56	788.05	788.44	788.17	788.07	788.31	788.66	788.40	789.03	788.58	788.39	788.35	788.31
	October 1-3, 2024	aband	aband	788.25	787.33	786.64	786.79	786.75	786.60	788.86	787.14	787.06	787.14	787.81	787.52	788.33	787.86	787.00	786.97	786.90
	November 5, 2024	NM	NM	NM	785.98	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	Bottom of Well Elevation (ft)	778.15	780.16	779.47	777.21	750.89	770.52	749.10	781.24	782.54	774.07	762.24	779.36	776.13	756.07	779.53	756.66	777.19	745.21	774.29

Dry Ash Facility (Facility ID #03025)

02/27/2026 - Classification: Internal - ECRM13684511

Table 3. Groundwater Elevation - State Monitoring Program and CCR Well Network
Columbia Dry Ash and Ash Pond Disposal Facilities / SCS Engineers Project #25224067.00

	Well Number	M-3	M-4R	MW-39A	MW-39B	MW-48A	MW-48B	MW-57	MW-59	MW-216R	MW-217	MW-220RR
Ash Pond Facility (Facility ID #02325)	**Top of Casing Elevation (feet amsl)**	788.23	806.10	809.62	809.50	828.86	828.84	786.29	815.48	814.21	791.55	792.90
	Screen Length (ft)											
	Total Depth (ft from top of casing)	16.90	25.55	34.80	76.07	51.88	75.80	14.40	38.50	37.85	37.37	18.96
	Top of Well Screen Elevation (ft)	771.33	780.55	774.82	733.43	776.98	753.04	771.89	776.98	776.36	754.18	773.94
	Measurement Date											
	October 2, 2012	780.13	786.76	781.49	781.34	782.03	781.93	780.58	779.88	781.91	780.95	780.55
	April 15, 2013	785.16	788.39	783.97	784.00	783.77	783.78	784.69	783.66	784.09	784.75	785.02
	October 8, 2013	781.22	786.67	NM	NM	783.69	783.58	NM	NM	783.39	782.27	782.36
	October 15, 2013	NM	NM	782.94	782.81	NM	NM	782.47	783.49	NM	NM	NM
	April 14, 2014	786.04	788.96	783.57	783.68	783.56	783.57	785.51	783.41	783.73	785.25	785.87
	October 1-3, 2014	781.16	787.55	783.42	783.32	784.05	783.94	782.32	783.55	783.79	782.63	783.03
	April 13-14, 2015	783.08	786.83	782.77	782.68	782.80	782.82	782.81	782.83	782.93	783.34	783.42
	October 6-7, 2015	780.66	786.12	782.97	782.81	783.10	783.01	781.82	783.25	783.18	781.95	782.26
	April 4-6, 2016	784.21	789.09	785.27	785.27	784.79	784.76	783.21	784.97	785.68	785.02	784.36
	October 11-13, 2016	781.88	787.88	785.75	785.52	785.73	785.61	783.12	786.51	786.16	783.75	784.09
	April 10-13, 2017	782.94	787.95	785.44	785.20	785.82	785.69	782.77	786.09	785.95	784.29	784.09
	October 3-5, 2017	780.93	787.04	783.35	783.18	784.30	784.19	782.37	784.23	783.89	782.48	782.61
	April 23-25, 2018	782.89	790.43	782.86	782.87	783.14	783.09	783.04	783.02	783.23	783.26	783.45
	October 23-25, 2018	782.95	788.47	787.12	786.88	787.12	786.99	783.48	787.73	787.49	784.90	784.52
	April 1-4, 2019	785.68	789.44	786.28	786.31	786.56	786.45	785.27	787.39	786.53	786.33	785.46
	October 7-9, 2019	785.33	790.65	787.10	787.02	786.68	786.65	785.29	786.68	787.07	786.01	785.42
	May 27-29, 2020	781.80	787.73	785.12	784.92	785.74	785.59	783.11	785.89	785.60	783.41	783.89
	October 7-8 &17, 2020	781.42	787.74	784.74	784.64	785.03	784.96	782.83	785.43	785.10	783.06	783.49
	April 12, 2021	782.30	786.34	783.66	783.65	784.13	784.08	782.79	784.08	783.97	783.15	783.49
	October 11-12, 14, 2021	781.03	786.33	782.94	782.85	783.09	783.03	781.94	783.11	783.04	782.15	782.66
	April 11-13, 2022	783.95	788.26	783.37	783.34	783.10	783.10	NM	782.99	783.40	783.93	783.83
	June 3, 2022	NM	NM	NM	NM	NM	NM	782.13	NM	NM	NM	NM
	October 25, 26, 28, 2022	780.41	783.85	780.76	780.66	779.57	779.55	779.23	778.98	778.61	780.33	781.49
	March 27-28, 2023	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	April 24-27, 2023	785.18	782.59	785.38	785.19	784.55	784.51	NM	784.83	784.46	783.78	785.30
	May 16, 2023	782.79	781.64	784.70	784.58	784.60	784.49	782.80	784.68	783.94	782.07	784.03
	October 9-11, 2023	779.65	780.54	781.50	781.30	781.94	781.69	780.26	781.95	781.21	779.89	780.43
	April 15-17, 2024	781.73	781.38	782.58	782.51	782.42	782.35	781.82	782.23	782.17	781.47	783.40
	April 19, 2024	NM	dry	782.78	782.80	782.57	782.56	NM	782.35	782.29	781.65	783.48
	August 15, 2024	781.49	784.27	786.74	786.56	787.47	787.31	783.56	787.87	786.90	783.38	783.95
	October 1-3, 2024	779.13	783.42	785.25	785.12	785.99	785.86	782.99	785.86	785.19	782.26	783.50
	October 4, 2024	--	783.57	--	--	--	--	--	--	--	--	--
	Bottom of Well Elevation (ft)	771.33	780.55	774.82	733.43	776.98	753.04	771.89	776.98	776.36	754.18	773.94

02/27/2026 - Classification: Internal - ECRM13684511

Table 3. Groundwater Elevation - State Monitoring Program and CCR Well Network
Columbia Dry Ash and Ash Pond Disposal Facilities / SCS Engineers Project #25224067.00

	Well Number	MW-301	MW-302	MW-303	MW-304	MW-304R	MW-305	M-4R	MW-33AR	MW-34A	MW-84A	MW-306	MW-307	MW-308	MW-309	MW-310	MW-311	MW-312	MW-313	MW-314	MW-315	MW-316	MW-317	MW-318	MW-319
	Top of Casing Elevation (feet amsl)	806.89	813.00	815.72	805.42	804.34	806.32	806.10	808.29	805.95	814.28	807.63	806.89	806.9	813.27	813.62	809.74	826.786	820.3	821.57	819.78	808.49	818.88	820.37	828.28
	Screen Length (ft)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Total Depth (ft from top of casing)	29.40	33.6	35.80	25.7	30.73	25.6	39.58	31.08	35.43	40.21	27	26.5	28	37.67	38.41	36.19	52.5	46.2	45.0	45.6	43.7	44.3	43	47.6
	Top of Well Screen Elevation (ft)	787.49	789.40	785.72	789.72	783.61	790.72	776.52	787.21	780.52	784.07	790.63	790.39	788.90	785.60	785.21	783.55	784.29	784.1	786.6	784.2	774.79	784.6	787.4	790.7
	Measurement Date																								
	December 21-22, 2015	785.56	784.78	784.11	786.13	NI	788.96	787.58	783.77	783.50	785.31	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
	April 4-5, 2016	786.78	785.81	785.48	788.08	NI	789.61	789.09	785.29	785.63	786.37	--	--	--	--	--	--	NI	NI	NI	NI	NI	NI	NI	NI
	July 7-8, 2016	786.31	786.28	784.60	787.36	NI	789.26	787.43	785.19	785.05	785.89	--	--	--	--	--	--	NI	NI	NI	NI	NI	NI	NI	NI
	July 28, 2016	NM	NM	784.35	NM	NI	NM	NM	NM	784.86	785.61	--	--	--	--	--	--	NI	NI	NI	NI	NI	NI	NI	NI
	October 11-13, 2016	787.64	787.76	786.18	788.18	NI	789.78	787.88	787.36	786.45	787.22	--	--	--	--	--	--	NI	NI	NI	NI	NI	NI	NI	NI
	December 29, 2016	787.37	787.05	NM	NM	NI	NM	NM	785.66	785.72	786.63	--	--	--	--	--	--	NI	NI	NI	NI	NI	NI	NI	NI
	January 25-26, 2017	787.27	786.89	785.28	789.34	NI	789.36	789.64	785.88	785.98	786.70	785.50	785.36	785.73	--	--	--	NI	NI	NI	NI	NI	NI	NI	NI
	April 10 & 11, 2017	787.89	787.55	786.00	788.22	NI	789.57	787.95	786.39	786.30	787.16	786.22	785.64	786.51	--	--	--	NI	NI	NI	NI	NI	NI	NI	NI
	June 6, 2017	788.25	788.37	786.49	788.58	NI	789.79	787.83	787.27	786.66	787.63	786.85	786.07	786.46	--	--	--	NI	NI	NI	NI	NI	NI	NI	NI
	August 7-9, 2017	787.34	787.55	785.42	789.52	NI	789.30	788.54	786.11	785.81	786.68	785.69	785.19	785.37	--	--	--	NI	NI	NI	NI	NI	NI	NI	NI
	October 23-24, 2017	785.89	785.94	783.92	788.97	NI	788.14	788.00	784.13	784.50	785.32	783.97	784.79	784.17	--	--	--	NI	NI	NI	NI	NI	NI	NI	NI
	February 21, 2018	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	783.19	783.05	783.02	NI	NI	NI	NI	NI	NI	NI	NI
	March 23, 2018	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	783.10	783.10	783.00	NI	NI	NI	NI	NI	NI	NI	NI
	April 23-25, 2018	785.29	784.37	783.27	789.69	NI	787.67	790.43	783.09	781.77	785.88	783.24	783.65	782.65	783.07	782.97	781.83	NI	NI	NI	NI	NI	NI	NI	NI
	May 24, 2018	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	785.79	785.09	NM	785.45	785.97	786.11	NI	NI	NI	NI	NI	NI	NI	NI
	June 23, 2018	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	786.03	786.64	786.47	NI	NI	NI	NI	NI	NI	NI	NI
	July 23, 2018	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	786.27	786.35	786.55	NI	NI	NI	NI	NI	NI	NI	NI
	August 7, 2018	787.06	NM	785.20	788.25	NI	788.56	787.63	NM	NM	786.55	NM	NM	NM	NM	NM	NM	NI	NI	NI	NI	NI	NI	NI	NI
	August 22, 2018	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	785.54	785.40	785.46	NI	NI	NI	NI	NI	NI	NI	NI
	September 21, 2018	NM	788.37	786.50	NM	NI	NM	NM	787.90	787.01	NM	NM	NM	NM	787.08	787.24	787.66	NI	NI	NI	NI	NI	NI	NI	NI
	October 22-24, 2018	788.98	789.16	787.51	789.05	NI	790.04	788.47	788.77	787.88	788.32	787.66	786.57	787.81	787.99	788.18	788.64	NI	NI	NI	NI	NI	NI	NI	NI
	April 1-4, 2019	787.04	787.56	786.52	789.72	NI	790.07	789.44	786.63	786.82	787.35	786.72	786.71	787.53	786.30	786.38	786.38	NI	NI	NI	NI	NI	NI	NI	NI
	June 12, 2019	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	NM	787.25	NM	NI	NI	NI	NI	NI	NI	NI	NI
	June 19, 2019	NM	NM	786.81	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI	NI	NI	NI	NI	NI
	October 7-9, 2019	788.47	788.31	787.02	790.41	NI	790.36	790.65	NM	NM	NM	787.47	786.99	787.18	787.26	787.94	787.64	NI	NI	NI	NI	NI	NI	NI	NI
	December 13, 2019	--	--	--	--	NI	--	--	--	--	--	787.03	785.68	786.43	--	--	--	NI	NI	NI	NI	NI	NI	NI	NI
	December 23, 2019	--	--	--	--	NI	--	--	--	--	--	--	--	--	--	775.22	--	NI	NI	NI	NI	NI	NI	NI	NI
	January 17, 2020	--	--	785.58	--	NI	--	--	--	--	--	--	--	--	--	--	--	NI	NI	NI	NI	NI	NI	NI	NI
	February 3, 2020	787.24	NM	NM	NM	NI	NM	NM	NM	NM	786.50	785.77	785.57	786.48	NM	NM	NM	NI	NI	NI	NI	NI	NI	NI	NI
	May 27-29, 2020	787.77	787.29	785.56	789.30	NI	787.78	787.73	786.01	785.98	787.02	785.77	785.35	786.28	785.98	785.81	785.85	NI	NI	NI	NI	NI	NI	NI	NI
	June 30, 2020	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	786.18	NM	NM	NI	NI	NI	NI	NI	NI	NI	NI
	August 6, 2020	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	785.93	NM	NM	NI	NI	NI	NI	NI	NI	NI	NI
	October 7-8, 2020	786.53	786.74	785.16	788.52	NI	787.96	787.74	785.91	785.70	786.10	785.39	784.71	785.68	785.47	785.56	785.83	NI	NI	NI	NI	NI	NI	NI	NI
	December 11, 2020	NM	NM	NM	NM	NI	788.19	NM	NM	NM	NM	NM	NM	NM	785.26	785.26	NM	NI	NI	NI	NI	NI	NI	NI	NI
	February 25, 2021	NM	NM	784.27	NM	NI	788.36	NM	NM	784.75	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI	NI	NI	NI	NI	NI
	April 12, 2021	786.50	785.77	784.07	787.99	NI	788.11	786.34	784.27	784.77	785.84	784.32	784.21	785.55	784.29	784.24	784.15	NI	NI	NI	NI	NI	NI	NI	NI
	June 11, 2021	NM	NM	NM	NM	NI	NM	NM	784.19	784.66	NM	NM	NM	NM	784.20	784.05	NM	NI	NI	NI	NI	NI	NI	NI	NI
	July 20, 2021	NM	NM	783.64	NM	NI	788.39	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI	NI	NI	NI	NI	NI
	October 11-12, 14, 2021	785.28	785.09	783.09	787.78	NI	787.75	786.33	783.73	784.42	784.96	782.93	782.44	783.76	783.65	783.48	783.48	NI	NI	NI	NI	NI	NI	NI	NI
	December 21, 2021	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	782.93	NM	NM	NI	NI	NI	NI	NI	NI	NI	NI
	February 24, 2022	NM	NM	782.34	NM	NI	786.49	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI	NI	NI	NI	NI	NI
	April 11-13, 2022	785.44	784.42	783.40	788.20	NI	787.87	788.26	783.27	784.30	785.02	783.11	783.32	784.19	783.14	783.19	783.04	NI	NI	NI	NI	NI	NI	NI	NI
	July 27, 2022	NM	NM	783.07	NM	NI	787.03	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI	NI	NI	NI	NI	NI
	October 25-27, 2022	784.91	784.62	778.94	781.79	NI	784.97	783.85	781.94	783.61	784.57	778.32	777.89	784.16	781.50	780.96	781.23	NI	NI	NI	NI	NI	NI	NI	NI
	November 30, 2022	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	781.62	781.14	781.15	NI	NI	NI	NI	NI	NI	NI	NI
	December 2, 2022	785.12	784.48	NM	783.97	NI	NM	NM	781.91	783.71	784.76	778.52	779.54	NM	NM	NM	NM	NI	NI	NI	NI	NI	NI	NI	NI
	January 12-13, 2023	785.20	784.55	NM	NM	NI	NM	NM	782.75	784.10	784.88	NM	NM	NM	782.57	782.45	782.32	NI	NI	NI	NI	NI	NI	NI	NI
	January 20, 2023	NM	NM	NM	788.08	NI	NM	NM	NM	NM	NM	782.15	782.11	784.98	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI	NI
	January 24, 2023	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	783.73	783.36	783.63	783.77	NI	NI	NI	NI
	February 20-23, 2023	785.56	784.98	NM	NM	NI	NM	NM	NM	NM	NM	783.04	782.91	785.32	783.31	783.34	783.40	783.50	783.59	783.82	783.96	NI	NI	NI	NI
	March 27-28, 2023	786.83	785.87	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	783.84	783.98	784.43	NM	784.12	784.41	784.57	NI	NI	NI	NI
	April 24-27, 2023	787.57	786.87	784.38	784.03	NI	NM	782.59	785.79	786.22	786.97	784.82	784.25	787.75	785.05	785.18	785.69	NM	785.21	785.43	785.59	NI	NI	NI	NI
	May 5, 2023	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	785.55	NM	NM	NM	780.49	NI	NI	NI
	May 16, 2023	787.43	787.07	783.88	784.12	NI	dry	781.64	785.64	786.06	786.88	784.65	783.89	786.88	785.15	785.11	785.39	785.97	785.46	785.68	785.88	780.48	NI	NI	NI
	May 30-31, 2023	787.04	786.89	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	784.90	784.69	784.97	NM	785.24	785.55	785.77	NM	NI	NI	NI
	June 29-30, 2023	786.32	786.39	NM	NM	NI	NM	NM	784.32	785.04	785.92	NM	NM	NM	784.12	783.84	783.97	NM	784.67	784.95	785.17	NM	NI	NI	NI
	July 31, 2023	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	783.96	784.26	784.49	NM	NI	NI	NI
	August 31, 2023	NM	785.30	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	NM	782.47	NM	NM	783.55	783.83	783.97	NM	NI	NI	NI
	October 9-11, 2023	784.67	784.65	781.21	780.09	NI	779.93	780.54	782.57	783.55	784.39	NM	NM	783.09	782.58	782.32	782.22	783.69	783.10	783.33	783.59	780.30	NI	NI	NI
	November 9, 2023	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	782.76	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI
	November 20, 2023	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	781.97	781.45	782.85	NM	NM	NM	NM	NM	NM	NM	NM	NI	NI	NI
	December 27, 2023	NM	NM	NM	NM	NI	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	783.18	783.36	NM	NI	NI	NI
	April 15-17, 2024	785.27	784.49	782.16	aband	782.17	780.80	781.38	783.02	784.14	784.90	782.40	782.24	784.51	782.79	782.68	782.64	783.59	783.16	783.42	783.53	782.09	783.12	783.05	785.27
	April 19, 2024	785.51	784.55	782.26	aband	782.23	dry	dry	783.06	784.28	785.05	NM	782.64	784.69	782.90	782.82	782.74	783.68	783.30	783.49	783.62	782.15	NM	NM	NM
	May 20, 2024	NM	NM	NM	aband	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	784.25	NM	NM	NM	NM
	June 4, 2024	NM	NM	NM	aband	NM	783.03	783.66	NM	NM	NM	NM	NM	NM	784.27	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	June 27, 2024	NM	NM	NM	aband	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	785.87	785.97	787.20
	July 31, 2024	NM	NM	NM	aband	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	787.95	788.83	789.56
	August 8, 2024	NM	NM	787.17	aband	786.34	783.77	784.45	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	786.24	NM	NM	NM
	August 15, 2024	788.75	789.53	786.93	aband	786.03	783.75	784.27	788.77	787.62	788.17	787.66	787.24	788.39	787.90	787.93	788.37	788.31	aband	aband	aband	785.99	787.87	788.63	789.68
	August 30, 2024	NM	NM	NM	aband	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	aband	aband	aband	NM	787.28	787.78	789.17
	October 1-3, 2024	787.92	788.35	785.30	aband	784.91	782.80	783.42	787.33	786.79	787.14	786.04	785.94	786.88	786.46	786.35	786.40	786.90	aband	aband	aband	784.80	786.41	786.71	788.22
	October 18, 2024	NM	NM	NM	aband	NM	NM	NM	NM	NM	NM	785.50	785.08	786.34	NM	NM	NM	NM	aband	aband	aband	NM	NM	NM	NM
	October 31, 2024	NM	NM	NM	aband	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	aband	aband	aband	NM	785.73	785.92	787.88
	November 5, 2024	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	785.66	785.45	NM	NM	NM	NM	NM	NM	NM	NM	NM
	Bottom of Well Elevation (ft)	777.49	779.40	775.72	779.72	773.61	780.72	766.52	777.21	770.52	774.07	780.63	780.39	778.90	775.60	775.21	773.55	774.29	774.10	776.61	774.18	764.79	774.58	777.37	780.68

