



Illinois Power Generating Company  
1500 Eastport Plaza Dr.  
Collinsville, IL 62234

January 30, 2024

Illinois Environmental Protection Agency  
1021 North Grand Avenue East  
P.O. Box 19276  
Springfield, IL 62794-9276

**Re: Coffeen GMF Recycle Pond (IEPA ID: W1350150004-04) 2023 Annual Consolidated Report**

Dear Mr. LeCrone:

In accordance with 35 IAC § 845.550, Illinois Power Generating Company (IPGC) is submitting the annual consolidated report for the GMF Recycle Pond (IEPA ID: W1350150004-04), as enclosed.

Sincerely,

A handwritten signature in blue ink that reads "Dianna Tickner".

Dianna Tickner  
Sr. Director Decommissioning & Demolition

Enclosures

Annual Consolidated Report  
**Illinois Power Generating Company**  
Coffeen Power Plant  
GMF Recycle Pond; IEPA ID: **W1350150004-04**

In accordance with 35 IAC § 845.550, Illinois Power Generating Company (IPGC) has prepared the annual consolidated report. The report is provided in three sections as follows:

Section 1

1) Annual CCR fugitive dust control report (Section 845.500(c))

Section 2

2) Annual inspection report (Section 845.540(b)), including:

- A) Annual hazard potential classification certification
- B) Annual structural stability assessment certification
- C) Annual safety factor assessment certification
- D) Inflow design flood control system plan certification

Section 3

3) Annual Groundwater Monitoring and Corrective Action Report (Section 845.610(e))

Section 1

Annual CCR Fugitive Dust Control Report

**Annual CCR Fugitive Dust Control Report**  
**for**  
**Coffeen Power Station**

**Illinois Power Generating Company**

**Coffeen Power Plant**  
**134 CIPS Lane**  
**Coffeen, IL 62017**

November 2023

**Coffeen Power Station  
ANNUAL CCR FUGITIVE DUST CONTROL REPORT**

Reporting Year: 4<sup>th</sup> Quarter 2022 through 3<sup>rd</sup> Quarter 2023

Approved by:  Director, Decommissioning and Demolition  
Name Title

This Annual CCR Fugitive Dust Control Report has been prepared for the Coffeen Power Station in accordance with 40 CFR 257.80(c) and 35 I.A.C. 845.500. Section 1 provides a description of the actions taken to control CCR fugitive dust at the facility during the reporting year, including a summary of any corrective measures taken. Section 2 provides a record of citizen complaints received concerning CCR fugitive dust at the facility during the reporting year, including a summary of any corrective measures taken.

**Section 1 Actions Taken to Control CCR Fugitive Dust**

In accordance with the Coffeen Power Station CCR Fugitive Dust Control Plan (Plan), the following measures were used to control CCR fugitive dust from becoming airborne at the facility during the reporting year:

CCR Activity	Actions Taken to Control CCR Fugitive Dust
Management of CCR in the facility's CCR units	CCR to be emplaced in the landfill is conditioned before emplacement.
	Wet management of CCR bottom ash and flue gas desulfurization materials in CCR surface impoundments.
	Water areas of exposed CCR in CCR units, as necessary.
	Naturally occurring grass vegetation in areas of exposed CCR in CCR surface impoundments.
Handling of CCR at the facility	CCR bottom ash removed from CCR surface impoundments and loaded into trucks for transport remains conditioned during handling.
	CCR fly ash to be emplaced in the landfill is conditioned before emplacement.
	Load CCR transport trucks from the CCR fly ash silo using a chute with a sock (skirt).
	Perform housekeeping, as necessary, in the fly ash loading area.

**Coffeen Power Station  
ANNUAL CCR FUGITIVE DUST CONTROL REPORT**

CCR Activity	Actions Taken to Control CCR Fugitive Dust
Handling of CCR at the facility	CCR to be emplaced in the landfill is conditioned before emplacement.
	Cover or enclose trucks used to transport CCR fly ash.
	Limit the speed of vehicles to no more than 15 mph on facility roads.
Transportation of CCR at the facility	Cover or enclose trucks used to transport CCR other than fly ash, as necessary.
	Sweep or rinse off the outside of the trucks transporting CCR, as necessary.
	Remove CCR, as necessary, deposited on facility road surfaces during transport.
	Water CCR haul roads, including landfill roads, as necessary.

Based on a review of the Plan and inspections associated with CCR fugitive dust control performed in the reporting year, the control measures identified in the Plan as implemented at the facility effectively minimized CCR from becoming airborne at the facility. No revisions or additions to control measures identified in the Plan were needed.

No material changes occurred in the reporting year in site conditions potentially resulting in CCR fugitive dust becoming airborne at the facility that warrant an amendment of the Plan.

Coffeen Power Plant ceased operation in November of 2019. Not all the CCR activities that are listed in the table occurred after the plant was permanently shut down. For the activities that did occur, the actions taken to control CCR Fugitive Dust that are listed in the table were followed and were adequate to effectively minimize fugitive dust.

## **Section 2 Record of Citizen Complaints**

No citizen complaints were received regarding CCR fugitive dust at Coffeen Power Station in the reporting year.

## **Section 2**

Annual inspection report (Section 845.540(b)), including:

A) Annual hazard potential classification certification, if applicable (Section 845.440)

B) Annual structural stability assessment certification, if applicable (Section 845.450)

C) Annual safety factor assessment certification, if applicable (Section 845.460)

D) Inflow design flood control system plan certification (Section 845.510(c))

**ANNUAL INSPECTION BY A QUALIFIED PROFESSIONAL ENGINEER**

35 IAC § 845.540

(b)(1) The CCR surface impoundment must be inspected on an annual basis by a qualified professional engineer to ensure that the design, construction, operation, and maintenance of the CCR surface impoundment is consistent with recognized and generally accepted engineering standards. The inspection must, at a minimum, include:

- A) A review of available information regarding the status and condition of the CCR surface impoundment, including files available in the operating record (e.g., CCR surface impoundment design and construction information required by Sections 845.220(a)(1) and 845.230(d)(2)(A), previous structural stability assessments required under Section 845.450, the results of inspections by a qualified person, and results of previous annual inspections);
- B) A visual inspection of the CCR surface impoundment to identify signs of distress or malfunction of the CCR surface impoundment and appurtenant structures;
- C) A visual inspection of any hydraulic structures underlying the base of the CCR surface impoundment or passing through the dike of the CCR surface impoundment for structural integrity and continued safe and reliable operation;
- D) The annual hazard potential classification certification, if applicable (see Section 845.440);
- E) The annual structural stability assessment certification, if applicable (see Section 845.450);
- F) The annual safety factor assessment certification, if applicable (see Section 845.460); and
- G) The inflow design flood control system plan certification (see Section 845.510(c)).

**SITE INFORMATION**

Site Name / Address / Date of Inspection	Coffeen Power Station Montgomery County, Illinois 62017 10/2/2023
Operator Name / Address	Luminant Generation Company LLC 6555 Sierra Drive, Irving, TX 75039
CCR unit	Gypsum Recycle Pond

**INSPECTION REPORT 35 IAC § 845.540**

(b)(1)(D) The annual hazard potential classification certification, if applicable (see Section 845.440).	Based on a review of the CCR unit’s annual hazard potential classification, the unit is classified as a Class III CCR surface impoundment.
(b)(2)(A) Any changes in geometry of the structure since the previous annual inspection.	Based on a review of the CCR unit’s records and visual observation during the on-site inspection, no changes in geometry of the structure have taken place since the previous annual inspection.
(b)(2)(B) The location and type of existing instrumentation and the maximum recorded readings of each instrument since the previous annual inspection	No Instrumentation
b)(2)(C) The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection;	See the attached.
b)(2)(D) The storage capacity of the impounding structure at the time of the inspection	Approximately 470 acre-feet – plant closed in 2020
(b)(2)(E) The approximate volume of the impounded water and CCR contained in the unit at the time of the inspection.	Approximately 250 acre-feet – plant closed in 2020
(b)(2)(F) Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit	Based on a review of the CCR unit’s records and visual observation during the on-site inspection, there was no appearance of an actual or potential structural weakness of the CCR unit, nor an existing condition that is disrupting or would disrupt the operation and safety of the unit.



INSPECTION REPORT 35 IAC § 845.540

(b)(2)(G) Any other changes that may have affected the stability or operation of the impounding structure since the previous annual inspection.	Based on a review of the CCR unit's records and visual observation during the on-site inspection, no other changes which may have affected the stability or operation of the CCR unit have taken place since the previous annual inspection.
(b)(1)(G) The inflow design flood control system plan certification (see Section 845.510(c))	Based on a review of the CCR unit's records, the CCR unit is designed, operated, and maintained to adequately manage the flow from the CCR impoundment and control the peak discharge from the inflow design flood.

**35 IAC § 845.540 - Annual inspection by a qualified professional engineer.**

I, James Knutelski, P.E., certify under penalty of law that the information submitted in this report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the state of Illinois. The information submitted, is to the best of my knowledge and belief, true, accurate and complete. Based on the annual inspection, the design, construction, operation, and maintenance of the CCR Unit is consistent with recognized and generally accepted good engineering standards. Based on a review of the records for the CCR unit and a visual inspection of the unit to document no material changes to the unit, the hazard potential classification was conducted in accordance with the requirements of Section 845.440, the structural stability assessment was conducted in accordance with the requirements of Section 845.450, the safety factor assessment was conducted in accordance with the requirements of Section 845.460, and the inflow design flood control system plan assessment was conducted in accordance with the requirements of Section 845.510.



James Knutelski, PE  
Illinois PE No. 062-054206, Expires: 11/30/2025  
Date: 01/07/2024

Site Name: Coffeen Power Station

CCR Unit: Gypsum Recycle Pond

35 IAC § 845.540 (b)(2)(B)		
Instrument ID #	Type	Maximum recorded reading since previous annual inspection (ft)
None		

35 IAC § 845.540 (b)(2)(C)						
Approximate Depth / Elevation						
Since previous inspection:	Elevation (ft)			Depth (ft)		
	Minimum	Present	Maximum	Minimum	Present	Maximum
Impounded Water		618.82			13.8	
CCR				0		8

### **Section 3**

Annual Groundwater Monitoring and Corrective Action Report (Section 845.610(e))

Prepared for  
**Illinois Power Generating Company**

Date  
**January 31, 2024**

Project No.  
**1940103649-003**

**2023 35 I.A.C. § 845 ANNUAL  
GROUNDWATER MONITORING AND  
CORRECTIVE ACTION REPORT  
GYPSUM MANAGEMENT FACILITY RECYCLE  
POND  
COFFEEN POWER PLANT  
COFFEEN, ILLINOIS  
IEPA ID NO. W1350150004-04**

**2023 35 I.A.C. § 845 ANNUAL GROUNDWATER  
MONITORING AND CORRECTIVE ACTION REPORT  
COFFEEN POWER PLANT GYPSUM MANAGEMENT FACILITY  
RECYCLE POND**

Project name **Coffeen Power Plant Gypsum Management Facility Recycle Pond**  
Project no. **1940103649-003**  
Recipient **Illinois Power Generating Company**  
Document type **Annual Groundwater Monitoring and Corrective Action Report**  
Version **FINAL**  
Date **January 31, 2024**  
Prepared by **Kristen L. Theesfeld**  
Checked by **Lauren D. Cook**  
Approved by **Brian G. Hennings, PG**  
Description **Annual Report required by 35 I.A.C. § 845**

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Hydrogeologist



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**Brian G. Hennings, PG**  
Project Officer, Hydrogeology

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### TABLES (IN TEXT)

Table A 35 I.A.C. § 845 Monitoring Program Summary for 2023

### TABLES (ATTACHED)

Table 1 Field Parameters and Analytical Results – Quarter 2, 2023  
Field Parameters and Analytical Results – Quarter 3, 2023

Table 2 Comparison of Statistical Results to GWPS – Quarter 2, 2023  
Comparison of Statistical Results to GWPS – Quarter 3, 2023

### FIGURES (ATTACHED)

Figure 1 Monitoring Well Location Map

Figure 2 GWPS Exceedance Map Uppermost Aquifer, Quarters 2-3, 2023

Figure 3 GWPS Exceedance Map Lower Confining Unit, Quarters 2-3, 2023

Figure 4 GWPS Exceedance Map Deep Aquifer, Quarters 2-3, 2023

Figure 5 Potentiometric Surface Map, April 30, 2023

Figure 6 Potentiometric Surface Map, May 30, 2023

Figure 7 Potentiometric Surface Map, June 8, 2023

Figure 8 Potentiometric Surface Map, July 8, 2023

Figure 9 Potentiometric Surface Map, August 8, 2023

Figure 10 Potentiometric Surface Map, September 25, 2023

Figure 11 Potentiometric Surface Map, October 24 and 25, 2023

Figure 12 Potentiometric Surface Map, November 13, 2023

Figure 13 Potentiometric Surface Map, December 18, 2023

### ATTACHMENTS

Attachment A Groundwater Elevation Data

Attachment B Corrective Measures Assessment Extension Request and IEPA Approval Letter

Attachment C Comparison of Statistical Results to Background – Quarter 2, 2023  
Comparison of Statistical Results to Background – Quarter 3, 2023

## ACRONYMS AND ABBREVIATIONS

35 I.A.C.	Title 35 of the Illinois Administrative Code
ASD	Alternative Source Demonstration
CCA	compliance commitment agreement
CCR	coal combustion residuals
CMA	assessment of corrective measures
CPP	Coffeen Power Plant
E001	Quarter 2, 2023 sampling event
E002	Quarter 3, 2023 sampling event
E003	Quarter 4, 2023 sampling event
GMF RP	Gypsum Management Facility Recycle Pond
GWPS	groundwater protection standard
ID	identification
IEPA	Illinois Environmental Protection Agency
IPGC	Illinois Power Generating Company
NID	National Inventory of Dams
No.	number
Ramboll	Ramboll Americas Engineering Solutions, Inc.
SI	surface impoundment
SSI	statistically significant increase
TDS	Total Dissolved Solids

## EXECUTIVE SUMMARY

This report has been prepared to provide the information required by Title 35 of the Illinois Administrative Code (35 I.A.C.) § 845.610(e) (*Annual Groundwater Monitoring and Corrective Action Report*) for the Gypsum Management Facility Recycle Pond (GMF RP) located at Coffeen Power Plant (CPP) near Coffeen, Illinois. The GMF RP is recognized by coal combustion residuals (CCR) unit identification (ID) number (No.) 104, Illinois Environmental Protection Agency (IEPA) ID No. W1350150004-04, and National Inventory of Dams (NID) No. IL50578.

As required by 35 I.A.C. § 845, an operating permit application for the GMF RP was submitted by Illinois Power Generating Company (IPGC) to IEPA by October 31, 2021 in accordance with the requirements specified in 35 I.A.C. § 845.230(d) and is pending approval. IPGC entered into a compliance commitment agreement (CCA) with IEPA on December 28, 2022. As specified in the CCA, groundwater monitoring in accordance with the proposed groundwater monitoring plan and sampling methodologies provided in the operating permit application for the GMF RP commenced in the second quarter of 2023. All available groundwater monitoring data collected in 2023 is summarized in **Table 1** (field parameters and analytical results) and **Attachment A** (groundwater elevation data)<sup>1</sup>. After the GMF RP has been issued an approved operating permit, groundwater monitoring shall be conducted in accordance with that operating permit.

In accordance with 35 I.A.C. § 845.610(b)(3)(C) and the statistical analysis plan submitted with the operating permit application (Appendix A of the Groundwater Monitoring Plan [Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2021]), statistically derived values for constituent concentrations observed at compliance monitoring wells were compared with the groundwater protection standards (GWPSs) described in 35 I.A.C. § 845.600 to determine exceedances of the GWPS (**Table 2**). The following GWPS exceedances were determined in 2023<sup>2</sup>:

- Sulfate in G273 and G285
- Total Dissolved Solids (TDS) in G285

An Alternative Source Demonstration (ASD) was not completed for the GWPS exceedances listed above; these exceedances will be addressed in accordance with 35 I.A.C. § 845.660. The assessment of corrective measures (CMA) was initiated on January 14, 2024. A CMA extension request was submitted to IEPA on January 15, 2024 and approved on January 17, 2024 (**Attachment B**). Because the CMA is in progress, a remedy has not yet been selected under 35 I.A.C. § 845.670 and remedial activities have not been initiated under 35 I.A.C. § 845.780 in 2023.

In accordance with 35 I.A.C. § 845.610(b)(3)(B), statistically derived values for constituent concentrations observed at compliance monitoring wells were also evaluated for statistical exceedances over background levels (**Attachment C**).

<sup>1</sup> Analytical data received after December 31, 2023 will be reported in the Quarter 4, 2023 Groundwater Monitoring Data and Detected Exceedances Report.

<sup>2</sup> GWPS exceedances determined after January 31, 2024 will be reported in the Quarter 4, 2023 Groundwater Monitoring Data and Detected Exceedances Report.



## 1. INTRODUCTION

This report has been prepared by Ramboll Americas Engineering Solutions, Inc. (Ramboll) on behalf of IPGC, to provide the information required by 35 I.A.C. § 845.610(e) for the GMF RP located at CPP near Coffeen, Illinois. The owner or operator of a CCR surface impoundment (SI) must prepare and submit to IEPA by January 31<sup>st</sup> of each year an Annual Groundwater Monitoring and Corrective Action Report for the preceding calendar year as part of the Annual Consolidated Report required by 35 I.A.C. § 845.550. The Annual Groundwater Monitoring and Corrective Action Report shall document the status of the groundwater monitoring and corrective action plan for the CCR SI (**Section 2**), summarize key actions completed, including the status of permit applications and Agency approvals (**Section 3**), describe any problems encountered and actions to resolve the problems (**Section 4**), and project key activities for the upcoming year (**Section 5**).

At a minimum, the annual report must contain the following information, to the extent available:

- A. A map, aerial image, or diagram showing the CCR SI and all background (or upgradient) and [downgradient] compliance monitoring wells, including the well identification numbers, that are part of the groundwater monitoring program for the CCR SI (**Figure 1**) and a visual delineation of any exceedances of the [groundwater protection standard] GWPS (**Figures 2, 3, and 4**).
- B. Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken (**Section 3**, paragraph 1).
- C. A potentiometric surface map for each groundwater elevation sampling event required by 35 I.A.C. § 845.650(b)(2) (**Figures 5 through 13**).
- D. In addition to all the monitoring data obtained under 35 I.A.C. §§ 845.600-680, a summary including the number of groundwater samples that were collected for analysis for each background and [downgradient] compliance well, and the dates the samples were collected (**Section 3.1** and **Table A**).
- E. A narrative discussion of any statistically significant increases (SSIs) over background levels for the constituents listed in 35 I.A.C. § 845.600 (**Section 3.3** and **Attachment C**).
- F. Other information required to be included in the annual report as specified in 35 I.A.C. §§ 845.600-680.

A section at the beginning of the annual report that provides an overview of the current status of the groundwater monitoring program and corrective action plan for the CCR SI (see **Executive Summary**). At a minimum, the summary must:

- A. Specify whether groundwater monitoring data shows an SSI over background concentrations for one or more constituents listed in 35 I.A.C. § 845.600.
- B. Identify those constituents having an SSI over background concentrations and the names of the monitoring wells associated with the SSI(s).
- C. Specify whether there have been any exceedances of the GWPS for one or more constituents listed in 35 I.A.C. § 845.600.

- D. Identify those constituents with exceedances of the GWPS in 35 I.A.C. § 845.600 and the names of the monitoring wells associated with the exceedance.
- E. Provide the date when the assessment of corrective measures was initiated for the CCR SI.
- F. Provide the date when the assessment of corrective measures was completed for the CCR SI.
- G. Specify whether a remedy was selected under 35 I.A.C. § 845.670 during the current annual reporting period, and if so, the date of remedy selection.
- H. Specify whether remedial activities were initiated or are ongoing under 35 I.A.C. § 845.780 during the current annual reporting period.

This report provides the required information for the GMF RP for calendar year 2023.

## 2. MONITORING AND CORRECTIVE ACTION PROGRAM STATUS

An operating permit application for the GMF RP was submitted by IPGC to IEPA by October 31, 2021 in accordance with the requirements specified in 35 I.A.C. § 845.230(d) and is pending approval. IPGC entered into a CCA with IEPA on December 28, 2022. The CCA required that groundwater monitoring in accordance with the proposed groundwater monitoring plan and sampling methodologies provided in the operating permit application for the GMF RP commenced in the second quarter of 2023. After the GMF RP has been issued an approved operating permit, groundwater monitoring shall be conducted in accordance with that operating permit. As specified in the CCA, groundwater sampling requirements that apply to the CCR SI under other existing permit programs will become void upon issuance of an approved operating permit pursuant to 35 I.A.C § 845.

A construction permit application for the GMF RP was also submitted by IPGC to IEPA on July 28, 2022 in accordance with the requirements specified in 35 I.A.C. § 845.220(a) and (d) and is pending approval.

As noted in the **Executive Summary** and **Section 3.2**, GWPS exceedances were determined for the GMF RP in 2023. An ASD was not completed for these GWPS exceedances; they will be addressed in accordance with 35 I.A.C. § 845.660. The CMA was initiated on January 14, 2024. A CMA extension request was submitted to IEPA on January 15, 2024 and approved on January 17, 2024 (**Attachment B**). Because the CMA is in progress, a remedy has not yet been selected under 35 I.A.C. § 845.670 and remedial activities have not been initiated under 35 I.A.C. § 845.780 in 2023.

### 3. KEY ACTIONS COMPLETED IN 2023

The proposed 35 I.A.C. § 845 monitoring system is presented in **Figure 1**. No wells were installed or decommissioned in 2023.

Monitoring well inspections and redevelopment of the monitoring wells that were not sampled in 2022 were also completed prior to initiating groundwater monitoring in the second quarter of 2023.

Pressure transducers equipped with data loggers were deployed in monitoring system monitoring wells for measurement of monthly water level elevations as required by 35 I.A.C. § 845.650(b)(2). **Attachment A** summarizes the groundwater elevation data collected in 2023. Potentiometric surfaces for April through December 2023 are included in **Figures 5 through 13**<sup>3</sup>.

A summary of the samples collected in 2023 is included in **Section 3.1**. Narrative discussions of exceedances of GWPSs and background are included in **Section 3.2** and **Section 3.3**, respectively. Statistical procedures used to evaluate groundwater results are provided in Appendix A of the Groundwater Monitoring Plan provided in the operating permit application (Ramboll, 2021).

#### 3.1 Sample and Analysis Summary

One groundwater sample was collected from each background and compliance well during each quarterly monitoring event beginning in the second quarter of 2023.<sup>4</sup> All samples were collected and analyzed in accordance with the Groundwater Monitoring Plan provided in the operating permit application (Ramboll, 2021). A summary of the samples collected from background and compliance monitoring wells in 2023 is included in **Table A** on the following page. **Table 1** is a summary of the field parameters and analytical results from the 2023 sampling events. Laboratory analytical reports and field data sheets were provided in the quarterly Groundwater Monitoring Data and Detected Exceedances Reports for Quarter 2 and Quarter 3 (Ramboll, 2023b; Ramboll, 2023c); therefore, these reports are not attached to this annual report to avoid reproduction of lengthy data transmittals that have been previously provided in hardcopy. Analytical data received after December 31, 2023 will be reported in the Quarter 4, 2023 Groundwater Monitoring Data and Detected Exceedances Report.

<sup>3</sup> Staff gage SG-04 was observed as damaged in October 2023; no groundwater elevations were recorded.

<sup>4</sup> Compliance monitoring wells G275, G277, and G279 were indicated as dry during August 2023 and no groundwater samples were collected.

Compliance monitoring wells G275 and G284 were indicated as dry during November 2023 and no groundwater samples were collected.

**Table A. 35 I.A.C. § 845 Monitoring Program Summary for 2023**

Event ID	Sampling Dates <sup>1, 2, 3</sup>	Analytical Data Receipt Date <sup>4</sup>	Exceedance Determination Date	ASD Completion Date	Required CMA Initiation Date <sup>5</sup>
E001	June 1, 2023 June 5 - 6, 2023 June 8, 2023	August 17, 2023	October 16, 2023	NA	January 14, 2024
E002 <sup>6</sup>	August 14 - 15, 2023	November 21, 2023	January 20, 2024	TBD	NA
E003 <sup>7</sup>	November 13, 17, and 20, 2023 December 7, 2023	January 10, 2024	TBD	TBD	NA

**Notes:**

ASD: Alternative Source Demonstration

CMA: assessment of corrective measures

NA: not applicable

TBD: to be determined in 2024

<sup>1</sup> All samples were analyzed for the parameters listed in 35 I.A.C. § 845.600, calcium, and turbidity.

<sup>2</sup> The following background wells were sampled for each event: G270 and G280

<sup>3</sup> The following compliance wells were sampled for each event: G271, G273, G275, G275D, G276, G277, G279, G283, G284, and G285

<sup>4</sup> Analytical data received after December 31, 2023 and GWPS exceedances determined after January 31, 2024 will be reported in the Quarter 4, 2023 Groundwater Monitoring Data and Detected Exceedances Report.

<sup>5</sup> Exceedances for events E002 and E003 may be incorporated into the CMA initiated after event E001 on a case by case basis, as opposed to generating a new CMA.

<sup>6</sup> Compliance monitoring wells G275, G277, and G279 were indicated as dry during August 2023 and no groundwater samples were collected.

<sup>7</sup> Compliance monitoring wells G275 and G284 were indicated as dry during November 2023 and no groundwater samples were collected.

### 3.2 Exceedances of GWPS

In accordance with 35 I.A.C. § 845.610(b)(3)(C), the statistically derived values identified as Statistical Results in **Table 2** were compared with the GWPSs described in 35 I.A.C. § 845.600 to determine exceedances of the GWPS. The following statistical exceedances of the GWPSs were determined and are shown on **Figures 2 through 4**<sup>5</sup>:

- Sulfate in G273 and G285
- TDS in G285

As allowed in 35 I.A.C. § 845.650(e), an ASD was evaluated for the detected exceedances of the GWPS summarized above.

An ASD was not completed. The exceedances listed above will be addressed in accordance with 35 I.A.C. § 845.660. The CMA was initiated on January 14, 2024. A CMA extension request was submitted to IEPA on January 15, 2024 and approved on January 17, 2024. Because the CMA is in progress, a remedy was not selected under 35 I.A.C. § 845.670 and remedial activities have not been initiated under 35 I.A.C. § 845.780 in 2023.

### 3.3 Exceedances of Background

In accordance with 35 I.A.C. § 845.610(b)(3)(B), groundwater monitoring data were evaluated for statistical exceedances over background levels for the constituents listed in 35 I.A.C. § 845.600. **Attachment C** shows the statistically derived values compared to background levels.

<sup>5</sup> GWPS exceedances determined after January 31, 2024 will be reported in the Quarter 4, 2023 Groundwater Monitoring Data and Detected Exceedances Report.

## **4. PROBLEMS ENCOUNTERED AND ACTIONS TO RESOLVE THE PROBLEMS**

Groundwater monitoring commenced in the second quarter of 2023. Groundwater samples were collected and analyzed in accordance with the Groundwater Monitoring Plan provided in the operating permit application (Ramboll, 2021) and all data were accepted. After the GMF RP has been issued an approved operating permit, groundwater monitoring shall be conducted in accordance with that operating permit.

Due to malfunctioning pressure transducers, data gaps exist in monthly water level elevations prior to the fourth quarter. Monthly depth to water measurements were collected manually in the fourth quarter. Pressure transducers were refurbished and were redeployed in December 2023. SG-04 located on the unnamed tributary was destroyed following a rain event in October 2023; alternative construction methods for monitoring at this location are being evaluated.

## 5. KEY ACTIVITIES PLANNED FOR 2024

The following key activities are planned for 2024:

- Continuation of groundwater monitoring in accordance with the proposed groundwater monitoring plan and sampling methodologies provided in the operating permit application for the GMF RP. After the GMF RP has been issued an approved operating permit, groundwater monitoring shall be conducted in accordance with that operating permit. Groundwater monitoring will include:
  - Monthly groundwater elevations
  - Quarterly groundwater sampling
- Complete evaluation of analytical data from the compliance wells to determine whether exceedances above GWPSs have occurred.
- If a GWPS exceedance is identified, potential alternative sources (*i.e.*, a source other than the CCR unit caused the GWPS exceedance or that the exceedance resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality) will be evaluated.
  - If an alternative source is identified to be the cause of the GWPS exceedance, a written demonstration will be completed within 60 days of determination and included in the 2024 Annual Groundwater Monitoring and Corrective Action Report.
  - If an alternative source(s) is not identified to be the cause of the GWPS exceedance, the applicable requirements of 35 I.A.C. § 845.660 (*i.e.*, assessment of corrective measures) will be met.
- The CMA process will continue in accordance with 35 I.A.C. § 845.660 in 2024. A CMA extension request was submitted on January 15, 2024 and approved on January 17, 2024. Extension of the CMA deadline would result in the CMA being submitted to IEPA on or before June 12, 2024.