CCR Rule Wells (cont.)

Notes:
NM = not measured NI = not installed aband = abandoned
(1) The depth to water at MW-84A was not measured prior to purging for sampling during the October 3-5, 2017 sampling event. The level was allowed to return to static and was measured on October 10, 2017.
(2) MW-303 was extended in 2022 due to regrading. Prior to October 2022, the TOC elevation was 811.52'. For events in October 2022 and later, the TOC elevation is 815.72'.

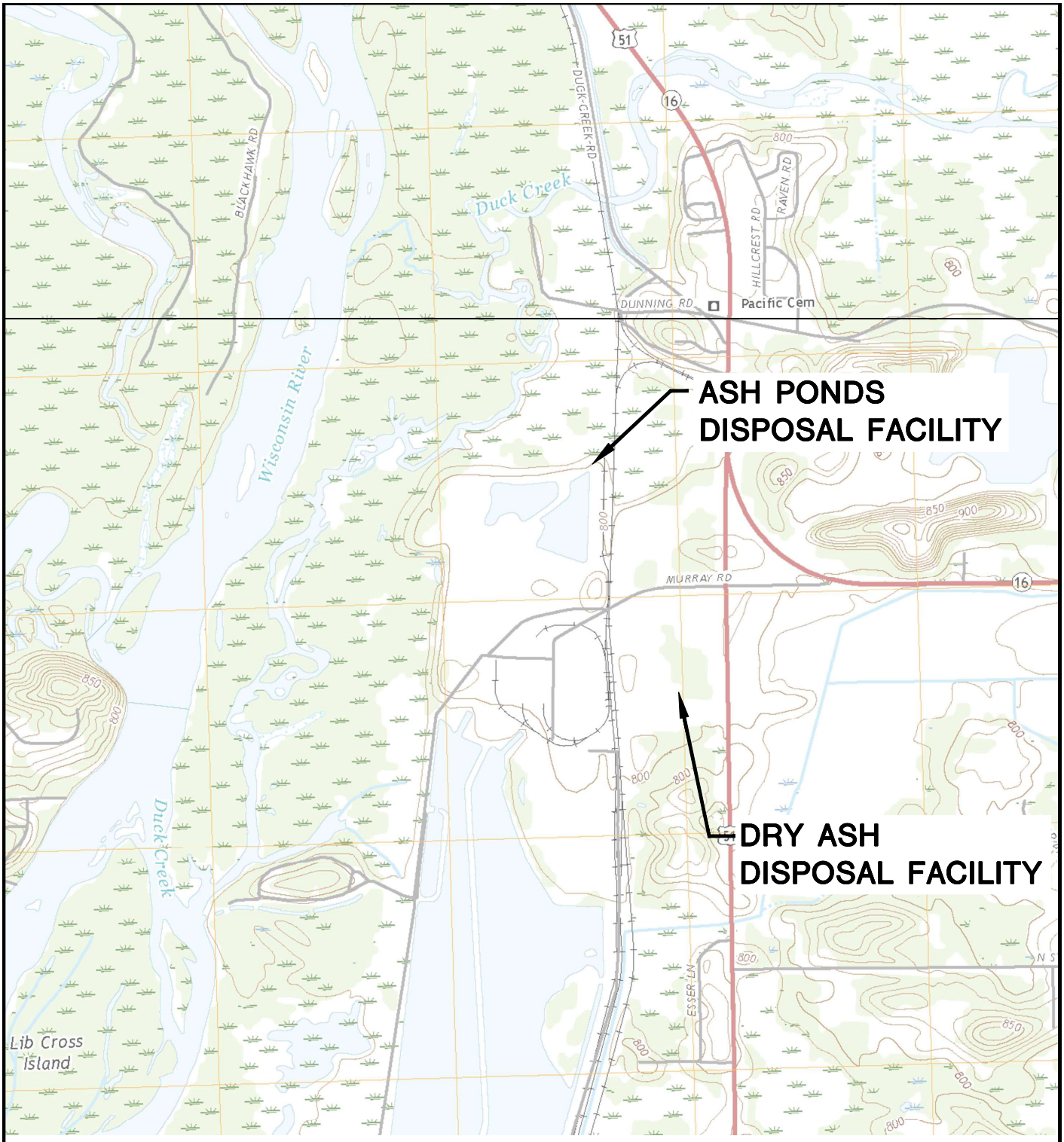
Created by: MDB Date: 5/6/2013
Last revision by: KMV Date: 12/16/2024

02/27/2026 - Classification: Internal - ECRM13684511

Figures

1 Site Location Map
2 Site Plan and Monitoring Well Locations
3 Water Table Map – October 2020
4 Water Table Map – October 2022
5 Water Table Map – May 2023
6 Water Table Map – October 2023
7 Water Table Map – April 2024
8 Water Table Map – October 2024

02/27/2026 - Classification: Internal - ECRM13684511



N

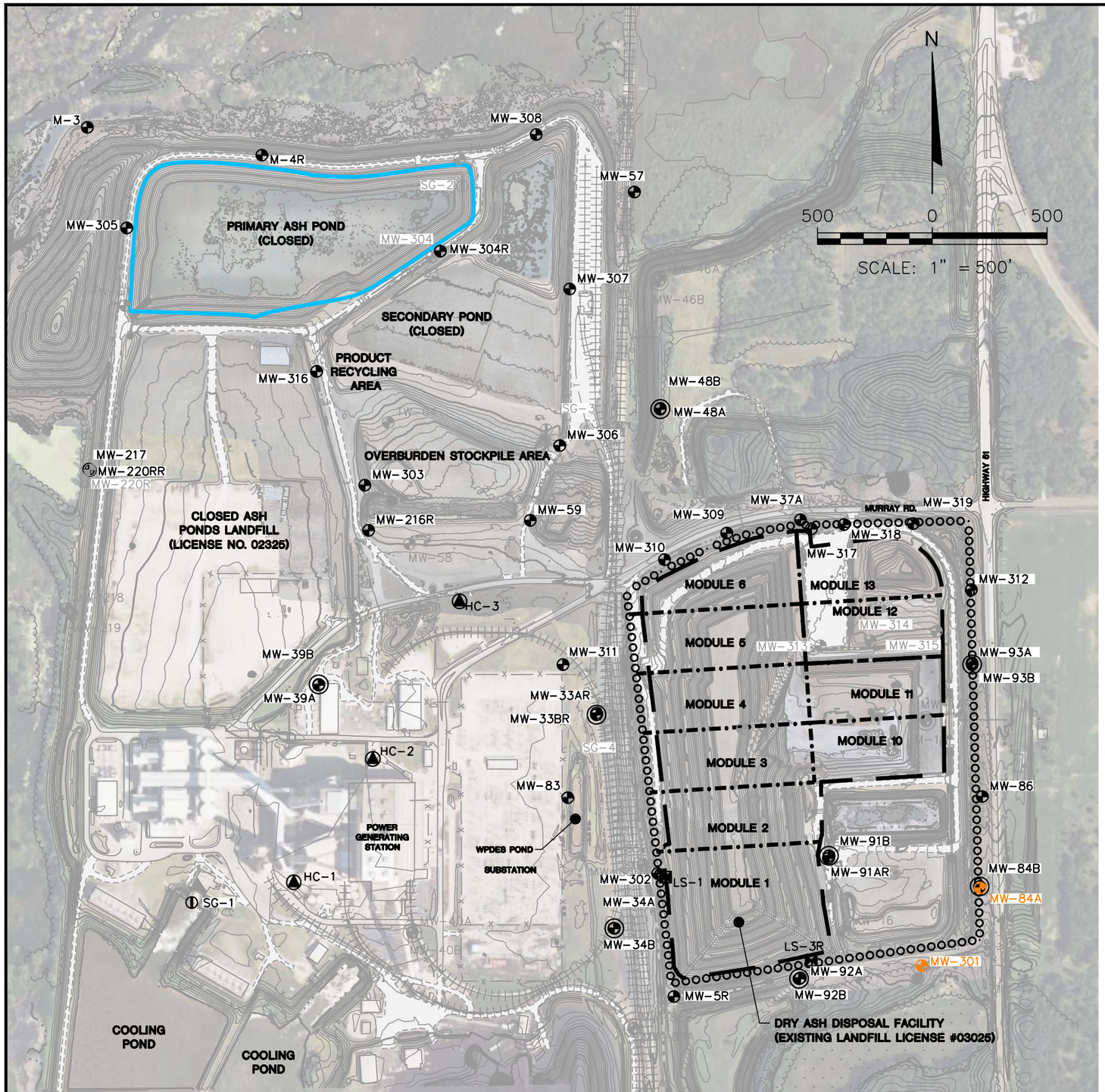
POYNETTE QUADRANGLE
WISCONSIN–COLUMBIA CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
2018
SCALE: 1" = 2,000'



CLIENT: ALLIANT ENERGY COLUMBIA ENERGY CENTER W8375 MURRAY ROAD PARDEEVILLE, WI 53954	SITE: ALLIANT ENERGY COLUMBIA ENERGY CENTER PARDEEVILLE, WI	SITE LOCATION MAP	
PROJECT NO. 25219067.00	DRAWN BY: BSS	ENGINEER: SCS ENGINEERS 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830	FIGURE 1
DRAWN: 12/02/2019	CHECKED BY: MDB		
REVISED: 01/10/2020	APPROVED BY: TK 01/30/2020		

I:\25219067.00\Drawings\CCR 2019 Annual Report\Site Location Map.dwg, 1/30/2020 3:38:21 PM

02/27/2026 - Classification: Internal - ECRM13684511



LEGEND

- EXISTING MAJOR CONTOUR (10' INTERVAL)
- EXISTING MINOR CONTOUR (2' CONTOUR)
- EXISTING FENCELINE
- EXISTING TRACKS
- EXISTING PAVED ROAD
- EXISTING UNPAVED ROAD
- EDGE OF WATER
- DRY ASH DISPOSAL FACILITY LIMITS
- LINER PHASE/MODULE LIMITS
- WATER SUPPLY WELL
- STAFF GAUGE
- WATER TABLE WELL
- PIEZOMETER
- LYSIMETER
- ABANDONED STAFF GUAGE
- ABANDONED WATER TABLE WELL
- ABANDONED PIEZOMETER
- CCR MONITORING WELL
- CCR BACKGROUND MONITORING WELL
- CCR UNIT

NOTES:

1. BASE MAP CREATED FROM AERIAL SURVEY BY KBM, FLOWN DECEMBER 1, 2014, PERIODIC SURVEYS BY SCS ENGINEERS AND CEDAR CREEK SURVEYING, LLC, AND DECEMBER 2023 DRONE SURVEY BY AMES.
2. MONITORING WELL LOCATIONS AND ELEVATIONS SURVEYED BY WISCONSIN POWER AND LIGHT, INC. IN DECEMBER 1994, NOVEMBER 1996, APRIL 2003, AND JANUARY 2016 AND BY SCS ENGINEERS IN FEBRUARY 2018.
3. SUPPLY WELL LOCATIONS ARE APPROXIMATE AND ASSUMED BASED ON JANUARY 2013 DRAWINGS BY TRC.
4. MONITORING WELLS MW-301 THROUGH MW-305 INSTALLED BY BADGER STATE DRILLING ON NOVEMBER 11-13, 2015.
5. MONITORING WELLS MW-306 THROUGH MW-308 INSTALLED BY BADGER STATE DRILLING ON NOVEMBER 14-15, 2016.
6. MONITORING WELLS MW-309 THROUGH MW-311 INSTALLED BY BADGER STATE DRILLING ON FEBRUARY 13-14, 2018.
7. MONITORING WELLS MW-93A, MW-93B, AND MW-312 INSTALLED BY CASCADE ENVIRONMENTAL ON MARCH 25-28, 2022.
8. MONITORING WELL MW-316 WAS INSTALLED BY HORIZON CONSTRUCTION & EXPLORATION ON APRIL 27, 2023.
9. MONITORING WELLS MW-317, MW-318, AND MW-319 WERE INSTALLED BY HORIZON CONSTRUCTION & EXPLORATION ON APRIL 9 THROUGH 11, 2024. MONITORING WELLS MW-313, MW-314, AND MW-315 WERE ABANDONED BY HORIZON CONSTRUCTION & EXPLORATION ON MAY 22, 2024.
10. BACKGROUND MONITORING WELLS ARE: MW-301 AND MW-84A.

PROJECT NO.	25224067.00	DRAWN BY:	SB
DRAWN:	01/03/2025	CHECKED BY:	NLB
REVISED:	01/21/2025	APPROVED BY:	TK (01/21/2025)

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

CLIENT: ALLIANT ENERGY
COLUMBIA ENERGY CENTER
W8375 MURRAY ROAD
PARDEEVILLE, WI 53954

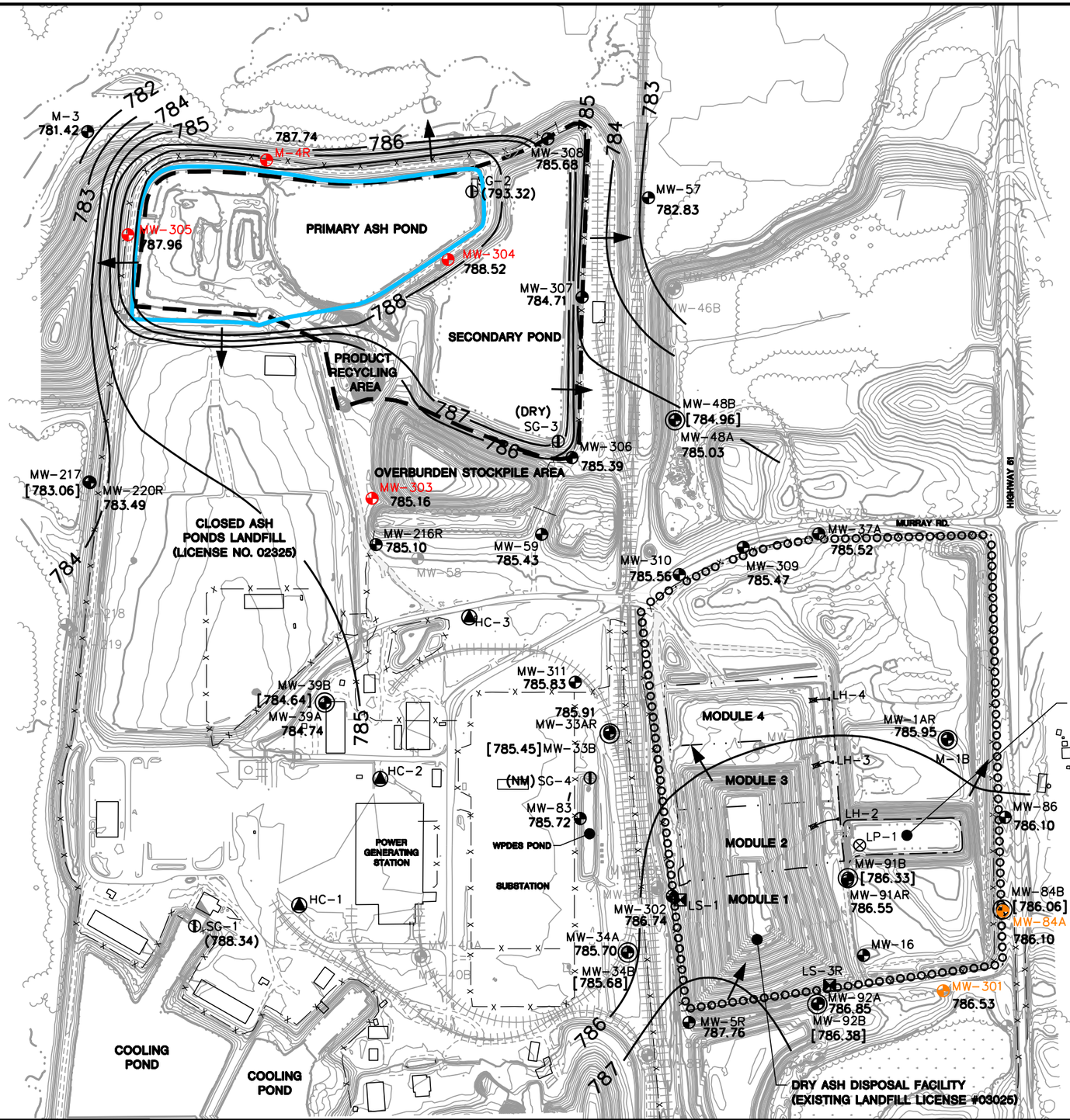
SITE: ALLIANT ENERGY
COLUMBIA ENERGY CENTER
PARDEEVILLE, WI

SITE PLAN AND MONITORING WELL LOCATIONS
COLUMBIA DRY ASH DISPOSAL FACILITY

FIGURE
2

I:\Client\Alliant_PROJECT SITES\Columbia\CAD Master References COL\Water Table Maps\Site Plan\02_Col Site Plan Figures.dwg, 1/21/2025 3:02:37 PM