## 6. REFERENCES

Illinois Administrative Code, Title 35, Subtitle G, Chapter I, Subchapter J, Part 845: Standards for The Disposal Of Coal Combustion Residuals In Surface Impoundments, effective April 21, 2021.

Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2021. *Groundwater Monitoring Plan*. Coffeen Power Plant, Gypsum Management Facility Recycle Pond, Coffeen, Illinois. Illinois Power Generating Company. October 25, 2021.

Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2023. 35 I.A.C. § 845.610(B)(3)(D) Groundwater Monitoring Data and Detected Exceedances, 2023 Quarter 2, GMF Recycle Pond, Coffeen Power Plant, Coffeen, Illinois. October 16, 2023.

Ramboll Americas Engineering Solutions, Inc. (Ramboll), 2024. 35 I.A.C. § 845.610(B)(3)(D) Groundwater Monitoring Data and Detected Exceedances, 2024 Quarter 3, GMF Recycle Pond, Coffeen Power Plant, Coffeen, Illinois. January 20, 2024.

## **TABLES**

**TABLE 1.**  
**FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 2, 2023**

845 QUARTERLY REPORT  
 COFFEEN POWER PLANT  
 GMF RECYCLE POND  
 COFFEEN, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
G270	Background	E001	06/08/2023	Antimony, total	0.00043 U	mg/L
G270	Background	E001	06/08/2023	Arsenic, total	0.00110	mg/L
G270	Background	E001	06/08/2023	Barium, total	0.0640	mg/L
G270	Background	E001	06/08/2023	Beryllium, total	0.00059 U	mg/L
G270	Background	E001	06/08/2023	Boron, total	0.0140	mg/L
G270	Background	E001	06/08/2023	Cadmium, total	0.00074 U	mg/L
G270	Background	E001	06/08/2023	Calcium, total	57.0	mg/L
G270	Background	E001	06/08/2023	Chloride, total	8.30	mg/L
G270	Background	E001	06/08/2023	Chromium, total	0.0028 U	mg/L
G270	Background	E001	06/08/2023	Cobalt, total	0.00064 J	mg/L
G270	Background	E001	06/08/2023	Dissolved Oxygen	11.0	mg/L
G270	Background	E001	06/08/2023	Fluoride, total	0.298	mg/L
G270	Background	E001	06/08/2023	Lead, total	0.00051 J	mg/L
G270	Background	E001	06/08/2023	Lithium, total	0.005 U	mg/L
G270	Background	E001	06/08/2023	Mercury, total	0.00014 U	mg/L
G270	Background	E001	06/08/2023	Molybdenum, total	0.00120	mg/L
G270	Background	E001	06/08/2023	Oxidation Reduction Potential	61.0	mV
G270	Background	E001	06/08/2023	pH (field)	6.6	SU
G270	Background	E001	06/08/2023	Radium 226 + Radium 228, total	0.485	pCi/L
G270	Background	E001	06/08/2023	Selenium, total	0.00074 U	mg/L
G270	Background	E001	06/08/2023	Specific Conductance @ 25C (field)	782	micromhos/cm
G270	Background	E001	06/08/2023	Sulfate, total	54.0	mg/L
G270	Background	E001	06/08/2023	Temperature	14.6	degrees C
G270	Background	E001	06/08/2023	Thallium, total	0.00038 U	mg/L
G270	Background	E001	06/08/2023	Total Dissolved Solids	500	mg/L
G270	Background	E001	06/08/2023	Turbidity, field	54.6	NTU
G280	Background	E001	06/08/2023	Antimony, total	0.00043 U	mg/L
G280	Background	E001	06/08/2023	Arsenic, total	0.00077 J	mg/L
G280	Background	E001	06/08/2023	Barium, total	0.0490	mg/L
G280	Background	E001	06/08/2023	Beryllium, total	0.00059 U	mg/L
G280	Background	E001	06/08/2023	Boron, total	0.0200	mg/L
G280	Background	E001	06/08/2023	Cadmium, total	0.00074 U	mg/L
G280	Background	E001	06/08/2023	Calcium, total	79.0	mg/L
G280	Background	E001	06/08/2023	Chloride, total	71.0	mg/L
G280	Background	E001	06/08/2023	Chromium, total	0.0028 U	mg/L
G280	Background	E001	06/08/2023	Cobalt, total	0.00048 U	mg/L
G280	Background	E001	06/08/2023	Dissolved Oxygen	2.00	mg/L
G280	Background	E001	06/08/2023	Fluoride, total	0.339	mg/L
G280	Background	E001	06/08/2023	Lead, total	0.00064 J	mg/L
G280	Background	E001	06/08/2023	Lithium, total	0.005 U	mg/L
G280	Background	E001	06/08/2023	Mercury, total	0.00014 U	mg/L
G280	Background	E001	06/08/2023	Molybdenum, total	0.00097 J	mg/L
G280	Background	E001	06/08/2023	Oxidation Reduction Potential	190	mV
G280	Background	E001	06/08/2023	pH (field)	7.3	SU
G280	Background	E001	06/08/2023	Radium 226 + Radium 228, total	0.839	pCi/L
G280	Background	E001	06/08/2023	Selenium, total	0.00074 U	mg/L

**TABLE 1.**  
**FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 2, 2023**

845 QUARTERLY REPORT  
 COFFEEN POWER PLANT  
 GMF RECYCLE POND  
 COFFEEN, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
G280	Background	E001	06/08/2023	Specific Conductance @ 25C (field)	902	micromhos/cm
G280	Background	E001	06/08/2023	Sulfate, total	91.0	mg/L
G280	Background	E001	06/08/2023	Temperature	15.4	degrees C
G280	Background	E001	06/08/2023	Thallium, total	0.00038 U	mg/L
G280	Background	E001	06/08/2023	Total Dissolved Solids	590	mg/L
G280	Background	E001	06/08/2023	Turbidity, field	46.1	NTU
G271	Compliance	E001	06/06/2023	Antimony, total	0.00043 U	mg/L
G271	Compliance	E001	06/06/2023	Arsenic, total	0.00069 U	mg/L
G271	Compliance	E001	06/06/2023	Barium, total	0.0210	mg/L
G271	Compliance	E001	06/06/2023	Beryllium, total	0.00059 U	mg/L
G271	Compliance	E001	06/06/2023	Boron, total	0.540	mg/L
G271	Compliance	E001	06/06/2023	Cadmium, total	0.00074 U	mg/L
G271	Compliance	E001	06/06/2023	Calcium, total	110	mg/L
G271	Compliance	E001	06/06/2023	Chloride, total	69.0	mg/L
G271	Compliance	E001	06/06/2023	Chromium, total	0.0028 U	mg/L
G271	Compliance	E001	06/06/2023	Cobalt, total	0.00048 U	mg/L
G271	Compliance	E001	06/06/2023	Dissolved Oxygen	2.60	mg/L
G271	Compliance	E001	06/06/2023	Fluoride, total	0.264	mg/L
G271	Compliance	E001	06/06/2023	Lead, total	0.00042 J	mg/L
G271	Compliance	E001	06/06/2023	Lithium, total	0.005 U	mg/L
G271	Compliance	E001	06/06/2023	Mercury, total	0.00014 U	mg/L
G271	Compliance	E001	06/06/2023	Molybdenum, total	0.00074 U	mg/L
G271	Compliance	E001	06/06/2023	Oxidation Reduction Potential	137	mV
G271	Compliance	E001	06/06/2023	pH (field)	6.9	SU
G271	Compliance	E001	06/06/2023	Radium 226 + Radium 228, total	2.32	pCi/L
G271	Compliance	E001	06/06/2023	Selenium, total	0.00200	mg/L
G271	Compliance	E001	06/06/2023	Specific Conductance @ 25C (field)	1,120	micromhos/cm
G271	Compliance	E001	06/06/2023	Sulfate, total	280	mg/L
G271	Compliance	E001	06/06/2023	Temperature	17.1	degrees C
G271	Compliance	E001	06/06/2023	Thallium, total	0.00038 U	mg/L
G271	Compliance	E001	06/06/2023	Total Dissolved Solids	850	mg/L
G271	Compliance	E001	06/06/2023	Turbidity, field	0 U	NTU
G273	Compliance	E001	06/05/2023	Antimony, total	0.00043 U	mg/L
G273	Compliance	E001	06/05/2023	Arsenic, total	0.00069 U	mg/L
G273	Compliance	E001	06/05/2023	Barium, total	0.0320	mg/L
G273	Compliance	E001	06/05/2023	Beryllium, total	0.00059 U	mg/L
G273	Compliance	E001	06/05/2023	Boron, total	0.0350	mg/L
G273	Compliance	E001	06/05/2023	Cadmium, total	0.00074 U	mg/L
G273	Compliance	E001	06/05/2023	Calcium, total	160	mg/L
G273	Compliance	E001	06/05/2023	Chloride, total	73.0	mg/L
G273	Compliance	E001	06/05/2023	Chromium, total	0.0028 U	mg/L
G273	Compliance	E001	06/05/2023	Cobalt, total	0.00048 U	mg/L
G273	Compliance	E001	06/05/2023	Dissolved Oxygen	1.40	mg/L
G273	Compliance	E001	06/05/2023	Fluoride, total	0.254	mg/L
G273	Compliance	E001	06/05/2023	Lead, total	0.00022 U	mg/L
G273	Compliance	E001	06/05/2023	Lithium, total	0.005 U	mg/L

**TABLE 1.**  
**FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 2, 2023**

845 QUARTERLY REPORT  
 COFFEEN POWER PLANT  
 GMF RECYCLE POND  
 COFFEEN, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
G273	Compliance	E001	06/05/2023	Mercury, total	0.00014 U	mg/L
G273	Compliance	E001	06/05/2023	Molybdenum, total	0.00076 J	mg/L
G273	Compliance	E001	06/05/2023	Oxidation Reduction Potential	180	mV
G273	Compliance	E001	06/05/2023	pH (field)	6.6	SU
G273	Compliance	E001	06/05/2023	Radium 226 + Radium 228, total	0.248	pCi/L
G273	Compliance	E001	06/05/2023	Selenium, total	0.00074 U	mg/L
G273	Compliance	E001	06/05/2023	Specific Conductance @ 25C (field)	1,460	micromhos/cm
G273	Compliance	E001	06/05/2023	Sulfate, total	470	mg/L
G273	Compliance	E001	06/05/2023	Temperature	18.0	degrees C
G273	Compliance	E001	06/05/2023	Thallium, total	0.00038 U	mg/L
G273	Compliance	E001	06/05/2023	Total Dissolved Solids	1,100	mg/L
G273	Compliance	E001	06/05/2023	Turbidity, field	55.6	NTU
G275	Compliance	E001	06/08/2023	Antimony, total	0.00043 U	mg/L
G275	Compliance	E001	06/08/2023	Arsenic, total	0.00069 U	mg/L
G275	Compliance	E001	06/08/2023	Barium, total	0.0240	mg/L
G275	Compliance	E001	06/08/2023	Beryllium, total	0.00059 U	mg/L
G275	Compliance	E001	06/08/2023	Boron, total	2.20	mg/L
G275	Compliance	E001	06/08/2023	Cadmium, total	0.00074 U	mg/L
G275	Compliance	E001	06/08/2023	Calcium, total	160	mg/L
G275	Compliance	E001	06/08/2023	Chloride, total	24.0	mg/L
G275	Compliance	E001	06/08/2023	Chromium, total	0.0028 U	mg/L
G275	Compliance	E001	06/08/2023	Cobalt, total	0.00048 U	mg/L
G275	Compliance	E001	06/08/2023	Dissolved Oxygen	1.20	mg/L
G275	Compliance	E001	06/08/2023	Fluoride, total	0.310	mg/L
G275	Compliance	E001	06/08/2023	Lead, total	0.0004 J	mg/L
G275	Compliance	E001	06/08/2023	Lithium, total	0.0075 J	mg/L
G275	Compliance	E001	06/08/2023	Mercury, total	0.00015 J	mg/L
G275	Compliance	E001	06/08/2023	Molybdenum, total	0.00074 U	mg/L
G275	Compliance	E001	06/08/2023	Oxidation Reduction Potential	170	mV
G275	Compliance	E001	06/08/2023	pH (field)	7.0	SU
G275	Compliance	E001	06/08/2023	Radium 226 + Radium 228, total	0.0751	pCi/L
G275	Compliance	E001	06/08/2023	Selenium, total	0.00074 U	mg/L
G275	Compliance	E001	06/08/2023	Specific Conductance @ 25C (field)	1,431	micromhos/cm
G275	Compliance	E001	06/08/2023	Sulfate, total	440	mg/L
G275	Compliance	E001	06/08/2023	Temperature	16.7	degrees C
G275	Compliance	E001	06/08/2023	Thallium, total	0.00038 U	mg/L
G275	Compliance	E001	06/08/2023	Total Dissolved Solids	1,100	mg/L
G275	Compliance	E001	06/08/2023	Turbidity, field	0.170	NTU
G275D	Compliance	E001	06/08/2023	Antimony, total	0.00043 U	mg/L
G275D	Compliance	E001	06/08/2023	Arsenic, total	0.0170	mg/L
G275D	Compliance	E001	06/08/2023	Barium, total	0.450	mg/L
G275D	Compliance	E001	06/08/2023	Beryllium, total	0.00059 U	mg/L
G275D	Compliance	E001	06/08/2023	Boron, total	0.180	mg/L
G275D	Compliance	E001	06/08/2023	Cadmium, total	0.00074 U	mg/L
G275D	Compliance	E001	06/08/2023	Calcium, total	150	mg/L
G275D	Compliance	E001	06/08/2023	Chloride, total	23.0	mg/L

**TABLE 1.**  
**FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 2, 2023**

845 QUARTERLY REPORT  
 COFFEEN POWER PLANT  
 GMF RECYCLE POND  
 COFFEEN, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
G275D	Compliance	E001	06/08/2023	Chromium, total	0.0028 U	mg/L
G275D	Compliance	E001	06/08/2023	Cobalt, total	0.00066 J	mg/L
G275D	Compliance	E001	06/08/2023	Dissolved Oxygen	0.180	mg/L
G275D	Compliance	E001	06/08/2023	Fluoride, total	0.392	mg/L
G275D	Compliance	E001	06/08/2023	Lead, total	0.00022 U	mg/L
G275D	Compliance	E001	06/08/2023	Lithium, total	0.005 U	mg/L
G275D	Compliance	E001	06/08/2023	Mercury, total	0.00014 U	mg/L
G275D	Compliance	E001	06/08/2023	Molybdenum, total	0.00360	mg/L
G275D	Compliance	E001	06/08/2023	Oxidation Reduction Potential	-116	mV
G275D	Compliance	E001	06/08/2023	pH (field)	7.3	SU
G275D	Compliance	E001	06/08/2023	Radium 226 + Radium 228, total	1.34	pCi/L
G275D	Compliance	E001	06/08/2023	Selenium, total	0.00074 U	mg/L
G275D	Compliance	E001	06/08/2023	Specific Conductance @ 25C (field)	1,560	micromhos/cm
G275D	Compliance	E001	06/08/2023	Sulfate, total	99.0	mg/L
G275D	Compliance	E001	06/08/2023	Temperature	17.0	degrees C
G275D	Compliance	E001	06/08/2023	Thallium, total	0.00038 U	mg/L
G275D	Compliance	E001	06/08/2023	Total Dissolved Solids	980	mg/L
G275D	Compliance	E001	06/08/2023	Turbidity, field	83.3	NTU
G276	Compliance	E001	06/05/2023	Antimony, total	0.00043 U	mg/L
G276	Compliance	E001	06/05/2023	Arsenic, total	0.00069 U	mg/L
G276	Compliance	E001	06/05/2023	Barium, total	0.0460	mg/L
G276	Compliance	E001	06/05/2023	Beryllium, total	0.00059 U	mg/L
G276	Compliance	E001	06/05/2023	Boron, total	0.0160	mg/L
G276	Compliance	E001	06/05/2023	Cadmium, total	0.00074 U	mg/L
G276	Compliance	E001	06/05/2023	Calcium, total	130	mg/L
G276	Compliance	E001	06/05/2023	Chloride, total	24.0	mg/L
G276	Compliance	E001	06/05/2023	Chromium, total	0.0028 U	mg/L
G276	Compliance	E001	06/05/2023	Cobalt, total	0.00048 U	mg/L
G276	Compliance	E001	06/05/2023	Dissolved Oxygen	5.20	mg/L
G276	Compliance	E001	06/05/2023	Fluoride, total	0.290	mg/L
G276	Compliance	E001	06/05/2023	Lead, total	0.00022 U	mg/L
G276	Compliance	E001	06/05/2023	Lithium, total	0.0084 J	mg/L
G276	Compliance	E001	06/05/2023	Mercury, total	0.00014 U	mg/L
G276	Compliance	E001	06/05/2023	Molybdenum, total	0.00074 U	mg/L
G276	Compliance	E001	06/05/2023	Oxidation Reduction Potential	222	mV
G276	Compliance	E001	06/05/2023	pH (field)	6.5	SU
G276	Compliance	E001	06/05/2023	Radium 226 + Radium 228, total	0.966	pCi/L
G276	Compliance	E001	06/05/2023	Selenium, total	0.00074 U	mg/L
G276	Compliance	E001	06/05/2023	Specific Conductance @ 25C (field)	1,210	micromhos/cm
G276	Compliance	E001	06/05/2023	Sulfate, total	260	mg/L
G276	Compliance	E001	06/05/2023	Temperature	19.0	degrees C
G276	Compliance	E001	06/05/2023	Thallium, total	0.00038 U	mg/L
G276	Compliance	E001	06/05/2023	Total Dissolved Solids	860	mg/L
G276	Compliance	E001	06/05/2023	Turbidity, field	44.0	NTU
G277	Compliance	E001	06/01/2023	Antimony, total	0.00043 U	mg/L
G277	Compliance	E001	06/01/2023	Arsenic, total	0.00100	mg/L

**TABLE 1.**  
**FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 2, 2023**

845 QUARTERLY REPORT  
 COFFEEN POWER PLANT  
 GMF RECYCLE POND  
 COFFEEN, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
G277	Compliance	E001	06/01/2023	Barium, total	0.0940	mg/L
G277	Compliance	E001	06/01/2023	Beryllium, total	0.00059 U	mg/L
G277	Compliance	E001	06/01/2023	Boron, total	0.190	mg/L
G277	Compliance	E001	06/01/2023	Cadmium, total	0.00074 U	mg/L
G277	Compliance	E001	06/01/2023	Calcium, total	240	mg/L
G277	Compliance	E001	06/01/2023	Chloride, total	150	mg/L
G277	Compliance	E001	06/01/2023	Chromium, total	0.0028 U	mg/L
G277	Compliance	E001	06/01/2023	Cobalt, total	0.00048 U	mg/L
G277	Compliance	E001	06/01/2023	Dissolved Oxygen	3.00	mg/L
G277	Compliance	E001	06/01/2023	Fluoride, total	0.277	mg/L
G277	Compliance	E001	06/01/2023	Lead, total	0.00022 U	mg/L
G277	Compliance	E001	06/01/2023	Lithium, total	0.0069 J	mg/L
G277	Compliance	E001	06/01/2023	Mercury, total	0.00014 U	mg/L
G277	Compliance	E001	06/01/2023	Molybdenum, total	0.00074 U	mg/L
G277	Compliance	E001	06/01/2023	Oxidation Reduction Potential	215	mV
G277	Compliance	E001	06/01/2023	pH (field)	6.6	SU
G277	Compliance	E001	06/01/2023	Radium 226 + Radium 228, total	1.05 J+	pCi/L
G277	Compliance	E001	06/01/2023	Selenium, total	0.00074 U	mg/L
G277	Compliance	E001	06/01/2023	Specific Conductance @ 25C (field)	1,580	micromhos/cm
G277	Compliance	E001	06/01/2023	Sulfate, total	540	mg/L
G277	Compliance	E001	06/01/2023	Temperature	16.5	degrees C
G277	Compliance	E001	06/01/2023	Thallium, total	0.00038 U	mg/L
G277	Compliance	E001	06/01/2023	Total Dissolved Solids	1,600	mg/L
G277	Compliance	E001	06/01/2023	Turbidity, field	0 U	NTU
G279	Compliance	E001	06/01/2023	Antimony, total	0.00043 U	mg/L
G279	Compliance	E001	06/01/2023	Arsenic, total	0.00110	mg/L
G279	Compliance	E001	06/01/2023	Barium, total	0.0430	mg/L
G279	Compliance	E001	06/01/2023	Beryllium, total	0.00059 U	mg/L
G279	Compliance	E001	06/01/2023	Boron, total	4.00	mg/L
G279	Compliance	E001	06/01/2023	Cadmium, total	0.00074 U	mg/L
G279	Compliance	E001	06/01/2023	Calcium, total	710	mg/L
G279	Compliance	E001	06/01/2023	Chloride, total	490	mg/L
G279	Compliance	E001	06/01/2023	Chromium, total	0.0028 U	mg/L
G279	Compliance	E001	06/01/2023	Cobalt, total	0.00048 U	mg/L
G279	Compliance	E001	06/01/2023	Dissolved Oxygen	1.40	mg/L
G279	Compliance	E001	06/01/2023	Fluoride, total	0.322	mg/L
G279	Compliance	E001	06/01/2023	Lead, total	0.00022 U	mg/L
G279	Compliance	E001	06/01/2023	Lithium, total	0.017 J	mg/L
G279	Compliance	E001	06/01/2023	Mercury, total	0.00018 J	mg/L
G279	Compliance	E001	06/01/2023	Molybdenum, total	0.00074 J	mg/L
G279	Compliance	E001	06/01/2023	Oxidation Reduction Potential	223	mV
G279	Compliance	E001	06/01/2023	pH (field)	6.6	SU
G279	Compliance	E001	06/01/2023	Radium 226 + Radium 228, total	0.107	pCi/L
G279	Compliance	E001	06/01/2023	Selenium, total	0.00680	mg/L
G279	Compliance	E001	06/01/2023	Specific Conductance @ 25C (field)	4,610	micromhos/cm
G279	Compliance	E001	06/01/2023	Sulfate, total	2,900	mg/L

**TABLE 1.**  
**FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 2, 2023**

845 QUARTERLY REPORT  
 COFFEEN POWER PLANT  
 GMF RECYCLE POND  
 COFFEEN, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
G279	Compliance	E001	06/01/2023	Temperature	18.3	degrees C
G279	Compliance	E001	06/01/2023	Thallium, total	0.00038 U	mg/L
G279	Compliance	E001	06/01/2023	Total Dissolved Solids	6,000	mg/L
G279	Compliance	E001	06/01/2023	Turbidity, field	0 U	NTU
G283	Compliance	E001	06/08/2023	Antimony, total	0.00043 U	mg/L
G283	Compliance	E001	06/08/2023	Arsenic, total	0.00110	mg/L
G283	Compliance	E001	06/08/2023	Barium, total	0.160	mg/L
G283	Compliance	E001	06/08/2023	Beryllium, total	0.00059 U	mg/L
G283	Compliance	E001	06/08/2023	Boron, total	0.0540	mg/L
G283	Compliance	E001	06/08/2023	Cadmium, total	0.00074 U	mg/L
G283	Compliance	E001	06/08/2023	Calcium, total	140	mg/L
G283	Compliance	E001	06/08/2023	Chloride, total	36.0	mg/L
G283	Compliance	E001	06/08/2023	Chromium, total	0.0028 U	mg/L
G283	Compliance	E001	06/08/2023	Cobalt, total	0.00048 U	mg/L
G283	Compliance	E001	06/08/2023	Dissolved Oxygen	0.360	mg/L
G283	Compliance	E001	06/08/2023	Fluoride, total	0.307	mg/L
G283	Compliance	E001	06/08/2023	Lead, total	0.00039 J	mg/L
G283	Compliance	E001	06/08/2023	Lithium, total	0.0067 J	mg/L
G283	Compliance	E001	06/08/2023	Mercury, total	0.00014 U	mg/L
G283	Compliance	E001	06/08/2023	Molybdenum, total	0.00190	mg/L
G283	Compliance	E001	06/08/2023	Oxidation Reduction Potential	-53.5	mV
G283	Compliance	E001	06/08/2023	pH (field)	7.1	SU
G283	Compliance	E001	06/08/2023	Radium 226 + Radium 228, total	2.88	pCi/L
G283	Compliance	E001	06/08/2023	Selenium, total	0.00074 U	mg/L
G283	Compliance	E001	06/08/2023	Specific Conductance @ 25C (field)	1,301	micromhos/cm
G283	Compliance	E001	06/08/2023	Sulfate, total	250	mg/L
G283	Compliance	E001	06/08/2023	Temperature	14.5	degrees C
G283	Compliance	E001	06/08/2023	Thallium, total	0.00038 U	mg/L
G283	Compliance	E001	06/08/2023	Total Dissolved Solids	930	mg/L
G283	Compliance	E001	06/08/2023	Turbidity, field	160	NTU
G284	Compliance	E001	06/08/2023	Antimony, total	0.00043 U	mg/L
G284	Compliance	E001	06/08/2023	Arsenic, total	0.00100	mg/L
G284	Compliance	E001	06/08/2023	Barium, total	0.0690	mg/L
G284	Compliance	E001	06/08/2023	Beryllium, total	0.00059 U	mg/L
G284	Compliance	E001	06/08/2023	Boron, total	0.0500	mg/L
G284	Compliance	E001	06/08/2023	Cadmium, total	0.00074 U	mg/L
G284	Compliance	E001	06/08/2023	Calcium, total	73.0	mg/L
G284	Compliance	E001	06/08/2023	Chloride, total	42.0	mg/L
G284	Compliance	E001	06/08/2023	Chromium, total	0.0029 J	mg/L
G284	Compliance	E001	06/08/2023	Cobalt, total	0.00048 U	mg/L
G284	Compliance	E001	06/08/2023	Dissolved Oxygen	2.10	mg/L
G284	Compliance	E001	06/08/2023	Fluoride, total	0.510	mg/L
G284	Compliance	E001	06/08/2023	Lead, total	0.00041 J	mg/L
G284	Compliance	E001	06/08/2023	Lithium, total	0.0063 J	mg/L
G284	Compliance	E001	06/08/2023	Mercury, total	0.00014 U	mg/L
G284	Compliance	E001	06/08/2023	Molybdenum, total	0.00370	mg/L



**TABLE 1.**  
**FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 2, 2023**

845 QUARTERLY REPORT  
 COFFEEN POWER PLANT  
 GMF RECYCLE POND  
 COFFEEN, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
G284	Compliance	E001	06/08/2023	Oxidation Reduction Potential	112	mV
G284	Compliance	E001	06/08/2023	pH (field)	7.2	SU
G284	Compliance	E001	06/08/2023	Radium 226 + Radium 228, total	1.01	pCi/L
G284	Compliance	E001	06/08/2023	Selenium, total	0.00120	mg/L
G284	Compliance	E001	06/08/2023	Specific Conductance @ 25C (field)	851	micromhos/cm
G284	Compliance	E001	06/08/2023	Sulfate, total	71.0	mg/L
G284	Compliance	E001	06/08/2023	Temperature	16.7	degrees C
G284	Compliance	E001	06/08/2023	Thallium, total	0.00038 U	mg/L
G284	Compliance	E001	06/08/2023	Total Dissolved Solids	520	mg/L
G284	Compliance	E001	06/08/2023	Turbidity, field	143	NTU
G285	Compliance	E001	06/08/2023	Antimony, total	0.00043 U	mg/L
G285	Compliance	E001	06/08/2023	Arsenic, total	0.00077 J	mg/L
G285	Compliance	E001	06/08/2023	Barium, total	0.0430	mg/L
G285	Compliance	E001	06/08/2023	Beryllium, total	0.00059 U	mg/L
G285	Compliance	E001	06/08/2023	Boron, total	0.0990	mg/L
G285	Compliance	E001	06/08/2023	Cadmium, total	0.00074 U	mg/L
G285	Compliance	E001	06/08/2023	Calcium, total	270	mg/L
G285	Compliance	E001	06/08/2023	Chloride, total	25.0	mg/L
G285	Compliance	E001	06/08/2023	Chromium, total	0.0028 U	mg/L
G285	Compliance	E001	06/08/2023	Cobalt, total	0.00290	mg/L
G285	Compliance	E001	06/08/2023	Dissolved Oxygen	0.350	mg/L
G285	Compliance	E001	06/08/2023	Fluoride, total	0.334	mg/L
G285	Compliance	E001	06/08/2023	Lead, total	0.00026 J	mg/L
G285	Compliance	E001	06/08/2023	Lithium, total	0.005 U	mg/L
G285	Compliance	E001	06/08/2023	Mercury, total	0.00014 U	mg/L
G285	Compliance	E001	06/08/2023	Molybdenum, total	0.00380	mg/L
G285	Compliance	E001	06/08/2023	Oxidation Reduction Potential	50.6	mV
G285	Compliance	E001	06/08/2023	pH (field)	6.8	SU
G285	Compliance	E001	06/08/2023	Radium 226 + Radium 228, total	3.10	pCi/L
G285	Compliance	E001	06/08/2023	Selenium, total	0.00074 U	mg/L
G285	Compliance	E001	06/08/2023	Specific Conductance @ 25C (field)	2,155	micromhos/cm
G285	Compliance	E001	06/08/2023	Sulfate, total	640	mg/L
G285	Compliance	E001	06/08/2023	Temperature	15.6	degrees C
G285	Compliance	E001	06/08/2023	Thallium, total	0.00038 U	mg/L
G285	Compliance	E001	06/08/2023	Total Dissolved Solids	1,700	mg/L
G285	Compliance	E001	06/08/2023	Turbidity, field	88.6	NTU

**TABLE 1.**  
**FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 2, 2023**

845 QUARTERLY REPORT  
COFFEEN POWER PLANT  
GMF RECYCLE POND  
COFFEEN, IL

**Notes:**

C = Celsius

cm = centimeter

mg/L = milligrams per liter

mV = millivolts

NTU = Nephelometric Turbidity Units

pCi/L = picocuries per liter

SU = Standard Units

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

J+ = The result is an estimated quantity, but the result may be biased high.