02/27/2026 - Classification: Internal - ECRM13684511



LEGEND

- EXISTING MAJOR CONTOUR (10' INTERVAL)
- EXISTING MINOR CONTOUR (2' CONTOUR)
- EXISTING FENCE LINE
- EXISTING TRACKS
- EXISTING PAVED ROAD
- EXISTING UNPAVED ROAD
- EDGE OF WATER
- APPROVED LIMITS OF WASTE (DRY ASH LANDFILL)
- CONSTRUCTED LIMITS OF WASTE (DRY ASH LANDFILL)
- WATER SUPPLY WELL
- STAFF GAUGE
- WATER TABLE WELL
- PIEZOMETER
- SURFACE WATER SAMPLE LOCATION
- LYSIMETER
- ABANDONED WATER TABLE WELL
- ABANDONED PIEZOMETER
- LEACHATE HEADWELL
- CCR UNIT
- CCR MONITORING WELL
- CCR BACKGROUND MONITORING WELL
- **787.62** WATER TABLE ELEVATION MEASURED OCTOBER 2020
- **[788.87]** POTENTIOMETRIC SURFACE ELEVATION MEASURED OCTOBER 2020 (NOT CONTOURED)
- **(795.20)** SURFACE WATER ELEVATION MEASURED OCTOBER 2020 (NOT CONTOURED)
- WATER TABLE CONTOUR
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- **(NM)** NOT MEASURED

NOTES:

1. SEE FIGURE 2, SITE PLAN AND MONITORING WELL LOCATIONS, FOR BASE MAP NOTES.
2. GROUNDWATER ELEVATIONS WERE COLLECTED FROM MONITORING WELLS AND PIEZOMETERS ON OCTOBER 7, 8, AND 17, 2020.

N

500 0 500

SCALE: 1" = 500'

PROJECT NO.	25224067.00	DRAWN BY:	KP/ZTW
DRAWN:	08/07/2020	CHECKED BY:	TK
REVISED:	04/18/2024	APPROVED BY:	TK 05/01/2024

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

CLIENT: ALLIANT ENERGY
COLUMBIA ENERGY CENTER
W8375 MURRAY ROAD
PARDEEVILLE, WI 53954

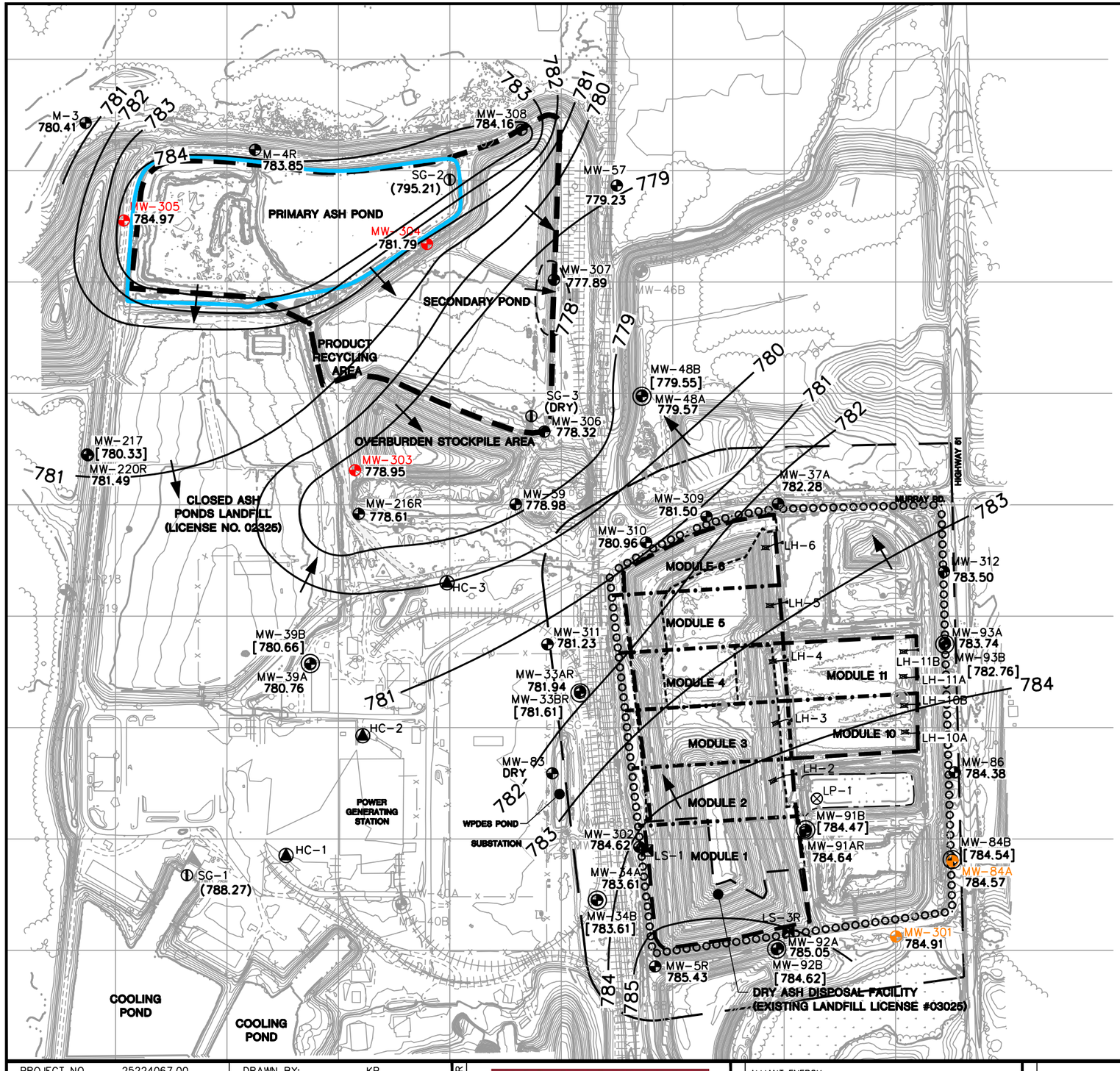
SITE: ALLIANT ENERGY
COLUMBIA ENERGY CENTER
PRIMARY ASH POND
PARDEEVILLE, WI

WATER TABLE MAP
OCTOBER 2020

FIGURE 3

\\Mad-fs01\data\Projects\25224067.00\Drawings\Water Table Map Oct 2020 PP.dwg, 4/18/2024 3:35:58 PM

02/27/2026 - Classification: Internal - ECRM13684511



LEGEND

- EXISTING MAJOR CONTOUR (10' INTERVAL)
- EXISTING MINOR CONTOUR (2' CONTOUR)
- EXISTING FENCELINE
- EXISTING TRACKS
- EXISTING PAVED ROAD
- EXISTING UNPAVED ROAD
- EDGE OF WATER
- DRY ASH DISPOSAL FACILITY LIMITS
- LIMITS OF WASTE
- LINER PHASE/MODULE LIMITS
- WATER SUPPLY WELL
- STAFF GAUGE
- WATER TABLE WELL
- PIEZOMETER
- SURFACE WATER SAMPLE LOCATION
- LYSIMETER
- ABANDONED WATER TABLE WELL
- ABANDONED PIEZOMETER
- LEACHATE HEADWELL
- CCR UNIT
- CCR MONITORING WELL
- CCR BACKGROUND MONITORING WELL
- **787.62** WATER TABLE ELEVATION
- **[788.87]** POTENTIOMETRIC SURFACE ELEVATION (NOT CONTOURED)
- **(795.20)** SURFACE WATER ELEVATION (NOT CONTOURED)
- WATER TABLE CONTOUR
- APPROXIMATE GROUNDWATER FLOW DIRECTION

NOTES:

1. SEE FIGURE 2, SITE PLAN AND MONITORING WELL LOCATIONS, FOR BASE MAP NOTES.
2. GROUNDWATER AND SURFACE WATER ELEVATIONS WERE MEASURED ON OCTOBER 25–27, 2022.
3. DEWATERING WELLS (NOT SHOWN) AROUND THE SECONDARY POND WERE PUMPING AND DISCHARGING TO THE PRIMARY POND DURING THE OCTOBER 2022 SAMPLING EVENT.

N

500 0 500

SCALE: 1" = 500'

PROJECT NO.	25224067.00	DRAWN BY:	KP
DRAWN:	12/15/2022	CHECKED BY:	NLB
REVISED:	04/18/2024	APPROVED BY:	TK 05/01/2024

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

CLIENT: ALLIANT ENERGY
COLUMBIA ENERGY CENTER
W8375 MURRAY ROAD
PARDEEVILLE, WI 53954

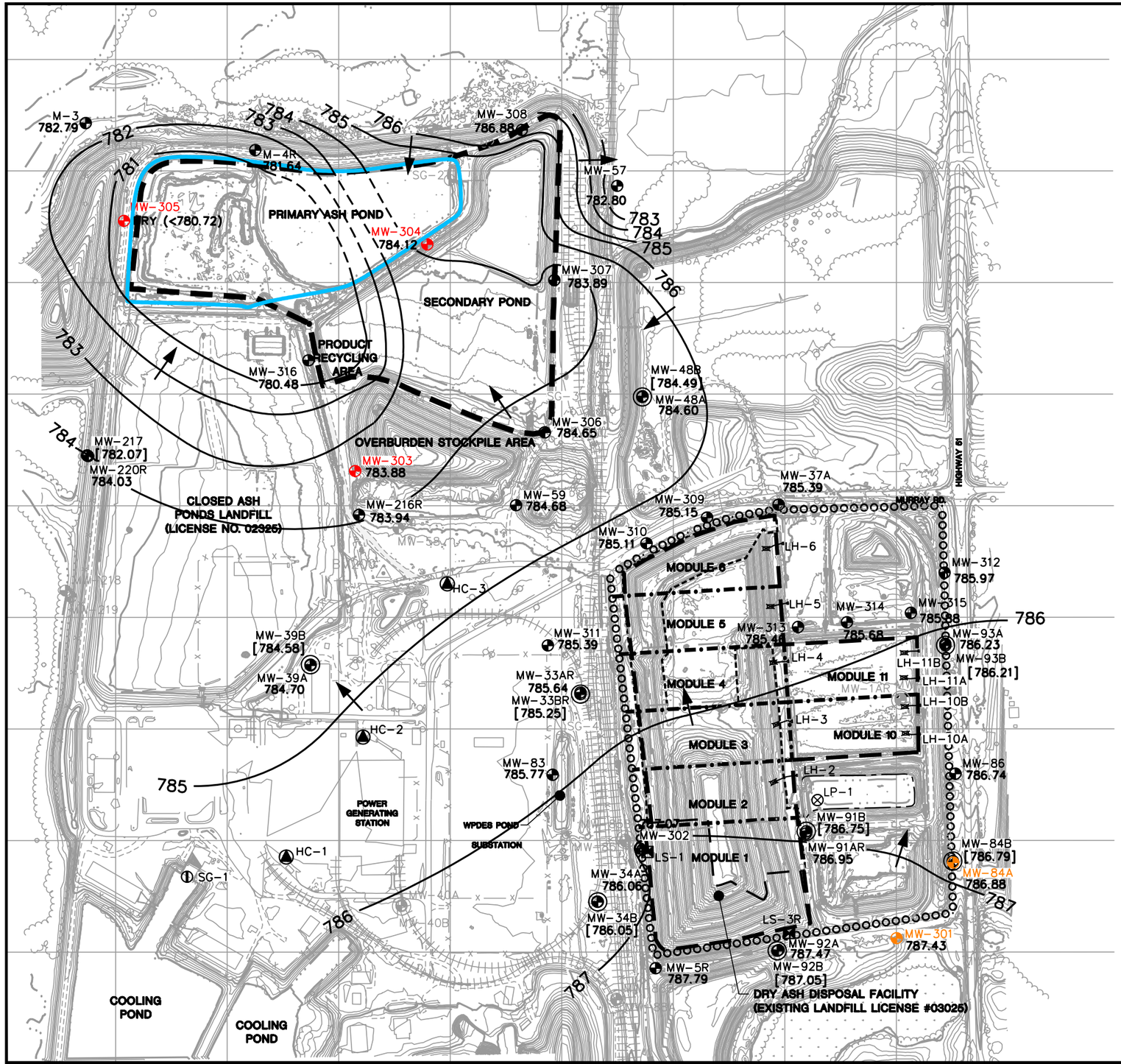
SITE: ALLIANT ENERGY
COLUMBIA ENERGY CENTER
PRIMARY ASH POND
PARDEEVILLE, WI

WATER TABLE MAP
OCTOBER 2022

FIGURE
4

\\Mad-fs01\data\Projects\25224067.00\Drawings\Water Table Map - Oct 22.dwg, 4/18/2024 3:23:48 PM

02/27/2026 - Classification: Internal - ECRM13684511



LEGEND

- EXISTING MAJOR CONTOUR (10' INTERVAL)
- EXISTING MINOR CONTOUR (2' CONTOUR)
- EXISTING FENCELINE
- EXISTING TRACKS
- EXISTING PAVED ROAD
- EXISTING UNPAVED ROAD
- EDGE OF WATER
- DRY ASH DISPOSAL FACILITY LIMITS
- LIMITS OF WASTE
- LINER PHASE/MODULE LIMITS
- WATER SUPPLY WELL
- STAFF GAUGE
- WATER TABLE WELL
- PIEZOMETER
- SURFACE WATER SAMPLE LOCATION
- LYSIMETER
- ABANDONED WATER TABLE WELL
- ABANDONED PIEZOMETER
- ABANDONED STAFF GAUGE
- LEACHATE HEADWELL
- CCR UNIT
- CCR MONITORING WELL
- CCR BACKGROUND MONITORING WELL
- 787.62 — WATER TABLE ELEVATION
- [788.87] — POTENTIOMETRIC SURFACE ELEVATION (NOT CONTOURED)
- WATER TABLE CONTOUR
- APPROXIMATE GROUNDWATER FLOW DIRECTION

NOTES:

1. SEE FIGURE 2, SITE PLAN AND MONITORING WELL LOCATIONS, FOR BASE MAP NOTES.
2. GROUNDWATER AND SURFACE WATER ELEVATIONS WERE MEASURED ON MAY 16, 2023.