U = The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.

**TABLE 1.**  
**FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 3, 2023**

845 QUARTERLY REPORT  
 COFFEEN POWER PLANT  
 GMF RECYCLE POND  
 COFFEEN, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
G270	Background	E002	08/14/2023	Antimony, total	0.0008 U	mg/L
G270	Background	E002	08/14/2023	Arsenic, total	0.0004 U	mg/L
G270	Background	E002	08/14/2023	Barium, total	0.0467	mg/L
G270	Background	E002	08/14/2023	Beryllium, total	0.0002 U	mg/L
G270	Background	E002	08/14/2023	Boron, total	0.0092 U	mg/L
G270	Background	E002	08/14/2023	Cadmium, total	0.0002 U	mg/L
G270	Background	E002	08/14/2023	Calcium, total	57.9	mg/L
G270	Background	E002	08/14/2023	Chloride, total	13.0	mg/L
G270	Background	E002	08/14/2023	Chromium, total	0.0009 J	mg/L
G270	Background	E002	08/14/2023	Cobalt, total	0.0003 J	mg/L
G270	Background	E002	08/14/2023	Dissolved Oxygen	1.64	mg/L
G270	Background	E002	08/14/2023	Fluoride, total	0.350 J+	mg/L
G270	Background	E002	08/14/2023	Lead, total	0.0006 U	mg/L
G270	Background	E002	08/14/2023	Lithium, total	0.0029 J	mg/L
G270	Background	E002	08/14/2023	Mercury, total	0.00009 U	mg/L
G270	Background	E002	08/14/2023	Molybdenum, total	0.0008 J	mg/L
G270	Background	E002	08/14/2023	Oxidation Reduction Potential	78.0	mV
G270	Background	E002	08/14/2023	pH (field)	6.8	SU
G270	Background	E002	08/14/2023	Radium 226 + Radium 228, total	0.661	pCi/L
G270	Background	E002	08/14/2023	Selenium, total	0.0006 U	mg/L
G270	Background	E002	08/14/2023	Specific Conductance @ 25C (field)	936	micromhos/cm
G270	Background	E002	08/14/2023	Sulfate, total	48.0 J+	mg/L
G270	Background	E002	08/14/2023	Temperature	15.2	degrees C
G270	Background	E002	08/14/2023	Thallium, total	0.001 U	mg/L
G270	Background	E002	08/14/2023	Total Dissolved Solids	426	mg/L
G270	Background	E002	08/14/2023	Turbidity, field	5.30	NTU
G280	Background	E002	08/14/2023	Antimony, total	0.0009 J	mg/L
G280	Background	E002	08/14/2023	Arsenic, total	0.0004 U	mg/L
G280	Background	E002	08/14/2023	Barium, total	0.0531	mg/L
G280	Background	E002	08/14/2023	Beryllium, total	0.0002 U	mg/L
G280	Background	E002	08/14/2023	Boron, total	0.0092 U	mg/L
G280	Background	E002	08/14/2023	Cadmium, total	0.0002 U	mg/L
G280	Background	E002	08/14/2023	Calcium, total	79.5	mg/L
G280	Background	E002	08/14/2023	Chloride, total	70.0	mg/L
G280	Background	E002	08/14/2023	Chromium, total	0.0013 J	mg/L
G280	Background	E002	08/14/2023	Cobalt, total	0.0003 J	mg/L
G280	Background	E002	08/14/2023	Dissolved Oxygen	1.01	mg/L
G280	Background	E002	08/14/2023	Fluoride, total	0.310 J+	mg/L
G280	Background	E002	08/14/2023	Lead, total	0.0006 U	mg/L
G280	Background	E002	08/14/2023	Lithium, total	0.00440	mg/L
G280	Background	E002	08/14/2023	Mercury, total	0.00006 U	mg/L
G280	Background	E002	08/14/2023	Molybdenum, total	0.0006 J	mg/L
G280	Background	E002	08/14/2023	Oxidation Reduction Potential	31.0	mV
G280	Background	E002	08/14/2023	pH (field)	7.4	SU
G280	Background	E002	08/14/2023	Radium 226 + Radium 228, total	0.609	pCi/L
G280	Background	E002	08/14/2023	Selenium, total	0.0006 U	mg/L

**TABLE 1.**  
**FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 3, 2023**

845 QUARTERLY REPORT  
 COFFEEN POWER PLANT  
 GMF RECYCLE POND  
 COFFEEN, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
G280	Background	E002	08/14/2023	Specific Conductance @ 25C (field)	1,480	micromhos/cm
G280	Background	E002	08/14/2023	Sulfate, total	91.0	mg/L
G280	Background	E002	08/14/2023	Temperature	15.5	degrees C
G280	Background	E002	08/14/2023	Thallium, total	0.001 U	mg/L
G280	Background	E002	08/14/2023	Total Dissolved Solids	594	mg/L
G280	Background	E002	08/14/2023	Turbidity, field	8.50	NTU
G271	Compliance	E002	08/14/2023	Antimony, total	0.00140	mg/L
G271	Compliance	E002	08/14/2023	Arsenic, total	0.0005 J	mg/L
G271	Compliance	E002	08/14/2023	Barium, total	0.0254	mg/L
G271	Compliance	E002	08/14/2023	Beryllium, total	0.0002 U	mg/L
G271	Compliance	E002	08/14/2023	Boron, total	0.633 J+	mg/L
G271	Compliance	E002	08/14/2023	Cadmium, total	0.0002 U	mg/L
G271	Compliance	E002	08/14/2023	Calcium, total	80.9	mg/L
G271	Compliance	E002	08/14/2023	Chloride, total	35.0	mg/L
G271	Compliance	E002	08/14/2023	Chromium, total	0.0014 J	mg/L
G271	Compliance	E002	08/14/2023	Cobalt, total	0.0002 J	mg/L
G271	Compliance	E002	08/14/2023	Dissolved Oxygen	3.16	mg/L
G271	Compliance	E002	08/14/2023	Fluoride, total	0.520 J+	mg/L
G271	Compliance	E002	08/14/2023	Lead, total	0.0006 U	mg/L
G271	Compliance	E002	08/14/2023	Lithium, total	0.0025 J	mg/L
G271	Compliance	E002	08/14/2023	Mercury, total	0.00009 U	mg/L
G271	Compliance	E002	08/14/2023	Molybdenum, total	0.0008 J	mg/L
G271	Compliance	E002	08/14/2023	Oxidation Reduction Potential	75.0	mV
G271	Compliance	E002	08/14/2023	pH (field)	7.0	SU
G271	Compliance	E002	08/14/2023	Radium 226 + Radium 228, total	0.552	pCi/L
G271	Compliance	E002	08/14/2023	Selenium, total	0.00100	mg/L
G271	Compliance	E002	08/14/2023	Specific Conductance @ 25C (field)	1,190	micromhos/cm
G271	Compliance	E002	08/14/2023	Sulfate, total	177	mg/L
G271	Compliance	E002	08/14/2023	Temperature	17.2	degrees C
G271	Compliance	E002	08/14/2023	Thallium, total	0.001 U	mg/L
G271	Compliance	E002	08/14/2023	Total Dissolved Solids	594	mg/L
G271	Compliance	E002	08/14/2023	Turbidity, field	10.0	NTU
G273	Compliance	E002	08/14/2023	Antimony, total	0.00100 J	mg/L
G273	Compliance	E002	08/14/2023	Arsenic, total	0.0004 J	mg/L
G273	Compliance	E002	08/14/2023	Barium, total	0.0347	mg/L
G273	Compliance	E002	08/14/2023	Beryllium, total	0.0002 U	mg/L
G273	Compliance	E002	08/14/2023	Boron, total	0.0558 J+	mg/L
G273	Compliance	E002	08/14/2023	Cadmium, total	0.0002 U	mg/L
G273	Compliance	E002	08/14/2023	Calcium, total	164	mg/L
G273	Compliance	E002	08/14/2023	Chloride, total	68.0	mg/L
G273	Compliance	E002	08/14/2023	Chromium, total	0.0013 J	mg/L
G273	Compliance	E002	08/14/2023	Cobalt, total	0.0001 J	mg/L
G273	Compliance	E002	08/14/2023	Dissolved Oxygen	1.06	mg/L
G273	Compliance	E002	08/14/2023	Fluoride, total	0.330 J+	mg/L
G273	Compliance	E002	08/14/2023	Lead, total	0.0006 U	mg/L
G273	Compliance	E002	08/14/2023	Lithium, total	0.00670	mg/L

**TABLE 1.**  
**FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 3, 2023**

845 QUARTERLY REPORT  
 COFFEEN POWER PLANT  
 GMF RECYCLE POND  
 COFFEEN, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
G273	Compliance	E002	08/14/2023	Mercury, total	0.00009 U	mg/L
G273	Compliance	E002	08/14/2023	Molybdenum, total	0.0008 J	mg/L
G273	Compliance	E002	08/14/2023	Oxidation Reduction Potential	103	mV
G273	Compliance	E002	08/14/2023	pH (field)	6.8	SU
G273	Compliance	E002	08/14/2023	Radium 226 + Radium 228, total	0.485	pCi/L
G273	Compliance	E002	08/14/2023	Selenium, total	0.0006 U	mg/L
G273	Compliance	E002	08/14/2023	Specific Conductance @ 25C (field)	2,060	micromhos/cm
G273	Compliance	E002	08/14/2023	Sulfate, total	465	mg/L
G273	Compliance	E002	08/14/2023	Temperature	16.6	degrees C
G273	Compliance	E002	08/14/2023	Thallium, total	0.001 U	mg/L
G273	Compliance	E002	08/14/2023	Total Dissolved Solids	1,180	mg/L
G273	Compliance	E002	08/14/2023	Turbidity, field	2.20	NTU
G275D	Compliance	E002	08/14/2023	Antimony, total	0.0007 J	mg/L
G275D	Compliance	E002	08/14/2023	Arsenic, total	0.0237	mg/L
G275D	Compliance	E002	08/14/2023	Barium, total	0.506	mg/L
G275D	Compliance	E002	08/14/2023	Beryllium, total	0.0002 U	mg/L
G275D	Compliance	E002	08/14/2023	Boron, total	0.174 J+	mg/L
G275D	Compliance	E002	08/14/2023	Cadmium, total	0.0002 U	mg/L
G275D	Compliance	E002	08/14/2023	Calcium, total	157	mg/L
G275D	Compliance	E002	08/14/2023	Chloride, total	20.0	mg/L
G275D	Compliance	E002	08/14/2023	Chromium, total	0.0008 J	mg/L
G275D	Compliance	E002	08/14/2023	Cobalt, total	0.0008 J	mg/L
G275D	Compliance	E002	08/14/2023	Dissolved Oxygen	0.540	mg/L
G275D	Compliance	E002	08/14/2023	Fluoride, total	0.500 J+	mg/L
G275D	Compliance	E002	08/14/2023	Lead, total	0.0006 U	mg/L
G275D	Compliance	E002	08/14/2023	Lithium, total	0.0026 J	mg/L
G275D	Compliance	E002	08/14/2023	Mercury, total	0.00006 U	mg/L
G275D	Compliance	E002	08/14/2023	Molybdenum, total	0.00240	mg/L
G275D	Compliance	E002	08/14/2023	Oxidation Reduction Potential	-132	mV
G275D	Compliance	E002	08/14/2023	pH (field)	7.5	SU
G275D	Compliance	E002	08/14/2023	Radium 226 + Radium 228, total	0.879	pCi/L
G275D	Compliance	E002	08/14/2023	Selenium, total	0.0006 U	mg/L
G275D	Compliance	E002	08/14/2023	Specific Conductance @ 25C (field)	2,490	micromhos/cm
G275D	Compliance	E002	08/14/2023	Sulfate, total	123	mg/L
G275D	Compliance	E002	08/14/2023	Temperature	15.6	degrees C
G275D	Compliance	E002	08/14/2023	Thallium, total	0.001 U	mg/L
G275D	Compliance	E002	08/14/2023	Total Dissolved Solids	1,000	mg/L
G275D	Compliance	E002	08/14/2023	Turbidity, field	14.0	NTU
G276	Compliance	E002	08/14/2023	Antimony, total	0.00140	mg/L
G276	Compliance	E002	08/14/2023	Arsenic, total	0.0004 U	mg/L
G276	Compliance	E002	08/14/2023	Barium, total	0.0553	mg/L
G276	Compliance	E002	08/14/2023	Beryllium, total	0.0003 J	mg/L
G276	Compliance	E002	08/14/2023	Boron, total	0.025 UJ	mg/L
G276	Compliance	E002	08/14/2023	Cadmium, total	0.0002 U	mg/L
G276	Compliance	E002	08/14/2023	Calcium, total	139	mg/L
G276	Compliance	E002	08/14/2023	Chloride, total	31.0	mg/L

**TABLE 1.**  
**FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 3, 2023**

845 QUARTERLY REPORT  
 COFFEEN POWER PLANT  
 GMF RECYCLE POND  
 COFFEEN, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
G276	Compliance	E002	08/14/2023	Chromium, total	0.00160	mg/L
G276	Compliance	E002	08/14/2023	Cobalt, total	0.0004 J	mg/L
G276	Compliance	E002	08/14/2023	Dissolved Oxygen	1.60	mg/L
G276	Compliance	E002	08/14/2023	Fluoride, total	0.370 J+	mg/L
G276	Compliance	E002	08/14/2023	Lead, total	0.0006 U	mg/L
G276	Compliance	E002	08/14/2023	Lithium, total	0.0104	mg/L
G276	Compliance	E002	08/14/2023	Mercury, total	0.00006 U	mg/L
G276	Compliance	E002	08/14/2023	Molybdenum, total	0.0006 J	mg/L
G276	Compliance	E002	08/14/2023	Oxidation Reduction Potential	34.0	mV
G276	Compliance	E002	08/14/2023	pH (field)	7.2	SU
G276	Compliance	E002	08/14/2023	Radium 226 + Radium 228, total	1.06	pCi/L
G276	Compliance	E002	08/14/2023	Selenium, total	0.0006 U	mg/L
G276	Compliance	E002	08/14/2023	Specific Conductance @ 25C (field)	2,190	micromhos/cm
G276	Compliance	E002	08/14/2023	Sulfate, total	249	mg/L
G276	Compliance	E002	08/14/2023	Temperature	16.2	degrees C
G276	Compliance	E002	08/14/2023	Thallium, total	0.001 U	mg/L
G276	Compliance	E002	08/14/2023	Total Dissolved Solids	908	mg/L
G276	Compliance	E002	08/14/2023	Turbidity, field	9.00	NTU
G283	Compliance	E002	08/15/2023	Antimony, total	0.0008 U	mg/L
G283	Compliance	E002	08/15/2023	Arsenic, total	0.0004 U	mg/L
G283	Compliance	E002	08/15/2023	Barium, total	0.174	mg/L
G283	Compliance	E002	08/15/2023	Beryllium, total	0.0002 U	mg/L
G283	Compliance	E002	08/15/2023	Boron, total	0.0545 J+	mg/L
G283	Compliance	E002	08/15/2023	Cadmium, total	0.0002 U	mg/L
G283	Compliance	E002	08/15/2023	Calcium, total	140	mg/L
G283	Compliance	E002	08/15/2023	Chloride, total	39.0	mg/L
G283	Compliance	E002	08/15/2023	Chromium, total	0.0007 U	mg/L
G283	Compliance	E002	08/15/2023	Cobalt, total	0.0001 U	mg/L
G283	Compliance	E002	08/15/2023	Dissolved Oxygen	0.530	mg/L
G283	Compliance	E002	08/15/2023	Fluoride, total	0.370 J+	mg/L
G283	Compliance	E002	08/15/2023	Lead, total	0.0006 U	mg/L
G283	Compliance	E002	08/15/2023	Lithium, total	0.0102	mg/L
G283	Compliance	E002	08/15/2023	Mercury, total	0.00006 U	mg/L
G283	Compliance	E002	08/15/2023	Molybdenum, total	0.00170	mg/L
G283	Compliance	E002	08/15/2023	Oxidation Reduction Potential	-71.0	mV
G283	Compliance	E002	08/15/2023	pH (field)	7.1	SU
G283	Compliance	E002	08/15/2023	Radium 226 + Radium 228, total	0.719	pCi/L
G283	Compliance	E002	08/15/2023	Selenium, total	0.0006 U	mg/L
G283	Compliance	E002	08/15/2023	Specific Conductance @ 25C (field)	2,100	micromhos/cm
G283	Compliance	E002	08/15/2023	Sulfate, total	250	mg/L
G283	Compliance	E002	08/15/2023	Temperature	14.8	degrees C
G283	Compliance	E002	08/15/2023	Thallium, total	0.001 U	mg/L
G283	Compliance	E002	08/15/2023	Total Dissolved Solids	825	mg/L
G283	Compliance	E002	08/15/2023	Turbidity, field	10.0	NTU
G284	Compliance	E002	08/15/2023	Antimony, total	0.0008 U	mg/L
G284	Compliance	E002	08/15/2023	Arsenic, total	0.0004 U	mg/L

**TABLE 1.**  
**FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 3, 2023**

845 QUARTERLY REPORT  
 COFFEEN POWER PLANT  
 GMF RECYCLE POND  
 COFFEEN, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
G284	Compliance	E002	08/15/2023	Barium, total	0.0875	mg/L
G284	Compliance	E002	08/15/2023	Beryllium, total	0.0002 U	mg/L
G284	Compliance	E002	08/15/2023	Boron, total	0.0840 J+	mg/L
G284	Compliance	E002	08/15/2023	Cadmium, total	0.0002 U	mg/L
G284	Compliance	E002	08/15/2023	Calcium, total	72.5	mg/L
G284	Compliance	E002	08/15/2023	Chloride, total	32.0	mg/L
G284	Compliance	E002	08/15/2023	Chromium, total	0.0008 J	mg/L
G284	Compliance	E002	08/15/2023	Cobalt, total	0.0001 J	mg/L
G284	Compliance	E002	08/15/2023	Dissolved Oxygen	4.05	mg/L
G284	Compliance	E002	08/15/2023	Fluoride, total	0.620	mg/L
G284	Compliance	E002	08/15/2023	Lead, total	0.0006 U	mg/L
G284	Compliance	E002	08/15/2023	Lithium, total	0.0134	mg/L
G284	Compliance	E002	08/15/2023	Mercury, total	0.00006 U	mg/L
G284	Compliance	E002	08/15/2023	Molybdenum, total	0.0599	mg/L
G284	Compliance	E002	08/15/2023	Oxidation Reduction Potential	126	mV
G284	Compliance	E002	08/15/2023	pH (field)	7.2	SU
G284	Compliance	E002	08/15/2023	Radium 226 + Radium 228, total	0.566	pCi/L
G284	Compliance	E002	08/15/2023	Selenium, total	0.00510	mg/L
G284	Compliance	E002	08/15/2023	Specific Conductance @ 25C (field)	1,930	micromhos/cm
G284	Compliance	E002	08/15/2023	Sulfate, total	174	mg/L
G284	Compliance	E002	08/15/2023	Temperature	17.0	degrees C
G284	Compliance	E002	08/15/2023	Thallium, total	0.001 U	mg/L
G284	Compliance	E002	08/15/2023	Total Dissolved Solids	656	mg/L
G284	Compliance	E002	08/15/2023	Turbidity, field	6.00	NTU
G285	Compliance	E002	08/15/2023	Antimony, total	0.0008 U	mg/L
G285	Compliance	E002	08/15/2023	Arsenic, total	0.0004 U	mg/L
G285	Compliance	E002	08/15/2023	Barium, total	0.0455	mg/L
G285	Compliance	E002	08/15/2023	Beryllium, total	0.0002 U	mg/L
G285	Compliance	E002	08/15/2023	Boron, total	0.114 J+	mg/L
G285	Compliance	E002	08/15/2023	Cadmium, total	0.0002 U	mg/L
G285	Compliance	E002	08/15/2023	Calcium, total	272	mg/L
G285	Compliance	E002	08/15/2023	Chloride, total	24.0	mg/L
G285	Compliance	E002	08/15/2023	Chromium, total	0.0008 J	mg/L
G285	Compliance	E002	08/15/2023	Cobalt, total	0.00300	mg/L
G285	Compliance	E002	08/15/2023	Dissolved Oxygen	0.690	mg/L
G285	Compliance	E002	08/15/2023	Fluoride, total	0.320 J+	mg/L
G285	Compliance	E002	08/15/2023	Lead, total	0.0006 U	mg/L
G285	Compliance	E002	08/15/2023	Lithium, total	0.00510	mg/L
G285	Compliance	E002	08/15/2023	Mercury, total	0.00006 U	mg/L
G285	Compliance	E002	08/15/2023	Molybdenum, total	0.00320	mg/L
G285	Compliance	E002	08/15/2023	Oxidation Reduction Potential	54.0	mV
G285	Compliance	E002	08/15/2023	pH (field)	6.7	SU
G285	Compliance	E002	08/15/2023	Radium 226 + Radium 228, total	2.39	pCi/L
G285	Compliance	E002	08/15/2023	Selenium, total	0.0006 U	mg/L
G285	Compliance	E002	08/15/2023	Specific Conductance @ 25C (field)	3,430	micromhos/cm
G285	Compliance	E002	08/15/2023	Sulfate, total	586	mg/L

**TABLE 1.**  
**FIELD PARAMETERS AND ANALYTICAL RESULTS - QUARTER 3, 2023**

845 QUARTERLY REPORT  
 COFFEEN POWER PLANT  
 GMF RECYCLE POND  
 COFFEEN, IL

Well ID	Well Type	Event	Date	Parameter	Result	Unit
G285	Compliance	E002	08/15/2023	Temperature	14.3	degrees C
G285	Compliance	E002	08/15/2023	Thallium, total	0.001 U	mg/L
G285	Compliance	E002	08/15/2023	Total Dissolved Solids	1,640	mg/L
G285	Compliance	E002	08/15/2023	Turbidity, field	7.30	NTU

**Notes:**

C = Celsius

cm = centimeter

mg/L = milligrams per liter

mV = millivolts

NTU = Nephelometric Turbidity Units

pCi/L = picocuries per liter

SU = Standard Units

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

J+ = The result is an estimated quantity, but the result may be biased high.

U = The analyte was analyzed for, but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.

UJ = The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.