N

500 0 500

SCALE: 1" = 500'

PROJECT NO.	25224067.00	DRAWN BY:	KP
DRAWN:	06/01/2023	CHECKED BY:	NLB
REVISED:	04/18/2024	APPROVED BY:	TK 05/01/2024

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

CLIENT: ALLIANT ENERGY
COLUMBIA ENERGY CENTER
W8375 MURRAY ROAD
PARDEEVILLE, WI 53954

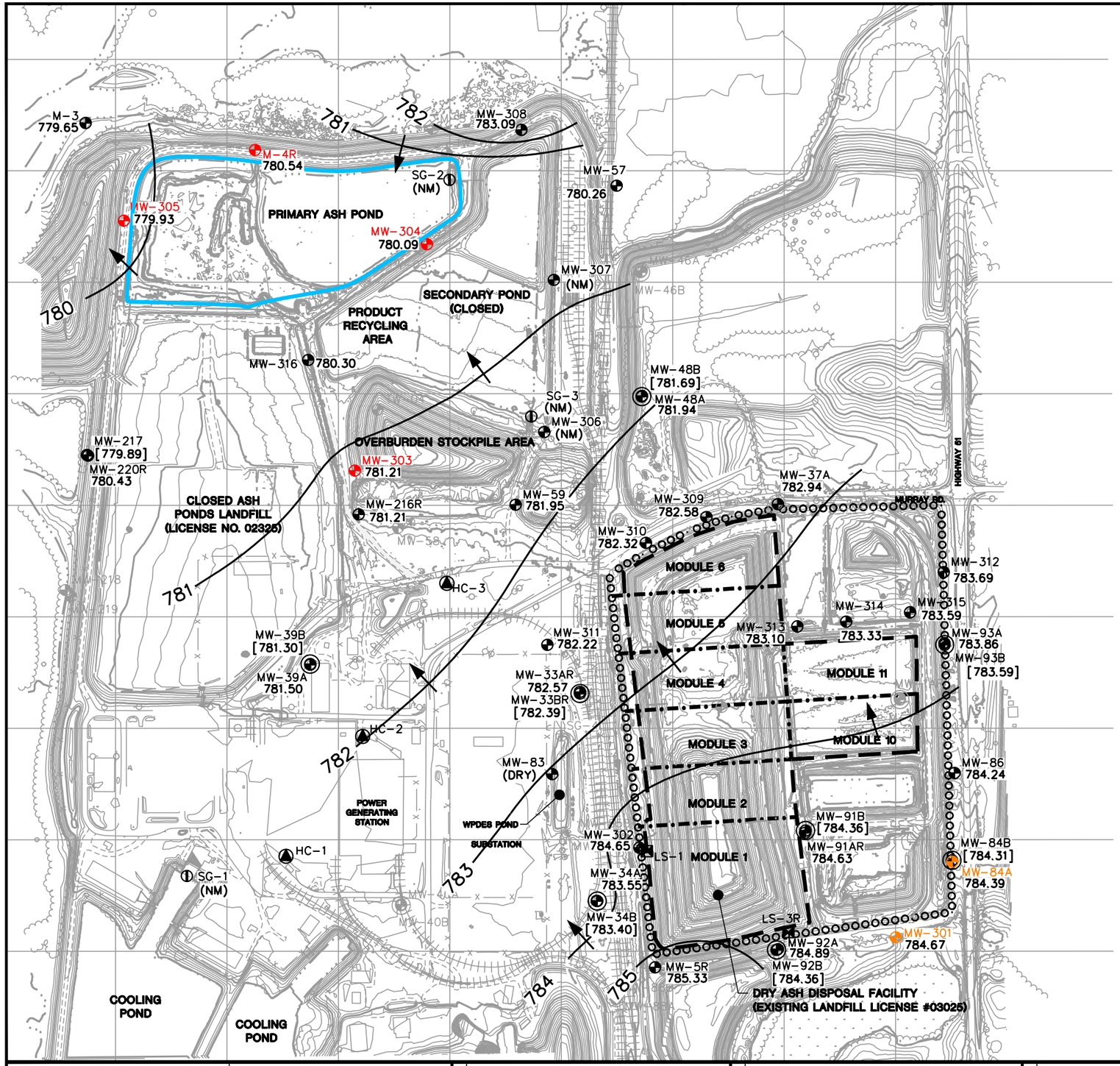
SITE: ALLIANT ENERGY
COLUMBIA ENERGY CENTER
PRIMARY ASH POND
PARDEEVILLE, WI

WATER TABLE MAP
MAY 2023

FIGURE 5

\\Mad-fs01\data\Projects\25224067.00\Drawings\Water Table Map - May 23.dwg, 4/18/2024 3:25:56 PM

02/27/2026 - Classification: Internal - ECRM13684511



LEGEND

- EXISTING MAJOR CONTOUR (10' INTERVAL)
- EXISTING MINOR CONTOUR (2' CONTOUR)
- EXISTING FENCELINE
- EXISTING TRACKS
- EXISTING PAVED ROAD
- EXISTING UNPAVED ROAD
- EDGE OF WATER
- DRY ASH DISPOSAL FACILITY LIMITS
- LIMITS OF WASTE
- LINER PHASE/MODULE LIMITS
- WATER SUPPLY WELL
- STAFF GAUGE
- WATER TABLE WELL
- PIEZOMETER
- LYSIMETER
- ABANDONED WATER TABLE WELL
- ABANDONED PIEZOMETER
- CCR UNIT
- CCR MONITORING WELL
- CCR BACKGROUND MONITORING WELL
- 787.62 — WATER TABLE ELEVATION
- [788.87] — POTENTIOMETRIC SURFACE ELEVATION (NOT CONTOURED)
- (NM) — NOT MEASURED
- WATER TABLE CONTOUR
- APPROXIMATE GROUNDWATER FLOW DIRECTION

NOTES:

1. SEE FIGURE 2, SITE PLAN AND MONITORING WELL LOCATIONS, FOR BASE MAP NOTES.
2. GROUNDWATER AND SURFACE WATER ELEVATIONS WERE MEASURED OCTOBER 9–11, 2023.
3. DEWATERING PUMPING WAS STOPPED BY SEPTEMBER 11, 2023.
4. EXCAVATION OF CCR MATERIAL FROM THE PRIMARY POND WAS COMPLETED OCTOBER 4, 2024.

N

500 0 500

SCALE: 1" = 500'

PROJECT NO.	25224067.00	DRAWN BY:	KP
DRAWN:	11/13/2023	CHECKED BY:	RM
REVISED:	04/18/2024	APPROVED BY:	TK 05/01/2024

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

CLIENT: ALLIANT ENERGY
COLUMBIA ENERGY CENTER
W8375 MURRAY ROAD
PARDEEVILLE, WI 53954

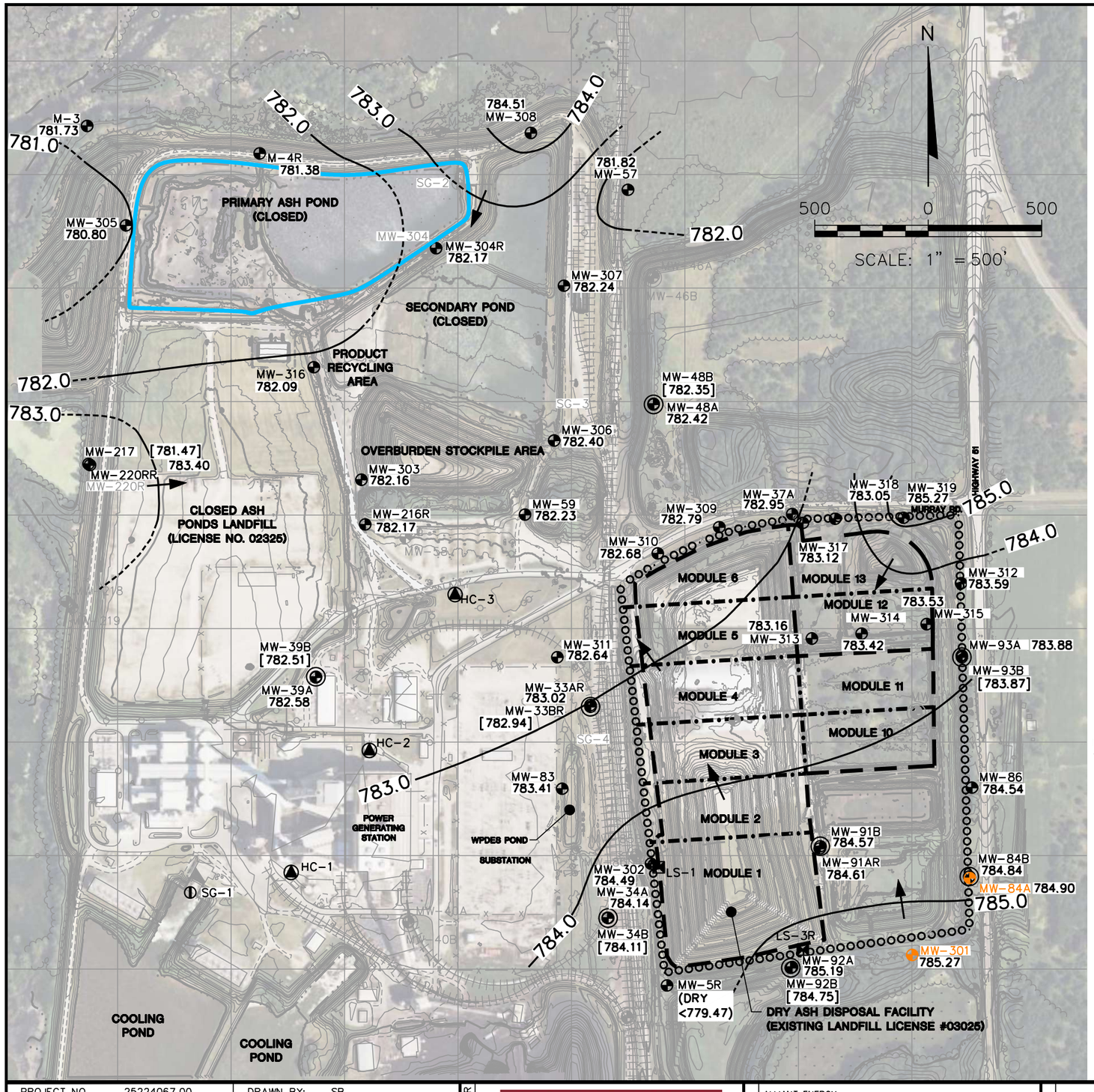
SITE: ALLIANT ENERGY
COLUMBIA ENERGY CENTER
PRIMARY ASH POND
PARDEEVILLE, WI

WATER TABLE MAP
OCTOBER 2023

FIGURE 6

I:\25224067.00\Drawings\Primary Pond\Water Table Map-October 2023.dwg, 4/24/2024 3:34:37 PM

02/27/2026 - Classification: Internal - ECRM13684511



LEGEND

- EXISTING MAJOR CONTOUR (10' INTERVAL)
- EXISTING MINOR CONTOUR (2' CONTOUR)
- EXISTING FENCELINE
- EXISTING TRACKS
- EXISTING PAVED ROAD
- EXISTING UNPAVED ROAD
- EDGE OF WATER
- DRY ASH DISPOSAL FACILITY LIMITS
- LINER PHASE/MODULE LIMITS
- WATER SUPPLY WELL
- STAFF GAUGE
- WATER TABLE WELL
- PIEZOMETER
- LYSIMETER
- ABANDONED WATER TABLE WELL
- ABANDONED PIEZOMETER
- CCR MONITORING WELL
- CCR BACKGROUND MONITORING WELL
- 783.88 — WATER TABLE ELEVATION
- [781.47] — POTENTIOMETRIC SURFACE ELEVATION (NOT CONTOURED)
- (DRY) — SURFACE WATER ELEVATION (NOT CONTOURED)
- WATER TABLE CONTOUR (1-FOOT CONTOUR INTERVAL) (DASHED WHERE INFERRED)
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- CCR UNIT

NOTES:

1. BASE MAP CREATED FROM AERIAL SURVEY BY KBM, FLOWN DECEMBER 1, 2014, AND GROUND SURVEYS BY SCS ENGINEERS IN MAY 2019, DECEMBER 2020, NOVEMBER 2021, AND DECEMBER 2021, AND BY DRONE SURVEY BY AMES IN NOVEMBER 2022.
2. MONITORING WELL LOCATIONS AND ELEVATIONS SURVEYED BY WISCONSIN POWER AND LIGHT, INC. IN DECEMBER 1994, NOVEMBER 1996, APRIL 2003, AND JANUARY 2016 AND BY SCS ENGINEERS IN FEBRUARY 2018.
3. SUPPLY WELL LOCATIONS ARE APPROXIMATE AND ASSUMED BASED ON JANUARY 2013 DRAWINGS BY TRC.
4. MONITORING WELLS MW-301 THROUGH MW-305 INSTALLED BY BADGER STATE DRILLING ON NOVEMBER 11-13, 2015.
5. MONITORING WELLS MW-306 THROUGH MW-308 INSTALLED BY BADGER STATE DRILLING ON NOVEMBER 14-15, 2016.
6. MONITORING WELLS MW-309 THROUGH MW-311 INSTALLED BY BADGER STATE DRILLING ON FEBRUARY 13-14, 2018.
7. MONITORING WELLS MW-93A, MW-93B, AND MW-312 INSTALLED BY CASCADE ENVIRONMENTAL ON MARCH 25-28, 2022.
8. MONITORING WELLS MW-313, MW-314, AND MW-315 WERE INSTALLED BY HORIZON CONSTRUCTION & EXPLORATION ON DECEMBER 12 AND 19, 2022.
9. MONITORING WELL MW-316 WAS INSTALLED BY HORIZON CONSTRUCTION & EXPLORATION ON APRIL 27, 2023.
10. MONITORING WELLS MW-317, MW-318 AND MW-319 WERE INSTALLED BY HORIZON CONSTRUCTION 7 EXPLORATION ON APRIL 9 THROUGH 11, 2024.
11. BACKGROUND MONITORING WELLS ARE MW-301 AND MW-84A.

PROJECT NO.	25224067.00	DRAWN BY:	SB
DRAWN:	11/05/2024	CHECKED BY:	NLB/BRK (01/21/2025)
REVISED:	01/21/2025	APPROVED BY:	TK (01/21/2025)

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

CLIENT: ALLIANT ENERGY
COLUMBIA ENERGY CENTER
W8375 MURRAY ROAD
PARDEEVILLE, WI 53954

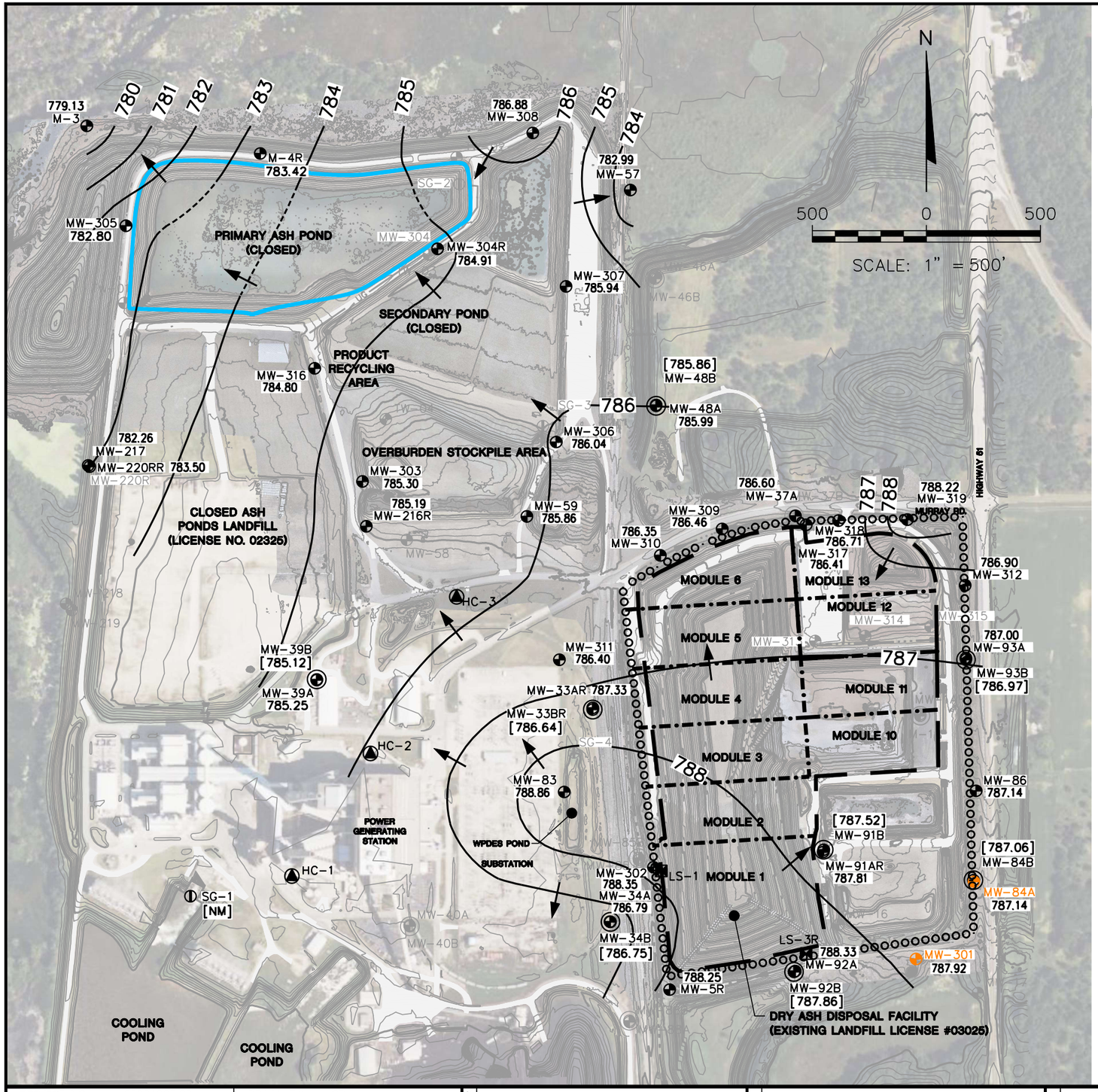
SITE: ALLIANT ENERGY
COLUMBIA ENERGY CENTER
PARDEEVILLE, WI

WATER TABLE CONTOUR MAP
APRIL 15-17, 2024

FIGURE 7

I:\25224067.00\Drawings\COL April 2024 WTBL CCR Units.dwg, 1/21/2025 2:18:45 PM

02/27/2026 - Classification: Internal - ECRM13684511



LEGEND

- EXISTING MAJOR CONTOUR (10' INTERVAL)
- EXISTING MINOR CONTOUR (2' CONTOUR)
- EXISTING FENCELINE
- EXISTING TRACKS
- EXISTING PAVED ROAD
- EXISTING UNPAVED ROAD
- EDGE OF WATER
- DRY ASH DISPOSAL FACILITY LIMITS
- LINER PHASE/MODULE LIMITS
- WATER SUPPLY WELL
- STAFF GAUGE
- WATER TABLE WELL
- PIEZOMETER
- LYSIMETER
- ABANDONED STAFF GUAGE
- ABANDONED WATER TABLE WELL
- ABANDONED PIEZOMETER
- CCR MONITORING WELL
- CCR BACKGROUND MONITORING WELL
- 788.75 — WATER TABLE ELEVATION
- [781.47] — POTENTIOMETRIC SURFACE ELEVATION (NOT CONTOURED)
- [NM] — NOT MEASURED
- WATER TABLE CONTOUR (1-FOOT CONTOUR INTERVAL) (DASHED WHERE INFERRED)
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- CCR UNIT

NOTES:

1. BASE MAP CREATED FROM AERIAL SURVEY BY KBM, FLOWN DECEMBER 1, 2014, PERIODIC SURVEYS BY SCS ENGINEERS AND CEDAR CREEK SURVEYING, LLC, AND DECEMBER 2023 DRONE SURVEY BY AMES.
2. MONITORING WELL LOCATIONS AND ELEVATIONS SURVEYED BY WISCONSIN POWER AND LIGHT, INC. IN DECEMBER 1994, NOVEMBER 1996, APRIL 2003, AND JANUARY 2016 AND BY SCS ENGINEERS IN FEBRUARY 2018.
3. SUPPLY WELL LOCATIONS ARE APPROXIMATE AND ASSUMED BASED ON JANUARY 2013 DRAWINGS BY TRC.
4. MONITORING WELLS MW-301 THROUGH MW-305 INSTALLED BY BADGER STATE DRILLING ON NOVEMBER 11-13, 2015.
5. MONITORING WELLS MW-306 THROUGH MW-308 INSTALLED BY BADGER STATE DRILLING ON NOVEMBER 14-15, 2016.
6. MONITORING WELLS MW-309 THROUGH MW-311 INSTALLED BY BADGER STATE DRILLING ON FEBRUARY 13-14, 2018.
7. MONITORING WELLS MW-93A, MW-93B, AND MW-312 INSTALLED BY CASCADE ENVIRONMENTAL ON MARCH 25-28, 2022.
8. MONITORING WELL MW-316 WAS INSTALLED BY HORIZON CONSTRUCTION & EXPLORATION ON APRIL 27, 2023.
9. MONITORING WELLS MW-317, MW-318 AND MW-319 WERE INSTALLED BY HORIZON CONSTRUCTION 7 EXPLORATION ON APRIL 9 THROUGH 11, 2024. MONITORING WELLS MW-313, MW-314, AND MW-315 WERE ABANDONED BY HORIZON CONSTRUCTION AND EXPLORATION ON MAY 22-23, 2024.
10. BACKGROUND MONITORING WELLS ARE MW-301 AND MW-84A.

PROJECT NO.	25224067.00	DRAWN BY:	SB
DRAWN:	11/05/2024	CHECKED BY:	NLB/BRK (01/21/2025)
REVISED:	01/21/2025	APPROVED BY:	TK (01/21/2025)

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

CLIENT: ALLIANT ENERGY
COLUMBIA ENERGY CENTER
W8375 MURRAY ROAD
PARDEEVILLE, WI 53954

SITE: ALLIANT ENERGY
COLUMBIA ENERGY CENTER
PARDEEVILLE, WI

WATER TABLE CONTOUR MAP
OCTOBER 1-3, 2024

FIGURE
8

I:\25224067.00\Drawings\COL October 2024 WTBL CCR Units.dwg, 1/21/2025 2:22:50 PM

02/27/2026 - Classification: Internal - ECRM13684511

Appendix A

Statistical Evaluation

02/27/2026 - Classification: Internal - ECRM13684511

Confidence Interval

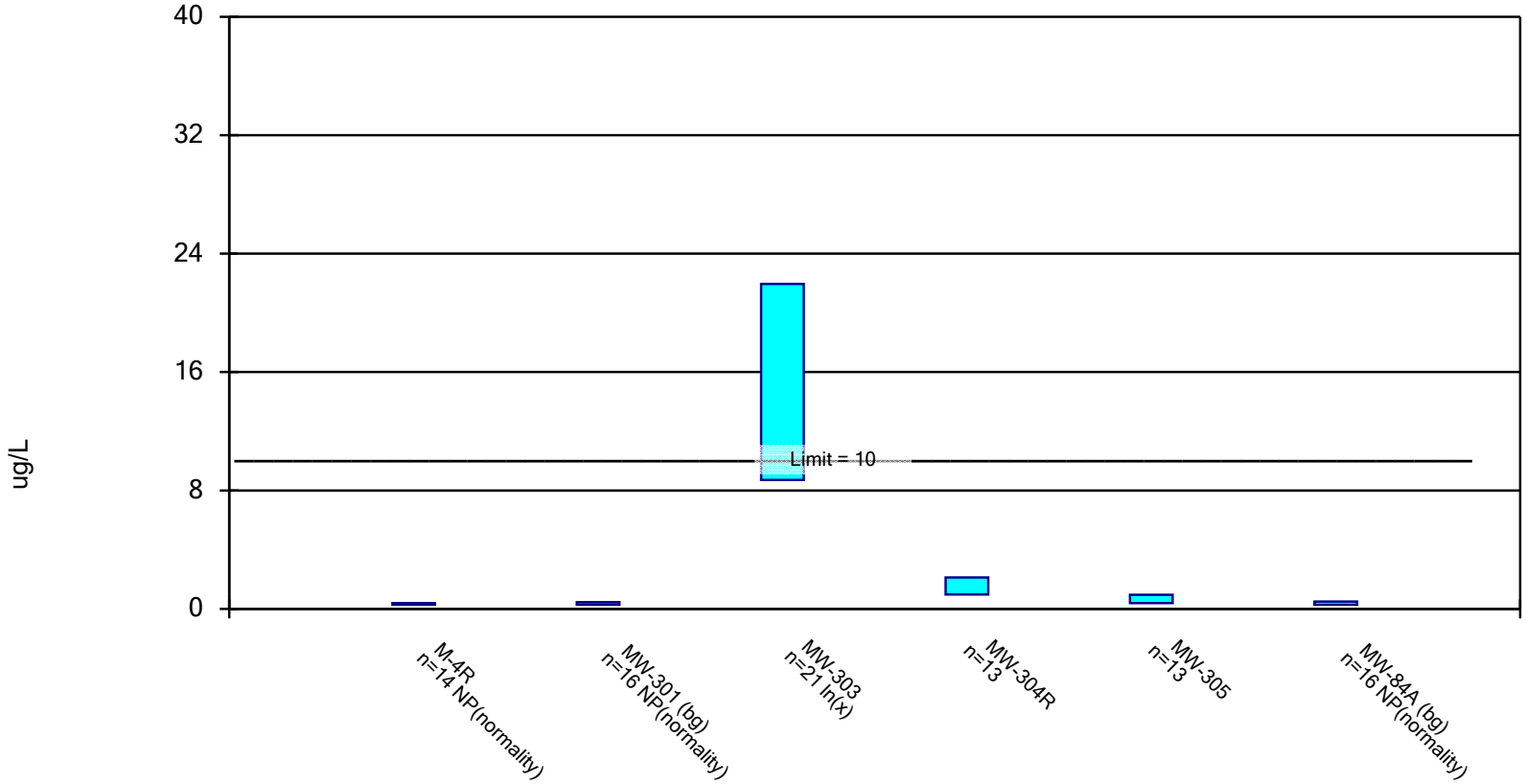
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020 Printed 1/16/2025, 3:34 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Arsenic (ug/L)	M-4R	0.39	0.28	10	No	14	64.29	No	0.01	NP (normality)
Arsenic (ug/L)	MW-301 (bg)	0.45	0.28	10	No	16	50	No	0.01	NP (normality)
Arsenic (ug/L)	MW-303	21.95	8.715	10	No	21	0	ln(x)	0.01	Param.
Arsenic (ug/L)	MW-304R	2.125	0.9669	10	No	13	0	No	0.01	Param.
Arsenic (ug/L)	MW-305	0.9503	0.3882	10	No	13	7.692	No	0.01	Param.
Arsenic (ug/L)	MW-84A (bg)	0.49	0.28	10	No	16	37.5	No	0.01	NP (normality)
Molybdenum (ug/L)	M-4R	36.86	16.41	100	No	14	0	No	0.01	Param.
Molybdenum (ug/L)	MW-301 (bg)	0.44	0.44	100	No	16	100	No	0.01	NP (NDs)
Molybdenum (ug/L)	MW-303	98.77	63.34	100	No	17	0	ln(x)	0.01	Param.
Molybdenum (ug/L)	MW-304R	15.66	4.367	100	No	13	0	ln(x)	0.01	Param.
Molybdenum (ug/L)	MW-305	82.26	41.09	100	No	18	0	No	0.01	Param.
Molybdenum (ug/L)	MW-84A (bg)	0.62	0.44	100	No	16	93.75	No	0.01	NP (NDs)
Selenium (ug/L)	M-4R	16.22	3.05	50	No	14	0	ln(x)	0.01	Param.
Selenium (ug/L)	MW-301 (bg)	0.39	0.32	50	No	16	81.25	No	0.01	NP (NDs)
Selenium (ug/L)	MW-303	38.34	17.2	50	No	16	0	ln(x)	0.01	Param.
Selenium (ug/L)	MW-304R	0.35	0.32	50	No	13	76.92	No	0.01	NP (NDs)
Selenium (ug/L)	MW-305	9.416	2.503	50	No	13	0	ln(x)	0.01	Param.
Selenium (ug/L)	MW-84A (bg)	0.48	0.32	50	No	16	93.75	No	0.01	NP (NDs)

02/27/2026 - Classification: Internal - ECRM13684511

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 1/16/2025 3:27 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Confidence Interval

Constituent: Arsenic (ug/L) Analysis Run 1/16/2025 3:34 PM View: COL Primary Pond

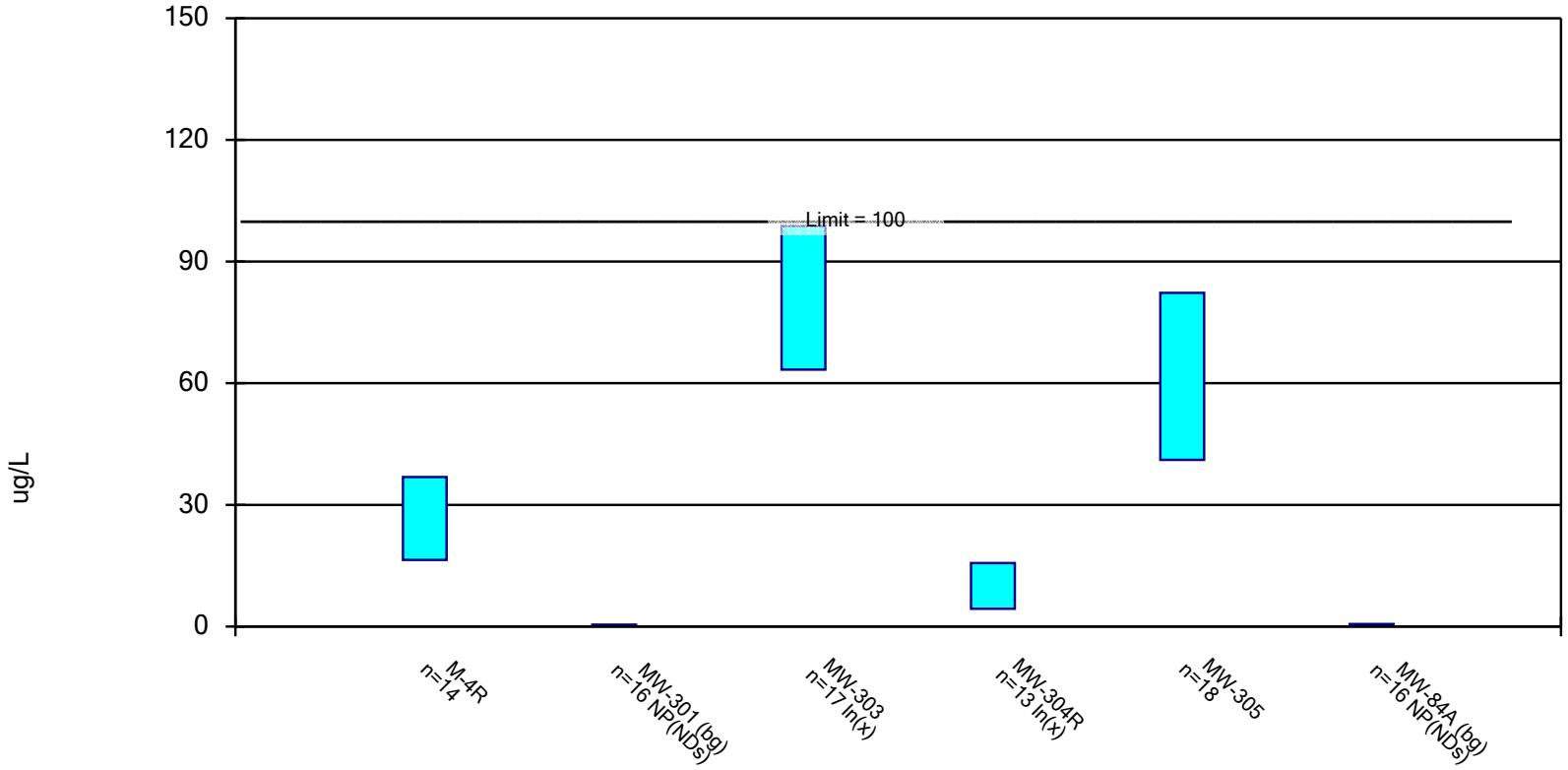
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	M-4R	MW-301 (bg)	MW-303	MW-304R	MW-305	MW-84A (bg)
4/23/2018	0.36 (J)				0.48 (J)	
4/24/2018			39.1	0.64 (J)		
4/25/2018		<0.28 (U)				<0.28 (U)
8/7/2018	<0.28 (U)				0.42 (J)	
8/8/2018		0.45 (J)	8.7	0.76 (J)		<0.28 (U)
9/21/2018			6			
10/24/2018	<0.28 (U)	<0.28 (U)	7.8	1.6	0.4 (J)	0.33 (J)
4/1/2019	<0.28 (U)		33.2		<0.28 (U)	
4/2/2019		0.4 (J)		0.63 (J)		
4/3/2019						<0.28 (U)
6/19/2019			5.3			
10/7/2019	0.37 (J)		10.2	3.2	0.49 (J)	
10/9/2019		0.42 (J)				0.46 (J)
2/3/2020		<0.28 (U)				0.38 (J)
5/27/2020	0.39 (J)		5.9	1.3	0.75 (J)	
5/29/2020		0.33 (J)				0.34 (J)
10/7/2020	0.44 (J)		9.5	2.8	0.95 (J)	
10/8/2020		0.62 (J)				0.49 (J)
2/25/2021			7.7			
4/12/2021			10.4	1.8	0.95 (J)	
4/13/2021	<0.28 (U)					
4/14/2021		<0.28 (U)				0.91 (J)
7/20/2021			13.9			
10/11/2021	<0.28 (U)			1.6	1.4	
10/12/2021			18.6			
10/14/2021		0.35 (J)				0.41 (J)
2/24/2022			28.8			
4/11/2022	<0.28 (U)			0.87 (J)	0.59 (J)	
4/12/2022			27.1			
4/13/2022		0.47 (J)				0.31 (J)
7/27/2022			29.4			
10/25/2022	0.4 (J)				1.3	
10/26/2022			52			
10/27/2022		0.3 (J)				0.72 (J)
1/20/2023				1.4		
4/24/2023			4			
4/27/2023		<0.28 (U)				<0.28 (U)
10/9/2023			36.3			
10/11/2023		<0.28				<0.28
4/17/2024		<0.28	40.4	1.8		0.29 (J)
6/4/2024	<0.28					
8/15/2024	<0.28				0.41 (J)	
10/1/2024	<0.28			1.7	0.42 (J)	
10/2/2024		<0.28	3.9			<0.28
Mean	0.32	0.3488	18.96	1.546	0.6692	0.395
Std. Dev.	0.05831	0.09892	14.71	0.7791	0.378	0.1806
Upper Lim.	0.39	0.45	21.95	2.125	0.9503	0.49
Lower Lim.	0.28	0.28	8.715	0.9669	0.3882	0.28

ND substitution: RL or RL/2 if <15% NDs.