**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 2, 2023**  
845 QUARTERLY REPORT  
COFFEEN POWER PLANT  
GMF RECYCLE POND  
COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
G271	UA	E001	Antimony, total	mg/L	11/23/15 - 06/06/23	22	100	All ND - Last	0.003	0.006	Standard	No Exceedance
G271	UA	E001	Arsenic, total	mg/L	11/23/15 - 06/06/23	24	76	CI around median	0.001	0.010	Standard	No Exceedance
G271	UA	E001	Barium, total	mg/L	11/23/15 - 06/06/23	25	0	CB around T-S line	0.0146	2.0	Standard	No Exceedance
G271	UA	E001	Beryllium, total	mg/L	11/23/15 - 06/06/23	22	97	CI around median	0.001	0.004	Standard	No Exceedance
G271	UA	E001	Boron, total	mg/L	11/23/15 - 06/06/23	26	0	CI around geomean	0.683	2	Standard	No Exceedance
G271	UA	E001	Cadmium, total	mg/L	11/23/15 - 06/06/23	22	98	CI around median	0.001	0.005	Standard	No Exceedance
G271	UA	E001	Chloride, total	mg/L	11/23/15 - 06/06/23	26	0	CB around linear reg	47	200	Standard	No Exceedance
G271	UA	E001	Chromium, total	mg/L	11/23/15 - 06/06/23	24	83	CI around median	0.004	0.1	Standard	No Exceedance
G271	UA	E001	Cobalt, total	mg/L	11/23/15 - 06/06/23	24	86	CI around median	0.002	0.006	Standard	No Exceedance
G271	UA	E001	Fluoride, total	mg/L	11/23/15 - 06/06/23	26	8	CI around mean	0.32	4.0	Standard	No Exceedance
G271	UA	E001	Lead, total	mg/L	11/23/15 - 06/06/23	25	63	CI around median	0.001	0.0120	Background	No Exceedance
G271	UA	E001	Lithium, total	mg/L	11/23/15 - 06/06/23	20	100	All ND - Last	0.02	0.04	Standard	No Exceedance
G271	UA	E001	Mercury, total	mg/L	11/23/15 - 06/06/23	22	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
G271	UA	E001	Molybdenum, total	mg/L	11/23/15 - 06/06/23	25	67	CI around median	0.001	0.1	Standard	No Exceedance
G271	UA	E001	pH (field)	SU	11/23/15 - 06/06/23	28	0	CI around mean	7.1/7.3	6.5/9.0	Standard/Standard	No Exceedance
G271	UA	E001	Radium 226 + Radium 228, total	pCi/L	11/23/15 - 06/06/23	20	0	CI around geomean	0.352	5	Standard	No Exceedance
G271	UA	E001	Selenium, total	mg/L	11/23/15 - 06/06/23	24	6	CI around mean	0.0016	0.05	Standard	No Exceedance
G271	UA	E001	Sulfate, total	mg/L	11/23/15 - 06/06/23	26	0	CB around linear reg	205	400	Standard	No Exceedance
G271	UA	E001	Thallium, total	mg/L	11/23/15 - 06/06/23	23	97	CI around median	0.001	0.002	Standard	No Exceedance
G271	UA	E001	Total Dissolved Solids	mg/L	11/23/15 - 06/06/23	26	0	CI around mean	816	1,200	Standard	No Exceedance
G273	UA	E001	Antimony, total	mg/L	11/24/15 - 06/05/23	22	100	All ND - Last	0.003	0.006	Standard	No Exceedance
G273	UA	E001	Arsenic, total	mg/L	11/24/15 - 06/05/23	25	86	CI around median	0.001	0.010	Standard	No Exceedance
G273	UA	E001	Barium, total	mg/L	11/24/15 - 06/05/23	25	0	CI around median	0.028	2.0	Standard	No Exceedance
G273	UA	E001	Beryllium, total	mg/L	11/24/15 - 06/05/23	22	100	All ND - Last	0.001	0.004	Standard	No Exceedance
G273	UA	E001	Boron, total	mg/L	11/24/15 - 06/05/23	26	6	CB around T-S line	-0.0843	2	Standard	No Exceedance
G273	UA	E001	Cadmium, total	mg/L	11/24/15 - 06/05/23	22	98	CI around median	0.001	0.005	Standard	No Exceedance
G273	UA	E001	Chloride, total	mg/L	11/24/15 - 06/05/23	26	0	CB around T-S line	69.9	200	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 2, 2023**  
845 QUARTERLY REPORT  
COFFEEN POWER PLANT  
GMF RECYCLE POND  
COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
G273	UA	E001	Chromium, total	mg/L	11/24/15 - 06/05/23	24	100	All ND - Last	0.004	0.1	Standard	No Exceedance
G273	UA	E001	Cobalt, total	mg/L	11/24/15 - 06/05/23	24	97	CI around median	0.002	0.006	Standard	No Exceedance
G273	UA	E001	Fluoride, total	mg/L	11/24/15 - 06/05/23	26	18	CI around mean	0.296	4.0	Standard	No Exceedance
G273	UA	E001	Lead, total	mg/L	11/24/15 - 06/05/23	25	90	CI around median	0.001	0.0120	Background	No Exceedance
G273	UA	E001	Lithium, total	mg/L	11/24/15 - 06/05/23	20	90	CB around T-S line	0.01	0.04	Standard	No Exceedance
G273	UA	E001	Mercury, total	mg/L	11/24/15 - 06/05/23	22	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
G273	UA	E001	Molybdenum, total	mg/L	11/24/15 - 06/05/23	25	89	CI around median	0.001	0.1	Standard	No Exceedance
G273	UA	E001	pH (field)	SU	11/24/15 - 06/05/23	28	0	CI around mean	7.0/7.2	6.5/9.0	Standard/Standard	No Exceedance
G273	UA	E001	Radium 226 + Radium 228, total	pCi/L	11/24/15 - 06/05/23	20	0	CB around linear reg	-0.541	5	Standard	No Exceedance
G273	UA	E001	Selenium, total	mg/L	11/24/15 - 06/05/23	25	95	CI around median	0.001	0.05	Standard	No Exceedance
G273	UA	E001	Sulfate, total	mg/L	11/24/15 - 06/05/23	26	0	CI around median	410	400	Standard	Exceedance
G273	UA	E001	Thallium, total	mg/L	11/24/15 - 06/05/23	23	94	CI around median	0.001	0.002	Standard	No Exceedance
G273	UA	E001	Total Dissolved Solids	mg/L	11/24/15 - 06/05/23	26	0	CB around linear reg	1,010	1,200	Standard	No Exceedance
G275	UA	E001	Antimony, total	mg/L	10/14/20 - 06/08/23	9	100	All ND - Last	0.003	0.006	Standard	No Exceedance
G275	UA	E001	Arsenic, total	mg/L	10/14/20 - 06/08/23	9	55	CI around median	0.001	0.010	Standard	No Exceedance
G275	UA	E001	Barium, total	mg/L	10/14/20 - 06/08/23	9	0	CI around median	0.024	2.0	Standard	No Exceedance
G275	UA	E001	Beryllium, total	mg/L	10/14/20 - 06/08/23	9	100	All ND - Last	0.001	0.004	Standard	No Exceedance
G275	UA	E001	Boron, total	mg/L	10/14/20 - 06/08/23	9	0	CI around mean	1.29	2	Standard	No Exceedance
G275	UA	E001	Cadmium, total	mg/L	10/14/20 - 06/08/23	9	100	All ND - Last	0.001	0.005	Standard	No Exceedance
G275	UA	E001	Chloride, total	mg/L	10/14/20 - 06/08/23	9	0	CI around mean	18.1	200	Standard	No Exceedance
G275	UA	E001	Chromium, total	mg/L	10/14/20 - 06/08/23	9	94	Most recent sample	0.004	0.1	Standard	No Exceedance
G275	UA	E001	Cobalt, total	mg/L	10/14/20 - 06/08/23	9	100	All ND - Last	0.002	0.006	Standard	No Exceedance
G275	UA	E001	Fluoride, total	mg/L	10/14/20 - 06/08/23	9	11	CI around mean	0.251	4.0	Standard	No Exceedance
G275	UA	E001	Lead, total	mg/L	10/14/20 - 06/08/23	9	58	Most recent sample	0.001	0.0120	Background	No Exceedance
G275	UA	E001	Lithium, total	mg/L	06/08/23 - 06/08/23	1	100	Most recent sample	0.02	0.04	Standard	No Exceedance
G275	UA	E001	Mercury, total	mg/L	10/14/20 - 06/08/23	9	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
G275	UA	E001	Molybdenum, total	mg/L	10/14/20 - 06/08/23	9	90	Most recent sample	0.001	0.1	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 2, 2023**  
845 QUARTERLY REPORT  
COFFEEN POWER PLANT  
GMF RECYCLE POND  
COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
G275	UA	E001	pH (field)	SU	10/14/20 - 06/08/23	9	0	CI around mean	6.9/7.1	6.5/9.0	Standard/Standard	No Exceedance
G275	UA	E001	Radium 226 + Radium 228, total	pCi/L	06/08/23 - 06/08/23	1	0	Most recent sample	0.0751	5	Standard	No Exceedance
G275	UA	E001	Selenium, total	mg/L	10/14/20 - 06/08/23	9	83	Most recent sample	0.001	0.05	Standard	No Exceedance
G275	UA	E001	Sulfate, total	mg/L	10/14/20 - 06/08/23	9	0	CB around linear reg	216	400	Standard	No Exceedance
G275	UA	E001	Thallium, total	mg/L	10/14/20 - 06/08/23	9	100	All ND - Last	0.001	0.002	Standard	No Exceedance
G275	UA	E001	Total Dissolved Solids	mg/L	10/14/20 - 06/08/23	9	0	CI around mean	914	1,200	Standard	No Exceedance
G275D	DA	E001	Antimony, total	mg/L	03/30/21 - 06/08/23	6	100	All ND - Last	0.003	0.006	Standard	No Exceedance
G275D	DA	E001	Arsenic, total	mg/L	03/30/21 - 06/08/23	6	0	CI around mean	0.00205	0.010	Standard	No Exceedance
G275D	DA	E001	Barium, total	mg/L	03/30/21 - 06/08/23	6	0	CI around mean	0.292	2.0	Standard	No Exceedance
G275D	DA	E001	Beryllium, total	mg/L	03/30/21 - 06/08/23	6	100	All ND - Last	0.001	0.004	Standard	No Exceedance
G275D	DA	E001	Boron, total	mg/L	03/30/21 - 06/08/23	6	0	CI around mean	0.212	2	Standard	No Exceedance
G275D	DA	E001	Cadmium, total	mg/L	03/30/21 - 06/08/23	6	100	All ND - Last	0.001	0.005	Standard	No Exceedance
G275D	DA	E001	Chloride, total	mg/L	03/30/21 - 06/08/23	6	0	CI around mean	23.5	200	Standard	No Exceedance
G275D	DA	E001	Chromium, total	mg/L	03/30/21 - 06/08/23	6	83	CI around median (Last Sample, n<7)	0.004	0.1	Standard	No Exceedance
G275D	DA	E001	Cobalt, total	mg/L	03/30/21 - 06/08/23	6	50	CI around mean	0.00138	0.006	Standard	No Exceedance
G275D	DA	E001	Fluoride, total	mg/L	03/30/21 - 06/08/23	6	0	CI around mean	0.35	4.0	Standard	No Exceedance
G275D	DA	E001	Lead, total	mg/L	03/30/21 - 06/08/23	6	83	CI around median (Last Sample, n<7)	0.001	0.0120	Background	No Exceedance
G275D	DA	E001	Lithium, total	mg/L	03/30/21 - 06/08/23	6	100	All ND - Last	0.02	0.04	Standard	No Exceedance
G275D	DA	E001	Mercury, total	mg/L	03/30/21 - 06/08/23	6	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
G275D	DA	E001	Molybdenum, total	mg/L	03/30/21 - 06/08/23	6	0	CI around mean	0.00904	0.1	Standard	No Exceedance
G275D	DA	E001	pH (field)	SU	03/30/21 - 06/08/23	6	0	CI around mean	7.0/7.3	6.5/9.0	Standard/Standard	No Exceedance
G275D	DA	E001	Radium 226 + Radium 228, total	pCi/L	03/30/21 - 06/08/23	7	0	CI around mean	0.245	5	Standard	No Exceedance
G275D	DA	E001	Selenium, total	mg/L	03/30/21 - 06/08/23	6	100	All ND - Last	0.001	0.05	Standard	No Exceedance
G275D	DA	E001	Sulfate, total	mg/L	03/30/21 - 06/08/23	6	0	CI around mean	135	400	Standard	No Exceedance
G275D	DA	E001	Thallium, total	mg/L	03/30/21 - 06/08/23	6	100	All ND - Last	0.001	0.002	Standard	No Exceedance
G275D	DA	E001	Total Dissolved Solids	mg/L	03/30/21 - 06/08/23	6	0	CI around mean	905	1,200	Standard	No Exceedance
G276	UA	E001	Antimony, total	mg/L	11/24/15 - 06/05/23	22	100	All ND - Last	0.003	0.006	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 2, 2023**  
 845 QUARTERLY REPORT  
 COFFEEN POWER PLANT  
 GMF RECYCLE POND  
 COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
G276	UA	E001	Arsenic, total	mg/L	11/24/15 - 06/05/23	25	85	Most recent sample	0.001	0.010	Standard	No Exceedance
G276	UA	E001	Barium, total	mg/L	11/24/15 - 06/05/23	25	0	CB around linear reg	0.0373	2.0	Standard	No Exceedance
G276	UA	E001	Beryllium, total	mg/L	11/24/15 - 06/05/23	22	94	Most recent sample	0.001	0.004	Standard	No Exceedance
G276	UA	E001	Boron, total	mg/L	11/24/15 - 06/05/23	26	10	CI around geomean	0.0168	2	Standard	No Exceedance
G276	UA	E001	Cadmium, total	mg/L	11/24/15 - 06/05/23	22	100	All ND - Last	0.001	0.005	Standard	No Exceedance
G276	UA	E001	Chloride, total	mg/L	11/24/15 - 06/05/23	26	0	CI around mean	22.3	200	Standard	No Exceedance
G276	UA	E001	Chromium, total	mg/L	11/24/15 - 06/05/23	24	91	Most recent sample	0.004	0.1	Standard	No Exceedance
G276	UA	E001	Cobalt, total	mg/L	11/24/15 - 06/05/23	24	97	Most recent sample	0.002	0.006	Standard	No Exceedance
G276	UA	E001	Fluoride, total	mg/L	11/24/15 - 06/05/23	26	6	CI around median	0.345	4.0	Standard	No Exceedance
G276	UA	E001	Lead, total	mg/L	11/24/15 - 06/05/23	25	79	CI around median	0.001	0.0120	Background	No Exceedance
G276	UA	E001	Lithium, total	mg/L	11/24/15 - 06/05/23	20	50	CB around linear reg	0.0185	0.04	Standard	No Exceedance
G276	UA	E001	Mercury, total	mg/L	11/24/15 - 06/05/23	22	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
G276	UA	E001	Molybdenum, total	mg/L	11/24/15 - 06/05/23	25	81	CI around median	0.001	0.1	Standard	No Exceedance
G276	UA	E001	pH (field)	SU	11/24/15 - 06/05/23	27	0	CB around linear reg	6.7/7.0	6.5/9.0	Standard/Standard	No Exceedance
G276	UA	E001	Radium 226 + Radium 228, total	pCi/L	11/24/15 - 06/05/23	20	0	CI around geomean	0.305	5	Standard	No Exceedance
G276	UA	E001	Selenium, total	mg/L	11/24/15 - 06/05/23	25	31	CB around linear reg	0.000805	0.05	Standard	No Exceedance
G276	UA	E001	Sulfate, total	mg/L	11/24/15 - 06/05/23	26	0	CB around linear reg	256	400	Standard	No Exceedance
G276	UA	E001	Thallium, total	mg/L	11/24/15 - 06/05/23	23	100	All ND - Last	0.001	0.002	Standard	No Exceedance
G276	UA	E001	Total Dissolved Solids	mg/L	11/24/15 - 06/05/23	26	0	CB around T-S line	820	1,200	Standard	No Exceedance
G277	UA	E001	Antimony, total	mg/L	10/14/20 - 06/01/23	10	100	All ND - Last	0.003	0.006	Standard	No Exceedance
G277	UA	E001	Arsenic, total	mg/L	10/14/20 - 06/01/23	10	57	CI around median	0.001	0.010	Standard	No Exceedance
G277	UA	E001	Barium, total	mg/L	10/14/20 - 06/01/23	10	0	CI around mean	0.08	2.0	Standard	No Exceedance
G277	UA	E001	Beryllium, total	mg/L	10/14/20 - 06/01/23	10	88	Most recent sample	0.001	0.004	Standard	No Exceedance
G277	UA	E001	Boron, total	mg/L	10/14/20 - 06/01/23	10	14	CB around linear reg	0.111	2	Standard	No Exceedance
G277	UA	E001	Cadmium, total	mg/L	10/14/20 - 06/01/23	10	100	All ND - Last	0.001	0.005	Standard	No Exceedance
G277	UA	E001	Chloride, total	mg/L	10/14/20 - 06/01/23	10	0	CI around mean	58.1	200	Standard	No Exceedance
G277	UA	E001	Chromium, total	mg/L	10/14/20 - 06/01/23	10	59	CI around median	0.004	0.1	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 2, 2023**  
845 QUARTERLY REPORT  
COFFEEN POWER PLANT  
GMF RECYCLE POND  
COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
G277	UA	E001	Cobalt, total	mg/L	10/14/20 - 06/01/23	10	76	Most recent sample	0.002	0.006	Standard	No Exceedance
G277	UA	E001	Fluoride, total	mg/L	10/14/20 - 06/01/23	10	12	CI around median	0.125	4.0	Standard	No Exceedance
G277	UA	E001	Lead, total	mg/L	10/14/20 - 06/01/23	10	54	CI around median	0.001	0.0120	Background	No Exceedance
G277	UA	E001	Lithium, total	mg/L	06/01/23 - 06/01/23	1	100	Most recent sample	0.02	0.04	Standard	No Exceedance
G277	UA	E001	Mercury, total	mg/L	10/14/20 - 06/01/23	10	94	Most recent sample	0.0002	0.002	Standard	No Exceedance
G277	UA	E001	Molybdenum, total	mg/L	10/14/20 - 06/01/23	10	100	All ND - Last	0.001	0.1	Standard	No Exceedance
G277	UA	E001	pH (field)	SU	10/14/20 - 06/01/23	10	0	CI around mean	6.7/7.1	6.5/9.0	Standard/Standard	No Exceedance
G277	UA	E001	Radium 226 + Radium 228, total	pCi/L	06/01/23 - 06/01/23	1	0	Most recent sample	1.05	5	Standard	No Exceedance
G277	UA	E001	Selenium, total	mg/L	10/14/20 - 06/01/23	10	59	CI around median	0.001	0.05	Standard	No Exceedance
G277	UA	E001	Sulfate, total	mg/L	10/14/20 - 06/01/23	10	0	CI around mean	262	400	Standard	No Exceedance
G277	UA	E001	Thallium, total	mg/L	10/14/20 - 06/01/23	10	100	All ND - Last	0.001	0.002	Standard	No Exceedance
G277	UA	E001	Total Dissolved Solids	mg/L	10/14/20 - 06/01/23	10	0	CI around mean	889	1,200	Standard	No Exceedance
G279	UA	E001	Antimony, total	mg/L	11/24/15 - 06/01/23	23	100	All ND - Last	0.003	0.006	Standard	No Exceedance
G279	UA	E001	Arsenic, total	mg/L	11/24/15 - 06/01/23	26	79	CI around median	0.001	0.010	Standard	No Exceedance
G279	UA	E001	Barium, total	mg/L	11/24/15 - 06/01/23	26	0	CB around linear reg	0.0285	2.0	Standard	No Exceedance
G279	UA	E001	Beryllium, total	mg/L	11/24/15 - 06/01/23	23	100	All ND - Last	0.001	0.004	Standard	No Exceedance
G279	UA	E001	Boron, total	mg/L	11/24/15 - 06/01/23	27	21	CI around geomean	0.113	2	Standard	No Exceedance
G279	UA	E001	Cadmium, total	mg/L	11/24/15 - 06/01/23	23	100	All ND - Last	0.001	0.005	Standard	No Exceedance
G279	UA	E001	Chloride, total	mg/L	11/24/15 - 06/01/23	27	0	CI around median	61	200	Standard	No Exceedance
G279	UA	E001	Chromium, total	mg/L	11/24/15 - 06/01/23	25	89	CI around median	0.004	0.1	Standard	No Exceedance
G279	UA	E001	Cobalt, total	mg/L	11/24/15 - 06/01/23	25	86	CI around median	0.002	0.006	Standard	No Exceedance
G279	UA	E001	Fluoride, total	mg/L	11/24/15 - 06/01/23	27	8	CI around mean	0.337	4.0	Standard	No Exceedance
G279	UA	E001	Lead, total	mg/L	11/24/15 - 06/01/23	26	83	CI around median	0.001	0.0120	Background	No Exceedance
G279	UA	E001	Lithium, total	mg/L	11/24/15 - 06/01/23	26	77	CB around T-S line	0.0169	0.04	Standard	No Exceedance
G279	UA	E001	Mercury, total	mg/L	11/24/15 - 06/01/23	23	97	Most recent sample	0.0002	0.002	Standard	No Exceedance
G279	UA	E001	Molybdenum, total	mg/L	11/24/15 - 06/01/23	26	86	CI around median	0.001	0.1	Standard	No Exceedance
G279	UA	E001	pH (field)	SU	11/24/15 - 06/01/23	27	0	CB around linear reg	6.5/6.8	6.5/9.0	Standard/Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 2, 2023**  
845 QUARTERLY REPORT  
COFFEEN POWER PLANT  
GMF RECYCLE POND  
COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
G279	UA	E001	Radium 226 + Radium 228, total	pCi/L	11/24/15 - 06/01/23	26	0	CI around mean	0.654	5	Standard	No Exceedance
G279	UA	E001	Selenium, total	mg/L	11/24/15 - 06/01/23	26	21	CB around linear reg	-0.00349	0.05	Standard	No Exceedance
G279	UA	E001	Sulfate, total	mg/L	11/24/15 - 06/01/23	27	0	CI around geomean	368	400	Standard	No Exceedance
G279	UA	E001	Thallium, total	mg/L	11/24/15 - 06/01/23	24	100	All ND - Last	0.001	0.002	Standard	No Exceedance
G279	UA	E001	Total Dissolved Solids	mg/L	11/24/15 - 06/01/23	27	0	CI around geomean	1,080	1,200	Standard	No Exceedance
G283	LCU	E001	Antimony, total	mg/L	03/31/21 - 06/08/23	9	100	All ND - Last	0.003	0.006	Standard	No Exceedance
G283	LCU	E001	Arsenic, total	mg/L	03/31/21 - 06/08/23	9	44	CI around median	0.001	0.010	Standard	No Exceedance
G283	LCU	E001	Barium, total	mg/L	03/31/21 - 06/08/23	9	0	CI around median	0.16	2.0	Standard	No Exceedance
G283	LCU	E001	Beryllium, total	mg/L	03/31/21 - 06/08/23	9	100	All ND - Last	0.001	0.004	Standard	No Exceedance
G283	LCU	E001	Boron, total	mg/L	03/31/21 - 06/08/23	9	0	CI around mean	0.0349	2	Standard	No Exceedance
G283	LCU	E001	Cadmium, total	mg/L	03/31/21 - 06/08/23	9	100	All ND - Last	0.001	0.005	Standard	No Exceedance
G283	LCU	E001	Chloride, total	mg/L	03/31/21 - 06/08/23	9	0	CI around mean	36.9	200	Standard	No Exceedance
G283	LCU	E001	Chromium, total	mg/L	03/31/21 - 06/08/23	9	100	All ND - Last	0.004	0.1	Standard	No Exceedance
G283	LCU	E001	Cobalt, total	mg/L	03/31/21 - 06/08/23	9	100	All ND - Last	0.002	0.006	Standard	No Exceedance
G283	LCU	E001	Fluoride, total	mg/L	03/31/21 - 06/08/23	9	22	CI around mean	0.279	4.0	Standard	No Exceedance
G283	LCU	E001	Lead, total	mg/L	03/31/21 - 06/08/23	9	100	All ND - Last	0.001	0.0120	Background	No Exceedance
G283	LCU	E001	Lithium, total	mg/L	03/31/21 - 06/08/23	9	100	All ND - Last	0.02	0.04	Standard	No Exceedance
G283	LCU	E001	Mercury, total	mg/L	03/31/21 - 06/08/23	9	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
G283	LCU	E001	Molybdenum, total	mg/L	03/31/21 - 06/08/23	9	0	CI around geomean	0.00152	0.1	Standard	No Exceedance
G283	LCU	E001	pH (field)	SU	03/31/21 - 06/08/23	9	0	CI around mean	7.0/7.1	6.5/9.0	Standard/Standard	No Exceedance
G283	LCU	E001	Radium 226 + Radium 228, total	pCi/L	03/31/21 - 06/08/23	9	0	CI around mean	0.374	5	Standard	No Exceedance
G283	LCU	E001	Selenium, total	mg/L	03/31/21 - 06/08/23	9	100	All ND - Last	0.001	0.05	Standard	No Exceedance
G283	LCU	E001	Sulfate, total	mg/L	03/31/21 - 06/08/23	9	0	CI around mean	237	400	Standard	No Exceedance
G283	LCU	E001	Thallium, total	mg/L	03/31/21 - 06/08/23	9	100	All ND - Last	0.001	0.002	Standard	No Exceedance
G283	LCU	E001	Total Dissolved Solids	mg/L	03/31/21 - 06/08/23	9	0	CI around mean	768	1,200	Standard	No Exceedance
G284	UA	E001	Antimony, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.003	0.006	Standard	No Exceedance
G284	UA	E001	Arsenic, total	mg/L	03/30/21 - 06/08/23	9	89	Most recent sample	0.001	0.010	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 2, 2023**  
 845 QUARTERLY REPORT  
 COFFEEN POWER PLANT  
 GMF RECYCLE POND  
 COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
G284	UA	E001	Barium, total	mg/L	03/30/21 - 06/08/23	9	0	CI around mean	0.0624	2.0	Standard	No Exceedance
G284	UA	E001	Beryllium, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.001	0.004	Standard	No Exceedance
G284	UA	E001	Boron, total	mg/L	03/30/21 - 06/08/23	9	0	CI around mean	0.0392	2	Standard	No Exceedance
G284	UA	E001	Cadmium, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.001	0.005	Standard	No Exceedance
G284	UA	E001	Chloride, total	mg/L	03/30/21 - 06/08/23	9	0	CI around geomean	38.3	200	Standard	No Exceedance
G284	UA	E001	Chromium, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.004	0.1	Standard	No Exceedance
G284	UA	E001	Cobalt, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.002	0.006	Standard	No Exceedance
G284	UA	E001	Fluoride, total	mg/L	03/30/21 - 06/08/23	9	0	CI around mean	0.467	4.0	Standard	No Exceedance
G284	UA	E001	Lead, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.001	0.0120	Background	No Exceedance
G284	UA	E001	Lithium, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.02	0.04	Standard	No Exceedance
G284	UA	E001	Mercury, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
G284	UA	E001	Molybdenum, total	mg/L	03/30/21 - 06/08/23	9	44	CI around median	0.001	0.1	Standard	No Exceedance
G284	UA	E001	pH (field)	SU	03/30/21 - 06/08/23	9	0	CI around mean	7.1/7.3	6.5/9.0	Standard/Standard	No Exceedance
G284	UA	E001	Radium 226 + Radium 228, total	pCi/L	03/30/21 - 06/08/23	9	0	CI around geomean	0.0677	5	Standard	No Exceedance
G284	UA	E001	Selenium, total	mg/L	03/30/21 - 06/08/23	9	89	CI around median	0.001	0.05	Standard	No Exceedance
G284	UA	E001	Sulfate, total	mg/L	03/30/21 - 06/08/23	9	0	CI around geomean	60.9	400	Standard	No Exceedance
G284	UA	E001	Thallium, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.001	0.002	Standard	No Exceedance
G284	UA	E001	Total Dissolved Solids	mg/L	03/30/21 - 06/08/23	9	0	CI around mean	440	1,200	Standard	No Exceedance
G285	LCU	E001	Antimony, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.003	0.006	Standard	No Exceedance
G285	LCU	E001	Arsenic, total	mg/L	03/30/21 - 06/08/23	9	56	CI around median	0.001	0.010	Standard	No Exceedance
G285	LCU	E001	Barium, total	mg/L	03/30/21 - 06/08/23	9	0	CB around linear reg	0.0104	2.0	Standard	No Exceedance
G285	LCU	E001	Beryllium, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.001	0.004	Standard	No Exceedance
G285	LCU	E001	Boron, total	mg/L	03/30/21 - 06/08/23	9	0	CI around mean	0.107	2	Standard	No Exceedance
G285	LCU	E001	Cadmium, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.001	0.005	Standard	No Exceedance
G285	LCU	E001	Chloride, total	mg/L	03/30/21 - 06/08/23	9	0	CB around linear reg	-9.54	200	Standard	No Exceedance
G285	LCU	E001	Chromium, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.004	0.1	Standard	No Exceedance
G285	LCU	E001	Cobalt, total	mg/L	03/30/21 - 06/08/23	9	22	CB around linear reg	-0.000507	0.006	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 2, 2023**  
 845 QUARTERLY REPORT  
 COFFEEN POWER PLANT  
 GMF RECYCLE POND  
 COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
G285	LCU	E001	Fluoride, total	mg/L	03/30/21 - 06/08/23	9	33	CI around mean	0.263	4.0	Standard	No Exceedance
G285	LCU	E001	Lead, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.001	0.0120	Background	No Exceedance
G285	LCU	E001	Lithium, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.02	0.04	Standard	No Exceedance
G285	LCU	E001	Mercury, total	mg/L	03/30/21 - 06/08/23	9	89	CI around median	0.0002	0.002	Standard	No Exceedance
G285	LCU	E001	Molybdenum, total	mg/L	03/30/21 - 06/08/23	9	0	CB around linear reg	-0.000793	0.1	Standard	No Exceedance
G285	LCU	E001	pH (field)	SU	03/30/21 - 06/08/23	9	0	CI around median	6.8/6.9	6.5/9.0	Standard/Standard	No Exceedance
G285	LCU	E001	Radium 226 + Radium 228, total	pCi/L	03/30/21 - 06/08/23	9	0	CI around mean	1.18	5	Standard	No Exceedance
G285	LCU	E001	Selenium, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.001	0.05	Standard	No Exceedance
G285	LCU	E001	Sulfate, total	mg/L	03/30/21 - 06/08/23	9	0	CI around mean	535	400	Standard	Exceedance
G285	LCU	E001	Thallium, total	mg/L	03/30/21 - 06/08/23	9	89	CI around median	0.001	0.002	Standard	No Exceedance
G285	LCU	E001	Total Dissolved Solids	mg/L	03/30/21 - 06/08/23	9	0	CI around mean	1,430	1,200	Standard	Exceedance



**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 2, 2023**

845 QUARTERLY REPORT  
COFFEEN POWER PLANT  
GMF RECYCLE POND  
COFFEEN, IL

**Notes:**

Compliance Result:

No Exceedance: the statistical result did not exceed the GWPS.

Exceedance: The statistical result exceeded the GWPS.

HSU = hydrostratigraphic unit:

DA = Deep Aquifer

LCU = Lower Confining Unit

UA = Uppermost Aquifer

mg/L = milligrams per liter

ND = non-detect

pCi/L = picocuries per liter

SU = standard units

Sample Count = number of samples from Sampled Date Range used to calculate the Statistical Result

Statistical Calculation = method used to calculate the statistical result:

All ND - Last = All results were below the reporting limit, and the last determined reporting limit is shown

CB around T-S line = Confidence band around Thiel-Sen line

CB around linear reg = Confidence band around linear regression

CI around geomean = Confidence interval around the geometric mean

CI around mean = Confidence interval around the mean

CI around median = Confidence interval around the median

Most recent sample = Result for the most recently collected sample used due to insufficient data

Statistical Result = calculated in accordance with the Statistical Analysis Plan using constituent concentrations observed at each monitoring well during all sampling events within the specified date range

For pH, the values presented are the lower / upper limits

GWPS = Groundwater Protection Standard

GWPS Source:

Standard = standard specified in 35 I.A.C. § 845.600(a)(1)

Background = background concentration (see cover page for additional information)

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 3, 2023**  
845 QUARTERLY REPORT  
COFFEEN POWER PLANT  
GMF RECYCLE POND  
COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
G271	UA	E002	Antimony, total	mg/L	11/23/15 - 08/14/23	23	97	CI around median	0.003	0.006	Standard	No Exceedance
G271	UA	E002	Arsenic, total	mg/L	11/23/15 - 08/14/23	25	76	CI around median	0.001	0.010	Standard	No Exceedance
G271	UA	E002	Barium, total	mg/L	11/23/15 - 08/14/23	26	0	CB around T-S line	0.0154	2.0	Standard	No Exceedance
G271	UA	E002	Beryllium, total	mg/L	11/23/15 - 08/14/23	23	97	CI around median	0.001	0.004	Standard	No Exceedance
G271	UA	E002	Boron, total	mg/L	11/23/15 - 08/14/23	27	0	CI around geomean	0.68	2	Standard	No Exceedance
G271	UA	E002	Cadmium, total	mg/L	11/23/15 - 08/14/23	23	98	CI around median	0.001	0.005	Standard	No Exceedance
G271	UA	E002	Chloride, total	mg/L	11/23/15 - 08/14/23	27	0	CB around linear reg	44.6	200	Standard	No Exceedance
G271	UA	E002	Chromium, total	mg/L	11/23/15 - 08/14/23	25	84	CI around median	0.004	0.1	Standard	No Exceedance
G271	UA	E002	Cobalt, total	mg/L	11/23/15 - 08/14/23	25	86	CI around median	0.002	0.006	Standard	No Exceedance
G271	UA	E002	Fluoride, total	mg/L	11/23/15 - 08/14/23	27	8	CI around mean	0.326	4.0	Standard	No Exceedance
G271	UA	E002	Lead, total	mg/L	11/23/15 - 08/14/23	26	64	CI around median	0.001	0.0120	Background	No Exceedance
G271	UA	E002	Lithium, total	mg/L	11/23/15 - 08/14/23	21	100	All ND - Last	0.003	0.04	Standard	No Exceedance
G271	UA	E002	Mercury, total	mg/L	11/23/15 - 08/14/23	23	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
G271	UA	E002	Molybdenum, total	mg/L	11/23/15 - 08/14/23	26	68	CI around median	0.001	0.1	Standard	No Exceedance
G271	UA	E002	pH (field)	SU	11/23/15 - 08/14/23	29	0	CI around mean	7.1/7.3	6.5/9.0	Standard/Standard	No Exceedance
G271	UA	E002	Radium 226 + Radium 228, total	pCi/L	11/23/15 - 08/14/23	21	0	CI around geomean	0.361	5	Standard	No Exceedance
G271	UA	E002	Selenium, total	mg/L	11/23/15 - 08/14/23	25	5	CI around mean	0.00156	0.05	Standard	No Exceedance
G271	UA	E002	Sulfate, total	mg/L	11/23/15 - 08/14/23	27	0	CB around linear reg	190	400	Standard	No Exceedance
G271	UA	E002	Thallium, total	mg/L	11/23/15 - 08/14/23	24	97	CI around median	0.001	0.002	Standard	No Exceedance
G271	UA	E002	Total Dissolved Solids	mg/L	11/23/15 - 08/14/23	27	0	CI around mean	802	1,200	Standard	No Exceedance
G273	UA	E002	Antimony, total	mg/L	11/24/15 - 08/14/23	23	97	CI around median	0.003	0.006	Standard	No Exceedance
G273	UA	E002	Arsenic, total	mg/L	11/24/15 - 08/14/23	26	86	CI around median	0.001	0.010	Standard	No Exceedance
G273	UA	E002	Barium, total	mg/L	11/24/15 - 08/14/23	26	0	CI around median	0.029	2.0	Standard	No Exceedance
G273	UA	E002	Beryllium, total	mg/L	11/24/15 - 08/14/23	23	100	All ND - Last	0.001	0.004	Standard	No Exceedance
G273	UA	E002	Boron, total	mg/L	11/24/15 - 08/14/23	27	6	CB around T-S line	-0.0599	2	Standard	No Exceedance
G273	UA	E002	Cadmium, total	mg/L	11/24/15 - 08/14/23	23	98	CI around median	0.001	0.005	Standard	No Exceedance
G273	UA	E002	Chloride, total	mg/L	11/24/15 - 08/14/23	27	0	CB around T-S line	69.3	200	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 3, 2023**  
 845 QUARTERLY REPORT  
 COFFEEN POWER PLANT  
 GMF RECYCLE POND  
 COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
G273	UA	E002	Chromium, total	mg/L	11/24/15 - 08/14/23	25	100	All ND - Last	0.0015	0.1	Standard	No Exceedance
G273	UA	E002	Cobalt, total	mg/L	11/24/15 - 08/14/23	25	97	CI around median	0.002	0.006	Standard	No Exceedance
G273	UA	E002	Fluoride, total	mg/L	11/24/15 - 08/14/23	27	18	CI around mean	0.298	4.0	Standard	No Exceedance
G273	UA	E002	Lead, total	mg/L	11/24/15 - 08/14/23	26	90	CI around median	0.001	0.0120	Background	No Exceedance
G273	UA	E002	Lithium, total	mg/L	11/24/15 - 08/14/23	21	86	CB around T-S line	0.01	0.04	Standard	No Exceedance
G273	UA	E002	Mercury, total	mg/L	11/24/15 - 08/14/23	23	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
G273	UA	E002	Molybdenum, total	mg/L	11/24/15 - 08/14/23	26	89	CI around median	0.001	0.1	Standard	No Exceedance
G273	UA	E002	pH (field)	SU	11/24/15 - 08/14/23	29	0	CI around mean	7.0/7.2	6.5/9.0	Standard/Standard	No Exceedance
G273	UA	E002	Radium 226 + Radium 228, total	pCi/L	11/24/15 - 08/14/23	21	0	CB around linear reg	-0.445	5	Standard	No Exceedance
G273	UA	E002	Selenium, total	mg/L	11/24/15 - 08/14/23	26	95	CI around median	0.001	0.05	Standard	No Exceedance
G273	UA	E002	Sulfate, total	mg/L	11/24/15 - 08/14/23	27	0	CI around median	410	400	Standard	Exceedance
G273	UA	E002	Thallium, total	mg/L	11/24/15 - 08/14/23	24	94	CI around median	0.001	0.002	Standard	No Exceedance
G273	UA	E002	Total Dissolved Solids	mg/L	11/24/15 - 08/14/23	27	0	CB around linear reg	1,030	1,200	Standard	No Exceedance
G275D	DA	E002	Antimony, total	mg/L	03/30/21 - 08/14/23	7	100	All ND - Last	0.001	0.006	Standard	No Exceedance
G275D	DA	E002	Arsenic, total	mg/L	03/30/21 - 08/14/23	7	0	CI around mean	0.00218	0.010	Standard	No Exceedance
G275D	DA	E002	Barium, total	mg/L	03/30/21 - 08/14/23	7	0	CI around mean	0.303	2.0	Standard	No Exceedance
G275D	DA	E002	Beryllium, total	mg/L	03/30/21 - 08/14/23	7	100	All ND - Last	0.001	0.004	Standard	No Exceedance
G275D	DA	E002	Boron, total	mg/L	03/30/21 - 08/14/23	7	0	CI around mean	0.19	2	Standard	No Exceedance
G275D	DA	E002	Cadmium, total	mg/L	03/30/21 - 08/14/23	7	100	All ND - Last	0.001	0.005	Standard	No Exceedance
G275D	DA	E002	Chloride, total	mg/L	03/30/21 - 08/14/23	7	0	CI around mean	21.5	200	Standard	No Exceedance
G275D	DA	E002	Chromium, total	mg/L	03/30/21 - 08/14/23	7	86	CI around median	0.0015	0.1	Standard	No Exceedance
G275D	DA	E002	Cobalt, total	mg/L	03/30/21 - 08/14/23	7	57	CI around median	0.001	0.006	Standard	No Exceedance
G275D	DA	E002	Fluoride, total	mg/L	03/30/21 - 08/14/23	7	0	CI around mean	0.367	4.0	Standard	No Exceedance
G275D	DA	E002	Lead, total	mg/L	03/30/21 - 08/14/23	7	86	CI around median	0.001	0.0120	Background	No Exceedance
G275D	DA	E002	Lithium, total	mg/L	03/30/21 - 08/14/23	7	100	All ND - Last	0.003	0.04	Standard	No Exceedance
G275D	DA	E002	Mercury, total	mg/L	03/30/21 - 08/14/23	7	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
G275D	DA	E002	Molybdenum, total	mg/L	03/30/21 - 08/14/23	7	0	CI around mean	0.00562	0.1	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 3, 2023**  
 845 QUARTERLY REPORT  
 COFFEEN POWER PLANT  
 GMF RECYCLE POND  
 COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
G275D	DA	E002	pH (field)	SU	03/30/21 - 08/14/23	7	0	CI around mean	7.0/7.4	6.5/9.0	Standard/Standard	No Exceedance
G275D	DA	E002	Radium 226 + Radium 228, total	pCi/L	03/30/21 - 08/14/23	8	0	CI around mean	0.36	5	Standard	No Exceedance
G275D	DA	E002	Selenium, total	mg/L	03/30/21 - 08/14/23	7	100	All ND - Last	0.001	0.05	Standard	No Exceedance
G275D	DA	E002	Sulfate, total	mg/L	03/30/21 - 08/14/23	7	0	CI around mean	126	400	Standard	No Exceedance
G275D	DA	E002	Thallium, total	mg/L	03/30/21 - 08/14/23	7	100	All ND - Last	0.002	0.002	Standard	No Exceedance
G275D	DA	E002	Total Dissolved Solids	mg/L	03/30/21 - 08/14/23	7	0	CI around mean	925	1,200	Standard	No Exceedance
G276	UA	E002	Antimony, total	mg/L	11/24/15 - 08/14/23	23	97	CI around median	0.003	0.006	Standard	No Exceedance
G276	UA	E002	Arsenic, total	mg/L	11/24/15 - 08/14/23	26	86	Most recent sample	0.001	0.010	Standard	No Exceedance
G276	UA	E002	Barium, total	mg/L	11/24/15 - 08/14/23	26	0	CB around linear reg	0.0374	2.0	Standard	No Exceedance
G276	UA	E002	Beryllium, total	mg/L	11/24/15 - 08/14/23	23	94	Most recent sample	0.001	0.004	Standard	No Exceedance
G276	UA	E002	Boron, total	mg/L	11/24/15 - 08/14/23	27	12	CI around geomean	0.0165	2	Standard	No Exceedance
G276	UA	E002	Cadmium, total	mg/L	11/24/15 - 08/14/23	23	100	All ND - Last	0.001	0.005	Standard	No Exceedance
G276	UA	E002	Chloride, total	mg/L	11/24/15 - 08/14/23	27	0	CI around geomean	22.4	200	Standard	No Exceedance
G276	UA	E002	Chromium, total	mg/L	11/24/15 - 08/14/23	25	89	CI around median	0.004	0.1	Standard	No Exceedance
G276	UA	E002	Cobalt, total	mg/L	11/24/15 - 08/14/23	25	97	CI around median	0.002	0.006	Standard	No Exceedance
G276	UA	E002	Fluoride, total	mg/L	11/24/15 - 08/14/23	27	5	CI around median	0.345	4.0	Standard	No Exceedance
G276	UA	E002	Lead, total	mg/L	11/24/15 - 08/14/23	26	80	CI around median	0.001	0.0120	Background	No Exceedance
G276	UA	E002	Lithium, total	mg/L	11/24/15 - 08/14/23	21	48	CB around linear reg	0.0158	0.04	Standard	No Exceedance
G276	UA	E002	Mercury, total	mg/L	11/24/15 - 08/14/23	23	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
G276	UA	E002	Molybdenum, total	mg/L	11/24/15 - 08/14/23	26	82	CI around median	0.001	0.1	Standard	No Exceedance
G276	UA	E002	pH (field)	SU	11/24/15 - 08/14/23	28	0	CB around linear reg	6.8/7.0	6.5/9.0	Standard/Standard	No Exceedance
G276	UA	E002	Radium 226 + Radium 228, total	pCi/L	11/24/15 - 08/14/23	21	0	CI around geomean	0.324	5	Standard	No Exceedance
G276	UA	E002	Selenium, total	mg/L	11/24/15 - 08/14/23	26	33	CB around linear reg	0.000783	0.05	Standard	No Exceedance
G276	UA	E002	Sulfate, total	mg/L	11/24/15 - 08/14/23	27	0	CB around linear reg	255	400	Standard	No Exceedance
G276	UA	E002	Thallium, total	mg/L	11/24/15 - 08/14/23	24	100	All ND - Last	0.002	0.002	Standard	No Exceedance
G276	UA	E002	Total Dissolved Solids	mg/L	11/24/15 - 08/14/23	27	0	CB around T-S line	849	1,200	Standard	No Exceedance
G283	LCU	E002	Antimony, total	mg/L	03/31/21 - 08/15/23	10	100	All ND - Last	0.001	0.006	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 3, 2023**  
845 QUARTERLY REPORT  
COFFEEN POWER PLANT  
GMF RECYCLE POND  
COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
G283	LCU	E002	Arsenic, total	mg/L	03/31/21 - 08/15/23	10	50	CI around median	0.001	0.010	Standard	No Exceedance
G283	LCU	E002	Barium, total	mg/L	03/31/21 - 08/15/23	10	0	CI around median	0.16	2.0	Standard	No Exceedance
G283	LCU	E002	Beryllium, total	mg/L	03/31/21 - 08/15/23	10	100	All ND - Last	0.001	0.004	Standard	No Exceedance
G283	LCU	E002	Boron, total	mg/L	03/31/21 - 08/15/23	10	0	CI around mean	0.0367	2	Standard	No Exceedance
G283	LCU	E002	Cadmium, total	mg/L	03/31/21 - 08/15/23	10	100	All ND - Last	0.001	0.005	Standard	No Exceedance
G283	LCU	E002	Chloride, total	mg/L	03/31/21 - 08/15/23	10	0	CI around mean	37.2	200	Standard	No Exceedance
G283	LCU	E002	Chromium, total	mg/L	03/31/21 - 08/15/23	10	100	All ND - Last	0.0015	0.1	Standard	No Exceedance
G283	LCU	E002	Cobalt, total	mg/L	03/31/21 - 08/15/23	10	100	All ND - Last	0.001	0.006	Standard	No Exceedance
G283	LCU	E002	Fluoride, total	mg/L	03/31/21 - 08/15/23	10	20	CI around mean	0.29	4.0	Standard	No Exceedance
G283	LCU	E002	Lead, total	mg/L	03/31/21 - 08/15/23	10	100	All ND - Last	0.001	0.0120	Background	No Exceedance
G283	LCU	E002	Lithium, total	mg/L	03/31/21 - 08/15/23	10	90	CI around median	0.02	0.04	Standard	No Exceedance
G283	LCU	E002	Mercury, total	mg/L	03/31/21 - 08/15/23	10	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
G283	LCU	E002	Molybdenum, total	mg/L	03/31/21 - 08/15/23	10	0	CI around geomean	0.00155	0.1	Standard	No Exceedance
G283	LCU	E002	pH (field)	SU	03/31/21 - 08/15/23	10	0	CI around mean	7.0/7.1	6.5/9.0	Standard/Standard	No Exceedance
G283	LCU	E002	Radium 226 + Radium 228, total	pCi/L	03/31/21 - 08/15/23	10	0	CI around mean	0.42	5	Standard	No Exceedance
G283	LCU	E002	Selenium, total	mg/L	03/31/21 - 08/15/23	10	100	All ND - Last	0.001	0.05	Standard	No Exceedance
G283	LCU	E002	Sulfate, total	mg/L	03/31/21 - 08/15/23	10	0	CI around median	240	400	Standard	No Exceedance
G283	LCU	E002	Thallium, total	mg/L	03/31/21 - 08/15/23	10	100	All ND - Last	0.002	0.002	Standard	No Exceedance
G283	LCU	E002	Total Dissolved Solids	mg/L	03/31/21 - 08/15/23	10	0	CI around mean	776	1,200	Standard	No Exceedance
G284	UA	E002	Antimony, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.001	0.006	Standard	No Exceedance
G284	UA	E002	Arsenic, total	mg/L	03/30/21 - 08/15/23	10	90	Most recent sample	0.001	0.010	Standard	No Exceedance
G284	UA	E002	Barium, total	mg/L	03/30/21 - 08/15/23	10	0	CI around median	0.063	2.0	Standard	No Exceedance
G284	UA	E002	Beryllium, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.001	0.004	Standard	No Exceedance
G284	UA	E002	Boron, total	mg/L	03/30/21 - 08/15/23	10	0	CI around geomean	0.0385	2	Standard	No Exceedance
G284	UA	E002	Cadmium, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.001	0.005	Standard	No Exceedance
G284	UA	E002	Chloride, total	mg/L	03/30/21 - 08/15/23	10	0	CI around mean	36.1	200	Standard	No Exceedance
G284	UA	E002	Chromium, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.0015	0.1	Standard	No Exceedance

**TABLE 2.**  
**COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 3, 2023**  
845 QUARTERLY REPORT  
COFFEEN POWER PLANT  
GMF RECYCLE POND  
COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
G284	UA	E002	Cobalt, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.001	0.006	Standard	No Exceedance
G284	UA	E002	Fluoride, total	mg/L	03/30/21 - 08/15/23	10	0	CI around mean	0.485	4.0	Standard	No Exceedance
G284	UA	E002	Lead, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.001	0.0120	Background	No Exceedance
G284	UA	E002	Lithium, total	mg/L	03/30/21 - 08/15/23	10	90	CI around median	0.02	0.04	Standard	No Exceedance
G284	UA	E002	Mercury, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.0002	0.002	Standard	No Exceedance
G284	UA	E002	Molybdenum, total	mg/L	03/30/21 - 08/15/23	10	40	CI around median	0.001	0.1	Standard	No Exceedance
G284	UA	E002	pH (field)	SU	03/30/21 - 08/15/23	10	0	CI around mean	7.1/7.3	6.5/9.0	Standard/Standard	No Exceedance
G284	UA	E002	Radium 226 + Radium 228, total	pCi/L	03/30/21 - 08/15/23	10	0	CI around mean	0.062	5	Standard	No Exceedance
G284	UA	E002	Selenium, total	mg/L	03/30/21 - 08/15/23	10	80	CI around median	0.001	0.05	Standard	No Exceedance
G284	UA	E002	Sulfate, total	mg/L	03/30/21 - 08/15/23	10	0	CI around median	63	400	Standard	No Exceedance
G284	UA	E002	Thallium, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.002	0.002	Standard	No Exceedance
G284	UA	E002	Total Dissolved Solids	mg/L	03/30/21 - 08/15/23	10	0	CI around mean	438	1,200	Standard	No Exceedance
G285	LCU	E002	Antimony, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.001	0.006	Standard	No Exceedance
G285	LCU	E002	Arsenic, total	mg/L	03/30/21 - 08/15/23	10	60	CI around median	0.001	0.010	Standard	No Exceedance
G285	LCU	E002	Barium, total	mg/L	03/30/21 - 08/15/23	10	0	CB around linear reg	0.0209	2.0	Standard	No Exceedance
G285	LCU	E002	Beryllium, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.001	0.004	Standard	No Exceedance
G285	LCU	E002	Boron, total	mg/L	03/30/21 - 08/15/23	10	0	CI around mean	0.108	2	Standard	No Exceedance
G285	LCU	E002	Cadmium, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.001	0.005	Standard	No Exceedance
G285	LCU	E002	Chloride, total	mg/L	03/30/21 - 08/15/23	10	0	CB around linear reg	0.0349	200	Standard	No Exceedance
G285	LCU	E002	Chromium, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.0015	0.1	Standard	No Exceedance
G285	LCU	E002	Cobalt, total	mg/L	03/30/21 - 08/15/23	10	20	CI around mean	0.0023	0.006	Standard	No Exceedance
G285	LCU	E002	Fluoride, total	mg/L	03/30/21 - 08/15/23	10	30	CI around mean	0.269	4.0	Standard	No Exceedance
G285	LCU	E002	Lead, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.001	0.0120	Background	No Exceedance
G285	LCU	E002	Lithium, total	mg/L	03/30/21 - 08/15/23	10	90	CI around median	0.02	0.04	Standard	No Exceedance
G285	LCU	E002	Mercury, total	mg/L	03/30/21 - 08/15/23	10	90	CI around median	0.0002	0.002	Standard	No Exceedance
G285	LCU	E002	Molybdenum, total	mg/L	03/30/21 - 08/15/23	10	0	CB around linear reg	0.000348	0.1	Standard	No Exceedance
G285	LCU	E002	pH (field)	SU	03/30/21 - 08/15/23	10	0	CI around median	6.7/6.9	6.5/9.0	Standard/Standard	No Exceedance

**TABLE 2.  
COMPARISON OF STATISTICAL RESULTS TO GWPS - QUARTER 3, 2023**

845 QUARTERLY REPORT  
COFFEEN POWER PLANT  
GMF RECYCLE POND  
COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	GWPS	GWPS Source	Compliance Result
G285	LCU	E002	Radium 226 + Radium 228, total	pCi/L	03/30/21 - 08/15/23	10	0	CI around mean	1.31	5	Standard	No Exceedance
G285	LCU	E002	Selenium, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.001	0.05	Standard	No Exceedance
G285	LCU	E002	Sulfate, total	mg/L	03/30/21 - 08/15/23	10	0	CI around mean	541	400	Standard	Exceedance
G285	LCU	E002	Thallium, total	mg/L	03/30/21 - 08/15/23	10	90	CI around median	0.001	0.002	Standard	No Exceedance
G285	LCU	E002	Total Dissolved Solids	mg/L	03/30/21 - 08/15/23	10	0	CI around mean	1,450	1,200	Standard	Exceedance

**Notes:**

Compliance Result:

No Exceedance: the statistical result did not exceed the GWPS.

Exceedance: The statistical result exceeded the GWPS.

HSU = hydrostratigraphic unit:

DA = Deep Aquifer

LCU = Lower Confining Unit

UA = Uppermost Aquifer

mg/L = milligrams per liter

ND = non-detect

pCi/L = picocuries per liter

SU = standard units

Sample Count = number of samples from Sampled Date Range used to calculate the Statistical Result

Statistical Calculation = method used to calculate the statistical result:

All ND - Last = All results were below the reporting limit, and the last determined reporting limit is shown

CB around T-S line = Confidence band around Thiel-Sen line

CB around linear reg = Confidence band around linear regression

CI around geomean = Confidence interval around the geometric mean

CI around mean = Confidence interval around the mean

CI around median = Confidence interval around the median

Most recent sample = Result for the most recently collected sample used due to insufficient data

Statistical Result = calculated in accordance with the Statistical Analysis Plan using constituent concentrations observed at each monitoring well during all sampling events within the specified date range

For pH, the values presented are the lower / upper limits

GWPS = Groundwater Protection Standard

GWPS Source:

Standard = standard specified in 35 I.A.C. § 845.600(a)(1)

Background = background concentration (see cover page for additional information)

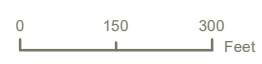
## FIGURES



PROJECT: 169000XXXX | DATED: 1/11/2023 | DESIGNER: galammc  
Y:\Mapping\Projects\222285\MXD\GMP\Coffeen\GMF\_RP\_10a\Figure 2-1\_Expanded Part 257 GW Monitoring Well Network.mxd



- COMPLIANCE MONITORING WELL
- BACKGROUND MONITORING WELL
- LEACHATE WELL
- STAFF GAGE, RIVER
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE
- LIMITS OF FINAL COVER
- PROPERTY BOUNDARY



### MONITORING WELL LOCATION MAP

2023 ANNUAL GROUNDWATER MONITORING AND  
CORRECTIVE ACTION REPORT  
GMF RECYCLE POND  
COFFEEN POWER PLANT  
COFFEEN, ILLINOIS

FIGURE 1

RAMBOLL AMERICAS  
ENGINEERING SOLUTIONS, INC.





Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

- TOTAL SULFATE EXCEEDANCE
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE
- LIMITS OF FINAL COVER
- PROPERTY BOUNDARY
- COMPLIANCE WELL WITHOUT EXCEEDANCE

**GWPS EXCEEDANCE MAP  
UPPERMOST AQUIFER  
QUARTERS 2-3, 2023**

**FIGURE 2**

2023 ANNUAL GROUNDWATER MONITORING  
AND CORRECTIVE ACTION REPORT  
GMF RECYCLE POND  
COFFEEN POWER PLANT  
COFFEEN, ILLINOIS

RAMBOLL AMERICAS  
ENGINEERING SOLUTIONS, INC.



0 275 550  
Feet



Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

- TOTAL SULFATE EXCEEDANCE
- TOTAL DISSOLVED SOLIDS EXCEEDANCE
- COMPLIANCE WELL WITHOUT EXCEEDANCE
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE
- LIMITS OF FINAL COVER
- PROPERTY BOUNDARY

**GWPS EXCEEDANCE MAP  
LOWER CONFINING UNIT  
QUARTERS 2-3, 2023**

**FIGURE 3**

0 275 550  
Feet

2023 ANNUAL GROUNDWATER MONITORING  
AND CORRECTIVE ACTION REPORT  
GMF RECYCLE POND  
COFFEEN POWER PLANT  
COFFEEN, ILLINOIS

RAMBOLL AMERICAS  
ENGINEERING SOLUTIONS, INC.





Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

- COMPLIANCE WELL WITHOUT EXCEEDANCE
- REGULATED UNIT (SUBJECT UNIT)
- ▭ SITE FEATURE
- ▨ LIMITS OF FINAL COVER
- ▤ PROPERTY BOUNDARY

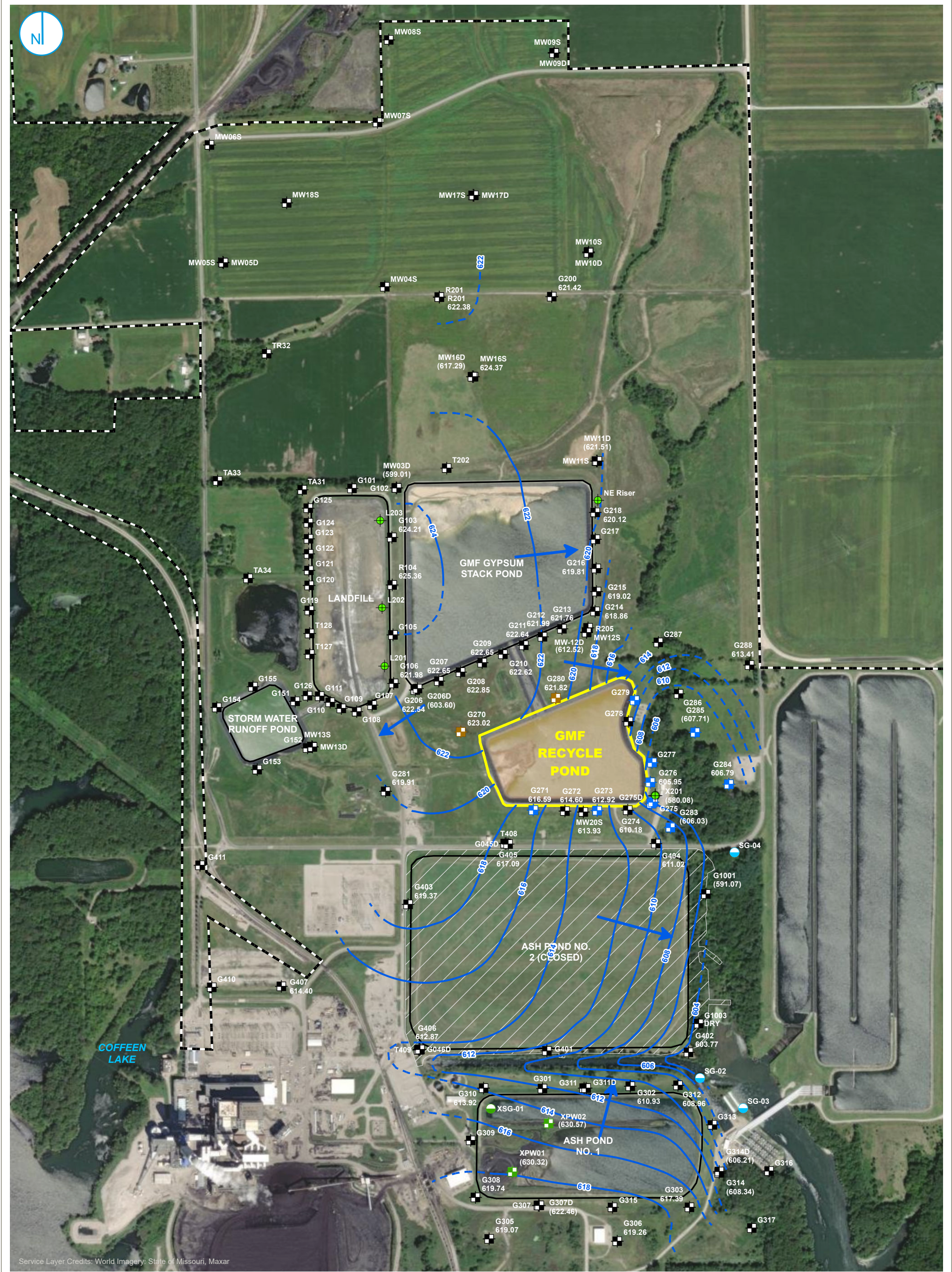
**GWPS EXCEEDANCE MAP  
DEEP AQUIFER  
QUARTERS 2-3, 2023**

**FIGURE 4**

**2023 ANNUAL GROUNDWATER MONITORING  
AND CORRECTIVE ACTION REPORT  
GMF RECYCLE POND  
COFFEEN POWER PLANT  
COFFEEN, ILLINOIS**

RAMBOLL AMERICAS  
ENGINEERING SOLUTIONS, INC.