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum Analysis Run 1/16/2025 3:27 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Confidence Interval

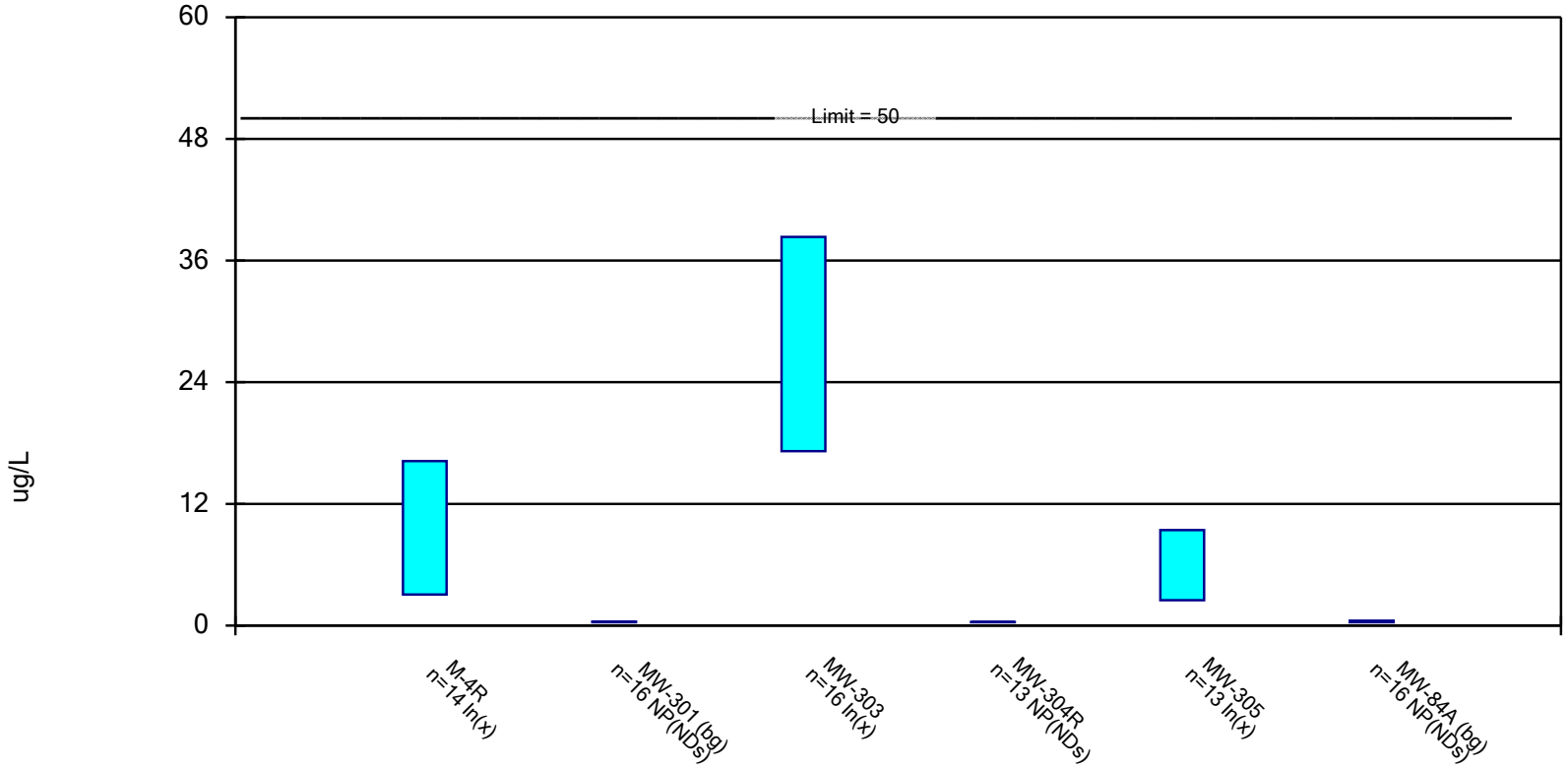
Constituent: Molybdenum (ug/L) Analysis Run 1/16/2025 3:34 PM View: COL Primary Pond
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	M-4R	MW-301 (bg)	MW-303	MW-304R	MW-305	MW-84A (bg)
4/23/2018	19.1				54.4	
4/24/2018			138	3.2		
4/25/2018		<0.44 (U)				<0.44 (U)
8/7/2018	14.7				55.7	
8/8/2018		<0.44 (U)	94.8	12.3		<0.44 (U)
9/21/2018			84.7			
10/24/2018	15.4	<0.44 (U)	85.5	10.2	45.6	<0.44 (U)
4/1/2019	29.4		106		47.7	
4/2/2019		<0.44 (U)		3		
4/3/2019						<0.44 (U)
6/19/2019			64.1			
10/7/2019	27.6		87	4.8	56.2	
10/9/2019		<0.44 (U)				<0.44 (U)
2/3/2020		<0.44 (U)				<0.44 (U)
5/27/2020	25.6		67.1	3.9	60.5	
5/29/2020		<0.44 (U)				<0.44 (U)
10/7/2020	27.6		67.1	12	102	
10/8/2020		<0.44 (U)				<0.44 (U)
12/11/2020					99	
2/25/2021					107	
4/12/2021			67.1	13	106	
4/13/2021	41.1					
4/14/2021		<0.44 (U)				0.62 (J)
7/20/2021					77	
10/11/2021	60.7			13.5	124	
10/12/2021			78			
10/14/2021		<0.44 (U)				<0.44 (U)
2/24/2022					35.8	
4/11/2022	42.5			9.8	45.9	
4/12/2022			174			
4/13/2022		<0.44 (U)				<0.44 (U)
7/27/2022					35.1	
10/25/2022	34.5				44.9	
10/26/2022			89.4			
10/27/2022		<0.44 (U)				<0.44 (U)
1/20/2023				2.4		
4/24/2023			41.3			
4/27/2023		<0.44 (U)				<0.44 (U)
10/9/2023			56.3			
10/11/2023		<0.44 (U)				<0.44 (U)
4/17/2024		<0.44	82	52.2		<0.44
6/4/2024	9.7					
8/15/2024	10.9				7.4	
10/1/2024	14.1			14.5	6	
10/2/2024		<0.44	47.4			<0.44
Mean	26.64	0.44	84.11	11.91	61.68	0.4512
Std. Dev.	14.44	0	32.48	12.92	34.03	0.045
Upper Lim.	36.86	0.44	98.77	15.66	82.26	0.62
Lower Lim.	16.41	0.44	63.34	4.367	41.09	0.44

ND substitution: RL or RL/2 if <15% NDs.

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Selenium Analysis Run 1/16/2025 3:27 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Confidence Interval

Constituent: Selenium (ug/L) Analysis Run 1/16/2025 3:34 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	M-4R	MW-301 (bg)	MW-303	MW-304R	MW-305	MW-84A (bg)
4/23/2018	8.6				6.9	
4/24/2018			52.9	<0.32 (U)		
4/25/2018		<0.32 (U)				<0.32 (U)
8/7/2018	5.5				4.8	
8/8/2018		0.71 (J)	25.1	<0.32 (U)		<0.32 (U)
9/21/2018			15.8			
10/24/2018	4.1	<0.32 (U)	15.1	<0.32 (U)	5.4	<0.32 (U)
4/1/2019	12.6		36.5		3.2	
4/2/2019		0.49 (J)		<0.32 (U)		
4/3/2019						<0.32 (U)
10/7/2019	1.8		16.4	<0.32 (U)	7.7	
10/9/2019		<0.32 (U)				<0.32 (U)
2/3/2020		<0.32 (U)				<0.32 (U)
5/27/2020	11.7		18.7	0.33 (J)	4.2	
5/29/2020		<0.32 (U)				<0.32 (U)
10/7/2020	1.6		17.2	<0.32 (U)	7.6	
10/8/2020		<0.32 (U)				<0.32 (U)
4/12/2021			22.4	1.1	8	
4/13/2021	3.7					
4/14/2021		<0.32 (U)				0.48 (J)
10/11/2021	2.3			0.35 (J)	4.5	
10/12/2021			28.1			
10/14/2021		<0.32 (U)				<0.32 (U)
4/11/2022	3			<0.32 (U)	21.5	
4/12/2022			87.2			
4/13/2022		<0.32 (U)				<0.32 (U)
10/25/2022	5.8				9.1	
10/26/2022			74.4			
10/27/2022		<0.32 (U)				<0.32 (U)
1/20/2023				<0.32 (U)		
4/24/2023			9.7			
4/27/2023		<0.32 (U)				<0.32 (U)
10/9/2023			28.3			
10/11/2023		<0.32 (U)				<0.32 (U)
4/17/2024		<0.32	36.3	<0.32		<0.32
6/4/2024	116					
8/15/2024	20.2				0.6 (J)	
10/1/2024	25.4			<0.32	1.4	
10/2/2024		0.39 (J)	14.4			<0.32
Mean	15.88	0.3594	31.16	0.3831	6.531	0.33
Std. Dev.	29.7	0.1036	22.32	0.2156	5.179	0.04
Upper Lim.	16.22	0.39	38.34	0.35	9.416	0.48
Lower Lim.	3.05	0.32	17.2	0.32	2.503	0.32

ND substitution: RL or RL/2 if <15% NDs.

Confidence Interval

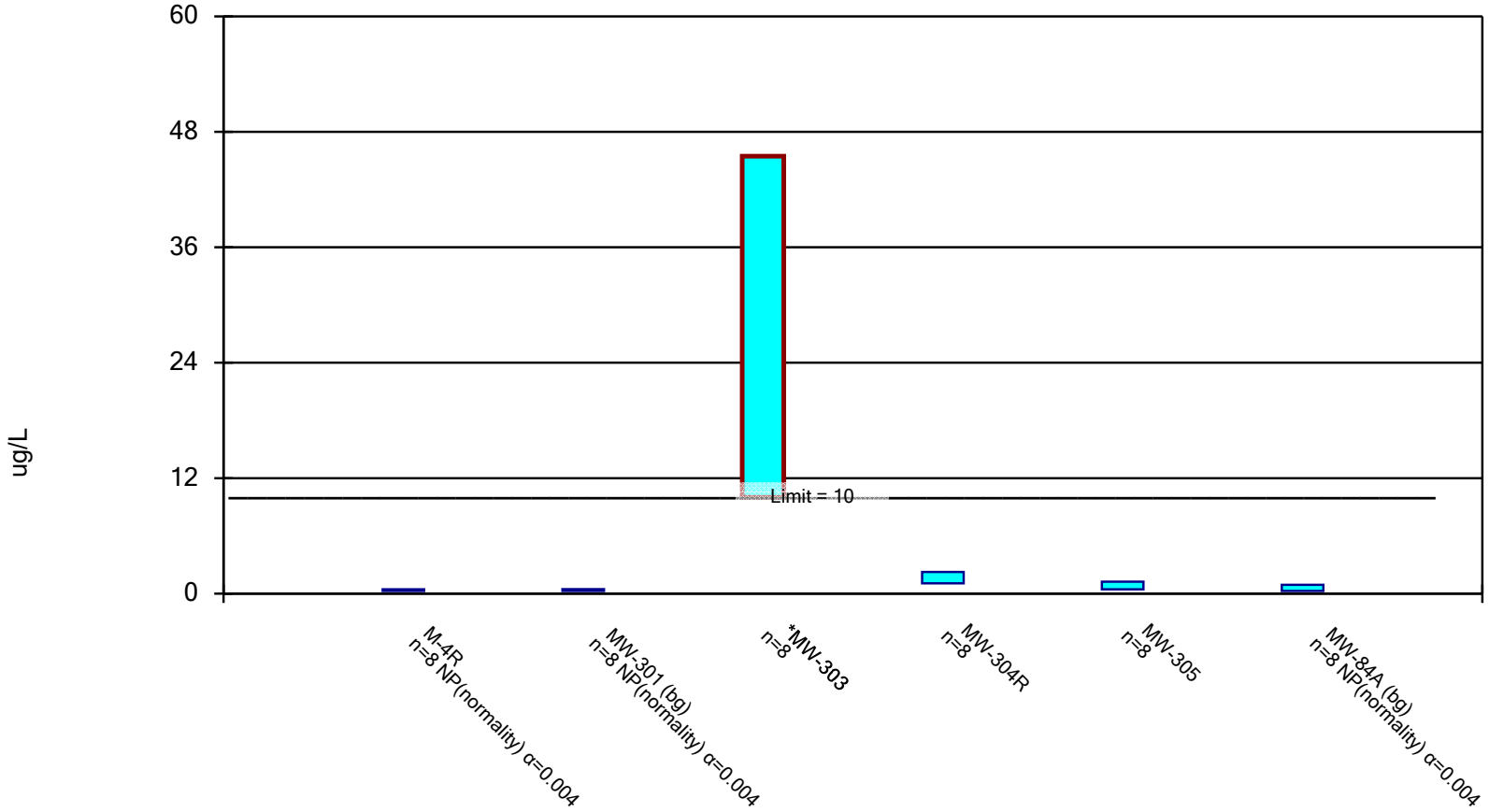
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020 Printed 1/16/2025, 3:23 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Arsenic (ug/L)	M-4R	0.44	0.28	10	No	8	75	No	0.004	NP (normality)
Arsenic (ug/L)	MW-301 (bg)	0.47	0.28	10	No	8	62.5	No	0.004	NP (normality)
Arsenic (ug/L)	**MW-303**	**45.47**	**10.01**	**10**	**Yes**	**8**	**0**	**No**	**0.01**	**Param.**
Arsenic (ug/L)	MW-304R	2.248	1.069	10	No	8	0	No	0.01	Param.
Arsenic (ug/L)	MW-305	1.243	0.4495	10	No	8	0	No	0.01	Param.
Arsenic (ug/L)	MW-84A (bg)	0.91	0.28	10	No	8	37.5	No	0.004	NP (normality)
Molybdenum (ug/L)	M-4R	49.26	11.02	100	No	8	0	No	0.01	Param.
Molybdenum (ug/L)	MW-301 (bg)	0.44	0.44	100	No	8	100	No	0.004	NP (NDs)
Molybdenum (ug/L)	MW-303	115.9	44.94	100	No	8	0	ln(x)	0.01	Param.
Molybdenum (ug/L)	MW-304R	27.9	3.941	100	No	8	0	ln(x)	0.01	Param.
Molybdenum (ug/L)	MW-305	87.77	6.254	100	No	8	0	No	0.01	Param.
Molybdenum (ug/L)	MW-84A (bg)	0.62	0.44	100	No	8	87.5	No	0.004	NP (NDs)
Selenium (ug/L)	M-4R	37.22	1.647	50	No	8	0	ln(x)	0.01	Param.
Selenium (ug/L)	MW-301 (bg)	0.39	0.32	50	No	8	87.5	No	0.004	NP (NDs)
Selenium (ug/L)	MW-303	65.28	13.4	50	No	8	0	ln(x)	0.01	Param.
Selenium (ug/L)	MW-304R	1.1	0.32	50	No	8	62.5	No	0.004	NP (normality)
Selenium (ug/L)	MW-305	15.16	1.375	50	No	8	0	ln(x)	0.01	Param.
Selenium (ug/L)	MW-84A (bg)	0.48	0.32	50	No	8	87.5	No	0.004	NP (NDs)

02/27/2026 - Classification: Internal - ECRM13684511

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 1/16/2025 3:19 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Confidence Interval

Constituent: Arsenic (ug/L) Analysis Run 1/16/2025 3:23 PM View: COL Primary Pond

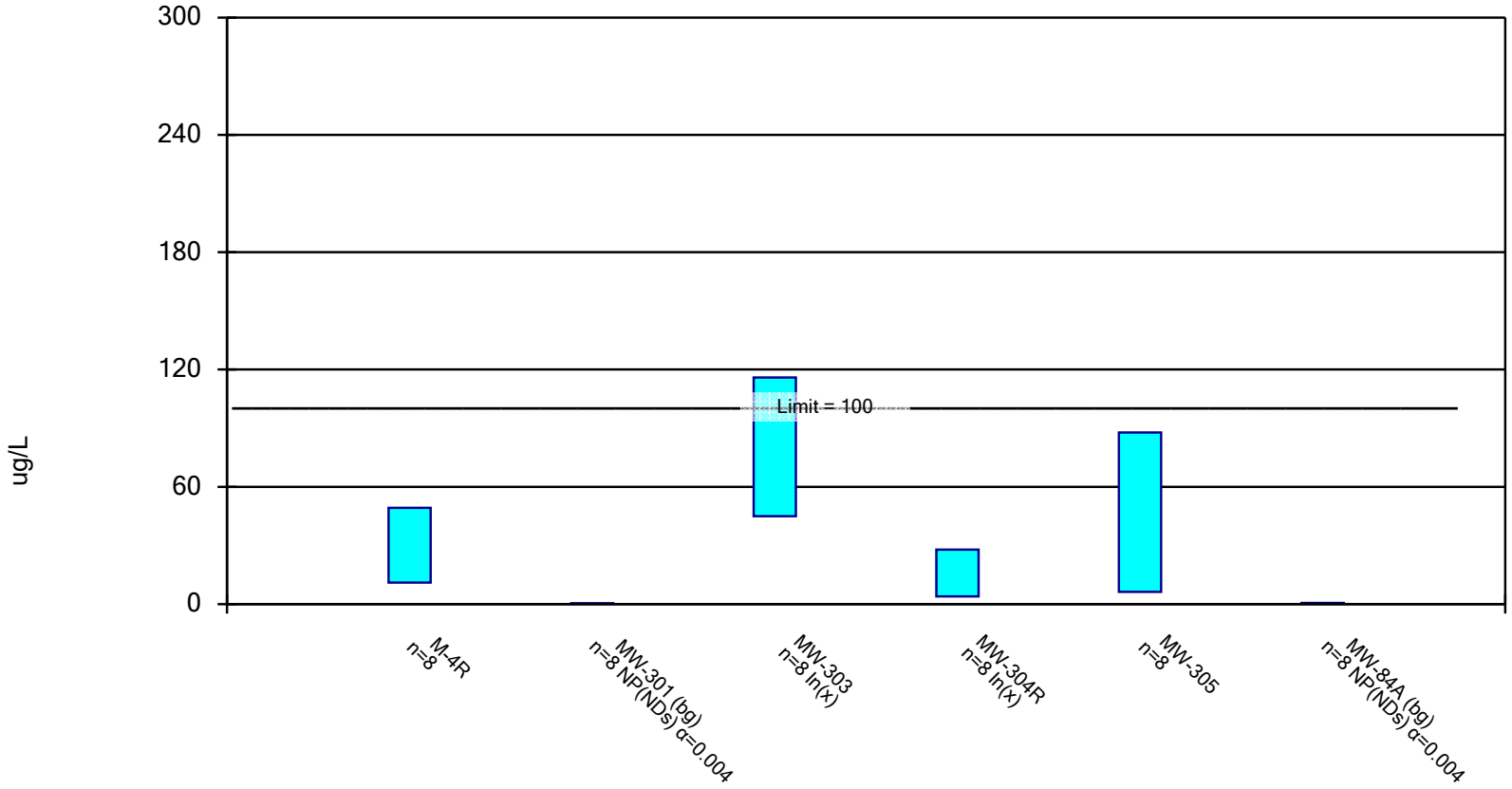
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	M-4R	MW-301 (bg)	MW-303	MW-304R	MW-305	MW-84A (bg)
5/27/2020				1.3	0.75 (J)	
10/7/2020	0.44 (J)			2.8	0.95 (J)	
4/12/2021				1.8	0.95 (J)	
4/13/2021	<0.28 (U)					
4/14/2021		<0.28 (U)				0.91 (J)
10/11/2021	<0.28 (U)			1.6	1.4	
10/14/2021		0.35 (J)				0.41 (J)
2/24/2022			28.8			
4/11/2022	<0.28 (U)			0.87 (J)	0.59 (J)	
4/12/2022			27.1			
4/13/2022		0.47 (J)				0.31 (J)
7/27/2022			29.4			
10/25/2022	0.4 (J)				1.3	
10/26/2022			52			
10/27/2022		0.3 (J)				0.72 (J)
1/20/2023				1.4		
4/24/2023			4			
4/27/2023		<0.28 (U)				<0.28 (U)
10/9/2023			36.3			
10/11/2023		<0.28				<0.28
4/17/2024		<0.28	40.4	1.8		0.29 (J)
6/4/2024	<0.28					
8/15/2024	<0.28				0.41 (J)	
10/1/2024	<0.28			1.7	0.42 (J)	
10/2/2024		<0.28	3.9			<0.28
Mean	0.315	0.315	27.74	1.659	0.8463	0.435
Std. Dev.	0.06568	0.06719	16.73	0.5562	0.3744	0.2438
Upper Lim.	0.44	0.47	45.47	2.248	1.243	0.91
Lower Lim.	0.28	0.28	10.01	1.069	0.4495	0.28

ND substitution: RL or RL/2 if <15% NDs.