Service Layer Credits: World Imagery, State of Missouri, Maxar

- COMPLIANCE MONITORING WELL
- BACKGROUND MONITORING WELL
- MONITORING WELL
- SOURCE SAMPLE LOCATION
- LEACHATE WELL
- STAFF GAGE; RIVER
- STAFF GAGE, CCR UNIT

- GROUNDWATER ELEVATION CONTOUR (2-FT CONTOUR INTERVAL, NAVD88)
- - - INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE
- PROPERTY BOUNDARY

**NOTES:**  
 1. ELEVATIONS IN PARENTHESES WERE NOT USED FOR CONTOURING.  
 2. ELEVATION CONTOURS SHOWN IN FEET, NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)



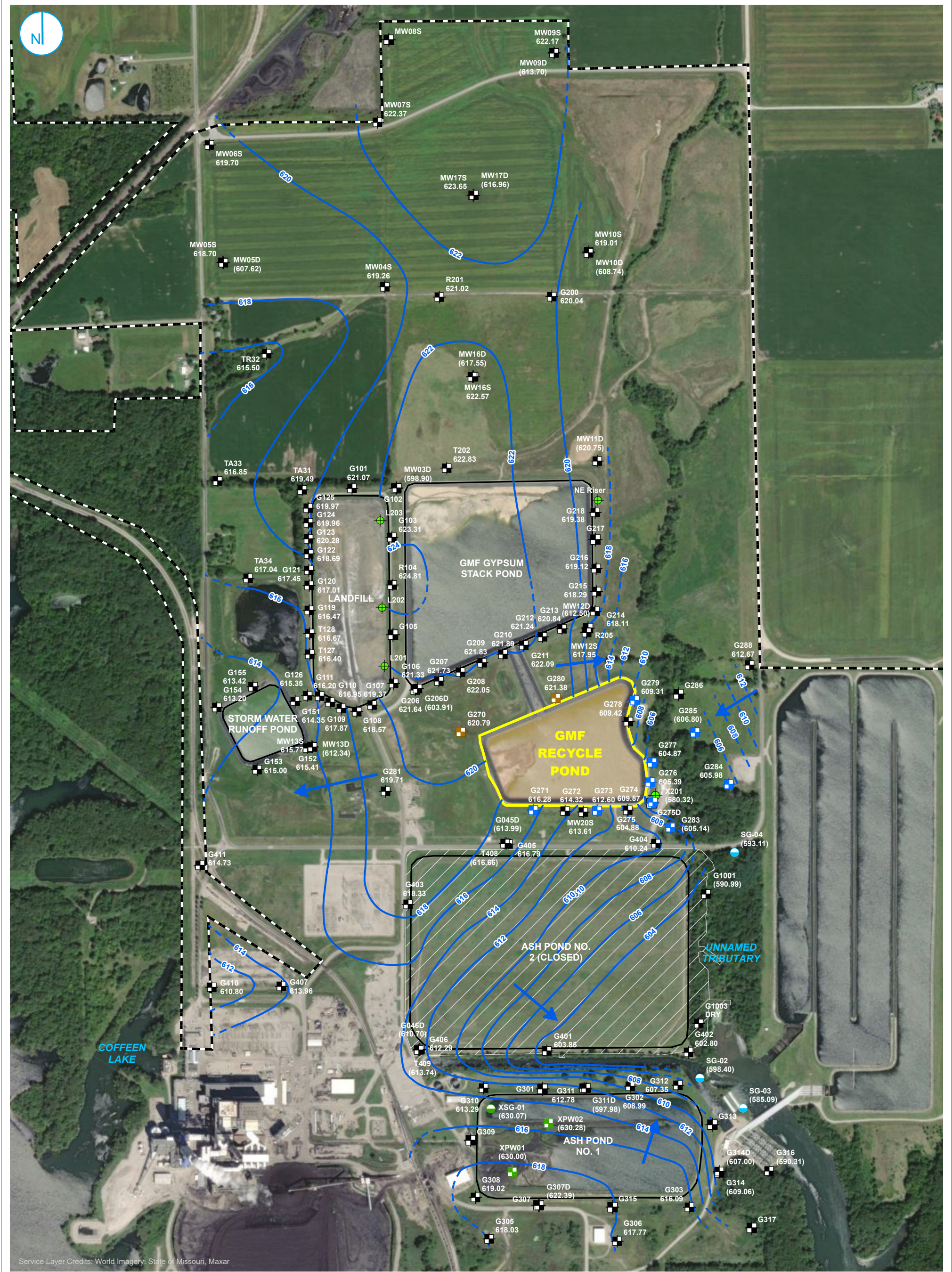
### POTENTIOMETRIC SURFACE MAP APRIL 30, 2023

**2023 ANNUAL GROUNDWATER MONITORING  
AND CORRECTIVE ACTION REPORT  
GMF RECYCLE POND  
COFFEEN POWER PLANT  
COFFEEN, ILLINOIS**

**FIGURE 5**

RAMBOLL AMERICAS  
ENGINEERING SOLUTIONS, INC.





Service Layer Credits: World Imagery, State of Missouri, Maxar

- COMPLIANCE MONITORING WELL
- BACKGROUND MONITORING WELL
- PORE WATER WELL
- ⊕ LEACHATE WELL
- MONITORING WELL
- STAFF GAGE, CCR UNIT
- STAFF GAGE, RIVER

- GROUNDWATER ELEVATION CONTOUR (2-FT CONTOUR INTERVAL, NAVD88)
- - - INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE
- LIMITS OF FINAL COVER
- PROPERTY BOUNDARY

**POTENTIOMETRIC SURFACE MAP  
MAY 30, 2023**

**FIGURE 6**

**2023 ANNUAL GROUNDWATER MONITORING  
AND CORRECTIVE ACTION REPORT  
GMF RECYCLE POND  
COFFEEN POWER PLANT  
COFFEEN, ILLINOIS**

RAMBOLL AMERICAS  
ENGINEERING SOLUTIONS, INC.



0 325 650  
Feet

**NOTES:**  
1. ELEVATIONS IN PARENTHESES WERE NOT USED FOR CONTOURING.  
2. ELEVATION CONTOURS SHOWN IN FEET, NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)





Service Layer Credits: World Imagery, State of Missouri, Maxar

- COMPLIANCE MONITORING WELL
- BACKGROUND MONITORING WELL
- PORE WATER WELL
- LEACHATE WELL
- MONITORING WELL
- STAFF GAGE, CCR UNIT
- STAFF GAGE, RIVER

- GROUNDWATER ELEVATION CONTOUR (2-FT CONTOUR INTERVAL, NAVD88)
- - - INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE
- LIMITS OF FINAL COVER
- PROPERTY BOUNDARY

**NOTES:**  
 1. ELEVATIONS IN PARENTHESES WERE NOT USED FOR CONTOURING.  
 2. ELEVATION CONTOURS SHOWN IN FEET, NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

0 325 650  
 Feet

**POTENTIOMETRIC SURFACE MAP  
 JULY 8, 2023**

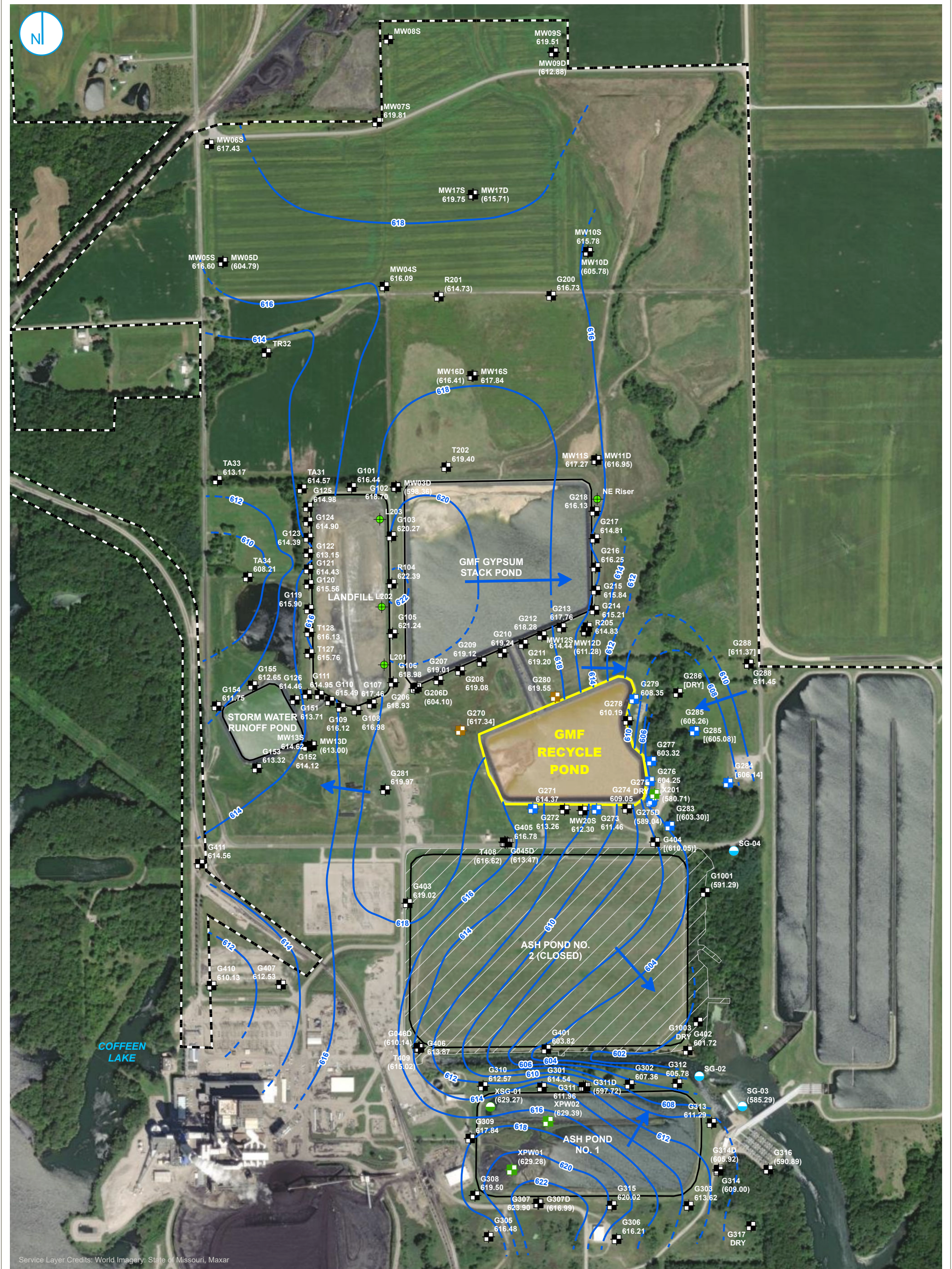
**2023 ANNUAL GROUNDWATER MONITORING  
 AND CORRECTIVE ACTION REPORT  
 GMF RECYCLE POND  
 COFFEEN POWER PLANT  
 COFFEEN, ILLINOIS**

**FIGURE 8**

RAMBOLL AMERICAS  
ENGINEERING SOLUTIONS, INC.







Service Layer Credits: World Imagery, State of Missouri, Maxar

- COMPLIANCE MONITORING WELL
- BACKGROUND WELL
- PORE WATER WELL
- LEACHATE WELL
- MONITORING WELL
- STAFF GAGE, CCR UNIT
- STAFF GAGE, RIVER

- GROUNDWATER ELEVATION CONTOUR (2-FT CONTOUR INTERVAL, NAVD88)
- - - INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE
- LIMITS OF FINAL COVER
- PROPERTY BOUNDARY

**NOTES:**

1. ELEVATIONS IN PARENTHESES WERE NOT USED FOR CONTOURING.
2. ELEVATIONS IN BRACKETS WERE OBTAINED OUTSIDE OF THE 24-HOUR PERIOD FROM INITIATION OF DEPTH TO GROUNDWATER MEASUREMENTS BUT WITHIN THE SAME SAMPLING EVENT.
3. ELEVATION CONTOURS SHOWN IN FEET, NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

**POTENTIOMETRIC SURFACE MAP  
AUGUST 8, 2023**

**2023 ANNUAL GROUNDWATER MONITORING  
AND CORRECTIVE ACTION REPORT  
GMF RECYCLE POND  
COFFEEN POWER PLANT  
COFFEEN, ILLINOIS**

**FIGURE 9**

RAMBOLL AMERICAS  
ENGINEERING SOLUTIONS, INC.





Service Layer Credits: World Imagery, State of Missouri, Maxar

- COMPLIANCE MONITORING WELL
- BACKGROUND MONITORING WELL
- MONITORING WELL
- PORE WATER WELL
- LEACHATE WELL
- STAFF GAGE, CCR UNIT
- STAFF GAGE, RIVER

- GROUNDWATER ELEVATION CONTOUR (2-FT CONTOUR INTERVAL, NAVD88)
- - - INFERRED GROUNDWATER ELEVATION CONTOUR
- ➔ GROUNDWATER FLOW DIRECTION
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE
- LIMITS OF FINAL COVER
- PROPERTY BOUNDARY

**NOTES:**  
 1. ELEVATIONS IN PARENTHESES WERE NOT USED FOR CONTOURING.  
 2. ELEVATION CONTOURS SHOWN IN FEET, NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

0 325 650  
 Feet

**POTENTIOMETRIC SURFACE MAP  
 SEPTEMBER 25, 2023**

**2023 ANNUAL GROUNDWATER MONITORING  
 AND CORRECTIVE ACTION REPORT  
 GMF RECYCLE POND  
 COFFEEN POWER PLANT  
 COFFEEN, ILLINOIS**

**FIGURE 10**

RAMBOLL AMERICAS  
 ENGINEERING SOLUTIONS, INC.





Service Layer Credits: World Imagery, State of Missouri, Maxar

- COMPLIANCE MONITORING WELL
- BACKGROUND WELL
- PORE WATER WELL
- LEACHATE WELL
- MONITORING WELL
- STAFF GAGE, CCR UNIT
- STAFF GAGE, RIVER

- GROUNDWATER ELEVATION CONTOUR (2-FT CONTOUR INTERVAL, NAVD88)
- - - INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE
- LIMITS OF FINAL COVER
- PROPERTY BOUNDARY

**NOTES:**  
 1. ELEVATIONS IN PARENTHESES WERE NOT USED FOR CONTOURING.  
 2. ELEVATION CONTOURS SHOWN IN FEET, NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

0 325 650  
 Feet

### POTENTIOMETRIC SURFACE MAP OCTOBER 24 AND 25, 2023

**2023 ANNUAL GROUNDWATER MONITORING  
 AND CORRECTIVE ACTION REPORT  
 GMF RECYCLE POND  
 COFFEEN POWER PLANT  
 COFFEEN, ILLINOIS**

**FIGURE 11**

RAMBOLL AMERICAS  
 ENGINEERING SOLUTIONS, INC.





Service Layer Credits: World Imagery, State of Missouri, Maxar

- COMPLIANCE MONITORING WELL
- BACKGROUND MONITORING WELL
- MONITORING WELL
- PORE WATER WELL
- LEACHATE WELL
- STAFF GAGE, CCR UNIT
- STAFF GAGE, RIVER

- GROUNDWATER ELEVATION CONTOUR (2-FT CONTOUR INTERVAL, NAVD88)
- - - INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE
- LIMITS OF FINAL COVER
- PROPERTY BOUNDARY

**NOTES:**  
 1. ELEVATIONS IN PARENTHESES WERE NOT USED FOR CONTOURING.  
 2. ELEVATION CONTOURS SHOWN IN FEET, NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

0 320 640 Feet

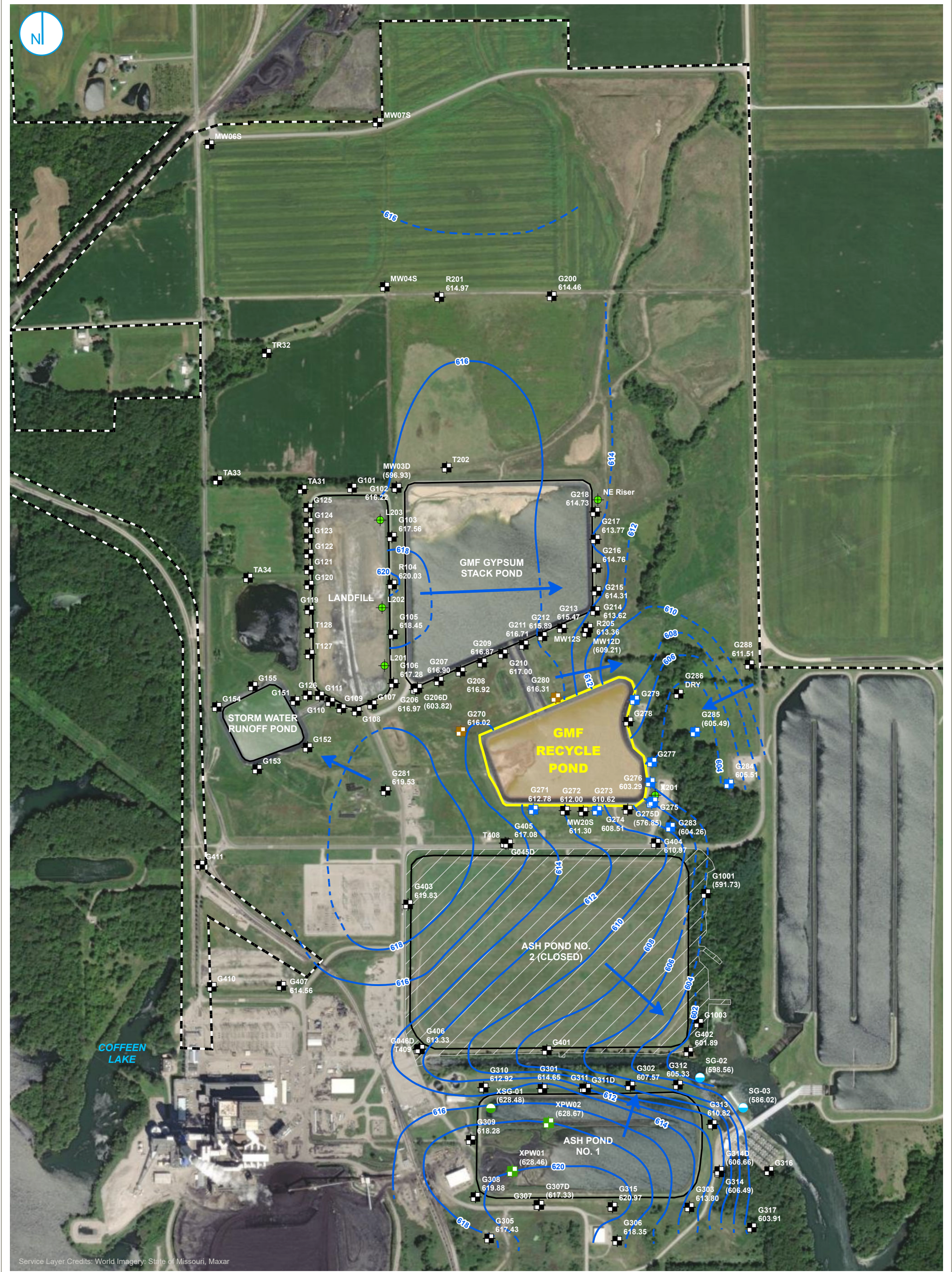
### POTENTIOMETRIC SURFACE MAP NOVEMBER 13, 2023

**2023 ANNUAL GROUNDWATER MONITORING  
AND CORRECTIVE ACTION REPORT  
GMF RECYCLE POND  
COFFEEN POWER PLANT  
COFFEEN, ILLINOIS**

**FIGURE 12**

RAMBOLL AMERICAS  
ENGINEERING SOLUTIONS, INC.





Service Layer Credits: World Imagery, State of Missouri, Maxar

- COMPLIANCE MONITORING WELL
- BACKGROUND MONITORING WELL
- MONITORING WELL
- PORE WATER WELL
- LEACHATE WELL
- STAFF GAGE, CCR UNIT
- STAFF GAGE, RIVER

- GROUNDWATER ELEVATION CONTOUR (2-FT CONTOUR INTERVAL, NAVD88)
- - - INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE
- LIMITS OF FINAL COVER
- PROPERTY BOUNDARY

**NOTES:**  
 1. ELEVATIONS IN PARENTHESES WERE NOT USED FOR CONTOURING.  
 2. ELEVATION CONTOURS SHOWN IN FEET, NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

0 325 650  
 Feet

**POTENTIOMETRIC SURFACE MAP  
 DECEMBER 18, 2023**

**2023 ANNUAL GROUNDWATER MONITORING  
 AND CORRECTIVE ACTION REPORT  
 GMF RECYCLE POND  
 COFFEEN POWER PLANT  
 COFFEEN, ILLINOIS**

**FIGURE 13**

RAMBOLL AMERICAS  
 ENGINEERING SOLUTIONS, INC.



## **ATTACHMENTS**

**ATTACHMENT A  
GROUNDWATER ELEVATION DATA**

**ATTACHMENT A  
GROUNDWATER ELEVATION DATA**

2023 35 I.A.C. § 845 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

COFFEEN POWER PLANT

GMF RECYCLE POND

COFFEEN, IL

Well ID	Well Type	Monitored Unit	Date	Depth to Groundwater (feet BMP)	Groundwater Elevation (feet NAVD88)
G270	Background	UA	04/30/2023	2.83	623.02
G270	Background	UA	05/30/2023	5.06	620.79
G270	Background	UA	08/14/2023	[8.52]	[617.34]
G270	Background	UA	10/25/2023	10.92	614.94
G270	Background	UA	11/13/2023	10.90	614.96
G270	Background	UA	12/18/2023	9.84	616.02
G271	Compliance	UA	04/30/2023	8.97	616.59
G271	Compliance	UA	05/30/2023	9.28	616.28
G271	Compliance	UA	06/08/2023	9.57	615.99
G271	Compliance	UA	07/08/2023	9.83	615.73
G271	Compliance	UA	08/08/2023	11.20	614.37
G271	Compliance	UA	09/25/2023	12.44	613.13
G271	Compliance	UA	10/25/2023	12.95	612.62
G271	Compliance	UA	11/13/2023	13.00	612.57
G271	Compliance	UA	12/18/2023	12.79	612.78
G273	Compliance	UA	04/30/2023	10.09	612.92
G273	Compliance	UA	05/30/2023	10.41	612.60
G273	Compliance	UA	08/08/2023	11.56	611.46
G273	Compliance	UA	09/25/2023	12.39	610.63
G273	Compliance	UA	10/25/2023	12.78	610.24
G273	Compliance	UA	11/13/2023	12.71	610.31
G273	Compliance	UA	12/18/2023	12.40	610.62
G275	Compliance	UA	05/30/2023	13.38	604.88
G275	Compliance	UA	08/08/2023	Dry	Dry
G275	Compliance	UA	11/13/2023	Dry	Dry
G275D	Compliance	DA	08/08/2023	31.27	589.04
G275D	Compliance	DA	09/25/2023	42.29	578.02
G275D	Compliance	DA	10/25/2023	39.74	580.57
G275D	Compliance	DA	12/18/2023	43.46	576.85
G276	Compliance	UA	04/30/2023	26.04	605.95
G276	Compliance	UA	05/30/2023	26.60	605.39
G276	Compliance	UA	06/08/2023	26.84	605.16
G276	Compliance	UA	07/08/2023	27.27	604.73
G276	Compliance	UA	08/08/2023	27.75	604.25
G276	Compliance	UA	10/25/2023	28.49	603.51
G276	Compliance	UA	11/13/2023	28.59	603.41
G276	Compliance	UA	12/18/2023	28.71	603.29
G277	Compliance	UA	05/30/2023	18.21	604.87
G277	Compliance	UA	08/08/2023	19.76	603.32
G277	Compliance	UA	11/13/2023	Dry	Dry
G279	Compliance	UA	05/30/2023	22.73	609.31
G279	Compliance	UA	08/08/2023	23.69	608.35
G279	Compliance	UA	10/25/2023	24.56	607.48
G279	Compliance	UA	11/13/2023	23.39	608.65
G280	Background	UA	04/30/2023	3.52	621.82
G280	Background	UA	05/30/2023	3.96	621.38



**ATTACHMENT A  
GROUNDWATER ELEVATION DATA**

2023 35 I.A.C. § 845 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT  
COFFEEN POWER PLANT  
GMF RECYCLE POND  
COFFEEN, IL

Well ID	Well Type	Monitored Unit	Date	Depth to Groundwater (feet BMP)	Groundwater Elevation (feet NAVD88)
G280	Background	UA	08/08/2023	5.80	619.55
G280	Background	UA	09/25/2023	7.42	617.92
G280	Background	UA	10/25/2023	8.56	616.79
G280	Background	UA	11/13/2023	8.91	616.44
G280	Background	UA	12/18/2023	9.04	616.31
G283	Compliance	LCU	04/30/2023	4.71	606.03
G283	Compliance	LCU	05/30/2023	5.60	605.14
G283	Compliance	LCU	08/14/2023	[7.45]	[603.30]
G283	Compliance	LCU	10/24/2023	7.79	602.96
G283	Compliance	LCU	11/13/2023	7.22	603.53
G283	Compliance	LCU	12/18/2023	6.49	604.26
G284	Compliance	UA	04/30/2023	11.62	606.79
G284	Compliance	UA	05/30/2023	12.43	605.98
G284	Compliance	UA	08/14/2023	[12.28]	[606.14]
G284	Compliance	UA	10/24/2023	Dry	Dry
G284	Compliance	UA	11/13/2023	Dry	Dry
G284	Compliance	UA	12/18/2023	12.91	605.51
G285	Compliance	LCU	04/30/2023	5.80	607.71
G285	Compliance	LCU	05/30/2023	6.71	606.80
G285	Compliance	LCU	07/08/2023	8.14	605.37
G285	Compliance	LCU	08/08/2023	8.25	605.26
G285	Compliance	LCU	09/25/2023	8.47	605.05
G285	Compliance	LCU	10/24/2023	8.96	604.56
G285	Compliance	LCU	11/13/2023	9.38	604.14
G285	Compliance	LCU	12/18/2023	8.03	605.49
X201	Water Level	S	04/30/2023	38.38	580.08
X201	Water Level	S	05/30/2023	38.15	580.32
X201	Water Level	S	08/08/2023	37.76	580.71
X201	Water Level	S	11/13/2023	34.00	584.47
SG-04	Water Level	SW	05/30/2023	6.41	593.11

**Notes:**

Due to malfunctioning pressure transducer, data gaps exist in monthly water level elevations prior to the fourth quarter. Monthly depth to water measurements were collected manually in the fourth quarter.

BMP = below measuring point

Bracketing [ ] indicates that the measurement was obtained outside of the episodic depth to groundwater measurements time frame.

NAVD88 = North American Vertical Datum of 1988

Monitored Unit Abbreviations:

DA = deep aquifer

LCU = lower confining unit

S = source water

SW = surface water

UA = uppermost aquifer

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**ATTACHMENT B  
CORRECTIVE MEASURES ASSESSMENT EXTENSION  
REQUEST AND IEPA APPROVAL LETTER**



Illinois Power Generating Company - IPGC  
134 CIPS Lane  
Coffeen, IL 62017

January 15, 2024

Illinois Environmental Protection Agency  
1021 North Grand Avenue East  
P.O. Box 19276  
Springfield, IL 62794-9276

**Re: Coffeen GMF Recycle Pond (IEPA ID No.: W1350150004-04), Corrective Measures Assessment  
Schedule Extension Demonstration**

Dear Mr. LeCrone:

In accordance with 35 I.A.C. § 845.660(a)(2), Illinois Power Generating Company (IPGC) is submitting a schedule extension demonstration for completing the Corrective Measures Assessment (CMA) for the GMF Recycle Pond (IEPA ID No.: W1350150004-04) at the Coffeen Power Plant, as enclosed.

Sincerely,

A handwritten signature in blue ink that reads "Dianna Tickner".

Dianna Tickner, P.E., PMP  
Senior Director, Decommissioning & Demolition

Enclosures

## **INTRODUCTION AND BACKGROUND**

Exceedances of the groundwater protection standards (GWPS) listed in the Title 35 of the Illinois Administrative Code (35 I.A.C.) §845.600 have been detected at the Gypsum Management Facility (GMF) Recycle Pond (GMF RP, Illinois Environmental Protection Agency [IEPA] Identification [ID] Number [No.]: W1350150004-04) at the Coffeen Power Plant (CPP). The GPWS exceedances are documented in the Quarter 2, 2023 groundwater monitoring report that was prepared by Ramboll Americas Engineering Solutions, Inc. (Ramboll) and submitted to IEPA on October 16, 2023 [1].

In accordance with 35 I.A.C. § 845.660, Illinois Power Generating Company (IPGC) initiated a Corrective Measures Assessment (CMA) on January 14, 2024, which was within 90 days of the exceedance detection. Upon reviewing site-specific conditions, circumstances, and information gathered to-date, IPGC has determined, in accordance with 35 I.A.C. § 845.660(a)(2), that an additional 60 days will be required to complete the CMA. This extension of the CMA deadline would result in the CMA for the GMF RP being submitted to IEPA on or before June 12, 2024.

## **DEMONSTRATION**

As discussed below, there are three site-specific conditions or circumstances at the GMF RP that justify the need for a 60-day extension of the default CMA deadline.

### **Circumstance 1: Additional Sampling and Laboratory Analysis**

The reliability of monitored natural attenuation (MNA) to attain groundwater protection standards (GWPS) is currently under evaluation for the GMF RP. IPGC is in the process of performing additional groundwater sampling and performing laboratory testing of MNA-relevant parameters. The results of this sampling and analytical testing will be utilized to evaluate the reliability, including the potential for reversibility, of MNA relative to other types of corrective measures.

### **Circumstance 2: Consideration of CMA Development for Other Coal Combustion Residuals (CCR) Surface Impoundments (SIs) at the CPP**

A total of four CCR SIs are present at the CPP. Exceedances of the GWPS were identified at the same time for all four of the SIs [1], [2], [3], [4]. This will require CMAs to be initiated for all four SIs by the same date and submitted to IEPA by the same date. The other SIs at the CPP include:

- Ash Pond No. 1 (AP1), IEPA ID No. W0578010001-01;
- Ash Pond No. 2 (AP2), IEPA ID No. W0578010001-02; and
- GMF Gypsum Stack Pond (GMF GSP), IEPA ID No. W0578010004-03.

Additional time will be required to prepare four CMAs simultaneously under the same initiation and submittal schedules. Furthermore, the SIs are in close proximity to each other (*e.g.*, within 300 to 500 feet), resulting in additional time being required to evaluate corrective action alternatives that can be implemented for each SI while avoiding negative impacts to corrective action that may be implemented for the other SIs present at the CPP.

### **Circumstance 3: Potential Constraints due to Proposed SI Closures**

The evaluation of the performance and reliability of corrective measures for the GMF RP will be complicated by physical challenges and constraints around effectively implementing corrective measures at the site. These challenges, which are related to proposed closures for three SIs at CPP, include, but are not limited to:

- Closure of the GMF RP, in accordance with the closure plan and construction permit application submitted to IEPA on July 28, 2022 [5], will be an ongoing construction project that may affect the implementation of corrective action.
  - The GMF RP will be closed by removal of CCR. This will include removing approximately 46 million gallons of water from the GMF RP, dewatering the CCR, excavating approximately 51,000 cubic yards of CCR and placing it within the onsite Coffeen Landfill, removing the existing geomembrane liner system, and modifying the post-closure land surface to promote stormwater drainage.
  - These activities will be completed over a period of 1 to 1.5 years.
- Closures for the GMF RP [6], GMF GSP [5], and AP1 [7] are expected to be completed at the same time, resulting in three closure construction projects occurring simultaneously at the CPP.

These factors will require additional effort to evaluate the physical location and dimensions of any proposed corrective action which limits impacts to the three proposed closure construction projects.

## **REFERENCES**

- [1] Ramboll Americas Engineering Solutions, Inc., "35 I.A.C. § 845.610(B)(3)(D) Groundwater Monitoring Data and Detected Exceedances, Quarter 2, 2023, GMF Recycle Pond, Coffeen Power Plant," October 16, 2023.
- [2] Ramboll Americas Engineering Solutions, Inc., "35 I.A.C. § 845.610(B)(3)(D) Groundwater Monitoring Data and Detected Exceedances, Quarter 2, 2023, GMF Gypsum Stack Pond, Coffeen Power Plant," October 16, 2023.
- [3] Ramboll Americas Engineering Solutions, Inc., "35 I.A.C. § 845.610(B)(3)(D) Groundwater Monitoring Data and Detected Exceedances, Quarter 2, 2023, Ash Pond No. 1, Coffeen Power Plant," October 16, 2023.
- [4] Ramboll Americas Engineering Solutions, Inc., "35 IAC § 845.610(B)(3)(D) Groundwater Monitoring Data and Detected Exceedances, Quarter 2, 2023, Ash Pond No. 2, Coffeen Power Plant," October 16, 2023.
- [5] WSP Golder, "Part 845 Construction Permit Application for the Gypsum Management Facility Recycle Pond, Coffeen Power Plant," July 28, 2022.
- [6] WSP Golder, "Part 845 Construction Permit Application for the Gypsum Management Facility Gypsum Stack Pond, Coffeen Power Plant," July 28, 2022.
- [7] WSP Golder, "Part 845 Construction Permit Application for Ash Pond No. 1, Coffeen Power Plant," July 28, 2022.

Corrective Measures Assessment Schedule Extension Request; 35 I.A.C. § 845.660(a)(2)  
Illinois Power Generating Company - IPGC; Coffeen Power Plant  
GMF Recycle Pond; IEPA ID: W1350150001-04


**CERTIFICATION STATEMENT**

CCR Unit: Illinois Power Generating Company - IPGC, LLC; Coffeen Power Plant, GMF RP  
IEPA ID No.: W1350150004-04

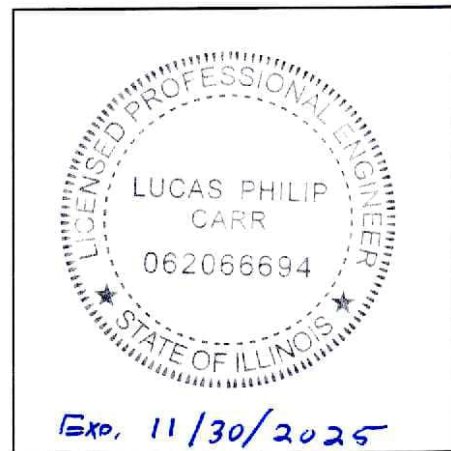
I, Lucas P. Carr, being a Registered Professional Engineer in good standing with the state of Illinois, do hereby certify, to the best of my knowledge, information, and belief that the information contained in this certification has been prepared in accordance with the accepted practice of engineering. I certify, for the above referenced CCR unit, that the 60-day extension demonstration for the Corrective Measures Assessment has been prepared in accordance with 35 I.A.C. § 845.600(a)(2) and is accurate.



Lucas P. Carr, P.E.  
Senior Managing Consultant



Date





# ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397

JB PRITZKER, GOVERNOR

JOHN J. KIM, DIRECTOR

217-782-1020

January 17, 2024

Dianna Tickner  
Electric Energy, Inc.  
1500 Eastport Plaza Drive  
Collinsville, Illinois 62234

Re: Coffeen Power Plant Ash Pond No.1, Ash Pond No. 2, GMF Gypsum Stack Pond, and  
GMF Recycle Pond; W1350150004-01, W1350150004-02, W1350150004-03,  
W1350150004-04  
Corrective Measures Assessment Schedule Extension Request

Dear Mrs. Tickner:

The purpose of this correspondence is to notify you that the Illinois Environmental Protection Agency (Illinois EPA) approves of the extension requests submitted on January 15, 2024, for completing the Corrective Measures Assessment (CMA).

If you have any questions, please contact: **Heather Mullenax** Illinois EPA, Bureau of Water, Groundwater Section DPWS #13, P.O. Box 19276, Springfield, Illinois 62794-9276. If you have any questions concerning the investigation described above, please call 217-782-1020.

Sincerely,

Darin E. LeCrone, P.E.  
Manager, Permit Section  
Division of Water Pollution Control  
Illinois Environmental Protection Agency

Cc: Heather Mullenax  
Keegan MacDonna  
Phil Morris  
Records Files 06M - W1350150004

## **ATTACHMENT C COMPARISON OF STATISTICAL RESULTS TO BACKGROUND**

- **ATTACHMENT C FROM THE QUARTER 2, 2023  
GROUNDWATER MONITORING DATA AND DETECTED  
EXCEEDANCES REPORT (RAMBOLL, 2023a)**
- **ATTACHMENT C FROM THE QUARTER 3, 2023  
GROUNDWATER MONITORING DATA AND DETECTED  
EXCEEDANCES REPORT (RAMBOLL, 2023b)**



**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 2, 2023**

845 QUARTERLY REPORT  
 COFFEEN POWER PLANT  
 GMF RECYCLE POND  
 COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
G271	UA	E001	Antimony, total	mg/L	11/23/15 - 06/06/23	22	100	All ND - Last	0.003	0.003
G271	UA	E001	Arsenic, total	mg/L	11/23/15 - 06/06/23	24	76	CI around median	0.001	0.00660
G271	UA	E001	Barium, total	mg/L	11/23/15 - 06/06/23	25	0	CB around T-S line	0.0146	0.110
G271	UA	E001	Beryllium, total	mg/L	11/23/15 - 06/06/23	22	97	CI around median	0.001	0.001
G271	UA	E001	Boron, total	mg/L	11/23/15 - 06/06/23	26	0	CI around geomean	0.683	1.00
G271	UA	E001	Cadmium, total	mg/L	11/23/15 - 06/06/23	22	98	CI around median	0.001	0.001
G271	UA	E001	Chloride, total	mg/L	11/23/15 - 06/06/23	26	0	CB around linear reg	47	67.0
G271	UA	E001	Chromium, total	mg/L	11/23/15 - 06/06/23	24	83	CI around median	0.004	0.0190
G271	UA	E001	Cobalt, total	mg/L	11/23/15 - 06/06/23	24	86	CI around median	0.002	0.00590
G271	UA	E001	Fluoride, total	mg/L	11/23/15 - 06/06/23	26	8	CI around mean	0.32	0.564
G271	UA	E001	Lead, total	mg/L	11/23/15 - 06/06/23	25	63	CI around median	0.001	0.0120
G271	UA	E001	Lithium, total	mg/L	11/23/15 - 06/06/23	20	100	All ND - Last	0.02	0.0190
G271	UA	E001	Mercury, total	mg/L	11/23/15 - 06/06/23	22	100	All ND - Last	0.0002	0.0002
G271	UA	E001	Molybdenum, total	mg/L	11/23/15 - 06/06/23	25	67	CI around median	0.001	0.00450
G271	UA	E001	pH (field)	SU	11/23/15 - 06/06/23	28	0	CI around mean	7.1/7.3	6.6/7.6
G271	UA	E001	Radium 226 + Radium 228, total	pCi/L	11/23/15 - 06/06/23	20	0	CI around geomean	0.352	1.60
G271	UA	E001	Selenium, total	mg/L	11/23/15 - 06/06/23	24	6	CI around mean	0.0016	0.00480
G271	UA	E001	Sulfate, total	mg/L	11/23/15 - 06/06/23	26	0	CB around linear reg	205	94.0
G271	UA	E001	Thallium, total	mg/L	11/23/15 - 06/06/23	23	97	CI around median	0.001	0.001
G271	UA	E001	Total Dissolved Solids	mg/L	11/23/15 - 06/06/23	26	0	CI around mean	816	551
G273	UA	E001	Antimony, total	mg/L	11/24/15 - 06/05/23	22	100	All ND - Last	0.003	0.003
G273	UA	E001	Arsenic, total	mg/L	11/24/15 - 06/05/23	25	86	CI around median	0.001	0.00660
G273	UA	E001	Barium, total	mg/L	11/24/15 - 06/05/23	25	0	CI around median	0.028	0.110
G273	UA	E001	Beryllium, total	mg/L	11/24/15 - 06/05/23	22	100	All ND - Last	0.001	0.001
G273	UA	E001	Boron, total	mg/L	11/24/15 - 06/05/23	26	6	CB around T-S line	-0.0843	1.00
G273	UA	E001	Cadmium, total	mg/L	11/24/15 - 06/05/23	22	98	CI around median	0.001	0.001
G273	UA	E001	Chloride, total	mg/L	11/24/15 - 06/05/23	26	0	CB around T-S line	69.9	67.0

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 2, 2023**  
845 QUARTERLY REPORT  
COFFEEN POWER PLANT  
GMF RECYCLE POND  
COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
G273	UA	E001	Chromium, total	mg/L	11/24/15 - 06/05/23	24	100	All ND - Last	0.004	0.0190
G273	UA	E001	Cobalt, total	mg/L	11/24/15 - 06/05/23	24	97	CI around median	0.002	0.00590
G273	UA	E001	Fluoride, total	mg/L	11/24/15 - 06/05/23	26	18	CI around mean	0.296	0.564
G273	UA	E001	Lead, total	mg/L	11/24/15 - 06/05/23	25	90	CI around median	0.001	0.0120
G273	UA	E001	Lithium, total	mg/L	11/24/15 - 06/05/23	20	90	CB around T-S line	0.01	0.0190
G273	UA	E001	Mercury, total	mg/L	11/24/15 - 06/05/23	22	100	All ND - Last	0.0002	0.0002
G273	UA	E001	Molybdenum, total	mg/L	11/24/15 - 06/05/23	25	89	CI around median	0.001	0.00450
G273	UA	E001	pH (field)	SU	11/24/15 - 06/05/23	28	0	CI around mean	7.0/7.2	6.6/7.6
G273	UA	E001	Radium 226 + Radium 228, total	pCi/L	11/24/15 - 06/05/23	20	0	CB around linear reg	-0.541	1.60
G273	UA	E001	Selenium, total	mg/L	11/24/15 - 06/05/23	25	95	CI around median	0.001	0.00480
G273	UA	E001	Sulfate, total	mg/L	11/24/15 - 06/05/23	26	0	CI around median	410	94.0
G273	UA	E001	Thallium, total	mg/L	11/24/15 - 06/05/23	23	94	CI around median	0.001	0.001
G273	UA	E001	Total Dissolved Solids	mg/L	11/24/15 - 06/05/23	26	0	CB around linear reg	1,010	551
G275	UA	E001	Antimony, total	mg/L	10/14/20 - 06/08/23	9	100	All ND - Last	0.003	0.003
G275	UA	E001	Arsenic, total	mg/L	10/14/20 - 06/08/23	9	55	CI around median	0.001	0.00660
G275	UA	E001	Barium, total	mg/L	10/14/20 - 06/08/23	9	0	CI around median	0.024	0.110
G275	UA	E001	Beryllium, total	mg/L	10/14/20 - 06/08/23	9	100	All ND - Last	0.001	0.001
G275	UA	E001	Boron, total	mg/L	10/14/20 - 06/08/23	9	0	CI around mean	1.29	1.00
G275	UA	E001	Cadmium, total	mg/L	10/14/20 - 06/08/23	9	100	All ND - Last	0.001	0.001
G275	UA	E001	Chloride, total	mg/L	10/14/20 - 06/08/23	9	0	CI around mean	18.1	67.0
G275	UA	E001	Chromium, total	mg/L	10/14/20 - 06/08/23	9	94	Most recent sample	0.004	0.0190
G275	UA	E001	Cobalt, total	mg/L	10/14/20 - 06/08/23	9	100	All ND - Last	0.002	0.00590
G275	UA	E001	Fluoride, total	mg/L	10/14/20 - 06/08/23	9	11	CI around mean	0.251	0.564
G275	UA	E001	Lead, total	mg/L	10/14/20 - 06/08/23	9	58	Most recent sample	0.001	0.0120
G275	UA	E001	Lithium, total	mg/L	06/08/23 - 06/08/23	1	100	Most recent sample	0.02	0.0190
G275	UA	E001	Mercury, total	mg/L	10/14/20 - 06/08/23	9	100	All ND - Last	0.0002	0.0002
G275	UA	E001	Molybdenum, total	mg/L	10/14/20 - 06/08/23	9	90	Most recent sample	0.001	0.00450

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 2, 2023**  
845 QUARTERLY REPORT  
COFFEEN POWER PLANT  
GMF RECYCLE POND  
COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
G275	UA	E001	pH (field)	SU	10/14/20 - 06/08/23	9	0	CI around mean	6.9/7.1	6.6/7.6
G275	UA	E001	Radium 226 + Radium 228, total	pCi/L	06/08/23 - 06/08/23	1	0	Most recent sample	0.0751	1.60
G275	UA	E001	Selenium, total	mg/L	10/14/20 - 06/08/23	9	83	Most recent sample	0.001	0.00480
G275	UA	E001	Sulfate, total	mg/L	10/14/20 - 06/08/23	9	0	CB around linear reg	216	94.0
G275	UA	E001	Thallium, total	mg/L	10/14/20 - 06/08/23	9	100	All ND - Last	0.001	0.001
G275	UA	E001	Total Dissolved Solids	mg/L	10/14/20 - 06/08/23	9	0	CI around mean	914	551
G275D	DA	E001	Antimony, total	mg/L	03/30/21 - 06/08/23	6	100	All ND - Last	0.003	0.003
G275D	DA	E001	Arsenic, total	mg/L	03/30/21 - 06/08/23	6	0	CI around mean	0.00205	0.00660
G275D	DA	E001	Barium, total	mg/L	03/30/21 - 06/08/23	6	0	CI around mean	0.292	0.110
G275D	DA	E001	Beryllium, total	mg/L	03/30/21 - 06/08/23	6	100	All ND - Last	0.001	0.001
G275D	DA	E001	Boron, total	mg/L	03/30/21 - 06/08/23	6	0	CI around mean	0.212	1.00
G275D	DA	E001	Cadmium, total	mg/L	03/30/21 - 06/08/23	6	100	All ND - Last	0.001	0.001
G275D	DA	E001	Chloride, total	mg/L	03/30/21 - 06/08/23	6	0	CI around mean	23.5	67.0
G275D	DA	E001	Chromium, total	mg/L	03/30/21 - 06/08/23	6	83	CI around median (Last Sample, n<7)	0.004	0.0190
G275D	DA	E001	Cobalt, total	mg/L	03/30/21 - 06/08/23	6	50	CI around mean	0.00138	0.00590
G275D	DA	E001	Fluoride, total	mg/L	03/30/21 - 06/08/23	6	0	CI around mean	0.35	0.564
G275D	DA	E001	Lead, total	mg/L	03/30/21 - 06/08/23	6	83	CI around median (Last Sample, n<7)	0.001	0.0120
G275D	DA	E001	Lithium, total	mg/L	03/30/21 - 06/08/23	6	100	All ND - Last	0.02	0.0190
G275D	DA	E001	Mercury, total	mg/L	03/30/21 - 06/08/23	6	100	All ND - Last	0.0002	0.0002
G275D	DA	E001	Molybdenum, total	mg/L	03/30/21 - 06/08/23	6	0	CI around mean	0.00904	0.00450
G275D	DA	E001	pH (field)	SU	03/30/21 - 06/08/23	6	0	CI around mean	7.0/7.3	6.6/7.6
G275D	DA	E001	Radium 226 + Radium 228, total	pCi/L	03/30/21 - 06/08/23	7	0	CI around mean	0.245	1.60
G275D	DA	E001	Selenium, total	mg/L	03/30/21 - 06/08/23	6	100	All ND - Last	0.001	0.00480
G275D	DA	E001	Sulfate, total	mg/L	03/30/21 - 06/08/23	6	0	CI around mean	135	94.0
G275D	DA	E001	Thallium, total	mg/L	03/30/21 - 06/08/23	6	100	All ND - Last	0.001	0.001
G275D	DA	E001	Total Dissolved Solids	mg/L	03/30/21 - 06/08/23	6	0	CI around mean	905	551
G276	UA	E001	Antimony, total	mg/L	11/24/15 - 06/05/23	22	100	All ND - Last	0.003	0.003

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 2, 2023**  
845 QUARTERLY REPORT  
COFFEEN POWER PLANT  
GMF RECYCLE POND  
COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
G276	UA	E001	Arsenic, total	mg/L	11/24/15 - 06/05/23	25	85	Most recent sample	0.001	0.00660
G276	UA	E001	Barium, total	mg/L	11/24/15 - 06/05/23	25	0	CB around linear reg	0.0373	0.110
G276	UA	E001	Beryllium, total	mg/L	11/24/15 - 06/05/23	22	94	Most recent sample	0.001	0.001
G276	UA	E001	Boron, total	mg/L	11/24/15 - 06/05/23	26	10	CI around geomean	0.0168	1.00
G276	UA	E001	Cadmium, total	mg/L	11/24/15 - 06/05/23	22	100	All ND - Last	0.001	0.001
G276	UA	E001	Chloride, total	mg/L	11/24/15 - 06/05/23	26	0	CI around mean	22.3	67.0
G276	UA	E001	Chromium, total	mg/L	11/24/15 - 06/05/23	24	91	Most recent sample	0.004	0.0190
G276	UA	E001	Cobalt, total	mg/L	11/24/15 - 06/05/23	24	97	Most recent sample	0.002	0.00590
G276	UA	E001	Fluoride, total	mg/L	11/24/15 - 06/05/23	26	6	CI around median	0.345	0.564
G276	UA	E001	Lead, total	mg/L	11/24/15 - 06/05/23	25	79	CI around median	0.001	0.0120
G276	UA	E001	Lithium, total	mg/L	11/24/15 - 06/05/23	20	50	CB around linear reg	0.0185	0.0190
G276	UA	E001	Mercury, total	mg/L	11/24/15 - 06/05/23	22	100	All ND - Last	0.0002	0.0002
G276	UA	E001	Molybdenum, total	mg/L	11/24/15 - 06/05/23	25	81	CI around median	0.001	0.00450
G276	UA	E001	pH (field)	SU	11/24/15 - 06/05/23	27	0	CB around linear reg	6.7/7.0	6.6/7.6
G276	UA	E001	Radium 226 + Radium 228, total	pCi/L	11/24/15 - 06/05/23	20	0	CI around geomean	0.305	1.60
G276	UA	E001	Selenium, total	mg/L	11/24/15 - 06/05/23	25	31	CB around linear reg	0.000805	0.00480
G276	UA	E001	Sulfate, total	mg/L	11/24/15 - 06/05/23	26	0	CB around linear reg	256	94.0
G276	UA	E001	Thallium, total	mg/L	11/24/15 - 06/05/23	23	100	All ND - Last	0.001	0.001
G276	UA	E001	Total Dissolved Solids	mg/L	11/24/15 - 06/05/23	26	0	CB around T-S line	820	551
G277	UA	E001	Antimony, total	mg/L	10/14/20 - 06/01/23	10	100	All ND - Last	0.003	0.003
G277	UA	E001	Arsenic, total	mg/L	10/14/20 - 06/01/23	10	57	CI around median	0.001	0.00660
G277	UA	E001	Barium, total	mg/L	10/14/20 - 06/01/23	10	0	CI around mean	0.08	0.110
G277	UA	E001	Beryllium, total	mg/L	10/14/20 - 06/01/23	10	88	Most recent sample	0.001	0.001
G277	UA	E001	Boron, total	mg/L	10/14/20 - 06/01/23	10	14	CB around linear reg	0.111	1.00
G277	UA	E001	Cadmium, total	mg/L	10/14/20 - 06/01/23	10	100	All ND - Last	0.001	0.001
G277	UA	E001	Chloride, total	mg/L	10/14/20 - 06/01/23	10	0	CI around mean	58.1	67.0
G277	UA	E001	Chromium, total	mg/L	10/14/20 - 06/01/23	10	59	CI around median	0.004	0.0190

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 2, 2023**  
845 QUARTERLY REPORT  
COFFEEN POWER PLANT  
GMF RECYCLE POND  
COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
G277	UA	E001	Cobalt, total	mg/L	10/14/20 - 06/01/23	10	76	Most recent sample	0.002	0.00590
G277	UA	E001	Fluoride, total	mg/L	10/14/20 - 06/01/23	10	12	CI around median	0.125	0.564
G277	UA	E001	Lead, total	mg/L	10/14/20 - 06/01/23	10	54	CI around median	0.001	0.0120
G277	UA	E001	Lithium, total	mg/L	06/01/23 - 06/01/23	1	100	Most recent sample	0.02	0.0190
G277	UA	E001	Mercury, total	mg/L	10/14/20 - 06/01/23	10	94	Most recent sample	0.0002	0.0002
G277	UA	E001	Molybdenum, total	mg/L	10/14/20 - 06/01/23	10	100	All ND - Last	0.001	0.00450
G277	UA	E001	pH (field)	SU	10/14/20 - 06/01/23	10	0	CI around mean	6.7/7.1	6.6/7.6
G277	UA	E001	Radium 226 + Radium 228, total	pCi/L	06/01/23 - 06/01/23	1	0	Most recent sample	1.05	1.60
G277	UA	E001	Selenium, total	mg/L	10/14/20 - 06/01/23	10	59	CI around median	0.001	0.00480
G277	UA	E001	Sulfate, total	mg/L	10/14/20 - 06/01/23	10	0	CI around mean	262	94.0
G277	UA	E001	Thallium, total	mg/L	10/14/20 - 06/01/23	10	100	All ND - Last	0.001	0.001
G277	UA	E001	Total Dissolved Solids	mg/L	10/14/20 - 06/01/23	10	0	CI around mean	889	551
G279	UA	E001	Antimony, total	mg/L	11/24/15 - 06/01/23	23	100	All ND - Last	0.003	0.003
G279	UA	E001	Arsenic, total	mg/L	11/24/15 - 06/01/23	26	79	CI around median	0.001	0.00660
G279	UA	E001	Barium, total	mg/L	11/24/15 - 06/01/23	26	0	CB around linear reg	0.0285	0.110
G279	UA	E001	Beryllium, total	mg/L	11/24/15 - 06/01/23	23	100	All ND - Last	0.001	0.001
G279	UA	E001	Boron, total	mg/L	11/24/15 - 06/01/23	27	21	CI around geomean	0.113	1.00
G279	UA	E001	Cadmium, total	mg/L	11/24/15 - 06/01/23	23	100	All ND - Last	0.001	0.001
G279	UA	E001	Chloride, total	mg/L	11/24/15 - 06/01/23	27	0	CI around median	61	67.0
G279	UA	E001	Chromium, total	mg/L	11/24/15 - 06/01/23	25	89	CI around median	0.004	0.0190
G279	UA	E001	Cobalt, total	mg/L	11/24/15 - 06/01/23	25	86	CI around median	0.002	0.00590
G279	UA	E001	Fluoride, total	mg/L	11/24/15 - 06/01/23	27	8	CI around mean	0.337	0.564
G279	UA	E001	Lead, total	mg/L	11/24/15 - 06/01/23	26	83	CI around median	0.001	0.0120
G279	UA	E001	Lithium, total	mg/L	11/24/15 - 06/01/23	26	77	CB around T-S line	0.0169	0.0190
G279	UA	E001	Mercury, total	mg/L	11/24/15 - 06/01/23	23	97	Most recent sample	0.0002	0.0002
G279	UA	E001	Molybdenum, total	mg/L	11/24/15 - 06/01/23	26	86	CI around median	0.001	0.00450
G279	UA	E001	pH (field)	SU	11/24/15 - 06/01/23	27	0	CB around linear reg	6.5/6.8	6.6/7.6