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum Analysis Run 1/16/2025 3:19 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Confidence Interval

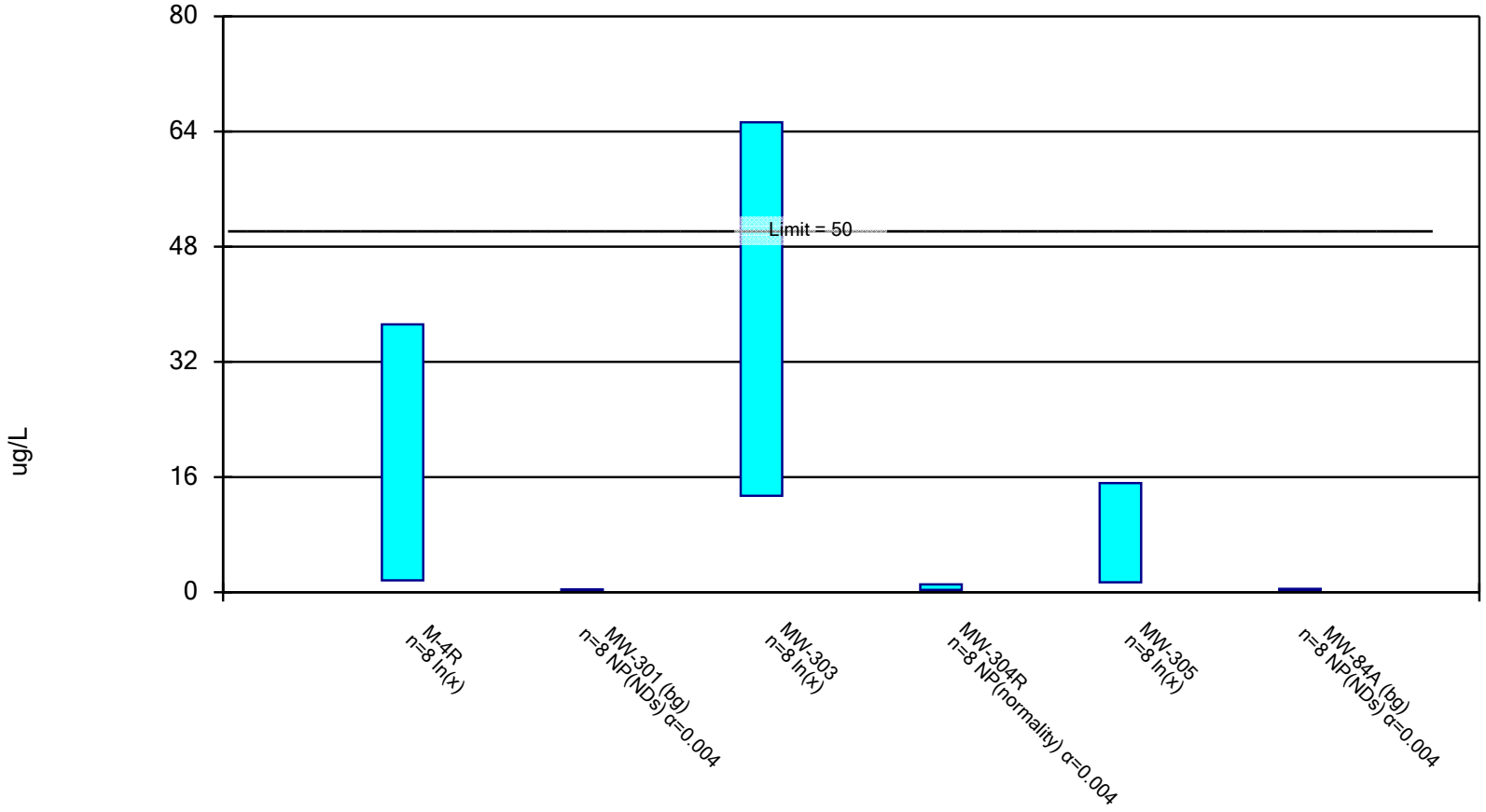
Constituent: Molybdenum (ug/L) Analysis Run 1/16/2025 3:23 PM View: COL Primary Pond
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	M-4R	MW-301 (bg)	MW-303	MW-304R	MW-305	MW-84A (bg)
5/27/2020				3.9		
10/7/2020	27.6			12		
4/12/2021			67.1	13		
4/13/2021	41.1					
4/14/2021		<0.44 (U)				0.62 (J)
7/20/2021					77	
10/11/2021	60.7			13.5	124	
10/12/2021			78			
10/14/2021		<0.44 (U)				<0.44 (U)
2/24/2022					35.8	
4/11/2022	42.5			9.8	45.9	
4/12/2022			174			
4/13/2022		<0.44 (U)				<0.44 (U)
7/27/2022					35.1	
10/25/2022	34.5				44.9	
10/26/2022			89.4			
10/27/2022		<0.44 (U)				<0.44 (U)
1/20/2023				2.4		
4/24/2023			41.3			
4/27/2023		<0.44 (U)				<0.44 (U)
10/9/2023			56.3			
10/11/2023		<0.44 (U)				<0.44 (U)
4/17/2024		<0.44	82	52.2		<0.44
6/4/2024	9.7					
8/15/2024	10.9				7.4	
10/1/2024	14.1			14.5	6	
10/2/2024		<0.44	47.4			<0.44
Mean	30.14	0.44	79.44	15.16	47.01	0.4625
Std. Dev.	18.04	0	41.78	15.62	38.45	0.06364
Upper Lim.	49.26	0.44	115.9	27.9	87.77	0.62
Lower Lim.	11.02	0.44	44.94	3.941	6.254	0.44

ND substitution: RL or RL/2 if <15% NDs.

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Selenium Analysis Run 1/16/2025 3:19 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Confidence Interval

Constituent: Selenium (ug/L) Analysis Run 1/16/2025 3:23 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	M-4R	MW-301 (bg)	MW-303	MW-304R	MW-305	MW-84A (bg)
5/27/2020				0.33 (J)	4.2	
10/7/2020	1.6			<0.32 (U)	7.6	
4/12/2021			22.4	1.1	8	
4/13/2021	3.7					
4/14/2021		<0.32 (U)				0.48 (J)
10/11/2021	2.3			0.35 (J)	4.5	
10/12/2021			28.1			
10/14/2021		<0.32 (U)				<0.32 (U)
4/11/2022	3			<0.32 (U)	21.5	
4/12/2022			87.2			
4/13/2022		<0.32 (U)				<0.32 (U)
10/25/2022	5.8				9.1	
10/26/2022			74.4			
10/27/2022		<0.32 (U)				<0.32 (U)
1/20/2023				<0.32 (U)		
4/24/2023			9.7			
4/27/2023		<0.32 (U)				<0.32 (U)
10/9/2023			28.3			
10/11/2023		<0.32 (U)				<0.32 (U)
4/17/2024		<0.32	36.3	<0.32		<0.32
6/4/2024	116					
8/15/2024	20.2				0.6 (J)	
10/1/2024	25.4			<0.32	1.4	
10/2/2024		0.39 (J)	14.4			<0.32
Mean	22.25	0.3287	37.6	0.4225	7.113	0.34
Std. Dev.	38.94	0.02475	28.13	0.274	6.572	0.05657
Upper Lim.	37.22	0.39	65.28	1.1	15.16	0.48
Lower Lim.	1.647	0.32	13.4	0.32	1.375	0.32

ND substitution: RL or RL/2 if <15% NDs.

Trend Test

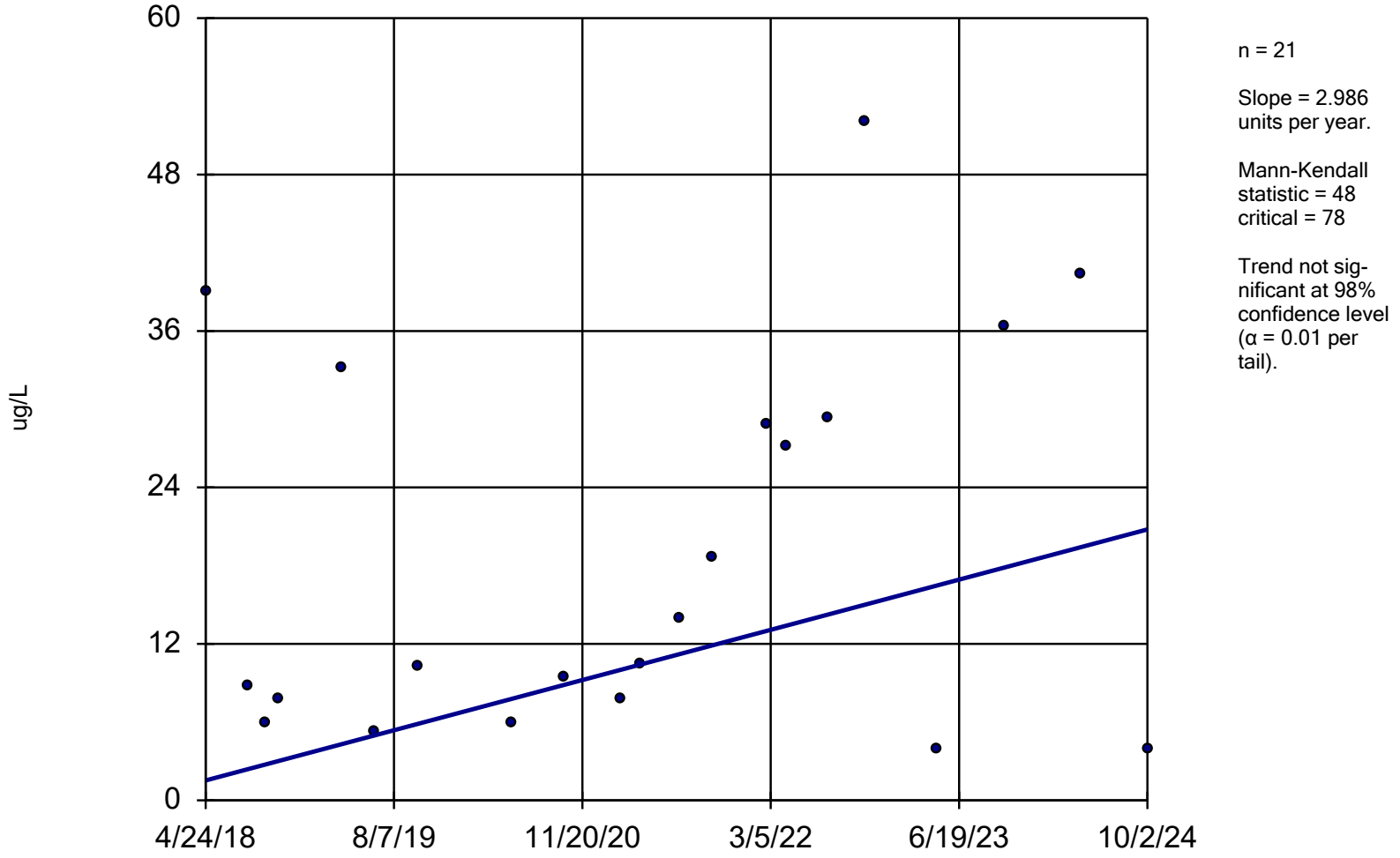
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020 Printed 1/16/2025, 3:39 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Arsenic (ug/L)	MW-303	2.986	48	78	No	21	0	n/a	n/a	0.02	NP

02/27/2026 - Classification: Internal - ECRM13684511

Arsenic

MW-303



n = 21

Slope = 2.986 units per year.

Mann-Kendall statistic = 48 critical = 78

Trend not significant at 98% confidence level (α = 0.01 per tail).

Sen's Slope and 98% Confidence Band Analysis Run 1/16/2025 3:37 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Sen's Slope Estimator

Constituent: Arsenic (ug/L) Analysis Run 1/16/2025 3:39 PM View: COL Primary Pond
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	MW-303
4/24/2018	39.1
8/8/2018	8.7
9/21/2018	6
10/24/2018	7.8
4/1/2019	33.2
6/19/2019	5.3
10/7/2019	10.2
5/27/2020	5.9
10/7/2020	9.5
2/25/2021	7.7
4/12/2021	10.4
7/20/2021	13.9
10/12/2021	18.6
2/24/2022	28.8
4/12/2022	27.1
7/27/2022	29.4
10/26/2022	52
4/24/2023	4
10/9/2023	36.3
4/17/2024	40.4
10/2/2024	3.9

02/27/2026 - Classification: Internal - ECRM13684511

Trend Test

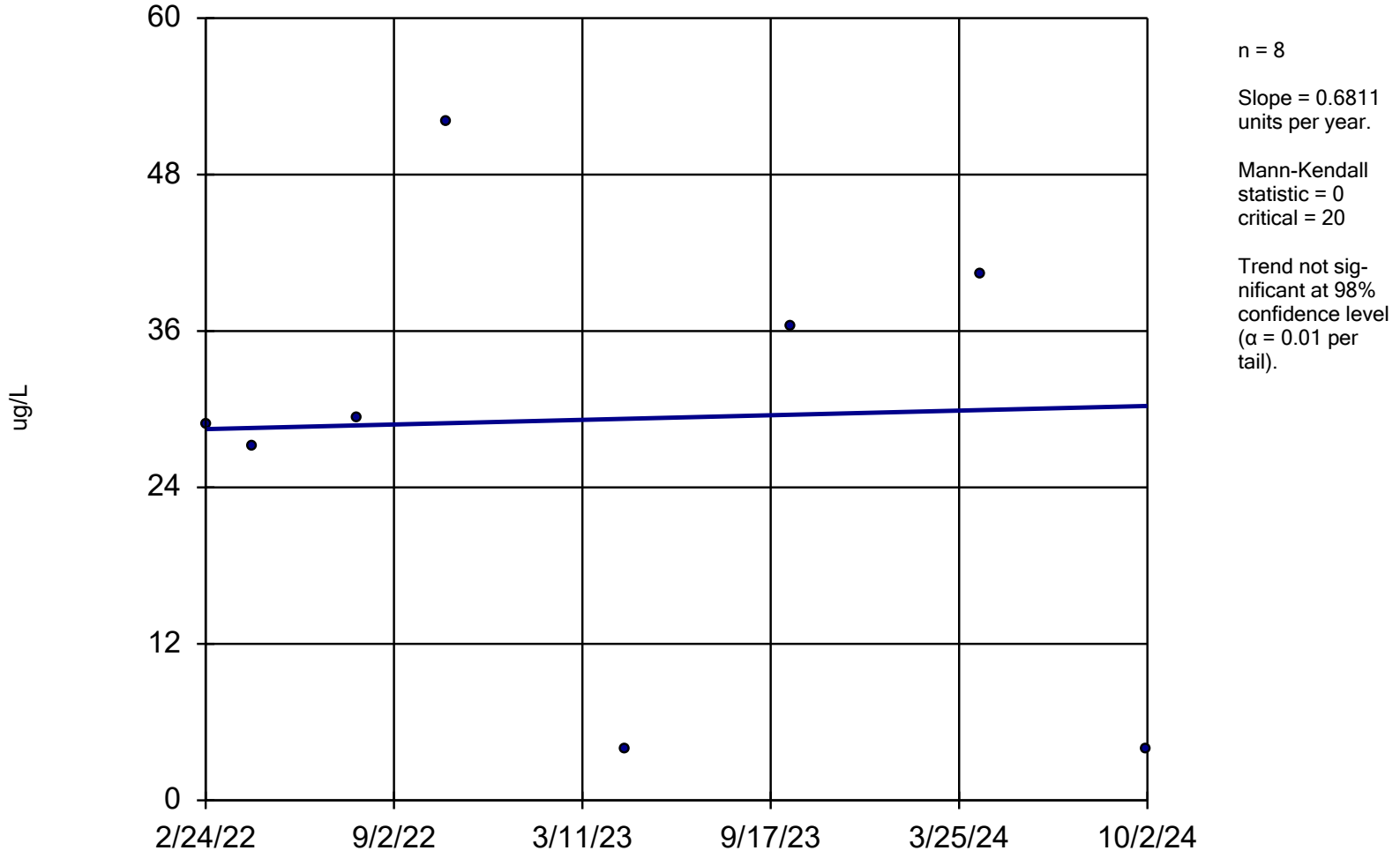
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020 Printed 1/16/2025, 3:36 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Arsenic (ug/L)	MW-303	0.6811	0	20	No	8	0	n/a	n/a	0.02	NP