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 2, 2023**  
845 QUARTERLY REPORT  
COFFEEN POWER PLANT  
GMF RECYCLE POND  
COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
G279	UA	E001	Radium 226 + Radium 228, total	pCi/L	11/24/15 - 06/01/23	26	0	CI around mean	0.654	1.60
G279	UA	E001	Selenium, total	mg/L	11/24/15 - 06/01/23	26	21	CB around linear reg	-0.00349	0.00480
G279	UA	E001	Sulfate, total	mg/L	11/24/15 - 06/01/23	27	0	CI around geomean	368	94.0
G279	UA	E001	Thallium, total	mg/L	11/24/15 - 06/01/23	24	100	All ND - Last	0.001	0.001
G279	UA	E001	Total Dissolved Solids	mg/L	11/24/15 - 06/01/23	27	0	CI around geomean	1,080	551
G283	LCU	E001	Antimony, total	mg/L	03/31/21 - 06/08/23	9	100	All ND - Last	0.003	0.003
G283	LCU	E001	Arsenic, total	mg/L	03/31/21 - 06/08/23	9	44	CI around median	0.001	0.00660
G283	LCU	E001	Barium, total	mg/L	03/31/21 - 06/08/23	9	0	CI around median	0.16	0.110
G283	LCU	E001	Beryllium, total	mg/L	03/31/21 - 06/08/23	9	100	All ND - Last	0.001	0.001
G283	LCU	E001	Boron, total	mg/L	03/31/21 - 06/08/23	9	0	CI around mean	0.0349	1.00
G283	LCU	E001	Cadmium, total	mg/L	03/31/21 - 06/08/23	9	100	All ND - Last	0.001	0.001
G283	LCU	E001	Chloride, total	mg/L	03/31/21 - 06/08/23	9	0	CI around mean	36.9	67.0
G283	LCU	E001	Chromium, total	mg/L	03/31/21 - 06/08/23	9	100	All ND - Last	0.004	0.0190
G283	LCU	E001	Cobalt, total	mg/L	03/31/21 - 06/08/23	9	100	All ND - Last	0.002	0.00590
G283	LCU	E001	Fluoride, total	mg/L	03/31/21 - 06/08/23	9	22	CI around mean	0.279	0.564
G283	LCU	E001	Lead, total	mg/L	03/31/21 - 06/08/23	9	100	All ND - Last	0.001	0.0120
G283	LCU	E001	Lithium, total	mg/L	03/31/21 - 06/08/23	9	100	All ND - Last	0.02	0.0190
G283	LCU	E001	Mercury, total	mg/L	03/31/21 - 06/08/23	9	100	All ND - Last	0.0002	0.0002
G283	LCU	E001	Molybdenum, total	mg/L	03/31/21 - 06/08/23	9	0	CI around geomean	0.00152	0.00450
G283	LCU	E001	pH (field)	SU	03/31/21 - 06/08/23	9	0	CI around mean	7.0/7.1	6.6/7.6
G283	LCU	E001	Radium 226 + Radium 228, total	pCi/L	03/31/21 - 06/08/23	9	0	CI around mean	0.374	1.60
G283	LCU	E001	Selenium, total	mg/L	03/31/21 - 06/08/23	9	100	All ND - Last	0.001	0.00480
G283	LCU	E001	Sulfate, total	mg/L	03/31/21 - 06/08/23	9	0	CI around mean	237	94.0
G283	LCU	E001	Thallium, total	mg/L	03/31/21 - 06/08/23	9	100	All ND - Last	0.001	0.001
G283	LCU	E001	Total Dissolved Solids	mg/L	03/31/21 - 06/08/23	9	0	CI around mean	768	551
G284	UA	E001	Antimony, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.003	0.003
G284	UA	E001	Arsenic, total	mg/L	03/30/21 - 06/08/23	9	89	Most recent sample	0.001	0.00660

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 2, 2023**  
845 QUARTERLY REPORT  
COFFEEN POWER PLANT  
GMF RECYCLE POND  
COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
G284	UA	E001	Barium, total	mg/L	03/30/21 - 06/08/23	9	0	CI around mean	0.0624	0.110
G284	UA	E001	Beryllium, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.001	0.001
G284	UA	E001	Boron, total	mg/L	03/30/21 - 06/08/23	9	0	CI around mean	0.0392	1.00
G284	UA	E001	Cadmium, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.001	0.001
G284	UA	E001	Chloride, total	mg/L	03/30/21 - 06/08/23	9	0	CI around geomean	38.3	67.0
G284	UA	E001	Chromium, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.004	0.0190
G284	UA	E001	Cobalt, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.002	0.00590
G284	UA	E001	Fluoride, total	mg/L	03/30/21 - 06/08/23	9	0	CI around mean	0.467	0.564
G284	UA	E001	Lead, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.001	0.0120
G284	UA	E001	Lithium, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.02	0.0190
G284	UA	E001	Mercury, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.0002	0.0002
G284	UA	E001	Molybdenum, total	mg/L	03/30/21 - 06/08/23	9	44	CI around median	0.001	0.00450
G284	UA	E001	pH (field)	SU	03/30/21 - 06/08/23	9	0	CI around mean	7.1/7.3	6.6/7.6
G284	UA	E001	Radium 226 + Radium 228, total	pCi/L	03/30/21 - 06/08/23	9	0	CI around geomean	0.0677	1.60
G284	UA	E001	Selenium, total	mg/L	03/30/21 - 06/08/23	9	89	CI around median	0.001	0.00480
G284	UA	E001	Sulfate, total	mg/L	03/30/21 - 06/08/23	9	0	CI around geomean	60.9	94.0
G284	UA	E001	Thallium, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.001	0.001
G284	UA	E001	Total Dissolved Solids	mg/L	03/30/21 - 06/08/23	9	0	CI around mean	440	551
G285	LCU	E001	Antimony, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.003	0.003
G285	LCU	E001	Arsenic, total	mg/L	03/30/21 - 06/08/23	9	56	CI around median	0.001	0.00660
G285	LCU	E001	Barium, total	mg/L	03/30/21 - 06/08/23	9	0	CB around linear reg	0.0104	0.110
G285	LCU	E001	Beryllium, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.001	0.001
G285	LCU	E001	Boron, total	mg/L	03/30/21 - 06/08/23	9	0	CI around mean	0.107	1.00
G285	LCU	E001	Cadmium, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.001	0.001
G285	LCU	E001	Chloride, total	mg/L	03/30/21 - 06/08/23	9	0	CB around linear reg	-9.54	67.0
G285	LCU	E001	Chromium, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.004	0.0190
G285	LCU	E001	Cobalt, total	mg/L	03/30/21 - 06/08/23	9	22	CB around linear reg	-0.000507	0.00590

**ATTACHMENT C.  
COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 2, 2023**

845 QUARTERLY REPORT  
COFFEEN POWER PLANT  
GMF RECYCLE POND  
COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
G285	LCU	E001	Fluoride, total	mg/L	03/30/21 - 06/08/23	9	33	CI around mean	0.263	0.564
G285	LCU	E001	Lead, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.001	0.0120
G285	LCU	E001	Lithium, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.02	0.0190
G285	LCU	E001	Mercury, total	mg/L	03/30/21 - 06/08/23	9	89	CI around median	0.0002	0.0002
G285	LCU	E001	Molybdenum, total	mg/L	03/30/21 - 06/08/23	9	0	CB around linear reg	-0.000793	0.00450
G285	LCU	E001	pH (field)	SU	03/30/21 - 06/08/23	9	0	CI around median	6.8/6.9	6.6/7.6
G285	LCU	E001	Radium 226 + Radium 228, total	pCi/L	03/30/21 - 06/08/23	9	0	CI around mean	1.18	1.60
G285	LCU	E001	Selenium, total	mg/L	03/30/21 - 06/08/23	9	100	All ND - Last	0.001	0.00480
G285	LCU	E001	Sulfate, total	mg/L	03/30/21 - 06/08/23	9	0	CI around mean	535	94.0
G285	LCU	E001	Thallium, total	mg/L	03/30/21 - 06/08/23	9	89	CI around median	0.001	0.001
G285	LCU	E001	Total Dissolved Solids	mg/L	03/30/21 - 06/08/23	9	0	CI around mean	1,430	551

**Notes:**

Lower Confidence Limit (LCL) or Upper Confidence Limit (UCL) exceeded the statistical background value

HSU = hydrostratigraphic unit:

DA = Deep Aquifer

LCU = Lower Confining Unit

UA = Uppermost Aquifer

mg/L = milligrams per liter

ND = non-detect

pCi/L = picocuries per liter

SU = standard units

Sample Count = number of samples from Sampled Date Range used to calculate the Statistical Result

Statistical Calculation = method used to calculate the statistical result:

All ND - Last = All results were below the reporting limit, and the last determined reporting limit is shown

CB around T-S line = Confidence band around Thiel-Sen line

CB around linear reg = Confidence band around linear regression

CI around geomean = Confidence interval around the geometric mean

CI around mean = Confidence interval around the mean

CI around median = Confidence interval around the median

Most recent sample = Result for the most recently collected sample used due to insufficient data

Statistical Result = calculated in accordance with the Statistical Analysis Plan using constituent concentrations observed at each monitoring well during all sampling events within the specified date range

For pH, the values presented are the lower / upper limits of the background determination



**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 3, 2023**  
845 QUARTERLY REPORT  
COFFEEN POWER PLANT  
GMF RECYCLE POND  
COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
G271	UA	E002	Antimony, total	mg/L	11/23/15 - 08/14/23	23	97	CI around median	0.003	0.003
G271	UA	E002	Arsenic, total	mg/L	11/23/15 - 08/14/23	25	76	CI around median	0.001	0.00660
G271	UA	E002	Barium, total	mg/L	11/23/15 - 08/14/23	26	0	CB around T-S line	0.0154	0.110
G271	UA	E002	Beryllium, total	mg/L	11/23/15 - 08/14/23	23	97	CI around median	0.001	0.001
G271	UA	E002	Boron, total	mg/L	11/23/15 - 08/14/23	27	0	CI around geomean	0.68	1.00
G271	UA	E002	Cadmium, total	mg/L	11/23/15 - 08/14/23	23	98	CI around median	0.001	0.001
G271	UA	E002	Chloride, total	mg/L	11/23/15 - 08/14/23	27	0	CB around linear reg	44.6	67.0
G271	UA	E002	Chromium, total	mg/L	11/23/15 - 08/14/23	25	84	CI around median	0.004	0.0190
G271	UA	E002	Cobalt, total	mg/L	11/23/15 - 08/14/23	25	86	CI around median	0.002	0.00590
G271	UA	E002	Fluoride, total	mg/L	11/23/15 - 08/14/23	27	8	CI around mean	0.326	0.564
G271	UA	E002	Lead, total	mg/L	11/23/15 - 08/14/23	26	64	CI around median	0.001	0.0120
G271	UA	E002	Lithium, total	mg/L	11/23/15 - 08/14/23	21	100	All ND - Last	0.003	0.0190
G271	UA	E002	Mercury, total	mg/L	11/23/15 - 08/14/23	23	100	All ND - Last	0.0002	0.0002
G271	UA	E002	Molybdenum, total	mg/L	11/23/15 - 08/14/23	26	68	CI around median	0.001	0.00450
G271	UA	E002	pH (field)	SU	11/23/15 - 08/14/23	29	0	CI around mean	7.1/7.3	6.6/7.6
G271	UA	E002	Radium 226 + Radium 228, total	pCi/L	11/23/15 - 08/14/23	21	0	CI around geomean	0.361	1.60
G271	UA	E002	Selenium, total	mg/L	11/23/15 - 08/14/23	25	5	CI around mean	0.00156	0.00480
G271	UA	E002	Sulfate, total	mg/L	11/23/15 - 08/14/23	27	0	CB around linear reg	190	94.0
G271	UA	E002	Thallium, total	mg/L	11/23/15 - 08/14/23	24	97	CI around median	0.001	0.001
G271	UA	E002	Total Dissolved Solids	mg/L	11/23/15 - 08/14/23	27	0	CI around mean	802	551
G273	UA	E002	Antimony, total	mg/L	11/24/15 - 08/14/23	23	97	CI around median	0.003	0.003
G273	UA	E002	Arsenic, total	mg/L	11/24/15 - 08/14/23	26	86	CI around median	0.001	0.00660
G273	UA	E002	Barium, total	mg/L	11/24/15 - 08/14/23	26	0	CI around median	0.029	0.110
G273	UA	E002	Beryllium, total	mg/L	11/24/15 - 08/14/23	23	100	All ND - Last	0.001	0.001
G273	UA	E002	Boron, total	mg/L	11/24/15 - 08/14/23	27	6	CB around T-S line	-0.0599	1.00
G273	UA	E002	Cadmium, total	mg/L	11/24/15 - 08/14/23	23	98	CI around median	0.001	0.001
G273	UA	E002	Chloride, total	mg/L	11/24/15 - 08/14/23	27	0	CB around T-S line	69.3	67.0

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 3, 2023**  
845 QUARTERLY REPORT  
COFFEEN POWER PLANT  
GMF RECYCLE POND  
COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
G273	UA	E002	Chromium, total	mg/L	11/24/15 - 08/14/23	25	100	All ND - Last	0.0015	0.0190
G273	UA	E002	Cobalt, total	mg/L	11/24/15 - 08/14/23	25	97	CI around median	0.002	0.00590
G273	UA	E002	Fluoride, total	mg/L	11/24/15 - 08/14/23	27	18	CI around mean	0.298	0.564
G273	UA	E002	Lead, total	mg/L	11/24/15 - 08/14/23	26	90	CI around median	0.001	0.0120
G273	UA	E002	Lithium, total	mg/L	11/24/15 - 08/14/23	21	86	CB around T-S line	0.01	0.0190
G273	UA	E002	Mercury, total	mg/L	11/24/15 - 08/14/23	23	100	All ND - Last	0.0002	0.0002
G273	UA	E002	Molybdenum, total	mg/L	11/24/15 - 08/14/23	26	89	CI around median	0.001	0.00450
G273	UA	E002	pH (field)	SU	11/24/15 - 08/14/23	29	0	CI around mean	7.0/7.2	6.6/7.6
G273	UA	E002	Radium 226 + Radium 228, total	pCi/L	11/24/15 - 08/14/23	21	0	CB around linear reg	-0.445	1.60
G273	UA	E002	Selenium, total	mg/L	11/24/15 - 08/14/23	26	95	CI around median	0.001	0.00480
G273	UA	E002	Sulfate, total	mg/L	11/24/15 - 08/14/23	27	0	CI around median	410	94.0
G273	UA	E002	Thallium, total	mg/L	11/24/15 - 08/14/23	24	94	CI around median	0.001	0.001
G273	UA	E002	Total Dissolved Solids	mg/L	11/24/15 - 08/14/23	27	0	CB around linear reg	1,030	551
G275D	DA	E002	Antimony, total	mg/L	03/30/21 - 08/14/23	7	100	All ND - Last	0.001	0.003
G275D	DA	E002	Arsenic, total	mg/L	03/30/21 - 08/14/23	7	0	CI around mean	0.00218	0.00660
G275D	DA	E002	Barium, total	mg/L	03/30/21 - 08/14/23	7	0	CI around mean	0.303	0.110
G275D	DA	E002	Beryllium, total	mg/L	03/30/21 - 08/14/23	7	100	All ND - Last	0.001	0.001
G275D	DA	E002	Boron, total	mg/L	03/30/21 - 08/14/23	7	0	CI around mean	0.19	1.00
G275D	DA	E002	Cadmium, total	mg/L	03/30/21 - 08/14/23	7	100	All ND - Last	0.001	0.001
G275D	DA	E002	Chloride, total	mg/L	03/30/21 - 08/14/23	7	0	CI around mean	21.5	67.0
G275D	DA	E002	Chromium, total	mg/L	03/30/21 - 08/14/23	7	86	CI around median	0.0015	0.0190
G275D	DA	E002	Cobalt, total	mg/L	03/30/21 - 08/14/23	7	57	CI around median	0.001	0.00590
G275D	DA	E002	Fluoride, total	mg/L	03/30/21 - 08/14/23	7	0	CI around mean	0.367	0.564
G275D	DA	E002	Lead, total	mg/L	03/30/21 - 08/14/23	7	86	CI around median	0.001	0.0120
G275D	DA	E002	Lithium, total	mg/L	03/30/21 - 08/14/23	7	100	All ND - Last	0.003	0.0190
G275D	DA	E002	Mercury, total	mg/L	03/30/21 - 08/14/23	7	100	All ND - Last	0.0002	0.0002
G275D	DA	E002	Molybdenum, total	mg/L	03/30/21 - 08/14/23	7	0	CI around mean	0.00562	0.00450

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 3, 2023**  
845 QUARTERLY REPORT  
COFFEEN POWER PLANT  
GMF RECYCLE POND  
COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
G275D	DA	E002	pH (field)	SU	03/30/21 - 08/14/23	7	0	CI around mean	7.0/7.4	6.6/7.6
G275D	DA	E002	Radium 226 + Radium 228, total	pCi/L	03/30/21 - 08/14/23	8	0	CI around mean	0.36	1.60
G275D	DA	E002	Selenium, total	mg/L	03/30/21 - 08/14/23	7	100	All ND - Last	0.001	0.00480
G275D	DA	E002	Sulfate, total	mg/L	03/30/21 - 08/14/23	7	0	CI around mean	126	94.0
G275D	DA	E002	Thallium, total	mg/L	03/30/21 - 08/14/23	7	100	All ND - Last	0.002	0.001
G275D	DA	E002	Total Dissolved Solids	mg/L	03/30/21 - 08/14/23	7	0	CI around mean	925	551
G276	UA	E002	Antimony, total	mg/L	11/24/15 - 08/14/23	23	97	CI around median	0.003	0.003
G276	UA	E002	Arsenic, total	mg/L	11/24/15 - 08/14/23	26	86	Most recent sample	0.001	0.00660
G276	UA	E002	Barium, total	mg/L	11/24/15 - 08/14/23	26	0	CB around linear reg	0.0374	0.110
G276	UA	E002	Beryllium, total	mg/L	11/24/15 - 08/14/23	23	94	Most recent sample	0.001	0.001
G276	UA	E002	Boron, total	mg/L	11/24/15 - 08/14/23	27	12	CI around geomean	0.0165	1.00
G276	UA	E002	Cadmium, total	mg/L	11/24/15 - 08/14/23	23	100	All ND - Last	0.001	0.001
G276	UA	E002	Chloride, total	mg/L	11/24/15 - 08/14/23	27	0	CI around geomean	22.4	67.0
G276	UA	E002	Chromium, total	mg/L	11/24/15 - 08/14/23	25	89	CI around median	0.004	0.0190
G276	UA	E002	Cobalt, total	mg/L	11/24/15 - 08/14/23	25	97	CI around median	0.002	0.00590
G276	UA	E002	Fluoride, total	mg/L	11/24/15 - 08/14/23	27	5	CI around median	0.345	0.564
G276	UA	E002	Lead, total	mg/L	11/24/15 - 08/14/23	26	80	CI around median	0.001	0.0120
G276	UA	E002	Lithium, total	mg/L	11/24/15 - 08/14/23	21	48	CB around linear reg	0.0158	0.0190
G276	UA	E002	Mercury, total	mg/L	11/24/15 - 08/14/23	23	100	All ND - Last	0.0002	0.0002
G276	UA	E002	Molybdenum, total	mg/L	11/24/15 - 08/14/23	26	82	CI around median	0.001	0.00450
G276	UA	E002	pH (field)	SU	11/24/15 - 08/14/23	28	0	CB around linear reg	6.8/7.0	6.6/7.6
G276	UA	E002	Radium 226 + Radium 228, total	pCi/L	11/24/15 - 08/14/23	21	0	CI around geomean	0.324	1.60
G276	UA	E002	Selenium, total	mg/L	11/24/15 - 08/14/23	26	33	CB around linear reg	0.000783	0.00480
G276	UA	E002	Sulfate, total	mg/L	11/24/15 - 08/14/23	27	0	CB around linear reg	255	94.0
G276	UA	E002	Thallium, total	mg/L	11/24/15 - 08/14/23	24	100	All ND - Last	0.002	0.001
G276	UA	E002	Total Dissolved Solids	mg/L	11/24/15 - 08/14/23	27	0	CB around T-S line	849	551
G283	LCU	E002	Antimony, total	mg/L	03/31/21 - 08/15/23	10	100	All ND - Last	0.001	0.003

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 3, 2023**  
845 QUARTERLY REPORT  
COFFEEN POWER PLANT  
GMF RECYCLE POND  
COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
G283	LCU	E002	Arsenic, total	mg/L	03/31/21 - 08/15/23	10	50	CI around median	0.001	0.00660
G283	LCU	E002	Barium, total	mg/L	03/31/21 - 08/15/23	10	0	CI around median	0.16	0.110
G283	LCU	E002	Beryllium, total	mg/L	03/31/21 - 08/15/23	10	100	All ND - Last	0.001	0.001
G283	LCU	E002	Boron, total	mg/L	03/31/21 - 08/15/23	10	0	CI around mean	0.0367	1.00
G283	LCU	E002	Cadmium, total	mg/L	03/31/21 - 08/15/23	10	100	All ND - Last	0.001	0.001
G283	LCU	E002	Chloride, total	mg/L	03/31/21 - 08/15/23	10	0	CI around mean	37.2	67.0
G283	LCU	E002	Chromium, total	mg/L	03/31/21 - 08/15/23	10	100	All ND - Last	0.0015	0.0190
G283	LCU	E002	Cobalt, total	mg/L	03/31/21 - 08/15/23	10	100	All ND - Last	0.001	0.00590
G283	LCU	E002	Fluoride, total	mg/L	03/31/21 - 08/15/23	10	20	CI around mean	0.29	0.564
G283	LCU	E002	Lead, total	mg/L	03/31/21 - 08/15/23	10	100	All ND - Last	0.001	0.0120
G283	LCU	E002	Lithium, total	mg/L	03/31/21 - 08/15/23	10	90	CI around median	0.02	0.0190
G283	LCU	E002	Mercury, total	mg/L	03/31/21 - 08/15/23	10	100	All ND - Last	0.0002	0.0002
G283	LCU	E002	Molybdenum, total	mg/L	03/31/21 - 08/15/23	10	0	CI around geomean	0.00155	0.00450
G283	LCU	E002	pH (field)	SU	03/31/21 - 08/15/23	10	0	CI around mean	7.0/7.1	6.6/7.6
G283	LCU	E002	Radium 226 + Radium 228, total	pCi/L	03/31/21 - 08/15/23	10	0	CI around mean	0.42	1.60
G283	LCU	E002	Selenium, total	mg/L	03/31/21 - 08/15/23	10	100	All ND - Last	0.001	0.00480
G283	LCU	E002	Sulfate, total	mg/L	03/31/21 - 08/15/23	10	0	CI around median	240	94.0
G283	LCU	E002	Thallium, total	mg/L	03/31/21 - 08/15/23	10	100	All ND - Last	0.002	0.001
G283	LCU	E002	Total Dissolved Solids	mg/L	03/31/21 - 08/15/23	10	0	CI around mean	776	551
G284	UA	E002	Antimony, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.001	0.003
G284	UA	E002	Arsenic, total	mg/L	03/30/21 - 08/15/23	10	90	Most recent sample	0.001	0.00660
G284	UA	E002	Barium, total	mg/L	03/30/21 - 08/15/23	10	0	CI around median	0.063	0.110
G284	UA	E002	Beryllium, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.001	0.001
G284	UA	E002	Boron, total	mg/L	03/30/21 - 08/15/23	10	0	CI around geomean	0.0385	1.00
G284	UA	E002	Cadmium, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.001	0.001
G284	UA	E002	Chloride, total	mg/L	03/30/21 - 08/15/23	10	0	CI around mean	36.1	67.0
G284	UA	E002	Chromium, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.0015	0.0190

**ATTACHMENT C.**  
**COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 3, 2023**  
845 QUARTERLY REPORT  
COFFEEN POWER PLANT  
GMF RECYCLE POND  
COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
G284	UA	E002	Cobalt, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.001	0.00590
G284	UA	E002	Fluoride, total	mg/L	03/30/21 - 08/15/23	10	0	CI around mean	0.485	0.564
G284	UA	E002	Lead, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.001	0.0120
G284	UA	E002	Lithium, total	mg/L	03/30/21 - 08/15/23	10	90	CI around median	0.02	0.0190
G284	UA	E002	Mercury, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.0002	0.0002
G284	UA	E002	Molybdenum, total	mg/L	03/30/21 - 08/15/23	10	40	CI around median	0.001	0.00450
G284	UA	E002	pH (field)	SU	03/30/21 - 08/15/23	10	0	CI around mean	7.1/7.3	6.6/7.6
G284	UA	E002	Radium 226 + Radium 228, total	pCi/L	03/30/21 - 08/15/23	10	0	CI around mean	0.062	1.60
G284	UA	E002	Selenium, total	mg/L	03/30/21 - 08/15/23	10	80	CI around median	0.001	0.00480
G284	UA	E002	Sulfate, total	mg/L	03/30/21 - 08/15/23	10	0	CI around median	63	94.0
G284	UA	E002	Thallium, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.002	0.001
G284	UA	E002	Total Dissolved Solids	mg/L	03/30/21 - 08/15/23	10	0	CI around mean	438	551
G285	LCU	E002	Antimony, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.001	0.003
G285	LCU	E002	Arsenic, total	mg/L	03/30/21 - 08/15/23	10	60	CI around median	0.001	0.00660
G285	LCU	E002	Barium, total	mg/L	03/30/21 - 08/15/23	10	0	CB around linear reg	0.0209	0.110
G285	LCU	E002	Beryllium, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.001	0.001
G285	LCU	E002	Boron, total	mg/L	03/30/21 - 08/15/23	10	0	CI around mean	0.108	1.00
G285	LCU	E002	Cadmium, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.001	0.001
G285	LCU	E002	Chloride, total	mg/L	03/30/21 - 08/15/23	10	0	CB around linear reg	0.0349	67.0
G285	LCU	E002	Chromium, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.0015	0.0190
G285	LCU	E002	Cobalt, total	mg/L	03/30/21 - 08/15/23	10	20	CI around mean	0.0023	0.00590
G285	LCU	E002	Fluoride, total	mg/L	03/30/21 - 08/15/23	10	30	CI around mean	0.269	0.564
G285	LCU	E002	Lead, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.001	0.0120
G285	LCU	E002	Lithium, total	mg/L	03/30/21 - 08/15/23	10	90	CI around median	0.02	0.0190
G285	LCU	E002	Mercury, total	mg/L	03/30/21 - 08/15/23	10	90	CI around median	0.0002	0.0002
G285	LCU	E002	Molybdenum, total	mg/L	03/30/21 - 08/15/23	10	0	CB around linear reg	0.000348	0.00450
G285	LCU	E002	pH (field)	SU	03/30/21 - 08/15/23	10	0	CI around median	6.7/6.9	6.6/7.6

**ATTACHMENT C.  
COMPARISON OF STATISTICAL RESULTS TO BACKGROUND - QUARTER 3, 2023**

845 QUARTERLY REPORT  
COFFEEN POWER PLANT  
GMF RECYCLE POND  
COFFEEN, IL

Well ID	HSU	Event	Parameter	Units	Date Range	Sample Count	Percent ND	Statistical Calculation	Statistical Result	Background
G285	LCU	E002	Radium 226 + Radium 228, total	pCi/L	03/30/21 - 08/15/23	10	0	CI around mean	1.31	1.60
G285	LCU	E002	Selenium, total	mg/L	03/30/21 - 08/15/23	10	100	All ND - Last	0.001	0.00480
G285	LCU	E002	Sulfate, total	mg/L	03/30/21 - 08/15/23	10	0	CI around mean	541	94.0
G285	LCU	E002	Thallium, total	mg/L	03/30/21 - 08/15/23	10	90	CI around median	0.001	0.001
G285	LCU	E002	Total Dissolved Solids	mg/L	03/30/21 - 08/15/23	10	0	CI around mean	1,450	551

**Notes:**

Lower Confidence Limit (LCL) or Upper Confidence Limit (UCL) exceeded the statistical background value

HSU = hydrostratigraphic unit:

DA = Deep Aquifer

LCU = Lower Confining Unit

UA = Uppermost Aquifer

mg/L = milligrams per liter

ND = non-detect

pCi/L = picocuries per liter

SU = standard units

Sample Count = number of samples from Sampled Date Range used to calculate the Statistical Result

Statistical Calculation = method used to calculate the statistical result:

All ND - Last = All results were below the reporting limit, and the last determined reporting limit is shown

CB around T-S line = Confidence band around Thiel-Sen line

CB around linear reg = Confidence band around linear regression

CI around geomean = Confidence interval around the geometric mean

CI around mean = Confidence interval around the mean

CI around median = Confidence interval around the median

Most recent sample = Result for the most recently collected sample used due to insufficient data

Statistical Result = calculated in accordance with the Statistical Analysis Plan using constituent concentrations observed at each monitoring well during all sampling events within the specified date range

For pH, the values presented are the lower / upper limits of the background determination