02/27/2026 - Classification: Internal - ECRM13684511

Arsenic

MW-303



Sen's Slope and 98% Confidence Band Analysis Run 1/16/2025 3:35 PM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Sen's Slope Estimator

Constituent: Arsenic (ug/L) Analysis Run 1/16/2025 3:36 PM View: COL Primary Pond
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	MW-303
4/24/2018	39.1
8/8/2018	8.7
9/21/2018	6
10/24/2018	7.8
4/1/2019	33.2
6/19/2019	5.3
10/7/2019	10.2
5/27/2020	5.9
10/7/2020	9.5
2/25/2021	7.7
4/12/2021	10.4
7/20/2021	13.9
10/12/2021	18.6
2/24/2022	28.8
4/12/2022	27.1
7/27/2022	29.4
10/26/2022	52
4/24/2023	4
10/9/2023	36.3
4/17/2024	40.4
10/2/2024	3.9

02/27/2026 - Classification: Internal - ECRM13684511

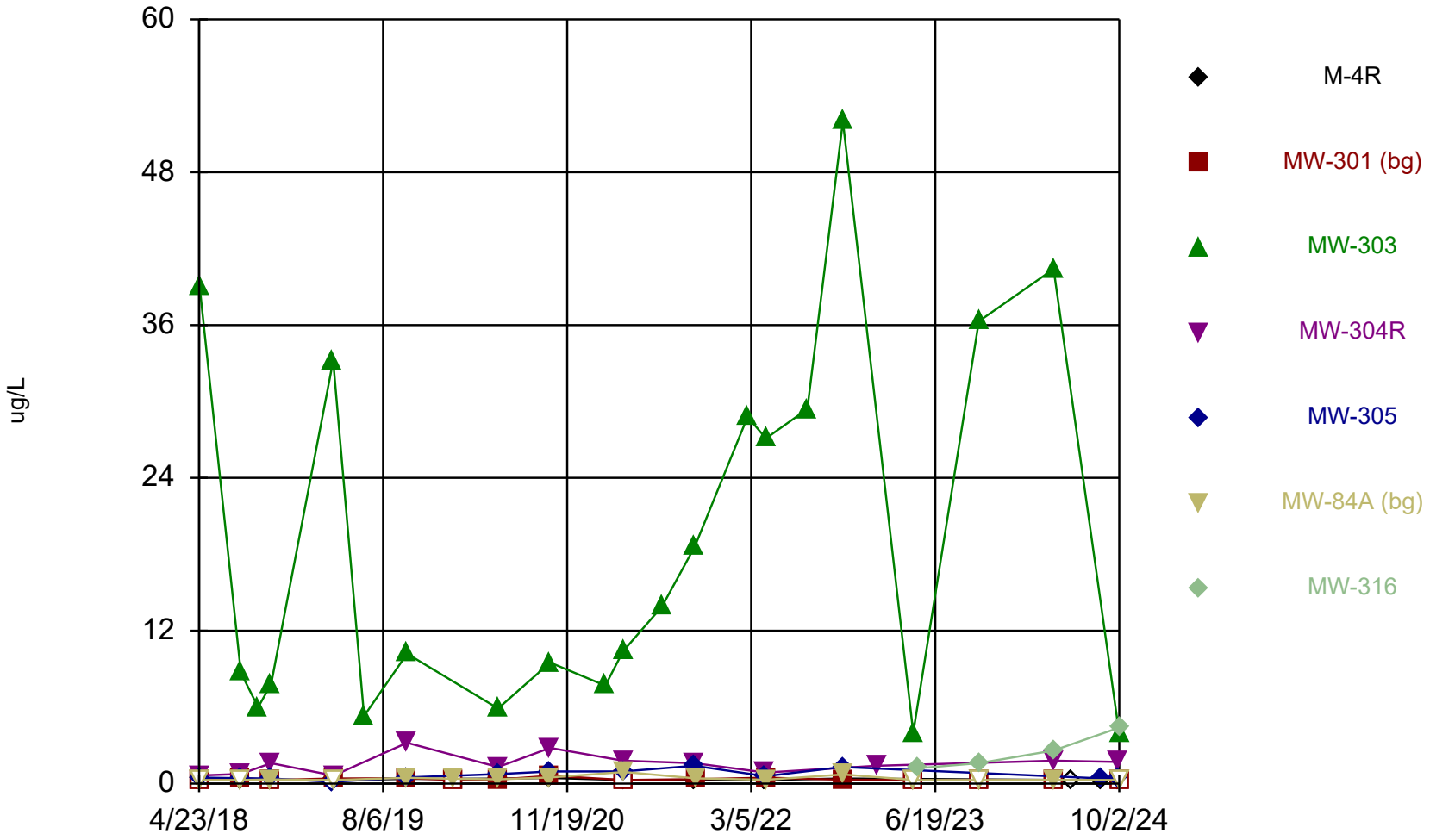
Appendix B

Time Series Plot for CCR Wells

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Sanitas™ v.10.0.24 Software licensed to SCS Engineers. UG
Hollow symbols indicate censored values.

Arsenic



Time Series Analysis Run 2/27/2025 9:49 AM View: COL Primary Pond

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Time Series

Constituent: Arsenic (ug/L) Analysis Run 2/27/2025 9:49 AM View: COL Primary Pond
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	M-4R	MW-301 (bg)	MW-303	MW-304R	MW-305	MW-84A (bg)	MW-316
4/23/2018	0.36 (J)				0.48 (J)		
4/24/2018			39.1	0.64 (J)			
4/25/2018		<0.28 (U)				<0.28 (U)	
8/7/2018	<0.28 (U)				0.42 (J)		
8/8/2018		0.45 (J)	8.7	0.76 (J)		<0.28 (U)	
9/21/2018			6				
10/24/2018	<0.28 (U)	<0.28 (U)	7.8	1.6	0.4 (J)	0.33 (J)	
4/1/2019	<0.28 (U)		33.2		<0.28 (U)		
4/2/2019		0.4 (J)		0.63 (J)			
4/3/2019						<0.28 (U)	
6/19/2019			5.3				
10/7/2019	0.37 (J)		10.2	3.2	0.49 (J)		
10/9/2019		0.42 (J)				0.46 (J)	
2/3/2020		<0.28 (U)				0.38 (J)	
5/27/2020	0.39 (J)		5.9	1.3	0.75 (J)		
5/29/2020		0.33 (J)				0.34 (J)	
10/7/2020	0.44 (J)		9.5	2.8	0.95 (J)		
10/8/2020		0.62 (J)				0.49 (J)	
2/25/2021			7.7				
4/12/2021			10.4	1.8	0.95 (J)		
4/13/2021	<0.28 (U)						
4/14/2021		<0.28 (U)				0.91 (J)	
7/20/2021			13.9				
10/11/2021	<0.28 (U)			1.6	1.4		
10/12/2021			18.6				
10/14/2021		0.35 (J)				0.41 (J)	
2/24/2022			28.8				
4/11/2022	<0.28 (U)			0.87 (J)	0.59 (J)		
4/12/2022			27.1				
4/13/2022		0.47 (J)				0.31 (J)	
7/27/2022			29.4				
10/25/2022	0.4 (J)				1.3		
10/26/2022			52				
10/27/2022		0.3 (J)				0.72 (J)	
1/20/2023				1.4			
4/24/2023			4				
4/27/2023		<0.28 (U)				<0.28 (U)	
5/5/2023							1.2
10/9/2023			36.3				1.6
10/11/2023		<0.28				<0.28	
4/17/2024		<0.28	40.4	1.8		0.29 (J)	2.6
6/4/2024	<0.28						
8/15/2024	<0.28				0.41 (J)		
10/1/2024	<0.28			1.7	0.42 (J)		
10/2/2024		<0.28	3.9			<0.28	4.4

ND substitution: RL or RL/2 if <15% NDs.

Appendix C

Regional Information

02/27/2026 - Classification: Internal - ECRM13684511

Table COL-3. Regional Hydrogeologic Stratigraphy
Columbia Energy Center / SCS Engineers Project #25215053

Approximate Age	Hydrogeologic Unit	General Thickness (feet)	Name of Rock Unit*	Predominant Lithology
Quaternary (0-1 million years old)	Surficial Aquifer	0 to 300+	Holocene & Pleistocene Deposits	• Unconsolidated clay, silt, sand, gravel, cobbles, boulders, and organic matter
Ordovician (460 to 490 million years old)	Sandstone Aquifer	0 to 800+	Galena Decorah Platteville St. Peter Prairie du Chien	• Dolomite and shaley dolomite • Sandstone
Cambrian (490 to 500 million years old)			Trempeleau Franconia Galesville Eau Claire Mt. Simon	• Sandstone
Precambrian (more than 1 billion years old)	Used for domestic supply in some areas	--	Precambrian	• Igneous and metamorphic rocks

*This nomenclature and classification of rock units in this report are those of the Wisconsin Geological and Natural History Survey and do not necessarily coincide with those accepted by the U.S. Geological Survey.

Sources:

Harr, C.A., L.C. Trotta, and R.G. Borman, "Ground-Water Resources and Geology of Columbia County, Wisconsin," University of Wisconsin-Extension Geological and Natural History Survey Information Circular Number 37, 1978.

Wisconsin Geological and Natural History Survey, Bedrock Stratigraphic Units in Wisconsin, UW Extension Educational Series 51, ISSN: 1052-2115, 2011.

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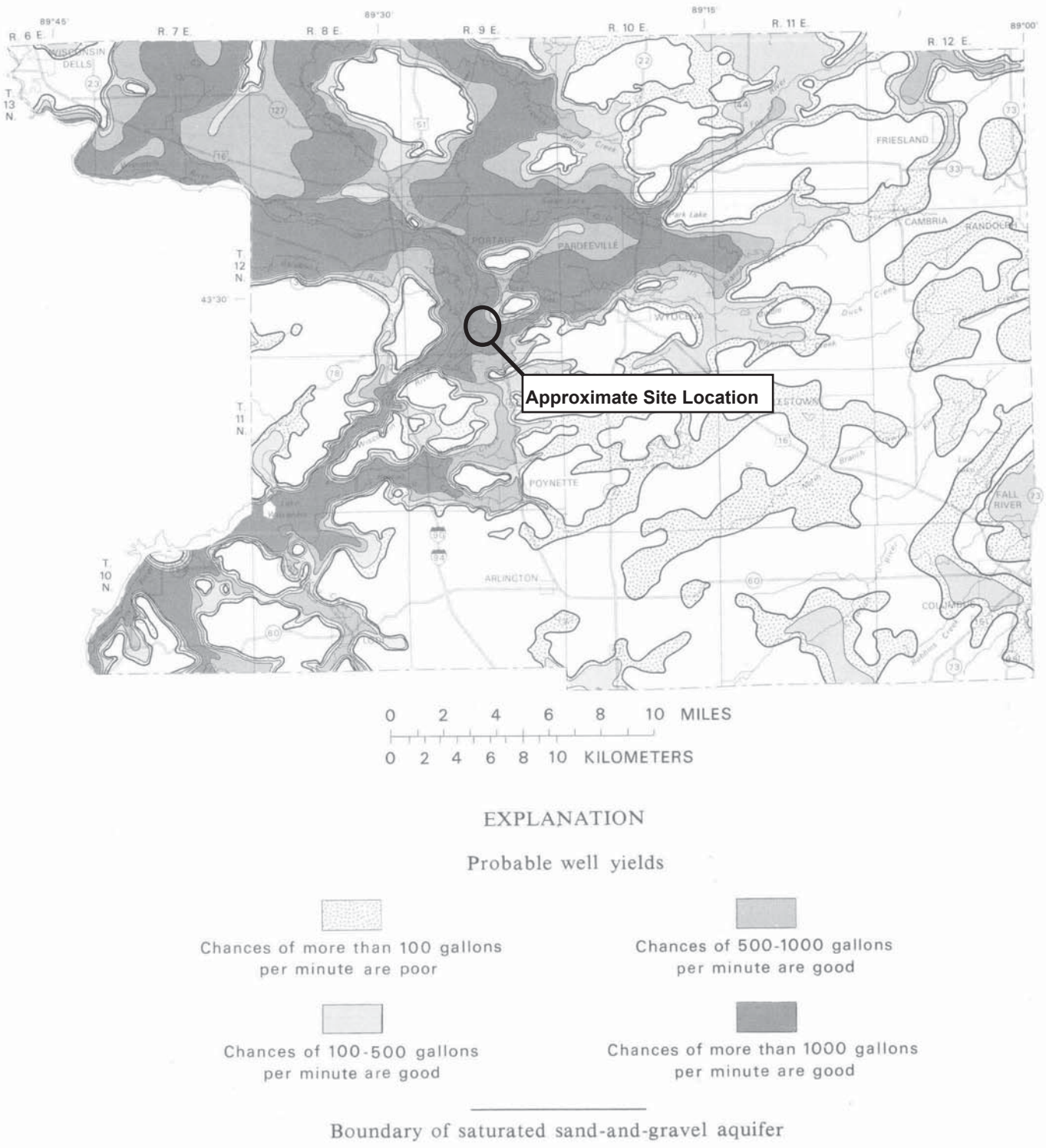
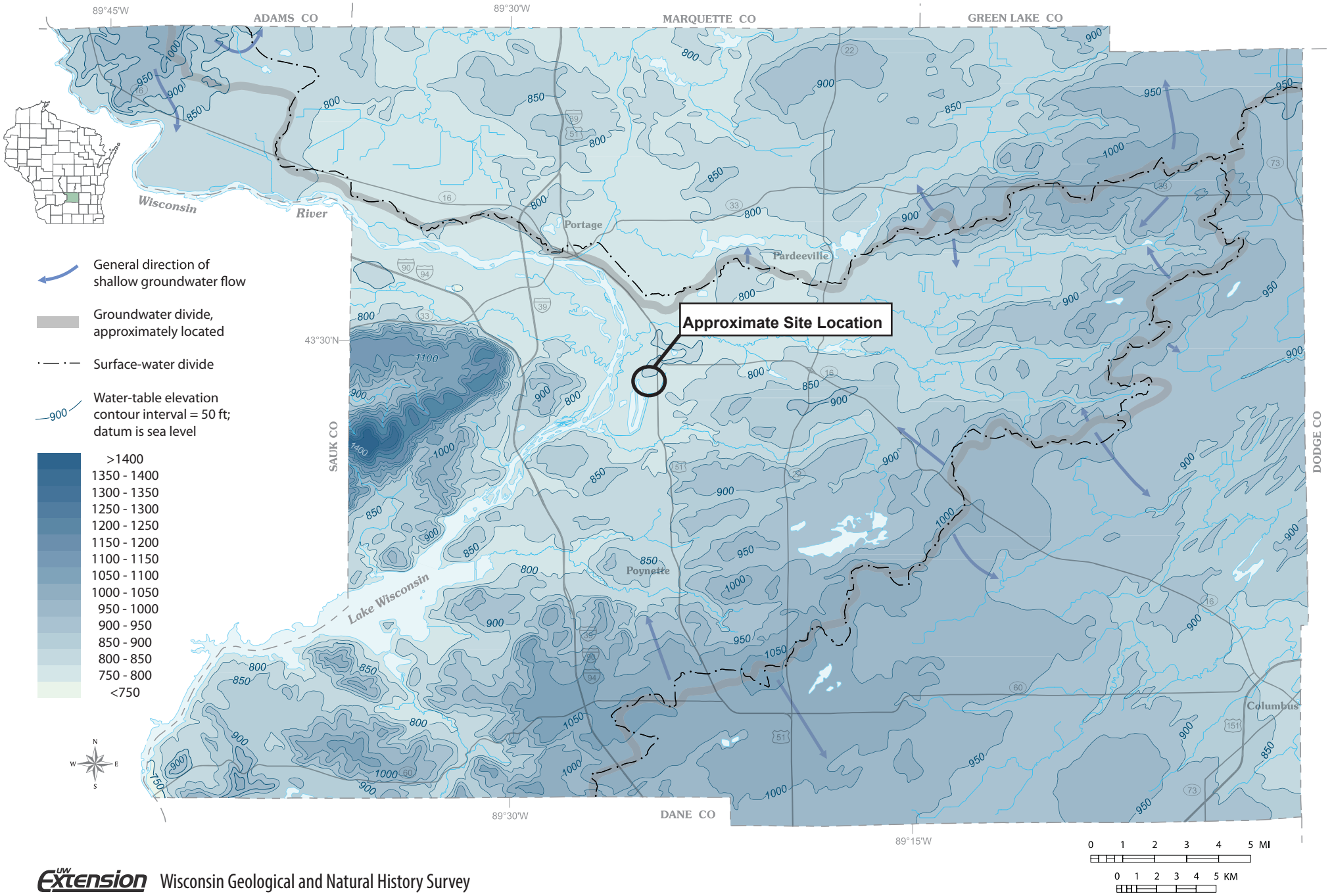


Figure 9. Probably well yields from the sand-and-gravel aquifer.

Source: Harr, C.A., L.C. Trotta, and R.G. Borman, "Ground-Water Resources and Geology of Columbia County, Wisconsin," University of Wisconisn-Extension Geological and Natural History Surevy Information Circular Number 37, 1978.

02/27/2026 - Classification: Internal - ECRM13684511

Generalized water-table elevation in Columbia County, Wisconsin



Wisconsin Geological and Natural History Survey

02/27/2026 Classification: Internal FOIA 2025-4511

Source: Selkwood, Stephen R., Wisconsin Geologic and Natural History Survey, Water Table Elevation, Groundwater Resources of Columbia County Wisconsin,